

SPAR Annual Report

FISCAL YEAR 2021

DEC | SPILL PREVENTION AND RESPONSE



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE

OIL AND HAZARDOUS SUBSTANCE RELEASE
PREVENTION & RESPONSE FUND ANNUAL REPORT

FISCAL YEAR 2021

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A list of acronyms and abbreviations used frequently throughout this report can be found on our website at <https://dec.alaska.gov/spar/reports>.

1.0 RESPONSE FUND HISTORY AND STRUCTURE

HISTORY OF THE RESPONSE FUND

The Oil and Hazardous Substance Release Prevention and Response Fund (the Response Fund) was created by the Legislature in 1986 to provide a readily available funding source to investigate, contain, clean up, and take other necessary action to protect public health, welfare, and the environment from the release and threatened release of oil or hazardous substances. Alaska Statute 46.08.030 reads: “It is the intent of the legislature and declared to be the public policy of the state that funds for the abatement of a release of oil or a hazardous substance will always be available.” (SLA 1986 Ch. 59 Sec 1). Since 1989, the statutes governing the Response Fund have been amended several times to further define the usage, management, and funding sources.

STRUCTURE OF THE FUND

In 1994, the Alaska Legislature amended the Response Fund structure by dividing it into two separate accounts: The Response Fund Account and the Prevention Account. These accounts fund the Department’s mission in distinct ways and have separate revenue sources.

THE RESPONSE ACCOUNT

The Response Account is used to finance the state’s response to an oil or hazardous substance release disaster declared by the governor or to address a release or threatened release that poses an imminent and substantial threat to public health, welfare, or the environment. If the Response Account is accessed for any incident other than a declared disaster, the Commissioner of the Department of Environmental Conservation, or their designee, must provide the Governor and the Legislative Budget and Audit Committee a written report summarizing the release, and the state’s actions and associated costs, both taken and anticipated, within 120 hours of that access.

The Response Account receives revenue from two sources:

1. A surcharge of \$0.01 per barrel that is levied on each taxable barrel of oil produced in Alaska deposited into the response surcharge account.
2. Costs recovered from parties financially responsible for the release of oil or a hazardous substance deposited into the response mitigation account.

The legislature must annually appropriate revenue from the response surcharge and response mitigation accounts into the Response Account.

The \$0.01 (one cent) per barrel surcharge is suspended when the combined balances of the response surcharge account, the response mitigation account, and the unreserved and unobligated balance in the Response Account itself reaches \$50 million.

The Commissioner of Administration reports the balance of the Response Account at the end of each calendar quarter and makes the determination if the \$0.01 surcharge shall be suspended. The combined balance of the Response Account as of December 31, 2021, was \$32.0 million; as a result, the \$0.01 surcharge remains in effect.

THE PREVENTION ACCOUNT

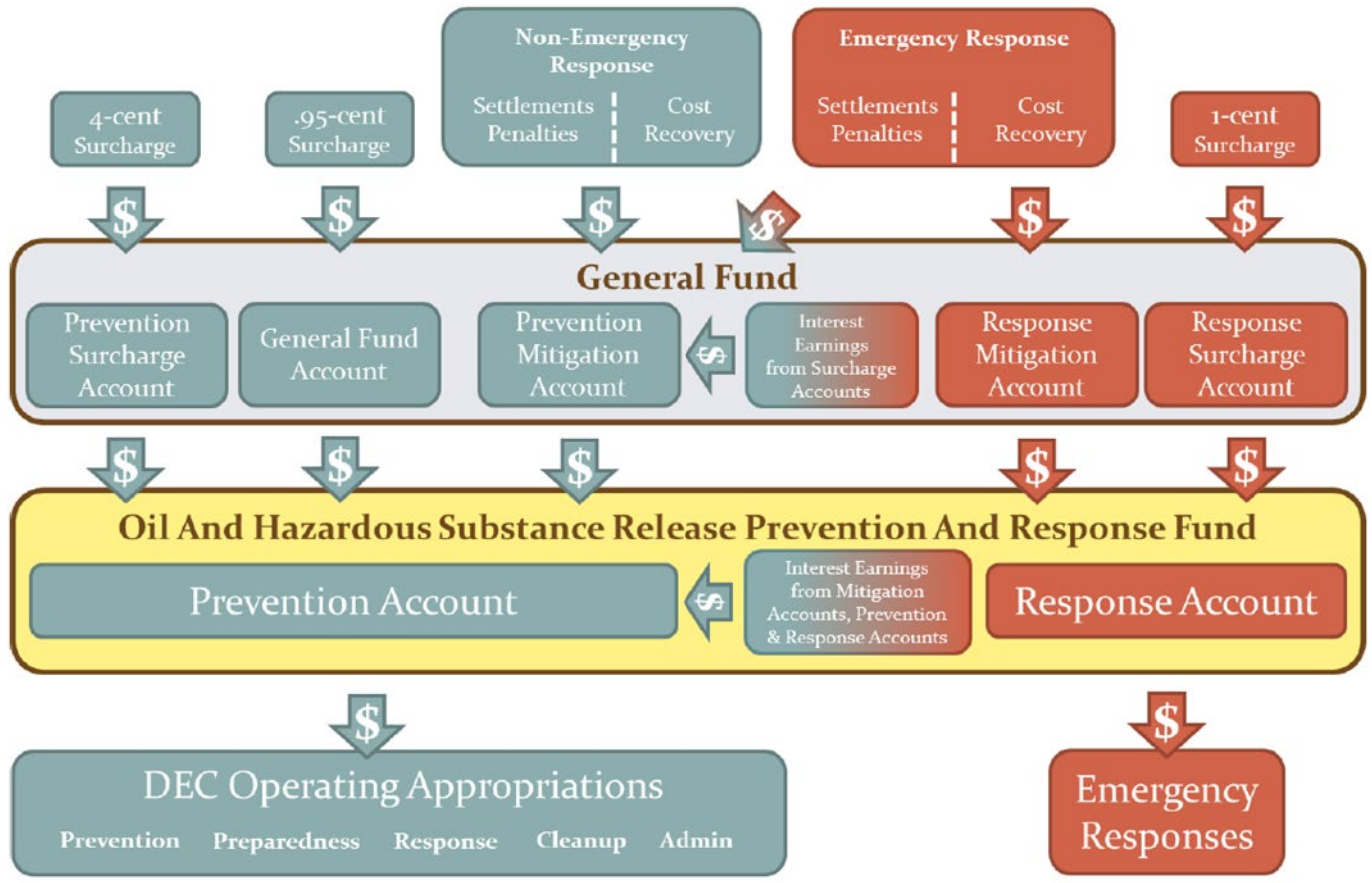
The Prevention Account may be used to investigate, evaluate, clean up, and take other necessary action to address oil and hazardous substance releases that have not been declared a disaster by the governor or do not pose an imminent and substantial threat to the public health and welfare of the environment. The Prevention Account may also be used to fund Alaska's oil and hazardous substance release prevention programs and to fund activities related to cost recovery. The Prevention Account pays for most of the SPAR operating budget.

The Prevention Account receives funding from four sources:

1. A surcharge of \$0.04 per barrel that is levied on each taxable barrel of oil produced in the state which is deposited in the prevention surcharge account.
2. A surcharge of \$0.0095 per-gallon on refined fuel sold, transferred, or used at the wholesale level in Alaska (municipalities and electrical co-ops were exempted).
3. Fines, settlements, penalties, and costs recovered from parties financially responsible for the release of oil or a hazardous substance deposited into the prevention mitigation accounts.
4. Interest earned on the balance of each of the following accounts deposited into the general fund and credited to the Prevention Account: (a) the prevention account; (b) the prevention mitigation account; (c) the response account; (d) the response mitigation account.

The legislature must annually appropriate revenue from the prevention surcharge and prevention mitigation accounts into the Prevention Account. The Prevention Account pays for most of the SPAR operating budget. The Prevention Account had an unobligated balance of \$9.98 million at the end of FY2021. The Legislature swept the \$9.98 million to the general fund, leaving a balance of \$0 in the Prevention Account.

RESPONSE FUND FLOW CHART



2.0 RESPONSE FUND HEALTH

IMMINENT OPERATIONAL IMPACTS FROM REVENUE SHORTFALL

The Prevention Account is facing a critical revenue shortfall that will impact the DEC's ability to protect human health and the environment within the FY23. This is due in part to the decline in oil production.

In 2015, House Bill 158 was passed to address the shortfall by implementing a surcharge on refined fuel. At the time of the passage, the refined fuel surcharge was estimated to bring in approximately \$7.5 million annually to fund the Department's prevention and response activities. Due to declining production numbers and exemption for municipalities and electric co-ops the state has been collecting approximately \$1 million less per year than originally projected.

EMERGENCY RESPONSE FUNDING AFFECTED BY DIRECT APPROPRIATIONS

In 2018, the Legislature made a \$5 million capital appropriation from the Response Account to export soil at the Wrangell Junkyard to a landfill in the Lower 48 instead of a previously identified on-island disposal site. Because there was not a viable responsible party for this site, the Department could not recover any of this expenditure.

In 2019, there was a \$9.4 million supplemental capital appropriation from the Response Account to address per- and polyfluoroalkyl substance (PFAS) contamination at the airports owned by the Alaska Department of Transportation and Public Facilities (DOT&PF).

These large draws on the Response Account have a direct impact on the amount of available funds to immediately respond to releases that pose a substantial threat to Alaskans and increases the duration that the \$0.01 per barrel of oil surcharge will remain in effect.

RESPONSE FUND FINANCIAL TABLES

Table A - Fiscal Year 2021 Expenditures (AS 46.08.060)			
This table summarizes the expenditures for appropriations funded by the Oil and Hazardous Substance Release Prevention and Response Fund (Response Fund) in Fiscal Year 2021.			
	Appropriation	Budgeted ¹	Expended
Operating Funds			
Division of Spill Prevention and Response	181610700	\$ 13,557,800	\$ 12,485,695
DEC Administrative Services	181100700	\$ 1,700,900	\$ 1,442,640
DEC State Support Services	181200700	\$ 430,800	\$ 430,800
		\$ 15,689,500	\$ 14,359,135
Capital Funds			
Statewide PFAS Response ORIG 19 OHSRPF	182190007		\$ 550,388
Oil & Haz Substance 1stRespond Equip & Prepare ORIG20 OHSRPF	182200002		\$ 20,355
Home Heating Oil Tank Spill Asst Pilot Prj ORIG 19 OHSRPF	182190004		\$ 17,320
			\$ 588,064
Response Account Funds			
Flint Hills OHSRPF	18ER10200		\$ 27,207
Miller Salvage Leaking Drums OHSRPF	18ER18120		\$ 1,964
Arctic Pipe Inspection Pad Release OHSRPF	18ER18160		\$ 1,886
Chevak Building Fire Cleanup OHSRPF	18ER21001		\$ 1,580
APL Yard Diesel Release Kodiak OHSRPF	18ER19017		\$ 1,417
Beaver School Tank Farm Diesel Release OHSRPF	18ER19013		\$ 997
Kaktovik PW Pump House OHSRPF	18ER17200		\$ 142
Big State Logistics MP36 Dalton Hwy Release OHSRPF	18ER19023		\$ 123
			\$ 35,316
Total 2021 Fiscal Year Expenditures:			\$ 14,982,515

¹Budgeted amounts are not included for Capital and Response Account appropriations due to the multi-year nature of the work.

Table B - AS 46.08.060**FY 2021 Prevention and Response Mitigation Revenues**

This table summarizes the amounts and sources of funds received and recovered in the Oil and Hazardous Release Prevention and Response Fund (Response Fund) in Fiscal Year 2021.

Revenue Source	Revenue
Prevention Mitigation Account (3211)	
Cost Recovery	\$ 716,045
Judgements/Settlements	\$ 454,157
Cost Recovery Late Fees	\$ -
Other/Miscellaneous	\$ 1,820
	\$ 1,172,022
Response Mitigation Account (3212)	
Judgements/Settlements	\$ 41,033
Cost Recovery	\$ 26,330
	\$ 67,363
Oil & Hazardous Release Response Fund (1052)	
Judgements/Settlements	\$ 25,999
Cost Recovery Late Fees	\$ 4,624
	\$ 30,623
Total	\$ 1,270,008

Table C - Fund Revenue Source History(AS 46.080.060)

This table summarizes the amounts and sources of revenue that have been appropriated by the State of Alaska to the Oil & Hazardous Release Prevention and Response Fund since Fiscal Year 2017.

Fiscal Year	Mitigation Accounts	4 Cents Oil Surcharge (Note 1)	1 Cent Oil Surcharge (Note 2)	Refined Fuel Tax (Note 3)	Total
FY17	6,643.0	6,836.6	1,709.1	6,543.6	21,732.3
FY18	1,705.5	6,950.7	1,737.6	6,615.5	17,009.2
FY19	1,773.0	6,563.7	1,675.8	6,349.4	16,361.9
FY20	1,233.2	6,612.6	1,654.1	6,275.9	15,775.8
FY21	1,249.2	6,453.8	1,613.7	6,853.7	16,170.4

All figures above are in thousands.

Note 1: AS 43.55.300 is amended to change the surcharge levied on every producer of oil from \$.03 to \$.04 per barrel of oil produced from each lease or property in the state, less any oil the ownership or right to which is exempt from taxation. The amendment changing the surcharge to \$.04 was effective on April 1, 2006.

Note 2: The amendment changing the surcharge to \$.01 was effective on April 1, 2006.

Note 3: HB 158 authorizes a surcharge of \$0.0095 per gallon that is applied to refined fuel sold, transferred, or used in Alaska (effective July 1, 2015).

3.0 COST RECOVERY

OBLIGATION TO RECOVER

The Department has a statutory obligation to recover costs. Recovery of response costs are based on the provisions of AS 46.03.760(d), AS 46.03.822, AS 46.04.010, and AS 46.08.070. A person is liable under AS 46.03.760 and AS 46.03.822 for costs incurred by the Department or another state agency. Billable costs are the costs reasonably attributable to the investigation and cleanup of a site and/or the containment and cleanup of a spill incident; those of direct activities and support of direct activities. Billable costs also include legal costs, potentially responsible party (PRP) searches, obtaining site access, enforcement actions, and interest charges for delayed payments. Recoverable monies are the costs incurred by the Department, contractors, or other entities acting at the direction of the Department.

COST RECOVERABLE EXPENSES

Most site charges are cost recoverable and are billable to responsible parties. Non-personal service charges that are directly attributable to the site (travel, contractual, and supply charges) are billable. Most personal service charges are billable, but not all.

While the Department makes every effort to recover response and oversight costs from responsible parties, there are numerous reasons why billable costs are not recovered. A responsible party's inability to pay is the primary reason. In FY2017, the Department, in partnership with the Alaska Department of Law, established an internal inability to pay process that includes making inability to pay determinations by using the U.S. Environmental Protection Agency (EPA) financial modeling software, negotiations with the responsible party to recover partial costs and/or, establish an installment payment plan. Other reasons for low recovery rates relate to third party liability issues, unclear responsible party determinations, and disputed liability.

CHART 4-1, TABLE D, AND PIE CHARTS BY ENTITY: COSTS BILLED IN FY2021 VS RECOVERED BY INDUSTRY TYPE

The chart and table below compare the amount of costs billed through SPAR's Cost Recovery billing process to responsible parties during the fiscal year with the total amounts of payments received during the fiscal year. The industry types shown reflect the type of facilities where releases have occurred. The "Residential" category includes releases at shared living facilities (such as nursing homes and correctional institutions) as well as home heating oil releases where cost recovery has not been exempted. The three pie charts represent costs billed vs recovered by entity: federal, state, or private.

Chart 4-1: Industry Type Total Cost Billed vs Total Payments Received

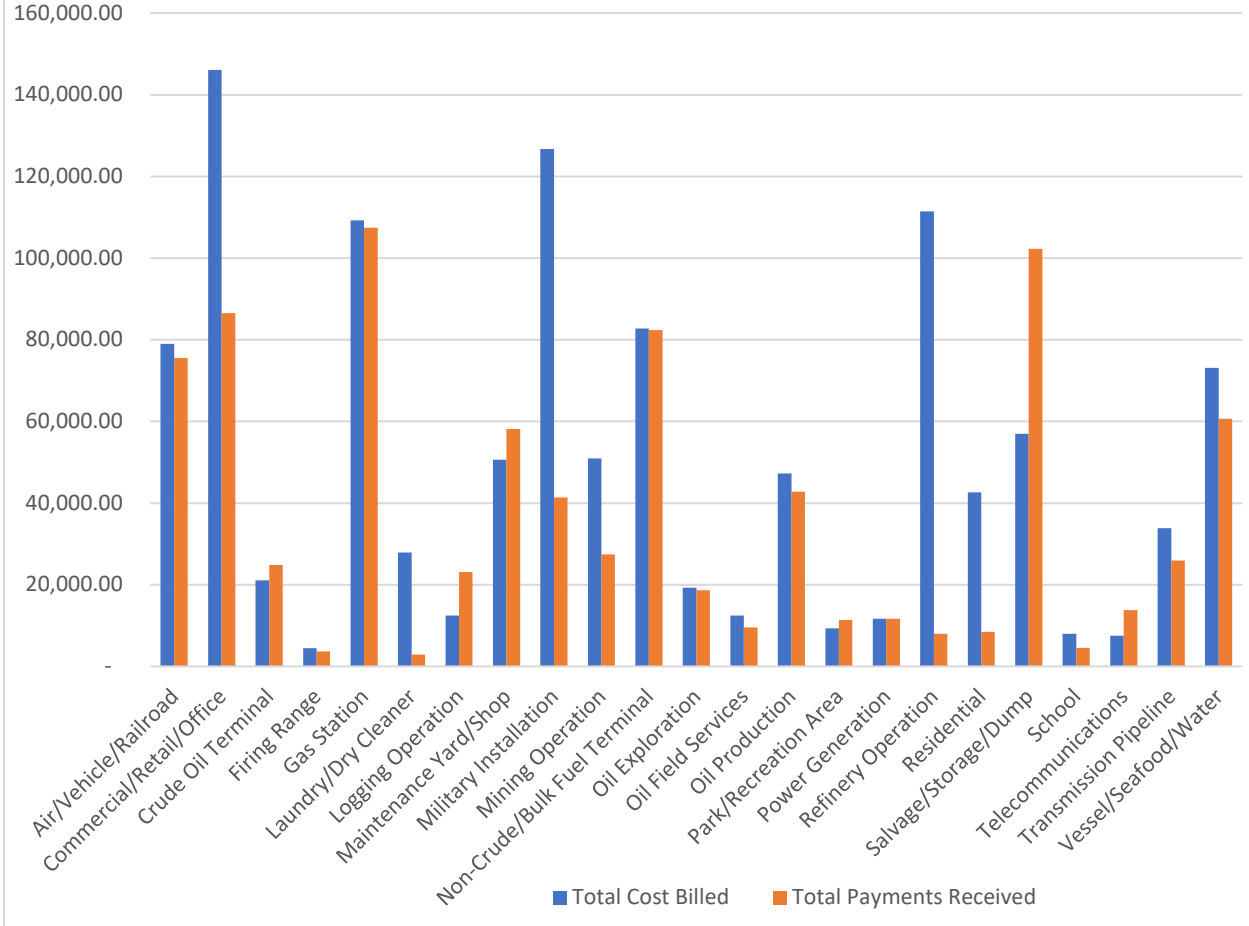


Table D - Industry Type Total Billed vs Total Payments Received

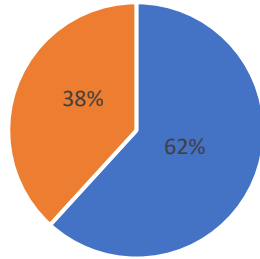
This table supports the above chart which compares the amount of costs billed through SPAR's Cost Recovery billing process to responsible parties during the fiscal year with the total amounts of payments received during the fiscal year.

Industry Type	Costs Billed	Payments Received	Percentage
Air/Vehicle/Railroad	\$ 79,007.38	\$ 75,579.62	96%
Commercial/Retail/Office	\$ 146,055.01	\$ 86,513.35	59%
Crude Oil Terminal	\$ 21,075.69	\$ 24,808.36	118%
Firing Range	\$ 4,472.23	\$ 3,651.53	82%
Gas Station	\$ 109,270.67	\$ 107,441.61	98%
Laundry/Dry Cleaner	\$ 27,910.19	\$ 2,893.90	10%
Logging Operation	\$ 12,485.42	\$ 23,125.49	185%
Maintenance Yard/Shop	\$ 50,606.66	\$ 58,132.94	115%
Military Installation	\$ 126,714.25	\$ 41,362.61	33%
Mining Operation	\$ 50,968.52	\$ 27,413.15	54%
Non-Crude/Bulk Fuel Terminal	\$ 82,724.76	\$ 82,333.41	100%
Oil Exploration	\$ 19,265.54	\$ 18,617.94	97%
Oil Field Services	\$ 12,485.84	\$ 9,585.88	77%
Oil Production	\$ 47,244.23	\$ 42,785.98	91%
Park/Recreation Area	\$ 9,307.10	\$ 11,377.62	122%
Power Generation	\$ 11,644.63	\$ 11,699.19	100%
Refinery Operation	\$ 111,426.94	\$ 7,964.54	7%
Residential	\$ 42,626.28	\$ 8,490.74	20%
Salvage/Storage/Dump	\$ 56,929.82	\$ 102,234.95	180%
School	\$ 7,953.94	\$ 4,528.05	57%
Telecommunications	\$ 7,497.62	\$ 13,778.33	184%
Transmission Pipeline	\$ 33,857.74	\$ 25,922.85	77%
Vessel/Seafood/Water	\$ 73,151.26	\$ 60,621.72	83%
Total	\$ 1,144,681.72	\$ 850,863.76	74%

Projects span multiple years and costs are billed monthly, as such, the payments received may relate to prior fiscal year expenses.

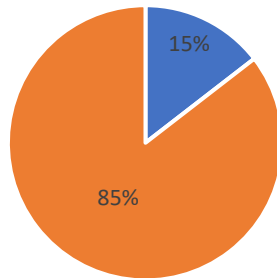
TOTAL COST vs TOTAL PAYMENTS RECEIVED BY ENTITY

Federal Entity Total Cost Billed vs Total Payments Received



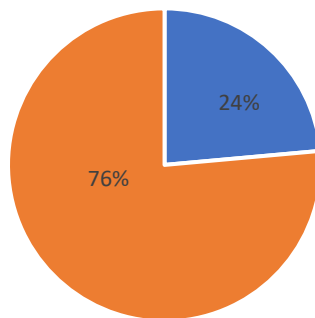
■ Costs Billed ■ Payments Received

Private Entity Total Cost Billed vs Total Payments Received



■ Costs Billed ■ Payments Received

State Entity Total Cost Billed vs Total Payments Received



■ Costs Billed ■ Payments Received

4.0 PREVENTION PREPAREDNESS AND RESPONSE PROGRAM

PREVENTION AND PREPAREDNESS

REGULATION UPDATES TO ADOPT CURRENT INDUSTRY STANDARDS FOR ABOVEGROUND OIL STORAGE TANKS

The Department completed an update to 18 AAC 75, Article 1 to adopt by reference current industry standards for the installation, operation, and maintenance for aboveground field-constructed and shop fabricated oil storage tanks at 18 AAC 75.065 and 18 AAC 75.066. The update to oil pollution prevention standards for tank operations and maintenance went into effect November 18, 2021, and the update to oil pollution prevention standards for design, installation, and construction will go into effect May 17, 2022. The technical standard updates represent a reduction in regulatory burden.

OIL DISCHARGE PREVENTION AND CONTINGENCY PLAN REGULATIONS UPDATE

The Department posted proposed changes to the regulations for Oil Discharge Prevention and Contingency Plan requirements in 18 AAC 75, Article 4 for public comment on November 1, 2021. The public comment period is open for 90 days, closing on January 31, 2022. To seek input, the Department conducted an extensive public scoping process from October 15, 2019, through March 16, 2020. SPAR asked the public how the regulations could be made clearer and more understandable without compromising environmental protection and to identify regulation areas that might be duplicative or outdated. The five-month public scoping project generated 350 comments from 130 separate individuals and organizations. One significant proposed change is merging and streamlining the requirements for what must be in a plan with the criteria DEC will use when approving plans. Previously these had been in two separate sections of the regulations, leading to confusion over what was required. Another improvement is to clarify what operators can expect during DEC inspections, and to incorporate virtual technology into the department's oversight regimen where it will improve the outcome. Communication methods, records requirements, requirements for submitting plans, and public notice requirements have all been modernized to reflect current technology.

ALASKA REGIONAL CONTINGENCY PLAN PUBLIC REVIEW

The Department of Environmental Conservation (DEC), U.S. Coast Guard (USCG), and the U.S. Environmental Protection Agency (EPA), sought public input on proposed updates to the Alaska Regional Contingency Plan (RCP) Public Review Draft dated June 2021. The RCP provides guidance to area planners and Alaska Regional Response Team (ARRT) members preparing for a coordinated Federal, State, and local response to a discharge, or substantial threat of discharge of oil and/or a release of a hazardous substance from a vessel or on/offshore facility operating within Alaska's boundaries and surrounding waters.

The public comment period initially started on June 16, 2021, was extended through August 6, 2021, to ensure full stakeholder involvement. DEC received 347 comments from 30 commenters that included agencies, tribal organizations, independent citizens, local governments, and Regional Citizens' Advisory Councils. The DEC, U.S. Coast Guard, and the EPA, considered every comment in detail, reviewed recommendations, and discussed inclusion into the RCP. Completion of the updated RCP and final signatures are anticipated in FY22.

RESPONSE

The Prevention, Preparedness, and Response (PPR) program receives, investigates, and/or responds to approximately 2,000 releases annually, below are examples of the variety of releases received in FY21.

TAR DRUM AT THE SIMMOND'S HILL BEACH AT UTQIAGVIK

A private citizen noticed a buried tank leaking a dark, tar-like substance on a beach in Utqiagvik and posted photos to social media on June 22, 2021, and hours later DEC was notified of the social media post. DEC contacted the North Slope Borough (NSB) to confirm the location of the release and NSB personnel were able to further document the release.

The tar-like substance was releasing from one of the 38 2,500-gallon tanks that are cabled together and were placed on the beach for erosion control sometime after the 1963 storm. The tanks had been previously used to transport tar for construction of the runway at the Will Rogers-Wiley Post airport. Initial response included U.S. Coast Guard and their contractor plugged and sealed the leaking tank with wooden plugs, plywood, and epoxy in June 2021. The site was also barricaded for public safety.

Chemical analyses and removal of select drums continued into FY22.



Old drums used for erosion control on the coast. Photo Credit: North Slope Borough (Robert Sceeles)

CHEVAK BUILDING FIRE HAZARDOUS MATERIAL CLEAN UP

The old Chevak School originally constructed in the 1970's was shuttered in 2005 and completely demolished by a fire on March 8, 2021. A HAZMAT survey conducted in September 2017 identified asbestos, lead, polychlorinated biphenyls (PCB), mercury, and radioactive materials in the building. Those materials were suspected to be contained in the fire ash/debris piles. The presence of unsecured friable asbestos containing materials posed an imminent and substantial threat to Chevak community's health, welfare, and environment. DEC is overseeing the cleanup, which will continue into FY22, and \$2.5M from the Response Account of the Oil and Hazardous Substance Release

Prevention and Response Fund was approved for removal of the hazardous materials from the center of the Chevak community.



Overhead view of the Old Chevak School. Photo credit: DEC (Stephen Price)

CARLILE TANKER TRUCK ROLLOVER

Crude Oil is trucked from a Production Facility in Ninilchik to the refinery in Nikiski on the Sterling highway. On July 27, 2021, a traffic incident at MP 142 of the Sterling Highway resulted in a tanker truck rolling over into a ditch. The tanker truck included two trailers carrying a total of 12,500 gallons of crude oil. The lead trailer was damaged in the rollover and released an estimated 900 gallons of crude oil into the highway right of way. A contractor was deployed and, over the next week, removed all impacted soil and vegetation for treatment.



Roll over of tanker truck carrying oil. Photo Credit DEC (Jade Gamble)

F/V HAIDA LADY

On February 26, 2021, the department was notified that the 52' F/V *Haida Lady* sank in Aleutkina Bay. The vessel was observed facing port side down in approximately 6-18 ft of water with an oiled seine net and an estimated 1,500 gallons of diesel onboard. A contractor was hired to remove the pollutants aboard the vessel; however, the oiled net posed a significant hazard to the safety of the divers. Containment boom and oil absorbent materials were deployed around the vessel to mitigate and contain the release.

The net was successfully removed from the *Haida Lady*, and the contractor began raising the vessel with lift bags on February 27, 2021. Vessel buoyancy was lost due to the surging wave action in the secluded cove, and additional fuel discharged from the vessel, but once the weather improved on March 3, the contractor was able to float the vessel with lift bags and orientated the vessel into an upright position. The active discharge drastically reduced and the vessel was defueled, recovering approximately 1,155 gallons of oil.



Spill response operations for the F/V *Haida Lady* on February 27, 2021. Photo credit: Hanson Maritime Company

SELAWIK WATER TREATMENT PLANT TANK OVERFILL

A diesel tank overfill at the Selawik Water Treatment Plant (WTP) was reported to DEC on November 26, 2020. An operator at the WTP discovered the overfill of an aboveground “day tank” when checking the tanks and reported the spill. The City of Selawik initially estimated that the spill was 1,013 gallons and noted that it was close to the Selawik River and less than 100 feet from the school.

Initial response included pumping free product and shoveling contaminated snow into supersacks. The supersacks of contaminated snow were then stockpiled outside of town. In April 2021, DEC traveled to Selawik to provide technical assistance to the City of Selawik in managing the supersacks prior to breakup. Snow was passively melted in portable storage tanks and free product was pumped off the top and meltwater was run through an oil-water separator.



Cleanup at the day tank on December 5, 2020. Photo credit: U.S. Coast Guard

5.0 CONTAMINATED SITES PROGRAM

STATEWIDE PFAS

In FY21, the Contaminated Sites Program continued to identify and respond to per- and polyfluoroalkyl substance (PFAS) contamination at sites across the State. SPAR worked closely with the United States Air Force (USAF), City of Fairbanks, Alaska Department of Transportation and Public Facilities (DOT&PF), and other responsible parties on their efforts to evaluate groundwater and drinking water for PFAS contamination, provide alternative drinking water, and work towards long term solutions for treated or alternative drinking water sources.

Most PFAS impacts identified to date are attributed to the use and discharge of Aqueous Film Forming Foam (AFFF). Staff coordinated with DOT&PF and the Department's Drinking Water program to evaluate current and former state airports for potential risk from exposure to PFAS in drinking water. The Contaminated Sites program coordinated with DOT&PF, Alaska Department of Administration's Risk Management Division, and the Alaska Department of Health and Social Services (DHSS) for on-going response actions in affected communities¹ including providing interim bottled water and evaluating the feasibility of long-term alternative water solutions.

To provide information to the public, Contaminated Sites posts PFAS drinking water sample results on its webpage here: <https://dec.alaska.gov/spar/csp/pfas/sample-results/>. Over 350 PFAS impacted drinking water wells have been identified to date and thousands of residents who had been drinking PFAS contaminated water now have access to alternative drinking water.

Contaminated Sites staff track nationwide information about PFAS toxicity, laboratory analytical methods, treatment technologies, regulatory standards and guidance, and public concerns.

EIELSON AFB

Contaminated Sites continued its regulatory oversight and partnership with the USAF and EPA to ensure proper management of contaminated sites at Eielson AFB, and at locations affected by groundwater contamination from Eielson AFB. Community and agency coordination continued throughout FY21 regarding a significant perfluoro octane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) plume in groundwater that was discovered in 2015. PFOS and PFOA contaminated groundwater has migrated off base into the Moose Creek community. Since that time, upgrades to the Eielson AFB water treatment plant and efforts to provide alternate water or treatment systems to residential well users in Moose Creek have addressed the immediate drinking water exposure pathway. Construction of the City of North Pole's public drinking water system expansion to the community of Moose Creek continued with 174 properties hooked up to the North Pole public water supply and 163 drinking water wells decommissioned. Environmental Covenants are under development or completed for 293 properties and the Critical Water Management Area (CWMA) developed in coordination with the Department of Natural Resources became effective on May 24, 2021, which restrict access to groundwater within the CWMA.

¹ Communities affected by PFAS contamination above the EPA LHA in drinking water from DOT&PF managed airports includes Fairbanks, Gustavus, Yakutat, King Salmon, and Dillingham.

ANCHORAGE INTERNATIONAL AIRPORT

Contaminated Sites coordinated with Anchorage Airport and a consortium of investors including McKinley Capital on the development of the Postmark Road peat bog site at Anchorage International Airport into the Anchorage Cargo and Cold Storage Facility. The site is contaminated with PFAS from discharges of AFFF and excavation of the peat would have required a costly disposal or treatment of the PFAS contaminated material. SPAR worked with the project group to develop alternatives including construction techniques that would allow the peat to remain in place.

GUSTAVUS AIRPORT

Contaminated Sites provided regulatory oversight to DOT&PF for the Gustavus Airport rehabilitation project. The Gustavus Airport area is contaminated with PFAS from the use of AFFF which has contaminated numerous private drinking water wells near the airport. Contaminated Sites participated in public outreach efforts to Gustavus residents, city government, media, legislators, and non-governmental organizations on the potential risks from the project. They also worked with DOT&PF on a first-of-its-kind asphalt management plan after it was discovered that the asphalt was contaminated with PFAS. This is the first time in Alaska leaching potential of PFAS from asphalt was investigated and used to develop safe management practices.

NORTH POLE REFINERY

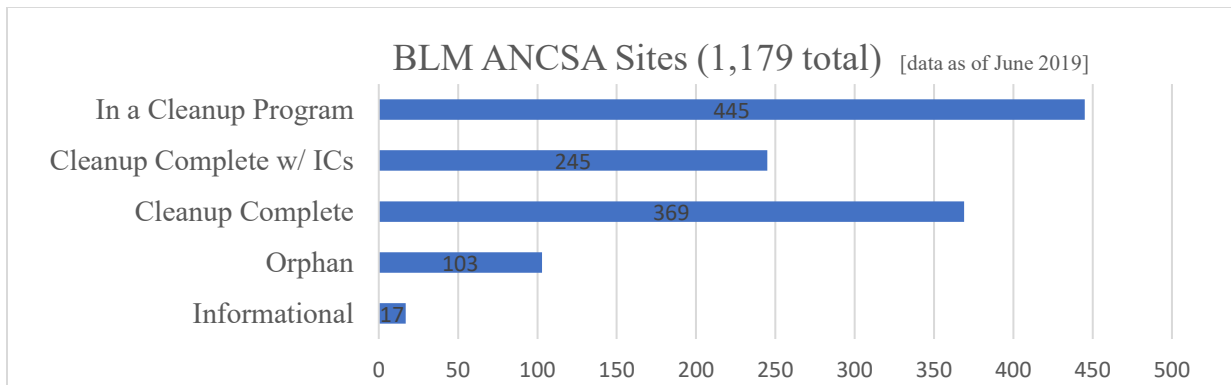
In FY21, Contaminated Sites worked with the Department of Law on litigation between the State of Alaska, Flint Hills Resources Alaska, and Williams Alaska Petroleum Inc. Following a six-week trial, the court decision held Williams Alaska Petroleum, Inc. liable for releasing large quantities of sulfolane and PFAS into the groundwater under the North Pole Refinery, polluting hundreds of residents' drinking water wells. Following the decision, the division directed Williams Alaska Petroleum Inc. (WAPI) to monitor sulfolane in groundwater throughout the greater North Pole area, which was previously conducted by Flint Hills Resources Alaska. Contaminated Sites also approved evaluation of PFAS distribution in groundwater on the former North Pole Refinery, developed by WAPI, following litigation with the State of Alaska. Williams is in process of appealing the Court's decisions.

RIDGELINE TERRACE

In FY21, Contaminated Sites coordinated with the Alaska Department of Health and Social Services, the Agency for Toxic Substances and Disease Registry, Cook Inlet Housing Authority (CIHA), and Alaska Corporation for Affordable Housing (ACAH) on an emergency response effort at the Ridgeline Terrace Housing development in Anchorage. Indoor air samples collected in January 2021 indicated trichloroethylene (TCE) vapors were migrating into several residential units from underlying contaminated soil and groundwater at concentrations that exceeded DEC target levels for sensitive receptors. CIHA and ACAH took immediate action to provide information to affected residents, relocate affected families, conduct additional sampling to better understand the scope of the issue, and activate sub-slab ventilation systems at the affected buildings. After several rounds of sampling and system modifications, all residents could return home and long-term monitoring will be conducted to ensure the effectiveness of the ventilation system.

ANCSA SITES

Following the passing of the Alaska Native Claims Settlement Act (ANCSA) in 1971, the federal government conveyed over 44 million acres of land to Alaska Native Corporations. Regrettably, the conveyed lands included many contaminated sites. In 2016 the Bureau of Land Management (BLM) reported to Congress on the status of these sites and developed a site inventory and a web-accessible map. Following the recommendations of the BLM report, a committee including the Department and many federal agencies, was established through the Statement of Cooperation (SOC) to refine the site inventory, conduct outreach efforts, and expedite the site cleanup process. The BLM inventory was updated by BLM in 2019.



Contaminated Sites continues to work with the members of the Contaminated Lands Partnership Working Group, specifically, the Alaska Native Tribal Health Consortium, representatives from the Statement of Cooperation (SOC) agencies², ANCSA village and regional corporations, tribes, and other interested entities to seek solutions to contaminated lands conveyed from the federal government to Alaska Native Corporations under ANCSA.

Contaminated Sites continues to work to update the BLM inventory. Using funding provided by EPA, SPAR staff have improved the accuracy of the site inventory by removing duplicates, clarifying site locations, and researching site histories. Modifications to the Department's Contaminated Sites Database have been made to enable better tracking of ANCSA sites. SPAR continued work on a pilot project to conduct site assessments at locations that may be ANCSA contaminated sites but have not been confirmed.

To compel federal agencies to expediate cleanup at ANCSA conveyed contaminated sites, Governor Dunleavy and Commissioner Brune sent letters to the Biden Administration in May 2021 to call attention to the situation and demand action. DEC asked that the federal agencies fulfill their obligations by directing each responsible federal agency to compile a list of contaminated sites and complete site verification of sites where contaminated is suspected, but not confirmed; provide a detailed work plan to investigate and perform cleanup at sites that are not already being actively addressed; and pursue funding needed to complete the necessary work.

² Statement of Cooperation – agreement between DEC, EPA, Department of Defense Agencies in Alaska, Alaska Air and Army National Guard, Federal Aviation Administration, U.S. Coast Guard, U.S. Department of Interior, U.S. Forest Service, and the Denali Commission to work together to protect human health and the environment and address and resolve environmental issues in Alaska.

BROWNFIELDS PROGRAM

SPAR's Contaminated Sites Brownfields program is conducted under a Cooperative Agreement with the EPA. Brownfields program staff coordinate and network with EPA, municipalities, tribes, and tribal response programs (TRPs) to address contamination challenges throughout Alaska's communities and support reuse and redevelopment opportunities at brownfields sites. This year, SPAR staff provided an in-depth training for TRPs, discussing many issues common to Alaska brownfields properties, identifying strategies for addressing those issues, and highlighting opportunities for funding and technical assistance to support those programs. The Brownfields program also provided direct assistance to tribes and communities, as well as develop technical and non-technical resources to support the cleanup and reuse of brownfields sites, including *The 2021 Alaska Brownfields Handbook*, *The Old Fish Processing Plant: A Brownfields Story* (a storybook for Alaskan youth), and a series of videos on brownfields-related topics. In addition, Brownfields staff provided technical assistance to several tribes and communities to support their efforts to secure additional funding to address brownfields in their respective areas. For example, the DEC Brownfields Program assisted the Municipality of Anchorage's efforts to conduct site characterization and cleanup planning under their EPA coalition community wide assessment grant.

A significant cornerstone of the Brownfields program is the Department's Brownfield Assessment and Cleanup (DBAC) services that SPAR provides to support community projects on sites where there is perceived or actual contamination that is hindering a reuse. Municipalities, native corporations, tribes, and non-profits provide an application with the known site information and detailing the intended site reuse and benefit to the community. SPAR ranks the projects and conducts assessment and/or cleanup on as many projects as funding allows. In FY21, SPAR provided DBAC services in five communities, including Fairbanks, Golovin, Kasaan, Palmer, and Thorne Bay.

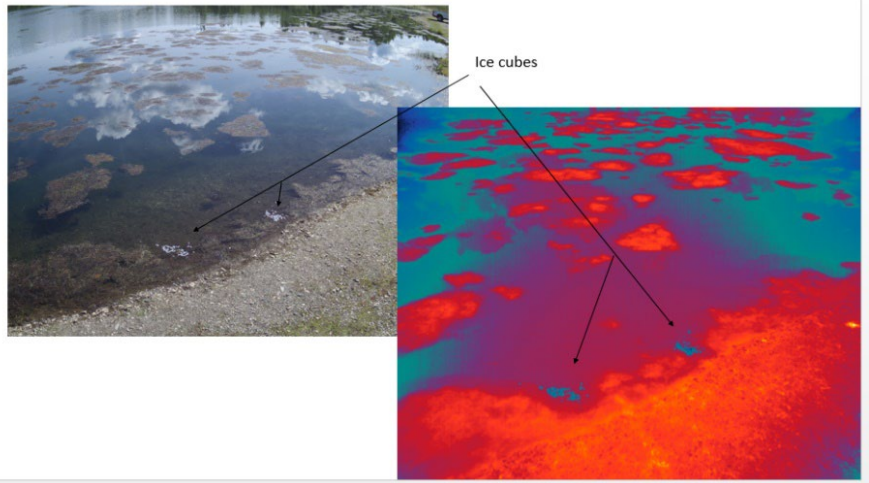
UECA IMPLEMENTATION

Contaminated Sites continued implementation the Uniform Environmental Covenants Act (UECA) in FY21 in coordination with the Alaska Department of Law. UECA, which was passed by the legislature in 2018, requires the placement of an Environmental Covenant or Notice of Activity and Use Limitations (NAUL, for Federal property) when contamination remains following a cleanup that does not allow for unrestricted use of the property.

Notably, 267 covenants were agreed to by landowners and recorded for Moose Creek properties within the PFAS groundwater plume originating from Eielson Air Force Base. The covenants prohibit groundwater use and are part of a multi-layered group of institutional controls applied to the properties to protect human health and the environment. Additionally, two covenants were agreed to by private landowners and allowed for cleanup complete with institutional controls determinations at the sites.

INCORPORATING TECHNOLOGY – USE OF DRONES TO IDENTIFY GROUNDWATER DISCHARGE

During FY21, eight Contaminated Sites Program (CSP) staff undertook their Remote Pilot 101 training, and seven have successfully obtained their Federal Aviation Administration (FAA) Remote Pilot certification. CSP Staff tested the use of a thermal infrared (IR) camera mounted on a sUAS (drone) to identify temperature differences in surface water bodies. The overall goal is to explore drone



technology to identify groundwater discharge into a surface water body, based on temperature differences. Groundwater is anticipated to be colder during the summer season ($\sim 39^{\circ}\text{F}$ or colder) than the warmer surface water bodies it may discharge into. This temperature difference may be enough to use thermal IR imagery to discriminate groundwater input (from seeps or springs) from surface water flow. Staff piloted drone flights during mid-June at gravels pits in the Fairbanks area, and later used this approach to initially map some groundwater discharge locations in Badger Slough in North Pole. Using a drone to resolve areas where groundwater is connected to surface waters, can help prioritize locations where further sampling and assessment may occur, and where contaminant exposure evaluations may be focused.

6.0 TABLES, CHARTS, GRAPHICS, AND STATISTICS

TABLE 1: SPILL CASELOAD SUMMARY

TABLE 6-1: SPILL CASELOAD SUMMARY	
New spill cases (total spills reported in FY21)	1,792
Oil and hazardous substance releases (some spill cases involve releases of multiple substances)	1,832
New spill cases characterized by highest level of DEC response:	
1) Field visit	72
2) Phone follow-up	507
3) Took report	1,206
Cases Carried Over from Previous Fiscal Years	245
Cases Closed in FY21	1,912
Cases Transferred to Contaminated Sites Program	30

TABLE 2: OIL DISCHARGE PREVENTION AND CONTINGENCY (ODPCP) PLANS

OIL DISCHARGE PREVENTION AND CONTINGENCY (ODPCP) PLANS	
Number of Plans operational during FY21	126 ¹
New Plans	3
Plan renewals (plans are renewed every 5 years)	22
Major plan amendments (includes new owners and operators)	4
Other ODPCP applications (includes vessel additions and short-term approvals)	132
Exercises	18
Inspections	19
Enforcement Actions - Notice of Violation (NOV)	3
Enforcement Actions – referral to LAW / Environmental Crimes Unit	0

¹There were 126 Plans in operation during FY21 and there were six plans that were active but not in production.

TABLE 3: NON-TANK VESSEL (NTV) CONTINGENCY PLANS

NONTANK VESSEL (NTV) CONTINGENCY PLANS	
Number of Plans operational during FY21	97
Plan Renewals (plans are renewed every 5 years)	19
Plan Amendments	59
Inspections	4
Enforcement Actions - Notice of Violation (NOV)	0
Enforcement Actions – referral to LAW / Environmental Crimes Unit	0

TABLE 4: FINANCIAL RESPONSIBILITY CERTIFICATES (RENEWED ANNUALLY)

FINANCIAL RESPONSIBILITY CERTIFICATES (RENEWED ANNUALLY)	
Oil Discharge Prevention and Contingency Plan (ODPCP) holders	137 ²
Nontank Vessels (NTV)	203
Underground Storage Tanks (UST)	300
Enforcement Actions - Notice of Violation (NOV)	5
Enforcement Actions – referral to LAW / Environmental Crimes Unit	1

² Many Plans have multiple facilities in different locations, and each require financial responsibility certification which is why there are more certificates than operational Plans

TABLE 5: PRIMARY ACTION RESPONSE CONTRACTORS (PRAC)

PRIMARY RESPONSE ACTION CONTRACTORS (PRAC)	
New Registration and Renewals	8
Total PRACs	12

Graphic 1: Total Spill Volume by Geographic Zone FY21

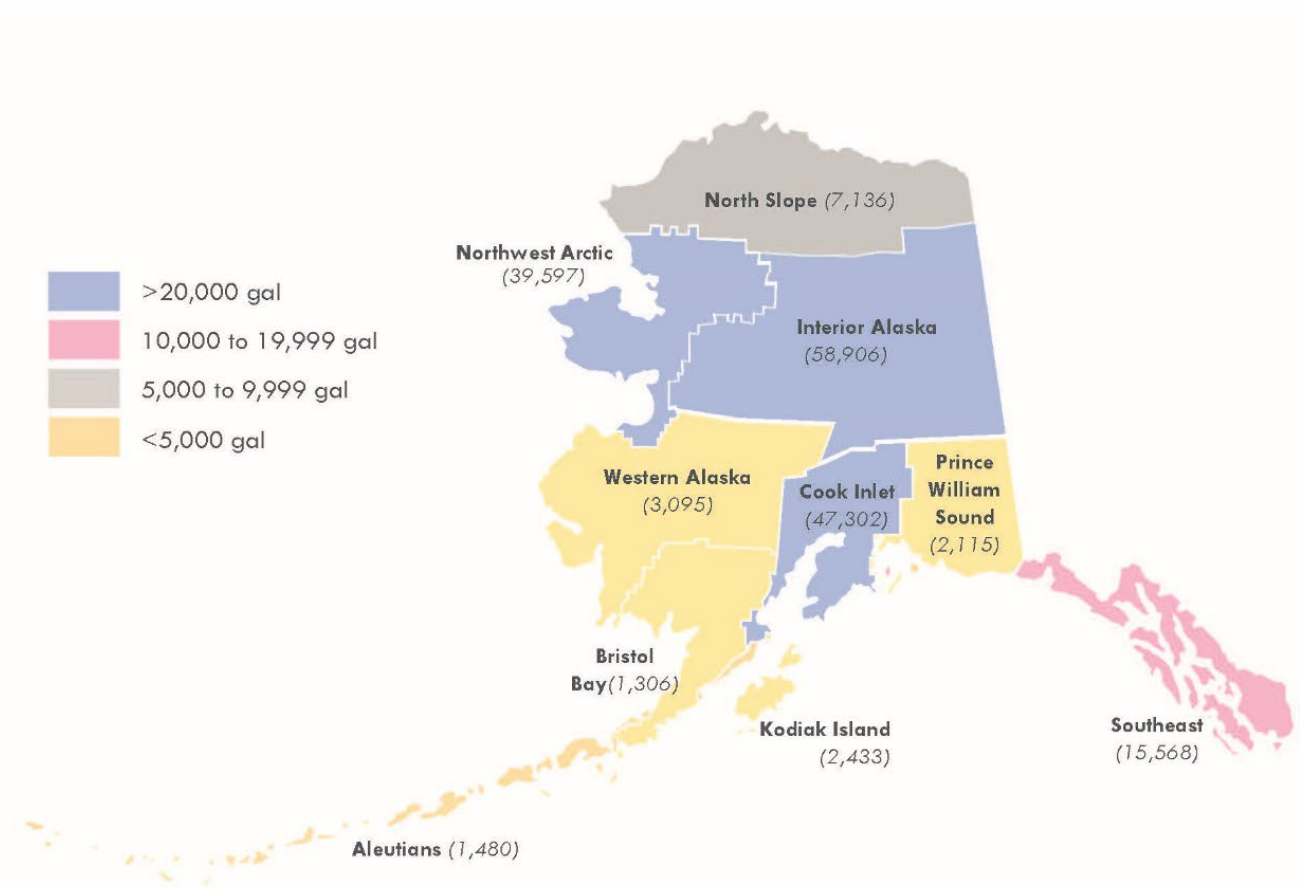
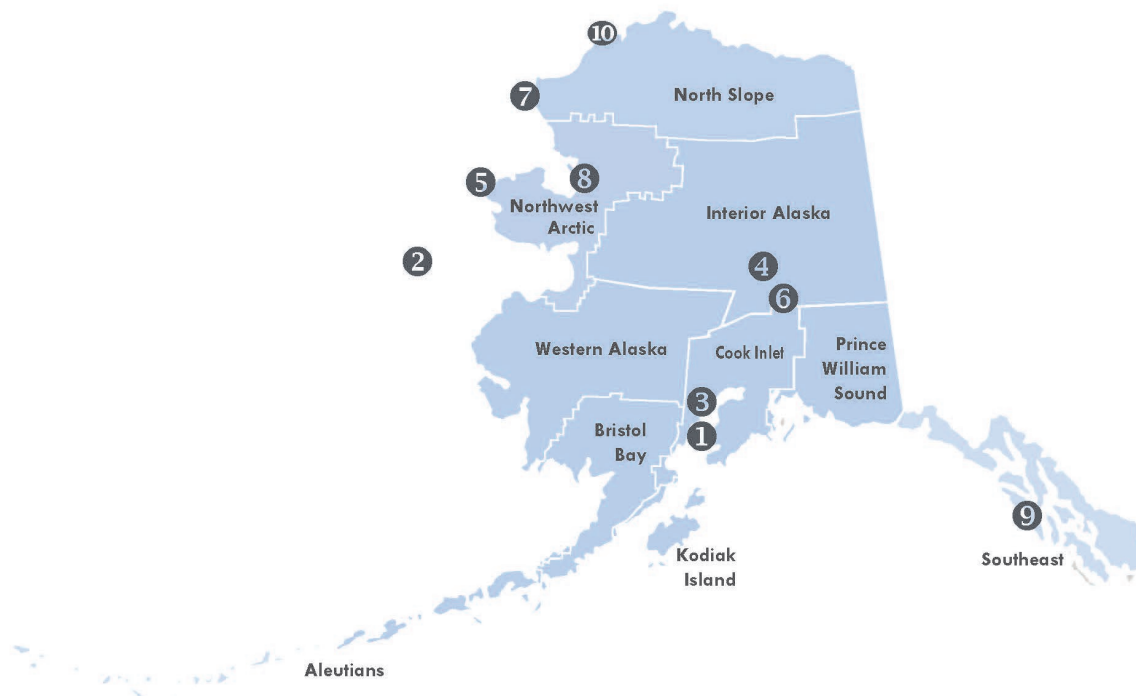


Table 6 and Graphic 2: Most Significant Petroleum Releases in FY21

DEC established the top 10 significant petroleum releases by considering relative spill volume, spills with regional significance, high public interest, and spills that used a significant amount of resources.

MAP No.	SPILL DATE	SPILL NUMBER	SPILL DESCRIPTION	PRODUCT	GALLONS
1	4/1/2021	21239909101	Cook Inlet Hilcorp pipeline leak	Natural Gas	25,512
2	3/1/2021	21389906001	St. Lawrence Island, Savoonga tank farm release	Diesel	20,000
3	12/15/2020	20239935001	Tyonec Hilcorp Trading Bay Production Facility slop oil	Crude	7,980
4	11/3/2020	20309930801	Fairbanks, Petro Star, 1845 Hanson Rd Rail Arm aviation fuel	Aviation Fuel	2,817
5	2/17/2021	21389904801	Wales, Kingikmiut school tank fuel transfer release	Diesel	1,860
6	9/3/2020	20309924702	Delta Junction, Northern Star Pogo, Tank rainwater mix to	Diesel	1,500
7	8/10/2020	20399922301	Point Hope North Star Borough Tank 3	Diesel	1,486
8	11/25/2020	20389933001	Selawik, Water Treatment Plant Overfill	Diesel	1,013
9	2/26/2021	21119905701	Sitka Sound, Cobb Island, F/V Haida Lady Sunken vessel	Diesel	100
10	6/22/2021	21399917301	Utqiagvik, Barrow Beach Simmond's Hill leaking drums	Unknown	0



CHARTS 6-1 AND 6-2: RELEASES AND VOLUME BY FISCAL YEAR

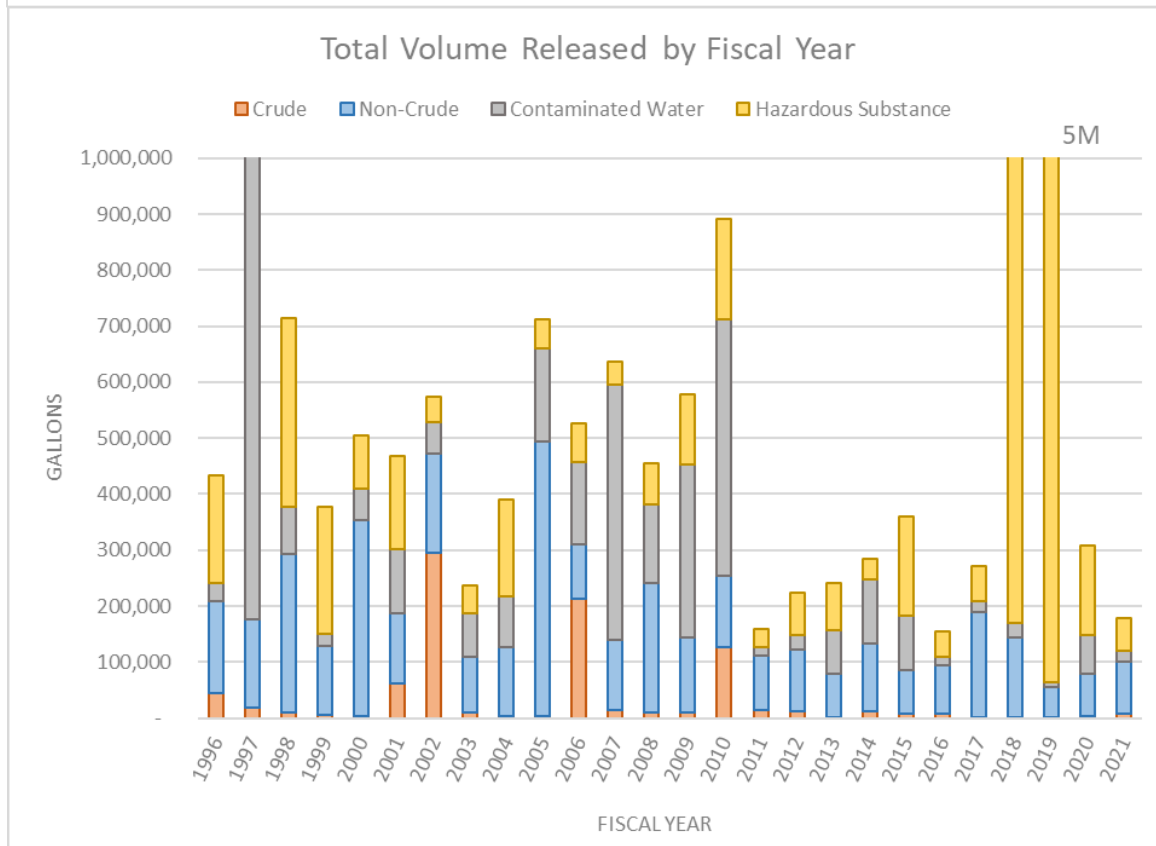
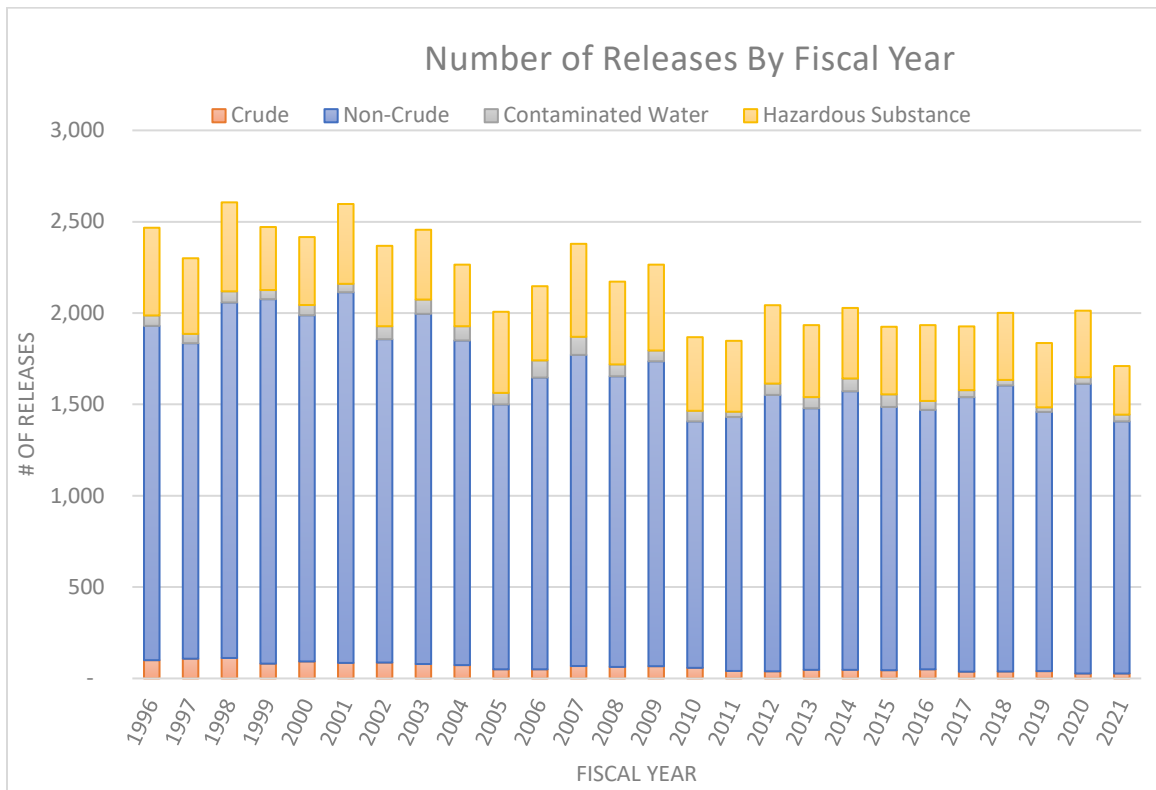
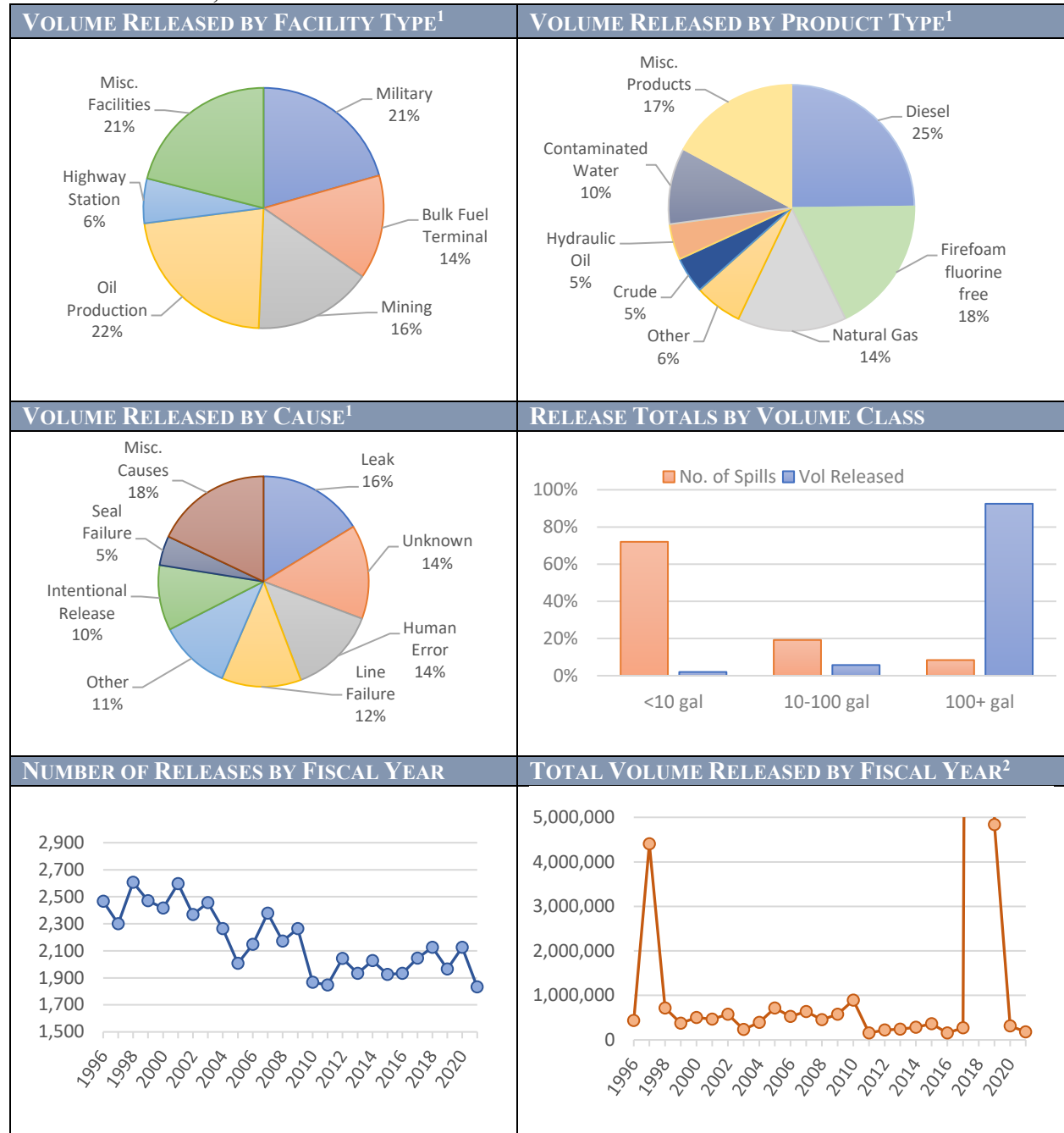


CHART SET 1: ALL PRODUCTS¹

Oil and Hazardous Substances Releases: 1,832

Total Gallons: 178,937



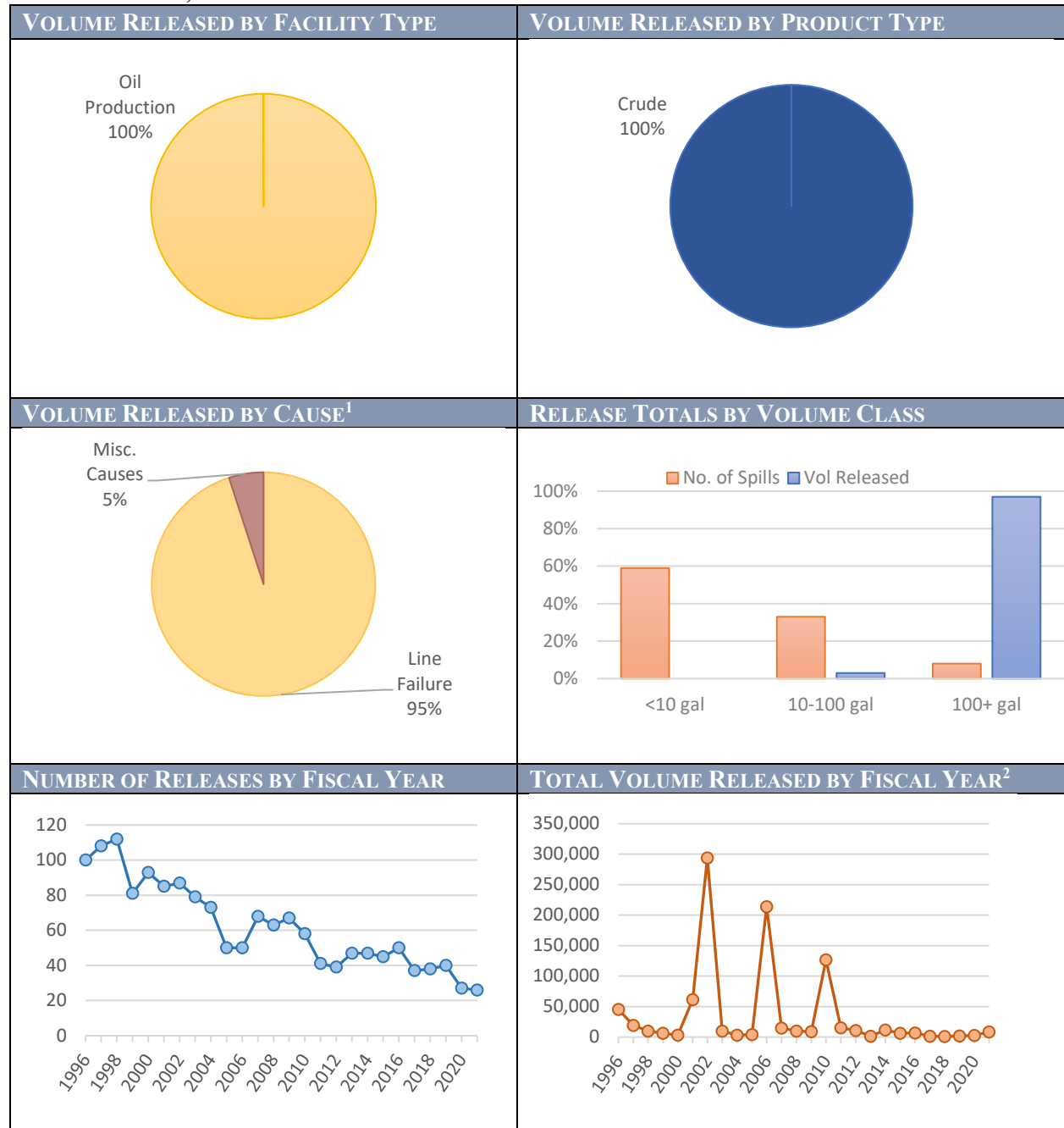
¹ Facilities, Products, and Causes <5% of the total are combined as miscellaneous (Facilities, Products, Causes) for display.

² In 2018 and 2019 the large spikes are due to the 81 M and the 4.6 M gallons PFOS/PFOA contaminated water discharge at Eielson Air Force Base; the large spike in 1997 is the result of two large spills, one in January when a barge capsized and lost 25,000,000 pounds of Urea (solid converted to gallons) and the other in March when 995,400 gallons of sea water were released at ARCO DS-14 in Prudhoe Bay.

CHART SET 2: CRUDE OIL

Crude Oil Releases: 27

Total Gallons: 8,484



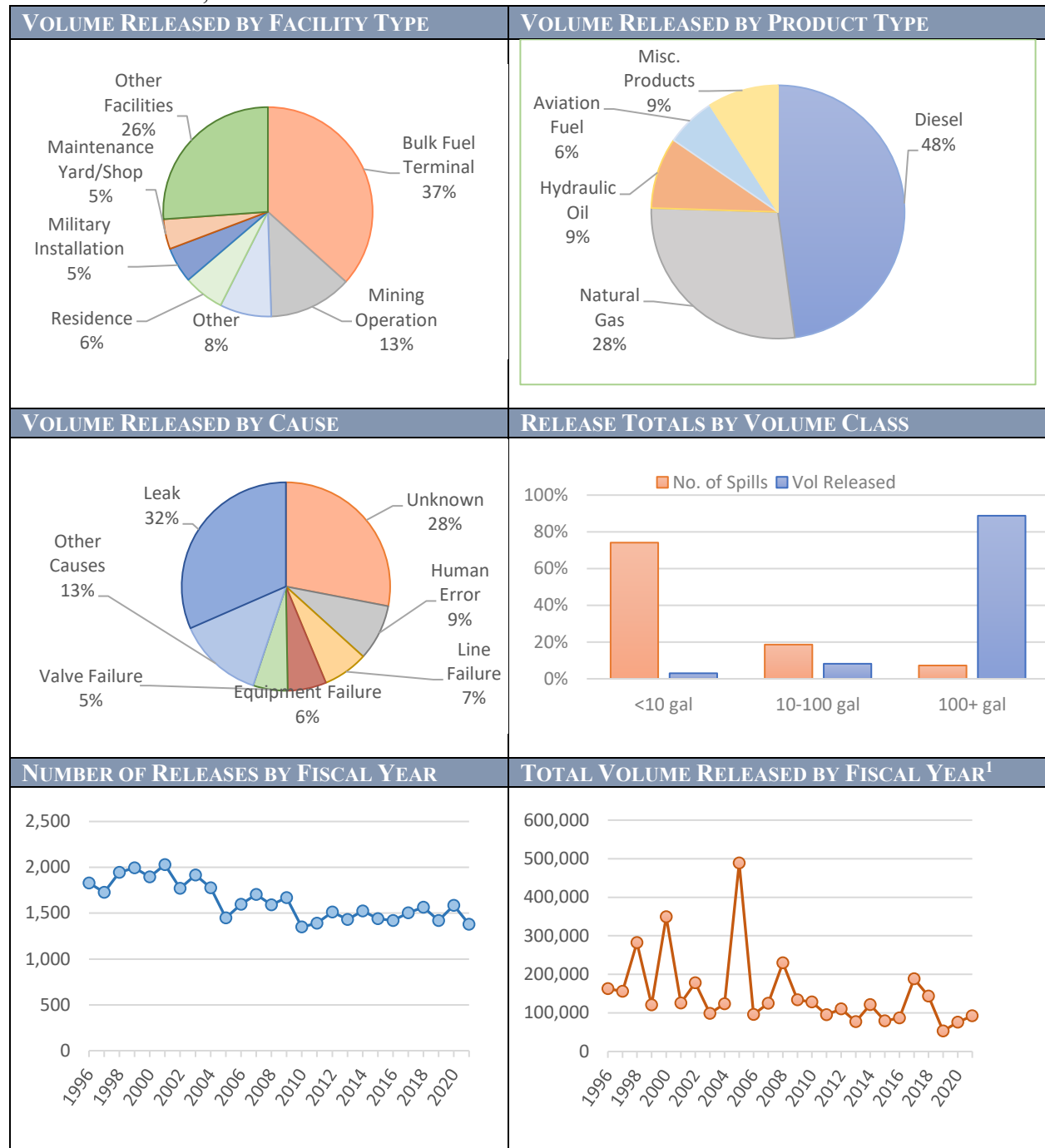
¹ Causes <5% of the total are combined as miscellaneous causes for display.

² The largest spill volumes resulted from a) Trans Alaska Pipeline (TAPS) bullet hole 285,600 gallons release on 10/4/2001, b) BP GC-2 oil transit line release of 212,252 gallons on 3/2/2006, and c) TAPS pump station 9 released 108,360 gallons on 5/25/2010 to secondary containment.

CHART SET 3: NON-CRUDE OIL

NonCrude Oil Releases: 1,380

Total Gallons: 92,509

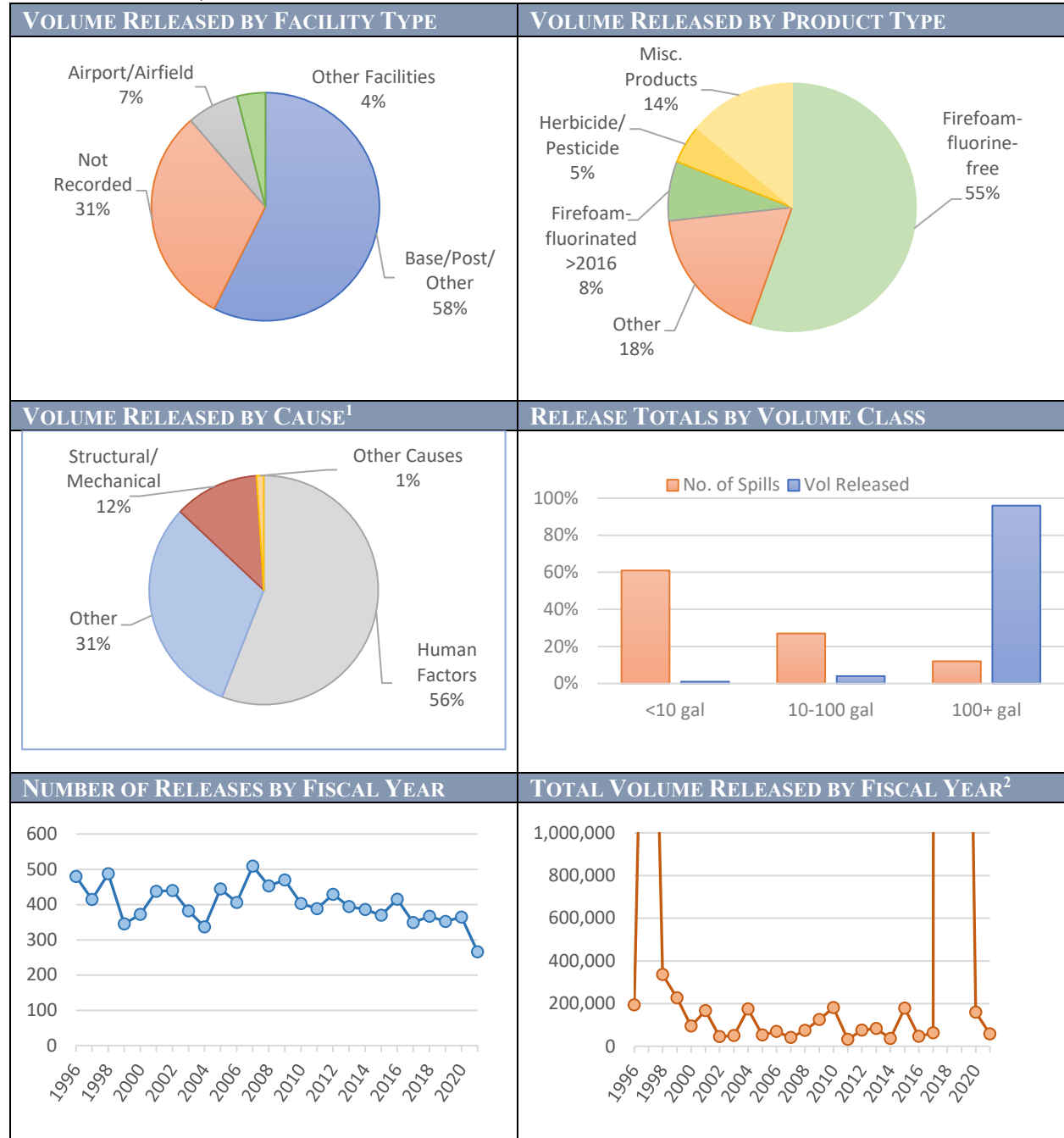


¹ The large spike in spill volume was the result of the breaking apart of the *M/V Selendang Ayu* on 12/8/2004 (FY05), which released 321,052 gallons of intermediate fuel oil 380 and 14,680 gallons of diesel.

CHART SET 4: HAZARDOUS SUBSTANCES¹

Hazardous Substance Releases: 266

Total Gallons: 57,662



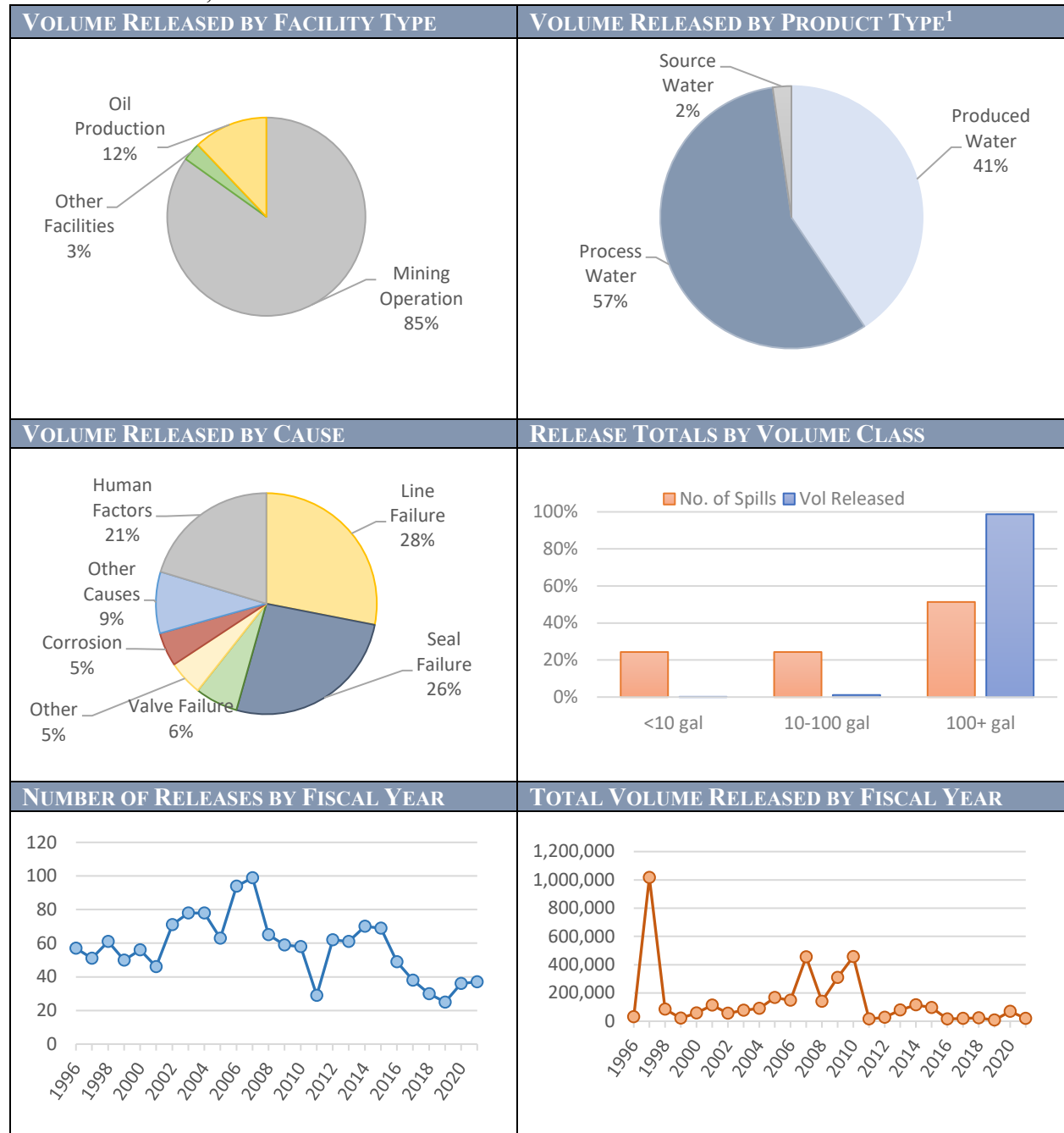
¹ "Other" includes routine testing of fire suppression systems.

² The large spike in spill volumes from 4.6M gallons (FY19) and 81 M gallons (FY18) PFOS/PFOA contaminated water discharge that occurred at Eielson Air Force Base the large spike in 1997 is the result a large spill, in January when a barge capsized and lost 25,000,000 pounds of Urea (solid converted to gallons).

CHART SET 5: CONTAMINATED WATER

Process Water Releases: 37

Total Gallons: 19,663



¹ Process Water: water used in industry processes that include hazardous substances. Produced Water: water is separated during crude oil processing and may contain <1% crude oil and have saline concentration similar to seawater; Source Water: in North Slope oil production, water is extracted from aquifers and injected into an oil formation to maintain pressure, it contains elevated levels of salt and is toxic to freshwater tundra vegetation.

CHART 6-3 AND 6-4: CONTAMINATED SITE INFORMATION BY FISCAL YEAR

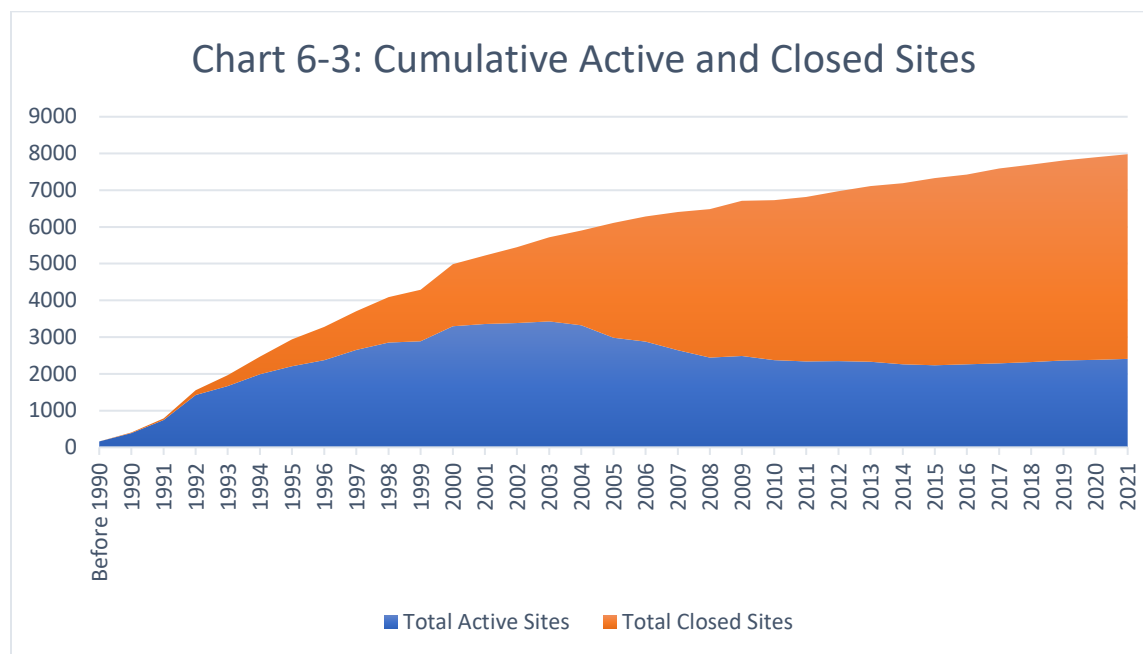
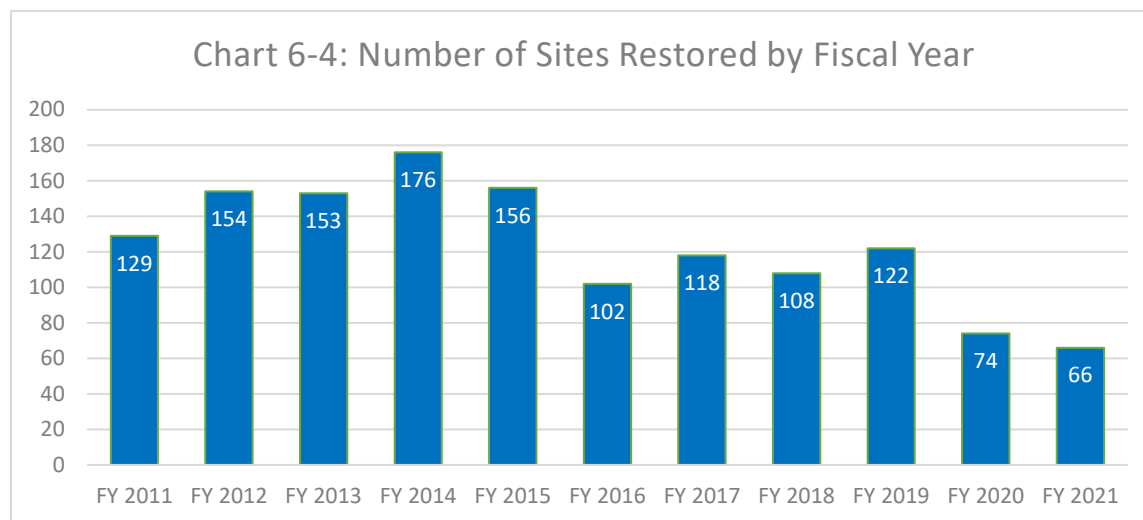


Chart 6-3 shows the open and closed sites trend since 1990. In 2005, the number of closed sites exceeded the number of open sites. This gap has widened steadily since 2005, indicating measurable progress and improvement in methods for reducing risk at the thousands of legacy contaminated properties in Alaska. In FY21, 76 new sites were identified, of those 36% were the result of recent spills.



This graph shows the number of contaminated sites where cleanup was determined to be complete by fiscal year. Since 2014 there has been a decline in the number of site closures due to several factors including a concerted focus on shifting efforts to addressing risks at the highest priority sites, where complete exposure pathways (such as contaminated groundwater used for drinking, or subsistence resources are impacted). However, cleanup and closure of these sites is often challenging and complex due to the type and extent of contamination, remote site locations, the existence of multiple responsible parties and a need to determine which will conduct the work and how costs will be allocated, and lack of willing or financially viable responsible parties to clean up the sites. During the FY21, 90% of the closures were suitable for unrestricted future land use, 10% were risk-based closures that included institutional controls to limit future activities that could result in exposure to residual contamination.

GRAPHIC 6-5: CONTAMINATED SITES BY GEOGRAPHIC ZONE

Graphic 6-5 show the total active, high priority contaminated sites by geographic zone.

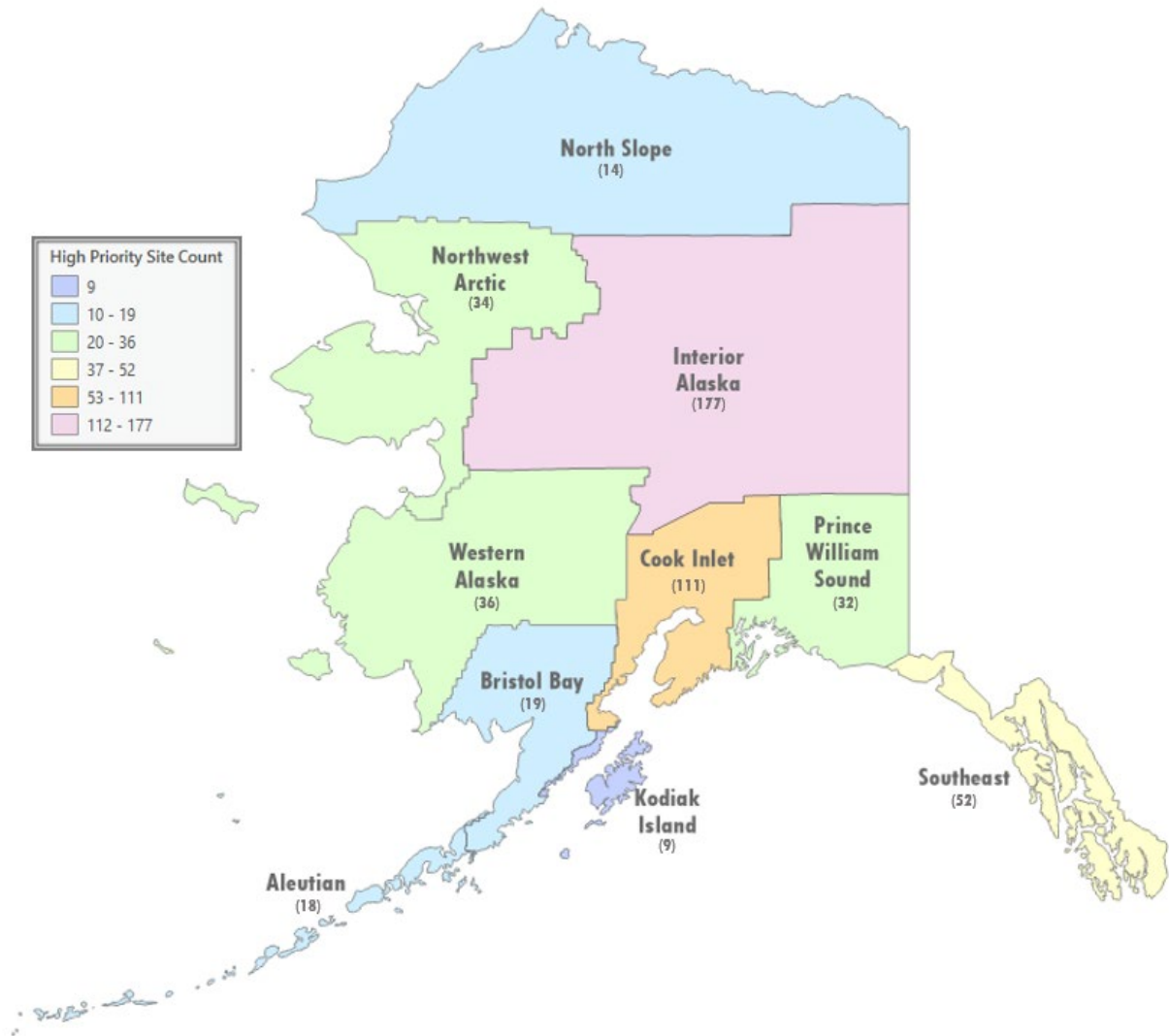


CHART 5, CHART 6 AND TABLE 7: CONTAMINANTS OF CONCERN AT CURRENT ACTIVE SITES

Chart 5 shows the number of active sites based on type of facility. Chart 6 and Table 7 show the percentage and number of current active sites that have been impacted by various contaminants of concern. Petroleum hydrocarbons are by far the most common and are the primary contaminant at 75% of the active sites. Other hazardous substances are the primary contaminant of concern at 25% of the active sites. PFAS have been identified as a contaminant of concern at only 5% of the active sites; however, PFAS have been found to have impacted more drinking water wells than any other contaminants. Those sites are most often found at military installations, followed by bulk fuel storage, airports, gas stations and power generation facilities.

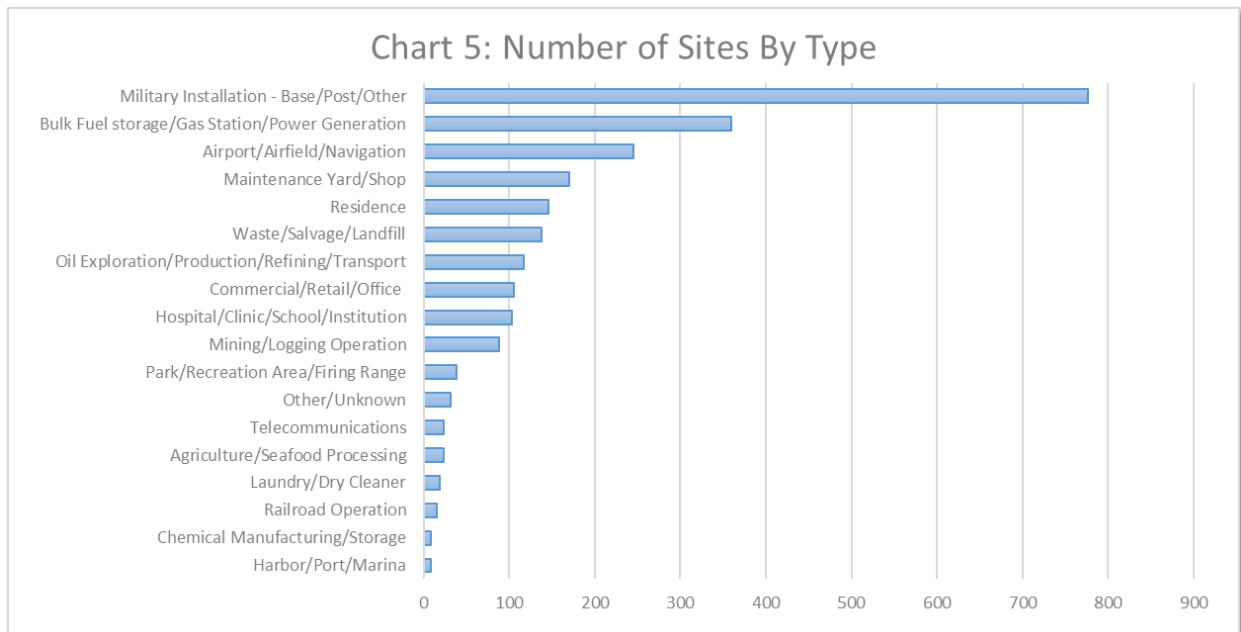


Chart 6: Contaminants of Concern Percentages

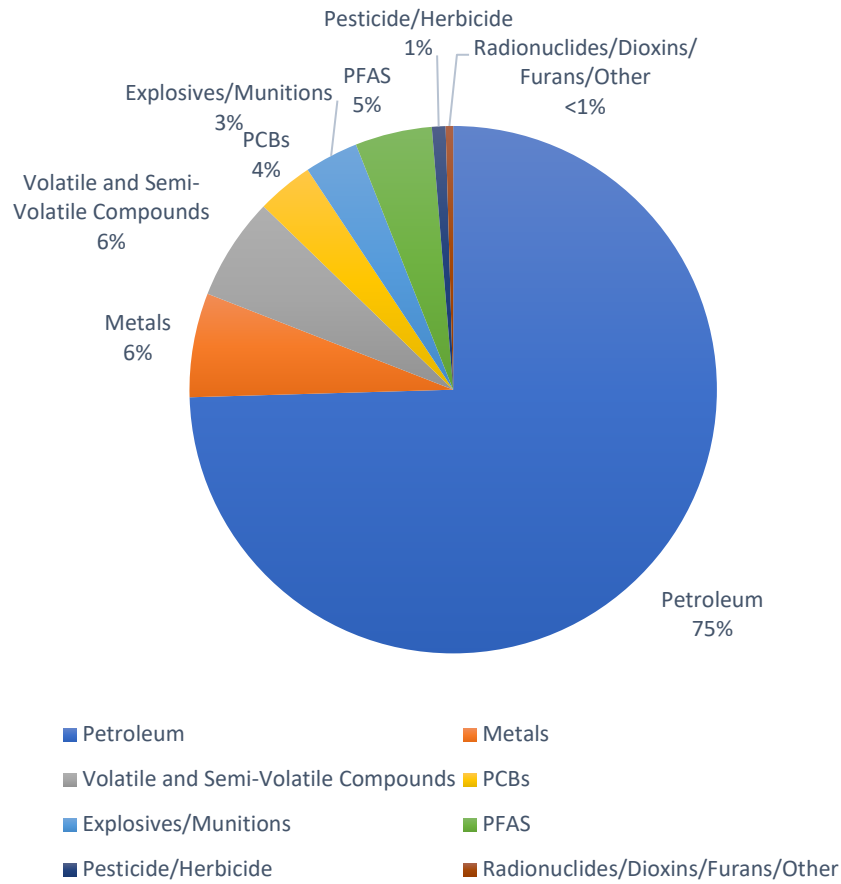


TABLE 7: NUMBER OF SITES WITH CONTAMINANTS OF CONCERN

CONTAMINANT OF CONCERN	NUMBER OF ACTIVE SITES
Petroleum	1786
Metals	153
Volatile and Semi-Volatile Compounds	151
PCBs	83
Explosives/Munitions	79
PFAS	113
Pesticide/Herbicide	20
Radionuclides/Dioxins/Furans/Other	11