Database of the Mines and Prospects of Idaho: Metadata

by

Christopher A. Tate

Jacob A. Eldredge

The Idaho Geological Survey does not guarantee Mines and Prospects data to be free of errors nor assume liability for interpretations made from these data, or decisions based thereon.

Contents

INTRODUCTION

The effort to provide Mines and Prospects data and associated products are made possible by funding from Idaho Department of Lands (IDL) and the U.S. Geological Survey's National Geological and Geophysical Data Preservation Program (NGGDPP).

This document has been created for the re-release of the *Database of the Mines and Prospects of Idaho* (or Mines for short) in the Idaho Geological Survey's (IGS) Digital Database series as DD-1 for version 1.2023. The intent of this document is to describe changes to Mines database schema and data improvements, describe associated files, and centralize much of the commonly referenced metadata into a single document convenient for reference and printing. Though this document is largely a compilation it contains metadata that may not be available elsewhere.

Background

DD-1 version 1.2023 of Mines represents a fundamental reconstruction of database schema, data organization, and derivative data products. After 33 years of service and multiple curators and developers, the Mines database and data had become unwieldy and difficult to maintain and access. The database had become the epitome of what is known as a 'spaghetti nightmare' in the jargon of database administrators.

Because the existing schema was inadequate to host, discover, and access existing data efficiently or facilitate expansion of data records, categories, and support for derivative products effectively, we determined a new schema must be created to accomplish the following goals:

1. **All real-world Mines objects must have digital counterparts and be distinguishable as unique digital entities apart from any degree of inter-relationship.** The origin of this concept is more from an Object-Oriented Programming point of view than the Relational Database schools of thought. While the axiom is of little concern to end users, it is the basis for a dynamic and efficient applied database schema that may transcend the relational model when needed or as desired. It has resulted in a database with data structures that don't adhere to purist ideals of any theoretical approach. However, it does fit the needs of users, curators of the data, and developers extremely well. Data objects here may be defined as digital abstractions representing real-world counterparts, as opposed to database objects such as forms, tables, and queries that are components of a database management system.

2. **Schema must allow for creating new data objects that should, as required, be relatable to existing data in a seamless manner without compromising or redefining existing data and data objects.** Obviously, future contingencies such as new ISO standards or technological breakthroughs in mining techniques or software design evolution or new file types etc. cannot be anticipated; therefore, the fundamental database design must be constructed to the best of our ability to easily

adopt or adapt to unforeseeable user needs and other real-world developments while preserving the format and integrity of legacy data structures. The intent is applying new development and enforcing data resiliency for users and curators, as expressed by sustainable backward and forward compatibility.

3. **Normalization applied at the global scope.** Everything—from variable names and code methodologies employed, to names of database objects and the fields and controls they contain—will have a consistent and recognizable structure. The structure will enable application and expansion to meet future development requirements and facilitate querying data, writing new code, and debugging quickly by minimizing the time spent referring to metadata. An unanticipated effect is the measure used to identify and correct many potential errors proactively before they are propagated throughout the tables and retroactively for existing records. Again, as in goals 1 and 2 above, we created a convention that puts application over existing or popular theory and models. In short order, anyone familiar with the database should be able to move from thinking in 'air code' to writing functional expressions, queries, or subs etc. with little or no effort. All abstract data objects are independently represented in related tables, and the key fields to relate data objects are appropriately universal between tables. Forms were developed by extending this approach and grouping abstract data objects in a manner that facilitated retrieving records and creating new records efficiently within a logical workflow. Granularization was implemented to the most effective degree considering all contingencies.

4. **Portability.** All database objects and constituent parts have been designed to ease migration to alternate relational database management systems. For instance, capitalization is used to enhance human-readability in Access and Microsoft SQL Server for tables and fields but are unique regardless of case as PostGreSQL databases require. There are no spaces or special characters used for naming objects, fields, or controls, and all are compliant with ESRI restrictions. No reserved words for any database management systems the authors are familiar with are used. Some field names exceed 10 characters so field-name truncation for shapefiles and other derivative-specific restrictions should be expected. Portability between a variety of database management systems was carefully considered and implemented for this Mines release.

5. **Data discovery, entry, and QA/QC should be integrated in all workflow pathways.** The front-end of Mines is designed to facilitate discovering data throughout the database by users with no SQL background as well as in-house data entry tasks. All records can be discovered through multiple approaches via forms depending on what the user wishes to find and how they want to find them. The process is designed to be an intuitive experience out-of-the-box. The result for users is convenient access to the full power of Mines data with little or no investment in understanding the structure of Mines data beyond the necessary limitations of the Mines web app. Metadata exists for users interested in pursuing academic and professional analyses. Additionally, the native behaviors of Access writing records to

bound fields has been circumvented to facilitate a true 'undo' option that applies to master and all subform controls if invoked, while observing proper multi-user data entry protocols for writing data to tables. The 'write' command must be instigated intentionally by the author of a record. Human readable record-level metadata are generated for entries and edits, and these may be queried to inform data pedigree as far as the metadata exist. Because of the age and multiple curators of Mines data, record-level metadata are not established for all attributes. The 'wizard' workflow and database schema prevent and trap many potential errors during data entry. Normalization and clean code facilitate spotting and resolving many errors before they are propagated.

Mines data are now centralized and easier to discover and access than ever before. Most data have been 'scrubbed clean' enhancing both the value and integrity of records. There is a thread of consistency through every scope of the database never established before in Mines, enhancing time invested maintaining and creating records and features. There is no longer any question about if the level of granularization of data is enough, or what needs normalized, or if data might need to be split off into specialized tables. The answers are self-evident. The structure allows for expansion of functionality via the perspective of self-contained data objects, which reduces maintenance and troubleshooting while allowing for targeting specific data. The ability to copy tables into another database management system with little or no reformatting is a huge move forward. The list of benefits to us as app developers and curators and recorders of Mines data goes on and is probably not very interesting to most users. Suffice it to say that Mines has never felt, looked, or worked better or easier than it does as of this release, and we have every intention of continuing to improve these data and enhance functionality. We hope users will experience some of the satisfaction we feel as they put these data to work.

The Mines data products are ongoing works in progress and meant to be applied. If there is something we have overlooked in general or that could support a particular need or use, please let us know.

Other release notes

This version remains a work in progress. There is a working list of items to address, improve, or develop as time allows. Please bring any errors or omissions discovered to our attention igs@uidaho.edu. Mines database and data content are constantly being improved and expanded.

Regardless of source data, the authoritative location data in the Mines database are the (unprojected) WGS84 DD coordinates. Spatial attribute data are projected to WGS84 before Identity is used to populate respective fields in the Mines table. Datasets used for this release can be obtained by request. The DMS coordinates are WGS84.

Currently, record-level metadata track when attributes are changed, the user making the changes, and the source Doc substantiating the change. This mechanism preserves the original value or state of each changed field. The creation and deletion of sources, mine properties, and record relates is also tracked. The table tracking record-level metadata (zz_Updates table) from the previous DD-1 release does not have a 'translation' to relate the former ReferenceID values to the new DocID values. This will be included in a future release.

With some exceptions, mine locations and attributes are justified by the media in the Docs table. There are two tables of 'docs' data that have a format that excludes them from the otherwise centralized Docs table: [MilsLUT] which contains data from the Mineral Investigation Lands System (U.S. Bureau of Mines) and [MrdsLUT] containing data from the Mineral Resources Data System (U. S. Geological Survey). All other media data records are in DocID.

There are tables, queries, scripts, and other objects within the database that may not be included or described in the metadata. Generally, these are procedural in nature and are associated with daily data entry and database maintenance. These would be of little to no use to the casual user. However, information about specific objects can be obtained by request.

The metadata in this document are divided into sections according to data type and/or source:

- Section I: Hardware and Software Used. This section documents hardware and software used to develop this version, excepting specific custom scripts.
- Section II: Tables and Relationships. This is created by using screen captures of Access' Relationships tool (under Database Tools in Access 2013).
- Section III: DataDictionary. This is a printout of the DataDictionary table, which describes the field name, data type, and description for every table except the DataDictionary itself.
- Section IV: ReadMe. This is the ReadMe.txt file included in the download package. In part, it contains some history of development of the database, files included with this release, abbreviations used, and data limitations.
- Section V: Feature Class Export. This section is an export from one of the feature classes included with DD-1. Both internal database feature classes and the shapefile share the same metadata.
- Section VI: GIS Data Sources. Select sources for GIS data used to update or populate attributes in this release.
- Section VII: Select Web App FAQ. Though this was developed for the Mines Web App, there is information that pertains to the Mines and Prospects database and not necessarily recorded elsewhere.

Limitations and use

This document is a work in progress and provided as-is. Some duplication of information between sections can be expected. Questions about this document or DD-1 should be directed to: Christopher Tate | (208)-885-7540 | ctate@uidaho.edu.

The Mines and Prospects dataset is provided free of charge and without restriction to lawful use. Without express consent from the IGS, this document and other metadata should accompany, or access to metadata should be conspicuously provided for any and every copy distributed. This applies to any part of these data being communicated. Any alteration of these data must be openly and expressively disclosed to avoid misrepresentation of data sources. Simply put, if these data are shared, the recipient receives the metadata. If the data is altered then shared, the recipient needs to be aware of any change(s) not reviewed and approved by IGS as an addendum to the metadata.

Records in the Mines and Prospects database may come from 1st-hand observations, word-of-mouth, or sources in-between these two extremes. The IGS cannot guarantee the completeness or accuracy of spatial or attribute data. This database has been inherited, so in some cases the source or pedigree of some data is unknown. The working Mines database is modified continually as existing records are updated and new records are added. Therefore, this download is a snapshot of the information available at the time of publication. The working database supplies the information available via the Mines web app which is updated more frequently than DD-1. If there are discrepancies between the web app and this download, consider the web app data current. By request, the IGS may provide a copy of the working Mines database without full metadata for limited research purposes only. Also, please contact us to provide feedback on data errors or omissions. We welcome feedback on experiences with design and data discovery and delivery through the Mines web app.

The Idaho Geological Survey does not guarantee Mines and Prospects data to be free of errors nor assume liability for interpretations made from these data, or decisions based thereon.

Trespassing on private lands, vandalizing bat gates or other measures to protect the safety of the public or wildlife on public lands, and activities that infringe on the rights of legal claimants on public lands under state and federal laws is illegal, irresponsible, and may result in grievous bodily harm, death by gunshot or worse, and if lucky only prosecution. Please don't use our data to be a jerk.

Areas of historic mine activity may present a variety of harmful and lethal hazards not obvious to experienced investigators or unwary outdoor enthusiasts. Hazardous conditions may develop unexpectedly due to erosion, timber rot, earthquakes, etc. in areas thought to be safe. The information supplied by Idaho Geological Survey is only intended for research purposes and the potential dangers of these areas cannot be understated. The origination of funding for our Mines

data preservation efforts was part of a response to the deaths of a group of young adults camping near a mine. Their deaths were not related to dangerous behavior—such as entering an adit—but were the result of unforeseeable circumstances that lead to lethal carbon monoxide poisoning as they slept outdoors on the shore of a lake. We suggest that every caution be exercised in areas of known or potential mining activity and emphasize the danger in and around many of these sites is mortal and may not be recognizable by experts, much less the general public. Please use our data if it may prevent harm befalling you and your family on your next camping trip.

Database search wizard

New in this release of DD-1 is a search and data entry wizard. This feature, opened by Microsoft (MS) Access forms, allows a user to quickly retrieve overviews of data relationships without the need to write their own queries. The goals of the wizard are:
- to help track down exact records based on limited information.
- to enhance Quality Assurance and Quality Control during data entry by guiding and restricting access to records.
- to have the infrastructure to track changes to records and generate metadata records of these changes attributed to a source document.

In Access, go to Forms in the Navigation Pane and double click the form "AccessRecords".

This form allows four ways to search:
1. By DocID
    a. A selected DocID will show all related IGSIDs
2. By IGSID
    a. A selected IGSID will show all related DocIDs
3. By CompanyName
    a. A selected CompanyName will show all the DocIDs of the media where the CompanyName is mentioned and the IGSIDs it is related to in those media
4. By (property) Name
    a. A selected Name will show all the IGSIDs that may go by that name.
        i. Users can search by exact name or by keyword (i.e., a partial word that may be contained anywhere in a longer name).

The related records from the combo boxes will appear in the corresponding list boxes. Clicking once on a record will update the list box's counterpart. For example, the user enters a DocID and the list box shows all related mines. Clicking a mine will update the list box to the right showing all Docs related to that mine. Then clicking a related Doc record will update the left-hand related mines box to show all mines related to the new selected Doc, and so forth. Documents can be opened without a related mine. For data integrity, mine records to be edited must have a related document as evidence for the potential changes.

Note: the attributes of all mines are an aggregation of details from all of their related documents. Most of the time, these details are similar or identical between documents. However, no Mine attribute can or should be assumed to be from a specific source Doc. It is expected that if such precision is necessary in research, the documents will be reviewed thoroughly and independently by the researcher. Given the history of the database and the state in which the authors inherited it, an undertaking to relate records at the attribute level is not feasible. For records created since 2014, there may be details in the zz_Updates (retired) and zUpdates (current) tables that a researcher could use to narrow down the search for the exact document that sourced certain information.

METADATA

SECTION I: Hardware and software used

All work was done on PC-platform computers with a Windows 10 Professional (Build 19045) SP1 64-bit Operating System. For data transformation, data entry, and documentation Windows Office Suites 2010, 2013, and Office 360 were used interchangeably. For GIS-derived attributes and products, ArcGIS 10.8.1 and ArcGIS Pro 3.0.3 were employed. Google Earth Pro was used as needed for location verification via remote-sensing and to assist with defining cross-referenced locations for some documents. Earth Point's web app was used to assist locating and verifying properties with public land survey system (PLSS)-derived locations. Scripts developed in Python, SQL, Visual Basic, and Windows Command Prompt were used for some data verification and database maintenance tasks.

SECTION II: Tables and relationships

Overview

The Mines and Prospects Database is bivalent. It connects spatial information (Mines) to source information (Docs). These two main tables are linked through three Relate tables allowing the many-to-many relationships.

- The DocRelate table is every property mentioned in each document. The reference flag indicates that a given document provides significant or unique information on the related mine.
- The DocPages table contains page numbers for those records that originate from a host document. Page numbers are not provided for all documents; these are provided here to facilitate research and citation.
- The CompanyRelate table connects companies to IGSIDs if they are associated in a given document.

On the Mines side, attributes and spatial data of the properties are found. Attributes include common names and commodities. Spatial data include coordinates and regions. The Docs side provides information on all media objects in IGS records. Classification information, authors, and other citation information resides here. Referential integrity is enforced wherever possible.

Table descriptions

AuthorNameLUT

The look-up-table for author names as they appear in a given document. Variations of the name of the same author are listed because of this.

AuthorRelate

The relate table connects authors to documents and authors to the type of author.

AuthorTypeLUT

The controlled list for the types of contributors to a document.

CommoditiesRelate

The relate table connecting specific commodities to mines and prospects.

CommodityLUT

The controlled vocabulary for commodities in Idaho. Commodities include chemical elements, minerals, and other resources.

CompanyLUT

The controlled list of companies as they appear in a given document. Due to this, variations and aliases of companies are listed. It is common for the same company to have several names over time due to sales, mergers, bankruptcy etc.

CompanyRelate

The relate table connecting companies to mines and prospects as they appear in a given document.

CountyLUT

The controlled list of counties in Idaho. This table is for reference only and is not related to other tables.

DocClassLUT

The controlled vocabulary to classify the major categories of the origins of documents.

DocIDRefIDCipher

Use this table to identify the currently used DocIDs with the retired RefIDs in the zz_Updates metadata table. RefIDs have been replaced with unique, descriptive DocIDs which will be used from now on.

DocPages

For any document that occurs in a host document, its page numbers are listed here. Reference information originating from lengthy documents will also have page numbers in order to locate the source material.

DocRelate

The many-to-many relate table connecting the tables Mines and Docs.

Docs

The main table for source documentation. Despite being called "Docs" even non-document media such as maps, presentations, audio files, and videos are included here.

DocTypeLUT

The controlled vocabulary to specify the purpose or physical format of a document within a DocClass.

MilsLUT

The list of Mineral Inventory Location Subsystem references for Mines.

Mines

The main table for spatial entities. Primarily, these are mines or prospects but also include mills, smelters, and other processing facilities related to commodity production or processing in Idaho.

MrdsLUT

The list of Mineral Resource Data System references for Mines.

Names

The names and aliases used in reference to mine properties. Names are recorded as they appear in the source documents.

OrangeNumber

The is a list of an analog reference system for mine properties. This system has been retired and no new information can be added. This table is for reference only and is not related to other tables.

Ore

A reference table for historic ore production from USBM sources. The values have been coded for confidentiality. This system has been retired and no new information will be added. This table is for reference only and is not related to other tables.

ProductionCodes

A reference table for historic ore production amounts from USBM sources. The values have been coded for confidentiality. This system has been retired and no new information will be added.

ProductionPeriod

A reference table for years of historic ore production from USBM sources. The values have been coded for confidentiality. This system has been retired and no new information will be added. This table is for reference only and is not related to other tables.

ProductionValues

A reference table for historic ore production units from USBM sources. The values have been coded for confidentiality. This system has been retired and no new information will be added.

QuadLUT

The controlled list of 1:250K Quadrangle names in Idaho. The two-letter QuadID provides the spatial component of the unique IGSID for Mines.

Tailings

A reference table for historic mine tailings from USBM sources. The values have been coded for confidentiality. This system has been retired and no new information will be added. This table is for reference only and is not related to other tables.

zInfrastructure

The metadata table explains the changes to the database infrastructure including normalization and refactoring. This table is for reference only and is not related to other tables.

zUpdates

The metadata table to track record-level changes occurring from data entry or quality assurance and control. This table is for reference only and is not related to other tables.

The following tables are **geodatabase reference only** and are not related to other tables.

GDB_ColumnInfo

GDB_GeomColumns

GDB_ItemRelationships

GDB_ItemRelationshipTypes

GDB_Items

GDB_Items_Shape_Index

GDB_ItemTypes

GDB_ReplicaLog

GDB_SpatialRefs

The following are **retired** tables that will not be updated or maintained but are included here to track down information as it appeared in previous releases of DD-1. These tables are for reference only and not related to other tables.

zz_Annotations

Metadata table for a subset of records. Dates in this table begin in 1999, and it contains information about procedures to locate and name several mine properties.

zz_MinesTrackChange

Previously named [mines_mdb_tracking_mdat]. Metadata table mentioning changes to the database infrastructure including normalization and refactoring prior to 2023. This table was created in 2010 to track major updates at a version scale.
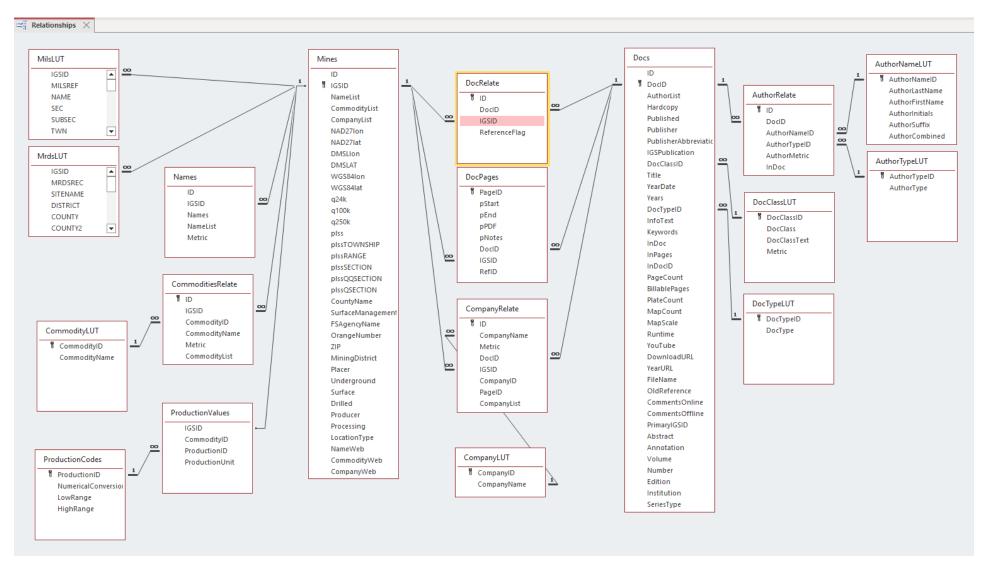
zz_RecordsTrackChange

Metadata table listing record-level changes that occurred during database redesign. This table was created in 2014 to record the many changes to individual properties and tables that occurred in preparation for the version 1.2015 release. It also contains the records updated and migrated in subsequent years.

zz_Updates

The main metadata table detailing record-level changes that occurred during data entry prior to 2023. Dates in this table begin in 1999, and it contains information about specific changes to a property's attributes, as well as tracking new references.

Table relationships

SECTION III: DataDictionary

The following pages are a table of the fields in each table of the database explaining their meaning and data type.

TableName	FieldName	FieldType	FieldLength	FieldDescription
AuthorNameLUT	AuthorNameID	Long	4	Unique ID and Primary Key.
AuthorNameLUT	AuthorLastName	Text	255	Last name of author if available, else initials or organization.
AuthorNameLUT	AuthorFirstName	Text	255	First name of author, if available, else initials.
AuthorNameLUT	AuthorInitials	Text	255	Initials of author name, if applicable.
AuthorNameLUT	AuthorSuffix	Text	255	Author's suffix, if applicable.
AuthorNameLUT	AuthorCombined	Text	255	Complete author or organization arranged in USGS citation style.
AuthorRelate	ID	Long	4	Unique ID and Primary Key.
AuthorRelate	DocID	Text	255	Relates to Docs.DocID.
AuthorRelate	AuthorNameID	Long	4	Relates to AuthorNameLUT.AuthorNameID.
AuthorRelate	AuthorTypeID	Long	4	Relates to AuthorTypeLUT.AuthorTypeID.
AuthorRelate	AuthorMetric	Long	4	Order of listing of authors in a document.
AuthorRelate	InDoc	Boolean	1	Author is attached to an "In" document.
AuthorTypeLUT	AuthorTypeID	Long	4	Unique ID and Primary Key.
AuthorTypeLUT	AuthorType	Text	255	Types of contributors to media objects.
CommoditiesRelate	ID	Long	4	Unique IDs and Primary Key.
CommoditiesRelate	IGSID	Text	255	ID of mine or prospect property number. Relates to Mines.IGSID.
CommoditiesRelate	CommodityID	Text	255	Atomic symbol or abbreviation for a commodity. Relates to CommodityLUT.CommodityID.
CommoditiesRelate	CommodityName	Text	255	The spelled-out name of the commodity.
CommoditiesRelate	Metric	Long	4	Order of importance of this commodity for this IGSID.
CommoditiesRelate	CommodityList	Memo	0	List of all commodites for an IGSID ordered by Metric.
CommodityLUT	CommodityID	Text	50	Unique IDs and Primary Key. Atomic symbol or abbreviation used to represent the CommodityName for display in the property listings.
CommodityLUT	CommodityName	Text	50	The spelled-out name of the commodity.
CompanyLUT	CompanyID	Long	4	Unique IDs and primary key for these records.
CompanyLUT	CompanyName	Text	255	Company name in the form it appears in a given media object. To prevent errors on data entry this is the Relate Key to CompanyRelate.CompanyName.
CompanyRelate	ID	Long	4	Unique IDs and primary key for these records.
CompanyRelate	CompanyName	Text	255	Company name in the form it appears in a given media object. To prevent errors on data entry, this is the Relate Key to CompanyLUT.CompanyName.
CompanyRelate	Metric	Integer	2	Order of importance of this company for a specific property within a given media object.
CompanyRelate	DocID	Text	255	Relates to Docs.DocID.
CompanyRelate	IGSID	Text	255	Relates to Mines.IGSID.
CompanyRelate	CompanyID	Long	4	Numeric ID from CompanyLUT.
CompanyRelate	PageID	Long	4	Relates to DocPages.DocID to recover specific records between Docs, Mines, and Companies.
CompanyRelate	CompanyList	Memo	0	List of all companies for this IGSID in this media object, ordered by Metric.
CountyLUT	CountyName	Text	50	Names of counties in Idaho
DocClassLUT	DocClassID	Long	4	Unique IDs and Primary Key. Relates to Docs.DocClassID.
DocClassLUT	DocClass	Text	255	Name of document class for delivery and representation as controlled vocabulary.
DocClassLUT	DocClassText	Text	255	Description of the DocClass category.
DocClassLUT	Metric	Long	4	Order of class categories in web tables (1 takes precedence over 2, etc.).
DocIDRefIDCipher	DocID	Text	255	DocID derived from data to represent and inform records in the current Docs table; some RefIDs persisted; may contain duplicates where RefIDs were merged into one document
DocIDRefIDCipher	RefID	Text	255	RefID used in legacy database as the unique ID for media objects
DocPages	PageID	Long	4	Unique ID and key for this many to many table
DocPages	pStart	Text	255	Start page of page range OR single page
DocPages	pEnd	Text	255	End page of page range
DocPages	pPDF	Boolean	1	If FALSE, pages are page number(s) of actual document (preferred). If TRUE, then page(s) are from PDF count.
DocPages	pNotes	Text	255	Note if in appendix with seperate page numbers or other info to locate data.
DocPages	DocID	Text	255	DocID key for Doc relates
DocPages	IGSID	Text	255	ID of mine or prospect property number.
DocPages	RefID	Text	255	Previous unique ID for Docs. Preserved here for metadata.

TableName	FieldName	FieldType	FieldLength	FieldDescription
DocRelate	ID	Long	4	Unique ID and Primary Key.
DocRelate	DocID	Text	255	Relates to Docs.DocID.
DocRelate	IGSID	Text	255	Relates to Mines.IGSID.
DocRelate	ReferenceFlag	Boolean	1	This document supplies significant or unique information on this IGSID about location, commodities, geology, or type of mining activity.
Docs	ID	Long	4	Unique numeric ID.
Docs	DocID	Text	255	Unique ID and Primary Key of these media objects, derived from their attribute data where possible.
Docs	AuthorList	Memo	0	Author list for quick reference on web; ordered by metric in USGS style
Docs	Hardcopy	Boolean	1	IGS retains a physical copy
Docs	Published	Boolean	1	Publication status
Docs	Publisher	Text	255	Entity that originally published this file
Docs	PublisherAbbreviation	Text	255	Shorthand for document
Docs	IGSPublication	Boolean	1	File is published by Idaho Geological Survey
Docs	DocClassID	Long	4	Classification of document for grouping, creating DocID, and downloading -probably relate in distinct table by DocID
Docs	Title	Memo	0	Title of file if known, or [Inferred Title] by content
Docs	YearDate	Long	4	Earliest date of file data
Docs	Years	Text	255	Range of years the file provides information on
Docs	DocTypeID	Long	4	Controlled vocabulary of the general or predominant content, series, or form of media objects.
Docs	InfoText	Text	255	Brief description of Document content or purpose
Docs	Keywords	Text	255	Supplemental tags based on values from other fields, document content, and metadata.
Docs	InDoc	Boolean	1	If TRUE, this record is a main document, such as a periodical or portfolio, that contains other documents.
Docs	InPages	Text	255	Page number(s) in host [InDocID] to locate this file.
Docs	InDocID	Text	255	The DocID of this docment's host document in this table.
Docs	PageCount	Long	4	Page count according to document or table of contents
Docs	BillablePages	Long	4	Page count according to PDF if printed
Docs	PlateCount	Long	4	Number of plates according to document's table of contents
Docs	MapCount	Long	4	Number of maps including plates in document
Docs	MapScale	Text	255	Scale if file is or primarily is a map
Docs	Runtime	Text	255	Duration of audio or video clips hh:mm:ss
Docs	YouTube	Memo	0	URL for videos on IGS YouTube Channel
Docs	DownloadURL	Memo	0	Download URL for this file
Docs	YearURL	Long	4	Year the URL entered or last accessed
Docs	FileName	Text	255	Name of folder or file
Docs	OldReference	Text	255	Old reference if it exists
Docs	CommentsOnline	Memo	0	Online comments
Docs	CommentsOffline	Memo	0	Offline comments
Docs	PrimaryIGSID	Text	255	IGS file catalog ID and primary property IGSID (mostly for web app)
Docs	Abstract	Boolean	1	This doc is an abstract
Docs	Annotation	Boolean	1	This doc is an annotation
Docs	Volume	Text	255	Volume number of the periodical
Docs	Number	Text	255	Number of the publication in the periodical
Docs	Edition	Text	255	Edition number of the publication
Docs	Institution	Text	255	Organization of the authors of a dissertation or thesis
Docs	SeriesType	Text	255	Specific name of DocType, such as type of report from a certain agency
DocTypeLUT	DocTypeID	Long	4	Unique IDs and Primary Key. Relates to Docs.DocTypeID.
DocTypeLUT	DocType	Text	255	Controlled vocabulary of the general or predominant content, series, or form of media objects.

TableName	FieldName	FieldType	FieldLength	FieldDescription
Mines	ID	Long	4	Unique numeric IDs.
Mines	IGSID	Text	10	Unique ID and Primary Key for each property. Also represents the catalog number for Mineral Property Files. Previously called SequenceNumber or Property Number.
Mines	NameList	Memo	0	List of all names for a given IGSID, ordered by Metric. The present name or most commonly used names appear first. Mostly for utility in KMZ and AGOL.
Mines	CommodityList	Memo	0	List of all commodities for a given IGSID, ordered by Metric. The most produced commodities appear first. Mostly for utility in KMZ and AGOL.
Mines	CompanyList	Memo	0	List of distinct companies for a given IGSID, ordered by Metric. Due to duplicates mentions of companies in unique DocIDs, the number or relates exceeds the size of these lists. Mostly for utility in KMZ and AGOL.
Mines	NAD27lon	Double	8	Longitude in NAD27 in decimal degrees, as digitized from 1:250,000 base AND see [LocationType] field for information about updated locations.
Mines	NAD27lat	Double	8	Latitude in NAD27 in decimal degrees, as digitized from 1:250,000 base AND see [LocationType] field for information about updated locations.
Mines	DMSlon	Text	255	Degree Minute Second Longitude based on NAD27, as digitized from 1:250,000 base; or as updated from field work (see Updates table) AND see [LocationType] field for information about updated locations.
Mines	DMSlat	Text	255	Degree Minute Second Latitude based on NAD27, as digitized from 1:250,000 base; or as updated from field work (see Updates table) AND see [LocationType] field for information about updated locations.
Mines	WGS84lon	Double	8	Longitude in WGS84 in decimal degrees.
Mines	WGS84lat	Double	8	Latitude in WGS84 in decimal degrees.
Mines	q24k	Text	50	Name of the USGS 1:24,000 Scale Quad Name from the USGS database for Idaho and referenced against IDWR 1:24,000 Quad index. Names were changed based on the name of the USGS quad and spelled out(ex. Mtn to Mountain).
Mines	q100k	Text	50	Name of the USGS 1:100,000 Scale Quad name from the USGS database for Idaho and referenced against IDWR 1:100,000 Quad index. Names were changed based on the name of the USGS quad and spelled out (ex. Mtn to Mountain).
Mines	q250k	Text	255	Name of the 1x2 degree USGS Quadrangle maps. These provide the letter component of the IGSID.
Mines	plss	Text	255	Concatenation of PLSS-TRS; Format is Township
Mines	plssTOWNSHIP	Text	255	Idaho PLSS Township
Mines	plssRANGE	Text	255	Idaho PLSS Range
Mines	plssSECTION	Long	4	Idaho PLSS Section
Mines	plssQSECTION	Text	255	Idaho PLSS quarter section
Mines	plssQQSECTION	Text	255	Idaho PLSS quarter quarter section
Mines	CountyName	Text	50	County Names of Idaho mine or prospect intersects (WGS84)
Mines	SurfaceManagementAgency	Text	255	Surface Management Agency composite from the following sources (in order): CADNSDI; IDL_LandOwnership; ForestProtectionDistrict_IDL.
Mines	FSAgencyName	Text	255	Name of U.S. Forest or Forest Service administrative unit from ForestProtectionDistrict_IDL.
Mines	OrangeNumber	Long	4	Property ID number associated with IGS "Mines and Prospects Maps" series; last updated in 1992.
Mines	ZIP	Text	255	ZIP code intersection for location (WGS84).
Mines	MiningDistrict	Text	255	Potential Mining District (see documentation for source and reference data).
Mines	Placer	Boolean	1	Evidence of placer activity.
Mines	Underground	Boolean	1	Evidence of underground mining.
Mines	Surface	Boolean	1	Evidence of open pit/quarry mining.
Mines	Drilled	Boolean	1	Evidence of drilling at or near property site.
Mines	Producer	Boolean	1	Evidence of production.
Mines	Processing	Boolean	1	Evidence of on-site processing at the property, such as milling, smelting, and leaching.
Mines	LocationType	Boolean	1	YES (True, -1) is improved location from 1:24,000K quad map, remotes sensing, GPS, or site visit. NO (False, 0) is location not better located than 1:250,000K map digitization
Mines	NameWeb	Memo	0	Pipe-delimited list for web app.
Mines	CommodityWeb	Memo	0	Pipe-delimited list for web app.
Mines	CompanyWeb	Memo	0	Pipe-delimited list for web app.

TableName	FieldName	FieldType	FieldLength	FieldDescription
MilsLUT	IGSID	Text	10	ID of mine or prospect property number. Relates to Mines.IGSID.
MilsLUT	MILSREF	Long	4	Reference Number in the U.S. Bureau of Mines' Mineral Industry Location Subsystem (MILS)
MilsLUT	NAME	Text	36	MILS: Property name(s) as listed in MILS
MilsLUT	SEC	Text	2	MILS: Section where property is located
MilsLUT	SUBSEC	Text	6	MILS: Subsection where property is located
MilsLUT	TWN	Text	5	MILS: Township where property is located
MilsLUT	RNG	Text	5	MILS: Range where property is located
MilsLUT	DDMMSS	Text	6	MILS: Latitude as given in MILS database
MilsLUT	DDDMMSS	Text	7	MILS: Longitude as given in MILS database
MilsLUT	OPTYP	Text	20	MILS: Type of operation (underground, surface, placer, prospect, etc.)
MilsLUT	STATUS	Text	20	MILS: Last known status of the operation (active, inactive, exploration, etc.) according to MILS.
MilsLUT	COMMO1	Text	10	MILS: Commodity 1
MilsLUT	COMMO2	Text	10	MILS: Commodity 2
MilsLUT	COMMO3	Text	10	MILS: Commodity 3
MilsLUT	COMMO4	Text	10	MILS: Commodity 4
MilsLUT	COMMO5	Text	10	MILS: Commodity 5
MilsLUT	MAPNAME	Text	17	MILS: 7.5-minute (or 15 minute) map on which the property is found
MilsLUT	QUAD	Text	12	MILS: 1-degree by 2-degree on which the property occurs
MilsLUT	POP	Text	5	MILS: Precision of the point where MILS location is plotted
MilsLUT	TOE	Text	1	MILS: Type of evaluation
MilsLUT	YFC	Text	4	MILS: Year property was field checked
MilsLUT	MPF	Text	6	MILS: U.S. Bureau of Mines Mineral Property File Number
MilsLUT	MILSKEY	Long	4	Key to this table
MrdsLUT	IGSID	Text	10	ID of mine or prospect property number. Relates to Mines.IGSID.
MrdsLUT	MRDSREC	Text	50	Record Number in the USGS's Mineral Resources Data System (MRDS)
MrdsLUT	SITENAME	Text	55	MRDS: Property name(s) as listed in MRDS
MrdsLUT	DISTRICT	Text	55	MRDS: Mining district name (not always correct)
MrdsLUT	COUNTY	Text	20	MRDS: County in which property is located.
MrdsLUT	COUNTY2	Text	50	IGS: Secondary county in which the property is located.
MrdsLUT	SECQUAD	Text	25	MRDS: Name of quadrangle map on which property is located
MrdsLUT	SECQUADSCL	Text	15	MRDS: Scale of map
MrdsLUT	UTMNORTH	Text	7	MRDS: Universal Transverse Mercator (UTM) northing
MrdsLUT	UTMEAST	Text	7	MRDS: Universal Transverse Mercator (UTM) easting
MrdsLUT	UTMZONE	Text	3	MRDS: Universal Transverse Mercator (UTM) zone
MrdsLUT	COMMODIT	Text	25	MRDS: Commodities found at the property
MrdsLUT	LAT	Text	9	MRDS: Latitude as given in MRDS
MrdsLUT	LON	Text	10	MRDS: Longtitude as given in MRDS
MrdsLUT	TOWN	Text	5	MRDS: Township where property is located, as given in MRDS
MrdsLUT	SECTION	Text	8	MRDS: Section where property is located, as given in MRDS
MrdsLUT	RANGE	Text	5	MRDS: Range where property is located, as given in MRDS
MrdsLUT	MRDSKEY	Long	4	Lookup Key for this table

TableName	FieldName	FieldType	FieldLength	FieldDescription
Names	ID	Long	4	Unique IDs and Primary Key for these records.
Names	IGSID	Text	10	ID of mine or prospect property number. Relates to Mines.IGSID
Names	Names	Text	255	A unique spelling of a single name commonly, officially, or legally used for a property.
Names	NameList	Memo	0	List of all names for a given IGSID ordered by Metric. The present name or most commonly used names appear first.
Names	Metric	Long	4	Order of Appearance of Names from original Database. Newly discovered aliases will be assigned a sequentially higher Metric value.
OrangeNumber	IGSID	Text	10	ID of mine or prospect property number.
OrangeNumber	Quad1x2Degree	Text	5	Abbreviation of 250K quadrangle names as used in [IGSID] to locate properties and records. See QuadLUT for full names.
OrangeNumber	OrangeNumber	Long	4	Property ID Number used in the first edition of the Mines and Prospects series (orange covers). Some sites have more than one ORANGENUM, if they were later discovered to represent duplicate names/information for the same site.
OrangeNumber	SecondEdition	Long	4	Property ID Number used in the second edition of the Mines and Prospects series (gray covers). Updated for some properties only.
OrangeNumber	Auto	Long	4	Unique ID for records in this table.
Ore	IGSID	Text	255	ID of mine or prospect property number. Relates to Mines.IGSID. This table is retired and not currently related.
Ore	RawAmount	Text	20	The amount of raw ore produced by the mine or placer. Relates to ProductionCodes.ProductionID to keep production amounts confidential.
Ore	RawUnit	Text	20	The unit in which the ore was measured (tons or yards).
ProductionCodes	ProductionID	Text	2	Unique IDs and Primary Key. The alphabetical abbreviation used to keep the production information confidential.
ProductionCodes	NumericalConversion	Text	255	The range of values that corresponds to the ProductionID.
ProductionCodes	LowRange	Text	255	The low value corresponding to the ProductionID.
ProductionCodes	HighRange	Text	255	The high value corresponding to the ProductionID.
ProductionPeriod	IGSID	Text	255	ID of mine or prospect property number. Relates to Mines.IGSID.
ProductionPeriod	ProductionYears	Text	255	Range of years during which production was recorded for the mine. Multiple date ranges may be recorded for a single mine if the gap between the production periods is long enough.
ProductionPeriod	StartYear	Text	255	Earliest year for which production was recorded for the mine.
ProductionPeriod	EndYear	Text	255	Latest year for which production was recorded for the mine.
ProductionValues	IGSID	Text	255	ID of mine or prospect property number. Relates to Mines.IGSID
ProductionValues	CommodityID	Text	255	Corresponds with Commodities for the property. Relates to CommodityLUT.CommodityID.
ProductionValues	ProductionID	Text	255	Relates to ProductionCodes.ProductionID to keep production amounts confidential.
ProductionValues	ProductionUnit	Text	255	Unit of Production. Lbs = Pounds; Oz. = Ounces.
QuadLUT	QuadID	Text	255	Abbreviation of 250K quadrangle names as used in [IGSID] to locate properties and records
QuadLUT	QuadName	Text	255	Name of Quadrangle
Tailings	IGSID	Text	255	ID of mine or prospect property number. Relates to Mines.IGSID. This table is retired and not currently related.
Tailings	TailingsAmount	Text	20	The amount of tailings reprocessed by the mine or placer. Relates to ProductionCodes.ProductionID to keep production amounts confidential.
Tailings	TailingsUnit	Text	20	The unit in which the tailings was measured (tons or yards).

TableName	FieldName	FieldType	FieldLength	FieldDescription
zInfrastructure	ID	Long	4	Record number.
zInfrastructure	DBVersion	Text	255	The version of the database where the changes were made
zInfrastructure	LastUpdate	Text	255	The date these changes were made
zInfrastructure	LoginID	Text	255	The user who made the changes
zInfrastructure	Changes	Text	255	Brief overview of the changes that were made
zInfrastructure	Notes	Memo	0	Detailed description of the differences between this version and the previous version
zUpdates	ID	Long	4	Record number.
zUpdates	DocID	Text	255	Unique Document identifier
zUpdates	IGSID	Text	255	Unique Property identifier
zUpdates	LastUpdate	Text	255	The date the change was made
zUpdates	LoginID	Text	255	The user who made the changes
zUpdates	Changes	Text	255	Changes that took place to this record
zUpdates	Notes	Memo	0	Brief description of the rationale or evidence for the change
zz_Annotations	KeyField	Long	4	Unique ID for records in this table.
zz_Annotations	RecordID	Text	50	For the main entry for each property, the RecordID is the same as the SequenceNumber.
zz_Annotations	MapLoc	Text	50	The number used to plot the property on a map. Usually the same as the RecordID.
zz_Annotations	Property Name	Text	50	Name of the mine or prospect.
zz_Annotations	DateOf Note	Text	50	Date when this annotation to the database was made.
zz_Annotations	DatabaseField	Text	50	Field of the database to which this annotation applies.
zz_Annotations	Notes	Memo	0	Comment(s) on database.
zz_Annotations	Notes2	Memo	0	Additional comments, if necessary.
zz_MinesTrackChange	OBJECTID	Long	4	Unique ID for records entered in this table.
zz_MinesTrackChange	LegacyVersion	Text	14	Internal IGS identification code for database version; not used after 20220719
zz_MinesTrackChange	LegacyProcStep	Memo	0	2.5.2.1: process description; explanation of the event and related parameters or tolerances: tracks changes to statewide geology GDB; not used after 20220719
zz_MinesTrackChange	ProcDate	Date/Time	8	2.5.2.3: date when the event was completed. Current and Legacy
zz_MinesTrackChange	LegacyDatabaseName	Text	200	Legacy database name. Locate backup DBs by datestamp after 20220719
zz_MinesTrackChange	Editor	Text	50	Initials of database admin making changes. Current and Legacy
zz_MinesTrackChange	DBTrackChange	Memo	0	Description of change made to database infrastructure. Current.
zz_RecordsTrackChange	KeyField	Long	4	Index to this table.
zz_RecordsTrackChange	IGSID	Text	50	Relate to location data
zz_RecordsTrackChange	DocID	Text	255	Relate to Doc data
zz_RecordsTrackChange	ActionTaken	Text	255	What table.field was updated and what was done to it (brief explanation)
zz_RecordsTrackChange	Notes	Memo	0	Detailed explanation of what was updated and why
zz_RecordsTrackChange	Initials	Text	50	Initials of researcher
zz_RecordsTrackChange	DateChange	Date/Time	8	Date of record edit
zz_RecordsTrackChange	Metric	Long	4	For sorting multiple Initials with a single date by order of edit (some cases only most recent date exists). Only applies to migration during 2022 refraction.
zz_Updates	KeyField	Long	4	Index to this table.
zz_Updates	RecordID	Text	50	For the main entry for each property, the RecordID is the same as the SequenceNumber.
zz_Updates	LastUpdated	Date/Time	8	The date the record was updated.
zz_Updates	ActionTaken	Text	255	What field was updated and what was done to it (brief explanation).
zz_Updates	Notes	Memo	0	Detailed explanation of what was updated and why.
zz_Updates	Initials	Text	50	Initials of researcher.

SECTION IV: ReadMe

20230329
==
        Mines and Prospects of Idaho
==

Database of the Mines and Prospects of Idaho

Compiled by Christopher A. Tate, Victoria E. Mitchell, Louden R. Stanford, and Jacob A. Eldredge

Digital Database 1 in the Idaho Geological (IGS) Digital Data series (DD-1)
Version 1.2023
March 2023

HOW TO USE THIS DOCUMENT

This ReadMe document will help you get the most out of the
database, and should be consulted with other metadata and
support documents. Please contact us if you should encounter
any problems with the database.

To view Readme.txt onscreen in Notepad, maximize the Notepad
window or select the Word Wrap option under Format in the toolbar.

To print Readme.txt, open it in Notepad or another word
processor, and then use the Print command on the File menu.

'Database,' 'Mines and Prospects,' and 'DD-1' might be used interchangeably when referring to
the working database, the database in the DD-1 download bundle, and the database driving the
Mines and Prospects web app.

Names in brackets, such as [Mines], refer to tables in the database.
Names in brackets separated by a period, such as [Mines].[IGSID] refers to
field [IGSID] in the table [Mines].

Included With this Data Set
============================
1. Access 2000 data in a relational database formatted as an ESRI personal geodatabase.
2. Geodatabase point feature class as WGS84.
2. A Shapefile made from xy event in ArcGIS 10.8.1 using [Mines].[lonWGS84] and
[Mines].[latWGS84] fields.

3. Metadata.
4. A KMZ file for import into Google Earth, Google Maps, or other applications.
5. MXD files for ArcGIS versions 10.1-10.8 that includes symbology used in the Idaho Geological Survey's Mines web application.
6. APRX files for ArcGIS Pro versions 2.8 and newer.

Table of Contents
==================

1. System Requirements
==========================
Microsoft Access 2000 or later, and Geographical Information System (GIS) software for opening the shapefile. ArcGIS 10.8.1 was used to process data and create the MXD files. ArcGIS Pro 2.8 and newer was used to work with the data in APRX format.

2. Introduction
=================

The Idaho Geological Survey's Mines and Prospects digital database contains information on over 9,400 mining properties in Idaho. This inventory of mining activity and production is a valuable research tool, particularly for mineral exploration and land management. All available sources have been used to compile and correct this information, including published and unpublished reference materials, the U.S. Geological Survey's (USGS) Mineral Resources Data System (MRDS), and the U.S. Bureau of Mines' Mineral Industry Location Subsystem (MILS). Every effort has been made to make the database complete and accurate; however, any additions or corrections should be directed to the Idaho Geological Survey. Periodic revisions of this database will be issued as new information is added.

2A. Information Included

Each mine or prospect is identified by its map location number, [Mines].[IGSID], which is also the property number in the IGS's Mineral Property Files physical collection. In the Mines table, the [*].[latitude] and [*].[longitude] fields (NAD27) are the best available location for the property as plotted. WGS84 locations are included for use in Google Map, Google Earth, and ESRI map services (see online search tool at: https://idahogeology.org/WebMap/). Other useful location information (such as county in which the deposit occurs; its township, range, section, quarter section; the landowner; etc.) are also shown and updated for this version (1.2023).

A shapefile (MinesAndProspects.shp) and ESRI feature class (Mines_FC) built from the WGS84 coordinates that includes attributes from the [Mines] table, with data from other tables for convenience. A PDF file containing ArcMap export and [DataDictionary] table, a PDF file (MinesAndProspects_Metadata.pdf), this ReadMe file (ReadMe.txt), and the Mines and Prospects database MinesAndProspects_1.2023).

The References field originally contained the single reference with the best information for spatially locating the property. Ongoing updates are slowly expanding the references for each property. These and other changes were recorded in the zz_Updates table, which documents each change made to the database. If more detailed comments are needed, these are to be found in the Annotations field. For version 1.2015, a TrackChange table has been added to note changes to property locations and attributes for the database re-work 2014-15.

Production figures were compiled from U.S. Bureau of Mines' unpublished records. For lode mines, the total amounts of ore produced, and old tailings reprocessed (if any) are reported in tons; where tailings were reprocessed, these numbers are listed after a slash (i.e., ore/tailings). For placer mines, the production is given in yards of material processed. Production tonnage (or yardage) is most useful for determining the relative size of a deposit. For an individual deposit, caution should be used in comparing the tons of ore or yards of gravel mined with the metals obtained from the ore, because for some years the total amount (tons or yards) mined may be unknown or the data may be incomplete. For the commodities, gold and silver are in troy ounces; copper, lead, and zinc are in pounds. Reliable production data are not available for other commodities. To protect mining company confidentiality, single letters represent broad ranges in the amounts of ore and commodities produced (see below).

For comparison purposes, many entries contain selected fields from the U.S. Bureau of Mines MILS database and the U.S. Geological Survey's MRDS database. This is information taken from the 1991 version of these databases and has not been compared with the current online version of the combined databases (https://mrdata.usgs.gov/mrds/). The MILS and MRDS databases will remain unchanged and are used simply as a reference.

2B. Compilation History.

The Mines and Prospects database has been an ongoing IGS research project for 33 years! It has been curated by multiple individuals throughout its lifetime, and currently there is not a single metadata or support document source yet compiled that can 'tell the whole story.' Users are urged

to consult all metadata sources and support documents to refine their understanding of the products. An appendix at the end of this document has been added for version 1.2016 to assist locating information.

The first editions of the Mines and Prospects Map Series were funded jointly under contracts and cooperative agreements between the Idaho Bureau of Mines and Geology (now the Idaho Geological Survey) and the U.S. Geological Survey, the U.S. Bureau of Mines (now defunct), the U.S. Forest Service, and the U.S. Bureau of Land Management. For the second editions, the maps and property listings incorporated corrections and new data accumulated since the original maps were published. This revision was done as part of the Idaho Initiative Mapping Program, a cooperative research project between the Idaho Geological Survey, the U.S. Geological Survey, and the U.S. Bureau of Mines. Preparation of these digital publications is an ongoing process. The compilers for the various editions of the Mines and Prospects for Idaho were Victoria E. Mitchell, Ruth E. Vance, William B. Strowd, Gail S. Hustedde, Julie A. Copeland, Margaret H. Ott, Earl H. Bennett, B. Benjamin E. Studer, Loudon R. Stanford, and Christopher A. Tate.

The original Mines and Prospects Map Series was compiled by referring to the best available reference for a site (preferably a map) and cross-checking that location against the information in MILS and MRDS. One opening was selected to represent each mine, and points were plotted as accurately as possible on 1:250,000 maps. Each dot used to plot a site covered about a quarter of a section. When these maps were digitized, the accuracy of each point was 0.25 miles (400 m) or less.

In 1994, the Idaho Geological Survey began the first of a series of field programs in co-operation with the U.S. Forest Service (Regions 1 and 4) and the U.S. Bureau of Land Management to inspect inactive and abandoned mines in Idaho. These programs ran through 2005, and the results of most of them have been published as Idaho Geological Survey Staff Reports. When a site was visited, a detailed map of the site's features was made on a 1:24,000 map. The location of the largest and/or most significant feature was later digitized and updated into the database. Some of the later studies included the use of GPS units; these locations were entered directly into the database.

In 2008 in a project funded by the USGS under the National Geological and Geophysical Data Preservation Program, the Idaho Geological Survey began updating the locations of all the properties for which it has a mineral property file. These updated locations were plotted in National Geographic's TOPO! program at a scale of 1:24,000. The improved coordinates were then uploaded into the database.

Several projects funded by the USGS and the Idaho Department of Lands resulted in a substantial re-work of the database 2009-2015 and culminated in re-release of DD-1 as version 1.2015. This included development of a Mines and Prospects web app, scanning of maps and other documents in the IGS archives to be hyperlinked for download, and 'cleaning up' the data and structure of the database. More information about the procedural changes for the 1.2015 version can be found in [mines_mdb_tracking_mdat]. This ReadMe was also updated.

For the 1.2016 version release, several significant database and product changes were implemented, as well as continuous scanning and entering Mineral Property Files to be accessed through the web app this database drives. The MinesAndProspects database was migrated to an ESRI Personal Geodatabase. This format does not interfere in any way with Access functionality. It does ease database maintenance and is convenient for users interested in using the data in ArcGIS. Point feature classes were developed and an ESRI map document was included for convenience. Work was begun on conforming references to the Idaho Geological Survey's established publication format. Portfolios (unique and physically bound collections of maps and other documents) were made a subset of Mineral Property File data. ZIP code and Mining District attributes were added to the [Mines] table. A KMZ file was added to this release.

For the 1.2018 version release, infrastructure to accommodate Idaho State Mine Inspector Report and Idaho Geological Survey annual mining reports (Regional Development) material was developed. The ability to record company name data for document sources was included, and a table that includes records of mine property names and commodities was developed to create feature classes and the KMZ file.

For the 1.2021 version we began capture of data indicating placer activity, underground workings, surface (pit) mining, exploration-only, commodity production, and ore processing facilities on-site.

For the 1.2023 version is an overhaul involving normalization and refactoring of data, fields, and relationships. Included in this version is a search wizard accessed through the form [AccessRecords]. These efforts achieved a consistent and more intuitive database.

The data are current to the date on the version.

3. Key to Abbreviations used in the Mines
   and Prospects Digital Database
==

3A. References

  1. Agency

    BLM   -   U.S. Bureau of Land Management
    DOE   -   U.S. Department of Energy
    DMA   -   Defense Minerals Administration
    DMEA -   Defense Minerals Exploration Administration

    IBMG -   Idaho Bureau of Mines and Geology
    IGS   -   Idaho Geological Survey
    MSHA -   Mining Safety and Health Administration
    OME   -   Office of Mineral Exploration

USBM   -   U. S. Bureau of Mines

USDA   -   U. S. Department of Agriculture
USFS   -   U. S. Forest Service
USGS   -   U. S. Geological Survey
WFOC   -   Western Field Operations Center

2. Publication

B   -   Bulletin
CR   -   County Report
IC   -   Information Circular
MILS   -   Mineral Inventory Location Subsystem
MLA   -   Mineral Land Assessment

MPF   -   Mineral Property File
MR   -   Miscellaneous Report
MRDS   -   Mineral Resources Data System
OFR   -   Open-File Report

P   -   Pamphlet
PP   -   Professional Paper
RI   -   Report of Investigation
SR   -   Special Report

3B. Commodities

1. Elemental

Ag   -   silver
Al   -   aluminum
As   -   arsenic
Au   -   gold
Ba   -   barium
Be   -   beryllium
Bi   -   bismuth
Ca   -   calcium
Cd   -   cadmium
Ce   -   cerium
Cr   -   chromium
Cs   -   cesium
Co   -   cobalt
Cu   -   copper
Fe   -   iron

Ga - gallium
Ge - germanium
Hg - mercury
Mg - magnesium
Mn - manganese
Mo - molybdenum
N - nitrogen
Na - sodium
Nb - niobium
Ni - nickel
Pb - lead
Pt - platinum
S - sulfur
Sb - antimony
Se - selenium
Si - silicon
Sn - tin
Ta - tantalum
Te - tellurium
Th - thorium
Ti - titanium
U - uranium
V - vanadium
W - tungsten
Yt - yttrium
Zn - zinc
Zr - zirconium

2. Mineral and Other

abr - abrasives
asb - asbestos
bar - barite
bk-sd - black sand
bri - brine
cal - calcite
cin - cinders (volcanic)
cly - clay
coal - coal
cor - corundum
dia - diamond
dit - diatomaceous earth
dol - dolomite
eva - evaporites
F - fluorite
fld - feldspar

gar - garnet
gas - gas
gem - gemstones
graph - graphite
grt - granite
gyp - gypsum
hal - halite
jas - japser
kyn - kyanite
lst - limestone
mbl - marble
mic - mica
mon - monazite
oil - oil
oilS - oil shale
opl - opal
peat - peat
perl - perlite
PGM - platinum group metals
pho - phosphate
pum - pumice
qtz - quartz
qtzt - quartzite
RE - rare-earths
shl - shale
sil - silica
stn - stone
talc - talc
ver - vermiculite
vol - volcanic rocks
zeo - zeolites

3C. 250K Quadrangle Prefixes for IGSID

AS - Ashton
BA - Baker
BO - Boise
CH - Challis
DI - Dillon
DR - Driggs
DU - Dubois
EC - Elk City
GR - Grangeville
HA - Hailey
HM - Hamilton
IF - Idaho Falls

JV   -   Jordan Valley
PL   -   Pullman
PO   -   Pocatello
PR   -   Preston
SA   -   Sandpoint
SP   -   Spokane
TF   -   Twin Falls
WL   -   Wallace

4. Total Production Figures
==============================

The following alphabet is used to protect the confidentiality of the
production figures for the mines where data are known. These
values are also included in the "ProductionCodes" table in the
database.

The amounts are given, as applicable, in ounces, pounds, tons, or
yards.

A   -   less than 50
B   -   51-100
C   -   101-500
D   -   501-1,000
E   -   1,001-5,000
F   -   5,001-10,000
G   -   10,001-50,000
H   -   50,001-100,000
I   -   100,001-500,000
J   -   500,001-2,000,000
K   -   2,000,001-4,000,000
L   -   4,000,001-6,000,000
M   -   6,000,001-8,000,000
N   -   8,000,001-10,000,000
O   -   10,000,001-12,000,000
P   -   12,000,001-15,000,000
Q   -   15,000,001-20,000,000
R   -   20,000,001-30,000,000
S   -   30,000,001-40,000,000
T   -   40,000,001-50,000,000
U   -   50,000,001-75,000,000
V   -   75,000,001-100,000,000
W   -   100,000,001-150,000,000
X   -   150,000,001-200,000,000

```
Y   -    200,000,001-250,000,000
Z   -    250,000,001-300,000,000
AA  -    300,000,001-500,000,000
BB  -    500,000,001-750,000,000
CC  -    750,000,001-1,000,000,000
DD  -    1,000,000,001-1,500,000,000
EE  -    1,500,000,001-2,000,000,000
FF  -    2,000,000,001-3,000,000,000
GG  -    3,000,000,001-4,000,000,000
HH  -    4,000,000,001-5,000,000,000
```

5. Key to the (revised format) structure of the
    Mines and Prospects Digital Database
==

The details for the fields are available by viewing the accompanying
"MinesAndProspects_Metadata.pdf" file or checking the [DataDictionary].

6. Contact Information:
=========================

  To report bugs, discrepancies, or problems, please contact:

    Idaho Geological Survey
    ATTN: Christopher A. Tate
    Morrill Hall Third Floor
    Idaho Geological Survey
    University of Idaho
    875 Perimeter Dr. MS 3014
    Moscow, ID 83844-3014
    E-mail: ctate@uidaho.edu
    Phone: (208) 885-7540

    Idaho Geological Survey Web Site
    https://www.idahogeology.org

    IGS Mines and Prospects web application
    https://www.idahogeology.org/webmap/

    Idaho Geological Survey
    E-Mail: igs@uidaho.edu

7. Appendix of Metadata Sources
================================

There are multiple sources for metadata and support documentation. After consulting the sources below, if questions remain, please contact the Survey for assistance.

1. Metadata_Overview.pdf
2. [mines_mdb_tracking_mdat]
3. [DataDictionary]
4. [Z-annotations]
5. [Z-updates]
6. Web app help file MPHelp.pdf (especially the FAQ)

8. Appendix of Data Limitations
================================

This list is not exhaustive. It is important to understand that data limitations can be inherited and compounded, so they may be impacted variably depending on framework of a given analysis. This resource should be used in conjunction with sources in the Appendix of Metadata Sources, as well as metadata for source data used to derive Mines and Prospects attributes utilizing a GIS.

The DD-1 publication is provided as-is. The Idaho Geological Survey does not imply that any data in DD-1 is free of errors, or that it is suitable for every or any possible analysis. However, the Idaho Geological Survey may be able to assist with questions about the suitability of DD-1 data for particular analyses.

1. Location of mine sites: Initially, location data was derived largely by using 1:250,000 scale maps. Through time, some locations have been refined using 1:24,000 maps, GPS, remote sensing, and other resources. Location data is updated as new and/or more accurate information becomes available. It should be kept in mind that DD-1 uses a static point-data model to represent four-dimensional data. This simplification also has an impact on the resolution of mine location descriptions.

2. Production data: This was compiled from multiple sources and the methodology was not well documented. There is evidence that historically reported production was at least occasionally falsified, either higher or lower than actual production, by some reporting parties. Historic production data is provided as a range to protect proprietary information provided to the U.S. Bureau of Mines. The Idaho Geological Survey and the U.S. Geological Survey publish limited production data for current and recent operating mining interests that are not yet represented in Mines and Prospects (https://www.idahogeology.org/geologic-resources/mines-minerals/current-historic-mining-activity).

3. Public Land Survey System (PLSS): PLSS data was estimated using a GIS and data from the Bureau of Land Management and Idaho Department of Environmental Quality. It is not a legal
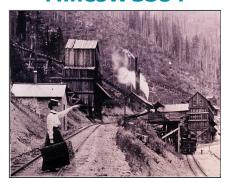
description and has limitations beyond the location of mine sites. It is provided for general reference only.

4. Mining Districts: Mining district data in DD-1 is from only one source with limited verification. Users should keep in mind that some district borders were never completely established or surveyed, some districts were split and/or combined, may have been established under territorial jurisdiction or after statehood, and that the pedigree for the source data for this attribute is not entirely clear. Digitization quality is no better than 1:1,000,000 scale. It is provided for general reference only, and without a date that could be used to help establish the boundaries or names being valid as they are described.

5. References: The references for properties are an important component and are in the process of being revised to match Idaho Geological Survey publication guidelines. Because of a lack of title etc. currently, they may be difficult to acquire. The Survey may be able to provide some assistance with documents such as U.S. Bureau of Mines publications. For media to qualify as a reference for a property, IGS defines a reference as a source that provides substantial or unique information about the commodities, mining activities, location, companies, or names of a property.

6. Download vs. Web App: Because the Mines and Prospects Working database that is used for the DD-1 download and for driving the Idaho Geological Survey's Mines web app is being updated, there may be discrepancies between the two datasets. This is because the web app is updated frequently, and the download package generally updated as a re-release of DD-1, which includes support documentation and metadata updates with substantial changes to the database, as well as other products released with DD-1. Therefore, the Mines web app is often more up-to-date than the downloadable package. Contact Idaho Geological Survey to request a copy of the DD-1 working database, or other products associated with this publication.

===

This readme file was last updated 3-2023 for Digital Database version 1.2023.

SECTION V: Feature class export

MinesWGS84

Tags

mines, Idaho, mining, minerals, ore, history, gems, rocks, rockhound, abandoned mines and quarries, economic geology, geochemistry, metallic ores, mineral deposits, mineral resources, mining and quarrying, mining hazards, ore formation, placer deposit mining, resource assessment, resource exploration, resource extraction, soil chemistry, human impacts, environmental safety, contamination and pollution, geologic structure, geologic mapping, web map services, education

Summary

This feature class is an extension of the Idaho Geological Survey publication DD-1 "Database of the Mines and Prospects of Idaho" or Mines for short These data of mineral exploration and extraction activity is a valuable research tool for industry, planners, students, and historians, among others. These metadata apply to version 1.2023 release of the DD-1 generally including derived products.

Description

Database of the Mines and Prospects of Idaho (version 1.2023). A relational database compatible with Access 2000 and ESRI Personal Geodatabase of Idaho mines and prospects. Mines table was used to create spatial point feature classes (shapefile, geodatabase feature class, KMZ) included in the data package for this release. All related data in other tables. The Idaho Geological Survey's (IGS) Mines and Prospects digital database contains information on over 9,400 mining properties in Idaho. This inventory of mining activity and production is a valuable research tool. All available sources have been used to compile and correct these data including published and unpublished reference materials. Every effort has been made to make the database complete and accurate; however, any additions or corrections should be directed to the Idaho Geological Survey. Periodic revisions of this database will be issued as new information is added.

Credits

Idaho Geological Survey

Use limitations

Locations are point representations of an area, i.e., one or more location point per mine record or prospect. Individual claims, pits, adits, or shafts are not necessarily located. Points indicated by [Mines.Location_type] = 18 are derived from USGS 1:250,000-scale maps. Points indicated by [Mines.Location-type] = 21 are locations based on USGS 1:24,000-scale maps, taken from GPS records obtained by IGS personnel during field work, refined from information in IGS Mineral Property Files or other verifiable sources, or identified using remote sensing (ESRI Image basemaps and Google Earth). See internal metadata tables, such as [DataDictionary],

and DD-1 support documentation for more information and metadata.

Extent
There is no extent for this item.

Scale Range
Maximum (zoomed in) 1:5,000
Minimum (zoomed out) 1:150,000,000

ArcGIS Metadata ►

Topics and Keywords ►

Hide Topics and Keywords ▲

Citation ►

TITLE   MinesWGS84

Hide Citation ▲

Resource Details ►

DATASET CHARACTER SET   utf8 - 8 bit UCS Transfer Format

CREDITS
   Idaho Geological Survey

ARCGIS ITEM PROPERTIES

Hide Resource Details ▲

Resource Constraints ►

CONSTRAINTS
   LIMITATIONS OF USE
      Locations are point representations of an area, i.e., one or more location point per mine record or prospect. Individual claims, pits, adits, or shafts are not necessarily located. Points indicated by [Mines.Location_type] = 18 are derived from USGS 1:250,000-scale maps. Points indicated by [Mines.Location-type] = 21 are locations based on USGS 1:24,000-scale maps, taken from GPS records obtained by IGS personnel during field work, refined from information in IGS Mineral Property Files or other verifiable sources, or identified using remote sensing (ESRI Image basemaps and Google Earth). See internal metadata tables, such as [DataDictionary], and DD-1 support documentation for more information and metadata.

Hide Resource Constraints ▲

Fields ►

DETAILS FOR OBJECT MinesWGS84 ►
   DEFINITION

Table containing attribute information associated with the data set.

DEFINITION SOURCE
Producer Defined

FIELD FID ▶
FIELD DESCRIPTION
Internal feature number.

DESCRIPTION SOURCE
ESRI

DESCRIPTION OF VALUES
Sequential unique whole numbers that are automatically generated.

Hide Field FID ▲

FIELD Shape ▶
FIELD DESCRIPTION
Feature geometry.

DESCRIPTION SOURCE
ESRI

DESCRIPTION OF VALUES
Shape type.

Hide Field Shape ▲

FIELD ID ▶
FIELD DESCRIPTION
Autogenerated integer ID for records

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   1
MAXIMUM VALUE   9413

Hide Field ID ▲

FIELD IGSID ▶
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES

Unique ID and Primary Key for each property. Also represents the catalog number for Mineral Property Files. Previously called SequenceNumber or Property Number.

Hide Field IGSID ▲

FIELD NameList ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
List of all names for a given IGSID, ordered by Metric. The present name or most commonly used names appear first. Mostly for utility in KMZ and AGOL.

Hide Field NameList ▲

FIELD CommodityL ►
FIELD DESCRIPTION
text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
List of all commodities for a given IGSID, ordered by Metric. The most produced commodities appear first. Mostly for utility in KMZ and AGOL.

Hide Field CommodityL ▲

FIELD CompanyLis ►
FIELD DESCRIPTION
text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
List of distinct companies for a given IGSID, ordered by Metric. Due to duplicates mentions of companies in unique DocIDs, the number or relates exceeds the size of these lists. Mostly for utility in KMZ and AGOL.

Hide Field CompanyLis ▲

FIELD NAD27lon ►
FIELD DESCRIPTION

Double

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   -117.212603222
MAXIMUM VALUE   -111.049325206

Hide Field NAD27lon ▲

FIELD NAD27lat ►
FIELD DESCRIPTION
Double

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   42.006649035
MAXIMUM VALUE   48.993465471

Hide Field NAD27lat ▲

FIELD DMSLON ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Degree Minute Second Longitude based on WGS84, as digitized from 1:250,000 base;
or as updated from field work (see Updates table) AND see [LocationType] field for
information about updated locations.

Hide Field DMSLON ▲

FIELD DMSLAT ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Degree Minute Second Latitude based on NAD27, as digitized from 1:250,000 base; or
as updated from field work (see Updates table) AND see [LocationType] field for
information about updated locations.

Hide Field DMSLAT ▲

FIELD WGS84lon ►
FIELD DESCRIPTION
Double

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   -117.213629451
MAXIMUM VALUE   -111.05011229

Hide Field WGS84lon ▲

FIELD WGS84lat ►
FIELD DESCRIPTION
Double

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   42.006570912
MAXIMUM VALUE   48.993424095

Hide Field WGS84lat ▲

FIELD q24k ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Name of the USGS 1:24,000 Scale Quad Name. This was taken from the USGS database for Idaho and referenced against IDWR 1:24,000 Quad index. Names were changed based on the name of the USGS quad. Some common names were spelled out (ex. Mtn to Mountain).

Hide Field q24k ▲

FIELD q100k ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Name of the USGS 1:100,000 Scale Quad name. This was taken from the USGS database for Idaho and referenced against IDWR 1:100,000 Quad index. Names were changed based on the name of the USGS quad. Some common names were spelled out (ex. Mtn to Mountain).

Hide Field q100k ▲

FIELD q250k ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Name of the 1x2 degree USGS Quadrangle maps. These provide the letter component of the IGSID.

Hide Field q250k ▲

FIELD plss ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Concatenation of PLSS-TRS

Hide Field plss ▲

FIELD plssTOWNSH ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Idaho PLSS Township

Hide Field plssTOWNSH ▲

FIELD plssRANGE ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Idaho PLSS Range

Hide Field plssRANGE ▲

FIELD plssSECTIO ►
FIELD DESCRIPTION
Integer

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   36

Hide Field plssSECTIO ▲

FIELD plssQQSECT ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

LIST OF VALUES
VALUE   NENE
DESCRIPTION   Northeast quarter section of northeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NESW
DESCRIPTION   Northeast quarter section of southwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NWNE
DESCRIPTION   Northwest quarter section of northeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NWSE
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NESE
DESCRIPTION   Northwest quarter section of southeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SWSW
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SENW
DESCRIPTION   Southeast quarter section of northwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NWNW
DESCRIPTION   Northwest quarter section of northwest quarter section

ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   << empty cell >>
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SESW
DESCRIPTION   Southeast quarter section of southwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NENW
DESCRIPTION   Northeast quarter section of northwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NWSW
DESCRIPTION   Northwest quarter section of southwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SESE
DESCRIPTION   Southeast quarter section of southeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SWSE
DESCRIPTION   Southwest quarter section of southeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SWNE
DESCRIPTION   Southwest quarter section of northeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SENE
DESCRIPTION   Southeast quarter section of northeast quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   SWNW
DESCRIPTION   Southwest quarter section of northwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

Hide Field plssQQSECT ▲

FIELD plssQSECTI ►
  FIELD DESCRIPTION
    Text

  DESCRIPTION SOURCE
    Producer Defined

  LIST OF VALUES
    VALUE   NE
    DESCRIPTION   Northeast quarter section
    ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

    VALUE   SW
    DESCRIPTION   Southwest quarter section
    ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

    VALUE   SE
    DESCRIPTION   Southeast quarter section

ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   NW
DESCRIPTION   Northwest quarter section
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

VALUE   << empty cell >>
ENUMERATED DOMAIN VALUE DEFINITION SOURCE   Producer defined

Hide Field plssQSECTI ▲

FIELD CountyName ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
County Names of Idaho mine or prospect intersects (WGS84)

Hide Field CountyName ▲

FIELD SurfaceMan ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Surface Management Agency composite from the following sources (in order): CADNSDI; IDL_LandOwnership; ForestProtectionDistrict_IDL.

Hide Field SurfaceMan ▲

FIELD FSAgencyNa ►
FIELD DESCRIPTION
deleted

DESCRIPTION SOURCE
Producer Defined

Hide Field FSAgencyNa ▲

FIELD OrangeNumb ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1222

Hide Field OrangeNumb ▲

FIELD ZIP ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
ZIP code intersection for location (WGS84).

Hide Field ZIP ▲

FIELD MiningDistrict ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Potential Mining District name (see documentation for source and reference data).

Hide Field MiningDistrict ▲

FIELD Placer ►
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Placer ▲

FIELD Undergroun ►
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Undergroun ▲

FIELD Surface ▶
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Surface ▲

FIELD Drilled ▶
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Drilled ▲

FIELD Producer ▶
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Producer ▲

FIELD Processing ▶
FIELD DESCRIPTION
Boolean or null

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field Processing ▲

FIELD LocationType ►
FIELD DESCRIPTION
Boolean

DESCRIPTION SOURCE
Producer Defined

RANGE OF VALUES
MINIMUM VALUE   0
MAXIMUM VALUE   1

Hide Field LocationType ▲

FIELD NameWeb ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Pipe-delimited list for web app.

Hide Field NameWeb ▲

FIELD CommodityW ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Pipe-delimited list for web app.

Hide Field CommodityW ▲

FIELD CompanyWeb ►
FIELD DESCRIPTION
Text

DESCRIPTION SOURCE
Producer Defined

DESCRIPTION OF VALUES
Pipe-delimited list for web app.

Hide Field CompanyWeb ▲

Hide Details for object MinesWGS84 ▲

Hide Fields ▲

Metadata Details ▶

METADATA CHARACTER SET   utf8 - 8 bit UCS Transfer Format

SCOPE OF THE DATA DESCRIBED BY THE METADATA   dataset

ARCGIS METADATA PROPERTIES
METADATA FORMAT   ArcGIS 1.0
STANDARD OR PROFILE USED TO EDIT METADATA   ISO19139

LAST MODIFIED IN ARCGIS FOR THE ITEM   2023-04-03   93:52:50

Hide Metadata Details ▲

Thumbnail and Enclosures ▶

THUMBNAIL
THUMBNAIL TYPE   JPG

Hide Thumbnail and Enclosures ▲

FGDC Metadata (read-only) ▼

SECTION VI: GIS data sources

Bureau of Land Management Idaho State Office Branch of Engineering and Geographic Sciences (GIS data creation) and the Idaho Geological Survey (source map information), 1987, Idaho Mining Districts. Available by request from http://www.idahogeology.org/ (accessed 21 March 2023).

Bureau of Land Management, 2013, Surface Management Agency Multipart (Federal Land Status) (Polygon). Available at https://data.doi.gov/dataset?q=sma+id&sort=views_recent+desc&ext_location=&ext_bbox=&ext_prev_extent=-182.8125%2C-30.751277776257812%2C-18.28125%2C72.81607371878991 (accessed 27 March 2023).

ESRI, ArcGIS Online, 2020. USA Zip Code Areas, Counties, and USGS Quadrangle boundaries for 24K, 100K, and 250K. Available through https://hub.arcgis.com/

> 250K
> https://hub.arcgis.com/datasets/uidaho::usgs-quadrangle-boundaries-for-idaho-30-x-60-minute/explore
>
> 100K
> https://hub.arcgis.com/datasets/uidaho::usgs-quadrangle-boundaries-for-idaho-1-x-2-degree/explore
>
> 24K
> https://hub.arcgis.com/datasets/uidaho::usgs-quadrangle-boundaries-for-idaho-7-5-minute/explore
>
> County
> https://hub.arcgis.com/datasets/IDWR::counties/explore

Google Earth Pro, 2022, Google Earth application. Available at http://www.google.com/earth/download/gep/agree.html (accessed 29 March 2023).

Forest Service SMA
Downloaded from Idaho Department of Lands, circa 2017.

Idaho State surface ownership SMA
Downloaded from Idaho Department of Lands, circa 2017.

PLSS grid
Created by Idaho Department of Environmental Quality, downloaded from Idaho Department of Water Resources, circa 2017, and modified for use by Idaho Geological Survey.

SECTION VII: Data products included with DD-1 version 1.2023

Mines data are recorded, developed, and maintained in an ESRI Personal Geodatabase MDB file compatible with Access 2002 MDB format. Some data files for this DD-1 release are within folders. Expect all data sources in map files will need to be associated with the feature class MinesWGS84 located in the MDB or GDB databases. Symbology and metadata may need to be imported from appropriate source files included with the release.

Spatial data products

MinesPubDD-1_2023.gdb

     ESRI GDB of tables copied from working MDB

MinesPubDD1_2023.mdb

     Working Mines MDB as of date of release

MinesPubDD1_ArcPro_2023

     Folder contains an ESRI ArcGIS Pro 3.1.0 workspace and support files

MinesPubDD-1_KMZ_2023

     Folder contains a KMZ of select fields exported from MXD

MinesPubDD-1_Shapefile_2023

     Folder contains shapefile export of MDB feature class MinesWGS84

MinesPubDD-1_Symbology_2023

     Folder contains LYR, LPLX, and LYRX files to associate symbology

MinesPubDD-1_ArcMap10.1_2023.mxd

     ArcMap 10,1-10,2 copy saved from current ArcMap version

MinesPubDD-1_FGDCmetadata_2023.xml

     Stand-alone XML feature class metadata file

SECTION VIII: Select web app FAQ

Mines and Prospects FAQ

I can't seem to get this thing to work, and the Help isn't helping. Can someone at IGS assist me?

Call or email us and we will be happy to help. Or contact Christopher Tate directly at (208) 885-7540 or by email at ctate@uidaho.edu. We also welcome comments, suggestions, and/or feedback on the Mines and Prospects database, as well as this Help and FAQ document.

I want to use this application in the field with my phone to find a site, but it's not working. Are there any options?

Possibly. ***IGS cannot recommend or support using this web app from portable devices at this time, and does not endorse, support, or recommend using any other apps.*** Our Mines app was not developed for use on smart phones or tablets and has not been tested on a variety of these devices. *Without the internet the interactive IGS Mines app cannot be accessed!*

However, there is a beta-version KMZ file of property location point data (with limited property attributes) available from the DD-1 download page here. The KMZ can be imported into Google Earth, and may be usable within some portable device apps. *It is crucial the user understands the limitations of Mines & Prospects location data for interpretation of property locations!* We **strongly** suggest reviewing DD-1 metadata before making any assumptions.

Disclaimer: The Idaho Geological Survey does not guarantee Mines and Prospects data to be free of errors nor assume liability for interpretations made from this data, or decisions based thereon.

Just as an FYI, offline use of KMZ files in general may be possible on certain devices, but this subject is well outside of the services IGS provides.

Why are there different size property markers?

In an effort to not misrepresent location data while retaining zoom functionality, we elected to use different size Property Markers. Some property locations have been derived from 1:250,000scale USGS paper maps, where a 'dot' (point representation) could be a ¼ mile diameter or more. A point derived from these maps is represented, beginning at a magnification of 1 inch to a mile (scale may vary depending on screen resolution settings) as a larger and slightly transparent dot. Other property locations that have been derived from USGS 1:24,000-scale maps, where location would be more specific, are represented by a smaller, opaque 'dot.' The latter properties are referred to as having "Improved Locations." In some cases, properties have been visited by IGS geologists, and located using a Global Positioning Satellite (GPS) reference. These, too, are marked with the smaller Property Marker, but not differentiated from the 1:24,000-scale derived locations. Though every reasonable attempt has been made for

location accuracy, the Property Markers should be considered approximate representations of property locations 'on the ground.'

Then what is the accuracy of property location data?

There is not a good answer for any given property. Keep in mind that mines are developed on claims, which are areas rather than specific points. The original ownership of a Mines and Prospects property may be, or have been, a single claim or a group of claims. Through time, the ownership of adjacent properties may have changed by being merged, or a property split and sold or leased. It would be difficult to verify or represent these as areas in a responsible manner. Consider the property latitude/longitude locations as a general reference only, and please see our disclaimer. The ReadMe file and the metadata tables in the downloadable version of the Mines and Prospects database have more detailed information about how properties were located.

Why is some location data about this property missing?

Some property locations fall slightly outside Idaho boundaries. It could be because the property straddles a state line, or there is a historic reference to the property being located in Idaho but there is not enough evidence to locate the property more specifically than referenced by MILS or MRDS. In these cases, Idaho PLSS data and Idaho county data do not apply. PLSS or County data may be missing because the property is now located in a submerged location, such as a reservoir, or near a fluctuating border like the Snake River where the property location might now fall outside of Idaho.

What is the Idaho Public Land Survey System (PLSS)?

The PLSS is the standard for legal descriptions of property boundaries in Idaho; however, ***the PLSS descriptions in the Mines and Prospects database should NEVER be considered a legal description. In Idaho, a legal property description can only be accomplished by contracting an Idaho Licensed Public Land Surveyor (ILPLS) to survey and record a legally binding border, which is subject to peer review, and upheld by the courts***. Our PLSS locations have been extrapolated in a GIS and are provided as a search reference only. In no way do they imply legal definition. The latest GIS information about Idaho PLSS was obtained from the Bureau of Land Management (BLM) to create these spatial definitions. More information about this process can be found in the ReadMe file and the metadata tables in the downloadable version of the Mines and Prospects database.

What is the reasoning behind the IGS naming convention for properties?

The prefix for property names are abbreviations of the USGS 1x2 degree (1:250,000-scale) quadrangle map names that property locations were initially derived from. For instance, BO is the Boise quad, WL the Wallace quad, etc. The number following the prefix is a sequential number. This convention allows for grouping properties regionally, therefore a general inference about what part of the state a property is located. Below is a list of the USGS quadrangle names and the IGS abbreviations by ***north to south***, and ***west to east***. For clarification, a map of these quads can be found here.

Index of Idaho quadrangles at 1:250,000-scale and Mines and Prospects property naming convention:

USGS Name	IGS Abbreviation
Sandpoint	SA
Spokane	SP
Wallace	WL
Pullman	PL
Hamilton	HM
Grangeville	GR
Elk City	EC
Dillon	DI
Baker	BA
Challis	CH
Dubois	DU
Ashton	AS
Boise	BO
Hailey	HA
Idaho Falls	IF
Driggs	DR
Jordan Valley	DR
Twin Falls	TF
Pocatello	PO
Preston	PR

How often is the Mines and Prospects database updated?
New property locations that come to our attention will be added as they are available bi-annually, or more often. Scanned maps and documents will be added on a quarterly basis at least. The downloadable database is updated accordingly.

I found old documents in my attic about a prospect my family operated. Would they be useful to the IGS?

Yes! If the location is in Idaho, we would be glad to process copies or originals and share them with the public. Use the contact information at the bottom of our home page to call or email us about donating to our library.

I know of a mine, but do not see it in your database. Why not?

There are several reasons an Idaho property would not be in our database. If a query is done on a name, and the name is not recorded in our database, it would not be returned. We have many properties that we have records for, but poor or no location information, so those are not included. And it may be we have no knowledge of the property at all. If you know of a property and cannot locate it in our database, or have information you would like to contribute about a property, please contact Christopher Tate at (208) 885-7540 or by email at ctate@uidaho.edu.

I want to strike it rich! Are any of the properties in the Mines and Prospects database available?

Maybe, but that is outside the scope of the Mines and Prospects database. There are a number of federal and state regulatory agencies. The following agencies may be useful, but it is not a complete list:

The Bureau of Land Management ([BLM](#))
United States Forest Service ([USFS](#))
United States Environmental Protection Agency ([EPA](#))
Idaho Department of Lands ([IDL](#))
Idaho Department of Water Resources ([IDWR](#))

SECTION IX: Table, field, and datatype changes

Addendum: Table and field name changes DD-1 1.2023

Purpose

This document reflects name changes and data types to tables and fields that were implemented *after* metadata documentation was originally developed for DD-1 version **1.2021**, and to bring the database into naming convention requirements as a geodatabase. Names were normalized between tables. In some cases, separate tables of the same content were merged into a single table, so their corresponding field names also merged into a single name.

 NOTE: Spell-checking algorithms may obscure underscore characters ('_') in these data.

Field name changes

Globally

All spaces and underscores have been removed from field and table names—except geodatabase (GDB_*) and retired metadata (zz_*) tables.

All media object ID fields are now DocID:

Document, Portfolio_ID, PropertyScanName, Ref_id, Reference_ID, RefID

All property ID fields are now IGSID:

CrossRefProp, IGS_ID, PropertyNumber, SequenceNumber

All concatenated fields are now "*List":

AuthorList, CommodityList, CompanyList, NameList

Mines table

DMSLAT to DMSlat

DMSLON to DMSlon

lat_WGS84 to WGS84lat

lon_WGS84 to WGS84lon

Latitude to NAD27lat

Longitude to NAD27lon

DEPOSIT to NameList

Landowner to SMA

Location_Type to LocationType

Mining_District into MiningDistrict

ON to OrangeNumber

OrangeNum to OrangeNumber

Proc to Processing

Prod to Producer

TOWNSHIP, RANGE, SECTION, & QSECTION are now prefixed with plss

Undergnd to Underground

ZIP_CODE to ZIP

Docs table

Anno to Annotation

OfflineNotes to CommentsOffline

PubDate to Year

publisherABBV to PublisherAbbreviation

Series_Type to SeriesType

IN to InDoc (potential reserved word error)

OriginType to DocClass

ItemType to DocType

Field property changes

Docs table

Anno as Short Text to Annotation as Yes/No

ISMIR as Yes/No to ISMIR as values under fields DocClassID and DocTypeID

Table field changes

added CompanyList as Long Text to Mines

added Drilled to Mines as Yes/No

added plss as Short Text to Mines, which combines Township, Range, and Section into one field

HardFile dropped from Mines, Hardcopy added to Docs

removed ExpOnly from Mines

removed OBJECTID from Mines

Table name changes and merges

Commodities to CommoditiesRelate

CommodityIndex to CommodityLUT

Company to CompanyRelate

Company_LUT to CompanyLUT

mils_Lookup to MilsLUT

MRDSLookup to MrdsLUT

OrangeNum to OrangeNumber

PeriodProduction to ProductionPeriod

Port_LUT merged into Docs

PortfolioCross merged into DocRelate

PortPropDesc merged into Docs

PropertyFileScans merged into Docs

Reference merged into to Docs

Reference_Origin_LUT into DocClassLUT

ReferenceAuthor into AuthorRelate

ReferenceAuthorType_LUT into AuthorTypeLUT

ReferenceRelate merged into DocRelate

ScanCrossRef merged into DocRelate

tbl_AEC_PRR merged into Docs

tbl_AEC_PRR_Relate into DocRelate

tblCHMA merged into Docs

tblCHMA_Relate merged into DocRelate

tblPage into DocPages