STATE OF ALASKA
Department of Natural Resources
Division of Geological & Geophysical Surveys

MINES BULLETIN

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P. O. Box 80007 College, Alaska 99701

Published to Accelerate the Development of the Mining Industry in Alaska

William A. Egan – Governor
Charles F. Herbert – Commissioner
Donald C. Hartman – State Geologist

IN THIS ISSUE

NEW STATE GEOLOGIST APPOINTED

JUNEAU--Governor William A. Egan announced on April 5th the appointment of Don Hartman as State Geologist with the Department of Natural Resources, Division of Geological and Geophysical Surveys.

Hartman, 43, has been a Petroleum Geologist with the State Geological Survey since 1971. He was an oil geologist with Texaco Inc. in Anchorage since 1962, and a geologist with Texaco at Long Beach, California, from 1956-62. He has a masters degree in geology from the University of California and has done extensive exploration work in Alaska while with Texaco and with the State Geological Survey.

Hartman believes that the main objective of the Survey is to foster all possible mineral exploration and production throughout Alaska, not only for metals, but for nonmetals and fuels as well. A critical requisite for this objective is an intensive program of careful geologic mapping, aimed at an eventual coverage of the geology of Alaska at a scale of one inch to the mile. At this time about 2% of the state is covered by geological maps at this scale.

A more immediate goal is the compilation and publication of a geological atlas of Alaska with maps at a scale of 4 miles to the inch, but even at this broad regional scale, only about 60% of the state is covered by modern geological maps. Planning is in progress for this ambitious venture in cooperation with the U. S. Geological Survey and the University of Alaska.

Mineral interest in Alaska is high at this time, with important exploratory programs being carried out by industry in all offshore areas for potential oil and

gas fields, and by mining interests for copper, iron, nickel, fluorite, and other minerals. The rapidly rising price of gold and platinum metals has touched off greatly increased activity in filing of claims, especially in placer mining districts throughout the state.

The greatest aid that the Division can lend in maintaining and increasing this exploratory activity is by thorough inventory of the state's mineral resources, which can only be determined by a program of systematic geological mapping.

With time, we intend to expand our capabilities in location and evaluation of ground water supplies and construction materials and to assist in identification of geologic hazards to man-made structures.

Hartman, his wife DeeDee, and three boys, David, Daniel, and Douglas, will be based in Anchorage. He has been active in the Anchorage symphony and the Lyric Opera Theatre which is affiliated with the University of Alaska.

PUBLIC HEARINGS ON 80 MILLION ACRES OF FEDERAL LANDS

(from Commission Newsletter, v. 1, nos. 3 and 4)

The joint Federal-State Land Use Planning Commission for Alaska invites your participation in planning for the management of public lands in Alaska. Hearings will be held this spring in numerous Alaskan communities and in other states. The purpose of these hearings is to learn your thoughts about the 80 million acres of public lands which the Secretary of the Interior withdrew from the U. S. public domain in September 1972. These lands are being studied for possible inclusion in the National Park, Forest, Wildlife Refuge, and Wild and Scenic Rivers Systems. The 80 million acres are often referred to as "D-2" or "national interest" lands because they were withdrawn for study under Section 17(d) (2) of the Alaska Native Claims Settlement Act (P.L. 92-203).

HEARING SCHEDULE

We believe that this schedule represents an unprecedented effort to secure public involvement in planning. Attend and speak at the hearing most convenient for you. This is an opportunity to make your thoughts and wishes known. The Commission wants your views in person or in writing. Consult the hearing schedule for the times, dates, and rules of the hearings.

April 23	Anchorage, Alaska	9:00 a.m.	Sydney Laurence Auditorium
April 24	Anchorage, Alaska	9:00 a.m.	Sydney Laurence Auditorium
April 25	Seward, Alaska	10:00 a.m.	City Council Chambers
	Iliamna, Alaska	11:00 a.m.-8:00 p.m.	
April 26	Kenai, Alaska	10:00 a.m.-8:00 p.m.	Wildwood Facility Theatre
	Dillingham, Alaska	10:00 a.m.	Dillingham Youth Center
April 27	Valdez, Alaska	11:00 a.m.-8:00 p.m.	City Council Chambers
	Toksook Bay, Alaska	11:00 a.m.-6:00 p.m.	
April 28	Holy Cross, Alaska	10:00 a.m.-6:00 p.m.	
April 30	Bethel, Alaska	7:00 p.m.	Regional High School Auditorium
May 1	Bethel, Alaska	8:00 a.m.	
	McGrath, Alaska	11:00 a.m.	
May 2	Galena, Alaska	10:00 a.m.	
	Emmonak, Alaska	11:00 a.m.-6:00 p.m.	
May 3	Togiak, Alaska	10:00 a.m.-6:00 p.m.	
	Ambler, Alaska	10:00 a.m.-6:00 p.m.	

May 4	Ft. Yukon, Alaska	1:00 p.m.	
	Naknek, Alaska	9:00 a.m.-6:00 p.m.	Borough Building
May 5	Allakaket, Alaska	11:00 a.m.-6:00 p.m.	
May 7	Nome, Alaska	1:00 p.m.	Arctic Native Brotherhood Hall
May 8	Shishmaref, Alaska	10:00 a.m.-6:00 p.m.	
May 9	Kotzebue, Alaska	9:00 a.m.	
	Kodiak, Alaska	11:00 a.m.	
May 10	King Cove, Alaska	1:00 p.m.	
	Kiana, Alaska	9:00 a.m.-4:00 p.m.	
May 11	Barrow, Alaska	10:00 a.m.	
May 12	Anaktuvuk Pass, Ak.	10:00 a.m.-4:00 p.m.	
May 13	Copper Center, Ak.	12:00 p.m.(noon)	
May 14	Cordova, Alaska	2:00 p.m.	
May 15	Yakutat, Alaska	11:00 a.m.-4:00 p.m.	
May 16	Juneau, Alaska	10:00 a.m.	National Guard Armory
	Northway, Alaska	11:00 a.m.-8:00 p.m.	
May 17	Fairbanks, Alaska	10:00 a.m.	Alaskaland
	Juneau, Alaska	9:00 a.m.	National Guard Armory
May 18	Fairbanks, Alaska	8:00 a.m.-4:00 p.m.	Alaskaland
May 22	San Francisco, CA	10:00 a.m.	Jack Tarr Hotel
May 23	San Francisco, CA	8:00 a.m.	Jack Tarr Hotel
May 25	Denver, Colorado	10:00 a.m.	Continental Motor Hotel
	Seattle, Washington	10:00 a.m.	Pacific Science Center Eames Theatre
May 26	Seattle, Washington	8:00 a.m.	Eames Theatre
	Denver, Colorado	8:00 a.m.	Continental Motor Hotel
May 29	Washington, D.C.	10:00 a.m.	General Services Admin. Bldg. Auditorium
May 30	Washington, D.C.	9:00 a.m.	18th & F Streets
June 2	Anchorage, Alaska	9:00 a.m.	Sydney Laurence Auditorium
June 3	Anchorage, Alaska	10:00 a.m.	Sydney Laurence Auditorium

HEARING PROCEDURE

Individuals wishing to testify should inform the Commission as soon as possible as to the locality, preferred time and preferred day (for two-day hearings). Communication should be addressed to:

Hearings D2
Joint Federal-State Land Use Planning Commission
733 West Fourth Ave., Suite 400
Anchorage, Ak. 99501

Time permitting, individuals will be notified of the approximate time for their testimony. Sign-up sheets will be posted at hearing locations for those unable to make prior arrangements.

To enable all to be heard a time limit of 10 minutes for individuals testifying will be strictly observed, unless otherwise allowed by the Hearing Chairman.

Should anyone wishing to give testimony to the Commission be unable to attend the hearings, written comments may be mailed no later than June 30, 1973 to:

Joint Federal-State Land Use Planning Commission
Attn: Mr. T. G. Bingham
733 West Fourth Ave., Suite 400
Anchorage, Ak. 99501

Written comments received within a 14-day period after the specific hearing date will be included with the formal hearing record.

In the event weather or other conditions, delay the arrival of the Commission in these localities, the hearings will begin as soon after the Commission's arrival as possible. Should inclement weather prohibit the Commission's reaching a specific location, an attempt will be made to reschedule.

TAX INCENTIVES CAN INFLUENCE ENERGY SUPPLIES

(The Mining Record March 7, 1973)

WASHINGTON, D. C.,-Improved tax incentives can have a "direct and immediate influence" on securing increased energy supplies for the U. S., John G. McLean, chairman and chief executive officer of Continental Oil Company, told the House Ways and Means Committee.

In Congressional testimony here, Mr. McLean declared that "energy problems, in all their many ramifications, will rank high on our list of national priorities for at least the next two decades. Our problems are serious: they will grow worse."

Mr. McLean serves as chairman of the Committee on U. S. Energy Outlook of the National Petroleum Council, which just completed an exhaustive two-year study of the nation's energy posture at the request of the Secretary of the Interior. The NPG group is sponsoring an energy symposium in the nation's capital this week.

Tax incentives, he suggested, can play a vital role in triggering investor response and providing the vast capital inputs needed to get the job done.

Mr. McLean urged three specific preferences.

First, restoration of percentage depletion to the 27 1/2 per cent level and its removal from items subject to the tax on tax preferences.

"Percentage depletion is a particularly effective incentive since it is success oriented, not effort oriented," he stated. "Only those who discover energy resources, and thus help our energy situation, receive the benefit. Increased percentage depletion would increase cash flows and rates of return and make new investments in exploration and development more attractive."

Although he predicted that restoration to a 27 1/2 percent level could be "unpopular in some quarters and regarded as politically naive in others," he emphasized that "the exigencies of our national energy situation are such that this is the right course of action for our government to take."

Second, Continuation of the right to deduct intangible drilling and development costs when incurred-an incentive of "vital importance" to increasing the flow of capital into the search for "sorely needed" new supplies of oil and gas.

"Its repeal," he said, "would mean that many marginal producing properties would not be developed, many secondary recovery projects would not be undertaken and Tertiary oil recovery would be materially delayed."

Third, preservation of present tax treatment of foreign operations.

"Over the near term," Mr. McLean pointed out, "we must depend to a substantial degree on foreign oil sources.

"We cannot put U. S. companies at a further disadvantage and hope to stay in the increasingly competitive race for foreign energy supplies. Foreign tax credit merely assures that they are not subject to double taxation.

A picture of the U. S. energy outlook and its economic and political implications is "not a pleasant one, it is profoundly disturbing," Mr. McLean stated.

"Clearly, we should promptly initiate domestic policies to ameliorate our energy problems to the extent we can and foreign policies to minimize the risks implicit in the whole situation."

NIXON WILL ASK CONGRESS TO REPEAL 1872 LAW

(The Mining Record March 14, 1973)

President Nixon will ask Congress to repeal the 1872 Mining Act and replace it with a "comprehensive leasing system," the American Mining Congress has informed members.

Under this system, the AMC said, the Secretary of Interior would be given authority to assure that future mining is carried out in harmony with the environment.

The AMC noted that the President, in a recent message to congress, said "new legislation with stringent performance standards is required to regulate abuses of surface and underground mining in a manner compatible with the environment.

The AMC also informed members that the President again will ask for a special tax on emission of sulfur oxides. But this time he will ask for a charge of 20 cents a pound of sulfur emitted, taking effect in 1976 in areas where the national primary standard for sulfur oxides is not met by the 1975 deadline under the Clean Air Act.

In regions where air quality in 1978 and thereafter would meet the primary standard, a charge of 20 cents a pound would be imposed, beginning in 1979. Areas which meet both primary and secondary air quality standards would be exempt from the emission charge.

The President again will ask for legislation to establish a national land use policy, the AMC said.

LADD MOUNTAIN'S ZEOLITE DEPOSITS COULD BRING AGRICULTURAL BOOM

(The Mining Record February 7, 1973)

RENO, Nev. - Zeolitic, and other related minerals occurring on Ladd Mountain's Industrial Minerals property in the Death Valley area of California are being shipped to Bakersfield, California. The company has arranged for some of the major agricultural interests in the San Joaquin Valley to conduct extensive research tests to determine the most feasible uses for the materials and to have such materials licensed by the State of California.

These are a group of minerals that have been formed under electron deficient conditions, thus giving them properties perhaps more closely related to organic compounds than inorganic minerals.

In the field of soil conditioning, these materials are natural chelates (acts as a catalyst to make the nutrients of the soil available to plant life). Harsh chemical fertilizers and gypsum now being used in the area, although having a beneficial short term effect, tends to "burn up the soil" making each successive year's soil treatment more difficult. Natural bacterias are killed and the calcium content of the soil builds up to a point whereby it "locks up" the natural mineral content of the soil and renders it unavailable to plant life. It is expected that Ladd Mountain Mining Company's material will reverse this process.

Also of considerable interest is the strong nitrogen fixing properties of these zeolitic materials. These materials absorb nitrogen from the air and keep nitrogen compounds, in the soil or added to the soil from escaping or being washed away.

Considerable savings could result to the farmers if just one nitrogen application could be made to the soil before planting rather than successive applications made during the growing season.

Another major field will be actively experimenting with is possible use of one of their minerals, a magnesium-calcium montmorillonite for use as a livestock food supplement. Not only should this material provide livestock with all necessary minerals: but it acts on the foods to which it is added to make them more readily assimilated by the digestive system. Far healthier animals could result.

They are seriously investigating the possibilities of another of our materials, an ion-exchange pumicite, for use as a non-toxic, safe-to-humans pesticide. This material has a super strong absorbency for moisture. Such material kills bugs and insects by dehydrating them.

Although the above described projects may seem new and radical, such uses for the zeolitic materials have become a constantly expanding and highly successful business in Japan. Ladd Mountain Mining Co. is now introducing commercial application of these materials to American agriculture and should be the major factor in this field in this country.

A GEOLOGIST ?!

(Missouri Mineral News January 1973)

Certainly the geologic profession reached greater heights than ever before with the recent landing of Apollo 17 on the moon. This voyage was unique in that one of Apollo 17's three astronauts, Harrison H. Schmitt, was a full-fledged, dyed-in-the wool geologist - the first of his kind ever to set foot on the lunar surface. We were, therefore, listening with great interest to one of the many radio reports as the astronauts were preparing to land.....From outer space we heard an excited voice proclaim: "Look, there's a big rock!" And the announcer tersely interjected (in all seriousness): "Listen - that must have been the geologist speaking. He's seen a rock."

DIVISION OPEN-FILE REPORTS AVAILABLE

The following open-file reports are available for public examination at Alaska Division of Geological and Geophysical Surveys offices at: Maintenance Building, University of Alaska; 323 East Fourth Avenue, Anchorage; Room 509 Goldstein Building, Juneau and Room 312, 306 Main Street, Ketchikan, Alaska.

Copies may be obtained by sending prepayment directly as follows: AOF-1 through 17 is available from McCauleys Reprographics Inc., 721 Gaffney Road, Fairbanks, Alaska 99701, telephone 456-4400. AOF-18 through 30 is available from Technical Supply, 729 First Street, Fairbanks, Alaska 99701, telephone 456-4982. Prices are listed with titles below.

Open-File No.	Title
AOF-1	Aeromagnetic map, southwestern part of Selawik quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)
AOF-2	Aeromagnetic map, southeastern part of Teller quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)
AOF-3	Aeromagnetic map, Bendeleben quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-4 Aeromagnetic map, west half of Candle quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-5 Aeromagnetic map, northeast part of Nome quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-6 Aeromagnetic map, northern part of Solomon quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-7 Aeromagnetic map, northwestern part of Norton Bay quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-8 Aeromagnetic map, southeastern part of Fairbanks quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-9 Aeromagnetic map, Healy quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-10 Aeromagnetic map, Mt. Hayes quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-11 Aeromagnetic map, Tanacross quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-12 Aeromagnetic map, northeast corner of Gulkana quadrangle, Alaska, 1 sheet scale 1:250,000. ($1.00)

AOF-13 Aeromagnetic map, Nabesna quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-14 Aeromagnetic map, southeast part of Bethel quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-15 Aeromagnetic map, Goodnews quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-16 Aeromagnetic map, northeast part of Hagemeister Island quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-17 Aeromagnetic map, northwest part of Nushagak Bay quadrangle, Alaska, 1 sheet, scale 1:250,000. ($1.00)

AOF-18 Geology and mineral resources of Kodiak Island and vicinity (by D. L. McGee, 1972) 7 p., 1 map sheet. ($2.50)

AOF-19 Gulf of Alaska petroleum seeps (by D. L. McGee, 1972) 7 p. ($1.25)

AOF-20 Geology and mineral review of proposed wilderness area, Nunivak National Wildlife Refuge, Alaska (by P. L. Dobey, 1973) and Geology and mineral review of proposed wilderness area, Clarence Rhode National Wildlife Range, Alaska (by D. C. Hartman, 1973), 13 p., 1 text figure, 1 map sheet. ($2.25)

AOF-21 Mineral evaluation of D-2 land area, Nabesna quadrangle, using aeromagnetic and geochemical data (by P. L. Dobey and M. W. Henning, 1973) 10 p., 2 text figures, 1 table, 1 map sheet ($2.50)

AOF-22 Revised - Geology and mineral evaluation of the Arctic Wildlife Range, northeast Alaska (by D. C. Hartman, 1973) 16 p., 1 text figure, 1 map sheet ($3.00)

AOF-23 Geologic and mineral evaluation of the Nowitna River drainage basin, Alaska (by M. W. Henning, 1973) 6 p., 1 text pl., 2 map sheets ($2.50)

AOF-24 Geologic and mineral review of the Bremner River drainage, Alaska (by M. W. Henning, 1973) 6 p., 1 text figure, 1 map sheet ($2.00)

AOF-25 Geologic and mineral evaluation of the Chitina River drainage, Alaska, for Wild and Scenic River study (by M. W Henning, 1973) 11 p., 1 text figure, 1 map sheet ($2.50)

AOF-26 Geologic and mineral evaluation of the Aniakchak River drainage, Alaska Peninsula, for Wild and Scenic River study (by W. M. Lyle, 1973) 6 p., 1 text figure, 2 map sheets ($3.00)

AOF-27 Geologic and mineral evaluation of the Ambler River drainage, Alaska, for Wild and Scenic River study (by G. H. Pessel, 1973) 7 p. ($1.75)

AOF 29 Geologic and mineral evaluation of the Charley River drainage (by W. M. Lyle, 1973) 6 p., 1 text figure, 1 map sheet ($2.00)

AOF-30 Geologic map of the western Clearwater Mountains, central Alaska (by T. E. Smith) 1 sheet, map scale 1:63,360, structure sections, legend ($2.50)

NEW USGS OPEN-FILE REPORTS

The U. S. Geological Survey is releasing the following reports in open file. Copies are available for inspection in the libraries, 1033 GSA Bldg., Washington, D.C. 20244; Bldg. 25, Federal Center, Denver, Colo. 80225; and 345 Middlefield Rd., Menlo Park, Calif. 94025. Copies are also available for inspection at: Brooks Bldg., College, Alaska 99701; 441 Federal Bldg., Juneau, Alaska 99801; 108 Skyline Bldg., 508 2nd Ave., Anchorage Alaska 99501; 678 U. S. Court House Bldg., Spokane, Washington 99201; 504 Custom House, San Francisco, Calif. 94111; 7638 Federal Bldg., Los Angeles, Calif. 90012; 1012 Federal Bldg., Denver, Colo. 80202; Alaska Div. of Geological and Geophysical Surveys, 509 Goldstein Bldg., Juneau, Alaska 99801; 323 E. 4th Ave., Anchorage, Alaska 99504; and University Ave., College, Alaska 99701. [Material from which copy can be made at private expense is available in the Alaskan Geol. Branch, U.S.G.S., 345 Middlefield Rd., Menlo Park, Calif. 94025] [Copies may also be obtained directly from McCauleys Reprographics Inc., 721 Gaffney Road, Fairbanks, Alaska 99701, for $1.00 per copy]

Aeromagnetic survey, western half of Beaver quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

Aeromagnetic survey, eastern part of Bettles quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

Aeromagnetic survey, western half of Chandalar quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

Aeromagnetic survey, western half of Livengood quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

Aeromagnetic survey, Melozitna A-1 quadrangle, northeast Alaska, 1 sheet, scale 1:63,360

Aeromagnetic survey, Tanana quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

Aeromagnetic survey, eastern part of Wiseman quadrangle, northeast Alaska, 1 sheet, scale 1:250,000

NOTE: Six of the above maps are composites at scale 1:250,000; one is at scale 1:63,360. Both offices holding reproducible material (see above) will also have the material for the 1:63,360 maps from which the 1:250,000 composites were made.

MAPS, MAPS, MAPS...

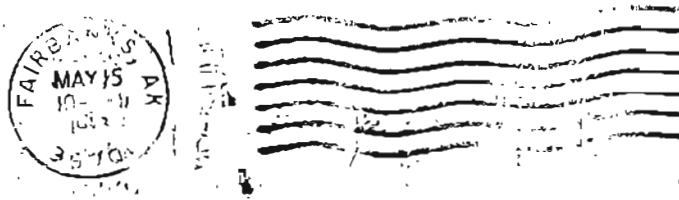
(Missouri Mineral News, January 1973)

There are many kinds of maps - topographic, aeromagnetic, geologic, hydrographic, tectonic. You name it, someone has it. Some are huge, while others are small. Many are simple, yet some are quite complex. They emphasize many things - mineral resources, soils, caves, engineering geology. The Missouri Geological Survey (which has literally thousands of different maps) even has one that shows deep holes!

But how about a map of the planet Mars.....one that probes beyond the range of earthbound telescopes and shows a volcanic mountain as wide as the state of New York and a canyon 2,600 miles long? Well, believe it or not, such a map entitled "Shaded Relief Map of Mars" is expected to be available from the U. S. Geological Survey this year. Based on thousands of photographs relayed by the Mariner 9 spacecraft, the map will show the entire surface of the red planet at a scale of one inch for every 400 miles. With scientists studying planets in outer space and scanning to the core of the earth, it all makes one wonder just what the mappers will be mapping next.....

METAL MARKET

Metals	April 27, 1973	Month Ago	Year Ago
Antimony ore, stu equivalent, European ore	$10.20-11.20	$10.20-11.20	$7.03-8.16
Barite (drilling mud grade per ton)	$18-22	$18-22	$18-22
Beryllium powder, 98%, per lb.	$54-56	$54-56	$54-66
Chrome ore per long ton	$24-27	$24-27	$25-27
Copper per lb.	60¢	60¢	52.5¢
Gold per oz.	$90.90	$84.58	$49.68
Lead per lb.	16.0¢	16.0¢	15.6¢
Mercury per 76# flask	$300	$300	$159
Molybdenum conc. per lb.	$1.72	$1.72	$1.72
Nickel per lb. (cathode)	$1.53	$1.53	$1.33
Platinum per oz.	$140	$138.94	$110-120
Silver, New York, per oz.	216.6¢	225.9¢	155.4¢
Tin per lb., New York	201¢	203¢	181.5¢
Titanium ore per ton (Ilmenite)	$22-24	$22-24	$30-35
Tungsten per unit	$55.00	$55.00	$55.00
Zinc per lb.	20.42¢	20.26¢	17.7¢



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