GIS Training: ArcGIS for Geoscience

Diane du Plessis

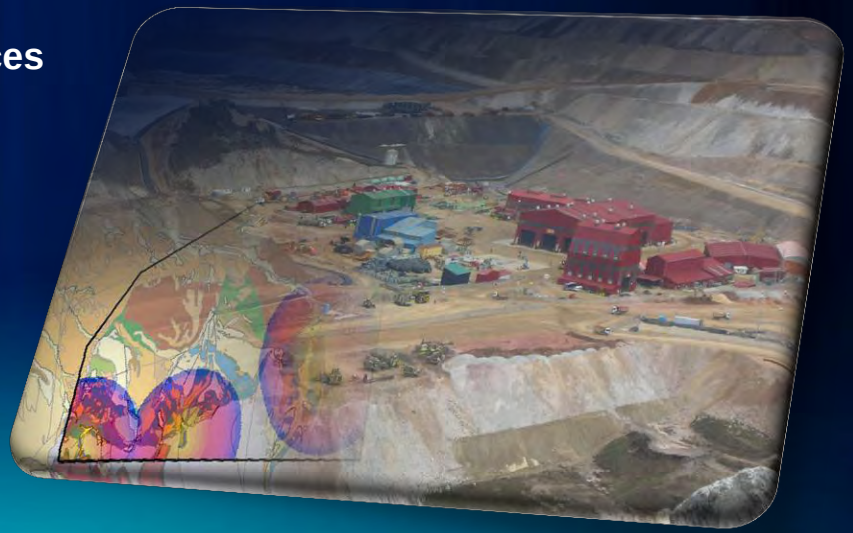
ArcMap for Geoscience

Introduction to ArcGIS desktop for Mining Geoscience

The geoscience discipline has specific requirements from any GIS package. With this in mind, ESRI have developed a course tailored for the Mining and Exploration ArcGIS user.

This introductory course consists of a 3 day training
24 hours of training.

Venue: ESRI South Africa or your local offices



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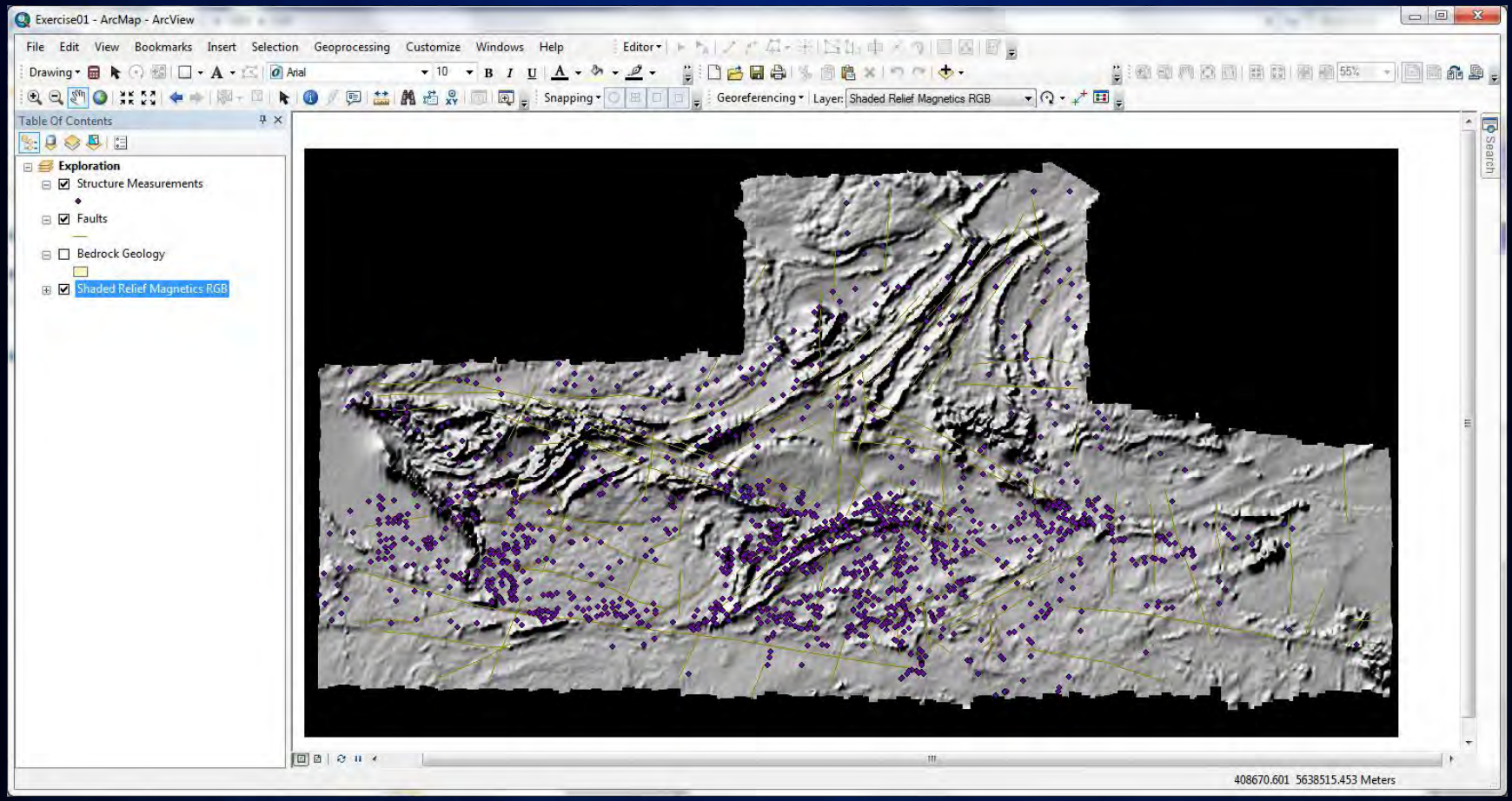
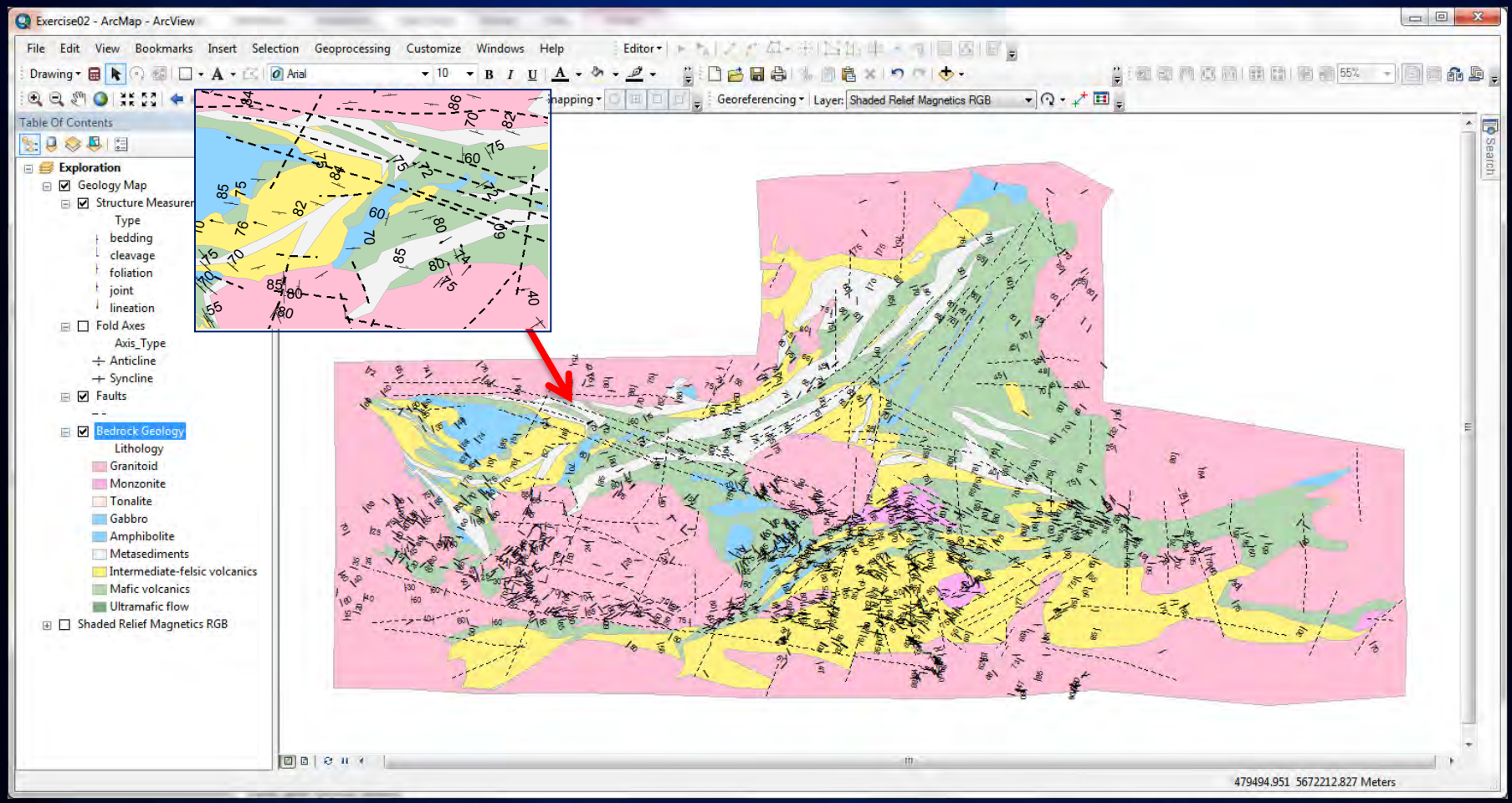


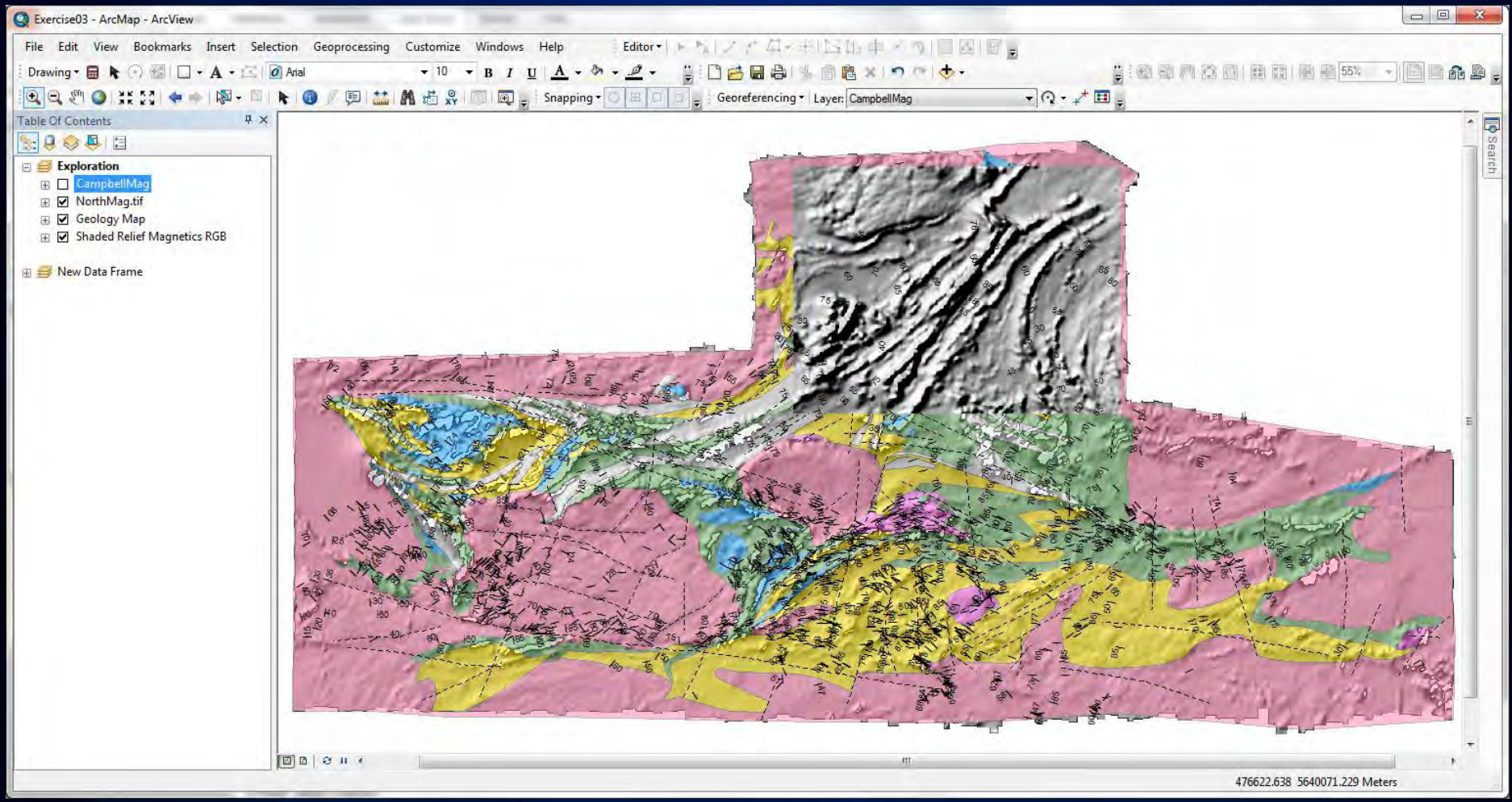
Geological, Structural, and Geophysical data

- Explore the ArcMap Interface with a Geoscience dataset
- String relative path names to data sources



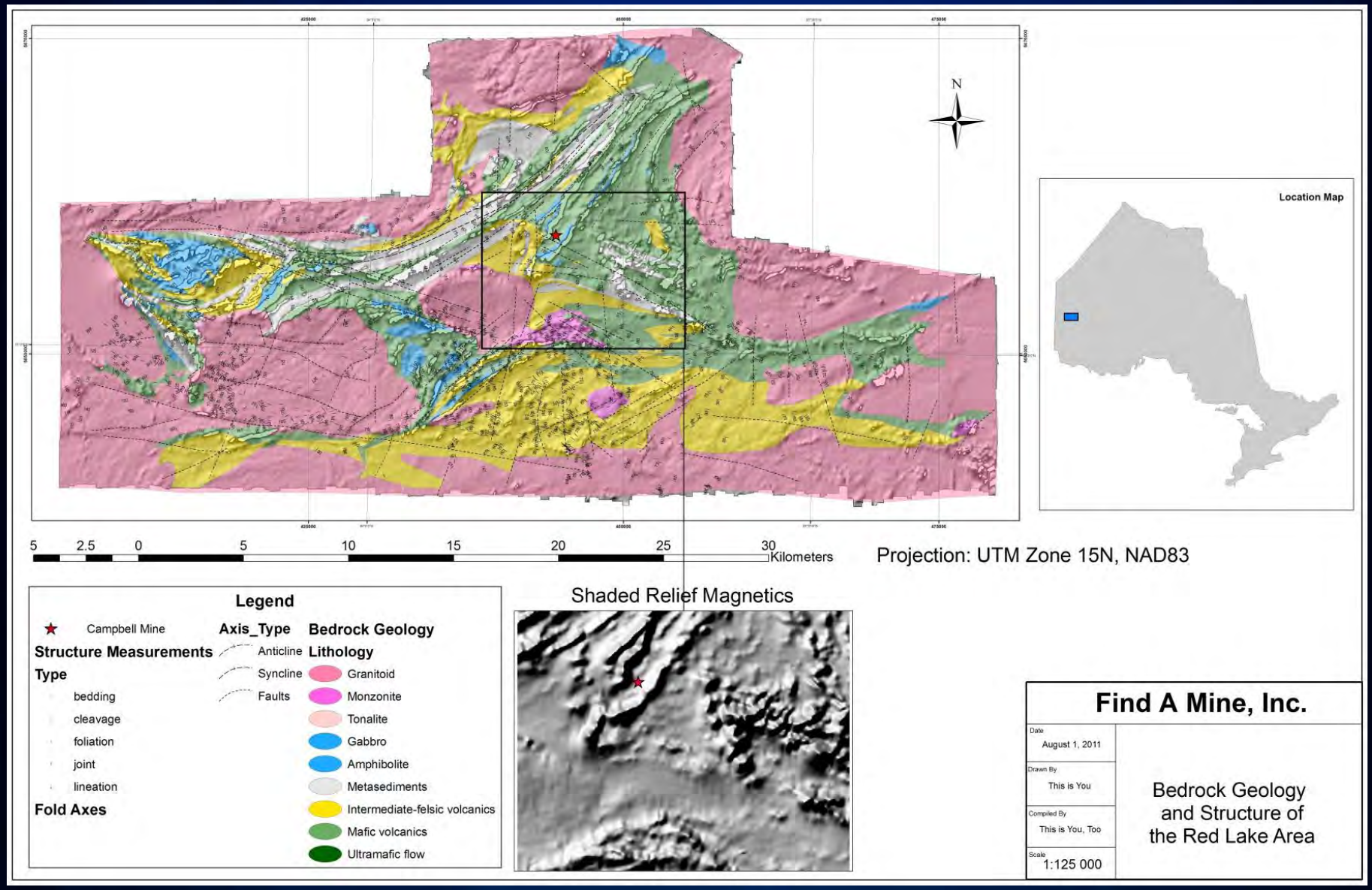
Symbolizing of geoscience data

- Symbolize geology, faults, fold axes , structure
- Label geology and create layer flies and group layers



Combining of geophysical imagery and geology

- Imagery display options, scales and clipping of imagery

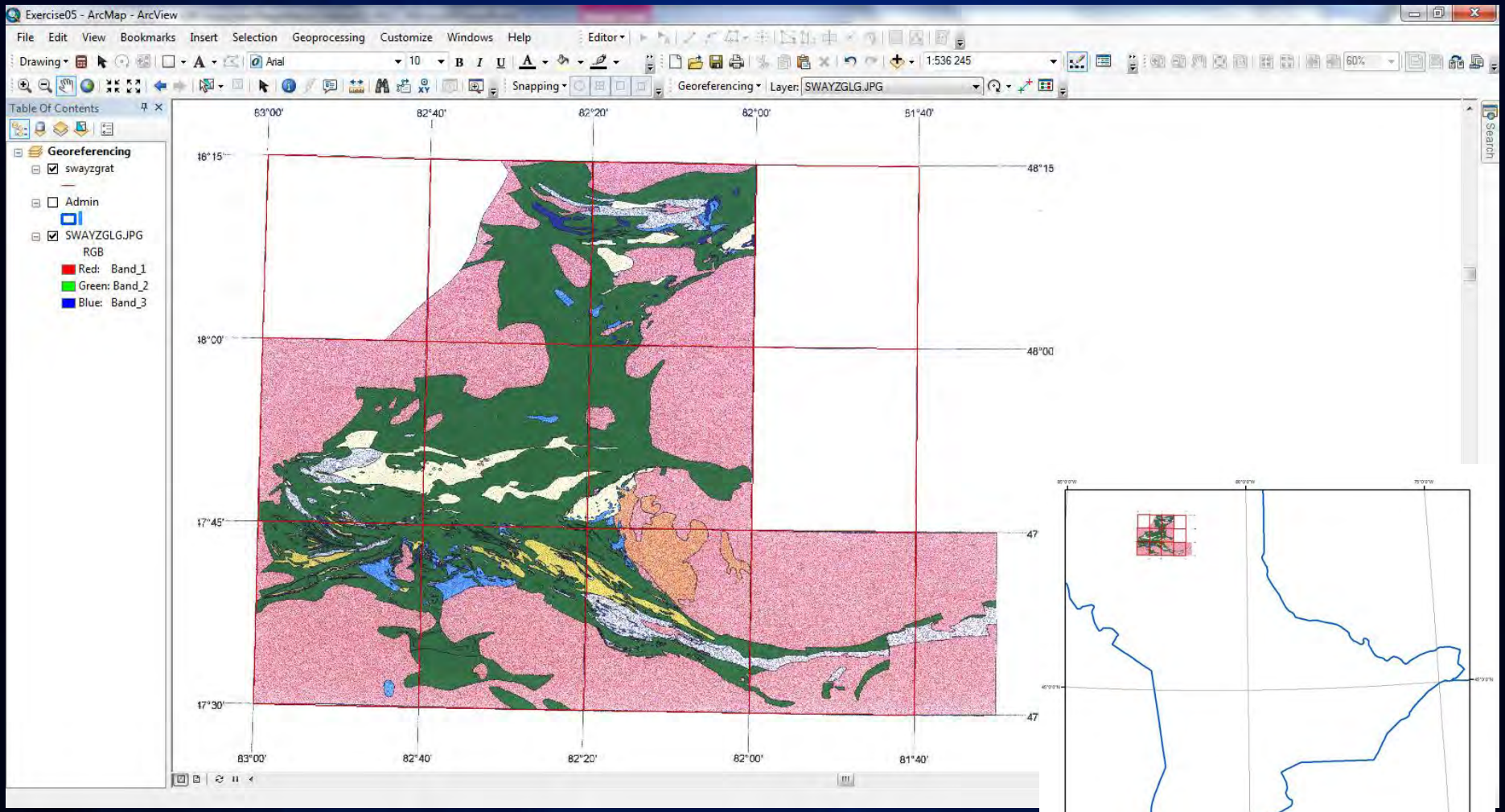


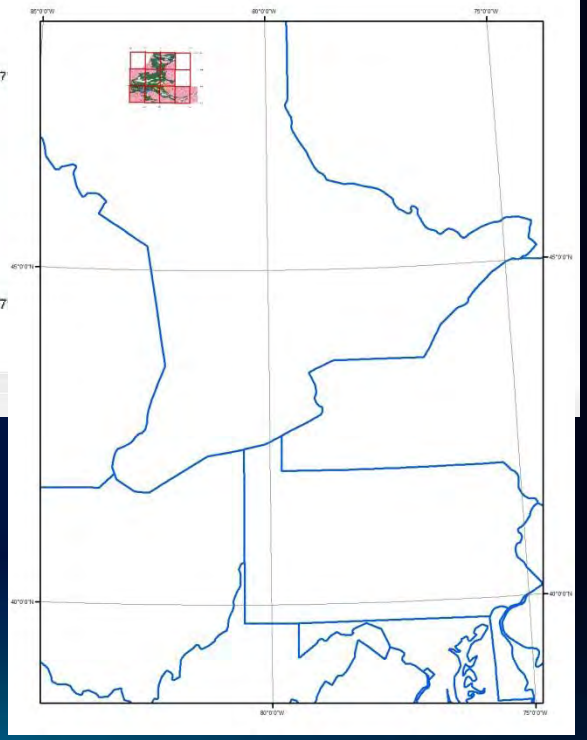
Creating a geology map for plotting and presentations

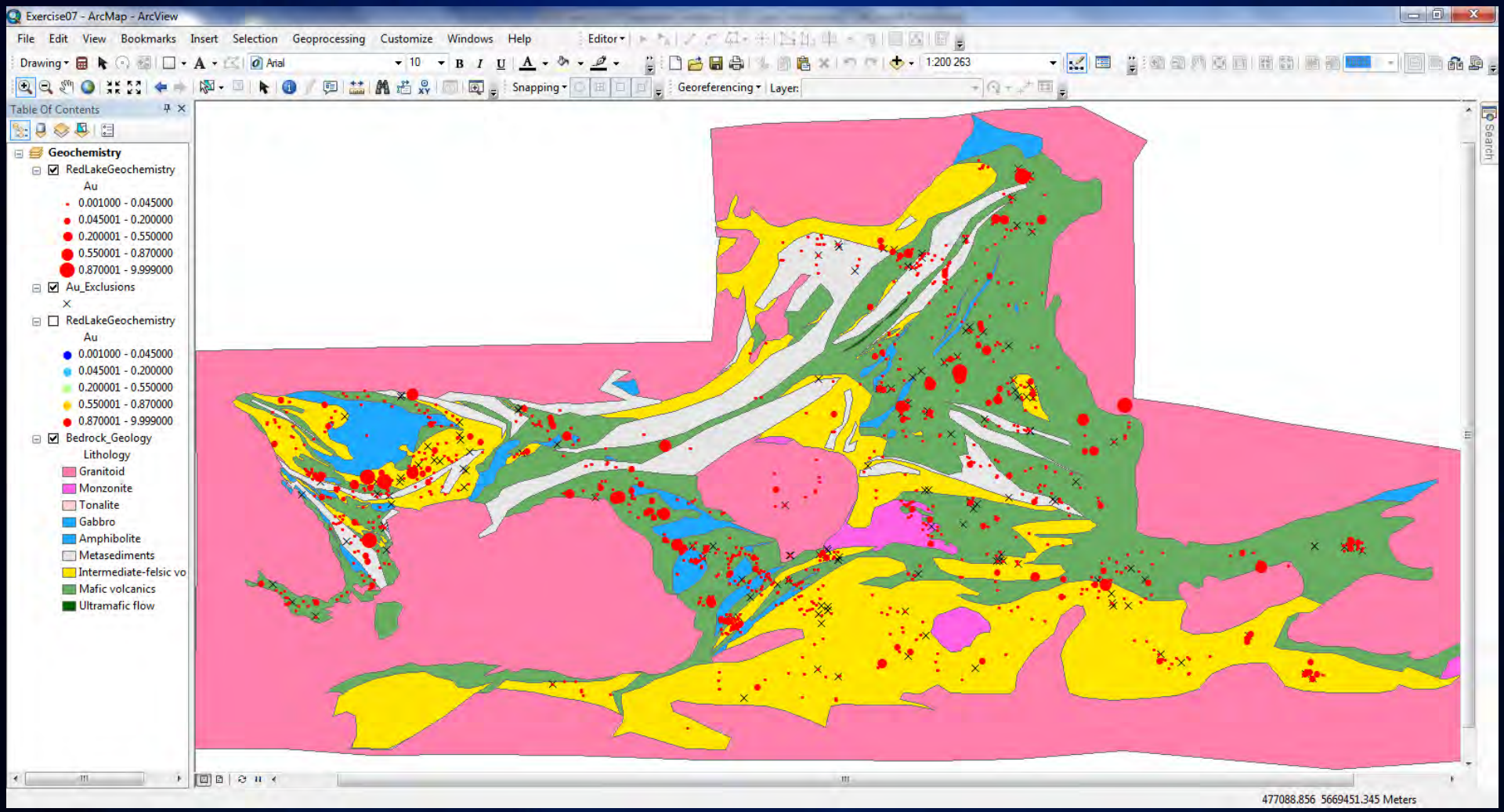
- **Using a template for map creating**

Georeferencing an image

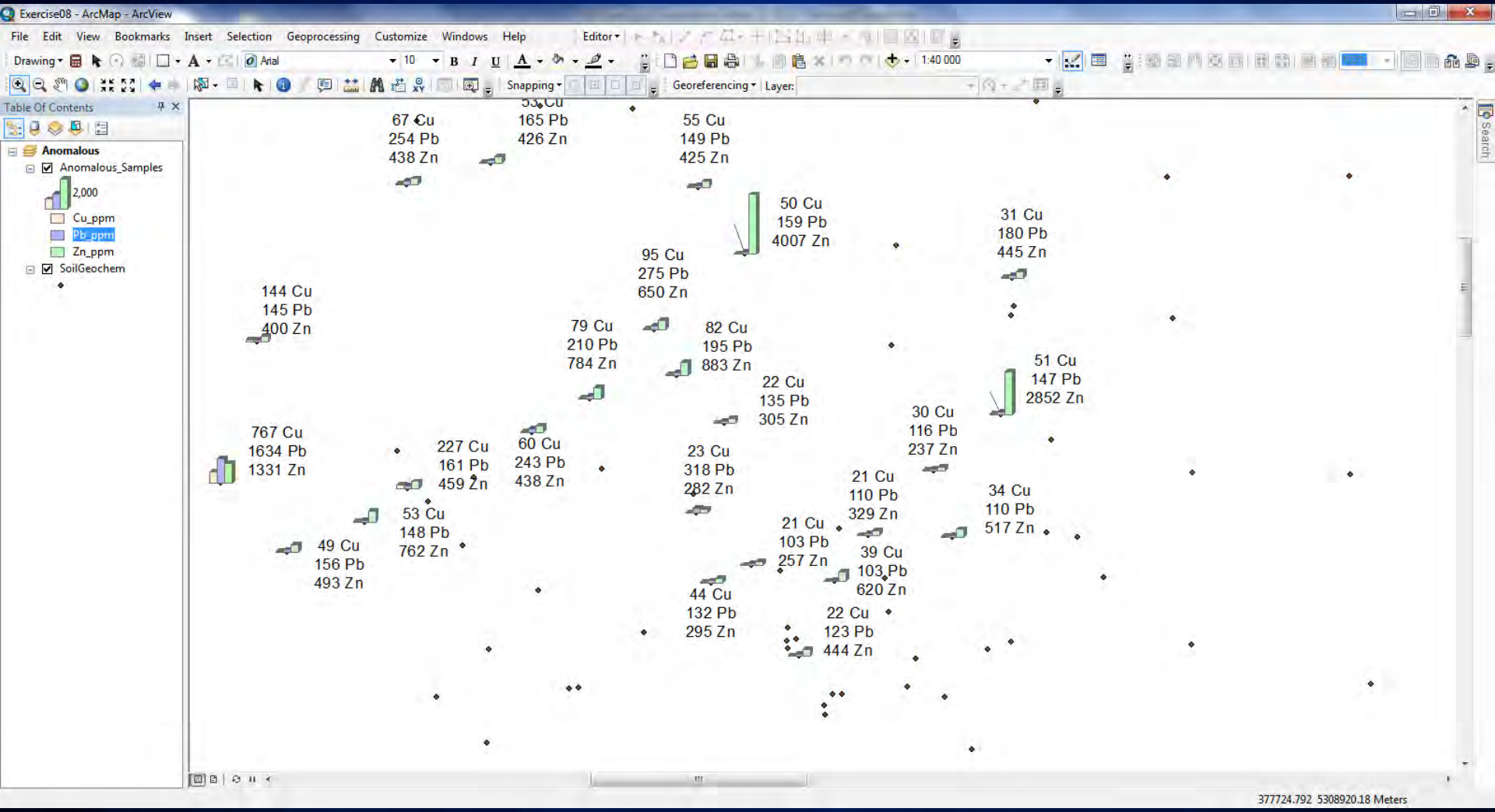
- Map preparation, control points and transforming an image





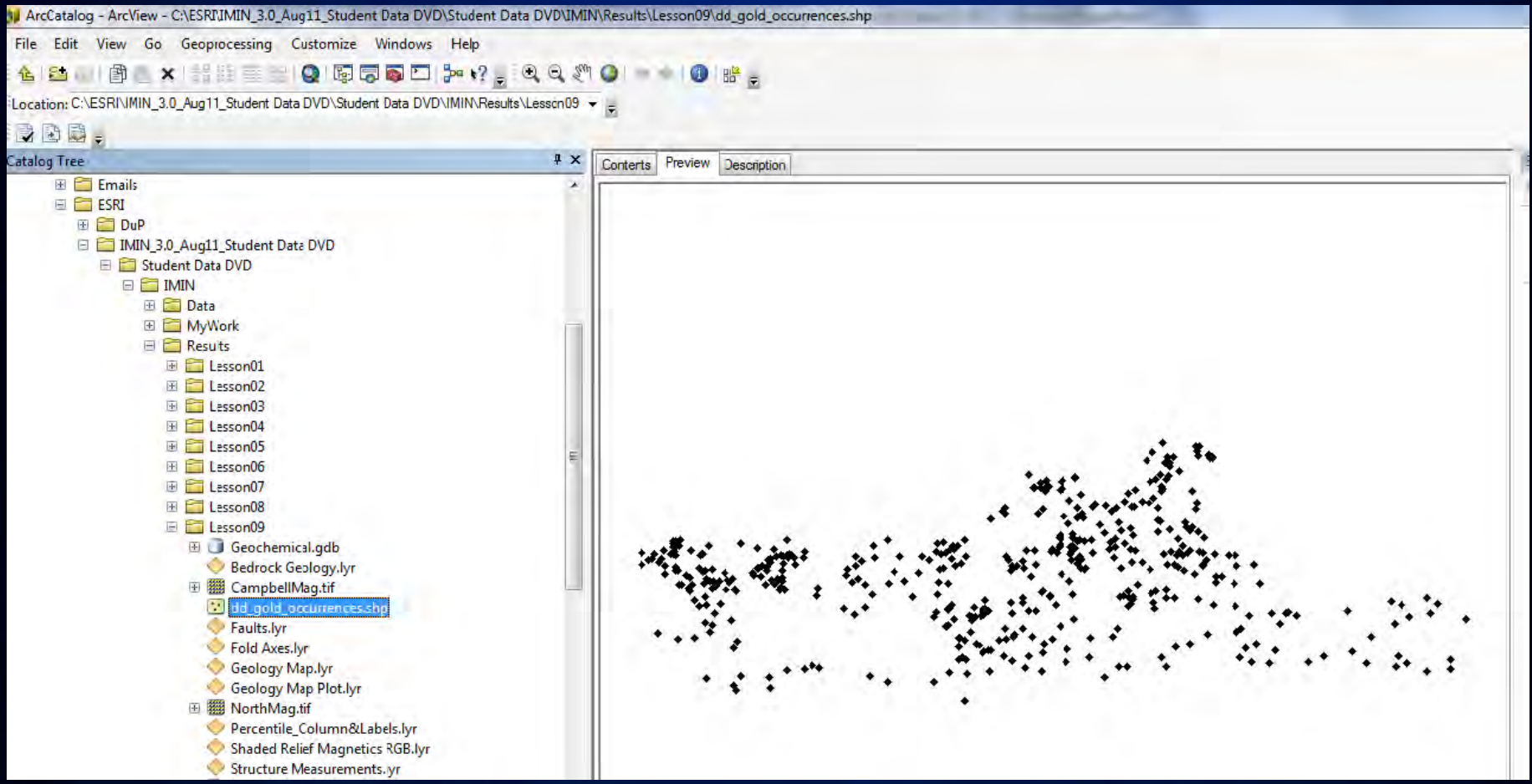


Interpreting Geochemical data: Graduated colours and symbols



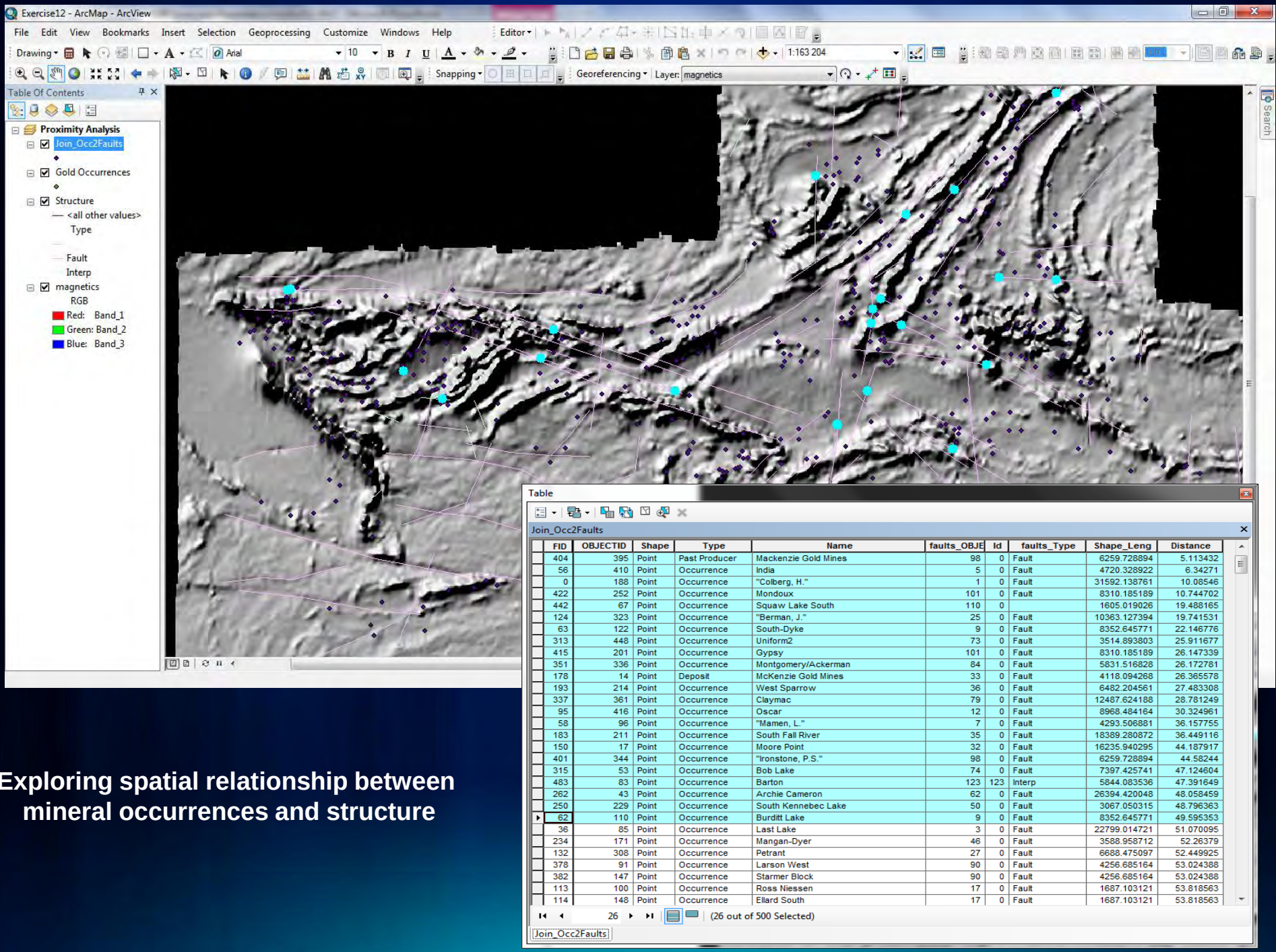
Finding anomalous geochemical samples

- Determine anomalous values



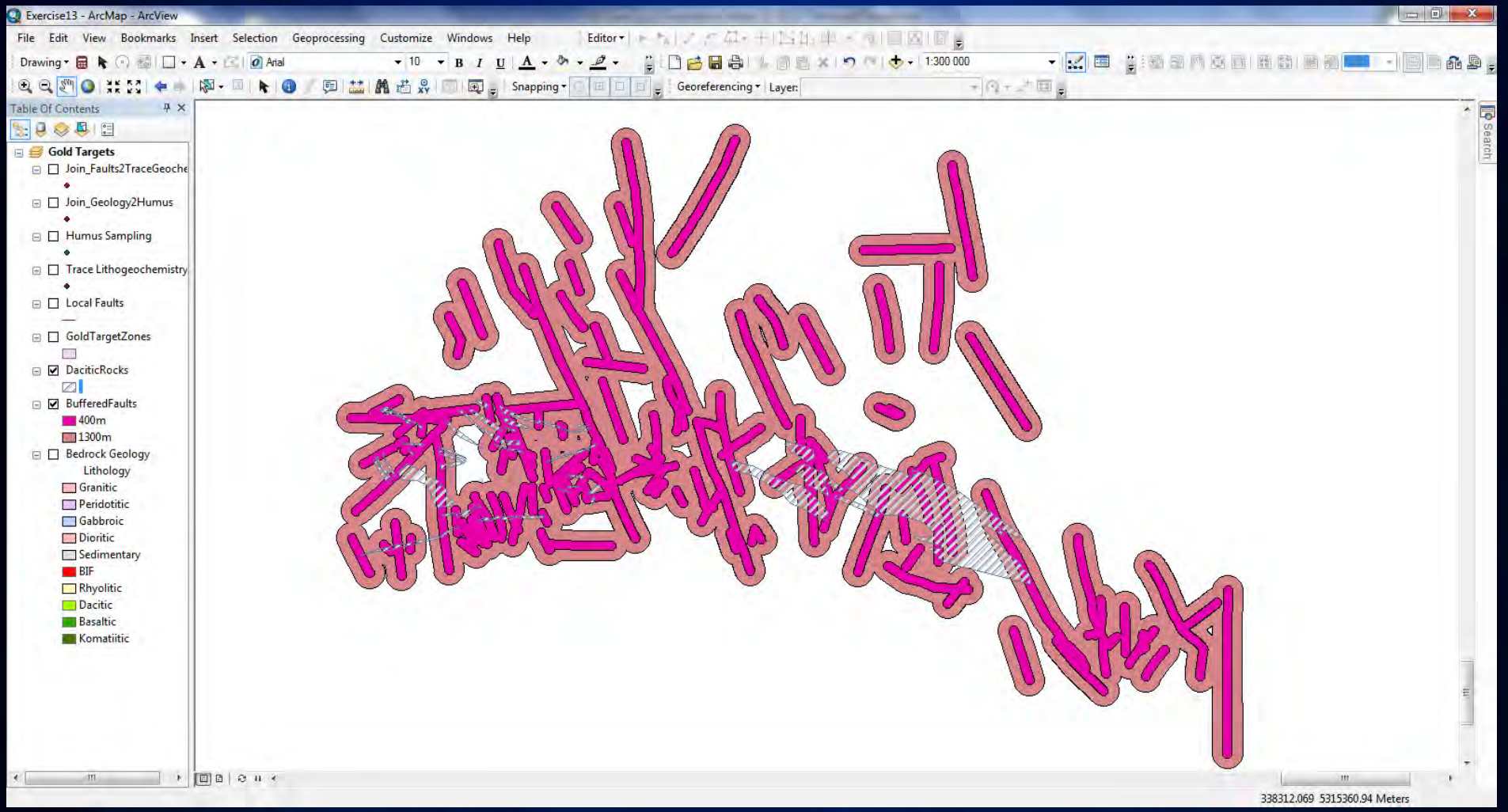
Working in ArcCatalog

- Coordinate systems
- Creating a geodatabase
- Digitising and editing in ArcMap



FID	OBJECTID	Shape	Type	Name	faults_OBJE	Id	faults_Type	Shape_Leng	Distance
404	395	Point	Past Producer	Mackenzie Gold Mines	98	0	Fault	6259.728894	5.113432
56	410	Point	Occurrence	India	5	0	Fault	4720.328922	6.34271
0	188	Point	Occurrence	"Colberg, H."	1	0	Fault	31592.138761	10.08546
422	252	Point	Occurrence	Mondoux	101	0	Fault	8310.185189	10.744702
442	67	Point	Occurrence	Squaw Lake South	110	0		1605.019026	19.488165
124	323	Point	Occurrence	"Berman, J."	25	0	Fault	10363.127394	19.741531
63	122	Point	Occurrence	South-Dyke	9	0	Fault	8352.645771	22.146776
313	448	Point	Occurrence	Uniform2	73	0	Fault	3514.893803	25.911677
415	201	Point	Occurrence	Gypsy	101	0	Fault	8310.185189	26.147339
351	336	Point	Occurrence	Montgomery/Ackerman	84	0	Fault	5831.516828	26.172781
178	14	Point	Deposit	McKenzie Gold Mines	33	0	Fault	4118.094268	26.365578
193	214	Point	Occurrence	West Sparrow	36	0	Fault	6482.204561	27.483308
337	361	Point	Occurrence	Claymac	79	0	Fault	12487.624188	28.781249
95	416	Point	Occurrence	Oscar	12	0	Fault	8968.484164	30.324961
58	96	Point	Occurrence	"Mamen, L."	7	0	Fault	4293.506881	36.157755
183	211	Point	Occurrence	South Fall River	35	0	Fault	18389.280872	36.449116
150	17	Point	Occurrence	Moore Point	32	0	Fault	16235.940295	44.187917
401	344	Point	Occurrence	"Ironstone, P.S."	98	0	Fault	6259.728894	44.58244
315	53	Point	Occurrence	Bob Lake	74	0	Fault	7397.425741	47.124604
483	83	Point	Occurrence	Barton	123	123	Interp	5844.083536	47.391649
262	43	Point	Occurrence	Archie Cameron	62	0	Fault	26394.420048	48.058459
250	229	Point	Occurrence	South Kennebec Lake	50	0	Fault	3067.050315	48.796363
62	110	Point	Occurrence	Burditt Lake	9	0	Fault	8352.645771	49.595353
36	85	Point	Occurrence	Last Lake	3	0	Fault	22799.014721	51.070095
234	171	Point	Occurrence	Mangan-Dyer	46	0	Fault	3588.958712	52.26379
132	308	Point	Occurrence	Petrant	27	0	Fault	6688.475097	52.449925
378	91	Point	Occurrence	Larson West	90	0	Fault	4256.685164	53.024388
382	147	Point	Occurrence	Starmer Block	90	0	Fault	4256.685164	53.024388
113	100	Point	Occurrence	Ross Niessen	17	0	Fault	1687.103121	53.818563
114	148	Point	Occurrence	Ellard South	17	0	Fault	1687.103121	53.818563

Exploring spatial relationship between mineral occurrences and structure



Defining gold targets using spatial analysis

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Thank you

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