

PRECISION BLASTING SERVICES

INTRODUCES

BLAST DESIGNER VERSION 8.0

When you need a second opinion, the Blast Designer software package can help the blaster as well as the engineer. The software will allow the quick calculation of burden, spacing, stemming, subdrilling, powder column length, priming, total drill footage, and powder load. A diagram of the designed blast will be shown in graphical form on the screen. The software will also determine the powder factor, total weight of explosive per blast and a great deal of other information needed to properly design and conduct blasting operations. The user can compare results obtained by both bench blast formulas and powder factor calculations.

The software allows the user to design blasts considering total production volume, weight, or total number of holes. The explosive can be either a column load or two explosives can be loaded by different weights or lengths into the blasthole. Subdrilling can be calculated, entered as a fixed amount or a fixed amount of backfill can be added. The software will adjust for different types of stemming material. Calculations can be done for both delayed or instantaneous initiation along the rows. Blasts can be designed utilizing an open face, rock buffers, or explosive casting. The software offers a unique feature that allows for the field calibration of the equations used for calculation. Geologic factors are also considered in the design.

The software can compare up to four different blast designs on the report.



PRECISION BLASTING SERVICES
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Precision Blasting          B L A S T          V2.0 Page: 1
Services, Inc.             D E S I G N E R          Date: 10-01-2004
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File: BLD1.BLD           EXAMPLE DATA FILE

INPUT DATA OF ENTRY 1 Column loaded borehole with one explosive

Fixed production ..... 100,000.00 yd^3

Initiation ..... Delayed

Total number of holes ..... 184
Diameter of blast hole ..... 6.00 in
Hole depth ..... 63.97 ft
Bench height ..... 60.00 ft
Subdrill ..... 3.97 ft
Burden ..... 13.24 ft
Spacing ..... 18.53 ft
Stemming (chips) ..... 9.27 ft

Number of primers ..... 1 / hole
Number of initiators ..... 1 / hole
Number of surface delays ..... 1 / hole

Delay time along the row ..... 25 ms
Delay time between rows ..... 42 ms

Column explosive type ..... ANFO
Expl. charge diameter ..... 6.00 in
Expl. spec. gravity ..... 0.85
Expl. bulk strength ..... 100.00
Loading density ..... 10.42 lb/ft
Weight of explosive ..... 569.97 lb
Length of explosive ..... 54.70 ft

Rock type ..... GRANITE
Rock spec. gravity ..... 2.80

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Precision Blasting          B L A S T          V2.0 Page: 2
Services, Inc.             D E S I G N E R          Date: 10-01-2004
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File: BLD1.BLD           EXAMPLE DATA FILE

RESULTS OF ENTRY 1 Column loaded borehole with one explosive

E N T R Y 1
Diameter = 6.00 in

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Total drill length ..... 11,770.77 ft
Powder factor ..... 1.05 lb/yd^3
Powder factor ..... 0.96 yd^3/lb
Total explosive ..... 104,874.50 lb
Tot. volume produced ..... 100,326.00 yd^3
Tot. weight produced ..... 236,747.10 ton

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Precision Blasting          B L A S T          V2.0 Page: 3
Services, Inc.             D E S I G N E R          Date: 10-01-2004
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E N T R Y 1 2 3 4 units
File name: BLD1.BLD BLD2.BLD BLD3.BLD BLD4.BLD
Initiation Delayed Delayed Delayed Delayed
Top explosive ANFO HEAVY ANFO ANFO ANFO
Expl. charge diamete 6.00 6.00 6.00 6.00 in
Expl. spec. gravity 0.85 1.25 0.85 0.85
Expl. bulk strength 100.00 138.00 100.00 100.00
Powder column length 54.70 54.10 30.00 46.76 ft
Loading density 10.42 15.32 10.42 10.42 lb/ft
Explosive weight 569.97 829.00 312.57 487.21 lb
Top rock type GRANITE GRANITE GRANITE GRANITE
Rock spec. gravity 2.80 2.80 2.80 2.80
Bottom explosive HEAVY ANFO
Expl. charge diamete 6.00 in
Expl. spec. gravity 1.25
Expl. bulk strength 138.00
Explosive weight 20.00 lb
Loading density 15.32 lb/ft
Explosive weight 306.44 lb
Bottom rock type GRANITE
Rock spec. gravity 2.80
Number of holes 184.00 148.00 148.00 184.00
Hole diameter 6.00 6.00 6.00 6.00 in
Bench height 60.00 60.00 60.00 60.00 ft
Hole depth 63.97 64.42 64.42 60.00 ft
Subdrill 3.97 4.42 4.42 ft
Drilling angle °
Burden 13.24 14.74 14.74 13.24 ft
Spacing 18.53 20.63 20.63 18.53 ft
Stemming (chips) 9.27 10.32 10.32 ft
Stemming (dust) 13.24 ft
Total drill length 11,770.77 9,534.41 9,534.41 11,040.00 ft
Powder factor 1.05 1.23 0.92 0.89 lb/yd^3
Powder factor 0.96 0.82 1.09 1.12 yd^3/lb
Total col. explosive 104,874.50 122,691.40 46,260.61 89,646.69 lb
Total base explosive 45,353.54 lb
Total explosive 104,874.50 122,691.40 91,614.14 89,646.69 lb
Tot. volume produced 100,326.00 100,025.30 100,025.30 100,326.00 yd^3
Tot. weight produced 236,747.10 236,037.60 236,037.60 236,747.10 ton
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END OF SUMMARY REPORT

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