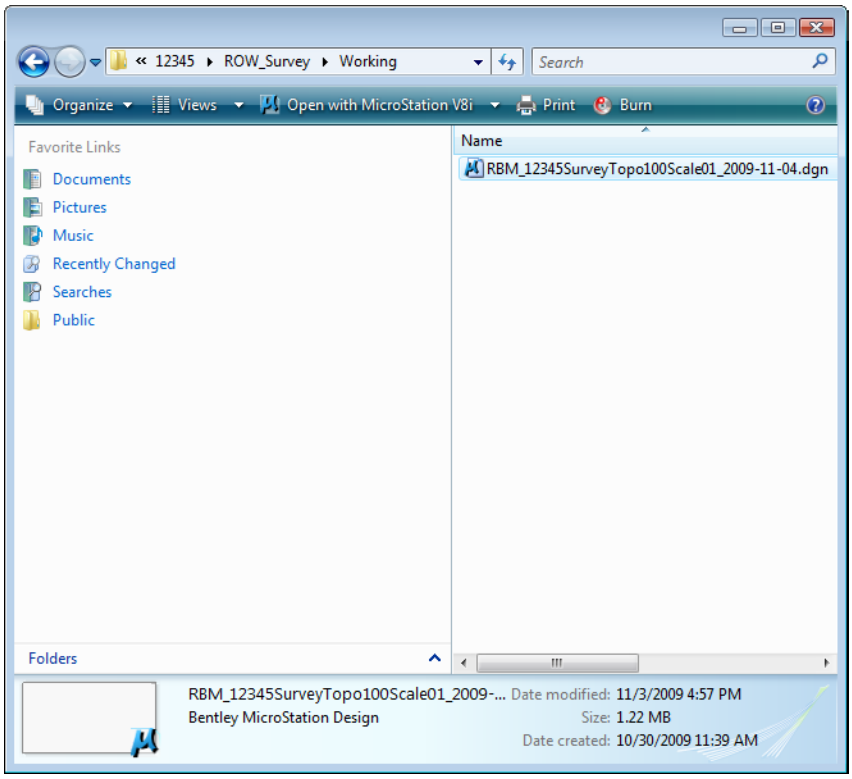
LAB 5 - Importing Data

Lab 5.1 - Managing Survey Files

In Section 1 of the training a fieldbook, design file, surface model, and geometry project were created. Consider that work to be out of date and those files will need to be managed in the Working directory.

1. Open Windows Explorer and path to the directory
   C:\Projects\12345\ROW_Survey\Working

2. Rename the working file with your initials and date YYYY-MM-DD for example
   RBM12345SurveyTopo100Scale01_**2009-11-04**.dgn



Note: Eventually when the design file has been finalized it will be moved to the ROW_Survey\Drawings\Reference_Files\ directory for use by the rest of the project team.

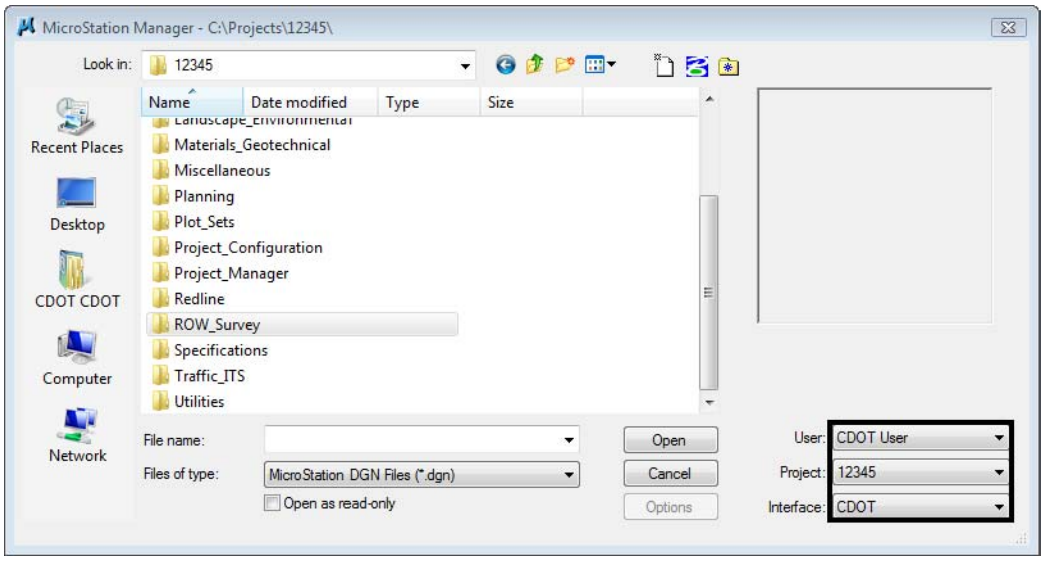
Lab 5.2 - Importing Control Files

Section Objectives:

- Import a CDOT survey control file that has the points fixed positions.
- View the control file points in the fieldbook dialog and in the MicroStation view.

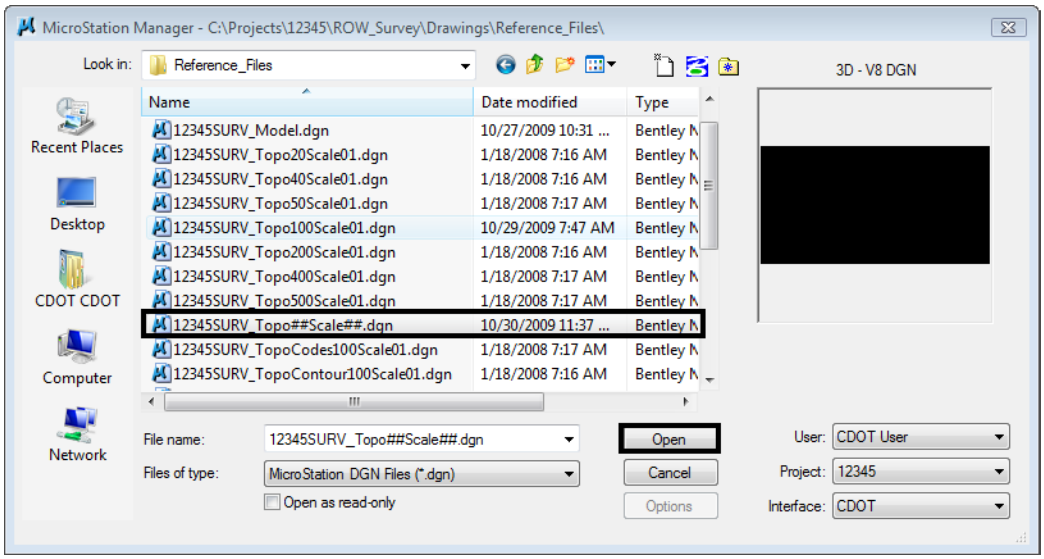
1. Double-click on the InRoads Survey desktop button or select **Start > All Programs > Bentley > InRoads Group XM > InRoads Survey.**

2. In the MicroStation Manager dialog go to the Workspace group section and change
   User: CDOT User
   Project: 12345
   Interface: CDOT



3. In the ***MicroStation Manager*** dialog path to the directory:
   C:\Projects\12345\ROW_Survey\Drawings\Reference_Files

4. Select the file **12345SURV_Topo##Scale##.dgn** from the ***MicroStation Manager*** dialog.



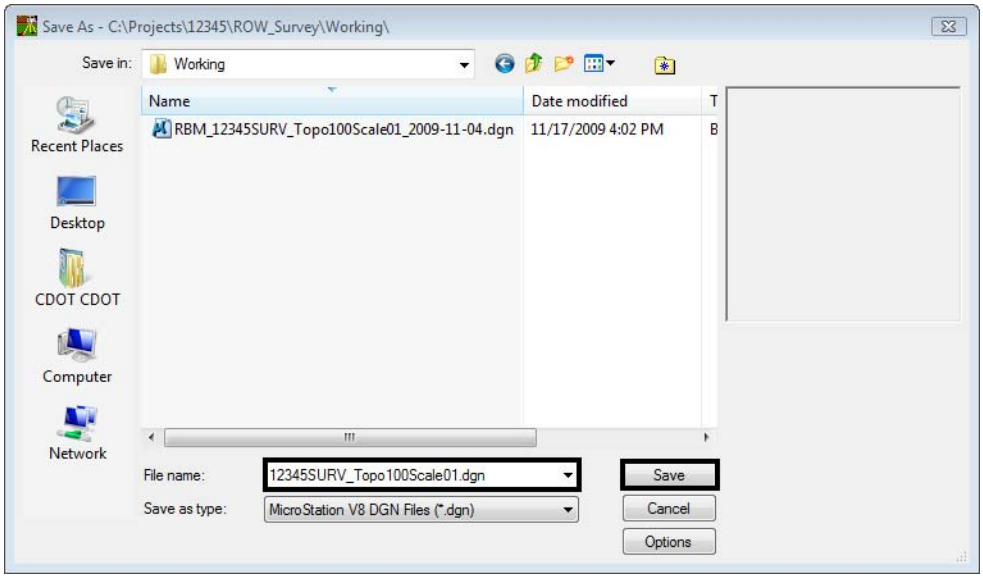
Note: The purpose of the files with "##" symbols are for creating new files with the correct naming convention.

5. **<D>** ***Open*** the ***MicroStation Manager*** dialog will close and open the file.

6. From the MicroStation pull-down menu **File > Save As** the ***Save As*** dialog will appear.

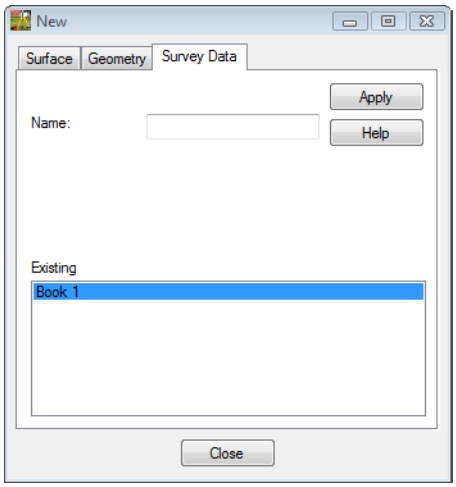
7. Path to the folder ***C:\Projects\12345\ROW_Survey\Working***

8. Replace the *##* symbols with **100** scale and **01** model.
   Type in ***Files: 12345SURV_Topo100Scale01.dgn***

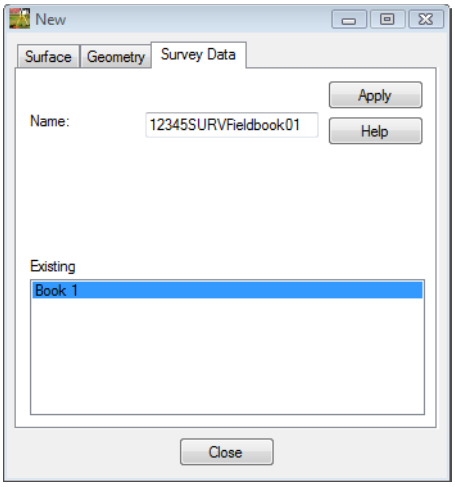


9. **<D>** the ***Save*** button the ***Save As*** dialog will close and MicroStation will open the file ***12345SURV_Topo100Scale01.dgn***.

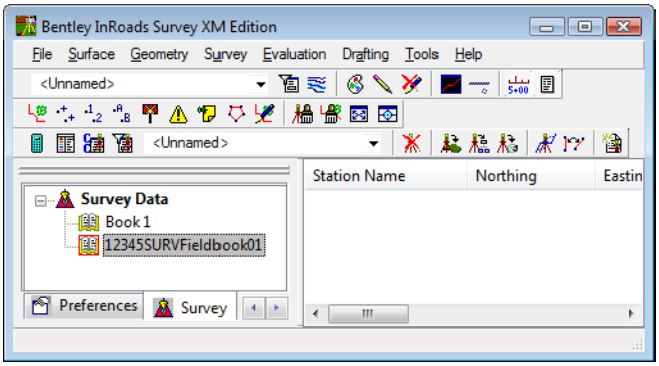
10. Once MicroStation and InRoads opens. From the InRoads pull down menu, select **File > New**. The ***New*** dialog will appear.



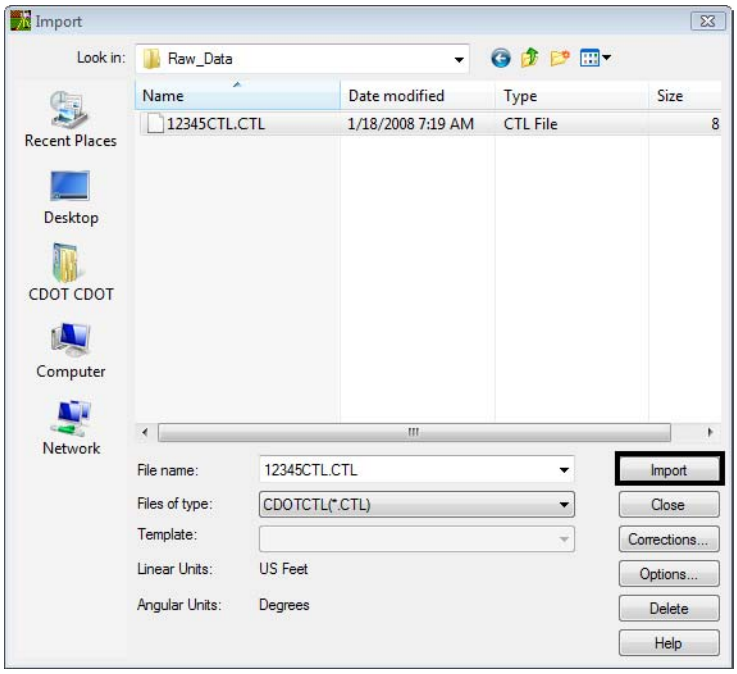
11. Select the **Survey Data** tab.
12. Key in the Name: ***12345SURVFieldbook01***



13. **<D>** the **Apply** button. The new survey fieldbook will appear below.
14. **<D>** the **Close** button. The ***New*** dialog will close.
15. From the **Workspace** bar the ***12345SURVFieldbook01*** will be active.



16. From the pull-down menu, select **File > Import > Survey Data**. The ***Import*** dialog will open.



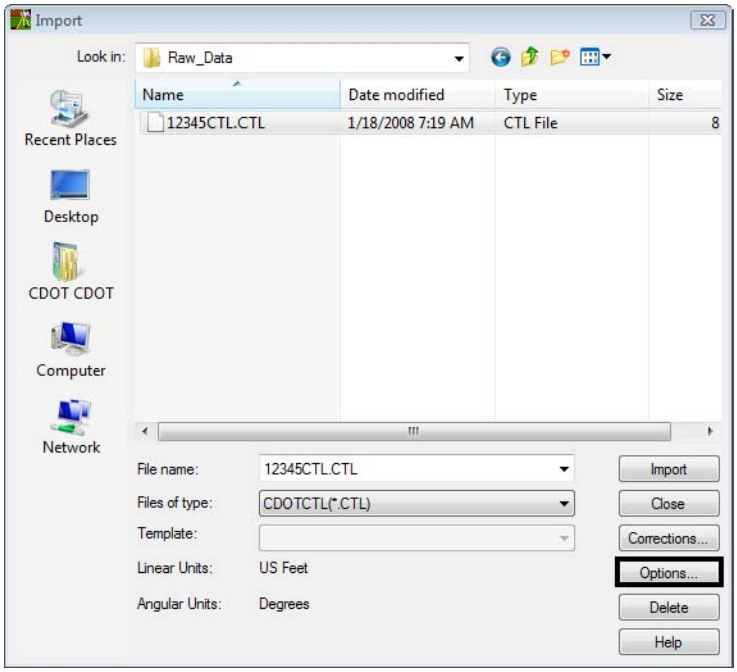
17. Change the **Look in**: folder to ***C:\Projects\12345\ROW_Survey\Survey\Raw_Data***

18. Verify the Files of type: **CDOTCTL (*.CTL)**

    - Importing the CTL file first is only needed if the field books being imported are conventional files. GPS (positional) files do not require the CTL file.

    Note: The **Files of type**: drop-down box works as a filter. Allowing to the files that have the particular file extensions to be viewed. This allows InRoads Survey to utilize a specific import wizard for each file type.

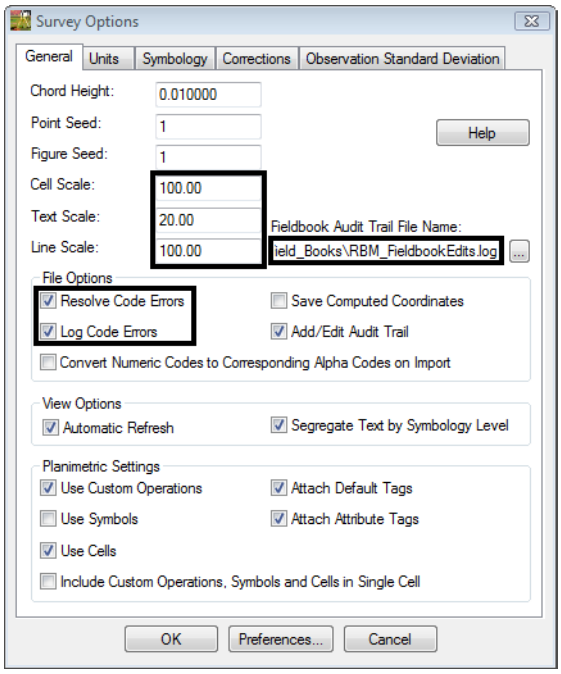
19. **<D>** the ***Options*** button.



Note: This is the same dialog that can be opened from **Tools > Survey Options**

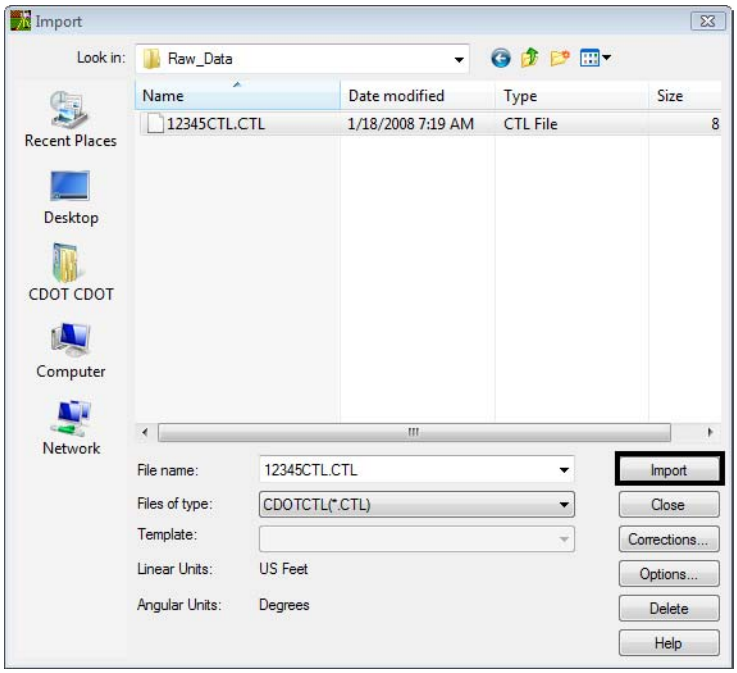
20. Verify the **Cell**, **Text**, and **Line** Scales are all set to ***100***, ***20*** ,***100***

21. Verify **Fieldbook Audit Trail File Name** is still set from Section 1. C:\Projects\12345\ROW_Survey\InRoads\Field_Books\ ***"UserInitials"_FieldBookEdits.log***



22. **<D>** the **OK** button. The ***Survey Options*** dialog will close.

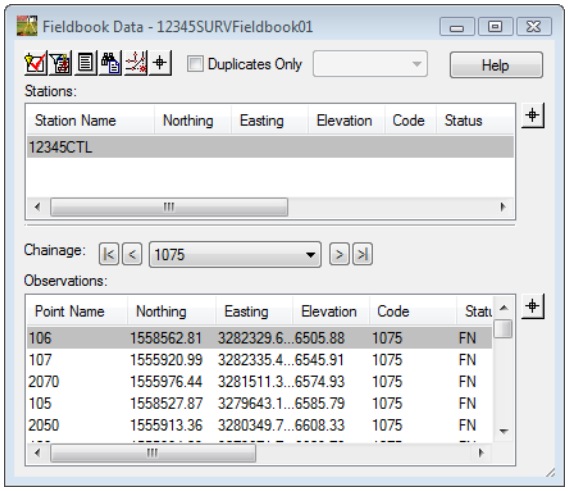
23. **<D>** the ***Import*** button. The ***Import*** dialog will remain open allowing additional files to be imported.



24. **<D>** the ***Close*** button.

    Note: Upon closing, InRoads Survey executes the import routine.

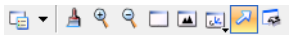
25. From the pull-down menu, select **Survey > Fieldbook Data…**. Take a minute to review the imported Survey control data that is now contained in the electronic Fieldbook.



26. While the **Fieldbook Data** dialog is open, also look at the MicroStation view and displayed graphics.

27. Practice changing the display graphics using the **View Survey Data** toolbar.

28. Continue to practice **zooming** and **panning** using the MicroStation view border buttons.

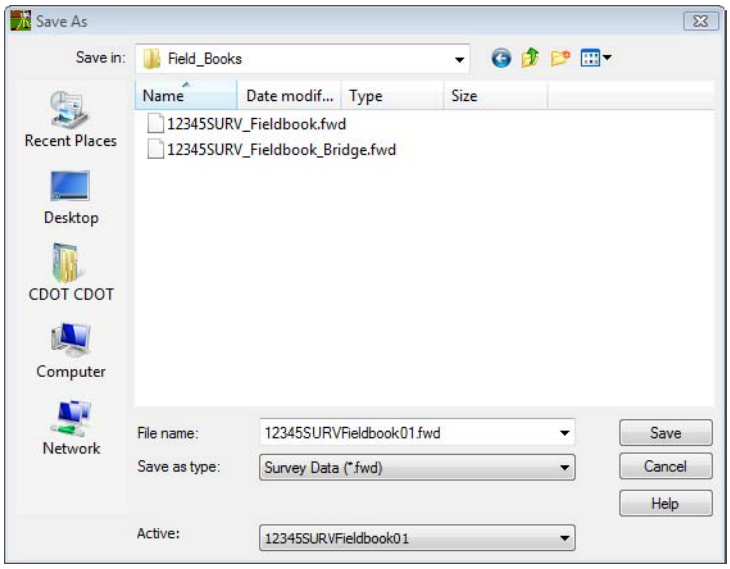


29. Close the **Fieldbook Data** dialog.

30. **Fit View** from the View Survey Data toolbar.

It is up to the user to determine when to save the data in InRoads Survey. Until now the fieldbook is being stored in memory. If something was to cause InRoads to close, your data would be lost.

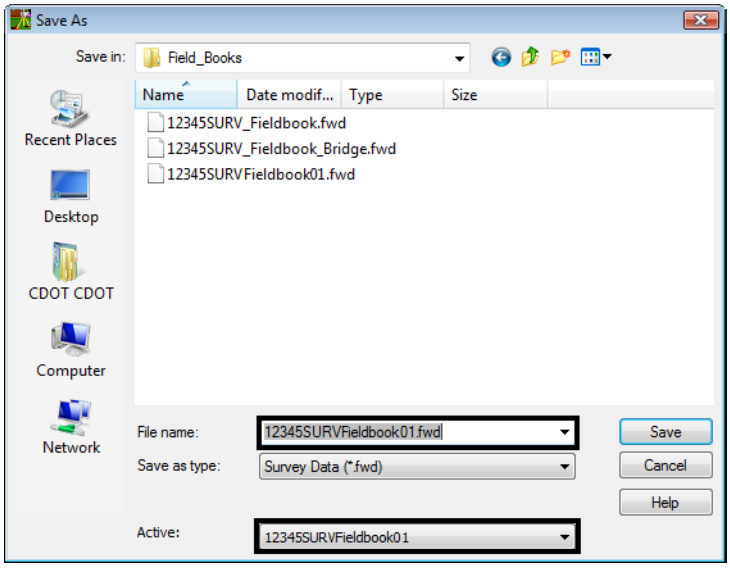
31. **File > Save > Survey Data** the ***Save As*** dialog will open.



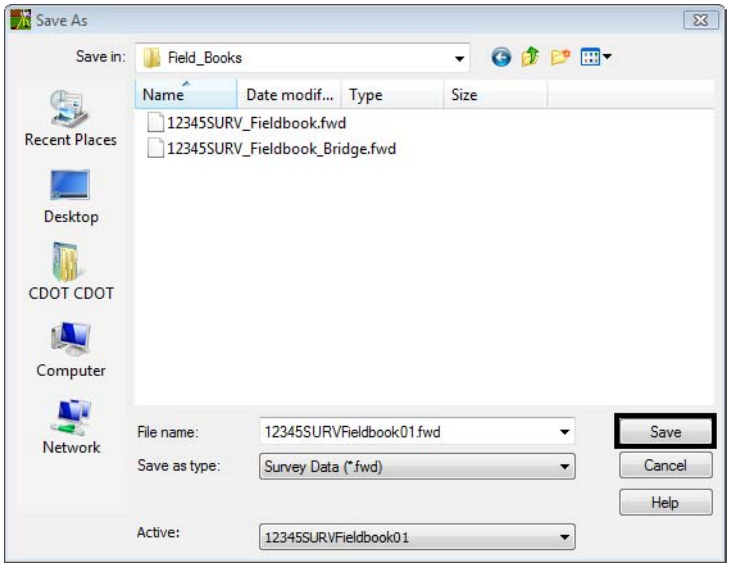
32. Verify the directory location:
C:\Projects\12345\ROW_Survey\InRoads**Field_Books**

33. Choose the ***Active:*** **12345SURVFieldbook01** at the bottom of the dialog.

34. Verify the File Name: **12345SURVFieldbook01.fwd**



35. **<D>** the ***Save*** button. The file will be saved to disk and will show in the dialog.



36. **<D>** the ***Cancel*** button. The ***Save As*** dialog will close.

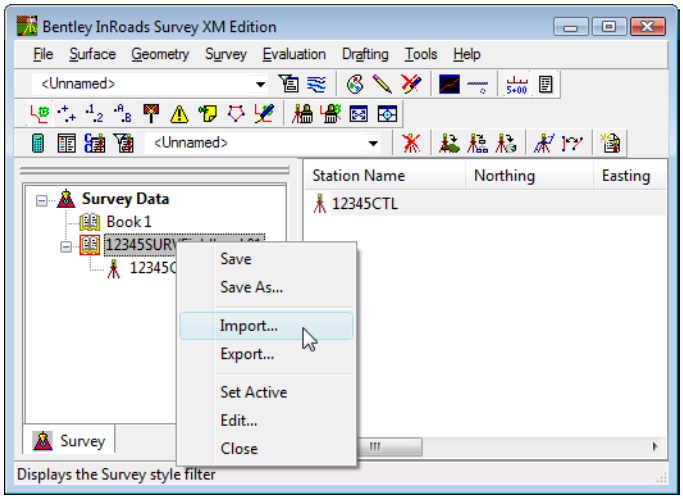
Lab 5.3 - Importing Data collector files

Section Objectives:

- Import multiple raw Sokkia SDR topo files into the InRoads Survey fieldbook file.
- Import a raw Trimble DC topo file into the InRoads Survey fieldbook file.
- Create an error log file for keeping track of code errors in the fieldbook file.
- Correct code error problems using the Resolve Code Error dialog.
- Review topo points in the Fieldbook dialog and MicroStation view.

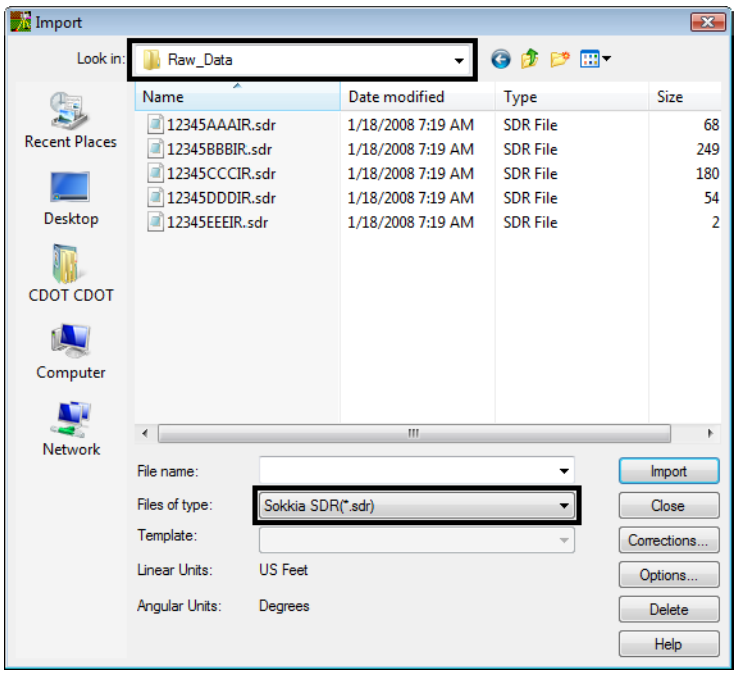
Importing SDR files

1. From the Workspace bar select and highlight 12345SURVFieldbook01 and <R> to view the shortcut menu.

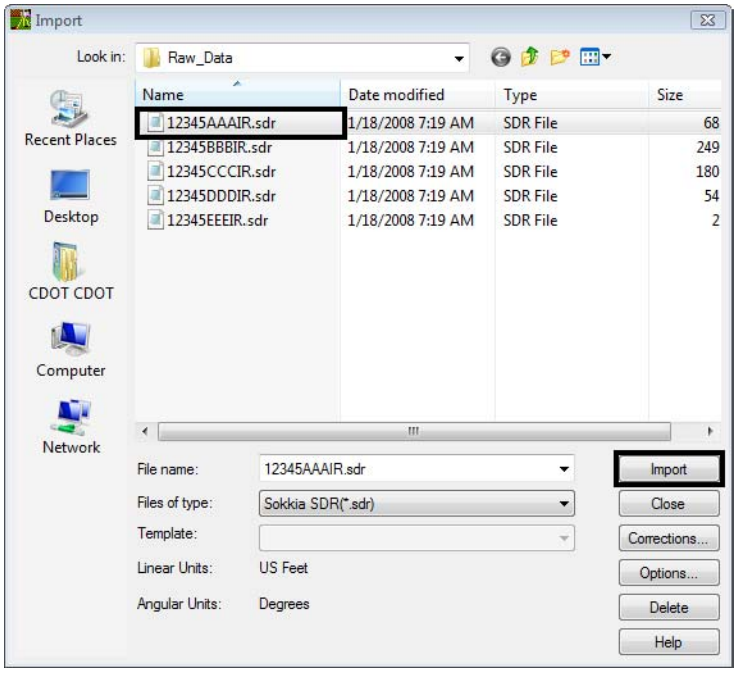


2. **<D> Import…** The ***Import*** dialog will appear.
   - This is a same as using the pull-down menu **File > Import > Survey Data.**

3. Change the **Look in**: folder to C:\Projects\12345\ROW_Survey\Survey**Raw_Data**
4. Change the drop-down arrow Files of type: **Sokkia SDR (*.sdr)**

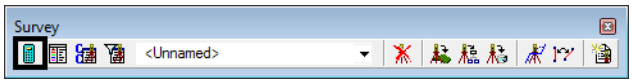


5. **Select** the file **12345AAAIR.sdr** from the filtered list of files.
6. **<D>** the **Import** button. The ***Import*** dialog will remain open allowing additional files to be imported.

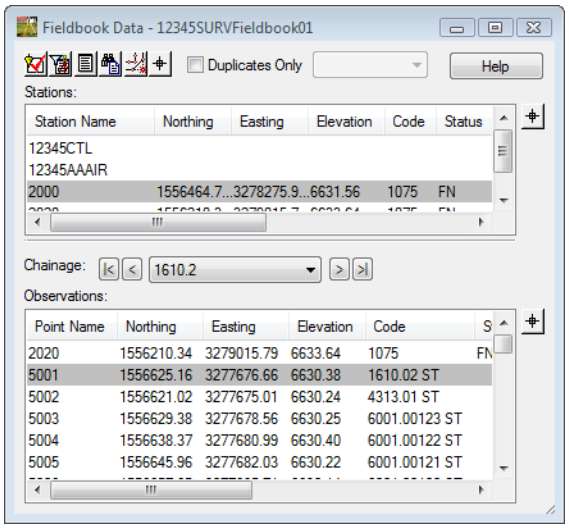


7. **<D>** the **Close** button.

8. **Select** the **Fieldbook** button from the Survey toolbar. The Survey Fieldbook will appear.



9. Take a minute to review the observations from Station Name ***2000*** that was imported into the electronic Fieldbook.



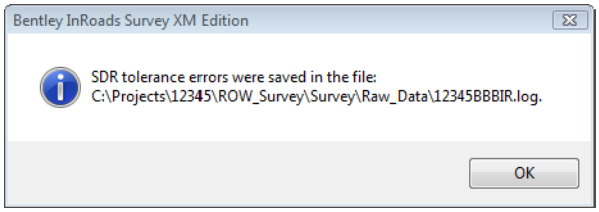
10. **Close** the ***Fieldbook*** dialog **<D>** the **X** in the upper right hand corner of the dialog.

Resolving Code errors

From the Tools > Survey Options dialog the choice was made to resolve any code errors when the data is imported. There are a couple of ways to handle code errors.

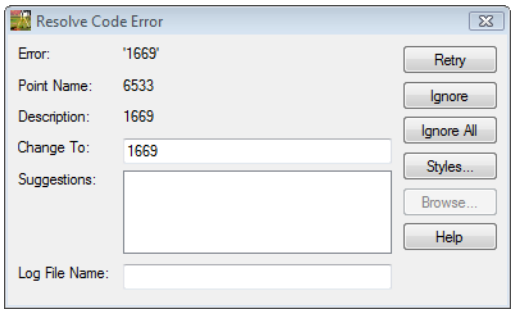
1. From the pull-down menu, select **File > Import > Survey Data**. The ***Import*** dialog will open.
2. Change the **Look in**: folder to C:\Projects\12345\ROW_Survey\Survey**Raw_Data**
3. Verify the drop-down arrow Files of type: **Sokkia SDR (*.sdr)**
4. **Select** the file **12345BBBIR.sdr** from the filtered list of files.
5. **<D>** the **Import** button. Only one file can be selected at a time. The ***Import*** dialog will remain open allowing for additional files to be imported.

6. **<D>** the **OK** button in the SDR Tolerance dialog box.



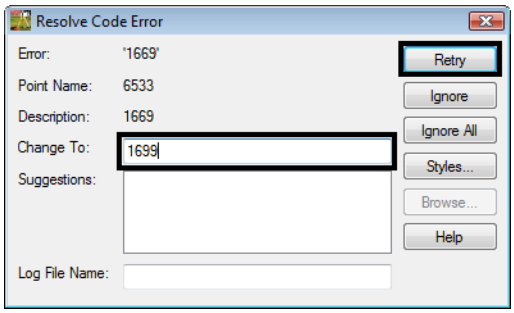
7. **<D>** the **Close** button. The imported SDR files will be processed.

   Note: There are code errors with these files; the Resolve Code Errors dialog will appear.



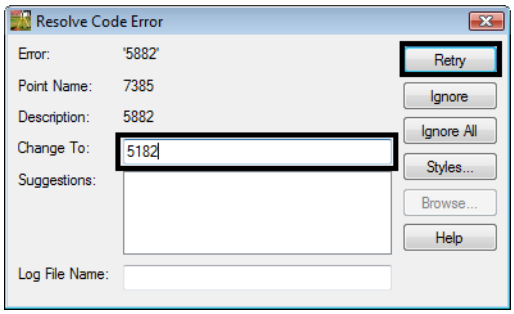
8. Key-in Change To: ***1699***

9. **<D>** the **Retry** button. The code will be processed and the next error will appear.

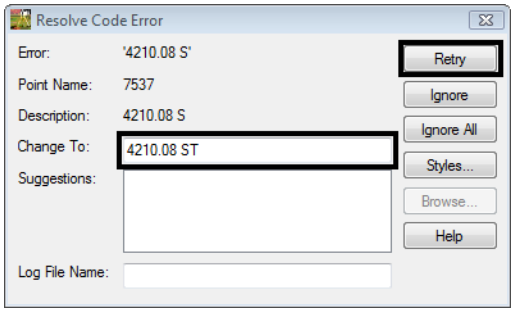


Continue this process for the next three code errors.

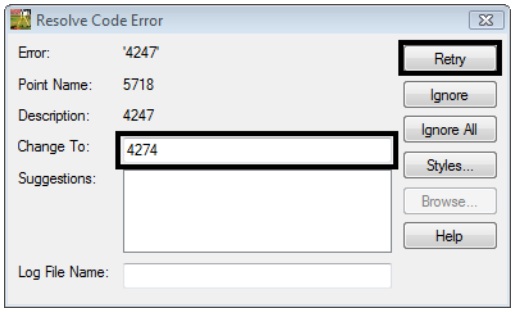
10. Key-in Change To: ***5182*** **<D>** the ***Retry*** button.



11. Key-in Change To: ***4210.08 ST*** **<D>** the **Retry** button.



12. Key-in Change To: ***4274*** **<D>** the **Retry** button. The ***Resolve Code Error*** dialog will close and Survey will process the data.

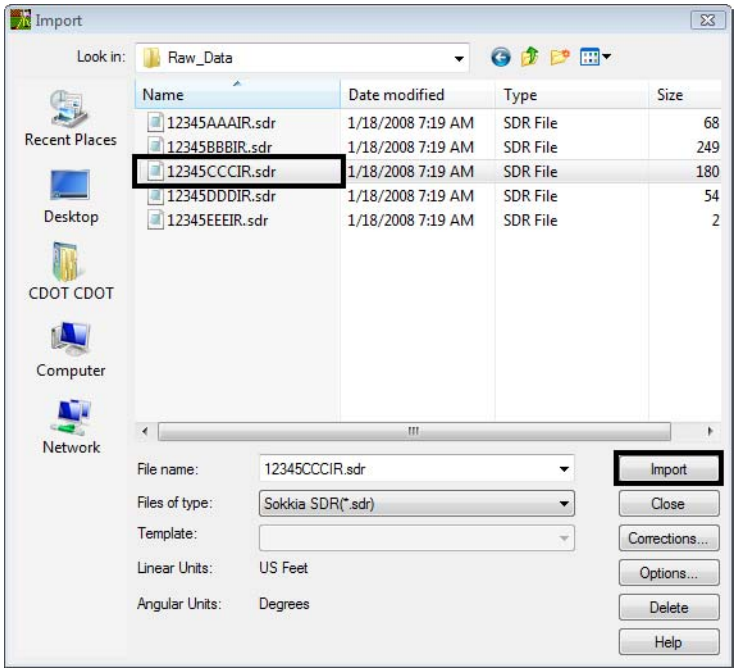


13. From the pull-down menu, select **File > Import > Survey Data**. The ***Import*** dialog will open.

14. Change the **Look in**: folder to C:\Projects\12345\ROW_Survey\Survey**Raw_Data**

15. Verify the drop-down arrow Files of type: **Sokkia SDR (*.sdr)**

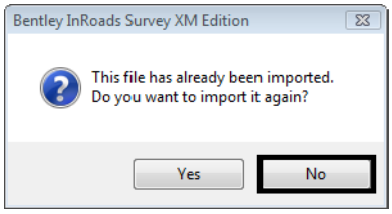
16. **Select** the file **1234500CCCIR.sdr** from the filtered list of files.



17. **<D>** the **Import** button. The ***Import*** dialog will remain open allowing for additional files to be imported.

18. Continue to import the remaining SDR files **1234500DDDIR- 123450EEEIR**

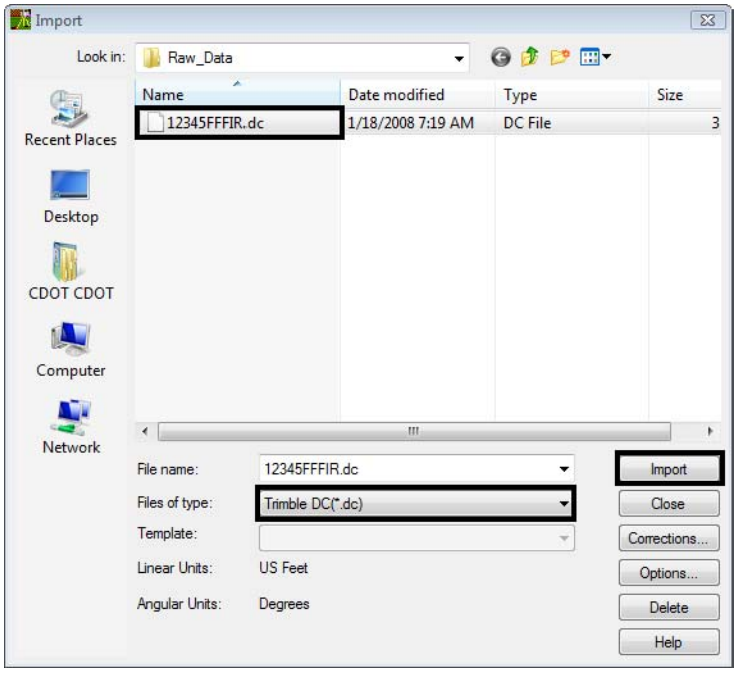
    - If a previously imported SDR file was selected the following dialog will appear.



19. **<D>** the ***No*** button and go back and select a different file.

Importing Trimble DC file

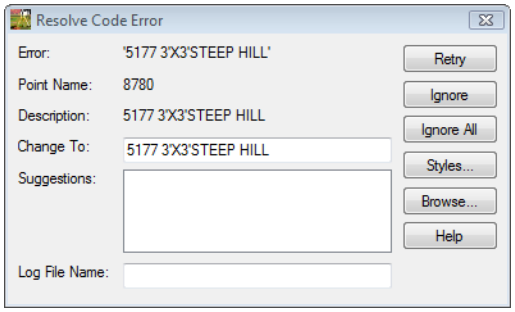
20. Change the drop-down arrow Files of type: Trimble DC (*.dc)



21. **Select** the file **12345FFFIR.dc** from the filtered list of files.

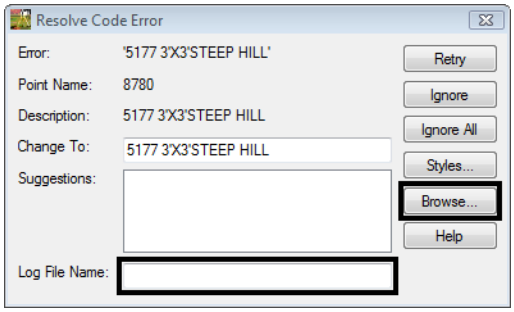
22. **<D>** the **Import** button. The ***Import*** dialog will remain open allowing for additional files to be imported.

23. **<D>** the **Close** button. If errors are present in the input files, the ***Resolve Code Errors*** dialog will appear.



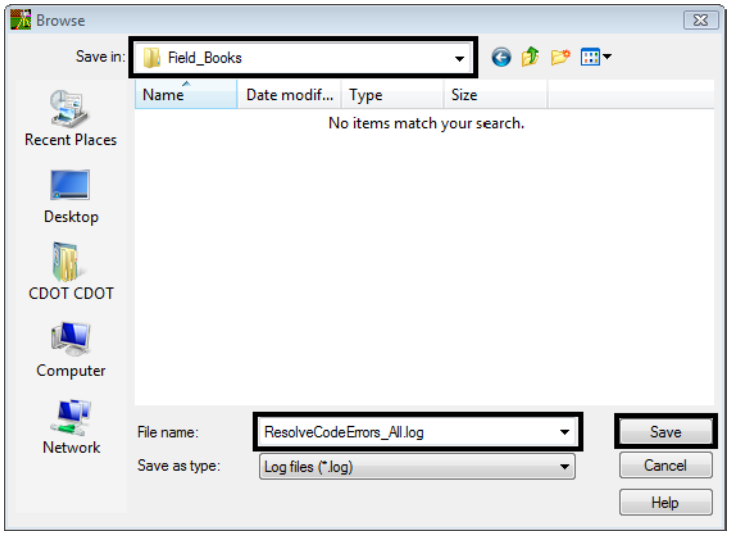
24. **<D>** the **Log File Name** key in field. The ***Browse*** button will become activated.

25. **<D>** the **Browse** button in the ***Resolve Code Error*** dialog. The ***Browse*** dialog will appear.

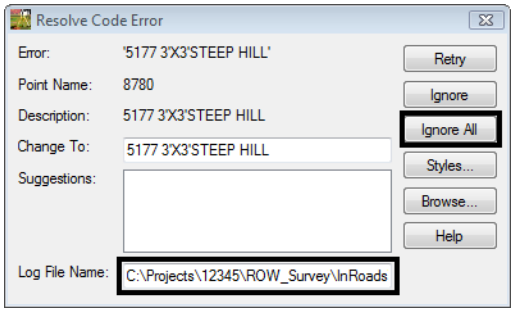


26. Path to the Save in folder ***C:\Projects\12345\ROW_Survey\InRoads\Field_Books***.

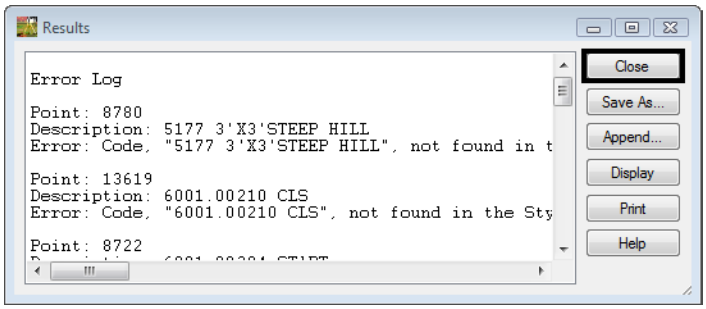
27. Key in the file name ***ResolveCodeErrors_All.log***



28. **<D>** the **Save** button the ***Browse*** dialog will close and the file name and path will appear in the ***Log File Name*** field.

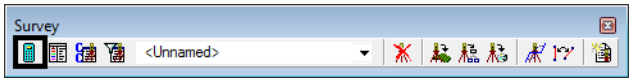


29. **<D>** the **Ignore All** button. The ***Results*** dialog will appear showing the errors and the log file will be saved.

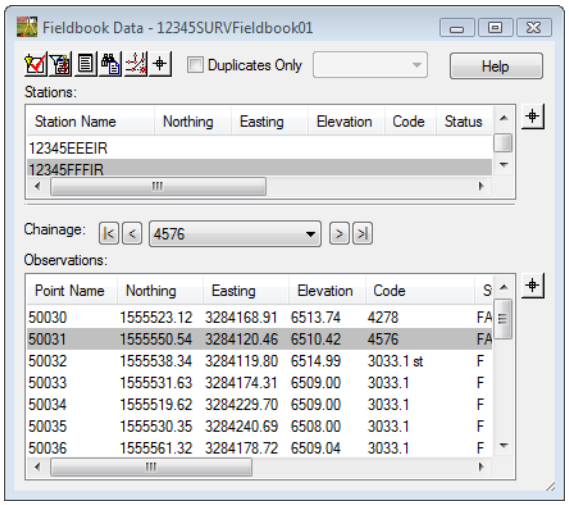


30. **<D>** the **Close** button in the ***Results*** dialog. Those errors will be addressed later in this lab.

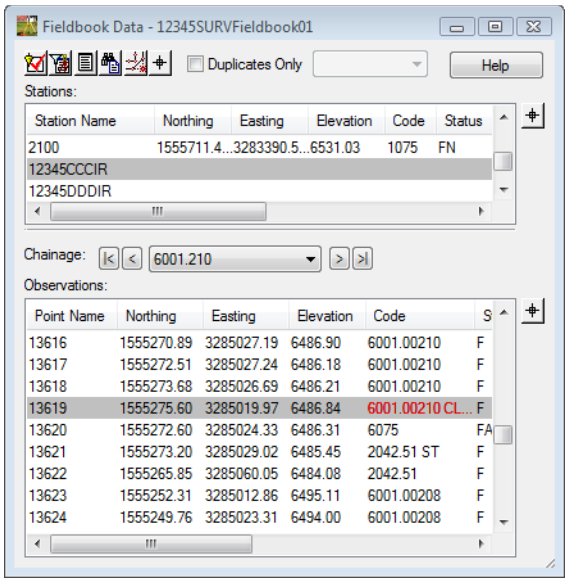
31. **Select** the **Fieldbook** button from the Survey toolbar. The Survey Fieldbook will appear.



32. Take a minute to review the observations from Station Name **12345FFFIR** that was imported into the electronic Fieldbook.



33. Locate Station Name: **12345CCCIR** Point Name: **13619**. Notice the code is red, representing an error.



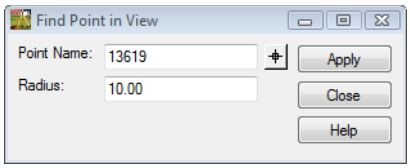
Note: While the **Fieldbook Data** dialog is open, look at the MicroStation view and displayed graphics.

34. Locate the same point in View 1 using one of the following methods.

- **<R>** Point Name to view the Fieldbook shortcut list and select **Center**

  or

♦ From the pull-down menu, select **Survey > Find Point in View**

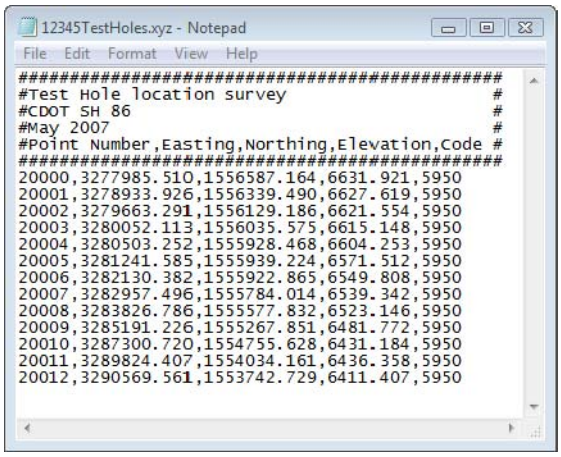


Note: The code errors will be corrected in the fieldbook later in the lab.

35. Close the **Fieldbook** dialog and any other dialogs.

Lab 5.4 - Importing ASCII files

In the following steps an ASCII file will be imported. To import ASCII files the Text Import Wizard (TIW) will be used. This format created for importing text can be saved and recalled for future use.

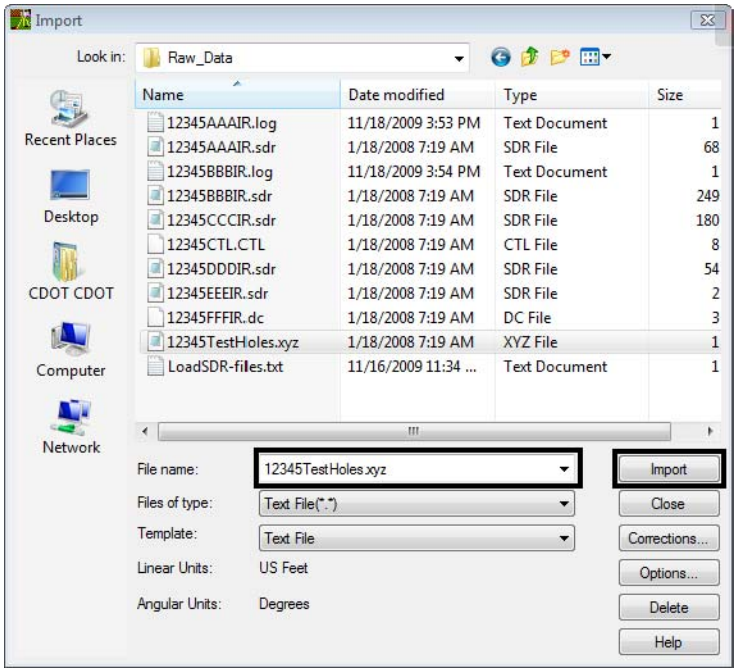


Section Objectives:

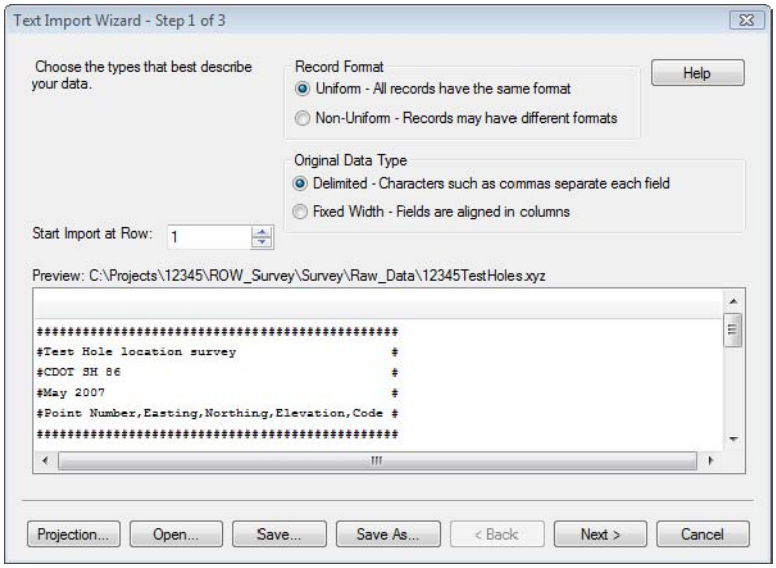
- Import a custom ASCII report with the Text Import Wizard.
- Create a new standard import selection for future use.
- Review the points in the Fieldbook file and MicroStation view.

1. From the pull-down menu, select **File > Import > Survey Data**. The ***Import*** dialog will open.
2. Change the **Look in:** folder to C:\Projects\12345\ROW_Survey\Survey**Raw_Data**
3. Change the drop-down arrow **Files of type: Text File (*.*)** All the files in the directory will be shown.

4. **Select** the file **12345TestHoles.xyz**



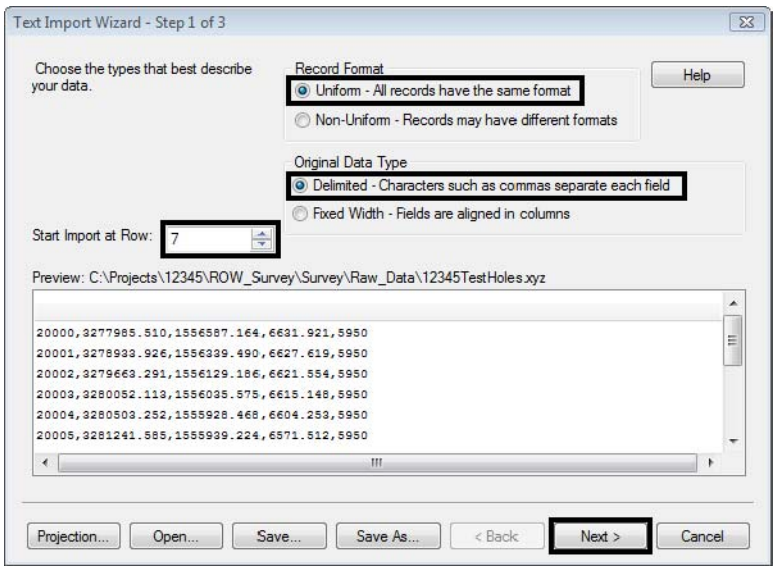
5. **<D>** the **Import** button. The ***Text Import Wizard*** dialog will appear.



6. Change the entry field **Start Import at Row: 7** and **Tab** out of the field. This will ignore the header information in the file.

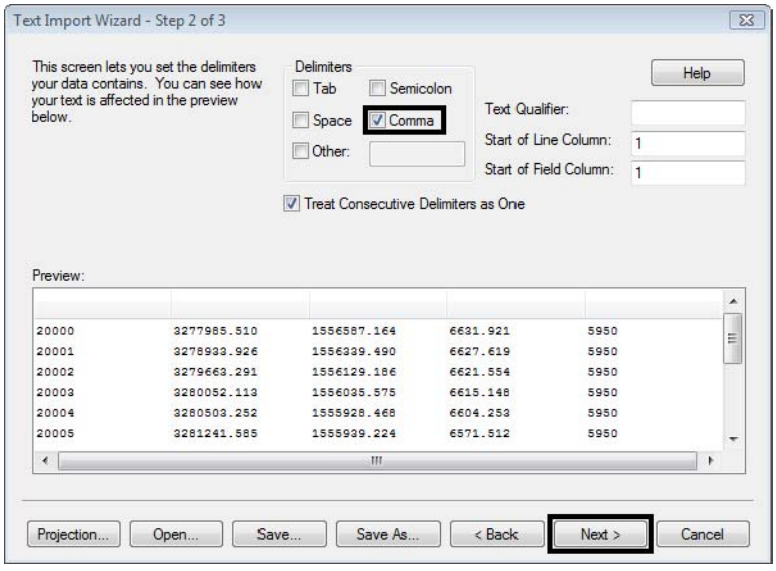
7. Verify the **Record Format** radio button is set to **Uniform**.

8. Verify the **Original Data Type** radio button is set to **Delimited**.

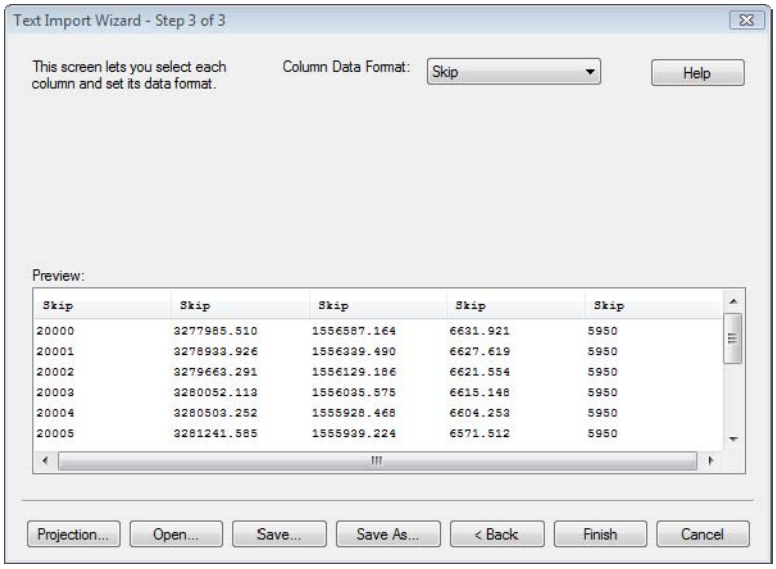


9. **<D>** the **Next >** button. The ***Step 2 of 3*** dialog will appear.

10. In the **Delimiters** section of the dialog check on the **Comma** delimiter field as this defines what separates our columns of data. Verify the rest of the dialog is set as shown below.

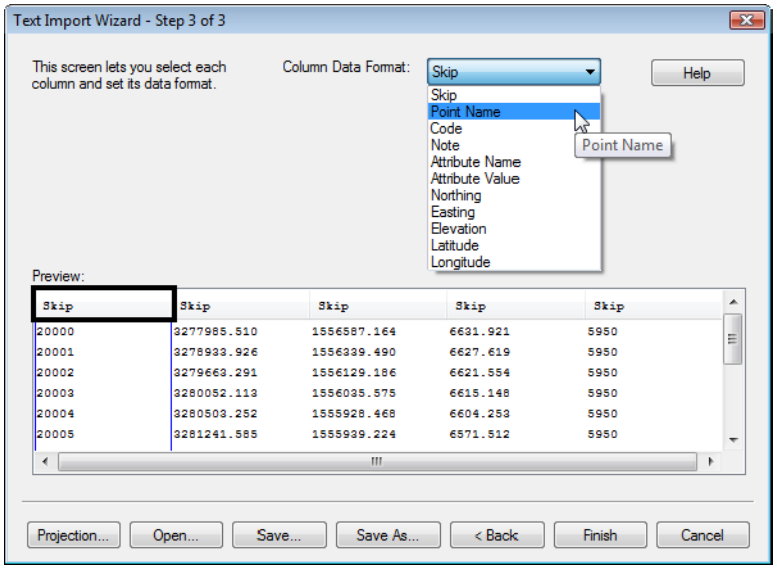


11. **<D>** the **Next >** button. The final ***Step 3 of 3*** dialog will appear.



12. Select the header of the first column labeled **Skip**. The column will highlight as shown below.

13. From the **Column Data Format** drop-down box select **Point Name**

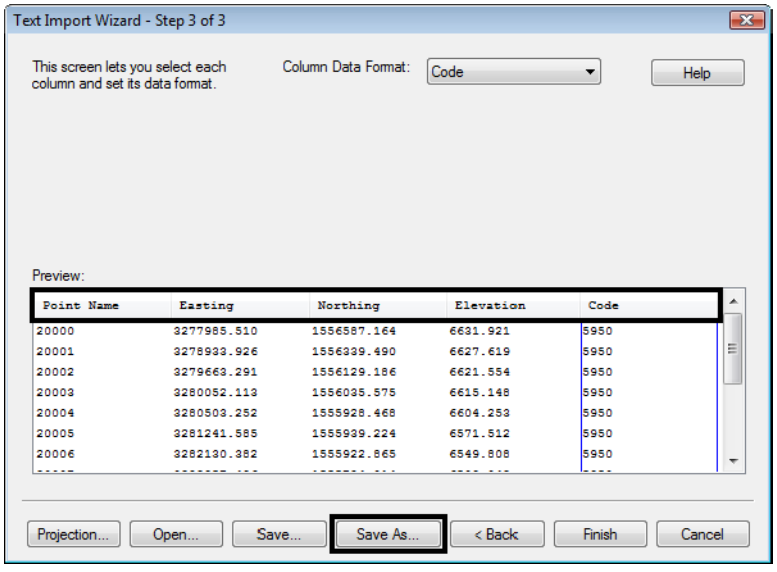


14. Select the second **Skip** column header then select **Easting** from the ***Column Data Format*** drop-down box.

15. Select the third **Skip** column header then select **Northing** from the ***Column Data Format*** drop-down box.

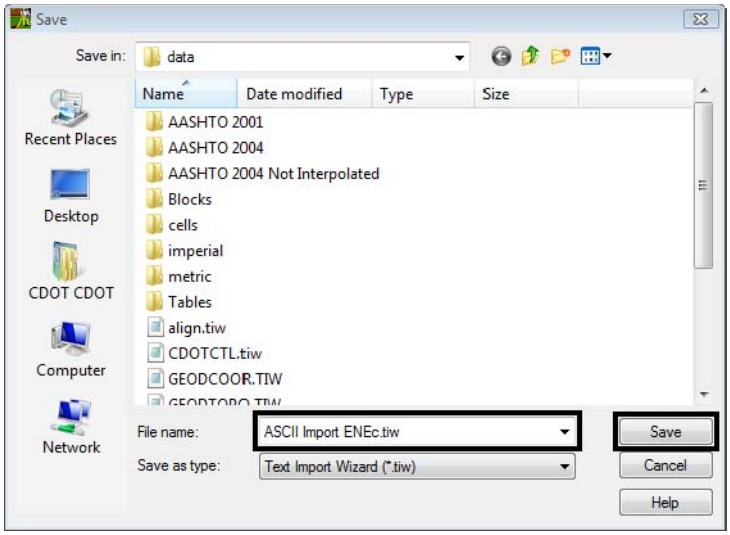
16. Select the fourth **Skip** column header then select **Elevation** from the ***Column Data Format*** drop-down box.

17. Select the fifth **Skip** column header then select **Code** from the ***Column Data Format*** drop-down box.

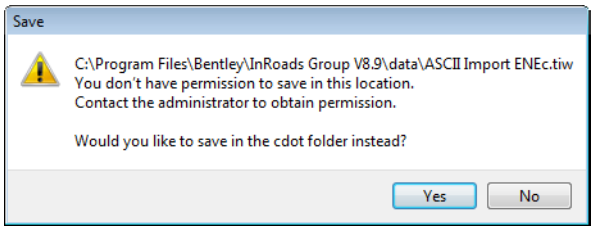


18. **<D>** the **Save As** button. The ***Save As*** dialog will appear.

19. Key in File name: ***ASCII Import ENEc***

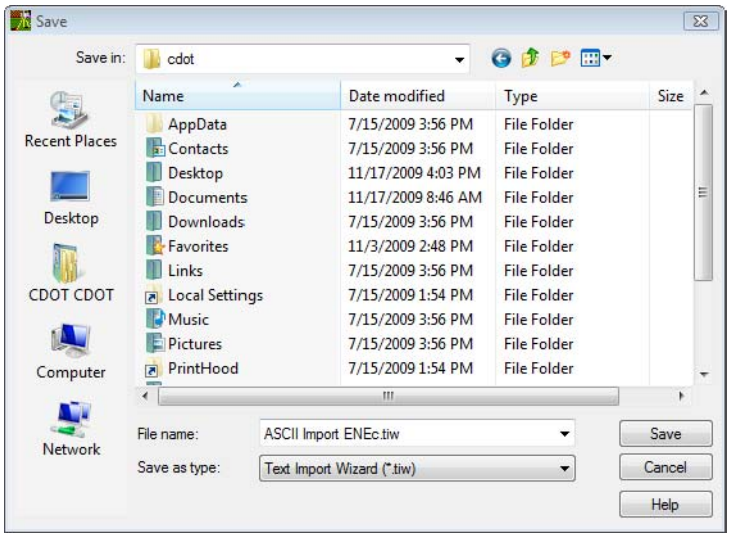


20. **<D>** the **Save** button. The ***Save As*** dialog will close and and error dialog will appear.



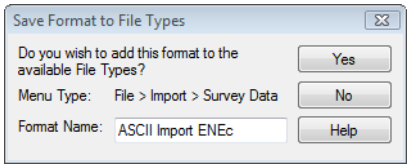
Note: Because files can not be saved to the ***Program Files*** directory on the computer the file will default to the users login ***C:\Users\cdot\Documents*** folder structure.

21. **<D>** the **Yes** button. The ***Save*** in the ***CDOT*** User folder will appear.



22. **<D>** the **Save** button and the dialog will close.

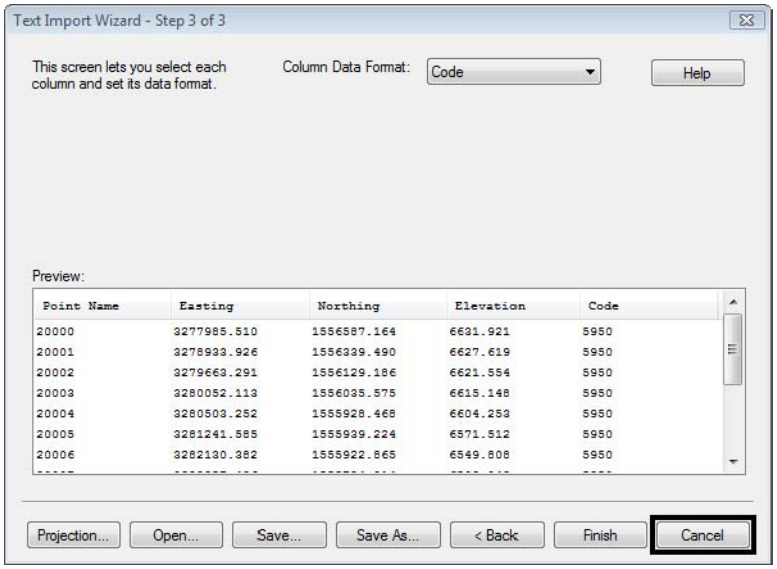
23. The **Save Format to File Types** dialog will appear. Verify **Format Name:** ***ASCII Import ENEc***



24. **<D>** the **Yes** button. The ***Save Format to File Types*** dialog will close and the ***Step 3 of 3*** dialog will reappear.

    Note: The Text Import Wizard has been created for future use.

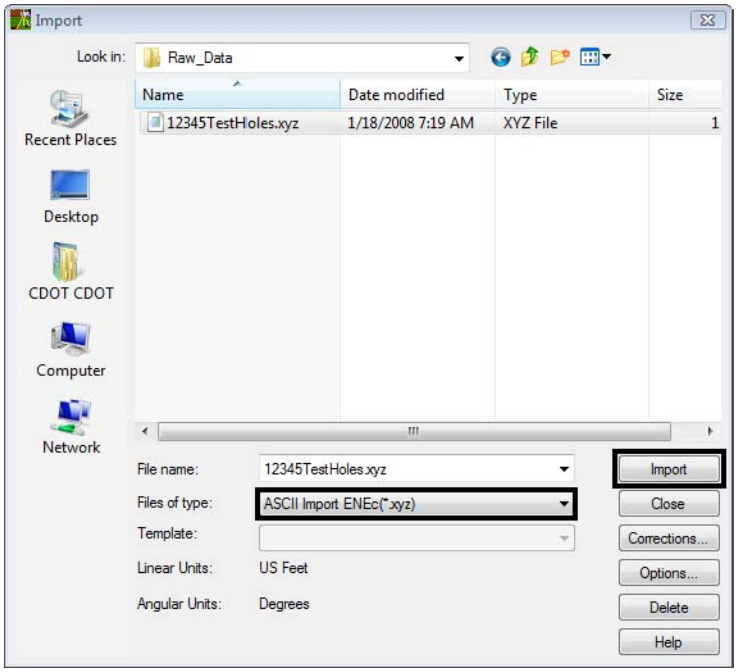
25. In the ***Step 3 of 3*** dialog **<D>** the **Cancel** button. The Step ***3 of 3*** dialog will close and the **Import** dialog will reappear.



26. In the ***Import*** dialog change the Files of type: **ASCII Import ENEc (*.xyz)**

    Note: The extension for the filter (*.xyz) came from the original file extensions that was imported.

27. Select the file **12345TestHoles.xyz**



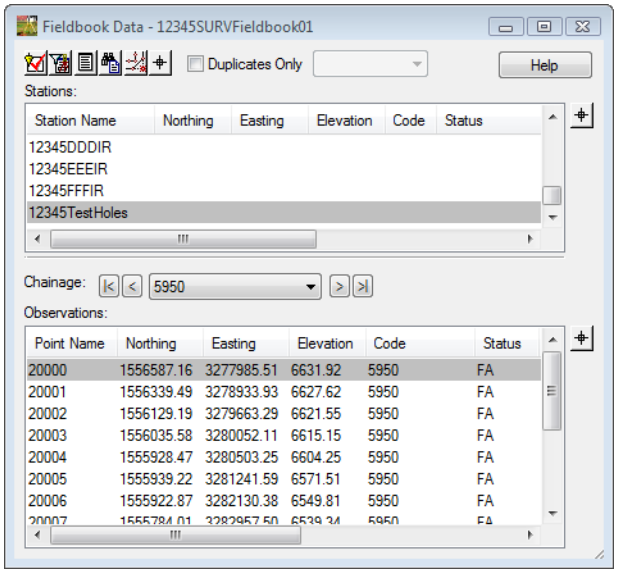
28. **<D>** the **Import** then **Close** buttons.

29. **<D> Ignore All** in the ***Resolve Code Error*** dialog and then close the dialog.

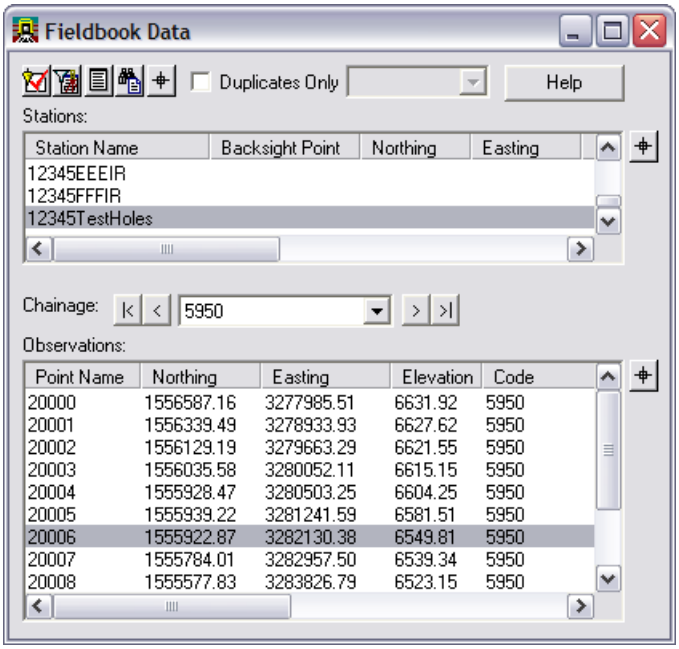
    Note: The ***Resolve Code Error*** dialog continues to open because the entire file is processed each time a file is imported.

30. **<D>** the **Close** button in the ***Results*** dialog.

31. Review the data that was imported **Survey > Fieldbook Data…**



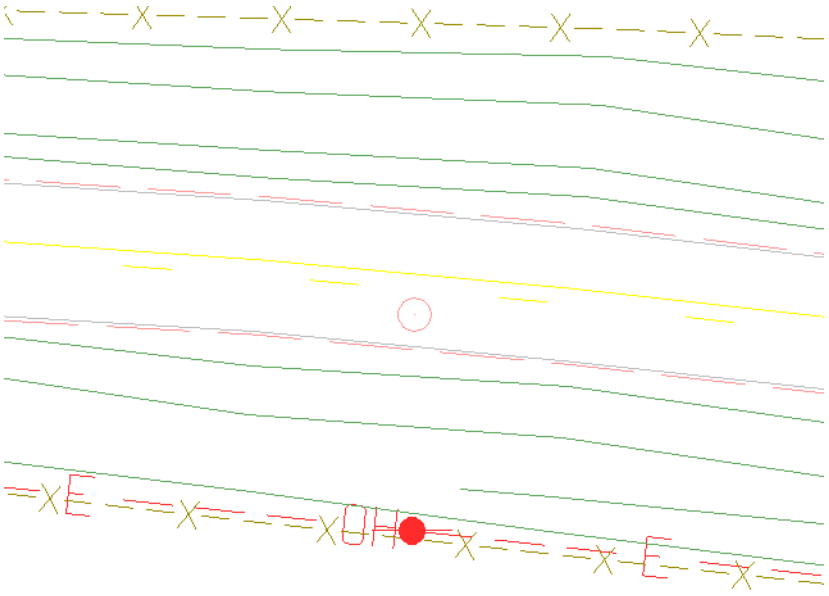
32. **Locate** the file that was imported into the **Fieldbook Data** dialog. As files are imported to the fieldbook they will always append to the active fieldbook.



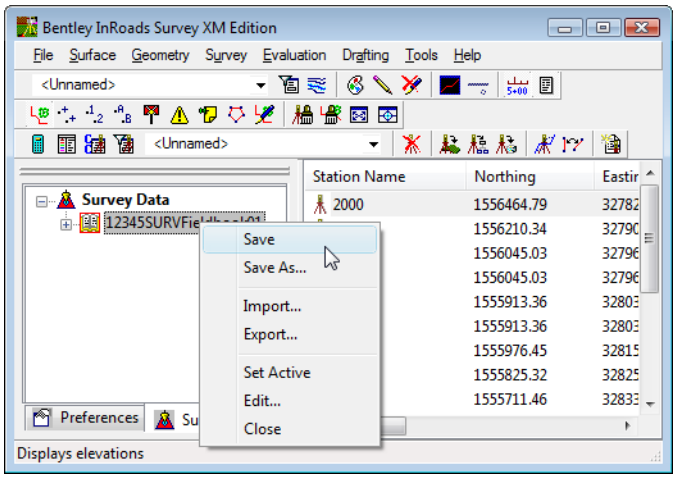
33. Select **Point Name** ***20006*** in the fieldbook.

34. **<R> Center** Point Name 20006 to the MicroStation view.

Note: The center command from the shortcut menu works with the current zoom ratio and will not zoom into the point.



35. Save the Survey fieldbook. From the Workspace Bar **<R>** on **12345SURVFieldbook01** select **Save** from the shortcut menu.



36. The Status Bar will show that it was saved.

Section Summary:

- In *Lab 5.1 -Managing Survey Files* the working directory was cleaned up to avoid any name conflicts.
- In *Lab 5.2 -Importing Control Files* the CDOT survey control file was added first to the InRoads Survey fieldbook file.
- *Lab 5.3 -Importing Data collector files* additional raw survey topo files from a Sokkia and Trimble data collectors were added to the InRoads Survey fieldbook file.
- In *Lab 5.4 -Importing ASCII files* a custom ASCII file was imported into the InRoads Survey fieldbook file and the settings were stored in the product for future use.