# SHOTPlus™

SHOTPlus Standard
Use of Electronic Blasting Tools

March 2017

ORICA

SET-UP OPTIONS

Users can define EBS properties in **Blast Properties**

- Blaster Selection

- Hole to hole time increments

- Define COM ports

- Use of inhole timing offsets

- Apply use of logger upload information

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GENERAL
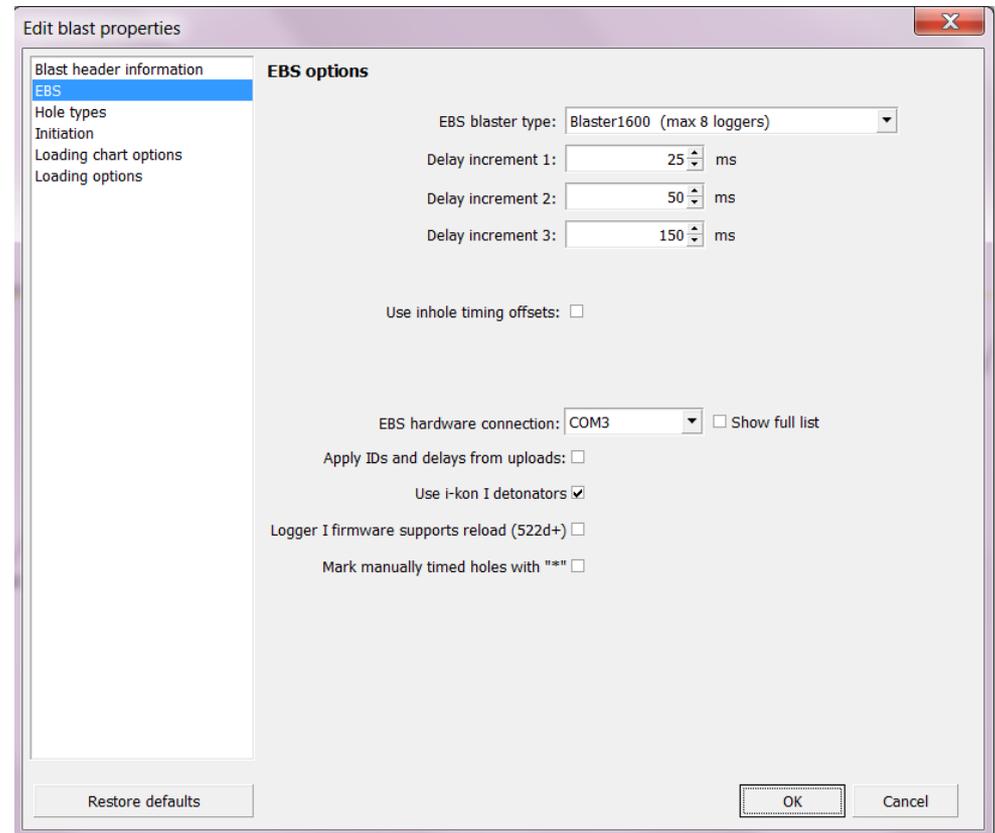
- Search radius for hook-up of non-aligned rows

EBS TOOL ICONS

Add Logger

Single hole time tool

Row time tool

Time line tool

Add / Subtract time

Opening Point tool

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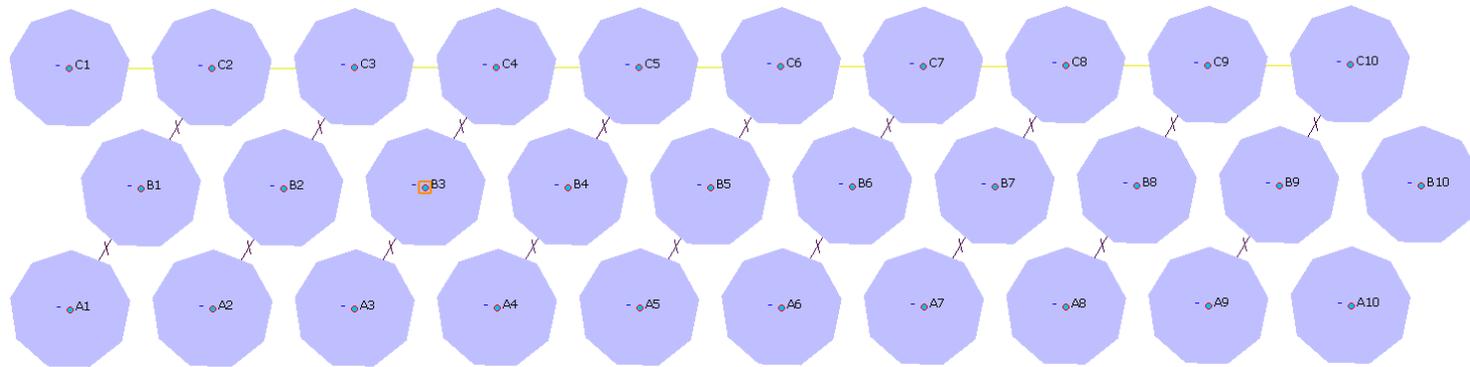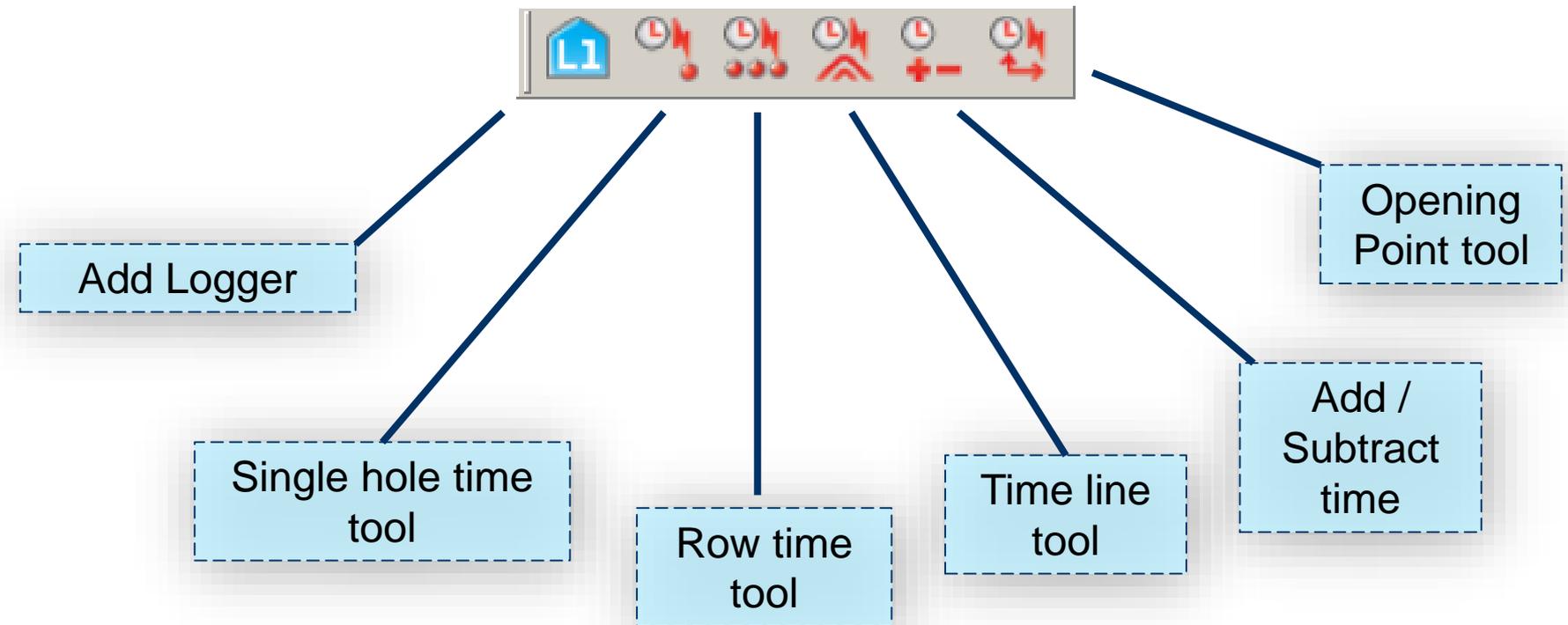
IN-HOLE OPTIONS

- Holes must be loaded with EBS product before timing design can be applied

Option 1
– Load hole **without** time off-sets

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IN-HOLE OPTIONS

Option 2

– Load hole **with time off-sets**

SINGLE HOLE TIME SET TOOL

- Single click on each hole to apply time shown in the **Time box**
- Time will increase / decrease for next hole depending on increments set
- Additional detonators in the hole will have time increments as specified by the **in-hole delays**

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ROW TIME SET TOOL
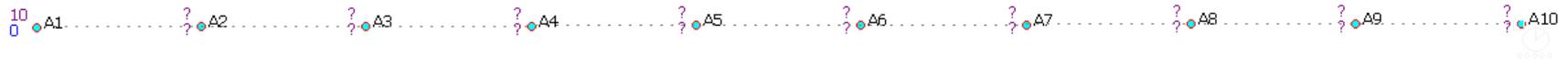
- Set required search radius
- Click on first hole and drag away. Click on last hole
- Time in box will apply to first hole
- Time will increase / decrease for next hole depending on increments set

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TIME SET TOOL

- Value will apply to the next clicked hole
- Set time: applies time in text box to the dets (according to in-hole offsets)
- Add time/Subtract time: adds or subtracts value in the text box from the current time of the hole
- Value can be set by

  - **Up / Down arrows** – increment / decrement by selected value

  - **Typing** a value in the box

  - **Ctrl - Click** on a timed hole to copy this time to the input box
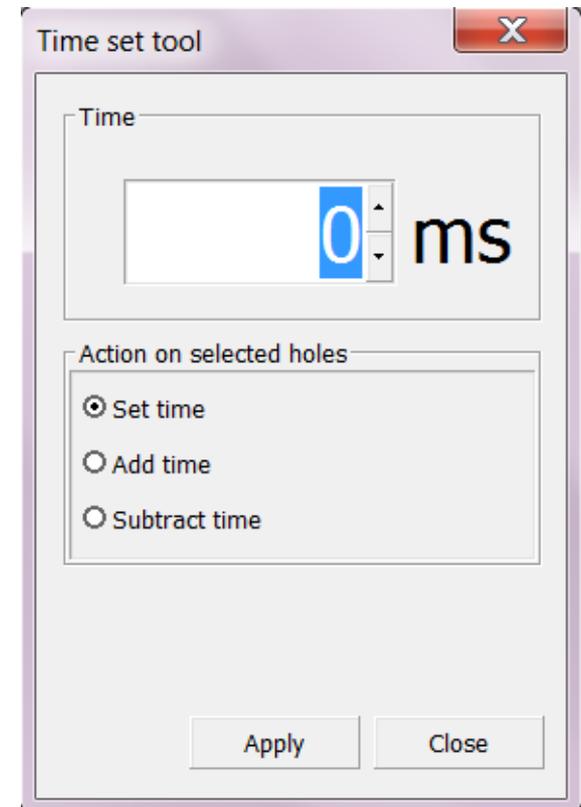
- Removes times applied to **All**, **Selected**, **Manually Programmed** or **Automatically Programmed** holes
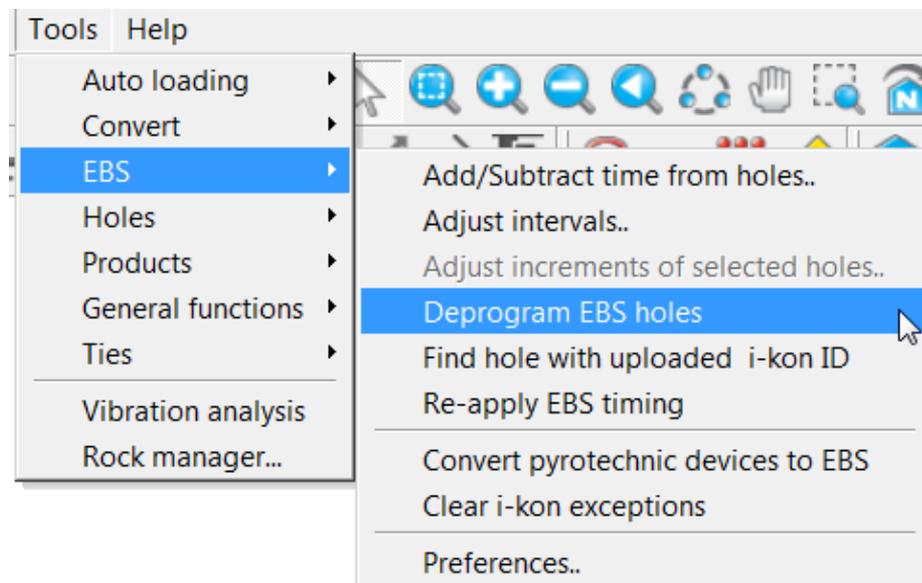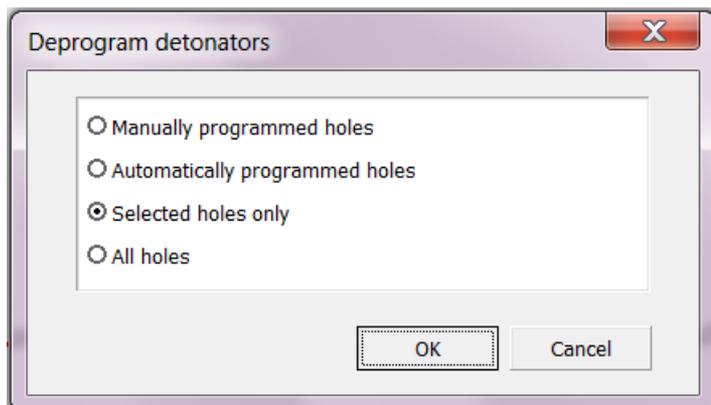
TIME LINE TOOL

Two options for time line tool

- **Contour Line**
  Blast movement towards a line specified by burden relief
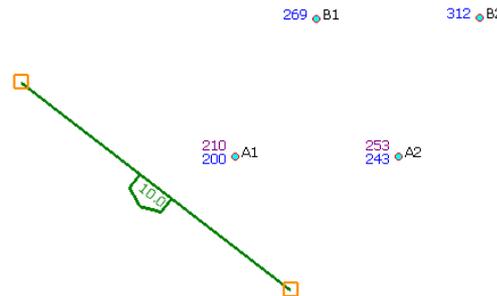
- **Burn Line**
  Blast movement along and towards a line
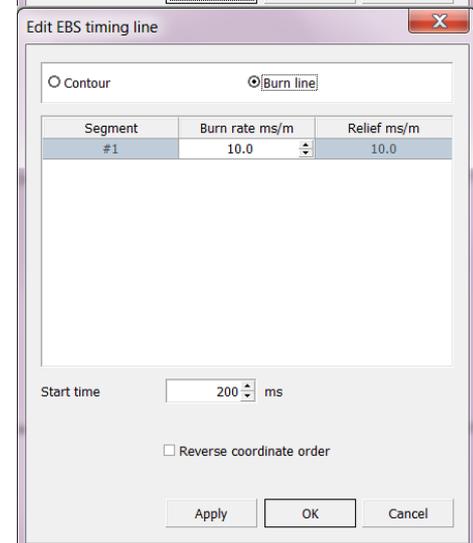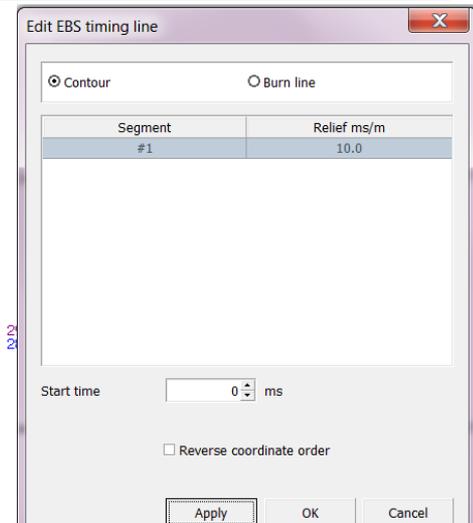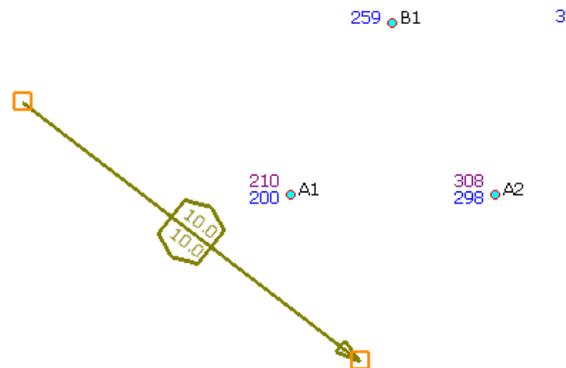
TIME LINE TOOL - CONTOUR

- Draw line
  - 3 segments only
  - blast moves **towards left** of line as drawn
- Select line type
  - **contour** or burn line
- Specify **burden relief** for each line segment
  - in milliseconds per metre **(ms/m)**
- Input **start time**
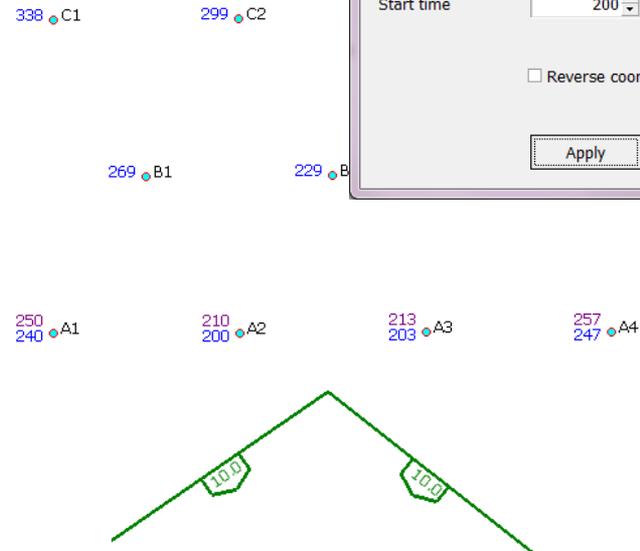
TIME LINE TOOL – BURN LINE

- Draw line
  - 3 segments only
  - blast moves **towards start** of line
- Select line type
  - contour or **burn line**
- Specify **burn rate** and **relief** for each line segment
  - in milliseconds per metre **(ms/m)**
- Input **start time**
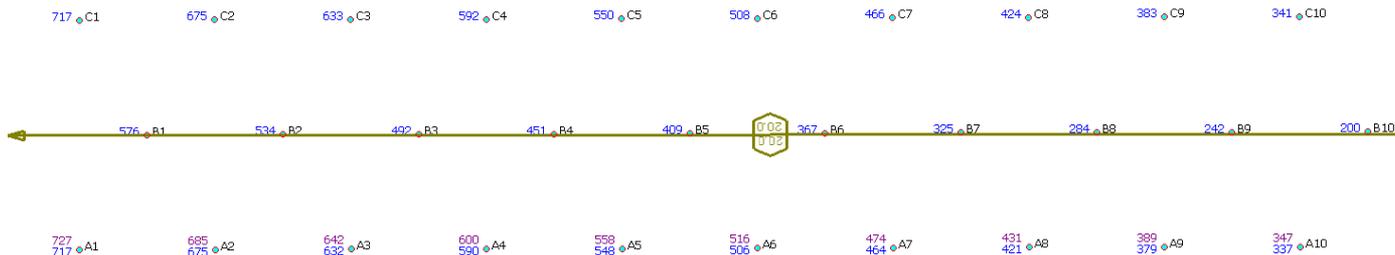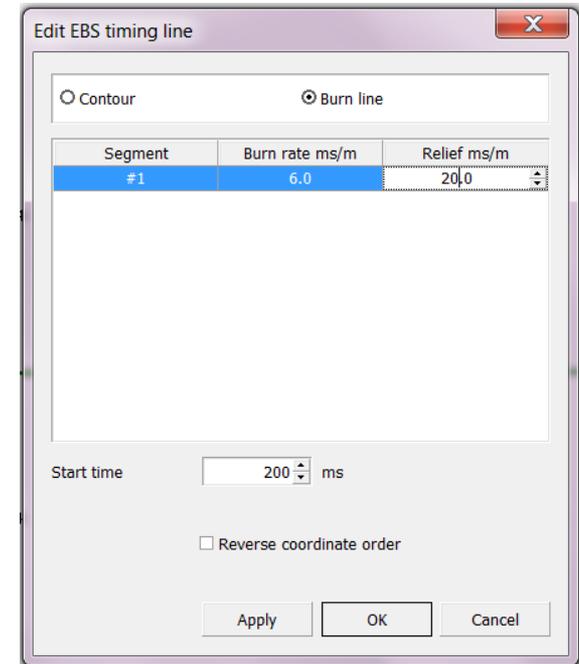
OPENING POINT TOOL

- **Opening Point tool**
  Blast movement towards a point specified in the blast.
  Movement orientation can be changed with **relief timing** in two directions
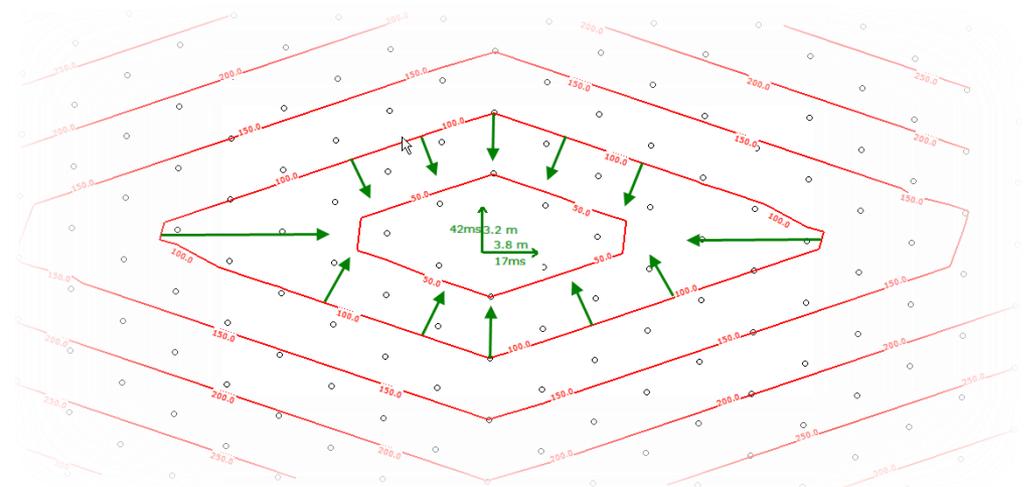
OPENING POINT TOOL

- Open tool and specify
  - burden
  - spacing
  - burden direction
  - required burden / spacing times
  - start time
- Place opening point on plan
  - adjust location
  - adjust rotation to suit

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MATERIAL BOUNDARY

- **Confines** application of time tool **within a polygon**

- **Multiple** polygons can be used
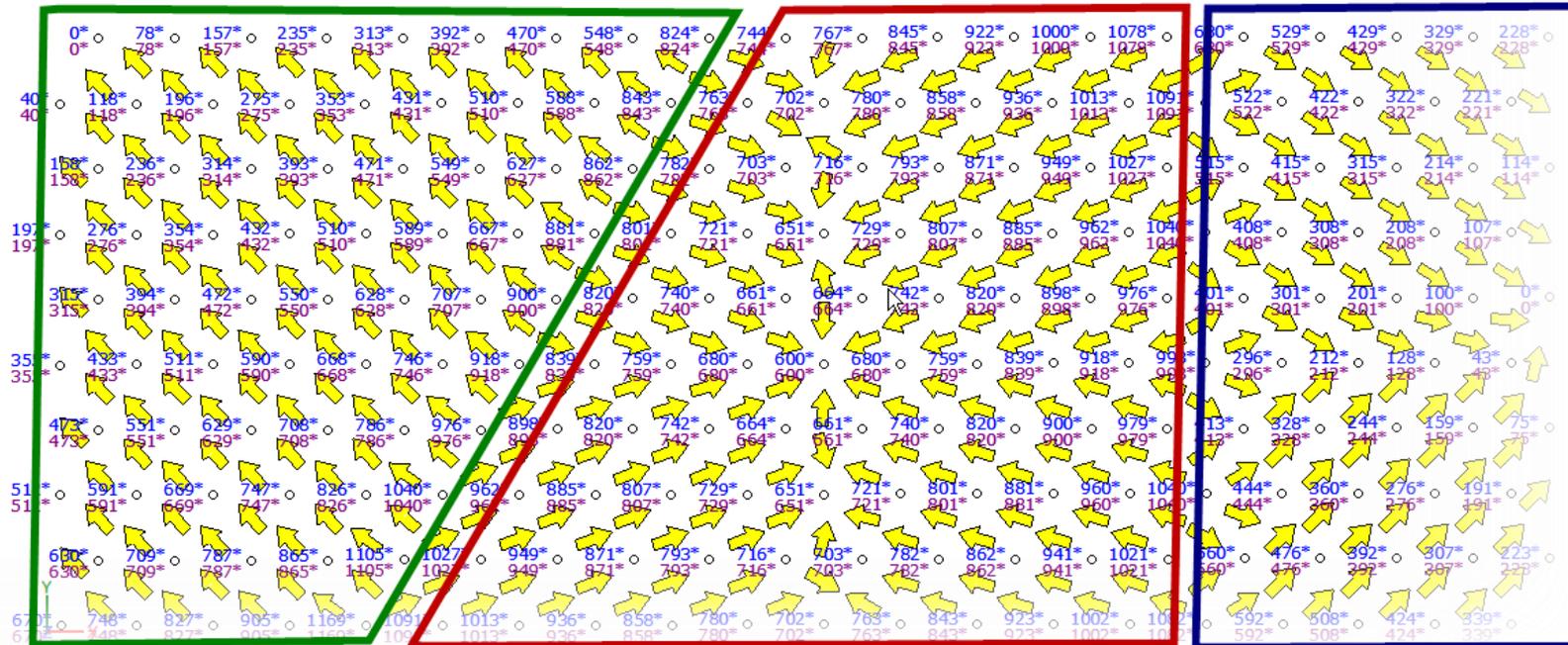
MATERIAL BOUNDARY

- **Draw** a polygon around the required

  timing zone

- Change polygon to **Material**

  boundaries layer
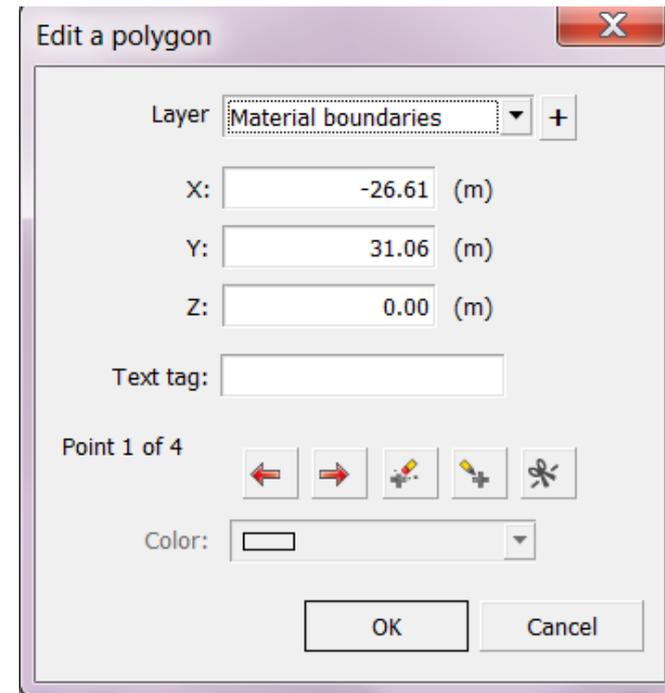
ADJUST INTERVALS

- Adjusts the timing intervals of a blast to a specified **time window**

- Adjusts timing intervals based on **charge weight**

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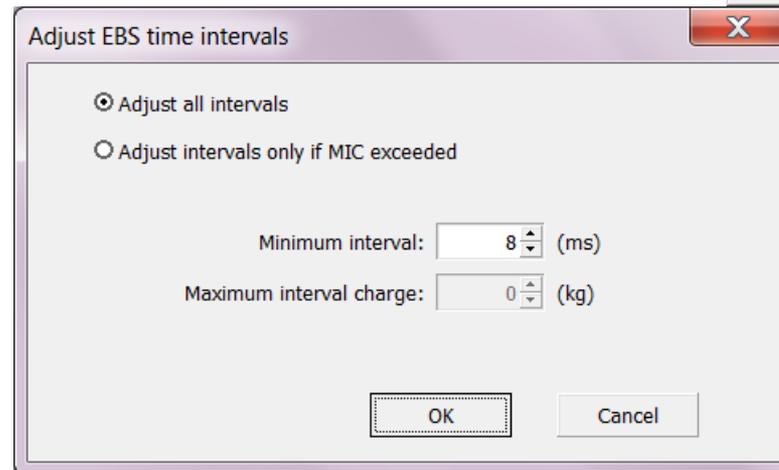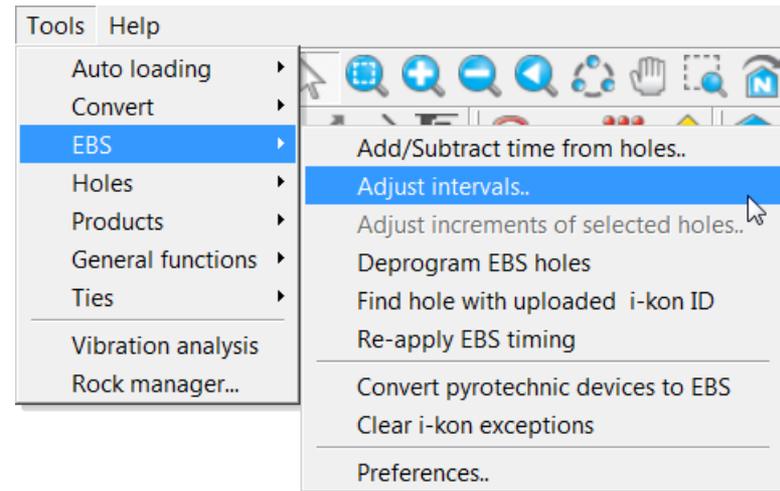
EBS LEAD-IN TOOL

- Used to prepare logging plans

- Add to starting hole

- Select logger #

- Add description

TIE-UP

- Adds *Harness Wire* to the plan

- Provides **hole allocation** to loggers

- Calculates detonators per logger

- Creates a **logging path** for Printout or Logger download

Select surface IS device

- ○ Signal tube
- ○ Detonating cord delay
- ○ Detonating cord
- ○ Electric
- ⊙ Harness wire
- ○ EBS detonators
- ○ User defined delay

Product selection

Product family
Wire

Delay
N/A

OK   Cancel

1171 C1 . . . . . > . . . . 1146 C2 . . . . > . . . . 1122 C3 . . . . > . . . . 1098 C4 . . . . > . . . . 1073 C5 . . . . > . . . . 1049 C6 . . .

L2
10

1193 B1 . . . . . . < . . . 1170 B2 . . . . . . < . . . 1147 B3 . . . . . . < . . . 1123 B4 . . . . . . < . . . 1100 B5 . . . . . . < . . . 1

1257
1247 A1 . . . . . > . . . 1234 A2 . . . . . > . . . 1210 A3 . . . . . > . . . 1187 A4 . . . . . > . . . 1164 A5 . . . . . > . . . 1141 A6 . . .
      1224   1200   1177   1154   1131

L1
30

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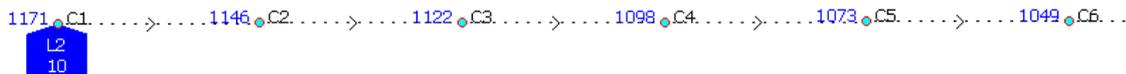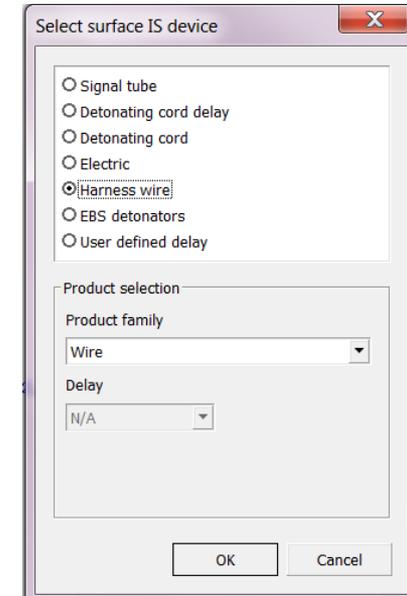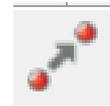
LOGGING PLANS

- Logging reports can be printed

- Logging tables can be downloaded to Loggers for SHOTPlus logging mode.

LOGGING & BLASTING RECORDS

- Records can be up-loaded from Loggers

- Logger & records can be printed or saved with the file

#	Hole ID	Detonator	Delay (ms)	Det ID	Status	Exception
1	V1	1	1000	267C4E19	Det Programmed	
2		2	1067	25550E5E	Det Programmed	
3	V2	1	1076	267C59E4	Det Programmed	
4		2	1143	25550E60	Det Programmed	
5	V3	1	1149	267C4E2F	Det Programmed	
6		2	1216	25550E58	Det Programmed	

EBS firing summary

i-kon logger   L8   #Connected dets 188   Upload   COM3   Preview   Print All   Close   Download / Upload

#	Row	Hole	Det	Delay	Det ID	Flag	Status
1	N	13	1	1192	3BAED	OK	Det Programmed
2	M	1	1	1190	347B2	OK	Det Programmed
3	M	2	1	1150	34B40	OK	Det Programmed
4	M	3	1	1120	3B133	OK	Det Programmed
5	M	4	1	1072	33C19	OK	Det Programmed
6	M	4	2	1070	34496	OK	Det Programmed
7	M	5	1	1064	33FF2	OK	Det Programmed
8	M	5	2	1062	34646	OK	Det Programmed
9	M	6	1	1009	34613	OK	Det Programmed
10	M	7	1	1004	347DF	OK	Det Programmed
11	M	8	1	1012	33C29	OK	Det Programmed
12	M	8	0	1014	34592	Extra Det	Det Programmed
13	M	9	1	1077	33C2E	OK	Det Programmed
14	M	9	2	1075	3545D	OK	Det Programmed

Abort always

Fired: 30.Nov.16 am 10:21:12
Loggers: 8   Total dets: 707

LOGGER ID: 1   DETS: 83   ERRORS: 0   Current: 1.1 mA   SN: 001254   Version: 05.22k
LOGGER ID: 2   DETS: 86   ERRORS: 0   Current: 1.3 mA   SN: 002925   Version: 05.22k
LOGGER ID: 3   DETS: 87   ERRORS: 0   Current: 1.1 mA   SN: 000831   Version: 05.22k
LOGGER ID: 4   DETS: 91   ERRORS: 0   Current: 1.3 mA   SN: 002952   Version: 05.22k
LOGGER ID: 5   DETS: 89   ERRORS: 0   Current: 1.2 mA   SN: 003153   Version: 05.22k
LOGGER ID: 6   DETS: 89   ERRORS: 0   Current: 1.8 mA   SN: 003152   Version: 05.22k
LOGGER ID: 7   DETS: 89   ERRORS: 0   Current: 5.6 mA   SN: 001653   Version: 05.22k
LOGGER ID: 8   DETS: 93   ERRORS: 0   Current: 4.5 mA   SN: 002768   Version: 05.22k

by ORICA

Finished upload