

ALASKA LEGISLATURE COMMITTEE FILES, 1989-1990 8672
6027 HOUSE RESOURCES

431

16 Alaska Gold or USSR&M (site can be found on map 2)

Facility identical to the one in Nome which contaminated the playground and adjacent areas with the highest levels of mercury and arsenic ever reported anywhere in the United States. A nearby playground is contaminated with lead. On site numerous contaminants are present including PCBs (12,000 ppm), arsenic (1,100 ppm), mercury (78 ppm), and lead (506 ppm). A well is contaminated with tetrachloroethane. More work needs to be done at this site.

waste description: waste piles, contaminated ground water
toxic chemicals: mercury, arsenic, trichloroethene, PCBs
containment: none
action: Superfund Investigation
references: DEC file No. 102.23.018
DEC Oil Spill ID No. 89310902524
EPA Superfund site No. AKD0980964216

17 Fairbanks Post Office (site can be found on map 1)

A new well is contaminated with fuel floating on the water table. Up to one acre is contaminated from an unknown source. Poor waste management at vehicle maintenance shop caused violations of federal hazardous waste laws.

waste description: leaking tanks
toxic chemicals: benzene, hazardous waste
containment: none
action: monitoring, RCRA NOV
references: DEC file No. 100.23.023
DEC Oil Spill ID No. 88350108301

18 Stage Stop (site can be found on map 4)

Local gas station leaked and spilled gas on the ground and into the groundwater.

waste description: contaminated groundwater, leaking tanks

toxic chemicals: benzene and other aromatic hydrocarbons

containment: none

action: LUST, Investigation

references: DEC file No. 100.26.001

DEC Oil Spill ID No. 87350127403

19 Lucky Sourdough (site can be found on map 2)

Downtown gas station leaked gas into the ground at the tested rate of 1 gallon per hour. No evidence was found that the groundwater was sampled for contamination.

waste description: leaking tanks

toxic chemicals: benzene and other aromatic hydrocarbons

containment: none, ground water problems unknown

action: LUST, no Investigation

references: DEC file No. 102.26.001

DEC Oil Spill ID No. 87350127405, 88310129107

20 Badger Trailer park (site can be found on map 3)

At 6.5 mile Badger road a trailer park drinking water well is contaminated with benzene.

waste description: contaminated groundwater

toxic chemicals: benzene and other aromatic hydrocarbons

containment: none

action: none

references: DEC file No. 100.07.013

DEC Oil Spill No. 88310129106

21 Earth Movers of Alaska (site can be found on map 2)

The site is contaminated with fuel and lead. Agency records become sketchy when waste disposal options were considered.

waste description: 350 drums of waste
toxic chemicals: waste oils, solvents, lead
containment: on ground and in barrels
action: Superfund Investigation
references: DEC file No. 102.23.013
DEC Oil Spill ID No. 89310902521
EPA Superfund site No. AKD049983273

22 Wise warehouse (site can be found on map 2)

Local well is contaminated with fuel from unknown source.

waste description: contaminated groundwater

toxic chemicals: benzene and other aromatic hydrocarbons

containment: none

action: none

references: DEC file No. 100.16.026

DEC Oil Spill ID No. 88310129104

23 Bloom Enterprises (site can be found on map 2)

Local well is contaminated with fuel from unknown source. A citizen complaint led to the discovery of drinking water that smelled like fuel and contained twice the allowable amount of benzene. The soil around the facility is stained with oil indicating poor oily waste management.

waste description: contaminated groundwater

toxic chemicals: benzene and other aromatic hydrocarbons

containment: none

action: none

references: DEC file No. 100.02.282

DEC Oil Spill ID No. 88310129116

24 Air North (site can be found on map 2)

Local well is contaminated with fuel over 300 times the drinking water standard. So much fuel was spilled that the ground caught fire.

waste description: contaminated groundwater
toxic chemicals: benzene and other aromatic hydrocarbons
containment: none
action: none
references: DEC file No. 100.02.052; 100.07.204
DEC Oil Spill ID No. 84310105602

25 Westours bus barn (site can be found on map 2)

The statewide center for bus maintenance poured solvents and paint waste down a floor drain into a drain field.

waste description: chlorinated solvents, fuel

toxic chemicals: 1,1,1 trichloroethane, trichloroethylene,
benzene

containment: none

action: property transfer

references: responsible party report to DEC 12/88

26 Alaska Battery Enterprises (site can be found on map 2)

A dumping ground for government and military batteries made this Alaska's first NPL Superfund site. Over 40 railroad cars hauled lead contaminated dirt to Idaho for disposal. Thoroughness of clean up is in question because "how clean is clean" was guessed at by digging until no more broken batteries were found. No record found of long term ground water monitoring.

waste description: battery acid

toxic chemicals: lead, acid

containment: none

action: contaminated soils removed

references: DEC file No. 102.23.011

EPA Superfund site No. AKD004904215

27 Chena Lakes. Tare Nike Site (site can be found on map 4)

Local well is contaminated with fuel, probably from abandoned military tanks. Benzene contaminates the groundwater over 300 times above the drinking water standard.

waste description: spills and leaking tanks

toxic chemicals: benzene, chlorinated solvents

containment: none

action: Air Force Investigation

references: DEC Oil Spill No. 88310129102

28 2nd & Lathrop, Growden Park (site can be found on map 2)

Site of former city dumps now used for parks and housing. No records were found which establish dump boundaries although several independent interviews confirmed location and years of use. Property owners and users of the park have the right to know if they are sitting on toxic time bombs.

was' s description: old city dumps
toxic chemicals: probable fuel, solvents, metals
containment: none
action: none
references: DEC Oil Spill No. 89310902519
EPA Superfund site No. AKD980495543

29 Petty farm (site can be found on map 5)

Sewage sludge is dumped from MAPCO and city. Agricultural crops are grown in sludge. MAPCO sludge is known to contain hazardous waste. No record of federal RCRA enforcement. Watch for permit expiration on March 31, 1992.

waste description: MAPCO, MUS, and military base waste water
sludge

toxic chemicals: hydrocarbons and infectious

containment: none, unknown agricultural crops grown

action: permitted dump

references: DEC file No. 100.15.020

DEC solid waste permit 8731-BA002

expires 31 MAR 92

32 Murphy Dome MILITARY BASE NOT ON MAP

A scarce record but probably typical military dump and associated waste mismanagement.

waste description: spills, leaking tanks

toxic chemicals: PCBs, benzene

containment: none

action: unknown

references: DEC Oil Spill No. 89310102501

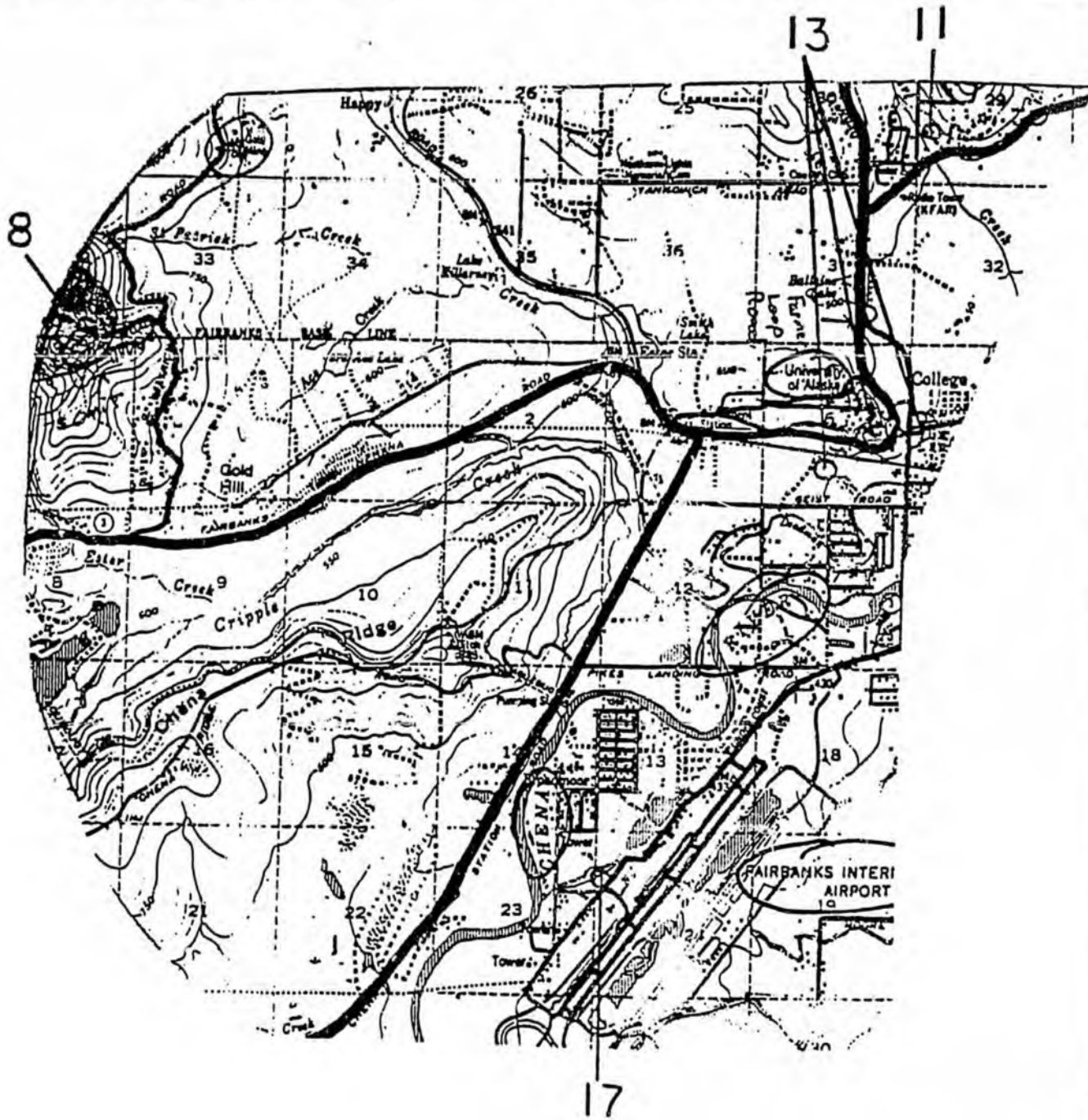
33 Alyeska Nordale yard (site can be found on map 3)

Alyeska violated RCRA hazardous waste regulations. Reportedly cleaned up 768 drums, but no record of follow up. Over 400 gallons of hazardous waste were stored, the waste was transferred from numerous locations (including Valdez) in violation of RCRA regulations. Some waste was injected into the pipeline but no records of analyses were found. The facility was inspected three times and RCRA violations were always found.

waste description: 768 drums waste, some hazardous
toxic chemicals: lead, potassium hydroxide, solvents
containment: in drums
action: RCRA inspection, waste moved
references: DEC file No. 100.23.02

MAP 1

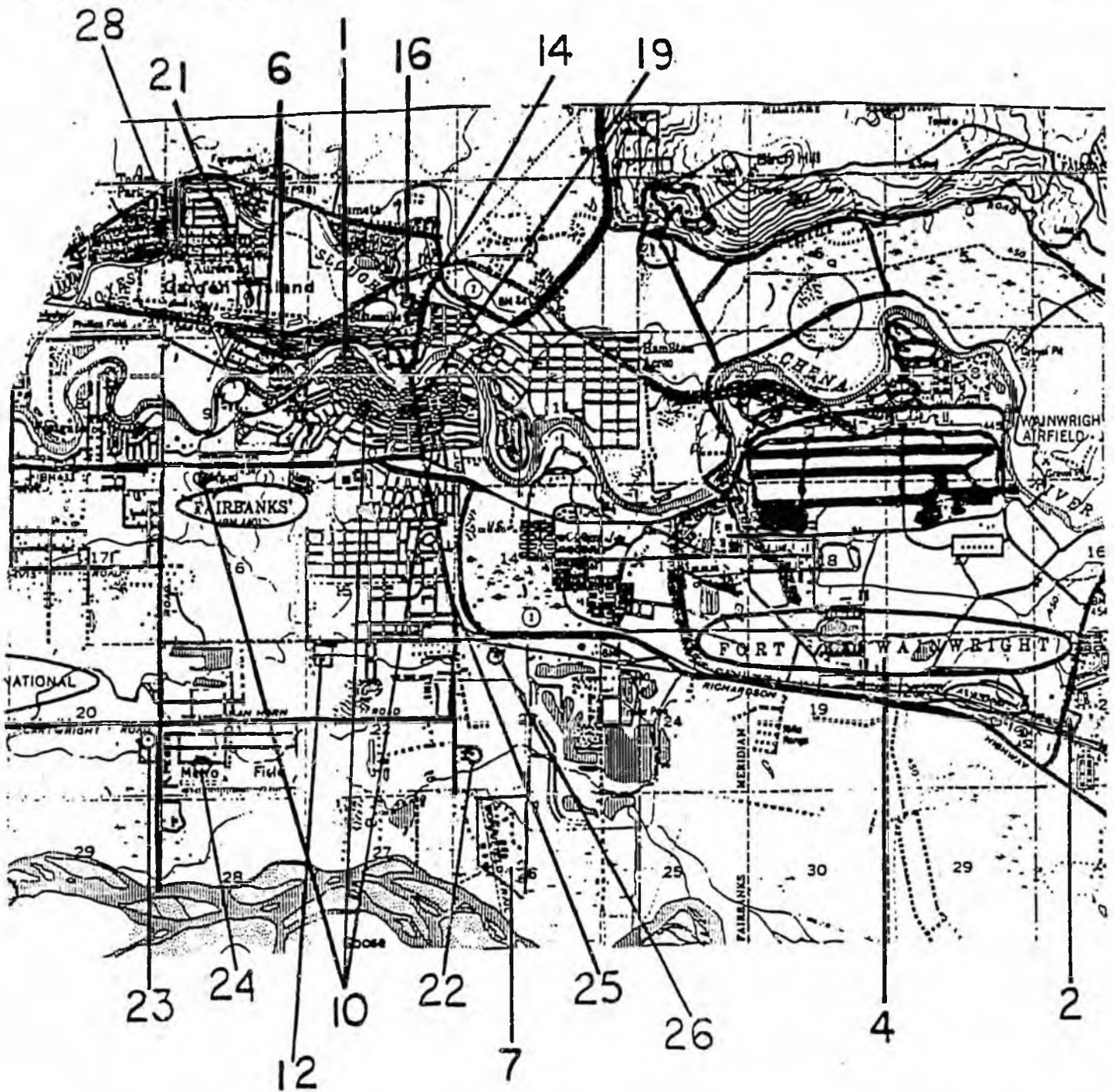
SITES
8, 11, 13, 17



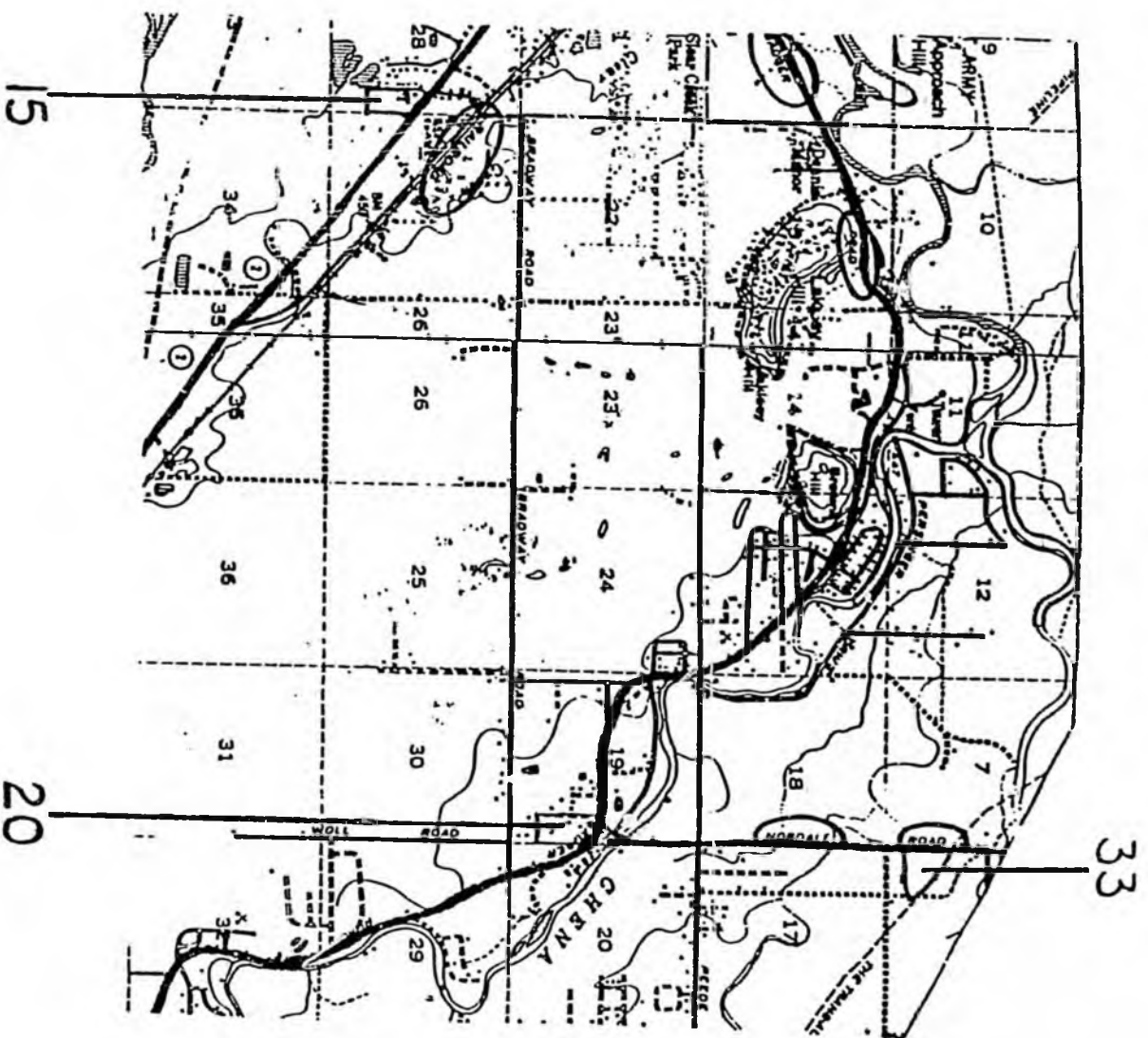
MAP 2

SITES

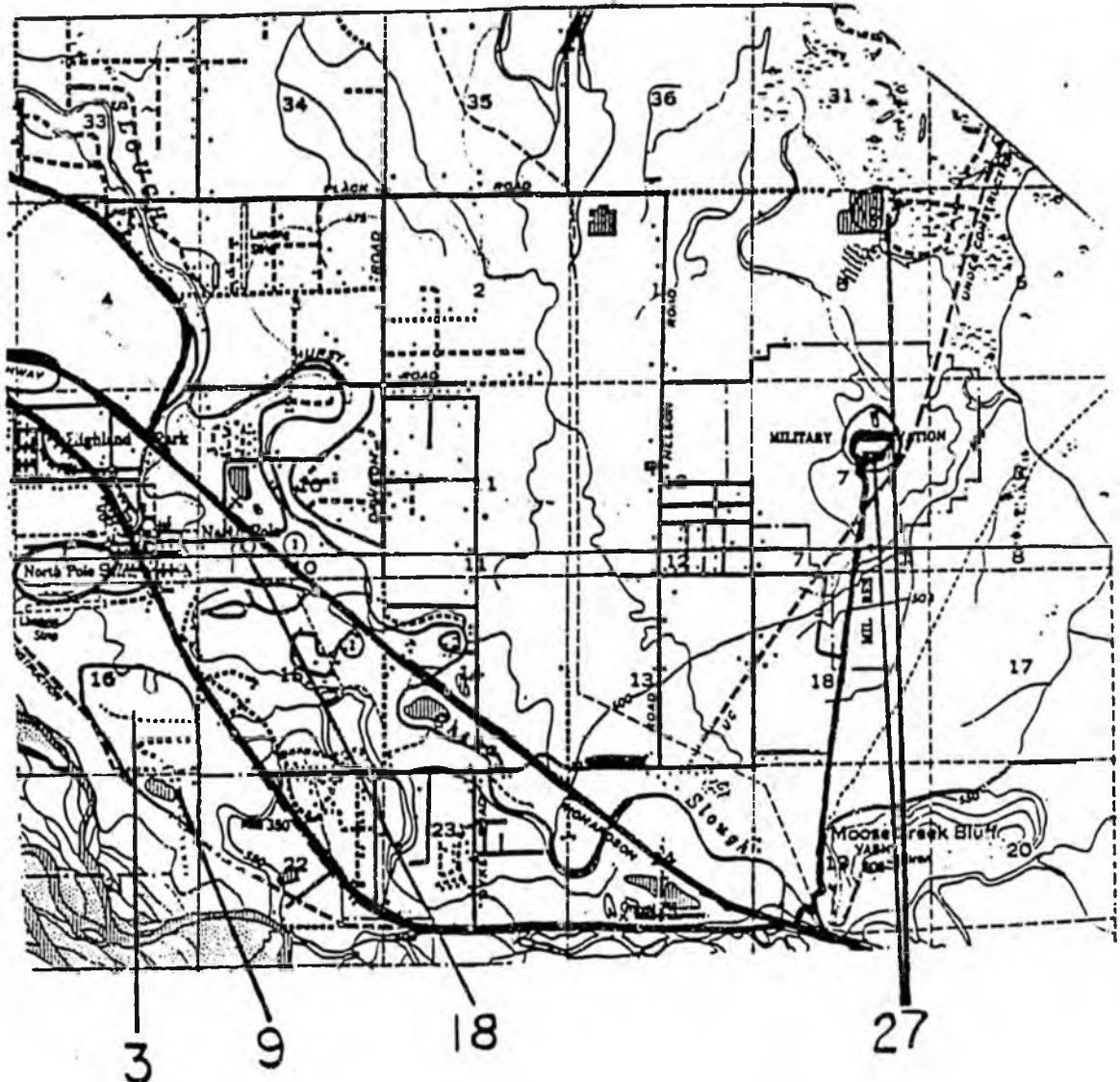
- 1, 2, 4, 6, 7, 10
- 12, 14, 16, 19, 21
- 22, 23, 24, 25, 26, 28



MAP 3
SITES
15, 20, 33

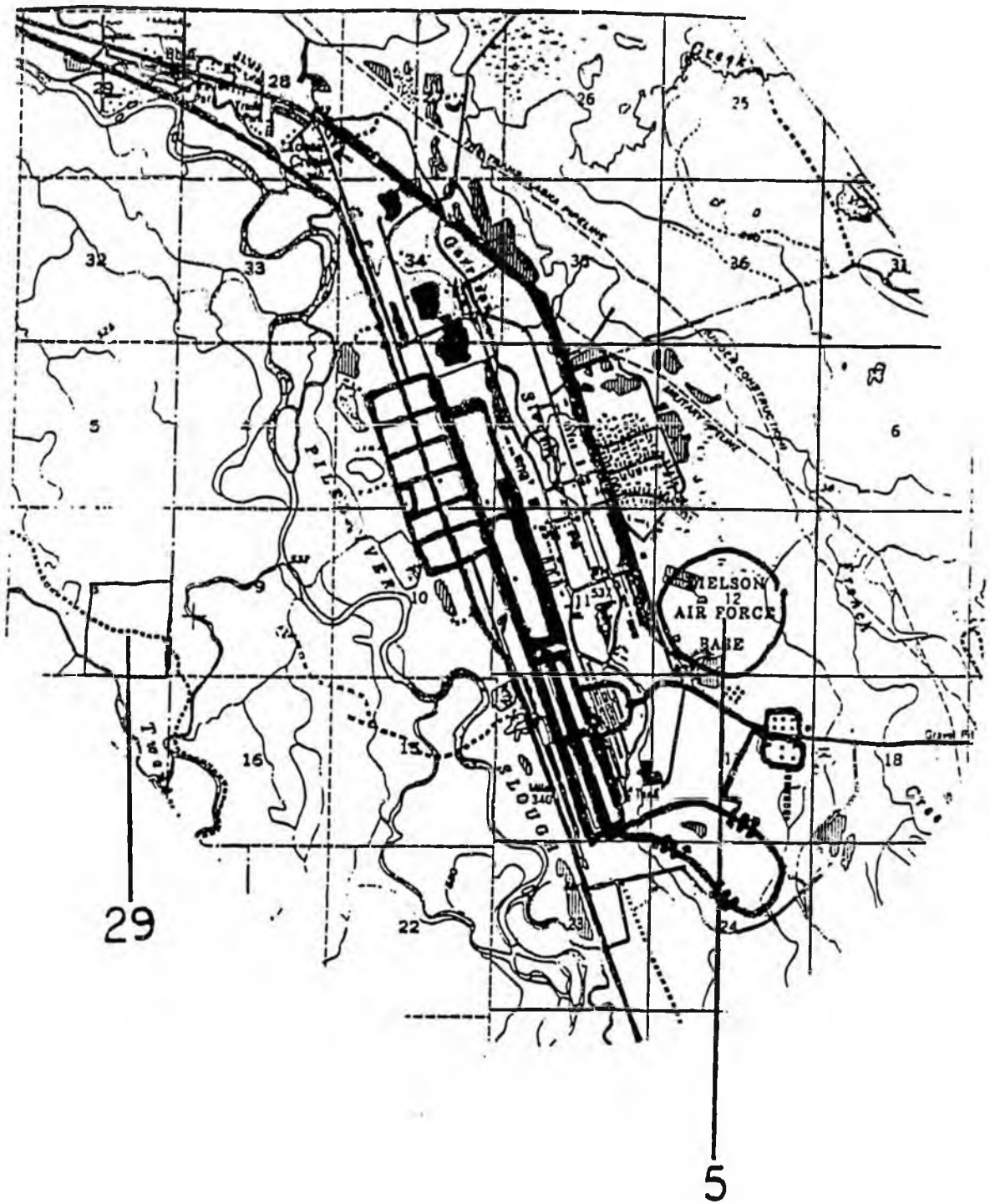


MAP 4
SITES
3, 9, 18, 27



MAP 5

SITES
5, 29



SECTIONAL ANALYSIS

The following is a sectional analysis of the bill that strengthens civil penalty and damage provisions.

Section 1 modifies the legislative findings in the non-crude oil damages and penalties provision (AS 46.03.758(a)) to make the findings consistent with the changes in this bill.

Section 2 increases the maximum per gallon civil penalties for non-crude oil discharges into various receiving environments and authorizes the Department of Environmental Conservation ("DEC") to adopt in regulations a schedule of penalties applicable to each type of receiving environment.

Section 3 provides that for non-crude oil discharges into multiple receiving environments, the penalty value applicable to the most sensitive receiving environment applies unless the defendant establishes the amount of oil which entered each receiving environment.

Section 4 removes the penalty exemption for non-crude oil discharges of less than 18,000 gallons.

Section 5 allows a defendant to deduct the number of gallons of non-crude oil recovered within 36 hours after a non-crude oil spill for penalty calculation purposes.

Section 6 reenacts AS 46.03.758(i) to allow a person who pays a civil penalty under AS 46.03.758 to set off the amount paid against a civil penalty awarded under AS 46.03.760(a). Section 8 also provides that an AS 46.03.758 civil penalty award does not affect DEC's authority to recover damages, restoration expenses, and other costs.

Section 7 amends the crude oil discharge civil penalty provision (AS 46.03.759) to remove the penalty exemption for crude oil discharges of less than 18,000 gallons; increase the AS 46.03.759(c) penalty multiplier from four to five times; allow a person who pays a civil penalty under AS 46.03.759 to set off the amount paid against a civil penalty award under AS 46.03.760(a); and provide that an AS 46.03.759 civil penalty award does not affect DEC's authority to recover damages, restoration expenses, and other costs.

Sections 8 and 9 revise and streamline DEC's major civil penalties and damages statute, AS 46.03.760.

Section 8 raises the minimum civil penalty from \$500 to \$2,500 per day for each violation, and modifies and expands the

factors the court evaluates in determining the proper amount.

Section 9 modifies the AS 46.03.760(e) damages provision to make it consistent with the changes in sec. 8 and 11.

Section 10 expands the state's authority to recover the attorney fees and costs incurred by the state in DEC enforcement cases.

Section 11 repeals the requirement for legislative approval of the regulations adopted by DEC under sec. 2; removes the AS 46.03.758(g) "mitigation defense" which now allows a court to "reduce or totally eliminate" the civil penalty for non-crude oil discharges; repeals the AS 46.03.760(b) restriction that amounts assessed must only be "compensatory and remedial"; repeals AS 46.03.760(c) as redundant because sec. 8 makes timeliness of compliance a factor for the court to weigh under AS 46.03.760(a); and repeals the AS 46.03.760(f) civil penalty provision as redundant because sec. 8 incorporates the penalties under AS 46.03.760(a).

Section 12 acknowledges that sec. 10 has the effect of changing Alaska Rule of Civil Procedure 82.

Section 13 provides that the Act becomes effective immediately.

PENALTY DETERMINATION

Freshwater 10.00/gallon
Product: Gasoline

Size: 10,000 gallons

Factor

Toxicity - Highly Toxic

1.0

Degradability - Highly Degradable

.25

Dispersibility - Highly Dispersible

.15
1.40

mean = .47

$10.00 \times .47 = 4.70/\text{gallon} \times 10,000 \text{ gallons} = 47,000$
Times Five for Negligence

Crude

Toxicity - Moderately $.75 \times 27/30 = .68$

Degradability - Moderate $.5 \times 27/30 = .45$

Dispersibility - Moderate $.5 = \frac{.50}{1.63}$

mean = .54

$10.00 \times .54 = 5.40/\text{gallon} \times 10,000 \text{ gallons} = 54,000$

(1) The base civil penalty for discharges into various receiving environments is as follows:

	Freshwater	Marine	Public Land
Critical environmental resources	\$10.00	\$2.50	\$1.00
Very sensitive environmental resources	N/A	N/A	.75
Sensitive environmental resources	5.00	2.00	.50
Without significant environmental resources	1.00	1.00	.25

(2) Toxicity, degradability and dispersibility factors are as follows:

	Factor
(A) toxicity*	
(i) highly toxic	1.0
(ii) moderately toxic	0.75
(iii) less toxic	0.5
(iv) relatively nontoxic	0.25
(B) degradability**	
(i) low degradability	1.0
(ii) moderate degradability	0.5
(iii) high degradability	0.25
(C) dispersibility	
(i) high dispersibility	0.15
(ii) moderate dispersibility	0.5
(iii) low dispersibility	1.0

(3) The net civil penalty which will be assessed per gallon of oil discharged is calculated by multiplying the base penalty established in (1) of this section by the arithmetic mean of the toxicity, degradability, and dispersibility factors established in (2) of this section. If a portion of the oil enters more than one receiving environment, the civil penalty will be based upon the most sensitive receiving environment which that portion of the oil enters. (Eff. 4/19/78, Register 66)

Authority: AS 46.03.758

*To determine the toxicity factor for a particular oil, the factor from the table is multiplied by a fraction whose numerator is the percent concentration of aromatics in the oil and whose denominator is 45. In no event shall the toxicity factor exceed 1.0.

The toxicity factor in crude oil is .75 multiplied by a fraction whose numerator is the API gravity of the crude oil and whose denominator is 30.

**The degradability factor for crude oil is .5 multiplied by a fraction whose numerator is 30 and whose denominator is the API gravity of the crude oil.

18 AAC 75.580
 appropriate cases, the provisions out of court provided for under 46.03.758. This is at the discretion of the court. (Eff. 4/19/78, Register 66)

Authority: AS 46.03.758

18 AAC 75.580
 convening of each year report to the legislature for the calendar year, ending on 4/19/78, Register 66

Authority: AS 46.03.758

18 AAC 75.580
 this chapter

(1) "estuary" means a body of water which has a free connection with the sea and which is measurably dominated by the fresh water of a river or stream;

(2) "freshwater" means water which is not saltwater and which is not brackish water; (3) "brackish water" means water which is a mixture of saltwater and freshwater and which is not seawater;

(4) "seawater" means water which is a mixture of saltwater and freshwater and which is not brackish water; (5) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water;

(6) "permafrost" means ground which is permanently frozen; (7) "vegetation" means any plant or animal life growing on the land;

(8) "Prince William Sound" means the body of water bounded by the coast of Alaska and the coast of British Columbia, Canada, and which is known as Prince William Sound;

(9) "Federal Register" means the Federal Register published by the United States Government Printing Office; (10) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water;

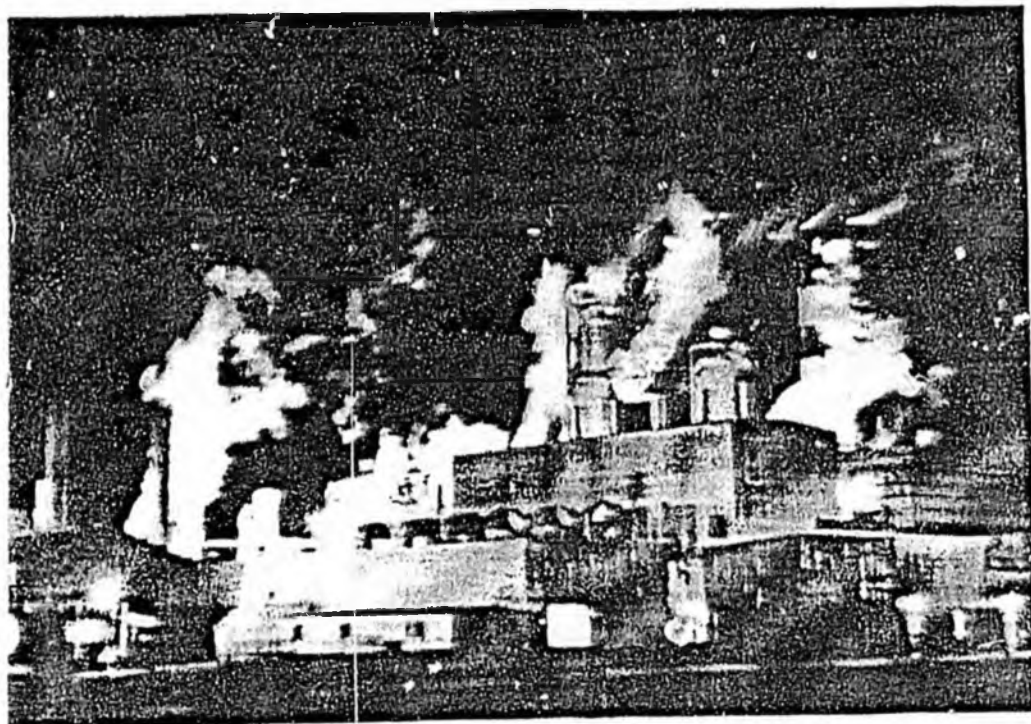
(11) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water; (12) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water;

(13) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water; (14) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water;

(15) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water; (16) "saltwater" means water which is a mixture of saltwater and freshwater and which is not brackish water;

Authority: AS 46.03.758

An Environmental Compliance Audit
of the Oil and Gas Industry
Kenai, Alaska



An Environmental Compliance Audit
of the Oil and Gas Industry
Kenai, Alaska

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Alaska Conservation Foundation

cover photograph: a night picture of the Unocal-Mitsubishi
chemical manufacturing plant, the largest
urea/ammonia plant in the world

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photographs by

Carl Roller

1. Introduction

The Kenai peninsula oil and gas fields provide raw materials for world class petrochemical industries. A small town of Kenai, called Nikiski hosts four major industrial facilities on less than one square mile, including the world's largest nitrogen fixing chemical manufacturing plant, North America's largest exporter of natural gas, and two petroleum refineries. Petrochemical industries are well known for causing substantial pollution in other parts of the United States. Prior to this study there was never a comprehensive evaluation of the pollution discharges, record of violations, or adequacy of enforcement for the Kenai industries.

1.1 Purpose

The objective of this report is to find out the how much pollution escapes into the environment and if current pollution control laws are adequate in scope and enforcement.

1.2 Scope

Research concentrated on a cluster of four petrochemical plants in Nikiski during a period of operation from the late 1950's to January 1989;

Chevron USA Refinery,

Phillips-Marathon-USX Refinery,

Tesoro Alaska Refinery, and the

Unocal-Mitsubishi (formerly Colliers) plant.

These facilities were selected for investigation because of their proximity to human habitation and potential to pollute. Other oil and gas facilities may be responsible for substantial regional environmental degradation but are not part of this study because available funds limited the scope. Further research is needed to determine the pollution problems of off shore platforms, reserve pits, and oil production facilities.

An additional section is dedicated to the Trading Bay production facility. As Trading Bay is an old facility it is expected to represent long term trends in environmental pollution, regulation, and enforcement.

1.3 Method

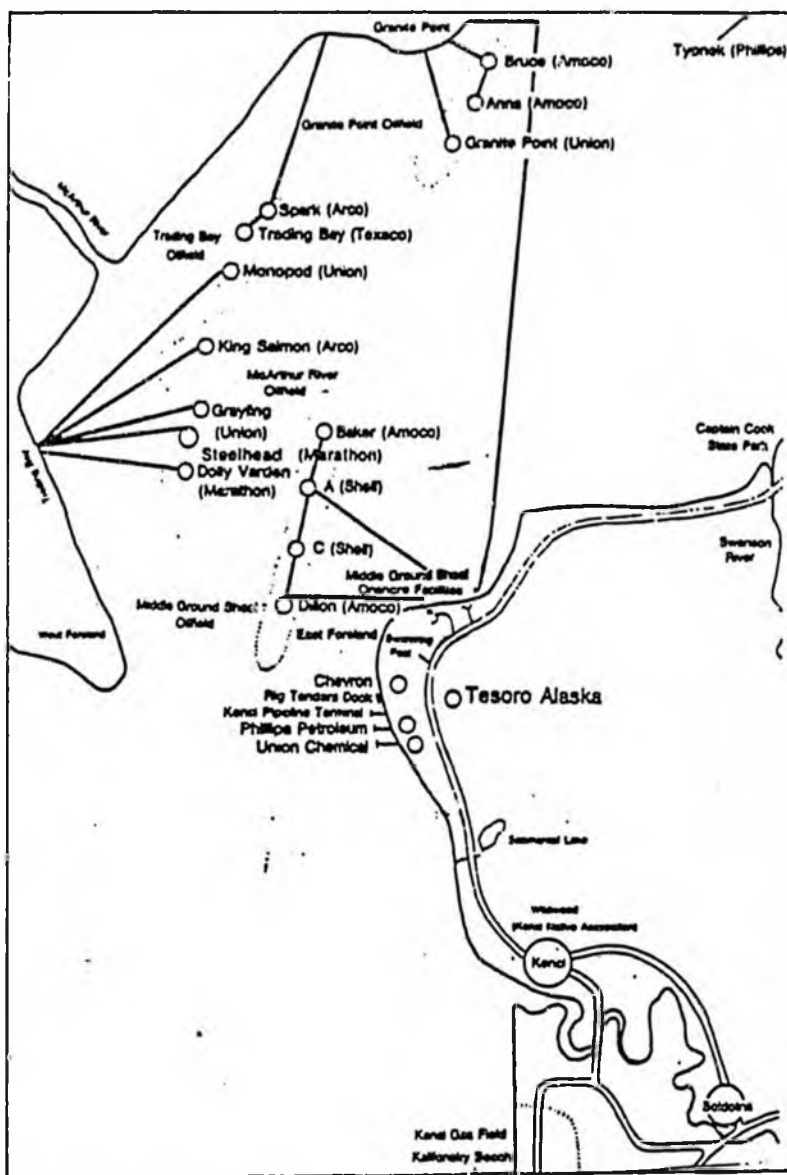
I reviewed approximately 20,000 pages of public records from state and federal agencies. Industry files are not available for public review. For the early years of facility operation few records existed. Every attempt was made to thoroughly research each facility file. All information presented is accurate, however more information may exist which could change the conclusions and recommendations.

Information is organized similar to the mass balance model required of the Environmental Protection Agency (EPA) by the U.S. Congress in Superfund (CERCLA paragraph 313 (1)). There is increasing national recognition that current pollution control practices often only shift waste from one environmental media to another. Consequently, this report divides environmental pollution into the three media of air, water and soils. It is through these media that adverse effects of pollution are transferred between each other and to living things. The contamination of each media is reviewed in relation to the adequacy of current laws to prevent or reduce environmental degradation.

2. Facility Descriptions

The oil and gas industry can be divided into the three operations called well head, production, and petrochemical.

Offshore Platforms and Processing Plants



Well head facilities operate both on and off shore. On shore, 14 oil and gas fields flank the sides of Cook Inlet, off shore seven fields span 40 miles of ocean waters. Both exploratory and production wells generate liquid, solid, and airborne wastes. Liquid wastes are composed of "drilling muds" (a mixture of barium based clay sometimes with diesel or mineral oils and numerous other additives), brine (salt solutions from the oil formation), oil/water mixtures, and oily soapy waste water from washing down the oil rig. The bulk of solid wastes are dewatered drilling muds, used drill pipe, and discarded chemical containers used in drilling mud. Large volumes of air pollutants are released from power generating gas turbines and gas flares. This report did not attempt to evaluate the pollution from well head operations.

Production facilities are defined for purposes of this report to mean centralized collection/processing plants, and oil terminals. Oil leaving the well head contains water. The water comes from brines and chemicals solutions; such as, polyacrylamide used to enhance the recovery of oil. Oil is separated from water using gravity, heat, and emulsion breaking chemicals. After as much oil as possible is removed from the oil/water mixture a residue remains. Three disposal

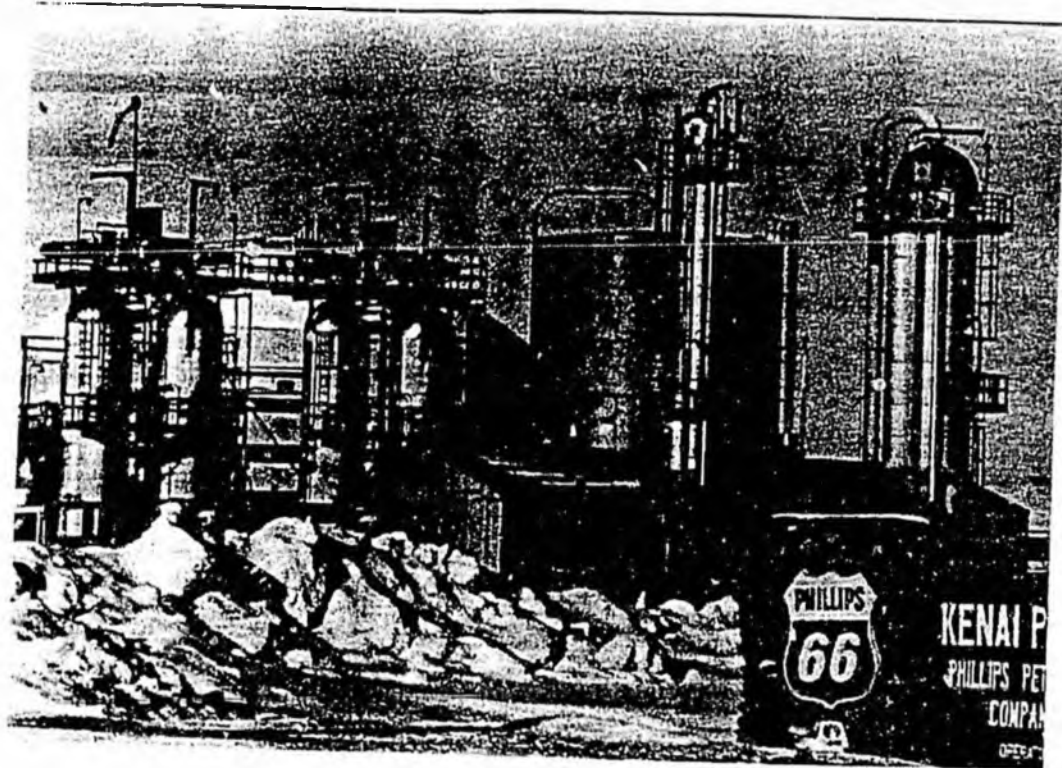
methods are used for oil/water waste. Liquids with a high percentage of oil are flared in an open pit. Liquids with a high percentage of water are dumped into Cook Inlet. Oily sludges are dumped into pits. After oil is sufficiently clean it is sent to an oil terminal where it is stored before shipment aboard ocean tankers. Oil terminals generate oily sludges from the storage tanks, volatile hydrocarbons from tank and tanker venting, and ballast water. This report did not attempt to evaluate the impacts of production facilities other than a few comments about Trading Bay.

2.1 Petroleum Refineries

The three Nikiski refineries are Chevron USA Refinery, Phillips-Marathon-USX Petroleum Refinery, and Tesoro Alaska Refinery. Together they make gasoline, jet fuel, fuel oils, asphalt, and export more natural gas than anywhere else in North America. Production began between 1964 and 1969. Current petroleum production capacity is 2.6 billion gallons a year.

If the combined annual production capacity was placed in 55 gallon drums and put end-to-end the drums would encircle the globe with enough left over to reach from Prudhoe Bay to San Francisco.

Phillips-Marathon-USX Natural Gas Refinery



2.2 Chemical Plant

Adjacent to the refineries is the Unocal-Mitsubishi facility also called the "Collier Plant" (original owner), the world's largest chemical plant dedicated to the manufacturing of ammonia and urea. Over 3 billion pounds of nitrogen based chemicals are produced annually - equal to 2% of the world's annual nitrogen fixing by soil bacteria (Garrels, Mackenzie, & Hunt 1975).

2.3 Petroleum Production Facilities

Trading Bay and Granite Point are collectively the largest oil production facility in Alaska (Cox 1988). Shell also operates a production facility on the East Forelands.

At the production facilities a mixture of approximately 40% oil and 60% water is treated chemically and physically to enhance separation. Approximately two hundred million gallons of oily waste water is dumped into Cook Inlet each year. The oily water is contaminated with biocides and chemicals. Biocides inhibit the growth of microorganisms in production

equipment. Acutely toxic chemicals such as polyacrylamide are injected underground to enhance oil recovery. The recovered oil is partially emulsified and more chemicals are added to extract additional oil. From the Marathon-USX facilities oil is piped 41 miles to the Drift River oil tanker terminal. The contaminated water is discharged into Cook Inlet.

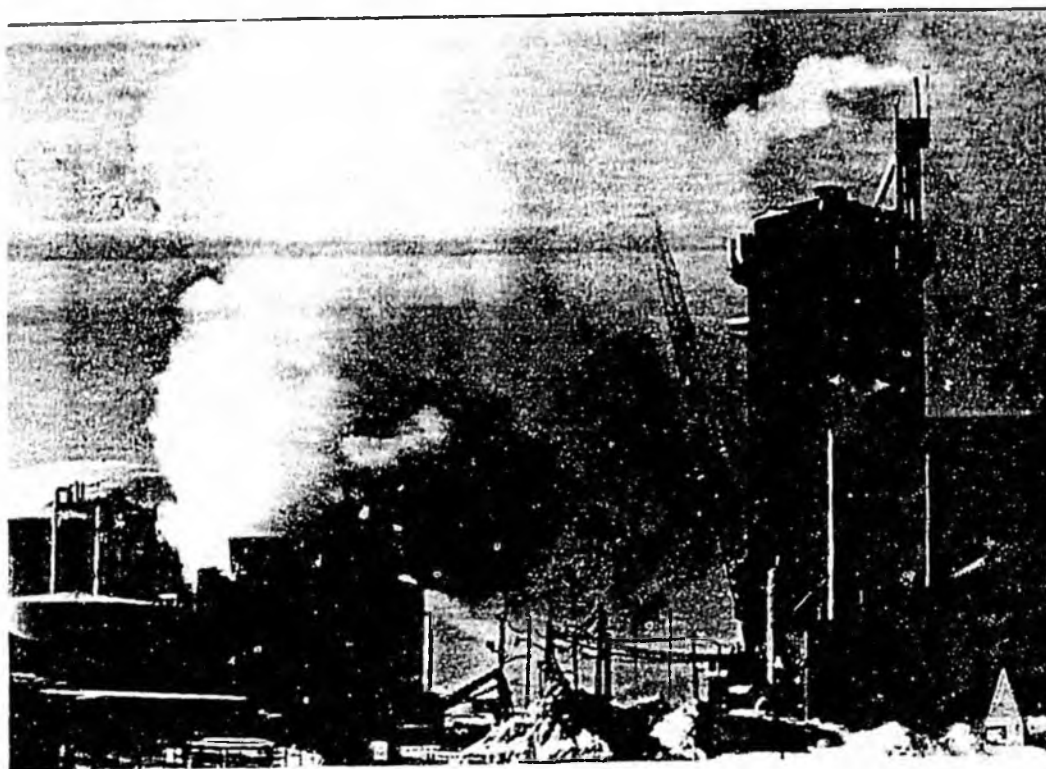
2.4 Hazardous-Toxic Waste Sites

This report does not evaluate the hundreds of hazardous and toxic waste sites in Kenai. Further study is needed to investigate the known 60 drilling mud pits, 9 area wide injection wells, roads oiled with PCBs, and dumps - whether they be legal, illegal, "special" industrial, or military.

3. Air Pollution

Air quality is the single most important environmental requirement. Excessively poor air quality can cause death within minutes. Air pollution is unique for another reason, air pollution travels everywhere and affects all people. A single air pollution incident such as Chernobyl can impact the entire earth in less than ten days.

Unocal-Mitsubishi Chemical Manufacturing Plant



3.1 Totalled Pollution

The four Nikiski facilities annually dump over 60 million pounds of pollutants into the air, Table 1, more than enough to exceed National Air Quality Standards across the entire state of Alaska to a height of 250 feet.

Table 1

Annual Air Pollution from the
Nikiski Petrochemical Industry

<u>pounds</u>	<u>toxic waste</u>	<u>source</u>
30,000,000	ammonia	vents, stacks, leaks
19,000,000	* nitrogen oxides	stacks
5,400,000	* carbon monoxide	stacks
4,300,000	hydrocarbons	fugitive
3,400,000	methanol	cooling tower, vents
2,400,000	* particulates	stacks
1,000,000	* sulfur oxides	stacks
1,000,000	hazardous waste-arsenic	alleged burning
73,000	benzene	fugitive
45,000	xylenes	fugitive
32,000	chloroform	cooling towers
31,000	toluene	fugitive
18,000	1,1,1 trichloroethane	mixed with waste oil
17,000	cyclohexane	fugitive
13,000	ethylbenzene	fugitive
4,000	formaldehyde	vents, stacks, leaks
500	naphthalene	fugitive
100	* lead	waste oil burning
34	ethylene dichloride	fugitive
22	polycyclic aromatics	waste oil burning
1	chromium	waste oil burning
5	ethylene dibromide	fugitive
2	cadmium	waste oil burning
<hr/> 67,000,000	total	

* regulated by the Clean Air Act

compiled from current state air permits,
Alaska Air Toxics inventory (Radian
1986), and facility reports required by
Superfund section 313 of Title III
Emergency Planning and Community-Right-
to-Know Act

3.2 Regulation

The Clean Air Act commands that primary ambient air standards be set by reference to public health and not economics, although there are many economic concessions granted to special interests (West 1988). Regulations focus on suspended particulates, lead, and the listed oxides of sulfur, nitrogen and carbon. The other air pollutants are currently unregulated.

Only "large" facilities are effectively regulated. Large means a facility could emit 40 tons per year of a specified air pollutant. If a facility meets the 40 tons threshold then the facility may calculate potential affects on air quality. If models predict that an ambient air quality standard could be exceeded then "best available control technology" may be installed. The Clean Air Act contains numerous exemptions; for example, a facility can adjust emissions to 39.99 tons/year to avoid the 40 tons/year regulation - called PSD avoidance (PSD means Prevention of Significant Deterioration), old and poorly functioning facilities are grandfathered, and considerations are made for "excessive" costs.

In Alaska, the state is authorized to regulate industries using the Clean Air Act. If a state does not pursue Clean Air Act enforcement the federal government is obliged to enforce when the state will not.

3.3 Compliance

Only 41% of the air pollution tonnage is even considered for regulation. The inadequacy of the Clean Air Act to consider all emissions is further compounded by numerous violations. Little is known about the real impacts of these air pollutants. During a controversial permit hearing regarding expansion of the Tesoro refinery the state agreed to monitor and sample the air. After years of equipment failure and reallocation of resources air quality monitoring equipment was installed (while this report was being written), but the data and the evaluations are not currently available. It is not uncommon to see a large cloud of atmospheric pollutants hover over Nikiski.

Phillips-Marathon-USX

For 18 years waste oil of unknown composition (analyses not found) and refinery gasses were frequently dumped into a flare pit and burned in violation of air quality standards (Lucky 1986a).

Tesoro

Within the last year this refinery knowingly built new sources of air pollution without prior authorization, a violation of the Clean Air Act (Grantham 1988a, 1988b).

Unocal-Mitsubishi

On going violations include non compliance with the Clean Air Act limitations on suspended particulates (O'Neal undated). In response to over a decade of violations the Alaska Department of Environmental Conservation (DEC) has done the following:

- * stopped recording violations (Schulz 1987),
- * requested EPA not to issue an enforcement letter to Unocal (Kelso 1987),

- * promised Unocal to refrain from fines or legal action for past violations (DEC 1987), and
- * amended state air quality regulations to create a specific exemption for Unocal's air emissions (Verrelli 1988).

Trading Bay

The Trading Bay facility operates an open flare pit of questionable construction and efficiency which has received two Notices of Violation (Crawford 1988c). The flare pit is hole in the ground into which a flare tube is aimed (MacClarence 1985a). Toxic and dangerous chemicals are pumped into the upside down flare tube under conditions that produce an uncontrolled exhaust plume. A loophole in state air quality regulations allows this "device" to operate without a permit (Williams 1976, Lamoreaux 1984, MacClarence 1984, Verrelli 1984). A special attachment to the combustion device exempts the burner from regulations (MacClarence 1983), when the attachment was removed to burn a large volume of unspecified toxic waste the resulting uncontrolled burn destroyed the part of the combustion device (Brooks 1983).

4. Water Pollution

Polluted water is a serious problem. Once in the water dissolved and suspended pollutants flow without restraint impacting water quality far from the pollution source.

Ground water can flow hundreds of feet in one day, rivers hundreds of miles, and ocean currents eventually travel around the world. Surface water pollution in the Gulf of Alaska can rotate around in the Bering sea returning in only several years. Deep oceanic polluted water will find its way to the equator and back. Oily water once in the marine environment takes hundreds (near shore) to thousands (offshore) of years to completely biologically degrade.

4.1 Totalled Pollution

Surface Ocean Water

Nearly seven million pounds of toxic wastes are dumped into Cook Inlet each year by the four Nikiski facilities alone, this does not include the weight of the polluted water.

The water receiving this pollution is called Cook Inlet, well known as having some of the world's highest tidal fluctuations. However parts of Cook Inlet are not well mixed. In places water simply flows back and forth or around and around in large rotary currents. A potential exists for pollutants concentrating over time instead of dispersing. This problem is recognized but has not been adequately studied.

Tesoro Alaska Refinery

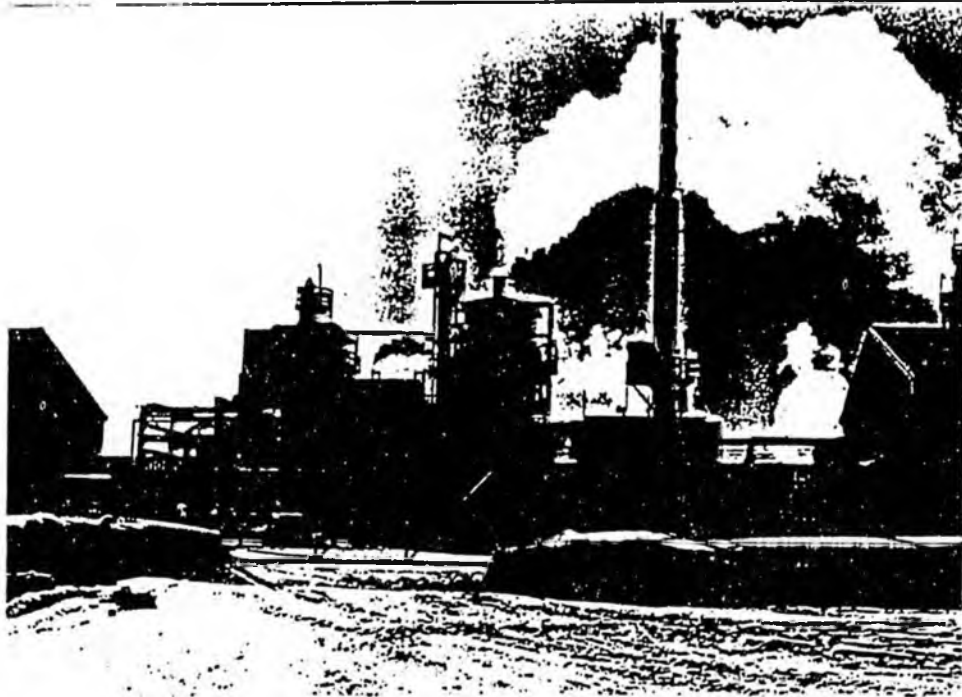


Table 2
Annual Oceanic Water Pollution from the
Nikiski Petrochemical Industry

<u>pounds</u>		<u>toxic waste</u>
3,300,000	*	nitrogen compounds
2,400,000	*	sulfuric acid
690,000	*	unidentified suspended solids
140,000	*	oil and grease
18,000	*	zinc
7,000		ethylene glycol
2,500		1,1,1 trichloroethane
970	*	chromium
460	*	phenols
550	*	sulfide
370		polynuclear aromatic hydrocarbons
200		cyclohexane
200		xylenes
130		benzene
60		toluene
7		ethylbenzene
7		arsenic
7		cadmium
4		nickel
4		cyanide
<hr/> 6,500,000	total	
	*	regulated by current Clean Water Act permits

compiled from current EPA National Pollution Discharge Elimination System permits (NPDES), DEC waste water permits, and facility reports required to Superfund section 313 of Title III Emergency Planning and Community-Right-to-Know Act

Ground Water

Ground water pollution data is difficult to calculate. Leaking piles and pits of waste; such as the Sterling Special Waste Site, Tesoro's hazardous waste surface impoundments, and drilling mud pits, leak at undetermined rates over a long period of time. Oil spills contaminate not only the aquifer but soils above the water table which release hydrocarbons for decades.

Because of the lack of data on volumes of contaminated ground water two examples were chosen. The volumes of waste illustrated here do not account for the fact these waste mingle with clean ground water making the total amount of pollution much greater.

If we want to find out how much ground water is eventually polluted we need to have sufficient monitoring wells to determine the extent of contamination. I could not find a single waste site with an adequate number and types of monitoring wells. Therefore all I can say is there is a much larger amount of ground water pollution than listed here.

In calculating the data for Table 3 information was used from only three sites, Phillips-Marathon-USX refinery, Unocal-Mitsubishi chemical plant, and a Unocal underground injection well.

Table 3

Contaminated Water Dumped
Annually into the Ground Water
Without a Permit or in
Violation of Permit Conditions

<u>pounds</u>	<u>toxic waste in water</u>
92,000,000	ammonia, arsenic, urea, phenols
52,000,000	groundwater contaminated from a hazardous waste site
<hr/> 144,000,000	

compiled from current EPA Safe Drinking Water Act Underground Injection Control permits and DEC waste water files

4.2 Regulation

Two regulations control water pollution the Clean Water Act and the Safe Drinking Water Act. It is the national policy of the Clean Water Act to prohibit the discharge of toxic

pollutants in toxic amounts (Federal Water Pollution Control Act 1988). However the standards for discharge are more commonly based on physical observations rather than precise chemical analysis. For example off shore oil platforms and major oil production facilities must not have a visible oil slick or floating solids. The serious problem of cancer risks associated with dissolved benzene and other aromatic hydrocarbons is disregarded.

The Safe Drinking Water Act authorizes the injection of toxic and hazardous waste into the ground water. Alaska is authorized to permit oil and gas industrial waste disposal. The federal government permits the injection of hazardous wastes. Under ground injection wells nationally account for the majority of all hazardous waste disposal. In Alaska under ground injection wells operate with minimal if any restrictions at all.

4.3 Compliance

Phillips-Marathon-USX

A cluster of shallow underground injection wells on the Phillips facility, dumps contaminated water without a state or federal permit.

Marathon-USX

The oil production facility dumped waste water onto wet lands and Cook Inlet without permits (Erickson 1986, Soderlund 1984). Additionally Marathon Oil sued EPA in the Fifth Circuit Court of Appeals to an effort to relax their permit requirements (Geren 1987). Marathon lost the case and EPA subsequently proposed Administrative Orders under section 309 of the Clean Water Act requiring Marathon to change the facility and cease discharges to the wetlands.

Tesoro

Tesoro reported a "small underground oil spill" that grew from 40 to 2,000, to 150,000 gallons, to 700,000 (Crawford 1988b, Chappell 1988). Ground water under the refinery is polluted, now known to have as much as three feet of petroleum product on the water table, causing Unocal to abandon a water well.

When Tesoro increased production capacity the allowable pollution increased (Bowker 1986). Studies have shown the refinery water pollution effluent to be so toxic that all species subjected to a 1:10 dilution were killed and even a 3% mixture severely affected reproduction (Duncan 1987).

Unocal-Mitsubishi

The Unocal permit based allowable amounts of pollution on a mixing zone, yet when the pipe diffusers become plugged the pipe was cut underwater, thus negating the permit mixing zone calculations (EPA 1988).

Unocal dumped hazardous and toxic waste into both surface and ground waters in violation of both state and federal regulations, some examples follow.

- * By pouring "only" 4 barrels at a time into Cook Inlet, Unocal attempted a "midnight clean up" to dispose of over 50,000 pounds of a hazardous waste containing methanol and formaldehyde, in violation of the Resource Conservation and Recovery Act Clean Water Act (Burd 1987a).

- * Over 200 unpermitted underground injection wells are used to dump contaminated water, in violation of Alaska waste water discharge regulations (Lucky 1984a). Additional unpermitted wells are allowed under a "gentleman's agreement" (Turner 1984). The ground water under the plant is contaminated with arsenic, ammonia, and urea.

- * An underground injection well exceeded pressure limits and injected prohibited waste, a violation of permit conditions (Burd 1987b)

Unocal claimed their carcinogenic arsenic containing hazardous waste is "less toxic than table salt" (Turner 1983). Unocal's lack of concern for the public health is illustrated by the use of human subjects for a taste and odor panel used to screen contaminated water. A claim was made "Should any contaminated water somehow reach a domestic water well, the water would acquire a detectable taste or odor prior to becoming hazardous." (Scott 1975).

Compliance problems are complicated by the multiple authorities of state and federal regulatory agencies. Consequently pollution problems are not addressed in a comprehensive manner. For example, the following actions occurred in response to water pollution problems at Unocal.

1. Groundwater investigation was transferred from RCRA to Superfund (Miller 1985).
2. Because of the contaminated ground water and unpermitted air releases the Superfund investigation calculated a Hazard Ranking System

score (called an HRS score) over 30, high enough for National Priorities List nomination (Tryck, Nyman, and Hayes 1987; HRS Documentation file with held from public review).

3. Unocal compliance issues were reassigned back to RCRA.
4. EPA environmental specialists stated that there are neither plans nor schedules to evaluate the ground water contamination issue under RCRA.

After nearly a decade and a half of documented ground water pollution under Unocal neither state nor federal authorities have taken enforcement actions.

5. Contaminated Soils, Sludges, and Spills

The most common forms of solid waste management at the Nikiski petrochemical facilities is "dump waste on the ground or spread it on the roads." As a consequence industry

disposes of their waste where convenient - in their back yard, where cheap - at inadequately permitted "special waste" dumps, or even illegally in gravel pits.

5.1 Petroleum Refineries

All three refineries generate some "listed hazardous waste" as defined by 40 CFR 261.32. Not all the refineries generate all of these wastes.

Chevron Refinery

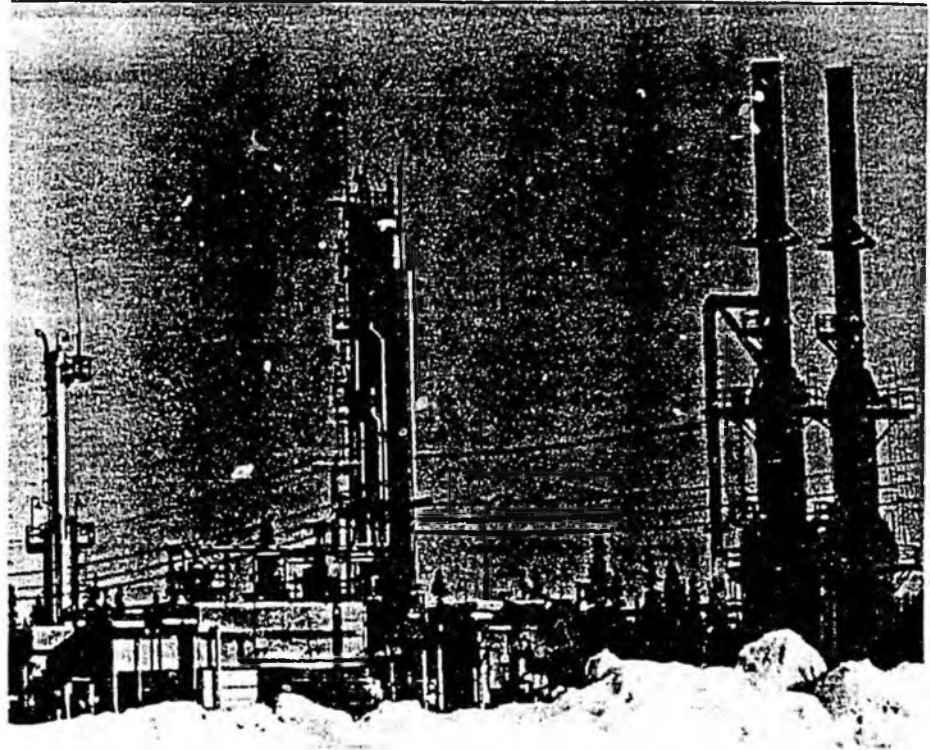


Table 4

Listed Hazardous Waste Common to
Petroleum Refineries

<u>Hazardous Waste</u>	<u>EPA No.</u>
dissolved air flotation float	K048
slop oil emulsion solids	K049
heat exchanger cleaning sludge	K050
API separator sludge	K051
leaded tank bottoms	K052

Tesoro

Past hazardous waste practices resulted in fines totalling \$57,750 (Caldwell 1986, and Findley 1987). The hazardous waste violations include the following.

1. Tesoro dumped hazardous waste into unlined pits dug in porous soils (Findley 1987).
2. Hazardous waste was pumped out of the pits and spread on public roads (Necessary 1988).
3. Hazardous waste was illegally stored and shipped (Fuentes 1984).

4. Hazardous waste solids were allegedly recycled. Unacceptable uses included making disposal pits walls out of hazardous wastes sludge (Torok 1983).

Tesoro generates 10,000,000 pounds of elemental sulfur each year. Sulfur is dumped on the ground without a permit.

Chevron

At least three kinds of hazardous waste are generated at the Chevron refinery. In the past, Chevron dumped their hazardous waste both at the Sterling Special Waste Site and in pits at the rear of Chevron property (TetraTech 1984, Rice 1985). Currently, hazardous waste solids are added to consumer products (Burgh 1987a), this disposal method is not approved by RCRA. Solids derived from hazardous waste are not eligible for recycling (40 CFR 261.1). Chevron was twice served Notices of Violations for noncompliance with hazardous waste laws (Alexakos 1987). Other improper practices include dumping oil filter waste on roads for the purpose of disposal (Williams 1984).

Phillips-Marathon-USX

API separator sludges, which are listed hazardous wastes, are not stored, treated, and/or disposed as required by RCRA. Waste oil, possibly mixed with API hazardous waste is dumped on the ground with the intent of disposal (Burgh 1987b).

Filter charcoal contaminated with arsenic and mercury is analyzed for toxicity using EP-tox, an inappropriate and inapplicable test method considering the requested disposal methods (Patterson 1988). EP-tox tests used are intended to determine if waste should be in single or triple lined permitted landfill, in either case a permanent cap is placed over the waste. The EP-tox test results were used to justify dumping the contaminated charcoal on roads as "road oiling", rather than managing it as solid waste. The most recent incident involved 22,000 pounds of contaminated charcoal.

5.2 Chemical Plant

Solid waste problems are evident in two areas; solids and sludges, and hazardous waste.

Unocal-Mitsubishi Solids and Sludges

Unocal dumps toxic waste on facility grounds (Table 5) using waste for fill or simply dumping it in gravel pits.

Table 5

Toxic Waste Dumped Annually on the Ground at the
Unocal-Mitsubishi Chemical Plant

<u>pounds</u>	<u>waste</u>	<u>type of toxic waste</u>
3,600,000	sludge	metals
470,000 [#]	catalyst	metals
16,000	resins	synthetic polymers
<hr/>		
4,086,000		

Each day 10,000 pounds toxic metal sludges are dumped into gravel pits, an analysis of the sludge appears in Table 6 (Unocal 1980, EPA 1988).

Table 6

Toxic Metals Found in
Unocal-Mitsubishi Chemical Plant Sludge

<u>toxic metal</u>	<u>concentration</u> (ppm)
arsenic	3,300
cadmium	3
chromium	230
copper	25,500
lead	160
nickel	161
zinc	250,000

(Tryck, Nyman, and Hayes 1987)

Unocal generates one half million pounds of catalyst each year. Laboratory testing in 1983 indicated used catalysts are hazardous waste due to high levels of extractable chromium. Unocal repeated laboratory analyses until the

catalyst passed EP-tox tests, and then declared their waste "safe". Intra-laboratory differences of more than 100, between three separate labs were not resolved (Heus 1983), and the catalyst waste was "declared" non hazardous. Used catalysts are dumped on the ground, used for fill, and buried (Tryck, Nyman, and Hayes 1987). No solid waste permits were found for these disposals.

Industrial accidents include Unocal dumping more than 800,000 pounds of air pollutants in a single incident (Tryck, Nyman, and Hayes 1987). Major spills of ammonia such as this occur on a regular basis, usually two or three times a year (Crawford 88a). As a result of spills and inadequate operating procedures off site air monitoring instruments have exceeded maximum readings for six hours at a time (Lucky 1985). These recurrent problems prompted a proposal for an ambient air standard for ammonia; however the proposal is stalled largely due to Unocal-Mitsubishi pressure on the DEC (Merrill 1988). Another dangerous incident occurred during an unregulated and unapproved clean up of a hazardous waste spill (formaldehyde and methanol) toxic gasses escaped in an uncontrolled chemical reaction, (Turner 1982) spreading across public roads and endangering both people and

industrial facilities; including potentially explosive liquid natural gas tanks (storage for the largest exporter of gas in North America).

Hazardous Waste - Waste Oil

In a single incident, Unocal attempted to dispose 70,000 pounds of drummed hazardous waste by giving it to the City of Kenai for road oiling (White 1986). The oil was hazardous waste because it contained excessive amounts of halogenated solvents, in addition to significant but unregulated amounts of arsenic, cadmium, chromium, and lead (Laurie 1987). After several years in storage the hazardous waste was moved from city storage yards back to the chemical plant. No records of manifests, storage facility permits, or other required RCRA reports were found in the public record.

Current solvent disposal methods at Unocal include dumping halogenated solvents into waste oil (Tryck, Nyman, and Hayes 1987, Burgh 1986). This practice is clearly prohibited by RCRA.

Hazardous Waste - Formaldehyde

Illegal disposal into Cook Inlet of formaldehyde hazardous waste was discussed in section 4.3. Unocal also dumped an undetermined amount of formaldehyde at the Sterling Special Waste Site (Burgh 1985).

Hazardous Waste - Arsenic

Unocal "burns" arsenic contaminated oil calling the practice recycling. Each year over one million pounds of hazardous waste is sprayed into a boiler not originally designed to burn hazardous waste, 10% goes up the stack and 90% accumulates within the boiler and must be scrapped off by hand thus increasing worker health risk (MacClarence 1985b, Unocal 1987) .

Arsenic hazardous waste spills are managed by a system of alleged recycling. Arsenic laden hazardous wastes (soil, rags, etc) are washed with hot water (Unocal 1987). The arsenic contaminated wash water is dumped into a lagoon on Unocal property (Laurie 1985a). According to Unocal the

arsenic is recycled into plant processes; but according to other Unocal documents this claim is suspect because incoming plant water must be deionized and cleaned prior to use, Unocal cannot use dirty water (Turner 1983). Residual arsenic in waste water cannot be recycled for the intended use of corrosion inhibition because sodium arsenite is a reactive compound and will not retain it's anti-oxidant properties when haphazardly mixed with dirt and hot water. Additional evidence is provided by the fact arsenic precipitates into lagoon sediments (Tryck, Nyman, and Hayes 1987) as opposed to Unocal's claim arsenic is recycled.

Serious and chronic problems concerning storage and spillage of hazardous waste exist at the chemical plant. The following problems were found.

- * EPA stated that Unocal violated the same RCRA storage regulation as many as three times in only four months (Findley 1984).

- * In a single year as much as 640,000 pounds of hazardous waste were spilled at the chemical plant (Lucky 1984b).

- * A Superfund investigation revealed hazardous waste and hazardous substance spills were a common problem. Between 1983 and 1985 there were seven reported major hazardous waste spills (Tryck, Nyman, and Hayes 1987).

- * Unocal ignored RCRA regulations and stored over 140,000 pounds of hazardous waste in violation of 40 CFR 270.71. Further mismanagement resulted in unreported spillage from bulldozers knocking over drums of hazardous waste (Smith 1984).

- * Over 1,000,000 pounds of hazardous waste is generated and stored each year at the Unocal plant. Two large hazardous waste tanks (190,000 pound total capacity) are called "temporary" and do not have RCRA permanent tank permits (Laurie 1985b).

- * A Superfund investigation revealed hazardous waste and hazardous substance spills were a common problem. Between 1983 and 1985 there were seven reported major hazardous waste spills (Tryck, Nyman, and Hayes 1987).

- * Unocal ignored RCRA regulations and stored over 140,000 pounds of hazardous waste in violation of 40 CFR 270.71. Further mismanagement resulted in unreported spillage from bulldozers knocking over drums of hazardous waste (Smith 1984).

- * Over 1,000,000 pounds of hazardous waste is generated and stored each year at the Unocal plant. Two large hazardous waste tanks (190,000 pound total capacity) are called "temporary" and do not have RCRA permanent tank permits (Laurie 1985b).

5.3 Petroleum Production Facilities

Marathon illegally operated disposal pits with expired permits at the Trading Bay facility (Crawford 1988c). The pits contain a mixture of oily sludges and toxic waste. Monitoring wells show contamination of the water and soils.

Oil spills are managed by dumping oil contaminated dirt on local roads in violation of DEC regulations (Cannone 1985, Curtis 1987, Lucky 1986b, c, d, e, & f).

5.4 Regulation

Laws controlling "solid waste" are the most complicated environmental regulations in effect today. Each law has numerous exemptions, exceptions, and special cases for large industries. For example oil spills are exempt from Superfund, and most mining and oil and gas industrial wastes are exempt from RCRA. Sludges from waste water treatment lagoons are left entirely to local control.

RCRA and Solid Waste

The Resource Conservation and Recovery Act (RCRA) regulates "hazardous waste". It is not easy to determine if a waste is a hazardous waste. How the waste was generated can be "more important" than the actual type and volume of waste. For example methanol used by the oil and gas industry for exploration and development is exempt, but methanol used by a local gas station is regulated. Methanol waste caused several young people death on Alaska North Slope.

Some kinds of hazardous waste can be declared nonhazardous if mixed with sufficient clean dirt. If other kinds of hazardous waste are mixed with clean material then the whole mixture is classified as hazardous waste. It is beyond the scope of this paper to describe the numerous shortfalls of hazardous waste laws.

Superfund

The Comprehensive Environmental Response Compensation and Liability Act (CERCLA or Superfund) evaluates the threat to public health from past disposals. As with RCRA there are exemptions. Oil and petroleum waste is excluded. There are two serious flaws with Superfund. The first is that sites are ranked using a hazard ranking system (called an HRS score), if the score is above 28.4 the EPA may nominate the site to the National Priorities List (NPL), and begin clean up activities. If the HRS score is below 28.4, action is seldom if ever taken. A serious consequence of the scoring system is that clean ups are unlikely in villages and towns with big problems but small populations. The second flaw lies in the fact the scoring process is subject to polluter pressure. The polluter may be large and internationally based, such as a mining company or oil and gas related industry, or even state government itself. Members of the affected public are not allowed to review the score. Contributing to the problem EPA has claimed "executive privilege" and exempted itself from the Freedom of Information Act regarding HRS score disclosure.

5.5 ComplianceRCRA and Solid Waste

Enforcement of RCRA is shared between DEC and EPA. Currently DEC conducts facility inspections and EPA is responsible for the enforcement. Inspections are infrequent and often superficial, DEC has never taken a sample from any of the four Nikiski facilities for RCRA enforcement (Dietrick 1983a). With a single exception, enforcement actions and fines resulted solely from anonymous complaints.

Enforcement of Alaska solid waste regulations is usually voluntary. Monitoring requirements are limited, post closure plans absent, and applications non existent for most oil and gas drilling mud disposal pits. New solid waste regulations were enacted by DEC but recent applications show little change from past practices.

What are these?

Superfund

Officially there are no sites within the Kenai peninsula that score above 28.4, however the Unocal-Mitsubishi chemical plant has an HRS score of 33. The public is not allowed access to the EPA record. DEC has cooperated with EPA in with holding HRS scoring information.

Several sites are undergoing "voluntary clean up" efforts; such as, the Union Oil Gravel Pit dump near Poppy Lane, an AMOCO production facility, and the Sterling Special Waste site. An informal use of "technical assistance" is the predominate method of enforcement. Compliance Orders, clean up standards, and procedures pertaining to remedial actions were not found. Little if any official correspondence or documentation is available. Currently the public has great difficulty or may face impossibilities when attempting to find out if a site was adequately cleaned up or even the standard of how "clean is clean".

6. Conclusions

After tabulating the mass of pollutants, analyzing the violations, checking on enforcement actions, and evaluating the compliance records three problems are evident.

1. POLLUTION

Although nearly invisible to a casual observer the Nikiski petrochemical industry generates and dumps a lot of pollution each year:

2,300 tons on the ground,

3,200 tons into the ocean,

33,000 tons into the air.

These wastes do not include wastes from oil and gas drilling, production facilities, or underground injection, wastes which are greater in volume but lower in toxicity.

Nor do these numbers include waste generated from the clean up of hazardous - toxic waste sites which could be in excess of 100,000 tons for a single site with great variations in toxicity.

2. VIOLATIONS

Violations of pollution control laws are a frequent occurrence. Some industries have chosen to simply ignore existing laws, others violate them on almost a daily basis.

3. ENFORCEMENT and COMPLIANCE

Laws with sole federal jurisdiction have the best compliance record (Clean Water Act).

Federal laws the state is authorized to enforce have a poor compliance record (Clean Air Act and Resource Conservation and Recovery Act).

State laws without federal jurisdiction are almost without compliance or enforcement (solid waste, waste water treatment sludges, oil spills, and clean ups not ordered by Superfund).

7. Recommendations

The state of Alaska cannot enforce environmental pollution control laws. Other states which rely on one or two major industries; such as, oil or mining, experience similar pollution control problems. Enforcement actions usually require considerable legal resources. The legal reserves of a multinational corporation greatly exceed those available to a state environmental regulatory agency. In addition regulatory agencies may not have sufficient funding or expertise to inspect, sample, and analyze.

If a federal pollution control law is violated a private citizen has the legal right to enforce that law. Citizen enforcement actions have major positive impacts regarding

compliance with the Clean Water Act in interior and arctic Alaska.

RECOMMENDATION 1

Alaska state law should be amended to allow citizen enforcement of all environmental pollution control laws. Federal provisions for citizen enforcement should be adapted to state law. Precedence in state laws should make this possible. Alaska law allows citizen enforcement in both mining (AS 27.21.950) and oil and gas (AS 31.05.170) activities, such provision should be extended to solid waste and waste water regulations.

RECOMMENDATION 2

Ensure that staff who work in technical assistance are not the same people who conduct enforcement actions. The DEC should have legal assistance dedicated to environmental pollution enforcement. Affected citizens

should have to right to be actively involved in Compliance Orders and enforcement actions.

RECOMMENDATION 3

Potentially affected citizens should be given the right to conduct inspections of facilities regulated under both state and federal law.

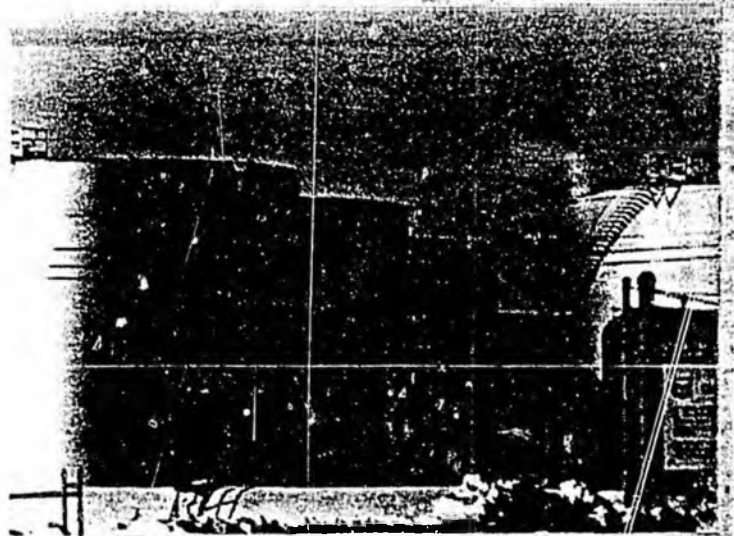
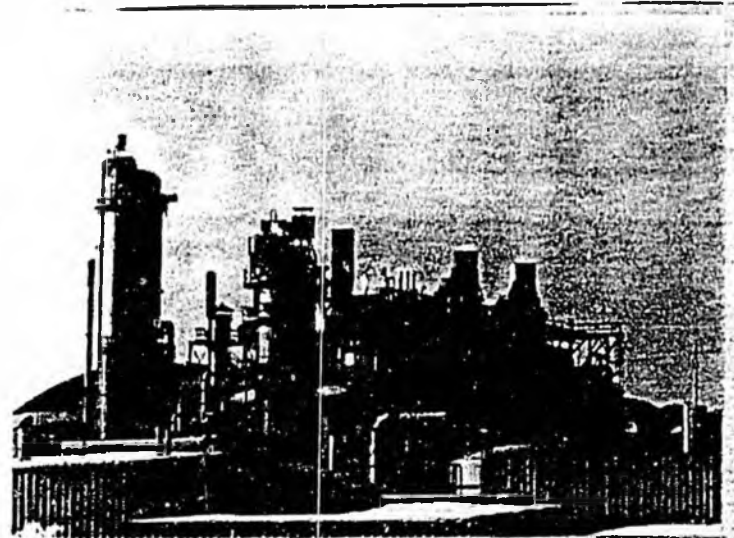
RECOMMENDATION 4

The clean up of hazardous - toxic waste sites is arbitrary. A task force composed of regulated industry, victims of improper waste dumping, environmental groups, and independent experts should be formed to develop guidelines for state regulations governing state clean up efforts. Current Alaska law provides for functioning and funding of an Environmental Advisory Board. The governor should appoint this board (AS 44.46.030).

RECOMMENDATION 5

The Cook Inlet general permit is inappropriate for on shore production facilities. A site specific permit such as required by the Alyeska terminal at Valdez should be required for on shore oil production facilities.

Unocal and Chevron



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NON-CRUDE ISSUES ADDRESSED IN HB 565 AND HB 567

<u>ISSUE</u>	<u>EXISTING LAW</u>	<u>ADMINISTRATION PROPOSAL 3/15/90</u>
Penalty Levels	<p>\$10/gallon for anadromous stream or other freshwater environment;</p> <p>\$2.50/gallon for sensitive or confined saltwater areas;</p> <p>\$1/gallon for unconfined saltwater, public land or freshwater without significant aquatic resources.</p> <p>Subject to a schedule that varies for toxicity, degradability and dispersal characteristics, as well as receiving environment.</p>	<p>\$12.50/gallon for any surface or subsurface freshwater environment;</p> <p>\$8/gallon for sensitive or confined saltwater areas;</p> <p>\$6/gallon for unconfined saltwater, public land or subsurface land.</p> <p>Subject to the existing schedule that varies for toxicity, degradability and dispersal characteristics.</p>
Exemptions	Spills of less than 18,000 gallons <u>are not</u> subject to penalties under AS 46.03.758.	Spills of less than 18,000 gallons <u>are</u> subject to penalties under AS 46.03.758.
Cleanup Credit	Allows the court to deduct the amount of oil removed from the environment when calculating penalties, with no regard for the length of time involved in the cleanup operation.	Allows the court to deduct the amount of oil removed from the environment within the first 36 hours of a discharge onto surface water or land when calculating penalties. Does not allow any credit for subsurface spills.
Financial Responsibility	SEE ATTACHED CHART	SEE ATTACHED CHART
Contingency Plans	Not required for facilities with less than 10,000 barrels storage capacity.	Not required for facilities with less than 10,000 barrels storage capacity. The department would be given the authority to survey, inspect, and inventory facilities with a storage capacity between 5,000 and 10,000 barrels. The department will report back to the legislature within a year with recommendations to address oil spill prevention and response for facilities under 10,000 barrels.

To: All Teleconference Sites

From: Rep. Menard, Co-chair House Resources
Rep. Davidson, Co-chair House Resources

Attached is the Governor's new proposal regarding financial responsibility requirements in HB 567. The financial responsibility requirements in the original version of HB 567 have been withdrawn.

Both HB 565 and HB 567 are being modified by the House Resources Committee. Tonight we welcome additional assistance and comments on both bills as we continue our efforts to craft legislation that meets the needs of Alaskans and minimize costs for small utilities and fuel distributors.

TABLE 1

**Oil Contingency Plan Requirements
Financial Responsibility Requirements
Vessel Inspection**

Tesoro

TYPE OF FACILITY	CURRENT FINANCIAL RESPONSIBILITY REQUIREMENTS	SB 504 HB 567	PROPOSED 3/15 REVISION
Crude Oil Terminals			
> 10,000 bbl.	\$1 million up to \$50 million @ \$10/bbl. capacity	\$50 million	\$50 million
5 - 10,000 bbl.	None	\$50 million	\$50 million
Non-Crude Terminals			
> 10,000 bbl.	\$1 million up to \$50 million @ \$10/bbl. capacity	\$50 million	10 to 26,000 bbl. = \$5 million
5 to 10,000 bbl.	None	\$1 million	> 20,000 bbl. = \$10 million
Offshore exploration and production facilities			
	\$35 million	\$50 million	\$50 million
Crude Oil Tank Vessels and Barges			
	TAPS = \$14 million, Non-TAPS = \$20 million. TAPS covered for an additional \$86 million per vessel.	\$500 million	\$500 million
Non-Crude Oil Tank Vessels and Barges			
	Tank Vessels = \$20 million, Barges = \$1 million	\$20 million	< 5,000 bbl. = None 5,000 to 10,000 bbl. = \$.5 million 10,000 to 50,000 bbl. = \$1 million 50,000 to 100,000 bbl. = \$10 million 100,000 + bbl. = \$20 million

x 1/2 the capacity? Since total failure is unlikely...

*more than 1 facility
AVEC*

TANKER MORE LIKELY TO HAVE SPILL YET REQ. FOR NON-CRUDE TERMINALS IS 10X THE AMOUNT REQUIRED FOR VESSELS

← NONCRUDE

→ CRUDE

	1977	AncCPI	USCPI	Approx Oil Index	565 (1977)	ORIGINAL 565 (1977)
FW	\$10	18.40	19.67	13.32	12.50	50 50
SW	\$2.50	4.59	4.92	3.33	8.00	50 25
Open SW	\$1.00	1.84	1.97	1.33	6.00	25 10

\$8/gal ≤ 10,000 bbl
(420,000 gal)

\$12.50/gal > 420,000 gal

Exxon Valdez @ \$12.50 = \$137,500,000 (cleanup 1 order of magnitude higher)
w/penalty matrix = \$68,750,000