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Table 3.

Estimated Alaska North Slope Production and Pipeline Profits (Nominal and Inflation-Adjusted $)

(1) Year	(2) Inflation Rate	(3) Index Factor	(4) N. Slope Production & Pipeline Profits (Nominal $)		(5) N. Slope Production & Pipeline Profits (1993$)
1977	6.5%	2.4636	$260,000,000.00	=	$640,533,059.05
1978	7.6%	2.3132	$1,209,000,000.00	=	$2,796,693,638.12
1979	11.3%	2.1498	$4,048,000,000.00	=	$8,702,555,990.47
1980	13.5%	1.9316	$4,161,000,000.00	=	$8,037,275,842.70
1981	10.3%	1.7018	$4,490,000,000.00	=	$7,641,201,239.06
1982	6.2%	1.5429	$4,733,000,000.00	=	$7,302,579,412.79
1983	3.2%	1.4528	$5,483,000,000.00	=	$7,965,875,475.50
1984	4.3%	1.4078	$5,999,000,000.00	=	$8,445,287,367.71
1985	3.6%	1.3497	$4,854,000,000.00	=	$6,551,655,202.82
1986	1.9%	1.3028	$3,018,000,000.00	=	$3,931,974,942.87
1987	3.6%	1.2785	$3,215,000,000.00	=	$4,110,534,516.59
1988	4.1%	1.2341	$2,684,201,060.00	=	$3,312,627,5[illegible].22
1989	4.8%	1.1855	$3,403,006,200.00	=	$4,034,312,887.15
1990	5.4%	1.1312	$4,756,638,600.00	=	$5,380,785,880.80
1991	4.2%	1.0733	$3,171,429,900.00	=	$3,403,768,854.47
1992	3.0%	1.0300	$3,066,172,320.00	=	$3,158,157,489.60
1993	–	1.0000			
Total Profits (ANS Production and Pipelines):			$58,551,448,080.00	=	$85,415,819,355.91
			(or)		(or)
			$58.6 billion nominal $	=	$85.4 billion 1993 $

Notes

(2) Consumer Price Index (CPI-U); annual % change from previous annual U.S. city average, all items (U.S. Department of Labor, CPI Detailed Report: Data for January 1993, p. 80).

(3) = (Subsequent year index factor) * (current year inflation)

(4) 1977-87 profits from: Edward B. Deakin, Oil Industry Profitability in Alaska 1969 thru 1987 (Alaska Dept. of Revenue, March 15, 1989, Appendix E); 1988-92 profits calculated by the author from published sources.

(5) = (Col. 3) * (Col. 4)

DISCUSSION

This analysis indicates that the disputed vapor recovery system could be purchased at a cost of approximately four percent of one year's after-tax profits. Tractor tugs could be purchased for less than one percent — approximately three days' profits. Put otherwise: Spread across the 6.8 billion barrels forecasted North Slope production between now and 2010,[13] the combined expenditure for these environmental amenities would come to less than $0.0225 (2-1/4 cents) per barrel.

How big is the 1986-93 average annual ANS production and pipelining profit of $3.7 billion, anyway? To answer that question, it will be useful to look at the annual "Fortune 500" ranking of the nation's largest industrial corporations. If ANS production and pipelining profits were controlled by one firm instead of three, that company would have equalled the performance of the second most profitable company on the Fortune 500 in 1991 and would have ranked fourth in 1992.[14]

What about the thesis of Alyeska's Hermiller's that the pipeline operator must cut costs in order to "keep the pipeline a viable economic enterprise" because production is declining? First of all, since the TAPS line is wholly owned by the North Slope producers, its sole function is to transport ANS and there is no alternative means of transport, it is fatuous to consider TAPS on a stand-alone basis. The pipeline is an integral part of North Slope operations.[15] Hermiller's warning, then, is properly analyzed in terms of production and pipeline profits together, as shown in the previous tables. To examine Hermiller's argument, ANS operations for the year 2000 can be analyzed in terms of Table 1, using the Alaska Department of Revenue's forecast assumptions for price and volume.[16] The results are summarized in Table 4.

Table 4. Estimated ANS Production and Profits in 2000 A.D.
(1992 $ per barrel)

Forecast Production 355.4 million barrels (971,000 barrels per day)

Forecast Price	$19.54
Forecast TAPS, Feeder Line Tariffs	($2.80)
Forecast Tanker Costs	($1.44)
State Royalties, Production & Property Taxes	($3.87)
Production Costs	($4.45)
State, Federal Income Tax	($2.36)
Industry Production Profit	$4.62
Industry TAPS, Feeder Line Profit	$0.71
Total Industry Profit per-barrel	$5.34

Source: North Slope Profits and Production Prospects, p. 72 (using Alaska Dept. of Revenue Spring 1992 forecast assumptions for state fiscal year 2000).

In the year 2000, additional costs of $0.0225 (2-1/4 cents) per barrel for hard-piping and tractor tugs would have a negligible effect on profits. Because these costs are effectively shared with state and federal governments, the loss to the producers would

amount to approximately one cent per barrel, compared to estimated tax-paid North Slope production and pipeline profits of $5.34 per barrel. Over the course of that year, those expenditures would result in a reduction of less than $4 million to estimated net profits totalling $1.9 billion. In making long-term production decisions, a two to three cent per-barrel change in costs is apt to be lost in the noise of the much larger uncertainty about prices. Long-range planning forecasts often consider price changes in $5-per-barrel increments. Finally, these data indicate that in terms of net income, at the end of the century profits from North Slope operations would still be on a par with the seventh most profitable corporation in the nation in 1991.

In the absence of information the industry treats as proprietary, it is difficult to make useful internal rate of return calculations. However, it is interesting to note that Deakin's accountancy study estimated the internal rate of return through 1987 at 43.7% if 75 percent of the total investment were financed with debt. Asuming 100% equity financing, Deakin estimated an after-tax rate of return on cash flow of 29.7%.[17] These data indicate that Hemiller's thesis, although logically correct, is practically useless. Due to the extraordinary profit from ANS operations, the environmental costs against which Alyeska officials habitually rail are virtually irrelevant to long-term planning.

Many pieces of the oil market price puzzle are not reported publicly. Even those that are published are often subject to dispute. These results should therefore be regarded as estimates rather than precise statements of North Slope profits. After reviewing the effects of changing key factors, Deakin estimated that with better public information, his estimate might range downward by 4% or upward by 10%.[18] Similar revisions to the 1988-92 numbers are possible, although upward revision in industry profits seems much more likely than downward. In sum, while the North Slope producers have consistently declined to make profit figures public, it is believed that the data used in this analysis produce an estimate of profits that is quite conservative.

This analysis considers only the profits earned from North Slope production, feeder line shipments to Prudhoe Bay and TAPS shipments to Valdez. These figures do not include the profits North Slope producers derive from transportation from Valdez to the Lower 48, or from refining and marketing of ANS. One reason for excluding these downstream profit sources is that even without ANS, the producers arguably could realize similar profits using non-ANS crude oil sources to run equivalent transportation and essentially identical refining and marketing operations.

Two other values of ANS have been identified. One is the value of a stable supply of crude oil that North Slope development provides the owner companies. Without ANS, the companies would have to rely for their oil supply on the shifting sources of the open market. Ownership of ANS production enables the major North Slope producers to plan and design their refineries with an assured supply. Quantification of this advantage, however, would require the introduction of assumptions whose bases would be difficult to validate.

The second additional benefit of North Slope operations resides in the collection by TAPS owners, through the TAPS tariff, of funds for the eventual dismantling and removal and restoration (DR&R) of the 800-mile pipeline corridor. This is the item cited by Alyeska's Williams as the kind of environmental cost that could cause

Alaska's golden goose to cackle its last. In fact, DR&R has turned into a hidden or off-book cash cow for the North Slope producers of uncelebrated but astonishing proportions. Instead of requiring that the funds collected against this vague legal obligation be held in an identifiable reserve account or placed in escrow to ensure their availability for future use, the 1985 TAPS tariff settlement[19] allows the TAPS owners to co-mingle this money with internal accounts, re-invest it for profit or distribute it to shareholders. According to the terms of the 1985 settlement, the money collected for DR&R was supposed to equal the amount required to restore the pipeline corridor to its previous condition. Due to changes in calculating factors such as inflation, tax rates and estimated corporate earnings on internally-held funds over the 35-year estimated life of the pipeline, it has been estimated that if dismantling actually takes place in the second decade of the next century, TAPS DR&R collections will exceed requirements by $11.7 to $22.1 billion in 1992 dollars.[20] This projected gain to the TAPS owners from TAPS DR&R is in excess of — over and above — the annual after-tax profits calculated in this report. Many industry observers believe the pipeline will be in operation for a much longer period, further increasing the value of the precollected DR&R payments to the owner companies.

One of the surprising facets of North Slope economics is that its extraordinary profitability is so dimly understood by the public. In a lengthy front-page report in May 1993, the Anchorage Daily News explained ARCO's presence and prospects in Alaska this way:

> ARCO is here, [CEO Lodwrick] Cook and analysts said, because it has to be: because it understands Alaska and Alaskans, because it owns so many oil leases in the state and because its enormously profitable refining and retailing system is geared for North Slope crude.[21]

All of this may be true, but the article omitted all reference to North Slope profits, which are roughly twice that of the company's "enormously profitable refining and retailing system."

CONCLUSIONS

Alaska is the frequent scene of intense debates in which environmental and economic values are pitted against each other. In those debates, crucial facts about energy and the environment are frequently obscured. The public, groping blindly in the absence of meaningful data, looks to its elected officials and bureaucrats for leadership and information. Public officials, in turn, seem perpetually impaled on the horns of the environment v. development dilemma. Even development spokesmen sometimes seem to be confused about key facts that underlie the central issues.

A straight-forward approach to North Slope profitability cuts through rhetoric to produce estimates of the extraordinary per-barrel net profitability of Alaska's North Slope operation. These data indicate that the North Slope producers have ample room to make additional environmental expenditures, if warranted, despite public pronouncements to the contrary by industry officials.

Decisions involving energy and the environment inevitably involve a balancing of economic and ecological factors. In view of the statements of Alyeska Pipeline Service Co. officials on Alaska North Slope economics, it is to be hoped that industry's environmental assessments are better than its public economic analyses.

NOTES

1. Seven major oil companies own the 800-mile TAPS pipeline, which transports Alaska North Slope crude oil from Prudhoe Bay to Valdez, where the oil is loaded on tankers for the Lower 48 states. Three companies — ARCO, BP and Exxon — own approximately 91.5% of TAPS and 93% of ANS production (the latter figure is net of royalty). For specific field and TAPS ownership percentages, see British Petroleum, Prudhoe Bay and Beyond [7th Edition; n.d.], p. 2.

2. Damage from the Exxon Valdez spill is the subject of debates among oil spill specialists. See, for example, "Information on Valdez Oil Spill — Scientific Studies Sponsored by Exxon" (Exxon press packet summarizing materials presented at the Symposium on Environmental Toxicology and Risk Assesment, sponsored by the American Society for Testing And Materials), April 26-29, 1993 and "NOAA Response to Exxon Challenge to Exxon Valdez Natural Resource Damage Assessment Database" (National Oceanic and Atmospheric Administration), April 27, 1993.

3. In 1971, British Petroleum's head of Environmental Studies promised "[f]or any oil spill . . . prompt and effective containment. . . . .The best equipment, materials and expertise . . . will make operations and Port Valdez and in Prince William Sound the safest in the world." In subsequent years industry officials frequently made similar promises. However, by 1989 Exxon had entrusted the newest and largest ship in its Alaska fleet to a Captain who had been barred from driving in two states for drunk driving. The Captain, in turn, left the supertanker in control of an inexperienced and overworked Third M[illegible] with a helmsman at the wheel who was felt by colleagues to be incapable of painting a wall withc[illegible] close supervision. When the spill occurred, the Valdez-based response barge, which was supposed to have been ready to go on immediate notice, was out of the water for repairs. Key response equipment, such as pumps and containment boom, were either unavailable or buried under several feet of snow. (For promises: Alyeska Pipeline Service Co., Hearing Testimony [at U.S. Department of Interior hearings, Anchorage, February 1971], pp. 32-33. For spill and botched response, see: National Transportation Safety Board, Hearings May 1989 and Marine Accident Report—Grounding of the U.S. Tankship EXXON VALDEZ on Bligh Reef, Prince William Sound, near Valdez Alaska, March 24, 1989, esp. Findings and Probable Cause, pp. 166-170 [Report No. NTSB/MAR-90/04] and Alaska Oil Spill Commission, Final Report [State of Alaska, Feb. 1990], pp. 5-59.)

4. See: Regional Citizens Advisory Council, Resolution 92-2, Sept. 28, 1992; and letter from J.B. Hermiller, President, Alyeska Pipeline Service Co., to Scott Sterling, President, Regional Citizens Advisory Council, Nov. 16, 1992.

5. See: Analysis of Tanker Escort Services for San Fracisco Bay, July 1992 (prepared for Harbor Safety Committee of the San Francisco Bay Region by Robert Allan Ltd.); Foss/ARCO Tanker Escort Study (Puget Soud), Sept. 1991; Crowley Maritime Corporation, "Crowley Marine Services to Purchase Eight New 9,000 h.p. Tractor Tugs," Feb. 9, 1993 (press release).

6. M.F.G. Williams, "Economic Regulations and Development" (Conference on Energy Issues for the 1990s [University of Alaska Anchorage School of Business and Organization of Petroleum Exporting Countries conference], Anchorage, July 23-24, 1992), p. 2. Mr. Williams omitted mention of the fact that TAPS owners have already collected a sizable fortune for this purpose through the liberal terms of the 1985 TAP[illegible] tariff settlement (see "Discussion," below).

7. Anchorage Times, Jan. 12, 1992 (speech reprinted in its entirety by Alyeska Pipeline Service Co.]

8. For a more detailed discussion of the sources and factors employed in this spreadsheet, see the author's North Slope Profits and Production Prospects (report to the Alaska State Senate Finance Committee, Nov. 11, 1992), pp. 30-41. The approach used in this analysis is similar to the model of per-barrel profitability laid out by Charles Logsdon, Ph. D., Alaska Dept. of Revenue Chief Economist, in a July 1992 paper. ("Alaska's Relationship with the Major Oil Producers," Conference on Energy Issues for the 1990s [University of Alaska School of Business and OPEC; Anchorage, July 23-24, 1992], p. 6.) However, Dr. Logsdon's table delineates production revenue and therefore omits pipeline profits.

9. A 1984 study found the North Slope's three major producers paid an average of 23.25% in federal taxes from 1981 to 1983. In a 1988 update, ARCO and BP were not reported but Exxon paid approximately 23% from 1981 through 1987. (Robert S. McIntyre ad Robert Folen, Corporate Income Taxes in the Reagan Years: A Study of Three Years of Legalized Tax Avoidance [Citizens for Tax Justice, 1984], pp. 32-33, 36; Robert S. McIntyre, Johathan M. Crystal and David C. Wilhelm, The Corporate Tax Comeback [Citizens for Tax Justice and the Institute on Taxation and Economic Policy, 1988], p. 43.

10. TAPS profits include both the after-tax margin and the recovery of deferred return (lines 5e and 5f, Table 1).

11. Edward B. Deakin, Oil Industry Profitability in Alaska, 1969 through 1987 (Alaska Dept. of Revenue, March 15, 1989). For a comparison of the results produced by the two models, see North Slope Profits and Production Prospects, p. 60.

12. The 1991 data in Table 1 were produced from separate calculations for each of the five major North Slope producing fields, each of which has its own operating, capital and pipelining costs, as well as its own market value (based on the quality of the oil produced). A simplified version of the model was developed, using estimating factors to produce average North Slope profit figures for 1988 through 1990, and for 1992. Results from the 1992 field model closely matched those of the simplified version.

13. Alaska Department of Revenue, Spring 1993 Revenue Source Book, mid-scenario simulated oil production, p. 47.

14. According to the Fortune 500, the five most profitable companies in the United States in 1991 and 1992 (followed by their net after-tax income, in millions of dollars) were: 1992: (1) Phillip Morris, $4,939.0; (2) Exxon, $4,770.0; (3) General Electric, $4,725.0; (4) Merck, $1,984.2; (5) Bristol Meyers-Squibb, $1,962.0. 1991: (1) Exxon, $5,600.0; (2) Phillip Morris, $3,006.0; (3) General Electric, $2,636.0; (4) Merck, $2,121.7; (5) Bristol Meyers-Squibb $2,056.0.

15. In fact, it is conceivable that TAPS profits, which are guaranteed in the tariff agreement, could enable the owners to continue producing profitably despite short-term production revenue losses due to relatively low oil prices. Whether Alyeska officials actually misperceive TAPS as a stand-alone economic entity, as their public pronouncements indicate, is beyond the scope of this paper.

16. The price and production assumptions used in this analysis, from the Alaska Department of Revenue's Spring 1992 forecast, are rather conservative. For example, that forecast assumed a 50% production decline at Kuparuk by the year 2000 with little or no replacement production from the West Sak reservoir. ARCO, which has the major interest in both fields, has indicated that Kuparuk will probably hold at current levels through the end of the century, and that West Sak production may be brought on line when Kuparuk does slow down. (For a detailed look at the assumptions used and the results, see North Slope Profits and Production Prospects, pp. 69-79.)

17. Oil Industry Profitability in Alaska, 1969 through 1987, pp. T74-75.

18. Oil Industry Profitability in Alaska, 1969 through 1987, pp. 20, T58-T63.

19. "Settlement Agreement between the State of Alaska and ARCO Pipe Line Co. [et al.]," June 28, 1985, p. 14.

20. For the history of the DR&R provision in the TAPS settlement and an analysis of its economic consequences, see the author's Hidden Billions: The TAPS DR&R Provision (report prepared for Stan Stephens, PO Box 1297, Valdez, Alaska, 99686, August 21, 1992).

21. Kim Fararo, "Stuck on Alaska: Arco's bet pays off for state, company," Anchorage Daily News (May 23, 1993), p. A-1.

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Freelance research and writing (October 1989 - present). Primary focus: Alaska North Slope oil and gas economics, production prospects and environmental policy.

Previous Positions:

Policy Analyst, Office of Management and Budget, Office of the Governor of Alaska (1987-89). Duties: special advisor to the governor on oil and gas issues; member of state oil and gas litigation policy working group; member of state revenue forecasting group; special assignments.

Senior Analyst, Office of Management and Budget, Office of the Governor of Alaska (1983-1987). Duties: compilation of state revenue and budget totals, preparation and publication of annual report on same; special assignments.

Freelance investigative reporting and research (1976-1982).

Resources and Staff Investigative Reporter, Fairbanks Daily News-Miner (1975-1976).

Freelance investigative reporting (1972-1975).

Assistant Professor of Political Science, University of Alaska (1969-71). Duties: Teaching undergraduate and graduate courses in government; setting up and leading Master's in Public Administration Program at the University's Juneau branch.

Academic Training: Beloit College, B.A., 1964; Claremont Graduate School, M.A., 1967; Claremont Graduate School, Ph.D., 1970 (all degrees in government). Major areas of focus include Contemporary China and comparative politics, public administration. Doctoral dissertation on "Green Card" Labor and the 1968 California Grape Strike in the San Joaquin Valley; master's essay on the sociological theory of collective behavior.

Academic Awards: National Defense Foreign Language Fellowship, 1966-67; National Endowment for the Humanities Post-Doctoral Fellowship, 1971 (declined); Danforth Fellowship for Economic Reporting, University of Missouri School of Journalism, 1976.

Print Journalism (partial list of publications): Articles on a wide range of subjects ranging from the use of chemical and biological warfare in Southeast Asia to investigation of a U.S. Senator's mismanagement of the bank he previously headed have appeared in magazines such as Alaska, Alaska Business, Lithopinion, The Nation, The New Republic, The Progressive, Saturday Review / World and newspapers including The All-Alaska Weekly, The Anchorage Daily News, The Boston Globe, The Chicago Tribune, The Miami Herald, The St. Louis Post-Dispatch and The Washington Star.

Print Journalism (awards): Amos Tuck Award for Excellence in Economic Reporting ($5,000 first prize, 1979, for a series on the Northwest Energy Co.'s efforts to build a natural gas pipeline from Alaska's North Slope to the Lower 48); best weekly column, Alaska Press Club (1975, for coverage of construction of the trans-Alaska oil pipeline); best reporting (weekly) and second best reporting (daily), Alaska Press Club (1979, for reporting on workers' compensation problems).

Research Reports, Monographs:

"Cook Inlet Oil Platform Hiring Practices," Alaska State Legislature (1980);

"Fatalities during Construction of the Trans-Alaska Pipeline," Alaska Science Conference (1980);

"Workers' Compensation Problems in Alaska," Alaska State Legislature (1981);

"Chaos in the Capitol: The Alaska State Budget System in Crisis," Alaska Public Interest Research Group (1982);

"Oil and Gas Revenue Disputes: Status Report and Recommendations," Alaska State Legislature (1990);

"The 1985 TAPS Tariff Settlement: A Case Study in the Effects of Confidentiality on Information Available to Decision Makers" (supplemental report to "Oil and Gas Revenue Disputes"), Alaska State Legislature (1990);

"Corexit 9580: Report and Recommendations," Alaska Department of Environmental Conservation Oil Spill Response Center (1990);

"North Slope Production Prospects, 1990-2010," Alaska State Legislature (1990);

"Worker Safety and the Dutch Harbor Fishery Boom," Alaska State Department of Labor (1991);

"Alyeska Pipeline Terminal Ballast Water Treatment and Northbound Shipments: Final Report," Prince William Sound Regional Citizens' Advisory Council (1991);

"Hidden Billions: The TAPS DR&R Provision," under contract to Stan Stephens, Valdez, Alaska (1992);

"North Slope Profits and Production Prospects," Alaska State Legislature (1992);

"Alaska North slope Oil Profits and Proposed Environmental Mitigation Measures," for presentation to the N. Amer. Conference, International Association for Energy Economics (1993).

Book chapters:

"Cambodia: The Struggle Continues," in Vietnam: What Kind of Peace? (Washington, D.C.: Indochina Resource Center, 1973);

"The Press in Alaska," in McBeath and Morehouse (eds.), Alaska State Government and Politics (Fairbanks, Alaska: University of Alaska Press, 1987).

Additional Experience in Oil & Gas:

1. Legal and Accounting: In addition to extended field trips to assist the Alaska Department of Law and its consultants on disputes over payments to the state due from (or related to) North Slope oil production and income taxes, royalties and pipeline tariffs while working for the State of Alaska, I furthered my professional training in these areas by attending the following meetings or professional conferences of special note:

Oil Pipeline Ratemaking Workship, Executive Enterprises, Inc. (Houston, Texas, May 1985);

Short Course on the Fundamentals of Oil and Gas Law and Taxation , Southwestern Legal Foundation (Dallas, Texas, May 1988);

OPEC Meeting (observer for State of Alaska; Vienna, Austria, November 1988).

2. Environmental: In 1989 I spent more than a month in Prince William Sound assisting the State Department of Environmental Conservation in the cleanup of the Exxon Valdez oil spill. In addition to frequent follow-up visits to Prince William Sound, I subsequently attended the following major conferences (partial list);

Arctic Marine Oil Pollution Conference (Calgary, Alberta, June 1989; and Vancouver, B.C., June 1991);

International Oil Spill Conference (Prevention, Behavior, Control, Cleanup), American Petroleum Institute, U.S. Coast Guard and U.S. Environmental Protection Agency (San Diego, California, March 1991;

Third American Society for Testing and Materials (ASTM) Symposium on Environmental Toxicology and Risk Assessment — Exxon Valdez oil spill (Atlanta, Georgia, May 1993).

References: Available on Request.

Conference Announcement and Call for Papers

International Association for Energy Economics
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- Transmission
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- Privatization

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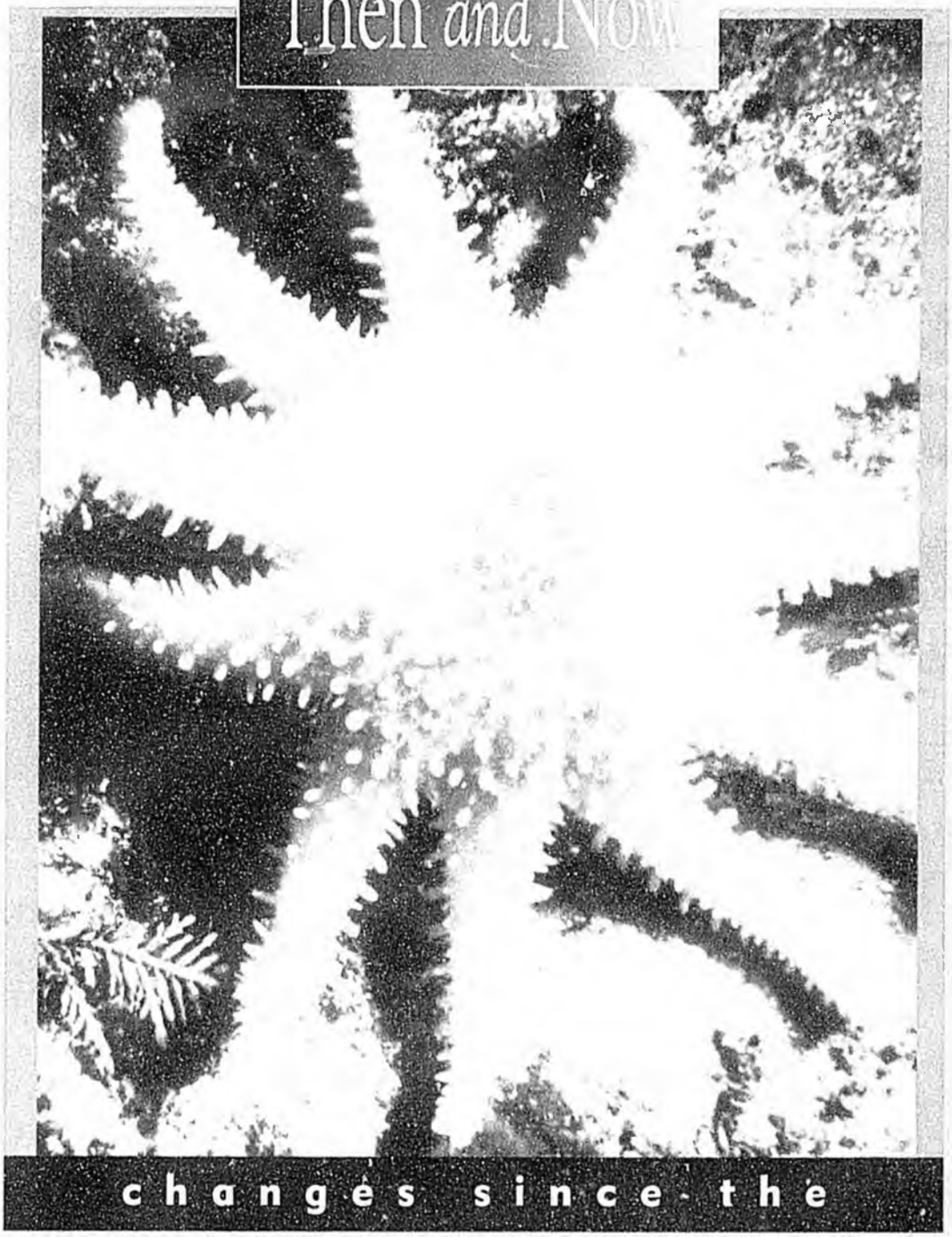
Then and Now



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mission

Citizens
promoting
environmentally
safe operation
of the
Alyeska
terminal and
associated
tankers.

Regional Citizens' Advisory Council

CONTENTS

Then and Now

THE *EXXON VALDEZ* OIL SPILL WAS not simply a freak accident. While Exxon as the spiller should be held fully accountable and responsible for the spill and its impacts, there were myriad other factors that allowed it to happen. The oil industry, government agencies, elected officials and, to some extent, the citizens of Alaska also share varying degrees of responsibility for conditions that allowed the spill to occur and failed to ensure prompt, effective cleanup.

The oil industry failed to maintain adequate prevention and response systems.

Regulatory agencies failed to protect public resources because of ineffective or inadequate monitoring, oversight and enforcement.

State and federal elected officials were unwilling to pass laws strong enough to protect the environment and give regulatory agencies the funds they needed to protect public resources.

Most Alaskans simply weren't paying attention.

The *Exxon Valdez* oil spill was caused by the ship's master and crew. It could have been prevented by stronger prevention practices and vigilant government oversight. Once the spill occurred, better response planning could have lessened the impacts.

This publication provides an overview of how factors that led to the nation's worst oil spill have been addressed in the ensuing four years. Are the resources and communities of Prince William Sound and the Gulf of Alaska better protected from a major oil spill than they were four years ago? Can Alaskans now breathe easier?

The Regional Citizens' Advisory Council of Prince William Sound (RCAC) believes Prince William Sound and communities in the path of tanker traffic clearly are much better protected now. Yet, continued vigi-

lance is essential to ensure that protections aren't diluted and that gains are not lost as political memory dims.

Much has changed since 1989, mainly because of new and revised federal and state laws and regulations spurred by the *Exxon Valdez* oil spill. The goal of this publication is to provide the general public with information about many of the changes implemented, and some of the gaps that still remain, as a measure of how much the risk of major oil spills has been reduced.

This publication was produced by the RCAC, an independent non-profit organization formed after the *Exxon Valdez* oil spill to promote environmentally safe operation of the crude oil terminal in Valdez, Alaska, and the tankers it serves.

Under a contract with Alyeska Pipeline Service Company, RCAC monitors and advises Alyeska on terminal operations, spill prevention and response planning, and other environmental issues. RCAC conducts independent research, monitors regulatory activity and advises tanker owners and operators, regulatory agencies and the public, on issues related to oil transportation and its environmental impacts.

RCAC's 18 n ember organizations include communities affected by the *Exxon Valdez* oil spill and interest groups with a stake in the affected region.

The federal Oil Pollution Act of 1990 requires an industry-funded citizens' advisory group for Prince William Sound; the RCAC is certified as the entity that meets the requirement.

The views expressed in this document are those of the RCAC, which is solely responsible for the content. ★

—June 23, 1993

Continued vigilance is essential to ensure that protections aren't diluted and that gains are not lost as political memory dims.

HISTORICALLY, once oil is spilled on water it is never fully contained and recovered. Despite improvements in containment and cleanup technology, it has been virtually impossible to recover all the oil from a major spill, even in the most favorable conditions. Indeed, the best-laid response plans in the world are no guarantee that any spilled oil will be recovered since severe weather conditions can render even a good response plan useless.

The first line of defense must be prevention.

The U.S. Coast Guard's Vessel Traffic Service (VTS) system functions as the waterway manager for major shipping including tankers traveling to and from the Valdez Marine Terminal. Numerous changes have been made to update and improve the system. These changes enhance the Coast Guard's ability to monitor and provide traffic advisories to inbound and outbound tankers from its Vessel Traffic Center in Valdez.

Tanker positions are plotted every three minutes through the Valdez Narrows and every six minutes elsewhere.

PHOTO BY SEAN REID © 1992

Radar coverage has been upgraded to provide better resolution in varying weather conditions and at an extended range.

The *Exxon Valdez* left the tanker lanes altogether to avoid ice. Now, if a vessel of 1,000 or more gross tons encounters ice, the one-way zone—which has always applied through the Valdez Narrows—is extended to Bligh Reef. The extended one-way zone allows a tanker to avoid ice by using any portion of the traffic separation scheme, without risk of collision with an on-coming vessel.

A third permanent position, watch supervisor, was added to the Vessel Traffic Center, to supervise the radar and radio watch standers. Qualifications and training for watch standers have also been upgraded and expanded.

Reporting and communica-

tions have been upgraded. New repeater towers installed by Alyeska allow better two-way communications between tankers and the Valdez Marine Terminal. Coast Guard personnel now track and plot tanker positions every three minutes while the tanker is in the Valdez Narrows and every six minutes elsewhere in the radar coverage area between the terminal and Bligh Reef. If a ship moves from one traffic lane into another, to avoid ice for example, fixes are taken every three minutes until the vessel re-enters its correct lane.

A new tracking system, to begin operating in mid-1994, will enable the Coast Guard to track tankers beyond Bligh Reef. The new system will give a visual display of all tankers between the terminal and approaches to Hinchinbrook Entrance. The new system will automatically transmit tanker position data, determined by a satellite-based global positioning system, back to the Vessel Traffic Center.

A fixed navigational aid tower has been installed on Bligh Reef. Studies required by federal law are investigating additional navigation aids and the adequacy of tanker navigation safety standards.

Traffic lanes
Watch supervisor added
More radar coverage
Navigational aid—Bligh Reef
Tracking system *(to come)*

The *Exxon Valdez* was traveling, unaccompanied by an escort vessel, at 12 knots and accelerating when it approached icebergs northwest of Bligh Reef. Tankers now must be accompanied by escort vessels and must stay within one-half mile of the escorts. Alyeska limits the maximum speed of the escort vessels to 10 knots in Prince William Sound, thereby indirectly limiting the speed of the tanker, as well.

Since 1977, the U.S. Coast Guard has restricted laden tankers to a maximum speed of 6 knots through the Valdez Narrows. After a steering malfunction in 1992 on the tanker *Kenai*, Alyeska

ordered escort vessels to stay within one-quarter mile of the tanker through the Narrows.

In the past, tankers could request permission to deviate from the traffic lanes altogether. Tankers now must remain in the traffic lanes, although they may request Coast Guard permission to move from one lane to the other if circumstances warrant.

The Braer goes down on the coast of Shetland, the victim of severe weather.
PHOTO BY SCOTT STERLING

Weather Restrictions

Weather restrictions on tanker traffic were instituted after the *Exxon Valdez* oil spill. Now, the Coast Guard closes Port Valdez to tanker traffic if sustained winds are 40 knots or more. If sustained winds are between 30 and 40 knots, the Coast Guard requires additional tugs through the Valdez Narrows: a total of two tugs for tankers up to 100,000 dead weight tonnage (DWT) and three tugs for tankers over 100,000 DWT. Alyeska suspends escorts altogether in sustained winds over 40 knots, because such weather would render spill response impractical, if not impossible. If escort vessels encounter such winds while under way, they normally proceed. In more severe weather conditions, escorts may turn back, but that occurs infrequently *(see "Areas of concern")*.

While severe weather was not a factor in the grounding of the *Exxon Valdez*, it has been a factor in other major spills, most recently the *Braer* off Scotland's Shetland Islands. After the *Braer* incident, the Coast Guard Captain of the Port in Valdez evaluated conditions at Hinchinbrook Entrance and instituted new weather restrictions there. Outbound laden tankers may not transit Hinchinbrook Entrance if sustained winds in the Gulf of Alaska are 60 knots or more, or if seas reach 15 feet or greater.

Tanker Crews

Until April 1989, signs of alcohol use did not prevent tanker crews

from returning to their vessels through the terminal. Under new alcohol screening procedures instituted by Alyeska, all tanker captains are given breath tests an hour before sailing. Crew members suspected of consuming alcohol are tested; any with blood alcohol content of .04 percent or greater are denied access to the terminal and their vessel.

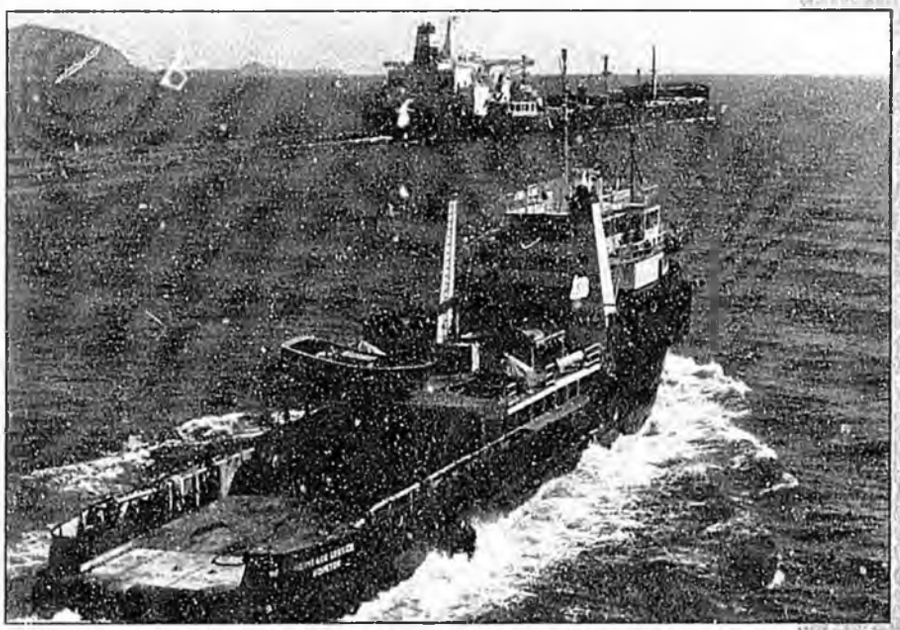
A state-certified ship's pilot must be on board all tankers transiting between Bligh Reef and the terminal. A federally-licensed pilot or two licensed deck officers must be on watch on the bridge while the vessel is under way in Prince William Sound between Bligh Reef and Seal Rocks. Federal law also now limits the number of hours crew members may work, to reduce the risk of fatigue-induced accidents *(see "Areas of concern").*

Tanker Escorts

Spill prevention measures begin before a tanker leaves the terminal. State regulations now require that all tankers docked at the Valdez Marine Terminal be surrounded with containment boom while cargo is transferred.

The Coast Guard has always required laden tankers to have one tug escort through the Valdez Narrows. Now, the State of Alaska requires each laden tanker to be accompanied to Hinchinbrook Entrance by at least two escort vessels. Up to two additional tugs may be required through the Valdez Narrows, depending on weather conditions and vessel size. Federal law, under the Oil Pollution Act, also requires two escort vessels in Prince William Sound. The Coast Guard is writing regulations to implement that requirement.

The escort vessels have two functions: to assist a tanker disabled or in trouble and to provide the first line of defense should a spill occur. At least one of the escorts is a spe-



The Heritage Service escorts a laden outbound tanker.

PHOTO COURTESY ALYESKA PIPELINE SERVICE CO. © 1989 DAVID PREDEGER

cially-fitted Escort Response Vessel, or ERV, equipped with containment boom, oil skimmers, a work boat to deploy boom, storage capacity and a trained crew. The second escort may be another ERV or a tug.

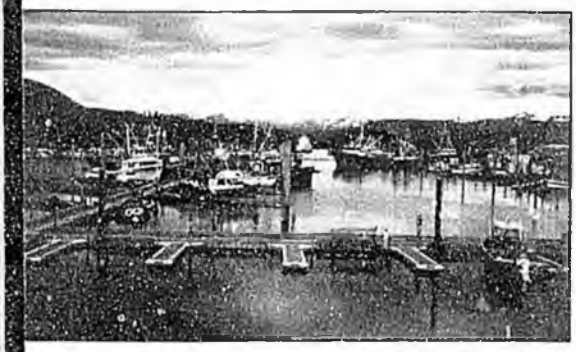
Since 1980, when the tanker *Prince William Sound* drifted powerless for approximately 17 hours, tankers calling at the terminal have carried towing packages to facilitate hook up with an escort vessel *(see "Areas of concern").*

One of the most important steps taken to prevent and reduce oil spills is the federal requirement that by 2015, all tankers in U.S. waters must have double hulls. Double hulls are to be phased in, with certain vessels to be converted or scrapped on schedules based on size and age of the vessel.

Double hulls are important because studies indicate that double hulls could have prevented five of the six major oil spills in Alaskan waters between 1975 and 1990. In the case of the *Exxon Valdez*, one study said a double hull could have reduced the amount of oil spilled by 60 to 80 percent.[1]

Double-hulled vessels existed long before 1989, and more have been built since then. However, no double-hulled tankers are currently used in the trans-Alaska pipeline system (TAPS) trade. Most of the tankers calling at the terminal in Valdez were built in the 1970s. Approximately one-third of the tankers now coming to Valdez have double bottoms.[2] On three of the double-bottom tankers, the wing tanks are left empty, making them de facto double-hulled tankers.

The structural integrity of the tanker *Exxon Valdez* was not an issue in its grounding. However, in 1988, a report issued by the Coast Guard identified the TAPS trade fleet as disproportionately affected by structural failures. The problem was underscored in January 1989, when the tanker *Thompson Pass* spilled 71,000 gallons of crude oil at the terminal because of cracks in its hull. The Coast Guard now requires more stringent inspections of tankers vulnerable to structural failure.



[TOP] *Citizens whose communities may be ot risk from tanker traffic are represented on the Citizens' Advisory Council of Prince William Sound Regional. Pictured: Jim La Belle, Chugach Alaska Corp., and Larry Evanoff, Chenega.*

[BOTTOM] *Cordova is one of 18 communities and interest groups that make up the Regional Citizens' Advisory Council of Prince William Sound.*

PHOTO BY RICHARD NEWMAN

The *Exxon Valdez* oil spill generated a shift in the oil industry's attitude about the need to communicate with and involve local citizens in issues and decisions that affect their lives. That change in attitude was exemplified by former Alyeska President James Hermiller, who in the summer of 1989, actively supported formation of a citizens' advisory group funded by Alyeska.

Citizens are involved in preventing and responding to oil spills through the RCAC. There is a similar citizens' group for Cook Inlet and another is forming among citizens of Northwest Alaska. The RCAC has 18 member organizations consisting of communities affected by the *Exxon Valdez* oil spill and other interest groups with a stake in the region.

The RCAC monitors terminal and tanker operations in the area impacted by the *Exxon Valdez* oil spill, conducts independent research and advises industry and government on ways to prevent oil spills and respond effectively if spills do occur. The RCAC is funded through a contract with Alyeska Pipeline Service Company. The RCAC, or a similar citizens' advisory group, is required by the federal Oil Pollution Act of 1990 (OPA 90) as a demonstration program that eventually may be applied in other U.S. ports.

Citizen advisory groups do not necessarily prevent complacency among the general public, but they can serve as an early warning system to alert industry, government

The *Exxon Valdez* oil spill generated a shift in the oil industry's attitude about the need to communicate with and involve local citizens.

and the public of problem areas.

Prior to 1989 there was no mechanism, other than public hearings required by regulatory agencies, for citizens to advise the oil industry or otherwise speak directly on operations that affect their communities and livelihoods. Earlier attempts by Prince William Sound residents to give their input to oil industry representatives were generally met with negative responses.

Alyeska and others in the oil industry have become more sensitive to and communicate better with Alaskans in coastal communities, where residents' lives depend on the Sound's resources.

The Alaska Department of Environmental Conservation (ADEC) and the U.S. Coast Guard are the two agencies most directly responsible for oversight and monitoring of the Valdez Marine Terminal and oil tanker traffic. After the *Exxon Valdez* oil spill, both agencies were criticized for failing to either implement or enforce adequate prevention measures.

Changes have been made in both agencies.

At the state level, the *Exxon Valdez* oil spill focused public and political attention on the need for ADEC to have the authority and funding to monitor and oversee terminal and tanker operations, programs which had been under-funded through the late 1970s and '80s.

After 1989, state funding increased significantly for spill drills, review and approval of contingency plans, and facility and vessel inspections. Oil-related functions were consolidated into one division, called Spill Prevention and Response (SPAR). State legislation passed in 1990 provided the authority, resources and funding that ADEC needed to effectively monitor and oversee industry operations and implement spill prevention and response programs.

ADEC now has the authority, which it didn't have before, to require and enforce prevention measures as a condition for approval of contingency plans. Those measures include more training, more equipment, more inspection and maintenance of equipment, better record-keeping

The Exxon Valdez oil spill focused public and political attention on the need for better monitoring and oversight.

and specific requirements for laden tankers.

However, the progress appears to be woefully short-lived, since ADEC is under attack again and many of the gains made are now at risk *(see "Areas of concern")*.

The Coast Guard is the federal agency most affected by the *Exxon Valdez*. As a result of the problems that emerged from the spill, the Coast Guard has a more direct role in spill prevention and response and much greater regulatory oversight of the oil transportation industry. It is responsible for implementing most of the new prevention measures required by the Oil Pollution Act of 1990 (OPA 90). ★

Progress by the state appears to be woefully short-lived, since ADEC is under attack again and many of the gains made are now at risk.

PREVENTION measures reduce the incidence and sometimes the severity of oil spills. But until prevention efforts become fail safe, the industry, regulatory agencies and the public must be prepared to respond to spills that do occur. Oil transportation poses risks to the environment. It is incumbent upon those who handle and carry crude oil, as well as regulatory agencies and the public, to make sure that spilled oil is contained and recovered to the greatest extent humanly possible.

The speed and effectiveness of responding to an oil spill hinge on the availability of equipment, resources and trained personnel. Ultimately, responding to a spill depends on planning, preparation and favorable weather.

Anyone who handles or transports crude oil or refined product is a potential spiller. Potential spillers cannot operate without an approved contingency plan for preventing and responding to a spill. What's in the plan and provisions for drills, training, acquisition of equipment, etc. is determined by state and federal laws and regulations. Requirements vary based on type of vessel or facility, location, and amount and type of cargo carried or handled.

Contingency plans were required before. But since 1989, state and federal agencies have expanded plan requirements and changed some of the assumptions. Those who must have contingency plans to operate—called "plan holders"—must provide greater assurances that personnel are being trained, that equipment and resources are available and can be mobilized quickly, and that all players have practiced their roles in preparation for an actual spill.

The size of spill assumed in a response plan makes a tremendous difference in the resources and equipment that must be available. Alyeska's 1987 contingency plan, approved by the state, said it was highly unlikely that a spill of 8.4 million gallons (three-quarters the size of the *Exxon Valdez* spill) would occur and reasoned that "Catastrophic events of this nature

are further reduced because the majority of tankers calling on Port Valdez are of American registry and all of these are piloted by licensed masters or pilots."[3]

Both state and federal law now require planning for larger potential spills than in the past, and require more spill response equipment to be immediately available.

Plan holders must have enough equipment immediately available to deal with a spill of 300,000 barrels of oil within 72 hours. Plan holders must also plan for a much larger spill based on a complicated formula that includes credit for prevention measures.

As the consortium that operates the trans-Alaska pipeline and terminal for its seven owner companies, Alyeska is the plan holder for spills on the pipeline and at the terminal. In Prince William Sound, the tanker owner or operator would be the actual spiller and therefore ultimately responsible, but Alyeska is charged by the State of Alaska with providing the initial response. Federal law requires the tanker operator to submit vessel response plans, but the vessel operator may contract with Alyeska.

Tanker owners and operators must have their own approved contingency plans, but state law requires them to contract with Alyeska to provide the initial response described in their plans. Under these contracts, Alyeska manages the spill response for up to the first 72 hours after a spill. After that, it may transfer management of the response to the spiller, so long as the U.S. Coast Guard and the Alaska Department of Environmental Conservation agree that the spiller or its representative is ready to take over.

BEING PREPARED FOR AN OIL SPILL

How much oil might be spilled?
Equipment accessible and functioning?
Who will do what?
Is everybody trained?
Fishing vessels on contract to help out?
Who's in charge?

Alyeska's escort response vessels are equipped to respond quickly if a spill occurs. PHOTO © SEAN REID

Fishing vessel tows boom during a spill drill. Local fishermen demonstrated in 1989 that they could be effective components of spill response.

PHOTO COURTESY ALYESKA PIPELINE SERVICE CO. / RANDY BRANDON

The first three days after the *Exxon Valdez* oil spill afforded nearly ideal weather for oil recovery. Seas and winds were calm. But the equipment wasn't ready. Seventeen hours after the grounding, neither the leading edge of the spill nor the grounded tanker had been boomed and the few skimmers on-scene were operating ineffectively. Two hours later, skimming was forced to stop, pending arrival of more storage capacity. Throughout the first few days, debate raged about use of dispersants.[4] Exxon argued for widespread dispersant use, yet didn't have either enough dispersant or the equipment to do the job.

The situation now is quite different. Prince William Sound is home to Alyeska's Ship Escort and Response Vessel System (SERVS), among the top oil spill response forces in the world.

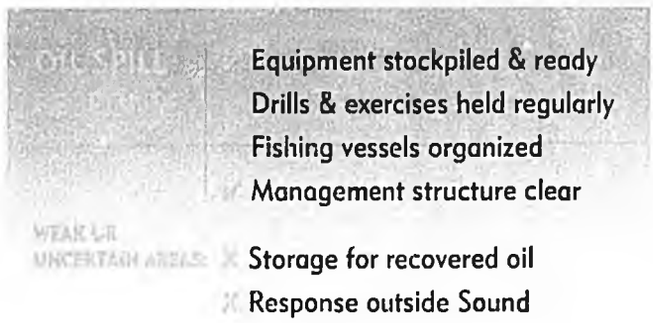
SERVS has two functions: to assist tankers in safe navigation through Prince William Sound and respond to a tanker problem or spill. The escort side of SERVS' fleet consists of five escort response vessels (ERVs) and three tugs. The ERVs are equipped to

tow or assist tankers, carry spill response equipment and contain, recover and store oil. The escort vessels stay within one-half mile of the laden tanker and maintain radio communication with the tanker bridge until the tanker reaches Seal Rocks, outside Hinchinbrook Entrance.

Trained response crews are on duty around the clock and a response fleet is on standby alert whenever a laden tanker is transiting the Sound. SERVS employs approximately 200 trained personnel; another 60 people comprise Alyeska's crisis management team.

Four task forces, each with a trained crew and a large barge with two skimming systems on-board, are stationed at three sites: one each at Naked Island and Cape Hinchinbrook and two in Port Valdez. SERVS' response resources include 33 miles of containment boom, 37 high-volume skimming systems, barges to receive recovered oil and water mixture, and equipment to pump and transfer oil-water mix. Equipment is tested in drills and exercises, to reduce the chances of confusion and surprises in an actual incident.

Local fishing vessels are part of Alyeska's planned response to a tanker spill. Private vessels are used, among other things, to transport response equipment, deploy and tend boom, and mobilize pre-staged equipment to protect fish hatcheries. Alyeska has provided comprehensive response training to about 35 fishing boats and their crews. Another 300-plus



Alyeska has pre-positioned spill response equipment at hatcheries, community response centers and other sites in Prince William Sound. Community Response Centers are also set up in Kodiak, Seldovia and Seward.

fishing boats and their crews have undergone training in basic response. The fishing vessels, based in communities in Prince William Sound, the Kenai Peninsula and Kodiak Island, are under contract with Alyeska to respond according to a pre-determined call-out procedure.

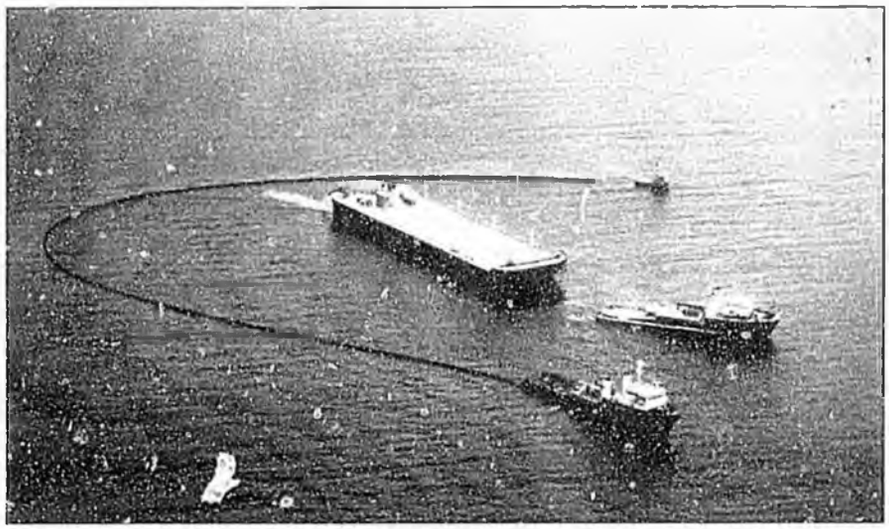
Spill containment and removal equipment is stockpiled at five fish hatcheries in Prince William Sound. Five community response centers also have been established in Prince William Sound, at Chenega, Cordova, Tatitlek, Whittier and Valdez. Three other centers have been established in Kodiak, Seldovia and Seward. Each center is responsible for coordinating emergency responses, manpower and equipment. Spill response equipment is pre-positioned at the five community response centers in Prince William Sound, and at Naked Island and Port Etches.

Two airborne dispersant delivery systems are maintained at Anchorage International Airport, for rapid mobilization if dispersant use is approved.

Storage capacity for recovered oil was a problem in the 1989 recovery effort. Boats would pick up the emulsified oil, only to find there was nowhere to put it. Alyeska now maintains storage capacity, much of it on barges, for nearly 20 million gallons of recovered oil and water mixture *(see "Areas of concern").*

Spill drills enable response personnel to become knowledgeable and proficient in the strengths and weaknesses of equipment and procedures. Major, all-systems drills are conducted twice a year, as required by the state and the Coast Guard. These major drills include state and federal agencies, fishing vessels, tanker owners and operators and the RCAC. In 1992, Alyeska conducted nine drills at the terminal, including two surprise drills. Smaller equipment exercises are held much more frequently, often on a weekly basis.

An important aspect of spill response implemented since 1989 is use of the National Interagency Incident Management System (NIIMS), an incident command system (ICS) first developed by fire fighters in California to coordinate management, resources and roles during an emergency response.



Practice—a tanker is surrounded by boom during a major spill drill.

PHOTO BY DENNIS HARDING
CHEVRON CORP

This ICS integrates the party responsible for the spill, the State of Alaska and the Coast Guard in a unified command structure that expands according to need. It also establishes a pre-determined decision-making process and a common language that significantly reduces confusion and misunderstandings among personnel from different organizations. The ICS structure has been adapted by industry and government agencies to define and coordinate their roles and responsibilities in the event of a spill. The ICS structure has been tested and practiced extensively in drills.

Other requirements added since 1989 put more emphasis on shoreline protection, identification of sensitive areas such as hatcheries, and wildlife protection. A new term was coined – Nearshore Response – to describe the effort to protect shorelines threatened by spilled oil that has escaped initial containment.

Nearshore response is a major component of spill response, in which local personnel, knowledge and resources can be used to protect critical resources and shorelines. Industry groups, RCAC and regulatory agencies have worked cooperatively to develop nearshore response plans. The nearshore response plan for Prince William Sound appears strong, but strategies for implementing it still need to be developed *(see "Areas of concern").*

One of the jobs of the RCAC is to monitor the adequacy of spill response. From left, Kristin Stahl-Johnson, John Herschleb and Ann Rothe get briefed at the Valdez Marine Terminal.

PHOTO ■ SEAN REID

After the *Exxon Valdez* oil spill, an existing spill response fund was expanded to ensure that reserves would be available to respond to a major oil spill and provide a long-term funding source for the state's spill prevention and response programs. The money for this expanded role comes from a five-cent conservation surcharge on every barrel of oil produced in Alaska. The surcharge ceases when the fund reaches $50 million.

One of the projects to be paid for from the fund is a volunteer response corps and emergency response depots to ensure prompt response in the event of another major spill. However, little progress has been made to set the up *(see "Areas of concern").*

To ensure that money will be available to pay for responding to and cleaning up a major spill, the federal Oil Pollution Act required establishment of a $1 billion oil spill liability trust fund, funded by the oil industry.

The Oil Pollution Act strengthened federal authority to order spill cleanup action and requires the Coast Guard to direct spill response actions when any spill poses a risk to public health or safety. It also provides tougher criminal penalties and higher civil penalties for the spiller.

Local citizens are involved in actual spill response and drills in several different ways. One of the jobs of the RCAC is to monitor the adequacy of spill response. RCAC representatives convey local concerns, advice observations to response and help communicate ments in the response effort to local communities. *

PROGRESS made by the State of Alaska since 1989 is in jeopardy. ADEC's ability to implement monitoring, oversight, prevention and response is being hobbled by a legislature and administration sympathetic to oil industry concerns.

Much of the state's spill prevention and response efforts are funded by a nickel-per-barrel conservation surcharge on oil producers. The surcharge was instituted after the *Exxon Valdez* spill, in part to ensure a long-term funding source for the state's spill prevention and response programs and to set aside a reserve for use in case of a future spill. The surcharge is levied only until the fund reaches $50 million. But continuous draws from the fund by the legislature have kept it from reaching that level, requiring the industry to keep paying into it.

Questionable legislative appropriations from the fund—to pay for a new state ferry, for example—have fueled efforts to narrow how the fund can be used. In the 1993 legislative session, oil industry lobbyists attempted to restrict the fund to actual spill response. Though unsuccessful in 1993, those efforts are expected to continue in 1994.

While the bill didn't pass, the message was not lost on the legislature. Most of the Fiscal Year 1994 budget cuts made in ADEC's Spill Prevention and Response Division (SPAR) are projects and programs paid for out of that fund. The result will be significant delays in programs designed to mitigate environmental impacts of terminal operations, prevent another major spill and improve response should oil spills occur. By reducing those programs, the legislature ensured that the fund will reach its $50 million cap sooner, resulting in less industry taxes.

Separate from political pressure on the response fund, there have been staffing and organizational problems. Positions in ADEC's Spill Prevention and Response (SPAR) Division have gone unfilled. As of

Progress made by the State of Alaska since 1989 is in jeopardy.

June 1992, 16 positions were vacant or unfilled, representing about 18 percent of the division's total staff. [5]

Between 1989 and 1992, the legislature appropriated nearly $10 million from the spill response fund to establish a volunteer response corps and emergency depots. Yet little progress has been made to set it up and much of the funding has lapsed because it wasn't spent. [6]

A tanker disabled at the narrowest portion of the Narrows could hit the rocks in less than 10 minutes.

Although all laden oil tankers coming into Prince William Sound must carry special towing equipment, there is significant disparity in how the towing equipment is stowed. Stowage affects how quickly the equipment can be deployed. On some tankers, towing equipment can be deployed in 15 minutes or less with a deck crew of two. On others, however, deployment would take a crew of eight at least one hour, with power, and at least three hours, without power.

Although not currently a federal requirement, emergency towing equipment is being proposed under rules to implement provisions of OPA 90.

Efficient towing packages are only part of the solution. Any towing package would be of questionable value to a tanker that loses power in the Valdez Narrows, where the navigable water shrinks to a width of 0.5 nautical mile. A tanker disabled at the narrowest portion of the Narrows could hit the rocks in less than 10 minutes. Averting a grounding in that situation would depend on the escort tug's ability to push or pull the tanker away from the rocks. It is not clear that the assist tugs and ERVs now being used in the Narrows are capable of doing so.

A study co-sponsored by the RCAC, industry groups and regulatory agencies is investigating the adequacy of current towing practices and equipment, and escort vessel deployment. The study is expected to be completed by the end of 1993.

At the center of the issue is whether the more-maneuverable tractor tugs should be required in Prince William Sound. Unlike conventional tugs, tractor tugs could be more safely attached to a tanker before it enters the Narrows. The study findings will be considered by the Coast Guard when it develops federal regulations on escort requirements.

Lack of information about weather conditions in Prince William Sound and Hinchinbrook Entrance is a problem. Because of wind patterns and local topography, readings from the wind measuring station at Potato Point are not always a reliable gauge of actual conditions. Inadequate reporting stations through the Sound mean that frequently the only information available about wind and sea conditions is from a vessel already under way.

The problem is lack of funding. During the *Exxon Valdez* oil spill cleanup, the National Oceanic and Atmospheric Administration (NOAA) temporarily placed reporting stations at numerous sites in Prince William Sound, but later removed them. The Coast Guard has requested NOAA install weather stations at various locations in Prince William Sound to provide real time weather information to aid in better vessel traffic management.

While federal law now limits the work hours of tanker crews, questions about other human factors have yet to be answered. Meanwhile, the U.S. Congress has yet to ratify international protocols for crew certification and training, even though such protocols would improve the safety and technical training of crews on foreign vessels calling at U.S. ports.

Issues such as the adequacy, qualifications and training of crews are to be addressed in a U.S. Coast Guard study of tanker navigation safety standards. The study is expected to be released in 1995. Minimum requirements for pilots also need to be re-evaluated; that issue will also be addressed in a Coast Guard study.

OVERSIGHT

Coast Guard given more authority & responsibility
ADEC given more authority and funding
Citizens have a voice

PROBLEM AREAS:

- **State politicians cutting back on spill programs**
- **Transfer of spill response to spiller (criteria vague)**

Kodiak—Oil from the Exxon Valdez hit the beaches but little has been done to assess the need there for response resources.

The nearshore response plan for Prince William Sound is good, but more work needs to be done to implement and test it. Strategies must be developed, equipment must be tested and personnel trained and drilled. The nearshore response plans are expected to be addressed more fully in future major drills, beginning in fall 1993.

RCAC continues to be concerned about the adequacy of response capabilities and preparation outside Prince William Sound. Oil from the *Exxon Valdez* washed up on the beaches of Kodiak Island and the southern Kenai Peninsula, yet little has been done to assess the needs of those areas or provide them with response resources. There are no specific detailed plans describing what resources and equipment will be provided, where they will come from, and how they will be transported to the region within the time period required.

RCAC is also concerned about whether the storage capacity outlined in Alyeska's contingency plan will be sufficient to meet actual needs in the event of a spill. This is especially critical for nearshore response. Available storage capacity affects recovery of spilled oil, because skimming can proceed only so long as there is somewhere to store the recovered oil and water.

Under its state-required contingency plan for tanker spills in Prince William Sound, Alyeska may transfer management of a spill response to the actual spiller, i.e., the vessel owner or operator. The transfer of spill management from Alyeska to the spiller must be approved by the Department of Environmental Conservation (DEC) and the U.S. Coast Guard.

However, RCAC has several concerns about the transition of response management. The criteria used to determine whether the responsible party is capable of managing the response are vague. Also vague are the criteria for determining whether the responsible party is financially able to respond. RCAC also questions whether responsible parties have the experience and training to take over in the middle of a crisis. ★

Conclusion

CAC believes Prince William Sound is better protected from major oil spills and better prepared for an effective initial response should a spill occur. Important steps have been taken to prevent oil spills from occurring. Crews are better trained and monitored. Masters are held to more stringent requirements. Measures have been instituted to increase chances of safe passage and reduce the possibility of accidents.

Several important prevention measures, such as double hulls on tankers and a study of human factors in tanker operations, will take time to implement. Getting laws on the books is only the first step and the federal rulemaking process is slow. Many of the actual requirements and specific decisions have yet to be clarified and formalized in final regulations. Laws that appear strong when enacted can be weakened through vague regulations and inadequate funding. Laws must be implemented through clear, strong regulations and enforced by committed agencies that are given the funding necessary to monitor, oversee and enforce compliance.

Yet, industry and regulators are actively demonstrating the importance of learning from experience. During 1993, the Coast Guard and Alyeska's SERVS division instituted safety changes in response to potential problems that came to light from the *Brater* spill in Shetland and the *Kenai* incident in 1992.

Response capabilities in Prince William Sound have improved dramatically. Alyeska, through its SERVS division, has done an excellent job of acquiring, stockpiling, testing and drilling spill response equipment and training personnel.

The fact that there is room for improvement in some areas should not detract from the very substantial overall progress that has been made by both industry and regulatory agencies.

In the face of such progress, it is all the more alarming to see the State of Alaska backing off its commitment to oil spill prevention and response. Alaskans who care about the safe transportation of oil and environmental protection must defend ground gained since 1989, continue to monitor implementation of new laws, strengthen weak areas and close gaps that remain. ★

Laws that appear strong when enacted can be weakened through vague regulations and inadequate funding.

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[4] Spill—The Wreck of the Exxon Valdez, Alaska Oil Spill Commission, Appendix N, "T/V Exxon Valdez Oil Spill Chronology," Ceceile Kay Richter, February 1990.

[5] Alaska's Oil and Hazardous Substance Release Response Fund: Legislative History, Operational Policies, Program Management and Use, BCSB Research and Marketing, December 1992.

[6] Ibid.

ADDITIONAL REFERENCES

- Draft Final Report: Implementation status of specific recommendations made by the Alaska Oil Spill Commission, D. Kelso, for the Citizens' Oversight Council on Oil and Other Hazardous Substances, January 1993.

- Department of Environmental Conservation Budget History, Larry Persily, Appendix E, "Spill: The Wreck of the Exxon Valdez," Alaska Oil Spill Commission, February 1990.

- Briefing: Prince William Sound Oil Spill Prevention and Response Plan, Alyeska Pipeline Service Company, March 1993.

- Department of Environmental Conservation Overview, BCSB Research and Marketing for Prince William Sound Regional Citizens' Advisory Council, August 1992.

Summary of changes SB 215

THIS TABLE LISTS CHANGES FROM THE SENATE VERSION ONLY !

	HOUSE RESOURCES CS	HOUSE STATE AFFAIRS CS
Section 1	No changes	No changes
Section 2	No changes	No changes
Section 3	No changes	Requires C&RA to return grant money unused after one year
Section 4	No changes	Technical amendment adds "actual" before costs under (a)(2)(B).
Section 5	No changes	No changes
Section 6	No changes	No changes
Section 7	No changes	No changes
Section 8	No changes	No changes
Section 9	No changes	No changes
Section 10	No changes	No changes
Section 11	No changes	No changes
Section 12	No changes	No changes
Section 13	No changes	No changes
Section 14	No changes	No changes
Section 15	No changes	No changes

Section 16	No changes	No changes
Section 17	No changes	No changes
Section 18	No changes	No changes
Section 19	Adopted DEC am#1 which directs recoveries into response mitigation first.	Same as Resources
Section 20	No changes	Deletes response to "a threatened release" from uses of response fund. Also limits response uses of prevention account to smaller spills.
Section 21	No changes	No changes
Section 22	No changes	No changes
Section 23	No changes	No changes
Section 24	Directly deposits interest from the 4 accounts into the prevention account. ** This language adds a new section to the Hse Res version. From this point on, add 1 to the number of the Senate version section to get the corresponding Hse Res section.	Goes back to Senate version
Section 25	No changes	No changes

Section 26	Adds "restoration of the environment" as a use of the response fund. Also allows prevention account money for muni impact assistance grants.	Deletes language added by Resources. Also deletes response to a "threatened release" as a use of the response fund.
Section 27	No changes	No changes
Section 28	No changes	No changes
Section 29	No changes	Amends uses so that if the Governor DOES NOT declare a disaster, use of the response fund is limited to spills 2,500 bbls or larger. Also requires, if the governor DOES NOT declare a disaster, that the commissioner report to the governor, and LB&A within 72 hours of using response money, and that the governor approve the use of the money - in writing - not later than 72 hours after the commissioner is advised of the release.
Section 30	No changes	No changes
Section 31	Additional requirement for reporting of cost recoveries on prevention account.	Deletes language added in Resources. Also expands reporting requirements to include investigating and evaluating with prevention account monies.
Section 32	No changes	No changes
Section 33	No changes	No changes
Section 34	No changes	No changes

Section 35	No changes	No changes
Section 36	No changes	No changes
Section 37	No changes	No changes
Section 38	No changes	No changes
Section 39	No changes	No changes
Section 40	Deletes the definition of "catastrophic oil discharge"	No changes FROM SENATE VERSION
Section 41	No changes	No changes
Section 42	No changes	No changes
Section 43	No changes	No changes
Section 44	No changes	No changes
Section 45	No changes	No changes
Section 46	No changes	No changes

SB 220

[redacted] IOUSE COMMITTEE REP[redacted]

(7)

Date Referred: March 25, 1994 FURTHER REFERRALS: Judiciary

Date of Committee Action: 4-5-94

The STATE AFFAIRS Committee considered: CSSB 220(STA)

CS FOR SENATE BILL NO. 220(STA) ADD "CAT" TO SCHEDULE IIA DRUG LIST

"An Act amending schedule IA of the schedules of controlled substances applicable to offenses relating to controlled substances to add the drug methcathinone, commonly identified as 'cat.'"

RECOMMENDATIONS: [ ] the same title

be replaced with _____ [ ] a new title

[ ] have attached amendments(s)

[✓] do pass

[ ] do not pass

[ ] no recommendations

[ ] individual recommendations

[ ] additional referral to the _____ Committee

ADOPTS: _____ letter of Intent

ATTACHES NEW FISCAL NOTE(s): (Dept)

[ ] fiscal impact _____

[ ] zero fiscal note _____

APPROVES PREVIOUS: (Dept/Date)

[ ] fiscal note(s) _____

[✓] zero fiscal note(s) Public Safety, Law

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	DNP	NR	AM
[redacted]	X	[redacted]			
[redacted]	X	[redacted]		✓	
[redacted]	X	[redacted]			
[redacted]	X				

[redacted]

CHAIRMAN'S SIGNATURE

JOHNNY ELLIS
SENATOR

ALASKA STATE LEGISLATURE
SENATE

DURING SESSION: STATE CAPITOL
JUNEAU, AK 99801-1182
(907) 465-3704
FAX: (907) 465-2529

AFTER SESSION: 716 W. 4TH AVE. #440
ANCHORAGE, ALASKA 99501
(907) 258-8182

MEMORANDUM

TO: Representative Al Vezey, Chair
House State Affairs Committee

FROM: Senator Johnny Ellis

DATE: March 28, 1994

RE: Scheduling CSSB 220: Adding "CAT" to schedule I (A) of the Schedules of Controlled Substances list.

****

I respectfully request that you schedule CSSB 220 for a hearing in the House State Affairs Committee at your earliest convenience.

CSSB 220 would amend schedule I (A) of the Schedules of Controlled Substances list to include "CAT", also known as Methcathinone. "Cat" is more addictive than heroin and more powerful than cocaine. As such it poses a serious threat to the citizens of Alaska.

You will find the appropriate background materials attached. I urge your support of this measure.

Thank you for your consideration.

Sponsor Statement for
Senate Bill 220
Add "CAT" to Schedule IIA Drug List

SB 220 amends schedule IA of the Schedules of Controled Substances List to include the substance Methcathinone, also known as "cat". "Cat" is more addictive than heroin, more powerful than cocaine, and is easy, inexpensive, and profitable to produce. Furthermore, it is not currently illegal in the State of Alaska.

Patented in 1957 by a pharmaceutical company in Great Britain as a diet aid and antidepressant, it was not introduced to the market because of it's highly addictive nature. In the 1970's it began to be illegally produced in Russia where it's use quickly reached epidemic proportions. In mid 1991 police agencies of Michigan's Upper Peninsula were confronted with wide spread use of "cat" which soon permeated the southern portions of the State as well as Wisconsin.

Cat is easy to make. The ingredients can be purchased by anyone and the production can be accomplished in a kitchen or the back of a van. For an investment of $500 dollars a profit of up to $20,000 may be realized. These three factors make the drug very attractive to drug dealers and organized street gangs and very dangerous to Alaskans.

Currently Alaskan law does not specifically prohibit this new and powerful drug. Cat's highly addictive properties pose a serious threat to Alaskans. With the passage of this bill Alaskan law enforcement will have the authority to protect Alaska's citizens.

I urge your support of Senate Bill 220. Thank you for your consideration.

FISCAL NOTE

STATE OF ALASKA
1994 LEGISLATIVE SESSION

BILL NO. SB 220

Revision Date: January 13, 1994
Title: "...amending schedule IIA...controlled substances...to add...methcathinone..."
Sponsor: Senator Ellis
Requestor: Senator Ellis

Department Affected: Department of Law
BRU: Prosecution
Component: All

COMPONENT SERIAL NO. 0085 through 0090

EXPENDITURES/REVENUES:

OPERATING	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
PERSONAL						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND &						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						
FUNDING:						
1002 Federal						
1003 GF Match						
1004 GF						
1005 GF/Pr [illegible]						
1006 GF/MHTIA						
OTHER						
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-
POSITIONS:						
FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME						
TEMPORARY						

Estimate of current year (FY94) impact: -0-

ANALYSIS: (Attach a separate page if necessary.)
Please see the attached analysis.

Richard L. Pegues

Prepared by: Richard I. Pegues, Director
Phone: 465-3672
Division: Administrative Services Division
Date: January 13, 1994

Richard L. Pegues /FOR/

Approved by Commissioner: Bruce M. Botelho, Attorney General
Agency: Department of Law
Date: January 13, 1994

PREPARER TO PRO[illegible] DOL F.N.
For furth[illegible]

[illegible]OVERNOR'S LEGISLATIVE OFFICE
[illegible]nor's Legislative Office

FISCAL NOTE

STATE OF ALASKA
1994 LEGISLATIVE SESSION

BILL NO. SB 220

ANALYSIS CONTINUATION:

This bill adds the drug methcathinone, commonly known as "cat", to schedule IIA of the schedules of controlled substances. Methcathinone is a powerful hallucinogen that can have devastating effects on drug users and can cause extreme aberrant behavior. Moreover, this drug can be manufactured easily and inexpensively. As a schedule IIA drug, the penalty for manufacture or delivery of "cat" would be a class B felony and the penalty for possession would be a class C felony. We do not expect a significant new caseload by the approval of this bill and, consequently, there should not be a fiscal impact for the Department of Law. And, although an additional caseload is not expected, including "cat" in schedule IIA is important because of the danger to users and the public, and because the ease of manufacture.

FISCAL NOTE

STATE OF ALASKA
1994 LEGISLATIVE SESSION

BILL NO: SB 220

Revision Date: _____ Dept. Affected: Public Safety

Title: "An act amending schedule IIA of schedules... to add the drug methcathinone common as 'cat'" BRU: Alaska State Troopers

Component: Detachments

Sponsor: Senator Ellis

Requestor: S. STA COMPONENT SERIAL NO. 799

EXPENDITURES/REVENUES: (Thousands of Dollars) (inflation not included)

OPERATING	FY 95	FY 96	FY 97	FY 98	FY 99	FY 00
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0.0	0.0	0.0	0.0	0.0	0.0
CAPITAL						
REVENUE FUND SOURCE:						

FUNDING: (Thousands of Dollars)

1002 Federal Receipts						
1003 GF Match						
1004 GF						
1005 GF/Program Receipts						
1006 GF/MHTIA						
Other						
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0

Estimate of current year (FY 94) impact: $ _____

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary.)

No fiscal impact upon the Alaska State Troopers is anticipated.

Prepared By: Francis C. Allan Phone: (907) 269-5691

Division: Alaska State Troopers Date: 01/13/93

Approved by Commissioner: _____ Date: 01/19/20

Agency: Richard L. Burton, Dept. of Public Safety

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Rev 11/92

DPS FISCAL NOTE

BILL NO: SB 220

DATE: January 19, 1994

TITLE: "An Act amending Schedule IIA controlled substances. . . 'CAT'. . ."

CONTACT: C.E. Swackhammer
Deputy Commissioner
465-4322

POSITION PAPER - Department of Public Safety

SB 220 amends AS 11.71.050B adding a new paragraph to include methcathinone or "cat". This is becoming a commonly abused controlled substance nationwide. Alaska's controlled substance statutes would allow law enforcement to address this change in the illicit drug trade with this amendment.

Methcathinone is a synthetically derived stimulant that was first developed and tested by the Parke-Davis Company 37 years ago. Research by the drug company dissuaded them from continuing development of methcathinone. This drug is similar to cocaine in its effects only many times stronger and longer lasting. The drug effects the central nervous system and may be as much as one and a half times stronger than other amphetamines. The drug is typically snorted, injected, or sprinkled on marijuana cigarettes for ingestion. The drug was first seen being widely abused in 1989 in the state of Michigan, since then it has spread throughout the midwest and to Hawaii. This is an extremely easy drug to synthesize and takes a very simple rudimentary lab facility.

In section one of the bill, the technical chemical name for methcathinone is used and then the phrase "also known as methcathinone, ephedrone, and cat". Ephedrone is not a name for methcathinone but is actually a precursor used to make methcathinone. It is also a precursor to making methamphetamine and "ice". The Department suggests that ephedrone should be addressed separately as a precursor chemical and that it should be deleted from this bill as it is not a street name for methcathinone.

The Department supports this bill.

Richard L. Burton
Commissioner

POSITIONPAPER

Alaska Association Chiefs of Police

February 7, 1994

Senator Johnny Ellis
State Capital, Room #9
Juneau, Alaska, 99801-1182

Dear Senator Ellis:

On behalf of the Alaska Association of Chiefs of Police I would like to offer our support for Senate Bill 220.

It is important that as new drugs are developed and marketed, they be properly classified and included on Alaska's schedules of controlled substances. Unfortunately, the use of illegal drugs and the illegal abuse of prescription drugs remain a significant problem throughout the state.

If we can provide any assistance in the passage of this bill please let me know.

Very truly yours,

Ronald L. Otte
President

RLO/lp

LETTERS OF SUPPORT

Alaskans For Drug-Free Youth

Statewide Headquarters

2417 Tongass, Suite #114, Ketchikan, Alaska 99901
Phone: 907-247-2273, 1-800-478-2273, fax 907-247-2232

February 9, 1994

The Honorable Johnny Ellis
State Capitol Bldg. Rm. 9
Juneau, AK 99801 1182

Dear Senator Ellis:

I would like to offer my support for your Bill, SB 220 "An Act amending schedule IIA of the schedules of controlled substances applicable to offenses relating to controlled substances to add the drug methcathinone, commonly identified as 'cat.'". The State Alcohol and Drug Abuse Advisory Board unanimously supports your Bill. We would prefer to see 'cat' as a schedule I drug, as it is in the Federal Statutes, but this is a step in the right direction.

I plan to present this Bill as part of a package for approval by the Alaskans For Drug Free Youth Board of Directors at their next meeting, and I am sure they will support it too.

If we can be of help to you in ensuring passage of this legislation, please let me know.

Sincerely,

Lynda Adams
Executive Director, ADFY
Legislative Committee Chair, ADA Board

DRUG FREE YOUTH
WILL MAKE
A STRONG AMERICA

Alaskans for Drug-Free Youth
South Central Affiliate

P. O. 243704, Anchorage, Alaska 99524-3704
Phone: 907-247-2273, 1-800-478-2273, fax 907-247-2232

March 5, 1994

Senator Johnny Ellis
State Capital, Room #9
Juneau, Alaska 99801-1182

Dear Senator Ellis:

On behalf of the Alaskans for Drug Free Youth - South Central, Board of Directors I would like to offer our determined and persistent support for Senate Bill 220.

Methcathinone ("Cat") is such a serious threat to the youth and young adults of Alaska it should be considered for Schedule I, as it is in the Federal Statutes, but your legislation will provide the safeguards necessary to prevent needless suffering.

If we can provide further assistance to ensure passage of Senate Bill 220, please let us know.

Sincerely,

Peggy Beitia

Peggy Beitia, President
Alaskans for Drug Free Youth

ALASKA STATE MEDICAL ASSOCIATION

4107 Laurel Street • Anchorage, Alaska 99508-5334 • (907) 562-2662

January 28, 1994

Senator Johnny Ellis
Alaska State Legislature
P.O. Box V (MS3100)
Juneau, AK 99811

Dear Senator Ellis:

At a recent meeting of our Legislative Affairs Committee we discussed your Senate Bill 220 that would add the drug Methcathinone to schedule IIA of controlled substances. While this drug has not yet been an obvious problem in Alaska, it certainly has been elsewhere and we strongly favor this drug being controlled. If I can be of any assistance to you in passage of your bill, do not hesitate to contact me.

Sincerely yours,

Donald R. Lehmann, M.D.
Chairman, Legislative Affairs Committee
President, Alaska State Medical Association

CC: Byron Mallot

Judiciary Committee Hearing

Date: March 18, 1994

Testimony of: Clarence William Worth, Officer
Juneau Police Department

Eight Years on the Police Department
Three Years on the Drug Unit
Four years D.A.R.E. Insructor

I was horrified at the realities of drug addiction and drug abuse. We all see it in the newspaper, we hear it on the TV, we see the results of what happens. As a result of I have dedicated my career to trying to educate kids. I'm a D.A.R.E. instructor.

This Methcathinone [(CAT)] is something I have just heard about, I haven't seen it yet. I predict we probably will see it, Alaska lags slightly behind [in the introduction of new drugs] but we eventually do get there.

I sent for some information on [CAT] from the Alaska State Trooper Intelligence Unit and WSIN, which is the Western States Information Network (a disseminating agency that works strictly with police departments). The essence is that Methcathinone is addictive, [it] is an analog of Methamphetamine, it can be manufactured easier than Methamphetamine, made overnight, made with very few laboratory supplies. In fact, it is down to just glass jars, rubber tubes, and a source of heat. It uses chemicals that are readily available: chemicals like Drain-O, battery acid. Epsom salts, and various paint solvents.

It is more addictive than we think cocaine is... some people are addicted the second or third time they use it which ranks it up there with the crack-cocaine as far as power of addiction. [Cat] changes the personality in the user. People binge on it, they go for three or four days with out eating.

It sells for about a hundred dollars a gram. For about a $500 dollar investment there is a return around $20,000 dollars. There is a lot of money to be made, its easy to make, the precursors are readily available. and I think it has the potential to be very threatening as a drug in our society.

UPDATE ON METHCATHINONE OR "CAT"

They cook it in hotel rooms, cars, houses and sheds. The materials and chemicals needed to produce it are easy to obtain and legal to purchase and possess. Some recovering addicts claim to have been addicted to the drug within 48 hours. It's known as Cat on the streets, and it has law enforcement professionals on every level fighting to stop its spread across the country.

WHAT IS CAT?

Cat is the street name for the highly addictive illegal drug methcathinone. It is usually homemade from ingredients, including dangerous acids, obtained with little difficulty in most communities.

Users are drawn to Cat because it produces a burst of energy and a feeling of invincibility, accompanied by a state of well-being and euphoria. However, users experience a tremendous collapse or crash, physically and psychologically, after bingeing on the drug.

Methcathinone is a chemical synthesis of cathinone, a central nervous stimulant. The drug produces amphetamine-like effects, much like methamphetamine. Because of its similarity to methamphetamine in chemical structure and metabolism, researchers believe that methcathinone has the same neurotoxicity.

The drug was patented in Great Britain in 1957 as a diet aid and antidepressant, however, it was never marketed because of its highly addictive qualities. The formula for methcathinone leaked out in the 1970s, and Cat kitchens sprung up across Russia. According to Russian doctors, 55 percent of all drug addicts in Russia have used methcathinone, known as "Jeff" in their country.

The first instance of illegal manufacture of Cat in the United States is believed to have occurred in Ann Arbor, Michigan, in the late 1980s or early 1990s. However, the drug is more frequently found in the Upper Peninsula (UP) of Michigan. It is from the UP that the drug has spread throughout Michigan and into northern Wisconsin.

PHYSICAL AND PSYCHOLOGICAL EFFECTS OF CAT

Users of Cat tend to "binge" when using this drug. One hit of the drug produces a high that can last up to three hours. Users quickly progress to the point where they binge on the drug for several days. During the initial euphoric burst of energy, Cat users can be quite hyperactive and talkative. However, longtime users have reported that binge usage also brings on paranoia, hallucinations and excruciating nervousness and anxiety. Appetite drops off or disappears entirely during the binge, often leading to long-term and massive weight loss. Users forget to sleep and to drink. As the body becomes dehydrated and fatigued, the user can also experience heart palpitations, headaches, stomachaches and seizures.

A binge will end usually because the supply of methcathinone has been exhausted. Users become depressed, irritable and sometimes violent.

When sleep finally comes, it may last 24 hours or more. Rest does not always restore a sense of well-being, however. Users may feel drained of energy for several weeks.

HOW IT IS USED

Cat is typically snorted, like cocaine, although injection by needle is preferred by some. It is also possible to take Cat orally, by mixing it with a beverage such as coffee or carbonated drinks.

THE INGREDIENTS AND APPEARANCE OF CAT

The recipe for methcathinone includes some relatively benign ingredients but also the following:

- **Acetone**, a paint solvent
- **Lye**, found in crystal drain cleaners
- **Sodium dichromate**, commonly used to refine petroleum
- **Sulfuric acid**, usually in the form of battery acid
- **Sodium hydroxide**, obtainable over the counter as lye-based granular drain cleaners
- **Toluene**, a paint thinner
- **Muriatic acid**, used by masons to scrub dried mortar off the face of bricks

The chemicals used to manufacture Cat pose another threat to the person cooking the drug. Both acetone and toluene are highly flammable and potassium dichromate, if inhaled, can be fatal. Users have experienced chemical burns on their arms and face from the acids used in production.

When properly made, the finished product is a crystalline powder whose color may range from white to tan. Homemade Cat has an inconsistent texture and can be chunky. Cat does have a slight chemical smell.

THE RISK TO CHILDREN

While Cat appeals mainly to those in their 20s and 30s, there have been users as young as 15. Because the drug is relatively inexpensive, law enforcement authorities are concerned that it may

UPDATE ON METHCATHINONE

find a market among even younger children.

ENVIRONMENTAL EFFECTS

Illicit production of methcathinone produces a carcinogenic toxic waste as a by-product. Although producers of the drug typically make it for use in a close-to-home market, they show little concern for the pollution they spread.

The toxic waste left after the finished product emerges is often dumped in waterways, contaminating fish, well-water and wildlife.

If instead it's flushed down the drain, it contaminates septic systems. If simply dumped on fields or vacant land, it contaminates acreage used for crops or grazing or taints land that may be built on by homeowners.

There is no safe way to dispose of the toxic waste except through legitimate toxic waste disposal facilities.

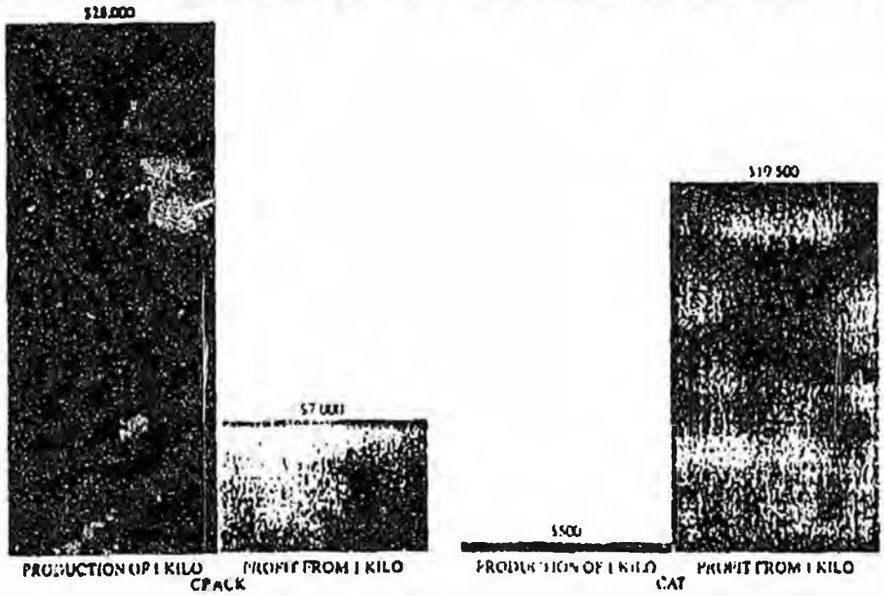
CAT AND THE LAW

Persons who manufacture methcathinone or assist others in doing so, perhaps by serving as go-betweens to buy ingredients, are being prosecuted under a number of federal statues. Manufacturing or possession with intent to distribute, for instance, is a violation of Section 841 (a)(1) of Title 21 of the United States Code and is punishable by a prison term of up to 20 years and a fine of up to $1 million.

TREATING THE CAT ADDICT

Methcathinone is a very powerful stimulant and usage may produce paranoid psychosis, hyperactivity and depression. As a person undergoes withdrawal from Cat, medication must sometimes be given to offset these conditions. There have been cases of Cat-induced psychosis outside the United States and antipsychotic medications were prescribed during detoxification. If agitation and hyperactivity continue during the withdrawal process, benzodiazepines (a type of tranquilizer) have proved to be effective. Those who have treated Cat addicts recommend that the person enroll immediately in a comprehensive treatment program after detoxification.

HIGH PROFIT MARGIN OF CAT: CONCERN FOR LAW ENFORCEMENT



Law enforcement has voiced concern about the potential for high profit Cat offers. Because most ingredients needed to produce Cat are cheap and legal, a kilo of the drug could be made with a $500 investment. If each gram were sold on the street for $20, the seller could net a $19,500 profit. Compare that with the money needed to make a kilo of crack. It takes a $28,000 investment to make a kilo of crack. With a current street price of $35 for a gram-size rock, a dealer could only expect to make a $7,000 profit.

Source: The Michigan Substance Abuse and Traffice Safety Information Center and National Families in Action's Inner-City Project in Techwood Homes, 1993.

THE LATEST INFORMATION ON CAT

The Drug Enforcement Administration (DEA) has recently published a pamphlet on Cat. To order, please write to:

Demand Reduction Section
Drug Enforcement Administration
Washington, DC 20537

THE DIFFERENCE BETWEEN KHAT AND CAT

When U.S. troops were deployed in Somalia, the world was reintroduced to an ancient drug popular in East Africa and Southern Arabia, khat. Khat, pronounced "cot," is a natural stimulant found in the catha edulis shrub. Fresh khat leaves are typically chewed like tobacco and produce a mild cocaine- or ampnetamine-like euphoria. Used for hundreds of years as a recreational and religious drug, many Somalians chew the leaves which users claim sharpen thinking and lessen hunger.

Fresh khat leaves contain a psychoactive ingredient known as cathinone. Methcathinone or Cat is a synthetic form of cathinone. Just as the natural stimulants found in the coca leaf were synthesized to produce cocaine, the naturally occurring cathinone has been chemically-altered to create a much more powerful and addictive drug than that found in nature.

The information for this update was supplied by the U. S. Drug Enforcement Administration, the Michigan Substance Abuse and Traffic Safety Information Center, The National Institute on Drug Abuse, The National Clearing...ouse for Alcohol and Drug Information, Western District of Wisconsin U.S. Attorneys' Office, *Journal of the American Medical Association*, Vol 269, No 19, p 2508, and *Pharmacology Biochemistry and Behavior*, Vol 26, 1987, pp 547-551.

UPDATE ON METHCATHINONE OR "CAT"

THE
FOLLOWING
DOCUMENTS
ARE
POOR
ORIGINAL
COPIES

DR. NELSON ASSISTS BRAZILIAN OFFICIALS IN ESTABLISHING ALCOHOL AND OTHER DRUG ABUSE PREVENTION AND EDUCATION PROGRAMS

At the invitation of members of the Partners For The Americas, who were in Cincinnati in April for the Parents' Resource Institute for Drug Education (PRIDE) world conference, Dr. E. Don Nelson, Director of the Ohio Prevention & Education Resource Center (OPERC) and Associate Director of the Drug & Poison Information Center, traveled to Parana, Brazil, to talk with Department of Health professionals, the Parana Medical Association, Department of Education officials, government officials, community workers and others involved in the process of establishing alcohol and other drug prevention programs throughout that area. Over a two week period, Dr. Nelson gave numerous presentations on topics including the:

1. Results of local research on the education of intravenous drug addicts and their sexual partners regarding the risks of HIV (Human Immunodeficiency Virus) transmissions during intravenous drug-use practices and unprotected sex.
2. Operation and scope of all of the Ohio Prevention and Education Resource Centers, including a discussion of individual available resources, alcohol and other drug prevention curricula materials developed by OPERC.
3. Use of psychotherapeutic medications in the treatment of chemical dependency.

Dr. Nelson's visit was well received, with extensive local newspaper and television coverage of his presentations. The goal of those involved with substance abuse prevention and education in Parana is to establish an OPERC-type network in Brazil. Resource materials from the Cincinnati OPERC will form the core of an alcohol and pother drug prevention and education collection at the Jaime Lerner Institute in Parana.❖

METHCATHINONE "CAT"

According to an article in the October, 1993 issue of *Emergency Medicine News*, methcathinone has made its way to the United States.[1] Appearing in the former Soviet Union as early as 1982, it is now one of that country's most popular drugs of abuse. Known as "cat," this illicit designer drug is easily made in clandestine laboratories.* To date, the use of cat has been reported in Wisconsin, Cleveland, Detroit, New York, Seattle, and it is reported to be spreading. The effects are similar to methylenedioxymethamphetamine (also known as MDMA and "Ecstasy"), but central nervous system stimulation appears to be more dominant than the hallucinogenic effects at "normal" doses, estimated to be 80 to 150 mg.[2] People using the drug claim to experience a euphoric high, increased alertness and creativity, as well as increases in sexual arousal. As dosage or time of usage increases, the psychological symptoms become more prevalent and may include visual and auditory hallucinations, anxiety, disorientation, paranoia and aggression. Physical side effects can include tachycardia and hypertension, changing to bradycardia and hypotension, mydriasis, horizontal and rotary nystagmus, hyperthermia, seizures and rhabdomyolysis, occurring most commonly with high doses. Death due to ventricular fibrillation has occurred.

Binge use over several days is common, followed by a "crash" period. Long-term use of cat can lead to paranoid psychosis, decline in personal hygiene, muscle wasting anorexia, abnormal liver functions and hepatomegaly, antisocial behavior and Parkinsonism. Since the preferred method of administration is snorting, sores around the nose may develop. (Cat can also be injected, smoked or ingested.) Additional toxicities can occur from the individual chemicals used to manufacture the drug, residues from incomplete reactions and the subsequent contaminants. Heavy metal poisoning, along with causticity problems, are relatively common. One such heavy metal is sodium dichromate, which causes the characteristic color in "Green Cat."

Withdrawal symptoms can be severe. Cardiovascular collapse with hypotension and bradycardia, lethargy, irritability, miosis, coryza, myalgias, muscle spasms and arthralgias are common. Treatment of both acute overdose and withdrawal consists primarily of symptomatic support. Benzodiazepines can be used for agitation, hallucinations, or seizures. Beta blockers should be avoided. In terms of toxicology screening, chronic use of methcathinone produces a urine screen that is negative for amphetamines but positive for both phenylpropanolamine and ephedrine. Acute use results in a negative urine screen for all three substances.❖

* Cat was made a Schedule I controlled substance by the U.S. Drug Enforcement Agency in 1992. While chemically similar, "cat" should not be confused with "khat." (Other spellings for khat are Q'at, Chat and Gat.) Khat is a naturally occurring substance obtained from the Catha Edulis plant common to the East Africa and the Arabian Peninsula. The plant contains two amphetamine-like stimulant substances called cathine and cathinone that are released by chewing the twigs and leaves. It most recently gained media attention as a common substance of abuse in Somalia and other surrounding countries.

1. Carrell S. Methcathinone: The next drug epidemic? Emergency Medicine News 1993 October;15(10):1,18-19,24.
2. Emerson TS, Cisek JE. Methcathinone. A Russian designer amphetamine infiltrates the rural midwest. Ann Emerg Med 1993;22:1897-1903.

2/9/1

12652934 DIALOG File 47: MAGAZINE INDEX *This is the FULL TEXT*

The new drug in town. (methcathinone abuse and sales in Michigan)

Glastris, Paul

U.S. News & World Report v114 p20(2) April 26, 1993
SOURCE FILE: MI File 47
ISSN: 0041-5537
illustration; photograph
AVAILABILITY: FULL TEXT Online LINE COUNT: 00061
GEOGRAPHIC CODE: NNUSCMI
GEOGRAPHIC LOCATION: Michigan

ABSTRACT: Twenty-eight illegal methcathinone ('cat') labs have been raided in Michigan since 1991. 'Cat' is an amphetamine similar to methamphetamine. Because the drug is easy and inexpensive to produce, police are concerned that sales could spread throughout the nation.

DESCRIPTORS: Amphetamines--Marketing; Michigan--Crime

MARQUETTE, MICH. - In the winter of 1991, a police informant left the second-floor apartment of a squat brick building in this college town, carrying a quarter gram of cakey off-white powder in a small paper pouch. The informant called the powder "cat" and claimed it was a brand-new drug, more potent than crack cocaine. Lt. Richard Killips of the Michigan State Police was skeptical: Drug fads start in California, he thought, not in Michigan's Upper Peninsula. Nevertheless, Killips's men sent the sample to the lab, unaware that it was the first sign of a devastating new drug scourge that federal officials now say could threaten the entire nation. And the sad part is that the spread of cat might have been prevented.

The substance was methcathinone, an obscure but powerful amphetamine never before seized in the United States but widely abused in, of all places, the former Soviet Union. Chemically, the drug is related to the leafy stimulant khat, chewed throughout Somalia. It is also similar to methamphetamine, a type of speed known on the street as "crystal meth."

Cat fight. Methcathinone was so new, however, that no law specifically forbade it. So the police, working with agents from the federal Drug Enforcement Administration, staked out the second-floor apartment and tried to gather evidence to bring charges under special umbrella federal drug laws. Meanwhile, inside the apartment, batch after batch of cat was being cooked up by several Northern Michigan University students, one of them a chemistry professor's son suspected of having gotten the recipe from an acquaintance in Ann Arbor.

After the students had moved to two separate locations, police and DEA agents raided the labs. But federal prosecutors declined to issue arrest warrants for six months, arguing that they needed more evidence plus clearance from the Justice Department in Washington. That may have been a strategic miscalculation. After the delays, says one officer, the students "had this arrogant attitude, like they'd beat the system." Not only were they still making cat but they continued to sell the recipe all over the Upper Peninsula. "Everyone thought it was legal," adds one of the students, now under indictment. Today, the use of cat has reached near epidemic proportions in Michigan, where 28 cat labs have been raided since 1991. This week, Gov. John Engler will sign a bill to outlaw cat in Michigan. Unfortunately, the drug has already spread to Wisconsin and Washington State.

It may have started with middle-class youth, but cat became popular with people like Dave Lawler (not his real name), a construction worker and ex-convict. Lawler went on five-day binges, followed by days of sleep. "The buzz was like coke, only much longer," Lawler recalls fondly. "You felt totally hyper, and everything you did was fun." Such "fun" included jumping off 70-foot cliffs into boulder-strewn Lake Superior.

Side effects. The drug took its toll. Lawler felt paranoid. Unable to eat, he dropped 40 pounds. His sinuses became caked with blood from snorting the drug. His mouth always felt dry and thumbnail-size flakes of skin hung from his lips. Even his perspiration smelled of cat. Only when Lawler ran out of money, having hocked all his possessions (including his mother's stereo), did he finally enter a rehab program.

Of course, police and the media have hyped other drugs, like "ice" (a potent form of methamphetamine), as the next crack only to find that the fads fizzled. Cat, however, may prove different because it is so easy to make. All that's required is a Mason jar, some hardware-store chemicals and a certain over-the-counter cold medicine. The profit potential is huge: Just $500 worth of ingredients can yield a kilo of cat, with a street value of $15,000. While those who brew it currently consume most cat, federal authorities fear that outlaw motorcycle gangs that now dominate the methamphetamine market will start peddling cat. Says Killips: "Sometimes I get nostalgic for the days when all we had to worry about around here was coke and marijuana."

1/5/1
08543905 93253905
'Cat': methcathinone--a new drug of abuse [letter]
Goldstone MS
JAMA (UNITED STATES) May 19 1993, 269 (19) p2508, ISSN 0098-7484
Journal Code: KFR
Languages: ENGLISH
Document type: LETTER
JOURNAL ANNOUNCEMENT: 9308
Subfile: AIM; INDEX MEDICUS
Tags: Human
Descriptors: *Propiophenones; *Substance Abuse
CAS Registry No.: 0 (Propiophenones); 5650-44-2 (monomethylpropion)

1/5/2
06230443 87204443
Methcathinone: a new and potent amphetamine-like agent.
Glennon RA; Yousif M; Naiman N; Kalix P
Pharmacol Biochem Behav Mar 1987, 26 (3) p547-51, ISSN 0091-3057
Journal Code: P3Q
Contract/Grant No.: DA-01642
Languages: ENGLISH
Document type: JOURNAL ARTICLE
JOURNAL ANNOUNCEMENT: 8708
Subfile: INDEX MEDICUS
The purpose of the present investigation was to examine the effect of N-monomethylation of phenylisopropylamine derivatives on amphetamine-like activity. In tests of stimulus generalization using rats trained to discriminate 1.0 mg/kg of (+)-amphetamine from saline, the N-monomethyl

derivatives of 1-(X-phenyl)-2-aminopropane, where X = 2,4-dimethoxy (2,4-DMA), 3,4-dimethoxy (3,4-DMA), 2,4,5-trimethoxy (2,4,5,-TMA), and 2-methoxy-4,5-methylenedioxy (MMDA-2), did not produce amphetamine appropriate responding at the doses evaluated. However, the N-monomethyl derivative of cathinone (i.e., methcathinone), like cathinone, resulted in stimulus generalization. Further studies with this agent revealed that (a) in the amphetamine-trained animals, methcathinone (ED50 = 0.37 mg/kg) is more potent than racemic cathinone or racemic amphetamine (ED50 = 0.71 mg/kg in both cases), (b) methcathinone is capable of inducing release of radioactivity from [3H]dopamine-prelabeled tissue of rat caudate nucleus in a manner similar to that observed with cathinone, amphetamine, and methamphetamine, and (c) methcathinone is more potent than cathinone as a locomotor stimulant in mice as determined by their effect on spontaneous activity. The results of the present study provide evidence for a structural analogy between the prototypic psychostimulants amphetamine/methamphetamine and cathinone/methcathinone, and lend further support to the concept that amphetamine and cathinone correspond in their pharmacological effects.

Tags: Animal; Male; Support, Non-U.S. Gov't; Support, U.S. Gov't, P.H.S.

Descriptors: *Amphetamines--Pharmacology--PD; *Discrimination Learning --Drug Effects--DE; *Motor Activity--Drug Effects--DE; *Propiophenones --Pharmacology--PD; Alkaloids--Pharmacology--PD; Caudate Nucleus --Drug Effects--DE; Caudate Nucleus--Metabolism--ME; Dopamine--Metabolism--ME; Dose-Response Relationship, Drug; Methamphetamine--Pharmacology--PD; Mice; Mice, Inbred ICR

CAS Registry No.: 0 (Alkaloids); 0 (Amphetamines); 0 (Propiophenones); 51-61-6 (Dopamine); 5265-18-9 (cathinone); 537-46-2 (Methamphetamine); 5650-44-2 (monomethylpropion)

METHCATHINONE BY L.E. FISHER

<DIALOG File 492: (c)1993 Phnx Newspapers Inc>
C7087072

'CAT' ATTACK: U.S. EPIDEMIC OF NEW DRUG IS FEARED SIMPLE CONCOCTION SWEEPS N. MICHIGAN

Arizona Republic (AR) - SUNDAY, March 28, 1993
By: Jim Schaefer, Detroit Free Press
Edition: State Section: Valley And State Page: B13
Word Count: 714

TEXT:

MARQUETTE, Mich. - For 2 1/2 years, Vince Swenor sucked the seductive, off-white powder up his nose, and with each power-packed hit, the mysterious drug pulled him in tighter.

Swenor, seeking to spark up his life on Michigan's Upper Peninsula, had tried cocaine before. But this wasn't cocaine. This was something new, something more interesting, something that Swenor created at home with common chemicals, some jars and rubber tubes.

In mid-1990, two friends began making it at Swenor's house, and "like a good cookie recipe," Swenor said, the formula spread around the Marquette area. And it packed a wallop like no other drug that Swenor, 24, had tried.

"I thought it was the greatest thing in the world," said the soft-voiced Swenor, who is unemployed. "I could make it in my own house, never run out. I had it made."

But with frightening speed, the strange powder had Swenor helpless.

He called it by its street nickname, "cat," and by the time he learned what was used to make the drug, Swenor couldn't stop doing it even though he was shocked. Cat is made with battery acid, paint thinner, drain cleaner, muriatic acid, other assorted poisons and over-the-counter drugs.

SCIENTISTS PUZZLED

Police-laboratory scientists had no idea what cat was when it popped up on the Upper Peninsula a couple of years ago.

After police made the first seizure of the drug in early 1991, it took two weeks to identify it. The veteran chemist who finally rooted out cat's scientific name, methcathinone, had never heard of it.

Since police made that first puzzling contact, authorities say cat has blown into an epidemic on the Upper Peninsula, which they call the birthplace of illegal methcathinone in the United States. They still aren't sure why it has taken such hold in the area.

Cat has established a surprising link between the Upper Peninsula and Russia. Michigan authorities say Russia is the only other place in the world where illegal use of the drug has been known.

RECIPE'S SPREAD FEARED

(cont. next page)

METHCATHINONE BY L.E. FISHER

But cat now is seeping into northern Wisconsin and southern Michigan as police and doctors scramble to squash it on the Upper Peninsula. They fear that the drug may roar across the United States as the recipe spreads.

In January, a task force of federal, state and local police on the Upper Peninsula was formed to tackle the cat problem.

"We believe this is where the core of the problem is," Lt. Steve Herner of the Michigan State Police said recently.

No state law specifically prohibits methcathinone, although its use is a violation of federal law. The Michigan Legislature is considering a bill that would put methcathinone on the state's list of controlled substances.

There are several reasons for the concern that cat will continue its spread: The ingredients can be legally and easily purchased, production is cheap and profit potential high, and the chemical process is so simple that it can be done in the back of a mobile van or truck, making detection by police more difficult.

Very little is known about cat except that it is highly addictive and that there have been frightening effects on users. People have reported seizures, feelings of paranoia, heart palpitations, sleeplessness, hallucinations and an inability to eat, leading to massive weight loss.

One cat addict with an artificial leg and a glass eye lost so many pounds that his leg no longer fit and his eye dropped out when he bent over, police said.

A Russian doctor who is the only cat authority known to Michigan officials recently gave a five-hour lecture in Lansing to law-enforcement officials and doctors.

Methcathinone was patented in Britain in 1957 by a pharmaceutical company that planned to use it as a diet aid and anti-depressant. Plans were scrapped when it was found to be too addictive.

In the 1970s, the formula leaked out in Russia and spread like wildfire, said Dr. William Short, who studies addiction at Marquette General Hospital and who attended the Russian doctor's lecture.

Making cat is a simple process of mixing, washing and heating of the ingredients. The creator is left with a powder that is snorted, eaten, mixed with water, and injected or absorbed through a patch on the skin.

<DIALOG File 496: (c) 1993 Sacramento Bee>
07176033
POWERFUL NEW DRUG SWEEPING RURAL MIDWEST
Sacramento Bee (SB) - THURSDAY, June 24, 1993
By: Mike Nichols Milwaukee Journal
Edition: METRO FINAL Section: MAIN NEWS Page: A13
Word Count: 497

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METHCATHINONE BY L.E. FISHER

TEXT:
MILWAUKEE - Imagine a drug so powerful that one high lasts 20, maybe 25 times as long as the one you'd get from cocaine. And so addictive that people take it for days, even a week at a time, never eating or sleeping.

Then imagine that it's incredibly profitable -- just the kind of drug for which organized gangs would kill. And one more thing: It is almost as easy to make as a cake. Just order the ingredients through the mail, or stop by your local hardware store.

Well, it exists. It's a little-known stimulant is called methcathinone. On the country roads and small-town streets of northern Wisconsin and Michigan where it is most popular, they call it ''cat.''

Federal authorities have few doubts that cat will soon be making its way to northern Midwest cities, if it hasn't already. Because a $400 or $500 investment can yield tens of thousands of dollars of profit, the migration seems inevitable.

''It's got all the flavor that the entrepreneurs are looking for,'' said Kelly Snyder, head of the federal Drug Enforcement Administration in Wisconsin.

The ingredients themselves are almost as common. The key is ephedrine, a drug commonly sold in tablet form and most often ingested by truckers trying to stay awake for the long haul.

One of the few minor impediments is that thousands of the tablets are needed to make just a few ounces of the drug, which is usually snorted. But ephedrine is readily and legally available from distributors through the mail.

With the exception of one other ingredient usually available only in chemical supply shops, everything else needed can be picked up at the local hardware store.

The process is so simple federal authorities are careful not to divulge the whole recipe. But they have little doubt that plenty of people have the ability to make it.

Drug enforcement investigators say two chemistry students at the University of Michigan first began making the drug a few years ago. Since then, use of cat has been spreading across the Upper Peninsula of Michigan and into Wisconsin.

Ed Panick, who has pleaded guilty to taking part in a conspiracy to distribute cat, has said that he first learned of cat last summer while visiting Iron River, Mich. Soon he was taking the drug two or three times a week, and within a few months he was manufacturing it himself.

While a cocaine high often lasts only 15 or 20 minutes, a cat high can last seven to 14 hours, said Robert Block, head of the Wisconsin Department of Justice's drug identification lab.

Users become hyperactive and paranoid and will not eat or go to bed. They become anorexic and, finally, often only when the drug runs out, fall asleep for days on end. As a result, they often experience severe weight loss.

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METHCATHINONE BY L.E. FISHER

One informant told the federal drug agency that some people are already mixing cat with cocaine. They have a new name for the result: ''Wildcat.''

<DIALOG File 496: (c) 1993 Sacramento Bee>
06771064

NEW DRUG PACKS POTENT HIGH, HOOK STUDENTS' CREATION CALLED MORE ADDICTIVE THAN HEROIN, CRACK COCAINE

Sacramento Bee (SB) - SUNDAY, September 27, 1992
By: Scott Bowles Detroit News
Edition: METRO FINAL Section: MAIN NEWS Page: A10
Word Count: 587

TEXT:
DETROIT - It began last year as a chemical experiment in rural pockets of Michigan's western Upper Peninsula, an attempt by college students to duplicate the modest high of a chewable narcotic leaf known as khat.

But what emerged from their makeshift labs is a powdered drug so potent that it dwarfs crack cocaine and heroin in its addictive punch, authorities say.

Narcotics agents with the Detroit police and the Wayne County Sheriff's Department have been put on alert for methcathinone -- or "cat," as it was dubbed by the students who created it.

The synthetic stimulant, recently placed on the U.S. Drug Enforcement Agency's emergency list of controlled substances, can generate a high that lasts up to six days, agents say.

Cat marks the latest salvo from a new generation of drug dealers who are avoiding the risk of smuggling narcotics by producing their own. In addition to cat, college and street-level chemists have also recently introduced a synthetic version of heroin, police say.

"There seems to be a lot of young, bright chemists who are getting into the business," said Wayne County Sheriff Robert Ficano. "They've got no concern for what they are producing, and this time, I don't think they have any idea they're playing with fire.

"If you tried the purest stuff for the first time, there's a 99 percent chance you'd do it again, and again, until you're hooked. It's about as powerful as you can get."

A volatile elixir of pharmaceuticals and household cleansers, cat usually contains small doses of Drano or battery acid, which acts as a catalyst. The drug reportedly produces a "stimulant" high, creating feelings of exhilaration, heightened awareness and invincibility. Cat sells for about $100 a gram and is typically inhaled, though some melt and inject it.

"You'd think people would be frightened to shoot up with drain cleaner," Ficano said. "But it's a high they'll do anything for."

Michigan state police say cat was first synthesized by college students, although they haven't traced its roots to a specific university. Other amateur

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METHCATHINONE BY L.E. FISHER

chemists then began to copy the formula.

Cat's creators were trying to clone a relatively mild narcotic. The khat leaf, used for centuries in the Mideast, has been sold over the counter in some Detroit stores because it has gotten by U.S. customs officials who don't realize it is a controlled substance.

The leaf, which also produces a burst of energy, has the lowest rating for a controlled substance: A person caught with small amounts of the drug will receive only probation.

Federal penalties for its synthetic counterpart, however, are harsh. Depending on the quantity, penalties for trafficking cat range from 10 years to life in prison, and up to a $1 million fine. Punishment for possession of the drug is up to one year in prison and a fine of $1,000 to 250,000.

Synthetic drugs pose an unusual threat to police, who are trained to fight dope dealers, not manufacturers.

"They're becoming one of our biggest problems," said Detroit Police Cmdr. Rudy Thomas, head of the narcotic division. "If we could solve the crack and heroin problem tomorrow, we'd still have to deal with these chemists. They're like mad scientists."

Those scientists have recently developed Fentanyl, a synthetic form of heroin that is 20 to 30 times more potent than its predecessor. Thomas said the manufacturers tested Fentanyl by giving free samples to drug addicts, and monitoring the effects. If the addict suffered harmful effects -- or died -- the drug went back to the lab for revisions.

<DIALOG File 498: (c) 1993 Detroit Free Press, Inc.>
07011768
CLOSE A DRUG LOOPHOLE
Detroit Free Press (FP) - WEDNESDAY March 31, 1993
Edition: METRO FINAL Section: EDP Page: 8A
Word Count: 184

MEMO:
FROM OUR READERS

TEXT:
Your March 23 article "Cheap, potent drug spreads from UP" offered readers a compelling view of the methcathinone epidemic. I have sponsored legislation that would begin to address this problem.

The measure would add the highly addictive substance, also known as cat, to the list of drugs prohibited in Michigan.The recreational drug was placed on the federal list of controlled substances in 1992. Michigan law should be strengthened to echo the forceful federal regulations.

Under my bill, individuals convicted of making or delivering cat would be guilty of a felony, punishable by a maximum seven-year prison sentence and a $5,000 fine. Possession also would be a felony, punishable by as much as two years'

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METHCATHINONE BY L.E. FISHER

imprisonment and a fine of as much as $2,000.

Underground chemists have escaped prosecution by making small modifications in the chemical structure of a particular drug, so that the new compound was not covered by controlled substance statutes. By closing these loopholes, we would help police and prosecutors overcome clever attempts to circumvent the law.

Beverly A. Bodem

Michigan House of Respresentatives

106th District

Alpena County

07010606
CHEAP, POTENT DRUG SPREADS FROM UP IT'S HIGHLY ADDICTIVE, DANGEROUS
Detroit Free Press (FP) - TUESDAY March 23, 1993
By: JIM SCHAEFER Free Press Staff Writer
Edition: METRO FINAL Section: NWS Page: 3A
Word Count: 1,791

TEXT:
MARQUETTE - For two and a half years, Vince Swenor snorted the seductive, off-white powder up his nose, and with each power-packed hit the mysterious drug reeled him in tighter.

Swenor, seeking to spark up his life in the Upper Peninsula, had tried cocaine. But this wasn't cocaine. This was something new, something more interesting, something that Swenor created at home with common chemicals, some jars and rubber tubes.

In mid-1990, two friends began making the drug at Swenor's house and "like a good cookie recipe," he said, the formula spread around the Marquette area. It packed a wallop like no other drug that Swenor had tried.

"I thought it was the greatest thing in the world," Swenor, a soft-voiced, 24-year-old unemployed man, said last week. "I could make it in my own house, never run out. I had it made."

But with frightening speed, the strange powder had Swenor helpless.

He referred to it by its street name, cat, and by the time he learned what was used to make the drug, Swenor couldn't stop doing it even though he was shocked. Cat is made with battery acid, paint thinner, drain cleaner, muriatic acid, other assorted poisons and over-the-counter drugs.

Police laboratory scientists had no idea what cat was when it popped up in the UP a couple of years ago. After the first seizure of the drug in early 1991, it took two weeks of analysis to identify it. The veteran state police chemist who finally rooted out cat's scientific name -- methcathinone -- still had never heard of it.

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Act No. 25
Public Acts of 1993
Approved by the Governor
April 20, 1993
Filed with the Secretary of State
April 20, 1993

STATE OF MICHIGAN
87TH LEGISLATURE
REGULAR SESSION OF 1993

Introduced by Reps. Bodem, Bennane, Jamian, Kukuk, Dalman, Dolan, Gnodtke, Hammerstrom, McIntyre, Stille, McNutt, Gernaat, McManus, Bandstra and Jaye

Reps. Agee, Anthony, Bande, Bender, Brackenridge, Bullard, Byrum, Crissman, DeMars, Dobb, Dobronski, Fitzgerald, Freeman, Gagliardi, Gire, Goschka, Harrison, Horton, Johnson, Middaugh, Middleton, Murphy, Nye, Olshove, Potts, Profit, Randall, Rhead, Rivers, Shepich, Shugars, Varga, Voorhees, Vorva, Wallace and Watters named co-sponsors

ENROLLED HOUSE BILL No. 4103

AN ACT to amend section 7212 of Act No. 368 of the Public Acts of 1978, entitled as amended "An act to protect and promote the public health; to codify, revise, consolidate, classify, and add to the laws relating to public health; to provide for the prevention and control of diseases and disabilities; to provide for the classification, administration, regulation, financing, and maintenance of personal, environmental, and other health services and activities; to create or continue, and prescribe the powers and duties of, departments, boards, commissions, council, committees, task forces, and other agencies; to prescribe the powers and duties of governmental entities and officials; to regulate occupations, facilities, and agencies affecting the public health; to regulate health maintenance organizations and certain third party administrators and insurers; to promote the efficient and economical delivery of health care services, to provide for the appropriate utilization of health care facilities and services, and to provide for the closure of hospitals or consolidation of hospitals or services; to provide for the collection and use of data and information; to provide for the transfer of property; to provide certain immunity from liability; to regulate and prohibit the sale and offering for sale of drug paraphernalia under certain circumstances; to provide for penalties and remedies; to repeal certain acts and parts of acts; to repeal certain parts of this act; and to repeal certain parts of this act on specific dates," as amended by Act No. 352 of the Public Acts of 1982, being section 333.7212 of the Michigan Compiled Laws.

The People of the State of Michigan enact:

Section 1. Section 7212 of Act No. 368 of the Public Acts of 1978, as amended by Act No. 352 of the Public Acts of 1982, being section 333.7212 of the Michigan Compiled Laws, is amended to read as follows:

Sec. 7212. (1) The following controlled substances are included in schedule 1:

(a) Any of the following opiates, including their isomers, esters, the ethers, salts, and salts of isomers, esters, and ethers, unless specifically excepted, when the existence of these isomers, esters, ethers, and salts is possible within the specific chemical designation:

Acetylmethadol	Difenoxin	Noracymethadol
Allylprodine	Dimenoxadol	Norlevorphanol
Alpha-acetylmethadol	Dimepheptanol	Normethadone
Alphameprodine	Dimethylthiambutene	Norpipenone
Alphamethadol	Dioxaphetyl butyrate	Phenadoxone

Benzethidine	Dipipanone	Phenampromide
Betacetylmethadol	Ethylmethylthiambutene	Phenomorphan
Betameprodine	Etonitazene	Phenoperidine
Betamethadol	Etoxeridine	Piritramide
Betaprodine	Furethidine	Proheptazine
Clonitazene	Hydroxypethidine	Properidine
Dextromoramide	Ketobemidone	Propiram
Diampromide	Levomoramide	Racemoramide
Diethylthiambutene	Levophenacylmorphan	Trimeperidine
	Morpheridine.	

(b) Any of the following opium derivatives, their salts, isomers, and salts of isomers, unless specifically excepted, when the existence of these salts, isomers, and salts of isomers is possible within the specific chemical designation:

Acetorphine	Drotebanol	Morphine-N-Oxide
Acetyldihydrocodeine	Etorphine	Myrophine
Benzylmorphine	Heroin	Nicocodeine
Codeine methylbromide	Hydromorphinol	Nicomorphine
Codeine-N-Oxide	Methyldesorphine	Normorphine
Cyprenorphine	Methyldihydromorphine	Pholcodine
Desomorphine	Morphine methylbromide	Thebacon
Dihydromorphine	Morphine methylsulfonate	

(c) Any material, compound, mixture, or preparation which contains any quantity of the following hallucinogenic substances, their salts, isomers, and salts of isomers, unless specifically excepted, when the existence of these salts, isomers, and salts of isomers is possible within the specific chemical designation:

2-Methylamino-1-phenylpropan-1-one
Some trade and other names:
Methcathinone
Cat
Ephedrone

3, 4-methylenedioxy amphetamine
5-methoxy-3, 4-methylenedioxy amphetamine

3, 4, 5-trimethoxy amphetamine
Bufotenine
Some trade and other names:
3-(B-dimethylaminoethyl)-5 hydroxyindole
3-(2-dimethylaminoethyl)-5 indolol
N,N-dimethylserotonin; 5-hydroxy-N-dimethyltryptamine
Mappine

2, 5-Dimethoxyamphetamine
Some trade or other names:
2, 5-Dimethoxy-a-methylphenethylamine; 2,5-DMA

4-Bromo-2, 5-Dimethoxyamphetamine
Some trade or other names:
4-bromo-2, 5 dimethoxy-a-methylphenethylamine; 4-bromo 2,5-DMA

Diethyltryptamine
Some trade and other names:
N,N-Diethyltryptamine; DET

Dimethyltryptamine
Some trade or other names:
DMT

4-methyl-2, 5-dimethoxyamphetamine
Some trade and other names:
4-methyl-2, 5-dimethoxy-a-methyl-phenethylamine
DOM, STP

4-methoxyamphetamine
Some trade or other names:
4-methoxy-a-methylphenethylamine; paramethoxy amphetamine;
PMA

THE
FOLLOWING
DOCUMENTS
ARE
POOR
ORIGINAL
COPIES

Ibogaine
Some trade and other names:
7-Ethyl-6,8a,7,8,9,10,12,13
Octahydro-2-methoxy-6,9-methano-5H-
pyrido (1, 2:1, 2 azepino 4, 5-b) indole
tabernanthe iboga
Lysergic acid diethylamide
Marihuana, except as otherwise provided in subsection (2)
Mescloquaione
Mescaline
Peyote
N-ethyl-3 piperidyl benzilate
N-methyl-3 piperidyl benzilate
Psilocybin
Psilocya
Thiophene analog of phencyclidine
Some trade or other names:
1-(1-(2-thienyl)cyclohexyl) piperidine)
2-thienyl analog of phencyclidine; TPCP

(d) Except as provided in subsection (2), synthetic equivalents of the substances contained in the plant, or in the resinous extractives of cannabis and synthetic substances, derivatives, and their isomers with similar chemical structure or pharmacological activity, or both, such as the following, are included in schedule 1:

(i) Δ^1 cis or trans tetrahydrocannabinol, and their optical isomers.

(ii) Δ^3 cis or trans tetrahydrocannabinol, and their optical isomers.

(iii) $\Delta^{6,4}$ cis or trans tetrahydrocannabinol, and their optical isomers.

(e) Compounds of structures of substances referred to in subdivision (d), regardless of numerical designation of atomic positions, are included.

(2) Marihuana and the substances described in subsection (1) (d) and (e) in schedule 1 shall be regulated as provided in schedule 2, if they are dispensed in the manner provided in sections 7335 and 7336.

(3) For purposes of subsection (1), "isomer" includes the optical, position, and geometric isomers.

Section 2. This amendatory act shall take effect May 1, 1993.

This act is ordered to take immediate effect.

Co-Clerk of the House of Representatives.

Secretary of the Senate.

Approved _____

Governor.

CAT (METHCATHINONE)

5/5/1
03560037 93510102
Drug more powerful, addictive than cocaine emerges in Midwest
Nichols, Mike
Chicago Tribune (CT) Sec EVENING, p 2, col 5 Jun 24, 1993
ARTICLE TYPE: News
ARTICLE LENGTH: Medium (6-18 col inches)
AVAILABILITY: UMIACH CATALOG NO.: 60190.00

A drug called methcathinone, or cat, is more powerful than cocaine, highly addictive and can be made with easy-to-get ingredients. Use of the drug is spreading across Michigan's Upper Peninsula and into Wisconsin. There also has been some evidence of its use along the Illinois-Wisconsin line.

DESCRIPTORS: Drugs
GEOGRAPHIC NAME: Michigan; Wisconsin; Illinois

5/5/3
02905656 92718282
Scary 'Cat': New Drug Creeps in from U P
Bowles, Scott
Detroit News & Free Press (DNF) Sec A, p 1, col 1 Sep 27, 1992 ISSN: 1055-2758
ARTICLE TYPE: News
ARTICLE LENGTH: Long (18+ col inches)
AVAILABILITY: UMIACH CATALOG NO.: 60496.00

Narcotics agents with the Detroit Police and Wayne County MI Sheriff's Office have put on an alert for Methcathinone, or 'cat" as it has been dubbed. The synthetic stimulant was created in 1991 as a chemical experiment in pockets of the Upper Peninsula to duplicate the modest high of the chewable narcotic known as khat.

DESCRIPTORS: Drug trafficking; Drugs
GEOGRAPHIC NAME: Detroit Michigan; Upper Peninsula-Michigan; Wayne County Michigan

5/5/4
02869006 92681616
Cops Fear Speed-Like Drug
Detroit News (DN) Sec B, p 6W, col 4 Sep 2, 1992 ISSN: 1055-2715
ARTICLE TYPE: News
ARTICLE LENGTH: Medium (6-18 col inches)
AVAILABILITY: UMIACH CATALOG NO.: 60496.00

Authorities in Michigan's Upper Peninsula say the spread of the illegal drug methcathinone can be traced to an Ann Arbor man's pharmaceutical knowledge gone awry. Methcathinone, known as CAT, is chemically similar to methamphetamine or speed.

DESCRIPTORS: Drugs
GEOGRAPHIC NAME: Upper Peninsula-Michigan

TEACHING KIDS TO NEVER TAKE DRUGS

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March 23, 994

The Honorable Johnny Ellis
State Capitol Bldg. Rm 9
Juneau, AK 99801 -1182

Dear Senator Ellis:

D.A.R.E. America would like to offer its support of your Senate Bill, SB 220 which will place the new dangerous designer drug, Methcathinone, on Schedule 1A of the Schedules of Controlled Substances list. Methcatinone, also known as "Cat" is highly addictive. Its ingredients are easily purchased over the counter and it is produced relatively inexpensively. This factors make it a very dangerous drug that if not made illegal could easily get in the hands of young people who are unaware of its dangerous side effects and addictive nature.

I commend your proactive efforts, through Senate Bill 220, to curb the potential for widespread use of "Cat" in Alaska.

Sincerely yours,

GLENN LEVANT
Executive Director
Worldwide