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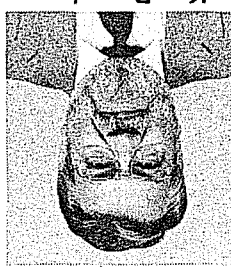
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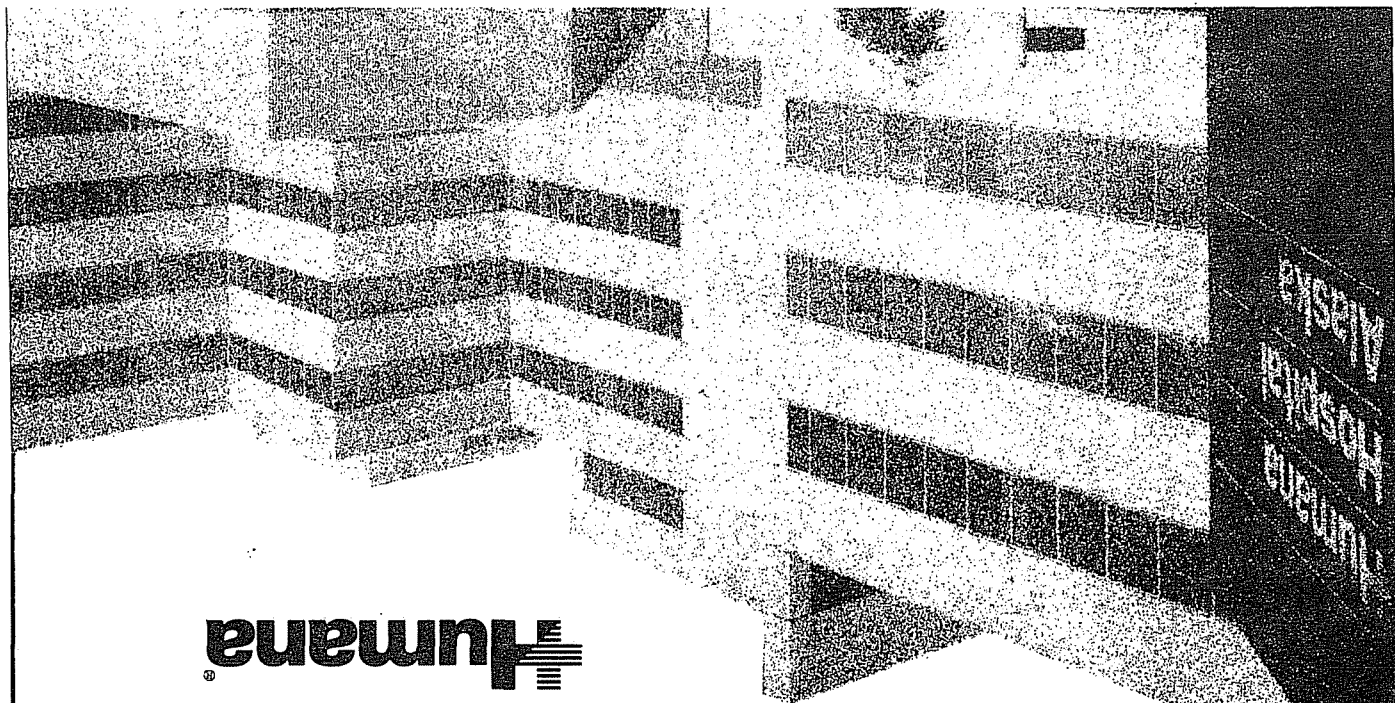
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While North Slope oil exports may still face a mountain of political trouble, natural gas from Prudhoe Bay may be fueling Japanese industry within the next ten years, helping to wean the land of the rising sun off oil while bringing new prosperity to America's 49th state.

After several oil price shocks during the energy crisis of the 1970s, the Japanese continue to feel uneasy about importing some 60 to 70 percent of their oil from the Persian Gulf. Japan is the world's largest energy importer with almost no oil and gas reserves to power its economy.

In an effort to avoid the mistakes of the past, Japan plans to reduce dependence on oil from 70 percent of the country's total energy need to 56.5 percent by 1990. With

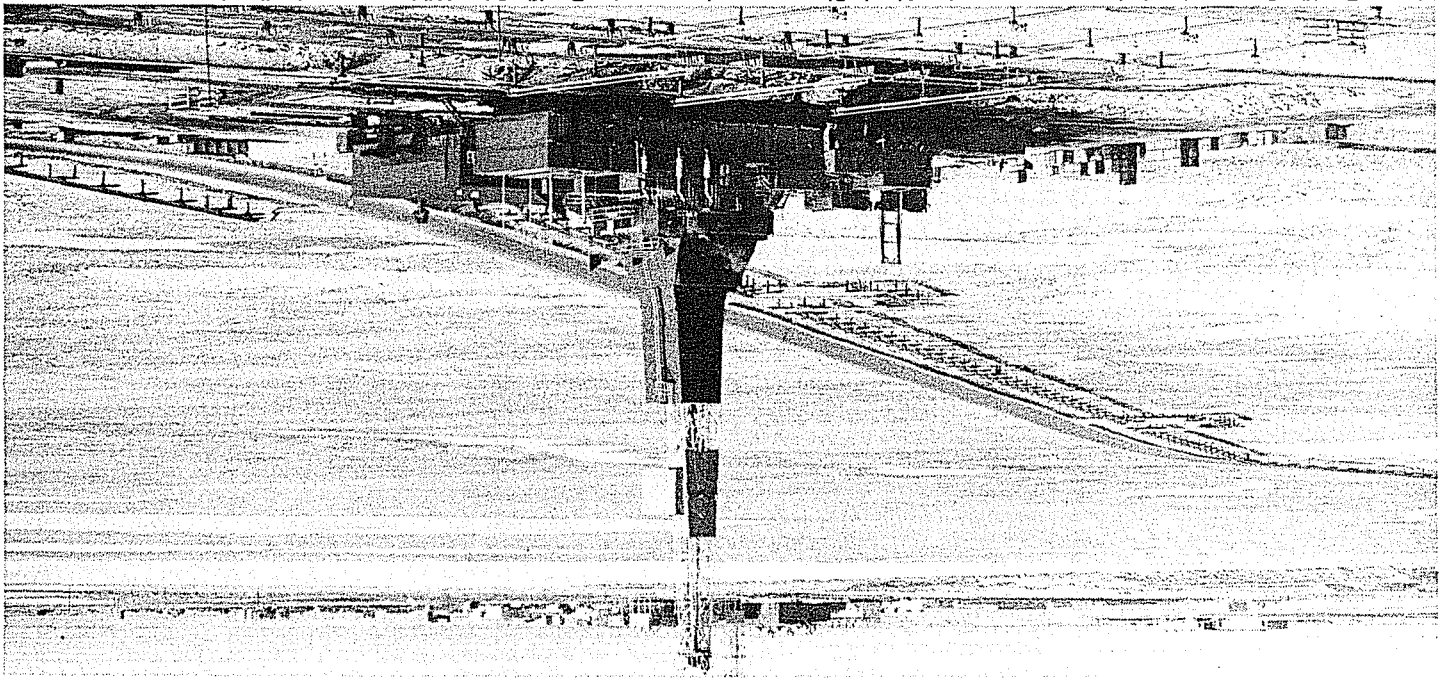
the nation moving to place more emphasis on other energy sources such as natural gas, nuclear and coal, Alaska stands to profit because the viable markets for North Slope gas are Japan and other Pacific Rim countries. Lower 48 markets are adequately supplied by domestic sources in addition to imports from Canada and Mexico.

With no pipeline in place to carry North Slope gas to market, the gas that surfaces with the oil at Prudhoe Bay is being reinjected into the ground. Some 26 trillion cubic feet of gas is in place at Prudhoe Bay, making it one of the largest natural gas fields in North America.

Yukon Pacific Corporation, founded by former Governor Walter Hickel, wants to

# Yukon Pacific in race to market North Slope gas to Pacific Rim

Yukon Pacific Corporation is in a race to market North Slope natural gas to the Pacific Rim. With no gas pipeline in place, the gas that



put North Slope natural gas to good use for Alaska by shipping it south to the Pacific Rim. The company has proposed building an \$1.1 billion project with a gas pipeline to

(Continued on page 4)

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# Resource Review

Resource Development Council for Alaska, Inc. Box 100516, Anchorage, AK 99510

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## Message from the executive director

By

Becky L. Gay



Are miners an endangered species?

A heated phone call from a financial consultant last week prompted this column. He had just visited a placer mining operation near Flat and he had some strongly-worded observations.

"Not only are the state water standards driving these miners out of business," he exploded, "the %&! preservationists are driving miners into extinction. Some of these people are third generation miners! They've been working in the area for decades. With the price of gold as it is, we should be seeing the mining industry really booming up here! It's crazy ... what is happening?"

On the up side, when financial consultants get concerned about the mining industry, things must be getting ready to get better. RDC fosters cross-sector support since politically that is what resource development needs to regain strength and flourish.

Putting it in urban terms, placer mining in Alaska is suffering "gridlock." According to those in the know, strangling to death would perhaps be more accurate.

Stringent state water quality standards which honor even the most natural silty, giardia-laden stream with a "drinking water" standard and two lawsuits are the basis of the present web of strangleholds on the placer industry.

It does not take a biologist or ecologist to discern that Alaska's drinking water standard should not be applied to all drainages. Recreational standards are usually sufficient to protect all but the most pristine watershed for human consumption. RDC is working diligently to bring some reality to bear on this issue, both administratively and legislatively.

Never underestimate the power of litigation for bringing an industry to its knees. Non-development groups can be given the credit for waging the lawsuit revenge. It appears they have outdone themselves with regard to placer miners.

For sheer effectiveness, time delay and cash-flow impact, the preservationists have demonstrated blanket injunctions have the most powerful repercussions. Two such injunctions are pending against placer miners. Non-lawyers might think of the lawsuits as "(not) mining in the parks" and "(not) mining on BLM lands."

The actual lawsuits are against the National Park Service and the Bureau of Land Management, not the miners. Apparently, not enough agency studies have been done. The courts have determined *cumulative* impact statements must be undertaken internally. This is a lengthy and costly study procedure. Meanwhile, the miners are not allowed to operate on NPS or BLM land.

Basically, the miners are being judged guilty until proven innocent. Regardless of how sterling a mining operation is, unless a miner can prove the operation has no cumulative impact on the area, mining is not allowed until the agencies complete their studies. These lawsuits can effectively keep miners out of the field for this decade. Why stop the miners while the studies are undertaken?

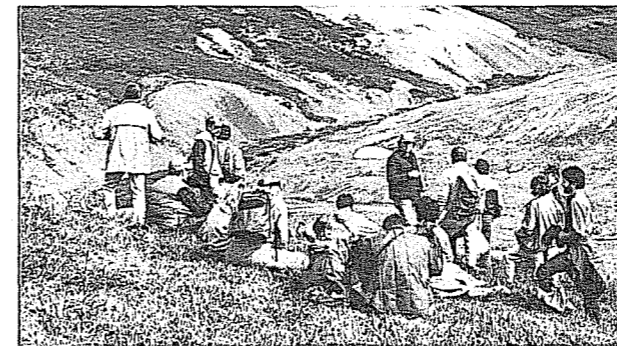
Although miners are sometimes their own worst enemies in public relations, no self-employed Alaskan deserves the animosity which is directed at miners today, by otherwise well-meaning citizens. Miners, after all, are citizens with a long history in Alaska.

Mining definitely has its place in Alaska's diversification efforts. For many, mining is not just an industry, it is a way of life. A good life. Mining is a seasonal, often family-owned business which allows people the opportunity to work in rural Alaska, not on welfare or unemployment, but contributing to their families' well-being while increasing the overall wealth of the state from one of our most valuable minerals — gold.

And as one miner put it, "if mining supposedly wrecks everything, how come those groups are so anxious to close us down and turn our operations into a state park or scenic river area? Miners must have done something right along the way to have those groups yearning so rabidly for our lands and drainages since we've been mining and fishing here since the early 1900s."

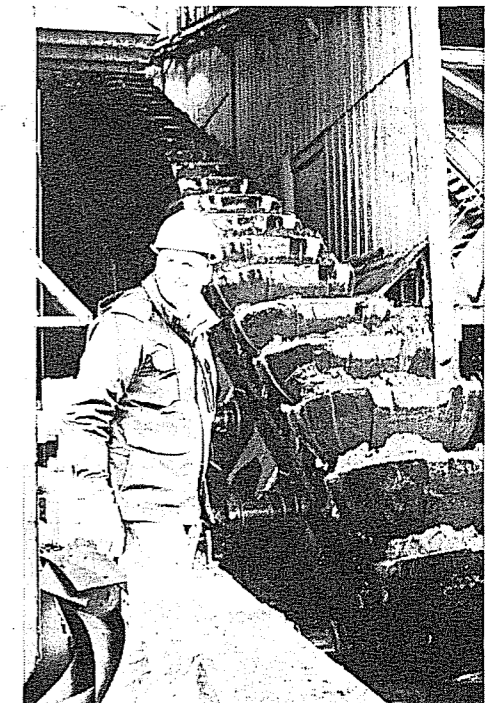
Miners, take heart. From the bottom, everything looks like up. For an optimist, that could be the motto of Alaska's placer miners.

## Western Alaska Mine Tour



Fifty government and business leaders recently visited a number of Northwest Alaska mines on a tour sponsored by the Alaska Miners Association. The officials visited Red Dog, Kotzebue and Nome with flyovers of Little Diomed Island and Tin City. In the photo at top left, officials look over the Red Dog mine site while RDC Minerals Division director Paul Glavinovich, bottom left, checks out some samples at the Cominco-NANA development east of Kotzebue. At right, Cominco's Jerry Booth walks through the huge offshore BEMA dredge near Nome, operated by Inspiration Gold.

Photos by Becky Gay



## Propaganda predicts environmental doomsday

by James S. Burling

The onslaught of legal and regulatory abuse that has been heaped upon the state's resource industries is due in large part to the propaganda of an environmental doomsday. Unfortunately, the propaganda, which is chock full of emotional rhetoric, is plain empty of reality.

For example the Sierra Club recently published a letter in the *Wall Street Journal* claiming, among many other sins, that mines "make mincemeat of streams" and on average each mine "dumps about five tons of dirt into the state's streams each hour." It is sad that Sierra Club's rhetorical skills cannot be turned to better use, such as presenting an accurate picture of the industry. In fact, current reclamation requirements for miners on federal lands, which are enforced by inspections at least once a year, ensure that miners restore mined areas according to federal regulations. If they do not, they are put out of business.

As for the "five tons of dirt" per hour, that figure is plain wrong. It is based on a study that is badly distorted by data collected over ten years ago, long before most miners put in settling ponds. Today, virtually every miner has settling ponds, as required by law and the zealous regulation of the Environmental Protection Agency.

What is the harm of such rhetoric? If it were confined to letters in the *Wall Street Journal* it would be bad enough. But this same sort of disinformation has found its way into the courts. In legal briefs submitted to the federal courts the same "five tons" of dirt statement showed up to support the call to shut down mining on federal lands. These same legal briefs also contain colorful charges that mining turns "pristine streambeds into sterile moonscapes" or "sewers" for mining wastes. They continue that mining will mean that native village life "as it has been conducted for centuries will stop." These charges are equally without merit.

With rhetoric like this it is little wonder that the courts have

been willing to rule against the miners, and that the public is willing to go along with the courts. It is only through a long and expensive campaign that miners have been able to present enough accurate information to the courts to keep mining alive on federal lands this year.

The campaign of disinformation is hardly confined to mining, however. One need look only to the statements made about oil leasing on the coastal plain to see the same forces at work. In the literature of the anti-development forces the coastal plain is constantly referred to as the "Serengetti of the north." Nonsense. It is about as similar to the African plains as it is to New York City. In one environmental magazine a moving poem describes the effects of the oil pipeline on caribou as "antlered multitudes" turning into "miles of brown panic" with "centuries of ebb and flow brought to a halt." Not only is this bad poetry, but it is bad fact. As anyone in this state knows, the caribou herd near the pipeline has tripled in size since the 1970's.

And then there is the Tongass National Forest in Southeast Alaska, where the battle cry has become "save the last great rainforest!" Instead the battle cry should be "save the last logger from the lawsuits." In legal action after legal action, the Forest Service has been tied into knots by opponents of logging in the national forests. The opponents pretend the forest is small, and will be destroyed in only a few short years by timber operations. They ignore the fact that the forest is well able to sustain a regulated system of logging and reforestation.

There is a moral to this story: when it comes to a discussion of environmental issues, the more eloquent and compelling the rhetoric sounds, the less likely it is to be true. And before decisions are made to shut down one development or another, the wise decision would be to first obtain the real facts.

Reprinted from Anchorage Times, June ?, 1987.

## Greens Creek mine gets approval

The Greens Creek Mining Company is now mobilizing for construction and mine development at its Admiralty Island ore deposit near Juneau after all corporate approvals were granted by its parent company Amselco Minerals, Inc.

The new construction and development will lead to commercial production in mid-1988. Employment is expected to reach 250 when the operation reaches full pro-

duction.

The Greens Creek Mine is located at the northwestern end of Admiralty Island, 18 miles southwest of Juneau. Underground mining at a rate of 1,000 tons of ore a day will feed a concentrator plant adjacent to the mine portal at the 920 foot elevation level. The plant is expected to produce 85,000 tons of concentrates annually containing an average of 6,374,000 ounces of silver, 36,000 ounces of gold,

25,000 tons of zinc and 9,000 tons of lead. Concentrates will be trucked 8.5 miles to a loading terminal for ocean shipment to smelters.

John P. Bingham, Jr. is the Vice President and General Manager of Greens Creek Mining Company. A project team has been appointed to manage the engineering, design, construction and operation of the new facility.

### Resource Development Council for Alaska, Inc.

The Resource Development Council (RDC) is Alaska's largest privately funded nonprofit economic development organization working to develop Alaska's natural resources in an orderly manner and to create a broad-based, diversified economy while protecting and enhancing the environment.

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Carl Portman  
Editor & Advertising Manager



# Endicott moves closer to production

America's first offshore oil field in the icy Beaufort Sea is expected to come into production this November, according to a senior executive at Standard Alaska Production Company.

Under budget and ahead of schedule, the new Endicott field, ten miles northeast of Prudhoe Bay, is projected to add some 100,000 barrels of oil a day to the Trans-Alaska Pipeline System, said Mike Curtis, Vice President of Engineering and Special Projects for Standard. Curtis pointed out that new technology, innovative engineering and a buyer's market for goods and services made it possible for Standard to develop the Endicott field during a period of unstable oil prices.

In a presentation before the RDC's Thursday breakfast meeting last month, Curtis estimated Standard will spend \$1 billion to bring Endicott on line. He speculated that if the same state-of-the-art technology and market conditions existed during the development of Prudhoe Bay, the cost of that project might have been reduced by one-third.

The Endicott development features two man-made gravel islands about 2.5 miles offshore in the Beaufort Sea. Over 6.3 million cubic yards of gravel was used to build the islands and causeway. The main 45-acre production island includes a 600-per-

son operations camp, warehouse facilities, a communications center and large production modules.

By mid-May, construction on the inter-island pipelines was nearing completion. The pipelines are part of a 24-mile oil line connecting Endicott to Pump Station 1 of the Trans-Alaska Pipeline System. In March and April, crews braved chill factors of -80 degrees and colder.

So far up to 12 wells have been drilled on the main production island while 11 have been set on the satellite drilling island.

Production modules, some higher than 10 stories, left New Iberia, LA., earlier this spring for the 9,000 mile journey to Endicott. Offloading is set for a brief period in early August when the ice is far enough offshore to allow the barges to dock.

The Endicott development is one of the definite bright spots in Alaska's construction sector this year. Curtis estimated that some 600 people will work on the islands this summer.

The Standard official said the field's total reserves amount to about one billion barrels with approximately 350 million barrels recoverable. There will be 100 production wells on the two islands.

Bridges in the causeway to enhance fish passage added some \$26 million to the project. Standard also had to obtain permits

from over a dozen state and federal regulatory agencies before starting the project.



Tony Kinderknecht of Standard Alaska Production Company leads a tour of the Endicott facilities on the 45-acre, man-made gravel island. (Photo: Carl Portman)

## Humana has new Air Ambulance

Immediate, direct access to physician specialists can mean the difference between life and death when accidents occur in remote locations of Alaska. Providing this direct access and the availability of a fleet of aircraft for medical evacuations is the goal of Humana Hospital Alaska's new Air Ambulance program.

The Air Ambulance service is available to logging, fishing, construction, mining and oil-related industries operating throughout Alaska, according to George Schneider, the new executive director of Humana Hospital. All calls to 258-EVAC are answered directly in the hospital's emergency room 24-hours each day so that people on the site with the injured worker can talk directly with physicians.

The hospital has an entire fleet of aircraft at its disposal from Security Aviation. Security has the only twin-engine jet medivac aircraft operating in the state. The Citation II jet, with the capability of reaching cruising speed of more than 420 mph and a range of 1,800 miles, can land on gravel runways as short as 3,000 feet.

Certified medivac nurse Becky Lundqvist, RN, CEN, TNCC, was recently named coordinator for the Air Ambulance program. Dr. Peter Hackett, a world-renowned expert in high altitude and wilderness medicine, serves as medical director.

## Thoughts from the president

by Joseph R. Henri



## Export of North Slope Crude

Why should Alaska, alone out of the 50 states of the Union, be prohibited from engaging in foreign trade with its oil? Is such Congressional ukase either wise or fair or constitutional? None of the above, in this writer's opinion.

That the policy is unenlightened is a view shared by the London *Economist*, which tells us — if we did not otherwise know — that Japan, for a long time now, "has been begging to buy several billion dollars of Alaskan oil a year." The editor cites the U.S. Federal Trade Commission to the effect that "it would be about \$800 million a year cheaper to ship Alaska oil to Japan and supply America's east coast" from other sources.

Our country is embroiled in a serious trade tussle with Japan; we want them to buy more from us. However, the thing they want as much or more than anything else — Alaska oil — we refuse to sell, forgetting the first rule of salesmanship: Do what your customers want.

If the Alaska crude now going expensively across the Isthmus of Panama were sold instead to Japan, or Taiwan or Korea, where would the replacement oil come from? *The Economist* mentions South America or the Middle East. But how about Mexico, Uncle Sam's most important and somewhat fragile neighbor south of our border? *The Wall Street Journal* of July 3 carried the news that Mexico and Russia have signed a five year trade agreement for greatly expanding commerce between

the two; the Soviets at the same time suggested a plan whereby Mexico would sell oil to Cuba while the USSR would supplant Mexican petroleum in Europe. Thus, our NATO allies will grow more dependent on the Russians, and Mexico will align herself more with Soviet/Cuban commerce. If there is anything beneficial in this arrangement for the United States, it escapes early detection. The strengthening of the Mexican economy, and the achievement of closer Mexican-American economic bonds should be one of our paramount foreign policy goals.

Can Alaska get "big gun" help from some of the largest U.S. banks, which have shakey loans to Mexico; would it not be in the interest of these lenders to encourage the sale of South of the Border oil to Americans, instead of Cubans?

Former Governor Bill Sheffield met with our Executive Committee the week of July 6. He's travelled extensively in the Orient on behalf of Alaskan exports. Asians want our oil; selling them the oil gives us leverage to persuade them to take more of our coal, fish, timber, whatever. Congress's prohibition is so unfair to us because they've tied our hands across the commodity spectrum — we can't play with a full deck.

Governor Sheffield suggested something else to us: if ANWR can only be opened by the state's giving up part of its 90% royalty share, then, at a minimum, we should obtain the right to export our North Slope crude. But let's hope that Congress will not try to compel us to abrogate part of the statehood compact by lessening the state's royalty share.

This is not the space in which to develop the constitutional law arguments against the oil export prohibition. Nevertheless, when one state only is singled out, and told its principal and most valuable commodity cannot be entered into foreign commerce, its citizens have cause to wonder whether they were admitted into the Union on an "equal footing" with their sister states. In other cases, the nation's high court has insisted that the states of the Union are equal. Why hasn't this critical point already found its way into the courthouse? It could have been argued several times over by now.

The right to export North Slope oil, the right of the State to enter its royalty share into foreign commerce: these are vital rights which could be tremendously helpful in revitalizing our economy. Assuming this column enjoys a few readers, we would welcome your ideas on where to begin!

## Land use policy ...

(continued from page 3)

tainment of the absolute maximum amount of land in true multi-use classifications.

Most of Alaska's future development will take place on state, native and federal lands. Much of that development will be affected by the crown jewels of ANILCA, Alaska's huge parks and refuges. That is why RDC believes multiple-use policy is of utmost importance when it comes to the long-term vitality of Alaska.

One could take the combined states of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Ohio, Delaware, Maryland and Virginia and still not equal the amount of land that has been set-aside as designated Wilderness, national parks and wildlife refuges in Alaska.

The 220 million acres of federal lands within the state alone would comprise the second largest state in the union and is larger than the combination of California, Nevada and Utah. If Alaska's 55 million acres of designated Wilderness were made into one state it would be the 11th largest state in the U.S. The 74.5 million acres of national wildlife refuges in Alaska would comprise the 6th largest state in the U.S.

This huge block of highly-restrictive, set-aside land in Alaska directly affects investment in resource industries. Land where resource development is most likely to occur has been left as islands in a sea of parks and refuges with the only access points coming through national parks the size of Vermont or wildlife refuges that are nearly the size of Minnesota.

"If our window of opportunity is to remain open for the welfare of generations ahead, we must demand reasonable, forward-looking land use policies," Tindall said. "You can help by recommending to the Secretary of Interior that Alaska's right to reach remote resource deposits through adequate transportation corridors is upheld and respected."

While thanking the NPLAC for its support of Secretary Hodel's recommendation to open the Coastal Plain of the Arctic National Wildlife Refuge to oil and gas leasing, RDC urged its support of the Yukon Pacific Corporation's natural gas pipeline proposal.

Paula Easley, former RDC executive director, is one of two Alaskans serving on the NPLAC and is chair of its Lands Committee.

## Land use policy is formidable roadblock

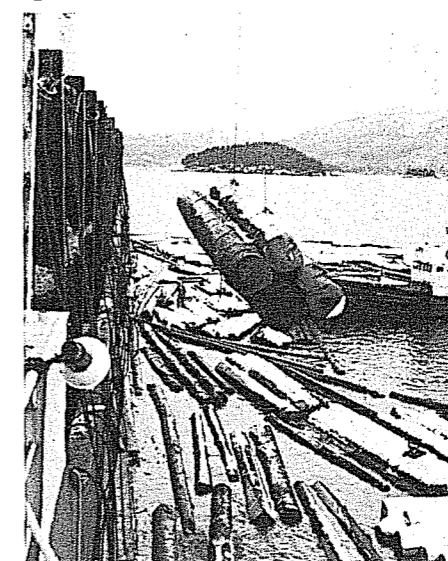
Alaska faces some formidable roadblocks in its drive to diversify the economy, the National Public Lands Advisory Council (NPLAC) was told when it met in Anchorage last month.

"The big one is land use policy," said Richard Tindall, RDC's Renewable Resources Director. Tindall spoke before the federal board, which advises Secretary Donald Hodel on various land use issues.

Approximately 60 percent of Alaska's land mass is owned by the federal government with the state holding about 28 percent. Native lands comprise 12 percent of the state while only 1 percent is in other private ownership.

"You can see why land use decisions and policy control how, or even if, development can proceed in Alaska — onshore and offshore," said Tindall.

The RDC director cited the cumulative effect of laws, regulations and stipulations that have multiplied at an astronomical rate



Land use policies have a tremendous impact on Alaska's resource industries.

during the last fifteen years as the second biggest roadblock to development.

"Today it may be just one little tax, one insignificant regulation, one more hoop to jump through for a permit, one set-aside of land, but tomorrow it means, collectively, enough laws, regulations, stipulations and mitigation measures to make almost anywhere else look better than Alaska as a place to do business," Tindall said. "Alaska's burgeoning support sector is directly dependent on the competitiveness of its resource industries. If Alaskans cannot harvest our forests, mine coal, gravel and other minerals or explore for and produce oil, people don't have jobs or money."

Tindall told the NPLAC that it could help Alaska's economy while at the same time make a meaningful contribution to the American economy by working for the re-

(continued on page 6)

# TAGS proposal moves forward

(continued from page 1)

Valdez where 14 million metric tons a year of natural gas would be liquefied and shipped by tanker to Japan and other Asian countries.

In a presentation before a Resource Development Council breakfast forum earlier this month, Howard Griffith, President and Chief Executive Officer of Yukon Pacific, said before any pipeline is built, environmental permits are required and the project will need presidential approval. However, timing is crucial if the Alaska company hopes to capture a share of the Japanese liquefied natural gas (LNG) market.

Existing Japanese gas contracts with Indonesia will expire in the mid-1990s and Japan is already looking for new sources of gas from several countries, including the Soviet Union and Australia. If Yukon Pacific is to take advantage of this brief window of opportunity, Griffith said permit approvals and market decisions must come during the next two years.

Japan currently buys LNG from Indonesia, Brunei, Malaysia and Abu Dhabi, but will need another 9 million tons annually by the year 2000. Other Pacific Rim countries will require another 8.5 million tons per year by the turn of the century.

Griffith is confident that his company can capture up to 14 million metric tons of the projected LNG markets.

"We are in a race to market this natural gas because from the market studies that have been performed in these countries, we know that there is going to be a window, that there is going to be LNG required," Griffith told the Council. "It's a matter of whether Alaska gas goes there or comes from Indonesia, Brunei, Australia or perhaps even Russia."

"The economics on our projects show

TRANS-ALASKA GAS SYSTEM PROJECT TIMETABLE

MILESTONES	YEARS					
	1986	1988	1990	1992	1994	1996
ROW GRANT, BLM, COE, DNR (PHASE I)						
GAS PURCHASE/SALES AGREEMENTS						
ERA & PRESIDENTIAL APPROVALS						
DETAIL ENGINEERING DESIGN						
AWARD CONSTRUCTION CONTRACTS						
PIPELINE/COMPRESSOR CONSTRUCTION						
START UP & OPERATION						

The Trans-Alaska Gas System project has been designed in three stages. During Stage I the company seeks to obtain the required approvals necessary for project development. Stage II includes detailed design engineering and permit acquisition. Stage III includes site preparation, pipeline, and compressor construction.

that it is feasible if we can get a market of 7 million tons to start out with and then grow to the 14 million tons within five years," Griffith said. "If we don't meet our window in 1995, it will be approximately five years before there will be a market for us to get into again."

"We think that our assumptions are realistic and the requirements can be met," said Griffith.

In order to meet the 1995 opportunity, Yukon Pacific has launched phase I of the project to secure the necessary rights-of-way by mid-1988 and letters of intent for gas purchase and sale agreements. In addition, the corporation is seeking a presidential finding, required under the Alaska Natural Gas Transportation Act, that the export of North Slope gas is in the national interest.

In a move that cleared a major regulatory hurdle for the project, Governor Steve Cowper last month signed a bill that gives the commissioner of natural resources au-

thority to grant a conditional right-of-way permit across state land. Under the original law, a company could not get a permit until it had financial backing.

In another positive development this spring, the Federal Energy Regulatory Commission ruled it has limited jurisdiction over the proposed gas line system and none over natural gas sales — a ruling Yukon Pacific officials believe will speed development of the project.

While Yukon Pacific has applied for right-of-way permits, the U.S. Bureau of Land Management is well along with work on the Environmental Impact Statement.

After phase I is successfully completed, Yukon Pacific plans to move into phase II of the project next summer, focusing on detailed engineering, additional permitting and staking of rights-of-way. Under phase III, actual construction would start in 1991.

The Valdez liquefaction plant and marine terminal would take four years to build while construction of the pipeline and its ten compressor stations would take three years. The company schedule would allow for delivery of the product in 1995 or 1996 with up to 275 annual tanker departures out of Valdez.

The 36-inch pipeline from the North Slope to Valdez would be buried, except where it would cross major rivers and earthquake faults. The pipeline and liquefaction plant are estimated to cost \$8.64 billion. Another \$2.37 billion would be needed for the tankers to transport the gas across the Pacific.

"We have a very critical year ahead of us," said Griffith. "We'll go from hundreds of thousands of dollars to millions of dollars when we go to phase II next year. We'll be gearing up with a much larger staff."

Once in operation, the gas line would add up to \$3 million each day to the state treasury. Over 10,000 construction jobs and 550 permanent jobs would be created by the project. The gas line could spur other development in Alaska, especially the refining of petroleum products.

# U.S. Borax gets strong support for Quartz Hill

Over 250 comments were submitted to the U.S. Forest Service recently on the revised draft environmental impact statement for the proposed U.S. Borax molybdenum mine at Quartz Hill near Ketchikan. The Resource Development Council and the state administration supported the Forest Service alternative for tailings disposal in Wilson Arm, a key element in the economic viability of the project.

A review of the comments shows only six individuals opposed to the project. The remaining comments were directed at the best disposal site for mine tailings. Although the Forest Service and U.S. Borax prefer disposal in Wilson Arm, the Environmental Protection Agency favors Boca de Quadra strictly on an environmental basis because the area is larger and has slightly smaller fish runs.

The major environmental groups cited no opposition to the project, but sided with EPA on the Boca de Quadra tailings disposal site. Fishermen groups also backed the EPA alternative.

However, the majority of the comments supported tailings disposal in Wilson Arm. Those comments were recognized as packing more technical weight and public support.

Support for the Wilson Arm alternative came not only from the state administration and RDC, but from engineers, doctors, accountants, geologists, biologists, local governments, state and federal legislators, native corporations, other mine operators, chambers of commerce, a list of universities and the oil and timber industries.

Universities supporting the Forest Service alternative included the University of Alaska, University of Idaho, Montana College of Minerals Science and the New Mexico Institute of Mining.

The Resource Development Council based its indepth, lengthy comments on technical information. The Council formed a special study team to review and comment on the RDEIS. The team featured a wide spectrum of expertise, including geologists, marine biologists, hydrologists, engineers and recreational professionals.

The revised draft, consisting of three volumes totalling over 1,800 pages, has been nearly three years in preparation. Borax has paid over \$1.2 million for EIS preparation, and since 1977 it has spent over \$15 million in collecting and providing the data for it.

Quartz Hill is a big, long-term operation surrounded by Misty Fjords National Monument. Its four-year development will provide about 1,000 construction jobs. When completed it will provide 800 to 1,000 permanent jobs, a healthy economic transfusion into the Southeast Alaska region.

In its comments, the Council pointed out that the EPA's preferred alternative for tailing disposal is based on the premise that a deeper fjord will provide increased protection from possible acute copper toxicity and other environmental impacts. However, the data used to arrive at this conclusion are based on very conservative or "worst case" assumptions.

RDC supports the Forest Service preferred alternative for tailings disposal in Wilson Arm because:

- The impacts of the mine development would be confined to a single drainage.
- The impacts on wilderness values would be minimized since it would not be necessary to construct facilities for tailings disposal in designated Wilderness as would be required if tailings were disposed in Boca de Quadra.
- The estimated "worst-case" losses to the commercial fish and shellfish for the two alternatives as reported in the RDEIS are only: Wilson Arm \$7,334/annually, Boca de Quadra \$5,005/annually.
- Wilson Arm tailings disposal would eliminate the need for



A view overlooking the ore body toward the Blossom River. The access road was built of ore. (Fjord photo, Ketchikan)

a \$59 million tunnel and a \$1.6 million annual operating cost. The savings are equivalent to about 55 cents per pound of molybdenum produced and are a key element in the cost competitiveness of the project.

• There is no discernable economic or other advantage that would justify the additional cost of the Boca de Quadra alternative.

• Disposal into Wilson Arm may even have a positive effect to the marine environment by generating more productive areas.

As administrator of the Misty Fjords National Monument and lead agency in the environmental process, the U.S. Forest Service has the responsibility to consider all of the impacts and strike a balance between environmental, economic, social, monument and wilderness values. In processing the National Pollution Discharge Elimination System (NPDES) permit required for tailings disposal, the EPA should also consider all environmental factors, not limiting itself only to marine factors, the Council said.

In granting its permit, EPA's main concern should be whether a Wilson Arm discharge would cause *unreasonable degradation* of the marine environment, RDC said.

The Council believes it is unwise to trade all the advantages associated with using Wilson Arm for tailings disposal for the very marginal, if measurable benefits, afforded by the deeper waters of Boca de Quadra. There is adequate capacity in Wilson Arm for the tailings.

In the RDEIS, the Forest Service says that with appropriate mitigation, there is little difference in the environmental effects of tailings disposal between the Wilson Arm and Boca de Quadra; including the effects on anadromous fish, other food fish and fish habitat. RDC agrees with the Forest Service and so do some of the world's foremost experts. On the other hand, the increased environmental impacts of the Boca de Quadra alternative in areas other than marine effects are considerable.

The Council noted that instead of viewing the tailings disposal quandary as a problem and trying to minimize any and all impacts of its eventual siting, the relevant agencies should view this as an opportunity to generate more productive environments in and adjacent to the project area.

The RDEIS goes to great length discussing the relatively low habitat values of the very deep, benthic habitats present in both disposal location alternatives. By contrast the relatively limited estuarine habitat in both Smeaton Bay and Boca de Quadra are praised for their productivity and importance to the fisheries resource.

By disposing tailings in the shallower Wilson Arm area, more productive estuarine-type habitat would be created, resulting in an increase of productivity. Through careful monitoring of the tailings disposition and potential relocation of the outfall further up Wilson Arm, the tailings can be deposited in a manner that will increase the variety of habitats in the region and increase the value of Smeaton Bay to the overall ecological system.

In other areas of the world, people are trying to increase the productivity of marine environments by doing exactly what the EPA is trying to prevent. In most cases these enhancement projects are not economically feasible because the necessary supply of fill mineral is not immediately at hand. Such a supply is at hand for Wilson Arm.



RDC wishes Harold Heinze the best in his new position as president of ARCO Transportation and welcomes Bill Wade, the new president of ARCO Alaska, Inc., to Alaska. Above, Mr. Heinze enjoys the 10th anniversary celebration at Prudhoe Bay with Becky Gay, RDC executive director. Photo: T.H. Reynolds