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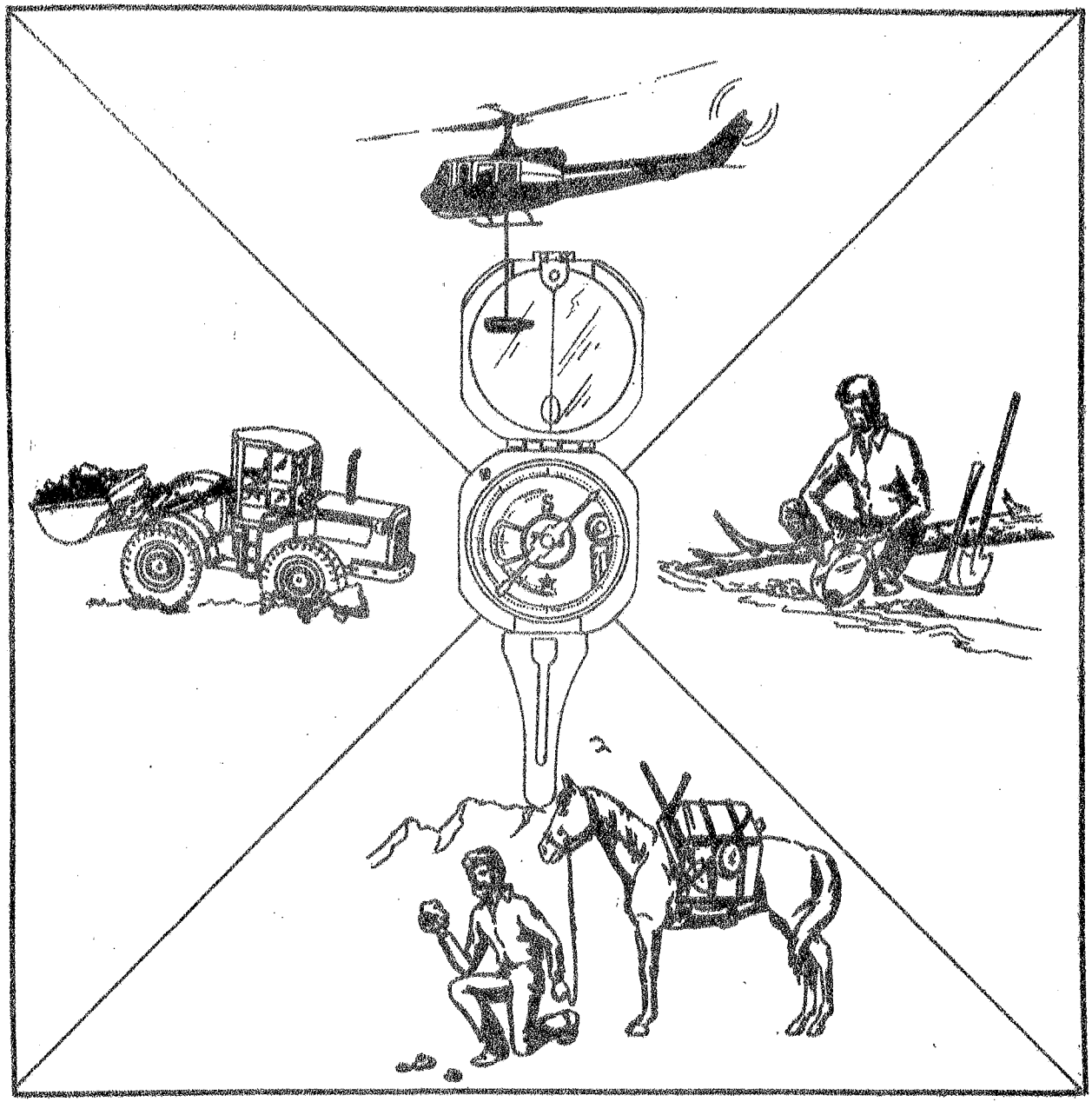

Published to Accelerate the Development of the Mining Industry in Alaska
Keith H. Miller - Governor
Thomas E. Kelly - Commissioner
James A. Williams - Director

USIBELLI ACQUIRES VITRO PROPERTY

Usibelli Coal Mine Inc. has acquired the equipment and facilities of Vitro Mineral Corp.'s Cripple Creek Coal Mine in the Healy River coal field. A contract, involving an undisclosed consideration, was signed by both companies and approved by the U.S. Dept. of the Interior. Transfer of the operation will take place July 1, 1970. The transaction, according to Joe Usibelli, will result in more efficient utilization of assets and resources and assure the continuation of adequate reserves for future needs. Plans are to mine the two adjacent properties as a single mine, with equipment and facilities being combined to meet the requirements for full production of both. Usibelli Coal Mine Inc. was founded in 1943 by the late Emil Usibelli and has been in continuous production since that time. Vitro Mineral Corp. is a subsidiary of Earth Resources Co. This company is the majority holder of Energy Co. of Alaska. Energy Co. is planning a combination refinery and power generating complex in the Fairbanks area.

SERENDIPITY, INC. IN ALASKA

Serendipity, Inc. of Sherman Oaks, California has signed a letter of intent to acquire Alaska Geological Consultants, of Anchorage for undisclosed terms. The privately-held Alaskan organization specializes in earth sciences, soils engineering, and petroleum geology. Serendipity is a professional service organization providing systems analyses and engineering, environmental control, and operations research.

SOUTHCENTRAL "SCENIC AREA" PROPOSAL

Secretary of the Interior Walter J. Hickel recently proposed the creation of a "National Scenic Area" in the area of the Wrangell Mountains of Southcentral Alaska. This would be the first "Scenic Area" classification in the nation, and would be the first park-type withdrawal given over to the U.S. Bureau of Land Management for management. The area covers 10.5 million acres of federal land and would be managed on a multiple use basis, "with out-door recreation and the scenic environment being our first consideration." The proposed scenic area would include the 1.9 million-acre Mt. Sanford Wildlife Development and Utilization Area; a two million-acre Mt. Bona Wilderness Preservation Area; and, the 6.6 million-acre Chitina Valley Resource Area. Secretary Hickel said new plans to protect the environment in mining and other operations would be needed in part of the area. Public hearings on the proposal have been scheduled for April 23 and 24 in Anchorage and April 25 in Fairbanks.

KLUKWAN MINING LEASE

The Bureau of Indian Affairs, Southeast Alaska Agency, has announced a competitive sale of a mining lease for iron and associated minerals on the Klukwan Indian Reservation. Sealed bids will be received until 2:00 P.M. PDT on June 3, 1970 and opened at that time in the office of the Superintendent of the Southeast Alaska Agency, B.I.A., Juneau, Alaska. The lease will grant the right to prospect for and mine all minerals other than coal, oil, gas, sand, gravel, and building stone. The Klukwan Indian titaniferous magnetite deposit comprises about 20% of a 2,800-acre alluvial fan adjacent to the Chilkat River, on the paved Haines Cutoff Highway, about 23 miles north of deepwater Port Chilkoot. The alluvial fan contains an estimated 500 million tons of material averaging about 13% iron and 2% titanium oxide, and is contiguous to non-Indian lode deposits containing about 1,500 million tons of similarly mineralized rock. The United States Bureau of Mines Report of Investigations 6984, Concentration of Klukwan, Alaska, Magnetite Ore, R.R. Wells and R.L. Thorne, states that the iron is present in the ore as a fine-grained magnetite associated with a pyroxenite-type basic rock. Satisfactory magnetite separation procedures were developed for the production of concentrates assaying more than 60% iron with 2 to 4% titanium oxide, with recoveries of about 98% of the magnetic iron. Further information may be obtained from the United States Department of the Interior, Bureau of Indian Affairs, Southeast Alaska Agency, P.O. Box 1587, Juneau, Alaska, 99801.

ALASKA TECTONIC SYMPOSIUM

The second Alaska Tectonic Symposium, organized by the Alaska Geological Society in coop ation with Alaska Methodist University, brought together some of the world's most eminen earth scientists to discuss Alaska and its relation to global tectonic patterns and cont ental drifting. These new concepts are expecially important now that Alaska has become focal point for exploration and research by geologists and geophysicists. A few of the major concepts are offered in what is necessarily an incomplete and tentative summary.

Dr. J. Tuzo Wilson, Professor of Geophysics at the University of Toronto, discussed the cycle of ocean basins with particular reference to the Arctic. He applied the concept o spreading outward from oceanic ridges to the rifting and fracturing of continents and th development of ocean basins. He recognized several stages in the life-cycles of ocean b sins. The East African Rift is an example of the embryonic stage; the Red Sea is young; Atlantic Ocean is mature; the Pacific Ocean is old; the Mediterranean is declining, and Indus Suture between India and Asia is a relic scar of a former seaway closed by compres between the two continents that collided. He proposed that source material for thick Cr ceous sediments in the western United States and Canada was derived from Asia.

Dr. Michael Churkin Jr., USGS, Alaska Branch, discussed the correlation of fold belts be tween Alaska and Siberia and their relation to continental drift. Cordilleran fold belt apparently correlate well with belts in the Kamchatka and Chukotsk Peninsulas. Evidence thus far suggests no drifting between the Siberian Platform and Alaska. The Verkhoyansk Mountains, west of the Chukotsk Peninsula probably represents the border between North America and Asian blocks. Spreading of the Canada Basin along an older rift system is speculative. Churkin suggested that source material for the Paleozoic geosyncline rimmi the Arctic Basin was derived from a marginal orogenic belt that bordered the continents. Wilson proposed the source was the Asian continent prior to drifting.

Robert Stonely, British Petroleum Company, discussed the "New Global Tectonics" as reflec in the structures of parts of Alaska. The Yakataga area shows tectonic patterns typicall associated with the underthrusting of the oceanic crust at a continental margin. This un thrusting results in uplift with overthrusting of shelf sediments oceanward. The Chugac Fairweather fault is a major right-lateral oblique-slip fault with the oceanside down. A good comparison between the Yakataga tectonic pattern and the Tethys Basin was illustrate Speculations on similar patterns existing in the Brooks Range and Koyukuk Basin were also offered.

Dr. H. W. Menard of the Scripps Institute of Oceanography has recently done work in the North Pacific Basin which promises to be of major importance in understanding Alaskan tec tonics. The Pacific Ocean plate north and west of the East Pacific Rise is moving north- ward relative to North America. Thick sediments in the Gulf of Alaska are believed to be from offshore areas formerly near northern Mexico. In the Aleutian trench, the edge of t Pacific plate is plunging beneath a typical island arc system that is produced by spreadi of more than 6 cm per year. Paleomagnetic evidence from seamounts is consistant with the idea of northward movement of the North Pacific Basin. New maps on the bathymetry of the North Pacific will be released in the future.

John Moody, Senior Vice President of Mobil Oil Corporation, discussed the geometry of wre fault tectonics. He believed that there is a world wide distribution of maximum stress directions either east-west or north-south. His views are, as Menard put it, in "mortal conflict" with plate tectonics and continental drift.

MINING INDUSTRY -- PROSPECTS AND CHALLENGES

The following is the conclusion of the article, "Prospects and Challenges for the Canadia Mining Industry" by George Mowbray which appeared in the July 1969 issue of Western Miner. This article was originally presented as an address to the Ontario Mining Association and was aimed primarily at the Canadian Mining Industry but it is also applicable to the indus in the United States.

A major operational planning job needs to be done on the provincial mining associations and the Canadian Mining Association. This calls for the interest and participation of the senior executives of the member firms, not just the mine managers and other second or third-echelon persons. It demands new objectives, new scope, and in particular, ample funds for social and economic research. It means that the industry will try to speak with one voice, to be influential "presence" everywhere that public policies are being formulated. Another possibility is the establishment of an endowed Institute of Social and Economic Research in Mining. One result of this might be to marsnal and disseminate useful information, reliable information, on what the industry is doing, what its problems and successes are. The mining industry plays its factual cards too close to its vest, to the point where it seems almost furtive at times.

Another way of stating this proposition is to say that the industry needs to match its expenditures on scientific and engineering research with as much or more money for social and economic research, where the long-term payoff will be much greater. By the same token it needs to find and train new leaders with broad-gauge general management capabilities and social sensitivity. Supported by their associations, these leaders are going to have to learn to live hand and hand with social planners and politicians, making joint cause with them against the perennial problems of poverty, deprivation, and lack of opportunity for human self-fulfillment in our society.

Nowhere is the industry more vulnerable and nowhere is its opportunity greater, than in its impact on the economic and human scene in the communities where it establishes mines. I am talking here about more or less remote communities. A mine beside the Toronto International Airport would not presumably have much of an economic effect on metro Toronto nor cause terrible human problems.

The paradoxical thing about most mining towns is that the people in them -- including the mine management group -- tend to think of their abode as temporary. There are third generation miners in Sudbury who still have a mining camp mentality. They have a sort of evacuation pyschology -- the mine is going to run out of ore and they are going to move to Toronto. I suspect that wives and children of the miners and of all the men in these mining communities tend to look for future opportunities elsewhere. Shortages of mine labour here and there support this proposition. Incidentally, the industry seems to have been rather backward in its employment of women. My impression from many years in the north is that the area is very short of career opportunities for women -- and the household with two people working is getting to be quite common in other parts of our society. There must be many jobs on a mine property that women could do as well as men.

Few people would argue, either, that if mining is to continue to attract people to work in mines, they are going to have to have pleasant towns to live in. With good educational facilities. I believe it is significant that Ralph Parker and the late Horace Fraser played such an important role in the founding of Laurentian University, where they have made an important contribution to the future of the mining industry as well as Canadian life in general. And speaking of education, why do not senior mining people make it their practice to become associated with faculties and schools of mining and deliver a few lectures each year? This is the pattern of education in other professions such as medicine and business administration, so why not mining? In this way they would not only contribute to better education, but also to better mutual understanding between themselves and the younger generation.

All of these things mean involvement with the community, local, provincial, national, and international. Our mining industry is going global and it will have to have the necessary broad and statesmanlike philosophies to match its mature condition. Perhaps we can establish such a philosophy in connection with the role of the mining company in community development. Briefly, here are the propositions, which I am sure many of you will wish to debate with me and with yourselves.

1. The mining company should recognize that it must be completely and permanently involved in the town and cannot divorce itself from the problems of the local people.
2. The company should finance, build, and own all the residential buildings, utilities, streets, and so on, leaving only secondary commercial facilities for private ownership of other individuals or corporations. And it should have the privilege of fast write-off, if the mine cannot support this, it should not open.
3. The company should take the lead in establishing appropriate local standards for accommodation and services, knowing that each town and each populace has its own special aspirations and ideas. A proper town operation is vital to the success of a mining company.
4. The start of each mining operation should be seen as a signal for a review -- or start -- of long-term regional economic planning. The objective, to prevent the people and their town from falling on evil days when mining operations cease. This planning should be launched with company initiative. It should be carried out in cooperation with local or provincial authorities. The company should cease to think of itself as merely a mining operation. It should become a development conglomerate if necessary, helping broaden the investment base of the whole area. Here, the company is acting as part and parcel of the social structure of the community. By doing so, it becomes a responsible and socially accepted partner in the struggle against nature.
5. If the mine runs out, and there is no other economic opportunity, both mine and town should be obliterated. The provincial government should compensate the individuals not connected with the company. They too, should have had privileges of fast tax write-off in the past. You will see that I am advocating the return to a modern version of the old mining camp concept, but this time linked to a positive approach to regional development planning right from the start.
6. In establishing communities, the corollary of these propositions is that the mining company should strive to play a full and positive role in dealing with all manner of social and economic problems. It should be specially concerned with attempts at industrial diversification, educational services, and creation of better career opportunities. I don't see why in many cases it could not provide local investment funds.

The mining industry faces great challenges of words and deeds. It needs a new and more radical approach to the social role, to its attitudes to people -- their comfort, health, and personal development. It needs to become a conscious development agent for regional and hence national economic growth. New Town Canada is Mining Town Canada. There are names on the map that didn't exist fifteen years ago, and they are the names of mining towns. Many Canadians apparently do not realize how fundamental mining is to northern development, and even less to its role in the development of southern industry. Typically, other industries follow mines into remote areas, not vice versa. The mining industry has to tell this story of its economic influence much more convincingly than heretofore. And it has to be able to live up to its own billing -- in terms of fundamental human values that every Canadian can understand.

Some years ago Charles Wilson said that what was good for General Motors was good for the U.S.A. He was probably more right than wrong. Many Americans would certainly agree with him. How many Canadians would accept the same sort of proposition for Canada's mining industry or our largest mining companies? Yes, what is good for mining is good for Canada.

Your challenge, therefore, is a great one. It is to earn the survival rights of the mining industry in the hearts of the voters. The participation in society's problems, the involvement in high objectives for the elevation of mankind, the commitment to create and manage change, to plunge into the society rather than stand apart from it -- these are the keys to your future.

NEW PUBLICATIONS

The U.S. Bureau of Mines recently released Report of Investigations (RI) 7356 entitled "Effects of Type of Cut, Dalay, and Explosive on Underground Blasting in Frozen Gravel." This report describes a 2 x 2 x 2 factorial experiment which was run in a 7-by-12-foot drift in permanently frozen gravel and schist bedrock at Fox, Alaska. Some of the more important conslusions were:

1. The burn cut produced better overall fragmentation and fewer blocks requiring secondary breakage than the V-cut.

2. The burn cut also performed better from the standpoint of loading time and cleanup time.

3. The dynamite produced fewer blocks requiring secondary breakage than the special gelatin, but the overall fragmentation was about the same.

4. Scattered results were obtained from the experiment. This can be attributed to the inhomogeneous nature of the frozen gravel and the difficulty in drilling a precise blast round with an air-leg drill.

This report is available for consultation in the Division offices in Fairbanks, Anchorage, and Juneau, and the Bureau of Mines office in Juneau.

The following open file reports have been released by the U.S. Geological Survey and are available for consultation in the Alaska USGS and State Division of Mines and Geology offices. Material from which copies of these open file reports can be made at private expense is available only at the Alaska Geology Branch, U.S.G.S., 345 Middlefield Road, Menlo Park, California 94025.

1. Analyses of rock and soil samples, Chandalar and eastern Wiseman Quadrangles, Alaska, compiled by W.P. Brosge and H.N. Reiser.

2. Chemical analyses of stream sediment samples from the Chandalar and eastern Wiseman Quadrangles, Alaska, compiled by W.P. Brosge and H.N. Reiser.

The U.S. Geological Survey has released a set of five 1:24,000 (1 inch = 2000 feet) scale maps of the Fairbanks Quadrangle. The maps are Fairbanks D-1, SW; Fairbanks D-2, NE; Fairbanks D-2, SW; Fairbanks D-2, NW; and, Fairbanks D-2, SE. The maps are 50¢ each and may be purchased from the U.S. Geological Survey Map Distribution Office, 310 First Ave., Fairbanks, Alaska 99701.

METAL MARKET

	March 30	Month Ago	Year Ago
Antimony ore, stu equivalent	$38.39-40.17	$36.16-37.95	$7.00-7.14
Barite (drilling mud grade from E/MJ February)	$12-16	$12-16	$12-16
Beryllium powder 98%	$54-66	$54-66	$54-66
Chrome ore long ton	$31-35	$31-35	$31-35
Copper per lb.	56.5¢	Suspended	44.3¢
Gold per oz.	$35.43	$35.19	$43.40
Lead per lb.	16.5¢	16.5¢	14.0¢
Mercury per flask	$470-480	$458-465	$517-520
Molybdenum conc. per lb.	$1.72	$1.72	$1.62
Nickel per lb.	$1.00	$1.28	$1.03
Platinum per oz.	$130-135	$130-135	$120-125
Silver, New York, per oz.	186.8¢	187.7¢	184.0¢
Tin per lb.	178.3¢	175.4¢	153.3¢
Titanium ore per ton	$30-35	$30-35	$20-21
Tungsten per unit	$43.00	$43.00	$43.00
Zinc per lb.	16.0¢	16.0¢	14.0¢