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**Oil and Hazardous Materials  
Response Reports**

**October 1989-September 1990**

OCEAN ASSESSMENTS DIVISION  
OFFICE OF OCEANOGRAPHY & MARINE ASSESSMENT  
NATIONAL OCEAN SERVICE  
NATIONAL OCEANIC & ATMOSPHERIC ADMINISTRATION

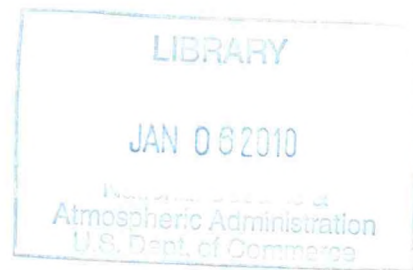
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## Oil and Hazardous Materials Response Reports

October 1989-September 1990

April 1991



National Oceanic and Atmospheric Administration  
Office of Oceanography and Marine Assessment  
Hazardous Materials Response Branch  
Seattle, Washington 98115



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**B**etween October 1, 1989, and September 30, 1990, NOAA Scientific Support Coordinators and Hazardous Materials Response Branch scientific staff assisted the U.S. Coast Guard with 121 incidents, including 95 oil spills, 20 chemical spills, trajectory predictions prepared for 3 other hazardous materials spills, and 3 search and rescue operations.

Each of the response reports addresses the nature of the incident, the level of NOAA involvement, and the conclusion of the incident. Each report title reflects the locations of the branch office that responded to the incident, and includes the incident name, location, and date that NOAA's response began. These reports are abbreviated and are meant to serve only as a summary of the Hazardous Materials Response Branch's response to requests from Federal On-Scene Coordinators for each of the events.

Additional details on any of the responses may be obtained from the appropriate Scientific Support Coordinator or U.S. Coast Guard office.

## FY 90 Spill Responses

Date of Incident	No.	Report Name	Commodity Involved	USCG District
6 Oct 89	1	Southern Pacific Railroad Oakland, California	n-methyl-n-nitro- nitrosoguanidine	11
10 Oct 89	2	T/V AVENGER St. Paul, Pribilof Islands Alaska	potential 30,000 gallons diesel, 600 gallons lube oil, 150 gallons hydraulic fluid	17
11 Oct 89	3	Coast Guard Lighthouse Cape Decision, Kuiu Island Alaska	fire involving PCB- contaminated oil	17
12 Oct 89	4	F/V NORTHUMBERLAND Port Arthur, Texas	spoiled fish and residual fluids	8
13 Oct 89	5	Helicopter Contamination Sitka, Alaska	polychlorinated biphenyls	17
15 Oct 89	7	F/V POLAR COMMAND Chuginadak Island Alaska	42,000 gallons diesel 1,100 gallons lube oil	17
17 Oct 89	8	Larkspur Ferry Terminal Larkspur, California	2,000 gallons diesel oil	11
17 Oct 89	9	Unitank Services Richmond, California	10,000 gallons coconut oil	11
17 Oct 89	10	Unocal Tank Farm Richmond, California	100,000 gallons unleaded gasoline	11
18 Oct 89	11	Kelly Moore Paint Company Clovis Creek, Redwood City, California	10,000 gallons latex paint	11
18 Oct 89	12	Philadelphia Quartz Company Berkeley, California	10,000 pounds sodium silicate	11
18 Oct 89	13	Warehouse Fire Oakland, California	propane tanks	11
19 Oct 89	14	C/S COLON Boston, Massachusetts	grounding with potential 10,000 gallons #2 fuel oil	1

Date of Incident	No.	Report Name	Commodity Involved	USCG District
25 Oct 89	15	C/V ALEC OWEN MAITLAND Carysfort Reef, Key Largo Florida	potential 18,000 gallons # 2 marine diesel	7
30 Oct 89	16	M/V MAVRO VETRANIC Dry Tortugas, Florida	potential 23,900 gallons diesel, 124,085 gallons IFO 80, 14,300 tons phosphate	7
2 Nov 89	17	Continental Maritime of San Francisco San Francisco, California	leaking waste oil drums	11
7 Nov 89	18	T/B APEX 3504 Bay St. Louis, Mississippi	75,000 gallons lube oil feed stock	8
7 Nov 89	19	Platform Emmy Huntington Beach, California	20 barrels oil	11
10 Nov 89	20	California Department of Transportation Smith River Crescent City, California	1,000 gallons liquid asphalt	11
11 Nov 89	21	M/V ELPIS The Elbow, Key Largo Florida	potential 52,400 gallons # 4 oil, 18,500 gallons #2 marine diesel	7
14 Nov 89	22	T/S CARIBOU Esco Power Plant Sandwich, Massachusetts	55 barrels of #6 oil	1
14 Nov 89	23	M/V MILOS REEFER St. Matthew Island Bering Sea, Alaska	237,000 gallons IFO-150 diesel	17
16 Nov 89	24	Coast Guard Search and Rescue Attu, Shemya Islands, Alaska	search and rescue	17
16 Nov 89	25	T/S CARIBOU Cape Code Canal Massachusetts	hindcast	1
20 Nov 89	26	T/V WORLD RADIANCE Hog Island, Pennsylvania	8,500 gallons Takula crude oil	5
20 Nov 89	27	F/V NEPTUNE II Rhode Island Sound	potential 2,500 gallons diesel	1



Date of Incident	No.	Report Name	Commodity Involved	USCG District
22 Nov 89	28	Crowley Barge 450-7 Cape St. Elias Gulf of Alaska	potential 125,000 barrels oil	17
4 Dec 89	29	F/V BRONX QUEEN New York Bight, New York	location of sunken vessel	1
4 Dec 89	30	CGC MESQUITE Keewanaw Point, Michigan	2,000 gallons diesel fuel and lube oils	9
7 Dec 89	31	F/V ANGARA Shuyak Island Shelikof Strait, Alaska	search and rescue	17
14 Dec 89	32	T/B B95 East River, New York	potential 1,000,000 gallons #6 oil	1
14 Dec 89	33	CGC WOODRUSH Sitka, Alaska	500 gallons diesel	17
15 Dec 89	34	Barge CIBRO PHILADELPHIA New York Harbor, New York	10,000 barrels #6 oil	1
18 Dec 89	35	Mystery Spill Birch Point, Washington	two oil slicks	13
18 Dec 89	36	T/V MOBIL ARCTIC Fidalgo Bay Anacortes, Washington	crude oil	13
18 Dec 89	37	T/B HOLLYWOOD 181 Houma, Louisiana	propylene	8
27 Dec 89	38	LTV Steel Cleveland, Ohio	7,000,000 pounds iron	9
30 Dec 89	39	M/V/ SWAN LAKE Seattle, Washington	2,000 gallons bunker C	13
2 Jan 90	40	Exxon Bayway Pipeline Linden, New Jersey	567,000 gallons #2	1
2 Jan 90	41	T/S GEBZE Boston, MA	220,000 barrels #6 fuel oil	1
5 Jan 90	42	Lake Washington Ship Canal Seattle, Washington	350 gallons hydraulic or bilge oil	13

Date of Incident	No.	Report Name	Commodity Involved	USCG District
11 Jan 90	43	Goodrich Corp. Jefferson Parish, Louisiana	7 barrels crude oil	8
15 Jan 90	44	C&O Railroad Michigan City, Indiana	14,500 gallons potassium permanganate	2
16 Jan 90	45	Trident Seafoods Sand Point, Shumagin Islands Alaska	5,000 gallons diesel	17
17 Jan 90	46	USS ALYWIN and T/S PLUTO Boston, Massachusetts	potential major oil spill	1
20 Jan 90	47	T/V FRANK H. BROWN Wrangell Narrows, Alaska	25,000 gallons gasoline	17
22 Jan 90	48	T/V DOOYANG LEADER off Cape May, New Jersey	100 barrels #4 fuel oil	5
23 Jan 90	49	F/V NO NAME Point Ano Nuevo Santa Cruz, California	200 gallons diesel 10 gallons lube oil	11
24 Jan 90	50	Shell Offshore Inc. Gulf of Mexico	4,200 gallons condensate pipeline leak	8
24 Jan 90	51	T/B ELAINE D. Bellingham, Washington	1,000 gallons sulphuric acid	13
25 Jan 90	52	Mystery Spill Delta National Wildlife Area Louisiana	15 barrels unknown crude	8
29 Jan 90	53	F/V AMERICAN STAR Otter Island, Pribilof Islands Alaska	1,500 gallons diesel	17
5 Feb 90	54	F/V PAVLOF St. Paul Island, Pribilof Islands Alaska	potential 45,000 gallons diesel, 500 gallons hydraulic fluid and lube oil	17
5 Feb 90	55	Mystery Slick 200 nautical miles north of San Juan, Puerto Rico	oil sheen and tarballs	8
7 Feb 90	56	T/V AMERICAN TRADER Huntington Beach, California	9,458 barrels light North Slope crude	11

Date of Incident	No.	Report Name	Commodity Involved	USCG District
8 Feb 90	57	Car Carrier HUAL-INGRITA Jamestown, Rhode Island	25 gallons gasoline	1
9 Feb 90	58	Davis Sand Company St. Louis, Missouri	carboxylic acid	2
9 Feb 90	59	T/B UT-16 Seattle, Washington	750 gallons #6 fuel oil	13
14 Feb 90	60	T/V ITER Broad Sound Boston, Massachusetts	potential 9,815 barrels #2 fuel oil	1
18 Feb 90	61	M/V/ ATHENA and LAKE ICW, Louisiana	potential 30,000 barrels gas	8
28 Feb 90	62	Barge E-25 Linden, New Jersey	30,000 gallons #6 oil	1
1 Mar 90	63	Tug WILCOX II and Deck Barge LISA O'HARA Boston, Massachusetts	potential 3,000 gallons diesel fuel	1
1 Mar 90	64	T/V STOLT EXPORTER Sabine Lake, Texas	14,700 gallons vinyl acetate	8
2 Mar 90	65	Sodium Hypochlorite Drum San Juan Harbor, Puerto Rico	55-gallon drum sodium hypochlorite	7
2 Mar 90	66	F/V MISS EMILY off Nantucket, Massachusetts	2,000 gallons diesel	1
6 Mar 90	67	M/V HITTIN LOOP Facility Louisiana	150 gallons Basrah crude	8
6 Mar 90	68	Barge CIBRO SAVANNAH Linden, New Jersey	127,000 gallons #2	1
8 Mar 90	69	F/V JAUS Yakutat Bay, Gulf of Alaska	search and rescue	17
16 Mar 90	70	F/V ALASKAN MONARCH St. Paul Island, Pribilof Islands Alaska	6,500 gallons diesel 1,200 gallons lube oil 200 gallons hydraulic fluid 100,000 pounds fresh crab	17



Date of Incident	No.	Report Name	Commodity Involved	USCG District
23 Mar 90	71	F/V ALEUTIAN ENTERPRISE Pribilof Islands, Alaska	25,000 gallons diesel	17
31 Mar 90	72	Buckeye Pipeline Freeport, Pennsylvania	75,000 gallons Transmix	2
4 Apr 90	73	Well Head Leak Sabine Pass, Texas	light crude	8
9 Apr 90	74	Barge MB2 Freeport, Texas	1,288 barrels Chunchula Condensate	8
11 Apr 90	75	ACONAGUA grounding Long Island Sound, New York	1,000 gallons Bunker C	1
27 Apr 90	76	F/V DEBORAH D Ursus Cove, Lower Cook Inlet Alaska	potential 4,000 gallons diesel	17
1 May 90	77	T/S BOSTON VENTURE Providence, Rhode Island	mixing of chemicals	1
3 May 90	78	JU/B GULFWIND Marsh Island, Louisiana	collision	8
3 May 90	79	T/V SKAN BENEDIKTE Galveston Bay, Texas	potential 225,000 barrels diesel fuel	8
6 May 90	80	Exxon Pipeline Marsh Island, Louisiana	oil slick	8
10 May 90	81	Grounded fishing vessel Ocracoke Inlet, North Carolina	6,000 gallons diesel	5
11 May 90	82	F/V SABLE Togiak Bay, Bristol Bay	potential 5,000 gallons diesel	17
14 May 90	83	Barge LA REINA San Juan, Puerto Rico	6,400 gallons methylamine	7
25 May 90	84	M/V STONEWALL JACKSON and Waterman Fleet New Orleans, Louisiana	3,000 barrels #6	8
27 May 90	85	M/V REGENT STAR Delaware Bay	potential 30,000 gallons diesel fuel, 240,000 gallons #6 oil	5



Date of Incident	No.	Report Name	Commodity Involved	USCG District
29 May 90	86	T/B Hollywood 2022 Galveston, Texas	250 barrels methyl tert-butyl ether	8
30 May 90	87	M/V MARINE CHEMIST Freeport, Texas	hydrogen chloride and ammonia air release	8
1 Jun 90	88	T/B MANHATTAN PRINCESS Philadelphia, Pennsylvania	potential 15,750,000 gallons heavy fuel oil	5
7 Jun 90	89	B/T NAUTILUS Bayonne, New Jersey	267,000 gallons #6	1
9 Jun 90	90	MEGA BORG Gulf of Mexico Galveston, Texas	3.9 million gallons Angola crude oil	8
11 Jun 90	91	Day Ship BERMUDA STAR Cleveland Ledge, Buzzards Bay Massachusetts	1,500 gallons #6	1
22 Jun 90	92	F/V HUNTER and T/B ST 85 Block Island Sound Massachusetts	960 gallons gasoline	1
23 Jun 90	93	Mystery Spill Key Largo, Florida	unconfirmed oil slick	7
27 Jun 90	94	SIN YANG HO Bristol Bay, Alaska	potential 70,000 gallons diesel	17
28 Jun 90	95	Mystery Spill Virginia Beach, Virginia	bilge oil	5
1 July 90	96	COLUMBUS AMERICA and NEPTUNE JADE	collision	5
12 July 90	97	Leaking drums Jacksonville, Florida	ethyl cyanoacetate	7
14 July 90	98	F/V LADY LOUISE Takatz Bay, Alaska	potential 1,700 gallons diesel oil	17
15 July 90	99	CG T/V ALBERT E. WATTS Little Sand Island Mobile Bay Mobile, Alabama	potential 40,000 gallons Alaskan crude oil	8

Date of Incident	No.	Report Name	Commodity Involved	USCG District
18 July 90	100	Barge INTERSTATE 53 Arthur Kill, New York	40,000 gallons #2 oil	1
24 July 90	101	Mystery Spill Sabine Pass, Texas	1,000 gallons oil	8
29 July 90	102	APEX 3417 and 3503 Galveston, Texas	700,000 gallons catalytic feed stock oil	8
4 Aug 90	103	Mystery Spill Coney Island, New York	unknown	1
12 Aug 90	104	T/B SFI 33 Houston Ship Channel Houston, Texas	500 barrels #6 oil	8
15 Aug 90	105	F/V ABSOLUTE SEA BREEZE Essex River Massachusetts	vessel grounding	1
16 Aug 90	106	F/V SEA GIRT Atlantic City, New Jersey	oil sheen from sunken vessel	5
18 Aug 90	107	T/B OCEAN 192 Delaware Bay	150,000 gallons gasoline	5
24 Aug 90	108	Kensington Mine Lynn Canal, Southeast Alaska	2,500 gallons #2	17
29 Aug 90	109	M/V RIMBA KEMPAS Coos Bay, Oregon	100 gallons Bunker C	13
30 Aug 90	110	Chevron Terminal Pt. Wells, Washington	3,000 gallons asphalt charge stock	13
30 Aug 90	111	Chevron Point Walls Tank Farm Coos Bay, Oregon	200 gallons Bunker C	13
30 Aug 90	112	M/V BRADLEY RIVER Tanglefoot Bay Kodiak Island, Alaska	2,700 gallons diesel	17
5 Sep 90	113	Barge SEATTLE Seattle, Washington	chlorine	13
6 Sep 90	114	Amerada Hess Perth Amboy, New Jersey	5,000 gallons #6	5

Date of Incident	No.	Report Name	Commodity Involved	USCG District
14 Sep 90	115	M/V WILL HAUL II Ugashik Bay, Bristol Bay Alaska	5,000 gallons diesel	17
16 Sep 90	116	T/V JUPITER Bay City, Michigan	potential 20,500 unleaded gasoline	9
17 Sep 90	117	Ketchikan City Garbage Ketchikan, Alaska	lithium hypochlorite and powdered sodium hydroxide	17
21 Sep 90	118	F/V MARY LOUISE Woods Hole, Massachusetts	potential 9,000 gallons #2 fuel	1
25 Sep 90	119	Indian Island Naval Air Station Indian Island	1,000 gallons diesel	13
27 Sep 90	120	T/B SARAH FRANK Staten Island, New York	unknown quantity and type oil	1
28 Sep 90	121	T/B REO 2508 Galveston Bay, Texas	36,000 gallons heavy catalytic reformat	8

## **Boston**

C/S COLON  
Nixes Mate, Boston Harbor  
October 19, 1989

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On October 19, 1989, the 300-foot Canadian container ship COLON grounded on Nixes Mate, a rocky islet in Boston Harbor. The vessel, which was trying to enter Boston Harbor at night in high winds without a pilot, was carrying 10,000 gallons of #2 fuel oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 19, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Boston, Massachusetts. MSO requested tide information, a trajectory analysis, and environmental resources at risk information for the potential release of gasoline.

NOAA advised that any #2 fuel oil released would move with the area's typically strong currents. The trajectory would be based on the state of the tide at the projected or actual time of release. Preparation for an oil trajectory analysis was completed and the trajectory would have been calculated upon request and based on a time of release.

If only a small #2 fuel release occurred during salvage of the vessel, the impact on the biology in the immediate area of the grounding would be minor.

### **Conclusion**

The COLON was refloated shortly after midnight with the aid of two tugs and a rising tide and then proceeded to Charlestown. There was no release of #2 fuel oil and minimal damage to the vessel.

### **References**

Research Planning Institute. 1983. Sensitivity of coastal environmental and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.



C/S COLON  
Nixes Mate, Boston Harbor  
October 19, 1989

## Boston

### **References,** cont.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **Boston**

T/V CARIBOU  
Sandwich, Massachusetts  
November 14, 1989

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On November 13, 1989, the T/V CARIBOU, moored at the Sandwich Power Station terminal, was offloading in a boomed area when the ship surged forward and crumpled the pumping station, losing 55 barrels of #6 fuel oil. Most of the oil was contained in the area of the transfer operation with an estimated 1,260 gallons captured by the boom.

### **NOAA Response**

NOAA/OMA was notified of the incident on November 14, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Providence, Rhode Island. The MSO requested advice on cleanup of an estimated 200 to 300 gallons of #6 oil that was coating rocks along the Cape Cod Canal. NOAA and state agencies agreed that steam-cleaning the rocks was not advisable and removing the oil from the surface of the rocks should be done with sorbents. Very high tides and currents exceeding 5 knots were forecast, which should scour any surface contamination not captured by sorbents.

On November 16, an estimated 200 gallons of thick crude oil reportedly washed up at the tip of Cape Cod. The National Park Service reported that the oil was thickest in a 4-mile stretch between Race Point and Wood End with scattered spots of oil in the mile between Wood End and Long Point. The oil deposited four 20- by 6-foot pools of oil 3 to 4 inches deep at Hatches Harbor, an estuary tucked inside Race Point.

MSO investigated these reports of patches of oil and requested NOAA provide a trajectory of the oil spilled to determine if it was possible for the oil spilled on

T/V CARIBOU  
Sandwich, Massachusetts  
November 14, 1989

**NOAA Response,**  
cont.

**Conclusion**

**References**

## Boston

November 13 to reach Provincetown beaches on November 16. NOAA advised that, based on consistent 20 to 25 knot winds from the south and southwest over this period, the normal circulatory pattern in Cape Cod Bay, and the physical properties of the oil, it might be possible that this oil was from the CARIBOU. NOAA advised MSO to take samples of oil already on Providence beaches for normal Coast Guard Central Oil Identification Laboratory analysis to verify this conclusion.

The contractor for the vessel completed the removal of oil captured in the boomed area and on the rocks along Cape Cod Canal by November 14. Gale force winds and high tides initially blocked beach cleanup attempts.

Samples taken from the CARIBOU by MSO for analysis matched the beached oil. The manual cleanup, conducted at the expense of agents of the CARIBOU, proceeded during the following days without incident.

Research Planning Institute, 1983. Sensitivity of coastal environments and wildlife to spilled oil: Rhode Island. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.



## **Boston**

T/V CARIBOU, Hindcast  
Provincetown, Massachusetts  
November 16, 1989

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On November 16, 1989, an estimated 200 gallons of thick crude oil washed up at the tip of Cape Cod. The National Park Service reported that the oil was thickest in a 4-mile stretch between Race Point and Wood End with scattered spots of oil in the mile between Wood End and Long Point. The oil deposited four 20-foot by 6-foot pools of oil 3 to 4 inches deep at Hatches Harbor, an estuary tucked inside Race Point.

### **NOAA Response**

NOAA/OMA was notified of the incident on November 17, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. MSO requested assistance to determine if the beached oil could have come from the CARIBOU that spilled #6 oil into the Cape Cod Canal November 13. NOAA advised that, based on consistent winds from the south and southwest 20 to 25 knots over this period and the normal circulatory pattern in Cape Cod Bay, it was very possible that this oil was from the CARIBOU.

### **Conclusion**

Gale force winds and high tides initially blocked cleanup attempts. Samples taken from the CARIBOU by MSO Providence for Central Oil Investigation Laboratory analysis matched the beached oil. The manual cleanup, conducted at the expense of agents of the CARIBOU, proceeded during the following days without incident.



T/V CARIBOU, Hindcast  
Provincetown, Massachusetts  
November 16, 1989

## Boston

### References

Research Planning Institute. 1983. Sensitivity of Coastal Environmental and Wildlife to Spilled Oil: Massachusetts. An Atlas of Coastal Resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS/OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **Boston**

F/V NEPTUNE II  
Rhode Island Sound, Massachusetts  
November 20, 1989

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On November 20, 1989, the wooden fishing vessel NEPTUNE II sank in the open ocean 5 miles south of Seconic Point with an estimated 2,500 gallons of diesel fuel onboard. Attempts to save the vessel failed.

### **NOAA Response**

NOAA/OMA was notified of the incident November 20, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. The MSO requested tide information, a trajectory analysis, and natural resources at risk information for the release of diesel oil.

NOAA advised that any oil released would probably move with the wind and feather out in about 200 yards. Based on past experience with similar spill conditions, an oily discharge would normally not be observed after 2 days. No landfall for the diesel fuel was anticipated.

### **Conclusion**

The fishing vessel was unsalvageable. No evidence of an oil leak was observed around the sunken vessel.

### **References**

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **New York**

F/V BRONX QUEEN  
New York Bight  
December 4, 1989

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On December 2, 1989, at about 1520, the 110-foot fishing vessel BRONX QUEEN, with 19 persons onboard, struck a submerged object in the New York Bight and began to sink. The U.S. Coast Guard (USCG) was on the scene at 1540, the vessel sank at 1547. All persons were rescued; however, two people were treated for hypothermia.

### **NOAA Response**

NOAA/OMA was notified of the incident on December 4, 1989, by the USCG Waterways Management Office of the Captain of the Port New York, who requested a trajectory hindcast be prepared to help locate the sunken vessel.

NOAA estimated that the craft should be southeast within 50 to 100 yards of its last sighted position.

### **Conclusion**

On December 5, 1989, USCG helicopter overflights followed an oil plume back to its source and located the vessel within the area predicted by NOAA. Divers plugged the source of pollution and assessed the craft's structural integrity in light of salvage plans to remove the vessel from navigable waters for the National Transportation Safety Board. The U.S. Army Corps of Engineers has moved the BRONX QUEEN out of the shipping channel.

### **References**

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOAA OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, December 4, 1989.



## **New York**

T/B B95  
New York City, New York  
December 14, 1989

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

The T/B B95 ran aground in the Hells Gate section of the East River in New York City, with a cargo of one million gallons of # 6 oil onboard.

### **NOAA Response**

NOAA/OMA was notified of the incident on December 14, 1989, by the U.S. Coast Guard Marine Safety Office. NOAA provided tide and weather information for the off-loading operation plan. Oil was pumped off the barge into another barge at the rate of 400 barrels per hour, with an estimated two and one half days to complete the operations.

### **Conclusion**

The oil was transferred to another barge by December 17. Negligible amounts of oil were released during this incident. The barge was removed from the shore and transported to a dock in Brooklyn.

### **References**

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, December 14, 1989.



## **New York**

T/B CIBRO PHILADELPHIA  
Upper New York Harbor  
December 15, 1989

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On December 15, 1989, the T/B CIBRO PHILADELPHIA began leaking #6 fuel oil at its anchorage in Upper New York Harbor. With a total of 4,536,000 gallons onboard, 160,000 barrels were reported to have leaked from a 25-foot long crack midships. This stress-induced crack ran 20 feet down the side, 5 feet under the bottom, and ranged from 1/4 to 4 inches wide.

### **NOAA Response**

NOAA/OMA was notified of the incident on December 15, 1989, by the U.S. Coast Guard Marine Safety Office, New York. The NOAA Scientific Support Coordinator (SSC) reported on-scene to provide the On-Scene Coordinator with advice regarding the spill's possible trajectory and environmental effects.

Helicopter overflight observers noted heavy oil along the Brooklyn sea wall near Owls Head Park and in the Upper Harbor around Governors Island. Heavy sheen was observed along the docks on the Brooklyn waterfront near Gowanus Bay. During the overflight, oil was seen awash on the deck of the T/V KOTO HASIL, anchored near the CIBRO PHILADELPHIA. This spill was estimated at 20 to 30 barrels, also #6 oil.

NOAA provided tide and current data, as well as frequent weather updates. The SSC reported that the oil's specific gravity and evaporation rate should cause it to float at the surface. NOAA's prediction that the oil would travel north to just below the Brooklyn Bridge and south to the Verrazano Narrows Bridge was confirmed by an overflight.

T/B CIBRO PHILADELPHIA  
Upper New York Harbor  
December 15, 1989

## New York

### NOAA Response, *cont.*

NOAA reported that the natural resources at greatest risk were birds, and the only habitat of great oil sensitivity was Jamaica Bay, which was not affected by the spill.

Because of predicted gale force winds, the Coast Guard ordered the owners of the CIBRO PHILADELPHIA to move the barge to the safety of a dock. This was done during the night of December 15. The Coast Guard Atlantic Area Strike Team and the U.S. Navy Supervisor of Salvage cooperated in moving the barge and directing offloading and recovery operations.

A NOAA Coastal Resource Coordinator (CRC) arrived on-scene on December 15 to support the SSC in assessing the area of the spill. The amount of oil spilled was estimated to be 10,000 barrels after gauging the tanks.

### Conclusion

The T/B CIBRO PHILADELPHIA was successfully offloaded and gas-freed and is awaiting repairs. Cleanup contractors began removing oil from the Owls Head Park area. The shoreline is severely stained and cleanup is estimated to take months to complete.

### References

Dahlin, Jeff, Research Planning Institute, Columbia, South Carolina, personal communications, December 15, 1989.

Dale, Dean, Genwest Systems Inc., Edmonds, Washington, personal communications, December 15, 1989.

Galt, J.A. NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, December 15, 1989.

T/B CIBRO PHILADELPHIA  
Upper New York Harbor  
December 15, 1989

## New York

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Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, December 15, 1989..

National Weather Service, NOAA, on-duty forecaster, personal communications, December 15, 1989.

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: New York Harbor and Hudson River. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 19 maps

Shaw, Ellen, Genwest Systems Inc., Edmonds, Washington, personal communications, December 15, 1989.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, December 15, 1989.



## **New York**

Exxon Bayway  
Linden, New Jersey  
January 2, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

At approximately 0300 on January 2, 1990, an Exxon Bayway underwater pipeline located at the mouth of Morse Creek in the Arthur Kill off Linden, New Jersey cracked releasing approximately 567,000 gallons of #2 oil. The spill area was immediately closed to vessel traffic by the U.S. Coast Guard Captain of the Port (COTP) and the Regional Response Team (RRT) was notified.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 2, 1990, by the Coast Guard COTP. The NOAA Scientific Support Coordinator (SSC) provided on-scene weather and oceanographic information, and assessed natural resources at risk. In addition, the SSC helped establish a priority list of areas to be cleaned or protected to allocate labor and equipment resources efficiently. The SSC participated in meetings, overflights, and shoreline surveys as the Coast Guard's science advisor through the response effort, which continued through February.

### ***Behavior of the Oil***

Overflight observers reported that oil was pooled in natural collection areas and behind booms. This pooled oil had a very dark (black) appearance, looking almost like #6 oil. The SSC advised the Coast Guard that the oil had very low viscosity and would tend to spread in a thin layer. It would also readily penetrate both muddy sediments (by pooling in crab burrows) and sandy sediments (by soaking into porous sand). Once it had penetrated these sediments, it could persist and leach out for weeks.



Exxon Bayway  
Linden, New Jersey  
January 2, 1990

## New York

### *Resources at Risk*

The SSC reported that few wildlife were present at this time of year in this heavily industrialized area but noted that some scattered overwintering waterfowl could be in Newark Bay. Fish would be present, but deep; however, there could be a minor fish kill from the toxic fractions of the oil that had mixed rapidly into the water column near the point of discharge. The main impacts would probably be to the fiddler crabs in the intertidal zone. Along the main channels, the action of boat wake wash and tidal currents would remove the oil more quickly, but small, sheltered areas such as Old Mans Creek, Neck Creek, Piles Creek, the backside of Pralls Island, and Pralls creek could sheen for longer if the oil reached them. These sheltered areas were priorities for protection.

The areas of concern were the Hackensack River to the north and the Great Fresh Kills and Island of Meadows to the south. The Fresh Kills leads to some extensive marshes on Staten Island. The Rahway River on the New Jersey side of Arthur Kill is also an area of marshes and wildlife. The major impact from this spill would be oiling of the sediments in these marsh areas, which would most likely kill the marsh grasses and plants. If the oil were transported to the south end of Arthur Kill, it would impact the sand beaches and marshes along Raritan Bay.

### *1. Bird Impacts*

Although the concentration of overwintering waterfowl was probably fairly low, these birds would be at risk. Tri-State Bird Rescue was on-scene cleaning and stabilizing birds affected by the oil. Living and dead birds were transferred to Tri-State's facility in Delaware for recovery or autopsy. Exxon supplied boats for recovering animals, volunteers for manning vessels and recovering birds, all materials and supplies for medical attention for the birds, and transport back to Delaware for recovery, release, and/or postmortems.

Exxon Bayway  
Linden, New Jersey  
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## New York

### 1. *Bird Impacts, cont.*

Over 2,900 volunteer hours were spent cleaning and rehabilitating birds. Beginning in February, the birds being brought in did not display the usual symptoms of oil poisoning. Instead, neurological abnormalities were observed, which were thought to be due to heavy metal consumption. Accordingly, the animals were tested for the presence of cadmium and mercury; tests were not completed due to lack of funding.

### 2. *Shellfish Impacts*

NOAA's research indicated that there was little likelihood of impact to crabs because they remain in the deeper water sediments during the winter. Although most of the clam bed areas in Raritan Bay were closed, impacts did include some mortality. NOAA recommended that the shellfish beds be checked for oil before any harvesting was allowed.

NOAA addressed the concern expressed by several environmental groups that less valuable species would replace the niche previously filled by organisms now dead. Based on the fact that the creatures inhabiting these intertidal areas were the most optimal organisms for the life zone, NOAA advised that they would probably not be out-competed. Instead, any open habitat would most likely be repopulated by the same organisms after the spring release of young.

### *Shoreline Assessment*

The SSC participated in field assessments with Exxon, New York Department of Environmental Conservation (NYDEC), New Jersey Department of Environmental Protection (NJ DEP), and New York City Department of Parks and Recreation (NYCP&R). The SSC and a representative from NYDEC visited the west side of Pralls Island in the Great Fresh Kills. Although no floating oil was observed in the Kills, the Pralls Island shoreline was fairly well covered with tar mats 2 to 3 inches thick over much of the area walked. The diesel was apparently acting as a thinner and "melting" the tar mats formed from large asphalt spills in this area in 1978 and 1985.



Exxon Bayway  
Linden, New Jersey  
January 2, 1990

*Shoreline Assessment,  
cont.*

*Cleanup  
Recommendations*

*Committees*

*1. Science Meeting*

## New York

With Exxon, cleanup contractors, and the state and municipal resource agencies, NOAA visited Old Place and Sawmill creeks and Shooters Island, Island of Meadows, and Pralls Island. All observed that oil did not penetrate the peat since it was kept saturated.

The areas examined appeared unoiled except Pralls Island. The major impact would probably be from the diesel dissolving the old tar mats which would limit the oxygen to marsh grass (*Spartina*) roots. The dormant season for regional *Spartina* begins after flowering, in about September. NOAA advised the Coast Guard that the best indicator of impact would be springtime when marsh recovery would be apparent. Trickle-washing the upper shore to wash oil out and down was shown to be detrimental because the operation would suffocate the dormant *Spartina* rhizomes.

The SSC recommended that cleanup on Pralls Island, the highest priority for cleanup, be performed only during high tide, with no one walking on the mud flat because of the possibility of driving the oil deeper into the sediments. In addition, the SSC advised against cutting the marsh grass and strongly suggested keeping foot traffic on the marsh to a minimum. Finally, pompoms or sorbent boom should be set in areas where oil was stranded above the berm (over the high tide mark) to catch oil upon refloating.

To address environmentally sensitive areas, the SSC helped devise a general work plan and a technical support group to evaluate sensitive shorelines to minimize ecological damage. NOAA helped the group identify three distinct areas for consideration: cleanup, assessment, and remediation. Pralls Island was identified as a necessity for rapid restoration, due to the return of migratory birds to these sensitive environments. The affected shoreline was segmented by the

Exxon Bayway  
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## New York

### 1. Science Meeting, cont.

committee's technical support unit for site-specific cleanup recommendations. This "science group" was composed of representatives from EXXON, NYDEC, NJDEP, New York City Department of Environmental Protection, NYCP&R, and NOAA and was the forum for bringing resource agency representatives together to discuss short-term and long-term objectives.

The committee also identified the need for representing oil impact on sensitivity maps for inclusion in cleanup strategies.

### 2. Cleanup Assessment Committee

The Interagency Cleanup Committee met to identify areas where cleanup operations had reached a final stage. The committee was composed of NYDEC, NYCP&R, NJDEP, NOAA, Coast Guard, and Exxon. The area affected by the spill was divided into 21 zones. *Clean* was defined as an area needing no additional work to remove oil although it might be present in small amounts. It was assumed that such oil could be "background" (already in the environment before the spill from the pipeline happened) or from new sources; as of January 2 (after the Exxon Bayway spill), there had been 34 reported oil spills of various petroleum products nearby.

On Pralls Island, substantial deposits of oil were found in the sediments above peat areas. Holes dug filled in quickly with dark, unweathered oil 6 to 8 inches below the surface. The committee suggested that experimental trenching be undertaken on Pralls Island. Six 10- by 1-foot trenches were dug 6 to 8 inches deep along a 300-foot stretch of shoreline in coarse-grain sediment. Trenches were dug on a falling tide and ShopVacs were used to collect and quantify the recovered product. The trenching worked as a slow but non-intrusive recovery technique for the estimated hundreds of gallons of product in the sediment. The scope of the project was widened to encompass larger areas of the shoreline.



Exxon Bayway  
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### Special Issues

#### 1. Pipeline

The SSC learned, from a U.S. Department of Transportation (DOT) representative from the Office of Pipeline Safety, that there is no Federal regulation governing the need for leak detection devices on this pipeline as it is operated at <20% of the specified minimum yield strength (measured in pounds per square inch). However, DOT does regulate interstate pipelines with hazardous liquids (and natural gas). This incident is the first time that the law will be tested (oil is considered a hazardous liquid).

#### 2. Damage Assessment

The NOAA Coastal Resource Coordinator (CRC) for EPA Region 2 met with NJDEP concerning damage assessment scientific needs, and with New York State and New York City attorneys concerning legal aspects of claims for natural resource damages. The CRC acted as a liaison and information source between the resource agencies and Exxon, although the NOAA Office of the General Counsel indicated that no NOAA resources had yet been identified as being impacted.

NYDEC, NYC Parks Department, NJDEP, and U.S. Department of the Interior representatives visited the spill scene weekly to identify and agree upon areas that were sheen-free and could thus be classified as *clean*.

#### 3. Bioremediation

In August, Exxon requested permission to use bioremediation agents on Pralls Island to expedite the removal of oil from the sediment by enhancing the oil's microbial degradation. The bioremediation, using Customblen™, a dry, slow-release fertilizer placed in trenches and covered, was overseen by the Coast Guard, NOAA, and NYCP&R.

By February 20, a total of 691 birds had died, 150 survived. Of the dead birds, 296 (45%) were gulls. Bird recovery operations were concluded on February 24. Additional animal mortalities included 29 muskrats, 1 cottontail rabbit, and 1 domestic cat. Nine diamond back terrapin turtles were found alive.

Exxon Bayway  
Linden, New Jersey  
January 2, 1990

## New York

### Conclusion

All shorelines were approved as clean by the Inter-Agency Cleanup Committee, with the exception of Pralls Island, which was bioremediated. It is expected that in the Spring of 1991 this area will also be acceptable for sign-off. Damage assessment and many follow-up studies are also continuing. There have been only preliminary results from the heavy metal contamination tests. These tests will not be completed due to lack of funding.

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Exxon Bayway  
Linden, New Jersey  
January 2, 1990

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## New York

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## **Boston**

T/S GEBZE  
Boston, Massachusetts  
January 2, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On January 2, 1990, the 628-foot Turkish tank ship GEBZE ran aground in Boston Harbor 400 feet from the Atlantic fuel dock at Chelsea, Massachusetts. The GEBZE was carrying 220,000 barrels of #6 fuel oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 2, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Boston. The MSO requested tide information, a trajectory analysis, and natural resources at risk information for the potential release of oil.

NOAA advised that any #6 fuel oil released would move with the currents known to the area. This trajectory would be based on the state of the tide at the projected or actual time of release. Preparation for an oil trajectory analysis was completed and the trajectory would have been calculated upon request and based on a time of release.

### **Conclusion**

The cargo tanks of the GEBZE sustained no damage from the grounding. No spill occurred.

### **References**

Barker, Albert Directory Laboratories, New England Aquarium, Boston, personal communication, January 2, 1990.

Conner, Mike, Massachusetts Water Resources Administration, Boston, personal communications, January 2, 1990.

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.



## **Boston**

USS ALYWIN and T/S PLUTO  
Boston, Massachusetts  
January 17, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On January 17, 1990, the Navy frigate ALYWIN, inbound in heavy fog, collided with the anchored Liberian oil tanker PLUTO in Boston Harbor. At the time of the collision, PLUTO was transferring # 2 heating oil into a barge alongside. Total cargo onboard the PLUTO was 220,000 barrels of # 2 heating oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 17, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Boston. The MSO requested tide information, a trajectory analysis, and natural resources at risk information for the potential release of # 2 oil.

NOAA advised that any #2 fuel oil released would move with the currents known to the area. The trajectory would be based on the state of the tide at the projected or actual time of release. Preparation for an oil trajectory analysis was completed and the trajectory would have been calculated upon request and based on a time of release.

NOAA advised that the area surrounding Boston Harbor is primarily mixed sand and gravel beaches, extensive tidal flats, and marshes. NOAA speculated that the impact on the biology in the marsh areas near the collision site could be significant even if only a small #2 fuel release occurred because of the presence of soft shell clams at this time of year.

### **Conclusion**

None of the 21 cargo tanks was damaged in the collision. Damage to the PLUTO was confined to the vessel's stern area starboard side, 12 feet above the waterline. A 55-gallon drum of lube oil in the vessel's rope locker was damaged. Approximately 5 to 10 gallons of this lube oil was lost during the incident.

USS ALYWIN and T/S PLUTO  
Boston, Massachusetts  
January 17, 1990

## Boston

### References

Barker, Albert Directory Laboratories, New England Aquarium, Boston, personal communication, January 17, 1990.

Conner, Mike, Massachusetts Water Resources Administration, Boston, personal communication, January 17, 1990.

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

## **Boston**

M/V HAUL-INGRITA  
Jamestown, Rhode Island  
February 8, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On February 8, 1989, a Panamanian car carrier, the HAUL-INGRITA, went aground at Fort Wetherhill near Jamestown, Rhode Island, losing 25 to 50 gallons of fuel, possibly oil and gasoline, from damaged fuel tanks. The fuel was contained within a boom near the vessel.

### **NOAA Response**

NOAA/OMA was notified of the incident on February 8, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Providence, Rhode Island. The MSO requested tide information, a trajectory analysis, and environmental resources at risk information for the small release.

NOAA advised that any oil released would move with the wind and probably feather out in several hundred yards. Any release of the 25 to 50 gallons of oil reported to be in the boomed area would have a minimal impact on resources downwind. No special target areas or species were identified.

### **Conclusion**

The vessel was floated free on February 8, 1989, with the assistance of two tugs. Total loss was 25 to 30 gallons of oil. This oil was contained by a boom and removed by sorbents.

### **References**

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS/OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.



## **Boston**

T/V ITER  
Boston, Massachusetts  
February 14, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On February 14, 1990, the agent for the 540-foot Liberian vessel, ITER reported a leak in the vessel's number 1 port tank. The cause of the leak and amount of product in the water were unknown, but the tank contained 9,815 barrels of #2 oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on February 14, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Boston. The MSO requested tide information, a trajectory analysis, and natural resources at risk information for the potential release of the oil from the number 1 port tank.

NOAA advised that any cargo released would move with the forecasted north-northwest to north winds at 5 to 10 knots. The switch of the winds to the northeast, also 10 to 15 knots, suggested that the total movement of the oil would probably be less than 2 nautical miles from the vessel. A more detailed trajectory would be based on the state of the tide at the projected or actual time of release. Preparation for a detailed oil trajectory analysis was completed and the trajectory would have been calculated upon request and based on the actual time of release. Any speculation to damages as a result of a large spill would be difficult to assess in this urban port.

### **Conclusion**

Internal transfer of cargo from the damaged tank to other tankage in the vessel proceeded immediately. By 1600, no leak was observed in the area. By 1800 all cargo had been transferred from the tank and the vessel had been trimmed. No water was observed in the tank and no oil pollution was observed in the area.

T/S ITER  
Boston, Massachusetts  
February 14, 1990

## Boston

### References

Research Planning Institute. 1983. Sensitivity of coastal environmental and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## New York

T/B E-25  
Bayonne, New Jersey  
February 28, 1990

Ed Levine, Scientific Support Coordinator

### Incident Summary

The tank barge E-25 owned by Ekloff Marine Corporation leaked an estimated 24,000 gallons of #6 oil into the Kill Van Kull early on the morning of February 28, 1990. The oil escaped from a 12- by 6-inch hole in the #3 port tank of the barge, about 5 feet above the water line. The Coast Guard closed the Kill Van Kull to vessel traffic to aid cleanup activities. Oil passed through the Narrows, into the New York Bight and fouled beaches along Coney Island, Long Island, and New Jersey with tar balls.

### NOAA Response

NOAA/OMA was notified of the incident on February 28, 1990, by the Captain of the Port (COTP) New York. COTP New York requested trajectory of the oil and environmental resources at risk information.

NOAA attended press conferences with COTP New York and provided tide and current information. There were fears that oil might reach the base of the Statue of Liberty, but trajectory information proved these fears to be groundless. NOAA, with the aid of actual "on-scene" weather within New York Harbor provided by a U.S. Coast Guard buoy tender (acting as a command post and traffic cop), adjusted the model more accurately than if only the data from Newark Airport about 5 miles inland had been used.

NOAA reported that the primary resources at risk were the area's waterfowl. In addition to the overwintering waterfowl, there were concerns about migratory waterfowl due to move into the area within the next few weeks. This would cause a dramatic increase in the numbers of waterfowl present and affected. The gulls in the area were also likely to be affected. Wading birds



T/B E-25  
Bayonne, New Jersey  
February 28, 1990

**NOAA Response,**  
cont.

**Conclusion**

## New York

returning for the spring nesting, may also be affected if the oil extends west to Newark Bay, Shooters Island, and Arthur Kill. Birds would suffer severe oiling of the feathers, resulting in hypothermia and ingestion of oil while preening.

Based on the hypothesis that the oil floats, no impacts are expected to the fish.

NOAA participated in overflights to locate oiled beaches and obtained chemical/physical properties of the spilled product from the refiner (Exxon Bayway).

NOAA reported that because the shorelines in the area are all manmade structures, environmental impacts will be minimal. Cleanup operations will be difficult because of the multitude of piers, docks, and other areas where the oil can collect. NOAA recommended special care be taken to ensure that there are no hidden pools of oil (under docks or wharves), that might flush out later. The Bayonne area of New York Harbor has many wharves that may trap the oil, while Brooklyn is mostly seawalls.

After the oil moved out past the Narrows, it impacted the beaches on Staten Island, Coney Island, and New Jersey. Impacts to the beaches were low; however, the erosion problem must be carefully considered before major beach removal operations are conducted. The oil also moved to the east impacting Gravesend Bay, which is mostly seawalls.

Beach cleanup operations lasted several weeks, picking up scattered tarballs for many miles along both New York and New Jersey shores by hand with rakes and shovels. By contrast, the cleanup within the Kill Van Kull lasted several months, with steam cleaning, heavy equipment, and manual removal of oil.

T/B E-25  
Bayonne, New Jersey  
February 28, 1990

## New York

### References

Dahlin, Jeff, Research Planning Inc., Columbia South Carolina, personal communications, February 28, 1990.

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Simecek-Beatty, D. NOAA, Hazardous Materials Response Branch, Seattle, personal communications, February 28, 1990.

Watabayashi, Glen. NOAA, Hazardous Materials Response Branch, Seattle, personal communications, February 28, 1990.

## **Boston**

Tug WILCOX II and Deck Barge LISA O'HARA  
Boston, Massachusetts  
March 1, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

**D**uring the night of February 28, 1990, the tugboat WILCOX II sank with the deck barge LISA O'HARA tied alongside, taking both vessels to the bottom. The tug's fuel tanks potentially contained 3,000 gallons of diesel oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 1, 1990, by the U.S. Coast Guard Marine Safety Office Boston and was requested to provide a trajectory for a potential loss of 3,000 gallons of diesel oil.

NOAA advised that any oil released would be expected to move with the wind and feather out in about 200 yards. Oily discharge would probably not be observed after 2 days. No large landfall for the diesel fuel was anticipated.

### **Conclusion**

A commercial diver plugged vents and secured all hatches and doors on the tug by 1000 on March 2, 1990. A considerably smaller volume of fuel was in the tug's tanks at the time of the incident than first anticipated. No sheen or oil was observed near the sunken vessels within one day of the sinking. The deck barge was salvaged and removed within the week; however, the tug still remains on the bottom.

### **References**

Research Planning Institute 1980. Sensitivity of coastal environmental and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.



Tug WILCOX II and  
Deck Barge LISA O'HARA  
Boston, Massachusetts  
March 1, 1990

## Boston

### References,

cont.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS/OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **Boston**

F/V MISS EMILY  
Nantucket Sound, Massachusetts  
March 2, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On March 2, 1990, the 50-foot wooden fishing vessel MISS EMILY sank in open ocean 9 miles south of Nantucket with an estimated 2,000 gallons of diesel fuel onboard. Attempts to save the vessel failed.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 3, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. The MSO requested tide information, a trajectory of the oil, and natural resources at risk information for the release of diesel oil.

NOAA advised that any oil released would move with the wind and feather out in about 200 yards and oily discharge should not be observed after two days. No landfall for the diesel fuel from the MISS EMILY was anticipated.

### **Conclusion**

All members of the crew were saved by another fishing vessel; but, MISS EMILY was lost. No sheen or oil were observed near the sunken vessel within one day of the sinking.

### **References**

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS/OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **New York**

T/B CIBRO SAVANNAH  
Linden, New Jersey  
March 6, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On March 6, 1990, while departing the pier at the Citgo facility in Linden, New Jersey on the Arthur Kill waterway, the 400-foot oil barge CIBRO SAVANNAH exploded and caught fire. The barge was carrying 4,326,000 gallons of diesel oil. After the fire was extinguished, approximately 127,000 gallons was unaccounted for. It is unknown how much burned and how much entered the water. An unknown ignition source on board the vessel caused the explosion.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 6, 1990, and went to the scene to assess the impacts from the spill. NOAA provided a spill trajectory; weather, tide, and environmental resources at risk information; analyses of oil samples; and on-scene information management support. Another NOAA Scientific Support Coordinator (SSC) was requested onscene to provide additional support.

The trajectory analysis showed the possibility of oil impacting the southwestern edge of Staten Island as well as the mouth of Raritan River and areas near Sandy Hook, New Jersey. On the north side of Staten Island, oil may work its way into Newark Bay and possibly the Kill Van Kull during each flood cycle. Due to the type of and light amount of oil at the northern and southern edges of the slick, new heavy beach impacts outside the Arthur Kill area were not anticipated.

The NOAA support team characterized the diesel fuel from this spill as having very low viscosity and tending to spread to a thin layer. No. 2 fuel readily penetrates both muddy sediments (by pooling in the crab burrows)



T/B CIBRO SAVANNAH  
Linden, New Jersey  
March 6, 1990

**NOAA Response,**  
cont.

## New York

and sandy sediments (by soaking into the porous sand). Once it has penetrated these sediments, it may persist and leach out for weeks. Along the main channels, boat wake wash and tidal currents will remove the oil more quickly, but small sheltered areas could "sheen" for longer if the oil reaches them. These sheltered areas should be protected if possible.

Samples of diesel from between the 1 and 2 port holds and a sample from tank #3 were analyzed. Although, there was a significant amount of "ash" material (from the fire) in the contaminated sample, the gas chromatography-mass spectroscopy results indicated no notable differences between the two diesel samples.

NOAA reported that there are few wildlife present or potentially impacted because the area is heavily industrialized. There may be some overwintering waterfowl in Newark Bay, but are probably scattered. Fish will be present, but deep this time of year. There may be a fish kill from the toxic fractions of the oil that mixed rapidly into the water column near the point of discharge, but, it should not be extensive. The main impacts are likely to be to the intertidal zone.

The SSCs flew many overflights to observe oil movement and locate migrating waterfowl to suggest response options.

NOAA provided overflight maps to the command post, diagrams of damage to the barge from the explosion and fire, and briefing sheets for the On-Scene Coordinator and the media. NOAA also maintained Hotlines and phone contact lists, produced base maps and shoreline survey diagrams, and exercised several modules of the prototype CAMEO SSC.

T/B CIBRO SAVANNAH  
Linden, New Jersey  
March 6, 1990

## New York

### NOAA Response, cont.

NOAA tried, unsuccessfully, to gain state approval to conduct experimental test use of Elastol to help recover product from water.

### Conclusion

Cleanup continued until no recoverable oil was left on the water. No personnel were injured during the initial explosion or subsequent fire.

### References

Dahlin. Jeff, Research Planning Inc., Columbia, South Carolina, personal communications, March 6, 1990.

Dale, Dean, Genwest, Edmonds, Washington, personal communications, March 6, 1990.

Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, March 6, 1990.

Michel, Jacqueline, Research Planning Inc., Columbia, South Carolina, personal communications, March 6, 1990.

Simecek-Beatty, D. NOAA, Hazardous Materials Response Branch, Seattle, personal communications, March 6, 1990.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, March 6, 1990.

## **Boston**

T/S BOSTON VENTURE  
Providence, Rhode Island  
May 1, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

On May 1, 1990, agents of the tank ship BOSTON VENTURE reported that some of the chemical cargo, sodium hydroxide, had leaked into the vessel's double bottom. The vessel was off Providence, Rhode Island.

### **NOAA Response**

NOAA/OMA was notified on May 1, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. The MSO requested that NOAA advise on the potential for a chemical reaction between the sodium hydroxide and fuel oils. The MSO requested an analysis of the sodium hydroxide in a vessel's double bottom.

NOAA advised that the priority issue was the potential for flammable vapors in the double bottom.

### **Conclusion**

MSO Providence inspectors found faulty fire fighting equipment, flame screens, cargo hoses, and improperly banked manifolds aboard the BOSTON VENTURE and did not allow the vessel to enter the port. After the discrepancies were corrected, the vessel entered the Port of Providence on May 4, 1990, and unloaded cargo without incident.

### **References**

Research Planning Institute. 1983. Sensitivity of coastal environmental and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.



## **New York**

T/V NAUTILUS  
Bayonne, New Jersey  
June 7, 1990

Ed Levine and Stephen Lehmann, Scientific Support  
Coordinators

### **Incident Summary**

**W**hile attempting to dock at the Coastal Terminal along the Kill Van Kull in Bayonne, New Jersey, the British tanker NAUTILUS ran aground on a rock outside the maintained channel. The vessel sustained a 30-foot by 18-inch gash, ruptured one cargo tank, and leaked 267,000 gallons of #6 oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 7, 1990, by the Captain of the Port, New York (COTP NY) and requested on-scene to provide trajectory and resource sensitivity advice.

#### *Oil Trajectory*

NOAA estimated that some of the oil would move west (back up the Kull) to the apex area in South Newark Bay just west of Shooters Island. Most of the oil was expected to move out into Upper Bay down into Lower Bay. Potentially, the product could impact the New York side, just south of Gowanus Bay around Bay Ridge.

Based on an analysis of the oil's physical properties, NOAA advised that the oil would probably remain fairly solid in the water, but start to melt once it reaches land. There should be almost no substrate penetration. The product would remain on the surface on mud flats, penetrate sand beaches about 1 inch, and rapidly form tar balls on the flats.

#### *Resources at Risk*

NOAA indicated that most of the environment in the vicinity is seawalls with exceptions around Shooters Island (marshes, beaches, and wooden ship hulls); the Staten Island side of Arthur Kill (marshes drained by

T/V NAUTILUS  
Bayonne, New Jersey  
June 7, 1990

## New York

### *Resources at Risk, cont.*

tidal creeks); Pralls Island (part coarse-grain sand beaches and marshes); and the east side of Pralls Island (sheltered marshes). Based on experience with similar spills, NOAA warned the Coast Guard that these environments have long retention rates for a heavy oil such as #6. Primary impact from the oil was expected to be physical coating and smothering of vegetation. Although the recreational beaches on the east side of Staten and Coney islands could be impacted, cleanup there should be less difficult than in the marshes.

Birds were expected to be the most heavily impacted of all the animals present. There are wading bird nesting colonies on Shooters Island. The impacts to the gulls and terns are the same as to the wading birds, however, the route of impact would probably be through direct contact with the oil slick.

Impacts to the shellfish were expected to be minimal, with coating of the mussels the primary impact. Mortality is not expected to result from the low exposure, especially considering the nature of the oil. Other animals could be indirectly impacted by consuming mussels coated with oil. However, biomagnification up the food chain was not anticipated because oil does not bioconcentrate, but is degraded by the organisms metabolic system.

Few impacts were expected to the resident fish population because the oil should float. However, the oil could conceivably pick up enough sediments on the beach, when stranded during low tide, to prevent refloating on the next high tide, and be transported along the bottom. Benthic fish (summer flounder) could pick up this oil while feeding, but there would probably not be enough oil to cause mortality, although there would be evidence of oiling on the fish around the spill site.



T/V NAUTILUS  
Bayonne, New Jersey  
June 7, 1990

*Daily Operations*

## New York

NOAA briefed U.S. Senators Lautenberg and Bradley of New Jersey and escorted them around the spill site and prepared, compiled, and distributed base maps to resource agencies for overflight oil observations.

The SSC used the NOAA National Marine Fisheries Service (NMFS) research vessel KYMA for a survey of Kill Van Kull. The sampling plan involved looking for oil and crabs on the bottom of Kill Van Kull to help resolve the issue of sinking oil (there is no commercial crabbing in Kill Van Kull). If oiled crabs were found, analyses on flesh were to be performed to determine if hydrocarbons are being incorporated. No oiled crabs were found. The survey saw little floating oil. Trawling bottom encountered numerous crabs (blue, rock, mud, and horseshoe) as well as flounder and other bottom dwelling organisms. All appeared unoiled. A sorbent-wrapped lead weight dropped into the water revealed no oil on the bottom.

Oil was reported impacting Pralls Island. It is theorized that the oil could be from this spill, and was being carried as clingage to a tug and barge that transited the area early in the spill. The report was investigated by Strike Team personnel and NOAA. The investigation showed that the oil was from the NAUTILUS.

The removal of oil from vacuum trucks was slow (over one hour per truck). The possibility of dumping oil into a pit lined with plastic, topped with sand, and embedded with a heating coil to heat the oil for pumping into a heated barge was discussed but not adopted.



T/V NAUTILUS  
Bayonne, New Jersey  
June 7, 1990

## New York

### Conclusion

Oil impacted both sides of the Kull area with heavier concentrations on the New Jersey side. Cleanup, except for Pralls Island, was completed in September. Requests were considered for bioremediation of the shoreline. Because of the manmade structured shoreline consisting of riprap and cost considerations, manual removal was deemed the better option. Damage assessment for remediation costs and losses due to spill are being pursued. Oil contamination caused the death of four birds.

### References

Curl, Herbert Jr. and Kevin O'Donnell. 1977. Chemical and Physical Properties of Refined Petroleum Products. Boulder, Colorado: Marine Ecosystems Analysis Program, NOAA ERL. NOAA Technical Memorandum ERL MESA-17.

Hielscher, Al., GenWest Systems Inc., Edmonds, Washington, personal communications, June 7, 1990.

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Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, June 7, 1990.

## **Boston**

M/V BERMUDA STAR  
Buzzards Bay, Massachusetts  
June 11, 1990

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

The passenger vessel BERMUDA STAR ran aground in heavy fog on June 10, 1990, near Cleveland Ledge Light, Buzzards Bay, Massachusetts. The initial report was that up to 110,000 gallons of fuel oil was released when the vessel came off the bottom with the rising tide. The BERMUDA STAR sustained a gash at least 110 feet long and 2 feet wide with the potential to impact four of the vessel's fuel tanks. By first light on June 11, the estimate was revised to approximately 1,500 gallons of oil, probably released at separate times: during the initial grounding and when the vessel drifted off the reef at high tide.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 11, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. The MSO requested tide information, a trajectory analysis, and natural resources at risk information.

During the initial spill response, NOAA supported the On-Scene Coordinator (OSC) with technical advice. NOAA provided trajectory modeling for the spilled oil; technical liaison between the OSC and Federal, state, and academic natural resource experts; and assistance with news media inquiries.

NOAA estimated that the spilled oil would move with the winds back and forth within Buzzards Bay with shoreline impact on Naushon Island on or about June 11.

M/V BERMUDA STAR  
Buzzards Bay, Massachusetts  
June 11, 1990

## **NOAA Response**

cont.

## **Conclusion**

## **Boston**

NOAA emphasized that two endangered species, the piping plover and Atlantic ridley turtle, were thought to be in the area. Also, gulls, comorants, snowy egrets, and the threatened leatherback turtle could be in the area of the spill.

Cleanup personnel were directed in coordination with the Commonwealth's expert in detailed cleanup efforts in areas where the piping plover could have been impacted by spilled oil. Naushon Island, a privately owned island in the Elizabeth Island chain that is the eastern border of Buzzards Bay, was impacted by spilled oil from the BERMUDA STAR on two tidal cycles. The shoreline was oiled sporadically for 4 to 5 miles in a band 2 to 3 feet wide with most of the oil adhering to north-facing shoreline projections. At some locations the heavy, sticky oil was pooled 1 to 2 inches thick.

About 20 percent of the 110-foot crack in the BERMUDA STAR was patched by June 13. Some oil remained in the boom around the vessel; however, no oil was observed in Buzzard's Bay. The shoreline cleanup was completed on June 14.

NOAA represented the OSC with Federal Wildlife, Commonwealth of Massachusetts Wildlife, and trustees for the landowner of Naushon Island to determine shoreline cleanup techniques and the extent of cleanup. Particular attention was given to the protection of the piping plover. A nesting pair of piping plover observed in the area did not appear to be affected by either the spill or the cleanup effort.



M/V BERMUDA STAR  
Buzzards Bay, Massachusetts  
June 11, 1990

## References

## Boston

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Seattle: Ocean Assessments Division, NOAA. 49  
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Torgimson, Gary M. 1984. The On-Scene Spill  
Model: A User's Guide. NOAA Technical  
Memorandum NOS OMA-12. Seattle, Washington:  
Office of Oceanography and Marine Assessment.

## **Boston**

F/V HUNTER and T/B ST 85  
Block Island Sound, Rhode Island  
June 22, 1990

Stephen M. Lehmann, Scientific Support Coordinator

### **Incident Summary**

On June 22, 1990, the fishing vessel HUNTER, a 66-foot, wood-hull trawler, collided with the T/B ST 85 in Block Island Sound off Misquamicut, Rhode Island, in rain and fog. The initial report was that the HUNTER was secure; but, the T/B ST 85 was holed with gasoline leaking at an estimated rate of 10 to 20 gallons per minute from a 6-inch long hole 2 feet above the waterline.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 22, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Providence. The MSO requested tide information, a trajectory analysis, and environmental resources at risk information for the release of gasoline.

NOAA advised that any gasoline released would move with the wind and evaporate in less than 100 yards before it reached the marshes and tidal flats in the area.

### **Conclusion**

Gasoline was pumped into other tanks onboard the T/B ST 85 until the product in the damaged tank was 2 feet below the 5-inch by 1/32-inch crack. The crack was repaired with an alumina lead patch and T/B ST 85 was underway by 1400 hours. Final estimate of gasoline lost during this incident was 960 gallons.

### **References**

Research Planning Institute. 1984. Sensitivity of coastal environments and wildlife to spilled oil: Connecticut. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 17maps.

F/V HUNTER and T/B ST 85  
Block Island Sound, MA  
June 22, 1990

## Boston

### References, cont.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.



## **Boston**

F/V ABSOLUTE SEA BREEZE  
Essex River, Massachusetts  
July 15, 1990

Stephen M. Lehmann, Scientific Support Coordinator

### **Incident Summary**

The fishing vessel ABSOLUTE SEA BREEZE was intentionally beached by her skipper near Conomo Point on the Essex River on July 15, 1990, to make minor repairs. During these repairs, an estimated 25 gallons of #2 diesel fuel leaked from the vessel into the water and adjacent marsh.

### **NOAA Response**

NOAA/OMA was notified of the incident on July 15, 1990, by the Coast Guard Marine Safety Office (MSO) Boston. MSO requested natural resources at risk information and advice on the most effective way to treat the already spilled oil.

NOAA suggested that preventing foot traffic in the marsh for a few days to allow the oil to evaporate should be sufficient.

### **Conclusion**

The vessel made her repairs and moved off under her own power. No more oil was spilled. There was no environmental damage.

### **References**

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Massachusetts. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 49 maps.

## **New York**

T/B INTERSTATE 53  
Linden, New Jersey  
July 18, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

**A**t about 1145, on July 18, 1990, two barges collided near the Exxon Bayway Refinery docks in Linden, New Jersey spilling 37,000 gallons of heating oil. The barge INTERSTATE 53 hit the barge INTERSTATE 36 while pulling away from the dock after loading #2 heating oil. The leaking INTERSTATE 53 was immediately brought back to the dock, reboomed, and the heating oil offloaded.

### **NOAA Response**

At the time of the incident, the NOAA Scientific Support Coordinator (SSC) was preparing to tour the Exxon facility where the collision occurred. Upon hearing of the accident, the SSC contacted the Captain of the Port, New York and went to the dock to make first-hand observations. The SSC went aboard a Coast Guard vessel to scout the leading edge of the spill and attempt to define the limits of oil.

The SSC estimated that tens of thousands of gallons were spilled. To prepare shoreline protection strategies, the SSC established that the expected trajectory for the tidal range of the spilled oil was 2 miles up and down stream from the source.

NOAA reported that there were minimal environmental resources at risk or potentially impacted because few wildlife are present at this time of year in this heavily industrialized area. Although there could be low concentration of overwintering waterfowl in Newark Bay. Fish would be present, but deep. There may be a fish kill from the toxic fractions of the oil that mixed rapidly into the water column near the point of discharge, but, it should not be extensive. Main impacts were likely to be to the intertidal zone. Along the main

T/B INTERSTATE 53  
Linden, New Jersey  
July 18, 1990

## New York

channels, the action of boat wake wash and tidal currents would probably remove the oil more quickly; but, small sheltered areas could sheen for longer if the oil reached them. These sheltered areas should be protected if possible.

### Conclusion

By evening on July 18, the responsible party, Maritrans, took over the spill from Exxon. The Exxon response was almost immediate and this fast action contained most of the oil in the dock area near the barge. Another pocket of recoverable oil was discovered across the Kills at the GATX facility. By July 19, 1990, response activities were limited to cleanup at these two facilities.

### References

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, July 18, 1990.

Hielscher, Al., Genwest Systems Inc., Edmonds, Washington, personal communications, July 18, 1990.

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: New York Harbor and Hudson River. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 19 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. Seattle, Washington: Office of Oceanography and Marine Assessment NOAA Technical Memorandum NOAA OMA-12.



## **New York**

Mystery Spill  
Coney Island, New York  
August 4, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

**A** U.S. Coast Guard (USCG) vessel returning from a search and rescue mission at about 1915 on August 4, 1990, reported an oil slick approximately 1/4-mile long by 200-yards wide off Coney Island, New York. .

### **NOAA Response**

NOAA/OMA was contacted at about 2000 on August 4,1990, by the U.S. Coast Guard Marine Safety Office, New York and requested to provide trajectory information and evaluate the risk to recreational beaches.

NOAA reported that the oil might be expected to make landfall by mid-morning because of forecast southeast winds, and advised USCG to notify New York City Parks Department of possible oil impacts to Rockaway Beach.

### **Conclusion**

On, August 5, 1990, the New York City Parks Department cleaned up less than 10,000 gallons of oil that had reached the recreational beaches. No resources were harmed.

### **References**

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **Boston**

F/V MARY LOUISE  
Woods Hole, Massachusetts  
September 21, 1990

Stephen M. Lehmann, Scientific Support Coordinator

### **Incident Summary**

At 1225 on September 21, 1990, the fishing vessel MARY LOUISE reported that she was on fire off Woods Hole, Massachusetts with up to 9,000 gallons of #2 (diesel) fuel onboard.

### **NOAA Response**

NOAA/OMA was notified of the incident at 1300 on September 21, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Woods Hole. The MSO requested a trajectory for a potential 9,000-gallon spill.

NOAA advised MSO that, if all the fuel was released, a silver to rainbow sheen would result and probably extend 2 to 5 miles to the east. The sheen might begin moving northwest on the flood tide and was expected to evaporate very quickly. No significant impact or landfall was forecast.

### **Conclusion**

The fire on the MARY LOUISE was brought under control and the vessel was towed to Woods Hole. No oil was released.

### **References**

Pearce, J., Northeast Fisheries Center, National Marine Fisheries Service Laboratory, Woods Hole, Massachusetts, personal communications, September 21, 1990.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOA OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **New York**

T/B SARAH FRANK  
Staten Island, New York  
September 27, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On September 27, 1990, the T/B SARAH FRANK sank at the First Marine dock in Staten Island with an unknown quantity of an unknown type oil onboard. The U. S. Coast Guard (USCG) certificate to haul oil had been removed from this barge because of hull deterioration.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 27, 1990, by USCG Marine Safety Office and asked to provide trajectory information. The Scientific Support Coordinator (SSC) supplied the tidal excursion limits of the oil, hydrodynamics of the Kills system, and the weather forecast to the USCG. The SSC also recommended methods of oil testing and handling. Approximately 50,000 gallons bubbled out of the sunken barge into surrounding boom and approximately 5,000 gallons escaped into the Kill Van Kull and Arthur Kill.

### **Conclusion**

Most of the oil was contained and removed because of good response by the Coast Guard and cleanup contractors. The barge is awaiting final salvage plans before being raised from the bottom to determine the cause of sinking.

### **References**

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, September 27, 1990.



## **East Lansing**

C&O Railroad  
Michigan City, Indiana  
January 15, 1990

Jay Rodstein, Scientific Support Coordinator

### **Incident Summary**

On January 15, 1990, the Coast Guard Station Michigan City, Indiana was notified of an explosion and fire on a train passing through a residential section of the city. A container carrying 14,600 kilos of potassium permanganate in 55-gallon drums was on fire and product was spreading along a drainage ditch that empties to Trail Creek, a tributary of Lake Michigan. The LaPorte, Indiana Hazardous Materials Team was called to the scene and several hundred people were evacuated from their homes. A Coast Guard inspector was onscene and asked to provide chemical information and cleanup recommendations.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 15, 1990, by U.S. Coast Guard Station, Michigan City, Indiana, and asked to provide information on the chemical and to advise on cleanup options.

NOAA advised the Coast Guard that potassium permanganate is reactive with organic material and suggested that, to avoid potential reactivity, contaminated product should not be collected. Instead, NOAA suggested diluting any contaminated product to lessen its aquatic toxicity. Uncontaminated material should be collected and not introduced into the environment. Coast Guard Captain of the Port, Grand Haven, had the Computer-Aided Management of Emergency Operations (CAMEO™) chemical response assistance software and was able to fax a printout of the technical data for the product to the scene.

C&O Railroad  
Michigan City, Indiana  
January 15, 1990

## East Lansing

### Conclusion

NOAA's advice was followed. The Coast Guard monitored Trail Creek for 3 days after the incident and observed no adverse effects. The C&O Railroad response team moved the railcar out of the residential area after the situation was stabilized. The railcar remained on-scene for several days until Federal Railroad Administration investigators evaluated the accident. The train was taken out of service. The remaining product was loaded into another container and removed from the scene. The cause of the accident is unknown.

### References

Michel, Jacqueline, Research Planning Inc., personal communications, January 15, 1990.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

## **East Lansing**

Buckeye Pipeline  
Freeport, Pennsylvania  
March 31, 1990

Jay Rodstein, Scientific Support Coordinator

### **Incident Summary**

A pipeline rupture on the evening of March 30, 1990, released an estimated 75,000 gallons of TRANSMIX into Knapps Run, a tributary to the Allegheny River, north of Pittsburgh. TRANSMIX is a mixture of petroleum products common in pipeline operations. This batch of TRANSMIX included gasoline, kerosene, and heating oil. The U.S. Coast Guard Marine Safety Office (MSO) Pittsburgh was the first Federal official on-scene and turned the On-Scene Coordinator (OSC) role over to the U.S. Environmental Protection Agency on March 31, 1990.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 31, 1990, during a Regional Response Team conference call with the OSC and was requested to report onscene.

The NOAA Scientific Support Coordinator (SSC) was onscene April 1, 1990, and tasked to coordinate the river monitoring program.

NOAA identified potentially affected water users, ensured that interagency sampling efforts were coordinated, and results shared. NOAA's graphic depiction of the contaminant plume was a vital aid to sharing this information with other response agencies, the media, and the public.

Consideration was given to releasing water from the Kinzua Dam, at the headwaters of the Allegheny, to flush the pollutant more quickly and reduce impact to drinking water users. The SSC prepared a position paper



Buckeye Pipeline  
Freeport, Pennsylvania  
March 31, 1990

## East Lansing

for the OSC that recommended no action because only limited benefits would be achieved at the cost of other uses of the water supply.

The SSC, in cooperation with federal, state, and contract agencies, presented a detailed assessment of environmentally sensitive areas to the OSC.

### Conclusion

The OSC turned site management over to the state for long-term cleanup for which Buckeye Pipeline Company has taken responsibility. A new pipeline was routed around the incident area and service was resumed by May 1, 1990. The cause of the release is being investigated by state and Federal agencies.

### References

D'angelo, Al, National Weather Service, Pittsburg, personal communications, April 1, 1990.

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, April 2, 1990.

Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, April 1-4, 1990.

Reilly, Tim, Research Planning, Inc., Columbia, South Carolina, personal communications, April 1-2, 1990.

Schulte, Jerry, Ohio River Valley Sanitation Commission, Cincinnati, personal communications, April 1-4, 1990.

## **New York**

T/V WORLD RADIANCE  
Hog Island, Pennsylvania  
November 20, 1989

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On November 20, 1989, during offloading at the Chevron Refinery in Hog Island, Pennsylvania, high winds caused the tank vessel WORLD RADIANCE to break loose from her moorings. Piping connections to the facility parted, releasing a reported 8,500 gallons of Takula crude oil into the Delaware River.

### **NOAA Response**

NOAA/OMA was notified of the incident at 2330 on November 20, 1989, and was requested onscene by the U.S. Coast Guard Marine Safety Office (MSO), Philadelphia.

NOAA provided MSO a trajectory that estimated that the maximal tidal excursion would be 4 to 5 miles downriver, with shoreline impacts directed by wind action. Winds gusting to 80 miles per hour from the west-northwest could cause the spill to impact the New Jersey shore. NOAA also reported on-scene weather conditions.

### **Conclusion**

A band of oil 500 feet long by 3 feet wide was found at the BP Paulsboro (New Jersey) Refinery in the area of impact predicted by the trajectory. Total product lost was estimated at 40 to 50 barrels; 4 to 5 barrels were recovered near the vessel. Tides were very low at the time of the incident so oil adhered to the sandy sediment increasing the difficulty of cleanup operations and causing some resurfacing of oil later. Cleanup contractors used booms, sorbents, and mechanical means to remove oiled debris and sediments.

T/V WORLD RADIANCE  
Hog Island, Pennsylvania  
November 20, 1989

## New York

### References

Galt, J. A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communication, November 20, 1989.

National Weather Service, National Oceanic and Atmospheric Administration, Philadelphia, personal communications, November 20, 1989.



## **New York**

T/V DOOYANG LEADER  
Cape May, New Jersey  
January 22, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On January 21, 1990, the tug SOCRATES and the DOOYANG LEADER collided approximately 30 miles east of Cape May, New Jersey. The tug reported no damage, but the tanker reported some fuel oil loss and minimal structural damage. A U. S. Coast Guard overflight on January 22 reported a thick oil sheen of # 4 fuel and lube oil measuring approximately 1,000 by 5,000 meters.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 22, 1990, by the U.S. Coast Guard Marine Safety Office, New York and asked to provide an estimate of the quantity of oil in the water and the possibility of land impact.

NOAA estimated the quantity to be 10 to 100 barrels and determined that the oil would not impact land based on the properties of the oil, the location of the spill, and the nature of local currents. An overflight on January 23 reported no visible sheen on the water.

### **Conclusion**

The Coast Guard closed the case on January 24, 1990. No oil reached land.

### **References**

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

van Oudenhoven, J.A.C.M., V. Draper, G.P. Ebbon, P.D. Holmes, and L. Nooyen, 1983. Characteristics of Petroleum and Its Behaviour at Sea, Den Haag, The Netherlands. CONCAWE,

## **New York**

M/V ACONCAGUA  
Execution Rock, Long Island Sound, New York  
April 11, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

At 0600, on April 11, 1990, the container ship ACONCAGUA ran aground at Execution Rock in Long Island Sound. The vessel was en route from New London, Connecticut to New York City, with 1,900 barrels of Bunker C oil onboard. U.S. Coast Guard overflights confirmed the release of approximately 1,000 gallons of Bunker C oil at the mouth of Hempstead Bay, New York.

### **NOAA Response**

NOAA/OMA was notified of the incident at 0700 on April 11, 1990, by the Coast Pollution Response Office, New York and asked to provide a trajectory and environmental sensitivity information.

NOAA estimated that the oil would come ashore on the east side of Hempstead Bay, from Glen Cove Landing to Sea Cliff and Sands Point Beach. NOAA also advised that the natural resources at greatest risk were intertidal shellfish beds with hard clams (quahogs) and oyster populations. Overwintering birds (gulls and terns) and wading birds (herons and egrets) were at risk. In addition, there are several sheltered tidal marshes in the area which would be sensitive to oiling.

### **Conclusion**

Boom was deployed at creek mouths and placed across Glenwood Landing. The vessel was moved to a local dry dock and the damage repaired with no further pollution.

### **References**

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: Long Island. An atlas of coastal resources. Seattle: Ocean Assess-

M/V ACONCAGUA  
Long Island Sound, New York  
April 11, 1990

## New York

**References,**  
cont.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.



## **New York**

Fishing Vessel  
Ocracoke Inlet, North Carolina  
May 10, 1990

Tom Callahan, Scientific Support Coordinator

### **Incident Summary**

On May 9, 1990, an 85-foot wooden fishing vessel ran aground in the mouth of the Ocracoke Inlet with 6,000 gallons of diesel oil onboard. The vessel was awash with oil dribbling out through the tank vents.

### **NOAA Response**

NOAA/OMA was notified of the incident on May 10, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Hampton Roads. MSO requested a trajectory analysis for a potential spill.

NOAA advised that, in the case of a continued slow leak, minor sheening would be observed within 1/4 mile of the vessel moving with the currents. In case of a catastrophic release, sheen would probably be seen for a mile or more away from the vessel, with a bathtub stain appearing on the southwest of Ocracoke Island.

NOAA also informed MSO that the threat to natural resources at risk was minimal because of the great natural tidal flushing of the area and strong winds that would disperse the oil before it could reach sensitive areas.

### **Conclusion**

No further call back or request for information was made by the Coast Guard. It is assumed that the trajectory was correct and that a catastrophic release did not occur.

### **References**

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, May 10, 1990.

Fishing Vessel  
Ocracoke Inlet, North Carolina  
May 10, 1990

## New York

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Ocracoke, personal communications, May 10, 1990.

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Application. Seattle, NOAA Hazardous Materials Re-  
sponse Branch .

Valentine, John, National Weather Service, Raleigh,  
North Carolina. personal communications, May 10, 1990.

## **New York**

M/V REGENT STAR  
Fortescue, New Jersey  
May 27, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

The 642-foot cruise ship REGENT STAR lost power due to an electrical fire and ran aground at 0054 on May 27, 1990, in Delaware Bay, approximately 3 miles west of Fortescue, New Jersey. The ship carried 1,360 passengers, 30,000 gallons of diesel oil, and 240,000 gallons of #6 fuel oil. After the ship lost power, the Captain dropped anchor in an unsuccessful effort to prevent the ship going aground. Two attempts to free the vessel were unsuccessful.

### **NOAA Response**

NOAA/OMA was notified of a potential pollution incident at 2100 on May 27, 1990, by the U.S. Coast Guard Marine Safety Office. On May 28, the NOAA Scientific Support Coordinator (SSC) was requested to attend a Multi-Agency Local Regional Response Team meeting in Philadelphia to discuss the situation.

NOAA provided projected environmental resources at risk and trajectory information. The SSC told the MSO that there are extensive salt marshes on both sides of Delaware Bay that are rich in wildlife and should be protected. NOAA recommended booming the tidal creeks that feed these marshes.

NOAA also advised that there were waterfowl, shorebirds, nesting colonies of wading birds, and brown pelicans in the vicinity of the grounding. Impacts to the birds would be oiling of feathers, which results in loss of insulation and buoyancy and toxic impacts from ingesting oil while preening. The waterfowl and pelicans could be most severely impacted because they dive into the water. Wading and shorebirds could be lightly impacted by walking on oiled beaches.



M/V REGENT STAR  
Fortescue, New Jersey  
May 27, 1990

## New York

### NOAA Response, cont.

The SSC also advised MSO that anadromous fish (American shad, hickory shad, shortnose sturgeon, alewife, blueback herring, and striped bass) were running in the creeks of the Bay. These fish and the oil were concentrated at the mouths of shallow streams making impact a possibility. The fish would probably not die, but spawning success could be affected.

Also in the area of the grounding were oyster seed and lease beds, blue crabs, and diamond back terrapins. Oil impact could cause significant reductions in spawning of the oysters. The blue crabs could pick up stranded oil in the intertidal zone, which makes them unsuitable to eat. If the turtles crawl through the oil, they may contaminate their eggs. Contaminated eggs may not hatch. Oiled young turtles usually die, while adults suffer irritation and inflammation of soft tissues that usually cause secondary infections.

The SSC, recommended trying to free the vessel at the 0200 tide on May 29.

### Conclusion

The vessel was freed at approximately 0130 on May 29, 1990, with no release of oil, and moved to Big Stone Anchorage, then to Pier 84 for final inspection of the bottom.

### References

Research Planning Institute. 1989. Summary environmental sensitivity index maps: Delaware Bay. Seattle: Ocean Assessments Division, NOAA. 4 maps.

Torgimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. Technical Memorandum NOAA OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment NOAA

## **New York**

T/B MANHATTAN PRINCESS  
Philadelphia, Pennsylvania  
June 1, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

The 832-foot tank barge MANHATTAN PRINCESS ran aground in soft, sandy mud at 0049 on June 1, 1990, under the Ben Franklin Bridge in the Delaware River near Philadelphia, Pennsylvania. The barge carried 135,000 barrels of high sulfur lead stock and 240,000 barrels of low sulfur lead stock heavy fuel oil..

### **NOAA Response**

NOAA/OMA was notified of the incident at 0200 on June 1, 1990, by The U.S. Coast Guard and requested on-scene in case of a release.

### **Conclusion**

The MANHATTAN PRINCESS was successfully refloated at 0550 June 1, 1990, with no oil spilled.

## **New York**

Unknown oil slick  
Virginia Beach, Virginia  
June 28, 1989

Gary L. Ott, Scientific Support Coordinator

### **Incident Summary**

**A** Coast Guard helicopter crew sighted a large oil sheen in the waters off Virginia Beach, Virginia, on June 28, 1990, and reported the sighting to the U.S. Coast Guard Marine Safety Office (MSO) Hampton Rhodes.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 28, 1990, by MSO Hampton Rhodes. MSO requested NOAA provide a trajectory analysis for the floating oil.

NOAA advised that the trajectory for this slick would be onto Virginia Beach by the morning of June 29.

The NOAA Scientific Support Coordinator accompanied the helicopter crew who had reported the initial sighting on an overflight of the waters off Virginia Beach. No oil sheen was observed in the water where it was originally sighted or in the surrounding waters. There were ground reports of a light bathtub ring of oil at the high tide line in the Virginia Beach area. This light ring suggested that the oil sheen, although covering a relatively large area, had been very thin and that the oil had beached with onshore winds and the currents as predicted.

### **Conclusion**

The source of the oil slick was not determined. A potential source could have been any vessel entering or departing Hampton Rhodes during the previous 24 hours.



Unknown oil slick  
Virginia Beach, Virginia  
June 28, 1989

## New York

### References

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Virginia. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 104 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## **New York**

International Marine Transport Terminal  
Bayonne, New Jersey  
July 3, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

The International Marine Transport Terminal (IMTT) facility in Bayonne, New Jersey has a long history of problems associated with its oil/water separator. The adjacent Plattykill Creek has been emanating sheens for many years and the cause has been traced to the IMTT separator. No remedial actions have been taken by the owner of the facility or the state causing the U. S. Coast Guard (USCG) to request a joint effort by the New Jersey Department of Environmental Protection (NJDEP), U. S. Environmental Protection Agency (EPA), U. S. Army Corps of Engineers (ACOE), and USCG to resolve the problem.

### **NOAA Response**

After a site visit to IMTT Bayonne on July 3, 1990, to inspect the oil/water separator at the head of the Plattykill Creek and review of previous case history, the NOAA/OMA Scientific Support Coordinator (SSC) made the following suggestions:

Further work needed to be undertaken to ensure the integrity of the barrier between the separator and the Plattykill Creek.

The retaining walls on both sides of the creek were in a state of disrepair, which should be corrected to maintain the shoreline. The option of removing the retaining walls to allow a more natural shoreline to develop was suggested by an IMTT officer. This would require consent and permits from the State of New Jersey and ACOE. The ground near the retaining walls would have to be tested for hydrocarbon contamination in either case.

International Marine Transport  
Terminal  
Bayonne, New Jersey  
July 3, 1990

## New York

The issue of bioremediation (application of fertilizer to enhance the microbial degradation of oil) of the sludge in the separator would need to be addressed by EPA, NJ DEP, USCG, and ACOE. This would be a very long-term solution to the problem. However, much work needs to precede the point where bioremediation (aeration of separator pit was mentioned as method of choice by IMTT) could be an available option.

There was evidence of oil on the surface around the separator. It should be ascertained that no additional oil pockets were seeping into this area. This would require additional site characterization.

Time frames needed to be agreed upon by all involved parties, and work schedules set and adhered to.

These issues should be brought before the Regional Response Team at its September meeting, when all involved agencies would be present. This would allow the case to be presented before the appropriate levels of authority and receive the attention it deserves. This may expedite a case that has gone on for over a decade.

### Conclusion

Case still pending.



## **New York**

F/V SEA GIRT  
Atlantic City, New Jersey  
August 16, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

The fishing vessel SEA GIRT sank off Atlantic City, New Jersey, on August 15, 1990. Sheen was still emanating from vessel the following day.

### **NOAA Response**

NOAA/OMA was notified of the incident on August 16, 1990, by U. S. Coast Guard Marine Safety Office (MSO), Philadelphia and asked for trajectory information. MSO was concerned about possible contamination of bathing beaches.

NOAA told MSO Philadelphia that the oil should not impact the shoreline and estimated that the oil would travel approximately one-quarter mile from the spill site.

### **Conclusion**

No further action was requested.

### **References**

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. Seattle, Washington: Office of Oceanography and Marine Assessment NOAA Technical Memorandum NOAA OMA-12.

## **New York**

T/B OCEAN 192  
Delaware Bay  
August 18, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On August 18, 1990, about 4 miles outside the entrance of Delaware Bay, the tank barge OCEAN 192 (which was being pushed by the tug INDEPENDENCE) collided with the Panamanian tank ship FAITH I rupturing one of the barge's stern cargo tanks. The FAITH I, carrying approximately 600,000 gallons of gasoline, sustained hull damage in the bow area, but, its cargo tanks remained intact. Approximately 150,000 gallons of gasoline leaked into the bay from the OCEAN 192, which was loaded with 7.1 million gallons of gasoline and #2 fuel oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on August 18, 1990, and requested on-scene by the U.S. Coast Guard Captain of the Port, Philadelphia.

Based on wind, tide, and current conditions, and the physical properties of the oil, NOAA reported that there should be no shoreline impacts from the spill. The product was expected to evaporate quickly because of the high temperature, although there was a possibility of a localized fish kill.

NOAA recommended that the New Jersey Department of Fish and Game sample the oyster beds to be sure they received no contamination.

### **Conclusion**

Both vessels were directed to the Big Stone Anchorage and the gasoline remaining in the damaged tank ship was transferred to another barge. There were no personnel casualties. Within 24 hours, no visible traces of the gasoline were present, no oil impacted the shorelines of either New Jersey or Delaware, and no major impact on the fisheries was noted.

T/B OCEAN 192  
Delaware Bay  
August 18, 1990

## New York

### References

Torgimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, August 18, 1990.



## **New York**

Amerada Hess  
Perth Amboy, New Jersey  
September 6, 1990

Ed Levine, Scientific Support Coordinator

### **Incident Summary**

On September 5, 1990, tank number 0121 on the Amerada Hess facility in Perth Amboy, New Jersey failed. The tank contained approximately 6 million gallons of low pour point #6 fuel oil. As soon as the leak was detected, Hess employees began transfer of the product onto barges brought to their dock. Oil leaked from a valve through the fire wall (secondary containment) onto the facility and into the adjacent waterway. Approximately 5,000 gallons entered the water and as much as 1 million gallons remained on the facility grounds. Earthen dams were built on the property to prevent further loss of product into the Arthur Kill. Vacuum trucks and front-end loaders were used to remove the oil from the ground, and skimmers and vacuum trucks worked to remove the floating oil from containment booms.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 6, 1990, by the U.S. Coast Guard Captain of the Port, New York and requested on-scene. Most of the oil was contained against the facility by containment boom and on the facility grounds because of the rapid response by the responsible party. Some light sheen was noted in the Arthur Kill. NOAA suggested boom placement to prevent oil from migrating up Woodbridge Creek to the bird sanctuary approximately 1 mile upstream from the facility. No major threat to local wildlife was expected.

Amerada Hess  
Perth Amboy, New Jersey  
September 6, 1990

## New York

### Conclusion

The floating oil was removed from the water surrounding the facility. Long-term removal plans were made for the operation on land.

### References

National Weather Service, National Oceanic and Atmospheric Administration, personal communications, September 6, 1990.

## **Miami**

M/V ALEC OWEN MAITLAND  
Carysfort Reef, Key Largo, Florida  
October 25, 1989

Gary D. Petrae, Scientific Support Coordinator

### **Incident Summary**

The ship ALEC OWEN MAITLAND ran hard aground on Carysfort Reef in the Key Largo National Marine Sanctuary, on October 25, 1989. The 155-foot containerized freight carrier was en route empty from Miami, Florida, to Mobile, Alabama, with approximately 18,000 gallons of # 2 marine diesel onboard.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 25, 1989, by U. S. Coast Guard Marine Safety Office (MSO) Miami, who requested information on weather and slick trajectories for a potential spill.

NOAA informed MSO that the weather forecast was for northeast to east winds, 15-20 knots, 3- to 5-foot seas, and increasing showers through October 26, 1989.

NOAA's trajectory showed that the oil, if it was released, would cause a slick for some distance, depending on the rate of release. A catastrophic release would produce a slick which could cover 2-3 miles and persist for a few days. The oil would cause adverse effects on the reef around the grounded vessel and to shallow reefs downwind as long as the slick persisted. NOAA did not feel that a shoreline impact was imminent.

### **Conclusion**

No oil was spilled and the ship was successfully refloated on October 25, 1989.

### **References**

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communication, October 25, 1989.



M/V ALEC OWEN MAITLAND  
Key Largo, Florida  
October 25, 1989

## Miami

### References, cont.

NOAA National Weather Service Forecast Office, Miami,  
personal communication, October 25, 1989.

Torgrimson, Gary M. 1984. The On-Scene Spill Model:  
A User's Guide. NOAA Technical Memorandum NOS  
OMA-12. Seattle, Washington: Office of Oceanography  
and Marine Assessment.

## **Miami**

M/V MAVRO VETLANIC  
Dry Tortugas, Florida  
October 30, 1989

Gary D. Petrae, Scientific Support Coordinator

### **Incident Summary**

The Yugoslavian ship MAVRO VETLANIC ran hard aground on a reef within the Fort Jefferson National Monument in the Dry Tortugas on October 30, 1989. The 475-foot bulk cargo carrier was en route from Tampa to Greece with a cargo of 14,300 tons diammonium phosphate, 124,085 gallons of Intermediate Fuel Oil (IFO) 180, and 23,920 gallons of #2 marine diesel onboard. The vessel was aground on seagrasses and dead reefs with some scattered live corals in the area. There were living coral reefs approximately 4 to 6 miles to the west of the grounding.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 30, 1989, by the U.S. Coast Guard Marine Safety Office (MSO) Miami. MSO requested weather information, a trajectory for a potential spill of the fuel oils onboard, natural resources in the area at risk from a spill of oil or cargo, and dispersability information on the oils.

NOAA told MSO that the weather forecast was for southwest to west winds 5 to 10 knots with winds shifting to northeast on November 1 and 2. Seas were expected to be 2 to 3 feet with scattered showers. If the oils were released they would probably trail downwind for a considerable distance.

NOAA recommended protective measures and mechanical recovery operations in the event of a spill.

The IFO 180 could travel a long distance as a coherent slick and even farther as tar balls and mousse. Any winds from the northeast could cause impacts on the keys of the Dry Tortugas. South to southwesterly winds could push a slick up into Florida Bay, the upper Keys, and Everglades National Park. NOAA advised that the marine diesel would probably dissipate fairly rapidly.

M/V MAVRO VETRANIC  
Dry Tortugas, Florida  
October 30, 1989

## Miami

### *Diammonium Phosphate*

NOAA estimated that a release of the cargo of diammonium phosphate could be acutely toxic to wildlife. This chemical is soluble in water with a toxicity of approximately 150 parts per million for fathead minnows. It is also slightly alkaline in water, but with the buffering of the ocean and the presence of carbonate in the substrate, the alkalinity resulting from small quantities released during offloading was not expected to be a problem. However, a catastrophic release could cause lethal effects in the immediate area until the phosphate eroded. The additional input of nutrients could also cause some amount of accelerated growth and possibly an algal bloom.

### *Resources at Risk*

There were brown pelicans, cormorants, and boobies in the area of the Dry Tortugas. The IFO 180 would be particularly damaging to these birds. Also present in the area were loggerhead, green, and hawksbill sea turtles. The nesting season for these species ended in August, but adults remain in the area all year. The seagrasses in the area serve as a food source for many of the fish and for spiny lobster, the most economically important of the invertebrates. Associated with the seagrass community were many species of benthic invertebrates that could be impacted by a release of the #2 fuel oil or a major release of the IFO 180 cargo.

### *Dispersability*

NOAA indicated that because of the near-upper-limit viscosity and low API gravity of the IFO 180 at ambient temperatures, dispersant use might not be effective for this potential spill. The IFO 180 might have been dispersible when it was fresh out of the tanks of the ship, but its specific gravity suggested that the oil would be increasingly difficult to disperse the longer it weathered. Dispersant application would have been ineffective after 12-24 hours.

Dispersant use was not justified on the #2 marine diesel because, although readily dispersible, it was expected to dissipate fairly rapidly. It is relatively nonpersistent but



M/V MAVRO VETRANIC  
Dry Tortugas, Florida  
October 30, 1989

## Miami

*Dispersability, cont.*

should dissipate before drifting far enough away from the corals and seagrasses to allow dispersant use in deep waters. With trajectories in any other direction the diesel slick would probably not persist long enough to be a threat to a shoreline.

### Conclusion

The ship was successfully refloated on November 2 with no release of oil or cargo..

### References

Dahlin, Jeff, Research Planning Inc., Columbia, South Carolina, personal and electronic communications, October 30, 1989.

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, October 30, 1989.

NOAA National Weather Service Forecast Office, Miami, personal communications, October 30-November 1, 1989.

NOAA. 1989. Tide Tables 1989, East Coast of North and South America. Riverdale, Maryland: National Ocean Service.

Research Planning Institute. 1981. South Florida. An atlas of coastal resources. Miami: South Florida Regional Planning Council. 23 maps.

Torgrimson, Gary M. 1984. The on-scene spill model: A user's guide. NOAA Technical Memorandum NOS/OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## Miami

M/V ELPIS  
The Elbow, Key Largo, Florida  
November 11, 1989

Gary D. Petrae, Scientific Support Coordinator

### Incident Summary

The Greek bulk cargo ship ELPIS ran hard aground on the reef at The Elbow in the Key Largo National Marine Sanctuary, November 10, 1989. She had 180 metric tons (52,400 gallons) of #4 fuel oil and 60 metric tons (18,500 gallons) of #2 marine diesel onboard.

### NOAA Response

NOAA/OMA was informed of the incident on November 11, 1989, by the U.S. Coast Guard Marine Safety Office (MSO). MSO requested Information on weather, environmental resources at risk, and slick trajectories for a potential spill of the oils onboard.

### *Weather Forecast*

NOAA indicated that the weak cold front over the Keys would move south over Cuba November 11 and either weaken or move north as a warm front November 12. No other fronts were expected to move south into the area over the next few days. The forecast was for scattered showers and thunderstorms, numerous November 11, diminishing through the day and night, winds northeast 15 knots shifting to northeast-east 15 knots. The forecast for November 12 called for scattered showers and thunderstorms. NOAA also provided tide information.

### *Oil Identification*

NOAA identified #4 fuel oil as a blend of diesel and #6 fuel oils at approximately a 40-60% ratio, respectively. It has a high toxic soluble fraction (diesel) and a persistent sticky smothering component (#6). NOAA indicated that #2 oil (and the #2 component of the #4), would present a toxicity problem for the reefs and subsurface biota down a few feet and perhaps deeper where surf conditions were present in the area of the ship, and for approximately 2 to 3 miles. The lighter oil would not persist and

M/V ELPIS  
The Elbow, Key Largo, Florida  
November 11, 1989

## Miami

### *Oil Identification, cont.*

only hold together as a visible slick for 2 to 4 miles. Likewise, the #2 component of the # 4 oil would disperse within 4 to 6 miles and leave a sticky persistent slick. These distances would vary depending on weather and sea conditions. The direction would depend on the winds with a slight southerly component added to the trajectory by the southerly "long-reef" currents in the area.

### *Oil Trajectory*

The trajectory would be in a southerly direction under the predicted winds. If the wind were to move from a more easterly direction, the oil could be blown up into the reef areas and Hawk Channel. If the oil was to move toward shore, efforts (booms and skimmers) should be made to stop the spread of the slick and prevent the oil from affecting the shorelines, especially, the sheltered areas. Although this oil may have been dispersible, dispersants were not recommended at the time.

### *Resources at Risk*

Because the vessel was aground on living reefs in the Key Largo National Marine Sanctuary, environmental resources at risk were those of the near- and off-shore areas of Key Largo.

The birds in the area were brown pelicans, cormorants, and boobies. These are the most susceptible and sensitive of birds to spilled oil. The number 4 fuel oil is particularly damaging to these species of birds through the loss of insulation from oiled feathers and ingestion of oil when preening.

Also in the area were loggerhead, green, and hawksbill sea turtles. The nesting season had ended so nesting turtles were not a concern; however, the adults remain



M/V ELPIS  
The Elbow, Key Largo, Florida  
November 11, 1989

*Resources at Risk, cont.*

## Miami

foraging in the area all year. Some effects would be expected, since turtles have a tendency to ingest tarballs, and the high percentage of #2 oil in the #4 would cause irritation to mucous membranes leading to a more weakened and disease-susceptible condition.

Major adverse effects would result if the oil were to move inshore and impact the hundreds of miles of mangrove shoreline in the area; especially the sheltered mangroves of Angelfish Creek, Garden Cove, Largo Sound, Rock Harbor, and Tavernier Creek. Also, if the oil gets through any of the cuts or channels into the Gulf side of the Keys, the ecosystems on that side would be at risk. Mangroves would suffer lethal effects from coating of their prop roots and contamination of the sediments resulting in severe mortality and defoliation, depending on the amount of oil.

The toxic soluble components of the #4 and #2 oils would cause adverse effects on the corals, benthic invertebrates (spiny lobsters are the most economically important of the invertebrates), and reef fishes; probably in that order of mortality. This would only be a problem for the first 4 to 6 miles from the ship until the lighter fractions dispersed. Once the soluble fractions were gone, there would most likely be no subsurface adverse effects.

In the northern portion of Key Largo, the endangered American crocodile was present. They could be harmed through ingestion of oil when foraging or through mucous membrane irritation.

In the deeper water areas offshore of the reefs, the impacts would be on birds and the pelagic species that remain very near the surface (e.g., the sargassum weed ecosystems).

M/V ELPIS  
The Elbow, Key Largo, Florida  
November 11, 1989

## Miami

### Conclusion

No oil was spilled and the ship was successfully refloated on November 11, 1989.

### References

- Curl, Herbert Jr. and Kevin O'Donnell. 1977. Chemical and Physical Properties of Refined Petroleum Products. NOAA Technical Memorandum ERL MESA-17. Boulder, Colorado: Marine Ecosystems Analysis Program, NOAA ERL.
- NOAA National Weather Service Forecast Office, Miami, personal communication, November 11, 1989.
- NOAA. 1989. Tide Tables 1989, East Coast of North and South America. Riverdale, Maryland: National Ocean Service.
- Research Planning Institute, 1981. South Florida Oil Spill Sensitivity Atlas. Miami: South Florida Regional Planning Council. 23 maps.

## Miami

Hypochlorite Drum  
San Juan, Puerto Rico  
March 2, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

At approximately 0630 on March 2, 1990, cargo was being moved on the dock in San Juan Harbor when a cargo handler backed into a stack of drums causing one drum filled with hypochlorite solution to fall into the water under the stern of a moored cruise ship. Status of the drum was unknown after the mishap and plans were made to dive on the drum to determine its condition and location with respect to the propellers of the cruise vessel.

### NOAA Response

NOAA/OMA was notified of the incident at 0816 on March 2, 1990, by the U.S. Coast Guard Marine Safety Office, San Juan, Puerto Rico. Coast Guard officials requested information on the appropriate methods to approach and recover the drum.

NOAA asked for confirmation on the material in the drum and told the Coast Guard to use a wet suit and SCUBA equipment and remain up current when diving for the drum in case it was damaged and leaking. NOAA suggested that if the drum was reasonably intact, a cargo net, guided by a diver, and a hoist from the dock could safely recover the drum.

NOAA suggested that the drum be treated as a very large bottle of household bleach and to isolate it from other caustics and acids to prevent the production of chlorine gas. NOAA recommended that when the drum was hoisted from the bottom it be held just above the water and checked carefully for leaks. If the drum was leaking, it should be kept at or near the water level until it can be moved. All unprotected personnel should be kept clear until the drum is emptied or contained. If the drum was intact, the Coast Guard should clear unprotected personnel from the immediate area and recover it to the dock.



Hypochlorite Drum  
San Juan, Puerto Rico  
March 2, 1990

## Miami

### Conclusion

San Juan Coast Guard officials proceeded as suggested and the drum was recovered intact. No injuries or environmental impacts were reported.

### Contacts

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

Overton, Edward, Louisiana State University, Institute for Environmental Studies, Baton Rouge, personal communications, March 2, 1990

Sax, N. Irving and Richard J. Lewis, Sr. 1987. Hawley's Condensed Chemical Dictionary, Eleventh Edition. New York: Van Nostrand Reinhold Company. 1287 pp.

## **Miami**

Barge LA-REINA  
San Juan, Puerto Rico  
May 14, 1990

Gary Van Den Berg, Scientific Support Coordinator

### **Incident Summary**

The U. S. Coast Guard San Juan Marine Safety Office (SJMSO) was notified on May 14, 1990, of a venting, 40-foot, pressurized tank truck onboard the U.S. freight barge LA-REINA. The tank truck reportedly contained 6,400 gallons of methylamine consigned to SK&F labs of Guyama, Puerto Rico. The release, estimated to be 10 to 20 gallons per minute, was thought to be coming from a safety valve on the bottom of the tank truck located below the weather deck. Several entries had been made by personnel wearing Level A or B protective gear to locate the exact source of the leak. The San Juan Port Control advised all vessels to stay clear of the area where the LA-REINA was docked.

### **NOAA Response**

NOAA/OMA was notified of the incident on May 14, 1990 by SJMSO. The NOAA Scientific Support Coordinator (SSC) was requested by SJMSO to advise on the human health hazards posed by methylamine.

NOAA told SJMSO that methylamine is very harmful if inhaled, irritating and corrosive to skin, and extremely flammable. SJMSO was also informed that using water to knock down the vapor causes the water to become toxic and corrosive. The SSC sent SJMSO a fact sheet on methylamine.

NOAA estimated the parameters for a safety zone based on weather and wind conditions and relayed the information to SJMSO.

Barge LA-REINA  
San Juan, Puerto Rico  
May 14, 1990

**NOAA Response**  
cont.

**Conclusion**

## Miami

On May 15, 1990, the source of the venting was found after a level A entry. The methylamine was escaping through gaps between the gasket and opening of a 16-inch manhole cover on top of the tank truck because several of the manhole cover bolts were loose. The bolts were all tightened reducing the venting to a hiss. The leak was now estimated to be less than a pound per minute. The tank truck's pressure gauge indicated that the tank was almost empty. Explosive atmosphere readings were 0 and the oxygen level was 21% in the immediate vicinity.

A level B entry was made to put a vetter patch over the manhole cover and apply a silicone seal. These were checked and considered secure. All readings were negative and the oxygen level was 21% in the area.

All response operations ceased when no methylamine vented from the tank truck and all atmospheric readings indicated the immediate area around the tank truck was reasonably safe.

Readings, taken again on May 16, 1990, showed no explosive atmospheres and oxygen levels normal. All other cargo near the tank truck was offloaded. The damaged tank truck was removed from the barge and taken to a remote area of the terminal. Transfer of the remaining methylamine began on May 17, 1990, by a centrifugal explosion-proof pump to an adjacent tank truck.

The incident ended when the transfer of the remaining product was concluded. The Coast Guard closed the case and no violation report was issued.



Barge LA-REINA  
San Juan, Puerto Rico  
May 14, 1990

### References

## Miami

Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, May 14, 1990.

Lehr, Bill, NOAA Hazardous Materials Response Branch, Seattle, personal communications, May 14, 1990.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment. 300 pp.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, May 14, 1990.

## **Miami**

Mystery spill, Molasses Light  
Key Largo, Florida  
June 23, 1990

Gary Van Den Berg, Scientific Support Coordinator

### **Incident Summary**

The U.S. Coast Guard Marine Safety Office (MSO) Miami was notified on June 23, 1990, of a possible oil slick off Molasses Light, estimated to be 2 miles long by 1/2 mile wide, which appeared to be light sheen with some darker bands.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 23, 1990, by MSO Miami and requested to supply a trajectory of a possible slick near Molasses Light.

NOAA told MSO that, since the oil was east of the Gulf Stream, the reported oil probably did not constitute a threat because the forecast west winds would push any oil away from the coast. NOAA requested an overflight to confirm that the slick was in fact oil, and ensure the accuracy of the reported position. Due to a U.S. Coast Guard search and rescue mission, the overflight was never flown.

### **Conclusion**

The incident ended with no action taken.

### **References**

Lehr, Bill, NOAA Hazardous Materials Response Branch, Seattle, personal communications, June 23, 1990.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, June 23, 1990.

## **Miami**

Leaking Drums  
Jacksonville, Florida  
July 12, 1990

Gary Van Den Berg, Scientific Support Coordinator

### **Incident Summary**

On July 12, 1990, the U.S. Coast Guard Marine Safety Office (MSO) was notified by the Coast Guard Captain of the Port that a container box with 76 steel drums of ethyl cyanoacetate was leaking. The container was on a trailer in an industrial area adjacent to the Port of Jacksonville, approximately 4 miles north of downtown Jacksonville. The MSO directed the Port Authority to secure the area and establish an exclusion zone.

### **NOAA Response**

NOAA/OMA was notified of the incident on July 12, 1990, by the MSO and requested to provide safety zone requirements and information on ethyl cyanoacetate.

NOAA established the safety zone requirements based on the forecasted weather and the currents in the area.

Through the Center for Disease Control, Atlanta, NOAA ascertained the effects of ethyl cyanoacetate on human health, general personnel safety considerations, medical monitoring of entry personnel, and the hazards of mixing the chemical with water (it forms a poisonous gas). Because the temperature at the time of the incident was 94°F, the symptoms of heat stroke and ethyl cyanoacetate were also discussed. CHEMTREC, was contacted for more information about the chemical. NOAA relayed the information to MSO.

An evacuation of the area was conducted by the Jacksonville Police Department after a local stevedore was treated and released on-scene for possible contamination.

A Jacksonville Fire Department entry team (level A) opened the container and, after establishing that the threat was over, turned the situation over to a contractor for cleanup and drum repacking.



Leaking Drums  
Jacksonville, Florida  
July 12, 1990

## Miami

### Conclusion

On July 13, 1990, cleanup, disposal, and decontamination were completed. During cleanup, 18 55-gallon drums were repacked because of leakage or contamination. The remaining drums were removed to another container. The U.S. Coast Guard may investigate possible U.S. Department of Transportation packaging and shipping violations.

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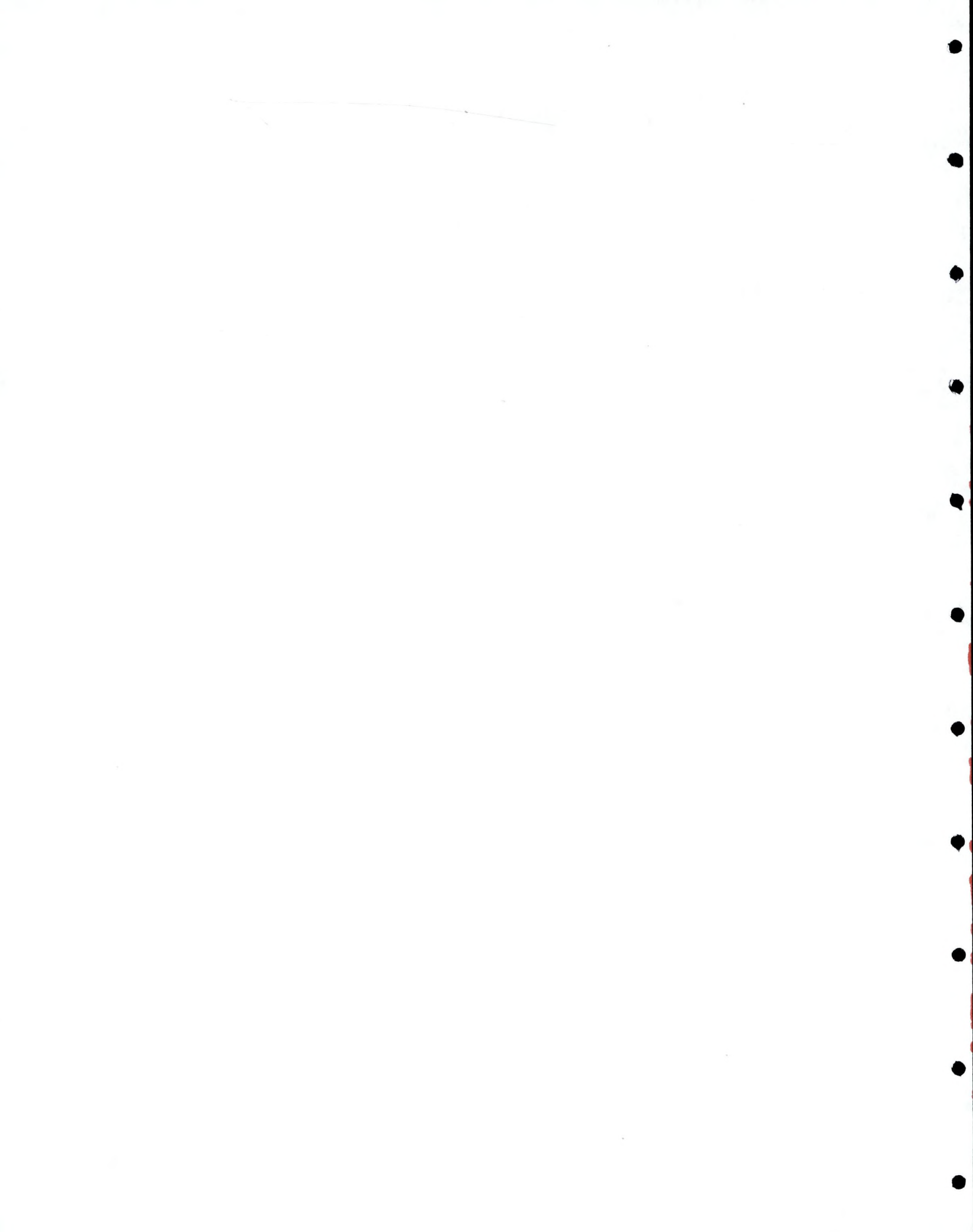
Leaking Drums  
Jacksonville, Florida  
July 12, 1990

## Miami

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## **New Orleans**

Apex Barges 3504, 3409, 1806, and 3503  
Bay St. Louis, Mississippi  
November 7, 1989

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At approximately 1800 on November 6, 1989, Apex tank barges 3504, 3409, 1806, and 3503 carrying 3.2 million gallons of feedstock lube oil, grounded in less than 7 feet of water approximately 7 nautical miles south-southeast of the Bay St. Louis, Mississippi while being pushed by the tug W. P. JACKSON. The JACKSON reported that the barges were drawing 8.5 feet of water at the time of the grounding. The four barges were hard aground, but none of the product appeared to be leaking into the water.

### **NOAA Response**

NOAA/OMA was notified of the incident at 0750 on November 7, 1989, by the U.S. Coast Guard Marine Safety Office (MSO), New Orleans. MSO indicated special concern for 3504 and requested a spill trajectory and an environmental resources at risk assessment in the event the barge broke open.

NOAA told MSO that currents were mixed and that any oil lost would tend to mill nearby and move slowly downwind. MSO was also told that any spill occurring on the Intracoastal Waterway east of the Mississippi River to Florida's west coast is exceedingly difficult to forecast and deal with without severe damage to the environment. The Intracoastal Waterway channel in this region is actually offshore behind a series of barrier sand islands typical of the eastern Gulf of Mexico. The area is shallow and currents are poorly defined. Any spill in the area is subject to influences both from the land and sea. Numerous channels and shallow bays cut well into the mainland interior all along the channel. Weather in the area is difficult to predict and is very often significantly

Apex Barges 3504, 3409,  
1806, and 3503  
Bay St. Louis, Mississippi  
November 7, 1989

**NOAA Response,**  
*cont*

**Conclusion**

## New Orleans

variable over a 24-hour period. Booming of any disabled or suspect vessel in or near the channel is highly recommended.

Natural resources in the area (coastal bays, birds, back bays, and barrier islands) are considered very sensitive and should be protected immediately in the event of oil threat. NOAA suggested that any suspect barge be surrounded by booming.

NOAA also provided weather observations from Biloxi and Gulfport, Mississippi, verified with weather buoy data from the area, and 24-hour forecasts.

Due to vague descriptions of the cargo aboard the barges provided by the W. P. JACKSON, NOAA also investigated the loading source and obtained chemist reports that properly identified the oil as a feedstock blend slightly lighter than a #5 fuel oil with a specific gravity near .89, the same as water.

On November 7, after a U.S. Coast Guard inspection of the barges, the owners of the units and cargo dispatched a second tow vessel from Pascagoula, Mississippi to help the JACKSON break the tow apart and refloat each barge. By 2200, three of the four barges were refloated. The fourth was recovered shortly after midnight. No environmental impact or injuries were reported.

A final investigation on the afternoon of November 8, revealed that all the barges were intact and that no cargo had been lost.



Apex Barges 3504, 3409,  
1806, and 3503  
Bay St. Louis, Mississippi  
November 7, 1989

## References

## New Orleans

Hill, Larry, Louisiana Land and Export Co., Mobile, Alabama, personal communications, November 7, 1989.

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Stroud, John, Louisiana Land and Export Co., Mobile, Alabama, personal communications, November 7, 1989.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, November 7, 1989

## **New Orleans**

T/B HOLLYWOOD CHEM 181  
Houma, Louisiana  
December 18, 1989

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At approximately 1830 on December 18, 1989, tank barge HOLLYWOOD CHEM 181 being pushed by moter vessel MATTHEW REED was traveling west on the Intracoastal Waterway through the village of Houma, Louisiana when the barge collided with the East Park Avenue Bridge. A propylene pressure vessel and a 3/4-inch gauge line, reportedly located on top of a 4- to 6-inch relief valve line were damaged, propylene began escaping immediately after the collision. MATTHEW REED reported that the barge carried 247,000 gallons of product and that she would move, with the barge, away from the bridge and toward the north side of town. She moored the barge to a tree adjacent to the channel and moved away. The collision caused no injuries or fires. U.S. Coast Guard officials at Station Houma closed the Intracoastal Waterway and established a 1-mile safety zone around the damaged barge. Hollywood Marine Inc., owners of the barge, dispatched a response team to contain the leak.

### **NOAA Response**

NOAA/OMA was notified of the incident at 2230 on December 18, 1989, by Coast Guard Marine Safety Office (MSO) Morgan City. Coast Guard Station Houma requested information about the properties of the gas released and about measures for gas detection and personnel safety.

NOAA recommended that pressurized breathing equipment be worn by all personnel approaching the barge. This precaution should prevent injuries from chance sparking that could be caused by personnel lacking oxygen.

T/B HOLLYWOOD CHEM 181  
Houma, Louisiana  
December 18, 1989

## New Orleans

NOAA also suggested monitoring oxygen and explosive gas levels. Any deflection of the explosimeter should be considered an unsafe condition and an immediate evacuation of the area accomplished until equipment was calibrated or corrected for propylene gas. NOAA recommended limiting vehicle activity in the area, including low flying aircraft.

To contain the escaping gas, NOAA suggested allowing it to vent, as long as the immediate area was controlled safely, until conditions improved or positive control of the gauge line was assured. Safer capping attempts might be attempted when tank pressure reduced naturally by covering and wetting the broken line to cause frost blockage.

### Conclusion

HOLLYWOOD CHEM 181 was allowed to continue venting, which lowered pressure in the vessel. At 0230 on December 19, an attempt to cap the leak failed; however, at 0920, after a reducer was installed, attempts to blanket and freeze the line were successful. The barge was moved to a shipyard well away from population centers. Pressure in the vessel had dropped about one-half from an initial estimated pressure of 110 pounds per square inch.

The 11-hour release caused the loss of 3,520 barrels of propylene. Monitoring, except for initial measurements near the channel and about 1/4-mile downwind of the barge, showed negative readings. However, the monitors detected three natural gas leaks in the municipal supply system that were subsequently repaired. By 0930 the barge was moved from the area and normal vehicle traffic resumed. No injuries or apparent environmental damages were reported. HOLLYWOOD CHEM 181 was repaired and returned to service after investigation.



T/B HOLLYWOOD CHEM 181  
Houma, Louisiana  
December 18, 1989

## New Orleans

### References

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment. 300 pp.

Overton, Edward, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, December 18, 1989

## New Orleans

Goodrich Oil  
Little Lakes Area, Louisiana  
January 11, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

At approximately 0900 on January 11, 1990, oil production personnel discovered crude oil floating in the marshes on the south end of Little Lakes, a series of shallow bodies of water northeast of the village of Golden Meadow and approximately 20 miles north of Grand Isle, Louisiana. The spill was the result of a broken collection line leading from a single well nearby. It was estimated that about seven barrels of oil had been released. The well feeding the line was shut down.

### NOAA Response

NOAA/OMA was notified of the incident at 1615 on January 11, 1990, by the U.S. Coast Guard Marine Safety Office (MSO), New Orleans. MSO requested guidance on how to handle a spill in the Little Lakes area.

The NOAA Scientific Support Coordinator (SSC) recommended double booming the oil with shallow and/or sorbent boom and recovering the oil as soon as possible. NOAA informed the MSO that cleanup personnel should be cautioned against disturbing grassy margins to prevent the possibility of burying the oil in the bottom muds. NOAA strongly advised against foot and equipment traffic or any digging or vegetation cutting. NOAA suggested sorbents and hand skimmers as the best methods to deal with the oil. Appropriate handling and disposal of the debris had to be included in the cleanup plan.

NOAA informed MSO that this very sensitive area is inhabited by migratory waterfowl and supports a broad spectrum of endangered birds, including birds of prey. Small coastal mammals indigenous to the region,

Goodrich Oil  
Little Lakes Area, Louisiana  
January 11, 1990

## New Orleans

brackish water species, and immature marine organisms are in abundance and should be left undisturbed if possible. As a final consideration, if the area of the spill was not readily accessible and cleanup could not be accomplished without significant damage to the habitat, NOAA suggested that the oil be left to weather and flush with the tides naturally. Should a survey be necessary to determine the best course of action, NOAA recommended that the SSC, state, and Federal wildlife officials be flown in to assist.

### Conclusion

By 1830 on January 11, 1990, NOAA-recommended booming operations were underway. Evening reports indicated that the oil had been contained in a small cove at the south end of Little Lakes and recovery could be accomplished. Oil recovery began shortly thereafter; and, by the end of the week, 525 gallons (12.5 barrels) had been recovered. The leaking collection line was repaired and placed back in operation with no further incident. Due to the small and highly localized nature of the spill and the speed with which it was mitigated, little or no impact to the environment occurred. No injuries to humans or wildlife were reported. Follow-up by MSO officials indicated that no further cleanup should be attempted and the case was closed.

### References

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, January 11 and 12, 1990.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, January 11 and 12, 1990.

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.



## **New Orleans**

Shell Offshore Pipeline  
Ship Shoal, Gulf of Mexico  
January 24, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At 1020 on January 24, 1990, U.S. Coast Guard (USCG) Marine Safety Office (MSO), Morgan City, Louisiana received a report through the National Response Center of a slick measuring 25 miles long and 10 miles wide approximately 43 miles south of Derner's Island (south of Morgan City) in the area of Ship Shoal. The slick was described as brownish with a rainbow-colored perimeter. A USCG overflight that afternoon confirmed the area of the slick, but noted that it was oriented north to south, approximately 11 to 12 miles long with some rainbow sheen concentrations, and appeared to be breaking up.

At 1605, Shell Offshore Inc., a leaseholder in the Ship Shoal area, reported a leak coming from one of their 4-inch lines leading to a larger 12-inch line coming ashore. They estimated that 100 barrels of condensate (4,200 gallons) had been lost. Potentially, 28,000 gallons could be lost because of residuals in the lines. Offshore wells feeding the lines in question were shut down.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 24, 1990, by the MSO Morgan City who asked for a trajectory analysis of the spill and information on any possible threat to land.

NOAA responded with a trajectory indicating that the spill would probably dissipate at sea, unless more was leaked from the pipeline. Weather forecasts for the area indicated that winds would shift to a northwesterly direction the following day, which would significantly reduce any threat to land. NOAA recommended that follow-up overflights be conducted the next morning.

## New Orleans

### Conclusion

A morning Shell Offshore overflight on January 25, 1990, reported that the slick was rapidly dissipating; and an afternoon USCG overflight no longer detected the slick.

The leaking line was in 300 feet of water and was at first thought to have been caused by a fishing operation that inadvertently snagged and broke the valve. However, Shell Offshore divers discovered a broken 2-inch valve on one of their 4-inch feed lines.

No injuries to humans or the environment were reported and the case was closed.

### References

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, January 24, 1990

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## **New Orleans**

Mystery Spill  
Delta National Wildlife Refuge, Louisiana  
January 25, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At 0850, January 22, 1990, U.S. Coast Guard (USCG) Marine Safety Office (MSO), New Orleans received information of an oil slick south-southeast of Venice, Louisiana. The slick was threatening the Delta National Wildlife Refuge an area comprised primarily of wetlands and marshes. A USCG overflight confirmed the sighting and reported that a 1-square mile slick estimated at 10 - 20 barrels of materials, was moving into the Refuge. The Coast Guard continued to track the oil's movement through overflights and waterborne surveys.

### **NOAA Response**

NOAA/OMA was notified of the incident the morning of January 25, 1990, by MSO New Orleans. MSO asked NOAA to suggest possible actions to clean up the spill.

NOAA suggested postponing action until necessary to see if the winds would remain southerly. A northerly swing in the winds would make it very difficult to contain and recover the oil without unduly damaging the marsh and disturbing migratory birds in the area. NOAA contacted Refuge managers to verify conditions and determine if oiling of the area was a significant problem. Refuge managers reported that the oil moved so rapidly through the grasses and reeds that it was difficult to locate. They also indicated that little apparent damage was being caused by the transiting oil.

NOAA recommended that overflights be continued to maintain surveillance of the oil and ensure that it did not have a source in the immediate area.



Mystery Spill  
Delta National Wildlife  
Refuge, Louisiana  
January 25, 1990

## New Orleans

### Conclusion

Overflights were continued by the USCG and the Department of Interior throughout the next 4 days. The oil was observed periodically as it transited small open-water areas between grassy areas until January 29, when neither air nor surface reconnaissance could detect any oil in the area. Refuge managers stated that the impact from the transiting oil appeared to have been minor and that no further action would be taken. Various platforms and pipelines are in the area and suspect; but, none were identified as the source of the pollution. No human injuries or serious environmental impacts were reported.

### References

Abear, Charles, Refuge Manager, Delta National Wildlife Refuge, Louisiana, personal communications, January, 25-29, 1990.

Nesbit, Walter, Refuge Manager, Delta National Wildlife Refuge, Louisiana, personal communication, January, 25-29, 1990.

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.

## New Orleans

### Mystery Slick

200 Nautical Miles North of San Juan, Puerto Rico

February 5, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

On the morning of February 5, 1990, the ocean-going tug CENTURION observed a large slick (stretching from horizon to horizon) containing sheen and tarballs about 200 nautical miles north of San Juan, Puerto Rico. The CENTURION had been traveling in the slick for a number of hours. A U.S. Coast Guard (USCG) overflight confirmed a slick in the area composed of a light sheen. The overflight crew contacted the motor vessel SUN VIKING that was cruising in the area. She also confirmed the sheen but could not confirm the tarballs.

### NOAA Response

NOAA/OMA was notified of the incident at approximately 1410 on February 5, 1990, by USCG Marine Safety Office (MSO) San Juan. MSO asked if hindcasting to determine the source of the slick was feasible.

NOAA explained that to successfully hindcast the case, 3 months Atlantic basin weather and surface currents and ship movements were needed. The resources needed far outweighed the usefulness for any result that might be obtained.

NOAA also explained that the slick was in the vicinity of the Sargasso Sea Gyre, whose swirling motion accumulates surface debris from all over the Atlantic and bordering seas and gulfs. Oil gathered by winds and currents would likely remain there (not withstanding major tropical disturbances) until dissipating.

NOAA offered to type the oil from the slick, if samples could be obtained, and suggested that further monitoring of the slick would be prudent. The threat to land was very low.

Mystery Slick  
North of San Juan, Puerto Rico  
February 5, 1990

## New Orleans

### Conclusion

MSO San Juan agreed with the evaluation and suggestions and indicated they would monitor ships of opportunity transiting the area. No additional sightings, injuries, or environmental damage have been reported.

### References

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications and Email, February 5, 1990.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications and Email, February 5, 1990.



## New Orleans

M/Vs ATHENA and D.W. LAKE  
Intracoastal Waterway, Louisiana,  
February 18, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

At approximately 1730 on February 18, 1990, the tow vessels ATHENA and D. W. LAKE, with barges in push arrangement, were approaching each other in the Intracoastal Waterway when their lead barges collided. The ATHENA's lead barge was carrying 30,000 barrels (1,260,000 gallons) of gasoline and LAKE's lead barge carried coking coal. LAKE's coke barge overrode the gasoline barge, which burst into flames. Both tow vessels broke their respective tows and backed away. The burning barges remained approximately 15 miles west of the village of Intracoastal City, Louisiana, and were not accessible by land. A report from a Vermillion Parish Water Patrol vessel, on-scene about 1900, indicated that the lead barges and bank vegetation were afire near the side of the channel.

### NOAA Response

NOAA/OMA was notified of the incident at 2030 on February 18, 1990, by U.S. Coast Guard Marine Safety Office (MSO), Morgan City. MSO did not specifically request any assistance. MSO told NOAA that empty chemical barges, including some which had carried benzene, chloroform, and caustic soda, could be involved and that KELLY MCCALL, with fire fighting capability, was expected to arrive at the scene in about an hour.

NOAA offered assistance and weather forecasts as needed and suggested that responders without appropriate protection stay at least 1,000 yards away. All parties should be apprised of the seriousness of the chance for explosion and inhalation dangers. MSO Morgan City indicated that the Intracoastal Waterway had been closed and that vessels, other than those responding to the emergency, had been ordered to stay at least 2 miles away from the scene.

M/Vs ATHENA and D.W. LAKE  
Intracoastal Waterway, Louisiana  
February 18, 1990

## New Orleans

### NOAA Response, cont.

NOAA also contacted Coast Guard Health and Safety personnel at Eighth Coast Guard District to ensure appropriate authority was available to enforce any personnel precautionary measures needed.

### Conclusion

At 2230, KELLY MCCALL reported on-scene and by 2305 reported that the fire was out. MSO Morgan City reported that an investigation of the barges by the Coast Guard On-Scene Coordinator's representatives revealed that one tank on the gasoline barge had been damaged and about 125,000 gallons of fuel had been consumed in the flames. They also reported that only a slight sheen of gasoline remained on the water. The coke barge was filled with water. It would require 2 to 3 days to separate and safely salvage the two units. The other barges involved in the incident were not significantly damaged and were removed. One minor injury to crew occurred during the collision; but there was no apparent environmental damage other than to vegetation immediately adjacent to the collision site reported.

### References

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment. 300 pp.

Overton, Edward, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, February 18, 1990

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.



## **New Orleans**

T/V STOLT EXPORTER and T/B E-30  
Neches River and Sabine Lake, Texas  
March 1, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At approximately 0430 on March 1, 1990, the tanker STOLT EXPORTER collided with the tug TRENTON BRUTE, with the empty barge E-30 in push. They were beginning a port-to-port passage on the Intracoastal Waterway when they collided. The EXPORTER sustained a 3-foot gash in her #1 port cargo tank releasing about 14,700 gallons of vinyl acetate onto the waters of the Neches River and the northern end of Sabine Lake. Tug TRENTON and her empty barge pushed into the bank to escape chemical fumes and to survey for damage. EXPORTER, with bow aground, began transferring the remainder of the 332,000-gallon acetate cargo from her #1 port tank to another internal tank.

### **NOAA Response**

NOAA/OMA was notified of the incident at 0705 on March 1, 1990, by U.S. Coast Guard M Division, Eighth District, New Orleans. M personnel stated that Marine Safety Office (MSO), Port Arthur, Texas wanted advice on allowing fishing in the area of the spill and information on environmental resources at risk.

NOAA recommended a fishing ban for the next 2 to 3 days to prevent consumption of possibly contaminated fish and shellfish and to reduce the risk of residual acetate poisoning. NOAA advised extreme caution and strongly recommended monitoring the area for heavier-than-air vapors near surface waters and pressurized breathing equipment for responders.

CAMEO™ II response information was also suggested. Polymerization of the acetate was discussed in detail with MSO Port Arthur.



T/V STOLT EXPORTER  
and T/B E-30  
Neches River and Sabine Lake,  
Texas  
March 1, 1990

**NOAA Response,**  
cont.

**Conclusion**

**References**

## New Orleans

Resources-at-risk review identified a number of sensitive species and the possibility of some aquatic animal kills. Emphasis was on cleanup of any polymerized material that could remain in the area for two or more days after release.

At 0501 on March 1, 1990, STOLT EXPORTER successfully transferred her acetate cargo to secure tanks onboard. A fishing advisory was issued by MSO Port Arthur in conjunction with a Texas Department of Health health advisory for waters between Nederland and Sabine, Texas until 0800, March 3, 1990. The area was surveyed for acetate residuals, and, except for low concentrations near the scene, no other concentrations were detected. No shore pollution was found.

By the afternoon of March 1, 1990, both vessels were removed from the scene for inspection and repairs. No injuries were reported and there was little or no impact to the environment.

Overton, Edward, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, March 1, 1990

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment. 300 pp.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, March 1, 1990.

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.

## **New Orleans**

M/T HITTEN  
Louisiana Offshore Oil Port, Louisiana  
March 6, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

On March 6, 1990, while moored near the Louisiana Offshore Oil Port Facility (LOOP), approximately 25 miles south-southeast of Grand Isle, Louisiana, the Iraqi vessel, HITTEN reported an oil slick coming from her starboard bow. The HITTEN had 50 million gallons of Basrah light crude onboard, of which an estimated six barrels (250 gallons) were in the water. Southeast winds of 20 knots and choppy, 4- to 6-foot seas hindered attempts to locate the cause of the leak. The weather forecast was for precipitation, winds increasing to gusts of 25 knots, and 6- to 8-foot seas. Divers were contacted by LOOP officials to investigate the hull of the aging vessel.

### **NOAA Response**

NOAA/OMA was notified of the incident at 2315 on March 6, 1990, by the U.S. Coast Guard Marine Safety Office (MSO), Morgan City. MSO requested a trajectory forecast in anticipation of a major hull failure on the HITTEN. NOAA responded with a trajectory, weather forecast, and environmental resources at risk information.

NOAA recommended booming the vessel as soon as the weather and position of the vessel would permit. The trajectory analysis indicated that any oil lost from the HITTEN would generally trend towards the northwest if weather remained as forecasted. Landfall, in the event of a major loss from HITTEN, could be expected as early as 30 to 36 hours near and southwest of Grand Isle, Louisiana. Impacts from such a spill could be expected all along the central third of the Louisiana coast with possible extension to the Texas border. The NOAA



M/T HITTEN  
Louisiana Offshore Oil Port,  
Louisiana  
March 6, 1990

**NOAA Response,**  
cont.

**Conclusion**

## New Orleans

Scientific Support Coordinator (SSC) arranged for 6-hour updates on expected weather and alerts, in the event of significant changes, to be passed to Coast Guard, HITTEN, and LOOP officials.

NOAA pointed out the high sensitivity of the south-central Louisiana coast, particularly those areas of Barataria and Terrebonne bays. The area has nurseries and is host to numerous species of fish and shellfish. NOAA emphasized that protection of the sensitive vegetation in the area was crucial in the maintenance of coastal areas by preventing erosion. The area is also a haven for numerous birds and mammals.

On the morning of March 7, 1990, divers inspected the hull of the HITTEN and discovered a 6-inch crack adjacent to the #4 starboard wing tank, about 3 feet below the waterline. Gauging of the tank indicated that about 150 gallons had been lost. Weather abated enough to allow skimmers to come alongside and collect the small amounts of leaking oil. Priority for unloading was established for the HITTEN at LOOP and she began to move to an unloading mooring. By 0725 on March 8, enough oil had been removed from the vessel to stop the leakage and operations proceeded without further incident. The temporarily repaired vessel was completely unloaded by March 11 and allowed to move to deeper water to make more substantial repairs before proceeding. Oil lost from the HITTEN dissipated or was recovered by LOOP response activities. No injuries to humans or wildlife were reported.



M/T HITTEN  
Louisiana Offshore Oil Port,  
Louisiana  
March 6, 1990

## New Orleans

### References

American Petroleum Institute. 1985. U.S. Crude and Products Imports. Washington, DC: National Academy Press. 98 pp.

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, March 7, 1990.

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, March 6, 1990.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, March 7, 1990.

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Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. Technical Memorandum NOAA OMA-12Seattle, Washington: Office of Oceanography and Marine Assessment, NOAA.

## New Orleans

Well Head Leak  
Sea Rim State Park, Texas  
April 4, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

On the morning of April 4, 1990, the U.S. Coast Guard (USCG) Marine Safety Office (MSO), Port Arthur, Texas received a report of a petroleum spill about 3 miles offshore of Sea Rim State Park. A USCG overflight verified that a slick made up of rainbow sheen, measuring 100 by 3,000 yards, was streaming to the east-northeast of a sunken jackup rig boat located 10 miles west of Sabine Pass. The aircrew reported that the vessel appeared to be abandoned

### NOAA Response

NOAA/OMA was notified of the incident on April 4, 1990, by MSO Port Arthur and requested to provide a trajectory analysis. Although no details verifying the source, amount, or type of oil were available, NOAA responded with a weather forecast for the area, a trajectory analysis based on the available information, and environmental resources at risk information covering an area 5 miles either side of, and including, Sea Rim State Park.

Weather forecasts indicated that winds on the afternoon of April 4 would switch to the southeast at 10 to 15 knots and gradually increase throughout the evening and into the next day.

Based on local currents and forecast southeasterly winds increasing to above 15 knots, NOAA's trajectory analysis indicated that the slick would probably continue moving northeasterly, threatening MacFadden Beach (about 5 miles east of Sea Rim). If the winds did shift as predicted, the slick could turn northerly and threaten Sea Rim and adjacent beaches.

Well Head Leak  
Sea Rim Park State, Texas  
April 4, 1990

## New Orleans

### NOAA Response, cont.

NOAA identified specific threats to diving and predatory birds feeding near the shore. Nearshore fish and shellfish were also cited as at risk due to the unidentified oil. Fine-grained beaches in conjunction with marsh and swampy backwater areas were also identified as being at risk. NOAA strongly recommended that Texas State park departments be notified, especially the rangers in and near Sea Rim Park.

### Conclusion

MSO Port Arthur continued investigating the sunken jackup vessel and identified it as the M/V CATHY, owned by United Texas Corporation. When contacted about the incident, the owners admitted that the CATHY had sunk more than 30 days before while reworking a well head located alongside. The sheen in the area was coming from the well that may have been slowly or periodically weeping for some time. No further pollution was evident after the CATHY was revisited and the well shut in. The sheen that was reported on the morning of April 4 dissipated naturally by late that afternoon. No injuries or environmental impacts were reported.

### References

Benefield, Lynn, Texas Parks and Wildlife, Resource Protection, Austin, personal communications, April 4, 1990

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, April 4, 1990

Pitts, Don, Texas Parks and Wildlife, Resource Protection, Austin, personal communications, April 4, 1990

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, April 4, 1990.



Well Head Leak  
Sea Rim State Park, Texas  
April 4, 1990

**References,**  
cont.

## New Orleans

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Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOSOMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## New Orleans

T/B MB2  
Freeport, Texas  
April 9, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

About 1800 on March 25, 1990, tanker barge MB2, along with another barge tended by the tug CREOLE, were transiting West Intracoastal Canal when T/B MB2 struck a previously sunken salt barge. MB2, a single-skinned, one-raked end barge sustained damage to her #1 port cargo tank and began leaking a light Chunchula condensate into the canal at a rate of about one barrel per minute. Of the potential 2,196 barrels carried in MB2's damaged tank, 1,288 barrels were lost.

### NOAA Response

NOAA/OMA was notified of the incident on April 9, 1990, by the U.S. Coast Guard Marine Safety Office (MSO), Galveston. MSO Galveston requested assistance to determine the fate of the remaining 1,088 barrels unaccounted for after cleanup operations were terminated. NOAA requested and received the on-scene wind observations for the Coast Guard response period of March 25-28.

NOAA estimated that 870 barrels could have dissipated into the atmosphere and water in equal proportions. The remaining 215 barrels would have remained for a time as a sooty-appearing residue along the channel margins and in small coves and inlets. The waterborne fraction would eventually flush out of the channel to the Gulf of Mexico via the Freeport Ship Channel, other cuts, and nearby river outflow. The surface residue would break up slowly or leave some stain. A small fraction (part per million levels) might work into the channel sediments, but should not cause any damage.

T/B MB2  
Freeport, Texas  
April 9, 1990

## New Orleans

### Conclusion

NOAA's analysis allowed MSO to finish the investigation and close the case. The barge was repaired and returned to service. Although only about 200 barrels of the lost condensate were recovered, no injuries to human health or the environment were reported.

### References

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications and Email, April 9, 10, and 11, 1990.

NOAA. 1988. The CAMEO™ II Manual. Seattle: Office of Oceanography and Marine Assessment. 300 pp.



## **New Orleans**

JU/B GULF WIND  
Marsh Island, Louisiana  
May 3, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At 0520 on May 3, 1990, the jack up boat GULF WIND, operating approximately 5 miles south of Marsh Island, Louisiana, struck a 6-inch Texaco oil pipeline that it was servicing. By 0800, a slick, composed mainly of rainbow sheen 100 yards wide by 4 miles long was seen streaming to the northwest. The pipeline, which had been under pressure at the time, included automated pressure loss sensors and shutoffs that closed the line and limited the release to a few tens of barrels although 90 barrels remained in the damaged portion of the line.

### **NOAA Response**

NOAA/OMA was notified of the incident at 0758 on May 3, 1990, by U.S. Coast Guard Marine Safety Office (MSO), Morgan City, Louisiana. MSO requested a trajectory analysis because of the closeness of the oil to sensitive coastal areas.

Weather was a significant factor with winds at the scene southeasterly 25 to 30 knots. Surface currents were flowing north-northeasterly. National Weather Service forecasts indicated similar winds for at least the next 36 hours.

NOAA reported that the oil would proceed consistently northwesterly if weather held and would threaten coastal lands just west of Marsh Island in 8 to 16 hours.

NOAA identified potential threats to larval and juvenile fish as well as oyster beds and spat in the area. NOAA identified Shell Island National and Marsh Island State Wildlife refuges as very sensitive and suggested that the trustees responsible be notified.

JU/B GULF WIND  
Marsh Island, Louisiana  
May 3, 1990

**NOAA Response,**  
*cont.*

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**Conclusion**

**References**

## New Orleans

NOAA also reported that the sustained high winds out of the southeast would likely cause rapid breakup and dispersion of the relatively small amount of oil spilled. Accordingly, NOAA suggested continuing the oil tracking effort.

At 0926, on May 3, 1990, MSO, Morgan City reported that the sheen appeared to be breaking up rapidly and did not pose a significant threat to the Louisiana shore. Texaco Pipeline officials stated that the pipeline damaged in the incident would be replaced and indicated that future company policy would include routine shutdown of any offshore line undergoing servicing. No injuries to human health or the environment were reported.

Callahan, Tom, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, May 3, 1990.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 3, 1990.

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.

Torgrison, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, May 3, 1990.



## **New Orleans**

T/V SKAN BENEDIKTE

Galveston, Texas

May 3, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

The T/V SKAN BENEDIKTE departed Galveston on May 2, 1990, with about 225,000 barrels of #2 fuel oil onboard. She had cleared the Galveston Bay jetties and was about 5.5 miles southeast of Galveston when she began taking on water through sea chest piping in the engine room. She reported that her pumps were holding their own and requested anchorage at Bolivar Roads at the north end of the Galveston Bay entrance. She was denied anchorage until she was in a stable condition. Crewmen trying to keep her afloat were hindered by strong winds (20+ knots), 5- to 7-foot seas, and threatening thunderstorms. On May 3, the SKAN's captain reported that the water was rising in the engine room, threatening shipboard power. Requests for portable pumps went out. No cargo had yet been lost.

### **NOAA Response**

NOAA/OMA was notified of the incident at 0929 on May 3, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Galveston. MSO Galveston indicated that the SKAN was in danger of sinking at her anchored position southeast of the Galveston jetties and requested environmental resources at risk information and a spill trajectory in preparation for the possible breakup of the vessel. MSO indicated that the SKAN was settling in the water with a draft already nearing 45 feet. The NOAA Scientific Support Coordinator (SSC) responded as requested and arranged for regular weather forecasts and severe weather alerts.

NOAA pointed out the extreme sensitivity of the Galveston Bay area to low-viscosity pollution, such as that associated with #2 fuel oil with likely aquatic mortality resulting from a sizable or chronic diesel oil



T/V SKAN BENEDIKTE  
Galveston, Texas  
May 3, 1990

**NOAA Response,**  
*cont.*

**Conclusion**

**References**

## New Orleans

release. Historic collection points for oil and other floating debris (due to persistent currents existing near shore) were also identified along the beaches adjacent to Galveston and west to San Luis Pass.

NOAA's trajectory analysis identified westward-trending currents in the area and the likelihood of impacts in Galveston Bay and along beaches at Bolivar Peninsula, Galveston, and westward should cargo be lost. NOAA strongly recommended that, even though SKAN's fuel and cargo could be easily recovered in the event of her settling to the bottom, if she could not be saved, she should be moved west of her present position to reduce the threat of pollution being drawn or blown into Galveston Bay.

The SKAN BENEDIKTE was stabilized on May 4, 1990. The cause of the leak, a broken 3 1/2-inch sea suction line connected to the engine room, was temporarily repaired. The vessel left Galveston on May 7, 1990, after repairs were completed.

Except for minor sheen leaking from engine sea chest fittings, no cargo or fuel were lost. No injuries to humans or the environment were reported.

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 3, 1990

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications and NOAA Email. May 3, 1990.

T/V SKAN BENEDIKTE  
Galveston, Texas  
May 3, 1990

## New Orleans

### References, cont.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 3, 1990

Simecek-Beatty, Debra, NOAA, Hazardous Materials Response Branch, Seattle, personal communications and NOAA Email. May 3, 1990.

Torgimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOSOMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications and NOAA Email, May 3, 1990.

## **New Orleans**

Exxon USA Pipeline  
Marsh Island, Louisiana  
May 6, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

On May 6, 1990, at 1600, the U.S. Coast Guard Marine Safety Office (MSO), Morgan City, Louisiana received a report from the National Response Center of an oil slick offshore extending approximately 5 miles by 15 miles made up of both dark- and rainbow-colored oil. The slick was located in the South Marsh Island oil lease Block 141 about 75 miles south of Marsh Island. The source and amount of the oil were unknown. An 1800 U.S. Coast Guard overflight noted that the slick was heaviest on the west and southwest side near a group of Eugene Island Block oil production rigs.

### **NOAA Response**

NOAA/OMA was notified of the incident at 1837 on May 6, 1990, and MSO Morgan City planned to keep NOAA informed of the investigation into the source of the slick. They suspected that the spill might be coming from a 20-inch Texaco pipeline, a part of the locally known Eugene Island Block network that collects production from variously owned platforms located in the area.

NOAA was again contacted on May 7 and requested to provide a spill trajectory estimate. NOAA indicated that the oil would likely move west to northwest over the next 48 hours and disperse naturally. Landfall for the slick was not expected; but, if the amount of oil in the slick was larger than expected, some beach impact could occur along the Texas coast from Galveston west after about a week.



Exxon USA Pipeline  
Marsh Island, Louisiana  
May 6, 1990

## New Orleans

### Conclusion

Texaco Pipeline Company of Houma, Louisiana assumed responsibility for the spill until the source could be verified. They shut down their 20-inch pipeline and collection network, dispatched fast-response skimmers, and sent divers down to investigate suspect points along the various lines in the area. Meanwhile, the oil spill was generally migrating slowly westward, herded by easterly winds.

When the slick could no longer be located, MSO Morgan City turned the case over to the Minerals Management Service for further investigation. Repeated dives on pipeline taps in waters 250 feet deep revealed that a threaded, water-bleed nipple on an 8-inch Exxon USA line had been damaged (presumably by fishing nets or dragged equipment). Exxon USA officials reported that the line was not in use at the time and that the roughly estimated 900 barrels of crude oil lost, was backed-up oil from within the network. They also indicated that the line had been charged with seawater and had been forced out before oil entered and was lost. The nipple on the line has been replaced and the line has been re-inerted with seawater. Valves linking the Exxon line to the Eugene Island network were closed with no further incident. Responsibility for the incident is still under investigation. No injuries to humans or the environment were reported.

### References

Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

## Incident Summary

### New Orleans

M/V STONEWALL JACKSON  
New Orleans, Louisiana  
May 26, 1990

Chris J. Nelson, Scientific Support Coordinator

On the evening of May 24, 1990, the 811-foot, lash barge, dry stores carrier STONEWALL JACKSON had completed loading and was departing New Orleans for the Gulf of Mexico. At about 2020, she collided with sister vessels and riverside equipment as she was maneuvering for a turn around Algiers Point. The collision resulted in multiple penetrations through JACKSON's hull, including her #6 starboard fuel tank that began losing #6 fuel oil at an unknown rate. Damage to JACKSON's starboard hull, both above and below the waterline, was extensive enough to threaten her own and other ships' stability and petrochemical terminals and other facilities downstream.

Weather was generally mild with light easterly winds. The Mississippi River, due to seasonal runoff and heavy rains, was 13 feet above flood stage and rising. Currents in the river near New Orleans were more than 5 knots in places and unpredictable near large depth changes, turns, and shoreside obstructions. At 2045, JACKSON was able to anchor near shore about 2 miles downstream of the collision site. She began to transfer ballast and cargo to regain stability and prevent further oil loss. Numerous gashes in the JACKSON's side, opening various stores and service spaces, were observed to be 10 or more feet long and at least 1-foot wide. At 2145, oil leakage stopped from a 6- by 9-inch hole in her side near #6 starboard tank. U.S. Coast Guard Strike Team members were called in to oversee stabilization of the vessel. Reports from local Parish officials indicated that oil had already migrated 10 miles downstream on the west side of the river.



STONEWALL JACKSON  
New Orleans, Louisiana  
May 26, 1990

## New Orleans

### NOAA Response

NOAA/OMA was notified of the incident at 1100, on May 26, 1990, by the USCG Marine Safety Office (MSO), New Orleans. MSO requested a trajectory of the oil movement for Head of Passes and the Mississippi outflow area in the Gulf of Mexico.

An 0930 overflight reported that oil was observed from river mile markers 85 to 39. MSO New Orleans also reported that the JACKSON was not losing any more oil. Estimated loss at that point was 3,000 barrels (126,000 gallons) of fuel oil.

NOAA responded with a trajectory forecast, a resources at risk analysis, and weather and river flooding forecasts. NOAA suggested immediate contact with local, state, and federal wildlife refuge officials. NOAA recommended diversionary booming, closure of locks, and possible damming of small diversionary channels that allowed river waters into very sensitive delta wetlands.

NOAA advised against attempts to contain or hold oil near actual or potential channels through the levies because rising waters could move unrecovered oil into adjacent wetlands. The trajectory, based on weather forecasts and current information, indicated that oil movement would tend to the west side of the river, possibly slowing as it neared the Head of Passes. If winds remained easterly, passes to the east and southeast of Head of Passes would probably not be severely affected.

NOAA underscored the sensitivity of the area and earmarked a number of threatened species at risk. Brown pelicans, in the south central delta (Gulf side) were of particular concern. Only months before, a small island at the mouth of South Pass had been recolonized and was already threatened by high water and egg poachers.



STONEWALL JACKSON  
New Orleans, Louisiana  
May 26, 1990

## New Orleans

### Conclusion

Flooding waters prevented any real chance to contain the oil. Diversion of oil away from Grand Pass and confining it to the more southerly Southwest Pass was not successful. River waters were moving so rapidly that 95 percent or more of the visible oil was washed out to sea where it dissipated within 48 hours. Very little of the reported 300 barrels of oil lost from the JACKSON was recovered.

NOAA took an overflight of the area on the afternoon of May 26. Except for small pockets of oil near the west side river margin near Sulfur, Louisiana and some small lightly sheened areas in the wetlands north and east of Venice, Louisiana, no oil remained in the delta. No distressed wildlife was observed and the Brown Pelican rookery seemed to be healthy and unaffected. Confirmation of the general health of the area wildlife was provided by state and federal wildlife officials.

While attempting to move from her anchorage to the 1st Street Wharf near the center of New Orleans for repairs, the JACKSON struck the Jackson Street Ferry landing and another barge in two separate events. The damage sustained by the vessels and ferry support facilities did not lead to any further pollution. JACKSON was repaired and released to continue her voyage. No injuries to humans or the wildlife were reported.

### References

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 25, 1990.

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, Seattle, personal communications, May 25, 1990.

STONEWALL JACKSON  
New Orleans, Louisiana  
May 26, 1990

## New Orleans

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Research Planning Institute. 1989. Sensitivity of coastal environments and wildlife to spilled oil: Louisiana. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 98 maps.

Shultz, Donald, U.S. Department of the Interior, New Orleans, personal communications, May 26, 1990.

## New Orleans

T/B HOLLYWOOD 2022

Galveston Bay, Texas

May 29, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

On the morning of May 29, 1990, two tugs with barges in push arrangement were approaching the intersection in south Galveston Bay between the Houston Ship Canal and the Intracoastal Waterway. At 0850, tug CAPTAIN HENRY, southbound on the ship canal, collided with the HOLLYWOOD barges, including 2022, and the tug LARADIA and her westbound barges. HOLLYWOOD 2022, loaded with methyl tert-butyl ether (MTBE), a gasoline additive, received damage to port tanks 1 and 2. Estimated loss at that point was 250 barrels, with a potential loss of 8,000 barrels.

The U.S. Coast Guard Marine Safety Office (MSO) Galveston closed the ship canal and the Intracoastal Waterway. Tanker 2022 was moved to Pelican Island away from the ship canal to begin lightering. After the holes in her side were plugged, temporarily reducing leakage to a trickle, the ship canal was reopened. The LARADIA, only slightly damaged, and her barges were taken to a government mooring for investigation and possible citation for the incident.

### NOAA Response

NOAA/OMA was notified of the incident at 0940 on May 29, 1990, by MSO Galveston. MSO requested information on how soon the MTBE material might dissipate or be handled.

NOAA recommended that cleanup personnel wear pressurized inhalation protection and fire prevention gear. Although the MTBE would dissipate rapidly under the reported conditions, personal safety was cited as a major concern because of the insidious and narcotic



T/B HOLLYWOOD 2022  
Galveston Bay, Texas  
May 29, 1990

## New Orleans

### NOAA Response, cont.

effects of exposure to the material. To support this concern, NOAA explained heavier-than-air vapors and the effects of ether-based solvents on organic tissues, providing warnings regarding the volatility of the product. Emphasis was placed on the need to stop leakage as soon as possible. NOAA reported that most cleanup methods available would likely be ineffective in view of the associated risks. NOAA recommended allowing the material to dissipate naturally

NOAA reported that resources were potentially at risk should the ether-based compound enter the bay. Aquatic life, dependent on oxygenated water for survival, were identified as more susceptible to effects of the spill than air-breathing species. The lightering area selected for the 2022 barge was identified as environmentally sensitive, particularly concerning wading and shore-feeding birds.

### Conclusion

After additional patching and lightering of the damaged tanks, the leak was stopped at 1536. Cargo loss estimates remained at less than 250 barrels. Shortly after midnight, barge 2022 was completely emptied and removed for repair. Coast Guard officials handled the incident as NOAA had recommended and there were no casualties to humans or the environment.

### References

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 29, 1990.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

T/B HOLLYWOOD 2022  
Galveston Bay, Texas  
May 29, 1990

## New Orleans

### References, cont.

Research Planning Institute. 1979. Sensitivity of coastal environments and wildlife to spilled oil: Galveston Bay Region, Texas. Boulder, Colorado: Office of Marine Pollution Assessment, NOAA. 19 maps.

Stevens, Greg, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, May 29, 1990.

## New Orleans

M/V MARINE CHEMIST  
Freeport, Texas  
May 30, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

At approximately 2000 on May 29, 1990, 5,000 gallons of 1,3-dichloropropene was accidentally mixed with 20,000 gallons of aminoethylethanol-amine in tank 4C aboard the MARINE CHEMIST at Dow Chemical dock A-4 near Freeport, Texas.

An exothermic reaction began almost immediately causing vapors to be ejected from the tank vent near the center of the vessel. The vessel was evacuated while Dow chemists attempted to determine the fate of the mixed materials and the threat to the facility and nearby Freeport. The Intracoastal Waterway nearby was closed and Brazoria County authorities cordoned off the plant and instituted an approximate 1/2-mile evacuation zone beyond the plant perimeter. Residents of Freeport were advised to stay inside and shut windows.

Tank 4C aboard the MARINE CHEMIST was reportedly an integral part of the vessel, surrounded by voids and other tanks filled with various fluids, including other chemicals that could participate in the reaction should tank 4C fail. A thermocouple string placed in the 4C tank indicated radically rising and falling temperatures, presumably reflecting reaction activity within. Dow expected that the temperatures would rise and fall periodically as the reaction aboard the MARINE CHEMIST ran its course.

### NOAA Response

NOAA/OMA was notified of the incident the morning of May 30, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Galveston and asked to help determine the seriousness of the incident and the nature of the reaction of products that might be released. Until after the Dow chief executive in Midland, Michigan, was contacted



M/V MARINE CHEMIST  
Freeport, Texas  
May 30, 1990

**NOAA Response,**  
cont.

**Conclusion**

## New Orleans

directly by MSO after midnight, NOAA was unable to verify the incident conditions, tank configuration, locations of inlets, or position of sensors.

NOAA then advised that the expected products from the reaction were amines, hydrochloric acid, and ammonia. NOAA recommended tank cooling and water knock-down of vapors that could include hydrochloric acid and ammonia. A physician was made available by The Agency for Toxic Substances and Disease Registry (ATSDR) in the event of chemical exposure. The NOAA Scientific Support Coordinator (SSC) and the MSO concurred on plans to tow the vessel out to sea if the situation appeared to worsen.

NOAA provided a natural resources at risk evaluation that pointed out the relatively low environmental sensitivity of the area. NOAA responders continued to work with Dow personnel, and noted that thermocouple readings coming from the tank appeared to be erratic and not reflective of internal activity. On May 31, Dow representatives replaced the original defective thermocouple with three new units spaced at different levels within the fluid remaining in the tank. Temperature readings appeared more consistent and did not fluctuate radically as they had before. Remote infrared sensing corroborated temperature readings that were at 117°C and dropping slowly. NOAA recommended that safety precautions be relaxed once the temperature fell below 100°C.

By 1315, on May 31, 4C tank temperatures dropped below 100°C with no further incident and the Intracoastal Waterway was opened to normal traffic. The contents of tank 4C were pumped ashore to the Dow disposal facility. Inspection of the tank revealed that the stainless steel clad metal tank, although warped and corroded, had not failed.

M/V MARINE CHEMIST  
Freeport, Texas  
May 30, 1990

## New Orleans

### Conclusion, cont.

A report received from Dow chemists that included Texas air quality monitoring data, indicated that no ammonia or hydrochlorides above 5 parts per million had been detected at any of the 11 sites around and downwind of the vessel. Testing at four of the sites for aliphatic amines and dichloropropenes was reported as negative. Dow laboratory experiments simulating the incident indicated that 1.7 percent of the combined material could have been lost to the atmosphere. A loss such as that could include ammonia, C6 hydrocarbons, and C3 and C6 chlorinated hydrocarbons. No injuries were reported.

### References

Dahlin, Jeffrey, Research Planning Inc., Columbia, South Carolina, personal communications and NOAA Email, May 30, 1990.

Jackish, Margo, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, May 30 and 31, 1990.

Miller, Mark, NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, May 30, 1990.

NOAA. 1988. The CAMEO™ II Manual. Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

## New Orleans

T/V MEGA BORG  
Galveston, Texas  
June 9, 1990

Chris J. Nelson and Sharon Christopherson, Scientific  
Support Coordinators

### Incident Summary

Early on June 9, 1990, approximately 57 nautical miles south-southeast of Galveston, Texas, the T/V MEGA BORG and the T/S FRAQMORA were lightering Palanca Angola crude oil for shipment into Houston. At 0045, just as FRAQMORA was receiving her 200,000th barrel of oil, an explosion occurred in MEGA BORG's pump room. The explosion was just forward of the ship's house and engine room and just aft of cargo tanks containing over 800,000 barrels (33.6 million gallons) of crude oil and ship's fuel. FRAQMORA broke away safely as flames began spouting from MEGA BORG's pump room area, house, and stern. The Captain's family and 31 of the ship's 41 complement were evacuated. The captain, engineering officer, and four other crewmembers remained aboard, attempting to maintain ship's power and extinguish the flames. Two crewmembers working in the pump room at the time of the explosion were presumed dead and two engine room crewmembers were also missing.

Reports from the vessel indicated that oil transfer valves in the pump room leading from tanks 3 and 5 (port and starboard) could not be closed. The hull of the vessel was intact and only small amounts of oil were observed. A work vessel tending the lightering operation was equipped with fire monitors and helped keep flames from spreading to MEGA BORG's cargo tanks forward. By 1455, the MEGA BORG, although anchored, was without power and the Captain and five surviving crewmembers had been removed. Secondary explosions aboard MEGA BORG had been observed.



T/V MEGA BORG  
Galveston, Texas  
June 9, 1990

## New Orleans

### NOAA Response

NOAA/OMA was notified of the incident at 0133 on June 9, 1990, by the U.S. Coast Guard Operations Center, New Orleans. At approximately 0200, U.S. Coast Guard Marine Safety Office (MSO) Galveston, confirmed MEGA BORG's situation and indicated that the fire aboard the vessel was out of control and that additional fire fighting capability was available. They expected that the fire could be under control by late morning. A trajectory analysis was requested in the event that the fire continued and a major spill occurred.

The NOAA Scientific Support Coordinator (SSC) arranged for regular weather reports and forecasts to be provided to the MSO. Initial resources at risk and trajectory analyses were also provided. At Coast Guard Operations' request, the SSC briefed the Governor of Louisiana. Arrangements were made to update the Governor in the event significant changes occurred.

Later that morning, reports from MSO Galveston indicated that the situation aboard the MEGA BORG was deteriorating. Secondary explosions and apparent fire reflashes had occurred. At 1045, the SSC departed for Galveston, arranging for NOAA oil trajectory/tracking, resource analysis, and data management support on-scene.

During the next 16 days, NOAA Hazardous Materials Response Branch personnel worked in support of the Coast Guard spill response. Primary issues addressed by the NOAA SSC and staff included oil trajectory analysis and on-scene aerial tracking; dispersant application, monitoring, and sampling; resources at risk verification and prioritization; oil typing; oil sample comparisons; weather observations and forecasting; and catastrophic vessel loss contingency planning and review.

T/V MEGA BORG  
Galveston, Texas  
June 9, 1990

*Oil Trajectory Analysis and  
Tracking*

## New Orleans

Initial trajectory forecasts indicated that spilled oil from the MEGA BORG would travel slowly under the influence of prevailing winds and currents towards the northwest. As the oil neared the coast, it was expected to parallel the beach with potential impacts occurring near and southwest of Freeport, Texas. Within three days of the beginning of the response, NOAA observers detected and verified atypical current patterns developing in the area. The result of this activity reversed oil migration forecasts by nearly 180 degrees and significantly impacted response and logistical plans for the remainder of the incident.

As MEGA BORG settled into the water with flooded machinery spaces as a result of fire fighting efforts, oil began spilling over her stern. NOAA personnel obtained multiple daily visual and electronic spill tracking data along with special water current observations. The data were verified and consolidated into daily tracking maps and distributed for use by the Federal On-Scene Coordinator (OSC) and various spill response groups. These observations were compiled with NOAA's daily trajectory model calculations.

NOAA identified potentially threatened natural resources, including beaches and channels, and provided special probability and time-to-impact trajectories to the OSC to aid in logistical planning for possible resource protection and cleanup. Due in part to the atypical currents at the time and the location of the spill, spill forecasting was very difficult. NOAA estimated that major impacts from raw oil on the beaches would not be likely. Impacts that might occur would be primarily from tar balls caused by the burning and weathering of MEGA BORG's spilled cargo.



T/V MEGA BORG  
Galveston, Texas  
June 9, 1990

*Oil Removal Monitoring:  
Dispersant Use and  
Bioremediation*

## New Orleans

On the morning of the explosion, the OSC requested that the Regional Response Team (RRT) convene at 0515 to consider the use of dispersants if the MEGA BORG lost a major part of her cargo. By midday, the RRT had voted for use of dispersants with provisos that it not be used beyond 5 miles of the vessel (assuming that the ship would remain anchored at her original site) and that chemical analysis and sampling would be accomplished to determine agent effectiveness and impacts on the marine environment. Dispersed oil trajectory monitoring and reporting were also stipulated. No plan or resources were offered in support of the requirements, however.

The first application of dispersants on June 10, was unmonitored. A C-130 applied 4,000 gallons of COREXIT 9527 to a small oil slick adjacent to the MEGA BORG. NOAA personnel, over the course of the next few days, developed a monitoring plan and coordinated the needed platforms and equipment to accomplish the RRT requirements. On June 11, a preliminary plan for dispersant monitoring was presented to the RRT and adopted. Significant problems were encountered; however, identifying and arranging for needed resources to accomplish the monitoring. EPA authorities indicated that they would provide the resources for analyzing dispersant samples. EPA and NOAA would oversee sampling and subsurface tracking of dispersed oil. The Texas A&M contract vessel, CITATION, assisted in sampling requirements until other platforms provided by the Coast Guard and NOAA became available. Samples have been analyzed and a NOAA report has been submitted to the OSC Galveston.

Preliminary indications are that dispersant applications (totaling 11,300 gallons over 6 days) were only marginally effective, possibly due in part to the fact that the oil was subjected to intense heat and fire before moving from the immediate area of the vessel.



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Texas State officials were permitted by the OSC and the RRT to conduct a bioremediation experiment at sea, on a non-interference basis. NOAA was asked to review plans and monitor the undertaking. Results from the experiment were not conclusive. The use of bioremediation agents on open waters was found to be generally difficult and hard to track for effectiveness.

### *Resources at Risk*

NOAA's initial environmental resources at risk analyses for dispersed and non-dispersed oil identified the susceptibility of larval shrimp to the spill. Texas shores were identified as minimally sensitive, except for socioeconomic interests, due to their well-sorted and relatively fine-grained nature. However, channels and cuts leading to the coastal interior were very sensitive and should be protected.

NOAA coordinated a resource group made up of trustee representatives from Texas (and later Louisiana) and the Departments of Commerce and Interior. In a sequence of meetings natural resources at risk were verified by coastal segment and oversights were identified. Resources were then prioritized. Protection and idealized cleanup strategies were specified for each segment. Segmented documentation of resources, along with recommendations for protection, were supplied to the OSC, potentially responsible parties (PRP), and contractors, as well as impact assessment interests. The resource documents were used by response interests in logistical planning and by NOAA for hindcast trajectory analysis of oil migration time. The information was also of significant value to NOAA for planning possible MEGA BORG relocation in the event of imminent catastrophic loss and consequent beach cleanup preparations. NOAA worked closely with both State and Federal habitat representatives to identify and convey special cleanup considerations to the OSC if impacts occurred in their respective areas.

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### *Oil Identification*

Because of common erroneous identification of spilled cargoes, NOAA requested and obtained samples of the oil carried by MEGA BORG from the T/S FRAQMORA. NOAA analyzed the samples for the OSC and provided baseline information that would be used later to identify various oils and tar ball impacts on Texas and Louisiana coastlines. The oil was verified as a Palanca Angolan crude and typified as very light (reported API 38.62) having the consistency of diesel oil mixed with kerosene. NOAA indicated that the cargo was similar in some ways to a very light Prudhoe Bay crude and that up to 50% of the oil could evaporate within days. Toxicity data on the spilled crude was not available. NOAA, as an alternative, identified for the OSC and others, likely toxicity levels related to fish and penaeid shrimp based on #2 fuel oils and Nigerian crude. The summary document included considerations for toxicity of the dispersant and dispersant/oil mix. NOAA was also engaged in beach surveys to determine the background level of tar ball impacts typically on Gulf coastal areas and to recover samples to establish whether MEGA BORG oil was a possible source of the residue. NOAA briefings to foreign delegations and the media were offered as a result of this work and that involved with oil tracking and fate analyses.

### *Weather Forecasting*

NOAA provided twice-daily reports, coordinated from Seattle Hazardous Materials Response Branch, on weather forecasts for the north-central Gulf of Mexico. The reports consolidated weather information from both mainland and offshore sources and were distributed routinely to the OSC staff, PRPs, and response agencies for use in daily and logistical planning. A heightened watch for early season tropical



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## New Orleans

### *Weather Forecasting, cont.*

activity was also set to provide adequate warning (48 hours or more) in the event of west Caribbean or Gulf storm development. Weather information also included river flow information for the northern Gulf basin and was used to identify potential coastal current convergence and oil collection areas. Identification of such areas was important to determine potential landfall sites for the spilled oil and beach cleanup planning and prioritizing.

### *Contingency Planning for Catastrophic Loss*

A major concern of the MEGA BORG incident was whether the vessel would be able to withstand structural stresses due to fire, explosion, and shifting cargo and still remain afloat. NOAA personnel were engaged at various times during the response in contingency planning for repositioning the MEGA BORG in the event of imminent structural failure or loss due to weather. The primary issues revolved around how to maintain hull integrity, remove her cargo safely, prevent long-term oil threat to the coastal margins, and minimize the impact to the environment.

Resulting plans were generally two-part:

1. If the vessel were in danger of sinking, fires aboard could be extinguished, and if her structural integrity could be reasonably assured, she could settle on the bottom with decks nearly awash (allowing for controlled cargo removal). Then she would be brought to shoal (approximately 60-foot deep) and positioned down-current and away from channels or inlets leading inland.
2. If the structure of the vessel was suspect, fires could not be extinguished, and removal of her oil could not be accomplished safely, then she would be taken to a deep ocean sight well away from land for disposal.



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*Contingency Planning  
for Catastrophic Loss,  
cont.*

### Conclusion

## New Orleans

In both cases, heavy sea-going tugs and tenders would be fitted with fire fighting equipment before attempting such a move. NOAA advised that the vessel's original position balanced environmental threats against salvage of the ship and cargo. NOAA recommended deep-sea disposal was preferred if the vessel was to be moved.

About 1612 on June 15, the fire aboard the MEGA BORG was extinguished. De-watering began shortly after, and late on June 20, removal of the vessel's remaining cargo began. Lightering operations continued through the next week. The SSC and staff were released from on-scene support on June 25.

A total of 3.9 million gallons of oil was lost from the MEGA BORG. Approximately 548,000 gallons of decanted oil was recovered in skimming operations.

About July 2, onboard survey of the vessel commenced. MEGA BORG remained anchored in her original position for the duration. Her hull had remained intact; however, everything aft of the forward pump room bulkhead, including all her machinery spaces, house, and super structure were destroyed. MEGA BORG, the single ship of the MEGA BORG (Norwegian) line, was declared a total write-off by her owners and sold. On July 28, sea-going tugs removed MEGA BORG from the area. Her final destination was reported as Pakistan where she was cut up for salvage.

Impacts to Texas and Louisiana shores were relatively minor. Louisiana shores east of Sabine Pass did receive impacts from MEGA BORG oil; however reports indicate that the oil was generally in the form of small tarballs and did not pose a serious threat to wildlife. Numerous fish kills were reported during the time of the MEGA BORG incident. Their relationship to the MEGA BORG

T/V MEGA BORG  
Galveston, Texas  
June 9, 1990

## New Orleans

### Conclusion, cont.

spill is unknown. Known casualties related to the time of the incident: humans, four dead and seventeen with serious injuries (MEGA BORG crew); and unknown effects on birds, marine mammals, and fish.

Approximately 12 sea turtles died of unknown causes.

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## **New Orleans**

CGT/V ALBERT E. WATTS  
Mobile, Alabama  
July 15, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

On the morning of July 11, 1990, welding and cutting operations were underway aboard the U.S. Coast Guard (USCG) Test Vessel ALBERT T. WATTS moored at Little Sand Island in North Mobile Bay, Mobile, Alabama. The WATTS, on loan to the Coast Guard Fire Safety Training Division for the past 10 years, is used for testing fire response equipment and for training personnel. The vessel was being prepared for burn testing of Alaskan North Slope crude oil. There were reportedly 40,000 gallons of Alaskan Crude loaded into the WATTS' #3 center tank for the tests.

At approximately 1000, WATTS, a semi-retired T-3 tank ship, was being fitted above #4 center tank with equipment when an explosion occurred. A civilian welder and helper were at the scene. The welder was reportedly blown clear and not seriously hurt. However, the helper received severe injuries and was evacuated by air to a nearby hospital where he died at 1117. There was no fire aboard the WATTS nor was any oil reported spilled. A Coast Guard accident investigation followed to determine the circumstances leading up to the explosion.

### **NOAA Response**

NOAA/OMA was notified of the incident at 1556, on July 15, 1990, by the USCG Health and Safety Officer, Eighth USCG District, New Orleans, and asked to help verify the type of oil involved in the accident aboard the WATTS. NOAA arranged for receipt and testing of two oil samples. Sample #1 was identified as oil provided for identification control from the original petroleum supplier. Sample #2 was identified as oil taken from #3 center tank aboard the WATTS after the explosion.



CGT/V ALBERT E. WATTS  
Mobile, Alabama  
July 15, 1990

## New Orleans

### Conclusion

Results of the analyses of the two oil samples indicated that they were from a similar, if not common, source. A report of the analysis was provided to USCG Accident Investigations personnel in Mobile. There were two human injuries and one death caused by the accident. There were no injuries to the environment or wildlife reported.

### References

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## **New Orleans**

Sabine Pass Unknown Spill

Sabine Pass, Texas

July 24, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

At 0900 on July 24, 1990, the U. S. Coast Guard Marine Safety Office (MSO), Port Arthur, Texas, received word of an oil slick 7 miles southeast of the Sabine Pass outflow. Coast Guard investigators located the slick and determined that it was made up of approximately 10 bands or streamers of 95 percent sheen and 5 percent dark oil, with emulsified patches spread over a 3-mile by 7-mile area. The bands were oriented west to east and appeared to be drifting slowly east-northeast. The slick was estimated to contain at least 200 gallons of oil from an unknown source.

### **NOAA Response**

NOAA/OMA was notified of the incident at 1545, on July 24, 1990, by MSO Port Arthur who requested a slick trajectory, and a natural resources at risk analysis.

NOAA provided a trajectory that indicated that the slick(s) would probably move northeastward; which, if winds held as forecast from the south, could affect shores within 24 to 36 hours between Sabine Pass and the Calcasieu outflow.

NOAA identified two types of shorelines at risk and addressed the sensitive nature and fauna of the saltmarshes in the area. Marine species, particularly those living nearshore, and birds were identified as possibly threatened. NOAA recommended a following-day overflight, preparation for a beach inspection, and possible cleanup.

### **Conclusion**

A Coast Guard overflight the following day sighted the significantly diminished slick (20 feet by 3,000 feet) near Johnson Bayou Beach. Beach parties also reported that the same beach was oiled along a 6-foot wide strip for

Sabine Pass Unknown Spill  
Sabine Pass, Texas  
July 24, 1990

## New Orleans

### Conclusion, cont.

about a mile and oil was also just offshore. Spill estimates were revised upward to 700 to 1,000 gallons. Cleanup was scheduled for the following day and proceeded without incident. Beach cleanup was completed on July 26. The source of the oil was never determined but was thought to be the result of bilge pumping from one of four foreign flag vessels that had departed Sabine Pass on July 23. No injuries to humans or wildlife were reported.

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## New Orleans

Apex Barges 3417, 3503, and 3510  
Galveston Bay, Texas  
July 29, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

On July 28, 1990, about 1430, the Apex Tug CHANDY pushing three oil-carrying tank barges, Apex 3417, 3503, and 3510, was northbound in the Houston Ship Channel about 13 miles north of Galveston, Texas near Buoy 58 and Red Fish Island. CHANDY had just been overtaken and passed by the Liberian Tanker HELLESPONT FAITH en route to facilities near Houston. Ahead and southbound was a third vessel, the Liberian tanker SHINOUSSA. SHINOUSSA and the HELLESPONT FAITH passed one another, after turning closer to their respective sides of the channel. SHINOUSSA turned back to the left, apparently to return to a more normal, near-midchannel position, and carried into the path of the oncoming traffic where she collided with the barges tended by CHANDY.

The impact pushed the lead barge, 3417, down into the water, crushing her hull against the side of the channel and breaking open tanks filled with 17,000 barrels of refined oil cargo (reported as similar to a #5 fuel oil, API 25.1). Sunk and leaking, 3417 lay crosswise on the eastern channel margin, her stern hanging down into the channel cut. T/B 3503, immediately behind, was also damaged and leaking oil from #3 tank. T/B 3510 and tug CHANDY escaped with minor damage. SHINOUSSA, her forepeak (bow and internal voids) damaged, broke free and proceeded down the channel to anchor east of Galveston, near the south end of Bolivar Roads.

### NOAA Response

NOAA/OMA was notified of the incident at 0852 on July 29, 1990, by the U.S. Coast Guard Operations Center, New Orleans. Marine Safety Office (MSO) Galveston

Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

**NOAA Response,**  
cont.

Oil Identification

## New Orleans

requested NOAA Scientific Support Coordinator (SSC) assistance. MSO Galveston confirmed that 50,000 gallons of a reported catalytic oil resembling #5 fuel oil was spilled from T/B 3503. T/B 3417, with a potential 17,000 barrels (714,000 gallons) of a similar product, was leaking large amounts of cargo from her position on the Houston Ship Canal margin. MSO requested special weather forecasts, trajectory analysis, environmental resources at risk information, and on-scene NOAA technical staff support.

NOAA identified and analyzed the oil, monitored and mapped oil migration, and designed an oil fate sampling and analysis program. NOAA also provided special weather observations and forecasts and daily tidal information. NOAA identified and prioritized natural resources at risk and recommended methods of mechanical remediation and shoreline protection, bioremediation usage, reviewed the bioremediation proposal, and monitored remediation efforts, sampling, and analysis

Amount, type, and density of the oil actually carried on the two Apex barges were in question. Overflight observations did not agree with the amounts of oil presumably being lost. NOAA verified that all three barges had been loaded with the same product. Oil samples were analyzed and discovered to be an atypical catalytic product lighter than first reported (specific gravity 0.92). The oil also had characteristics that were unusual in that it contained neither light- nor heavy-end hydrocarbons. It was not sticky and the potential for evaporation under the existing conditions in Galveston Bay was low (less than 10%). Relative toxicity due to the processing methods used to produce the product was expected to be low, with metals nonexistent or at trace levels. Mechanical cleanup of the floating oil (skimming, in particular) would be difficult because of its low adherence properties and need for devices to control oil movement.



Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

## New Orleans

### Oil Movement and Fate

NOAA participated in or debriefed overflights operating daily. Tracking maps graphically representing the movement of the oil were produced and disseminated to all concerned. Tidal ebbs and currents were unusual causing unexpected changes in spill location. Tracking and map preparation was a major issue for NOAA. During the first week, floating oil remained generally offshore but threatened various shorelines in the western Bay. When oil did reach shore, changes in conditions and tides invariably moved oil from the reported area. However, wind and tides acted to consolidate an estimated 200,000 gallons of oil in a cusp on the west side of Red Fish Island near the accident site. The oil was boomed and held there for more than 4 days.

On August 3, most of the oil escaped because of confusion over cleanup methods, termination of response by Apex Towing, spill federalization, and marked changes in the weather. On August 4 and 5, the same Red Fish Island oil added significantly to impacts and cleanup in marshes and on shores along the northern portion of the Bay.

Spill migration forecasting was exceedingly difficult during the first week of the spill, when winds were light and ill-defined. Locally generated, short-lived, and diurnal coastal winds predominated over the Bay. Routinely, conditions observed around the western Bay area did not reflect weather on the rest of the Bay. Given the atypical nature of the oil and constantly changing winds, cleanup logistics were very difficult. As the size of the spill (approaching an estimated 700,000 gallons) became more apparent, NOAA worked to determine the fate of the oil in the environment. Reconciling low (50,000-150,000 gallons) slick observations and recovery figures with losses identified with T/B 3417 became a major issue. NOAA surveyed over 30 sites, sampling water and bottom sediments trying to locate the oil. Analyses of 39 of more than 60 samples taken near the accident site and along the



Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

## New Orleans

### Oil Movement and Fate, cont

channel, including four midchannel plankton tows, were accomplished. Water sampling and tows were generally negative. Sediment samples exhibited small traces of the Apex product but were not conclusive evidence as to the whereabouts of the oil, of the oil reported spilled, one-third was not accounted for. Some oil had been observed exiting the Galveston Bay past Bolivar Roads and 10,000 gallons of oil was discovered in the forepeak of the SHINOUSSA after the accident.

### Meteorology and Oceanographic Support

NOAA gathered special weather observations from around the bay and consolidated them with regional land and marine forecasts. The resulting product was disseminated twice daily to the USCG, Potentially Responsible Parties (PRPs), and cleanup contractors. A special weather watch was also established with hurricane forecasters and reconnaissance personnel due to the high potential for, and subsequent development of, Tropical Storm Diana in the northwestern Caribbean. Early warning briefings were provided to the Coast Guard On-Scene Coordinator (OSC) staff regarding potential storm development. Diana's track and wind field data were provided to assist the OSC's contingency planning. Tropical Storm Diana made landfall well south of Galveston and only minimally influenced cleanup operations.

Daily tidal information was provided to the OSC, PRPs, and cleanup coordinators. The information included pictorial and tabulated tidal data forecasts for successive 48-hour periods. Tides also were atypical during the spill response. Solar and lunar positional effects caused long (10+-hour) ebbs in the Bay. These ebbs, along with varying winds, repeatedly consolidated and then spread the oil, making oil-skimmer positioning and tracking more difficult in the shallow waters and manmade channels of the Bay. Information on currents was of significant interest to the OSC.

Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

Resources at Risk

## New Orleans

A high-priority issue for NOAA was identifying natural and anthropogenic resources at risk in the bay. Meetings with local authorities and resource trustees identified all recognized significant resources, set up bay zoning, prioritized species and habitats requiring protection within those zones, and coordinated suggestions for possible cleanup methods by resource. Some areas within the Bay were identified as nonoperative or not cleanable using conventional mechanical methods. One instance, in particular, cited oyster beds located principally in the south-central Bay in shallow (10 feet or less) waters. Skimmer operations in these areas were not recommended because bottom contact by the skimmers and support vessels would seriously damage oyster beds and could cover them with disturbed sediments. Due to unusually heavy spring runoff and rains, fauna in the Bay were already reported severely stressed. Cleanup activities under the prevailing conditions were considered crucial for the recovery of the area.

NOAA responded to special questions on possible protection of very sensitive resource areas. These included the East and West bays of the Galveston Bay complex, along with Houston area power production facilities, and the northern Trinity Bay and Lake Anahuac/Trinity River Delta area. Special-effort booming was recommended in all cases except East Bay, because East Bay's very shallow basin and limited access would not allow complete isolation by booming. Its protection would have to rely on concentrated recovery operations before oil reached there. NOAA apprised Houston-area power plants located inland, west, north of, and dependent on Bay waters for cooling of oil threatening their respective intake areas. A mobile oil separation device was available for plant use but required 12 to 24 hours lead time for movement to and installation at the affected plant. NOAA suggested multiple boom pre-staging and reduced intake as a first line defense against oil encroachment and potential plant shutdown.



Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

Bioremediation

## New Orleans

NOAA was requested to provide recommendations and considerations to the OSC before a bioremediation proposal was submitted to the Regional Response Team (RRT) for approval. The anticipated proposal was to request the use of a Texas-sponsored bioremediation agent containing hydrocarbon-ingesting microbes, which had reportedly been used with success in the state in limited applications to revivify old oil wells, to clear hydrocarbons from waste water, and to remediate chronically oiled sites inland. The agent was also reported to have been used with success in a state-sponsored test during the MEGA BORG spill. There was little concrete information regarding the agent available. NOAA recommended against its use in Galveston Bay, since short- and long-term effects of these agents are virtually unknown and since the Alpha Environmental product reportedly contained non-indigenous microbes from worldwide sources. NOAA also recommended that, if microbial agents were used, they should be applied in a test mode only and in areas deemed not particularly sensitive or associated with potential food sources. Detailed plans for control, application, and monitoring were emphasized as a prudent minimum prerequisite to microbial agent use in sensitive Bay areas.

The Texas Water Commission (TWC), in conjunction with bioremediation contractors and the Texas Land Commission, formulated and submitted a proposal for general use of the Alpha product in the Galveston Bay. NOAA reviewed the proposal for merit and concluded that it was weak in areas covering application, planning, and control. Sampling and monitoring protocols were generally limited in scope and did not provide for adequate control of application sites or sampling. No provisions were included for microbe baseline population determination nor for proliferation measurements after application. Also, provisions for monitoring gases in solution (oxygen depletion, etc.) levels were not included. The proposal to use the Alpha product in Galveston Bay was presented to the RRT on August 1



Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

## New Orleans

### Bioremediation, cont.

and approved. Provisions of the approval included requirements for effective monitoring and sampling and limited use to areas where mechanical cleanup methods were not appropriate. Use of the agent on or near oyster habitats was specifically prohibited.

NOAA worked closely with the OSC, State, and U. S. Environmental Protection Agency (EPA) representatives to select potential remediation sites. Primary consideration in keeping with RRT and OSC provisions for agent use was given to sites where mechanical cleanup methods were not viable and where such cleanup would likely cause more damage than if oil were left to weather naturally. A limited trial application was made to an area on the north side of Pelican Island at the Intra-coastal Waterway and Sand Island on August 2. However, the changing winds and tidal influences cleared the area of oil by the following day; and, along with the transition to Federal control of the spill, prevented any substantive monitoring for effect.

On August 4, a second site, Merrill Marsh, located on the northern end of Galveston Bay on Houston Point near Cedar Bayou was selected. Four small plots (approximately 1,000 square feet each) were identified, two for remediation application and two as controls. Baseline sampling was accomplished and bioremediation applied on the following day. Follow-up sampling, including the taking of triple replications of surface oil, water- and oiled-sediments, was accomplished by TWC with NOAA, EPA, and USCG monitoring at each of the four plots daily for 4 days. TWC samples were frozen and stored in Houston until arrangements for analysis could be made. NOAA monitoring personnel on-scene also obtained samples paralleling those of TWC and transferred them to Louisiana State University for analysis.

On August 6, bioremediation of a small cove near and just south of the marsh was also attempted. NOAA personnel in attendance reported that minimal sampling

Apex Barges 3417, 3503, & 3510  
Galveston Bay, Texas  
July 29, 1990

## New Orleans

### Bioremediation, cont.

was accomplished. After spill response activity was generally terminated, an additional broad-coverage application was made to Merrill Marsh on August 17. NOAA subsequently coordinated transfer of two replicate sets of August 5 TWC samples to EPA for analysis. Analyses of those samples are expected to be completed by early 1991. Analyses of the NOAA samples using gas chromatography-mass spectroscopy method has been completed. Preliminary conclusions from those sample analyses and reports from follow-up visits made by EPA indicate that the effectiveness of the agent used on Merrill Marsh is limited to nondetectable.

Of the vessels involved in the spill, SHINOUSSA was cited, investigated, and allowed to proceed for repairs. T/B 3417 was raised, relocated to the side of the Houston Ship Canal, and cut up for salvage. T/B 3503 was lightered on-scene and transferred to a shipyard for repair. T/B 3510 and Tug CHANDY were released from the scene to continue normal operations. Litigation to resolve fault and settle claims is expected to continue well into 1991.

Impacts to wildlife appear relatively low in view of the location and magnitude of the spill. Approximately one dozen oiled birds were recovered, half of which did not survive. A few lightly oiled birds were observed (including one brown pelican) but were not recovered. No quadruped oiling or fatalities were reported. Unusual fish activity (swarms) was reported on the western side of Galveston Bay during the spill. A few dead fin fish near the accident scene were also reported. One fish kill of 200-300 speckled trout was reported on August 5 at the Trinity River Delta. The location of the kill was well away (5 or more miles) from the oil-impacted area and was in a location associated with water entering the Bay. No marine mammal or turtle impacts or serious human injuries or fatalities were reported.

Overall, the spill was earmarked by unusual circumstances that contributed to response difficulties.



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Galveston Bay, Texas  
July 29, 1990

## New Orleans

### Conclusion

Atypical oil properties, weather, and tidal influences made forecasting oil movement nearly impossible. Shallow waters and abnormally low salinity in the bay posed problems in establishing an effective cleanup methodology. Socioeconomic and political special interests caused considerable difficulty in maintaining perspective and providing prioritization guidance. Oil fate analysis was also a problem in that only about two-thirds of the spilled oil could be accurately accounted for.

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## New Orleans

T/B SF 133  
Houston, Texas  
August 12, 1990

Chris J. Nelson, Scientific Support Coordinator

### Incident Summary

On August 12, 1990, tank barge SF 133 was being loaded with what was reported to be #6 fuel oil, specific gravity 0.95. Loading patterns were apparently not being followed when the barge buckled in the middle and began leaking oil into Sims Bayou Turning Basin. There was reportedly 6,000 to 15,000 barrels of product on-board at the time of the incident. The barge was in about 10 feet of water with about 1- to 1 1/2-foot freeboard at the center. SF 133 sustained a 2-foot by 3-inch fracture in the lower hull and cracks on the tank tops from which an estimated 300 to 500 barrels (12,600 to 21,000 gallons) was lost. Sorbent pads were used to slow the loss from the tank tops and triple booms, including a sorbent unit, were deployed to contain the oil.

### NOAA Response

NOAA/OMA was notified of the incident at 1915 on August 12, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Houston who requested advice on ways to recover the spilled oil.

The oil's activity in the water, floating for a while then disappearing below the surface, did not fit the specifications for #6 oil. NOAA requested verification of the oil's characteristics other than the loading facility's claim of 0.95. MSO sent a sample of the oil to the ARCO petroleum facility nearby who indicated that the oil had an API of 6.5 and specific gravity of 1.025 at 180°F. The oil was described as tar-like and sticky. NOAA also asked if the oil had been heated during loading operations.

T/B SF I33  
Houston, Texas  
August 12, 1990

**NOAA Response,**  
cont.

## New Orleans

NOAA suggested that cloth or fine-screen coffer dams weighted at the bottom might help keep the oil penned near the site, if such devices could be fabricated in time and carefully installed. A very slow bell or even basin closure was suggested to prevent the oil from being washed downhill into the deeper (40+-foot) water of the Houston Ship Canal nearby. Airlift dredging or underwater suction pumping were suggested as the most feasible methods for recovering the oil. These methods were identified as personnel intensive because tracking oil underwater is difficult while trying not to generate large amounts of contaminated sediments. Analysis of oil movement indicated that the oil would slowly move down-channel and eventually become part of the bottom sediments.

Natural resources at risk for the most part should not be impacted. NOAA offered on-scene assistance if needed.

On August 15, MSO again contacted NOAA to discuss the feasibility of pursuing the oil into the Houston Ship Canal in view of oil migration, oil burial by passing ship propeller wash, and the potential for disturbing concentrated pollution buried in the canal bottom. The SSC advised that the oil spilled was not particularly toxic and should not pose any major threat downstream. Dredging for buried oil was not recommended and could easily expose divers to hazards caused by shipping and exhumed toxics.

**Conclusion**

With the exception of using subsurface containment, cleanup proceeded as discussed until the morning of the August 17 when underwater operations were terminated. Little or no oil could be detected in the shoal areas near SF I33. Oil migrating into deeper areas was apparently being buried by ship activity in the main Houston Ship

T/B SF 133  
Houston, Texas  
August 12, 1990

## New Orleans

### Conclusion, cont.

Canal. Diver attempts at recovering SF 133 oil was complicated by incidents of skin burns from coming into contact with unknown deposits in the turning basin and Houston Ship Canal channel margin. SF 133 was lightered without further incident and removed for repairs.

Shoreside cleanup was completed to the satisfaction of local, state, and federal authorities. Actual amounts of oil lost or recovered have not been determined. Estimates for recovery range among 25 and 40 percent and are complicated by other oily material recovered during cleanup. Injuries to humans were limited to an unknown number of burns received by divers during bottom channel work. No injuries to wildlife or aquatic species were reported.

### References

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Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, August 12-15, 1990

Research Planning Institute. 1979. Sensitivity of coastal environments and wildlife to spilled oil: Galveston Bay Region, Texas. Boulder, Colorado: Office of Marine Pollution Assessment, NOAA. 19 maps.

Reilly, Timothy, Research Planning Inc., Columbia, South Carolina, personal communications, August 13, 1990.



## **New Orleans**

T/B REO 2508  
Texas City, Texas  
September 28, 1990

Chris J. Nelson, Scientific Support Coordinator

### **Incident Summary**

On September 28, 1990, the Norwegian chemical tanker vessel BOW PANTHER and the tanker vessel PECOS with two barges, REO 2507 and 2508, were preparing to pass one another in the Houston Ship Canal near buoys 37 and 38 (about 4 miles north of the southern end of the Texas City dike) in Galveston Bay when the PANTHER lost power and collided with the barges. REO 2508 was holed in her starboard #4 cargo tank, causing what was reported as a "heavy catalytic reformat" spill. The reformat was identified as having a specific gravity of 0.7 and a flash point of 20°F with 1-2% benzene as part of its makeup. PECOS reported that REO 2508 was pushed up on the bank of the east side of the channel with 130,000 gallons of the material onboard and leaking at an unknown rate. The BOW PANTHER recovered power and moved away. REO 2507 and PECOS were damaged but stable. There was no fire or injured personnel.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 28, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Galveston. MSO requested that NOAA evaluate potential health hazards.

NOAA recommended establishing a 1-mile safety zone downwind of the barge and cautioned that currents would be a significant factor in spreading the material, especially upwind. NOAA also recommended that response personnel wear pressurized breathing apparatus and skin and eye protection. In addition, NOAA recommended that appropriate measures be taken for fire prevention and air monitoring.

T/B REO 2508  
Texas City, Texas  
September 28, 1990

**NOAA Response,**  
**cont.**

## **New Orleans**

MSO Galveston requested the NOAA Scientific Support Coordinator (SSC) on-scene at 0423 on September 29 because of concern that the barge might be more heavily damaged and the contents onboard heavier than first reported. En route to the scene, the SSC provided more details on handling the spill and arranged for weather forecasts, a resources at risk analysis, verification of the material onboard, and toxic-qualified medical assistance, as needed. Early morning overflights were requested to see if the material could be seen from the air. On-scene marine chemistry reports indicated that 30 parts per million benzene levels were being detected near the barge. NOAA strongly recommended pressurized breathing equipment and body protection (at least level D) for responders. NOAA also suggested alerting medical facilities in the event of chemical exposure. The Coast Guard followed NOAA's recommendations, except for personnel protection. MSO Galveston indicated that contract responders and vessel personnel did not have pressurized air available for use near the spill site. The SSC verified cargo characteristics to be a gasoline additive consisting primarily of C6 to C9 hydrocarbons and 1% benzene. The material was not particularly soluble and posed minimal threat to the environment outside the immediate area. The material, with a vapor pressure of 4.4, was expected to evaporate more readily than was first thought. Exposure to the material, however, could cause severe burns and respiratory problems.

**Conclusion**

Lightering of REO 2307 started early the morning of September 29 and leakage was brought under control around 0630. Spill estimates were revised downward to about 30,000 gallons. Overflights of the spill could not detect the reformate. After sunup, the product

T/B REO 2508  
Texas City, Texas  
September 28, 1990

## New Orleans

### Conclusion, cont.

evaporated rapidly, and by 1045, MSO Galveston released the SSC. REO 2508 was completely lightered and removed for repairs. No injuries to humans or wildlife were reported.

### References

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina, personal communications and NOAA Email, September 28-29, 1990.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment. 300 pp.

Overton, Edward, Institute for Environmental Studies, Louisiana State University, Baton Rouge, personal communications, September 28-29, 1990

Raberry, David, Agency for Toxic Substances and Disease Registry, Atlanta, personal communications, September 29, 1990

Research Planning Institute. 1979. Sensitivity of coastal environments and wildlife to spilled oil: Galveston Bay Region, Texas. Boulder, Colorado: Office of Marine Pollution Assessment, NOAA. 19 maps.



## East Lansing

Coast Guard Cutter MESQUITE  
Keweenaw Bay, Michigan  
December 4, 1989

Jay Rodstein - Scientific Support Coordinator

### Incident Summary

The CGC MESQUITE ran hard aground on December 4, 1989, while working buoys near Keweenaw Point, Michigan. She had approximately 25,000 gallons of diesel fuel and 500 gallons of miscellaneous oil products onboard. The hull was damaged and the crew was ordered to abandon ship.

### NOAA Response

NOAA/OMA was notified of the incident on December 4, 1989, by the U.S. Coast Guard and requested onscene. The Coast Guard asked for a trajectory and an environmental resources at risk evaluation.

NOAA reported that, based upon the quantities and types of product released, only a limited area should be affected. A worst case scenario would be an impact 4 miles downwind; but, a more likely impact would be 1 mile downwind of the vessel. The SSC also reported that if a plume developed, it would probably be carried away from shore by westerly winds and dissipate before landfall.

NOAA consulted with local, state, and federal agencies and reported that there would be minimal impact to natural resources, with the exception of local impact to larval salmon and trout in the sediments surrounding the vessel. The quantity and type of pollution present should not prove toxic to fish. Termination of commercial and recreational fishing in the area would not be necessary.

CGC MESQUITE  
Keweenaw Bay, Michigan  
December 4, 1989

## East Lansing

### Conclusion

The vessel leaked diesel fuel at a slow rate for about 24 hours releasing an estimated 2,000 gallons. Because of severe weather and the remoteness of the grounding, salvage operations were hindered and the Coast Guard Atlantic Area Strike Team did not complete offloading the majority of fuel until December 11. The MESQUITE was deemed unsalvageable and welded shut for the winter to be reevaluated in the spring.

After reevaluating the vessel and negotiating with the state, the Coast Guard removed some salvageable equipment and sank the MESQUITE in place where it is used as an underwater preserve.

### References

Best, Dave. U.S. Fish and Wildlife Service. Maps from National Wetlands Inventory of Keweenaw Point. East Lansing, Michigan. December 5, 1989.

Hamilton, Glenn, NOAA National Data Buoy Center. Time Series plot of Stannards Rocks C-Man Station. Bay St. Louis, Mississippi. December 8, 1989.

Holm, Elmer, Department of the Interior, Bureau of Indian Affairs. Maps of Native Fishing Rights in vicinity of Keweenaw Point, Michigan. Minneapolis, Minnesota, December 5, 1989.

Meadows, Guy. 1985. Coastal Dynamics. Keweenaw Bay Hydrographic Study, Final Report. Ann Arbor, Michigan.

Reese, Gary. Michigan Department of Natural Resources. Maps and data from Michigan Natural Features Inventory, Lansing, Michigan, December 5, 1989.

CGC MESQUITE  
Keweenaw Bay, Michigan  
December 4, 1989

## East Lansing

### References, cont.

Reilly, Tim, Research Planning Institute, Columbia, South Carolina, personal communications, December 4, 1989.

Schwabb, Dave et al. 1984. NOAA GLERL. "Pathfinder" - A Trajectory Prediction System for the Great Lakes. Ann Arbor, Michigan.

Soo, H. K. NOAA GLERL, personal communications, December 4, 1989

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, December 4, 1989.



## Cleveland

LTV Steel Plant  
Cleveland, Ohio  
December 27, 1989

Jay Rodstein, Scientific Support Coordinator

### Incident Summary

On December 26, 1989, the LTV Steel Plant released a large quantity of iron into the Cayahoga River. Ohio Environmental Protection Agency (EPA) requested U.S. Coast Guard intervention under Federal spill authority to stop the LTV discharge into the river.

### NOAA Response

NOAA/OMA was notified of the incident on December 27, 1989, by the Coast Guard On-Scene Coordinator (OSC) who requested the Scientific Support Coordinator (SSC) to assess applicability of Federal Response Authority to this situation. This required a characterization of the discharge and knowledge of response authorities of the Federal Water Pollution Control Act (FWPCA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

LTV reported a discharge rate of 1,500 gallons per minute and a maximum concentration of 19 percent iron in the effluent. LTV reported that repairs were expected to be completed within 48 hours. The potential total release would be approximately 7 million pounds of iron, according to LTV.

The SSC determined that iron is not a listed hazardous substance under the Federal spill statutes, CERCLA or FWPCA; and, therefore, a reportable quantity does not exist. The release would only warrant response if it "... may present an immediate and substantial danger to the public health or welfare." (CERCLA Section 104(a)(1)(B)).

NOAA advised not to respond under Federal Response Authority, but did suggest that the discharge be investigated by the U.S. EPA as a violation of LTV Steel's National Pollution Discharge Elimination System permit.

LTV Steel Plant  
Cleveland, Ohio  
December 27, 1989

## Cleveland

### Conclusion

The repairs were completed as scheduled by LTV. The OSC accepted the NOAA recommendation and contacted the Water Division of U.S. EPA Region V who pursued enforcement action for the unpermitted discharge.

### References

Government Institutes, Inc., 1987. Environmental Statistics, 1987 Edition. Rockville, Maryland: Government Institutes, Inc. 1171 pp.

Michel, Jacqueline, Research Planning Institute, personal communications, December 27, 1989.

## **East Lansing**

Davis Sand Company  
St. Louis, Missouri  
February 9, 1990

Jay Rodstein, Scientific Support Coordinator

### **Incident Summary**

On January 25, 1990, the Missouri Department of Transportation (MODOT) rejected a shipment of sand dredged from the Mississippi River. The sand, which was to have been used in a state highway project, failed a strength test. Further analysis by infrared spectrometry identified the presence of carboxylic acids. The Davis Sand Company contacted the U.S. Coast Guard regarding the potential source of this contamination.

### **NOAA Response**

NOAA/OMA was notified of the incident on February 9, 1990, by the USCG Marine Safety Office (MSO) St. Louis. MSO asked NOAA to help identify potential sources of the contaminant.

To fingerprint contaminants, NOAA analyzed a sample of the original contaminated material and a more recent sample using gas chromatography-mass spectroscopy. No unusual contamination was found in either sample. NOAA analytical chemists advised that carboxylic acids are soluble and would not persist due to the high flow in the dredging area on the Mississippi River. However, their absence in the original sample indicated a potential problem with sample handling. Carboxylic acids are also so ubiquitous to many products and processes that a particular facility or cargo could not be connected with the contaminant. Results of the NOAA analysis were passed to the MODOT and MSO St. Louis.

### **Conclusion**

MODOT conducted strength tests on samples acquired in March from the contaminated area. Results indicated that the sand was suitable for use in the highway project. Sand dredging in the formerly contaminated zone resumed with no further evidence of the problem.



Davis Sand Company  
St. Louis, Missouri  
February 9, 1990

## East Lansing

### References

Boardmeyer, Roger, MODOT, St. Louis, personal communications, February 9-March 28, 1990.

Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, February 9-March 28, 1990.

Warren, Paul, Davis Sand Company, St. Louis, personal communications, February 9-March 28, 1990.

## **East Lansing**

T/V JUPITER  
Bay City, Michigan  
September 16, 1990

Jay Rodstein - Scientific Support Coordinator

### **Incident Summary**

On September 16, 1990, the tank vessel JUPITER carrying 50,000 barrels of unleaded gasoline was offloading its cargo at the Total Petroleum storage facility in Bay City, Michigan. With 20,500 barrels remaining onboard, a fire started on the vessel. U.S. Coast Guard Captain of the Port (COTP) Detroit was the Federal On-Scene Coordinator for this incident.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 16, 1990, by Michigan Department of Natural Resources and Michigan Department of Public Health. They asked if the smoke plume from the vessel fire could cause adverse health effects. NOAA provided air dispersion analysis and arranged for regularly scheduled weather forecasts to be provided on-scene. This information was used to develop a community sampling program and firefighting plans.

On September 17, 1990, in preparation for the release of JUPITER's cargo, NOAA provided an environmental assessment of the area. A list of environmentally sensitive areas was provided by federal and state agencies for priority protection. The protection and monitoring of Bay City drinking water was also considered.

The fire was extinguished September 18, 1990, and cleanup began. NOAA helped develop a monitoring strategy for worker safety.

On October 1, 1990, NOAA was called on-scene to evaluate the plan for treating contaminated water in JUPITER's holds. NOAA served as an advisor to state and local agencies to help develop a plan for treating contaminated water.

T/V JUPITER  
Bay City, Michigan  
September 16, 1990

## East Lansing

### Conclusion

On October 19, 1990, the JUPITER was dewatered and moved to a salvage yard on the Saginaw River for evaluation. The river was reopened to vessel traffic by COTP Detroit on October 21, 1990, after a hydrographic survey and a sweep of the river by the salvor. The pollution incident concluded on October 21, 1990.

### References

Best, David, U.S. Fish and Wildlife Service, Contaminants Specialist, East Lansing, Michigan, personal communications, September 17, 1990.

Cline, Mary, Michigan Department of Natural Resources, Michigan Natural Features Inventory, Lansing, Michigan, personal communications, September 17, 1990.

Green, Otto, Bay City Wastewater Treatment Plant, Bay City, Michigan, personal communications, October 1, 1990.

Kovach, Mike, Michigan Department of Public Health, Drinking Water Quality Branch, Lansing, Michigan, personal communications, September 17, 1990.

Olilla, Pete, Michigan Department of Natural Resources, Environmental Response Division, Lansing, Michigan, personal communications, October 1, 1990.

Prawdzik, Tom, Michigan Department of Natural Resources, Wildlife Division, Bay City, Michigan, personal communications, September 17, 1990.

Preston, Bill, Michigan Department of Natural Resources, Air Quality Division, Lansing, Michigan, personal communications, September 16, 1990.



T/V JUPITER  
Bay City, Michigan  
September 16, 1990

References, cont.

## East Lansing

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: Lake Erie System. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 66 maps.

Wagner, Vaughn, Michigan Department of Public Health, Center for Environmental Toxicology, Lansing, Michigan, personal communications, September 16-October 3, 1990.

Waulkington, Terry, Michigan Department of Natural Resources, Surface Water Quality Division, Bay City, Michigan, personal communications, October 1-3, 1990.

## **San Francisco**

Southern Pacific Railroad  
Oakland, California  
October 6, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On October 6, 1989, chemical containers were vandalized at the Southern Pacific Railroad in Oakland, California. The U.S. Coast Guard (USCG) notified the manufacturer of the material, Aldridge Chemical, Milwaukee, Wisconsin, who sent a company chemist to the scene. The chemist used Level "B" personal protective gear to enter the hot zone that had been established by the USCG.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 6, 1989, by the USCG Captain of the Port, Alameda and requested to provide chemical and health information and recommendations for safe entry procedures.

NOAA advised that the chemical released, n-methyl-n-nitrosoguanidine, is highly toxic in low concentrations, a potent cholinesterase inhibitor (it attacks the nervous system), and may be fatal if inhaled, swallowed, or absorbed through the skin.

NOAA recommended immediate isolation of the container from the rest of the containers, Level "A" personal protection, and an air sampling and monitoring program. NOAA's recommendations were followed by Alameda County and the railroad hazardous materials response teams. NOAA continued to supply follow-up information throughout the incident.

### **Conclusion**

Two investigating security guards were sent to Merit Hospital in Oakland when they complained of becoming nauseous from the exposure. They were treated, held for observation, and released.

Southern Pacific Railroad  
Oakland, California  
October 6, 1989

## San Francisco

### Conclusion, cont.

Southern Pacific Railroad contracted IT Corporation; who, with the USCG and Alameda County Health Department, made several entries into the container, removed the cargo, found the broken packages, and placed them in overpacked drums. One ampule of the chemical was missing and could not be found. The container was secured and put back into service. The damaged materials were sent back to the manufacturer.

### References

Baxter, Todd, NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, October 6, 1989.

Henry, Charles, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, October 6, 1989.

Kummerlowe, David. 1983. Safety and Health Manual, Second Edition. Seattle: Office of Oceanography and Marine Assessment, NOAA.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

Occupational Health Services Inc. 1985. Hazardline. Secaucus, New Jersey.

Overton, Edward, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, October 6, 1989.

Sax, N. Irving and Richard J. Lewis, Sr., eds. 1987. Hawley's Condensed Chemical Dictionary, Eleventh Edition. New York: Van Nostrand Reinhold Company.



## **San Francisco**

UNITANK SERVICES  
Richmond, California  
October 17, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On October 17, 1989, a 25,000 gallon storage tank filled with coconut oil failed as did the piping connecting it to similar tanks. An estimated 10,000 gallons of coconut oil leaked into a bermed area; however, an unspecified amount entered the storm drain and Richmond Harbor.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 17, 1989, by the U.S. Coast Guard (USCG) and requested to provide an analysis of the natural resources at risk and possible mitigation strategy regarding the coconut oil that entered Richmond Harbor.

NOAA recommended that the congealed coconut oil pieces be recovered and disposed of. The remaining coconut oil will dissipate naturally when the temperature rises.

### **Conclusion**

The broken piping was repaired and the coconut oil transferred from the breached tank to portable tanks brought to the scene.

The USCG closed this case on October 22, 1989, when it was determined that the risk of off-site migration of the coconut oil was no longer present and repairs to the facility were underway.

### **References**

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina, personal communications, October 17, 1989.

UNITANK SERVICES  
Richmond, California  
October 17, 1989

## San Francisco

### References, cont.

Research Planning Institute. 1986. Sensitivity of coastal environments and wildlife to spilled oil: San Francisco Bay Area. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 23 maps.

U.S. Fish and Wildlife Service. 1981. Pacific Coast ecological inventory: San Francisco Bay, California. Washington, DC: U.S. Department of the Interior.

## **San Francisco**

UNOCAL TANK FARM  
Richmond, California  
October 17, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On October 17, 1989, the 7.0 northern California Loma Prieta earthquake ruptured three storage tanks at the UNOCAL facility in Richmond, California spilling an estimated 100,000 gallons of unleaded gasoline, of a potential one million gallons. A berm was constructed to contain the majority of the gasoline but an undetermined amount entered Richmond Harbor through the drain.

### **NOAA Response**

NOAA/OMA was notified on October 17, 1989, by the U.S. Coast Guard Marine Safety Office, Alameda and requested to assess the effects of the spilled unleaded gas on the marine environment for the portion that drained into Richmond Harbor. NOAA estimated that the gasoline would dissipate naturally without harm to marine life in the harbor. In addition to the requested information, NOAA recommended the use of protective clothing and clean air when personnel were within the established hot zone.

### **Conclusion**

A foam blanket layer was placed on the unleaded gasoline, and pooled areas were vacuumed up and hauled away from the site. The ruptured tanks were torn down and replaced. The area was cleaned up by November 2, 1989. Continuous facility monitoring is ongoing to detect any further leaks.

The USCG closed this case on November 3, 1989, after it was determined that the spill no longer posed a threat to human health or the marine environment.



UNOCAL TANK FARM  
Richmond, California  
October 17, 1989

## San Francisco

### References

Kummerlowe, David. 1983. Safety and Health Manual, Second Edition. Seattle: Office of Oceanography and Marine Assessment, NOAA.

Michel, Jacqueline, Research Planning Inc., Columbia, South Carolina personal communications, October 18, 1989.

Research Planning Institute, Inc., 1986. Sensitivity of coastal environments and wildlife to spilled oil: San Francisco Bay Area. An atlas of coastal resources. Seattle: Ocean Assessments Division, National Oceanic and Atmospheric Administration. 23 maps.

## **San Francisco**

Larkspur Ferry Terminal  
Larkspur, California  
October 17, 1989

Stewart McGee, Jr., Scientific Support Coordinator.

### **Incident Summary**

A pipeline carrying diesel for the Larkspur Ferry Terminal in San Francisco, ruptured during a 7.0 earthquake on October 17, 1989, spilling an estimated 2,000 gallons of diesel oil into the sensitive marine marsh habitat in Larkspur, California. Boom was placed around the ruptured pipe and absorbent pads were placed inside the boomed area.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 17, 1989, by the U.S. Coast Guard (USCG) and requested to provide an analysis of the environmental resources at risk and possible measures to remove some of the diesel from the sensitive marshland.

NOAA/OMA recommended that natural flushing of the marsh would be more effective than any type of mechanical cleanup. Federal, local, and state officials agreed to this procedure because the diesel was likely to evaporate more rapidly than the projected time to perform the cleanup. NOAA also recommended that the area be monitored and sampled. The rupture was secured in two hours.

### **Conclusion**

Agency representatives monitored and took samples of the impacted area. The boom and absorbent pads were removed from the area after two working days. Samples were taken for a number of weeks after the incident. The USCG closed the case on November 1, 1989.

Larkspur Ferry Terminal  
Larkspur, California  
October 17, 1989

## San Francisco

### References

McClennahan, Kim, California Department of Fish and Game, Sacramento, California, personal communications, October 17, 1989.

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina personal communications, October 17, 1989.

Research Planning Institute, Inc. 1986. Sensitivity of coastal environments and wildlife to spilled oil: San Francisco Bay Area. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 23 maps.

U.S. Fish and Wildlife Service. 1981. Pacific Coast ecological inventory: San Francisco Bay, California. Washington, DC: U.S. Department of the Interior.



## **San Francisco**

Kelly Moore Paint Company  
Redwood City, California  
October 18, 1989

Stewart McGee Jr., Scientific Support Coordinator

### **Incident Summary**

On October 18, 1989, a fire sprinkler system malfunction at the Kelly Moore Paint Factory flooded large vats filled with water-based latex paint. The vats overflowed, sending an estimated 10,000 gallons of latex paint into the storm drain leading to Clovis Creek, and, eventually to the southern portion of San Francisco Bay. Kelly Moore made an effort to berm off the dike and contain the spilled paint; however, the dike failed. U.S. Coast Guard, California Department of Fish and Game, and Alameda County health officials were notified and responded to the scene. The latex paint left a bathtub-type ring along the creek bank. No other noticeable sign or environmental impact was noted.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 18, 1989, by the Coast Guard Captain of the Port (COTP), Alameda. COTP requested that NOAA provide an analysis of potential health issues relating to the release and recommend mitigation techniques.

NOAA provided toxicity information on low-level concentrations of mercury, calcium carbonate, calcium sulfate, silica, and silicates that represent the generic chemical makeup of most paints. NOAA also recommended that no cleanup procedures be initiated because no immediate habitat or marine resources were likely to be impacted. NOAA advised monitoring and sampling of the affected area.

Kelly Moore Paint Company  
Redwood City, California  
October 18, 1989

## San Francisco

### Conclusion

The resource agencies agreed with NOAA's recommendations. The Coast Guard closed the case on October 19, 1989.

### References

Gosselin, R.E., R.P. Smith, H.C. Hodge. 1984. Clinical Toxicology of Commercial Products, Fifth Edition. New York: Williams and Wilkins. 1,960 pp.

Kummerlowe, David. 1983. Safety and Health Manual Second Edition. Seattle: Office of Oceanography and Marine Assessment, NOAA.

McKinney, Tom, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, October 18, 1989.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

Overton, Ed, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, October 18, 1989.

## **San Francisco**

Philadelphia Quartz Company  
Berkeley, California  
October 18, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On October 18, 1989, as a result of the Loma Prieta earthquake in northern California, the Philadelphia Quartz Company spilled an estimated 10,000 pounds of sodium silicate (glass), a white crystalline material, into Berkeley Harbor. There were 1.7 million pounds of this material at the facility. The U.S. Coast Guard (USCG), California Department of Fish and Game, and local Alameda County health officials investigated the incident.

### **NOAA Response**

NOAA/OMA was notified of the incident on October 18, 1989, by the USCG Marine Safety Office, Alameda, and requested to provide information regarding the human and environmental health effects of sodium silicate..

NOAA reported that the sodium silicate would probably not persist or cause long-term health effects and recommended that protective clothing and cartridge respirators be worn by response personnel. NOAA also indicated that, although the shoreline areas near the spill are extremely sensitive, they would probably only be lightly impacted as would marine birds. No further requests for assistance were received.

### **Conclusion**

Cleanup operations began and subsequent monitoring of Berkeley Harbor indicated no sodium silicate present on the surface or on the ground of the facility. The USCG closed this case on October 23, 1989.



Philadelphia Quartz Company  
Berkeley, California  
October 18, 1989

## San Francisco

### References

Baxter, Todd, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, October 19, 1989.

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina, personal communications, October 19, 1989.

Research Planning Institute, Inc. 1986. Sensitivity of coastal environments and wildlife to spilled oil: San Francisco Bay Area. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 23 maps.

U.S. Fish and Wildlife Service. 1981. Pacific Coast ecological inventory: San Francisco Bay, California. Washington DC: U.S. Department of the Interior.

## San Francisco

Propane Tank Explosion  
Oakland, California  
October 18, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### Incident Summary

On October 18, 1989, as a result of the Loma Prieta earthquake in northern California, five propane tanks fell in a privately owned warehouse, causing a fire. Paints, industrial-type cleaning chemicals, bales of rags, and other combustibles were stored in the warehouse. The Oakland County Fire Department responded to the incident. The U.S. Coast Guard was requested to come on-scene with their hazardous materials van and run the Areal Locations of Hazardous Atmospheres (ALOHA™) portion of NOAA's Computer Aided Management of Emergency Operations (CAMEO™) software. There was heavy, black smoke coming from the warehouse and the concern centered on the black clouds forming above.

### NOAA Response

NOAA/OMA was notified of the incident on October 18, 1989, by the U.S. Coast Guard, Alameda, California. NOAA was asked for advice on potential health hazards, recommendations for possible evacuation areas, and measures for personnel protection.

NOAA determined that the burning materials would probably produce low to moderate toxic clouds. However, because the weather forecast was for rain, heavy at times, and winds up to 18 knots, NOAA recommended self-contained breathing apparatus for fire fighters and turnout gear as protective clothing. NOAA also advised that nearby residents should shelter in place rather than evacuate the areas, in order to avoid exposure to the plume. County officials concurred with these procedures.

Propane Tank Explosion  
Oakland, California  
October 18, 1989

## San Francisco

### Conclusion

Firefighters extinguished the fire in 8 hours; however, the bales of rags smoldered for several days. There were no reported health effects related to the incident

### References

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

NOAA. 1989. The ALOHA™ Manual. Seattle: Office of Oceanography and Marine Assessment, National Oceanic and Atmospheric Administration.

Overton, Edward, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, October 18, 1989.



## San Francisco

Continental Maritime of San Francisco  
San Francisco, California  
November 2, 1989

Stewart McGee Jr., Scientific Support Coordinator

### Incident Summary

On November 2, 1989, while conducting a facilities inspection at Continental Maritime of San Francisco, the U.S. Coast Guard (USCG) Inspection Team observed approximately 10 drums of various sizes sitting on the pier near three tanks of waste oil totaling 240,000 gallons. Several of the drums appeared to be leaking and another drum was fuming. The USCG notified the facility's manager of its findings and issued a Letter of Federal Interest. The facility owner hired a cleanup contractor and commenced separating the commodities. Manifests indicated that the drums contained tetra-sodium, ethylenediamine tetra-acetate, and several containers of sodium phosphate. The chemicals were being temporarily stored at the facility before overseas shipment. Several of the containers were nearing their expiration dates; therefore, proper disposal of the chemicals was advised.

### NOAA Response

NOAA/OMA was notified of the incident on November 2, 1989, by the USCG Captain of the Port, Alameda, California, and requested to advise on toxicity, health hazards, and personnel protective measures.

NOAA recommended that the first responders make certain that the drums were approached from upwind and that a light fog was sprayed on the fuming container. NOAA also advised level "C" personnel protection and allowing only essential personnel within the 50-meter hot zone that was established.

Continental Maritime  
San Francisco, California  
November 2, 1989

## San Francisco

### Conclusion

Cleanup contractors and local fire department personnel separated the drums of tetra-sodium, ethylene diamine tetra-acetate from the waste oil tanks. A disposal schedule was established. There was no apparent pollution to the marine environment. The USCG closed the case on November 10, 1990, after proper disposal and cleanup.

### References

Meister, Richard, Ed. 1988. Farm Chemical Handbook. Willoughby, Ohio: Meister Publishing Company

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

Overton, Edward, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, November 2, 1989.

## San Francisco

Platform Emmy  
Huntington Beach, California  
November 7, 1989

Tom Callahan, Scientific Support Coordinator

### Incident Summary

On November 7, 1989, 20 barrels of an unspecified oil were released from Platform Emmy, approximately one nautical mile southwest of the California coast, northwest of Huntington Beach.

### NOAA Response

NOAA/OMA was notified of the incident on November 7, 1989, by the U.S. Coast Guard Marine Safety Office (MSO), Long Beach. MSO requested trajectory information.

NOAA reported that most of the oil would likely remain near the platform, with some impacts occurring inshore of the platform and/or along Huntington Beach because of west to southwest winds.

### Conclusion

No further request for information was made by the Coast Guard. It is assumed that the oil remained near the platform and dissipated naturally.

### References

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 7, 1989.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.



## **San Francisco**

CALTRANS  
Crescent City, California  
November 10, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On November 10, 1989, a California Department of Transportation (CALTRANS) truck loaded with liquid asphalt lost control, hit an embankment, overturned, and spilled its cargo. An estimated 500 to 1,000 gallons of liquid asphalt ran into Smith River near the town of Crescent City, California. The spill occurred in U.S. Environmental Protection Agency (EPA) jurisdiction; however, when the asphalt entered the Smith River and started flowing toward the ocean, the U.S. Coast Guard (USCG) was called for assistance. The USCG Cutter EDISTO was dispatched to the scene.

### **NOAA Response**

NOAA/OMA was notified of the incident on November 10, 1989, by the USCG Marine Safety Office, Alameda, California, and requested to assess environmental resources at risk along the Smith River and determine if those resources would be affected by the liquid asphalt.

NOAA advised that steelhead trout and salmon runs would probably be only minimally affected marine resources and recommended using rakes and booms to capture any free-floating chunks of asphalt in the river. California Department of Fish and Game (CDFG) concurred with this recommendation.

### **Conclusion**

The responsible party hired a contractor and took financial responsibility for cleanup of the incident. The asphalt solidified into chunks and floated down the river. Recovery nets were put in place and efforts were made to deflect the chunks to easier access points for

CALTRANS  
Crescent City, California  
November 10, 1989

## San Francisco

### Conclusion, cont.

recovery. State and Federal technical assistance team personnel came on-scene and assisted with recovery efforts.

### References

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina, personal communications, November 10, 1989.

U.S. Fish and Wildlife Service. 1981. Pacific Coast Inventory: Eureka, California. Washington, DC, U.S. Department of the Interior.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, November 10, 1989.

## **San Francisco**

F/V NO NAME  
Santa Cruz, California  
January 23, 1990

Stewart McGee Jr., Scientific Support Coordinator

### **Incident Summary**

On January 23, 1990, the 35-foot fishing vessel NO NAME radioed for help. They indicated that a wave had washed over the boat, filling the engine spaces, and causing them to lose power. The two persons onboard abandoned ship when it drifted within 5 miles of the surf lines at Gazos Creek.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 23, 1990, by the U.S. Coast Guard, Alameda, California, and asked to identify possible environmental resources at risk and potential impact areas along Gazos Creek.

NOAA advised the Coast Guard of the presence of sea otters, diving birds, overwintering birds, shorebirds, gulls, and common murrens in the area.

### **Conclusion**

The vessel washed up on the rocks and broke up spilling 200 gallons of diesel and 5 to 10 gallons of lube oil. Because of the pounding surf, no cleanup was attempted. The two fishermen were picked up by another fishing vessel SEA HORSE and transported to a hospital where they were treated for hypothermia.

Parts of the 35-foot NO NAME washed ashore off Gazos Creek. The Coast Guard logged the presence of diesel and lube oil on the vessel; however, no sheen was observed in the surf zone. No further response was requested.



F/V NO NAME  
Santa Cruz, California  
January 23, 1990

## San Francisco

### References

Espinosa, Larry, California Department of Fish and Game, Monterey, personal communications, January 23, 1990.

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, January 23, 1990.

Michel, Jacqueline, Research Planning Inc., Columbia, South Carolina, personal communications, January 23, 1990.

U.S. Fish and Wildlife Service 1981. Pacific Coast ecological inventory: Santa Cruz, California. Washington D.C.: U.S. Department of the Interior.

## Long Beach

T/V AMERICAN TRADER  
Huntington Beach, California  
February 7, 1990

Gary Petrae, Scientific Support Coordinator

### Incident Summary

At about 1630 on February 7, 1990, two holes were torn in the starboard side of the tanker AMERICAN TRADER through impact with the vessel's anchor. The ship ran aground approximately 2.5 miles off Huntington Beach, California, spilling nearly 400,000 gallons of Prudhoe Bay crude. A tug was placed at the stern of the tanker and mobilization of containment boom began.

### NOAA Response

NOAA/OMA was notified of the incident at approximately 1700 by the U.S. Coast Guard Marine Safety Office, Long Beach and requested to estimate the probable trajectory of the spilled oil, and to identify environmental resources at risk from the oil. The NOAA Scientific Support Coordinator (SSC) completed an overflight of the vessel at 1835. Additional NOAA staff of trajectory modelers, information managers, and natural resource specialists arrived on-scene on February 8.

### *Oil Trajectory*

NOAA calculated that, assuming the development of sea breezes, the oil would move slightly northwest along the coast with potential coastal impacts stretching from the Huntington Beach area to Anaheim Harbor. The oil would be driven onshore by the evening northwesterly winds and pushed offshore by northeasterly winds during the day.

### *Resources at Risk*

NOAA advised the Coast Guard that the shoreline in the area of possible first landfall was largely exposed medium-to-coarse grained beaches. Oil coming ashore in this area could percolate several centimeters into the beach face. To minimize erosion potential, NOAA recommended that care be taken not to remove too much of the substrate during cleanup.

There are several species of shellfish along the affected area of the coast, including the pismo clam and the bean clam, which could suffer acute impacts from the water-soluble fraction of the oil. The clams could also become physically smothered by the oil in the lower intertidal zone.

T/V AMERICAN TRADER  
Huntington Beach, California  
February 7, 1990

*Resources at Risk,  
cont.*

## Long Beach

NOAA advised that the major coastal bird species at risk would be the brown pelican, a diving bird that could become completely coated by oil while diving through the surface of the water to feed. The snowy plover, a shorebird in the area, could also ingest contaminated organisms at oiled shorelines. However, many shorebird species would tend to seek out non-contaminated areas for feeding. NOAA also advised that inlets in the area leading to sensitive wetlands, such as the mouth of the Santa Ana River and the entrance channel to Newport Bay, should be boomed if possible.

Finally, NOAA noted that just to the south of Newport Beach are the Newport Beach Marine Life Refuge and the Irvine Coast Marine Life Refuge, which have been designated by the State of California as "Areas of Special Biological Significance." These areas would warrant special protection status. The Irvine Coast Marine Life Refuge is a large kelp bed habitat area. Further, the least tern, an endangered seabird species, would begin nesting on the outer coastal areas this spring.

Oil began to come ashore on February 8 in light concentrations around Newport Pier. By February 9, oil was ashore at Huntington Beach. In some instances, oil in the surf zone here appeared to be in heavier concentrations than observed earlier at Newport Beach.

Throughout the incident, NOAA created overflight maps to help track the movement and concentration of both floating and grounded oil. These maps were based on visual observations that experienced NOAA oil observers collected on helicopter and fixed-wing aircraft overflights.

*Dispersants*

On the evening of February 7, the issue first arose as to whether dispersing chemicals should be applied to dissipate the spilled oil. The State of California concluded that the waters in the vicinity of the vessel were too shallow to consider dispersant use. Subsequently on February 8, the issue was again raised as a means of reducing possible seabird and beach impacts. This decision depends to a great extent on the physical state of the oil at the time that the dispersant is applied: the older or more weathered the oil, the less effective the dispersing action. NOAA worked with oil weathering experts to supply technical data to support the dispersant decision process while application might still be effective. However, the



T/V AMERICAN TRADER  
Huntington Beach, California  
February 7, 1990

## Long Beach

### *Dispersants, cont.*

State of California ultimately opted against using dispersants to control the oil slick because a conclusive threat to specific wetland areas could not be identified, as required by California state law.

### *Human Health*

In the final days of the spill, concern was expressed over the human health threat posed by reopening beaches that had been contaminated by oil. Accordingly, MEDTOX, a British Petroleum contractor, conducted limited surveys to determine the level of contamination. Survey results indicated no risk to human health.

### Conclusion

The ship was taken to San Francisco and placed in drydock for repair. Only manual methods were used to remove the oil; no heavy machinery was used on the beaches. Though labor-intensive, cleanup operations were effective. Beginning on February 20, beaches were reopened with the segment of beach stretching from the pier at Newport Bay to the north jetty of the bay entrance. The last segment of beach to open was the Bolsa Chica bluffs, reopened on March 14. As of March 14, approximately 515 birds had died as a result of oiling; some of these birds died at the cleaning center, while others were dead on arrival. No harbor seals died as a result of oiling, although two Pacific white-sided dolphins died of pneumonia apparently caused by ingestion of oil.

### References

National Oceanic and Atmospheric Administration. 1990. Hotline: Incident 26, T/V AMERICAN TRADER. Seattle: Office of Oceanography and Marine Assessment, NOAA. Electronic communications network.

Research Planning Institute. 1980. Sensitivity of coastal environments and wildlife to spilled oil: Southern California. An atlas of coastal resources. Boulder, Colorado: Office of Marine Pollution Assessment, NOAA. 52 maps.

Torgrimson, Gary M. 1984. The on-scene spill model: a user's guide. NOAA Technical Memorandum NOS OMA-12. Seattle: Office of Oceanography and Marine Assessment.

## Seattle

T/V SEALIFT ANTARCTIC  
Birch Point, Strait of Georgia, Washington  
December 18, 1989

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

On December 18, 1989, the U.S. Coast Guard Marine Safety Office (MSO) Puget Sound received a report from a fishing vessel of an oil sheen off Birch Point. Separate Canadian and U.S. Coast Guard overflights located two oil slicks. The first slick was reported to be 2 miles long, located 2.5 miles west of Birch Point, just south of the Canadian border, and estimated to contain approximately 260 gallons of diesel or light petroleum product. The second slick was 2.5 miles long, located 2 miles southeast of the first slick, and contained an estimated 350 gallons. To identify the source of the spill, the U.S. Coast Guard Cutter (CGC) POINT RICHMOND collected samples from both sheens.

A Coast Guard helicopter overflight had observed a large area of sheen near the SEALIFT ANTARCTIC as it transited out of San Diego Harbor earlier in December and had requested MSO Puget Sound to collect samples from the vessel's tanks when it arrived in Washington. This vessel had been moored at the ARCO Terminal at Cherry Point, approximately 5 miles south of Birch Point. Additional samples were collected from the vessel to compare with those collected by the CGC POINT RICHMOND.

### NOAA Response

NOAA/OMA was notified of the incident at 1405 on December 18, 1989, by the MSO and requested to provide natural resources at risk information and forecast and hindcast trajectories of the oil.

The NOAA hindcast indicated that the source of the spill would most likely have been from a vessel at Cherry Point or the adjacent Puget Sound shipping lane.



T/V SEALIFT ANTARCTIC  
Strait of Georgia, Washington  
December 18, 1989

## Seattle

### **NOAA Response,** cont.

The NOAA trajectory also indicated that the slick could continue to move north during the night and probably break up. There was a possibility that some sheen might reach Boundary Bay and the Canadian border and cause a "bathtub ring" on Point Roberts. As a result of possible impact to Canadian waters, the Joint Canadian-American Oil Spill Response Agreement (CANUSPAC) was invoked by Captain of the Port for Puget Sound, at 2155 on December 18, 1989.

NOAA reported that the primary resources at risk from the spill were the large concentration of birds normally found in Boundary Bay in the winter. Specific groups most likely to be impacted by the oil included the scoters, murrelets, grebes, loons, and ducks.

### **Conclusion**

No cleanup was conducted. Both slicks broke up and dissipated during the night of December 18. An overflight the next morning by NOAA and Washington Department of Ecology representatives found no signs of oil off Birch Point or Boundary Bay. The Canadian Coast Guard conducted beach walks, boat patrols, and overflights of Boundary Bay and found no signs of oil or oiled birds.

Samples taken from the spill by the CGC POINT RICHMOND matched samples collected from the SEALIFT ANTARCTIC. These samples identified the SEALIFT ANTARCTIC as the source of the spill at Birch Point, and also matched the spill reported earlier in San Diego.

### **References**

Anderson, R., NOAA, National Weather Service, Weather Service Forecast Office, Seattle, personal communication, December 18, 1989.



T/V SEALIFT ANTARCTIC  
Strait of Georgia, Washington  
December 18, 1989

## Seattle

### References, cont.

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Galt, J.A. and Payton, D.L. 1981. Finite element routines for the analysis and simulation of nearshore circulation. Mechanics of Oil Slicks, Paris, France, pp. 121-132.

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Research Planning Institute. 1988. Natural Resource Response Guide: Marine Birds. Seattle: Ocean Assessments Division, NOAA. 32 pp.

Torgimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOAA OMA-12. Seattle, Washington: NOAA, Office of Oceanography and Marine Assessment.

## Seattle

T/V MOBIL ARCTIC  
Fidalgo Bay, Anacortes, Washington  
December 18, 1989

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The U.S. Coast Guard Marine Safety Office (MSO), Puget Sound was notified at 1450 on December 18, 1989, that crude oil had been spilled at the Texaco Refinery at Anacortes, Washington. The MOBIL ARCTIC was discharging cargo to the refinery when an improperly secured connection at the manifold onboard the vessel leaked approximately 10 barrels of crude oil into the water.

### NOAA Response

NOAA/OMA was notified of the incident at 1900 on December 18, 1989, by the MSO and was requested to provide natural resources at risk information.

NOAA told the MSO that the primary environmental concerns in the area were western grebes, black brant, common merganser, and black turnstone.

On December 19, the NOAA Scientific Support Coordinator (SSC) attended an operations meeting on-scene with MSO, Washington Department of Ecology (WDOE), and Texaco representatives. Helicopter overflight observers noted no recoverable oil in the area. Texaco reported that stringers of oil were recovered from the surf line along the north shore of Anacortes (Cape Sante), west of the refinery. The SSC and WDOE representative conducted a shoreline survey in this area but observed no shoreline impacts.

### Conclusion

Texaco deployed containment boom around the vessel and cleanup operations were started within the hour. Cleanup operations were completed on January 6, 1990. No oiled birds or other environmental impacts were reported.

T/V MOBIL ARCTIC  
Anacortes, Washington  
December 18, 1989

## Seattle

### References

Research Planning Institute. 1986. Sensitivity of coastal environments and wildlife to spilled oil: Strait of Juan de Fuca and Northern Puget Sound. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 36 maps.

Research Planning Institute. 1988. Natural Resource Response Guide: Marine Birds. Seattle: Ocean Assessments Division, NOAA. 32 pp.



## Seattle

M/V SWAN LAKE  
Elliott Bay, Seattle, Washington  
December 30, 1989

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The U.S. Coast Guard Marine Safety Office (MSO) was notified on December 29, 1989, of a black oil spill at Pier 90 in Elliott Bay, Seattle, Washington. The spill was estimated at approximately 2,000 gallons of Bunker C, most of which was trapped underneath the pier and between two barges tied there. A series of booms across the entrance to the berth prevented all but a very light sheen from escaping. Approximately three acres of beach on the east side of Smith Cove were heavily oiled. The pollution source was not initially apparent and a Federally funded cleanup was initiated.

### NOAA Response

NOAA/OMA was notified of the incident on December 30, 1989, by MSO Puget Sound and requested to provide assistance on-scene.

NOAA reported that the primary environmental concern for this spill were the Canadian geese that frequented the area to feed. The evening of the spill, a flock of approximately 20 birds attempted to land in the slick, but were frightened off by cleanup crews. A few of the birds reportedly had oiled plumage, but were able to fly away. At the request of the Coast Guard, a sound cannon was brought in to haze the birds away from the slick and the Seattle Aquarium was requested to stand by with a list of volunteers to set up a cleaning station if oiled birds were found.

A second environmental concern was the oiled sand and gravel beach at the back of the berth. This area was developed as an intertidal enhancement project to compensate for intertidal area lost when a portion of the middle berth (Pier 90) was filled in. This area is used as a nursery by juvenile salmon in the late spring and

M/V SWAN LAKE  
Seattle, Washington  
December 30, 1989

**NOAA Response,**  
cont.

## Seattle

summer. The question was raised whether it would be necessary to replace the oiled gravel on this beach, or would it self-clean in time for recolonization by copepods and other epibenthic fauna before the juvenile salmon arrived.

NOAA recommended leaving the gravel on the oiled beach at the back of the berth to maintain the stability of the beach. Periodic visits to the site over the next 4 months indicated that a series of storms had succeeded in adequately cleaning the lower intertidal gravel before the late spring arrival of juvenile salmon.

During the cleanup, NOAA provided site-specific weather forecasts and current tidal information for response operations. NOAA also identified primary environmental concerns; coordinated with state and Federal resource agencies; and assisted on-site with recommendations of which areas needed cleaning and which cleanup methods would minimize environmental impacts.

The light and variable winds at the time of the spill helped get booms in place across the mouth of the berth before the oil escaped into Elliott Bay. Strong southerly winds developed within 24 hours and remained during the cleanup operations. These winds helped keep the oil contained in the pier area. The heavy oil under the piers was flushed out and recovered using absorbent material and the local cleanup cooperative's skimmer, CLEAN SOUND. Oiled riprap along the shoreline within the berth was wiped down. Pooled oil between the rocks was collected and removed. Due to the prevalence of southerly winds, residual oil on the impacted shoreline was expected to weather significantly over the winter.

Minimal oiling of birds was observed during cleanup operations and the Seattle Aquarium cleaning station was not activated.



M/V SWAN LAKE  
Seattle, Washington  
December 30, 1989

## Seattle

### Conclusion

The Coast Guard investigated to determine the source of the spill. As part of this investigation, NOAA provided historical wind data for the period leading up to the spill and trajectory information which indicated that the SWAN LAKE was the most likely source of the spill. A pollution case has been filed by the Coast Guard in an attempt to recover Federal response costs from the vessel's owner.

### References

Anderson, R., NOAA, National Weather Service, Weather Service Forecast Office, Seattle, Washington, personal communication, December 30, 1989.

Galt, J.A, NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, December 30, 1989.

Michel, Jacqueline, Research Planning Institute, Columbia, South Carolina, personal communications, December 30, 1989.

National Ocean Service. 1989. Pacific Coast of North America Tide Tables. Rockville, Maryland: NOAA.

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: Central and Southern Puget Sound. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 44 maps.

Watabayashi, Glen, NOAA, Hazardous Materials Response Branch, Seattle, Washington, personal communications, December 30, 1989.



## Seattle

Lake Washington Ship Canal  
Seattle, Washington  
January 5, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

On January 5, 1990, the U.S. Coast Guard Marine Safety Office (MSO) Puget Sound was notified of a spill of approximately 50 gallons of brown oil at the Ballard Mill Marina. Upon investigation, the MSO found an additional 300 gallons of oil west of the original site. The spilled material appeared to be a weathered waste oil present in small pockets within the dock areas at relatively thick concentrations. There seemed to be no apparent source for the spill. The Coast Guard initiated a Federal cleanup and investigation to find the source of the oil.

### NOAA Response

NOAA/OMA was notified of the incident at 1520, on January 5, 1990, by MSO Puget Sound and requested to provide assistance on-scene concerning possible environmental impact.

NOAA arrived on-scene and reported that the oil appeared to be a mixture of weathered hydraulic oil and diesel, emulsified into a gray scum in areas. NOAA told the MSO that this weathered oil posed a minimal environmental threat as long as it was contained within the dock area.

### Conclusion

Many small mystery spills requiring federally funded cleanup occurred in this area of the Lake Washington Ship Canal during the 3 weeks immediately preceding this spill. The Coast Guard conducted an extensive round of sampling from vessels in the area to try to identify the source of the spill, but was unsuccessful.

A shoreline survey conducted on the morning of January 6, 1990, by NOAA and MSO found no recoverable oil remaining in the area of the spill. Cleanup activities ceased.

## Seattle

T/B ELAINE D.  
Bellingham Bay, Washington  
January 24, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The Coast Guard Marine Safety Office (MSO) was notified that approximately 1,000 gallons of sulfuric acid was spilled by the ELAINE D. during transfer operations to the Georgia Pacific Corporation. Transfer was stopped and any spilled material remaining on the vessel was washed overboard into Bellingham Bay.

### NOAA Response

NOAA/OMA was notified of the incident at 2340 on January 24, 1990, by the MSO and requested to provide environmental impact information and recommendations for further cleanup.

NOAA told the MSO that the sulfuric acid should be rapidly neutralized and diluted by the seawater, although, a fish kill in the immediate vicinity of the barge could occur.

### Conclusion

Cleanup on the barge was completed at 0130 on January 25, 1990. No fish kill was observed.

## Seattle

T/B UT-16

East Duwamish Waterway, Seattle, Washington

February 9, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The U.S. Coast Guard Marine Safety Office (MSO) Puget Sound was notified at 0110 on February 9, 1990, of a #6 fuel oil spill into the east Duwamish Waterway on Elliott Bay. An estimated 16 barrels (750 gallons) of #6 fuel oil leaked from a crack in the number 1 port tank of tanker barge UT-16 while she was taking on cargo at Crowley's Harbor Island Pier 17 waterfront facility. Loading stopped as soon as the spill was discovered and the affected tank emptied. A 75-foot wide slick with globules of black oil extended north as far as Pier 59. A Coast Guard overflight later on February 9 reported a rainbow, silvery sheen extending from Pier 52 to Pier 70. The bulk of the oil was present in small pools located at the rear of Piers 66, 67, 68, 69, and 70.

### NOAA Response

NOAA/OMA was notified of the incident at 0255 on February 9, 1990, by the MSO who requested assistance on-scene. NOAA was requested to provide natural resources at risk information, weather forecasts, and a trajectory for the oil.

NOAA told MSO that the trajectory indicated that weak tidal currents within Elliott Bay and the strong southwesterly winds would probably confine the oil to a narrow band along the east shoreline, possibly reaching as far north at Pier 90 by midmorning. Pockets of oil would be expected to collect in the piers along the Seattle waterfront. Under continued strong southwesterly winds, oil was not expected to get out of Elliott Bay.

Shorebirds were the primary resource of concern in Elliott Bay at that time of year, including a number of species of grebes, cormorants, gulls, loons, and ducks. A Washington Department of Wildlife (WDOW) representative reported seeing 20 lightly oiled birds during a shoreline survey on



T/B UT-16  
East Duwamish Waterway,  
Seattle, Washington  
February 9, 1990

## Seattle

### **NOAA Response,** *cont.*

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February 9. In consultation with the WDOV representative, it was agreed that any attempts to catch or clean these birds would be more stressful to the birds than the effects of the oil. The shoreline should be monitored for any additional reports of stressed animals.

### **Conclusion**

On February 10, a temporary patch was completed and the barge was shifted to a repair facility in Tacoma. A Coast Guard overflight at 0945 saw no free-floating oil remaining in Elliott Bay. Pockets of black oil trapped between piers 66 and 77 and oily debris were removed by cleanup contractors. Cleanup was completed on February 13. No additional impacts on wildlife were reported.

### **References**

Anderson, R., NOAA, National Weather Service, Weather Service Forecast Office, Seattle, personal communications, February 9, 1990.

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, February 9, 1990.

National Ocean Service. 1990. Pacific Coast of North America Tide Tables. Rockville, Maryland: NOAA.

Research Planning Institute. 1985. Sensitivity of coastal environments and wildlife to spilled oil: Central and Southern Puget Sound. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 44 maps.

## Seattle

M/V RIMBA KEMPAS

Coos Bay, Oregon

August 30, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

On August 29, 1990, the U.S. Coast Guard Station, Coos Bay, Oregon was notified that approximately 100 gallons of heavy fuel oil (Bunker C) had been spilled at the Roseburg Lumber Pier from the RIMBA KEMPAS during bunkering operations. After interviewing the vessel's personnel, the Coast Guard concluded that the spill had been caused by failure to secure a valve during the bunkering operations. The vessel's Master ordered the crew to use a hydrocarbon-based dispersant product (OSD/LT™) to disperse the oil on deck and in the water.

Coast Guard helicopter overflight observers reported a large sheen with dark patches extending east from the vessel's stern to within 1/2 mile of the 101 Bridge and north to near Haynes Inlet. A shoreline survey by the Coast Guard Marine Safety Office (MSO) was conducted on the morning of August 31. Approximately 500 yards of oiled shoreline was observed, as well as oil contamination in the commercial oyster beds in the area. Samples were collected and three private commercial beds near Silver Point were shut down by Oregon Department of Environmental Quality.

### NOAA Response

NOAA/OMA was notified of the incident at 1100 on August 30, 1990, by the MSO and requested to provide environmental resources at risk information and cleanup recommendations.

NOAA reported that the primary resources at risk were the commercial oyster beds near the spill. Given the product spilled and the quantity, mortality is probably unlikely, but oysters could become temporarily tainted or contaminated. NOAA recommended that Oregon



M/V RIMBA KEMPAS  
Coos Bay, Oregon  
August 30, 1990

**NOAA Response,**  
cont.

**Conclusion**

## Seattle

State Health Department officials be notified so they could begin a monitoring program.

NOAA estimated that the reported use of a dispersant would increase the concentration of oil in the water column and could increase impact on oysters in the area. Oysters will clean themselves, but the period required is uncertain. It could range from weeks to months depending on the residual contamination in the area.

Other resources of concern included cormorants and other birds possibly feeding in the area. NOAA recommended that the U.S. Fish and Wildlife Service be notified of the possibility of oiled birds and contacted immediately if any were observed.

Coho salmon are running at this time year, but should remain mostly in the channel and are probably unlikely to be affected by the spill as long as dispersants do not force too much oil down into the water column.

Cleanup by the responsible party began on August 31, 1990. Contaminated rocks were removed from the shoreline and the remaining surfaces were hand wiped with sorbent material. Cleanup was completed on September 1 with the provision that sorbent boom and snare be left in place an additional week until it was determined that sheening was no longer a problem. The Coast Guard closed the case on September 10.

The Oregon Department of Health closed three contaminated commercial oyster beds on August 31 and required that all oysters harvested after the spill on August 29 be returned to the field. The oyster beds remained closed until September 21 when laboratory results verified that no traces of contamination remained in the oysters.

No other environmental impacts were observed.



M/V RIMBA KEMPAS  
Coos Bay, Oregon  
August 30, 1990

### References

## Seattle

DeMoss, Rebecca, Oregon Department of Human Resources, Portland, personal communications, February 11, 1991.

Michel, Jacqueline, Research Planning International, Columbia, South Carolina, personal communications, August 30, 1990.

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## Seattle

Chevron Point Wells Tank Farm  
Richmond Beach, Washington  
August 31, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The U.S. Coast Guard Marine Safety Office (MSO) Puget Sound was notified by the Chevron Point Wells Tank Farm at 2332 on August 30, 1990, that one of their shore-side storage tanks had ruptured during a cargo transfer from the tank vessel CHEVRON WASHINGTON. Tank farm personnel had improperly aligned the valves on the shoreside piping, allowing cargo to enter a full tank and rupture it. Approximately 4,200 barrels of asphalt charge stock were estimated to have been lost, with most of the product believed to have been contained by the dike around the tank. An unknown quantity of product was known to have sprayed out of the rupture at the top of the tank, over the containment dike, and into the riprap and intertidal zone adjacent to the facility. Asphalt charge stock was characterized by Chevron as a very heavy, thick petroleum material used in asphalt production that had been cut with 20 percent diesel to allow it to be handled without having to be heated.

Cleanup personnel arrived on-scene at 0100 and began booming the shoreline adjacent to the tank farm. Observers on an overflight at 0853 reported a slick extending 7.3 miles north. Based on this overflight and subsequent shoreline surveys, it was estimated that approximately 4,000 gallons of product escaped the dike containment and entered the water.

### NOAA Response

NOAA/OMA was notified of the incident at 1000 on August 31, 1990, by MSO Puget Sound. MSO requested trajectory information, weather forecasts, and recommendations on cleanup methodology. NOAA provided the requested information and participated in overflights to determine movement of oil on the water and progress of shoreline cleanup, in beach surveys, and in the final

Chevron Point Wells Tank Farm  
Richmond Beach, Washington  
August 31, 1990

## Seattle

### **NOAA Response,** ***cont.***

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#### *Trajectory*

survey of shorelines with Coast Guard and state representatives to determine cleanliness of the area oiled.

NOAA advised that strong southerly winds would move the slick north against the net tidal current in the first 24 hours; but, the winds will decrease and move the slick very slowly back south. Small areas of shoreline were impacted by oil-saturated organic debris (mostly kelp) from Everett to Shilshole on the east side of Puget Sound and around Kingston (primarily from Apple Cove Point to President Point) on the west side. Impacts on the east side included several city and county parks that had to be closed over the Labor Day weekend to protect the public and facilitate cleanup operations. Penetration into the sand at the upper storm berm was observed at Picnic Point County Park.

#### *Resources at Risk*

The primary resources at risk included shorebirds and recreational clam beds in the intertidal sand and gravel beaches. While some of the clamming areas were covered with stranded contaminated seaweed, the oil did not penetrate into the substrate. Several beaches, including two county parks, received very light coatings of oil on the top of scattered small cobble and gravel. Chevron arranged to set up a bird cleaning facility, but the need did not arise.

#### *Cleanup Recommendations*

NOAA Scientific Support Coordinator (SSC) suggested that oiled kelp and debris stranded on sand and gravel beaches be picked up, bagged, and removed. Following NOAA's advice, the top 2 to 3 inches of oil-saturated sand was removed by shovel from a 3- to 8-foot band for 80 yards along the top of the beach at Picnic Point County Park. The SSC also recommended that pooled oil be manually removed from riprap and surfaces hand wiped, pom pom strings be used to control further sheening from the riprap, and free-floating oil and oiled debris be picked up by skimmer.



Chevron Point Wells Tank Farm  
Richmond Beach, Washington  
August 31, 1990

## Seattle

*Cleanup Recommendations,  
cont.*

Public awareness of the spill was heightened because of heavy beach use during a very warm and sunny Labor Day weekend. The SSC assisted local governments and the public by meeting with volunteer environmental groups to explain what was being done to cleanup the spill and what long-term environmental impacts might be expected.

### Conclusion

Cleanup activity outside the tank farm continued from August 31 until September 11. Joint shoreline surveys of all impacted shorelines were carried out by the Coast Guard On-Scene Coordinator (OSC), Washington OSC, NOAA SSC, and Chevron representatives between September 5 and 11 to determine when cleanup was complete on specific shoreline segments. Cleanup of all areas outside the tank farm was completed and all county and city parks re-opened by September 11. Pompom string lines were maintained along the oiled riprap for another week to control sheening. The Coast Guard made a final inspection of Picnic Point on September 24 and closed the case. A follow-up visit by the SSC 2 months later following several storms, confirmed that most of the residual oil was gone.

Damage to the environment included one dead cormorant and one tern, two domestic geese, and one duck with eight ducklings lightly oiled, but none appeared to be in sufficient distress to warrant cleaning.

### References

Anderson, Robert, NOAA, National Weather Service, Weather Service Forecast Office, Seattle, personal communications, August 31-September 10, 1991.

Chevron Point Wells Tank Farm  
Richmond Beach, Washington  
August 31, 1990

## Seattle

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Dahlin, Jeffrey, Research Planning International, Columbia, South Carolina, personal communications, August 31, 1991.

Galt, Dr. Jerry, NOAA, Hazardous Materials Response Branch, Seattle, personal communications, August 31-September 10, 1991

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Reilly, Tim, Research Planning International, Columbia, South Carolina, personal communications, September 9, 1991.

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## Seattle

BARGE SEATTLE  
Duwamish Waterway,  
Seattle, Washington  
September 5, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

The Coast Guard Group Station Seattle was notified by Crowley Maritime Services at 1929 on September 5, 1990, that Greenpeace demonstrators were trying to prevent the departure of the BARGE SEATTLE. The chlorine barge had just completed loading at Dock 16<sup>1/2</sup> in the Duwamish Waterway with two 55-ton rail cars of chlorine gas on main deck and one 400-ton bulk chlorine tank below deck. Five rubber rafts with individuals wearing gas masks were in the water around the barge. One person was self-shackled to the barge's anchor chain. Greenpeace claimed their action demonstrated against the use of chlorine by the paper industry, the scheduled recipient of cargo.

The Coast Guard dispatched a patrol boat to monitor the situation. The Seattle Police Department was on-scene attempting to talk demonstrators into surrendering before forcibly removing them from the premises. The Coast Guard was concerned that a physical confrontation might cause an accidental chlorine release.

### NOAA Response

NOAA/OMA was notified of the incident on September 5, 1990, by the MSO and asked to provide trajectories for a potential accidental release of chlorine from the BARGE SEATTLE.

Trajectories were run for a number of scenarios using ALOHA™ 5.0, NOAA's air modeling software, to estimate the probable extent and duration of the plume.



BARGE SEATTLE  
Duwamish Waterway,  
Seattle, Washington  
September 5, 1990

## Seattle

### Conclusion

Seattle police removed the protesters from the barge without incident. The BARGE SEATTLE departed at 0130 on September 6, 1990, with a Coast Guard escort.

### References

Anderson, R., NOAA, National Weather Service, Weather Service Forecast Office, Seattle, personal communication, September 5, 1990.

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, September 5, 1990

NOAA. 1990. ALOHA™ 5.0. Areal Locations of Hazardous Atmospheres for the Apple Macintosh Computer. Chicago: National Safety Council. 150 pp.

## Seattle

Indian Island Naval Underwater  
Warfare Engineering Station  
Port Townsend Bay, Washington  
September 25, 1990

Sharon K. Christopherson, Scientific Support Coordinator

### Incident Summary

At 0825 on September 25, 1990, the U.S. Coast Guard Marine Safety Office (MSO) was notified that approximately 200 gallons of marine diesel fuel and lube oil had spilled from an unknown source at the West Ammunition Pier, Indian Island. The spill was discovered at 0610 near the USS SACRAMENTO and the USS DIXON, but the Navy was unable to determine the exact source.

### NOAA Response

NOAA/OMA was notified of the incident at 1015 on September 25, 1990, by the MSO and was requested to provide environmental resources at risk information, a weather forecast, and an oil trajectory.

NOAA estimated that, as a result of weak tidal currents and stronger north-northwest winds, the bulk of the oil would tend to remain along the eastern side of Port Townsend Bay south of Walan Point. This could result in a "bathtub ring" of oil adhering to the eastern side of Port Townsend Bay. In the absence of wind, the flood tide predominates and oil would tend to move northwest out and around Point Wilson.

NOAA indicated that the environmental resources at risk included migrating and overwintering waterfowl, recreational and commercial clam beds, and eelgrass beds. However, given the relatively small amount of oil spilled, minimal environmental impact was expected. Only a few birds were expected to be present in the immediate area of the spill. Clam beds are common throughout the area, and recreational harvesting had begun, but, it was unlikely that clam beds would be exposed directly to the oil, because of the neap tides occurring at the time of the spill. In the event a large quantity of diesel was released, there could be some tainting of shellfish. Epifauna in the eelgrass beds could

Indian Island Naval  
Underwater Warfare  
Engineering Station  
Port Townsend Bay,  
Washington  
September 25, 1990

**NOAA Response,**  
cont.

**Conclusion**

**References**

## Seattle

also be impacted if large quantities of diesel were released in the shallow, nearshore water.

The leak causing the oil spill appeared to stop around 1500 on September 25. Navy personnel boomed off the area and cleanup operations began. A Coast Guard overflight at 1500 reported only limited areas of nonrecoverable sheens in the area.

Cleanup was completed on September 26, 1990, with no environmental damage reported.

Burton, W., NOAA, National Weather Service, Weather Service Forecast Office, Seattle, personal communication, September 25, 1990.

Galt, J.A., NOAA, Hazardous Materials Response Branch, Seattle, personal communications, September 25, 1990.

Michel, Jacqueline, Research Planning Inc., Columbia, South Carolina, personal communications, September 25, 1990.

National Ocean Service. 1990. Pacific Coast of North America Tide Tables. Rockville, Maryland: NOAA.

Research Planning Institute. 1986. Sensitivity of coastal environments and wildlife to spilled oil: Strait of Juan de Fuca and Northern Puget Sound. An atlas of coastal resources. Seattle: Ocean Assessments Division, NOAA. 36 maps.



## **Anchorage**

Tug AVENGER  
St. Paul, Pribilof Islands, Alaska  
October 10, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

At approximately 0300 on October 10, 1989, 60- to 70-knot winds broke the tug AVENGER loose from its moorage at the St. Paul city dock. The tug, listing at 30°, went aground at the mouth of the Salt Lagoon. An unknown amount of diesel escaped from the tug's 30,000 gallons of diesel, 600 gallons of lube oil, and 150 gallons of hydraulic fluid.

### **NOAA Response**

NOAA/OMA was notified of the incident by the U. S. Coast Guard at 0745 on October 10, 1989, and asked to evaluate the natural resources at risk from the spill.

NOAA contacted state and federal resource agencies and advised the Coast Guard that numerous seabirds, including murre, auklets, and kittiwakes would be present all over the island until the end of October. Fur seal rookeries existed a few miles north and south of the grounding so numerous adults and juveniles would be swimming around the general area until around the first of November. NOAA also informed the Coast Guard that Salt Lagoon is part of the Seal Island National Historic Monument.

### **Conclusion**

The tug's owner hired a contractor to remove the fuel and oil from the vessel and successfully completed the task without losing any product.

Tug AVENGER  
Pribilof Islands, Alaska  
October 10, 1989

## References

## Anchorage

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, October 10, 1989.

Bergmann, Pam, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, October 10, 1989.

Robertson-Wilson, Everett, U.S. Fish and Wildlife Service, Anchorage, personal communications, October 10, 1989.

Research Planning Institute. 1982. Sensitivity of coastal environments and wildlife to spilled oil: Norton Sound and the Pribilof Islands, Alaska: An atlas of coastal resources. Seattle: Office of Oceanography and Marine Assessment, NOAA. 64 maps.

Slater, Claudia, Alaska Department of Fish and Game, Anchorage, personal communications, October 10, 1989.

## **Anchorage**

Coast Guard Lighthouse  
Cape Decision, Kuiu Island, Southeast Alaska  
October 11, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

**D**uring the evening of October 11, 1989, a fire broke out in the boathouse of the U.S. Coast Guard Lighthouse at Cape Decision, at the southern end of Kuiu Island, southeastern Alaska. The building contained 1 drum of gasoline, 1 drum of JP-5, 1 bucket of oil possibly contaminated with polychlorinated biphenyls (PCBs), and 25 capacitors containing possible PCB-contaminated oil. The drums of fuel exploded and partially burned some of the oil and capacitors. A Coast Guard Flight Station Sitka helicopter flew through the smoking debris, exposing 11 Coast Guard personnel to the smoke and ash of the fire. None was equipped with particulate filter respirators or self-contained breathing apparatus (SCBA).

### **NOAA Response**

NOAA/OMA was notified of the incident at 2130 on October 11, 1989, by the U. S. Coast Guard Marine Safety Office Juneau. The NOAA Scientific Support Coordinator (SSC) was asked if dioxins could be given off by the burning of the possibly PCB-contaminated oil. The burning of PCBs is known to create a carcinogenic dioxin by-product that may be extremely hazardous in small concentrations.

The SSC advised that any personnel near the fire should remain upwind, wear filter masks or SCBAs, and avoid skin contact or inhalation of the smoke and soot of the fire. Those exposed to the soot and ash should be considered contaminated and washed thoroughly with soap and water. Blood samples should be drawn from those individuals. Any exposed equipment should be cleaned thoroughly with a bleaching agent. Samples of the soot should be tested for dioxins, samples of the oil in the capacitors should be tested for PCBs.



Coast Guard Lighthouse  
Cape Decision, Alaska  
October 11, 1989

## **Anchorage**

### **Conclusion**

The Coast Guard performed the cleanup operations as recommended. Within two working days of the incident, subsequent samples showed no presence of PCBs.

### **References**

Galt, J. A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, October 11, 1989.

Overton, Edward, Louisiana State University, Institute for Environmental Studies, Baton Rouge, personal communications, October 11, 1989.

Snider, Jean, NOAA Hazardous Materials Response Branch, Washington, D.C., personal communications, October 11, 1989.

## **Anchorage**

Helicopter contamination

Sitka, Alaska

October 13, 1989

Stewart McGee, Jr., Scientific Support Coordinator

### **Incident Summary**

On October 11, 1989, two transformers blew up at the U.S. Coast Guard Lighthouse at Cape Decision, Alaska. While attempting to rescue Coast Guardsmen from the scene, two Sitka-based Coast Guard helicopters became contaminated with polychlorinated biphenols (PCB)-laden oil

### **NOAA Response**

NOAA/OMA was notified of the incident on October 13, 1989, by the Coast Guard Air Station Commanding Officer and requested to provide a decontamination method and strategy.

NOAA instructed the Coast Guard to take wipe samples to determine the extent of contamination and to wipe the entire helicopter both inside and out with a detergent solution.

### **Conclusion**

The Coast Guard performed the cleanup operations as recommended. The helicopters were placed back into operation within two working days of the incident when subsequent samples showed no presence of PCBs.

### **References**

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, October 13, 1989.

Overton, Ed, Louisiana State University Institute for Environmental Studies, Baton Rouge, Louisiana, personal communications, October 13, 1989.

Snider, Jean, NOAA Hazardous Materials Response Branch, Washington DC, personal communications, October 13, 1989.

## **Anchorage**

F/V POLAR COMMAND  
Chuginadak Island, Alaska  
October 15, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

**A**t approximately 0930 on October 15, 1989, the POLAR COMMAND, a 122-foot fishing vessel owned by Deep Sea Fisheries, hit a rock on the south side of Chuginadak Island in the Aleutians. The rock protruded into the engine room. Another fishing vessel safely removed the 28 crewmen. The POLAR COMMAND had 42,000 gallons of diesel and 1,100 gallons of lube oils in 20- to 55-gallon drums onboard. The owner assumed responsibility and hired another vessel to remove the petroleum. At the same time, contingency plans were made to detonate and burn the remaining fuel.

### **NOAA Response**

NOAA/OMA was notified of the incident at 1730 on October 15, 1989, by the U.S. Coast Guard Marine Safety Office, Anchorage. NOAA was requested to provide information on natural resources at risk from the spill.

NOAA polled the resource agencies and advised the Coast Guard that, because of the time of year, a spill would probably not be harmful to the environment. The State Historical Preservation Office identified five historical sites on the island but none were affected by the grounding.

### **Conclusion**

All the retrievable oil was removed by manual labor; however, several thousand gallons of diesel are estimated to have entered the water and dissipated.



F/V POLAR COMMAND  
Chuginadak Island, Alaska  
October 15, 1989

## Anchorage

### References

Becker, Paul, NOAA Regional Response Team representative, Anchorage, Alaska, personal communications, October 16, 1989.

Bergmann, Pam, Department of the Interior Office of Environmental Protection, Anchorage, Alaska, personal communications, October 16, 1989.

National Weather Service, Anchorage, Alaska, personal communications, October 16, 1989.

Robinson-Wilson, Everett, U.S. Fish and Wildlife Service, Anchorage, Alaska, personal communications, October 16, 1989.

Slater, Claudia, Alaska Department of Fish and Game, Anchorage, Alaska, personal communications, October 16, 1989.

## **Anchorage**

M/V MILOS REEFER  
St. Matthew Island, Bering Sea, Alaska  
November 15, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

The Greek refrigerated cargo ship MILOS REEFER grounded on a rocky reef off the northeast tip of St. Matthew Island just before midnight on November 14, 1989. The reef ripped large holes in the hull and the vessel gradually lost 237,000 gallons of IFO-150 and diesel. St. Matthew Island is uninhabited, located 440 miles due north of Dutch Harbor, Alaska, and is part of the Bering Sea National Wildlife Refuge. At the time of the incident there were gale force winds from the west with similar conditions predicted to continue.

### **NOAA Response**

NOAA/OMA was notified of the incident on November 15, 1989, by the U.S. Coast Guard Marine Safety Office (MSO), Anchorage. MSO requested a trajectory for the spill and natural resources at risk information.

NOAA informed MSO that the diesel should dissipate quickly and be wind driven. The IFO product would thicken and might not readily flow as it cools. Local knowledge was sought from a U.S. Fish and Wildlife Service representative familiar with the island.

NOAA also advised MSO that the northeast coast of the island is a high-energy coastline of sheer cliffs and rocky beaches with a limited number of sensitive species in the area. These included common eiders, sea ducks, cormorants, kittiwakes, puffins, sea lions, and seals. Nearby Hall Island has a small walrus population (approximately 500). Rats from the vessel could decimate resident bird populations and present a greater danger than any oil released if they reached shore and survived the winter. Due to remoteness and inclement winter weather associated with St. Matthew Island, the Coast Guard faced two possibilities: destroy the vessel with

M/V MILOS REEFER  
St. Matthew Island, Alaska  
November 15, 1989

**NOAA Response,**  
cont

**Conclusion**

**References**

## **Anchorage**

U.S. Air Force armaments or wait until spring to deal with the oil. After a review of the historic meteorology, the ice conditions, the properties of the oil, and the sensitivity of spring resources, NOAA recommended destroying the vessel.

The Coast Guard made several C-130 overflights of the MILOS REEFER and was able to get the CGC MIDGET on-scene and board the vessel. The MILOS REEFER had lost at least 237,000 gallons of diesel and IFO. The Coast Guard decided that it would monitor the vessel throughout the winter and deal with it further in the spring.

No oil was found on the vessel when the Coast Guard and a contractor toured the MILOS REEFER in spring 1991. The vessel was left where she ran aground.

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, November 15, 1989.

Bergmann, Pam Department of the Interior, Office of Environmental Protection, Anchorage, personal communications, November 15, 1989.

Brower, W.A., R.G. Baldwin, C.N. Williams, J.L. Wise, and L.D. Leslie. 1988. Climatic Atlas of the Outer Continental Shelf Waters and Coastal Regions of Alaska. Volume II Bering Sea. Arctic Environmental Information and Data Center, University of Alaska, Anchorage. 519 pp.

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 15, 1989.



M/V MILOS REEFER  
St. Matthew Island, Alaska  
November 15, 1989

References, cont

## Anchorage

Jarvela, Laurie E. 1984. The Navarin Basin Environment and Possible Consequences of Planned Offshore Oil and Gas Development, Juneau: NOAA/OCSEAP. 158 pp.

Robinson-Wilson, Everett, U. S. Fish and Wildlife Service, Anchorage, Alaska, personal communications, November 15, 1989.

Sowls, Art, U. S. Fish and Wildlife Service, Homer, personal communications, November 15, 1989.

Slater, Claudia, Alaska Department of Fish and Game, Anchorage, personal communication, November 15, 1989.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle, Washington: Office of Oceanography and Marine Assessment.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 15, 1989.

## **Anchorage**

U.S. Coast Guard Search and Rescue  
Attu/Shemya Islands, Aleutian Island Chain  
November 17, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

U.S. Coast Guard personnel at the Loran-C station at Attu Island, at the end of the Aleutian Chain, reported the sighting of nine separate flares off to the east toward Shemya Island on November 16, 1989. A Coast Guard Search and Rescue (SAR) mission was initiated using an available aircraft from the Attu base and four locally available fishing boats. Some debris was sighted, but could not be associated with the flares.

### **NOAA Response**

NOAA/OMA was notified of the incident on November 17, 1989, by the Coast Guard SAR Operations Center, Juneau. MOS requested information on currents in the Attu/Shemya Island area.

NOAA advised that the net current in the area flowed from south to north at only a few tenths of a knot and water movements were largely wind-controlled when the wind reached 15-20 knots.

### **Conclusion**

The Coast Guard searched for a couple of days based, in part, on NOAA's recommendations; however, they found nothing. They suspended the search on November 20, 1989.

### **References**

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, Washington, personal communications, November 17, 1989.

## **Anchorage**

Crowley Barge 450-7  
Off Cape St. Elias, Northern Gulf of Alaska  
November 22, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On November 21, 1989, as a result of storm-force winds from the southeast, the in-tow Crowley 450-7, a 400-foot seagoing barge carrying 125,000 barrels of JB-5 fuel, parted its tow line approximately 30 miles south of Cape St. Elias. The mother tug, COMMANDER, headed for Valdez to secure additional towing and bridle gear to lasso the barge. Meanwhile, the free-floating barge continued floating west.

### **NOAA Response**

NOAA/OMA was notified of the incident November 22, 1989, by the U.S. Coast Guard Marine Safety Office, Valdez, and asked to forecast the direction in which the barge was likely to drift. After consulting other federal agencies, NOAA indicated that the gale-force winds would continue diminishing to 30 knots by the next morning and predicted that the barge would continue west.

Meanwhile, a U.S. Coast Guard search aircraft located the barge; and, throughout the day, the position of the barge and drift forecasts were exchanged between the Coast Guard and NOAA. By noon, the barge had drifted to within a few miles of Wessel's Reef. At that point, NOAA predicted that the barge would continue to drift west or take an abrupt right turn and hook north in one of the eddies off Kayak Island. The barge hooked right and missed Wessel's Reef by 1 1/2 miles. NOAA monitored the weather stations at Middleton and Seal islands throughout the incident.



Crowley Barge 450-7  
Off Cape St. Elias,  
Northern Gulf of Alaska  
November 22, 1989

## Anchorage

### Conclusion

By the evening of November 22, 1989, the tug COMMANDER had returned to the scene with towing gear and harnesses. The barge was taken in tow about half way between Wessel's Reef and Hinchinbrook Entrance and towed to its destination in Anchorage. No fuel was spilled.

### References

Becker, Paul, NOAA Regional Response Team, representative, Anchorage, personal communications, November 22, 1989.

Bergmann, Pam, U. S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, November 22, 1989.

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 22, 1989.

Simecek-Beatty, Debra, NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 22, 1989.

Slater, Claudia, Alaska Department of Fish and Game, Anchorage, personal communications, November 22, 1989.

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, November 22, 1989.

## **Anchorage**

F/V ANGARA  
Shelikof Strait, Alaska  
December 7, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

The 40-foot fishing vessel ANGARA was caught in bad weather on the evening of December 6, 1989, one mile west of Shuyak Island in northern Shelikof Strait. The vessel capsized with two people onboard. It is unknown whether or not they were wearing survival suits. The U.S. Coast Guard located the boat hull and one body one mile west of the boat location.

### **NOAA Response**

NOAA/OMA was notified of the incident on December 7, 1989, by the Coast Guard Search and Rescue Operations Center, Juneau, who requested ocean current information for that part of Shelikof Strait.

NOAA advised that currents could run as high as 1.5 knots to the southwest; the best locations to look for a body would be anywhere west-southwest of the hull.

### **Conclusion**

Using NOAA's advice and data from a deployed drift buoy, the Coast Guard searched through December 9 but was unable to locate the second body.

### **References**

Galt, J.A., NOAA Hazardous Materials Response Branch, Seattle, personal communications, December 7, 1989.

National Ocean Service. 1989. Pacific Coast of North America Tide Tables. Rockville, Maryland: NOAA.

## **Anchorage**

Coast Guard Cutter WOODRUSH  
Sitka, Alaska  
December 14, 1989

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

After repairs were completed on the CGC WOODRUSH on December 13, 1989, in Sitka, a valve was accidentally left open while fuel was being transferred from one tank to another. Approximately 1,600 gallons of diesel escaped onto the deck and about 500 gallons spilled into Sitka Channel. The wind and waves spread the diesel through the channel toward Thomsen Harbor and the islands north of the channel. A U.S. Coast Guard helicopter crew reported a 3-mile long sheen extending north to Starrigavan Bay on December 14.

### **NOAA Response**

NOAA/OMA was notified of the incident on December 14, 1989, by U. S. Coast Guard Marine Safety Office (MSO) Juneau because the sheen had not dissipated as rapidly as anticipated. The MSO also contacted local resource agencies. These agencies had no concerns about environmental resources.

NOAA suggested that sorbent booms be dragged through the sheen if it became unsightly. NOAA advised MSO that winds and currents would ultimately disperse and dissipate the sheen.

Windless, calm-water conditions on December 14 and 15 inhibited the natural dispersion and dissipation of the diesel. Some of the diesel impacted the beaches north of Sitka.

### **Conclusion**

Personnel from the WOODRUSH, using sorbent boom and pads, successfully completed the cleanup of the recoverable oil.



CGC WOODRUSH  
Sitka, Alaska  
December 14, 1989

## **Anchorage**

### **References**

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, December 15, 1989.

Bergmann, Pam, U. S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, December 15, 1989.

Slater, Claudia, Alaska Department of Fish and Game, Anchorage, personal communications, December 15, 1989.

## **Anchorage**

Trident Seafoods Facility  
Sand Point, Alaska  
January 17, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On January 15, 1990, approximately 5,000 gallons of diesel escaped into the water from the tank farm at Trident Seafoods in Sand Point, Alaska. Apparently, an open valve released roughly 50,000 gallons of diesel into the diked area around the tanks. An open water-release valve in the dike allowed 5,000 gallons of this to permeate the beach gravel outside the dike. From the beach gravel, the diesel seeped into the ocean and was carried north about one nautical mile by the currents where some of it lodged in a shallow bay/lagoon called Mud Bay. Trident Seafoods immediately assumed responsibility for the spill.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 17, 1990, by the U. S. Coast Guard Marine Safety Office (MSO) Anchorage, and asked to assess natural resources potentially at risk.

NOAA informed the MSO that Mud Bay is a rather sensitive location with small overwintering populations of harlequin ducks, old squaws, steller eider, scoters, murre, and kittiwakes. There could also be some sea lions and sea otters present. Two cultural resources, an old shack and an old church, were nearby.

### **Conclusion**

Workers used sorbents and cut oil-stained kelp in Mud Bay to remove the oil. Inclement weather made it difficult to fly in additional sorbent pads and cleanup supplies. Sump pumps and trenching on the beach face captured a small portion of the diesel that had originally escaped. Total environmental damage reported was seven dead birds and possibly one dead otter.

Trident Seafoods Facility  
Sand Point, Alaska  
January 17, 1990

## **Anchorage**

### **References**

Bergmann, Pam, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, January 19, 1990.

Sundberg, Kim, Alaska Department of Fish and Game, Anchorage, personal communications, January 17 and 18, 1990.



## **Anchorage**

T/V FRANK H. BROWN  
Wrangell Narrows, Alaska  
January 20, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

During the evening of January 20, 1990, the Canadian tanker FRANK H. BROWN ran aground on Burnt Island reef. The reef is 18 miles south of Petersburg, Alaska, in the Wrangell Narrows, a 24-mile long channel in the Inside Passage that runs between Seattle, Washington, and Juneau, Alaska. The 396-foot tanker vessel, carrying 1.8 million gallons of diesel fuel, lube oil, and gasoline was en route from Vancouver, Canada, to Skagway, Alaska, when it hit the reef and ruptured its #1 portside cargo tank.

### **NOAA Response**

NOAA/OMA was notified of the incident on January 20, 1990, by the U. S. Coast Guard Marine Safety Office (MSO) Juneau. MSO indicated that approximately 25,000 gallons of gasoline had been released and that it was believed that only a single tank had been punctured.

NOAA advised MSO that, because of the high currents in Wrangell Narrows, nothing could be done to recover the gasoline already released, which would probably evaporate and dissipate within 12 to 24 hours. The MSO said that the state agencies showed no concerns about damage to the environment at this time of year. Notifications were made to the federal agencies concerned. The MSO stated that they hoped to refloat the vessel with the 3-foot higher tide the next morning.

### **Conclusion**

The crew was able to plug the leak within 2 hours of the grounding and the vessel was successfully refloated on the morning of January 21, 1990. The vessel was taken to nearby Skow Bay. The remaining oil was offloaded and divers discovered a 2-foot round hole in the hull. A total

T/V FRANK H. BROWN  
Wrangell Narrows, Alaska  
January 20, 1990

## Anchorage

### Conclusion, cont.

of 36,000 gallons of gasoline was released. It quickly broke up into unrecoverable thin sheens and disappeared from the water's surface. No environmental damage was reported.

### References

Bergman, Will, Alaska Department of Fish and Game, Petersburg, personal communications, January 20, 1990.

Bergmann, Pam, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, January 20, 1990.

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, January 20, 1990.

Sundberg, Kim, Alaska Department of Fish and Game, Anchorage, personal communications, January 20, 1990.

## **Anchorage**

F/V AMERICAN STAR

Otter Island, Pribilof Island Chain, Alaska

January 30, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

A winter storm in the Bering Sea drove the fishing vessel AMERICAN STAR, a 110-foot crabbing vessel, aground on the northwest side of Otter Island, approximately 7 miles south of St. Paul Island in the Pribilofs. The vessel had 1,500 gallons of diesel onboard. All hands were rescued.

### **NOAA Response**

NOAA/OMA was notified of the incident by U. S. Coast Guard Marine Safety Office (MSO) Anchorage on January 30, 1990, and asked to identify the natural resources in the area.

NOAA told the MSO that the surrounding ocean waters were overwintering grounds for murre, eiders, ocklets, northern fulmars, scoters, comorants, and gulls.

### **Conclusion**

No response was possible because of the weather and location. The vessel was lost, but no wildlife casualties were reported.

### **References**

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, January 29, 1990.

Bergmann, Pam, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, January 29, 1990.

Sundberg, Kim, Alaska Department of Fish and Game, Anchorage, personal communications, January 29, 1990.



## **Anchorage**

F/V PAVLOF  
St. Paul Island, Alaska  
February 5, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On February 5, 1990, the 163-foot catcher/processor fishing vessel PAVLOF caught fire while cruising approximately 25 miles west-northwest of St. Paul Island. The crew was rescued by another fishing vessel. The PAVLOF was carrying 45,000 gallons of diesel and more than 500 gallons each of hydraulic fluid and lube oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on February 5, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Anchorage. MSO requested trajectories of the drifting vessel and environmental resources at risk information.

NOAA informed MSO that weak ocean currents in that area flow to the west-northwest, so there was little chance that the vessel would encounter any land mass.

### **Conclusion**

On February 6, 1990, the weather calmed and the crew from an accompanying fishing vessel boarded the PAVLOF and suppressed the fire. The PAVLOF was taken under tow to St. Paul Island. Only minor amounts of hydraulic fluid were released into the water.

### **References**

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, February 5, 1990.

F/V PAVLOF  
St. Paul Island, Alaska  
February 5, 1990

## Anchorage

### References, cont.

Gates, Paul, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, February 5, 1990.

Torgrimson, Gary M. 1984. The On-Scene Spill Model: A User's Guide. NOAA Technical Memorandum NOS OMA-12. Seattle: Office of Oceanography and Marine Assessment.

## **Anchorage**

F/V JAUS  
Yakutat Bay, Northern Gulf of Alaska  
March 8, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On February 27 or 28, 1990, the F/V JAUS, a 60-foot, steel-hulled craft, disappeared off Yakutat Bay with two men aboard. The empty life raft from the stricken vessel was found by the U. S. Coast Guard Search and Rescue (SAR) Juneau at Cape Suckling on the morning of March 4, 1990.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 8, 1990, by Coast Guard SAR Operations Center Juneau and asked to ascertain the strength and direction of the coastal currents west of Yakutat Bay. The Coast Guard was still attempting to locate the bodies and needed to know whether the nearshore currents would carry objects around the north or south end of Kayak Island.

NOAA informed the Coast Guard that the winter nearshore current was probably around 0.2 knots. These currents would carry objects around the southern end of Kayak Island, although strong onshore winds could beach an object on the southeast side of Kayak Island.

### **Conclusion**

The Coast Guard searched in the general area suggested by NOAA, but the bodies were never located.

### **References**

Watabayashi, Glen, NOAA Hazardous Materials Response Branch, Seattle, personal communications, March 8, 1990.



## **Anchorage**

F/V ALASKAN MONARCH  
St. Paul Island, Bering Sea, Alaska  
March 16, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On the afternoon of March 15, 1990, the ALASKAN MONARCH, a 92-foot crabber, grounded at the base of a 150-foot cliff on the southwest side of St. Paul Island, in the Pribilofs. An ice pack immediately surrounded the vessel and extended offshore for 3 miles. The vessel contained 6,500 gallons of diesel, 1,200 gallons of lube oil, 200 gallons of hydraulic fluid, and 100,000 pounds of fresh crab. A U.S. Coast Guard helicopter crew pulled the ALASKAN MONARCH's crew from the boat and ice.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 16, 1990, by the U. S. Coast Guard Marine Safety Office (MSO), and asked to assess the risk to natural resources in the area.

NOAA informed the Coast Guard that at this time of year there were no particular natural resources at risk; however, the vessel had grounded in Seal Island National Historic Landmark. Due to the weather and location of vessel, NOAA also informed the MSO that it would be very difficult to mount a response effort.

### **Conclusion**

No one was able to reboard the vessel; and, within a few weeks, all the diesel and other petroleum had dissipated. On March 19, 1990, the ice had blown offshore and the vessel was still hard aground.

## **Anchorage**

F/V ALEUTIAN ENTERPRISE  
St. George Island, Pribilof Island Chain, Alaska  
March 23, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On March 22, 1990, the 143-foot U.S. fishing vessel ALEUTIAN ENTERPRISE, with 25,000 gallons of diesel fuel onboard, rolled over and sank in 300 feet of water near the remote St. George Island in the Bering Sea. The U. S. Coast Guard Marine Safety Office (MSO) Anchorage overflight observers saw oil bubbling from the sunken vessel and an oil sheen extending about 3 miles from the site. Of the 31 crew members, only 22 were recovered by sister ships in the immediate area.

### **NOAA Response**

NOAA/OMA was notified of the incident on March 23, 1990, by MSO Anchorage. No cleanup operations were attempted because the vessel sank so quickly and there were 35-knot winds and 16-foot seas in the area. No natural resources were put at risk.

As a Marine Board of Inquiry was being convened regarding this incident, MSO requested information from NOAA on the possibility of a NOAA vessel trying to locate the vessel with side-scan sonar. NOAA informed MSO that the NOAA research vessel RAINIER could conduct the effort in June and July.

### **Conclusion**

The incident resulted in the loss of 25,000 gallons of diesel fuel oil and the deaths of nine fishermen. NOAA Corps did not try to locate the vessel.

### **References**

Jeffries, Mike, NOAA Chart Sales, Anchorage, personal communications, March 23, 1990.

## **Anchorage**

F/V DEBORAH D

Ursus Cove, Lower Cook Inlet, Alaska

April 27, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On the evening of April 26, 1990, the 105-foot fishing vessel DEBORAH D grounded in Ursus Cove in Lower Cook Inlet. The vessel was fueled with approximately 4,000 gallons of diesel and also carried lube oil and hydraulic fluid onboard. The vessel was reportedly sitting on the bottom in 20 feet of water, with some sheening visible on the water surface.

### **NOAA Response**

NOAA/OMA was notified of the incident on April 27, 1990, by U.S. Coast Guard Marine Safety Office (MSO) Anchorage. The MSO requested information on environmental resources in the area.

NOAA told the Coast Guard that a herring spawning opening had just been completed in the Ursus Cove vicinity and salmon fry in the process of outmigrating could be expected. Bears were likely to be present onshore. Waterfowl were staging for the spring migration, particularly in the intertidal zone both in the water and on the beach. The State Historical office reported no known sites and no National Historic Landmarks in the area.

### **Conclusion**

Only minor amounts of fuel were released into the water and the vessel was refloated and moved to more protected waters in the cove for temporary repairs on May 4.



F/V DEBORAH D  
Ursus Cove, Lower Cook Inlet,  
Alaska  
April 27, 1990

## Anchorage

### References

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, April 27, 1990.

Bergmann, Pam, U.S. Department of the Interior Department of Environmental Protection, Anchorage, personal communications, April 27, 1990.

Dolezal, Wayne, Alaska Department of Fish and Game, Anchorage, personal communications, April 27, 1990.

Eaton, Reuben, National Weather Service, Anchorage, personal communications, April 27, 1990.

McKay, Don, Alaska Department of Fish and Game, Anchorage, personal communications, April 27, 1990.

Nation, Mary Lynn, U. S. Fish and Wildlife Service, Anchorage, personal communications, April 27, 1990.

Uecher, Wes, Alaska Department of Fish and Game, Homer, personal communications, April 27, 1990.

## **Anchorage**

F/V SABLE  
Togiak Bay, Alaska  
May 11, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On May 9, 1990, the fishing vessel SABLE went aground, damaged port and starboard fish tanks, and sank in the shallow water of Togiak Bay. The vessel was carrying 5,000 gallons of diesel fuel. Initial reports indicated that no fuel had been released.

### **NOAA Response**

NOAA/OMA was notified of the incident on May 11, 1990, by the U.S. Coast Guard Marine Safety Office (MSO) Anchorage. The MSO told NOAA that, except for the initial report, they had very little information about the grounding and sinking. NOAA told MSO that the area contained some eider and king ducks, other Bering Sea winter waterfowl, and some walrus.

### **Conclusion**

On May 14, the Coast Guard notified NOAA that only minimum fuel had spilled, resulting in sheens, and that the vessel was not fully hard aground. After pumping off approximately 1,000 gallons of fuel, the vessel was refloated and towed to South Naknek Seafoods on May 15, 1990.

### **References**

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, May 11, 1990.

Robinson-Wilson, Everett, U.S. Fish and Wildlife Service, Anchorage, personal communications, May 12, 1990.

## **Anchorage**

F/V SHIN YANG HO  
Bristol Bay, Alaska  
June 27, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On the morning of June 27, 1990, the South Korean fishing vessel SHIN YANG HO and a Japanese fishing vessel collided off the Nushegak Peninsula in Bristol Bay. The SHIN YANG HO sank within a few hours in about nine fathoms of water. All hands were rescued, but, 70,000 gallons of diesel went down with the vessel and fuel began leaking from the vents. The Japanese vessel remained afloat with its fuel tanks intact. During the afternoon of June 27, a U.S. Coast Guard C-130 overflight saw a light sheen of diesel 3/4 mile by 500 yards coming from the area.

### **NOAA Response**

NOAA/OMA was notified of the incident on June 27, 1990, by the Coast Guard Marine Safety Office (MSO) Anchorage. The MSO requested information on natural resources at risk, expected oil trajectory, and fate and effects of the diesel in the marine environment.

NOAA told MSO that the Nushegak Peninsula, only 10 miles away from the sinking, was part of the Togiak National Wildlife Refuge, which contains many seabirds, waterfowl, and shorebirds. Also, Round Island, 20 miles to the west, is part of the Walrus Islands State Game Sanctuary and the only permanent walrus haulout in North America. Red salmon were running in the area. NOAA advised use of vessels rather than helicopters to assure minimal disturbance of the shorelines.

NOAA advised that the diesel would probably break up and dissipate rapidly and that the oil was not expected to impact the shorelines of the National Wildlife Refuge.



F/V SHIN YANG HO  
Bristol Bay, Alaska  
June 27, 1990

## **Anchorage**

### **Conclusion**

The SHIN YANG HO's owner, Dongwon Industry, accepted full responsibility and immediately hired Underwater Construction to perform fuel removal and cleanup, if necessary. The Coast Guard Cutter ANACAPA was on-scene by June 28.

The leak was stopped by divers who plugged the vents on the morning of June 28, 1990, and Underwater Construction moved ahead with plans to remove the remaining fuel from the vessel.

The fuel was not removed until the middle of August. After the vessel was cleared of contaminants, the wreck was cut below the water line, marked with a buoy, and left to settle in the bottom sediments.

### **References**

Becker, Paul, Department of Commerce, Regional Response Team Representative, Anchorage, personal communication, June 27, 1990.

Campbell, Diane, National Wildlife Refuge, Dillingham, personal communication, June 27, 1990.

Fisher, Dave, Togiak National Wildlife Refuge, Dillingham, personal communication, June 27, 1990.

National Weather Service, Anchorage, personal communication, June 27, 1990.

Robinson-Wilson, Everett, U.S. Fish and Wildlife Service, Anchorage, personal communication, June 27, 1990.

Sundberg, Kim, Alaska Department of Fish and Game, Anchorage, personal communication, June 27, 1990.

## **Anchorage**

F/V LADY LOUISE  
Takatz Bay, Chatham Strait, Alaska  
July 14, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

In the early afternoon of July 14, 1990, the 54-foot fishing vessel LADY LOUISE sank in 20 feet of water in Takatz Bay, Chatham Straits, southeast Alaska. A sheen was reported that extended approximately 2 miles to the north. Divers were immediately dispatched to the scene to plug the vents to prevent further leakage of the vessel's 1,700 gallons of diesel oil.

### **NOAA Response**

NOAA/OMA was notified of the incident on July 14, 1990, by the U.S. Coast Guard Marine Safety Office (MSO), Juneau. NOAA informed MSO that the only resource in the area that was likely to be impacted was the Hidden Falls State Hatchery, 4 to 5 miles north of the incident. The hatchery was contacted and informed of the spill.

### **Conclusion**

The vessel was refloated on the evening of July 16. An estimated 700 gallons of diesel was lost in the incident. No environmental damage was reported.

## **Anchorage**

Kensington Mine  
Lynn Canal, Alaska  
August 24, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On August 23, 1990, the U. S. Coast Guard Marine Safety Office (MSO) Juneau was notified by Echo Bay, Kensington Mine of an overfilled day tank that had spilled 2,500 gallons of #2 diesel fuel into loose gravel/cobble. The fuel subsequently flowed into Sherman Creek and entered Lynn Canal.

### **NOAA Response**

NOAA/OMA was notified of the incident on August 24, 1990, by MSO Juneau and asked to determine the evaporation rate of diesel after it seeps into the ground.

NOAA informed MSO that no evaporation was likely to have occurred after the diesel went into the ground because there was no breeze or mobile air pockets to carry the saturated air away. This information helped determine an oil budget and how much fuel could be expected to be collected at the collection points.

Kensington Mine immediately assumed responsibility for the cleanup; over the course of the next few days, the mine installed ten siphon dams and established collection points using sorbent boom and pads.

### **Conclusion**

Initial diesel collection was estimated at 600 gallons; however, after starting a low pressure flush, more diesel fuel was recovered. By September 12, the leech rate of diesel was down to 1 to 2 gallons per day with none entering the waterway.



Kensington Mine  
Lynn Canal, Alaska  
August 24, 1990

## Anchorage

### References

Reilly, Tim, Research Planning Inc., Columbia, South Carolina, personal communications, August 25, 1990.

## **Anchorage**

M/V BRADLEY RIVER  
Tanglefoot Bay, Alaska  
August 30, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

The landing craft BRADLEY RIVER was anchored in Tanglefoot Bay, near the village of Karluk, when a storm apparently broke the moorage and washed the vessel into the rocks at Kodiak Island on August 30, 1990. The eight people aboard the vessel were rescued by Exxon. Several bags of oily debris and drums of jet fuel washed overboard and scattered across the rocky beach. Approximately 2,700 gallons of diesel were also spilled.

### **NOAA Response**

NOAA/OMA was notified of the incident on August 30, 1990, by U. S. Coast Guard Marine Safety Office (MSO) Anchorage and requested to provide a trajectory of the oil's expected movement and natural resources at risk information.

NOAA informed MSO that, because of intensifying storm winds, the diesel would probably disperse quickly without environmental impact to the pink, chum, and silver salmon in the bay waiting to run the Karluk River that flows into Tanglefoot Bay or migrating waterfowl probably in Karluk Lagoon. No National Historic Landmarks were identified in the area, although numerous native cultural sites were nearby.

### **Conclusion**

Exxon, to whom the BRADLEY RIVER was contracted, sent another landing craft, the AURIAGA, to the vicinity with booms and sorbents. By September 4, a crew of 15 had cleaned the debris from the beach. Although sheens were observed for the first several days, by September 4 all the fuel had been released and no further fuel was observed. There were no birds or wildlife seen in the immediate area of the vessel.

M/V BRADLEY RIVER  
Tanglefoot Bay, Alaska  
August 30, 1990

## Anchorage

### Conclusion, cont.

The BRADLEY RIVER was declared a total loss and broke up on the rocks a few weeks later.

### References

Barrett, Bruce, Alaska Department of Fish and Game, Kodiak, personal communications, August 30 and September 3, 1990.

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, August 30, 1990.

Bergmann, Pam, U.S. Department of the Interior Office of Environmental Protection, Anchorage, personal communications, August 30, August 31, and September 3, 1990.

Dolezal, Wayne, Alaska Department of Fish and Game, Anchorage, personal communications, August 30, 1990.

Moonhous, Dick, U.S. Fish and Wildlife Service, Northwest Region, Kodiak, personal communications, August 30, 1990.

National Weather Service, Anchorage, personal communication, August 30 and 31, 1990.



## **Anchorage**

M/V WILL HAUL II  
Ugashik Bay, Alaska  
September 14, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

The WILL HAUL II, a 100-foot landing craft serving as a fishing tender, suddenly sank in 30 feet of water 3 to 4 miles off the mouth of Ugashik Bay on the west side of the Alaska Peninsula. The cause of the sinking is unknown. There was no reported damage to the vessel. The seven people onboard were rescued by another vessel nearby. Although no sheens were observed, the vessel contained 4,000 to 5,000 gallons of diesel, and the vents were not plugged when the vessel was abandoned.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 14, 1990, by U. S. Coast Guard Marine Safety Office (MSO) Anchorage and requested to evaluate the environmental resources at risk in the area.

NOAA informed MSO that Ugashik Bay and lagoon probably contained large numbers of waterfowl because it was the middle of the fall migration for the birds. Furthermore, with no initial damage to the vessel and the vessel floating below the water on a soft bottom, there was probably very little chance of a catastrophic release.

### **Conclusion**

The owners removed the diesel from the vessel. The vessel had completely sunk by September 25 with no environmental damage reported.

M/V WILL HAUL II  
Ugashik Bay, Alaska  
September 14, 1990

## **Anchorage**

### **References**

Becker, Paul, NOAA Regional Response Team representative, Anchorage, personal communications, September 14 and 15, 1990.

National Weather Service, Anchorage, personal communications, September 14, 1990.

Robinson-Wilson, Everett, U.S. Fish and Wildlife Service, Anchorage, personal communications, September 14, 1990.

## **Anchorage**

City Garbage Truck  
Ketchikan, Alaska  
September 17, 1990

John W. Whitney, Scientific Support Coordinator

### **Incident Summary**

On September 15, 1990, chlorine gas emanations from a Ketchikan garbage truck sent 12 people to the hospital. A city garbage truck had just picked up the hazardous chemical refuse from the Norwegian cruise ship, NOORDAM. Initially, the chemicals were thought to be 200 pounds of Alkleen, an industrial drain cleaner, and 40 to 50 pounds of HTH or trichlor, a powdered chlorine additive for pools and sewage purification. When Alaska Department of Environmental Conservation (ADEC) and U.S. Coast Guard (USCG) officials quarantined the garbage truck at the dump, small quantities of lithium hypochlorate and powdered sodium hydroxide were found. Apparently, crushing the garbage caused a reaction that released the noxious fumes. When small test quantities of HTH and Alkleen were combined, they generated heat and released a white mist, atypical of chlorine, but with a typical chlorine smell. ADEC and the cruise line operator called Northwest Enviro Services to the scene for advice on neutralizing the chemicals.

### **NOAA Response**

NOAA/OMA was notified of the incident on September 17, 1990, by USCG Marine Safety Office (MSO) Juneau. MSO requested as much information as possible regarding the chemicals involved, how best to neutralize them, and ALOHA™ calculations of the likely extent or duration of chlorine and hydrochloric acid (identified as white gas) plumes. NOAA gave MSO the requested information. A Material Safety Data Sheet (MSDS) for Alkleen was obtained from the distributor in New Jersey. NOAA, ADEC, and Coast Guard personnel on-scene neutralized the chemicals in a sodium bicarbonate solution with water spray mist. ALOHA™ plume calculations provided guidance on possible downwind effects.



City Garbage Truck  
Ketchikan, Alaska  
September 17, 1990

## **Anchorage**

### **Conclusion**

Personnel from ADEC and the USCG local and Pacific strike teams, outfitted in level B suits, conducted the neutralization reactions on September 21 without incident.

### **References**

NOAA. 1989. The ALOHA™ Manual. Seattle: Office of Oceanography and Marine Assessment, National Oceanic and Atmospheric Administration.

NOAA. 1988. The CAMEO™ II Manual, Seattle: Office of Oceanography and Marine Assessment, NOAA. 300 pp.

Overton, Ed, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, September 17-21, 1990.

Wong, Roberto, Louisiana State University Institute for Environmental Studies, Baton Rouge, personal communications, September 17-21, 1990.