



# Annual Summary of Oil and Hazardous Substance Spills

Fiscal Year 2013 (July 1, 2012 - June 30, 2013)

Alaska Department of Environmental Conservation ■ Division of Spill Prevention and Response ■ December 2013

## Significant Responses

### Rampart Tanker Fuel Release

On April 11, 2013, a tank trailer rollover near the village of Rampart spilled approximately 2,750 gallons of diesel fuel onto forestland along the Yukon River. Prevention and Emergency Response (PERP) staff worked with village residents to recover nearly 1,200 gallons fuel from the damaged trailer and keep spilled fuel out of the river. Long-term cleanup and monitoring of the spill site is continuing under the supervision of DEC's Contaminated Sites Program.



Tanker rollover near Rampart, April 11, 2013. (Photo by ADEC - P. Lhotka)

### Kulluk Tow Incident

On December 27, 2012, approximately 50 miles south of Kodiak, Shell's arctic drilling rig *Kulluk* broke free of its tow. Following several failed attempts to recover the non-self-propelled rig and successful evacuation of its crew, the *Kulluk* grounded on Sitkalidak Island on December 31, with 139,000 gallons of diesel and 12,000 gallons of other oils on board. On January 6, after the Unified Command's Potential Places of Refuge review and inspections of the rig were complete, the *Kulluk* was towed to Kiluda Bay, on Kodiak Island, where it spent the next 49 days being undergoing temporary repairs for transit to Dutch Harbor. At its height, the response to the *Kulluk* grounding involved more than 750 people

*Kulluk* drilling rig aground at Sitkalidak Is -- January 2, 2013 overflight. (Photo by ADEC - S. Russell)

from numerous federal, state and local agencies, companies, and other organizations. Staff from every PERP section and across the department contributed. Approximately 316 gallons of diesel fuel were released from tanks aboard lifeboats that were swept from the rig, but no other evidence of an oil spill was reported. Though it did not result in a major spill, the incident attracted significant statewide and national attention and fueled controversy over offshore drilling in the Arctic.

### F/V *Evening Star* Sinking

On August 2, 2012, the 50-foot fishing vessel *Evening Star* capsized and sank in Slocum Arm, approximately 40 miles northwest of Sitka, with more than 1,000 gallons of diesel fuel, lube and hydraulic oil on board. Observers reported a mile-long sheen emanating from the wreck, which initially lay on a steep incline approximately 10 feet underwater. But as responders prepared to remove oil from the vessel, it sank out of sight and became entangled in its net on a ledge at a depth of 390 feet, where it was deemed unsalvageable. DEC staff believe the majority of fuel aboard the vessel was released. The Alaska Department of Fish and Game closed the salmon fishery in Slocum Arm during the incident, but no impacts to fish or other wildlife were reported.



## FY 2013 Summary

### Top 5 Products

Product	Spills	Gallons
Process Water	22	55,838
Diesel	513	53,163
Zinc Concentrate	3	31,254
Calcium Chloride (solid)	1	18,300
Produced Water	35	17,136

### Top 5 Facility Types

Facility Type	Spills	Gallons
Mining Operation	347	95,483
Oil Production	309	29,573
Maintenance Yard/Shop	69	21,612
Vessel	154	17,154
Other	223	16,540

### Top 5 Causes

Cause	Spills	Gallons
Human Error	295	70,906
Rollover/Capsize	32	40,783
Equipment Failure	525	27,786
External Factors	26	19,177
Overfill	103	13,448

### Galena Flooding

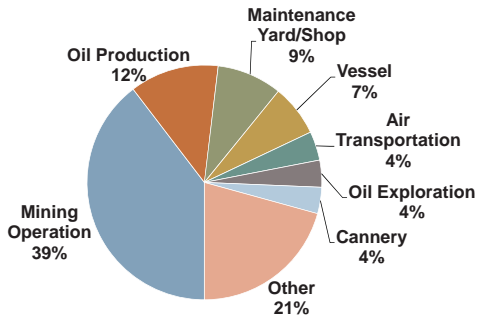
On May 27, 2013, water backed up behind an ice jam on the Yukon River began to flood the city of Galena. The floodwaters dislodged, relocated and/or damaged thousands of items containing hazardous materials, including fuel storage tanks, electrical transformers, lead-acid batteries, vehicles, gas cylinders, drums and a variety of other containers. At the request of the state's Division of Homeland Security and Emergency Management and the City of Galena, DEC assumed direction of flood-related hazardous materials cleanup. Materials collected by cleanup crews and Galena residents included various petroleum products, solvents, paint, and glycol, as well as potentially hazardous solid wastes such as refrigerators, electronic devices, and fire extinguishers. The

continued on page 7

# All Products - FY 2013

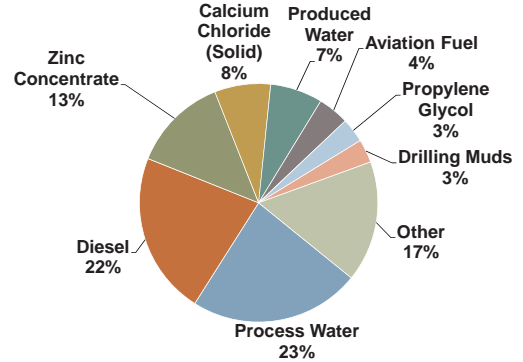
Number of Spills Reported 1,934  
 Total Gallons 241,032

## Volume Released by Facility Type



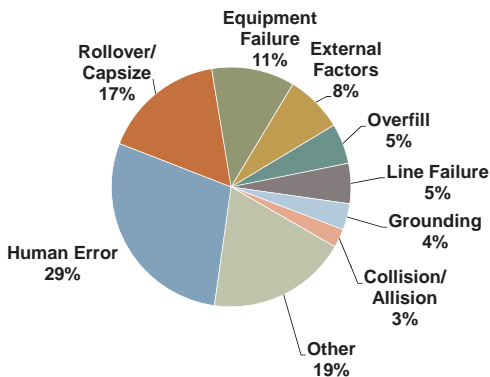
'Other' includes facility categories comprising 3% or less of the total volume released.

## Volume Released by Product



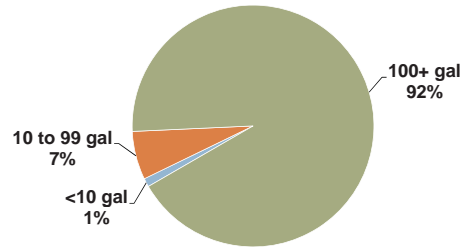
'Other' includes product categories, including crude oil, comprising 3% or less of the total volume released. Crude oil releases accounted for 0.6% of the total volume released.

## Volume Released by Cause



'Other' includes cause categories comprising 3% or less of the total volume released.

## Volume Released by Size Class



18-Year Trend

### Number of Spills by Fiscal Year

Fiscal Year	Count
1996	2,400
1997	2,300
1998	2,500
1999	2,400
2000	2,400
2001	2,500
2002	2,400
2003	2,400
2004	2,300
2005	2,100
2006	2,200
2007	2,300
2008	2,200
2009	2,300
2010	2,000
2011	2,100
2012	2,000

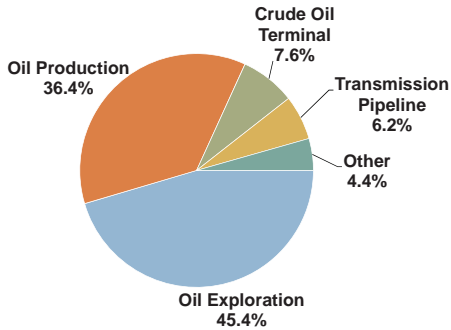
### Total Volume by Fiscal Year\*

Fiscal Year	Gallons
1996	500,000
1997	4,500,000
1998	800,000
1999	500,000
2000	600,000
2001	600,000
2002	600,000
2003	500,000
2004	600,000
2005	700,000
2006	600,000
2007	600,000
2008	500,000
2009	600,000
2010	900,000
2011	400,000
2012	400,000

**\*Notes:** 1/25/1997 (FY 1997) - a barge capsized and lost 3,125,000 gal of Urea (Solid).  
 3/17/1997 (FY 1997) - 995,400 gal of Seawater released at ARCO DS-14 in Prudhoe Bay

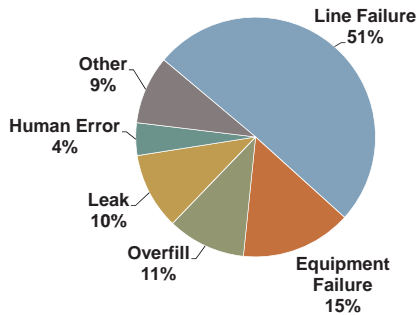
Number of Spills Reported 47  
 Total Gallons 1,469

## Volume Released by Facility Type



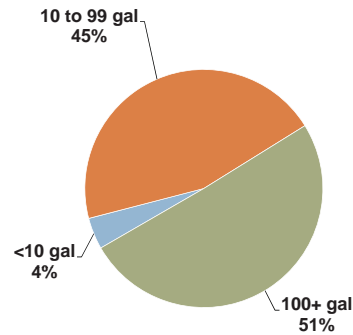
'Other' includes facility categories comprising 4% or less of the total volume released.

## Volume Released by Cause

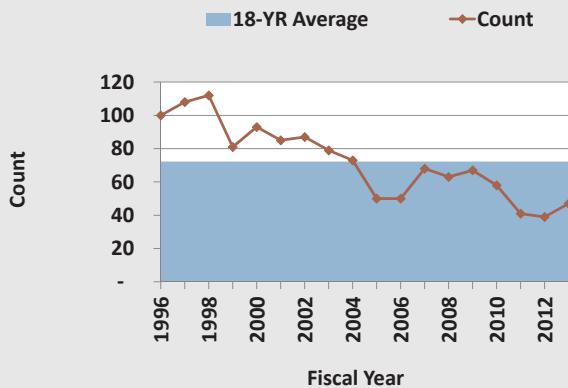


'Other' includes cause categories comprising 3% or less of the total volume released.

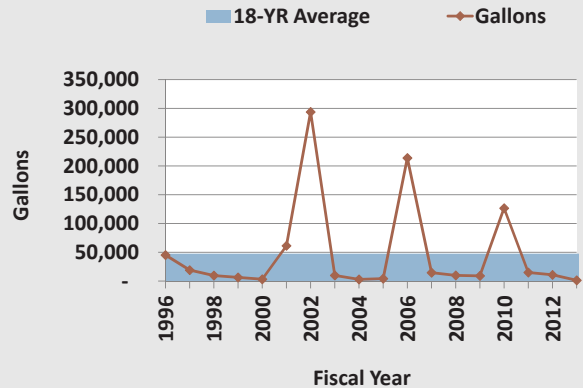
## Volume Released by Size Class



## Number of Spills by Fiscal Year



## Total Volume by Fiscal Year\*

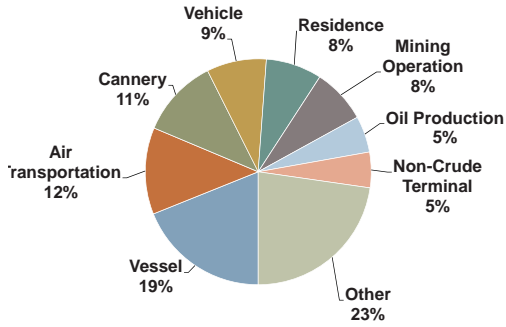


\*Notes: 10/4/2001 (FY 2002) - TAPS Bullet Hole Release; 285,600 gal Crude  
 3/2/2006 (FY 2006) - BP GC-2 Oil Transit Line Release; 212,252 gal Crude

# Non-crude Oil - FY 2013

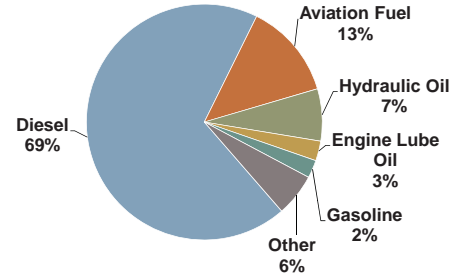
Number of Spills Reported 1,432  
 Total Gallons 77,379

## Volume Released by Facility Type



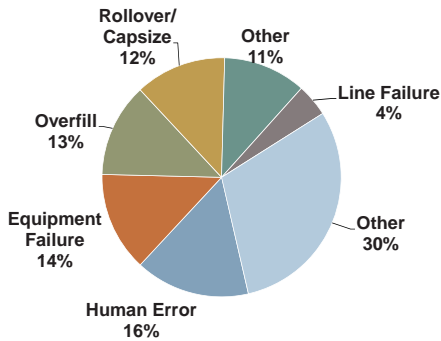
'Other' includes facility categories comprising 4% or less of the total volume released.

## Volume Released by Product



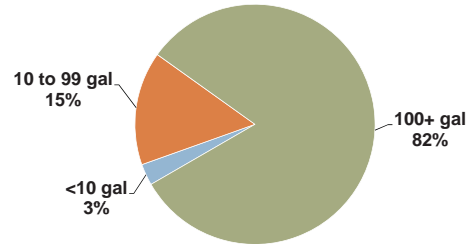
includes product categories comprising 2% or less total volume released.

## Volume Released by Cause



'Other' includes cause categories comprising 3% or less of the total volume released.

## Volume Released by Size Class



18-Year Trend

### Number of Spills by Fiscal Year

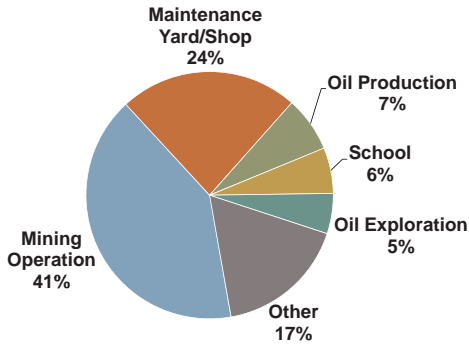
### Total Volume by Fiscal Year\*

**\*Notes:** 12/8/2004 (FY 2005) - the M/V Selendang Ayu broke apart, releasing 321,052 gal of IFO 380 and 14,680 gal of Diesel

# Hazardous Substances - FY 2013

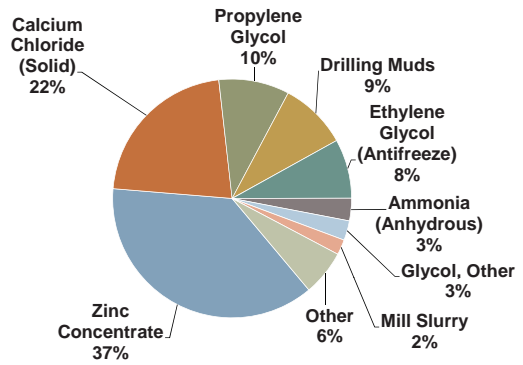
Number of Spills Reported 394  
 Total Gallons 83,537

## Volume Released by Facility Type



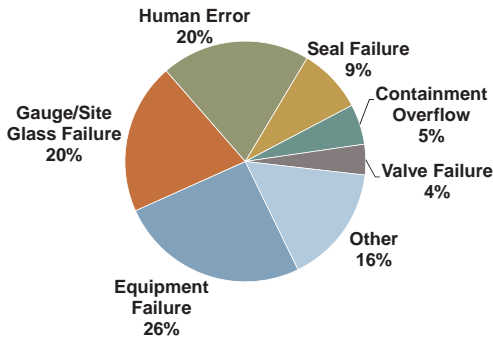
'Other' includes facility categories comprising 4% or less of the total volume released.

## Volume Released by Product



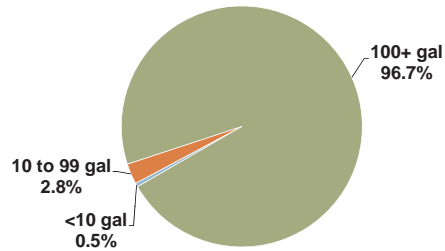
'Other' includes product categories comprising 2% or less of the total volume released.

## Volume Released by Cause

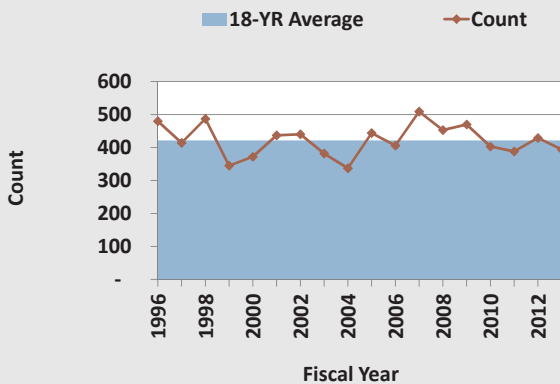


'Other' includes cause categories comprising 3% or less of the total volume released.

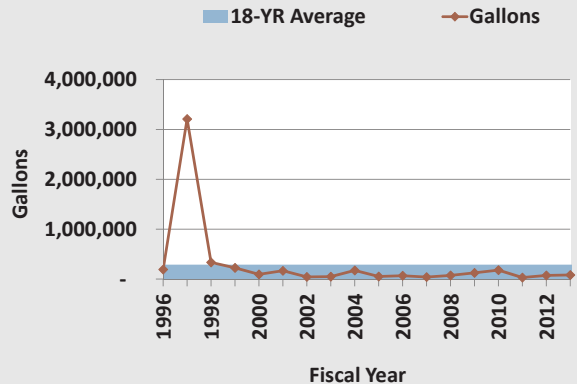
## Volume Released by Size Class



## Number of Spills by Fiscal Year



## Total Volume by Fiscal Year\*



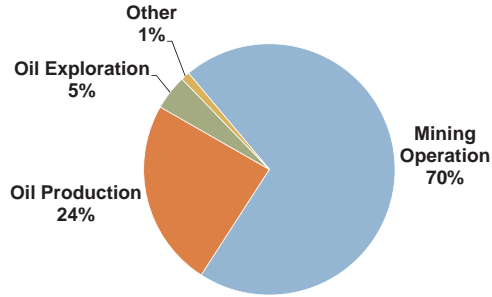
18-Year Trend

\*Notes: 1/25/1997 (FY 1997) - a barge capsized and lost 3,125,000 gal of Urea (Solid).

# Process Water - FY 2013

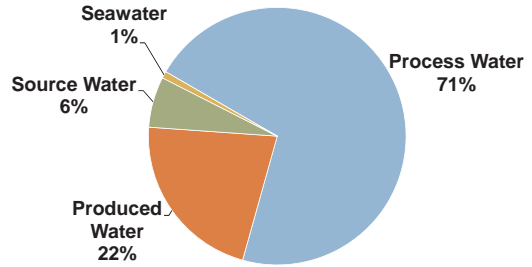
Number of Spills Reported 61  
 Total Gallons 78,647

Volume Released by Facility Type

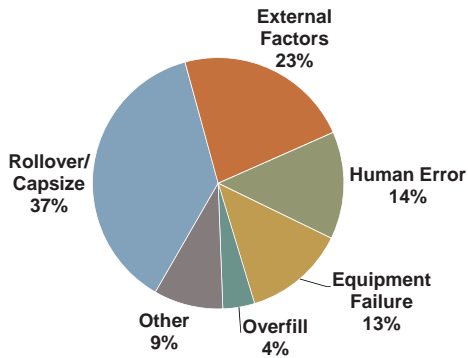


'Other' includes facility categories comprising 2% or less of the total volume released.

Volume Released by Product

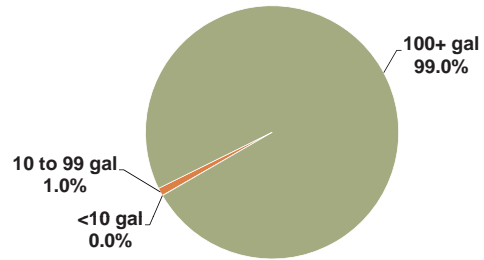


Volume Released by Cause



'Other' includes cause categories comprising 3% or less of the total volume released.

Volume Released by Size Class



18-Year Trend

### Number of Spills by Fiscal Year

### Total Volume by Fiscal Year\*

**\*Notes:** 3/17/1997 (FY 1997) - 995,400 gal of Seawater released at ARCO DS-14 in Prudhoe Bay



## **Process Water (Oil Exploration and Production Operations):**

Process water includes seawater (and occasionally freshwater), produced water and commingled or mixed water.

Seawater is typically from the Beaufort Sea that has undergone primary treatment at the Seawater Treatment Plant.

Produced Water is water that was included with crude oil and natural gas pumped from the formation then separated from the oil and gas and treated for disposal or reuse. Produced water includes some level of crude oil but the amount varies. Commingled or mixed water is typically a mix of seawater and produced water, although other combinations exist in the operations on the North Slope.

The percentage of crude oil occurring in process water can vary somewhat based on the source of the spill.

**Process Water (Mining Operations):** Process water for mining operations includes water taken from tailing ponds for the milling process (reclaim water), water that has been through the water treatment plant but not the sand filter (process water), water that has been through both the water treatment and sand filter (discharge water), water mixed with ground ore materials (slurry) or water used in the milling and product recovery process (process solution water).

**Spill:** a discharge or release of oil or a hazardous substance to the lands, waters or air of the State of Alaska as defined in Alaska Statutes 46.03.826(9).

## **DISCLAIMER**

The data presented and summarized in this report is provisional due to ongoing quality assurance/quality control on the part of data entry staff and primary users. Additional on-going reviews will further refine the accuracy of the data.

## **NOTES:**

- Some spill incidents involve releases of multiple substances. In FY 2013, there were 1,926 spill incidents, resulting in 1,934 oil and hazardous substance releases.
- Some releases (such as gases and solids) are reported in pounds rather than gallons. In FY 2013, thirty six (36) releases totalling 438,102 pounds were reported to DEC. For graphing purposes, spill quantities reported in pounds were converted to gallons using a conversion factor of 8 pounds per gallon.

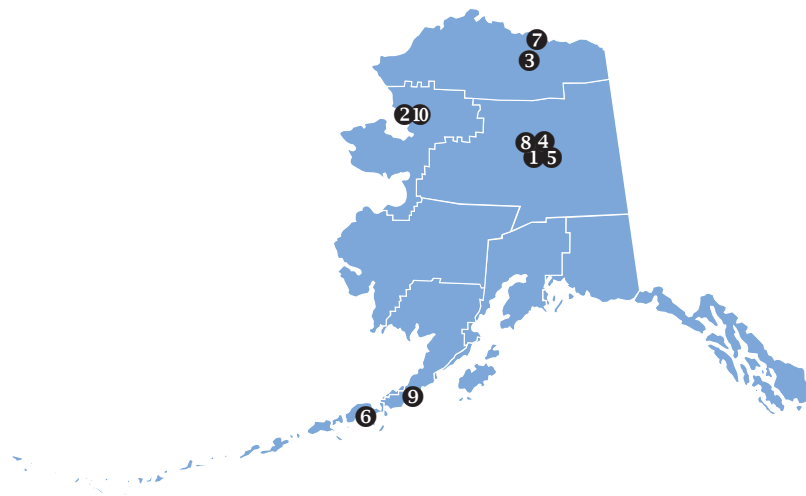
## *Significant Responses - continued from page 1*

response involved staff from every program in SPAR and every PERP section. PERP personnel were present in Galena throughout the cleanup, helping determine the extent of contamination and overseeing cleanup activities.



ADEC responder documenting drums, June 21, 2013 (Photo/ADEC)

# 10 Largest Releases FY 2013



Map Key	Spill Date	Spill Name	Product	Gallons
①	08/23/12	Fort Knox Heap Leach Cyanide Solution	Process Water	45,000
②	08/12/12	Red Dog Mine 250K lbs Zinc Concentrate	Zinc Concentrate	31,250
③	05/29/13	MP 325 Dalton Highway Sag River Sacks	Calcium Chloride (solid)	18,300
④	10/28/12	Eielson, 27k feet JP-8 Jettison	Aviation Fuel	8,134
⑤	03/27/13	GSA Fed Bldg, Motor Pool Annex	Propylene Glycol	6,500
⑥	11/13/12	Polar Wind Tug and Barge Grounding	Diesel	6,000
⑦	04/03/13	BPXA Spine Road, 972 Loader fire	Source Water	5,000
⑧	05/09/13	UAF, Wood Center 5,000 Gal Ethylene Glycol	Ethylene Glycol (Antifreeze)	5,000
⑨	07/18/12	Trident Seafoods Chignik spill within containment	Diesel	4,200
⑩	04/07/13	Mine Site- Under 2011 Module	Process Water	3,700

# Total Volume by Subarea FY 2013

Subarea	Gallons
Interior Alaska	85,166
North Slope	48,134
Northwest Arctic	47,011
Cook Inlet	21,051
Aleutian	10,687
Bristol Bay	10,052
Southeast Alaska	7,562
Kodiak Island	6,541
Western Alaska	2,971
Prince William Sound	1,857

