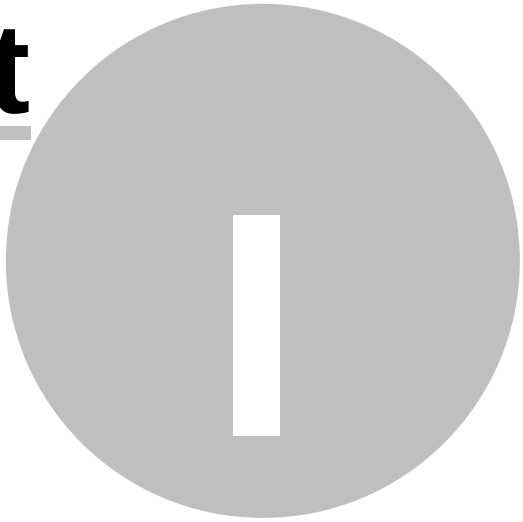
Air Vibration Predictor Training Manual

Top Level Intro

This page is printed before a new top-level chapter starts

Part

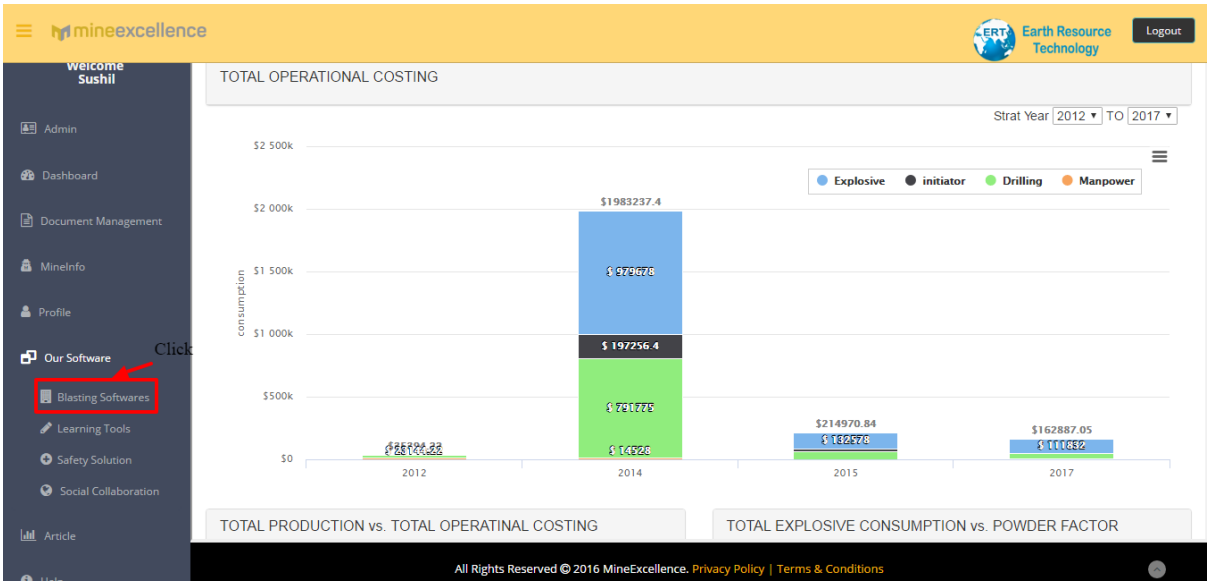


1 Start the Application

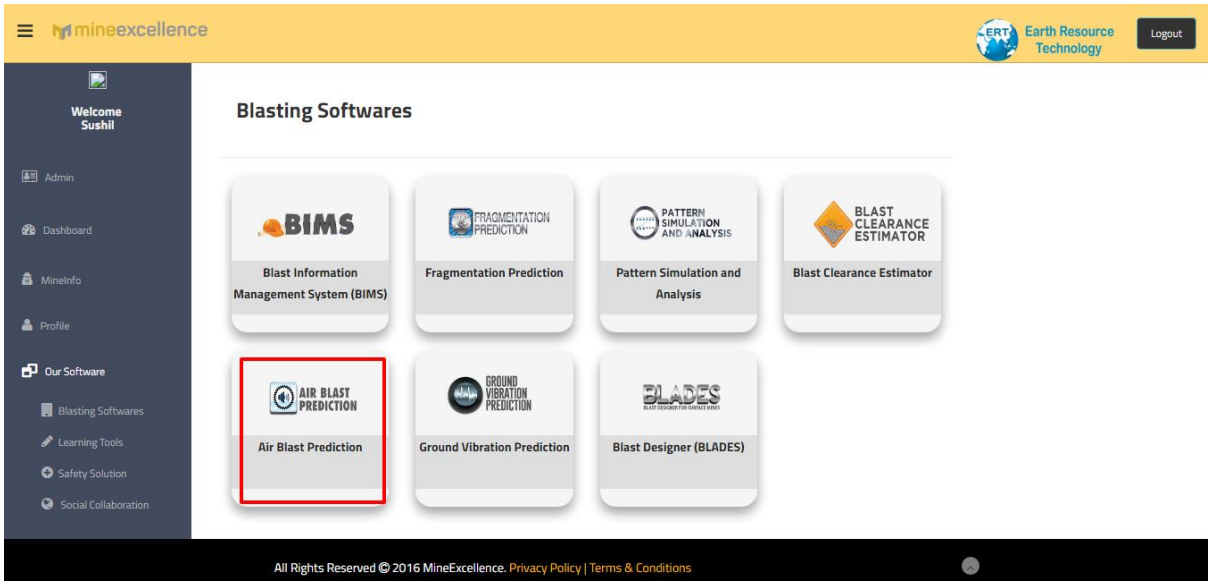
You can start the Air Vibration software by once logging in from the Mine Excellence Site.

1.1 Air Vibration Architecture

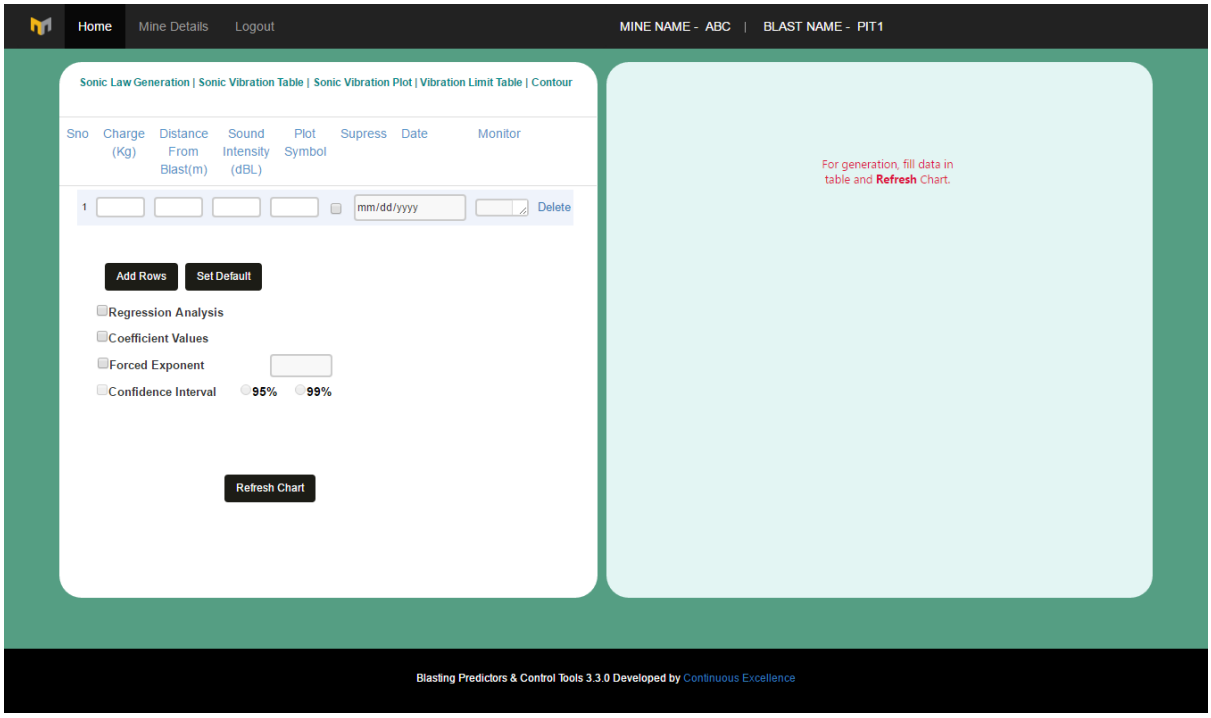
Once you login from the Mineexcellence site, a dashboard will be displayed as shown in figure below.



On Click of Blasting Software link available on the left side of the dashboard you will be redirected to the list of software available in the Mineexcellence as shown in fig.



On click of Air Vibration Prediction, you will be redirected to Air Vibration Prediction page as shown in figure below.



1.1.1 Menu Bar

This is top most part of the screen. This bar displays menu items defining the basic functionality of the software. Following are menu items are present in the menu bar:

1. Home - Redirect user to the Home Page of the website
2. Mine Detail - Here we can edit the Mine Name and the Blast location
3. Logout - User can logout by click of this button
4. Mine Name - Name of the mine
5. Blast Name - Name of the blast

Top Level Intro

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Part

2. General Functions

Air Vibration incorporates several functions-

2.1 Mine Details

This function allow user to save mine details which include Mine Name and Blast Location. This information has to be filled as it is needed for generating report. To save mine details, click on Edit Mine details. Once Mine Details are saved, we can close this pop up by clicking simply on Close button.

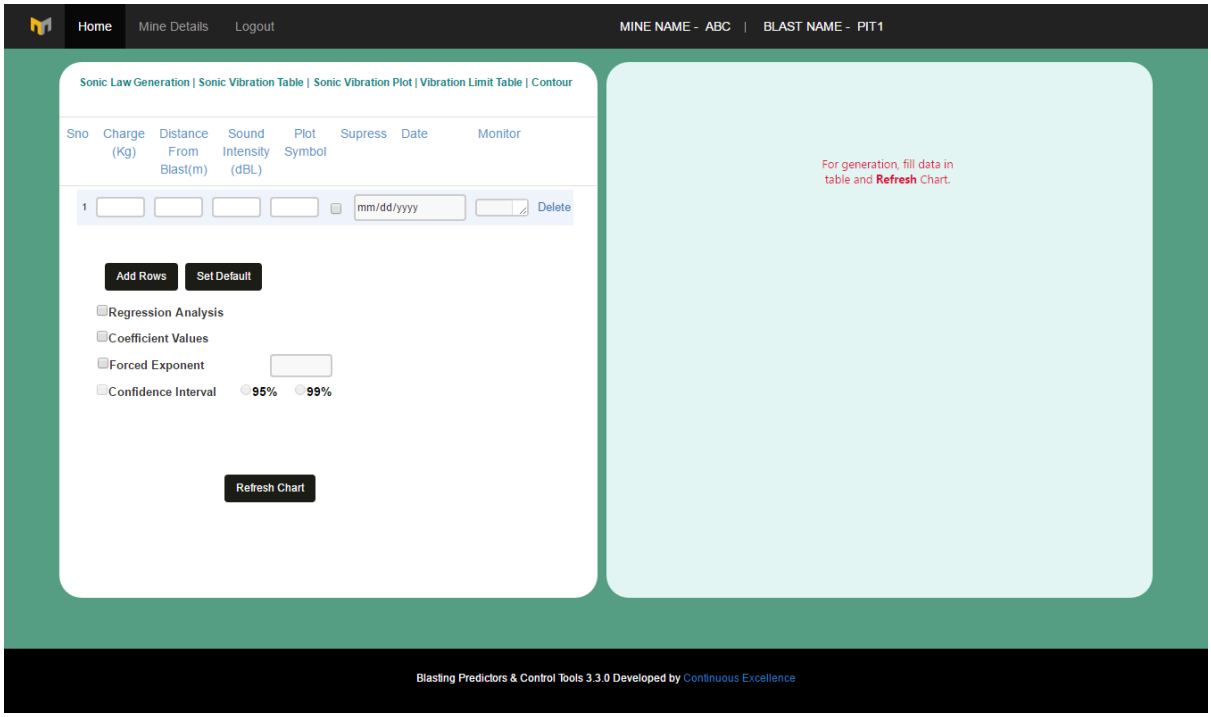
2.2 Design Parameters

Following parameters are required to predict the Air Vibration These includes:

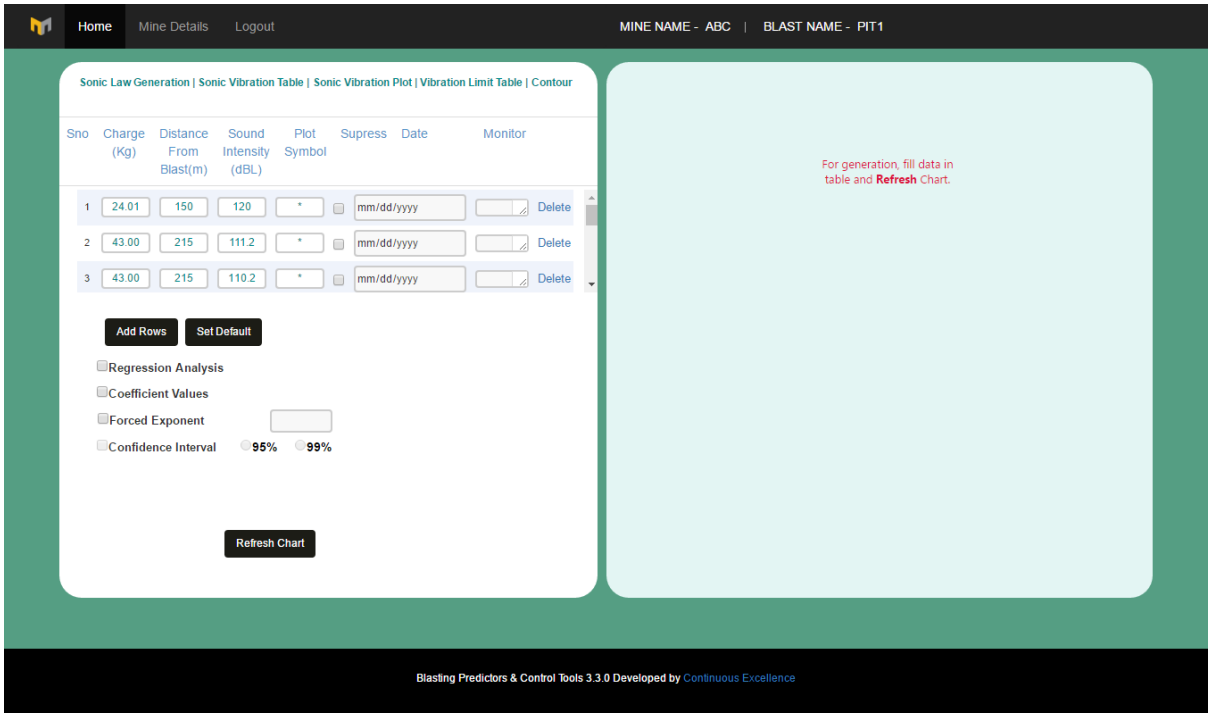
a. Sonic Law Generation- This module is to use the air vibration measurement to generate Sonic Laws for a particular site and to produce graphs for predictions especially for the limiting the blasting nuisances. Inputs are:

- Charge
- Distance From Blast
- Sound Intensity(DBL)
- Plot symbol
- Suppress
- Date
- Monitor

Whenever user click on Sonic Law Generation a page will be displayed as shown below:

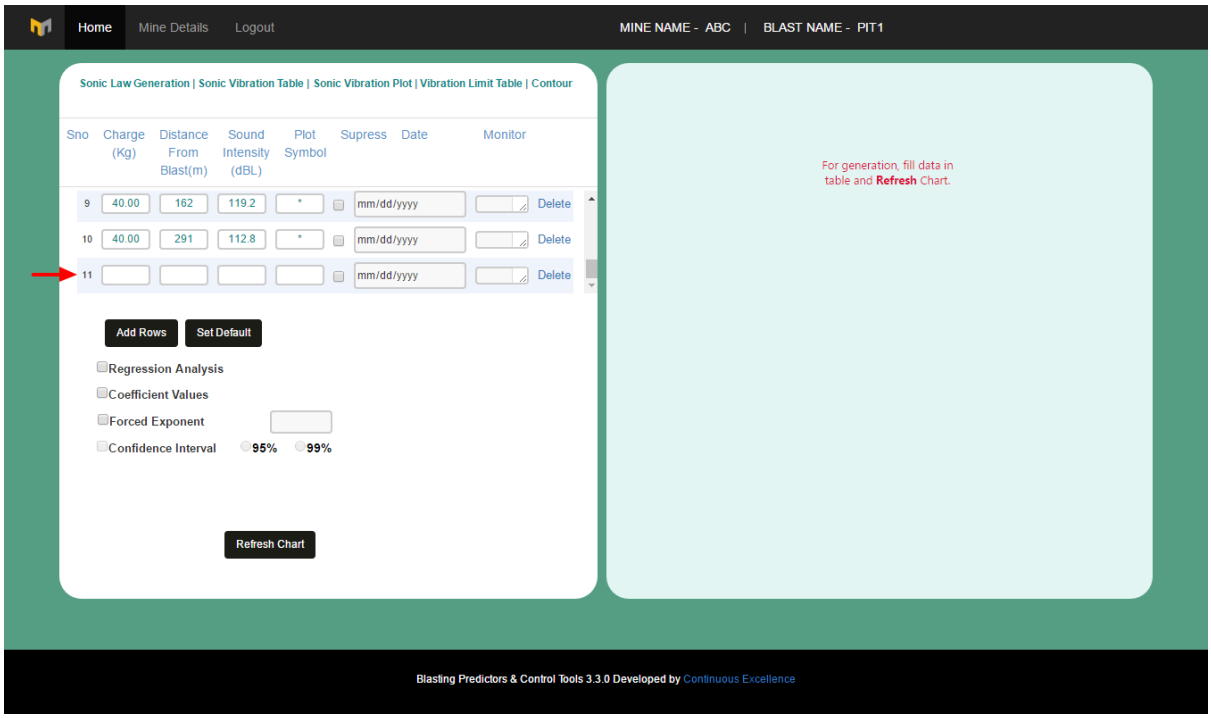


The user can use the default parameters by clicking on Set Default button and edit these parameters as per their operational requirement.

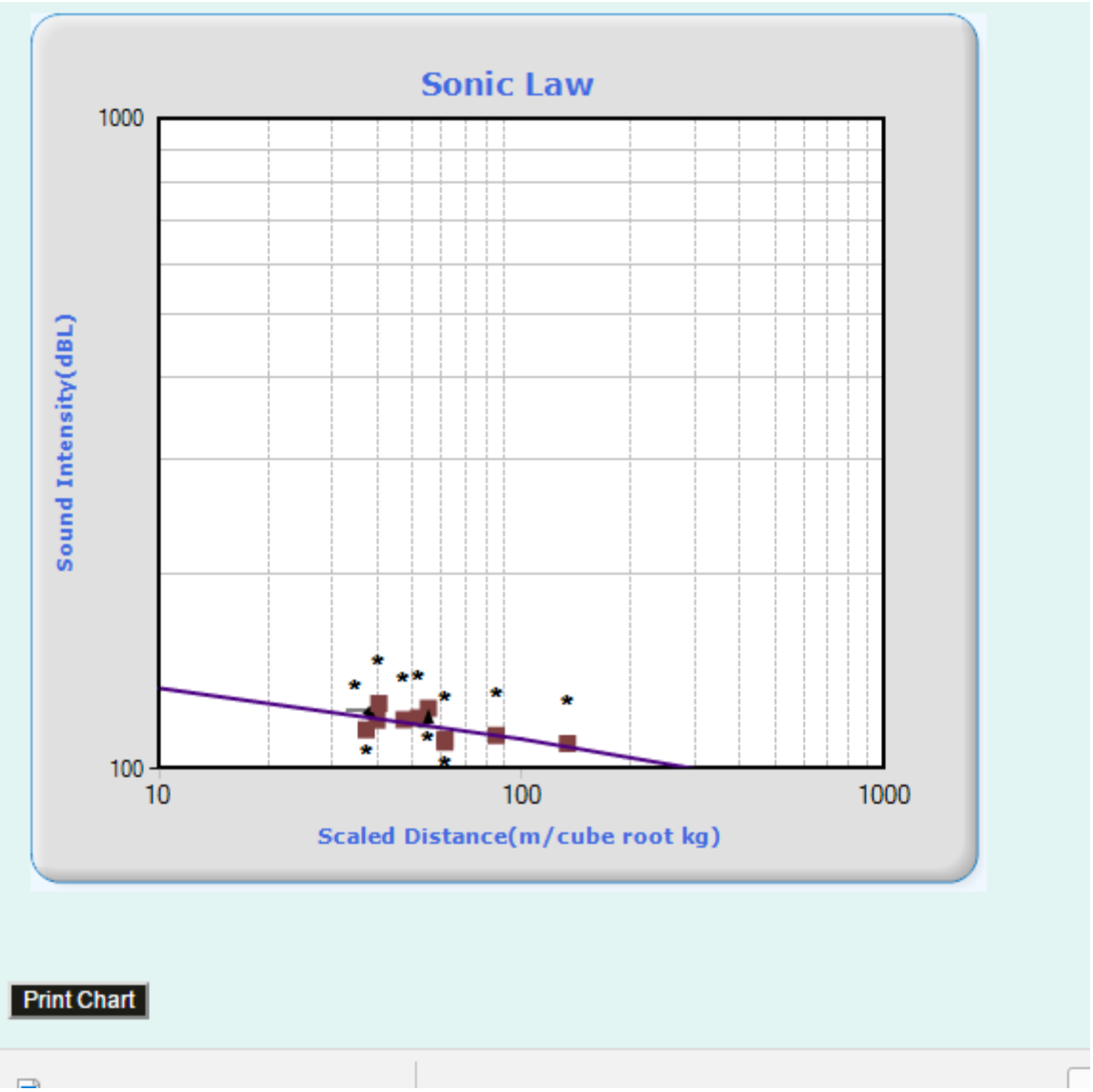


If a User wants to add rows he can add the same by clicking simply on ADD ROWS button, as shown:

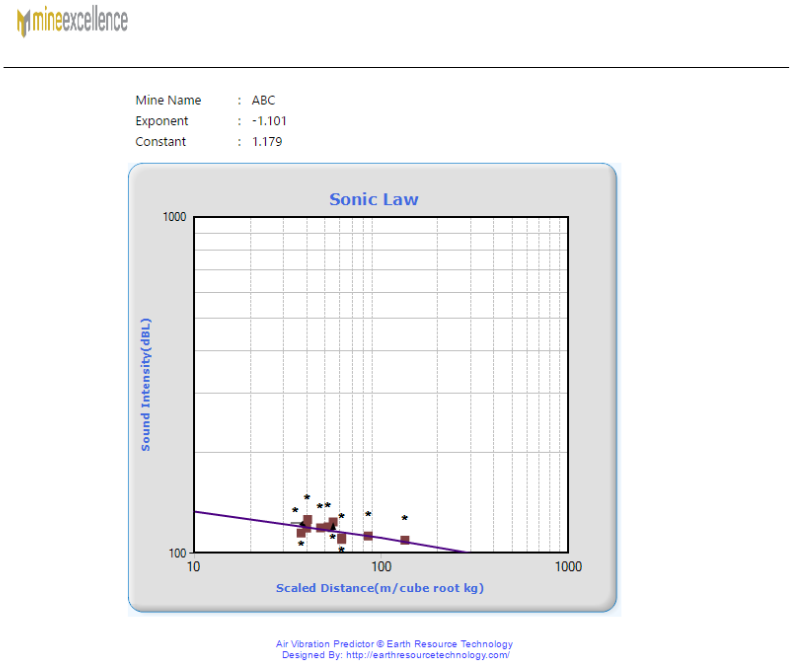
For deleting any row, click on delete button.



After clicking on Refresh Chart button, the result will be displayed in the graph format. In which x-axis defines the Scaled Distance (m/square root kg) and y axis will show the Velocity (mm/s).



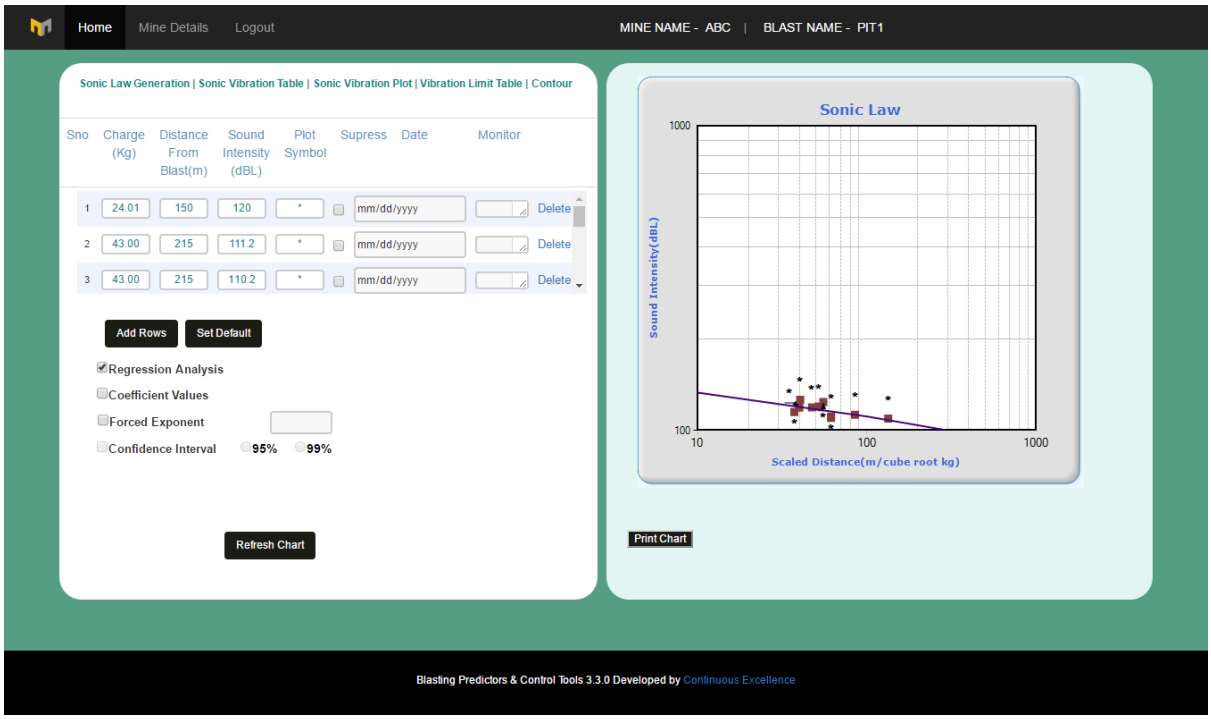
On clicking print chart button, chart will be display.



2.2.1 Regression Analysis

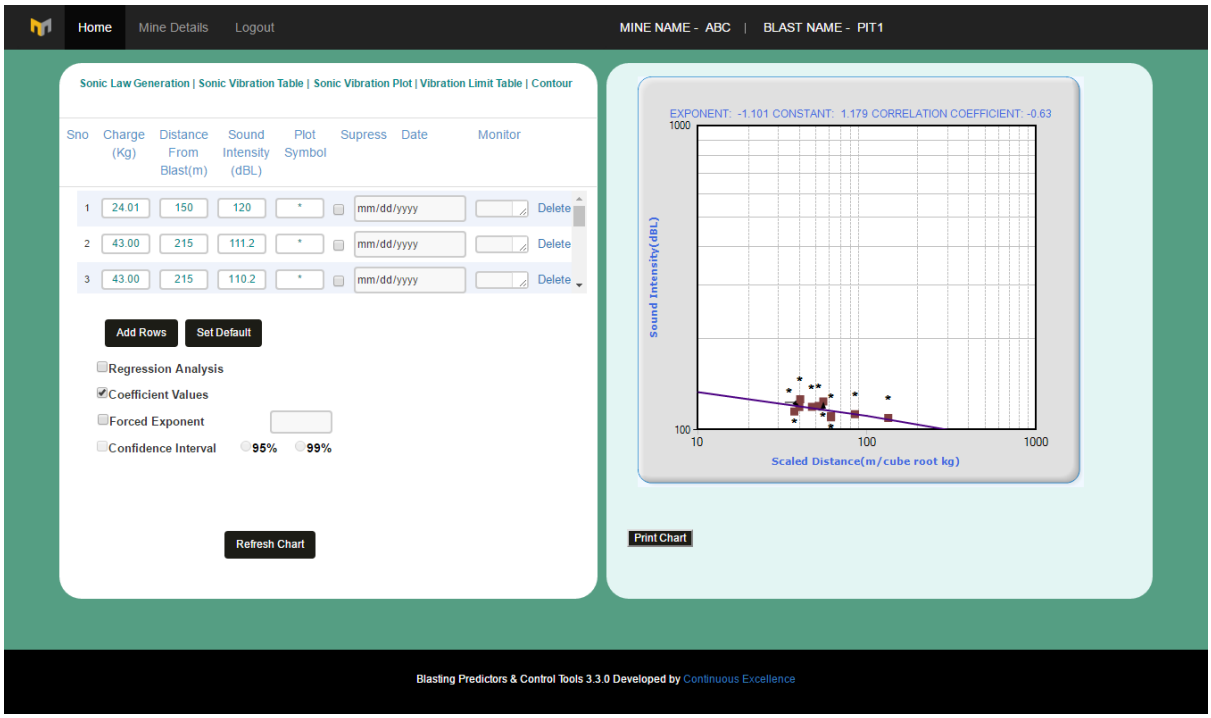
Regression Analysis check box is provided. When user check the regression analysis check box and click on refresh chart button, chart will be displayed.

In the graph, x-axis defines the Scaled Distance (in m/cube root kg) and y axis will show theVelocity (in dBL).



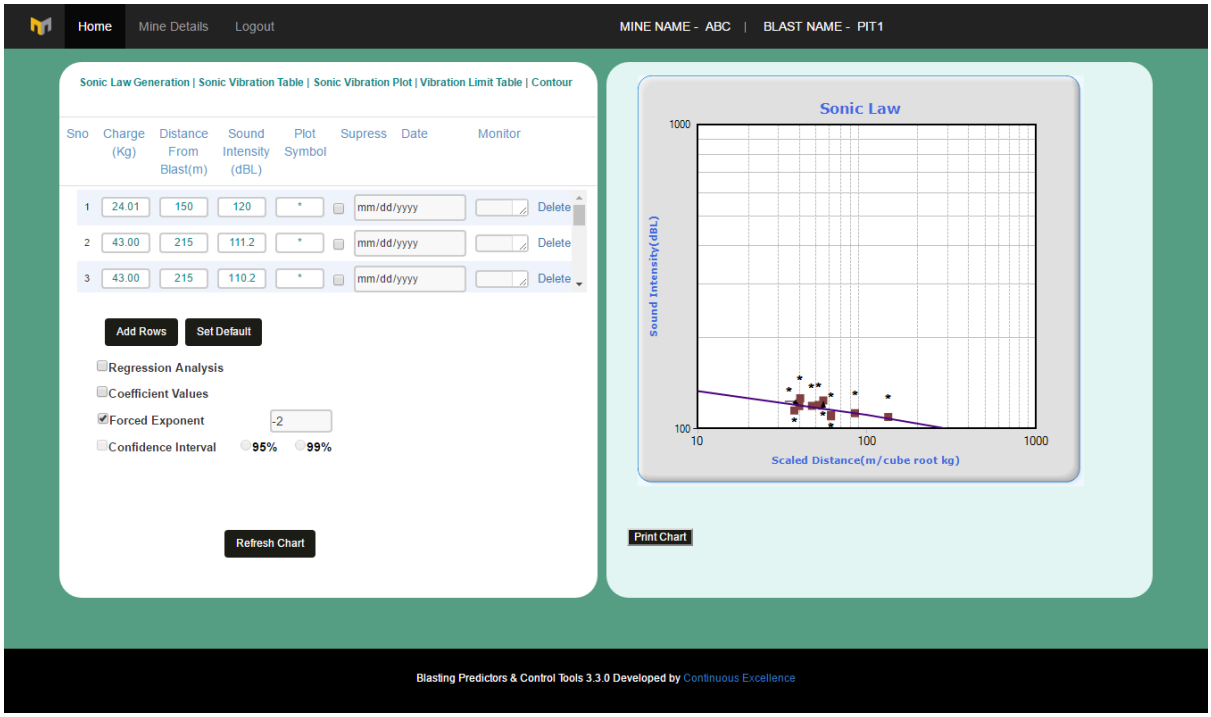
2.2.2 Coefficient Values

Coefficient values check box is provided. When user check the Coefficient values check box and click on refresh chart button, chart will be displayed.



2.2.3 Forced Exponent

When user check the forced exponent check box, a text box will appear in front of it and that should have negative value. After clicking on refresh chart button, chart will be displayed as shown.

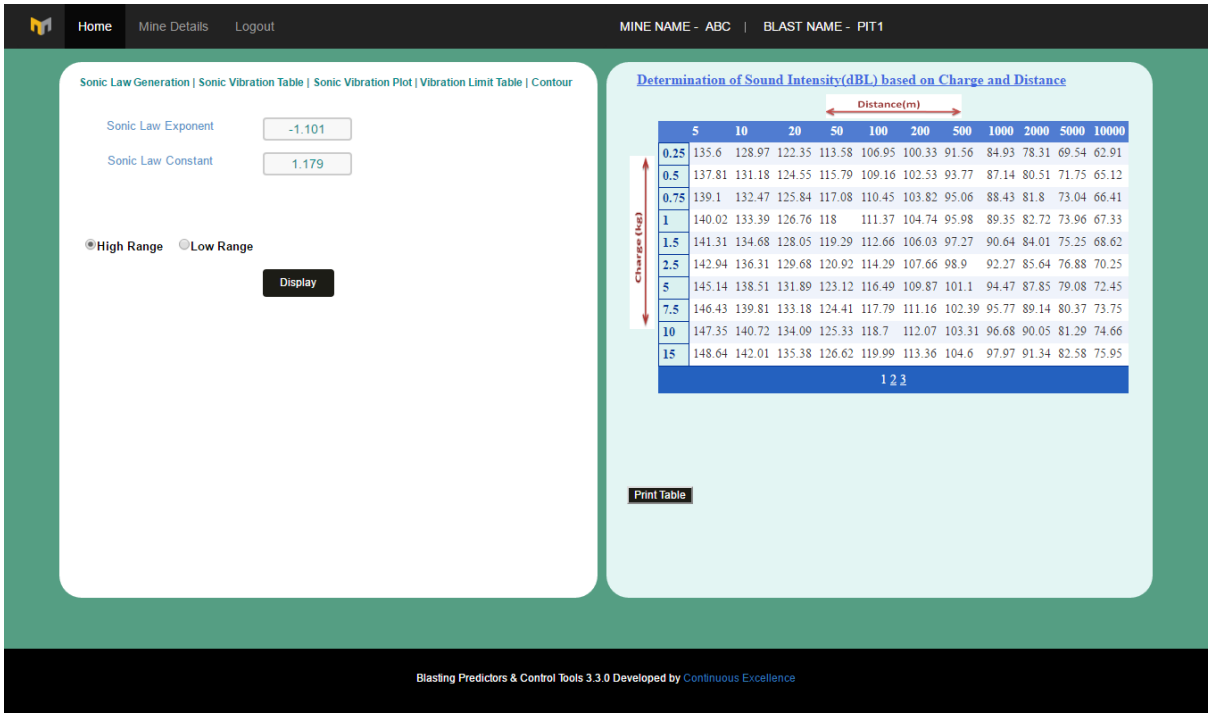


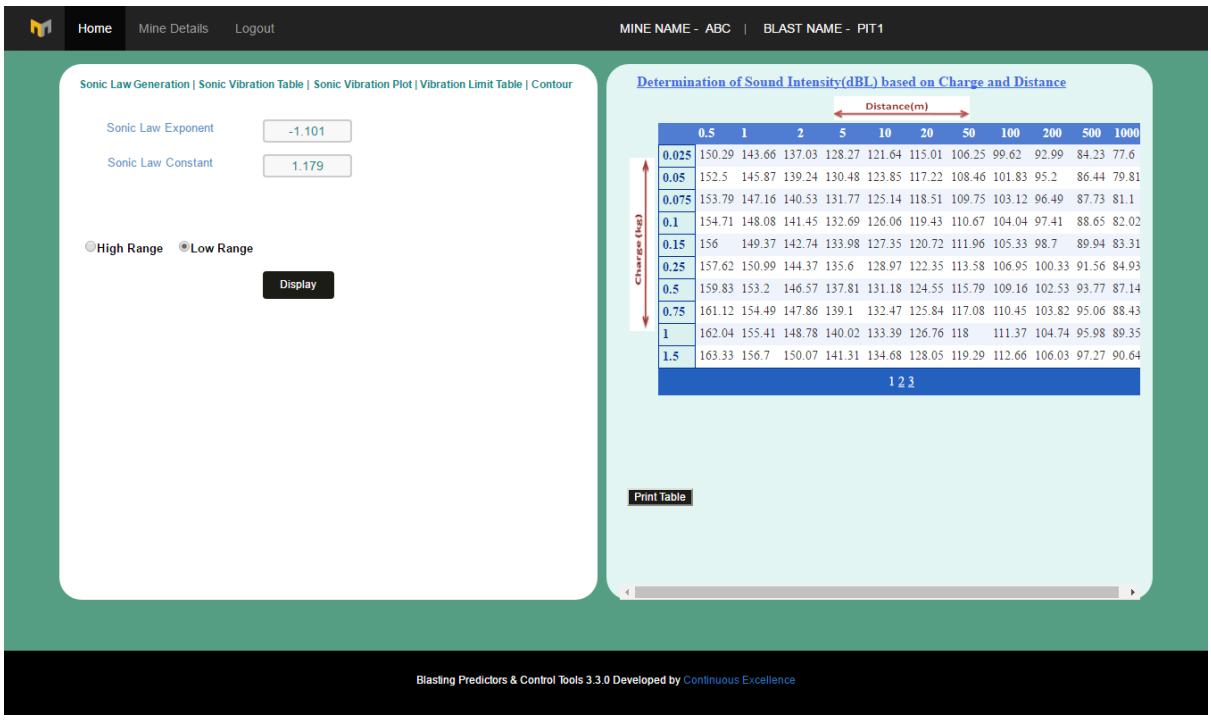
In the graph, x-axis defines the Scaled Distance (in m/cube root kg) and y axis will show the Sound Intensity (in dBL).

2.2 Sonic Vibration Table

- Sonic Law Exponent
- Sonic Law Constant
- Range

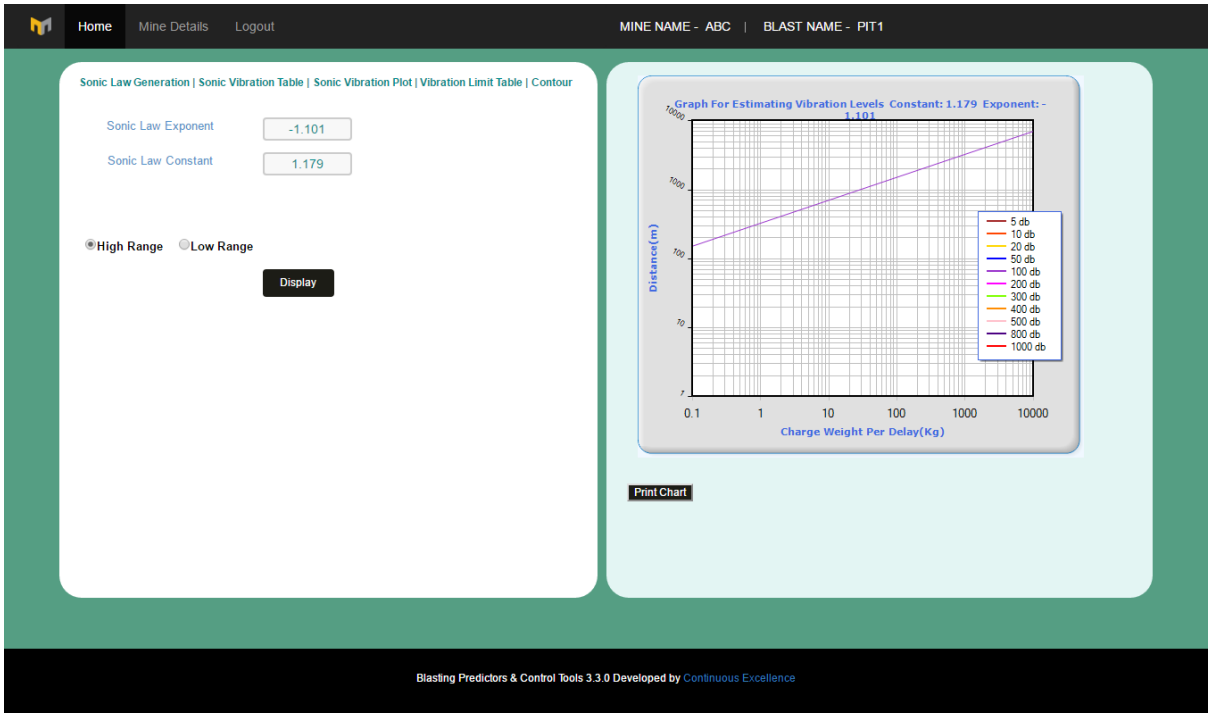
On click of Display button, result will be displayed in the Table format. A user can use the default parameters by clicking on Set Default button and edit these parameters as per their operational requirement. User can select either high range or low range. If user select low range and click on display button result will be displayed for that of Low Range.



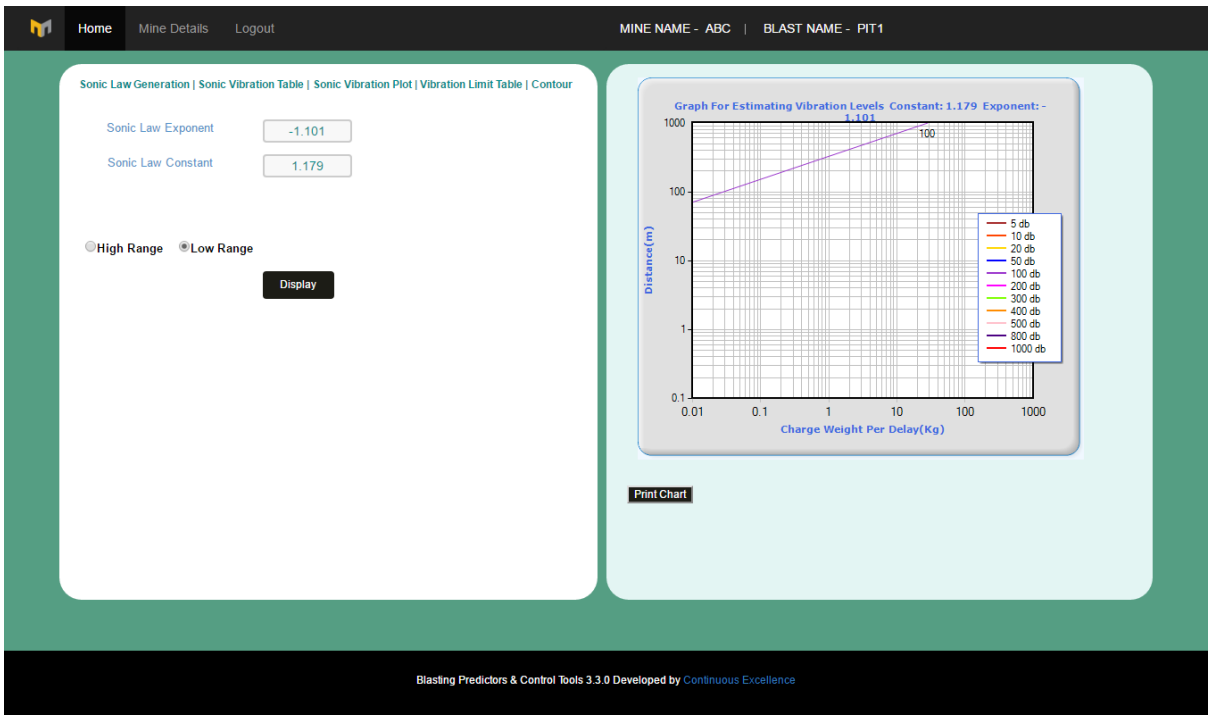


2.3 Sonic Vibration Plot

- Sonic Law Exponent
- Sonic Law Constant
- Range

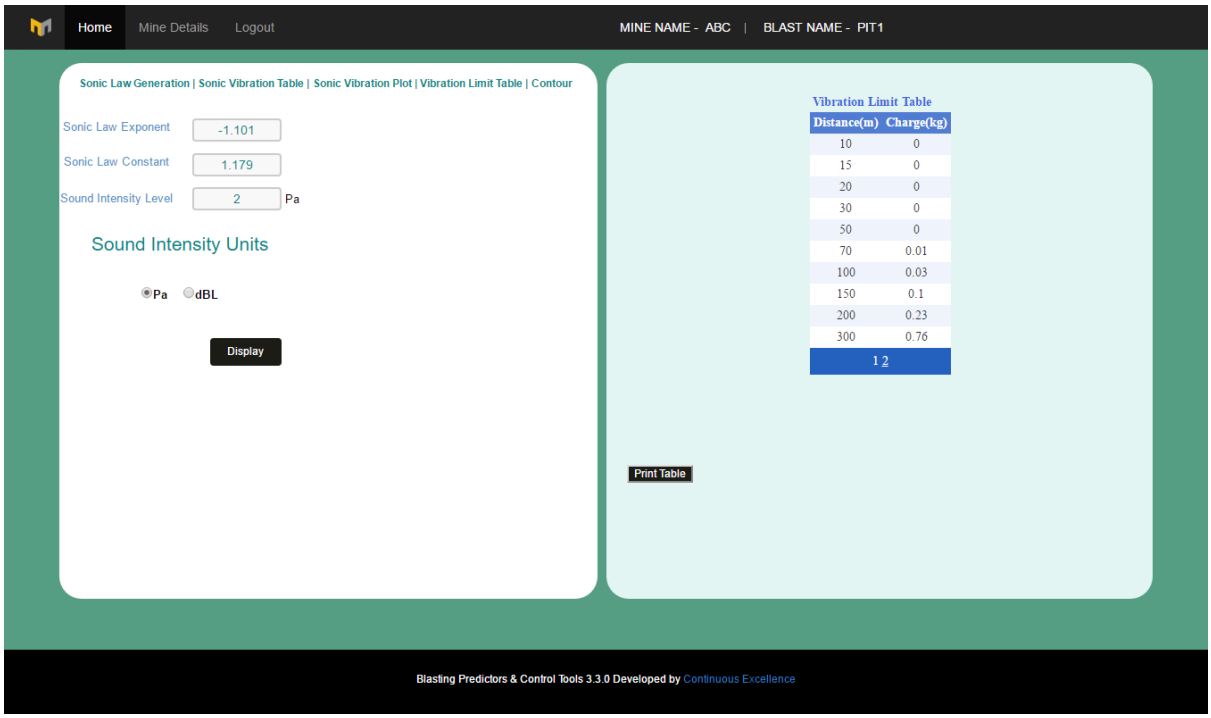


On click of Display button, the results will be displayed in the graph format, in which x-axis define the Charge Weight per Delay (in kg) and y axis will shows the Distance (in meters). The user can use the default parameters and edit these parameters as per their operational requirement. User can select either high range or low range.

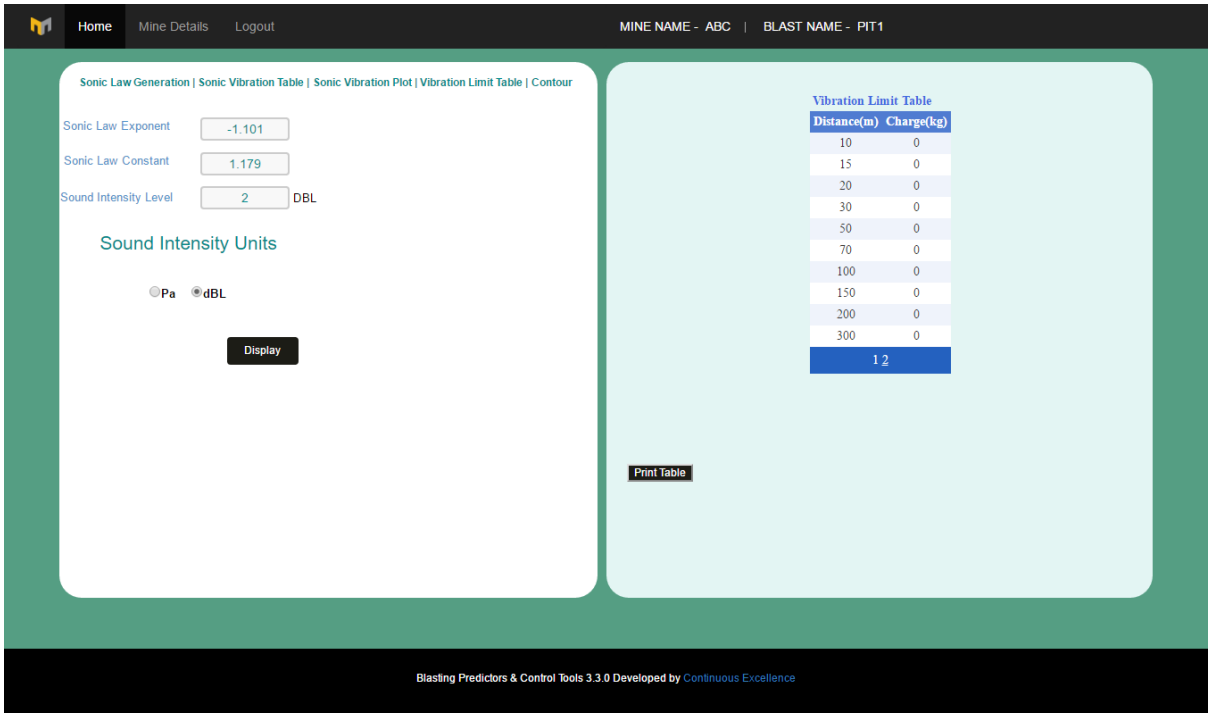


2.4 Vibration Limit Table

- Sonic Law Exponent
- Sonic Law Constant
- Sound Intensity Level
- Sound Intensity Units



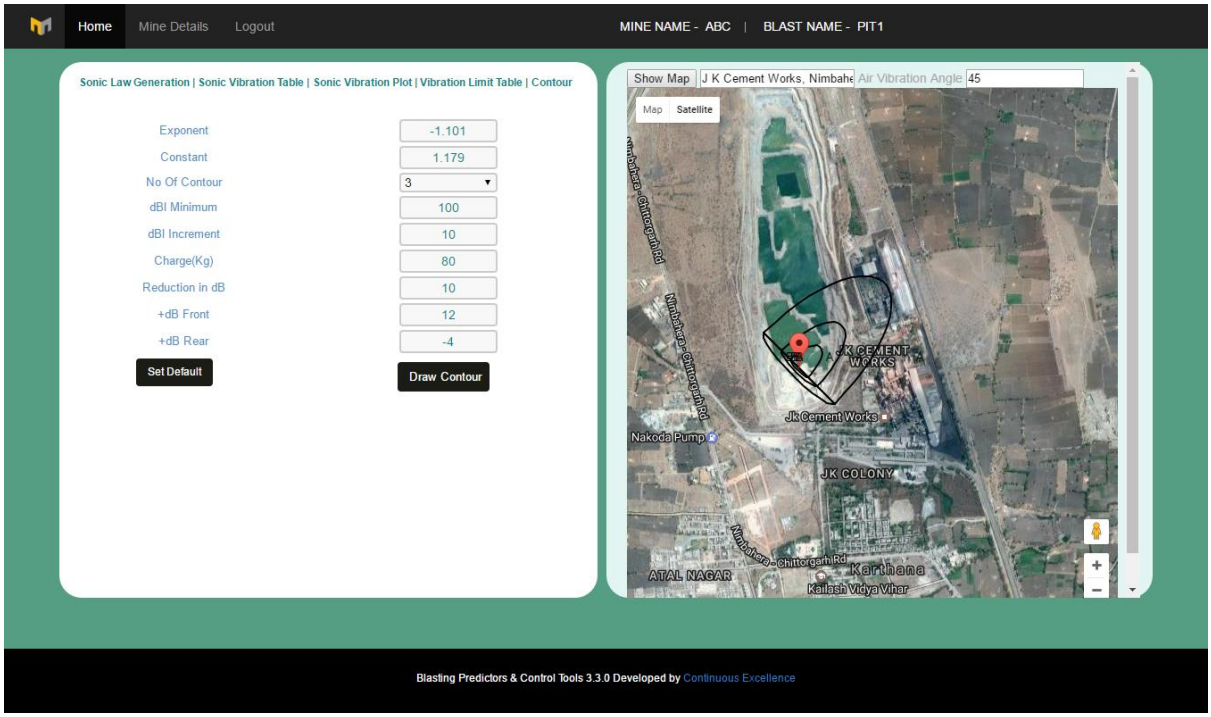
The user can use the default parameters and edit these parameters as per their operational requirement. User can select Pa(unit in Pascal) or dBL as per there operational requirement.



2.5 CONTOUR

- Exponent
- Constant
- No. of Contour
- dBl Minimum
- dBl Increment
- Charge(kg)
- Reduction in dB
- +dB Front
- +dB Rear

The user can use the default parameters as per their operational requirement and have the facility to edit the same.


Home
Mine Details
Logout
MINE NAME - ABC | BLAST NAME - PIT1
Sonic Law Generation | Sonic Vibration Table | Sonic Vibration Plot | Vibration Limit Table | Contour
Exponent
-1.101
Constant
1.179
No Of Contour
3
dBl Minimum
100
dBl Increment
10
Charge(Kg)
80
Reduction in dB
10
+dB Front
12
+dB Rear
-4
Set Default
Draw Contour
Show Map
J K Cement Works, Nimbahe
Air Vibration Angle
45
Map
Satellite
Nimbahera-Chittorgarh Rd
JK CEMENT WORKS
Jk Cement Works
Nakoda Pump
JK COLONY
ATAL NAGAR
Kailash Vidya Vihar
Blasting Predictors & Control Tools 3.3.0 Developed by Continuous Excellence