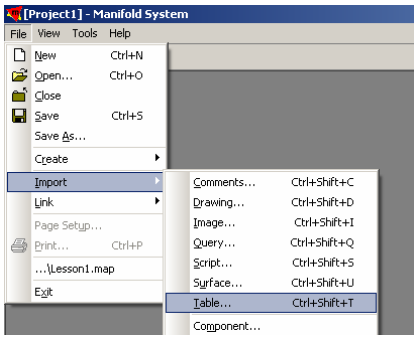
Lesson 2 - 3D Display of Integrated Publicly Available Data

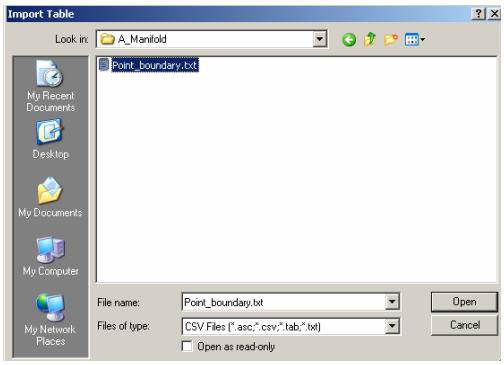
Exercise 2-1

Objective: Import and display point data stored in a delimited text file. *These point data were generated by a GPS receiver located on a vehicle traveling around the boundary of the field.*

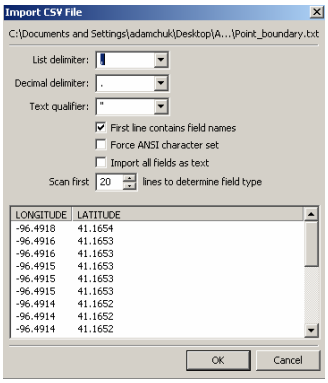
1. Start Manifold System software and choose **File-Import-Table** to import the data.



2. In the **Import Table** dialog box select the ***CSV Files (*.acs,*.scv,*.tab,*.txt)*** option in the **Files of type** box and navigate to the ***Point_boundary.txt*** file. Click **Open**.

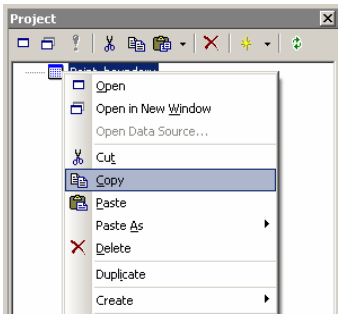


3. In the following dialog box, press **OK**. *The file is a comma delimited text. The header shows Longitude and Latitude columns.*

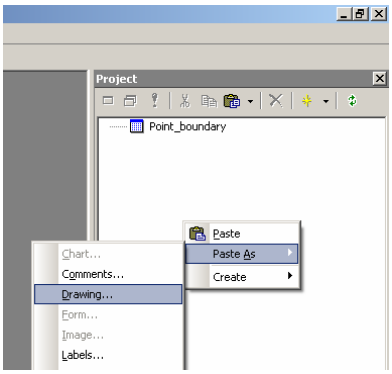


4. A **Table** component, called ***Point_boundary***, will appear in the **Project** pane.

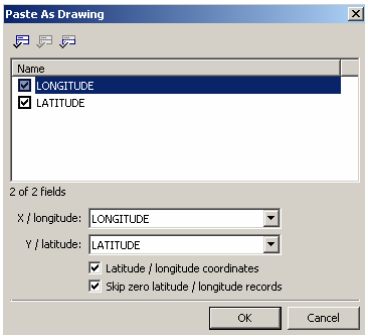
5. Right click the ***Point_boundary*** component in the project pane and select **Copy** option.



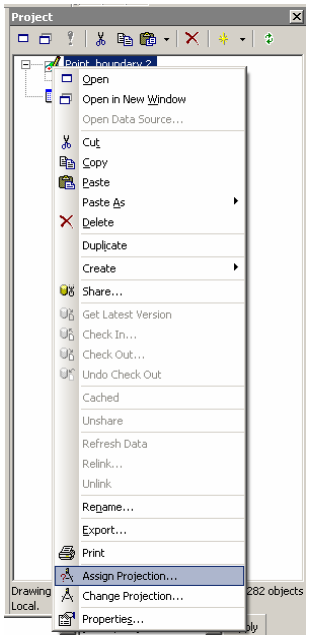
6. Right click any empty location in the project pane and select **Paste As – Drawing** option.



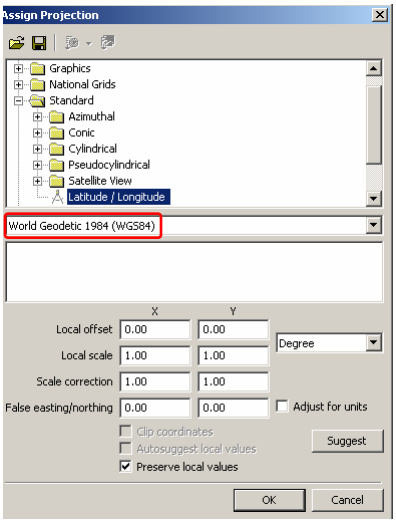
7. The **Paste As Drawing** dialog will appear. Select **OK**. *Default settings will convert each line in the table to a point with Longitude and Latitude geographical coordinates.*



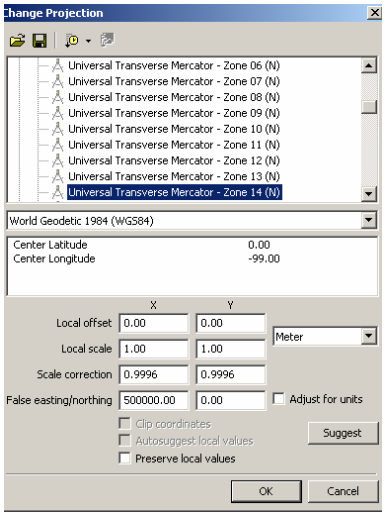
8. Right click the ***Point_boundary 2*** component in the **Project** pane and select **Assign Projection**.



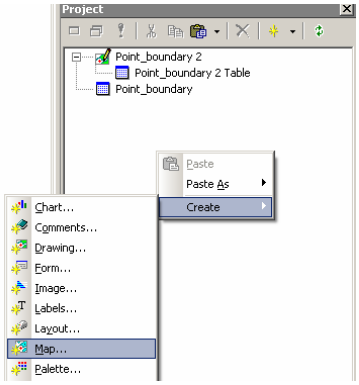
9. In the popup **Assign Projection** dialog box, press **OK**. *This will confirm that Longitude/Latitude coordinates with WGS-84 datum were used when tracking the field's boundary. This is a very important step to avoid data projection errors.*



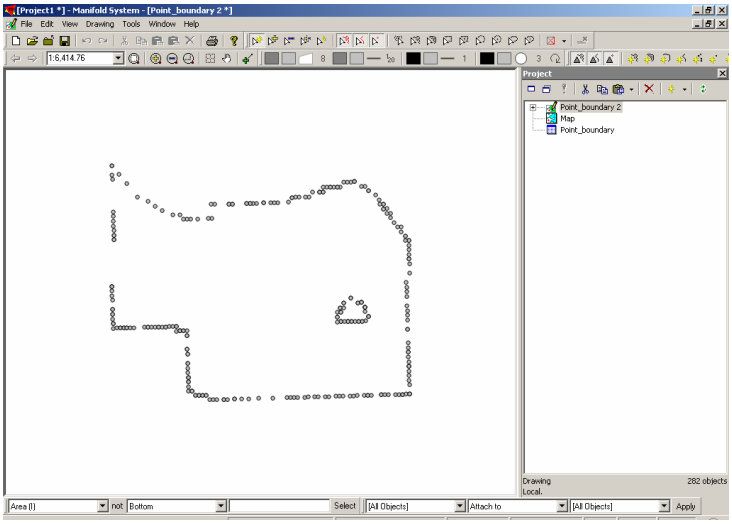
10. Again, right click the ***Point_boundary 2*** component and select **Change Projection**. In the popup **Change Projection** dialog box, navigate to the **Universal Transverse Mercator – Zone 14(N)** projection system. Press **OK**. *This step will project points of the boundary using UTM coordinates expressed in linear units (meters). Therefore, the shape of the projected boundary will be more representative of the field's shape as compared to unprojected (longitude/latitude) coordinates. Zone 14 (N) should be selected because the field is located between 96 and 102 degrees west in the northern hemisphere.*



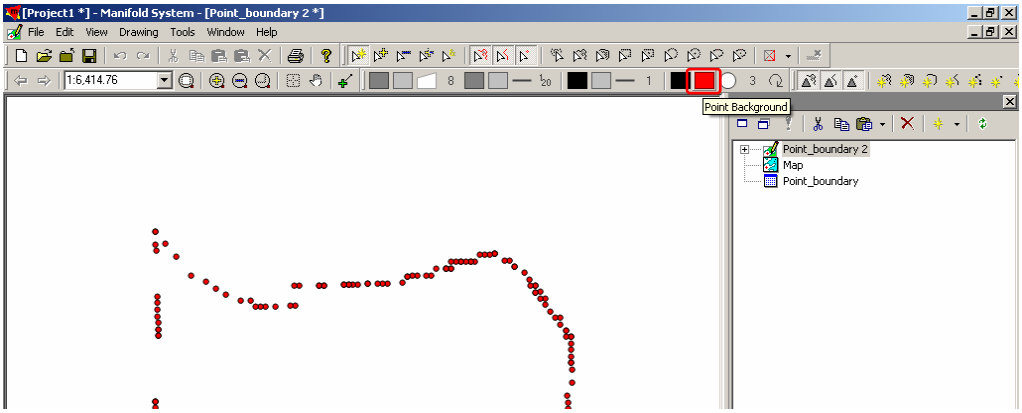
11. **Right click** any empty location in the **Project** pane and select the **Create-Map** option.



12. In the popup **Create Map** dialog box select the ***Point_boundary 2*** data layer and click **OK**. Double-click the new ***Map*** component in the **Project** pane to observe the graphical view of the field boundary.



13. Use the **Point Background** icon to change the color of the point from gray to red.



14. Save the project (**File-Save As** menu option) using ***Project_2-1.map*** as the file name.