

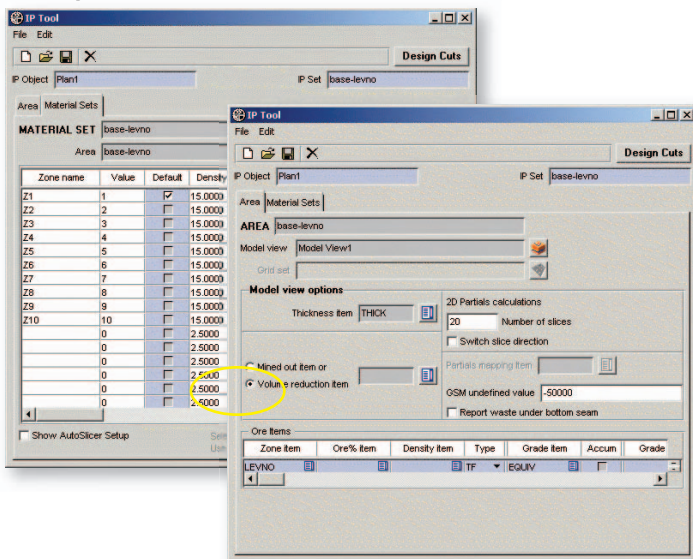


MineSight® Interactive Planner – Considerations for Use with a Gridded Seam Model

MineSight® Interactive Planner (IP) is a powerful and flexible short-, medium-, and long-range planning tool that has a wide variety of potential applications. Among these is the ability to provide detailed information on a project built using a MineSight® Gridded Seam Model (GSM). When used with a GSM, MineSight® IP requires a few specific considerations, and these will be the topic of this month's Tech Tip. We'll look at two different cases to illustrate these points.

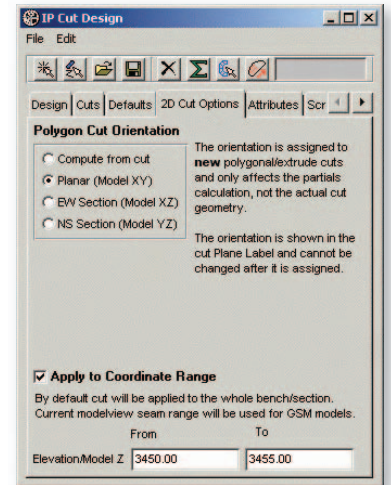
Basic GSM Setup

The first scenario is a metal deposit where levels have been defined for reporting purposes. There is no ore% item, and a variable cutoff report schema has been defined. This case is usually applied to GSMs without interburden where reporting by level (often bench) is required. The **AREA** and **MATERIAL SET** dialogs for this setup are shown below.



One of the main considerations for this type of setup is the volume of the model being queried for a particular cut. This parameter can be specified as a number of defined levels and/or as a vertical dimension. If you are specifying the reporting levels by number, you can either specify the orientation of the cuts, or let the cuts themselves define their orientation. These controls are located on the **2-D Cut Options** tab in the **IP Cut Design** dialog, as shown here.

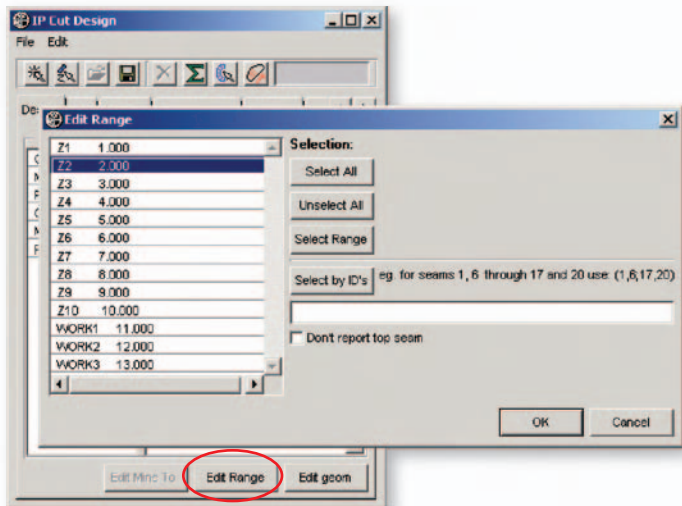
The option to specify a vertical dimension (**Apply to Coordinate Range**) for the extent of the cut volume is available only if you also specify the orientation of the cut, and will be grayed out if you chose to compute the orientation from the cut itself.



To obtain a report on any or all of the seams that exist in a particular area, use the option to **Edit Range** in the **Design** tab of the MineSight® **IP Cut Design** dialog. The illustrations on the next page show the **Edit Range** tab configuration to report only Level Z2 (circled in red) and to report Levels Z1 through Z10 (circled in yellow). The corresponding Cut Reports from the **ip-accum.py** reporting script are also displayed with each **Edit Range** tab configuration.

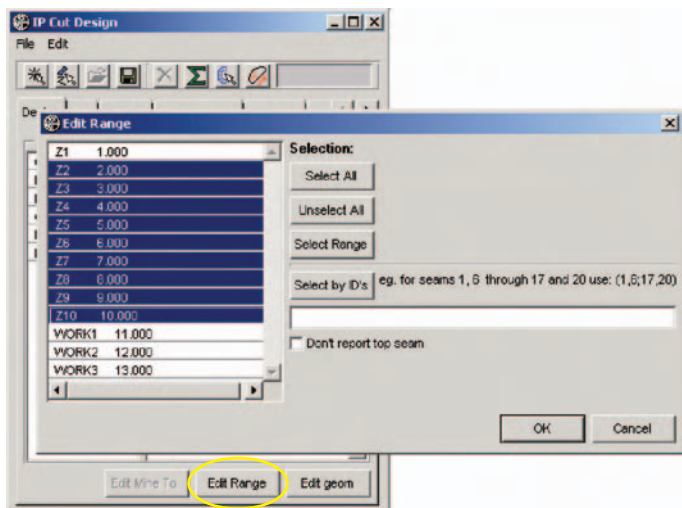
(continued on page 9)

(MineSight® Interactive Planner – Considerations for Use with a Gridded Seam Model continued from page 8)



Cut Reserves

	A	B	C	D
1	Material:	Z2		
2	Cutoff	> 0.00	> 8.00	Totals
3	Tons	1043	1687	2730
4	Volume (BCY)	580	937	1517
5	EQUIV	6.33	11.19	9.33
6				
7				



Cut Reserves

	A	B	C	D
1	Material:	Z2		
2	Cutoff	> 0.00	> 8.00	Totals
3	Tons	1245	2114	3359
4	Volume (BCY)	692	1175	1866
5	EQUIV	6.27	11.45	9.53
6	Material:	Z3		
7	Cutoff	> 0.00	>10.00	Totals
8	Tons	16282	0	16282
9	Volume (BCY)	9046	0	9046
10	EQUIV	0.64	0.00	0.64
11	Material:	Z4		
12	Cutoff	> 0.00	>10.00	Totals
13	Tons	6562	935	7497
14	Volume (BCY)	3646	519	4165
15	EQUIV	7.33	11.61	7.86
16	Material:	Z5		
17	Cutoff	> 0.00	>10.00	Totals
18	Tons	7797	0	7797
19	Volume (BCY)	4332	0	4332
20	EQUIV	0.74	0.00	0.74
21	Material:	Z6		
22	Cutoff	> 0.00	>12.00	Totals
23	Tons	150	3302	3452
24	Volume (BCY)	83	1834	1918
25	EQUIV	10.23	15.57	15.34
26	Material:	Z7		
27	Cutoff	> 0.00	>10.00	Totals
28	Tons	3604	0	3604
29	Volume (BCY)	2002	0	2002
30	EQUIV	1.24	0.00	1.24
31	Material:	Z8		
32	Cutoff	> 0.00	>14.00	Totals
33	Tons	3318	2929	6248
34	Volume (BCY)	1843	1627	3471
35	EQUIV	12.60	16.84	14.59
36	Material:	Z9		
37	Cutoff	> 0.00	>10.00	Totals
38	Tons	14756	0	14756
39	Volume (BCY)	8198	0	8198
40	EQUIV	0.82	0.00	0.82
41	Material:	Z10		
42	Cutoff	> 0.00	>16.00	Totals
43	Tons	0	53547	53547
44	Volume (BCY)	0	29748	29748
45	EQUIV	0.00	21.79	21.79

If you use the option to report all of the levels as defined on the **Range** tab, the vertical volume is computed between the ZTOP of the uppermost-defined seam and the ZBOT of the lowest specified level. There is now an option to not report the uppermost seam. It can be done as a default for all cuts from the **Defaults** tab, or better yet, there is a tick box for a cut

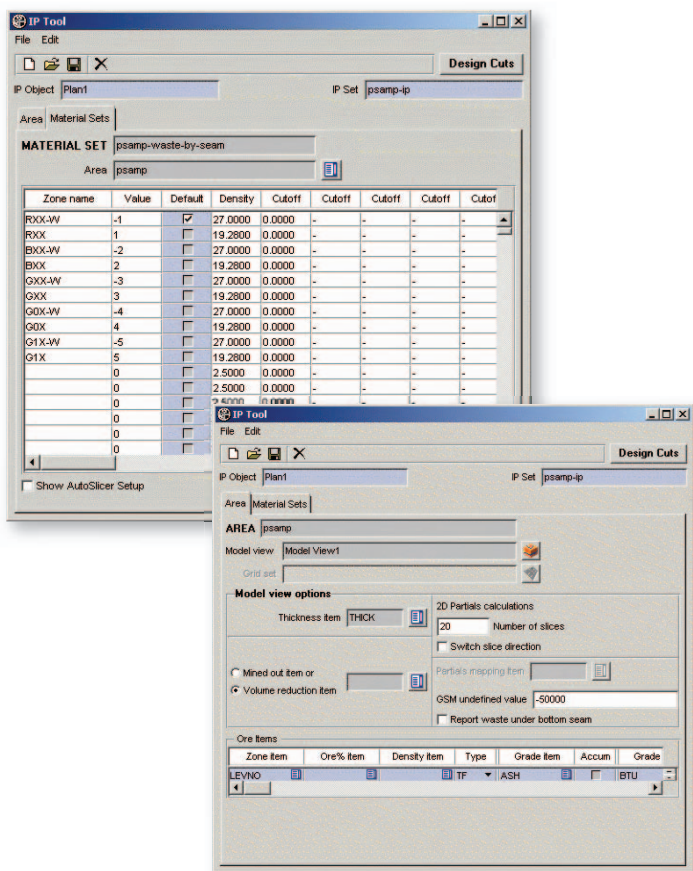
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(MineSight® Interactive Planner – Considerations for Use with a Gridded Seam Model continued from page 9)

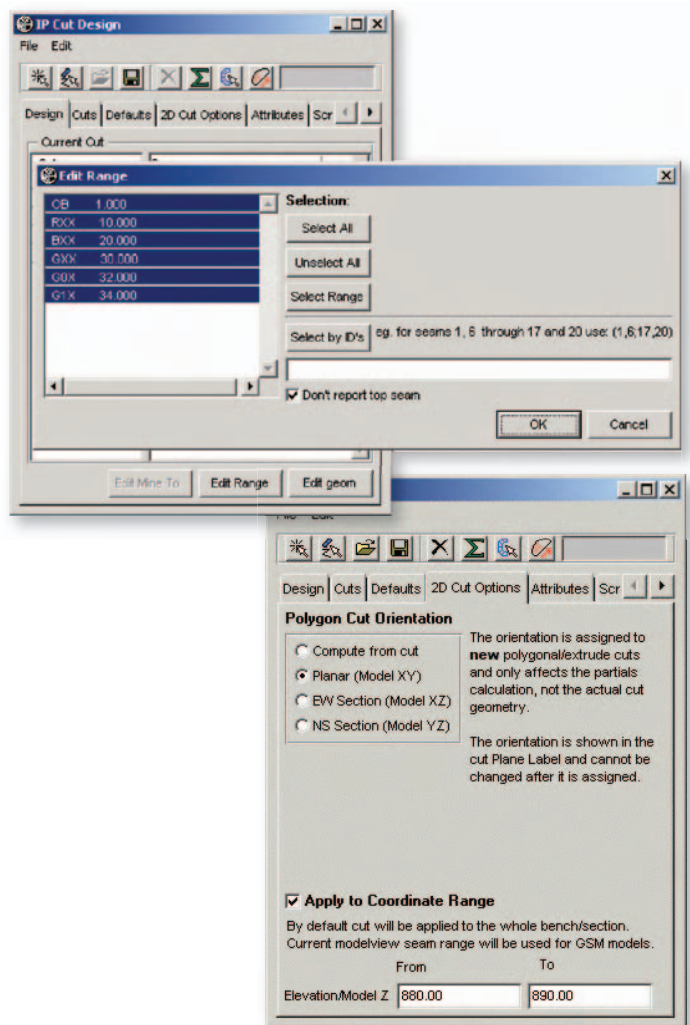
by cut basis from the **Edit Range** button (the latter is the preferred). This allows footwall to footwall mining. When using the **Apply to Coordinate Range** option, the vertical limits used are those specified in the corresponding fields.

Overburden and Interburden Reporting

Another consideration in using MineSight® IP with a GSM is the reporting of interburden and overburden. One convenient method uses the negative zone value to designate the interburden above the corresponding seam. In order to report the overburden accurately, it is necessary to create a “phantom” seam that represents the current topography. In this example, the “phantom” seam is called OB, and its ZBOT and ZTOP values are set equal to topography. The **AREA** and **MATERIAL SET** dialogs for this second example are shown below.



In this coal project, the waste is entirely defined by the modeled interburden, so no ore% item is needed. The reserves will be reported by seam including the waste above each seam. When using this case, the range of seams to use can be controlled by the **Edit Range** button on the **Design** tab. The coordinate range can also be used to limit the elevation to a mining bench.



Additional Considerations

When working with a GSM, it is necessary that the cuts always be created parallel to the orientation of the model. In most cases, this will mean that you’ll be using planar cuts in MineSight® IP, as most GSMs are oriented horizontally. If you are cutting plans against a vertical GSM, however, the cuts must also be vertical, and oriented with the model. There are a few other limitations in MineSight® IP when using GSMs; there is no Multiple Ore Percent capability, and neither Partials Mapping, priorities, Ore Clipped, nor Min(Topo/Part) are supported in the GSM environment. Reserves are based upon a thickness item, optional single ore%, and grade.

Using these few considerations, it is quick and convenient to utilize MineSight® Interactive Planner for the generation of a variety of planning scenarios.

The examples shown are the most common, but there are a number of other possible combinations with and without using level number and ore%. Examples of the setups for the other cases are described in the 2004 annual Users Seminar workshop paper entitled *MineSight® – Interactive Planner Setup*.