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**DIGITAL COMPILATION OF GEOCHEMICAL DATA FOR
HISTORICAL SAMPLES FROM OCCURRENCES OF
STRATEGIC AND CRITICAL ELEMENTS IN ALASKA: PART II - PLATINUM
GROUP ELEMENTS (PGE)**

by

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Digital compilation of geochemical data for historical samples from occurrences of strategic and critical elements in Alaska: Part II - Platinum group elements (PGE)

by

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INTRODUCTION

The State of Alaska's *Strategic and Critical Minerals (SCM) Assessment* project, a State-funded Capital Improvement Project (CIP), is designed to evaluate Alaska's statewide potential for strategic and critical mineral resources. The *SCM Assessment* project is being implemented by the Alaska Division of Geological & Geophysical Surveys (DGGs) and involves obtaining new airborne-geophysical, geological, and geochemical data. For the geochemical part of the *SCM Assessment* project, thousands of geochemical-sample analyses and locations from historical U.S. Bureau of Mines (USBM), U.S. Geological Survey (USGS), Bureau of Land Management (BLM), DGGs, Alaska Territorial Department of Mines, Alaska Division of Mines and Minerals, and Bureau of Indian Affairs (BIA) reports are being compiled into digital format by DGGs. The objective is to update the State of Alaska's statewide digital geochemical database in order to more clearly identify areas with SCM potential.

For this report, DGGs digitally compiled sample and analyses documentation, geochemical assays, and location information for more than 22,500 historical samples. These samples were originally collected to investigate occurrences of strategic and critical elements, and occurrences with other commodities, throughout Alaska (see *Original References* section below).

The text, analytical data, and method tables associated with this report are being released in digital format as PDF files and .csv files and are available from the DGGs website (doi:[10.14509/29474](https://doi.org/10.14509/29474)). Complete documentation for each sample is available by querying the DGGs Web Geochem database (<http://dgg.alaska.gov/webgeochem/>).

DOCUMENTATION OF METHODS

SAMPLE COLLECTION, PREPARATION, AND ANALYTICAL METHODS

Historical sample-collection procedures are documented in the original publications (see *Original References* section below).

Sample preparation procedures and analytical methods used by the collecting agencies' staff varied over the years and from project to project. For documentation information, see the reports listed in the *Original References* section below, and the digital files associated with this DGGs report.

DGGs DIGITAL DATA COMPILATION, DOCUMENTATION, AND QUALITY

Digital tables of geochemical-analytical data were compiled by DGGs for each sample, and where available, we included documentation of sample type and preparation methods, as well as the analytical method for each element

(see digital files associated with this report). DGGS used optical character recognition (OCR) software to scan and extract data from paper or PDF versions of the reports. In many cases, the numerical-data and text conversions were only partially correct. Each OCR-derived digital table was carefully checked against the original report and corrected manually. Other tables were entered manually and then checked against the original report for possible errors. Great effort was made to interpret and correct obvious typographical errors in the original data, however, when no reasonable correction could be determined the original printed value was included in this digital data set. Data compiled includes: sample number, sample material, results of geochemical analyses by element, sample preparation, and analytical methods by element.

For each element, for each sample, the analytical-data table either contains assay values, or it contains coded-value place holders (that is, null or blank = not analyzed; -1 = the element's assay result is less than the lower detection limit for the method; -2 = the element's assay result is greater than the upper detection limit for the method; -3 = composition of this sample makes detection impossible by this method; interference problems; -4 = sample was submitted to the laboratory, but insufficient sample material was available to conduct an analysis; -5 = trace amount detected, quantitative lower detection limit not reported).

Location data for each sample were derived by DGGS staff by scanning station-location map figures from individual reports, georegistering the map figures in ArcGIS v. 10.2.2, creating a point layer of station locations, extracting latitude-longitude coordinates, and linking them to their associated sample number in the geochemical-data tables. Location data for each sample are presented in latitude and longitude coordinates in decimal degrees with NAD27 datum and Clarke 1866 spheroid. One BLM publication (Meyers and others, 2003) reported location coordinates in NAD83, and for consistency with data in the digital data table, DGGS converted these locations to NAD27.

Data quality – DGGS recommends that the reader of this report and the user of this data verify the location accuracy and the correctness of the analytical values represented in this report by using the original references. While DGGS has made every effort to ensure these data are clean, correct and error-free, the reader should understand that much of this information has been hand entered or digitized, and hand checked; processes that are never completely error-free. DGGS anticipates a few errors are present in this data and urges the user to check the accuracy of the information. We would appreciate learning of any errors encountered, so the source information can be continually upgraded.

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