Exploratory project report

On

Creation of Autocad Plugin using C#
That give graphical view of Bore hole log data

Submitted by

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UNDER THE GUIDANCE OF:

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ACKNOWLEDGEMENT

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My grateful thanks are also extended to my friends of my project group for their help in keeping my progress on schedule.

Finally, I wish to thank my parents for their support and encouragement throughout my study.

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CERTIFICATE

This is to certify that RAJAT KUMAR KHANDELWAL, a student of Department of Mining Engineering- Batch 2017, has successfully completed the exploratory project "Preparation of Plugin file for AutoCAD that will give graphical view of Bore hole log data" under the guidance of Dr. Ashok Jaiswal during the session 2018- 2019.

Dr. Ashok Jaiswal
[Supervisor]

Prof. S.K. Sharma
[Head of department]

INTRODUCTION

Mining Simulation Softwares :-

Mining simulation is the computer-based modeling of a real open-pit or underground mining.

Mining simulation (Mine Modelling) offers a way forward, providing mining output statistics and dynamic views of operations for analysis, optimization, and experimentation, all without operational interruption.
These softwares provides the mining industry with the most advanced 3D geological modelling, mine design and production planning solutions.

Examples of softwares are:
1. Surpac
2. Surfer
3. Vulcan
4. Visual Land pro 2000
5. Simio

TITLE

In this project , we will be working with the AutoCAD .NET Application Programming Interface (API) and the C# programming language to create a ‘plug-in’ – a module that loads into AutoCAD to extend its functionality.

OBJECTIVE

- To prepare Bore Hole Log Plugin for AutoCad that fetch Bore Hole log data from CSV file and give a graphical view of Bore Hole Log in one click in Autocad.

THEORY

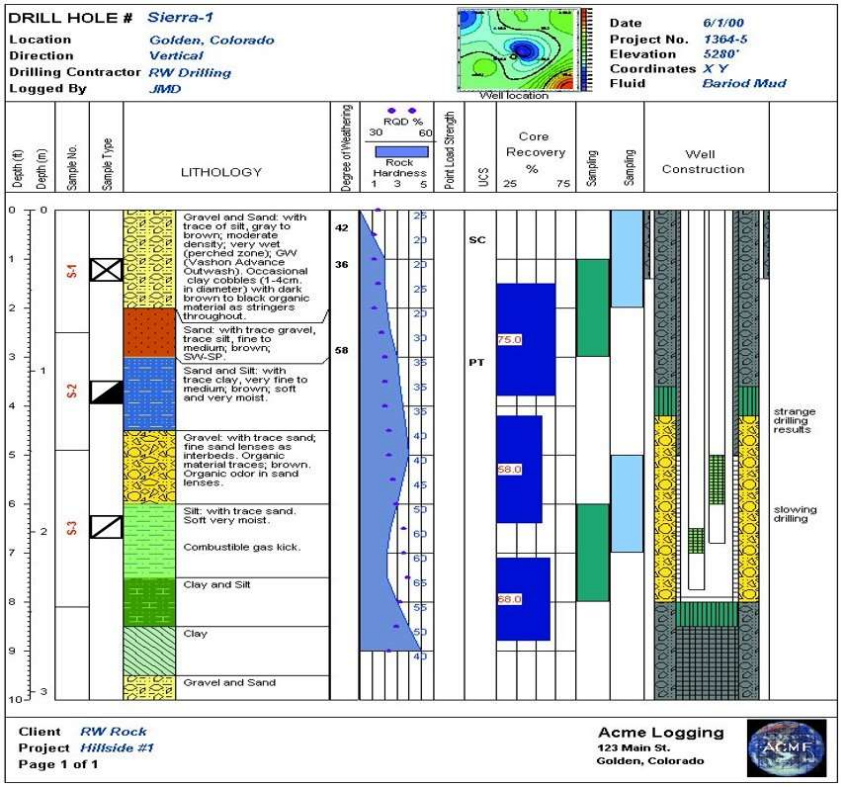
BORE HOLE LOG

- Borehole logging is the practice of making a detailed record (a well log) of the geologic formations penetrated by a borehole. The log may be based either on visual inspection of samples brought to the surface (geological logs) or on physical measurements made by instruments lowered into the hole(geophysical logs). Some types of geophysical well logs can be done during any phase of a well's history: drilling, completing, producing, or abandoning. Well logging is performed in boreholes drilled for the oil and gas, groundwater, mineral and geothermal exploration, as well as part of environmental and geotechnical studies.

BORE HOLE DATA

The interpretations stored in the Borehole Geology database are made from borehole logs that show the geology encountered at depth within each borehole. In many cases, these logs were created by the geotechnical companies responsible for drilling the holes, and supplied to the BGS.

In other cases, the logs may have been made by our own geologists, either at the time of drilling, or subsequently from core samples.



PROCEDURE

1. Getting familiar with AutoCAD and visual basic studio and to draw simple geometries like lines, circles.

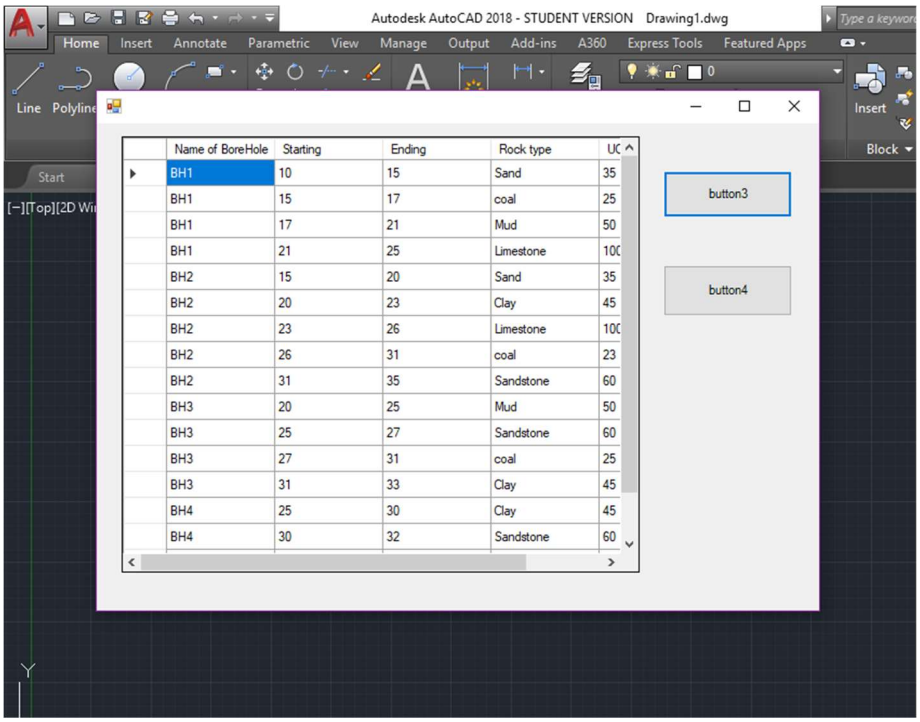
2. In Visual Basic, Creation of Plug-in by adding reference files of AutoCAD.

3. Creation of AutoCAD plugin command.

4. Code to open a window form which ask user to give Bore hole data.
   The window form must also print data so that user must verify it.
   The user have to run NETLOAD command in the beginning of autocad window and then select file named BHL from dialog box and have to load it.
   Then he have to run BHL command to open windows form.

5. The provided borehole data must be in .csv format and must be in standardized formet.

6. Two buttons are placed on the window form. One for showing the Bore holes data and other to print graphical form of Bore Hole data analysis.



7. Finally on selecting button 2 the windows form disappear and provide graphical view of bore hole data on Autocad windows interference. This ensure that the required plugin is successfully run.

ADVANTAGE OF THIS PLUGIN

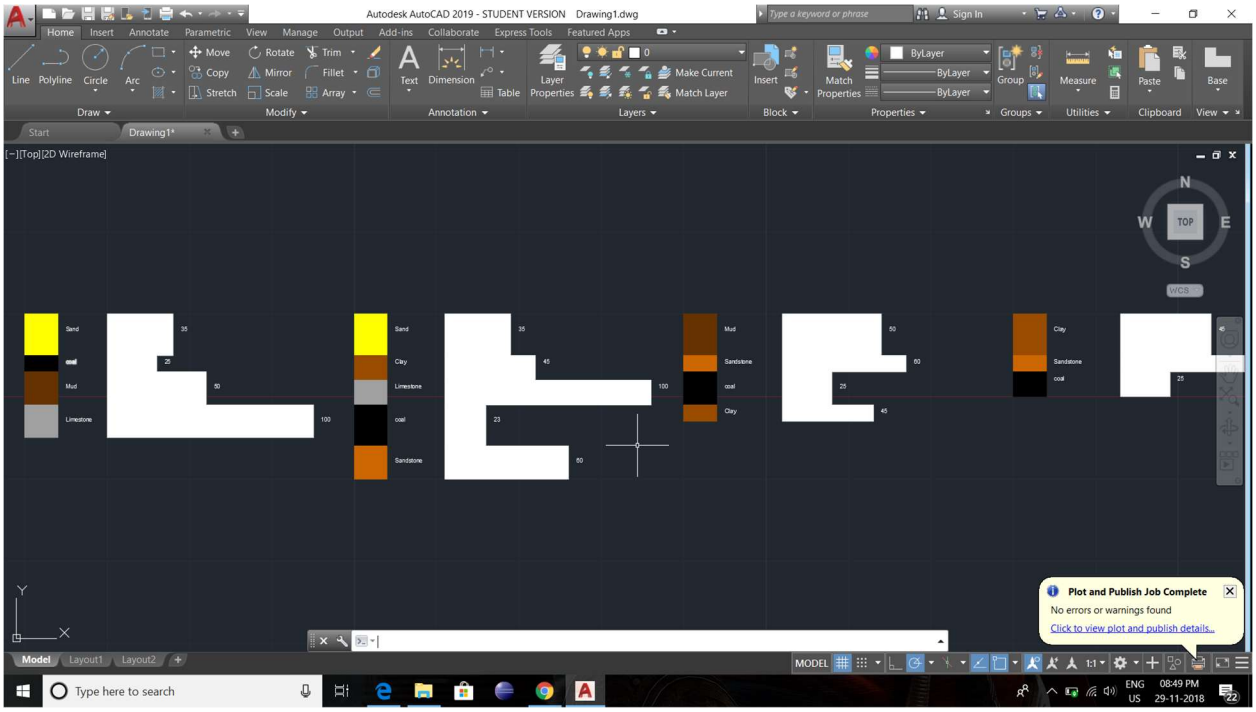
- The main advantage of this plugin is that it is very cost effective and can be used for learning purpose and at small scale modelling because Autocad software easily available on internet free of cost and it is widely popular for modelling purpose but mining software like Surpac are very expensive and not easily available on internet.

RESULT

The Plugin for the AutoCAD is completed and it allows all of us to view graphical analyst borehole data directly on an autocad interference with few clicks.

EXAMPLES

Below are some screenshots for the final view of input data and final view of bore hole data.



FURTHER SCOPE

Further extra data can also be solved by some modification in the code

REFRENCES

https://knowledge.autodesk.com

For grid view

https://www.c-sharpcorner.com