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Geochemical reanalysis of select NURE samples from the Colorado Plateau area, Colorado

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COLORADOGEOLOGICALSURVEY
COLORADO SCHOOL OF MINES

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

Cover photo: *The Paradox Valley looking north from Davis Mesa near Bedrock, Colorado. Mostly Triassic and Jurassic rocks are exposed in the cliffs. Older Pennsylvanian Hermosa Formation is exposed in the bottom of the valley.*

DISCLAIMER AND ACKNOWLEDGEMENTS

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ABSTRACT

Between 1975 and 1984, the Department of Energy National Uranium Resource Evaluation (NURE) program conducted a stream sediment investigation throughout the U.S. The general purpose of the NURE program was to determine the location and variation of radioactivity to assist with national U exploration. During this investigation, the Colorado Geological Survey reanalyzed select stream sediment samples collected during the NURE program from the Paradox Basin, Colorado Plateau region, southwestern Colorado. Additional samples were also collected and analyzed during this investigation. This study was conducted to provide an updated and expanded regional geochemical data set in areas that contain critical mineral deposits in Colorado.

INTRODUCTION AND BACKGROUND

Between 1975 and 1984, the Department of Energy (DOE) National Uranium Resource Evaluation (NURE) program conducted a stream sediment and soil investigation throughout the U.S. (Smith and others, 2013). The general purpose of the NURE program was to determine the location and variation of radioactivity in the U.S. to assist with U exploration (University of Oklahoma, 1985). During this investigation, the Colorado Geological Survey (CGS) reanalyzed select stream sediment samples from the Colorado Plateau region in southwestern Colorado collected during the NURE program (**Figure 1**). Additional samples were also collected and analyzed where existing NURE samples were not available. This study was conducted to provide an updated and expanded regional geochemical data set in areas that contain critical mineral deposits in Colorado. This data set supports future mineral prospectivity analyses and other geological investigations in the area as well as the U.S. Geological Survey (USGS) Earth Mapping Resources Initiative (EarthMRI) (USGS, 2026a). To provide some background associated with this data set, a summary of the project, geology, mineral deposits, sampling methods, and results of this investigation are provided herein.

Background

Initiated in 1973, the DOE NURE program included stream sediment and soil sampling activities associated with the Hydrogeochemical and Stream Sediment Reconnaissance (HSSR) portion of the program. Sample collection and analysis were conducted between 1975 and 1984 (Smith and others, 2013). More recently, Smith (1997) compiled the laboratory results of the program. However, as indicated by Smith and others (2018), there are inconsistencies and/or data gaps associated with the original dataset including a limited laboratory analyte list, varying analytical methods, select samples were only analyzed for U, and some samples were not analyzed due to budgetary constraints. Additionally, as reported by Smith and others (2018), although the data from the NURE-HSSR are useful for mineral exploration and environmental studies, data from the western U.S. have the largest number of inconsistencies and are sometimes difficult to use due to these data gaps.

Portions of the original NURE stream sediment sample collection are managed by the USGS. During this investigation, 125 archived NURE stream sediment samples originally collected from the Paradox Basin and surrounding areas of the Colorado Plateau region in southwestern Colorado were reanalyzed in conjunction with the USGS laboratory (**Figure 2**). Ten new stream sediment samples were also collected, submitted to the USGS laboratory, and analyzed in areas where existing NURE sediment samples were not available. The project area contains several critical mineral focus areas, as delineated by the USGS (Dicken and others, 2022), with several known U, V, and other critical mineral deposits and occurrences. These include sandstone U and sediment-hosted Cu deposits that contain elevated concentrations of Cu, Mn, U, and V. Additional potential critical minerals in the project area include Co, rare earth elements (REE), Sc, and others. The Paradox Basin area also hosts mineral deposits containing potash and potentially Li (Dicken and others, 2022).

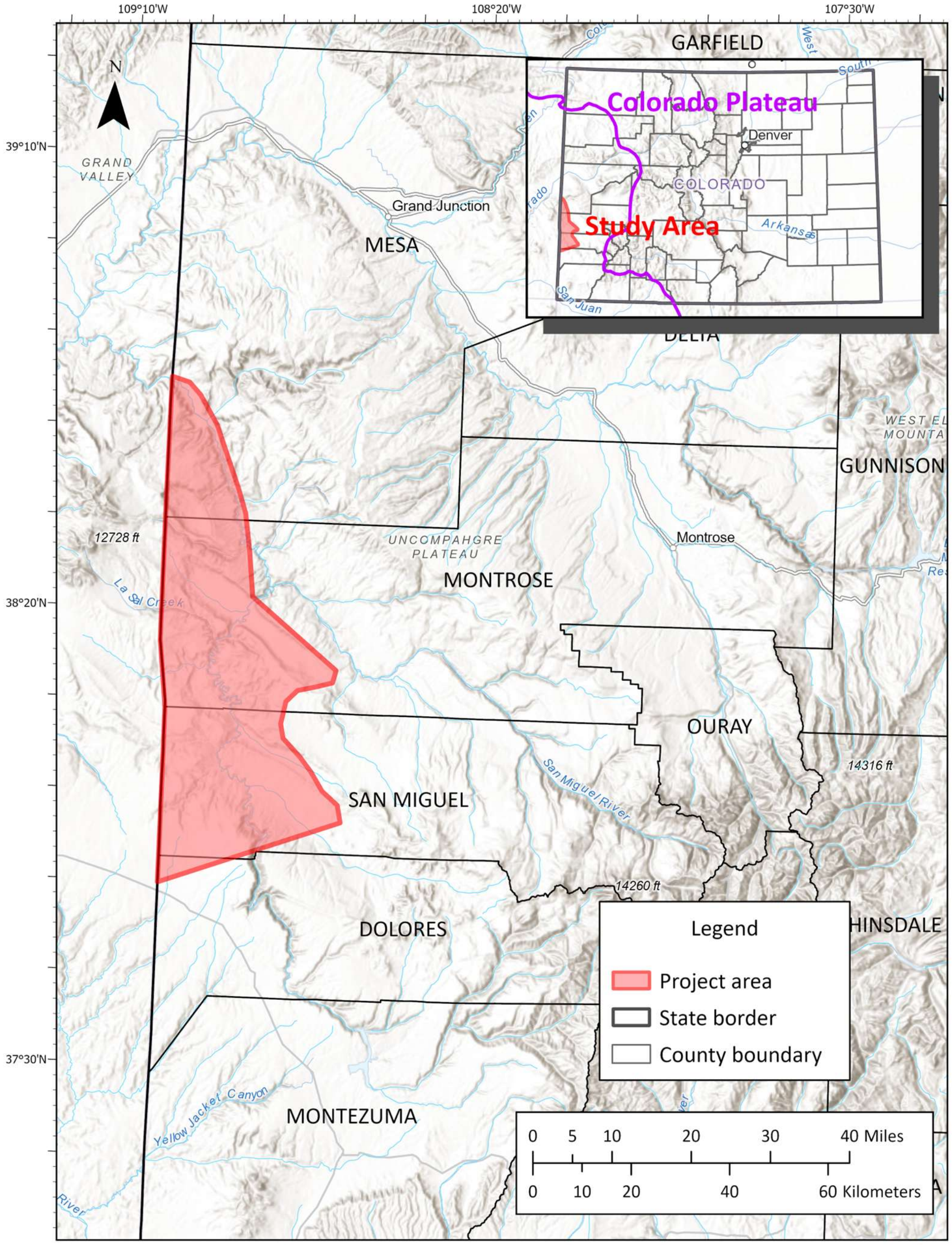

***Figure 1** – Location of the study area within the Colorado Plateau of southwestern Colorado.*

Geological Setting

The Colorado Plateau encompasses the Four Corners region of the southwestern United States and extends into western Colorado. It is a large crustal block bounded by zones of major uplift related to the Uinta Mountains to the north and Rocky Mountains to the east, and large-scale block faulting of the Basin and Range Province to the south and west (MacIntyre, 2006) (**Figure 1**). This crustal block is relatively undeformed when compared to these surrounding tectonic provinces. The major structural features observed within the Colorado Plateau generally include broad open folding and monoclinal features associated with north-south trending normal faults (MacIntyre, 2006). Most of these features are likely related to extensive faulting in the underlying basement rocks and subsequent reactivation of these deep-seated structures (Baars and Stevenson, 1981; MacIntyre, 2006).

Sediment samples for this study were collected in the northern Paradox Basin and to the north along the southern edge of the Uncompahgre Uplift (**Figure 3**) within the Colorado Plateau. The Paradox Basin is a northwest-trending paleotectonic depression within the plateau which formed along the southwest flank of the Uncompahgre Uplift in the mid-Pennsylvanian. This depression created an evaporite basin bounded by uplift of the Ancestral Rocky Mountains and other Laramide-related uplifts including the Kaibab Uplift to the west (MacIntyre, 2006; Hahn and Thorson, 2005).

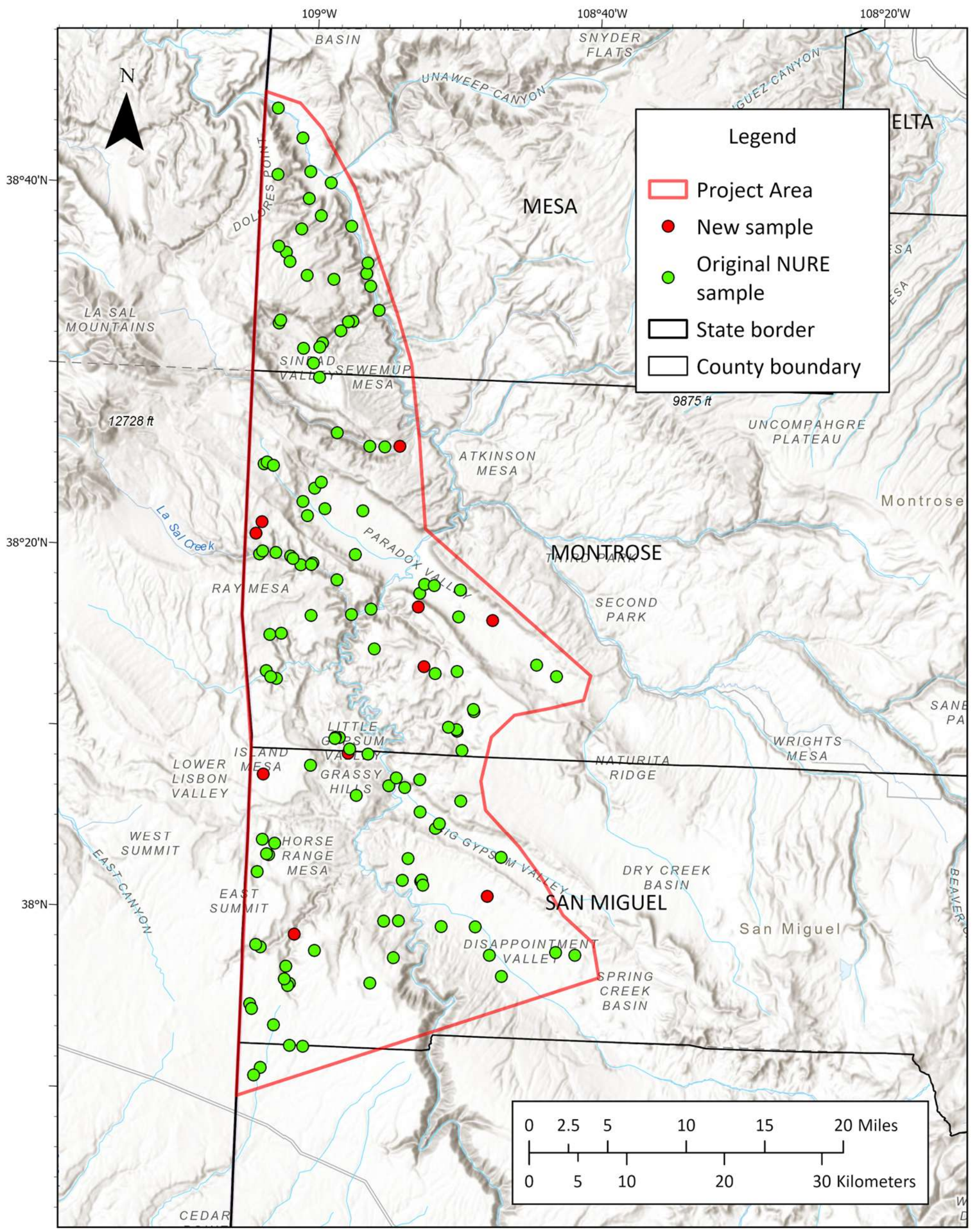

__Figure 2__ – Sediment sample locations showing original NURE stream sediment samples reanalyzed during this investigation and new stream sediment samples collected as part of this study.

The basin contains up to 4,500 meters (m) of sedimentary strata overlying a Precambrian igneous and metamorphic basement. It covers approximately 100,000 square kilometers (km^2) and is generally defined by the maximum extent of Late Pennsylvanian evaporite deposits of the Paradox Formation (Nuccio and Condon, 1996; Bailey and others, 2021) (**Figure 4**).

The Paradox Formation formed because of fluctuations in sea-level and tectonic uplift which caused periodic isolation of the basin. It consists of 29 cyclical sequences of evaporites interfingered with thin organic-rich shales, marine limestones, and beach-derived sandstones (Merrel, 1979; MacIntyre, 2006; Trudgill, 2011). Halokinesis, or salt tectonics, plays a significant role in the geology and resource potential of the Paradox Basin. Following final deposition of the thick evaporite sequences of the Paradox Formation at the end of the Pennsylvanian, continued sediment loading during the Permian to Cretaceous caused deformation of these evaporite layers and the formation of salt walls, anticlines, and diapirs (Trudgill, 2011). These salt features, combined with subsequent faulting and erosion, created hydrologically distinct sub-basins (**Figure 3**). Several anticlines and synclines associated with salt tectonism are located

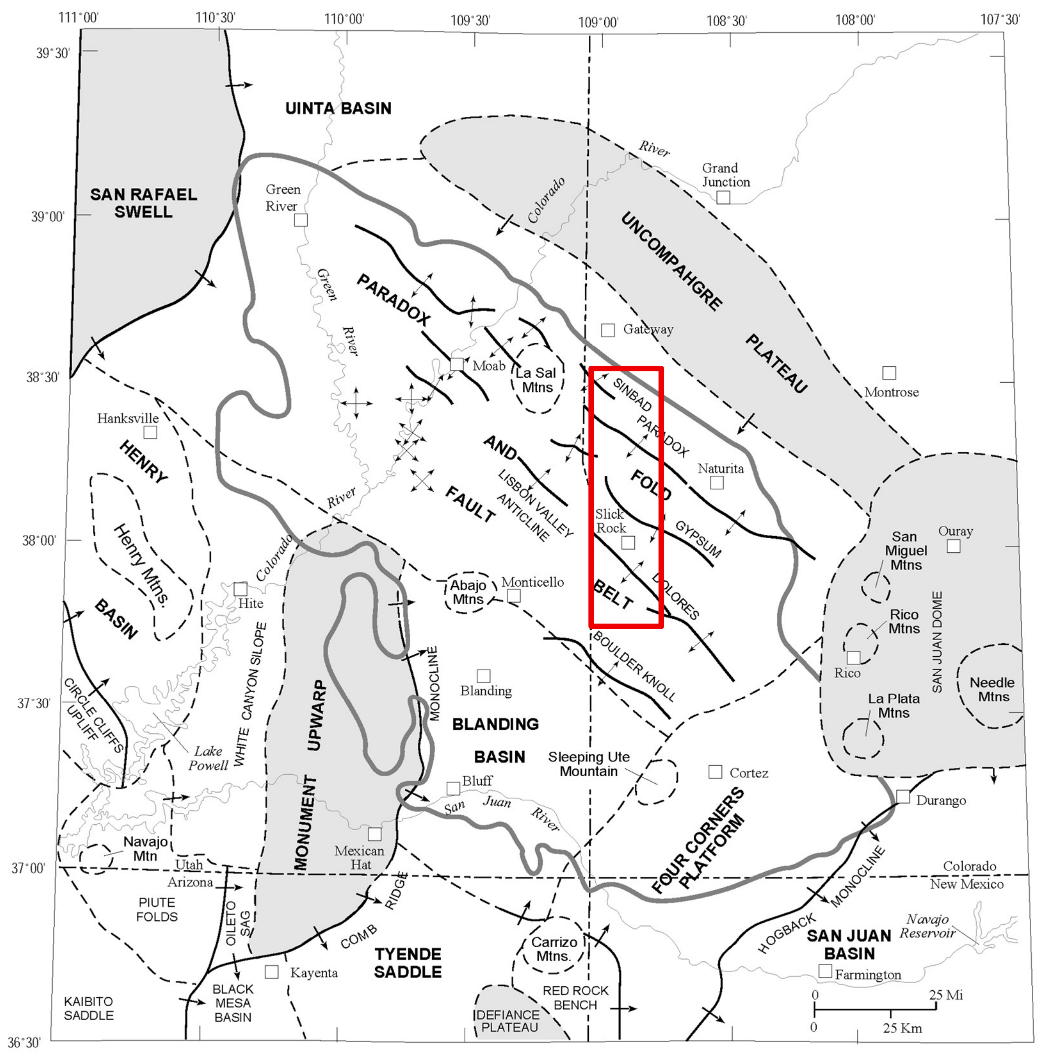

Figure 3 *– Map showing major structural features of the Paradox Basin (boundary is delineated by the dark gray line in the center of the figure), general study area location (red box), and surrounding area (modified from Nuccio and Condon, 1996).*

within the Colorado portion of the Paradox Basin including the Sinbad, Paradox, Gypsum, and Dolores anticlines (**Figure 3**).

The end of the Pennsylvanian marks a shift to primarily continental clastic sedimentation during the Permian through Jurassic with sediments forming thick successions of red beds and eolian sandstones, before a shift back to a marine environment in the early Cretaceous. Relatively rapid burial by thick sediments during this time also likely resulted in hydrocarbon generation from organic-rich shales of the Paradox Formation and the movement of reduced fluids within these sub-basins which, upon interaction with red beds and oxidized groundwaters, may have laid the foundation for later mineral deposition (Bailey and others, 2021). Thick beds of Late Cretaceous marine Mancos Shale fill the remainder of the stratigraphic section within the Paradox Basin (MacIntyre, 2006). A general stratigraphic chart of the Paradox Basin in Colorado is included in **Figure 5.**

Sediment samples for this study were collected from modern alluvium in active drainages within several watershed sub-basins (Hydrologic Unit Code [HUC]-12) associated with surficial exposures of mostly Lower Jurassic through Lower Cretaceous rocks of the Colorado Plateau including (**Figure 5** and **Figure 6**): Glen Canyon Group, San Rafael Group, Morrison Formation, Burro Canyon Formation, Dakota Sandstone, and the Upper Cretaceous Mancos Shale (in one area to the east). In select watersheds, Pennsylvanian through Triassic rock exposures include the Hermosa Group (only in relatively small areas), Cutler Group, Moenkopi Formation, and Chinle Formation.

Mineral Deposits

Economically significant metallic ore deposits of the Paradox Basin primarily consist of sandstone-hosted U deposits, often with associated V and Ra, as well as sediment-hosted Cu deposits. Several critical mineral focus areas located within the project area contain these deposit types, which are also associated with other critical minerals including REEs, Mn, Co, Ag, as well as other commodities (Dicken and others, 2022). Other known and/or potential resources in the area include oil, natural gas, carbon dioxide, potash, gypsum, and sand and gravel (USGS, 2004; U.S. Bureau of Land Management, 2011; Barton and others, 2018). Some of the existing U, V, and Cu deposit types and mining areas in the study area are summarized below.

Uranium/Vanadium Deposits

In Colorado, the Uravan Mining District (Uravan), or Uravan Mineral Belt, is located within the Paradox Basin and contains several sandstone-hosted U deposits that were historically mined for U and V (**Figure 7**). According to Chenoweth (1981), the USGS historically defined the Uravan Mineral Belt as an area where U-V deposits in the Salt Wash Member of the Jurassic Morrison Formation "*generally have closer spacing, larger size, and higher grade than those in adjacent areas and the region as a whole.*" U and/or V production has occurred at nearly 1,200 individual properties within this district (Chenoweth, 1981). Together with adjacent areas including the Lisbon Valley in Utah, this area has produced over 145 million pounds (lb) (~65,770,893 kilograms [kg]) of U (Merrell, 1979).

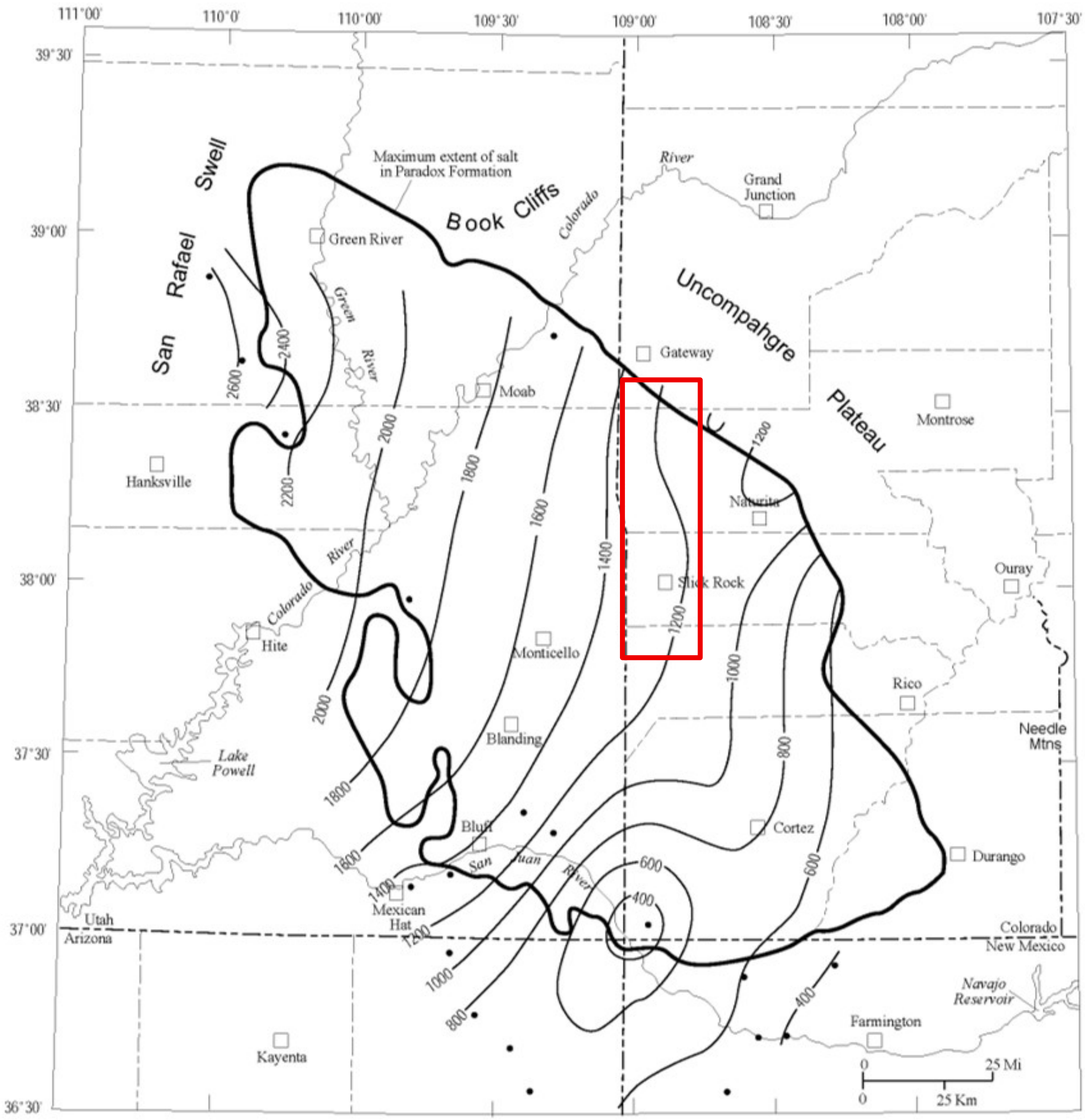

__Figure 4__ – Paradox Basin outline based on the distribution of salt in the Paradox Formation from Nuccio and Condon (1996). Isopachs (contour interval = 100 feet) are shown of the sub-Pennsylvanian stratigraphic units in the Paradox Basin. Red box is the general study area.

Several publications discuss the structure, formation, geology, and history of the mining of U and V deposits (as well as other commodities) in the Uravan and other nearby areas including Coffin (1921), Kelley (1955) (see Smout and Sweetkind, 2024, for a digitized version of this), Shoemaker and others (1956), Page and others (1956), Garrels and Larsen (1959), Thamm and others (1981), Chenoweth (1981), Chenoweth (1996), Shawe (2011), and Hall and others (2023).

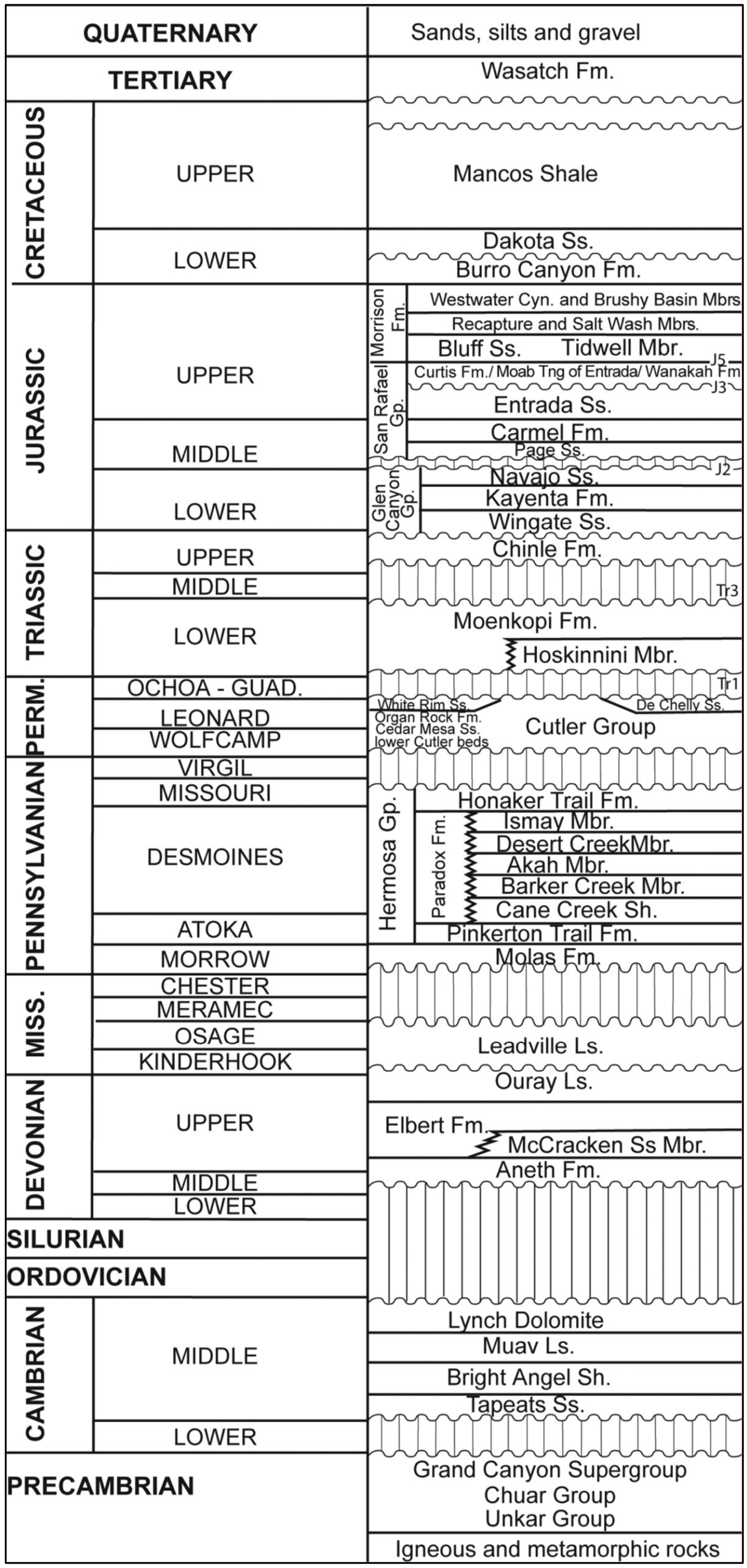

Figure 5 *– Generalized stratigraphic column of the Colorado Plateau (from Whidden and others,2013).*

Sandstone-hosted U deposits in the study area are often found in clusters and predominantly occur in sandstone-filled paleochannels of the Salt Wash Member of the Morrison Formation (**Figure 5**). These deposits are largely tabular and vary widely in size. Deposits are often several hundred feet across and average 1- to 4-ft thick. Total tonnage can range from less than one to several million tons of ore (Miesch, 1963; Chenoweth, 1981). U and V deposits in some areas of the Uravan (e.g., the Slick Rock Mining District) occur within the Moss Back Member, at the base of the Upper Triassic Chinle Formation, and at several levels in the Morrison Formation with larger production mainly from the top sandstone of the Salt Wash Member of the Morrison Formation (Shawe, 2011). Per Chenoweth (1981; p. 166),

> "*Although most of the mineralized zones in the Salt Wash are tabular and concordant with bedding, the ore in some deposits abruptly crosses bedding in smooth curves to form rolls. The rolls in plan view are generally narrow, not more than a few meters wide, sinuous, and decidedly elongated parallel to local sedimentary structures, major channels, or axes of greatest permeability….. Some small, high-grade ore bodies consist of fossil logs and podlike accumulations of carbonaceous material replaced with uranium and vanadium minerals. Fossil logs may be as large as 15 m long and 1 m in diameter.*"

The primary ore minerals of the Uravan deposits are uraninite and coffinite in unoxidized deposits and carnotite where the ores have been oxidized. V is primarily present in V-bearing clays consisting of chlorite and hydrous mica. Based on production records since 1947, V at some properties exceeds U at ratios ranging from 3:1 to 10:1, with V concentrations increasing from north to south in the belt (Chenoweth, 1981). Many minor and trace elements can be associated with these deposits including Fe, Co, Ni, Mo, As, Y, Se, Zn, Cu, Pb, Ag, and locally Sb, Ba, Be, Ga, Cr, Sr, and REEs. While these elements are hosted in a wide variety of mineralogical families, clay minerals may be an important host of minor elements (Miesch, 1963).

Although the Uravan and adjacent areas have been largely idle, with only smaller-scale intermittent U production since the early 1980s, studies associated with the NURE program suggest that over ~95 million lb (~43 million kg) of U-oxide (U_3O_8) may still be present in the area (Chenoweth, 1981). As of 2024, there were no U-producing mines in Colorado. Several companies continue to perform exploration activities and have reopened or rehabilitated old mines in the Uravan, and several mines remain idle in the area. Energy Fuels Inc. owns the White Mesa Mill in Utah, the only operational conventional U mill in the U.S., which is located less than 50 miles from the historic Uravan mineral belt in southwestern Colorado. The mill can also reportedly produce V and rare earth-bearing mineral concentrate. In June 2025, Western Uranium & Vanadium Corporation began delivering U-bearing feedstock from the Sunday Mine Complex, located in western San Miguel County, CO, to the White Mesa Mill which included historic stockpiled material supplemented by new production (Western, 2026).

<u>*Copper Deposits*</u>

Several sediment-hosted Cu deposits, many of them structurally controlled, occur in the Paradox Basin. These deposits, as well as their formation, are discussed by several authors including Vogel (1960), Cox and others (2003), Lindsey and others (2004), MacIntyre (2006), Hitzman and others (2010), Hayes and others (2015), Thorson (2018), Barton and others (2018), Bailey and others (2021), and MacIntyre and others (2023). A map showing historic Cu mines and occurrences in the study area is provided as **Figure 8**. Generally, sediment-hosted Cu deposits require an oxidized metal source, low-temperature, high-salinity brines to leach and carry metals, and a reduced facies, or redox boundary, to create a chemical trap, precipitating metals (Hitzman and others, 2010; Hayes and others, 2015). Deposits are most likely to occur in places where these metal-bearing saline brines move through more focused areas such as zones of strata pinch-out or fault structures through which reducing fluids such as hydrocarbons have previously passed (Hitzman and others, 2010). Mineralization may occur as disseminated sulfides/oxides, veinlets, or massive sulfide replacement, and typically consists of several minerals including chalcocite, bornite, chalcopyrite, and occasionally native Cu. Minor and trace elements including Ag, Pb, Zn, and lesser Mo, V, U, Co, and Ge are also often associated with these deposits (Cox and others, 2003).

The geologic conditions of the Paradox Basin are ideal for the formation of these deposits. The Permian redbeds of the Cutler Formation (**Figure 5)** may serve as an oxidized metal source bed, while the Pennsylvanian Paradox Formation may provide both a source for saline brines from its thick evaporite beds and reducing fluids such as hydrocarbons generated from its thinner, organic-rich layers. Normal faults may serve as conduits to fluid flow as well as zones of mineral concentration (Hitzman and others, 2010). The general repeatability of this deposit model, with similar structures cutting through the same stratigraphy across the Paradox Basin, suggests that significant exploration potential for undiscovered deposits may exist within the basin.

Currently, the most economically significant Cu deposits in the Paradox Basin are in Utah. In Colorado, several relatively small Cu deposits and occurrences exist within the study area and include the Cashin Mine, Cliffdweller Mine, Sunrise Mine, Sinbad area, Klondike area, as well as others (**Figure 8**). In Utah, three clustered orebodies hosted in the Burro Canyon Formation and Dakota Sandstone occur on the southern end of Lisbon Valley ~4.3 miles from the Colorado-Utah border (**Figure 8**) (Hahn and Thorson, 2005). In the northwest-trending Lisbon Valley deposits, Cu was deposited by saline brines originating in the underlying Paradox Formation that migrated along the Lisbon Valley Fault and leached Cu from other formations, possibly including the redbeds of the Cutler Formation. The Cu-rich brine migrated through a reducing environment within the overlying Burro Canyon Formation and Dakota Sandstone and deposited Cu sulfides (Hahn and Thorson, 2005). Mineralization at Lisbon Valley is primarily disseminated and occupies the pore spaces of coarse- to medium-grained sandstones and, less commonly, along fractures and around organic matter. Oxide minerals include malachite, azurite, tenorite, and cuprite; while the sulfide ores are primarily chalcocite and djurleite, with lesser bornite and chalcopyrite around the margins (Hahn and Thorson, 2005). Construction of an open-pit mining operation at the site began in late 2004. Reportedly, the mine contains estimated reserves of 36.7 million tons at an average grade of 0.51% Cu (Krahulec, 2006). As of early 2026, the mine is known as Mariana Copper One (Mariana Mine) and is under the control of Mariana Minerals.

In Colorado, Cu deposits at the Cashin Mine (Cashin), in Montrose County (**Figure 8** and **Figure 9**), also reportedly formed from saline brines that migrated from the Paradox Formation along faults, leached Cu and other metals from the Cutler Formation redbeds, and precipitated Cu minerals in a reducing environment within sandstone (MacIntyre, 2006; MacIntyre and others,

Figure 9 *– Photos of the Cashin Mine. Upper left: Malachite and azurite mineralization in the Wingate Sandstone. Upper right: Malachite mineralization along fractures in the Wingate Sandstone. Lower: LaSalle Creek Canyon and the Cashin Mine.*

2023). MacIntyre (2006) and MacIntyre and others (2023) provide more details associated with the formation of the mineral deposit at the Cashin as well as the role of hydrocarbon-bearing and saline paleofluid flow at the site (MacIntyre, 2006). The primary ore is hosted in the Jurassic Wingate Sandstone adjacent to the Cashin fault. Cu mineralization is composed predominantly of chalcocite, bornite, tennantite, chalcopyrite, and supergene malachite and azurite. As indicated by MacIntyre and others (2023; page 177), "*the deposit shows zoning from a central* *core of Cu, Ag, and As along the fault, outward to Pb and Zn suggesting upward and outward movement of metal-bearing fluids…*".

As summarized by the USGS (2004; page 81), "*From 1937 to 1945 between one and three lode mines, presumably including the Cashin and Cliffdweller, produced 97 oz (ounces) gold, 59,537 oz silver, and 1,462,200 lb (pounds) copper…..*" Other authors report that the Cashin Mine was discovered in 1896, but development did not start until 1899 (Emmons, 1906). The mine produced 363,778 ounces (oz) of Ag and 732,740 lb of Cu prior to 1906 which did not include shipments of native Cu (Emmons, 1906; Fisher, 1936).

As reported by Lindsey and others (2004; p. 186): "*Exploration drilling in the mid-1990's identified a reported geologic resource of 11.9 million t (metric tons) of mineralized rock grading 0.496 percent copper occurring in a 2,500-acre area that includes the historic Cashin and Cliffdweller mines.*" A more recent mineral assessment for the Cashin Mine reports an indicated resource of ~976,000 metric tons at 0.411% Cu and an inferred resource of ~305,000 metric tons at 0.427% Cu (Constellation Copper Corporation, 2006).

The Klondike Ridge area to the southeast (**Figure 8** and **Figure 10**), sometimes referred to as the Klondike Mining District, contains several small mines and occurrences of copper. As reported by Vogel (1960), U, V, and Mn have been mined in the area. However, all the deposits are minor, and the larger ones (more than 100 tons of ore) are mostly U mines. These deposits were mined in the area since 1914; however, production was negligible. As indicated by Vogel (1960), there has been interest in the district due to the possibility of finding larger deposits at depth. Reportedly, the only production from the area was from the Hidden Treasure mine and that a shipment of Cu-Ag ore from the area in 1937 contained 1,700 lb of Cu and 71 oz of Ag (Vogel, 1960). Most of the deposits in the area occur in or near major faults and most occur in sandstone or limestone within the Morrison and/or Summerville Formations (youngest unit of the San Rafael Group). Mineral deposits include malachite, azurite, copper sulfides (including bornite and covellite), native copper, pyrite, barite, and other associated minerals. As reported by Vogel (1960; page 107): "*All sulfide deposits are in or near major Tertiary faults, but many malachite deposits are disseminated in sediments a short distance from the faults.*" Tertiary igneous sills also occur near this deposit. Vogel (1960) indicates that these sills are like many of the other sills exposed in the Disappointment Valley and Dolores and Gypsum anticlines. The sills on Klondike Ridge are younger than the middle Tertiary faults as the sills have not been displaced by the faults, and locally, seem to have followed the fault planes (Vogel, 1960: page 51). A nearby diorite sill located ~5.6 miles south of the property on the southern edge of Disappointment Valley was dated at 15.9 Ma (Gonzales, 2015).

As reported by the Allied Copper Corporation (Allied) (2022), mineralization exposed in the Klondike Ridge area occurs within the Klondike Graben located at the southeast end of the Gypsum Anticline (**Figure 3**, **Figure 7,** and **Figure 8**). Allied (2022) indicates that Cu occurrences within the graben and surrounding area may suggest the presence of additional Cu +/- Ag deposits:

> "*in strongly altered, gently-dipping, Jurassic to Triassic aged, coarse-grained, permeable sandstone units. Historic sampling has identified outcropping chalcocite and malachite mineralization hosted in Jurassic and Cretaceous sandstones adjacent to the east and west bounding faults of the Klondike Graben…..Significant mineralization was identified in historic sampling, with high values of 6.3% Cu and 85.4 ppm (parts per million)*

Figure 10 *– Photos of the Klondike Ridge area. Upper left: Malachite and azurite mineralization along a north-northwest trending fault in sandstones of the Morrison Formation. Upper right: Malachite mineralization in the Morrison Formation on west side of fault with Cutler Group exposed in the distance (redbeds). Lower: Disseminated malachite within the Morrison Formation.*

> *Ag…..Recent reconnaissance exploration work…confirmed and expanded upon known copper-(silver) mineralization at Klondike, with a new target identified on the Northeast Fault, with an assay of 1.35% copper and 1.4 ppm silver across a 4.6-meter-long chip-sample…"*

According to the USGS (2004; pages 80-81), other Cu mines and occurrences are reported in the study area including (**Figure 8**):

- Sinbad area – Cu deposits occur in the Sinbad Valley including the Copper Rivet and Pyramid areas. This area is underlain by Pennsylvanian to Jurassic sedimentary rocks including the Hermosa Group, Cutler Group, Moenkopi Formation, and Chinle Formation. Cu deposits in the area are structurally controlled and occur in veins, disseminated zones, or horizons along cross-faults located along the flank of a salt anticline (USGS, 2004; page 81). Prospecting in the area was conducted prior to 1921 and, in 1940 and 1942, ~30 tons of ore were shipped from the area containing 9% Cu and 4 ounces of Ag per ton. Reportedly (USGS, 2004; page 81), the ore from this area was "*deemed unsuitable for acid leaching and not adaptable to open-cut mining operations*…."
- Sunrise Mine/Fairview Claim – Cu deposits occur in veins and disseminated deposits that are structurally controlled along the north Cashin Fault extension. The Chinle Formation, Kayenta Formation, and Wingate Formations underlie the area which is on the flank of a salt anticline (USGS, 2004; page 81). The Sunrise Mine (USGS, 2004; Coffin 1921; page 220) "*produced 12 cars of ore assaying better than 30% copper and containing from 6 to 10 ounces of silver per ton.*" Coffin (1921, page 220) indicates that exploration at the Fairview Claim "*encountered little ore.*"

INVESTIGATION

During this investigation, the CGS worked with the USGS to identify existing NURE sediment samples in and around the Paradox Basin area, primarily within USGS critical mineral focus areas. This was an iterative process because original sample material was unavailable for several NURE sediment sample locations. Consequently, alternate sample locations were identified where existing sample aliquots were still available. The archived NURE samples were collected using the protocols summarized by the University of Oklahoma (1985). In total, the USGS laboratory analyzed and provided the results for 125 existing NURE samples. After an initial data gap review, the CGS collected 10 new samples and provided these to the USGS for analysis. The following sections discuss the field sampling procedures for the new samples and the laboratory methods for all the sample analyses.

Field Methods

An initial review of existing data was conducted to identify gaps in sample coverage as related to specific watersheds deemed to be of interest based upon surrounding geochemical data, general geological factors relating to potential mineral systems in a given area, and historic mining or exploration activities. With target watersheds in mind, specific sampling locations were then selected based upon land ownership, access, and the safe accessibility of the main drainage channel. Once on the ground, each prospective sampling site was first assessed for potential sources of contamination, both locally and for a distance of 100 m upstream.

Samples were collected with clean sampling shovels from dry streambeds, away from eroding bank material, at a depth between 0 and 30 centimeters (cm). Where necessary, the top layers of accumulated soil and organic matter were removed prior to sampling to expose the alluvial deposits. All samples were sieved to 2 millimeters (mm) using a clean stainless steel sieve. In cases where the material was too moist to be sieved directly in the field, the sample was collected in a clean cloth bag for later sieving after drying at the CGS storage facility. A 200 to 250 gram (g) sample was collected from ~2 kg of composited and sieved material from each sampling site. All surface depressions were filled prior to leaving a sampling site. All reusable sampling equipment such as shovels, trowels, buckets, and sieves were either stainless-steel or plastic. All equipment was thoroughly cleaned, rinsed with de-ionized water, and dried between each sampling event.

Laboratory Methods

All samples were submitted to the USGS Analytical Chemistry Project (ACP) which tracks samples, submits samples to the analytical laboratory, performs quality assurance/quality control (QA/QC) of the data, and disseminates the analytical results to project managers and the public. New and existing samples were submitted to the laboratory and analyzed by the following laboratory methods as documented by the USGS ACP (USGS ACP, 2025; see method summaries associated with this reference):

- Major elements by wavelength dispersive x-ray fluorescence (WDXRF);
- Minor elements by inductively coupled plasma (ICP) optical emission spectrometry (OES).

The USGS ACP (USGS ACP, 2025) has more information about these analytical methods. All laboratory results were reviewed by the USGS ACP for this project. More information about the laboratory analytical QA/QC is available on the ACP website (USGS ACP, 2025). QA/QC practices managed by the USGS include submission of analytical duplicates and standard reference materials as unknowns to the laboratory. According to the ACP (2025), approximately 20% of submitted samples consisted of analytical duplicates and reference materials (including blind samples to the analytical laboratory). The laboratory reports, as well as the performance of the duplicates and reference materials, were provided by the USGS ACP electronically. Generally, results of the analysis were deemed acceptable if recovery for all elements was ±15% at five times the Lower Limit of Determination (LOD), and the calculated Relative Standard Deviation (RSD) of duplicate samples was no greater than 15% or otherwise deemed acceptable by the ACP as noted. B and Re laboratory results, as well as some of the Cr results, were reported as being for informational purposes only.

Results and Discussion

The major and trace element laboratory results are summarized in **Table 1**. Electronic data compilations of all the results are provided in **Appendix A** (which includes a compilation of the original laboratory QA/QC results), and ArcGIS shapefiles are included as **Appendix B**. As discussed above, this study was conducted to provide an updated and expanded regional geochemical dataset for use in future mineral prospectivity analyses and other investigations by private and public stakeholders in areas that contain critical mineral deposits in Colorado. Previous authors (Yager and others, 2012) discuss methods for delineating anomalous sediment geochemical results in hydrologic units using legacy geochemical data such as the NURE data set. In addition, the historic NURE data results for other sediment sample locations can be downloaded from the USGS National Geochemistry Database (USGS, 2023a). A thorough assessment of the results is outside the scope of this investigation. However, a preliminary assessment of the data collected during this investigation is provided below.

For comparison, the ranges detected and the average bulk continental crust values (background) are provided in **Table 1**. Several sample results for As, Ba, Hf, and Zr were elevated over 5-times above background. Other elements that are of particular interest in the area were detected below or around background including Cu, Co, Mn, Ni, and V. For example, Cu was detected at concentrations ranging from <10 to 43 parts per million (ppm), well below the bulk continental crust concentration of 375 ppm. However, investigations on the Colorado Plateau may need to rely on average compositions of unmineralized rocks in a more local region for background comparisons. Shoemaker and others (1959: see Table 1; page 31) provide average chemical compositions of Colorado sandstones and sandstones from principal uranium ore-bearing strata. For example, they provide average Cu values for sandstones of Paleozoic/Mesozoic age, the Shinarump and Moss Back Members of the Chinle Formation, and Salt Wash Member of the Morrison Formation of 9, 100, and 13 ppm, respectively (Shoemaker and others, 1959).

Laboratory results of the sediment samples were plotted on regional maps using a modified Jenks Natural Breaks method in ArcGIS for several elements as shown on **Figure 11**. The results were plotted in relation to their subwatersheds (averaging ~30,000 acres) using 12-digit hydrologic unit code (HUC12) watershed boundaries provided by Luukkonen and others (2024). The maps in **Figure 11** provide a general guide to where relatively elevated concentrations of select elements occur within each finer subwatershed boundary. Additionally, the USGS National Hydrography Dataset 1:100K-scale stream locations (USGS, 2023b) are included to assist in determining sediment source areas.

Relatively elevated copper concentrations were detected downstream of the Cashin Mine and Klondike Ridge area (**Figure 11**), both of which contain known Cu deposits. Analysis of sediment samples from at least one area, HUC12 #140802030202 in the southwestern portion of the study area, detected relatively elevated concentrations of several elements including Cu, Pb, Total REEs, Zn, U, Ni, Mn, and V (**Figure 11**). This subwatershed includes Upper Coal Bed Canyon as well as several historical mines including portions of the Deremo and Snyder mines (**Figure 12**). Surficial geology in the subdrainage area consists of eolian sand and Dakota Sandstone (Haynes and others, 1972).

The Deremo Mine is located at the south end of the Uravan and produced U and V from the Salt Wash Member of the Morrison Formation (Nelson-Moore and others, 1978; Thamm and others, 1981). Between 1959 and 1980, the Summit Canyon Mining Group, in which the Deremo was the principal mine, produced over 1.7 million tons of ore (Shawe, 2011). According to Lindgren (1923; p. 440-441) and Shoemaker and others (1959; p. 47-48), several accessory elements are associated with sandstone-type U ores on the Colorado Plateau including Cu, Pb, Ag, Ba, Cr, Ni, Mo, Se, Co, As, and Y. For example, U ores in the Morrison Formation can contain Cu concentrations seven times greater than unmineralized sandstones and Pb is nine times more abundant (Shoemaker and others, 1959; p. 48). As reported by Shawe (2011; p. 46-47), the Deremo Mine:

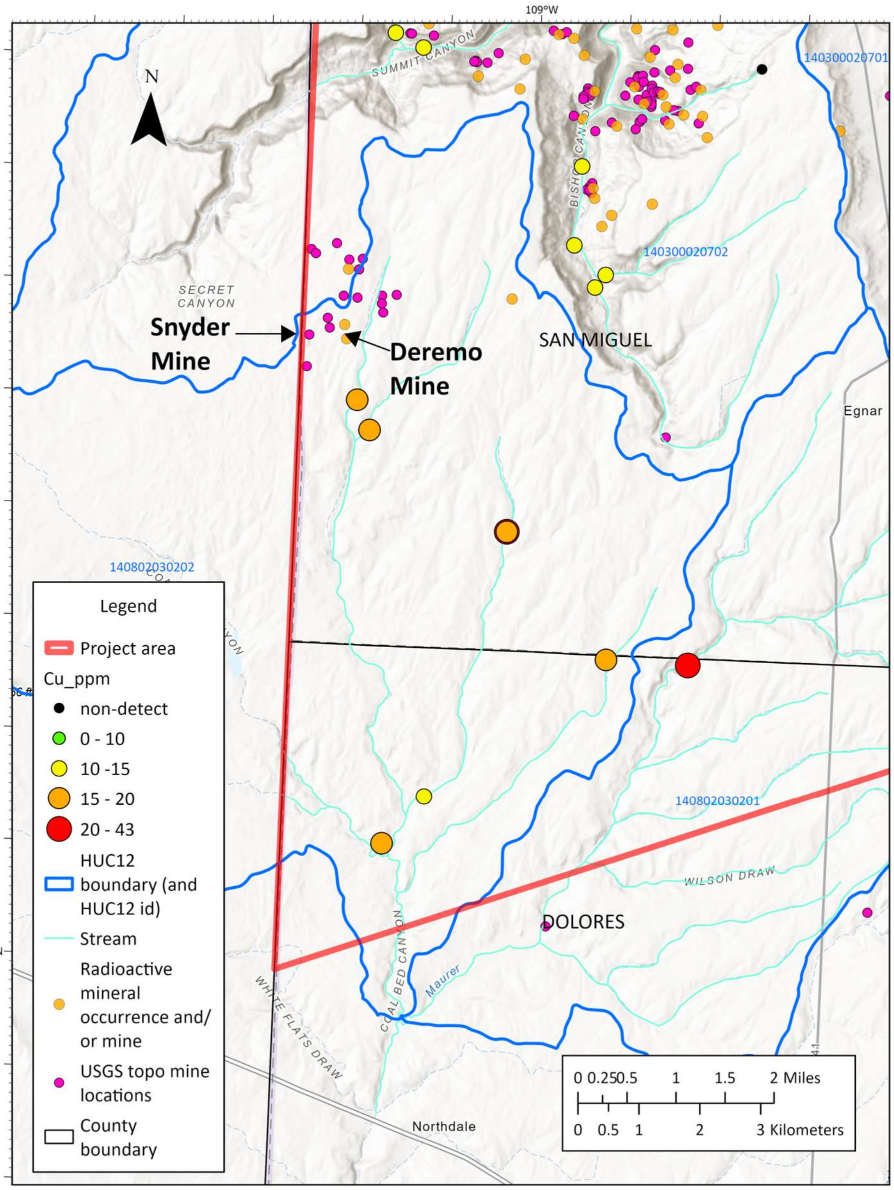

Figure 12 *– Map of the Coal Bed Canyon area (HUC12 #140802030202) showing the location of the Snyder and Deremo mines. See* ***Figure 11*** *for the general location of this area. USGS topographic (topo) mine locations from the Horton and San Juan (2016).*

"is centered above the southwest projection of the inferred subsurface fault believed related to the surface faults of the northeast-southwest-crossing zone, and hence it was likely affected by the same fluids involved in deposition of other Slick Rock ores…….Altered-facies sandstone in the Salt Wash is coincident with the intersecting fault systems and zone of ore deposits….suggesting a relation between alteration by an introduced fluid and ore deposition. Also, zoning of certain elements relative to the faults implies introduced fluids as the source of the elements. The zoned elements recognized are copper, lead, molybdenum, and nickel. Most conspicuous and perhaps the most significant of these is copper….Copper deposits along the extension of the Dolores zone

to the northwest in Utah…. indicate that copper deposited with uranium and vanadium in the Slick Rock ores was introduced along the zone."

The relatively elevated concentrations of some of these elements detected in sediments collected in streams draining the Deremo Mine area may be associated with the U-V and other mineralization at the Deremo and other mines in the area, other deposits associated with related fluids and/or alteration (potentially covered by eolian deposits, see **Figure 6**), and/or potential mine-derived historic stockpiles and/or waste. Eolian deposits in this area may also be sourced from redbeds in the area that contain elevated concentrations of some of these elements. Additional sampling in this area would be required to determine the exact source of these elevated element concentrations.

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TABLES

Table 1 - Summary of Colorado Stream Sediment Laboratory Results (page 1 of 3).

LabID	FieldID	X	Y	Date	La_ppm	Ce_ppm	Pr_ppm	Nd_ppm	Sm_ppm	Eu_ppm	Gd_ppm	Tb_ppm	Dy_ppm	Ho_ppm	Er_ppm	Tm_ppm	Yb_ppm	Lu_ppm	Y_ppm	TREE_ppm	Ag_ppm	As_ppm	B_ppm	Ba_ppm	Be_ppm	Bi_ppm	Cd_ppm	Co_ppm	Cr_ppm	Cs_ppm	Cu_ppm
					Rare Earth Elements (REE)																										
C-575034	125329	-108.97958	38.32528	8/24/1977	14.3	28.9	3.46	13	2.7	0.47	2.25	0.32	2.06	0.42	1.36	0.22	1.6	0.27	12.4	83.73	-1	-5	47	438	-5	0.1	-0.2	2.2	23	1.6	-10
C-575035	125330	-108.99378	38.32308	8/23/1977	8.9	17.3	2.02	7.5	1.5	0.34	1.48	0.26	1.62	0.38	1.26	0.2	1.7	0.29	10.8	55.55	-1	-5	40	441	-5	-0.1	-0.2	1.9	31	1.3	-10
C-575037	125331	-108.97928	38.27688	8/24/1977	7.7	15.2	1.82	6.9	1.4	0.31	1.24	0.2	1.21	0.27	0.82	0.14	1	0.16	7.5	45.87	-1	6	32	376	-5	-0.1	-0.2	1.9	32	1.1	11
C-575038	125332	-108.99428	38.38138	8/24/1977	15	29.8	3.48	12.9	2.5	0.53	2.23	0.36	2.24	0.5	1.53	0.25	1.9	0.27	13.7	87.19	-1	-5	32	562	-5	-0.1	-0.2	2.6	21	1.9	-10
C-575040	125333	-108.98128	38.39418	8/24/1977	14.4	28.5	3.27	12.4	2.6	0.53	2.39	0.4	2.59	0.55	1.74	0.26	1.9	0.3	15.6	87.43	-1	-5	39	449	-5	-0.1	-0.2	3	23	1.9	-10
C-575041	125334	-108.97378	38.39998	8/24/1977	11.3	22.4	2.75	10.2	2	0.46	1.9	0.3	2.06	0.41	1.3	0.18	1.4	0.2	11.1	67.96	-1	-5	50	441	-5	-0.1	-0.2	2.9	22	1.9	-10
C-575042	125335	-108.96848	38.37578	8/24/1977	16.8	34.9	4.08	15.8	3	0.62	2.6	0.42	2.45	0.52	1.55	0.25	1.6	0.26	14.3	99.15	-1	-5	62	511	-5	-0.1	1.1	5.1	29	2	13
C-575043	125336	-108.98848	38.36858	8/24/1977	22.4	44.4	5.3	19.8	3.8	0.82	3.4	0.59	3.73	0.77	2.39	0.34	2.6	0.4	21.5	132.24	-1	6	41	543	-5	0.1	-0.2	4.3	29	3.2	-10
C-575044	125337	-108.92378	38.37528	8/24/1977	11.4	22.5	2.78	10.4	2.1	0.5	2.05	0.31	2	0.4	1.3	0.21	1.4	0.22	11.5	69.07	-1	-5	41	417	-5	-0.1	-0.2	3	39	1.3	15
C-575045	125338	-108.93038	38.33468	8/24/1977	18.8	38.3	4.4	16.5	3.3	0.66	3.05	0.5	3.32	0.71	2.23	0.36	2.7	0.42	19.6	114.85	-1	-5	50	414	-5	-0.1	-0.2	3.3	33	1.7	-10
C-575047	125340	-108.90958	38.28498	8/24/1977	10.7	20.8	2.59	9.8	1.9	0.46	1.73	0.26	1.75	0.38	1.23	0.2	1.5	0.25	11.1	64.65	-1	-5	48	527	-5	-0.1	-0.2	2.4	34	1.6	-10
C-575048	125341	-108.93208	38.27938	8/24/1977	13.7	27.7	3.53	13.4	2.7	0.63	2.43	0.38	2.34	0.51	1.58	0.26	1.8	0.27	14.6	85.83	-1	6	37	526	-5	-0.1	-0.2	3.1	25	2.3	29
C-575049	125408	-108.80567	38.23108	8/25/1977	16.6	32.4	3.9	14.8	2.9	0.61	2.62	0.4	2.78	0.58	1.84	0.3	2.1	0.37	16.3	98.5	-1	-5	35	580	-5	0.1	-0.2	2.8	21	2.2	-10
C-575050	125409	-108.83127	38.22808	8/25/1977	16.4	32	3.98	15.3	3	0.64	2.71	0.4	2.55	0.54	1.63	0.28	1.9	0.31	15.6	97.24	-1	-5	34	543	-5	-0.1	-0.2	2.6	29	2.3	-10
C-575052	125411	-108.90377	38.24858	8/25/1977	14.6	27.6	3.37	13	2.6	0.57	2.37	0.37	2.38	0.53	1.61	0.27	1.9	0.32	14.8	86.29	-1	-5	39	524	-5	-0.1	-0.2	3.1	35	1.9	-10
C-575053	125441	-108.85317	38.30138	8/25/1977	22	43.4	5.41	21.4	4.3	0.88	3.67	0.6	3.93	0.83	2.61	0.4	2.8	0.46	23.5	136.19	-1	5	73	449	-5	0.2	-0.2	5.8	38	2.9	10
C-575054	125443	-108.84787	38.30998	8/25/1977	15.2	30.7	3.94	15.1	3.1	0.71	2.81	0.41	2.67	0.55	1.58	0.26	1.7	0.29	15	94.02	-1	7	60	437	-5	-0.1	-0.2	4.4	34	2.1	10
C-575055	125444	-108.83677	38.30918	8/25/1977	20.7	41.7	5.24	20.6	3.9	0.87	3.71	0.52	3.5	0.76	2.24	0.37	2.4	0.4	20.7	127.61	-1	10	78	550	-5	0.2	-0.2	6.1	61	2.4	-10
C-575056	125445	-108.80597	38.30608	8/25/1977	25.5	51.5	6.44	25	4.9	1.06	4.54	0.66	4.3	0.86	2.49	0.41	2.7	0.43	23.6	154.39	-1	9	85	489	-5	0.2	0.6	7.7	45	3.3	13
C-575057	125446	-108.80647	38.28138	8/25/1977	10.5	21.5	2.55	9.8	2	0.49	2.1	0.37	2.85	0.73	2.59	0.49	3.7	0.68	20.3	80.65	-1	-5	83	433	-5	-0.1	-0.2	2.5	108	1.3	-10
C-575059	499108	-109.04258	38.33138	6/21/1978	16.7	33.4	4.01	15.7	3.2	0.72	2.76	0.43	2.99	0.58	1.98	0.31	2.2	0.37	17.3	102.65	-1	-5	50	539	-5	0.1	-0.2	3.6	38	2.4	-10
C-575060	499109	-109.03928	38.33438	6/21/1978	20.2	39.6	4.87	19.4	3.9	0.83	3.5	0.52	3.45	0.71	2.2	0.36	2.4	0.39	20	122.33	-1	-5	34	677	-5	0.1	-0.2	3.6	21	2.8	-10
C-575061	499110	-109.02348	38.33358	6/21/1978	16.7	33.2	4.06	15.7	3	0.65	2.75	0.39	2.76	0.61	1.91	0.32	2.2	0.37	15.8	100.42	-1	-5	59	524	-5	0.4	-0.2	3.2	41	2	12
C-575062	499201	-109.00598	38.33078	6/21/1978	11.1	22.4	2.69	10.6	2	0.46	1.87	0.29	2.06	0.43	1.45	0.24	1.7	0.32	12	69.61	-1	7	47	432	-5	0.4	-0.2	2	26	1.5	-10
C-575063	499202	-109.00318	38.32858	6/21/1978	13	25.4	3.15	12.5	2.5	0.58	2.31	0.32	2.31	0.53	1.62	0.27	1.8	0.3	14	80.59	-1	6	43	455	-5	-0.1	-0.2	2.7	36	1.7	-10
C-575064	499353	-109.04178	38.41468	6/22/1978	19.9	41.6	4.82	18.6	3.4	0.66	3.08	0.48	3.3	0.78	2.51	0.46	3.1	0.54	20.7	123.93	-1	-5	45	759	-5	-0.1	-0.2	3	30	1.8	-10
C-575065	499354	-109.03848	38.41638	6/22/1978	14.7	28.9	3.45	13.3	2.5	0.48	2.19	0.34	2.15	0.48	1.5	0.23	1.8	0.29	12.7	85.01	-1	5	34	286	-5	0.1	-0.2	2.6	23	1.9	-10
C-575066	499355	-109.03098	38.41358	6/22/1978	18.1	35.4	3.83	15.2	2.7	0.6	2.53	0.41	2.92	0.64	2.2	0.38	2.6	0.51	17	105.02	-1	6	43	393	-5	0.1	-0.2	3	32	1.9	-10
C-575067	125327	-108.95068	38.31058	8/23/1977	12.1	23.7	2.75	10.7	2.2	0.55	2.5	0.44	3.65	0.93	3.11	0.55	3.9	0.73	25.7	93.51	-1	-5	60	457	-5	-0.1	-0.2	2.3	87	1.5	19
C-575068	125328	-108.98128	38.32388	8/23/1977	10.5	20.5	2.46	9.7	1.9	0.47	1.7	0.25	1.77	0.37	1.16	0.19	1.3	0.23	9.7	62.2	-1	-5	39	367	-5	-0.1	-0.2	2.3	19	1.5	-10
C-576408	112515	-108.98597	37.93718	8/18/1977	20.6	41.9	4.79	17.9	3.3	0.75	2.96	0.5	3.04	0.67	2.13	0.31	2.2	0.35	18.5	119.9	-1	-5	40	489	-5	0.1	-0.2	4.6	39	2.7	13
C-576409	112516	-108.98787	37.93528	8/18/1977	20.1	40.8	4.71	17.8	3.5	0.7	3.14	0.5	3.21	0.62	1.91	0.31	2.1	0.33	18.6	118.33	-1	-5	39	508	-5	0.1	-0.2	4.3	44	2.6	15
C-576411	112517	-108.99207	37.94138	8/18/1977	21.7	44.1	5.11	19	3.8	0.82	3.47	0.56	3.8	0.8	2.59	0.38	2.8	0.42	23.5	132.85	-1	-5	41	614	-5	0.1	0.3	4.6	68	2.8	12
C-576412	112518	-108.95847	37.96858	8/18/1977	18.2	36.4	4.27	16.3	3.3	0.64	2.96	0.48	2.98	0.64	1.88	0.27	2.1	0.33	17.9	108.65	-1	-5	44	439	-5	0.1	-0.2	3.6	30	2.5	-10
C-576414	112519	-108.99127	37.95308	8/18/1977	19.3	38.5	4.45	16.9	3.2	0.66	3.01	0.48	2.95	0.62	1.86	0.3	2.2	0.37	17.9	112.7	-1	-5	37	516	-5	0.1	-0.2	4.1	33	2.4	11
C-576415	112531	-108.86237	37.99888	8/18/1977	10.5	20.4	2.42	9.4	1.9	0.42	1.67	0.25	1.62	0.33	0.94	0.15	1	0.16	9.1	60.26	-1	-5	33	368	-5	-0.1	-0.2	2.8	24	2.5	11
C-576416	112532	-108.87927	37.99808	8/18/1977	12.5	24.2	2.92	10.6	2.1	0.48	1.91	0.3	1.92	0.41	1.17	0.18	1.2	0.21	11.3	71.4	-1	-5	42	388	-5	-0.1	-0.2	3.1	30	2.5	14
C-576417	498386	-109.03128	37.91718	5/26/1978	26.8	53.2	6.33	23.8	4.6	0.93	4.18	0.67	4.14	0.9	2.67	0.42	3	0.48	25.2	157.32	-1	-5	50	489	-5	0.1	0.3	6	42	3.5	17
C-576418	498387	-109.02878	37.91279	5/26/1978	29.9	60.6	7.1	27.2	5	1.05	5.1	0.78	4.83	0.98	2.8	0.41	2.8	0.48	28.4	177.43	-1	-5	50	499	-5	0.2	0.3	14.8	45	3.7	16
C-576419	498500	-109.02178	37.96968	5/31/1978	25	50.5	5.94	22.4	4.4	0.8	3.85	0.59	3.76	0.84	2.51	0.4	2.9	0.48	23	147.37	-1	-5	47	425	-5	0.2	0.2	5.3	43	3.3	13
C-576420	498501	-109.02708	37.97168	5/31/1978	19.1	39.1	4.62	17	3.4	0.68	3.03	0.49	2.97	0.64	1.87	0.3	2.2	0.36	17.9	113.66	-1	8	42	461	-5	0.1	-0.2	4.8	37	2.6	12
C-576421	125265	-108.85957	38.03638	8/22/1977	24.2	48	5.56	20.8	3.9	0.79	3.52	0.58	3.67	0.79	2.4	0.37	2.8	0.47	22.6	140.45	-1	-5	47	381	-5	0.2	-0.2	3.9	40	2.7	10
C-576422	125266	-108.85397	38.05638	8/22/1977	22.1	41.2	4.62	17.5	3.2	0.63	3.08	0.5	3.32	0.76	2.42	0.41	3.1	0.51	21.7	125.05	-1	-5	54	561	-5	0.1	-0.2	3.2	50	1.9	-10
C-576425	125267	-108.83817	38.03608	8/22/1977	24.4	48.7	5.78	22	4.3	0.85	3.99	0.68	4.21	0.92	2.81	0.45	3.3	0.56	25.8	148.75	-1	-5	50	738	-5	0.2	-0.2	4.1	42	2.8	13
C-576426	125268	-108.83707	38.03718	8/22/1977	19.7	38.4	4.58	17.4	3.4	0.73	3.22	0.53	3.44	0.74	2.26	0.34	2.4	0.38	20.7	118.22	-1	-5	44	591	-5	0.1	0.3	3.1	32	2.2	13
C-576427	125269	-108.83537	38.03278	8/22/1977	18.8	36.6	4.37	16.8	3.2	0.67	3.11	0.49	3.1	0.64	1.98	0.31	2.1	0.35	18.8	111.32	-1	-5	39	472	-5	0.1	-0.2	4.2	38	3	11
C-576428	125294	-108.82347	38.08528	8/22/1977	14.8	28.9	3.38	13.2	2.6	0.57	2.12	0.37	2.23	0.52	1.57	0.25	1.8	0.3	13.9	86.51	-1	-5	50	623	-5	-0.1	-0.2	2.8	46	1.9	-10
C-576429	125295	-108.81927	38.09028	8/22/1977	19.7	40.6	4.85	19	3.8	0.73	3.35	0.53	3.42	0.74	2.29	0.37	2.7	0.43	20.5	123.01	-1	-5	61	513	-5	0.2	-0.2	4.2	50	2.5	17
C-576430	125298	-108.84237	38.10028	8/22/1977	18.9	37.9	4.62	17.4	3.4	0.68	3.13	0.48	3.1	0.69	2.11	0.35	2.7	0.45	19.4	115.31	-1	-5	46	619	-5	0.1	-0.2	3.1	42	2.1	11
C-576431	125299	-108.86147	38.12218	8/22/1977	23.9	48.1	5.82	22.2	4.4	0.91	4.05	0.61	3.94	0.79	2.34	0.37	2.6	0.41	23	143.44	-1	-5	53	535	-5	0.1	0.3	5.1	41	3.6	16
C-576432	125300	-108.91757	38.11308	8/22/1977	11.3	22.1	2.67	10.1	1.9	0.51	1.8	0.29	1.75	0.38	1.14	0.16	1.2	0.18	10.2	65.68	-1	-5	22	420	-5	-0.1	-0.2	2.2	24	1.6	-10
C-576433	125301	-108.87987	38.12308	8/22/1977	19.5	38.9	4.73	17.9	3.5	0.8	3.3	0.52	3.37	0.71	2.09	0.35	2.4	0.39	19.2	117.66	-1	-5	47	619	-5	0.1	-0.2	3.8	46	2.4	15
C-576434	125302	-108.79537	38.11168	8/22/1977	22.6	45.6	5.44	20.9	4	0.76	3.66	0.59	3.81	0.83	2.58	0.43	3.3	0.55	23.6	138.65	-1	-5	51	1026	-5	0.1	0.6	4.5	47	2.1	12
C-576436	125372	-108.90597	38.15138	8/23/1977	8.3	16.6	1.94	7.6	1.5	0.36	1.5	0.26	1.7	0.37	1.24	0.2	1.5	0.26	10.7	54.03	-1	-5	51	776	-5	-0.1	-0.2	1.6	38	1.5	-10
C-576438	125374	-108.93988	38.16578	8/23/1977	23.2	46.1	5.61	21.4	4.2	0.81	3.73	0.63	3.74	0.79	2.46	0.37	2.8	0.41	22.6	138.85	-1	-5	39	852	-5	0.3	-0.2	3.6	41	2.5	13
C-576439	125375	-108.94458	38.16578	8/23/1977	21.5	42.2	5.21	19.9	4	0.8	3.54	0.57	3.62	0.75	2.29	0.34	2.4	0.4	20.9	128.42	-1	-5	39	782	-5	0.2	-0.2	3.7	37	2.6	12
C-576440	125376	-108.94508	38.16468	8/23/1977	13.6	26.3	3.24	12.3	2.5	0.55	2.3	0.36	2.14	0.45	1.4	0.21	1.5	0.26	13.2	80.31	-1	-5	43	406	-5	0.1	-0.2	3.7	43	2.6	13
C-576441	125377	-108.92757	38.15558	8/23/1977	13	26	3.18	12	2.3	0.52	2.03	0.32	2.05	0.43	1.25	0.2	1.4	0.23	12.1	77.01	-1	-5	31	536	-5	-0.1	-0.2	2.3	26	1.6	11
C-576442	125402	-108.78427	38.19468	8/25/1977	22	43.9	5.22	19.6	3.9	0.83	3.5	0.57	3.53	0.74	2.19	0.34	2.3	0.38	21.6	130.6	-1	-5	41	536	-5	0.1	0.2	4.4	30	3.6	12
C-576443	125403	-108.78507	38.19668	8/25/1977	15.2	29.8	3.48	13.4	2.6	0.57	2.35	0.4	2.55	0.54	1.65	0.25	1.8	0.28	15.3	90.17	-1	-5	34	524	-5	0.1	-0.2	3.3	24	2.2	-10
C-576444	125404	-108.80287	38.17608	8/25/1977	14.3	28.6	3.36	12.9	2.6	0.58	2.44	0.39	2.65	0.57	1.82	0.29	2	0.34	16.6	89.44	-1	-5	42	484	-5	0.3	-0.2	3.1	37	2.4	13
C-576445	125405	-108.80377	38.17748	8/25/1977	18.9	37.9	4.44	16.9	3.5	0.71	3.04	0.52	3.24	0.72	2.3	0.41	2.6	0.48	21.1	116.76	-1	-5	49	404	-5	0.1	0.4	3.8	56	2.4	12
C-576447	125406	-108.81317	38.17918	8/25/1977	21.5	40.4	4.87	18.5	3.6	0.79	3.18	0.52	3.24	0.65	1.97	0.28	2	0.32	18.6	120.42	1	6	64	316	-5	0.2	-0.2	7.1	45	5.8	-10
C-576448	125407	-108.79627	38.15858	8/25/1977	17.1	33.6	3.95	15	3	0.61	2.9	0.48	3.06	0.67	2.02	0.33	2.3	0.39	19	104.41	-1	-5	32	1403	-5	0.1	-0.2	3.2	30	2.1	11
C-576449	125416	-108.97238	38.13888	8/24/1977	16.9	36.7	4.09	15.7	3.1	0.62	2.82	0.47	2.96	0.63	1.9	0.31	2.1	0.34	17.3	105.94	-1	-5	57	339	-5	0.2	-0.2	4.5	46	3.7	14
C-576450	125417	-108.84427	38.12998	8/24/1977	18.8	36.8	4.34	16.3	3.3	0.66	3.11	0.52	3.4	0.78	2.32	0.39	2.9	0.5	22.5	116.62	-1	-5	50	746	-5	0.1	-0.2	3.7	48	2.3	11
C-576452	125418	-108.87177	38.13058	8/24/1977	21.7	41.5	4.94	18.7	3.7	0.7	3.36	0.57	3.48	0.74	2.51	0.42	2.9	0.48	22.6	128.3	-1	-5	52	839	-5	0.1	-0.2	3.4	33	2.4	11
C-576453	499113	-109.02878	38.22438	6/20/1978	10.1	20	2.35	9.3	1.8	0.41	1.65	0.29	1.79	0.4	1.25	0.22	1.5	0.28	11.5	62.84	-1	-5	38	598	-5	-0.1	-0.2	2.1	44	1.8	-10
C-576454	499114	-109.01628	38.21748	6/20/1978	11.7	23.3	2.76	10.9	2	0.51	1.9	0.28	1.84	0.38	1.21	0.17	1.1	0.18	10.9	69.13	-1	-5	37	499	-5	-0.1	-0.2	2	25	1.6	-10
C-576455	499115	-109.02318	38.21888	6/20/1978	18.7	36.4	4.38	16.8	3.3	0.7	3.08	0.49	3.18	0.65	2	0.3	2.2	0.33	18.8	111.31	-1	-5	42	528	-5	0.1	-0.2	3.4	27	2.5	13
C-576456	499125	-109.02648	38.25778	6/22/1978	21.2	40.6	4.82	18.2	3.4	0.72	3.25	0.5	3.2	0.64	2.02	0.3	2.2	0.35	17.9	119.3	-1	-5	45	621	-5	0.1	-0.2	4.4	39	3.2	13
C-576458	499126	-109.01318	38.25938	6/22/1978	18.6	36.1	4.16	15.9	3.1	0.63	2.93	0.44	2.76	0.61	1.9	0.29	2	0.31	16.6	106.33	-1	-5	41	1043	-5	0.1	-0.2	3.9	26	2.4	13
C-576459	499151	-109.02928	38.03858	6/19/1978	25.4	51	5.88	22.2	4.3	0.79	3.91	0.6	3.67	0.73	2.32	0.35	2.5	0.39	20.9	144.94	-1	-5	41	471	-5	0.2	-0.2	4.1	24	3.1	12
C-576461	499152	-109.01008	38.06558	6/19/1978	16.3	32.5	3.8	14.6	2.8	0.6	2.43	0.42	2.45	0.54	1.64	0.26	1.7	0.28	14.5	94.82	-1	-5	37	617	-5	-0.1	-0.2	3.1	24	2.3	14
C-576462	499153	-109.01678	38.05468	6/19/1978	16.7	33.1	3.79	14.3	2.8	0.6	2.61	0.41	2.73	0.55	1.63	0.29	1.9	0.31	15.2	96.92	-1	-5	36	556	-5	0.1	-0.2	3.6	39	2.6	19
C-576464	499154	-109.01898	38.05528	6/19/1978	15.3	30.1	3.54	13.3	2.7	0.59	2.52	0.4	2.6	0.53	1.73	0.27	1.9	0.31	14.8	90.59	-1	-5	39	658	-5	-0.1	-0.2	2.8	26	1.9	13
C-576465	499155	-109.02488	38.06858	6/19/1978	18.1	35.5	4.19	16	3.1	0.62	2.9	0.48	3.29	0.73	2.42	0.35	2.6	0.44	19.8	110.52	-1	-5	35	1064	-5	0.1	-0.2	3	36	2	11
C-576466	125687	-108.94508	38.54938	9/2/1977	13.9	28	3.32	12.5	2.6	0.54	2.32	0.39	2.36	0.53	1.61	0.24	1.8	0.27	13.8	84.18	-1	-5	60	465	-5	-0.1	-0.2	2.5	37	2	-10
C-576467	125688	-108.95008	38.54858	9/2/1977	26.3	53.4	6.25	23.4	4.3	0.73	3.43	0.54	3.36	0.73	2.38	0.39	3.1	0.54	19.9	148.75	-1	5	62	466	-5	-0.1	-0.2	3.8	87	1.3	-10
C-576468	125689	-108.95878	38.53998	9/2/1977	12.5	24.9	3	11.8	2.3	0.55	2.22	0.35	2.4	0.52	1.57	0.27	1.8	0.29	14.1	78.57	-1	11	53	390	-5	-0.1	-0.2	2.9	28	2	10
C-576469	125690	-108.97958	38.52808	9/2/1977	21.2	43.1	5.2	19.9	3.9	0.84	3.52	0.55	3.5	0.72	2.25	0.31	2.4	0.39	19.9	127.68	-1	6	72	477	-5	0.1	0.3	6.1	42	2.9	14
C-576471	125691	-108.98238	38.52418	9/2/1977	16.3	32.3	4.07	15.7	3.2	0.7	3.05	0.47	3.06	0.61	1.88	0.28	2	0.31	17.2	101.13	-1	7	56	447	-5	0.1	-0.2	4.6	30	2.4	12
C-576472	125692	-108.98928	38.50918	9/2/1977	14.3	29.1	3.49	13.2	2.6	0.57	2.39	0.37	2.44	0.54	1.63	0.25	1.9	0.29	14.6	87.67	-1	-5	47	425	-5	-0.1	0.6	3.2	41	1.9	-10
C-576473	125694	-108.98128	38.49638	9/2/1977	19.7	39.7	4.8	18.4	3.7	0.82	3.36	0.55	3.29	0.71	2.2	0.34	2.5	0.42	19.7	120.19	-1	6	77	556	-5	0.1	0.3	5.4	51	2.3	12
C-576474	125704	-108.98738	38.64527	9/2/1977	13.2	27.1	3.27	12.8	2.5	0.58	2.22	0.34	2.11	0.44	1.36	0.22	1.5	0.24	12.4	80.28	-1	-5	38	526	-5	-0.1	-0.2	2.5	19	2.5	-10
C-576475	125707	-108.96928	38.58717	1977	24.3	50.5	5.76	21.6	4.2	0.84	3.79	0.59	3.78	0.79	2.32	0.37	2.6	0.41	21.7	143.55	-1	6	45	493	-5	0.2	-0.2	5.6	39	3.5	17
C-576476	126005	-108.90128	38.43498	8/26/1977	18.2	35.9	4.26	16.1	3.1	0.7	2.93	0.45	2.79	0.6	1.84	0.28	2	0.34	16.4	105.89	-1	-5	52	521	-5	0.1	0.3	3.7	51	2.6	11
C-576478	126007	-108.91878	38.43498	8/26/1977	20.7	40.7	4.86	18.7	3.8	0.76	3.41	0.52	3.48	0.76	2.36	0.35	2.6	0.43	21	124.43	1	-5	66	472	-5	0.2	-0.2	4.4	43	2.9	13
C-576479	126008	-108.95788	38.44608	8/26/1977	17.1	32.5	3.87	14.7	2.7	0.59	2.51	0.41	2.46	0.51	1.59	0.24	1.7	0.27	14.3	95.45	-1	-5	49	492	-5	0.1	0.3	3.7	47	2.8	12
C-576480	499224	-109.02648	38.61027	6/25/1978	17	34.3	3.83	14.7	2.9	0.5	2.57	0.41	2.87	0.66	2.3	0.38	2.8	0.48	19.2	104.9	-1	9	44	461	-5	-0.1	-0.2	2.7	27	2	-10
C-576481	499225	-109.02178	38.60167	6/25/1978	19.3	40.1	4.54	16.8	3.2	0.65	2.9	0.47	3.26	0.78	2.53	0.41	3	0.51	22.3	120.75	-1	-5	44	396	-5	0.1	-0.2	3.6	37	2.4	12
C-576482	499226	-109.00098	38.58967	6/25/1978	33.1	66.8	7.73	28.6	5	0.99	4.42	0.71	4.33	0.91	2.7	0.44	3.1	0.5	25.5	184.83	-1	-5	57	459	-5	0.2	0.2	5.2	49	4.3	15
C-576483	499227	-109.03148	38.54467	6/25/1978	11.9	23.9	2.76	10.4	1.9	0.47	1.87	0.3	1.88	0.43	1.25	0.23	1.5	0.25	11.7	70.74	-1	-5	40	407	-5	-0.1	-0.2	3	29	4.3	-10
C-576485	499228	-109.02988	38.54747	6/25/1978	18.8	37.8	4.28	16.4	3.2	0.65	2.65	0.45	2.82	0.62	1.81	0.3	2	0.33	16.7	108.81	-1	-5	42	428	-5	0.1	-0.2	3.7	32	2.9	12
C-576486	499435	-109.03568	38.61557	6/25/1978	20.3	41.4	4.89	18.6	3.5	0.71	3.18	0.49	3.15	0.66	1.91	0.31	2.2	0.34	17.9	119.54	-1	7	44	526	-5	0.1	0.3	3.7	35	3.2	20
C-576487	499436	-109.00148	38.52248	6/25/1978	20.6	43.2	4.77	17.7	3.3	0.58	2.93	0.48	3.27	0.71	2.43	0.4	2.9	0.5	20.1	123.87	-1	-5	52	420	-5	0.1	-0.2	3.9	38	2.2	-10
C-576488	499440	-109.04038	38.68137	6/26/1978	27.6	55.9	6.63	25.7	5.3	1.05	4.67	0.75	4.79	1.01	2.99	0.43	3.1	0.47	28	168.39	-1	-5	55	455	-5	0.2	0.2	6.5	36	5.4	18
C-576489	499441	-109.00958	38.63217	6/25/1978	20.2	39.2	4.63	17.5	3.4	0.67	3.12	0.49	3.12	0.68	2.06	0.31	2.1	0.34	18.3	116.12	-1	7	41	503	-5	0.1	-0.2	3.5	25	3.3	-10
C-576490	499442	-109.00238	38.66057	6/26/1978	26.5	50.6	6.37	24.4	5.1	1.04	4.3	0.68	4.49	0.96	2.76	0.42	3	0.5	25.4	156.52	-1	-5	56	850	-5	0.2	-0.2	5.7	66	3.2	11
C-609903	112224	-108.6775521	37.97579194	8/31/1977	18.5	37.2	4.7	19	3.5	0.79	3.18	0.48	2.82	0.59	1.85	0.27	2	0.31	16.5	111.69	-1	7	46	4335	-5	0.2	-0.2	5.5	32	2	12
C-609904	112225	-108.6550513	37.97389194	8/31/1977	28.3	55.8	6.86	26.4	5	0.92	4.38	0.62	3.61	0.77	2.24	0.33	2.2	0.35	20.7	158.48	-1	-5	36	1586	-5	0.1	0.5	6.1	26	2.3	35
C-609905	112460	-108.7395545	37.9516914	8/25/1977	20.1	39.7	4.7	18.1	3.3	0.74	3.24	0.52	3.13	0.66	2.12	0.31	2.3	0.37	18.5	117.79	-1	-5	40	524	-5	0.2	-0.2	3.5	23	2.6	-10
C-609906	112501	-108.9828634	37.88029109	8/17/1977	27.9	53.5	6.7	25.9	4.7	1.08	4.38	0.68	4.02	0.83	2.46	0.38	2.6	0.37	22.9	158.4	-1	6	49	567	-5	0.2	0.4	6.8	39	4.3	20
C-609907	112521	-108.9675629	37.87999101	8/17/1977	31.5	62.4	7.6	28.9	5.1	1.05	4.7	0.76	4.32	0.96	2.95	0.44	3.1	0.49	25.9	180.17	-1	5	46	487	-5	0.2	0.4	7	39	4.2	31
C-609909	112527	-108.89256	37.94059162	8/18/1977	27.1	55.5	6.56	24.6	4.8	1.02	4.32	0.66	3.92	0.85	2.73	0.42	2.8	0.42	23.9	159.6	-1	-5	46	549	-5	0.2	0.3	6.5	41	3.7	14
C-609910	112530	-108.8664589	37.96499195	8/18/1977	26.7	53.9	6.37	24.3	4.5	0.94	4.31	0.63	4.03	0.85	2.75	0.39	2.8	0.45	23.2	156.12	-1	5	44	504	-5	0.3	0.3	6	33	3.6	15
C-609911	112534	-108.7548548	37.97079177	8/22/1977	22	44	5.21	20.1	3.7	0.82	3.56	0.53	3.31	0.71	2.14	0.32	2.3	0.37	19.3	128.37	-1	6	47	418	-5	0.2	-0.2	5.3	36	3.6	13
C-609912	112535	-108.7725552	37.99639233	8/22/1977	22	43.1	5.22	19.7	3.7	0.79	3.38	0.5	3.11	0.7	2.05	0.31	2.3	0.34	18.8	126	-1	-5	44	416	-5	0.2	-0.2	4.2	22	2.9	11
C-609913	112537	-108.8120567	37.99529237	8/22/1977	21.8	47.1	5.34	20.6	4.1	0.86	3.99	0.63	3.89	0.85	2.64	0.41	2.7	0.42	23.6	138.93	-1	-5	54	325	-5	0.2	-0.2	4.3	24	3.2	11
C-609914	112580	-109.002364	37.89859144	8/20/1977	29.4	57.1	7.01	26.9	4.8	1.03	4.43	0.63	3.69	0.78	2.35	0.34	2.4	0.35	21.6	162.81	-1	9	56	726	-5	0.2	1.1	8.1	42	4.9	43
C-609916	498385	-109.002364	37.89859144	5/26/1978	28.5	56.4	6.93	26.8	4.8	1.09	4.61	0.68	4.1	0.87	2.68	0.39	2.5	0.38	23.9	164.63	-1	-5	51	563	-5	0.2	0.2	7.3	33	4.2	17
C-609917	498389	-109.0156644	37.85889112	5/26/1978	26.6	51.4	6.23	23.8	4.4	0.94	4.3	0.63	3.56	0.71	2.31	0.35	2.3	0.36	20.5	148.39	-1	5	48	508	-5	0.2	-0.2	7.5	33	3.6	13
C-609918	498392	-109.0231646	37.85169115	5/29/1978	26.7	52.6	6.5	24.9	4.8	1.02	4.38	0.64	4.07	0.88	2.53	0.41	2.8	0.41	24	156.64	-1	-5	54	571	-5	0.2	0.3	6.2	48	3.6	16
C-609919	125247	-108.7131526	38.23969049	8/23/1977	21.6	41.9	5.04	19.8	3.8	0.84	3.6	0.57	3.64	0.78	2.44	0.38	2.7	0.43	22.4	129.92	-1	7	45	548	-5	0.2	0.2	4.3	40	3.1	-10
C-609920	125248	-108.6892518	38.22999057	8/23/1977	13.8	26.9	3.26	12.5	2.3	0.54	2.2	0.35	2	0.45	1.35	0.21	1.4	0.22	12.1	79.58	-1	-5	34	517	-5	0.4	-0.2	2.7	28	2.1	-10
C-609921	125292	-108.7456541	38.06109188	8/22/1977	20.4	40.9	4.84	18.4	3.5	0.72	3.29	0.55	3.62	0.84	2.95	0.5	4	0.67	23.4	128.58	-1	-5	55	1383	-5	0.2	-0.2	4.3	44	2.4	-10
C-609922	125686	-108.9148609	38.56028676	9/2/1977	24.9	48	5.99	23.1	4.5	0.99	4.2	0.62	3.96	0.84	2.44	0.38	2.5	0.37	22.9	145.69	-1	5	47	460	-5	0.2	-0.2	5.4	29	4.8	11
C-609923	125695	-108.9259615	38.58218636	1977	19.2	37.5	4.8	18.7	3.5	0.79	3.51	0.57	3.47	0.8	2.44	0.35	2.6	0.39	20.9	119.52	-1	7	63	530	-5	0.1	-0.2	5.7	53	3.8	11
C-609925	125696	-108.9309618	38.59358615	9/2/1977	27.6	55.6	6.98	27.2	5.2	1.11	4.73	0.71	4.34	0.89	2.71	0.39	2.7	0.4	24.5	165.06	-1	8	88	494	-5	0.2	-0.2	9	37	5.3	18
C-609926	125698	-108.9303619	38.60358597	9/2/1977	22.9	44.9	5.74	22	4	0.89	3.8	0.58	3.47	0.75	2.39	0.35	2.5	0.38	20.4	135.05	-1	7	65	596	-5	0.2	-0.2	5.7	30	3.9	12
C-609927	125702	-108.951263	38.63668536	9/2/1977	18.8	36.4	4.81	18.2	3.5	0.86	3.26	0.5	3.14	0.66	2.09	0.31	2.1	0.32	17.8	112.75	-1	5	56	565	-5	0.3	-0.2	5.5	22	3.9	12
C-609928	125703	-108.9773643	38.67578463	9/2/1977	19.6	37.6	4.39	16.6	3	0.65	2.82	0.45	2.94	0.67	2.24	0.38	3	0.49	19.1	113.93	-1	-5	46	1438	-5	0.2	-0.2	5.4	90	2.4	-10
C-609929	499443	-109.0020653	38.68528445	6/29/1978	21	41.8	5.36	21.2	4	0.79	3.52	0.55	3.17	0.69	2.22	0.37	2.5	0.39	19.2	126.76	-1	-5	52	637	-5	0.2	-0.2	4.5	28	3.5	-10
C-609930	499444	-109.0128659	38.71608397	6/29/1978	27.2	57.1	7.67	31.2	6	1.3	5.53	0.83	4.94	1.05	3.3	0.51	3.7	0.56	28.8	179.69	-1	-5	58	555	-5	0.2	-0.2	6.8	40	3.7	-10
C-609931	499445	-109.0437668	38.74248382	6/29/1978	26.4	52.4	6.76	26.9	5.1	1.16	4.99	0.74	4.42	0.95	3.04	0.43	3	0.44	25.9	162.63	-1	-5	61	445	-5	0.2	-0.2	7.9	38	5.8	14
C-615464	SWCO-1	-109.04132	38.36127	12/4/2025	13.6	24.4	3.02	11.4	2.1	0.4	1.66	0.26	1.54	0.35	1.06	0.17	1.1	0.18	9.8	71.04	-1	6	24	5826	-5	-0.1	0.3	2.1	16	1.4	-10
C-615465	SWCO-2	-109.04766	38.350548	9/24/2025	18.2	33.1	4.11	15.6	3.2	0.55	2.69	0.44	2.36	0.53	1.64	0.23	1.7	0.25	15.5	100.1	-1	6	25	10000	-5	-0.1	0.3	2.3	15	1.7	-10
C-615466	SWCO-3	-108.88354	38.435913	9/24/2025	10.1	19.3	2.49	9.6	1.9	0.42	1.68	0.28	1.61	0.37	1.1	0.17	1.1	0.19	10.4	60.71	-1	6	37	472	-5	-0.1	-0.2	2.4	21	1.5	-10
C-615468	SWCO-4	-108.85443	38.2888	12/4/2025	11.3	21.4	2.75	10.5	2.1	0.45	1.73	0.28	1.57	0.36	1.09	0.16	1	0.17	10.1	64.96	-1	-5	26	720	-5	-0.1	-0.2	3	20	1.8	-10
C-615469	SWCO-5	-108.84478	38.234238	9/24/2025	18.4	35	4.34	16.7	3.2	0.62	2.75	0.44	2.46	0.51	1.53	0.22	1.5	0.25	15.4	103.32	-1	8	27	1251	-5	0.1	-0.2	3	16	1.6	-10
C-615470	SWCO-6	-109.02713	38.129082	9/25/2025	12	19.6	2.59	9.4	1.8	0.35	1.48	0.23	1.22	0.26	0.71	0.1	0.7	0.11	8.3	58.85	-1	-5	18	279	-5	-0.1	-0.2	1.6	13	0.8	-10
C-615471	SWCO-7	-108.92918	38.151543	9/25/2025	8.6	16.5	2.09	7.8	1.5	0.34	1.38	0.2	1.25	0.26	0.83	0.13	0.9	0.14	7.8	49.72	-1	-5	23	472	-5	-0.1	-0.2	1.8	31	1.2	11
C-615472	SWCO-8	-108.75978	38.02492	12/4/2025	23.1	44.5	5.52	20.7	4.1	0.84	3.91	0.65	3.68	0.76	2.23	0.33	2.2	0.33	21.7	134.55	-1	7	50	1132	-5	0.3	-0.2	4.9	27	3.9	11
C-615473	SWCO-9	-108.98285	37.982689	9/25/2025	12.1	22.2	2.51	9.4	1.8	0.37	1.57	0.24	1.54	0.32	0.93	0.13	1	0.14	8.9	63.15	-1	-5	19	749	-5	-0.1	0.3	2.5	15	1.1	11
C-615474	SWCO-10	-108.76658	38.2792	12/4/2025	15.1	27.2	3.31	12.9	2.5	0.54	2.17	0.34	2.07	0.41	1.2	0.17	1.2	0.19	11.7	81	-1	11	30	2331	-5	0.3	-0.2	3.4	17	1	-10
		Minimum			7.7	15.2	1.82	6.9	1.4	0.31	1.24	0.20	1.21	0.26	0.71	0.10	0.7	0.11	7.5	45.87	-1	-5	18	279	-5	-0.1	-0.2	1.6	13	0.8	-10
		Maximum			33.1	66.8	7.73	31.2	6.0	1.30	5.53	0.83	4.94	1.05	3.30	0.55	4.0	0.73	28.8	184.83	1	11	88	10000	-5	0.4	1.1	14.8	108	5.8	43
		Bulk Continental Crust[1]			16	33	3.9	16	3.5	1.1	3.3	0.6	3.7	0.78	2.2	0.32	2.2	0.3	20	--	0.08	1	10	250	1.5	0.06	0.098	29	185	1.5	75
		5x Bulk Continental Crust			80	165	19.5	80	17.5	5.5	16.5	3	18.5	3.9	11	1.6	11	1.5	100	--	0.4	5	50	1250	7.5	0.3	0.49	145	925	7.5	375

Notes:

All analyses by inductively coupled plasma optical emission spectrometry (ICP-OES) unless otherwise noted.

Negative (-) values are non-detects (reporting level shown).

Red highlighted values are for informational purposes only.

All boron and rhenium results are for informational purposes only.

Coordinates in WGS84.

1 - bulk continental crust from Taylor and McLennan (2003) except for major compounds (Rudnick and Gao, 2003) and Te (McDonough, 2003).

LOI - lost on ignition

pct - percent

ppm - parts per million

TREE - total rare earth elements

WDXRF - wavelength dispersive x-ray fluorescence

[yellow box] - detected concentration over 5x bulk continental crust concentration

Table 1 - Summary of Colorado Stream Sediment Laboratory Results (page 2 of 3).

LabID	FieldID	X	Y	Date	Ga_ppm	Ge_ppm	Hf_ppm	In_ppm	Li_ppm	Mn_ppm	Mo_ppm	Nb_ppm	Ni_ppm	Pb_ppm	Rb_ppm	Re_ppm	Sb_ppm	Sc_ppm	Se_ppm	Sn_ppm	Sr_ppm	Ta_ppm	Te_ppm	Th_ppm	Tl_ppm	U_ppm	V_ppm	W_ppm	Zn_ppm	Zr_ppm
C-575034	125329	-108.97958	38.32528	8/24/1977	6	1	15	-0.2	12	152	-2	5	-5	13	59	-0.02	0.4	-5	-1	-1	75	-0.5	-0.05	4.7	-0.5	2.18	23	-1	21	606
C-575035	125330	-108.99378	38.32308	8/23/1977	5	1	18	-0.2	10	127	-2	4	6	17	50.9	-0.02	0.3	-5	-1	-1	64	-0.5	-0.05	3	-0.5	2.02	22	-1	24	734
C-575037	125331	-108.97928	38.27688	8/24/1977	4	1	8	-0.2	-10	123	-2	3	6	17	44.1	-0.02	0.3	-5	-1	-1	60	-0.5	-0.05	2.5	-0.5	1.11	15	-1	23	307
C-575038	125332	-108.99428	38.38138	8/24/1977	6	1	13	-0.2	16	256	-2	6	-5	13	59.5	-0.02	0.4	-5	-1	-1	92	-0.5	-0.05	4.7	-0.5	2.07	23	-1	25	510
C-575040	125333	-108.98128	38.39418	8/24/1977	6	1	8	-0.2	15	240	-2	6	10	15	61.5	-0.02	0.5	-5	-1	-1	99	-0.5	-0.05	4.3	-0.5	1.62	22	-1	28	301
C-575041	125334	-108.97378	38.39998	8/24/1977	6	1	7	-0.2	12	243	-2	5	6	11	61	-0.02	0.4	-5	-1	-1	93	-0.5	-0.05	3.4	-0.5	1.28	21	-1	20	258
C-575042	125335	-108.96848	38.37578	8/24/1977	7	1	7	-0.2	15	373	6	7	13	16	69.1	-0.02	0.5	-5	1	-1	173	-0.5	-0.05	4.3	0.5	2.71	33	-1	68	280
C-575043	125336	-108.98848	38.36858	8/24/1977	9	1	11	-0.2	23	375	-2	10	14	16	76.1	-0.02	0.5	-5	-1	1	136	0.6	-0.05	7	0.5	2.54	38	-1	38	417
C-575044	125337	-108.92378	38.37528	8/24/1977	5	1	8	-0.2	13	247	-2	5	8	11	51.3	-0.02	0.3	-5	-1	-1	94	-0.5	-0.05	3.2	-0.5	1.35	22	-1	18	336
C-575045	125338	-108.93038	38.33468	8/24/1977	6	1	24	-0.2	13	217	-2	7	8	13	62.1	-0.02	0.4	-5	-1	-1	94	0.5	-0.05	5.8	-0.5	2.31	24	-1	25	946
C-575047	125340	-108.90958	38.28498	8/24/1977	5	1	11	-0.2	17	202	-2	5	5	12	56.5	-0.02	0.3	-5	-1	-1	79	-0.5	-0.05	3.6	-0.5	1.63	26	-1	22	519
C-575048	125341	-108.93208	38.27938	8/24/1977	6	1	6	-0.2	19	214	-2	6	9	16	69.1	-0.02	0.3	-5	-1	1	98	-0.5	-0.05	4.5	-0.5	2.02	28	-1	32	267
C-575049	125408	-108.80567	38.23108	8/25/1977	6	1	11	-0.2	20	268	-2	8	-5	11	55.6	-0.02	0.5	-5	-1	1	97	0.5	-0.05	5.6	-0.5	2.58	29	-1	20	501
C-575050	125409	-108.83127	38.22808	8/25/1977	7	1	9	-0.2	19	246	-2	7	7	12	61.2	-0.02	0.5	-5	-1	1	117	0.5	-0.05	5.4	-0.5	2.52	28	-1	19	396
C-575052	125411	-108.90377	38.24858	8/25/1977	6	1	12	-0.2	18	279	-2	7	55	12	68.3	-0.02	0.5	-5	-1	-1	88	0.5	-0.05	4.7	-0.5	2.72	31	-1	17	511
C-575053	125441	-108.85317	38.30138	8/25/1977	8	1	12	-0.2	25	441	-2	9	12	14	65	-0.02	0.5	6	-1	1	148	0.7	-0.05	6.9	-0.5	2.73	41	-1	32	510
C-575054	125443	-108.84787	38.30998	8/25/1977	7	-1	5	-0.2	22	348	-2	6	10	10	60.1	-0.02	0.4	-5	-1	-1	136	-0.5	-0.05	4.8	-0.5	1.9	32	-1	24	219
C-575055	125444	-108.83677	38.30918	8/25/1977	9	1	12	-0.2	26	402	-2	8	14	12	64.1	-0.02	0.4	6	-1	1	110	0.6	-0.05	6.6	-0.5	2.87	47	1	28	524
C-575056	125445	-108.80597	38.30608	8/25/1977	11	1	8	-0.2	30	452	-2	10	17	22	75.6	-0.02	0.5	7	-1	2	155	0.7	-0.05	7.9	-0.5	3.17	51	1	62	328
C-575057	125446	-108.80647	38.28138	8/25/1977	4	1	48	-0.2	12	178	-2	8	7	11	44	-0.02	0.4	-5	-1	-1	158	0.6	-0.05	4.5	-0.5	3.93	35	-1	20	2143
C-575059	499108	-109.04258	38.33138	6/21/1978	7	1	11	-0.2	19	320	-2	8	6	20	71.8	-0.02	1.3	-5	1	1	105	0.6	-0.05	5.4	-0.5	5.83	54	1	31	467
C-575060	499109	-109.03928	38.33438	6/21/1978	8	1	9	-0.2	21	428	-2	8	6	15	73.5	-0.02	0.6	-5	-1	1	143	0.6	-0.05	6.3	-0.5	3.45	41	-1	28	365
C-575061	499110	-109.02348	38.33358	6/21/1978	7	1	14	-0.2	14	148	-2	7	9	13	70.9	-0.02	0.4	-5	-1	1	111	0.5	-0.05	5.1	-0.5	2.55	30	1	26	607
C-575062	499201	-109.00598	38.33078	6/21/1978	5	1	15	-0.2	13	126	-2	5	6	23	57.3	-0.02	0.3	-5	-1	-1	76	-0.5	-0.05	4	-0.5	1.83	15	1	31	631
C-575063	499202	-109.00318	38.32858	6/21/1978	6	1	10	-0.2	15	183	-2	6	6	16	65.4	-0.02	0.4	-5	-1	-1	97	-0.5	-0.05	4.3	-0.5	2.82	35	-1	28	433
C-575064	499353	-109.04178	38.41468	6/22/1978	5	1	30	-0.2	20	320	-2	8	8	14	48.4	-0.02	0.5	-5	-1	1	70	0.5	-0.05	6.8	-0.5	3.18	23	-1	26	1323
C-575065	499354	-109.03848	38.41638	6/22/1978	5	1	10	-0.2	22	204	-2	6	5	13	42.7	-0.02	0.5	-5	-1	-1	58	-0.5	-0.05	5.1	-0.5	1.83	19	-1	25	435
C-575066	499355	-109.03098	38.41358	6/22/1978	6	1	25	-0.2	22	233	-2	7	12	14	55.3	-0.02	0.6	-5	-1	1	76	0.5	-0.05	5.8	-0.5	2.71	24	-1	23	1016
C-575067	125327	-108.95068	38.31058	8/23/1977	5	1	53	-0.2	16	137	-2	6	5	15	51.9	-0.02	0.3	-5	-1	-1	66	-0.5	-0.05	5	-0.5	4.05	27	-1	22	2435
C-575068	125328	-108.98128	38.32388	8/23/1977	5	-1	9	-0.2	16	138	-2	4	5	11	57.3	-0.02	0.4	-5	-1	-1	73	-0.5	-0.05	3.7	-0.5	1.46	17	-1	15	375
C-576408	112515	-108.98597	37.93718	8/18/1977	9	1	10	-0.2	20	334	-2	9	20	15	76.2	-0.02	0.5	5	-1	3	97	0.6	-0.05	6.7	-0.5	2.02	32	1	31	330
C-576409	112516	-108.98787	37.93528	8/18/1977	9	-1	8	-0.2	25	396	-2	8	23	13	66.3	-0.02	0.5	6	-1	1	104	0.5	-0.05	6.6	-0.5	4.3	55	-1	40	276
C-576411	112517	-108.99207	37.94138	8/18/1977	9	1	14	-0.2	23	363	-2	9	130	15	71.7	-0.02	0.5	5	-1	2	102	0.6	-0.05	7	-0.5	5.02	56	-1	32	485
C-576412	112518	-108.95847	37.96858	8/18/1977	8	-1	10	-0.2	21	157	-2	7	11	12	46.8	-0.02	0.4	-5	-1	-1	119	-0.5	-0.05	6.7	-0.5	2.29	31	-1	28	381
C-576414	112519	-108.99127	37.95308	8/18/1977	8	1	13	-0.2	21	312	-2	8	15	15	67	-0.02	0.4	-5	1	-1	102	0.5	-0.05	6.6	-0.5	7.09	69	-1	28	433
C-576415	112531	-108.86237	37.99888	8/18/1977	6	1	4	-0.2	17	228	-2	4	11	11	59.6	-0.02	0.3	-5	-1	-1	85	-0.5	-0.05	3.6	-0.5	1.8	34	-1	21	134
C-576416	112532	-108.87927	37.99808	8/18/1977	6	1	7	-0.2	19	253	-2	6	14	12	59.6	-0.02	0.3	-5	-1	-1	78	-0.5	-0.05	4.3	-0.5	1.87	33	-1	23	246
C-576417	498386	-109.03128	37.91718	5/26/1978	11	1	13	-0.2	27	385	-2	11	16	17	77.5	-0.02	0.6	7	-1	1	99	0.8	-0.05	9.4	0.5	17.76	154	1	42	453
C-576418	498387	-109.02878	37.91279	5/26/1978	11	1	14	-0.2	56	816	-2	11	26	17	81.2	-0.02	0.5	7	-1	1	111	0.8	-0.05	9.5	0.5	8.49	68	1	67	456
C-576419	498500	-109.02178	37.96968	5/31/1978	10	-1	15	-0.2	24	236	-2	10	14	19	72.3	-0.02	0.5	6	-1	1	96	0.7	-0.05	9.2	0.6	2.98	44	1	40	531
C-576420	498501	-109.02708	37.97168	5/31/1978	8	-1	13	-0.2	20	321	3	8	16	15	65.6	0.05	0.4	-5	5	-1	128	-0.5	-0.05	6.9	-0.5	11.92	224	1	30	480
C-576421	125265	-108.85957	38.03638	8/22/1977	9	1	19	-0.2	24	152	-2	10	14	15	59	-0.02	0.5	5	-1	1	112	0.6	-0.05	9.1	-0.5	3.21	34	1	35	648
C-576422	125266	-108.85397	38.05638	8/22/1977	7	1	27	-0.2	20	150	-2	9	14	14	46.1	-0.02	0.4	-5	-1	-1	91	0.6	-0.05	7.4	-0.5	3.27	30	1	33	979
C-576425	125267	-108.83817	38.03608	8/22/1977	9	1	19	-0.2	19	282	-2	11	14	14	73.2	-0.02	0.4	6	-1	1	175	0.7	-0.05	8.8	-0.5	3.57	37	1	35	686
C-576426	125268	-108.83707	38.03718	8/22/1977	7	1	13	-0.2	19	289	-2	8	15	22	59.1	-0.02	0.4	-5	-1	-1	183	-0.5	-0.05	6.1	-0.5	3.08	38	-1	67	476
C-576427	125269	-108.83537	38.03278	8/22/1977	9	1	9	-0.2	23	196	-2	7	14	14	64.8	-0.02	0.4	5	-1	-1	151	-0.5	-0.05	6.7	-0.5	2.93	38	-1	37	335
C-576428	125294	-108.82347	38.08528	8/22/1977	7	1	12	-0.2	14	234	-2	6	10	14	60.5	-0.02	0.3	-5	-1	-1	168	-0.5	-0.05	4.9	-0.5	2.48	29	-1	24	431
C-576429	125295	-108.81927	38.09028	8/22/1977	8	1	19	-0.2	18	312	-2	7	12	17	68.8	-0.02	0.3	5	-1	-1	131	-0.5	-0.05	7.2	-0.5	3.33	49	-1	35	704
C-576430	125298	-108.84237	38.10028	8/22/1977	7	-1	23	-0.2	17	293	-2	8	10	13	64.1	-0.02	0.3	-5	-1	-1	144	-0.5	-0.05	6.4	-0.5	3.54	36	-1	25	848
C-576431	125299	-108.86147	38.12218	8/22/1977	11	1	10	-0.2	21	323	-2	10	15	15	86.4	-0.02	0.5	7	-1	1	142	0.6	-0.05	8.1	0.5	2.89	47	-1	41	365
C-576432	125300	-108.91757	38.11308	8/22/1977	6	1	5	-0.2	14	213	-2	4	9	11	57	-0.02	0.2	-5	-1	-1	118	-0.5	-0.05	3.7	-0.5	1.85	23	-1	18	165
C-576433	125301	-108.87987	38.12308	8/22/1977	8	1	16	-0.2	21	351	-2	8	11	15	70.4	-0.02	0.3	-5	-1	-1	167	0.5	-0.05	6.6	-0.5	3.65	42	-1	33	549
C-576434	125302	-108.79537	38.11168	8/22/1977	7	-1	28	-0.2	19	265	-2	7	13	15	50.8	-0.02	0.3	-5	3	-1	335	-0.5	-0.05	8.6	-0.5	8.14	79	-1	54	1080
C-576436	125372	-108.90597	38.15138	8/23/1977	4	-1	14	-0.2	13	170	-2	5	7	9	48.4	-0.02	0.2	-5	-1	-1	104	-0.5	-0.05	3	-0.5	2.37	29	-1	24	549
C-576438	125374	-108.93988	38.16578	8/23/1977	9	1	15	-0.2	21	371	-2	9	13	14	77.6	-0.02	0.4	5	-1	-1	299	-0.5	-0.05	7.7	-0.5	3.56	43	1	31	553
C-576439	125375	-108.94458	38.16578	8/23/1977	9	1	13	-0.2	22	337	-2	8	10	13	78.7	-0.02	0.3	6	-1	1	387	-0.5	-0.05	7.1	-0.5	3.47	44	1	32	478
C-576440	125376	-108.94508	38.16468	8/23/1977	7	1	9	-0.2	19	287	-2	6	16	11	68.1	-0.02	0.3	-5	-1	-1	161	-0.5	-0.05	4.9	-0.5	2.58	54	-1	24	346
C-576441	125377	-108.92757	38.15558	8/23/1977	6	-1	8	-0.2	14	243	-2	5	6	12	58.8	-0.02	0.2	-5	-1	-1	129	-0.5	-0.05	4.5	-0.5	2.08	28	-1	21	279
C-576442	125402	-108.78427	38.19468	8/25/1977	10	1	8	-0.2	20	330	-2	10	14	17	78.8	-0.02	0.6	6	1	1	148	0.5	-0.05	7.5	-0.5	9.92	89	1	35	287
C-576443	125403	-108.78507	38.19668	8/25/1977	7	1	9	-0.2	15	256	-2	6	10	13	63.3	0.02	0.5	-5	-1	-1	118	-0.5	-0.05	5.2	-0.5	7.2	52	1	24	297
C-576444	125404	-108.80287	38.17608	8/25/1977	7	-1	12	-0.2	17	198	-2	6	13	13	57.5	-0.02	0.3	-5	-1	-1	96	-0.5	-0.05	5.2	-0.5	3.48	35	-1	25	460
C-576445	125405	-108.80377	38.17748	8/25/1977	7	1	21	-0.2	17	320	-2	10	12	14	63.6	-0.02	0.4	-5	-1	-1	97	0.6	-0.05	7.1	-0.5	3.41	43	1	24	761
C-576447	125406	-108.81317	38.17918	8/25/1977	13	1	6	-0.2	24	249	-2	8	18	13	98.9	-0.02	0.8	10	-1	1	87	-0.5	-0.05	7.8	0.5	3	62	1	37	211
C-576448	125407	-108.79627	38.15858	8/25/1977	8	1	15	-0.2	17	310	-2	7	12	12	55.6	-0.02	0.5	-5	-1	-1	121	-0.5	-0.05	5.9	-0.5	3.04	34	-1	24	540
C-576449	125416	-108.97238	38.13888	8/24/1977	11	1	9	-0.2	22	200	-2	8	13	10	90.2	-0.02	0.5	7	-1	2	103	0.5	-0.05	5.8	0.6	1.44	32	-1	38	309
C-576450	125417	-108.84427	38.12998	8/24/1977	7	1	28	-0.2	17	198	-2	8	26	14	51.5	-0.02	0.4	-5	-1	-1	97	-0.5	-0.05	6.6	-0.5	3	27	-1	30	995
C-576452	125418	-108.87177	38.13058	8/24/1977	8	1	24	-0.2	19	196	-2	9	11	12	58.6	-0.02	0.5	-5	-1	-1	111	0.6	-0.05	6.8	-0.5	2.42	28	-1	24	864
C-576453	499113	-109.02878	38.22438	6/20/1978	5	-1	13	-0.2	11	198	-2	4	8	12	57.2	-0.02	0.2	-5	-1	-1	91	-0.5	-0.05	3.8	-0.5	2.09	26	-1	16	518
C-576454	499114	-109.01628	38.21748	6/20/1978	6	-1	4	-0.2	15	252	-2	4	9	10	53.6	-0.02	0.2	-5	-1	-1	119	-0.5	-0.05	3.7	-0.5	1.47	23	-1	19	163
C-576455	499115	-109.02318	38.21888	6/20/1978	8	1	6	-0.2	20	313	-2	8	14	14	72.1	-0.02	0.4	-5	-1	1	153	-0.5	-0.05	5.9	-0.5	3.74	29	-1	26	225
C-576456	499125	-109.02648	38.25778	6/22/1978	9	1	11	-0.2	19	307	-2	8	13	16	70	-0.02	0.5	-5	-1	-1	148	0.6	-0.05	6.8	-0.5	2.02	38	-1	35	365
C-576458	499126	-109.01318	38.25938	6/22/1978	7	1	10	-0.2	17	268	-2	7	8	14	57.7	-0.02	0.4	-5	-1	-1	127	-0.5	-0.05	5.5	-0.5	2.33	33	-1	33	392
C-576459	499151	-109.02928	38.03858	6/19/1978	10	2	11	-0.2	21	309	-2	9	9	15	82.3	-0.02	0.5	5	-1	1	157	0.7	-0.05	8.4	0.5	2.2	34	-1	33	405
C-576461	499152	-109.01008	38.06558	6/19/1978	7	1	9	-0.2	19	347	-2	7	10	13	61.9	-0.02	0.4	-5	-1	-1	120	-0.5	-0.05	5.4	-0.5	2	35	-1	24	313
C-576462	499153	-109.01678	38.05468	6/19/1978	8	1	10	-0.2	19	281	-2	7	11	16	67.7	-0.02	0.4	-5	-1	-1	106	0.5	-0.05	5.7	-0.5	2.24	42	-1	36	352
C-576464	499154	-109.01898	38.05528	6/19/1978	7	1	11	-0.2	18	288	-2	7	7	13	56.7	-0.02	0.4	-5	-1	-1	118	-0.5	-0.05	5.2	-0.5	1.97	32	-1	23	405
C-576465	499155	-109.02488	38.06858	6/19/1978	7	1	14	-0.2	17	338	-2	8	8	13	61.8	-0.02	0.4	-5	-1	-1	147	0.5	-0.05	6	-0.5	2.82	37	-1	26	520
C-576466	125687	-108.94508	38.54938	9/2/1977	6	1	12	-0.2	15	203	-2	6	10	13	66.4	-0.02	0.3	-5	-1	-1	90	-0.5	-0.05	4.3	-0.5	1.57	21	-1	19	419
C-576467	125688	-108.95008	38.54858	9/2/1977	5	1	43	-0.2	10	249	-2	5	12	12	46.7	-0.02	0.3	-5	-1	-1	102	-0.5	-0.05	7.9	-0.5	3.02	45	-1	20	1682
C-576468	125689	-108.95878	38.53998	9/2/1977	6	1	10	-0.2	13	241	-2	6	12	16	61.8	-0.02	0.3	-5	-1	-1	120	-0.5	-0.05	3.8	-0.5	1.48	20	-1	23	340
C-576469	125690	-108.97958	38.52808	9/2/1977	9	1	12	-0.2	25	330	-2	7	17	15	69.4	-0.02	0.4	6	6	1	249	0.6	-0.05	6.6	-0.5	4.16	47	-1	43	430
C-576471	125691	-108.98238	38.52418	9/2/1977	8	1	7	-0.2	19	328	-2	6	14	13	64.2	-0.02	0.4	-5	-1	-1	133	-0.5	-0.05	4.8	-0.5	1.77	31	-1	32	253
C-576472	125692	-108.98928	38.50918	9/2/1977	6	1	10	-0.2	14	267	-2	6	13	12	61.1	-0.02	0.4	-5	-1	-1	133	-0.5	-0.05	4.2	-0.5	2.1	28	-1	33	357
C-576473	125694	-108.98128	38.49638	9/2/1977	8	1	20	-0.2	19	364	-2	7	17	13	59.6	-0.02	0.4	-5	-1	1	177	0.6	-0.05	6	-0.5	2.59	45	-1	38	735
C-576474	125704	-108.98738	38.64527	9/2/1977	5	1	9	-0.2	18	237	-2	6	8	14	55.8	-0.02	0.3	-5	-1	1	99	-0.5	-0.05	3.9	-0.5	4.64	35	-1	17	334
C-576475	125707	-108.96928	38.58717	1977	9	1	13	-0.2	24	482	-2	10	16	19	78.9	-0.02	0.6	-5	-1	1	96	0.8	-0.05	8.3	-0.5	2.71	41	1	40	455
C-576476	126005	-108.90128	38.43498	8/26/1977	7	1	14	-0.2	17	246	-2	7	14	14	65.2	-0.02	0.6	-5	-1	-1	138	0.5	-0.05	5.8	-0.5	2.43	40	-1	33	510
C-576478	126007	-108.91878	38.43498	8/26/1977	8	1	18	-0.2	18	317	-2	8	14	14	70.5	-0.02	0.6	-5	-1	1	129	0.6	-0.05	6.9	-0.5	2.78	39	-1	33	669
C-576479	126008	-108.95788	38.44608	8/26/1977	7	1	8	-0.2	18	197	-2	6	13	14	65.2	-0.02	0.4	-5	-1	1	124	-0.5	-0.05	5.5	-0.5	2.17	43	-1	37	305
C-576480	499224	-109.02648	38.61027	6/25/1978	5	1	28	-0.2	13	307	-2	7	7	10	41.8	-0.02	0.4	-5	-1	-1	65	0.5	-0.05	6.6	-0.5	2.75	26	-1	17	1040
C-576481	499225	-109.02178	38.60167	6/25/1978	7	1	21	-0.2	17	294	-2	8	10	13	62.4	-0.02	0.4	-5	-1	-1	74	0.7	-0.05	6.6	-0.5	2.58	29	-1	25	754
C-576482	499226	-109.00098	38.58967	6/25/1978	11	2	22	-0.2	26	283	-2	13	19	18	84.9	-0.02	0.6	5	-1	1	112	1	-0.05	11.3	0.5	4.18	58	2	52	814
C-576483	499227	-109.03148	38.54467	6/25/1978	6	2	11	-0.2	26	212	-2	6	12	11	65.3	-0.02	0.3	-5	-1	-1	73	-0.5	-0.05	4.2	-0.5	1.59	31	-1	22	406
C-576485	499228	-109.02988	38.54747	6/25/1978	8	2	11	-0.2	21	284	-2	9	12	15	69	-0.02	0.6	-5	-1	-1	84	0.7	-0.05	6.5	-0.5	2.16	33	1	27	374
C-576486	499435	-109.03568	38.61557	6/25/1978	7	2	12	-0.2	20	262	-2	8	14	31	64.6	-0.02	0.4	-5	1	2	212	0.6	-0.05	6.5	-0.5	8.07	90	1	46	411
C-576487	499436	-109.00148	38.52248	6/25/1978	7	1	27	-0.2	16	323	-2	10	13	13	62.6	-0.02	0.4	-5	-1	1	74	0.7	-0.05	7.7	-0.5	3.1	31	1	21	1010
C-576488	499440	-109.04038	38.68137	6/26/1978	12	2	11	-0.2	28	485	-2	11	20	18	96.3	-0.02	0.7	7	-1	2	106	0.9	-0.05	8.8	0.7	2.52	44	1	49	358
C-576489	499441	-109.00958	38.63217	6/25/1978	7	1	11	-0.2	25	305	-2	7	10	26	61.6	-0.02	0.4	-5	2	-1	121	-0.5	-0.05	6.1	-0.5	8.41	74	-1	29	384
C-576490	499442	-109.00238	38.66057	6/26/1978	10	1	21	-0.2	25	399	-2	8	14	16	65.4	-0.02	0.4	6	-1	1	145	0.7	-0.05	6.8	-0.5	3.02	45	1	36	790
C-609903	112224	-108.6775521	37.97579194	8/31/1977	7	1	13	-0.2	24	512	2	7	15	14	46.6	-0.02	0.4	-5	-1	2	599	-0.5	0.05	5.1	-0.5	3.08	55	-1	46	544
C-609904	112225	-108.6550513	37.97389194	8/31/1977	9	1	8	-0.2	26	793	3	8	15	18	57.4	-0.02	0.6	5	-1	3	2126	0.5	-0.05	7.3	-0.5	2.94	70	-1	59	318
C-609905	112460	-108.7395545	37.9516914	8/25/1977	9	1	12	-0.2	25	192	-2	9	14	14	61.3	-0.02	0.6	-5	-1	4	100	0.6	-0.05	7	-0.5	2.12	30	-1	27	464
C-609906	112501	-108.9828634	37.88029109	8/17/1977	12	1	8	-0.2	35	308	-2	11	29	18	90.4	-0.02	0.7	7	-1	2	125	0.8	-0.05	8.6	0.6	3.4	50	1	50	277
C-609907	112521	-108.9675629	37.87999101	8/17/1977	12	1	18	-0.2	35	448	-2	11	19	19	80.5	-0.02	0.7	6	-1	8	100	0.8	-0.05	10.4	0.5	3.22	48	1	49	694
C-609909	112527	-108.89256	37.94059162	8/18/1977	11	1	13	-0.2	30	477	-2	11	12	18	82.2	-0.02	0.7	6	-1	1	96	0.8	-0.05	8.6	0.5	9.57	103	1	45	478
C-609910	112530	-108.8664589	37.96499195	8/18/1977	10	1	15	-0.2	30	458	-2	11	16	17	79.1	-0.02	0.6	5	-1	2	100	0.8	-0.05	8.4	-0.5	3.34	48	2	38	558
C-609911	112534	-108.7548548	37.97079177	8/22/1977	10	1	13	-0.2	30	268	-2	9	16	15	70.3	-0.02	0.6	5	-1	2	116	0.7	-0.05	8.2	-0.5	2.72	55	-1	45	523
C-609912	112535	-108.7725552	37.99639233	8/22/1977	9	1	9	-0.2	27	191	-2	8	11	12	62.5	-0.02	0.6	-5	-1	2	121	0.5	-0.05	7.2	-0.5	2.26	38	-1	31	354
C-609913	112537	-108.8120567	37.99529237	8/22/1977	10	1	8	-0.2	31	313	-2	7	7	14	80.3	-0.02	0.7	6	-1	2	149	0.5	-0.05	6.2	0.5	1.88	77	-1	35	286
C-609914	112580	-109.002364	37.89859144	8/20/1977	13	1	6	-0.2	36	417	6	10	28	21	79.3	-0.02	1.4	8	3	5	540	0.7	-0.05	9.4	0.9	4.33	111	-1	100	218
C-609916	498385	-109.002364	37.89859144	5/26/1978	12	1	8	-0.2	34	486	-2	12	12	18	91.1	-0.02	0.6	6	-1	2	108	0.8	-0.05	8.9	0.5	3.85	53	1	46	307
C-609917	498389	-109.0156644	37.85889112	5/26/1978	10	1	11	-0.2	35	323	-2	9	14	16	77.7	-0.02	0.6	5	-1	1	94	0.7	-0.05	8.3	-0.5	3.31	44	1	52	396
C-609918	498392	-109.0231646	37.85169115	5/29/1978	10	1	11	-0.2	36	413	-2	11	23	22	78.5	-0.02	0.7	6	-1	2	122	0.8	-0.05	9.2	-0.5	2.7	42	1	111	401
C-609919	125247	-108.7131526	38.23969049	8/23/1977	9	1	13	-0.2	25	310	-2	9	7	16	75.5	-0.02	0.7	-5	7	1	137	0.6	-0.05	6.8	-0.5	8.54	72	1	35	512
C-609920	125248	-108.6892518	38.22999057	8/23/1977	6	1	5	-0.2	23	233	-2	6	7	12	56.7	-0.02	0.5	-5	-1	-1	108	-0.5	-0.05	4.2	-0.5	1.59	21	2	22	180
C-609921	125292	-108.7456541	38.06109188	8/22/1977	8	1	42	-0.2	25	328	-2	11	10	13	60.3	-0.02	0.6	-5	-1	1	181	0.8	-0.05	7.8	-0.5	4.79	53	2	36	1734
C-609922	125686	-108.9148609	38.56028676	9/2/1977	11	1	6	-0.2	45	508	-2	10	9	16	87.5	-0.02	0.6	6	-1	1	257	0.7	-0.05	7.5	0.5	5.24	52	-1	42	208
C-609923	125695	-108.9259615	38.58218636	1977	9	1	12	-0.2	32	352	-2	8	12	15	70	-0.02	0.5	5	-1	1	135	0.5	-0.05	5.8	-0.5	2.61	39	-1	36	524
C-609925	125696	-108.9309618	38.59358615	9/2/1977	13	1	8	-0.2	43	498	-2	11	17	18	92.3	-0.02	0.7	8	-1	2	189	0.7	-0.05	8.4	0.6	3.5	58	1	52	303
C-609926	125698	-108.9303619	38.60358597	9/2/1977	9	1	14	-0.2	30	370	-2	8	15	14	75.3	-0.02	0.5	5	-1	1	147	0.6	-0.05	6.5	-0.5	2.52	41	-1	40	542
C-609927	125702	-108.951263	38.63668536	9/2/1977	9	1	12	-0.2	33	355	-2	7	10	16	68.9	-0.02	0.4	-5	-1	1	143	0.5	-0.05	5	-0.5	3.64	41	2	34	459
C-609928	125703	-108.9773643	38.67578463	9/2/1977	6	1	40	-0.2	23	304	-2	6	7	19	48.3	-0.02	0.3	-5	2	1	90	-0.5	-0.05	5.4	-0.5	5.74	75	1	25	1680
C-609929	499443	-109.0020653	38.68528445	6/29/1978	7	1	17	-0.2	27	372	-2	8	6	13	64.9	-0.02	0.4	-5	-1	1	115	0.6	-0.05	5.5	-0.5	2.43	37	1	23	672
C-609930	499444	-109.0128659	38.71608397	6/29/1978	9	1	22	-0.2	30	505	-2	9	12	15	73.9	-0.02	0.4	6	-1	1	118	0.6	-0.05	6.7	-0.5	2.78	51	1	33	855
C-609931	499445	-109.0437668	38.74248382	6/29/1978	12	1	10	-0.2	37	496	-2	10	14	14	82.3	-0.02	0.4	8	-1	1	142	0.6	-0.05	6.6	0.5	2.79	43	-1	45	378
C-615464	SWCO-1	-109.04132	38.36127	12/4/2025	4	1	6	-0.2	14	292	-2	3	-5	24	32	-0.02	0.3	-5	-1	-1	192	-0.5	-0.05	3.1	-0.5	2.16	32	-1	129	246
C-615465	SWCO-2	-109.04766	38.350548	9/24/2025	5	1	4	-0.2	15	365	-2	4	-5	17	33	-0.02	0.3	-5	-1	-1	365	-0.5	-0.05	3.9	-0.5	1.68	24	-1	74	153
C-615466	SWCO-3	-108.88354	38.435913	9/24/2025	4	1	4	-0.2	10	217	-2	3	8	10	42.3	-0.02	0.3	-5	-1	-1	100	-0.5	-0.05	2.6	-0.5	1.59	22	-1	27	173
C-615468	SWCO-4	-108.85443	38.2888	12/4/2025	4	1	4	-0.2	12	309	-2	4	7	9	38.1	-0.02	0.3	-5	-1	-1	96	-0.5	-0.05	3.2	-0.5	1.02	26	-1	34	168
C-615469	SWCO-5	-108.84478	38.234238	9/24/2025	5	1	3	-0.2	15	279	-2	5	6	10	35.9	-0.02	0.5	-5	-1	-1	146	-0.5	-0.05	4.3	-0.5	1.55	28	-1	26	119
C-615470	SWCO-6	-109.02713	38.129082	9/25/2025	2	1	2	-0.2	-10	170	-2	1	9	12	15.2	-0.02	0.2	-5	-1	-1	86	-0.5	-0.05	1.8	-0.5	0.77	12	-1	19	94.7
C-615471	SWCO-7	-108.92918	38.151543	9/25/2025	4	1	5	-0.2	12	233	-2	3	-5	9	37.6	-0.02	0.2	-5	-1	-1	90	-0.5	-0.05	2.4	-0.5	1.25	21	-1	20	201
C-615472	SWCO-8	-108.75978	38.02492	12/4/2025	10	1	4	-0.2	27	227	-2	7	13	15	57	-0.02	0.6	6	-1	-1	151	0.6	-0.05	7.9	-0.5	2.52	53	-1	51	139
C-615473	SWCO-9	-108.98285	37.982689	9/25/2025	4	1	3	-0.2	-10	210	-2	3	7	10	25.7	-0.02	0.4	-5	-1	-1	96	0.6	-0.05	2.8	-0.5	4.05	53	-1	32	117
C-615474	SWCO-10	-108.76658	38.2792	12/4/2025	5	<1	3	-0.2	-10	478	2	3	9	10	34.9	-0.02	0.6	-5	-1	-1	170	-0.5	-0.05	2.9	-0.5	1.98	33	-1	28	102
Minimum					2	-1	2	-0.2	-10	123	-2	1	-5	9	15.2	-0.02	0.2	-5	-1	-1	58	-0.5	-0.05	1.8	-0.5	0.77	12	-1	15	95
Maximum					13	2	53	-0.2	56	816	6	13	130	31	98.9	0.05	1.4	10	7	8	2126	1.0	0.05	11.3	0.9	17.76	224	2	129	2435
Bulk Continental Crust[1]					18	1.6	3	0.05	13	1400	1	11	128	8	37	0.0004	0.2	30	50	2.5	260	1	0.3	4.2	0.36	1.1	230	1	80	100
5x Bulk Continental Crust					90	8	15	0.25	65	7000	5	55	640	40	185	0.002	1	150	250	12.5	1300	5	1.5	21	1.8	5.5	1150	5	400	500

Table 1 - Summary of Colorado Stream Sediment Laboratory Results (page 3 of 3).

LabID	FieldID	X	Y	Date	Al_pct	Ca_pct	Fe_pct	K_pct	Mg_pct	P_pct	S_pct	Si_pct	Ti_pct	WDXRF														
														Al_2O_3_pct	BaO_pct	CaO_pct	Cr_2O_3_pct	Fe_2O_3_pct	K2O_pct	MgO_pct	MnO_pct	Na_2O_pct	P_2O_5_pct	SiO_2_pct	SrO_pct	TiO_2_pct	V_2O_5_pct	LOI_pct
C-575034	125329	-108.97958	38.32528	8/24/1977	2.54	0.9	0.6	2	0.46	0.02	0.01	30.01	0.16	4.75	0.05	1.31	-0.01	0.87	2.41	0.8	0.02	0.3	0.05	86.78	-0.01	0.26	-0.01	3.11
C-575035	125330	-108.99378	38.32308	8/23/1977	2.06	0.8	0.62	1.7	0.43	0.02	0.02	30.01	0.13	3.98	0.05	1.21	-0.01	0.87	2.07	0.77	0.01	0.18	0.04	88.63	0.01	0.22	-0.01	2.58
C-575037	125331	-108.97928	38.27688	8/24/1977	1.79	0.9	0.54	1.5	0.42	0.01	0.03	30.01	0.09	3.43	0.04	1.28	-0.01	0.79	1.8	0.75	0.02	0.12	0.04	89.6	-0.01	0.15	-0.01	2.48
C-575038	125332	-108.99428	38.38138	8/24/1977	2.81	1.4	0.83	1.8	0.41	0.02	0.01	30.01	0.17	5.22	0.07	1.98	-0.01	1.2	2.13	0.71	0.03	0.34	0.05	84.78	0.01	0.28	-0.01	3.88
C-575040	125333	-108.98128	38.39418	8/24/1977	2.87	1.6	0.84	1.9	0.6	0.02	-0.01	30.01	0.16	5.43	0.05	2.28	-0.01	1.24	2.21	1.03	0.03	0.26	0.05	83.13	0.02	0.26	-0.01	4.88
C-575041	125334	-108.97378	38.39998	8/24/1977	2.59	2	0.77	2.1	0.83	0.03	-0.01	30.01	0.16	5.02	0.06	2.8	-0.01	1.13	2.47	1.42	0.03	0.3	0.06	82.19	-0.01	0.27	-0.01	4.70
C-575042	125335	-108.96848	38.37578	8/24/1977	3.28	2.9	1.17	2.7	1.51	0.04	0.03	30.01	0.2	6.16	0.05	3.92	-0.01	1.65	3.08	2.38	0.05	0.24	0.09	75.19	0.01	0.31	-0.01	7.24
C-575043	125336	-108.98848	38.36858	8/24/1977	4.15	2	1.29	2.1	0.62	0.04	0.03	30.01	0.25	7.88	0.06	2.77	-0.01	1.86	2.54	1.01	0.05	0.54	0.08	76.02	0.03	0.42	-0.01	7.51
C-575044	125337	-108.92378	38.37528	8/24/1977	2.58	2.4	0.86	1.8	0.9	0.03	-0.01	30.01	0.15	4.9	0.05	3.3	-0.01	1.25	2.17	1.48	0.03	0.53	0.06	81.63	-0.01	0.26	-0.01	5.04
C-575045	125338	-108.93038	38.33468	8/24/1977	2.95	1.3	0.88	2.1	0.53	0.02	-0.01	30.01	0.22	5.56	0.06	1.78	-0.01	1.27	2.48	0.87	0.02	0.44	0.05	83.96	0.02	0.36	-0.01	3.73
C-575047	125340	-108.90958	38.28498	8/24/1977	2.43	1.5	0.8	1.9	0.63	0.02	-0.01	30.01	0.15	4.6	0.05	2.03	-0.01	1.17	2.18	1.03	0.03	0.39	0.05	85.24	-0.01	0.27	-0.01	3.63
C-575048	125341	-108.93208	38.27938	8/24/1977	3.14	1.6	0.78	2.4	0.69	0.03	-0.01	30.01	0.19	5.99	0.06	2.24	-0.01	1.14	2.82	1.14	0.03	0.47	0.06	81.74	-0.01	0.33	-0.01	4.87
C-575049	125408	-108.80567	38.23108	8/25/1977	2.78	1.4	0.93	1.6	0.41	0.02	-0.01	30.01	0.18	5.35	0.06	2.05	-0.01	1.33	1.92	0.67	0.03	0.39	0.05	84.86	0.01	0.29	-0.01	3.83
C-575050	125409	-108.83127	38.22808	8/25/1977	3.04	1.5	0.91	1.8	0.39	0.02	0.02	30.01	0.18	5.86	0.07	2.15	-0.01	1.33	2.14	0.67	0.03	0.49	0.06	83.98	0.02	0.32	-0.01	3.92
C-575052	125411	-108.90377	38.24858	8/25/1977	2.86	1.9	0.83	2.1	0.33	0.03	-0.01	30.01	0.2	5.58	0.05	2.7	-0.01	1.17	2.58	0.56	0.04	0.61	0.06	83.63	0.01	0.35	-0.01	3.61
C-575053	125441	-108.85317	38.30138	8/25/1977	3.7	3.3	1.49	1.9	1.62	0.04	-0.01	30.01	0.29	7.12	0.05	4.65	-0.01	2.14	2.28	2.65	0.06	0.46	0.1	71.64	-0.01	0.48	-0.01	8.97
C-575054	125443	-108.84787	38.30998	8/25/1977	3.52	3.2	1.2	2.5	1.53	0.03	-0.01	30.01	0.21	6.72	0.05	4.55	-0.01	1.73	2.94	2.51	0.05	0.52	0.08	73.86	0.03	0.36	-0.01	7.32
C-575055	125444	-108.83677	38.30918	8/25/1977	3.73	3.2	1.79	2.6	1.7	0.04	-0.01	30.01	0.26	7.11	0.05	4.55	-0.01	2.59	3.08	2.75	0.06	0.28	0.11	71.45	-0.01	0.45	-0.01	8.28
C-575056	125445	-108.80597	38.30608	8/25/1977	4.66	4	1.92	2.9	2.07	0.05	-0.01	29.7	0.32	9	0.05	5.57	-0.01	2.78	3.39	3.37	0.06	0.51	0.12	64.94	0.02	0.54	0.02	10.21
C-575057	125446	-108.80647	38.28138	8/25/1977	1.72	0.9	1.11	1.4	0.4	0.02	0.02	30.01	0.23	3.45	0.05	1.28	0.01	1.69	1.71	0.72	0.03	0.24	0.05	88.46	0.02	0.44	-0.01	2.69
C-575059	499108	-109.04258	38.33138	6/21/1978	3.31	1.1	1.02	2.1	0.39	0.03	-0.01	30.01	0.21	6.55	0.07	1.62	-0.01	1.51	2.56	0.68	0.04	0.41	0.07	82.28	0.02	0.39	0.01	4.94
C-575060	499109	-109.03928	38.33438	6/21/1978	3.76	3	1.18	2.1	0.65	0.04	-0.01	30.01	0.2	7.1	0.07	4.07	-0.01	1.66	2.52	1.05	0.06	0.43	0.09	76.69	-0.01	0.34	0.01	6.90
C-575061	499110	-109.02348	38.33358	6/21/1978	3.48	1.2	1.06	2.7	0.55	0.02	-0.01	30.01	0.24	6.65	0.05	1.72	-0.01	1.53	3.22	0.92	0.02	0.28	0.06	81.35	0.02	0.42	-0.01	4.40
C-575062	499201	-109.00598	38.33078	6/21/1978	2.2	1.1	0.54	1.9	0.53	0.02	-0.01	30.01	0.14	4.38	0.05	1.52	-0.01	0.83	2.3	0.9	0.02	0.22	0.06	86.99	-0.01	0.25	-0.01	3.16
C-575063	499202	-109.00318	38.32858	6/21/1978	2.88	1.4	0.75	2.2	0.61	0.03	0.02	30.01	0.17	5.69	0.06	1.97	-0.01	1.13	2.68	1.04	0.02	0.3	0.07	82.74	-0.01	0.3	-0.01	4.84
C-575064	499353	-109.04178	38.41468	6/22/1978	2.39	0.3	0.83	1.2	0.21	0.02	0.01	30.01	0.21	4.61	0.09	0.34	-0.01	1.22	1.52	0.36	0.05	0.38	0.04	88.67	-0.01	0.36	-0.01	3.27
C-575065	499354	-109.03848	38.41638	6/22/1978	2.18	0.2	0.71	1.1	0.17	0.01	-0.01	30.01	0.17	4.27	0.03	0.3	-0.01	1.03	1.33	0.3	0.02	0.38	0.04	89.86	0.01	0.3	-0.01	3.28
C-575066	499355	-109.03098	38.41358	6/22/1978	2.65	0.2	0.82	1.5	0.2	0.02	-0.01	30.01	0.21	5.01	0.05	0.27	-0.01	1.16	1.78	0.33	0.03	0.49	0.03	89	0.02	0.37	-0.01	2.51
C-575067	125327	-108.95068	38.31058	8/23/1977	2.05	0.8	0.77	1.7	0.4	0.02	-0.01	30.01	0.19	4.03	0.06	1.13	0.01	1.15	2.05	0.67	0.02	0.24	0.05	88.5	0.01	0.35	-0.01	2.71
C-575068	125328	-108.98128	38.32388	8/23/1977	2.4	1.1	0.58	1.9	0.52	0.02	-0.01	30.01	0.13	4.78	0.05	1.49	-0.01	0.88	2.41	0.88	0.02	0.23	0.06	86.19	0.03	0.23	-0.01	3.55
C-576408	112515	-108.98597	37.93718	8/18/1977	4.19	0.6	1.29	1.8	0.44	0.03	-0.01	30.01	0.24	7.9	0.07	0.82	-0.01	1.85	2.27	0.75	0.04	0.78	0.06	81.12	-0.01	0.4	-0.01	4.76
C-576409	112516	-108.98787	37.93528	8/18/1977	4.7	0.9	1.53	2	0.53	0.03	-0.01	30.01	0.27	8.78	0.05	1.24	-0.01	2.2	2.38	0.91	0.05	0.77	0.07	77.6	0.02	0.46	0.01	6.06
C-576411	112517	-108.99207	37.94138	8/18/1977	3.93	1	1.43	1.8	0.47	0.03	-0.01	30.01	0.26	7.44	0.08	1.41	-0.01	2.06	2.11	0.82	0.04	0.63	0.06	80.46	0.01	0.43	-0.01	5.05
C-576412	112518	-108.95847	37.96858	8/18/1977	3.14	1.5	1.16	1	0.5	0.02	0.02	30.01	0.19	6.13	0.06	2.15	-0.01	1.72	1.26	0.87	0.02	0.4	0.05	82.56	0.02	0.34	0.01	5.31
C-576414	112519	-108.99127	37.95308	8/18/1977	3.7	1.5	1.25	1.7	0.43	0.02	-0.01	30.01	0.23	7.11	0.06	2.04	-0.01	1.8	2.1	0.75	0.04	0.64	0.06	80.53	0.02	0.39	0.02	5.27
C-576415	112531	-108.86237	37.99888	8/18/1977	2.65	2.2	0.89	1.6	0.48	0.02	-0.01	30.01	0.13	5.02	0.05	3.15	-0.01	1.32	1.93	0.83	0.03	0.27	0.06	82.93	0.01	0.22	-0.01	4.94
C-576416	112532	-108.87927	37.99808	8/18/1977	2.92	2	0.93	1.6	0.47	0.03	-0.01	30.01	0.17	5.66	0.05	2.93	-0.01	1.35	1.98	0.81	0.04	0.33	0.06	82.03	0.03	0.29	-0.01	5.17
C-576417	498386	-109.03128	37.91718	5/26/1978	4.86	0.5	1.64	1.9	0.52	0.04	-0.01	30.01	0.33	9.22	0.05	0.71	-0.01	2.37	2.46	0.89	0.05	0.82	0.1	77.62	0.02	0.56	0.03	5.83
C-576418	498387	-109.02878	37.91279	5/26/1978	4.99	0.4	1.73	1.9	0.58	0.04	0.09	30.01	0.32	9.64	0.06	0.53	-0.01	2.54	2.36	0.98	0.11	0.81	0.1	76.66	-0.01	0.53	0.02	6.34
C-576419	498500	-109.02178	37.96968	5/31/1978	4.44	1.7	1.52	1.7	0.51	0.04	-0.01	30.01	0.3	8.39	0.05	2.38	-0.01	2.18	2.14	0.87	0.02	0.67	0.08	76.07	0.02	0.5	0.01	7.28
C-576420	498501	-109.02708	37.97168	5/31/1978	3.68	2.2	1.26	1.7	0.4	0.03	0.01	30.01	0.25	7.05	0.05	3.14	-0.01	1.82	2.14	0.72	0.04	0.88	0.07	78.23	0.02	0.42	0.04	6.14
C-576421	125265	-108.85957	38.03638	8/22/1977	4.07	0.8	1.28	1.5	0.5	0.03	-0.01	30.01	0.28	7.65	0.04	1.17	-0.01	1.88	1.84	0.87	0.01	0.67	0.06	81.44	-0.01	0.48	0.01	4.55
C-576422	125266	-108.85397	38.05638	8/22/1977	2.98	0.8	1.15	1.2	0.45	0.02	-0.01	30.01	0.28	5.61	0.07	1.06	-0.01	1.64	1.42	0.75	0.02	0.64	0.05	85.64	0.02	0.45	0.01	3.21
C-576425	125267	-108.83817	38.03608	8/22/1977	4.14	2.6	1.45	1.7	0.63	0.04	0.01	30.01	0.31	7.79	0.08	3.68	-0.01	2.07	2.12	1.06	0.03	0.92	0.08	75.98	0.02	0.52	-0.01	6.38
C-576426	125268	-108.83707	38.03718	8/22/1977	3.24	3.1	1.1	1.6	0.54	0.04	0.02	30.01	0.23	6.11	0.07	4.29	-0.01	1.58	1.88	0.93	0.03	0.96	0.09	77.5	0.02	0.38	-0.01	6.67
C-576427	125269	-108.83537	38.03278	8/22/1977	3.99	2.9	1.35	1.6	0.57	0.03	0.01	30.01	0.22	7.52	0.04	4.08	-0.01	1.94	1.89	0.99	0.03	0.65	0.07	76.12	0.02	0.37	-0.01	6.98
C-576428	125294	-108.82347	38.08528	8/22/1977	3.03	2.6	0.96	1.7	0.59	0.03	0.47	30.01	0.19	5.75	0.06	3.71	-0.01	1.37	2.09	0.99	0.03	0.73	0.07	79.13	0.03	0.32	-0.01	5.14
C-576429	125295	-108.81927	38.09028	8/22/1977	3.66	3.3	1.37	2	0.84	0.05	0.01	30.01	0.28	6.92	0.06	4.62	-0.01	1.98	2.48	1.44	0.04	0.84	0.12	74.62	-0.01	0.47	-0.01	6.79
C-576430	125298	-108.84237	38.10028	8/22/1977	3.25	2.5	1.13	1.8	0.51	0.04	-0.01	30.01	0.24	6.23	0.09	3.4	-0.01	1.63	2.22	0.88	0.04	0.76	0.09	79.99	0.01	0.41	-0.01	4.72
C-576431	125299	-108.86147	38.12218	8/22/1977	4.74	2.4	1.57	2.5	0.8	0.05	0.02	30.01	0.28	9.12	0.06	3.39	-0.01	2.31	3.14	1.37	0.04	0.74	0.11	72.24	0.01	0.47	0.01	7.48
C-576432	125300	-108.91757	38.11308	8/22/1977	2.62	2.1	0.68	1.6	0.42	0.02	-0.01	30.01	0.12	4.94	0.05	3.02	-0.01	0.98	2	0.73	0.03	0.5	0.06	83.96	0.02	0.2	-0.01	4.39
C-576433	125301	-108.87987	38.12308	8/22/1977	3.96	3.8	1.26	2.2	0.75	0.05	-0.01	30.01	0.25	7.35	0.06	5.29	-0.01	1.83	2.59	1.29	0.04	0.75	0.11	72.82	0.02	0.42	-0.01	7.77
C-576434	125302	-108.79537	38.11168	8/22/1977	3.01	3.9	1.61	1.4	0.71	0.04	0.08	30.01	0.28	5.65	0.12	5.43	-0.01	2.28	1.65	1.21	0.03	0.65	0.11	75.84	0.04	0.47	0.01	7.02
C-576436	125372	-108.90597	38.15138	8/23/1977	2	1.1	0.63	1.3	0.27	0.02	-0.01	30.01	0.14	3.72	0.08	1.58	-0.01	0.89	1.64	0.48	0.02	0.33	0.04	89.41	0.01	0.23	-0.01	2.58
C-576438	125374	-108.93988	38.16578	8/23/1977	4.11	3.5	1.27	2.2	0.63	0.05	0.01	29.7	0.27	7.87	0.09	4.95	-0.01	1.84	2.7	1.09	0.05	0.83	0.11	73.15	0.04	0.45	0.01	6.99
C-576439	125375	-108.94458	38.16578	8/23/1977	4.2	4	1.29	2.2	0.67	0.04	-0.01	29.5	0.24	7.87	0.09	5.62	-0.01	1.86	2.7	1.15	0.04	0.69	0.09	71.43	0.04	0.4	-0.01	8.26
C-576440	125376	-108.94508	38.16468	8/23/1977	3.3	2.7	1.13	1.9	0.55	0.03	-0.01	30.01	0.19	6.27	0.05	3.87	-0.01	1.62	2.34	0.96	0.04	0.56	0.08	79.11	0.01	0.31	-0.01	5.57
C-576441	125377	-108.92757	38.15558	8/23/1977	2.82	2.3	0.77	1.7	0.45	0.02	-0.01	30.01	0.13	5.16	0.05	3.16	-0.01	1.07	2.04	0.77	0.03	0.52	0.06	82.88	-0.01	0.22	-0.01	4.53
C-576442	125402	-108.78427	38.19468	8/25/1977	4.39	2.5	1.44	2.2	0.77	0.03	0.02	30.01	0.24	8.26	0.06	3.44	-0.01	2.03	2.68	1.32	0.04	0.59	0.09	74.6	-0.01	0.41	0.02	7.13
C-576443	125403	-108.78507	38.19668	8/25/1977	3.16	2.1	1.02	1.8	0.57	0.02	0.05	30.01	0.18	5.96	0.06	2.9	-0.01	1.47	2.22	1	0.03	0.47	0.05	80.9	0.02	0.3	0.01	5.23
C-576444	125404	-108.80287	38.17608	8/25/1977	2.82	1.5	1.07	1.5	0.44	0.03	-0.01	30.01	0.18	5.42	0.06	2.1	-0.01	1.53	1.78	0.77	0.02	0.41	0.06	84.08	-0.01	0.31	-0.01	4.07
C-576445	125405	-108.80377	38.17748	8/25/1977	3.38	2.3	1.41	2	1.11	0.04	-0.01	30.01	0.29	6.39	0.05	3.32	-0.01	2	2.42	1.9	0.03	0.7	0.1	76.73	0.01	0.49	-0.01	6.26
C-576447	125406	-108.81317	38.17918	8/25/1977	5.25	3.4	2.5	2.9	1.93	0.06	-0.01	28.2	0.26	9.96	0.04	4.85	-0.01	3.64	3.64	3.27	0.03	0.33	0.13	63.1	-0.01	0.43	0.02	11.22
C-576448	125407	-108.79627	38.15858	8/25/1977	3.17	2	1.23	1.4	0.47	0.02	0.03	30.01	0.19	6.07	0.16	2.75	-0.01	1.74	1.69	0.83	0.03	0.51	0.06	81.61	0.02	0.32	0.02	4.89
C-576449	125416	-108.97238	38.13888	8/24/1977	4.45	2.4	1.72	2.1	0.83	0.02	-0.01	30.01	0.23	8.34	0.03	3.32	-0.01	2.47	2.51	1.4	0.03	0.24	0.04	74.56	0.02	0.38	-0.01	7.39
C-576450	125417	-108.84427	38.12998	8/24/1977	2.96	1.1	1.12	1.3	0.43	0.03	0.02	30.01	0.23	5.63	0.09	1.49	0.01	1.61	1.56	0.76	0.02	0.61	0.08	84.35	-0.01	0.39	-0.01	4.30
C-576452	125418	-108.87177	38.13058	8/24/1977	3.17	1.2	1.11	1.4	0.43	0.02	0.01	30.01	0.24	6.13	0.1	1.59	-0.01	1.59	1.65	0.76	0.02	0.57	0.05	84.07	0.01	0.39	-0.01	3.91
C-576453	499113	-109.02878	38.22438	6/20/1978	2.37	1.8	0.81	1.8	0.38	0.02	-0.01	30.01	0.14	4.35	0.09	2.51	-0.01	1.19	2.07	0.67	0.02	0.31	0.05	85.1	0.02	0.25	-0.01	3.90
C-576454	499114	-109.01628	38.21748	6/20/1978	2.96	2.4	0.82	1.8	0.49	0.03	-0.01	30.01	0.17	5.55	0.06	3.32	-0.01	1.14	2.29	0.83	0.03	0.53	0.06	81.76	0.01	0.27	-0.01	4.79
C-576455	499115	-109.02318	38.21888	6/20/1978	3.61	2.6	1.08	1.9	0.51	0.03	0.03	30.01	0.21	6.86	0.05	3.62	-0.01	1.55	2.25	0.9	0.04	0.7	0.07	78.5	0.03	0.35	-0.01	5.84
C-576456	499125	-109.02648	38.25778	6/22/1978	3.88	3.7	1.39	2.1	0.79	0.04	0.01	30.01	0.23	7.35	0.07	5.25	-0.01	1.99	2.4	1.34	0.04	0.48	0.09	71.65	0.02	0.39	-0.01	9.36
C-576458	499126	-109.01318	38.25938	6/22/1978	3.38	2.1	1.1	1.7	0.54	0.02	0.02	30.01	0.19	6.48	0.12	3.03	-0.01	1.59	1.97	0.94	0.03	0.39	0.06	79.16	0.03	0.31	0.01	6.62
C-576459	499151	-109.02928	38.03858	6/19/1978	4.66	2.4	1.48	2.3	0.65	0.03	-0.01	30.01	0.25	8.86	0.05	3.33	-0.01	2.14	2.59	1.13	0.04	0.56	0.07	74.16	0.01	0.4	0.01	7.29
C-576461	499152	-109.01008	38.06558	6/19/1978	3.19	2.5	1.07	1.8	0.43	0.02	-0.01	30.01	0.19	6.09	0.09	3.52	-0.01	1.53	2.09	0.74	0.04	0.4	0.06	79.85	0.02	0.31	-0.01	5.60
C-576462	499153	-109.01678	38.05468	6/19/1978	3.5	2	1.11	2	0.43	0.03	-0.01	30.01	0.21	6.79	0.07	2.87	-0.01	1.65	2.33	0.78	0.04	0.53	0.07	79.46	0.02	0.36	0.01	5.81
C-576464	499154	-109.01898	38.05528	6/19/1978	3.1	1.7	1.06	1.7	0.4	0.02	-0.01	30.01	0.19	5.85	0.08	2.44	-0.01	1.5	1.94	0.68	0.03	0.44	0.06	82.22	0.02	0.31	-0.01	4.55
C-576465	499155	-109.02488	38.06858	6/19/1978	3.36	1.8	1.17	1.9	0.47	0.02	0.02	30.01	0.21	6.38	0.11	2.53	-0.01	1.65	2.16	0.83	0.04	0.52	0.05	81.17	-0.01	0.37	-0.01	4.78
C-576466	125687	-108.94508	38.54938	9/2/1977	2.96	1.3	0.81	2.3	0.47	0.03	-0.01	30.01	0.2	5.73	0.05	1.85	-0.01	1.18	2.67	0.83	0.03	0.52	0.06	84	0.01	0.35	-0.01	3.36
C-576467	125688	-108.95008	38.54858	9/2/1977	2.07	2.1	1.8	1.7	0.64	0.04	0.07	30.01	0.18	4.03	0.07	2.99	0.01	2.71	1.86	1.14	0.03	0.56	0.08	82.12	0.01	0.31	0.01	4.50
C-576468	125689	-108.95878	38.53998	9/2/1977	2.7	2.5	0.75	2.1	0.82	0.02	-0.01	30.01	0.18	5.11	0.05	3.47	-0.01	1.09	2.33	1.43	0.03	0.42	0.05	80.86	0.01	0.28	-0.01	5.41
C-576469	125690	-108.97958	38.52808	9/2/1977	4.02	4.5	1.67	2.8	1.34	0.05	0.42	27.4	0.25	7.64	0.07	6.45	-0.01	2.4	3.1	2.32	0.04	0.84	0.12	65.9	0.02	0.42	-0.01	10.20
C-576471	125691	-108.98238	38.52418	9/2/1977	3.51	3.8	1.2	2.2	1.13	0.04	0.02	30.01	0.22	6.64	0.06	5.5	-0.01	1.73	2.63	1.88	0.04	0.56	0.1	72.62	-0.01	0.37	-0.01	7.87
C-576472	125692	-108.98928	38.50918	9/2/1977	2.84	3.1	0.86	2.2	0.65	0.03	0.01	30.01	0.19	5.43	0.04	4.41	-0.01	1.25	2.5	1.1	0.04	0.41	0.07	78.38	0.03	0.31	-0.01	6.34
C-576473	125694	-108.98128	38.49638	9/2/1977	3.48	3.6	1.65	2.1	1.3	0.04	0.05	30.01	0.26	6.61	0.07	5.06	0.01	2.42	2.37	2.17	0.04	0.4	0.1	72.38	0.03	0.44	-0.01	8.37
C-576474	125704	-108.98738	38.64527	9/2/1977	2.5	2.4	0.81	1.7	0.33	0.03	-0.01	30.01	0.17	4.8	0.05	3.5	-0.01	1.22	2	0.58	0.02	0.4	0.07	82.9	0.02	0.28	-0.01	4.55
C-576475	125707	-108.96928	38.58717	1977	4.22	0.4	1.49	2.2	0.41	0.03	-0.01	30.01	0.31	8.03	0.06	0.59	-0.01	2.11	2.52	0.69	0.06	0.8	0.08	79.47	-0.01	0.51	0.01	5.83
C-576476	126005	-108.90128	38.43498	8/26/1977	3.31	3.3	1.17	2.1	0.65	0.04	0.1	30.01	0.21	6.19	0.06	4.72	-0.01	1.7	2.36	1.1	0.03	0.48	0.1	75.91	0.02	0.36	-0.01	7.23
C-576478	126007	-108.91878	38.43498	8/26/1977	3.73	2.6	1.32	2.5	0.9	0.04	0.02	30.01	0.27	7.06	0.06	3.73	-0.01	1.91	2.85	1.49	0.04	0.53	0.1	73.22	0.01	0.46	-0.01	8.75
C-576479	126008	-108.95788	38.44608	8/26/1977	3.18	2.7	1.12	2	0.7	0.04	0.09	30.01	0.18	6.01	0.04	3.85	-0.01	1.58	2.28	1.16	0.02	0.35	0.08		-0.01	0.3	-0.01	7.71
C-576480	499224	-109.02648	38.61027	6/25/1978	2.08	0.5	0.75	1.1	0.2	0.01	-0.01	30.01	0.2	4.01	0.04	0.72	-0.01	1.13	1.31	0.36	0.04	0.3	0.04	89.67	0.02	0.35	-0.01	2.79
C-576481	499225	-109.02178	38.60167	6/25/1978	3.08	0.3	1.05	1.8	0.25	0.02	-0.01	30.01	0.26	5.8	0.06	0.34	-0.01	1.53	2.01	0.44	0.04	0.59	0.05	86.03	-0.01	0.45	-0.01	3.46
C-576482	499226	-109.00098	38.58967	6/25/1978	4.72	0.4	1.82	2.1	0.48	0.05	-0.01	30.01	0.35	9	0.05	0.65	0.01	2.59	2.46	0.81	0.03	0.9	0.13	77.15	0.01	0.59	-0.01	6.23
C-576483	499227	-109.03148	38.54467	6/25/1978	2.7	1.8	0.93	1.9	0.35	0.02	-0.01	30.01	0.18	5.07	0.05	2.51	-0.01	1.36	2.11	0.6	0.02	0.32	0.06	83.73	0.02	0.3	-0.01	4.51
C-576485	499228	-109.02988	38.54747	6/25/1978	3.67	0.3	1.12	2	0.31	0.02	-0.01	30.01	0.26	6.93	0.04	0.46	-0.01	1.61	2.25	0.54	0.04	0.74	0.05	83.37	-0.01	0.43	-0.01	4.69
C-576486	499435	-109.03568	38.61557	6/25/1978	3.38	3.1	1.22	1.9	0.41	0.06	0.03	30.01	0.24	6.24	0.06	4.39	-0.01	1.7	2.09	0.7	0.04	0.7	0.14	75.02	0.03	0.4	0.02	8.43
C-576487	499436	-109.00148	38.52248	6/25/1978	2.98	0.3	1.12	1.8	0.23	0.02	-0.01	30.01	0.31	5.68	0.04	0.4	-0.01	1.58	2.04	0.41	0.04	0.6	0.05	86.58	-0.01	0.5	-0.01	2.83
C-576488	499440	-109.04038	38.68137	6/26/1978	5.29	0.5	1.83	2.4	0.61	0.04	-0.01	30.01	0.3	10.12	0.05	0.69	-0.01	2.64	2.78	1.02	0.06	0.64	0.1	74.79	0.01	0.51	-0.01	7.14
C-576489	499441	-109.00958	38.63217	6/25/1978	3.15	2.9	1.21	1.9	0.5	0.04	-0.01	30.01	0.22	5.88	0.06	4.06	-0.01	1.71	2.09	0.85	0.04	0.43	0.1	78.62	0.01	0.37	0.01	5.82
C-576490	499442	-109.00238	38.66057	6/26/1978	4.01	3.7	1.99	2.1	0.93	0.05	0.01	30.01	0.3	7.63	0.08	5.24	-0.01	2.87	2.41	1.55	0.05	0.59	0.12	71.19	0.03	0.49	0.01	7.76
C-609903	112224	-108.6775521	37.97579194	8/31/1977	2.7	5.4	2.06	1.2	0.75	0.07	0.18	30.01	0.27	5.14	0.51	7.21	-0.01	2.94	1.49	1.18	0.07	0.49	0.17	71.46	0.05	0.49	0.01	7.94
C-609904	112225	-108.6550513	37.97389194	8/31/1977	3.5	6.3	2.04	1.6	0.72	0.05	0.12	30.01	0.23	6.84	0.17	8.37	-0.01	2.92	2.01	1.16	0.12	0.72	0.13	66.7	0.25	0.42	0.01	9.34
C-609905	112460	-108.7395545	37.9516914	8/25/1977	3.82	0.8	1.24	1.3	0.45	0.02	0.02	30.01	0.22	7.55	0.06	1.19	-0.01	1.81	1.66	0.74	0.03	0.81	0.05	81.27	0.02	0.37	-0.01	4.58
C-609906	112501	-108.9828634	37.88029109	8/17/1977	5.35	0.8	1.94	2.1	0.84	0.04	0.07	30.01	0.32	10.43	0.07	1.09	-0.01	2.77	2.65	1.37	0.04	0.93	0.11	72.85	-0.01	0.55	-0.01	7.28
C-609907	112521	-108.9675629	37.87999101	8/17/1977	4.89	0.7	1.84	1.8	0.58	0.04	0.02	30.01	0.34	9.51	0.05	0.95	-0.01	2.63	2.25	0.93	0.06	0.68	0.09	75.42	0.01	0.59	-0.01	6.38
C-609909	112527	-108.89256	37.94059162	8/18/1977	4.58	0.5	1.68	2	0.53	0.03	0.02	30.01	0.32	8.94	0.06	0.62	-0.01	2.44	2.47	0.85	0.06	0.84	0.09	77.27	0.01	0.55	0.02	5.36
C-609910	112530	-108.8664589	37.96499195	8/18/1977	4.35	0.4	1.63	1.8	0.5	0.03	0.02	30.01	0.31	8.52	0.06	0.6	-0.01	2.36	2.3	0.81	0.06	0.7	0.07	78.4	-0.01	0.53	0.01	5.36
C-609911	112534	-108.7548548	37.97079177	8/22/1977	4.12	2	1.78	1.6	0.64	0.03	0.02	30.01	0.26	8.13	0.05	2.79	-0.01	2.51	1.98	1.04	0.03	0.59	0.08	75.85	-0.01	0.45	-0.01	6.43
C-609912	112535	-108.7725552	37.99639233	8/22/1977	3.71	2.6	1.35	1.3	0.54	0.03	0.03	30.01	0.21	7.34	0.04	3.53	-0.01	1.96	1.67	0.87	0.03	0.47	0.07	76.72	0.02	0.36	-0.01	7.01
C-609913	112537	-108.8120567	37.99529237	8/22/1977	4.15	4.7	1.53	1.9	0.74	0.02	0.02	30.01	0.23	8.26	0.04	6.62	-0.01	2.26	2.5	1.24	0.04	0.4	0.06	69.28	-0.01	0.41	0.02	9.67
C-609914	112580	-109.002364	37.89859144	8/20/1977	4.95	8.9	2.52	1.7	1.37	0.06	0.86	24.9	0.25	9.59	0.09	12.13	-0.01	3.65	2.12	2.24	0.06	0.47	0.15	51.3	0.07	0.43	0.02	15.17
C-609916	498385	-109.002364	37.89859144	5/26/1978	5.18	0.6	1.84	2.2	0.6	0.04	0.02	30.01	0.34	10.05	0.06	0.77	-0.01	2.65	2.7	0.97	0.06	1.03	0.1	74.79	0.01	0.59	-0.01	5.83
C-609917	498389	-109.0156644	37.85889112	5/26/1978	4.68	0.3	1.54	1.8	0.52	0.03	0.08	30.01	0.27	9.09	0.07	0.46	-0.01	2.18	2.32	0.84	0.04	0.74	0.08	77.82	-0.01	0.47	-0.01	5.58
C-609918	498392	-109.0231646	37.85169115	5/29/1978	4.67	1.1	1.67	2	0.57	0.05	0.04	30.01	0.33	9.13	0.06	1.46	-0.01	2.39	2.53	0.91	0.06	0.97	0.13	74.33	0.01	0.56	-0.01	6.89
C-609919	125247	-108.7131526	38.23969049	8/23/1977	4.08	2.3	1.38	2.1	0.8	0.03	0.03	30.01	0.24	7.93	0.05	3.07	-0.01	1.98	2.67	1.3	0.04	0.58	0.08	75.12	0.01	0.41	0.01	6.28
C-609920	125248	-108.6892518	38.22999057	8/23/1977	2.88	1.7	0.86	1.6	0.42	0.02	0.01	30.01	0.15	5.62	0.05	2.25	-0.01	1.24	1.94	0.68	0.03	0.55	0.05	83.14	-0.01	0.27	-0.01	3.86
C-609921	125292	-108.7456541	38.06109188	8/22/1977	3.4	2.2	1.78	1.5	0.57	0.03	0.06	30.01	0.34	6.7	0.15	2.99	0.01	2.5	1.89	0.92	0.05	0.83	0.08	77.53	0.02	0.59	-0.01	4.91
C-609922	125686	-108.9148609	38.56028676	9/2/1977	4.7	6	1.58	2.3	0.99	0.05	0.02	30.01	0.24	9.12	0.05	8.16	-0.01	2.28	2.88	1.62	0.07	0.47	0.12	61.97	0.03	0.41	0.01	11.70
C-609923	125695	-108.9259615	38.58218636	1977	3.91	3.4	1.63	2.3	1.19	0.04	0.02	30.01	0.25	7.52	0.07	4.43	-0.01	2.3	2.77	1.9	0.05	0.36	0.09	72.61	-0.01	0.43	0.01	7.17
C-609925	125696	-108.9309618	38.59358615	9/2/1977	5.22	4.6	2.31	2.6	1.93	0.05	0.01	29.7	0.33	10.1	0.06	6.22	-0.01	3.29	3.22	3.08	0.07	0.55	0.12	61.06	0.02	0.56	-0.01	10.87
C-609926	125698	-108.9303619	38.60358597	9/2/1977	3.85	3.9	1.69	2.2	1.29	0.04	0.02	30.01	0.27	7.35	0.06	5.26	-0.01	2.42	2.74	2.08	0.06	0.45	0.09	70.15	0.01	0.46	-0.01	8.31
C-609927	125702	-108.951263	38.63668536	9/2/1977	3.63	4.3	1.51	2	1.23	0.04	0.02	30.01	0.23	7.01	0.07	5.7	-0.01	2.17	2.49	1.98	0.05	0.45	0.09	70.71	-0.01	0.4	-0.01	8.08
C-609928	125703	-108.9773643	38.67578463	9/2/1977	2.08	1.9	2.87	1.3	0.41	0.03	0.04	30.01	0.22	4.01	0.14	2.45	0.02	4.86	1.62	0.65	0.04	0.2	0.07	81.17	0.01	0.39	0.01	3.62
C-609929	499443	-109.0020653	38.68528445	6/29/1978	2.86	3.3	1.59	1.8	0.79	0.04	0.01	30.01	0.24	5.63	0.07	4.4	-0.01	2.36	2.18	1.26	0.05	0.32	0.09	76.77	0.02	0.4	-0.01	5.95
C-609930	499444	-109.0128659	38.71608397	6/29/1978	3.81	3.4	2.38	2.2	1.12	0.06	0.01	30.01	0.31	7.16	0.07	4.35	-0.01	3.32	2.63	1.75	0.07	0.41	0.15	72.7	-0.01	0.53	-0.01	6.37
C-609931	499445	-109.0437668	38.74248382	6/29/1978	4.92	4.2	2.33	2.3	1.47	0.05	0.01	30.01	0.33	9.48	0.03	5.75	-0.01	3.32	2.81	2.39	0.06	0.53	0.13	65.27	-0.01	0.56	0.01	8.89
C-615464	SWCO-1	-109.04132	38.36127	12/4/2025	1.79	1.6	0.78	1	0.33	0.02	0.14	30.01	0.1	3.27	0.65	2.1	-0.01	1.07	1.1	0.51	0.04	0.12	0.04	86.37	0.02	0.15	-0.01	4.33
C-615465	SWCO-2	-109.04766	38.350548	9/24/2025	2.23	1.6	0.88	0.9	0.37	0.03	0.37	30.01	0.11	4.04	1.7	2.13	-0.01	1.19	0.98	0.59	0.04	0.15	0.07	82.99	0.05	0.19	-0.01	5.15
C-615466	SWCO-3	-108.88354	38.435913	9/24/2025	2.18	2.1	0.69	1.6	0.68	0.02	0.05	30.01	0.1	4	0.03	2.83	-0.01	0.94	1.59	1.07	0.03	0.67	0.05	83.28	0.03	0.16	-0.01	4.79
C-615468	SWCO-4	-108.85443	38.2888	12/4/2025	2.12	3.7	0.84	1.3	0.87	0.03	0.02	30.01	0.11	3.84	0.07	4.94	-0.01	1.15	1.36	1.36	0.04	0.16	0.06	79.93	0.01	0.17	-0.01	6.73
C-615469	SWCO-5	-108.84478	38.234238	9/24/2025	2.41	1.5	1.35	1	0.41	0.02	0.04	30.01	0.11	4.39	0.13	2.06	-0.01	1.89	1.11	0.66	0.03	0.19	0.05	84.99	0.02	0.18	-0.01	4.33
C-615470	SWCO-6	-109.02713	38.129082	9/25/2025	0.89	2.3	0.48	0.4	0.14	0.01	0.01	30.01	0.05	1.6	0.03	3	-0.01	0.64	0.4	0.22	0.02	0.09	0.02	90.96	-0.01	0.08	-0.01	3.34
C-615471	SWCO-7	-108.92918	38.151543	9/25/2025	1.91	2.4	0.57	1.3	0.42	0.02	0.01	30.01	0.09	3.46	0.05	3.11	-0.01	0.78	1.36	0.66	0.03	0.31	0.04	86.02	0.02	0.14	-0.01	3.90
C-615472	SWCO-8	-108.75978	38.02492	12/4/2025	4.22	2.2	2.01	1.2	0.61	0.04	0.06	30.01	0.19	7.62	0.13	2.98	-0.01	2.77	1.32	0.96	0.03	0.46	0.09	76.77	0.02	0.31	0.01	6.18
C-615473	SWCO-9	-108.98285	37.982689	9/25/2025	1.6	1.8	0.67	0.6	0.3	0.02	0.02	30.01	0.08	3.07	0.09	2.47	-0.01	0.97	0.71	0.51	0.03	0.21	0.03	88.43	0.01	0.13	-0.01	3.62
C-615474	SWCO-10	-108.76658	38.2792	12/4/2025	2.01	4.5	1.1	1.5	1.27	0.02	0.07	30.01	0.09	3.89	0.27	6.09	-0.01	1.59	1.71	2.11	0.07	0.22	0.06	75.81	0.02	0.14	-0.01	8.05
Minimum					0.89	0.2	0.48	0.4	0.14	0.01	-0.01	24.90	0.05	1.60	0.03	0.27	-0.01	0.64	0.40	0.22	0.01	0.09	0.02	51.30	-0.01	0.08	-0.01	--
Maximum					5.35	8.9	2.87	2.9	2.07	0.07	0.86	30.01	0.35	10.43	1.70	12.13	0.02	4.86	3.64	3.37	0.12	1.03	0.17	90.96	0.25	0.59	0.04	--
Bulk Continental Crust[1]					--	--	--	--	--	--	--	--	--	15.9	--	6.41	--	--	1.81	4.66	0.1	3.07	0.13	60.6	--	0.72	--	--
5x Bulk Continental Crust					--	--	--	--	--	--	--	--	--	79.5	--	32.05	--	--	9.05	23.3	0.5	15.35	0.65	303	--	3.6	--	--

FIGURES

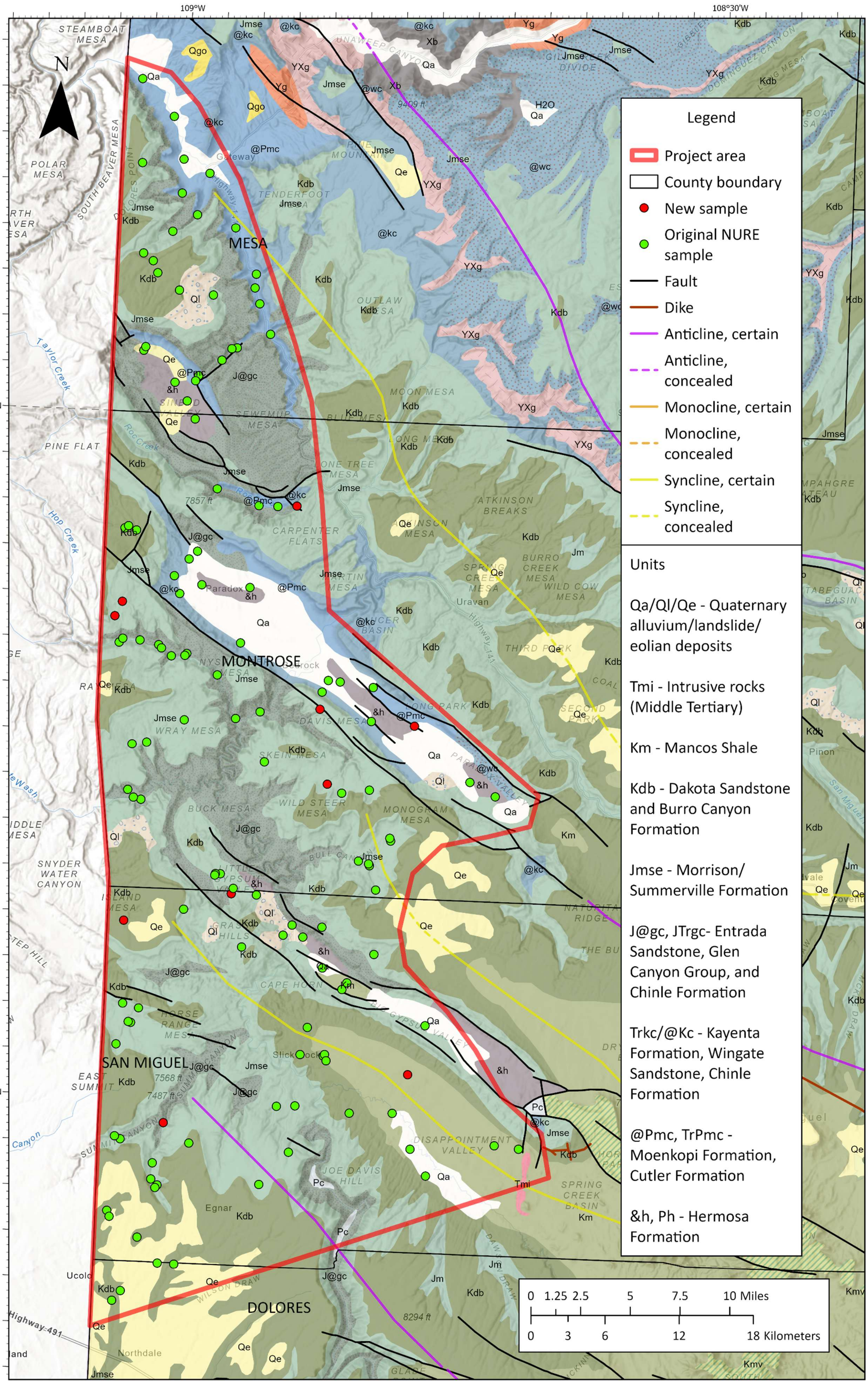

Figure 6 – Regional geological map (1:500K-scale; Tweto, 1979). Only general geologic units within the study area are described in the legend. Sediment sample locations are shown for reference.

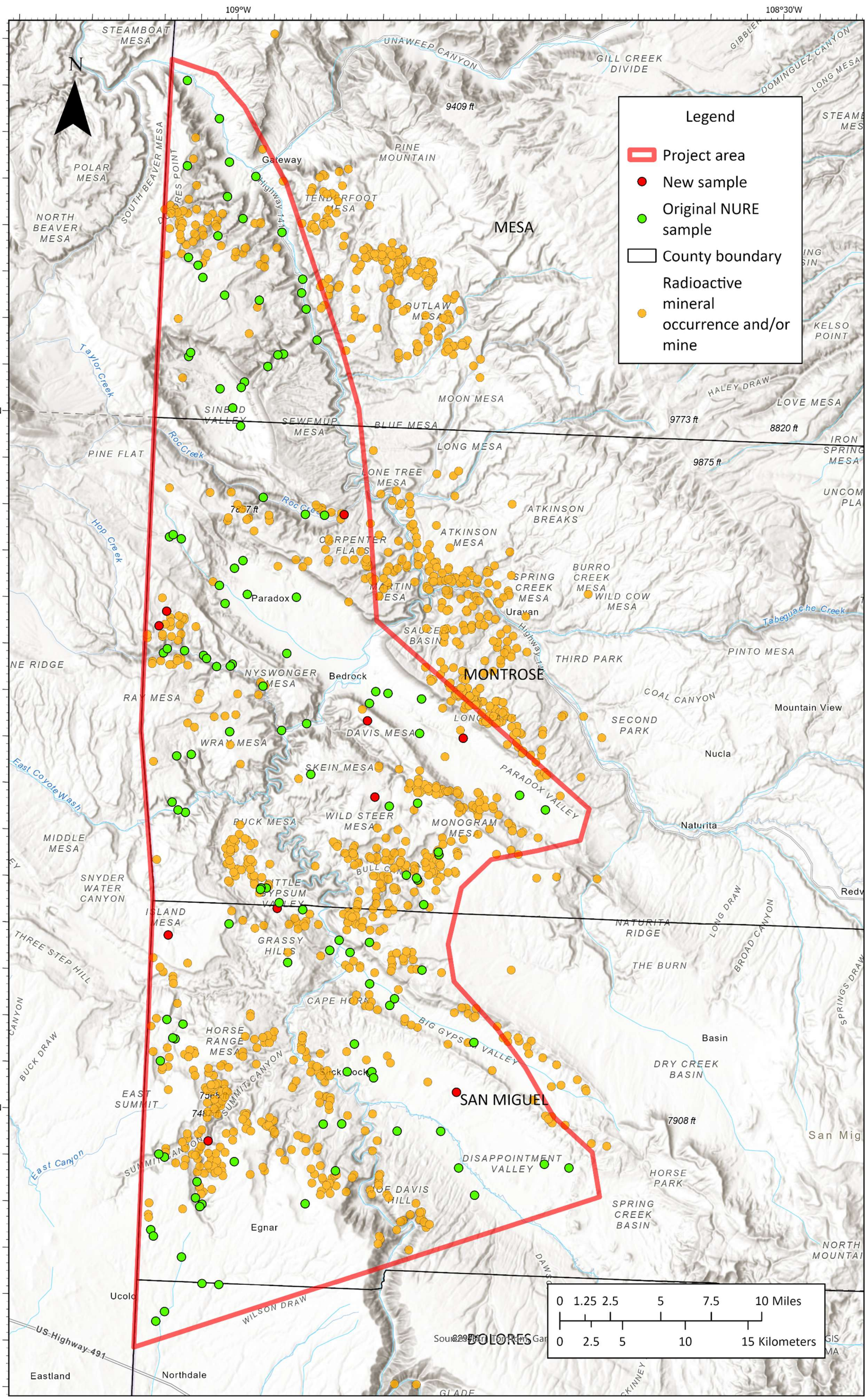

Figure 7 – Radioactive mineral occurrences in the Uravan area (Nelson-Moore and others, 1978; O'Keeffe and others, 2021). These locations include uranium and/or vanadium mines and occurrences in sandstone, arkose, conglomerate, siltstone, and lake sediments.

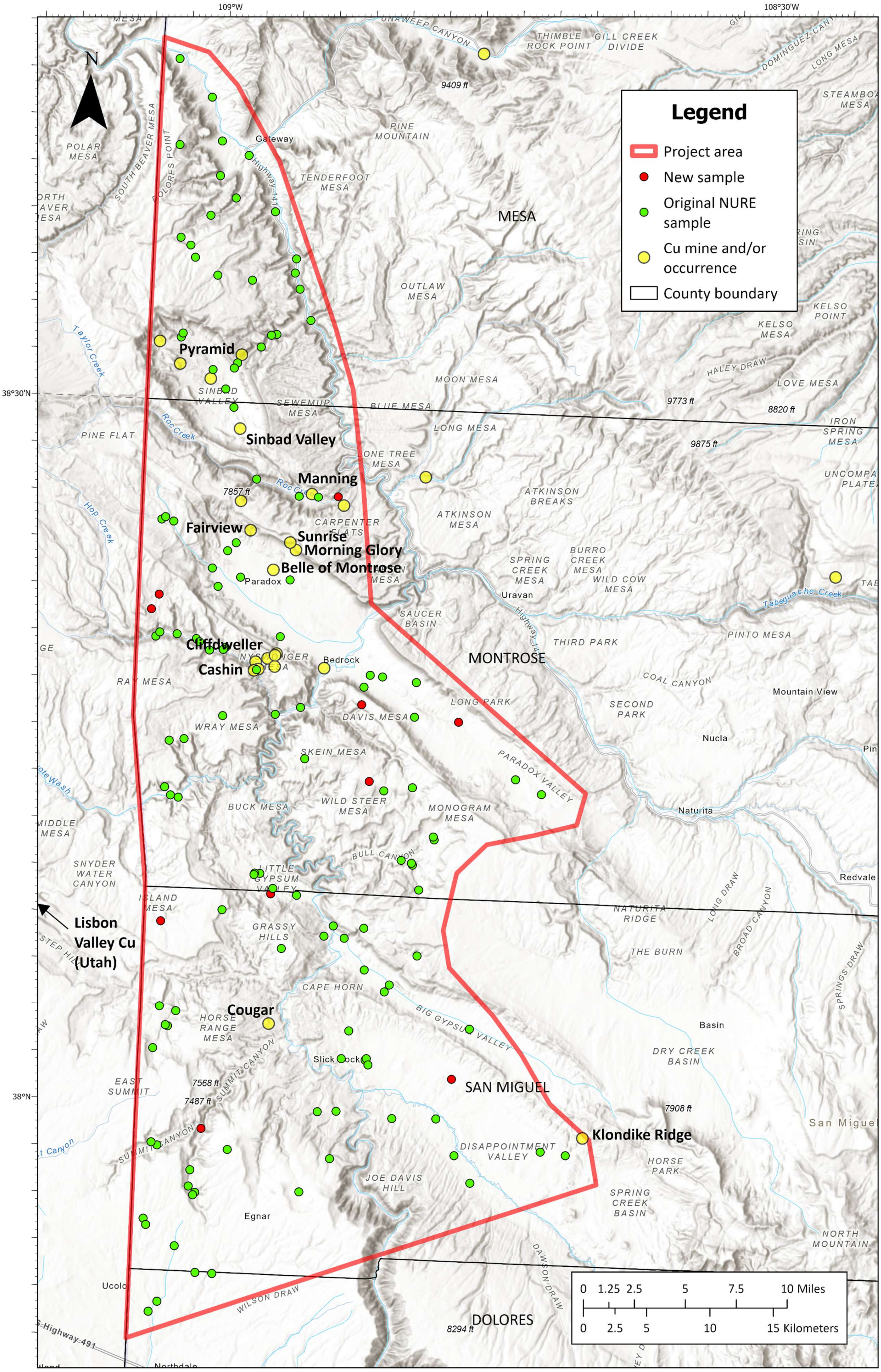

Figure 8 – Map showing copper occurrences and historic mine locations from Wilson and others (2000).

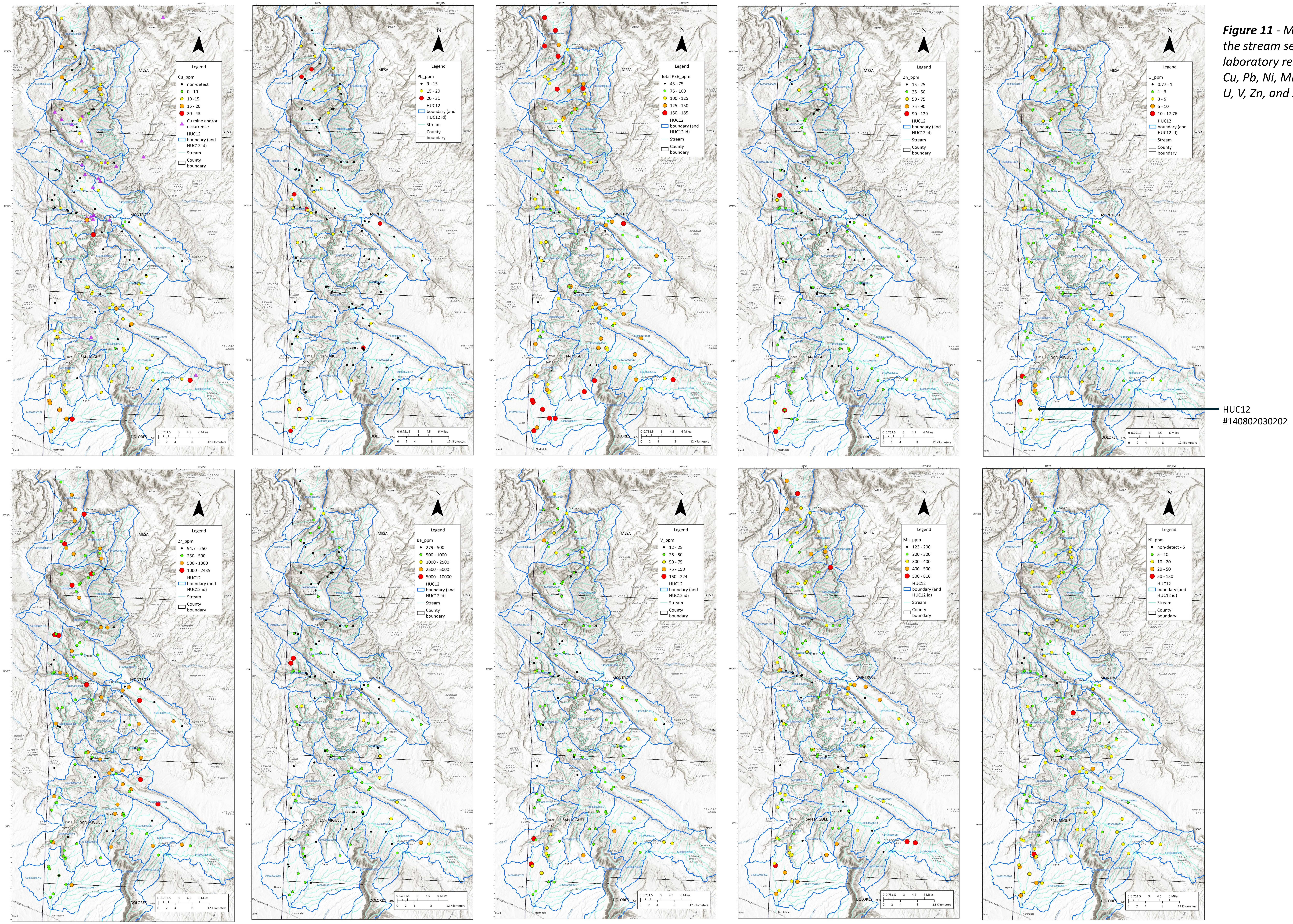

Figure 11 *- Maps showing the stream sediment laboratory results for Ba, Cu, Pb, Ni, Mn, Total REEs, U, V, Zn, and Zr.*

APPENDICES

APPENDIX A

Electronic download - Spreadsheets containing the laboratory data.

APPENDIX B

Electronic download – ArcGIS shapefiles with the laboratory data.