UNITED STATES GEOLOGICAL SURVEY
ALASKA MINERAL RESOURCE APPRAISAL PROGRAM (AMRAP)
GEOCHEMICAL DATA FOR AMBLER RIVER QUADRANGLE, ALASKA

by

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June 1993

Released by

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INTRODUCTION

This set of Public-Data Files consists of electronic versions of geochemical data files generated by the U.S. Geological Survey. Data currently are available for 27 quadrangles. The Alaska Division of Geological and Geophysical Survey has reformatted the U.S. Geological Survey archival data files so that they are easily imported into common spreadsheet programs: Quatro-Pro, Lotus 123, or Excel, installed on IBM-compatible personal computers. Use of product names is for informational purposes only and does not constitute an endorsement of the product by DGGS.

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ORIGINAL DATA

These geochemical data were generated during past U.S. Geological Survey, Alaska Mineral Resources Appraisal Program (AMRAP) projects. They consist of analyses of rock, stream, lake sediment, and pan concentrate samples for metals. These data span many years of analyses. Both the analytical techniques and instrumentation have changed over time. Many samples have been analyzed more than once for the same elements, and there is no indication of which set of analytical values is preferred. There are variances in sample preparation, in upper and lower limits of determination, sensitivity, accuracy of reported values, and in how site location coordinates are reported. Neither the U.S. Geological Survey nor the Alaska Division of Geological Surveys assumes any responsibility for possible errors within the data or conclusions drawn from the data. This public data-file is intended only to make the data available to the public "As Is". Most of the trace elements analyses are reported in parts per million (ppm) but some are in percent. Most of the trace element analyses were acquired using an optical emission spectrograph (S). Results from this method consist of a set of discontinuous step values - 1, 2, 3, 5, 7, 10, 20, 30, 50, 70, 100, 200, 300, 500, 700, 1000 ppm etc. Thus a value of 300 indicates a concentratrion greater than 200 ppm but less than 500 ppm. Other analyses were completed by atomic absorption (AA) methods, inductively coupled plasma (ICP) methods, fire assay (AS), or other chemical methods (CM). Results from these latter methods provide continuous values to the nearest whole ppm value. Each analysis has a sample location latitude and longitude. However, for some of the quadrangles, the latitude and longitude of a single map location is given for numerous samples. In some cases this indicates multiple samples were collected at a given site. In other cases multiple samples collected at different sites may have been given the same location coordinates for reasons known only to the original collector. DGGS does not possess the information needed to resolve these ambiguities. All quadrangles have quite a number of duplicate or triplicate analyses. All quadrangles have very few analyses for gold (Au), tungsten (W), bismuth (Bi), Cadmium (Cd), Platinum (Pt), or Palladium (Pd). There are only slightly more analyses for silver (Ag), arsenic (As), antimony (Sb), and thorium (Th).

CODING CHANGES

All results are presented in scientific notation with 2 significant digits. Padding with extra zeros has been dropped. All letter codes have been stripped. Those elemental analyses above the limit of determination for the method used originally had a "G" code following -.99899995 and were replaced with -.99. Analytical values for elements detected but below the measureable limit of determination originally had an "L " code following -.88799995 and were replaced with -.88. Records for samples in which a particular element was not analyzed originally had an "N" code following -.77699995 in the affected element field. The N-coded fields have been replaced with -.77. Analytical values of 0.0 followed by a "B" code (not present) or an "H" code (inteference)

were replaced by 0.0. The order of the elements for each record of the reformated U.S. Geological Survey data files being made available by DGGS is the same as in the original U.S. Geological Survey file. No attempt was made by DGGS to standardize the element order for all quadrangles.

QUADRANGLES AVAILABLE

AMR	Ambler River
ANC	Anchorage
XBM	Baird Mountains
BEN	Bendeleben
BTH	Bethel
XBD	Big Delta
XBC	Bradfield Canal
CHN	Chandalar
XCL	Chandler Lake
CIR	Circle
GDN	Goodnews Bay
HEA	Healy
IDT	Iditarod
KIR	Killik River
LIV	Livengood
MED	Medfra
XMH	Mount Hayes
NAB	Nabesna
PET	Petersburg
PSM	Philip Smith Mountains
SEW	Seward
SOL	Solomon
XSP	Survey Pass
XTR	Taku River
TNX	Tanacross
VAL	Valdez
WIS	Wiseman

DISKETTE CONTENTS

The diskette for each quadrangle contains 2 files: PKUNZIP and a compressed data file. The program PKUNZIP is necessary to expand the data file. DGGS is not charging for the inclusion of PKUNZIP on the disk. This data compression program is included only as a convenience to purchasers of the data and DGGS does not endorse the use of PKZIP or PKUNZIP in preference to any other data compression software. The condensed (ZIPped) data file has a name "ASPL-XXX.ZIP". ASPL stands for "AMRAP split files". XXX is a 3 character quadrangle code from the above list. To expand this file, type:

PKUNZIP ASPL-XXX

There is a large variation in file size for various quadrangles. Nabesna, ASPL-NAB.ZIP, one of the smallest files, is 39K bytes and will expand to 110K bytes. Other large files may expand to about 10M bytes.

FILE EXPANSIOIN

File expansion using PKUNZIP accesses the companion program to PKUNZIP (PKZIP), plus up to 18 data files. For each type of data - rocks, sediments, or concentrates, there can be up to 4 data files and 2 "statistics" files. Using a theoretical file "XXX" as an example: ASPL-XXX.ZIP will expand to give data files A-XXX.RK1, A-XXX.RK2, A-XXX.SD1, A-XXX.SD2, A-XXX.CD1, A-XXX.CD2,

and statistic files A-ROCKS.XXX, A-SEDS.XXX, A-CONC.XXX, B-ROCKS.XXX, B-SEDS.XXX, B-CONC.XXX. If the XXX rock files have analyses for less than 45 elements, only .RK1 and .RK2 are present. For other quadrangles there may be .RK3 and .RK4 files also. The same is true for the sediments and concentrates files. These data files are all comma and quote delimited. See appendix A for sample formats of these files.

The "statistics" files are included as received from the U.S. Geological Survey. The files were used as an internal check for coding "N,L,G,B, AND H" designated field entries and have no conventional statistical meaning.

QUATRO PRO DATA INPUT

Start Quatro Pro. With the cursor in cell A1, select TOOLS, then IMPORT, then COMMA & QUOTE DELIMITED FILE. At this point you will be asked for the name of the file ...so enter A-XXX.RK1. The first file will then show up on the screen. You probably will want to save the spreadsheet under a new name. If you want to combine the first part of the data with the next file, move the cursor to the first blank column in row 1...in the XXX example, it will be cell Z1. Again select TOOLS, then IMPORT, then COMMA & QUOTE DELIMITED FILE. At this point enter the name of the second file...A-XXX.RK2. The second file will now be visible on the screen. You may want to resave the spreadsheet at this time. With XXX you are now done with the rock files but there may be two additional files of rock data for other quadrangles. The first column in each file has a record count. You should check to be sure the continuation of record 1 of file XXX.RK1 is in the appropriate place for record 1 of XXX.RK2.

If, prior to invoking Quatro Pro, the files are renamed to give them a .PRN extension, Quatro Pro IMPORT will prompt with the names of all the renamed files available for input. Alternatively, if when first asked by Quatro PRO for a file name, *.* is typed, Quatro Pro will prompt with all available ASCII type files for input.

LOTUS 123 DATA INPUT

The procedure for Lotus is very similar to that used in Quatro Pro. After starting Lotus, set the cursor at cell A1 and enter FILE, then IMPORT, then NUMBERS. When prompted for the name of file, enter A-XXX.RK1. When the file appears in the worksheet area, move the cursor to the first empty column to the right. For the XXX.RK1 data in the example, this will be cell Z1. Repeat the above process and ask for A-XXX.RK2, Resave the worksheet with a new name. Version 1 of Lotus has a line length limit of 240 characters instead of 256 so these files may be incompatible with Lotus version 1.

EXCEL DATA INPUT

After starting Excel, select FILE, then OPEN. Go to the section which gives a list of possible file types and select "ALL FILES *.*". From the list of files then presented, select A-XXX.RK1 and A-XXX.RK2. Then go to the section to right of the dialog box where there is a block which says TEXT and select that option. A menu will appear which lists possible column delimiters, select COMMA, then OK. At this point two worksheet names will appear. A-XXX.RK1 will be in the background and A-XXX.RK2 will be in the foreground where you can view it. Select EDIT, then COPY, and highlight ALL of RK2. Then go to file A-XXX.RK1 and position the cursor in row 1 and the first column without data (cell Z1 in this case) and select EDIT, then PASTE. All of A-XXX.RK2 should now be in file A-XXX.RK1. At this point you may want to resave the worksheet under a new name. Use a similar procedure if there is a .RK3 and .RK4.

QUESTIONS

If there are any questions regarding using these files contact Shirley A. Liss or Milton A. Wiltse at DGGS. Phone 907-474-7147.

APPENDIX A: EXAMPLE OF FILES READY FOR INPUT TO VARIOUS SPREADSHEET PROGRAMS - USING XXX QUADRANGLE

CONCENTRATES - OUTPUT FILES   A-XXX.CN1 and A-XXX.CN2

File 1 for XXX   quadrangle
```
"R#", "ID #1 ", "ID #2 ",  " Lat.   ",  "Long.   ", "S-FE% ", "S-MG% ", "S-CA% ", "S-TI% ", "S-MN  ", "S-AG  ", "S-AS ", "S-AU  ", "S-B   ", "S-BA ", "S-BE ", "S-BI ", "S-CD  ", "S-CO  ", "S-CR ", "S-
CU  ", "S-LA  ", "S-MO  ", "S-NB  ", "S-NI "
 1,"001C3 ","CGI745 ", 60.986110, 145.828000, .10E+02, .50E+00, .15E+01, .15E+01, .30E+03, .50E+01, .20E+04, -.77E+00, .20E+02, .70E+03, -.77E+00, -.77E+00, -.88E+00, .20E+03, .30E+02, .30E+03, .10E+03, -.77E+00, .50E+02, .15E+03
 2,"002C3 ","CGI746 ", 60.956390, 145.806400, .30E+01, .15E+01, .15E+01, .15E+01, .70E+03, .10E+01, -.77E+00, -.77E+00, .50E+02, .15E+04, -.77E+00, -.77E+00, -.77E+00, .50E+02, .15E+03, .20E+03, .15E+03, -.88E+00, -.88E+00, .70E+02
```

File 2 for XXX   quadrangle
```
"R#", "S-PB   ", "S-SB   ", "S-SC   ", "S-SN  ", "S-SR ",   "S-V   ", "S-W   ", "S-Y   ", "S-ZN  ", "S-ZR  ", "S-TH "
 1, .50E+03, -.77E+00, .20E+02, -.77E+00, .20E+03, .10E+03, -.77E+00, .15E+03, -.88E+00, .99E+00, -.88E+00
 2, .20E+03, -.77E+00, .30E+02, -.77E+00, .30E+03, .20E+03, -.77E+00, .10E+03, -.77E+00, .20E+04, -.77E+00
```

ROCKS - OUTPUT FILES   A-XXX.RK1 and A-XXX.RK2

File 1 for XXX   quadrangle
```
"R#", "ID #1 ",  "ID #2 ",   " Lat.   ",  "Long.   ", "S-FE% ", "S-MG% ", "S-CA% ", "S-TI% ", "S-MN  ", "S-AG  ", "S-AS ", "S-AU  ", "S-B   ", "S-BA ", "S-BE ", "S-BI  ", "S-CD  ", "S-CO  ", "S-CR ",
-CU  ", "S-LA  ", "S-MO  ", "S-NB  ", "S-NI "
 1,"71AWK1A ","BDQ001 ", 60.480550, 146.379200, .50E+01, .10E+01, .30E+00, .30E+00, .50E+03, -.77E+00, -.77E+00, -.77E+00, .30E+02, .70E+03, -.88E+00, -.77E+00, -.77E+00, .10E+02, .70E+02, .10E+02, .20E+02, -.77E+00, -.88E+00, .50E+02
 2,"71AWK1B ","BDQ002 ", 60.480550, 146.379200, .70E+01, .15E+01, .30E+00, .50E+00, .70E+03, -.77E+00, -.77E+00, -.77E+00, .30E+02, .70E+03, -.88E+00, -.77E+00, -.77E+00, .20E+02, .10E+03, .50E+02, -.88E+00, -.88E+00, -.88E+00, .70E+02
```

File 2 for XXX   quadrangle
```
"R#", "S-PB   ", "S-SB   ", "S-SC   ", "S-SN  ", "S-SR ",  "S-V   ", "S-W   ", "S-Y   ", "S-ZN  ", "S-ZR  ", "S-TH  ", "AA-AU ", "INST-H ", "AA-TL ", "AA-AS ", "AA-BI ", "AA-CD ", "AA-SB ", "AA-ZN ", "AA-CU
"AA-PB ", "AA-AG "
 1, .10E+02, -.77E+00, .15E+02, -.77E+00, .20E+03, .20E+03, -.77E+00, .20E+02, -.77E+00, .15E+03, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00
 2, .20E+02, -.77E+00, .20E+02, -.77E+00, .15E+03, .30E+03, -.77E+00, .20E+02, -.77E+00, .15E+03, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00, .00E+00
```

SEDIMENTS - OUTPUT FILES   A-XXX.SD1 and A-XXX.SD2

File 1 for XXX   quadrangle
```
"R#", "ID #1 ", "ID #2 ",  " Lat.   ",  "Long.   ", "S-FE% ", "S-MG% ", "S-CA% ", "S-TI% ", "S-MN  ", "S-AG  ", "S-AS ", "S-AU  ", "S-B   ", "S-BA ", "S-BE ", "S-BI ", "S-CD  ", "S-CO  ", "S-CR ",
S-CU  ", "S-LA  ", "S-MO  ", "S-NB  ", "S-NI "
 1,"001SS ","CGC603 ", 60.986110, 145.828000, .20E+01, .15E+01, .30E+00, .30E+00, .50E+03, -.77E+00, -.77E+00, -.77E+00, .10E+02, .10E+04, .10E+01, -.77E+00, -.77E+00, .10E+02, .10E+03, .50E+02, .50E+02, .70E+01, -.88E+00, .20E+02
 2,"002SS ","CGC604 ", 60.956390, 145.806400, .20E+01, .15E+01, .20E+00, .30E+00, .50E+03, -.88E+00, -.77E+00, -.77E+00, .15E+02, .10E+04, .10E+01, -.77E+00, -.77E+00, .20E+02, .10E+03, .70E+02, .30E+02, .50E+01, -.88E+00, .20E+02
```

File 2 for XXX   quadrangle
```
"R#", "S-PB   ", "S-SB   ", "S-SC   ", "S-SN  ", "S-SR ",  "S-V   ", "S-W   ", "S-Y   ", "S-ZN  ", "S-ZR  ", "S-TH  ", "AA-AU ", "AA-AS ", "AA-CD ", "AA-ZN ", "AA-CU ", "AA-PB ", "AA-AG ", "AA-MO "
 1, .20E+02, -.77E+00, .15E+02, -.77E+00, .30E+03, .10E+03, -.77E+00, .30E+02, -.77E+00, .10E+03, -.77E+00, -.77E+00, .25E+02, .15E+00, .75E+02, .40E+02, .15E+02, .15E+00, .10E+01
 2, .50E+02, -.77E+00, .20E+02, -.77E+00, .20E+03, .10E+03, -.77E+00, .30E+02, -.88E+00, .10E+03, -.77E+00, -.77E+00, .25E+02, .20E+00, .12E+03, .80E+02, .15E+02, .10E+00, .10E+01
```

NOTES: R# is a sequential count of records in the original file. Use this number to align CN1 and CN2 in the spread sheet. The line in CN2 with same R# as CN1 contains a continuation of data for that record/site/analysis.

ID #1 and ID #2 are sample codes taken from the original data. If you want to contact U.S.G.S. and track down original investigator, these ID's may be useful.