

What the Mintec Solutions Group Can Do for You

Mintec, Inc. has formed the Solutions Group to add significant value to the application of MineSight® at your sites. While MineSight® is a complete package and provides tools to solve the vast majority of geologic and mining problems, there are occasional “gaps” that need to be filled. The Solutions Group consists of experienced MineSight® Specialists who will evaluate the client request and determine the amount of time necessary to accomplish the requested task. Standard consulting billing rates apply to the development of the proposed solution. A proposal and a detailed scope of work is created and sent to the client.

The Solutions Group functions as a liaison between Technical Support and the Software Development groups by rapidly filling the gaps using existing MineSight® standard scripting and programming tools. In some cases, these solutions serve as a guide for enhancements to future versions of MineSight®. Tools used by the Solutions Group include, but are not limited to:

MineSight® Grail (MSGrail) API

FORTRAN, particularly custom user subroutine programs

MineSight® Data Access Library API

Standalone Python™ applications

Some of the solutions developed are as basic as reading a MineSight® Geometry Object and writing the data to an ASCII file. Other solutions are more complex, such as, creating detailed multi-discrete, multi-elements Online Analytical Processing (OLAP cubes). Typical solutions fall into several categories:

Data Conversion

- ASCII to MineSight® Geometry Objects

- ASCII to MineSight® Planning Database (MSPD)

- ASCII to MineSight® Assay/Survey/Composite Files

Security

- Password Protection of multi-run Packages and Responses

- Password Protection of MineSight® Compass™ (MSCompass) Procedures

Data Manipulation

- Complex Reblocking with Metal Content Balance

- Automated Creation of Triangulated Surfaces

- Transfer (update or insert) between different MSPDs

Automation

- Automated Creation of Triangulated Surfaces

- Determination and copy of MineSight® 3-D objects contained in a MineSight® Project Map.

Reporting

- MineSight® Interactive Planner (MSIP) Reporting with Fixed Grade/Tonnage Dilution

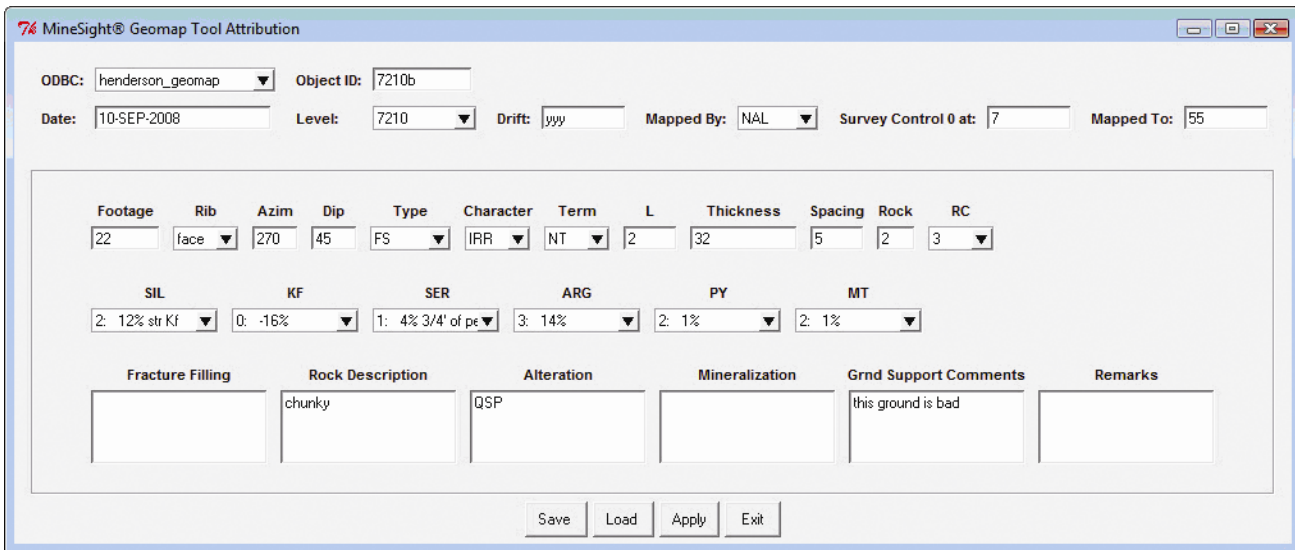
- MSIP Reporting by Multiple Discrete Items

Clients have turned to the Solutions Group in several cases to help solve site-specific problems. Several examples are outlined below.

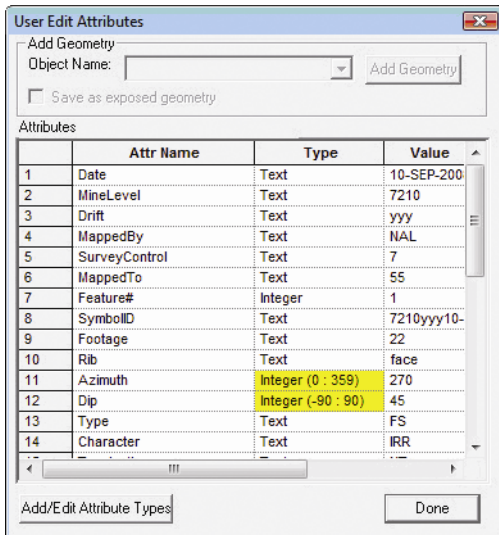
Problem: Client needed to expand the amount and type of symbol information available in the Geomap Tool for detailed geologic mapping and subsequent reporting.

Solution: A script using elements of MSGrail was developed to take the active element symbol in the

Geomap Tool and transfer the geometry to the MSPD. A Graphic User Interface (GUI) was developed to allow the user to input additional information related to the mapping and have this information stored as attributes in the MSPD upon transfer. The same symbol used in the Geomap Tool is stored in the database.



Geometry views can be created with this Geomap data and queried as can any standard object.



One of the more challenging aspects in the design and development of a solution of this nature is insuring that the tool is scalable in the future. The tool needs to have new validation information (i.e. MappedBy, Level, Type, etc.) without changing the script coding. This was solved by giving the user access to a parameter file that is input to the script at run-time.

```

geomap_menu_choices.ini - Notepad
File Edit Format View Help
# This file contains lists for the dropdown boxes in the script: em-Geomap_Tool_Attribution.py
# The contents of this file can be modified, but the order of the headers should be maintained (i.e. Level, MappedBy, Rib, etc..)
# All lists are delimited by commas; blank lines and lines beginning with hash (#) will be ignored by script.
#
Level,7025,7065,7150,7160,7175,7210,7270,7500,7655,7700,7755
MappedBy,CDS,AR,NAL,CC,MD
Rib,face,back
Type,FU,SFU,MFU,LFU,VN,SVN,MVN,LVN,SJ,JS,V5,F5,FU/VN,VN/FU,AI,CT,marker
Character,PL,SPL,IRR,var
Term,NT,ST,DT,var
RC,1,2,3,4,5,6,7,8,9
SIL,0: 0%,1: 8% str arg,2: 12% str kf,3: 17% st qsp,4: 23%,5: 30%,6: 37% st sil,7: 44%,8: 52%,9: 60% high sil
KF,0: -16%,1: -9%,2: -3%,3: 2%,4: 6%,5: 9%,6: 12%,7: 15% st KF
SER,0: 0%,1: 4% 3/4' of pervasive qsp alt in 10' interval,2: 10% 2' of pervasive qsp alt in 10' interval,3: 17% 3.5' of pervasive qsp alt in 10' interval,4: 25% 5' of pervasive qsp alt in 10' interval,5: 36% 7' of pervasive qsp alt in 10' interval,6: 50% 10' of pervasive qsp alt in 10' interval
ARG,0: 0%,1: 5%,2: 9%,3: 14%,4: 20%,5: 27%,6: 35%,7: 44% st arg
PY,0: 0%,1: tr,2: 1%,3: 2%,4: 4%,5: 7% st qsp,6: 10%
MT,0: 0%,1: tr,2: 1%,3: 2% st qmt,4: 4%,5: 7%

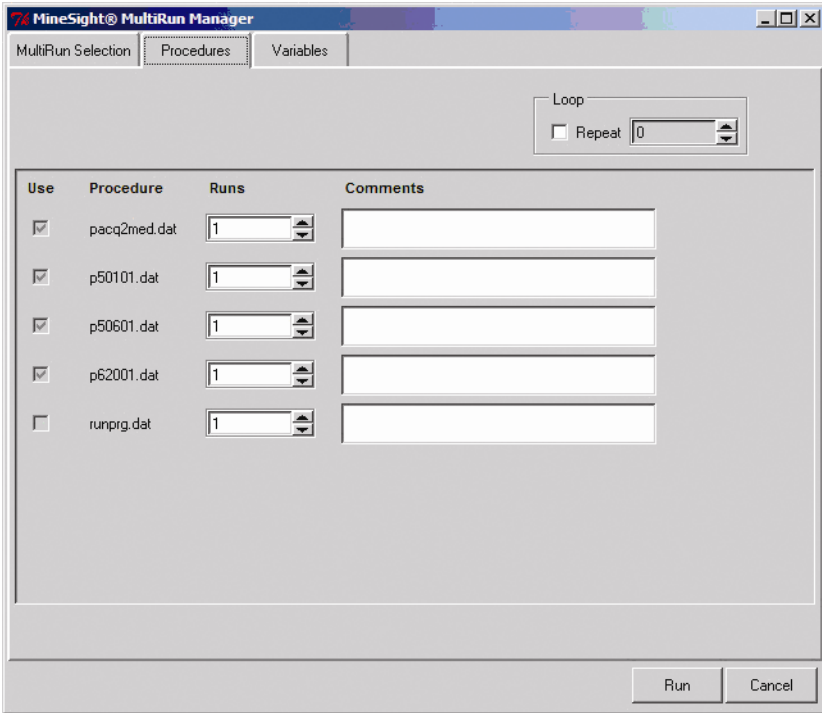
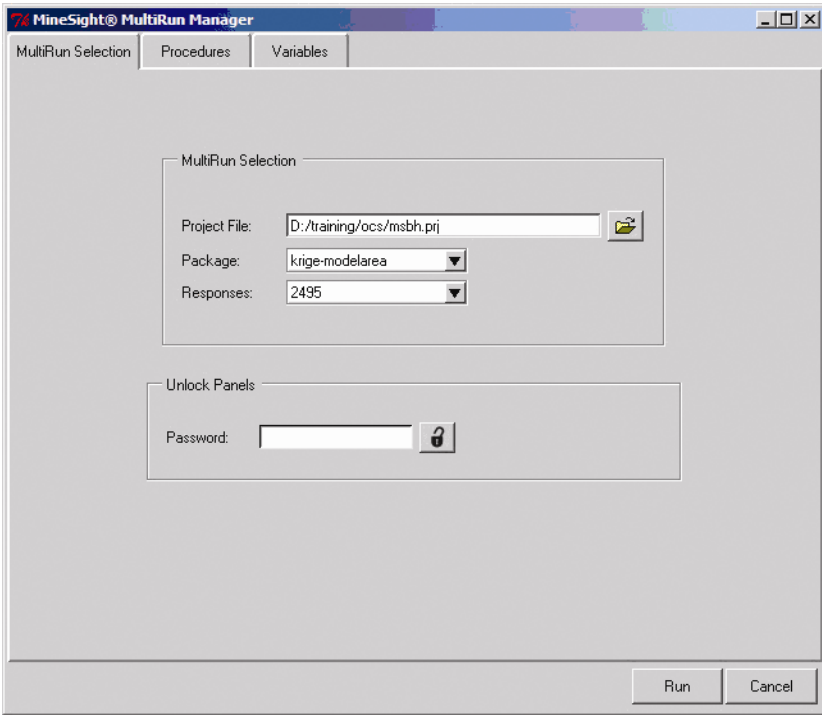
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With all of the required information stored in the MSPD, detailed reports can be generated without having to merge information from multiple sources.

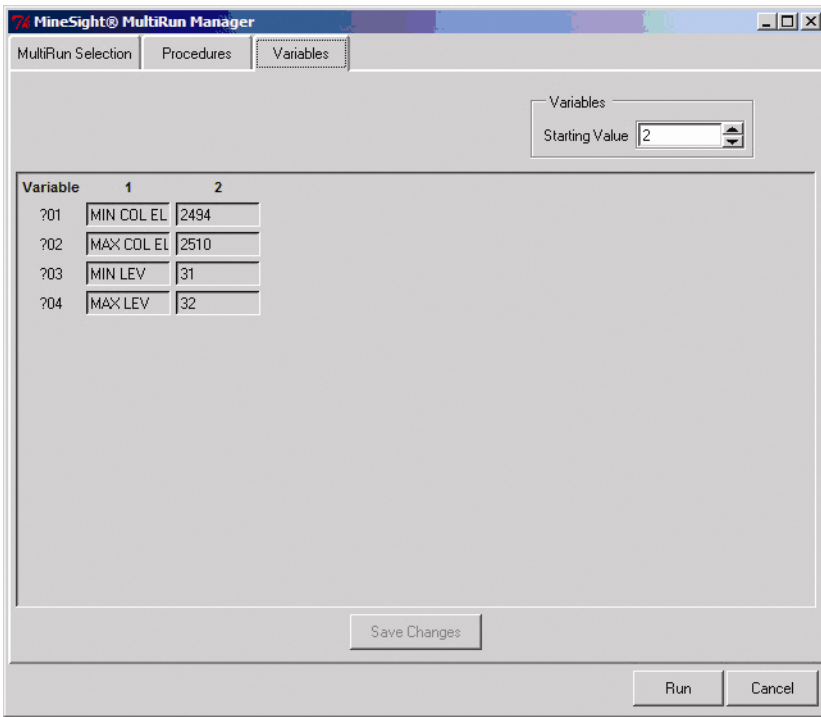
DATE	Feature#	Footage	Rib	Azimuth	Dip	Type	Cha	Terminator	Length	Thickn	Spacir	Ro	Arj	Ki	QSI	FractureFilli	Remarks	MineLe	Drif	MappedB	SurveyCor	MappedT	
7-AUG-2008	1 11	N	250	50	FU	PL	ST	10	2mm							mo slip	lost in back	7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	1 26	S	263	86	FU	PL	NT	14	1mm							Mo slip		7210	P77	AR	GL913	86	
7-AUG-2008	2 27	S	262	-90	VN/FU	PL	NT	14	1 mm							mo replaceme		7210	P77	AR	GL913	86	
7-AUG-2008	2 5	S	297	-90	FU	SPL	NT	14	0.5 cm							unknown (drift		7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	3 29	S	115	70	VN	PL	NT	14	2-3mm							QSP		7210	P77	AR	GL913	86	
7-AUG-2008	3 38	N	155	90	FU	PL	NT	14	2 mm							mo slip		7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	4 26	S	210	30	VN	PL	NT	14	3-5 cm							QSMt-Kf		7210	P77	AR	GL913	86	
7-AUG-2008	4 43	N	295	66	SJ	PL	NT	14	1 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	5 28	N	108	88	FU	PL	NT	14	2 cm							Mo slip	lost in back	7210	P77	AR	GL913	86	
7-AUG-2008	5 34	S	256	32	SJ	PL	NT	12	2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	6 34	N	256	68	FU	SPL	NT	14	1 cm							Mo QSP?		7210	P77	AR	GL913	86	
7-AUG-2008	6 68-90	N	262	38	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	7 36	N	7	50	VN	SPL	NT	14	2-3mm							mo vn		7210	P77	AR	GL913	86	
7-AUG-2008	7 68-90	N	262	38	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	8 44	N	283	76	VN	PL	NT	14	1-2mm							mo replaceme		7210	P77	AR	GL913	86	
7-AUG-2008	8 68-90	N	34	40	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	9 44	N	113	60	VN	SPL	NT	14	3 mm							Q-Mo op sp (m low on rib		7210	P77	AR	GL913	86	
7-AUG-2008	9 68-90	N	238	58	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	10 44	N	257	62	VN/FU	PL	ST	25	1-1.5 cm							mo		7210	P77	AR	GL913	86	
7-AUG-2008	10 68-90	N	262	38	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	11 55	N	343	12	VN	PL	NT	14	1.5 cm wif							QSMt-Kf		7210	P77	AR	GL913	86	
7-AUG-2008	11 68-90	N	262	38	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	12 51-54	N	72	89	JS	SPL	ST	6	1 mm	2								7210	P77	AR	GL913	86	
7-AUG-2008	12 68-90	N	262	38	JS	PL	NT	12	1-2 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	13 51-54	N	72	89	JS	SPL	ST	6	1 mm	2								7210	P77	AR	GL913	86	
7-AUG-2008	13 71	S	262	38	SJ	PL	NT	12	1 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	14 51-54	N	72	89	JS	SPL	ST	6	1 mm	2								7210	P77	AR	GL913	86	
7-AUG-2008	14 89	S	262	38	SJ	PL	NT	14	1 mm									7270	U93	AR	Pl of P93 and 90	86	
7-AUG-2008	15 59	N	195	23	VN	PL	NT	14	5-10cm							Q-Mo op sp wif	may be cont to	7210	P77	AR	GL913	86	
7-AUG-2008	16 63	N	297	70	FU	SPL	NT	14	1-2 cm							Mo-clay	bx; cut by mo s	7210	P77	AR	GL913	86	
7-AUG-2008	17 74	N	135	75	SJ	PL	NT	14	2 mm								H2O producer		7210	P77	AR	GL913	86
7-AUG-2008	18 86	N	85	87	FU	SPL	NT	14	1 cm							mo		7210	P77	AR	GL913	86	
7-AUG-2008	19 80	N	257	80	VN	PL	NT	14	2 mm							QSP	continuous	7210	P77	AR	GL913	86	
7-AUG-2008	20 86	S	115	64	SJ	SPL	NT	14	1 mm									7210	P77	AR	GL913	86	
7-AUG-2008	21 80	S	183	34	FU	PL	NT	14	1 cm							QSP	continuous	7210	P77	AR	GL913	86	
7-AUG-2008	22 72	S	316	83	SJ	PL	NT	14	1-2 mm									7210	P77	AR	GL913	86	
7-AUG-2008	23 74	S	35	6	VN	PL	NT	14	1-1.5 cm v							QSPMt-kf	cut by 21	7210	P77	AR	GL913	86	
7-AUG-2008	24 55	S	94	67	FU	SPL	NT	14	1 mm							Mo slip		7210	P77	AR	GL913	86	
7-AUG-2008	25 42	S	160	16	VN	SPL	NT	14	10-15 cm							SQMokf	continuous cut	7210	P77	AR	GL913	86	
7-AUG-2008	26 53	S	274	27	VN	SPL	NT	14	3-10 mm							Mo vn		7210	P77	AR	GL913	86	

Problem: To assure import modeling related functions have the proper parameters and can only be changed by authorized personnel, the client needed to protect MSCcompass multi-runs, but still have them executable by all users.

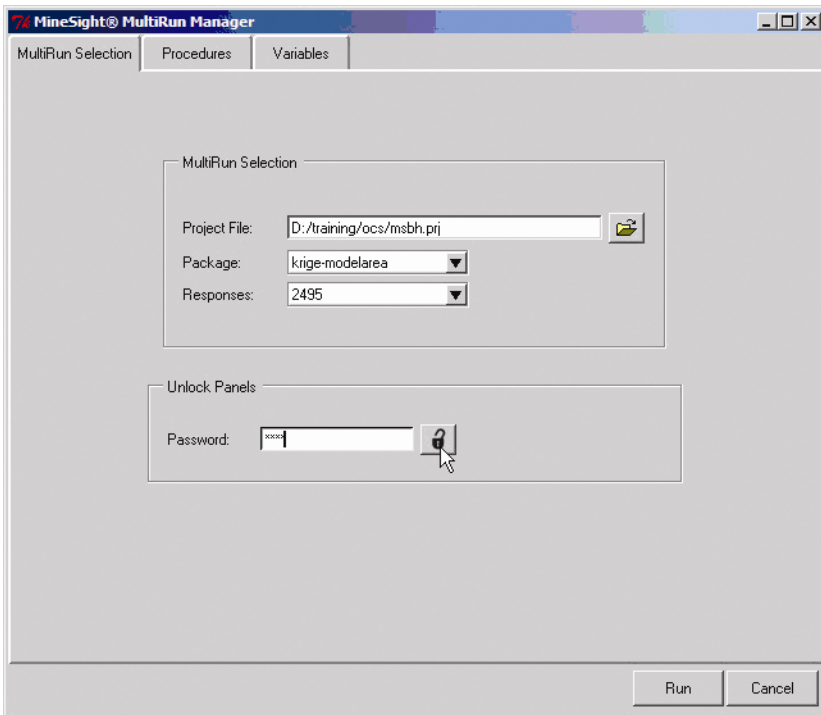
Solution: The Solutions Group developed a Python™ script to display the multi-run and associated variables in a GUI with a password entry field. The multi-run procedures and variables cannot be changed unless the password is entered.



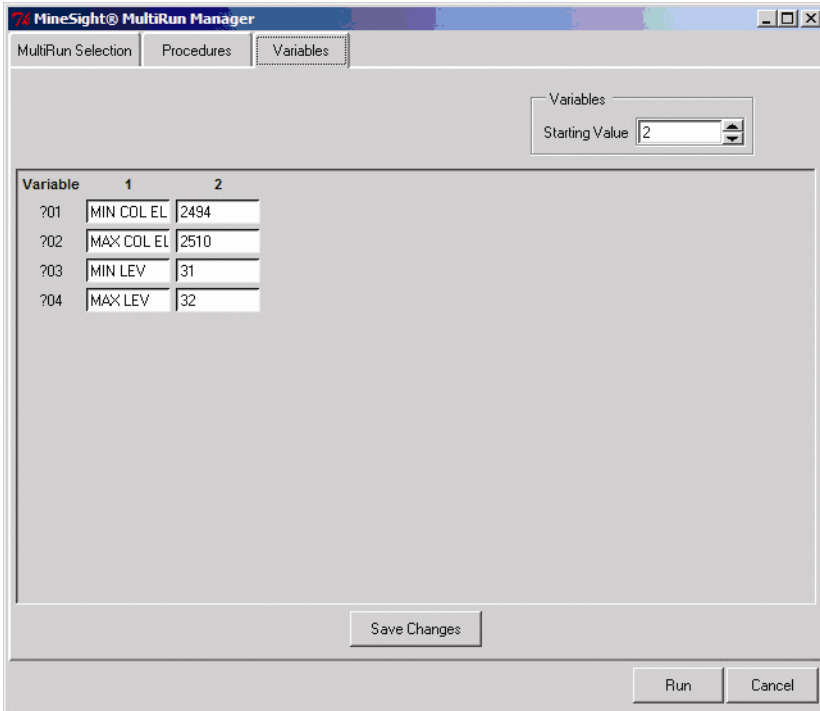
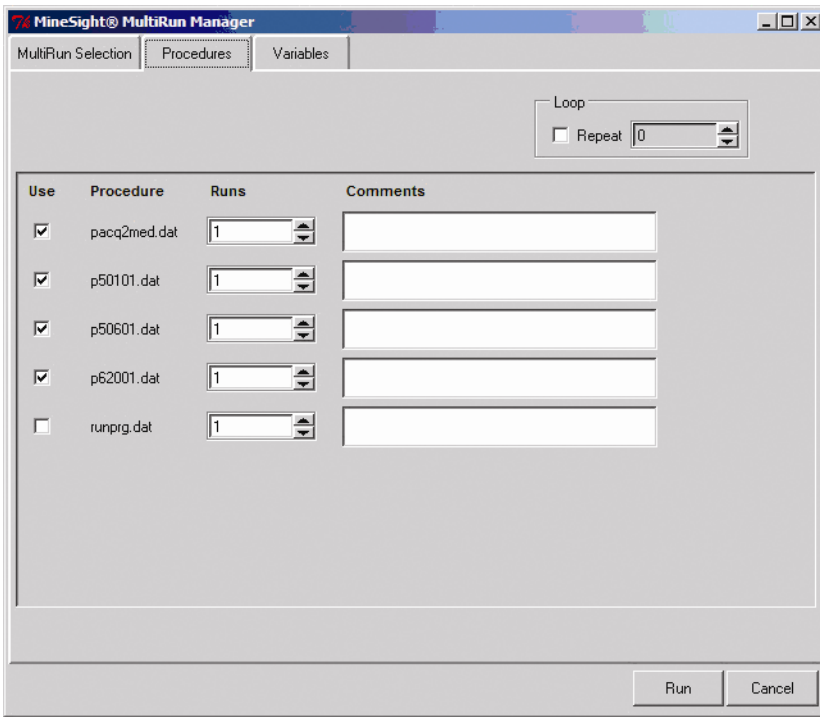
Note that the **Use** selection checkboxes and **Procedure** are grayed out.



Once the correct password is entered, all procedures and variables can be manipulated.

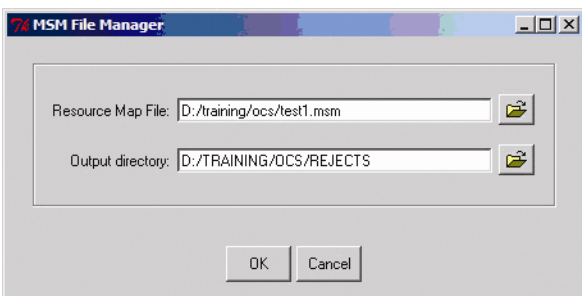
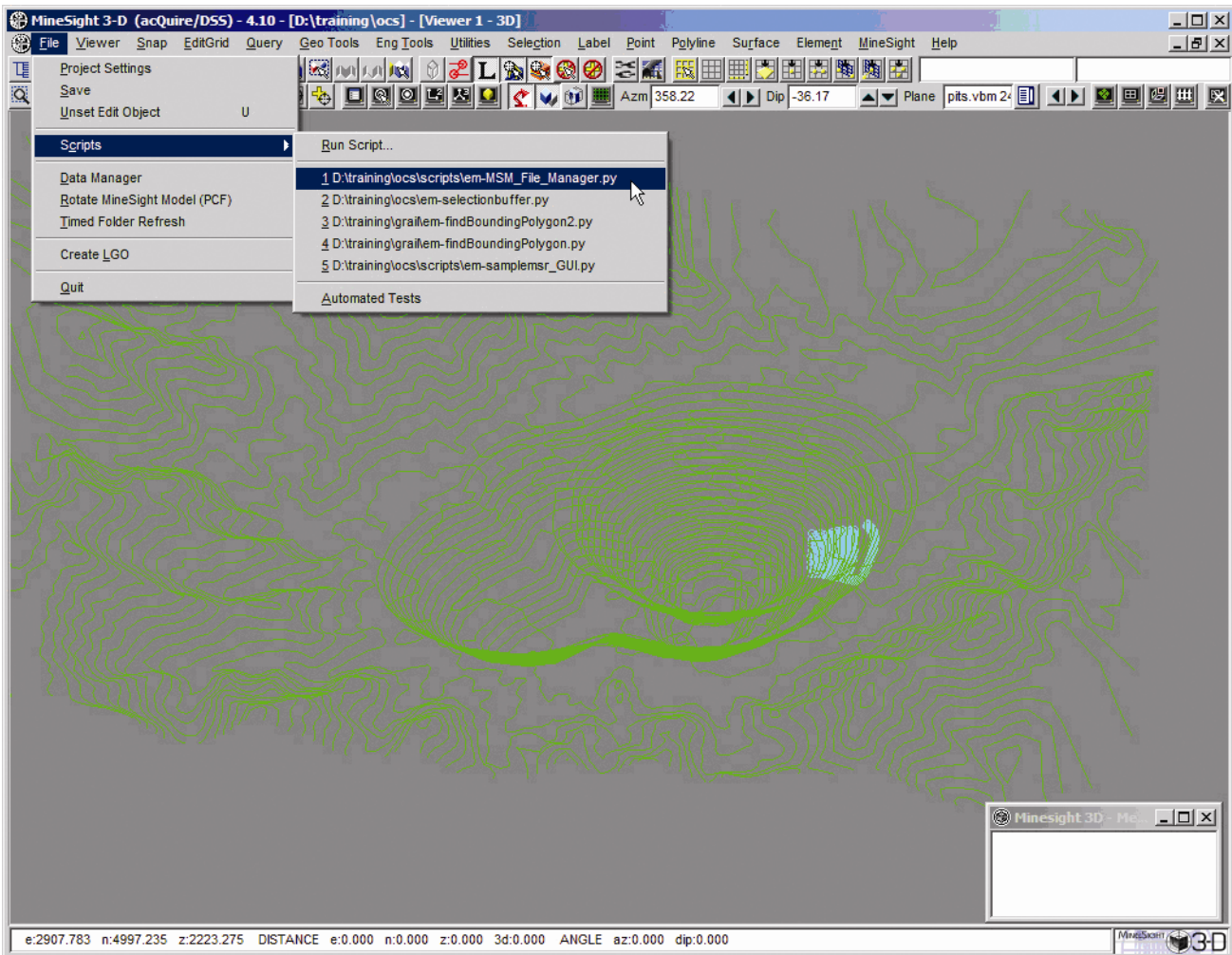


The procedures that make up the multi-run cannot be changed in the script, but their use can be turned on/off by authorized users.



Problem: Client needed to determine which MineSight® objects were contained in a MineSight® project map file. The geometry objects in this project map needed to be copied to an alternate drive and directory. The directory structure of the MineSight® project made it too time-consuming and cumbersome to do this by hand. To make matters worse, the project map contained a mix of MineSight® object types (e.g., drillhole views, geometry objects, etc.). Only the geometry objects needed to be copied.

Solution: A script was developed using MSGrail to read the MineSight® project map file, find the geometry objects in the project map, and copy the corresponding geometry object resource files to the destination directory.



While the GUI is basic in nature, the functions behind the scenes are plentiful and complex. Development of this script also provided the Solutions Group insight into the manipulation of MineSight® objects other than standard geometry objects.

These solutions are a few that have been developed for clients to further expand the potential and use of MineSight®. If your requirements call for something out-of-the-ordinary when it comes to automation, data conversion, data manipulation, or reporting, contact Mintec Technical Support and discuss your problem with them. Working with the Mintec Solutions Group, we will solve your problem.