IDAHO GEOLOGICAL SURVEY DIGITAL GEOLOGIC MAP DATA MODEL, V-2.0, STRUCTURE AND CONNECTION DIAGRAM:

A North American Digital Geologic Map Data Model (4.3a) Variant

Map Features

(ob-name)
Map Object Name Table

Object_ID	Tab_type	Label	Describe
Beauty Creek Stock Hayden Lake Stock Osburn Fault	poly poly fault	Beauty Creek Stock Hayden Lake Stock Osburn Fault	

Related Data
(not implemented)

Radiometric Age Table

Unit_ID	Sample	material	method	Rad_date	Error_pos	Error_neg	Source_ID

Map Mineral Mode Table

Unit_ID	sample	source type	plag	quartz	alk-fel	biotite	muscov	Fe_ox	trace_1	trace_2	alt_1

Geochemistry Table

Unit_ID	Sample_ID	Geo Chemistry.....		

Origin and Form

(gen-lp)
Genetic/Environment MapTable

unit_id	Gen-org
Qbg Qbg Kphgd	Missoula flood Fluvial Plutonic

(gen-orig)
Genetic/Environment Origin Table

Class	Gen-org	Level	Describe
	Missoula flood		

(gen-tree)
Genetic/Environment Origin Tree Table

Gen-org	Parent_ID
Missoula Fl. Bonnev. Fl.	Catastrophic Floods Catastrophic Floods

(landform)
Form/Landform Table

unit_id	Form
Tr Qggb	Dike Giant current ripple

(lform-lp)
Form/Landform Table

Form	Class	Describe

Formal Units

(form-lup)
Formation lookup Table

Formal	Formal_ID	Rock_rank
Prichard Formation, upper Prichard Formation, lower Prichard Formation, undi. Belt Supergroup	Ypu Ypl Yp Ybelt	400 400 300 100

(formtree)
FormationTree

Formal_ID	Parent
Ypu Ypu Yp Ypl Ypl	Yp Ybelt Ybelt Yp Ybelt

(formrank)
Formation Rank Table

Rock_rank	Rock_level
top supergroup group formation suite member unit bed	0 100 200 300 400 500 600 700

Lithologic Description

(textr-lp)
Lithology Textures Table

Class	Texture	Describe

(grn_arr_lp)

Grain_arr

(grn_dis_lp)

Grain_dist

(texture)
Lithology Textures Table

Sub_unit	Class	Texture (grain size)	Grain_arr	Grain_dist
93 93 93 98 99 99	Unconsolidated and sedimentary Unconsolidated and sedimentary Unconsolidated and sedimentary Unconsolidated and sedimentary Unconsolidated and sedimentary Unconsolidated and sedimentary	Fine-grained Medium-grained vitreous Fine-grained	foliated lineated	

(color)
Lithology ColorsTable

Sub_unit	Color
93 93 93 93 94	orange brown weathers white brown stained orange

(abundanc)
Lithology Abundance Table

Sub_unit	Abundance
90 102	minor minor

(fossil)
Lithology Fossil Table

Sub_unit	Fossil	Describe

(lstrc-lp)
Lithology Structures Table

Class	Structure	Describe

(textr-lp)
Lithology Modifier Table

Class	Modifier	Describe

(min-lp)
Lithology Mineral Modifier Table

Min_mods	Describe

(l-struct)
Lithology Structures Table

Sub_unit	Unit_id	Structure
21 21 30 30 143 143 139	Qgb Qgb Qggb Qggb Ypl Ypl Ypu	Foreset beds Thick-bedded Foreset beds Imbricated Bedded Laminated Thinly bedded

(modify)
Lithology Modifier Table

Sub_unit	Unit_id	Modifier
132	Ygp	Impure

(min_mods)
Lithology Mineral Modifier Table

Sub_unit	Unit_id	Min_mods	Order
66 67 67 60 60	Kog Kog Kog Kphgd Kphgd	Biotite Hornblende Biotite Hornblende Biotite	1 1 2 1 2

(compose)
Lithology Composition/TextureTable

Sub_unit	Compose	Texture
10 11 12 13 14	 Basalt Basalt	 Pebble gravel Cobble gravel Sand

(rx-desc)
Rock Description Table

Unit_id	Sub_unit	Formal_ID	Relative	Quality	Describe	M_describe	alith_name	Lith_name	Lith_ID
Qgb Qggb Tr Kog Kog Kog Kphgd Ypl Ypu Ypu Ypu	21 30 50 65 66 67 60 143 139 140 141	 Ypl Ypu Ypu Ypu	 1 2 3 1 2 3				 Hornblende-biotite granodiorite Thin- and regularly bedded siltite Very thinly bedded argillite Light gray siltite Quartzite	Gravel Boulder gravel Rhyolite Tonalite Granodiorite Quartz diorite Granodiorite Siltite Argillite Siltite Quartzite	162 163 603 507 506 532 506 202 201 202 215

(lith)
Lithology Table

Lith_name	Lith_ID	Lith_level	Describe

(lithtree)
Lithology Tree

Lith_ID	Parent_ID

Time

(str-age)
Stratigraphic Map Unit Age Table

Unit_ID	Strat_seq	relation	Min_strat	Max_strat
QTgb TKdd KYam	2450.5 12351 16050	and or or	Pleistocene Eocene Eocene	Pliocene Cretaceous Mid.Proterozoic

(str-rel)
Stratigraphic Map Unit Age Tree Table

Unit_ID	Age
QTgb QTgb TKdd TKdd KYam KYam	Pleistocene Pliocene Eocene Cretaceous Cretaceous Mid.Proterozoic

(str-time)
Stratigraphic Time Table

Strat_name	Strat_ID	Strat_rank	Min_age	Max_age

(str-tree)
Stratigraphic Tree Table

Strat_ID	Parent_ID

(str-rank)
Stratigraphic Rank Table

strat_level	strat_rank

Map Units

(clastype)
Class Type

Type	type_code
Sedimentary	1
Plutonic	2
volcanic-subvolcanic	3
Metamorphic	4
Unconsolidated	5
Metamorphic grade	6

(unit-rel)
Special Unit_relationshipTable

Unit_ID	Rel_Unit_ID	relation	Describe

(map-unit)
Map Unit Table

Unit_ID	Map_Name	Merge_Name	class	max_thick	min_thick	typ_thick	Polarity	Describe
QTgb Qggb Tr Kog Kphgd Ypl Ypu garnet	Gravel of Beck Road Gravel of Green Ferry, bar facies Rhyolite dikes Orthogneiss Porphyritic hornblende-biotite granodiorite Prichard Formation, lower part Prichard Formation, upper part Garnet isograd		Unconsolidated Unconsolidated volcanic-subvolcanic Plutonic Plutonic Metamorphic Metamorphic Metamorphic grade	40 3500	80			

Polygon GIS Layers

Map .PAT (POLYGON) Table(s)
ROCK POLYGONS

IGS_poly-ID	ARCpoly_ID	Object_ID	Value (Unit_ID)
1 2 3 4 5 6 7 8 9 10 11	1 2 3 4 5 6 7 8 9 10 11		Qal Qgb Qgb Qgb Kphgyl Kog Ypl Kog Kog Tr Ypu

(generated on-fly)
Poly/Line Relate Table

IGS_poly-ID	IGS_Line_ID
2 2 2 2	1 2 3 4

Other Polygon Overlays (.pat) Table
ISOGRAD POLYGONS

IGS_poly-ID	ARCpoly_ID	Object_ID	Value (Unit_ID)
1 2 3 4	1 2 3 4		garnet garnet no_garnet no_garnet

Line GIS Layers

Map .AAT (LINE) Table
ROCK CONTACTS

IGS_Line_ID	lpoly	Rpoly	Object_id	ftype	fside	Map_ID	Source_ID	Linetype
1 2 3 4	Qgb XYgn TKg Qbg	Qla Qbg Qgb Khgd				IGS-4730116 IGS-4730116 IGS-4730116 IGS-4730116	IGS-up-TK94 IGS-up-TK94 IGS-up-TK94 USGS-B125	Continuous Continuous Approximate Approximate

Map .AAT (LINE) Table
FAULTS

lpoly	Rpoly	Object_id	ftype	fside	Map_ID	Source_ID	Linetype
		Osburn Fault Osburn Fault Osburn Fault Osburn Fault	Unknown Normal Normal Left-lateral	none L none none	IGS-4730116 IGS-4730116 IGS-4730116 IGS-4730116	IGS-up-TK94 IGS-up-TK94 USGS-B125 IGS-up-TK94	Continuous Approximate Inferred Continuous

Map .AAT (LINE) Table
FOLDS

Object_ID		(Layer) Fold_type	Map_ID	Source_ID	Linetype
		Anticline Anticline Anticline Anticline	IGS-4730116 IGS-4730116 IGS-4730116 IGS-4730116	IGS-up-TK94 IGS-up-TK94 USGS-B125 IGS-up-TK94	Continuous Approximate Inferred Continuous

Map .AAT (LINE) Table
DIKES

Object_ID		Dike_ID	Map_ID	Source_ID	Linetype
		Tr Tr Tr	IGS-4730116 IGS-4730116	IGS-up-TK94 USGS-B125 IGS-up-TK94	Approximate Inferred Continuous

Requires software to generate
(currently not implemented)

Point GIS Layers

Map .PAT (POINT) Table
ATTITUDES

Point_ID	Object_id	Value (Unit_ID)	Symbol	Angle	Azimuth	Dip	Map_ID	Source_ID
1 2 3		Ysg Kog Ysg	Strike Fol Strike		34 234	45 65	IGS-4730116 IGS-4730116 IGS-4730116	IGS-up-TK94 IGS-up-TK94 IGS-up-TK94

Map .PAT (POINT) Table
LINEARS

Point_ID	Object_id	Value (Unit_ID)	Symbol	Angle	Azimuth	Dip	Map_ID	Source_ID
1 2 3		Ywm Ywm Ywm	Linear SM-fold SM-fold		34 234	45 65	IGS-4730116 IGS-4730116 IGS-4730116	IGS-up-TK94 IGS-up-TK94 IGS-up-TK94

Map .PAT (POINT) Table
SAMPLE/OTHER

Point_ID	Cover_type	Symbol	Sample_ID		Map_ID	Source_ID
1	Sample	Adit			IGS-4730116	IGS-up-TK94
2	Sample	Mine			IGS-4730116	IGS-up-TK94
3	Sample	Age_data	RL-F3798		IGS-4730116	IGS-up-TK94
4	Sample	Min_data	RL-99123		IGS-4730116	IGS-TR-90-1

Spatial Database
(based in ArcView GIS)

Explanation

LINK & RELATIONSHIP
many to one

Data Table
Lookup Tables

Database Links
(Color is used for clarification only)

by L. R. Stanford
Idaho Geological Survey
www.idahogeology.org

version: 10-31-2001

Legend Database (map information database)

Map Unit Compilation History

(unit-his)
Compilation Unit History Table

Unit_ID	Source_ID	Describe	Comp_ID
Ypl Qal	USGS-ABG1969 IGS-SGM-7	Prichard Fm, lower part Alluvial gravels	pCpl a

IGS Formal Metadata

(sources)
Source Identify Table

Source_ID	Title	Originator	Author(s)	
USGS-ABG1969 IGS-SGM-7		USGS IGS	Alan Griggs Roy Breckenridge	

IGS Metadata Database

Map_ID	Theme	Theme_key	Place_key	Map_name	Purpose	S_lat	N_lat	E_lon	W_lon
IGS-4730116 IGS-4730116	geologic map units geologic map faults								

Data Dictionaries

MASTER Data-Dictionary Table

Table	E_name	Item_name	A_name	

(symbols)
Symbol Table

Sym_name	USGS_name	Sym_type	Describe	Attributes	defin_orig

(linetype)
Line Type Table

Linetype	Geol_name	Acur_level	Describe	usgs_name

(struclip)
Structure Type Table

Type	Modifier	Movement	Describe

Metadata