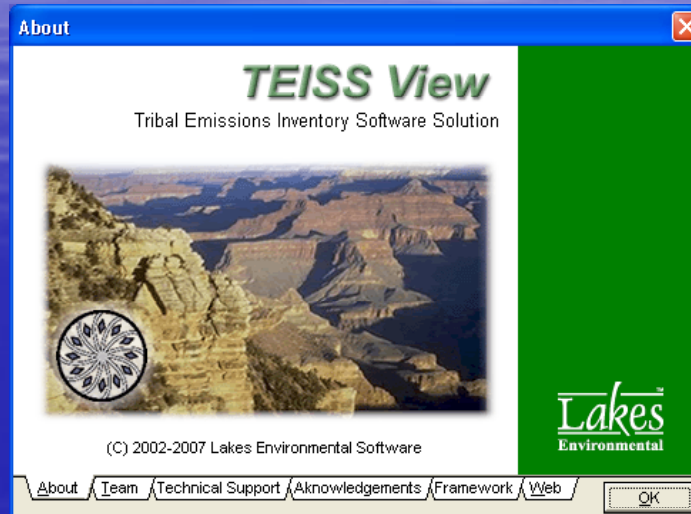


The TEISS 2010 Upgrade



Sarah Kelly
Institute for Tribal Environmental Professionals
at Northern Arizona University
19th International Emission Inventory Conference,
San Antonio, TX
September 28 – 30, 2010



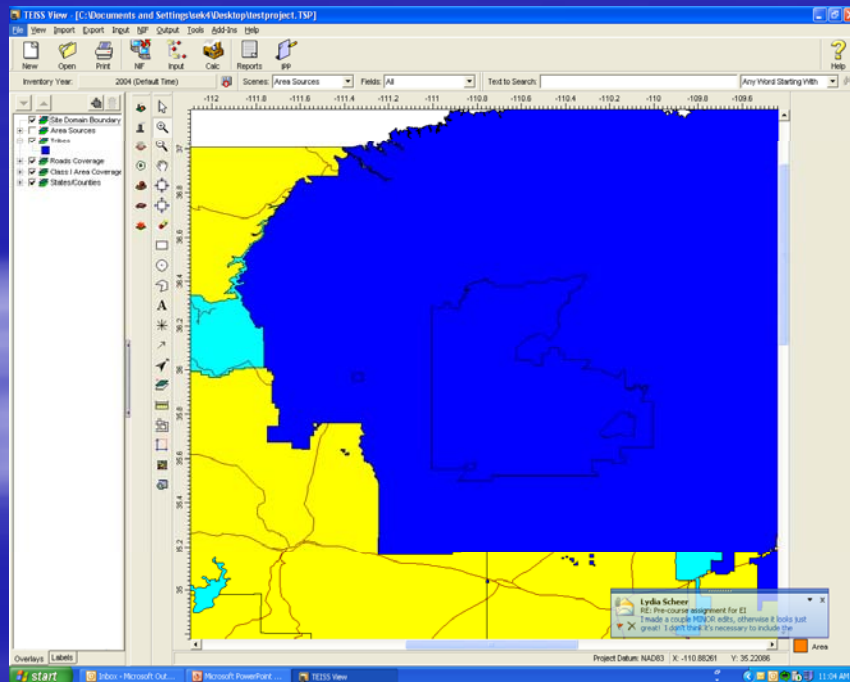
TEISS 2010

- The update is scheduled to be ready by mid-October.
 - The GIS interface is the same
 - The data entry interface has changed significantly.
 - Some of the data elements required have changed based on the new EIS format.
 - The reports function has more options.

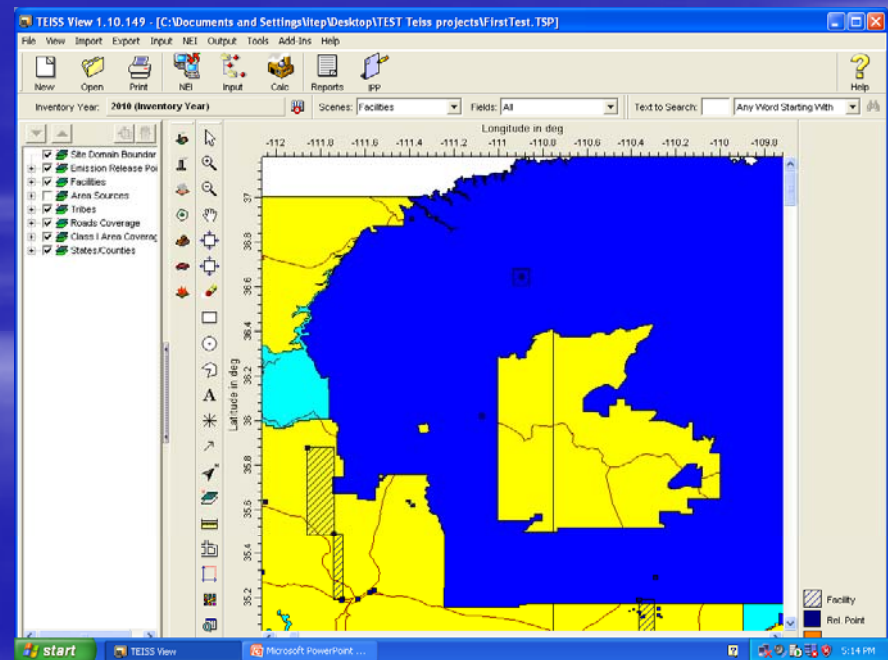
What's the same?

- The opening GIS interface looks the same.

TEISS V1.9



TEISS 2010

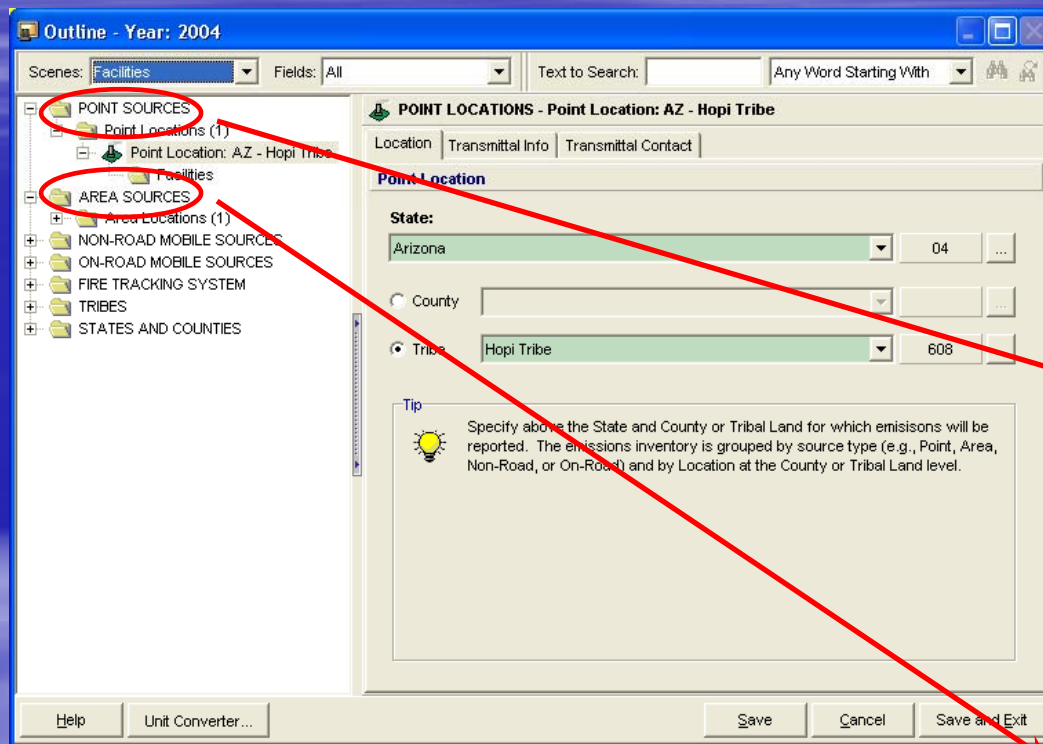


Opening Data Entry Interface

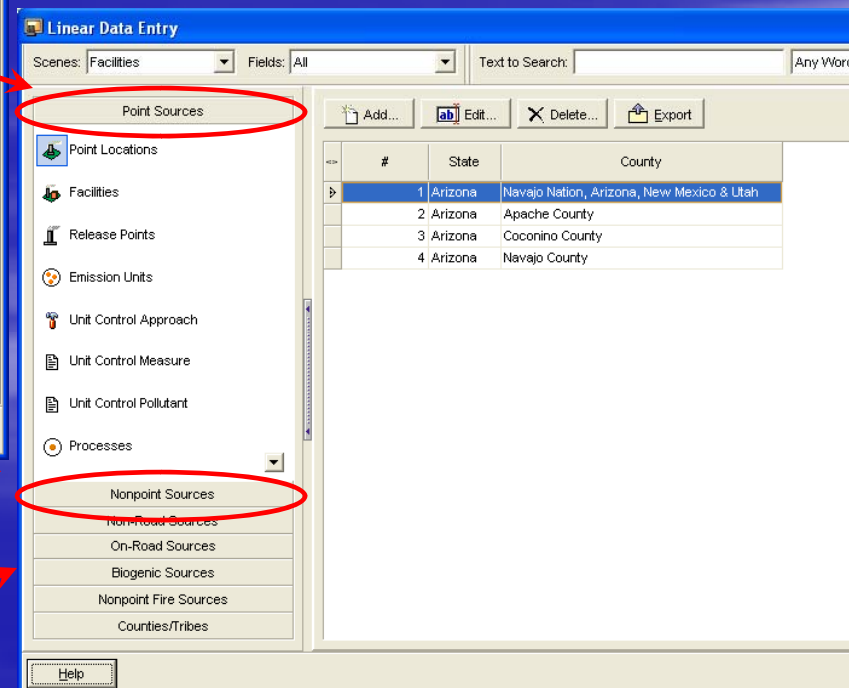
TEISS v1.9

The folder and “tree” listing
Has been changed to bars.

TEISS 2010



Click on a source-type bar
And open the list of data
Entry points for it.



Entering and Viewing Data

The screenshot shows the 'Linear Data Entry' software window. On the left is a sidebar with a tree view of data categories. The 'Facilities' item is selected and circled in red. The main area displays a list of facilities for the location 'Navajo Nation, Arizona, New Mexico & Utah - Arizona'. A table lists two facilities: 'Navajo Generating Station' and 'The Frybread Factory'. A red arrow points from a text box to the table, and a blue arrow points from another text box to the top of the window.

Scenes: Facilities Fields: All Text to Search: Any Word Starting With

Point Sources

- Point Locations
- Facilities**
- Release Points
- Emission Units
- Unit Control Approach
- Unit Control Measure
- Unit Control Pollutant
- Processes

Nonpoint Sources

- Non-Road Sources
- On-Road Sources
- Biogenic Sources
- Nonpoint Fire Sources
- Counties/Tribes

Point Locations: Navajo Nation, Arizona, New Mexico & Utah - Arizona 4 of 4

Add... Edit... Delete... New Facility Wizard... Export Search...

#	Facility Site Name	Facility Site Identifier	Facility Registry ID	Facil
1	Navajo Generating Station	1		
2	The Frybread Factory	2		

I've clicked on "Facilities", so the Facilities are listed.

The top of this window shows the Location these facilities are located in. Here, it's a test project I made for Navajo Nation.

Help Close

Entering and Viewing Data

Linear Data Entry

Scenes: **Facilities** Fields: **All** Text to Search: Any Word Starting With

Point Sources

- Point Locations
- Facilities**
- Release Points
- Emission Units
- Unit Control Approach

Nonpoint Sources

- Non-Road Sources
- On-Road Sources
- Biogenic Sources
- Nonpoint Fire Sources
- Counties/Tribes

Point Locations: **Southern Ute Indian Tribe - Colorado** 1 of 1

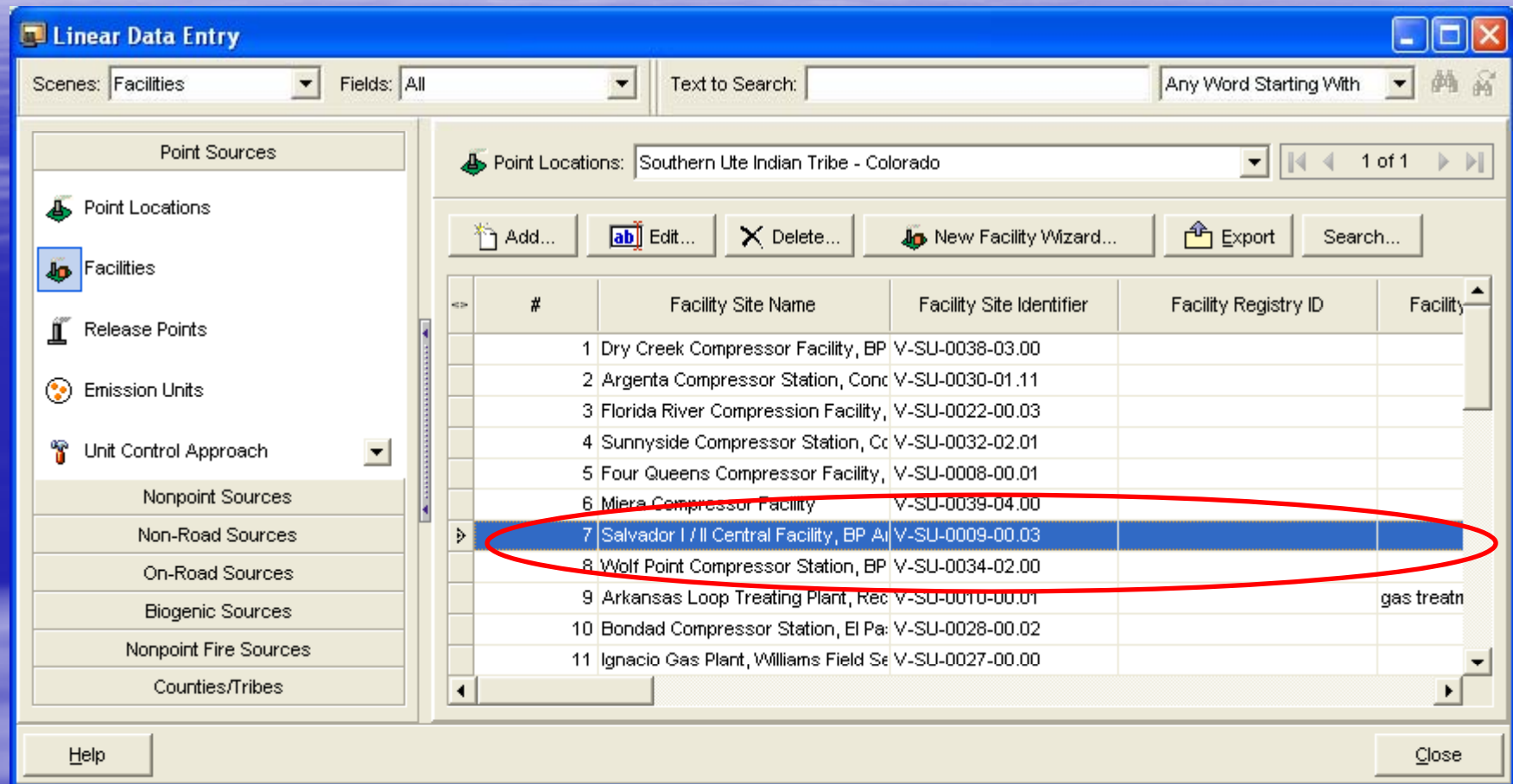
Add... Edit... Delete... New Facility Wizard... Export Search...

#	Facility Site Name	Facility Site Identifier	Facility Registry ID	Facility
1	Dry Creek Compressor Facility, BP	V-SU-0038-03.00		
2	Argenta Compressor Station, Conc	V-SU-0030-01.11		
3	Florida River Compression Facility,	V-SU-0022-00.03		
4	Sunnyside Compressor Station, Co	V-SU-0032-02.01		
5	Four Queens Compressor Facility,	V-SU-0008-00.01		
6	Miera Compressor Facility	V-SU-0039-04.00		
7	Salvador I / II Central Facility, BP A	V-SU-0009-00.03		
8	Wolf Point Compressor Station, BP	V-SU-0034-02.00		
9	Arkansas Loop Treating Plant, Rec	V-SU-0010-00.01		gas treatn
10	Bondad Compressor Station, El Pa	V-SU-0028-00.02		
11	Ignacio Gas Plant, Williams Field Se	V-SU-0027-00.00		

Help Close

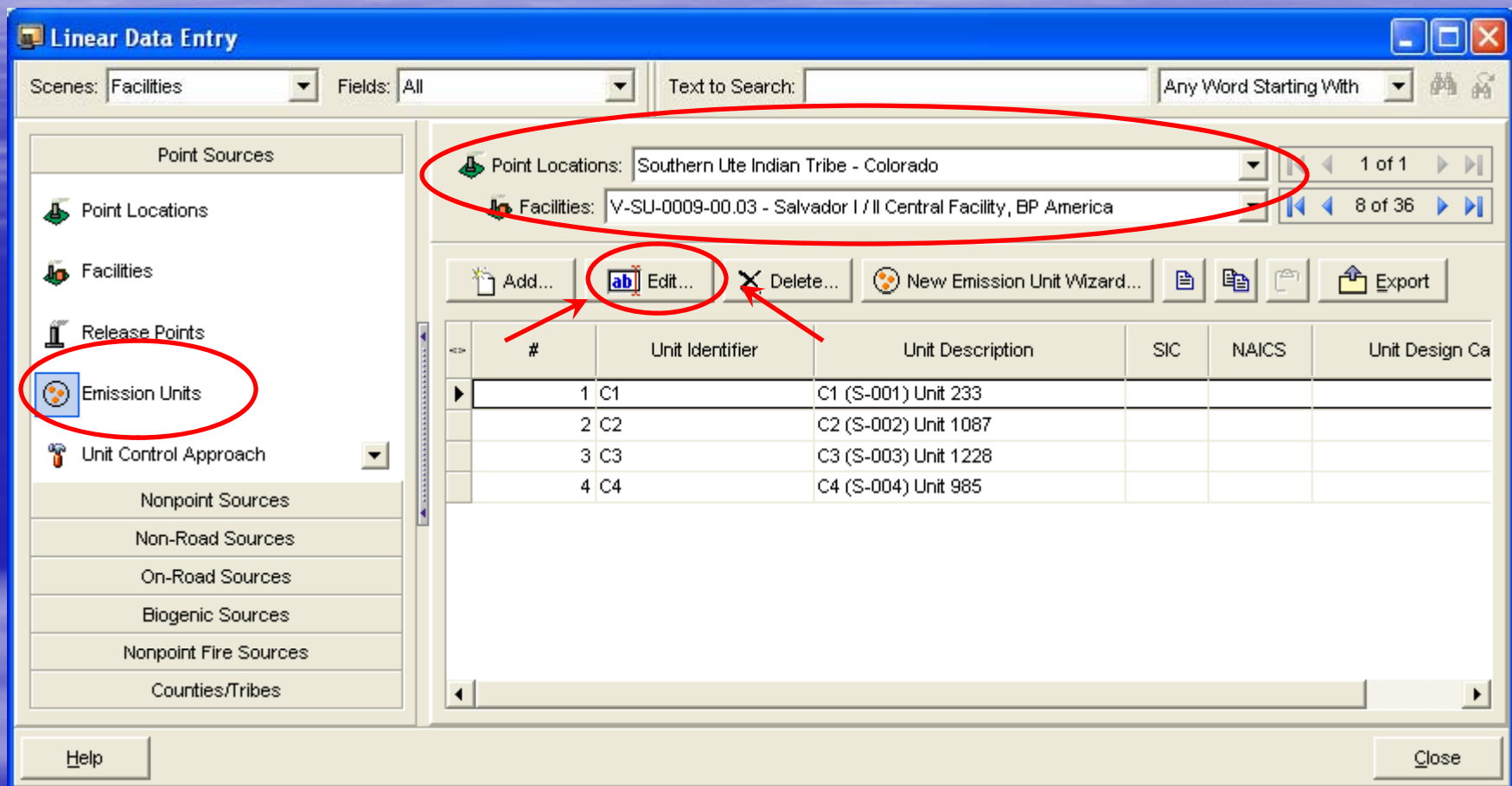
Another Example from the Southern Ute Indian Tribe.

Entering and Viewing Data



To see more data on a single facility, select it in the list.

Entering and Viewing Data



Click on the “Edit” button to view the data for selected Emission Unit.

The “**Edit**” button opens a data entry window.

Here, you can enter and change data.

This window is similar
To the data-entry window
In TEISS v1.9.

Process: 01 (31000203) - Oil and Gas Production

Emission Process Overview

Process Identifier: 01

Process Description: Compressor

Source Classification Code: Oil and Gas Production 31000203 ...

Natural Gas Production

Natural Gas Production /Compressors

Process Comment:

Aircraft Engine Type Code: ...

Last Emissions Year: ...

Process Activity (Seasonal Throughputs)

Percent Winter Activity: 25

Percent Spring Activity: 25

Percent Summer Activity: 25

Percent Fall Activity: 25

Total: 100.00 %

Regulation

Help Cancel OK

Entering and Viewing Data

Linear Data Entry

Scenes: Facilities Fields: All Text to Search: Any Word Starting With

Point Sources

- Process Control Approach
- Process Control Measure
- Process Control Pollutant
- Reporting Period
- Actual Emissions**
- Nonpoint Sources
- Non-Road Sources
- On-Road Sources
- Biogenic Sources
- Nonpoint Fire Sources
- Counties/Tribes

Point Locations: Southern Ute Indian Tribe - Colorado

Facilities: V-SU-0009-00.03 - Salvador I / II Central Facility, BP America

Emission Units: C1 - C1 (S-001) Unit 233

Processes: 01 (31000203) - Oil and Gas Production

Reporting Period: Annual [ENTIRE PERIOD]

Add... Edit... Delete... Export

#	Pollutant Code	Emission Estimation Method	Total Emissions	Emissions Unit of Measure
1	Nitrogen Oxides		16.67	TONS
2	Volatile Organic		13.69	TONS
3	Formaldehyde		5.39	TONS

Help Close

As in TEISS v1.9, the last level of data entry is the Emissions.

Entering and Viewing Data

Linear Data Entry

Scenes: Facilities Fields: All Text to Search: Any Word Starting With

Point Sources
Nonpoint Sources
Nonpoint Locations
Nonpoint Processes
Control Approach
Control Measure
Control Pollutant
Nonpoint Reporting Period
Nonpoint Emissions

Non-Road Sources
On-Road Sources
Biogenic Sources
Nonpoint Fire Sources
Counties/Tribes

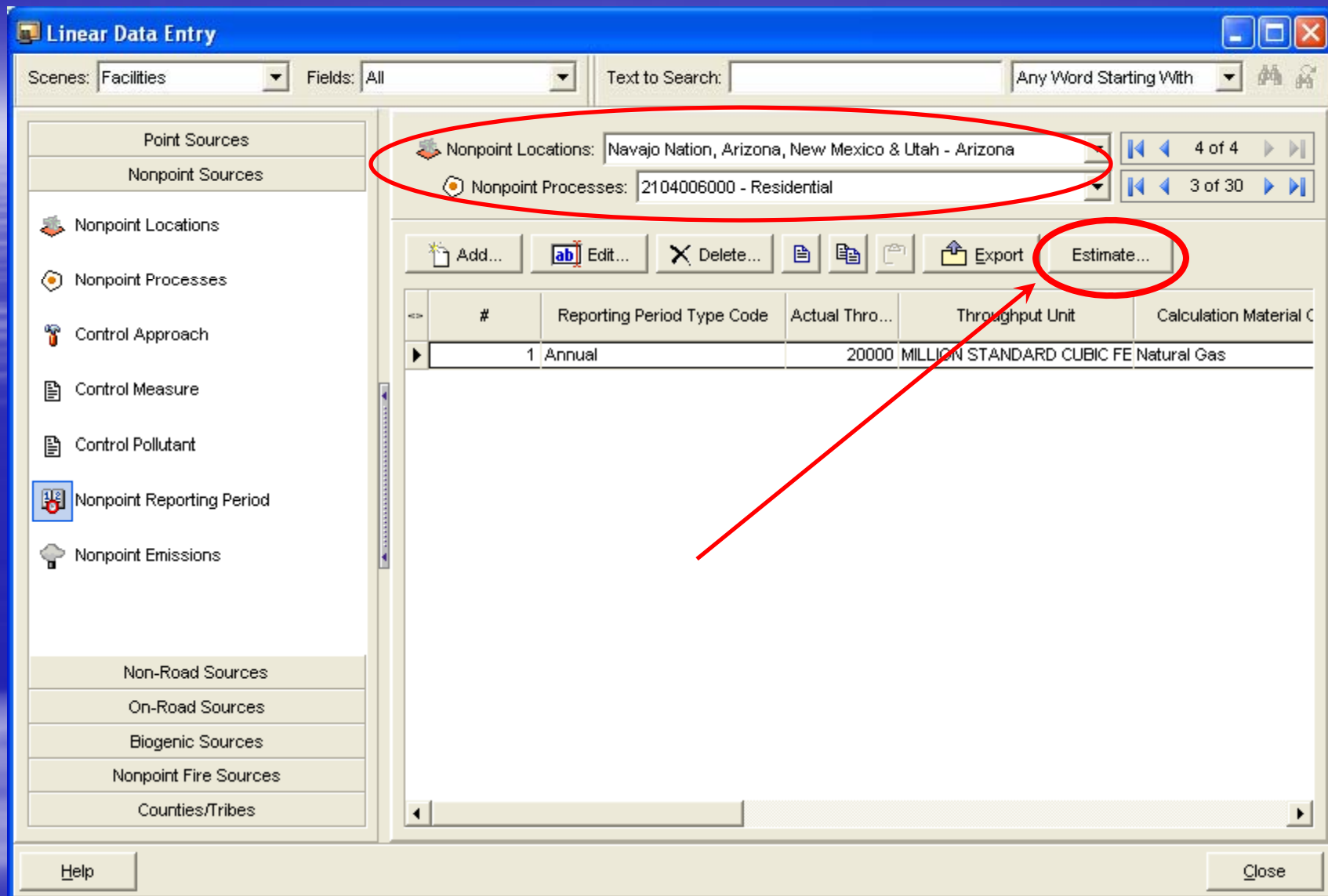
Nonpoint Locations: Navajo Nation, Arizona, New Mexico & Utah - Arizona 4 of 4

Add... Edit... Delete... Export

#	Process Description	Source Clas...	Commercial Marine Vessel Emissions Typ
1	Architectural coatings	2401001000	
2	Residential Natural Gas Combustion	2104006000	
3	wood residue combustion	2104010000	
4	Residential Fireplaces - Wood burning	2104008001	
5	Residential Wood Stoves	2104008010	
6	Animal Husbandry	2805002000	
7	Open Burning	2610000100	
8	open burning auto components	2610030000	
9	leaf burning	2610000110	
10	Brush burning	2610000400	
11	Open burning land clearing debris	2610000500	
12	Pesticide Application	2461020000	
13	Grain Harvesting	2801000005	
14	publicly owned treatment works	2630020000	
15	heavy construction operations	2311000000	
16	Aggregate Handling and Storage Piles	2325000000	
17	Structure Fires	2810030000	
18	Fertilizer Application	2801700001	

Help Close

Now, looking at the Nonpoint Source list.



At the “Reporting Period” level, you’ll find the Estimate button, which takes you to the calculators.

Linear Data Entry

Scenes: **Facilities** Fields: **All** Text to Search: **Any Word Starting With**

Point Sources

Nonpoint Sources

Nonpoint Locations

Nonpoint Processes

Control Approach

Control Measure

Control Pollutant

Nonpoint Reporting Period

Nonpoint Emissions

Non-Road Sources

On-Road Sources

Biogenic Sources

Nonpoint Fire Sources

Counties/Tribes

Nonpoint Locations: **Navajo Nation, Arizona, New Mexico & Utah - Arizona** 4 of 4

Nonpoint Processes: **2104006000 - Residential** 3 of 30

Nonpoint Reporting Period: **Annual [ENTIRE PERIOD]** 1 of 1

Add... Edit... Delete... Export

#	Pollutant Code	Emission Estimation Method	Total Emissions	Emi
1	2-Methylnaphthalene		0.48	POL
2	3-Methylcholanthrene		0.036	POL
3	7,12-Dimethylbenz[a]Anthracen		0.32	POL
4	Acenaphthene		0.036	POL
5	Acenaphthylene		0.036	POL
6	Anthracene		0.048	POL
7	Arsenic		4	POL
8	BARIUM		88	POL
9	Benz[a]Anthracene		0.036	POL
10	Benzene		42	POL
11	Benzo[a]Pyrene		0.024	POL
12	Benzo[b]Fluoranthene		0.036	POL
13	Benzo[g,h,i]Perylene		0.024	POL
14	Benzo[k]Fluoranthene		0.036	POL
15	Beryllium		0.24	POL

Help Close

The calculators work as they did in TEISS v1.9. After running one, it enters its results in the emissions fields. To **ADD** a new source...

This is what a blank data entry screen looks like.

The data entry itself is much the same as TEISS v1.9.

- Drop-down lists
- The 3-dot button to search for codes, etc.

Nonpoint Process: Nonpoint Process : 581

Emission Process Overview

Process Description:

Source Classification Code:

Commercial Marine Vessel Emissions Type:

Process Comment:

Process Activity (Seasonal Throughputs)

Percent Winter Activity:

Percent Spring Activity:

Percent Summer Activity:

Percent Fall Activity:

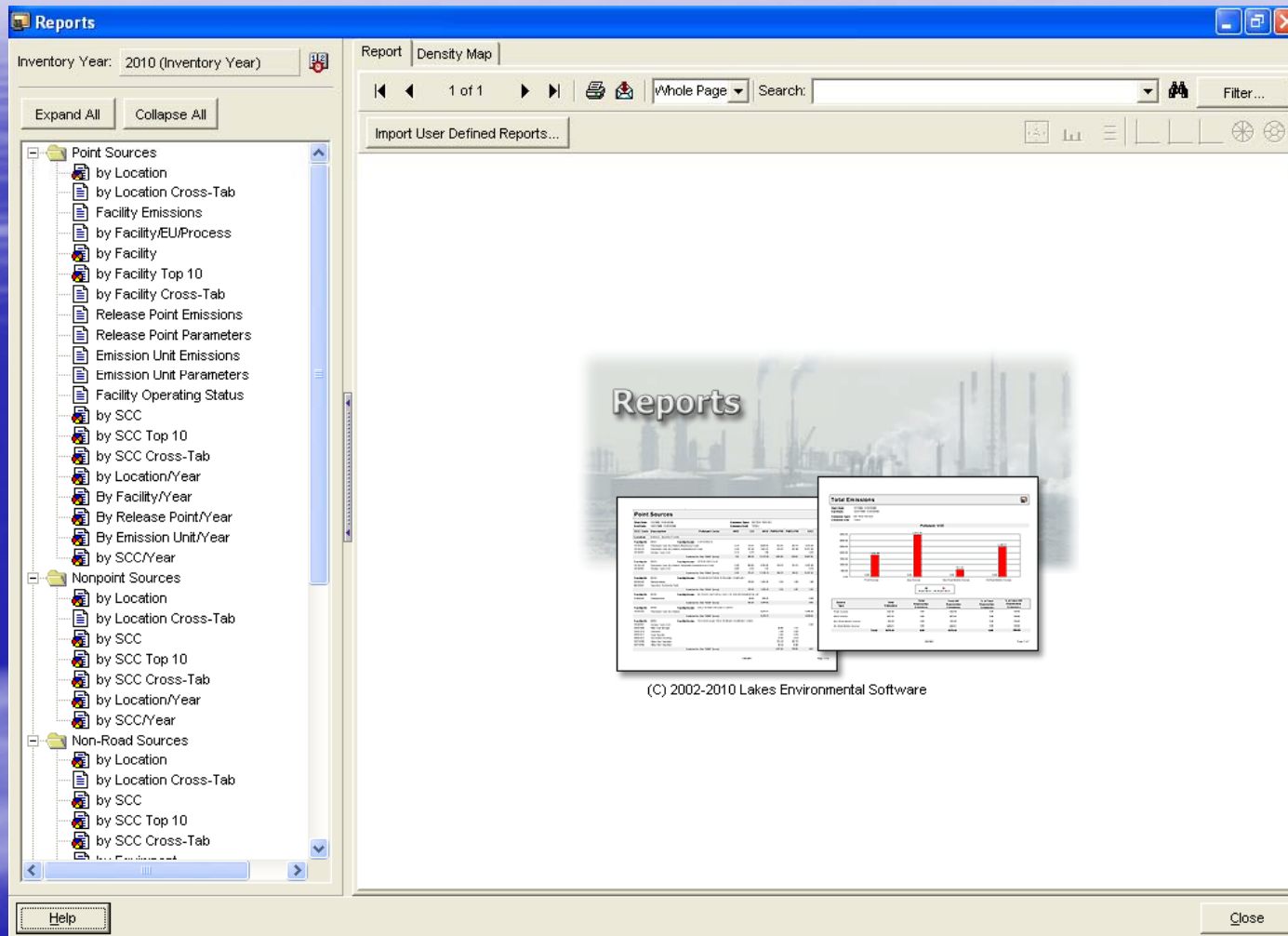
Total: 0.00 %

Regulation

Regulatory Code:

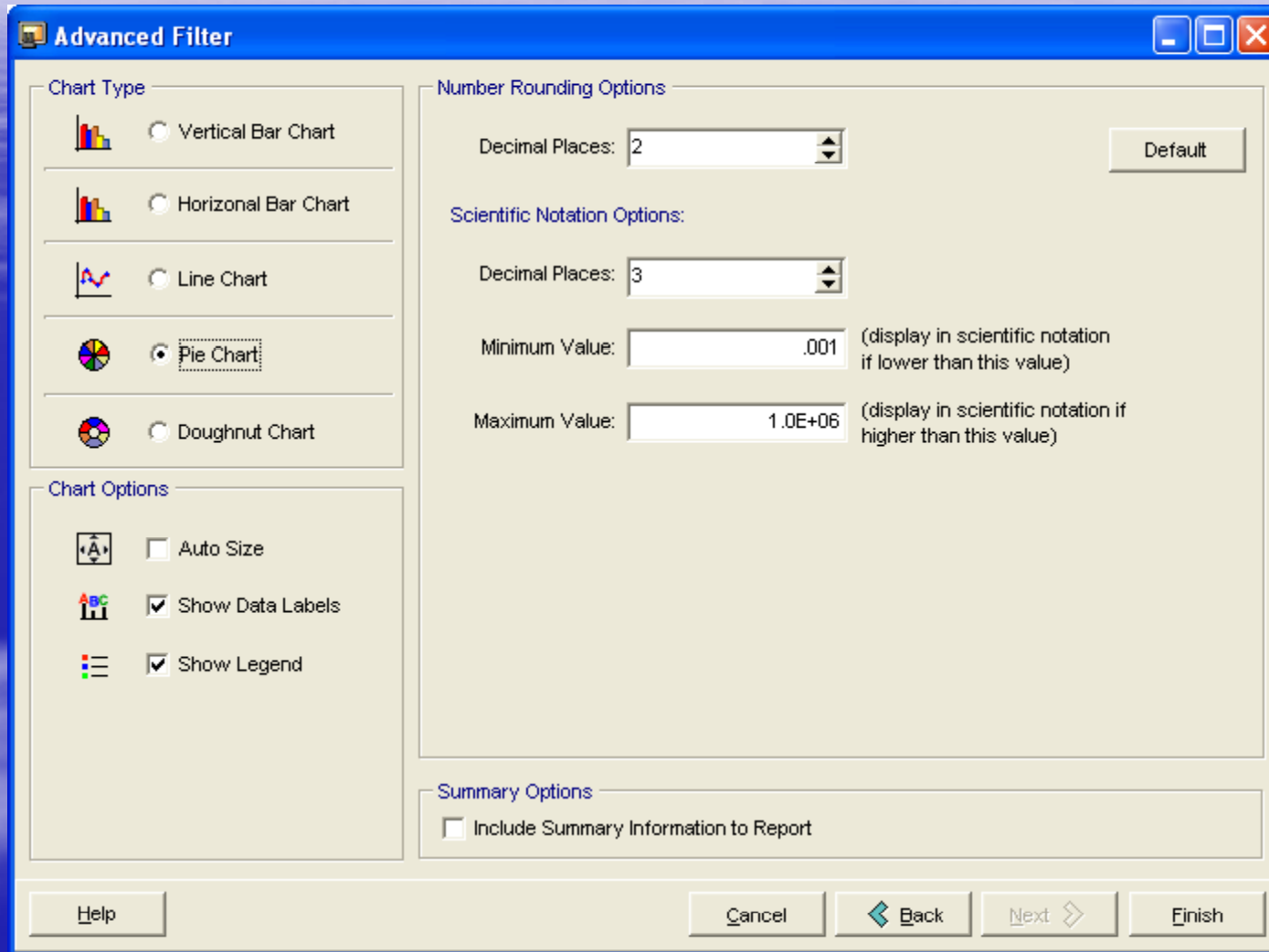
Regulatory Description:

Reports



There are more options for reports in TEISS 2010.

Reports



The image shows a software dialog box titled "Advanced Filter". It is divided into several sections for configuring report options. The "Chart Type" section on the left offers five choices: Vertical Bar Chart, Horizontal Bar Chart, Line Chart, Pie Chart (which is selected), and Doughnut Chart. Below this, the "Chart Options" section includes checkboxes for "Auto Size", "Show Data Labels", and "Show Legend", all of which are currently checked. The "Number Rounding Options" section on the right contains two sub-sections. The first, "Number Rounding Options", has a "Decimal Places" spinner set to 2 and a "Default" button. The second, "Scientific Notation Options", has a "Decimal Places" spinner set to 3, and two value thresholds: "Minimum Value" set to .001 and "Maximum Value" set to 1.0E+06, each with a descriptive note about when scientific notation will be used. At the bottom right, there is a "Summary Options" section with a checkbox for "Include Summary Information to Report". The bottom of the dialog features a row of five buttons: "Help", "Cancel", "Back", "Next", and "Finish".

Advanced Filter

Chart Type

- ☐ Vertical Bar Chart
- ☐ Horizontal Bar Chart
- ☐ Line Chart
- ☒ Pie Chart
- ☐ Doughnut Chart

Chart Options

- ☒ Auto Size
- ☒ Show Data Labels
- ☒ Show Legend

Number Rounding Options

Decimal Places: 2 Default

Scientific Notation Options:

Decimal Places: 3

Minimum Value: .001 (display in scientific notation if lower than this value)

Maximum Value: 1.0E+06 (display in scientific notation if higher than this value)

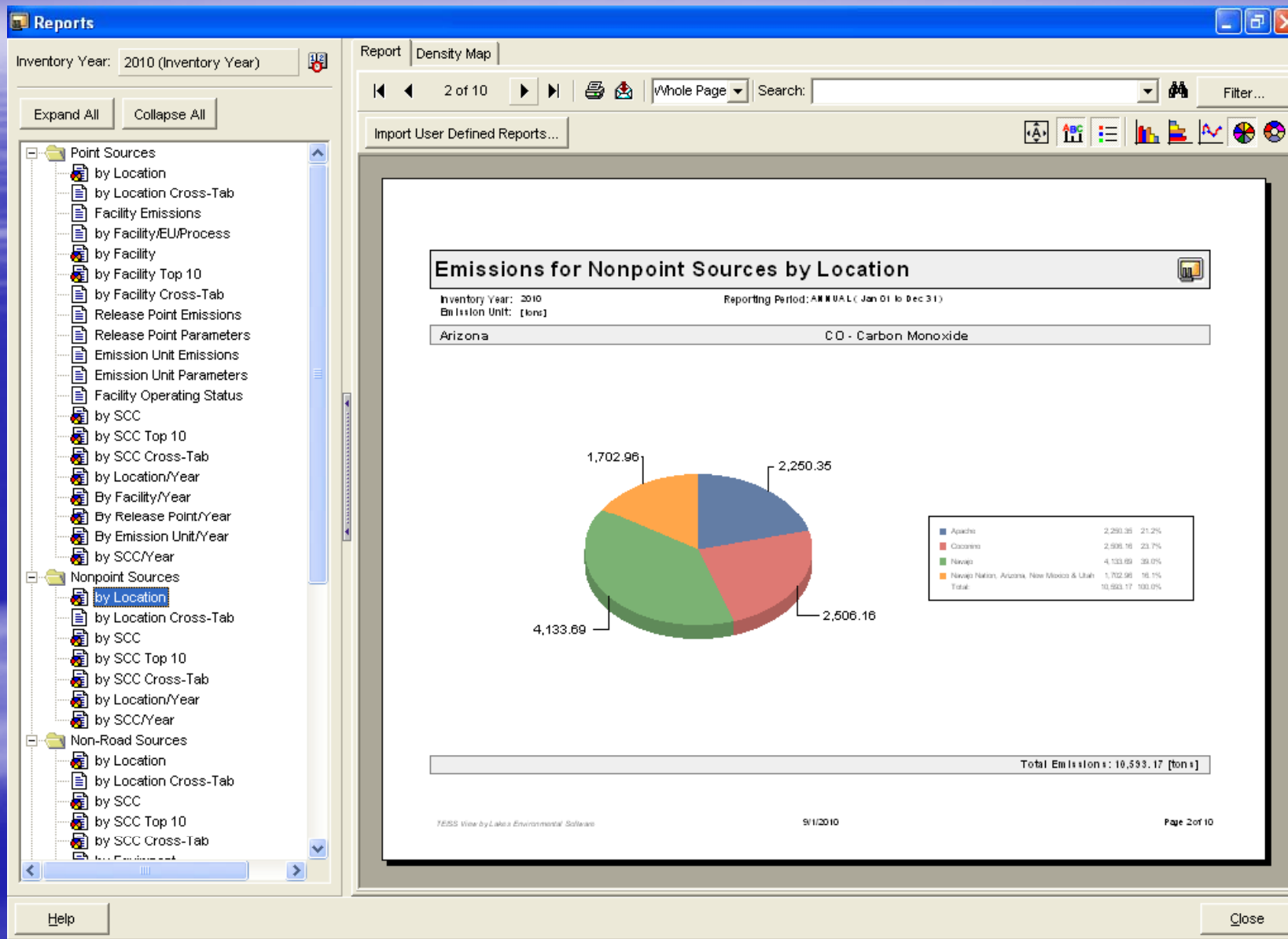
Summary Options

☐ Include Summary Information to Report

Help Cancel Back Next Finish

You decide what kind of graph you want, decimal places, labels, etc.

Reports



Reports

The screenshot shows the 'Reports' application window. On the left is a tree view of report categories. The main pane displays a report titled 'Emissions for Nonpoint Sources by Location' for the year 2010. The report includes a table with columns for Location / Pollutant, CO, NOX, PM10-PR1, SO2, and VOC. The table lists data for Apache, Cocconino, Navajo, Navajo Nation, and a Total row.

Point Sources

- by Location
- by Location Cross-Tab
- Facility Emissions
- by Facility/EU/Process
- by Facility
- by Facility Top 10
- by Facility Cross-Tab
- Release Point Emissions
- Release Point Parameters
- Emission Unit Emissions
- Emission Unit Parameters
- Facility Operating Status
- by SCC
- by SCC Top 10
- by SCC Cross-Tab
- by Location/Year
- By Facility/Year
- By Release Point/Year
- By Emission Unit/Year
- by SCC/Year

Nonpoint Sources

- by Location
- by Location Cross-Tab
- by SCC
- by SCC Top 10
- by SCC Cross-Tab
- by Location/Year
- by SCC/Year

Non-Road Sources

- by Location
- by Location Cross-Tab
- by SCC
- by SCC Top 10
- by SCC Cross-Tab

Emissions for Nonpoint Sources by Location

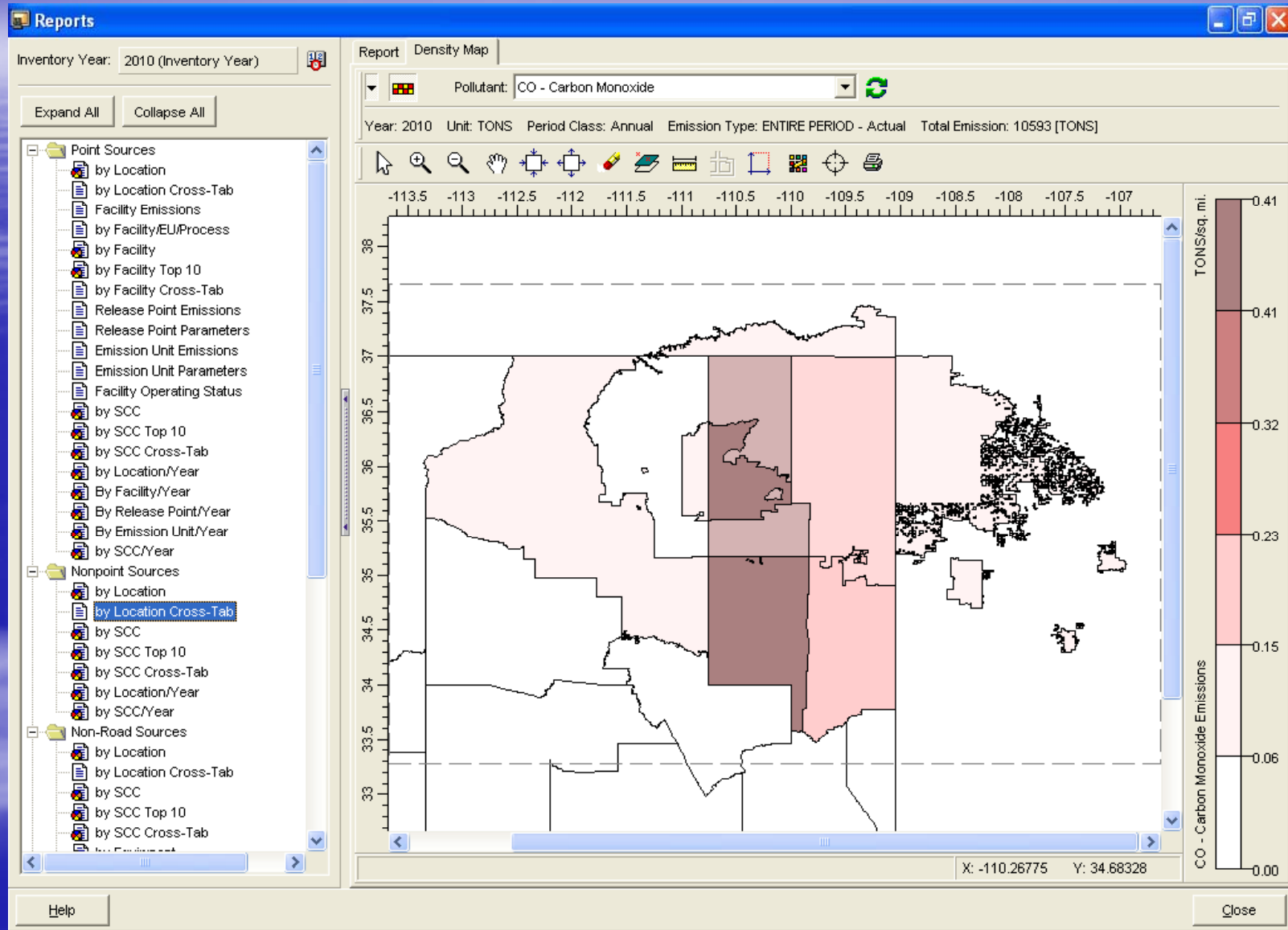
Inventory Year: 2010
 Emission Unit: (tons)
 Reporting Period: ANNUAL (Jan 01 to Dec 31)

Location / Pollutant	CO	NOX	PM10-PR1	SO2	VOC
Apache	2,250.3548	83.2931	5,243.1082	16.1647	1,256.3020
Cocconino	2,506.1645	241.1516	5,971.8635	117.2871	1,783.8506
Navajo	4,133.6501	174.9614	12,442.2659	44.4874	1,962.8913
Navajo Nation, Arizona, New Mexico & Utah	1,702.9585	1,124.4641	245.5429	224.1575	947.8401
Total	10,593.1679	1,629.6702	31,906.7806	404.0966	5,956.8840

Page 1 of 1

There are several new reports available that we think are handy.

Reports



The emission density maps are new.

TEISS 2010

- Should be available to tribes by late-October.
- Other changes include:
 - Different and new data elements, as required by new EIS format.
 - Creates files ready to submit to EIS. The old NIF format is OUT.