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.

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 successfully evacuate its crew, the Kulluk grounded on Sitkalidak Island on December 31, with 139,000 gallons of diesel fuel, lube and hydraulic oil 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 from numerous federal, state and local agencies, companies, and other organizations. 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.

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

Volume Released by Facility Type

Volume Released by Product

Volume Released by Cause

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).
3/17/1997 (FY 1997) - 995,400 gal of Seawater released at ARCO DS-14 in Prudhoe Bay
**Crude Oil - FY 2013**

Number of Spills Reported: 47
Total Gallons: 1,469

**Volume Released by Facility Type**

- Oil Production: 36.4%
- Oil Exploration: 45.4%
- Transmission Pipeline: 6.2%
- Crude Oil Terminal: 7.6%
- Other: 4.4%

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

**Volume Released by Cause**

- Line Failure: 51%
- Equipment Failure: 15%
- Overfill: 11%
- Leak: 10%
- Human Error: 4%
- Other: 9%

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

**Volume Released by Size Class**

- 10 to 99 gal: 45%
- 100+ gal: 51%
- <10 gal: 4%

**Number of Spills by Fiscal Year**

![Graph showing the number of spills by fiscal year with 18-YR Average and Count indicators.]

**Total Volume by Fiscal Year**

![Graph showing the total volume by fiscal year with 18-YR Average and Gallons indicators.]

*Notes:*
Number of Spills Reported: 1,432
Total Gallons: 77,379

**Volume Released by Facility Type**

- Vehicle: 9%
- Residence: 8%
- Mining Operation: 8%
- Oil Production: 5%
- Non-Crude Terminal: 5%
- Cannery: 11%
- Air: 12%
- Vessel: 19%
- Other: 23%

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

**Volume Released by Product**

- Aviation Fuel: 13%
- Diesel: 69%
- Hydraulic Oil: 7%
- Engine Lube Oil: 3%
- Gasoline: 2%
- Other: 6%

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

**Volume Released by Cause**

- Rollover/ Capsize: 12%
- Overfill: 13%
- Equipment Failure: 14%
- Human Error: 16%
- Line Failure: 4%
- Other: 30%

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

**Volume Released by Size Class**

- 100+ gal: 82%
- 10 to 99 gal: 15%
- <10 gal: 3%

**18-Year Trend**

- **Number of Spills by Fiscal Year**
  - 18-YR Average
  - Count

- **Total Volume by Fiscal Year**
  - 18-YR Average
  - Gallons

*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
Number of Spills Reported: 394
Total Gallons: 83,537

**Volume Released by Facility Type**

-Mining Operation: 41%
-Maintenance Yard/Shop: 24%
-Oil Production: 7%
-School: 6%
-Oil Exploration: 5%
-Other: 17%

*‘Other’ includes facility categories comprising 4% or less of the total volume released.

**Volume Released by Cause**

-Human Error: 20%
-Gauge/Site Glass Failure: 20%
-Seal Failure: 9%
-Containment Overflow: 5%
-Valve Failure: 4%
-Other: 16%

*‘Other’ includes cause categories comprising 3% or less of the total volume released.

**Volume Released by Product**

-Calcium Chloride (Solid): 22%
-Propylene Glycol: 19%
-Drilling Muds: 9%
-Ethylene Glycol (Antifreeze): 8%
-Ammonia (Anhydrous): 3%
-Glycol, Other: 3%
-Mill Slurry: 2%
-Zinc Concentrate: 37%

*‘Other’ includes product categories comprising 2% or less of the total volume released.

**Volume Released by Size Class**

-10 to 99 gal: 96.7%
-100+ gal: 2.8%
-<10 gal: 0.5%

*‘Other’ includes categories comprising 4% or less of the total volume released.

**18-Year Trend**

**Number of Spills by Fiscal Year**

**Total Volume by Fiscal Year**

*Notes: 1/25/1997 (FY 1997) - a barge capsized and lost 3,125,000 gal of Urea (Solid).
Number of Spills Reported 61
Total Gallons 78,647

Volume Released by Facility Type

Volume Released by Product

Volume Released by Cause

Volume Released by Size Class

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

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

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
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.

**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).

**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.

**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.
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

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

Legend:
- >20,000 gal
- 10,000 to 19,999 gal
- 5,000 to 9,999 gal
- <5,000 gal