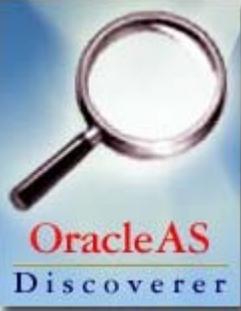


Discoverer Web for AQS

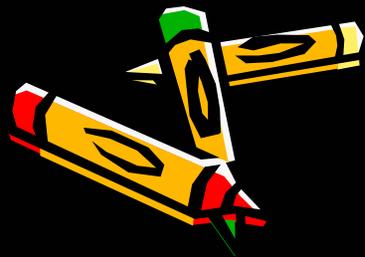
Bonnie Johnson
2004 AQS Conference
Clearwater, FL





Goals for this class

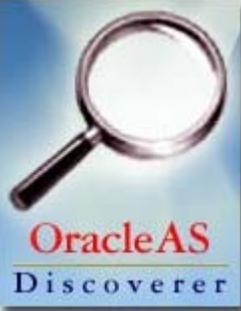
- Learn what Discoverer is and how it works with the AQS database
- Learn how to connect to aqsprod from Discoverer Plus
- Learn how to open a workbook from the database
- Learn how to save a copy of a workbook
- Learn about the main features of a workbook, such as worksheets, items, and page items
- Define new default worksheet settings
- Create your own worksheet in a new workbook
- Learn where to go for help with additional features



Air Quality System (AQS)

- A repository for the Air Quality information reported by regional, state, local, and tribal agencies in accordance with Federal regulations
- A relational database named "aqspod" on an EPA server RDBMS





What is Discoverer?

- A business intelligence tool for ad hoc queries, reporting, analysis, and Web publishing from Oracle Corporation
- A retrieval only tool that works on a RDBMS whether it's designed for online transaction processing (OLAP) or as a data warehouse
- Designed to give non-technical users immediate access to information and the ability to share results



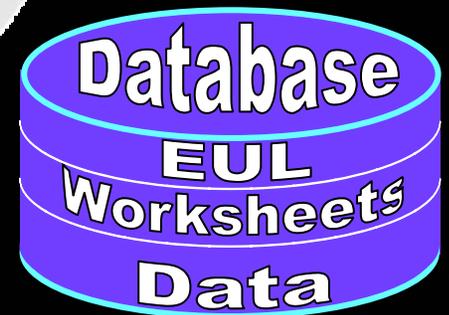
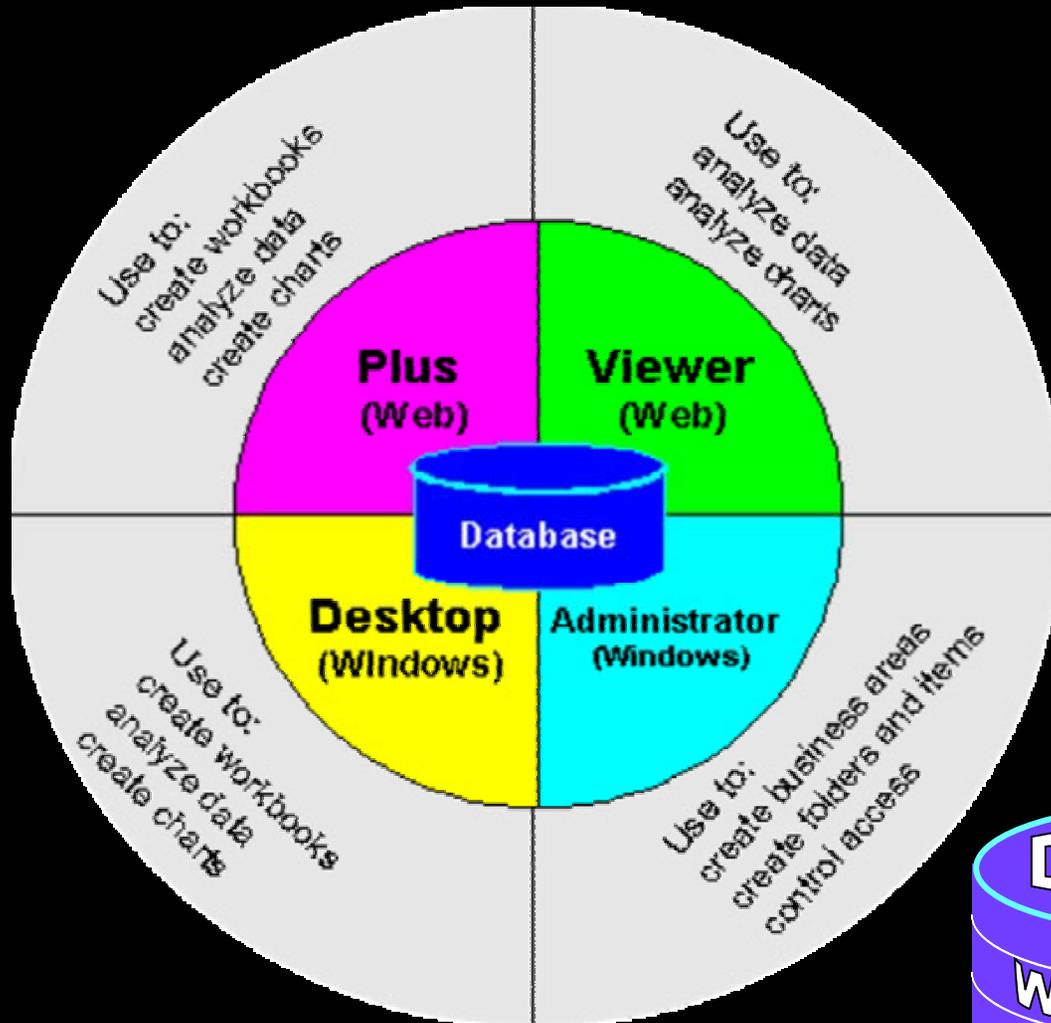
Why does Oracle think you'll want to use Discoverer?

Discoverer's powerful and intuitive user interface enables you to:

- find data that you know is in the database
- access data quickly without waiting for the computer to search through the entire database
- view data in a familiar spreadsheet-style format that is easy to read and understand
- analyze data using a variety of powerful techniques including:
 - drilling up and down through data
 - finding data that meets certain conditions or that falls within ranges that you specify
 - sorting data
 - comparing results from "what if" scenarios
- prepare reports showing the results of your analysis
- share data with others, and in other applications (e.g. Microsoft Excel)



Components of Discoverer



Requirements for End Users



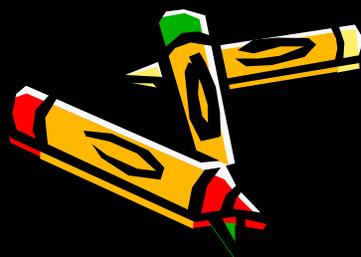
Discoverer Plus:

- Java-enabled Web browser* Java Virtual Machine (JVM) such as Oracle JInitiator.

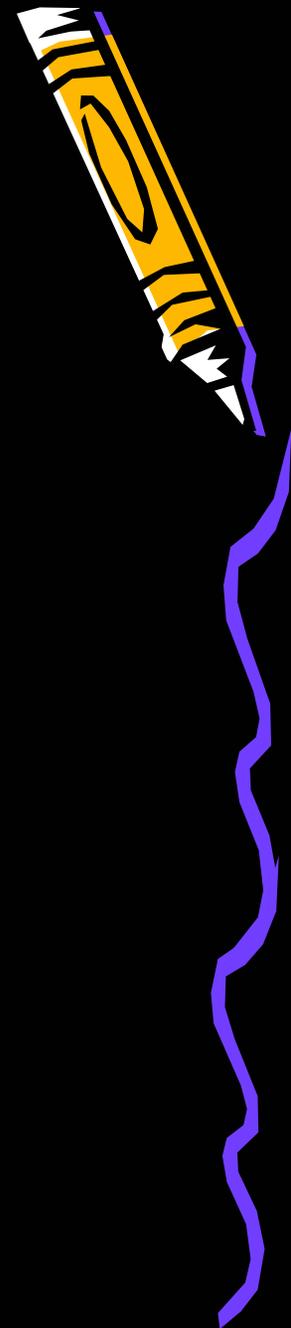
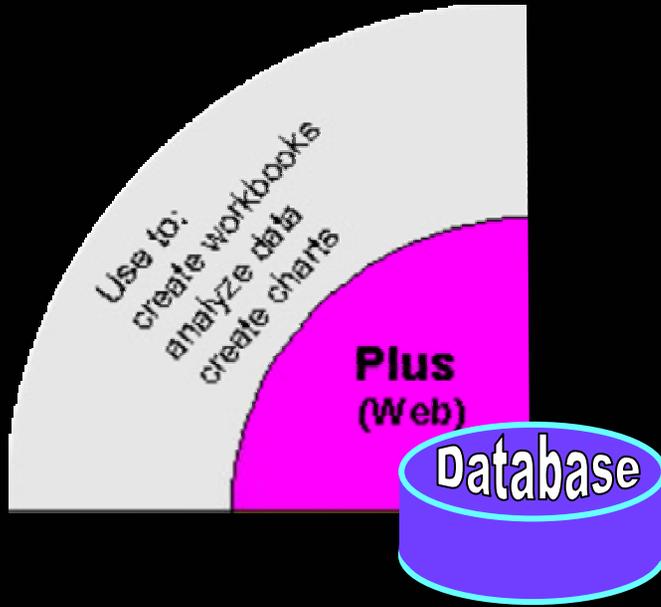
Discoverer Viewer:

- HTML through a Web browser*
- JavaScript must be enabled in the browser.

*Internet Explorer 5.5 or later or Netscape Navigator version 4.7 or later



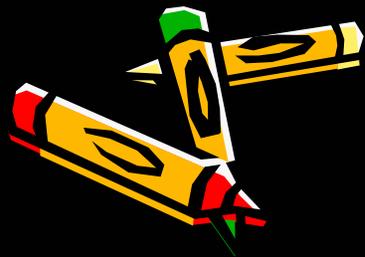
Concentrate on Plus



Key Terminology

Tables	⇒	Folders
Columns	⇒	Items
Rows	⇒	Records
Queries	⇒	Worksheets

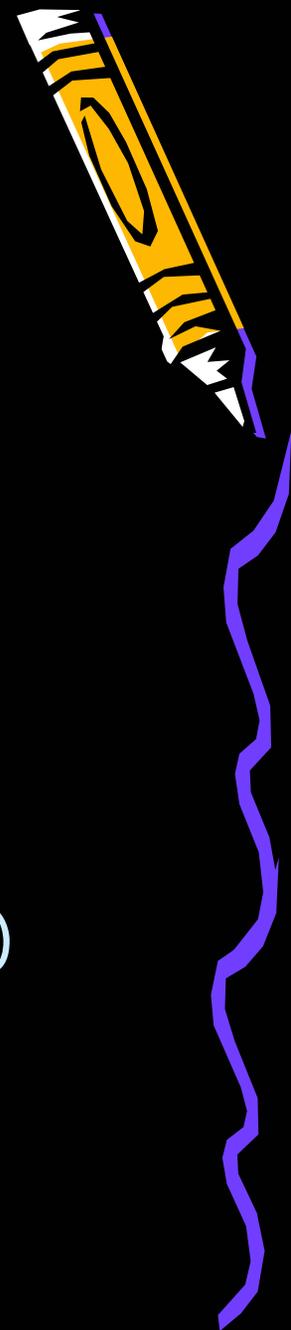
Group of worksheets = Workbook
Grouping of Tables = Business Area
Interface to database = End User Layer



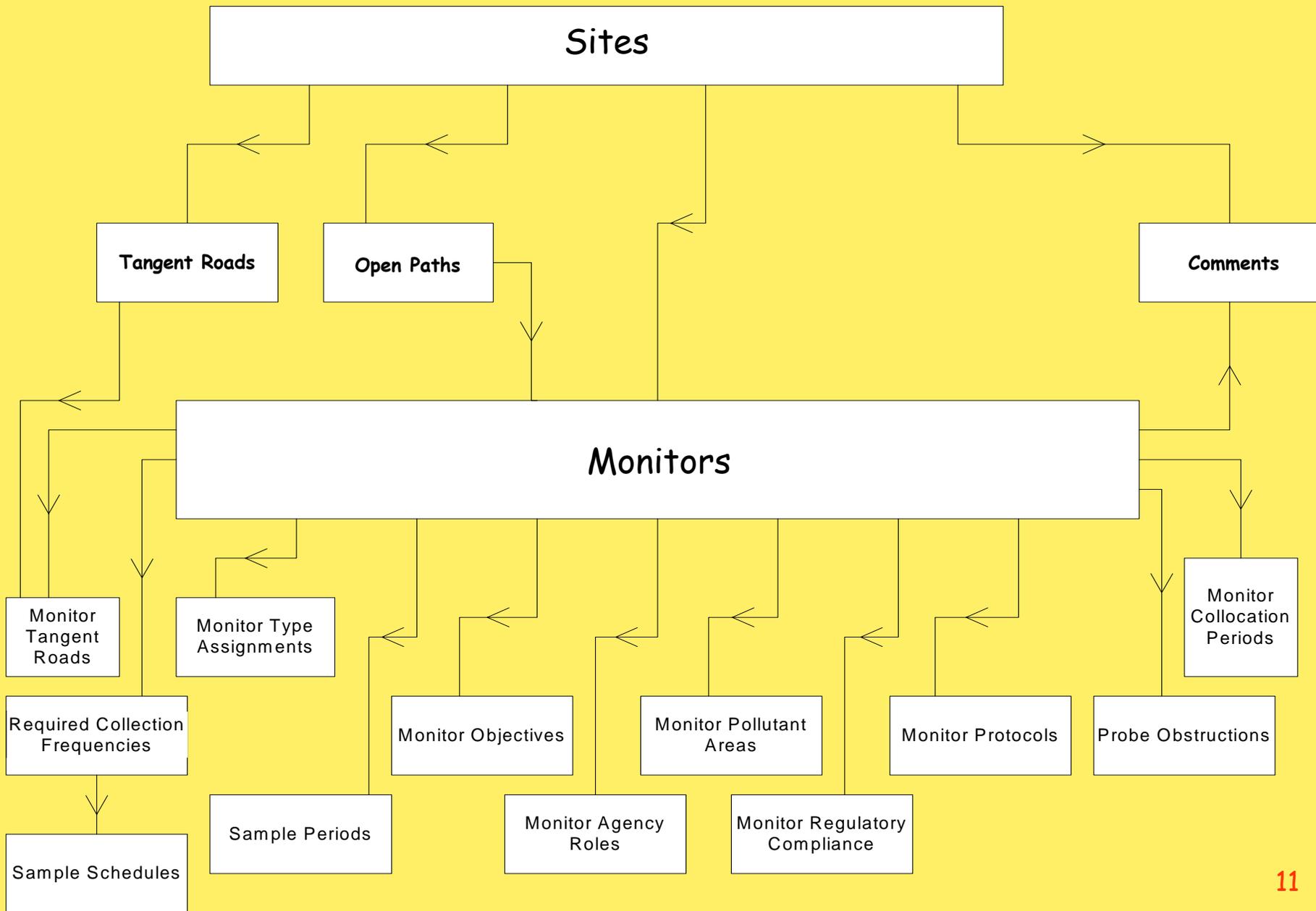
Your Business Area

AQS Basic

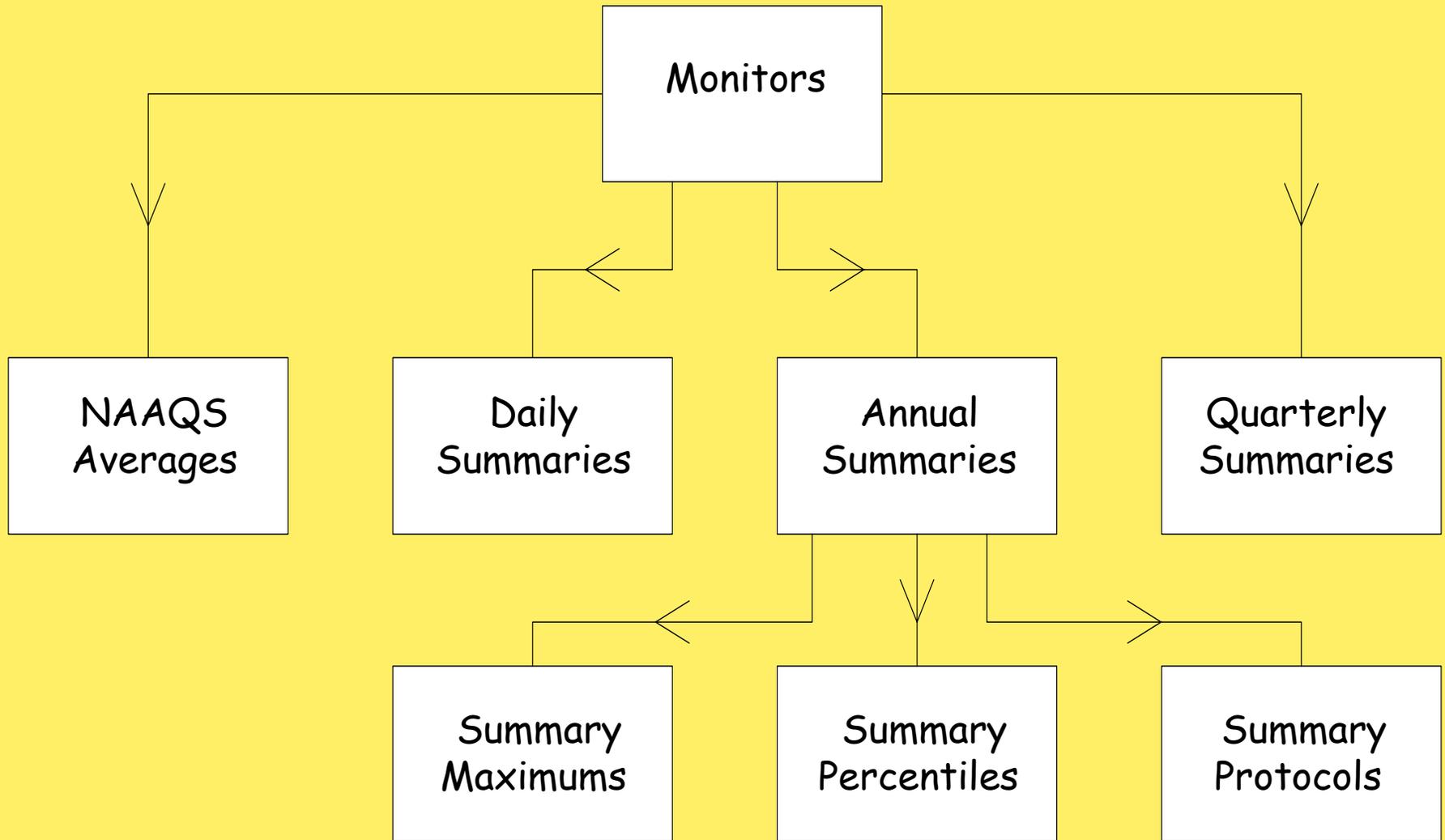
- Folders are composed primarily of views (i.e., combinations of tables) in the aqspod database described in the Data Dictionary
- Reference tables (e.g., States, Parameters)



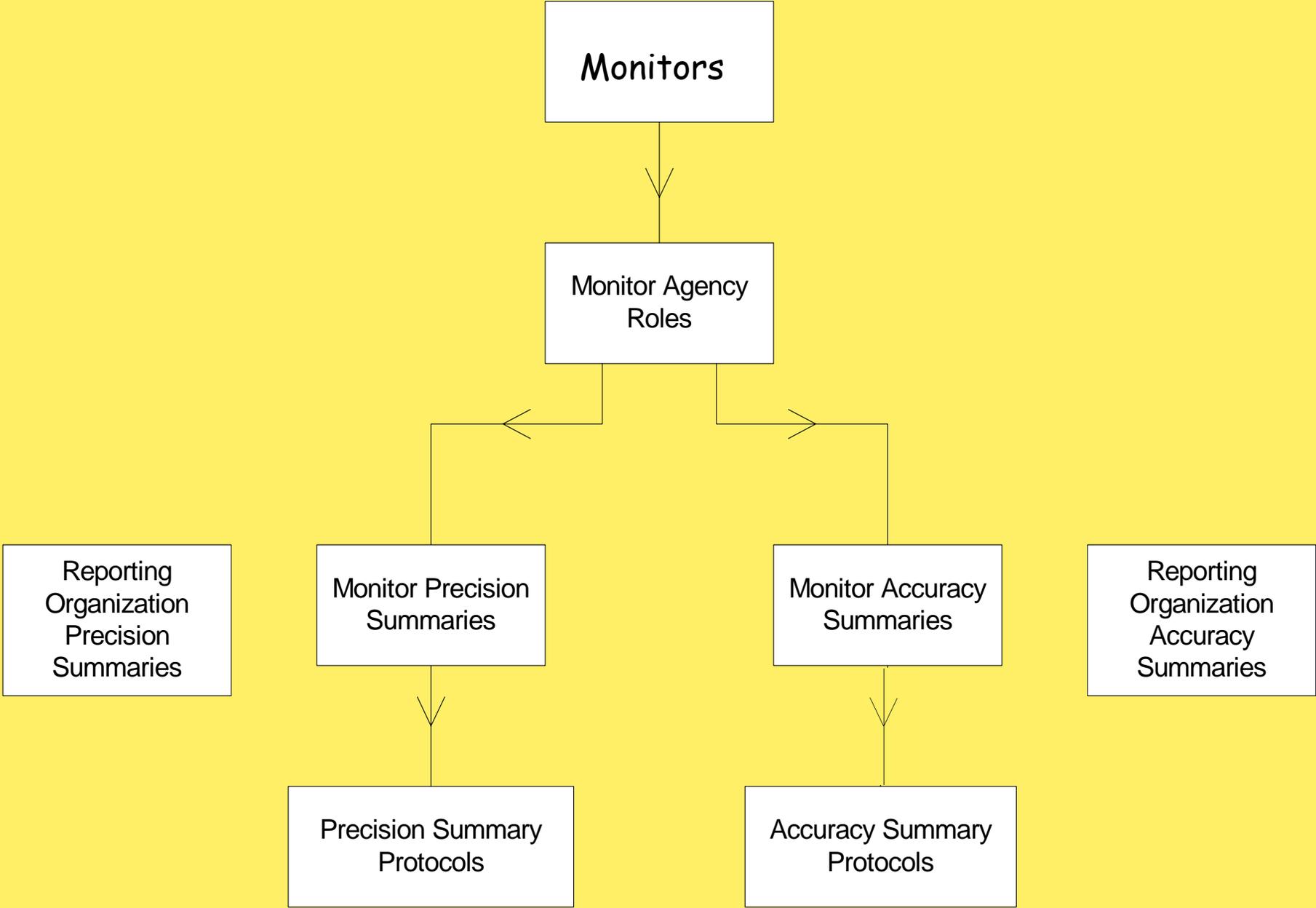
Data Model for AQS



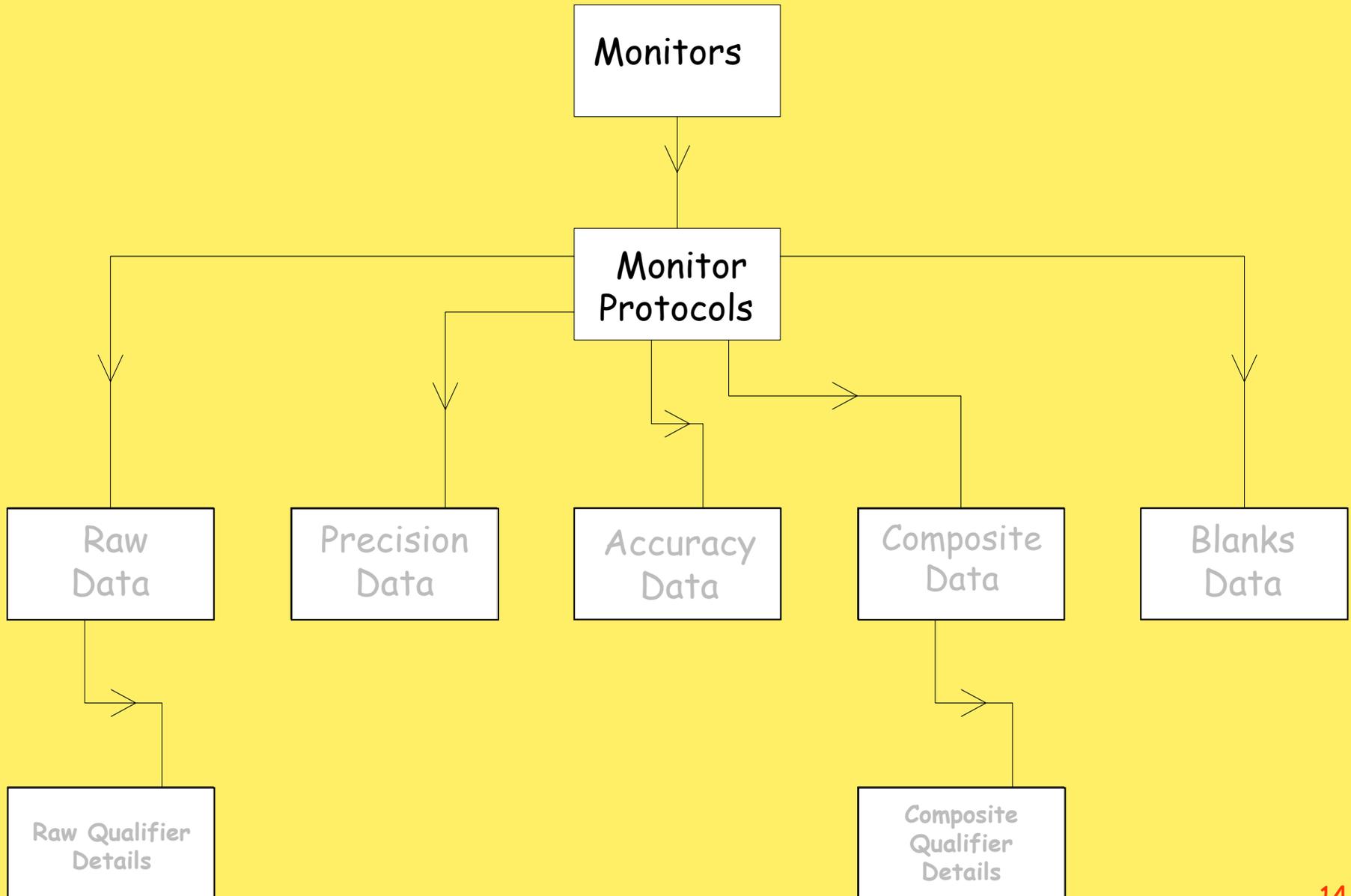
Data Model for AQS, cont'd



Data Model for AQS, cont'd



Data Model for AQS, cont'd



Starting Discoverer Plus

URL: <https://iasint.rtpnc.epa.gov/discoverer/plus>

Oracle Application Server

Discoverer Plus

[Help](#)

Connect to Discoverer Plus

To connect to OracleAS Discoverer, click the corresponding Connection in the table below. If the connection you are looking for isn't in the list, click Create Connection.

[Create Connection](#)

Details	Connection	Description	Update	Delete
(No connections found.)				

[Help](#)

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About Discoverer Plus Version 9.0.4.43.15
Oracle Technology Network

Create a Connection

Oracle Application Server
Discoverer Plus

Create Connection: Connection Details

Enter a connection name that is easy to remember. Add a description for this connection, followed by the database account details. Cancel Apply

Connection Name and Description

Connection Name

Connection Description

Locale

Database Account Details

User Name

Password

Database

Cancel Apply

[Help](#)

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About Discoverer Plus Version 9.0.4.43.15
Oracle Technology Network

Create a Connection, cont'd

Oracle Application Server
Discoverer Plus

Create Connection: Connection Details

Enter a connection name that is easy to remember. Add a description for this connection, followed by the database account details. Cancel Apply

Connection Name and Description

Connection Name

Connection Description

Locale

Database Account Details

User Name

Password

Database

Cancel Apply

[Help](#)

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About Discoverer Plus Version 9.0.4.43.15
Oracle Technology Network

Connection Created



OracleAS Discoverer - Microsoft Internet Explorer

Address: https://iasint.rtpnc.epa.gov/discoverer/plus?

Oracle Application Server Discoverer Plus

Connect to Discoverer Plus

To connect to OracleAS Discoverer, click the corresponding Connection in the table below. If the connection you are looking for isn't in the list, click Create Connection.

Create Connection

Details	Connection	Description	Update	Delete
Show	aqsprod	EPA's Air Quality System		

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About Discoverer Plus Version 9.0.4.43.15
Oracle Technology Network

OracleAS Discoverer - Microsoft Internet Explorer

Address: https://iasint.rtpnc.epa.gov/discoverer/plus?&_plus=true&cn=us_a145&us=%7E27B05%7E27&db=aqsprod&m=discoverer&eul=EUL_OWNER&nsl=en-us&_plus=true&plus_Locale=en-us

Oracle Application Server Discoverer Plus

You are connecting to OracleAS Discoverer

Connection Name: aqsprod

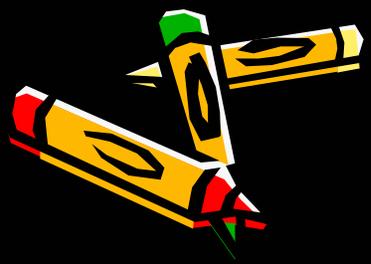
Language: English (United States)

Password:

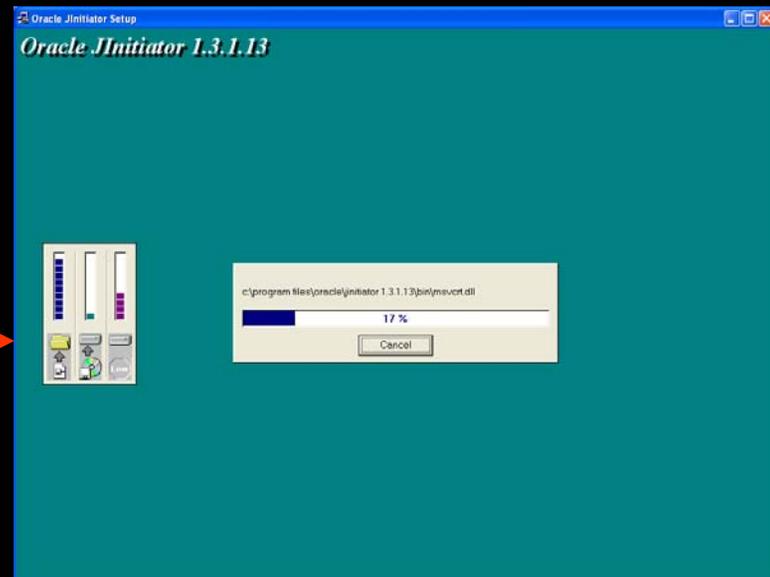
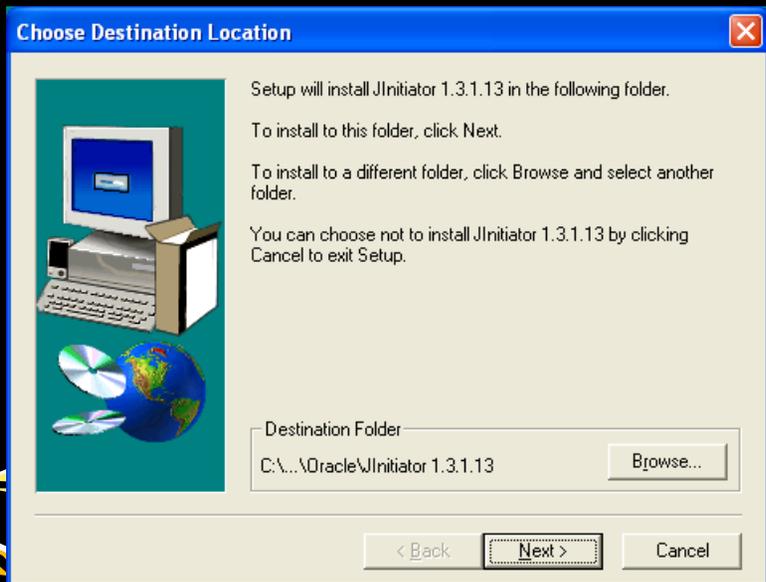
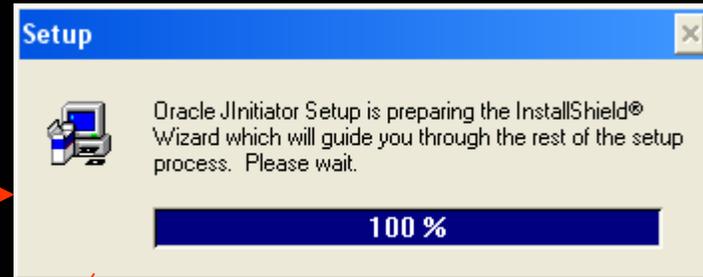
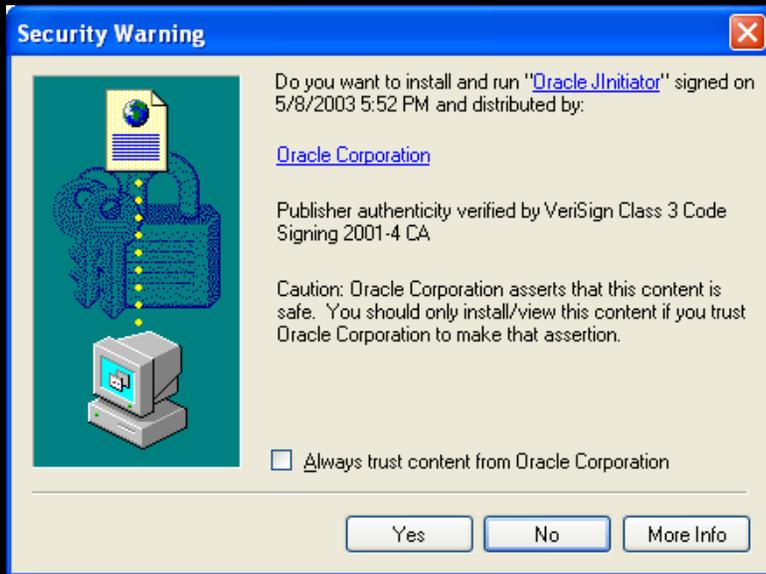
Connect

Help

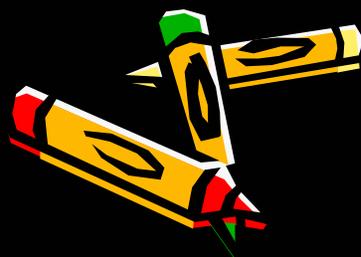
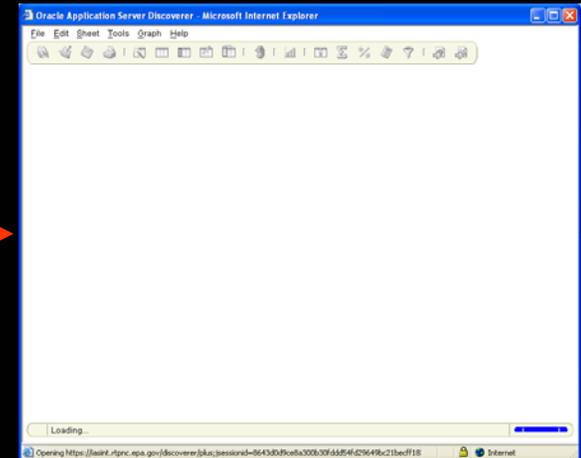
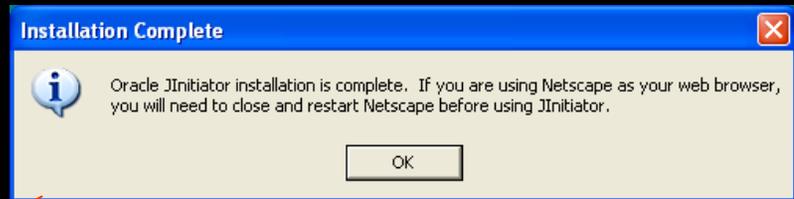
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About Discoverer Plus Version 9.0.4.43.15
Oracle Technology Network



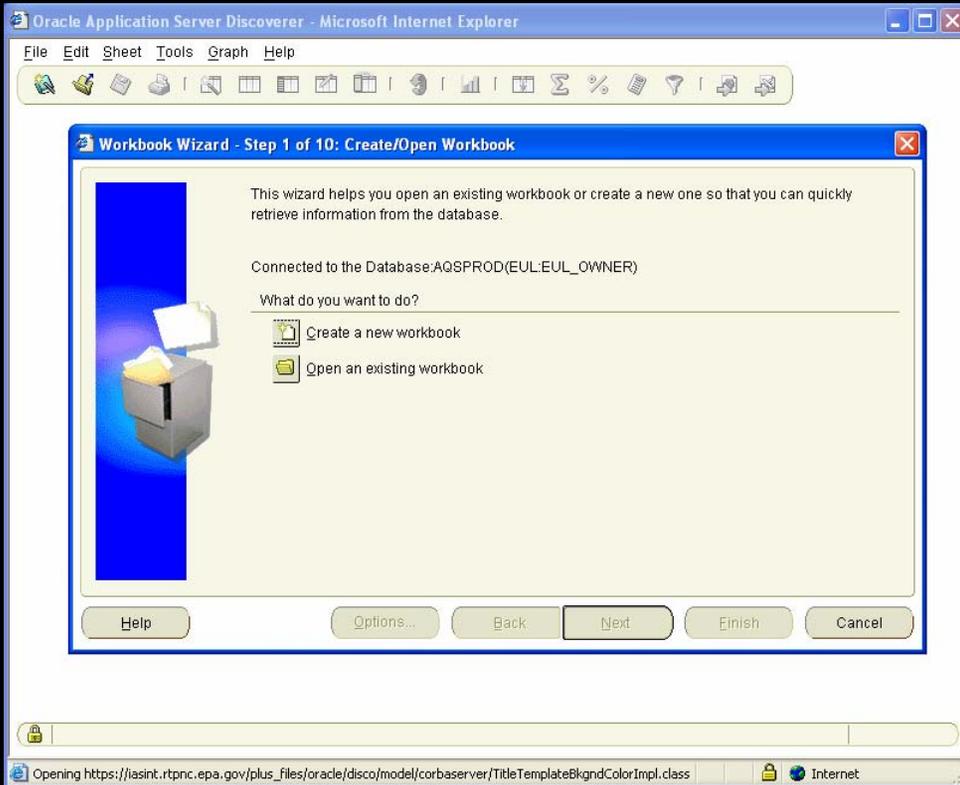
Starting Discoverer for the 1st time on your PC



Starting Discoverer for the 1st time on your PC, cont'd



Successful connection



Exercise 1

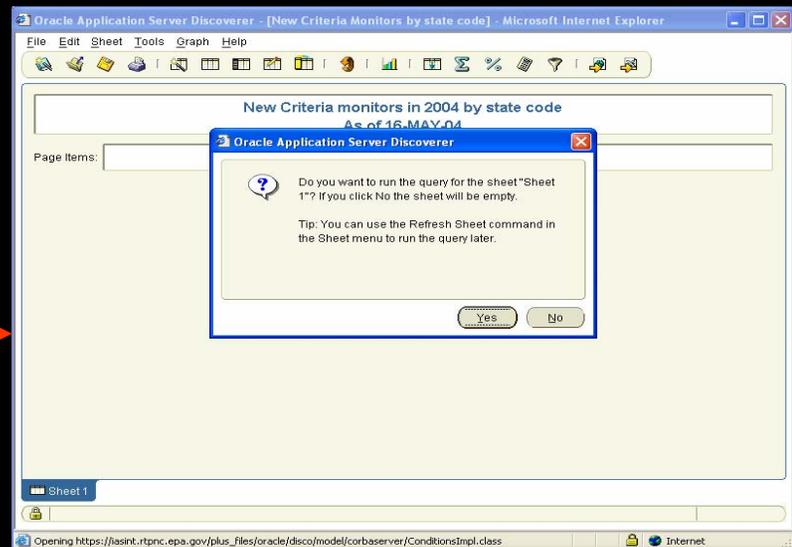
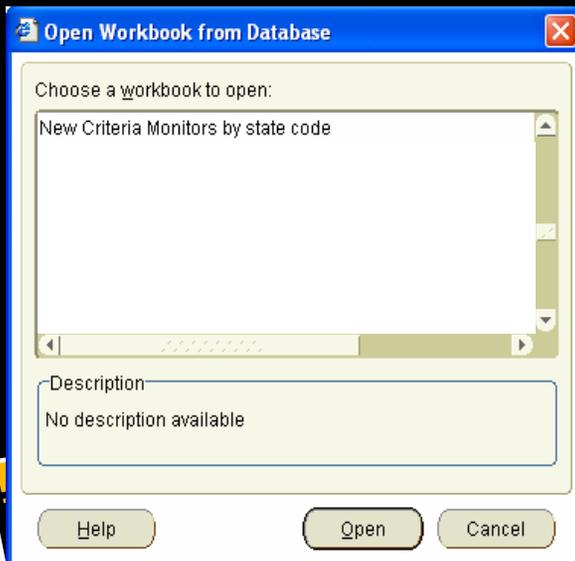
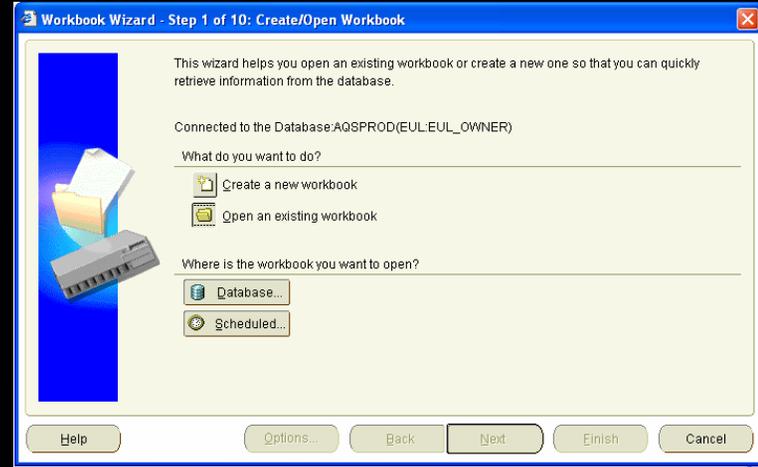
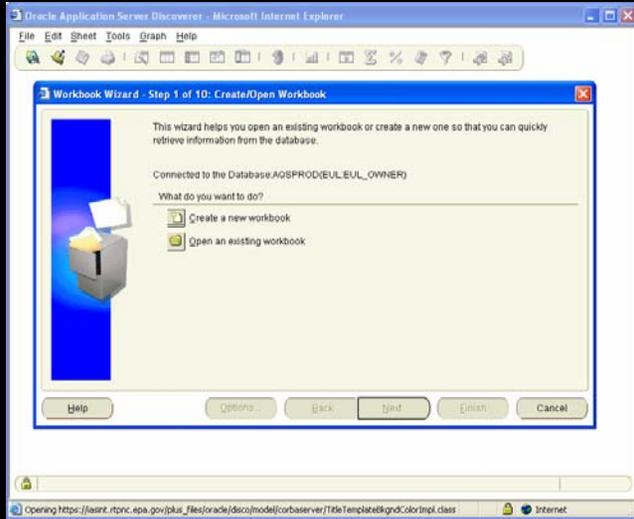
1. Launch a web browser
2. Go to <https://iasint.rtpnc.epa.gov/discoverer/plus>
3. Create your connection
4. Connect

Exercise 1

1. Launch a web browser
2. Go to
<https://iasint.rtpnc.epa.gov/discoverer/plus>
3. Create your connection
4. Connect



Opening an Existing Workbook



1st page results

Oracle Application Server Discoverer - [New Criteria Monitors by state code] - Microsoft Internet Explorer

File Edit Sheet Tools Graph Help

New Criteria monitors in 2004 by state code
As of 16-MAY-04

	State Abbr	State Code	County Code	Site ID	Parameter Code	POC	Parameter Desc	Date Sampling Began
1	AL	01	121	0003	44201	1	Ozone	01-MAR-2004
2			073	1010	88101	1	Pm2.5 - Local Conditions	01-JAN-2004
3			073	1010	88101	2	Pm2.5 - Local Conditions	01-JAN-2004
4								Count: 3
5	AK	02	232	0002	88101	1	Pm2.5 - Local Conditions	05-JAN-2004
6			232	0001	88101	1	Pm2.5 - Local Conditions	03-FEB-2004
7								Count: 2
8	AZ	04	021	3012	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
9								Count: 1
10	CA	06	089	0008	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
11			027	0026	81102	1	Pm10 Total 0-10um Stp	28-JAN-2004
12			027	0022	81102	1	Pm10 Total 0-10um Stp	06-FEB-2004
13								Count: 3
14	CO	08	077	0018	42101	1	Carbon Monoxide	29-JAN-2004
15			077	0018	81102	1	Pm10 Total 0-10um Stp	15-JAN-2004
16			099	0004	81102	1	Pm10 Total 0-10um Stp	19-MAR-2004
17			099	0005	81102	1	Pm10 Total 0-10um Stp	19-MAR-2004
18			077	0017	88101	2	Pm2.5 - Local Conditions	01-JAN-2004
19								Count: 5
20	CT	09	009	0027	42401	1	Sulfur Dioxide	05-FEB-2004
21			009	0027	42602	1	Nitrogen Dioxide	05-FEB-2004
22			009	0027	44201	1	Ozone	01-APR-2004
23			009	0027	81102	1	Pm10 Total 0-10um Stp	24-APR-2004
24			001	0010	88101	3	Pm2.5 - Local Conditions	05-JAN-2004
25			009	0027	88101	3	Pm2.5 - Local Conditions	09-MAR-2004

Page 1 of 7 25 Rows per Page

Sheet 1

Opening https://iasint.rtpnc.epa.gov/plus_files/oracle/disco/image/drill.gif Internet

Last page results

Oracle Application Server Discoverer - [New Criteria Monitors by state code] - Microsoft Internet Explorer

File Edit Sheet Tools Graph Help

New Criteria monitors in 2004 by state code
As of 16-MAY-04

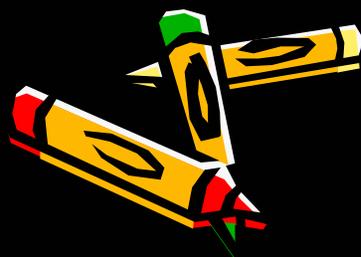
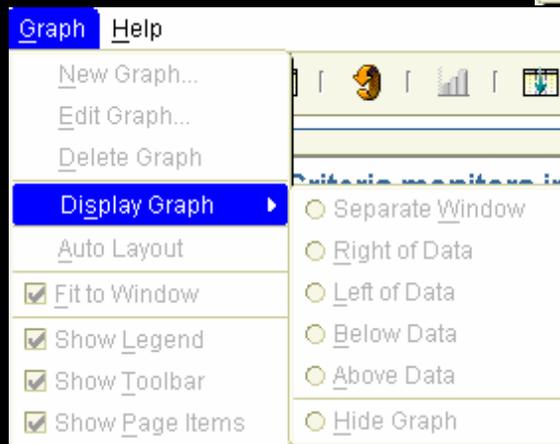
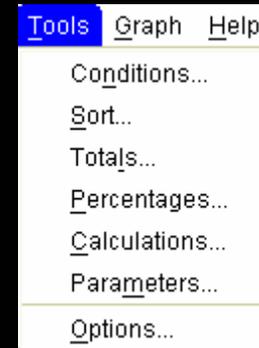
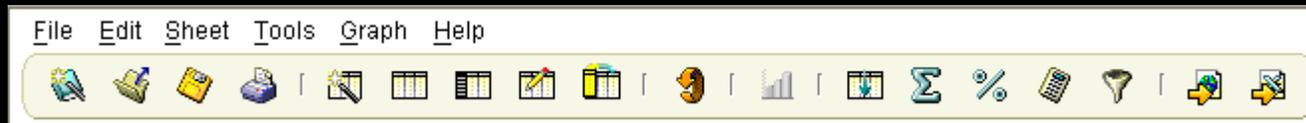
	State Abbr	State Code	County Code	Site ID	Parameter Code	POC	Parameter Desc	Date Sampling Began
151	TX	48	479	0016	81102	4	Pm10 Total 0-10um Stp	09-JAN-2004
152								Count: 2
153	UT	49	053	0130	44201	1	Ozone	12-JAN-2004
154								Count: 1
155	VT	50	025	0004	81102	2	Pm10 Total 0-10um Stp	04-JAN-2004
156			021	0002	81102	1	Pm10 Total 0-10um Stp	16-JAN-2004
157			001	0002	88101	3	Pm2.5 - Local Conditions	01-JAN-2004
158			001	0002	88101	1	Pm2.5 - Local Conditions	01-JAN-2004
159			001	0002	88101	3	Pm2.5 - Local Conditions	01-JAN-2004
160								Count: 5
161	VA	51	087	0014	88101	5	Pm2.5 - Local Conditions	01-JAN-2004
162			139	0004	88101	5	Pm2.5 - Local Conditions	04-JAN-2004
163								Count: 2
164	WA	53	025	1002	88101	4	Pm2.5 - Local Conditions	01-JAN-2004
165			047	0009	88101	1	Pm2.5 - Local Conditions	31-JAN-2004
166								Count: 2
167	WV	54	069	0009	44201	1	Ozone	01-APR-2004
168								Count: 1
169	WI	55	041	0007	42401	1	Sulfur Dioxide	07-JAN-2004
170			041	0007	44201	1	Ozone	07-JAN-2004
171			041	0007	88101	1	Pm2.5 - Local Conditions	01-FEB-2004
172								Count: 3
173	PR	72	123	0001	42401	1	Sulfur Dioxide	01-JAN-2004
174								Count: 1
175								Grand Total: 137

Page 7 of 7 25 Rows per Page

Sheet 1

Opening https://iasint...nc.epa.gov/plus_files/oracle/disco/image/ Internet

Work Area



Online Help

Oracle Application Server Discoverer Plus User's Guide (Online Help) -- Contents - Microsoft Internet Explorer

Address: https://iasint.rtpnc.epa.gov/plus_files/help/en/toc.htm

[Skip Headers](#)

 **Oracle Application Server Discoverer Plus User's Guide (Online Help)**
10g (9.0.4)
Part Number B10268-01 [Index](#)



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- [Keyboard Navigation](#)
- [Changing font sizes and colors for enhanced readability](#)
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- [Intended Audience](#)
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- [Conventions](#)
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- [What are the new features in Discoverer Plus Version 9.0.4?](#)
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Internet

Oracle Technology Network



SERVICES

- Downloads
- Documentation
- Discussions
- Articles
- Sample Code
- Training

BROWSE BY ROLES

- Developer
- DBA
- ISV
- New to Oracle



10g Oracle Application Server Discoverer 10g

Discoverer is an intuitive ad-hoc query, reporting, analysis, and Web-publishing tool that empowers business users at all levels of the organization to gain immediate access to information from data marts, data warehouses, online transaction processing systems and Oracle E-Business Suite.

Oracle Application Server Discoverer, Oracle's award winning product, enables report builders and analysts to create, modify, and execute ad hoc queries and reports. More casual users can view and navigate through pre-defined reports and graphs. Discoverer provides a business view to hide the complexity of the underlying data structure. It enables you to focus on solving business problems and brings insight to your data.

Learn More

- [Getting Started](#)
- [Discoverer Overview](#)
- Analytic Power
 - [Rank, Running Total](#)
 - [Prior Period](#)
 - [Segmentation](#)
- [Discoverer Viewer](#)
- [Discoverer Portal Integration](#)

News

[Getting Started with OracleAS Discoverer](#)

Check out the Discoverer overview and major components! [Sep-2003](#)

[OracleAS Discoverer Hints and Tips](#)

You will find many useful notes and workarounds, check out Discoverer Hints and Tips! [Sep-2003](#)

Technical Information

OracleAS Discoverer 10g

- ▣ [Technical Overview \(PDF\), Sep-2003](#)
- ▣ [Frequently Asked Questions, Sep-2003](#)
- ▣ [Features Overview, Sep-2003](#)

White Papers

- ▣ [Discoverer Plus: SSL and Firewall Support](#)
- ▣ [Discoverer Viewer: Customizing the look and feel](#)
- ▣ [Discoverer Fan Trap Resolution - Correct Results every time](#)
- ▣ [Heterogeneous Database Support](#)

Popular Discoverer papers

- ▣ [EUL Command Line for Java, Sep-2003](#)
- ▣ [Capacity Planning Guiding Whitepaper](#)
- ▣ [Capacity Planning Sizing Calculator](#)
- ▣ [Best Practices for Discoverer](#)
- ▣ [Discoverer and Portal Integration](#)

Customers

- [Customer References](#)

Related Information

- [Discoverer Documentation](#)
- [OracleAS Discoverer Forum](#)
- [Oracle Support - Metalink](#)

Training

- [Oracle Discoverer Training](#)
- [Oracle University eClasses](#) (search for Discoverer)
- [Oracle By Example \(OBE\)](#)

Exercise 2

- Connect
- Open an existing workbook in the AQS Basic business area
- Run the workbook



Using the Workbook Wizard to Create a New Worksheet

Goal: Create a table showing the annual arithmetic means for O_3 in Florida during the past 3 years

Step 1

Workbook Wizard - Step 1 of 10: Create/Open Workbook

This wizard helps you open an existing workbook or create a new one so that you can quickly retrieve information from the database.

Connected to the Database:AQSPROD(EUL:EUL_OWNER)

What do you want to do?

Create a new workbook

Open an existing workbook

How do you want to display the information?

Table

Crosstab

Page-Detail Table

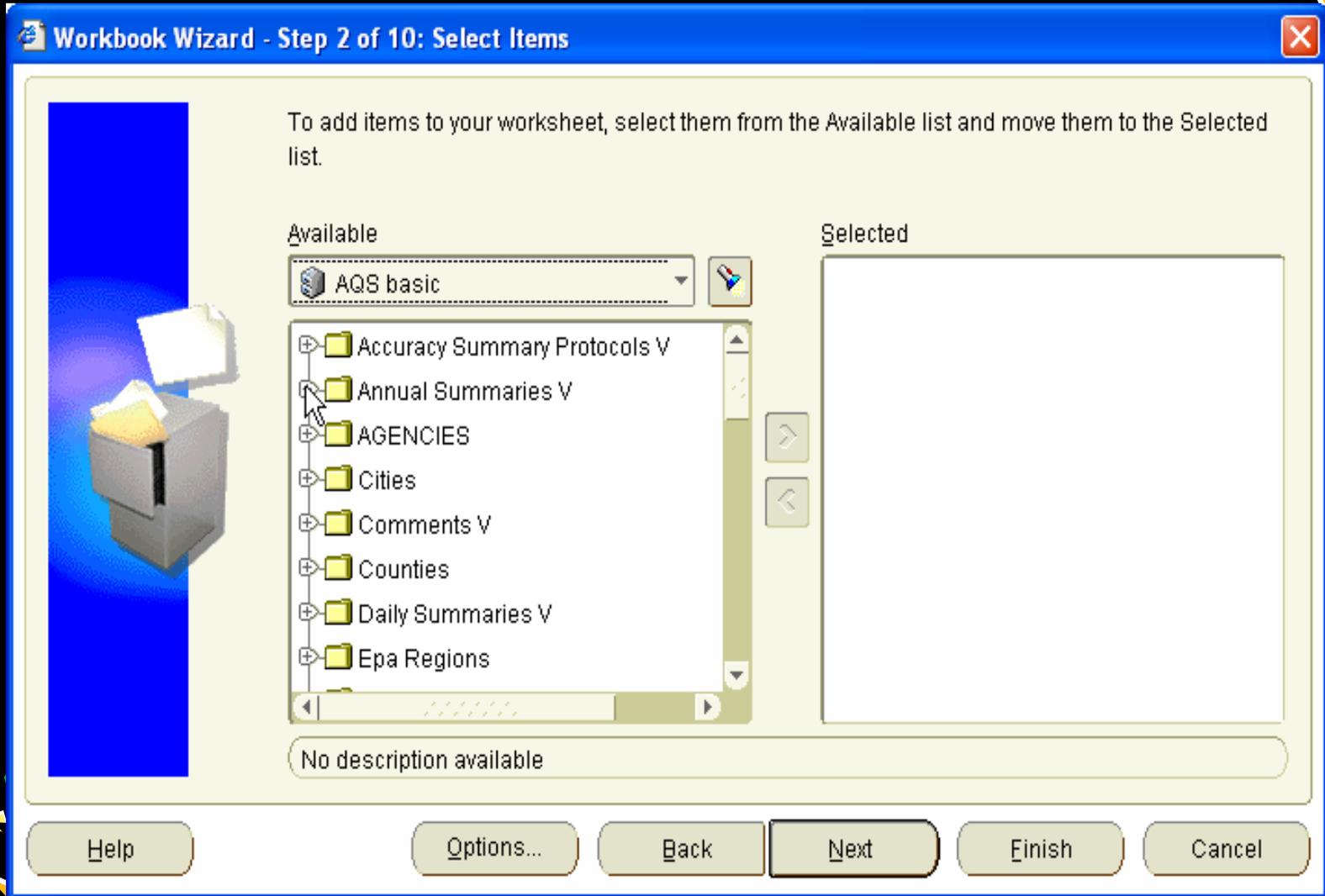
Page-Detail Crosstab

A Table displays data in columns. Click Next to continue.

Help Options... Back Next Finish Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items



Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items

Workbook Wizard - Step 2 of 10: Select Items

To add items to your worksheet, select them from the Available list and move them to the Selected list.

Available

AQS basic

- Annual Summaries V
 - Monitor ID
 - Summary Year (Annual)
 - Duration Code
 - Exceptional Data Type ID
 - Arithmetic Mean (Annual)
 - Arithmetic Standard Deviation (Annual)
 - Geometric Mean
 - Geometric Standard Deviation
 - Weighted Arithmetic Mean
 - Summary Criteria Indicator
 - Direct Entry Indicator

Selected

Move

Help Options... Back Next Finish Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items



Workbook Wizard - Step 2 of 10: Select Items

To add items to your worksheet, select them from the Available list and move them to the Selected list.

Available

AQS basic

- Accuracy Summary Protocols V
- Annual Summaries V
- AGENCIES
- Cities
- Comments V
- Counties
- Daily Summaries V
- Epa Regions
- Exceptional Data Types
- Monitor Accuracy Summaries V
- Monitor Agency Roles V
- Monitor Collocation Periods V

Selected

- Annual Summaries V
 - Monitor ID
 - Summary Year (Annual)
 - Duration Code
 - Arithmetic Mean (Annual)
 - Detail

Help Options... Back Next Finish Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items



Workbook Wizard - Step 2 of 10: Select Items

To add items to your worksheet, select them from the Available list and move them to the Selected list.

Available

AQS basic

- Monitor Tangent Roads V
- Monitor Type Assignments V
- Monitors V
- NAAQS Averages V
- Open Paths V
- Parameters
- Precision Summary Protocols V
- Probe Obstructions V
- Quarterly Summaries V
- Reporting Organization Accuracy Summar...
- Reporting Organization Precision Summar...
- Required Collection Frequencies V
- Sample Periods V

Selected

- Annual Summaries V
 - Monitor ID
 - Summary Year (Annual)
 - Duration Code
 - Arithmetic Mean (Annual)
 - Detail

Buttons: Help, Options..., Back, Next, Finish, Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items



Workbook Wizard - Step 2 of 10: Select Items

To add items to your worksheet, select them from the Available list and move them to the Selected list.

Available

AQS basic

- Monitors V
 - State Code
 - County Code
 - Site ID
 - Parameter Code
 - POC
 - Status Indicator
 - Monitor ID
 - Screening Group Num
 - Project Type Code
 - Dominant Source
 - Measurement Scale

Selected

- Annual Summaries V
 - Monitor ID
 - Summary Year (Annual)
 - Duration Code
 - Arithmetic Mean (Annual)
 - Detail
- Monitors V
 - State Code
 - Parameter Code

Buttons: Help, Options..., Back, Next, Finish, Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 2 - Select Items



Workbook Wizard - Step 2 of 10: Select Items

To add items to your worksheet, select them from the Available list and move them to the Selected list.

Available

AQS basic

- Exceptional Data Types
- Monitor Accuracy Summaries V
- Monitor Agency Roles V
- Monitor Collocation Periods V
- Monitor Objectives V
- Monitor Pollutant Areas V
- Monitor Precision Summaries V
- Monitor Protocols V
- Monitor Regulatory Compliance V
- Monitor Tangent Roads V
- Monitor Type Assignments V
- Monitors V

Selected

- Annual Summaries V
 - Monitor ID
 - Summary Year (Annual)
 - Duration Code
 - Arithmetic Mean (Annual)
 - Detail
- Monitors V
 - State Code
 - Parameter Code

No description available

Help Options... Back Next Finish Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 3 - Table Layout



Workbook Wizard - Step 3 of 10: Table Layout

To change the layout of information in your worksheet, click and drag the column headings to the location you want. To change format settings, click the Options button.

Show Page Items Hide Duplicate Rows

	Monitor ID	Summary Year (Annual)	Duration Code	Arithmetic Mean (Annual)	State Code	Parameter Co
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						

Help

Workbook Wizard - Step 3 of 10: Table Layout

To change the layout of information in your worksheet, click and drag the column headings to the location you want. To change format settings, click the Options button.

Show Page Items Hide Duplicate Rows

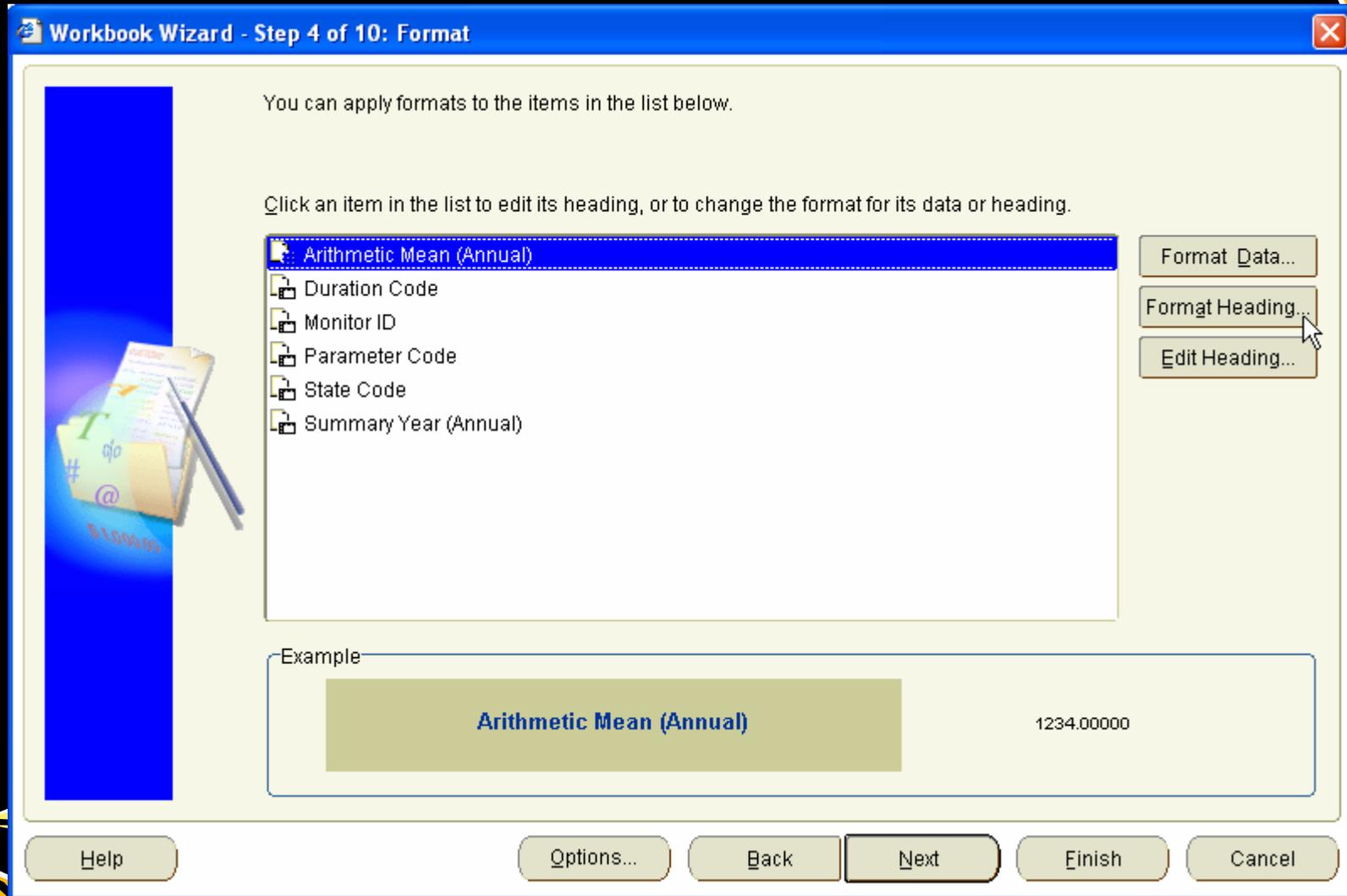
	Parameter Code	Summary Year (Annual)	Monitor ID	Duration Code	Arithmetic Mean (Annual)	State Code	Sta
1							
2							
3							
4							
5							
6							
7							
8							
9							

Help Options... Back Next Finish Cancel



Using the Workbook Wizard to Create a New Worksheet

Step 4 -Format



Format Options



Format Heading

Font: Size:

Style: **B** *i* U ~~S~~

Color

Text:

Background:

Alignment

Wrap words in cell

Example:

Aaa Bbb Ccc

Show Actual font size

Help OK Cancel

Format Data

Format **Number**

Categories:

- None
- Default**
- Number
- Currency
- Percent
- Scientific
- Custom

"Default" formats numbers as they have been set up by your Discoverer manager, using the format 99999D99999.

Example:

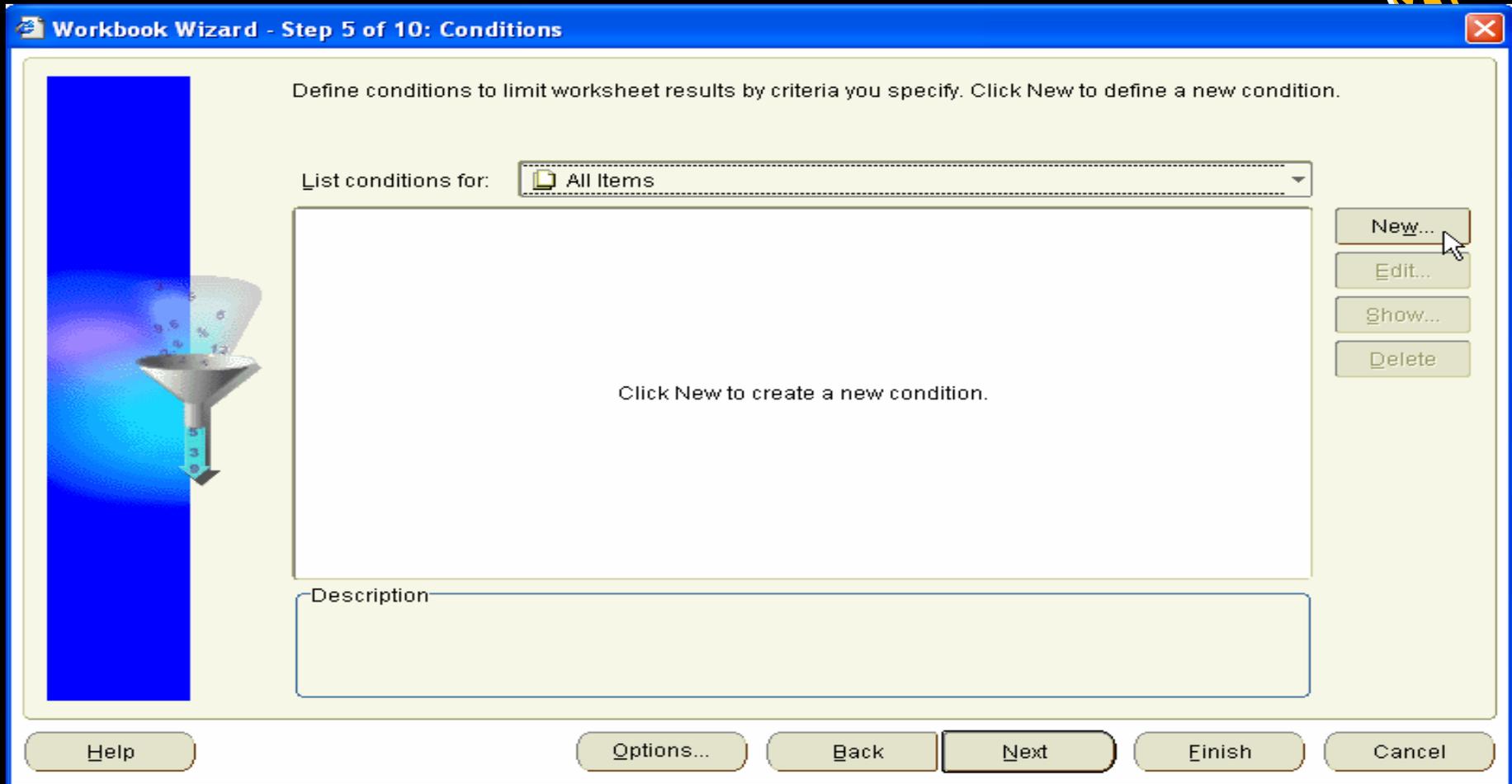
1234.00000

Help OK Cancel



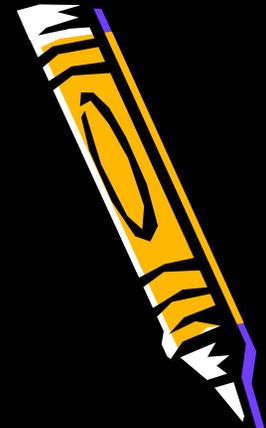
Using the Workbook Wizard to Create a New Worksheet

Step 5 - Conditions



Using the Workbook Wizard to Create a New Worksheet

Step 5 - Conditions



New Condition

What would you like to name your condition?

Generate name automatically

What description would you like to give your condition?

Formula

Item	Condition
:	=

Case-sensitive

This condition is located in the workbook Workbook

Help

New Condition

What would you like to name your condition?

Generate name automatically

What description would you like to give your condition?

Formula

Type the name of an item or select a name from the drop-down list.

Item	Condition	Values
:	=	

Advanced >>

- Create Calculation...
- Select Item...
- Annual Summaries V."Arithmetic Mean (Annual)"
- Annual Summaries V."Summary Year (Annual)"
- Annual Summaries V.Duration Code
- Annual Summaries V.Monitor ID
- Monitors V.Parameter Code
- Monitors V.State Code

This

OK Cancel



Using the Workbook Wizard to Create a New Worksheet

Step 5 - Conditions

What would you like to name your condition?

Generate name automatically

What description would you like to give your condition?

Formula

Type text in single quotes or select a value from the drop-down list. Multiple values must be separated by commas.

Item	Condition	Values
: State Code	=	

Case-sensitive

This condition is located in the workbook W

Advanced >>

Help OK Cancel

- Create Calculation...
- Select Item...
- New Parameter...
- Select Multiple Values...
- 01
- 02
- 04
- 05

Using the Workbook Wizard to Create a New Worksheet

Step 5 - Conditions



Workbook Wizard - Step 5 of 10: Conditions

Define conditions to limit worksheet results by criteria you specify. Click New to define a new condition.

List conditions for:

Active	Name
<input checked="" type="checkbox"/>	State Code = '12'

New...
Edit...
Show...

Description
Monitors V.State Code

Help

Edit Worksheet

Select Items | Table Layout | Format | **Conditions** | Sort | Calculations | Percentages | Totals | Parameters

Define conditions to limit worksheet results by criteria you specify. Click New to define a new condition.

List conditions for:

Active	Name
<input checked="" type="checkbox"/>	"Summary Year (Annual)" BETWEEN 1994 AND 2004
<input checked="" type="checkbox"/>	Parameter Code = '44201'
<input checked="" type="checkbox"/>	State Code = '12'

New...
Edit...
Show...
Delete

Description
Annual Summaries V."Summary Year (Annual)" BETWEEN 1994 AND 2004

Options... | OK | Cancel



Using the Workbook Wizard to Create a New Worksheet

Step 6 - Sort

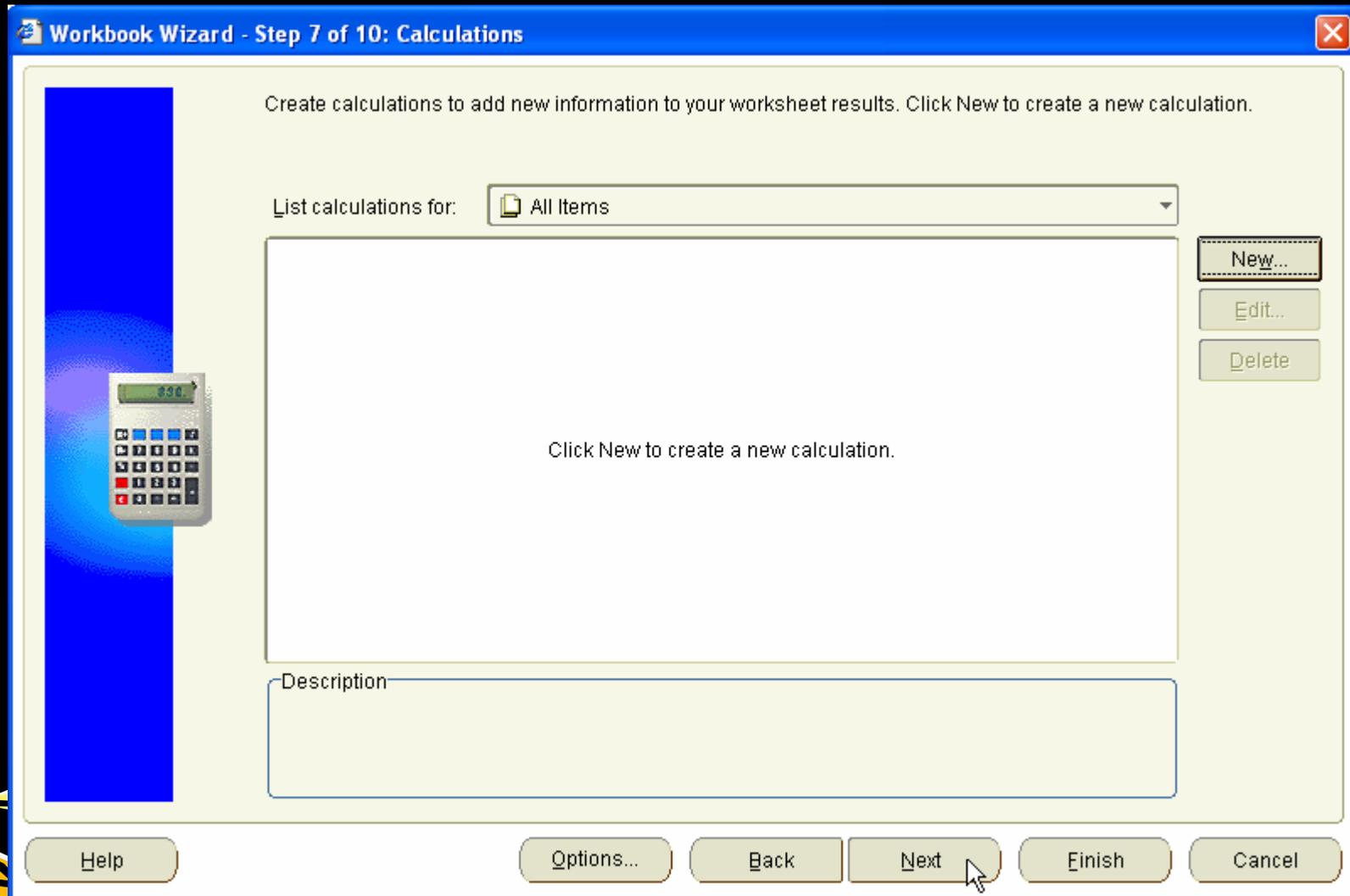
Click Add and then select a column to sort. Select the Group sort type to hide repeated cell values in a column. Check Hidden to hide a sorted column in the worksheet.

Sort by	Column	Direction	Sort Type	Hidden
	Arithmetic Mean...	Low to High	Normal	<input type="checkbox"/>
	Arithmetic Mean (Annual)			
	Duration Code			
	Monitor ID			
	Parameter Code			
	State Code			
	Summary Year (Annual)			

Buttons: Add, Delete, Move Up, Move Down, Help, Options..., Back, Next, Finish, Cancel

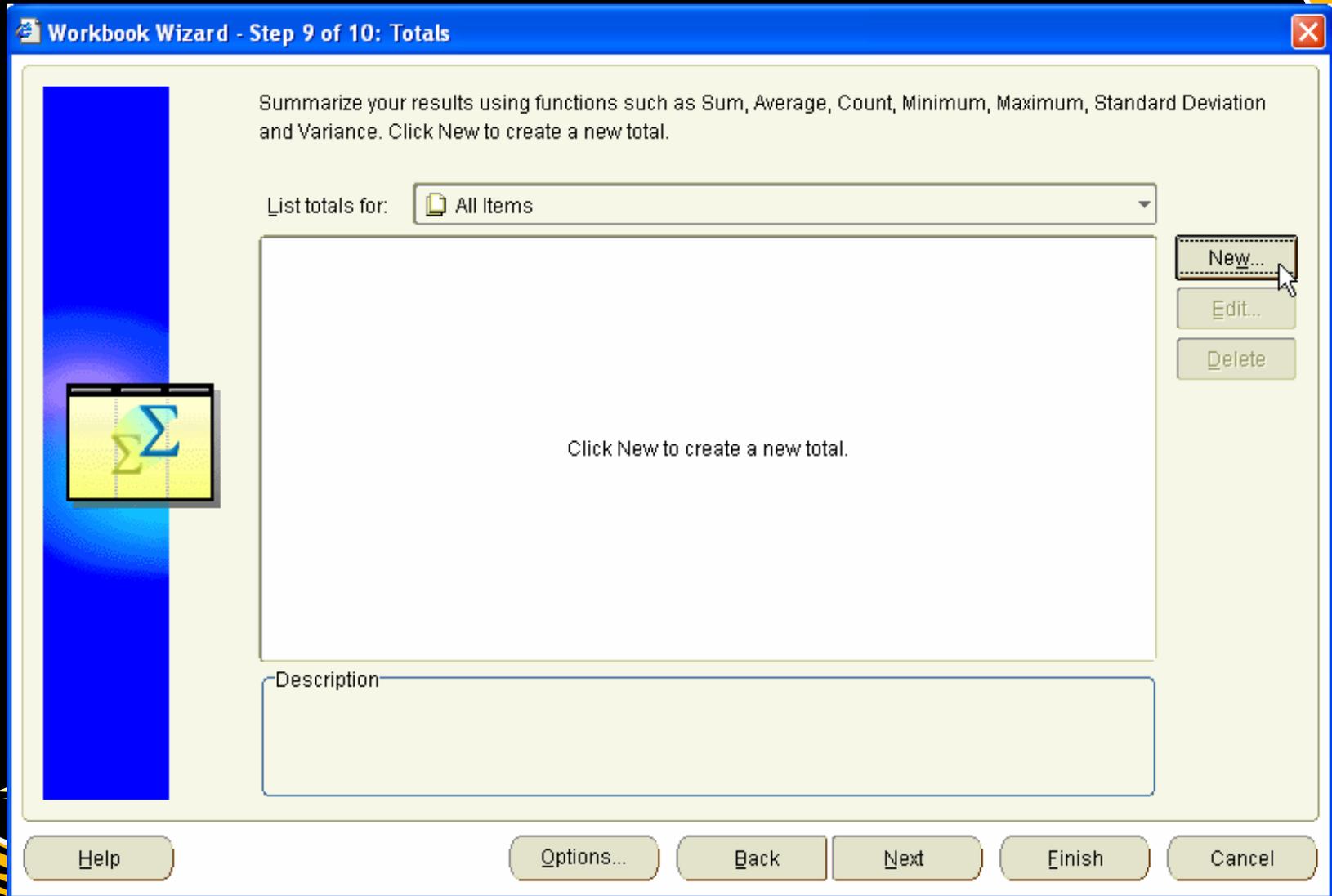
Using the Workbook Wizard to Create a New Worksheet

Step 7 - Calculations



Using the Workbook Wizard to Create a New Worksheet

Step 9 - Totals



Using the Workbook Wizard to Create a New Worksheet

Step 9 - Totals

New Total

Which data point would you like to create a total on?

Arithmetic Mean (Annual)

What kind of total do you want?

f(x) Sum

Adds all the values.

Where would you like your total to be shown?

Grand total at bottom

Subtotal at each change in:

Parameter Code

Don't display total for a single row

Do you want to calculate totals within each page?

Calculate totals within each page.

Calculate totals across all pages.

Example

	M1	M2	n1	n2
1	AA	aa1	10	10
2		aa2	10	10
3	BB	bb1	10	10
4		bb2	10	10
5				40

The example above shows a Sum total calculated from sample data.

What label do you want to be shown?

Sum

Format Heading...

Generate label automatically

Format Data...

Help OK Cancel

Using the Workbook Wizard to Create a New Worksheet

Step 9 - Totals



New Total [Close]

Which data point would you like to create a total on? Example

Monitor ID

What kind of total do you want?

f(x) Count

Counts the total number of cells that contain text or numbers.

Where would you like your total to be shown?

Grand total at bottom

Subtotal at each change in:

Parameter Code

Don't display total for a single row

Do you want to calculate totals within each page?

Calculate totals within each page.

Calculate totals across all pages.

Help

New Total [Close]

Which data point would you like to create a total on? Example

Monitor ID

What kind of total do you want?

f(x) Count

f(x) Count
f(x) Count Distinct
f(x) Minimum
f(x) Maximum

Grand total at bottom

Subtotal at each change in:

Parameter Code

Don't display total for a single row

Do you want to calculate totals within each page?

Calculate totals within each page.

Calculate totals across all pages.

Help

Example

	M1	M2	n1	n2
1	AA	aa1	10	10
2		aa2	10	10
3	BB	bb1	10	10
4		bb2	10	10
5				40

The example above shows a Sum total calculated from sample data.

What label do you want to be shown?

Count [Format Heading...]

Generate label automatically [Format Data...]

OK Cancel



Using the Workbook Wizard to Create a New Worksheet

Step 9 - Totals



New Total

Which data point would you like to create a total on?
Monitor ID

What kind of total do you want?
Count Distinct
Counts the number of unique values.

Where would you like your total to be shown?
 Grand total at bottom
 Subtotal at each change in:
Parameter Code
 Don't display total for a single row

Do you want to calculate totals within each page?
 Calculate totals within each page.
 Calculate totals across all pages.

Example

	M1	M2	n1	n2
1	AA	aa1	10	10
2		aa2	10	10
3	BB	bb1	10	10
4		bb2	10	10
5				40

The example above shows a Sum total calculated from sample data.

What label do you want to be shown?
Count Distinct
 Generate label automatically

Format Data...

Help OK Cancel

Format Data

Font: Dialog Size: 10

Style: **B** *I* U ~~S~~

Color

Text: [Color Picker]

Background: [Color Picker]

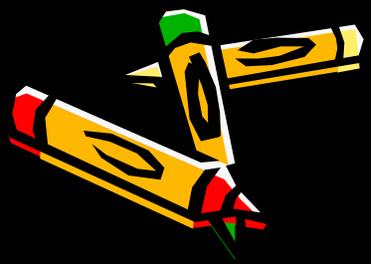
Alignment: [Left] [Center] [Right]

Wrap words

Example: Aaa Bbb C

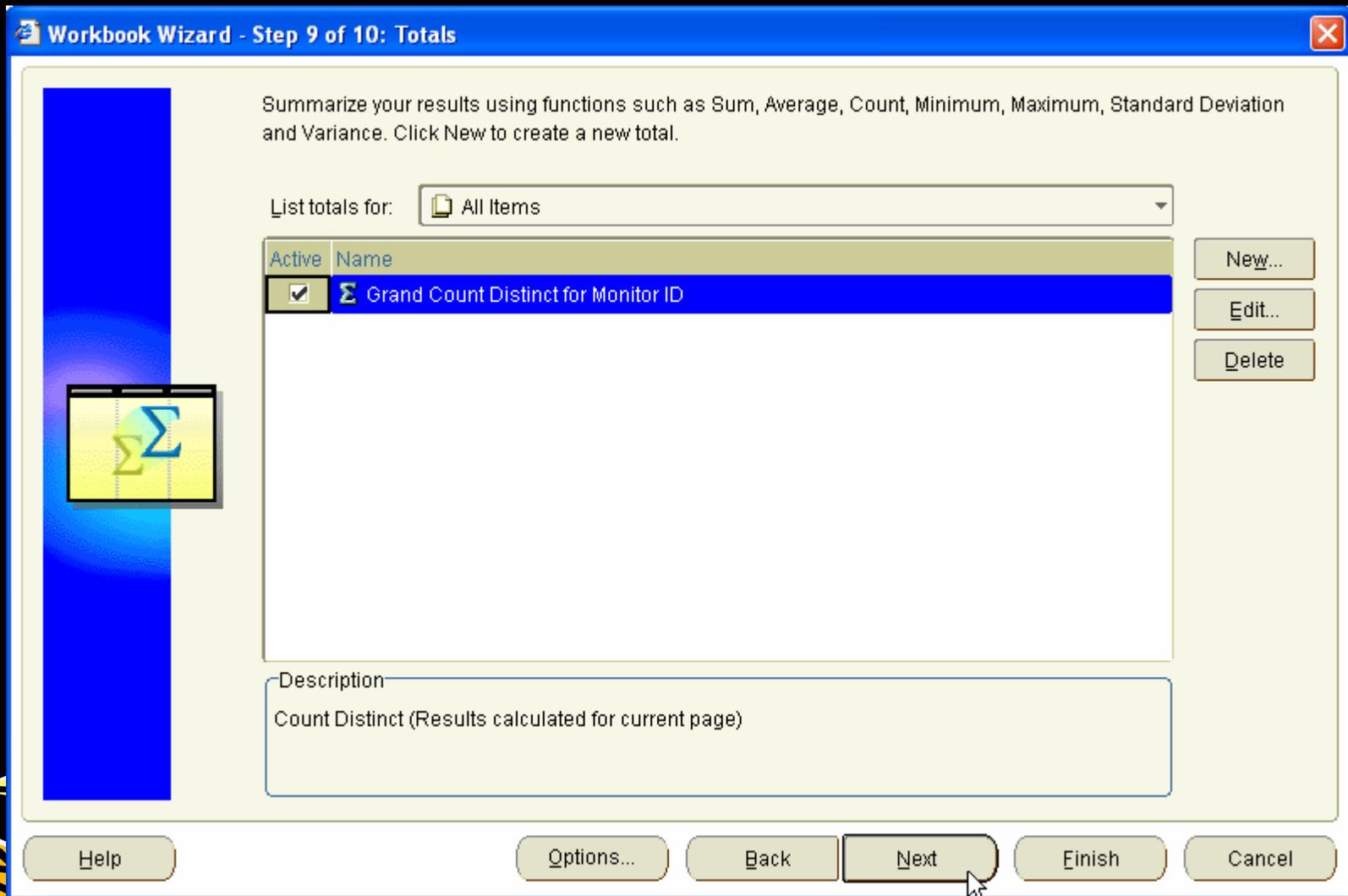
Show Actual Colors

Help OK Cancel



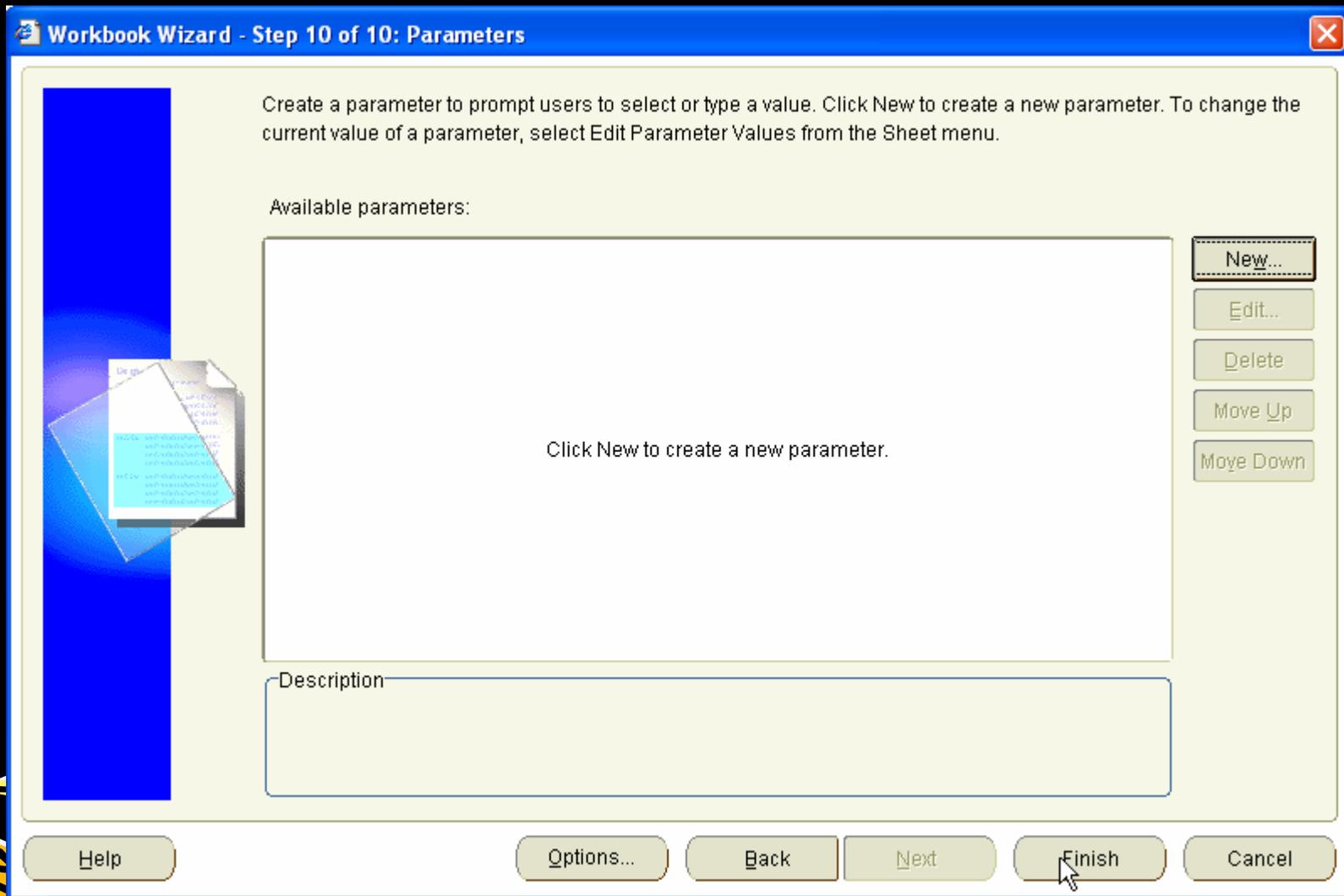
Using the Workbook Wizard to Create a New Worksheet

Step 9 - Totals

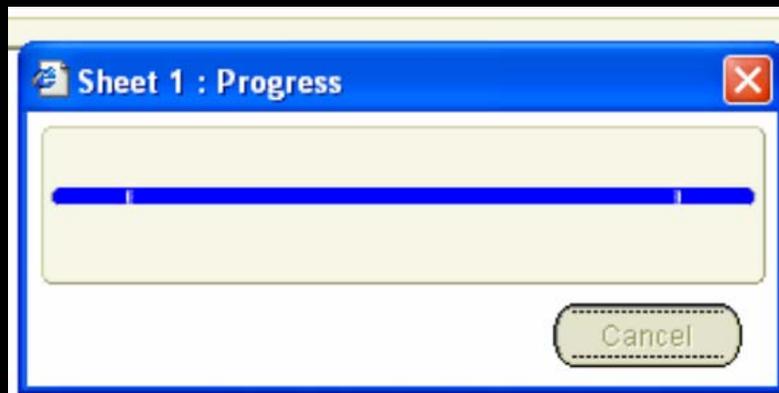


Using the Workbook Wizard to Create a New Worksheet

Step 10 - Parameters



Finally, run your query.



File Edit Sheet Tools Graph L .

Double-click here to edit the title

	Parameter Code	Monitor ID	Summary Year (Annual)	Duration Code	Arithmetic Mean (Annual)	State Code
1	44201	12-086-0026-44201-1	1982	W	.01570	12
2	44201	12-099-2004-44201-1	1992	W	.01750	12
3	44201	12-103-0020-44201-1	1976	W	.01760	12
4	44201	12-086-0026-44201-1	1982	1	.02010	12
5	44201	12-099-0007-44201-1	1992	W	.02050	12
6	44201	12-001-0016-44201-1	1978	W	.02140	12
7	44201	12-099-0007-44201-1	1999	W	.02160	12
8	44201	12-031-0048-44201-1	1975	W	.02200	12
9	44201	12-099-2004-44201-1	1992	1	.02220	12
10	44201	12-103-3001-44201-1	1976	W	.02220	12
11	44201	12-086-4002-44201-1	1978	W	.02230	12
12	44201	12-081-0002-44201-1	1980	W	.02240	12
13	44201	12-099-1101-44201-1	1975	W	.02260	12

Page 1 20 Rows per Page

Sheet 1

Editing a sheet



File Edit **Sheet** Tools Graph Help

New Sheet...
Edit Sheet...
Duplicate...
Duplicate as Crosstab...
Table Layout...
Format...
Edit Title...
Rename Sheet...
Delete Sheet...
Move Sheets...
Edit Parameter Values...
Refresh Sheet
Show SQL...

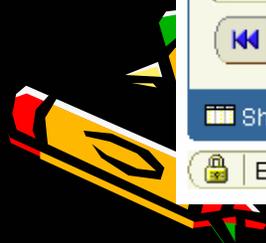
Double-click here to edit the title

	P		Summary Year (Annual)	Duration Code	Arithmetic Mean (Annual)	State Code
601	4.		4201-1 2002	1	.05090	12
602	4.		4201-1 2001	1	.05090	12
603	4.		4201-1 2001	1	.05090	12
604	4.		4201-1 2001	1	.05100	12
605	4.		4201-1 2001	1	.05100	12
606	4.		4201-1 2001	1	.05100	12
607	44201	12-101-2001-44201-1	2001	1	.05100	12
608	44201	12-101-2001-44201-1	2001	1	.05100	12
609	44201	12-069-0002-44201-1	2002	1	.05110	12
610	44201	12-057-0081-44201-1	2002	1	.05140	12
611	44201	12-069-0002-44201-1	2003	1	.05150	12
612	44201	12-101-0005-44201-1	2001	1	.05150	12
613	44201	12-101-0005-44201-1	2001	1	.05150	12

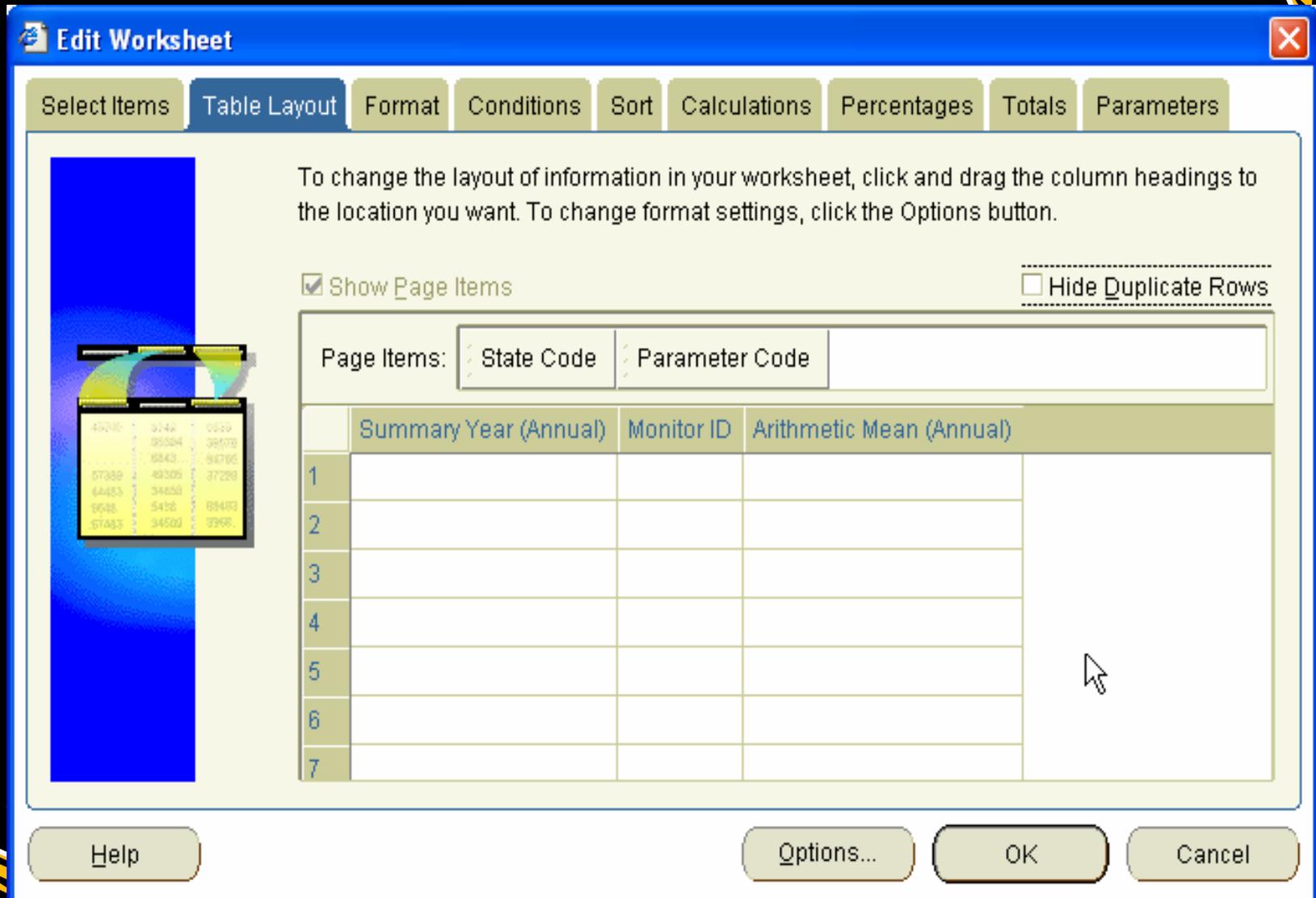
Page 7 of 7 100 Rows per Page

Sheet 1

Edits the current worksheet



Editing a sheet, cont'd



Edit Worksheet

Select Items | **Table Layout** | Format | Conditions | Sort | Calculations | Percentages | Totals | Parameters

To change the layout of information in your worksheet, click and drag the column headings to the location you want. To change format settings, click the Options button.

Show Page Items Hide Duplicate Rows

Page Items: State Code | Parameter Code

	Summary Year (Annual)	Monitor ID	Arithmetic Mean (Annual)
1			
2			
3			
4			
5			
6			
7			

Buttons: Help | Options... | OK | Cancel

Editing a sheet, cont'd

Edit Worksheet

Select Items | Table Layout | Format | **Conditions** | Sort | Calculations | Percentages | Totals | Parameters

Define conditions to limit worksheet results by criteria you specify. Click New to define a new condition.

List conditions for:

Active	Name
<input checked="" type="checkbox"/>	"Summary Year (Annual)" BETWEEN 2001 AND 2004
<input checked="" type="checkbox"/>	Duration Code = '1'
<input checked="" type="checkbox"/>	Parameter Code = '44201'
<input checked="" type="checkbox"/>	State Code = '12'

Description
Annual Summaries V.Duration Code = '1'

Buttons: Help, Options..., OK, Cancel, New..., Edit..., Show..., Delete

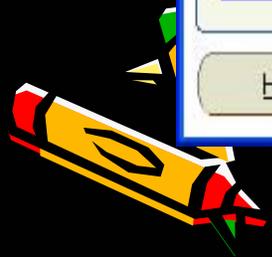
Editing a sheet, cont'd



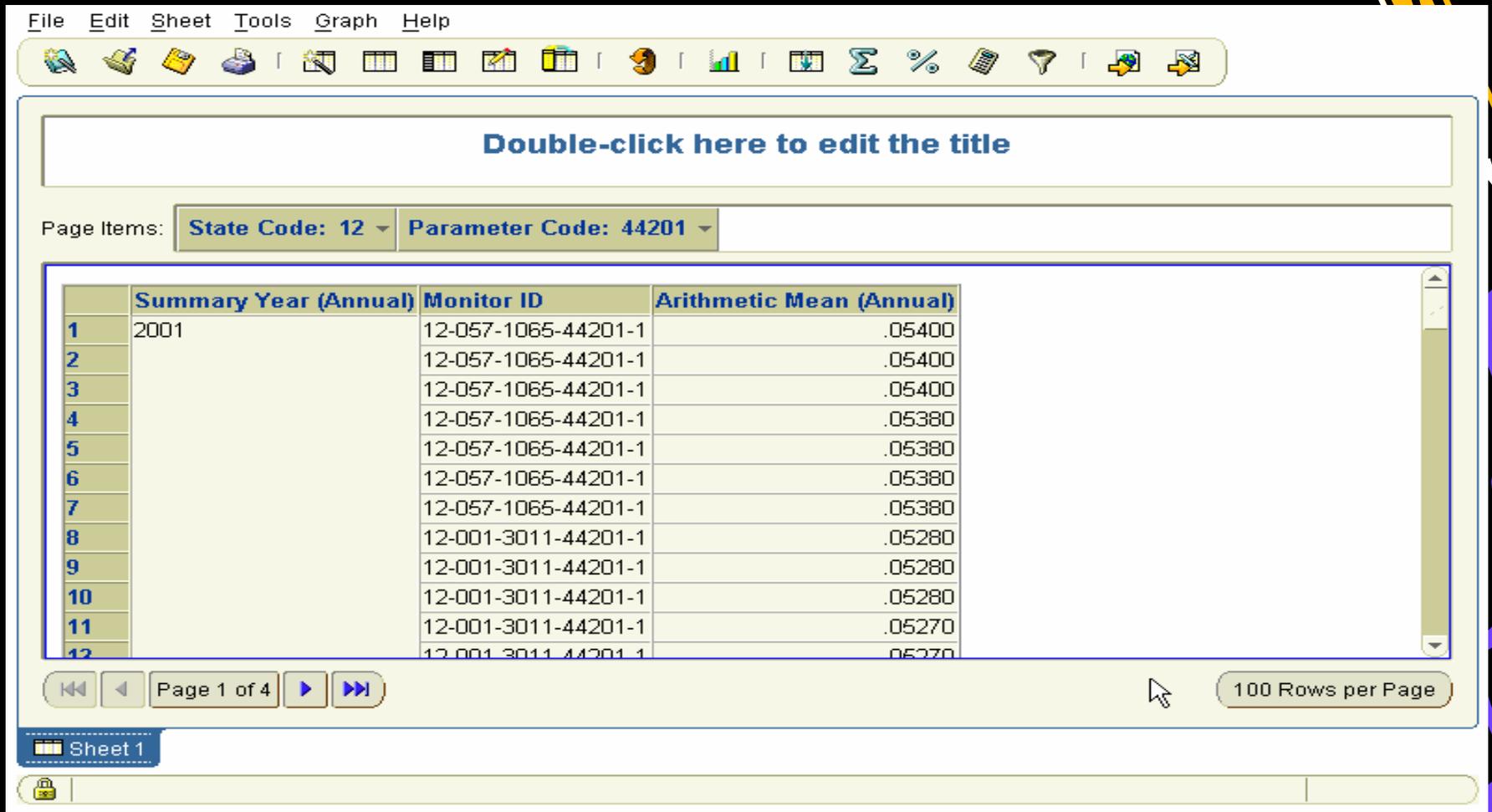
Click Add and then select a column to sort. Select the Group sort type to hide repeated cell values in a column. Check Hidden to hide a sorted column in the worksheet.

	Column	Direction	Sort Type	Hidden
Sort by	Summary Year ...	Low to High	Group Sort	<input type="checkbox"/>
then by	Arithmetic Mean...	High to Low	Normal	<input type="checkbox"/>

Buttons: Add, Delete, Move Up, Move Down, Help, Options..., OK, Cancel



Editing a sheet, cont'd



The screenshot displays a spreadsheet application window. At the top, there is a menu bar with 'File', 'Edit', 'Sheet', 'Tools', 'Graph', and 'Help'. Below the menu is a toolbar with various icons for editing and data manipulation. The main area features a title bar that says 'Double-click here to edit the title'. Below the title bar, there are two dropdown menus for 'Page Items': 'State Code: 12' and 'Parameter Code: 44201'. The central part of the window contains a table with the following data:

	Summary Year (Annual)	Monitor ID	Arithmetic Mean (Annual)
1	2001	12-057-1065-44201-1	.05400
2		12-057-1065-44201-1	.05400
3		12-057-1065-44201-1	.05400
4		12-057-1065-44201-1	.05380
5		12-057-1065-44201-1	.05380
6		12-057-1065-44201-1	.05380
7		12-057-1065-44201-1	.05380
8		12-001-3011-44201-1	.05280
9		12-001-3011-44201-1	.05280
10		12-001-3011-44201-1	.05280
11		12-001-3011-44201-1	.05270
12		12-001-3011-44201-1	.05270

At the bottom of the table area, there are navigation buttons for 'Page 1 of 4' and a '100 Rows per Page' button. The bottom status bar shows 'Sheet 1' and a lock icon.

Exercise 3:

1. Create a table showing all criteria monitors with sampling periods beginning in 2004.
2. Add a title.
3. Count the number of monitors for each state.
4. How many of these monitors are there nation-wide?



Criteria monitors with sampling periods starting in 2004
by state code

	State Abbr	State Code	County Code	Site ID	Parameter Code	POC	Parameter Desc	Date Sampling Began
1	AL	01	121	0003	44201	1	Ozone	01-MAR-2004
2			073	1010	88101	1	Pm2.5 - Local Conditions	01-JAN-2004
3			073	1010	88101	2	Pm2.5 - Local Conditions	01-JAN-2004
4								Count: 3
5	AK	02	232	0002	88101	1	Pm2.5 - Local Conditions	05-JAN-2004
6			232	0001	88101	1	Pm2.5 - Local Conditions	03-FEB-2004
7								Count: 2
8	AZ	04	021	3012	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
9								Count: 1
10	CA	06	089	0008	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
11			027	0026	81102	1	Pm10 Total 0-10um Stp	28-JAN-2004
12			027	0022	81102	1	Pm10 Total 0-10um Stp	06-FEB-2004
13								Count: 3
14	CO	08	077	0018	42101	1	Carbon Monoxide	29-JAN-2004
15			077	0018	81102	1	Pm10 Total 0-10um Stp	15-JAN-2004
16			099	0004	81102	1	Pm10 Total 0-10um Stp	19-MAR-2004
17			099	0005	81102	1	Pm10 Total 0-10um Stp	19-MAR-2004
18			077	0017	88101	2	Pm2.5 - Local Conditions	01-JAN-2004
19								Count: 5
20	CT	09	009	0027	42401	1	Sulfur Dioxide	05-FEB-2004
21			009	0027	42602	1	Nitrogen Dioxide	05-FEB-2004
22			009	0027	44201	1	Ozone	01-APR-2004
23			009	0027	81102	1	Pm10 Total 0-10um Stp	24-APR-2004
24			001	0010	88101	3	Pm2.5 - Local Conditions	05-JAN-2004
25			009	0027	88101	3	Pm2.5 - Local Conditions	09-MAR-2004

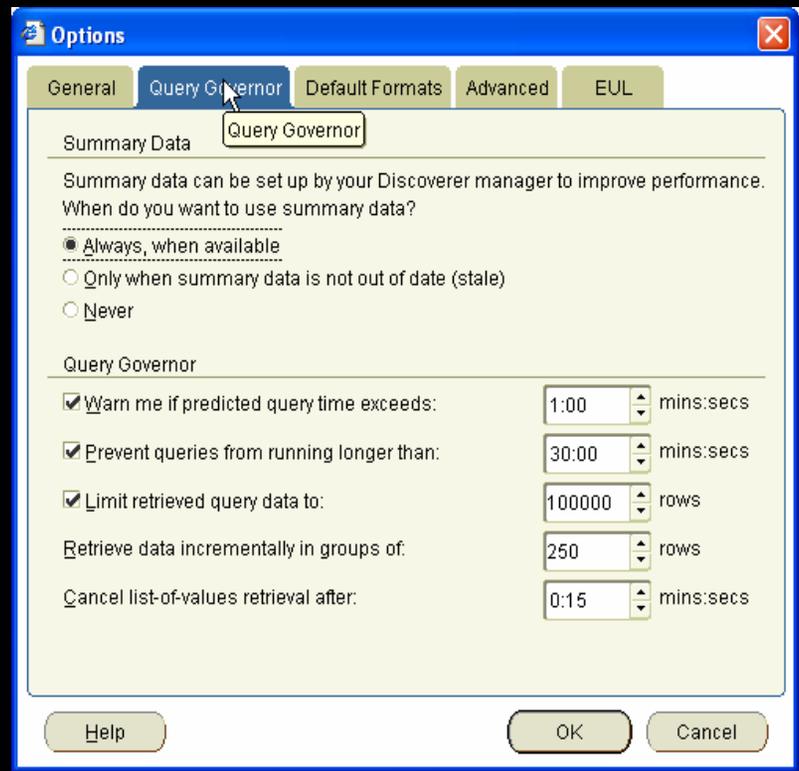
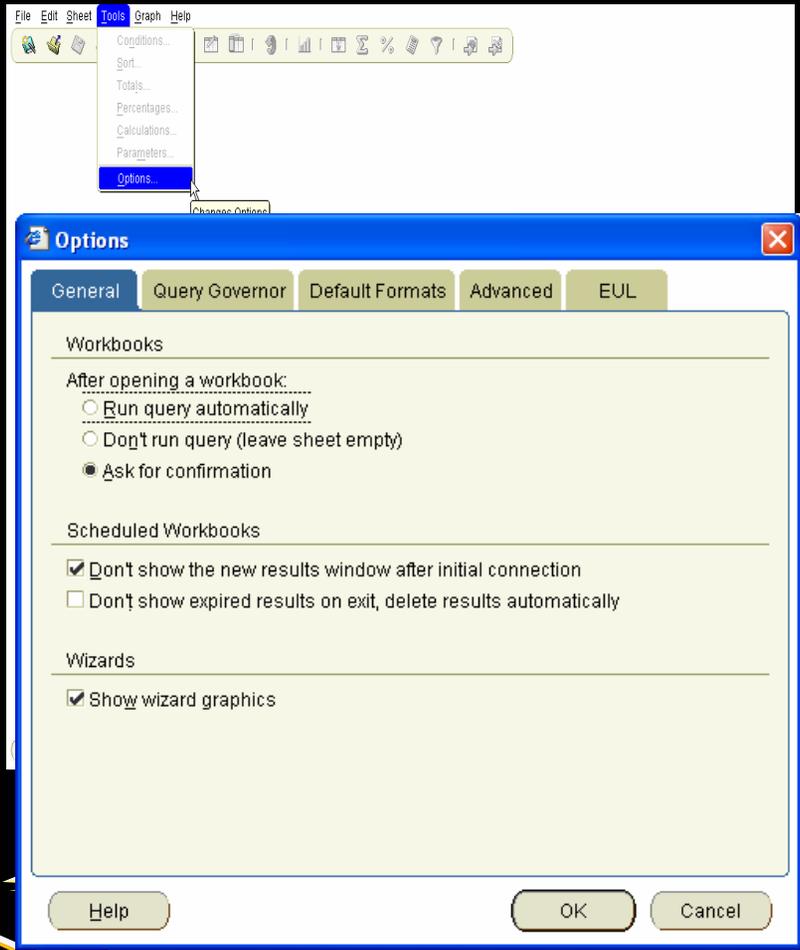
Sample results

Page 1 of 7

25 Rows per Page

Sheet 1

Default Worksheet Settings



Default Worksheet Settings, cont'd



Options

General Query Governor **Default Formats** Advanced EUL

Default Formats

⚠ The following default formats only affect new worksheets and workbooks.

Data Format Change...
Heading Format
Total Format Reset

Example

Aaa Bbb Ccc

Help OK Cancel

Heading Format

Font: Arial Size: 10 Example: Aaa Bbb Ccc

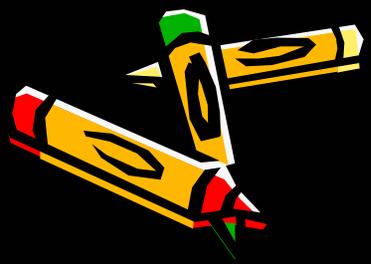
Style: **B** *I* U ~~S~~

Color
Text: [Color Picker]
Background: [Color Picker]

Alignment
[Align Left] [Align Center] [Align Right]

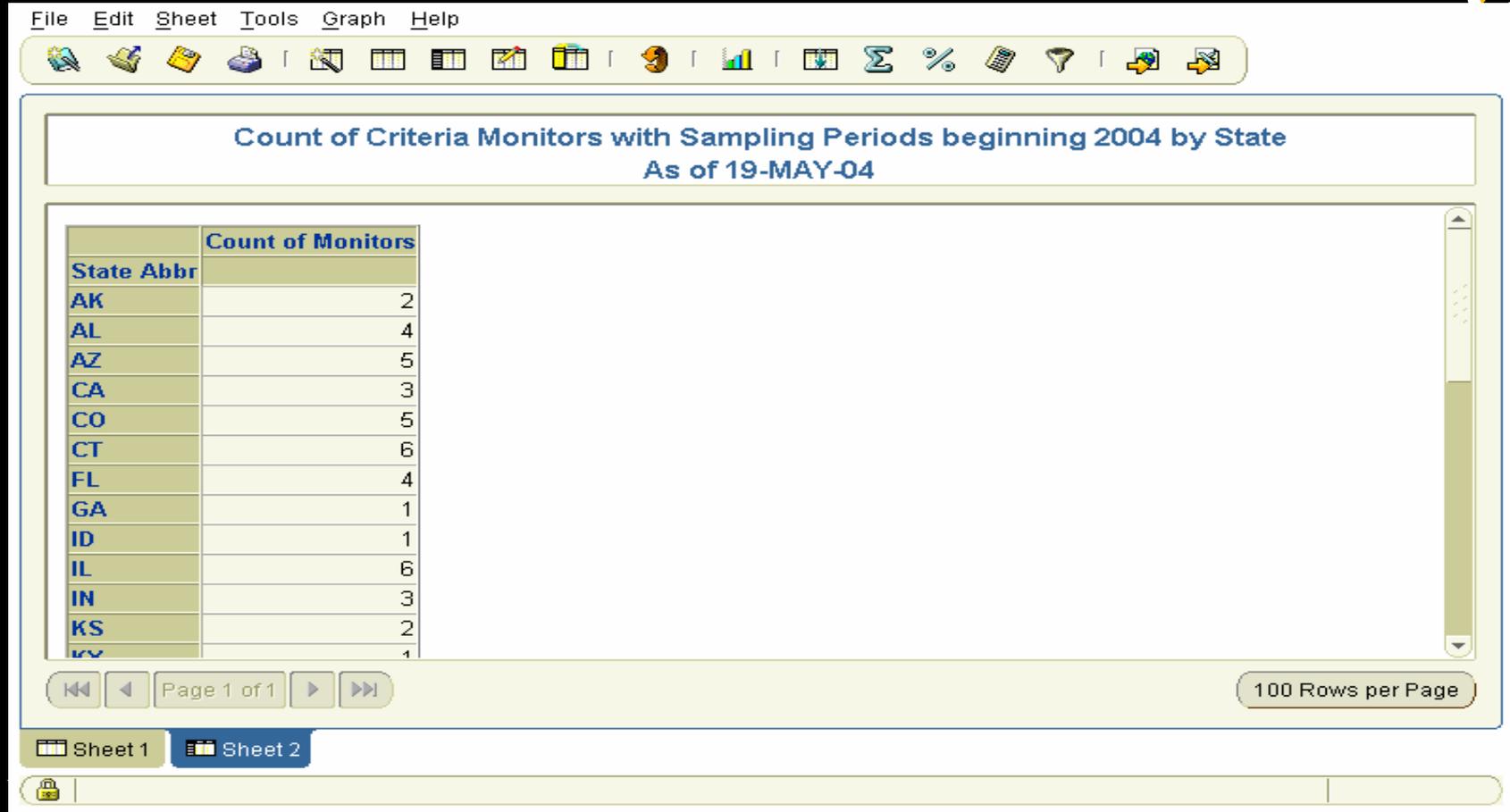
Wrap words in cell Actual font size

OK Cancel



Other Views

Crosstab



The screenshot displays a spreadsheet application window with a menu bar (File, Edit, Sheet, Tools, Graph, Help) and a toolbar. The main content area is titled "Count of Criteria Monitors with Sampling Periods beginning 2004 by State As of 19-MAY-04". It shows a table with two columns: "State Abbr" and "Count of Monitors". The table lists 15 states with their corresponding monitor counts. The application interface includes navigation buttons (back, forward, page 1 of 1), a "100 Rows per Page" button, and sheet tabs for "Sheet 1" and "Sheet 2".

State Abbr	Count of Monitors
AK	2
AL	4
AZ	5
CA	3
CO	5
CT	6
FL	4
GA	1
ID	1
IL	6
IN	3
KS	2
KY	1

Crosstab created from this worksheet for exercise 3

To **Crosstab Layout** of information in your worksheet, click and drag the row and column headings to the location you want. To change format settings, click the Options button.

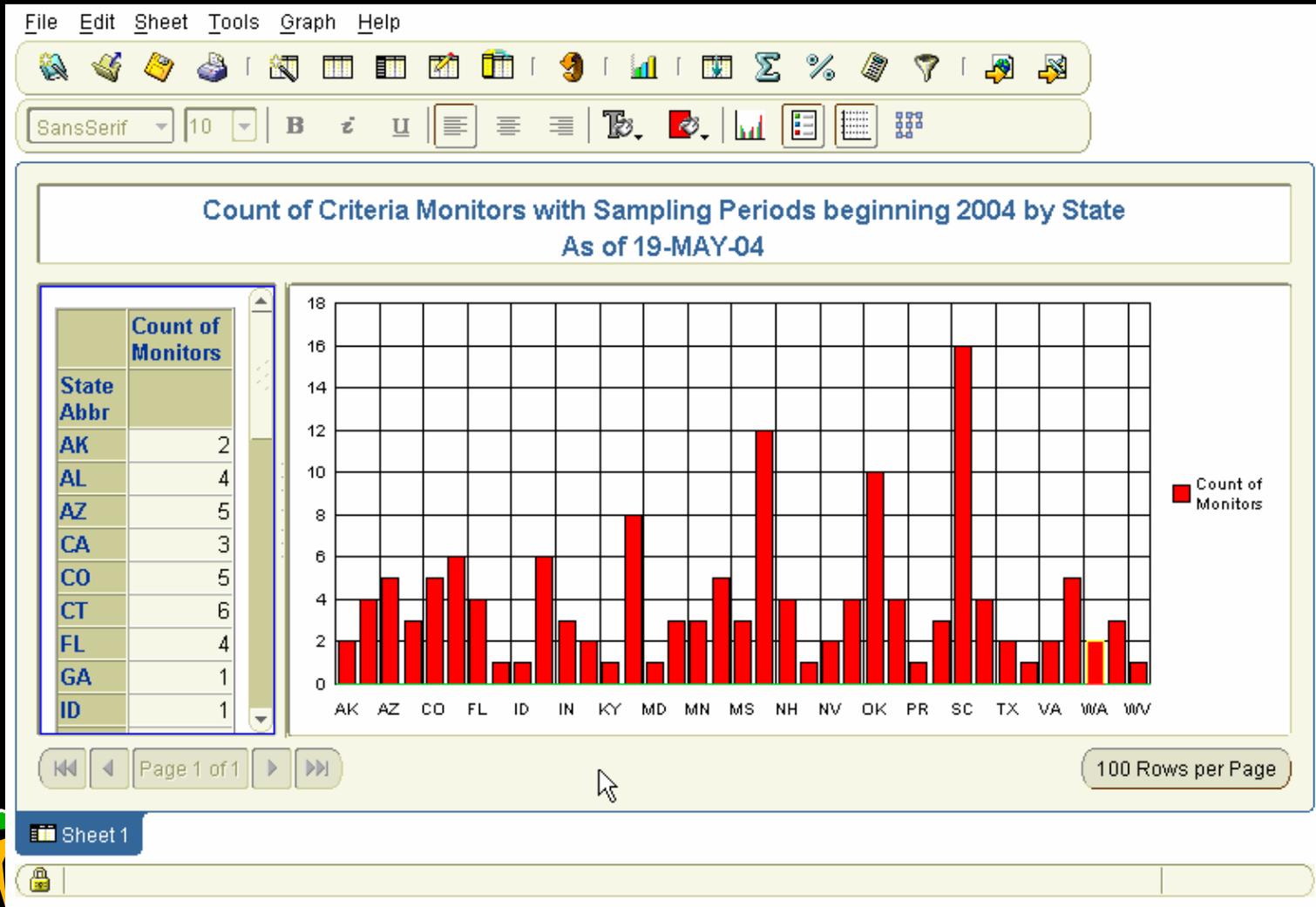
Show Page Items

Data Point: Count of Monitors

State Abbr	Count of Monitors
6740	48306
8843	58493
49305	5789
34858	44483
34509	9648
	67483

Help Options... OK Cancel

...add a graph.



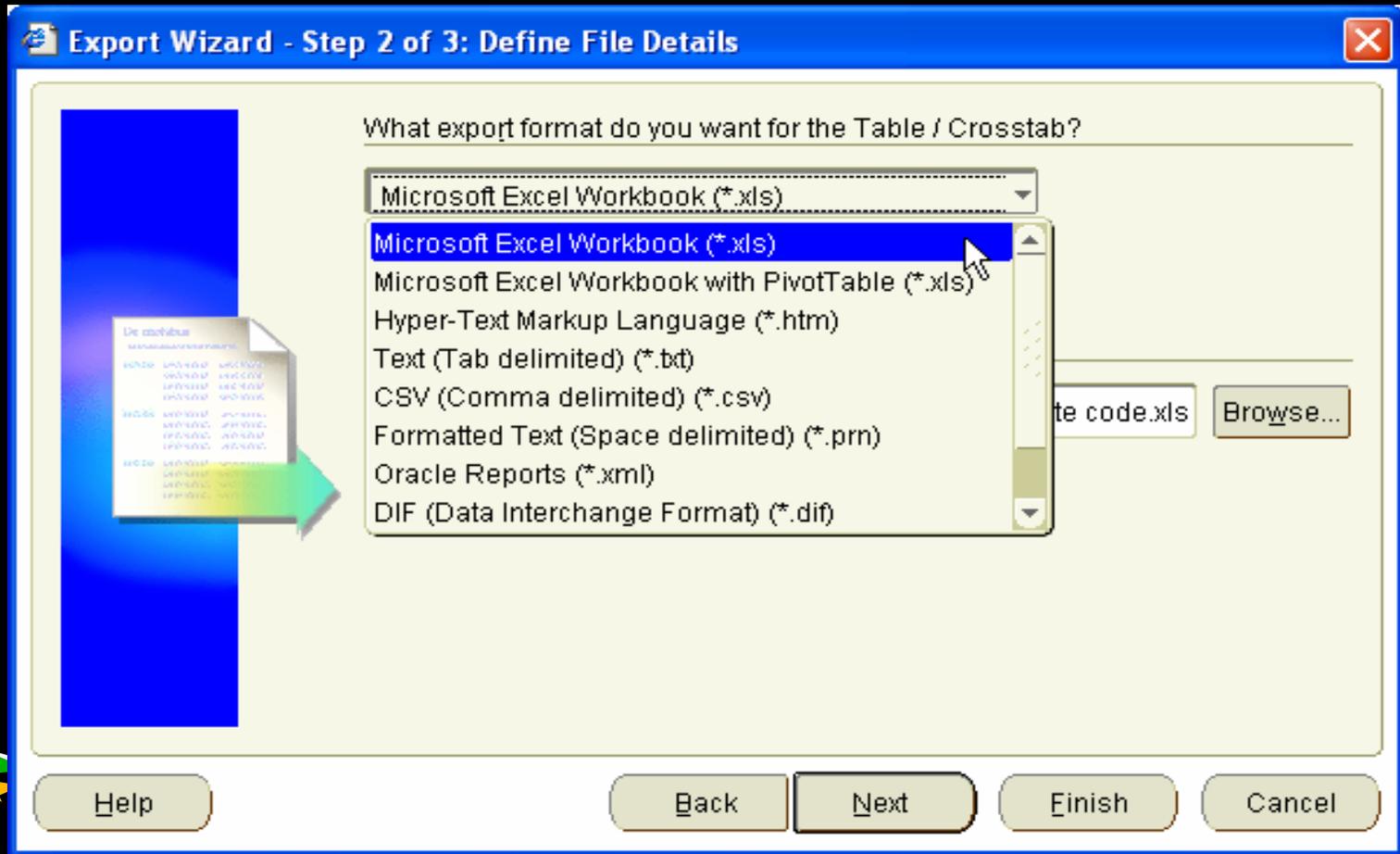
Output Options

1. Excel

	A	B	C	D	E	F	G	H
1	New Criteria monitors in 2004 by state code As of 19-MAY-04							
2								
3	State Abbr	State Code	County Code	Site ID	Parameter Code	POC	Parameter Desc	Date Sampling Began
4	AL	01	121	0003	44201	1	Ozone	01-Mar-2004
5			073	1010	88101	1	Pm2.5 - Local Conditions	01-Jan-2004
6			073	1010	88101	2	Pm2.5 - Local Conditions	01-Jan-2004
7			113	0001	88101	2	Pm2.5 - Local Conditions	17-May-2004
8								Count: 4
9	AK	02	232	0002	88101	1	Pm2.5 - Local Conditions	05-Jan-2004
10			232	0001	88101	1	Pm2.5 - Local Conditions	03-Feb-2004
11								Count: 2
12	AZ	04	021	8001	42602	2	Nitrogen Dioxide	01-Apr-2004
13			013	9993	42602	1	Nitrogen Dioxide	01-Apr-2004
14			013	9997	42602	2	Nitrogen Dioxide	01-Apr-2004
15			007	0010	42602	2	Nitrogen Dioxide	01-Apr-2004
16			021	3012	81102	1	Pm10 Total 0-10um Stp	01-Jan-2004
17								Count: 5
18	CA	06	089	0008	81102	1	Pm10 Total 0-10um Stp	01-Jan-2004
19			027	0026	81102	1	Pm10 Total 0-10um Stp	28-Jan-2004
20			027	0022	81102	1	Pm10 Total 0-10um Stp	06-Feb-2004
21								Count: 3
22	CO	08	077	0018	42101	1	Carbon Monoxide	29-Jan-2004
23			077	0018	81102	1	Pm10 Total 0-10um Stp	15-Jan-2004
24			099	0004	81102	1	Pm10 Total 0-10um Stp	19-Mar-2004
25			099	0005	81102	1	Pm10 Total 0-10um Stp	19-Mar-2004
26			077	0017	88101	2	Pm2.5 - Local Conditions	01-Jan-2004
27								Count: 5
28	CT	09	009	0027	42401	1	Sulfur Dioxide	05-Feb-2004
29			009	0027	42602	1	Nitrogen Dioxide	05-Feb-2004
30			009	0027	44201	1	Ozone	01-Apr-2004

Output Options

2. Other file types



Output Options

HTML example

New Criteria monitors in 2004 by state code
As of 19-MAY-04

	State Abbr	State Code	County Code	Site ID	Parameter Code	POC	Parameter Desc	Date Sampling Began
1	AL	01	121	0003	44201	1	Ozone	01-MAR-2004
2			073	1010	88101	1	Pm2.5 - Local Conditions	01-JAN-2004
3			073	1010	88101	2	Pm2.5 - Local Conditions	01-JAN-2004
4			113	0001	88101	2	Pm2.5 - Local Conditions	17-MAY-2004
5								Count: 4
6	AK	02	232	0002	88101	1	Pm2.5 - Local Conditions	05-JAN-2004
7			232	0001	88101	1	Pm2.5 - Local Conditions	03-FEB-2004
8								Count: 2
9	AZ	04	021	8001	42602	2	Nitrogen Dioxide	01-APR-2004
10			013	9993	42602	1	Nitrogen Dioxide	01-APR-2004
11			013	9997	42602	2	Nitrogen Dioxide	01-APR-2004
12			007	0010	42602	2	Nitrogen Dioxide	01-APR-2004
13			021	3012	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
14								Count: 5
15	CA	06	089	0008	81102	1	Pm10 Total 0-10um Stp	01-JAN-2004
16			027	0026	81102	1	Pm10 Total 0-10um Stp	28-JAN-2004
17			027	0022	81102	1	Pm10 Total 0-10um Stp	06-FEB-2004
18								Count: 3
19	CO	08	077	0018	42101	1	Carbon Monoxide	29-JAN-2004

Output Options

Comma delimited example - opened here with Excel

Microsoft Excel - New Criteria Monitors by state code.csv

File Edit View Insert Format Tools Data Window Help

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SnagIt

Window

8

A1

New Criteria monitors in 2004 by state code

As of 19-MAY-04

	A	B	C						
1	New								
2									
3	State Abbr	State Code	County Code	Site ID	Parameter	POC	Parameter ID	Date Sampling Began	
4	AL	1	121	3	44201		1 Ozone	1-Mar-04	
5			73	1010	88101		1 Pm2.5 - Loc	1-Jan-04	
6			73	1010	88101		2 Pm2.5 - Loc	1-Jan-04	
7			113	1	88101		2 Pm2.5 - Loc	17-May-04	
8								Count: 4	
9	AK	2	232	2	88101		1 Pm2.5 - Loc	5-Jan-04	
10			232	1	88101		1 Pm2.5 - Loc	3-Feb-04	
11								Count: 2	
12	AZ	4	21	8001	42602		2 Nitrogen Di	1-Apr-04	
13			13	9993	42602		1 Nitrogen Di	1-Apr-04	
14			13	9997	42602		2 Nitrogen Di	1-Apr-04	
15			7	10	42602		2 Nitrogen Di	1-Apr-04	
16			21	3012	81102		1 Pm10 Total	1-Jan-04	
17								Count: 5	
18	CA	6	89	8	81102		1 Pm10 Total	1-Jan-04	
19			27	26	81102		1 Pm10 Total	28-Jan-04	
20			27	22	81102		1 Pm10 Total	6-Feb-04	
21								Count: 3	
22	CO	8	77	18	42101		1 Carbon Mon	29-Jan-04	
23			77	18	81102		1 Pm10 Total	15-Jan-04	
24			99	4	81102		1 Pm10 Total	19-Mar-04	
25			99	5	81102		1 Pm10 Total	19-Mar-04	
26			77	17	88101		2 Pm2.5 - Loc	1-Jan-04	
27								Count: 5	
28	CT	9	9	27	42401		1 Sulfur Diox	5-Feb-04	
29			9	27	42602		1 Nitrogen Di	5-Feb-04	
30			9	27	44201		1 Ozone	1-Apr-04	

Ready

NUM

FIX

Saving your Queries

The screenshot shows the Microsoft Excel interface. The 'File' menu is open, and 'Save As...' is selected. A tooltip for 'Save As...' reads: 'Saves the open workbook with a new name'. The 'Save Workbook to Database' dialog box is open, showing a list of available workbooks and a text box for the new name.

Available workbooks:

- sampmeth_haps
- sampmeth_met
- sampmeth_pams
- sampmeth_pamsvoc
- sampmeth_pm10spec
- sampmeth_pm25massqa
- sampmeth_pm25spec
- sampmeth_pm25speccarb
- sampmeth_pm25speccatani

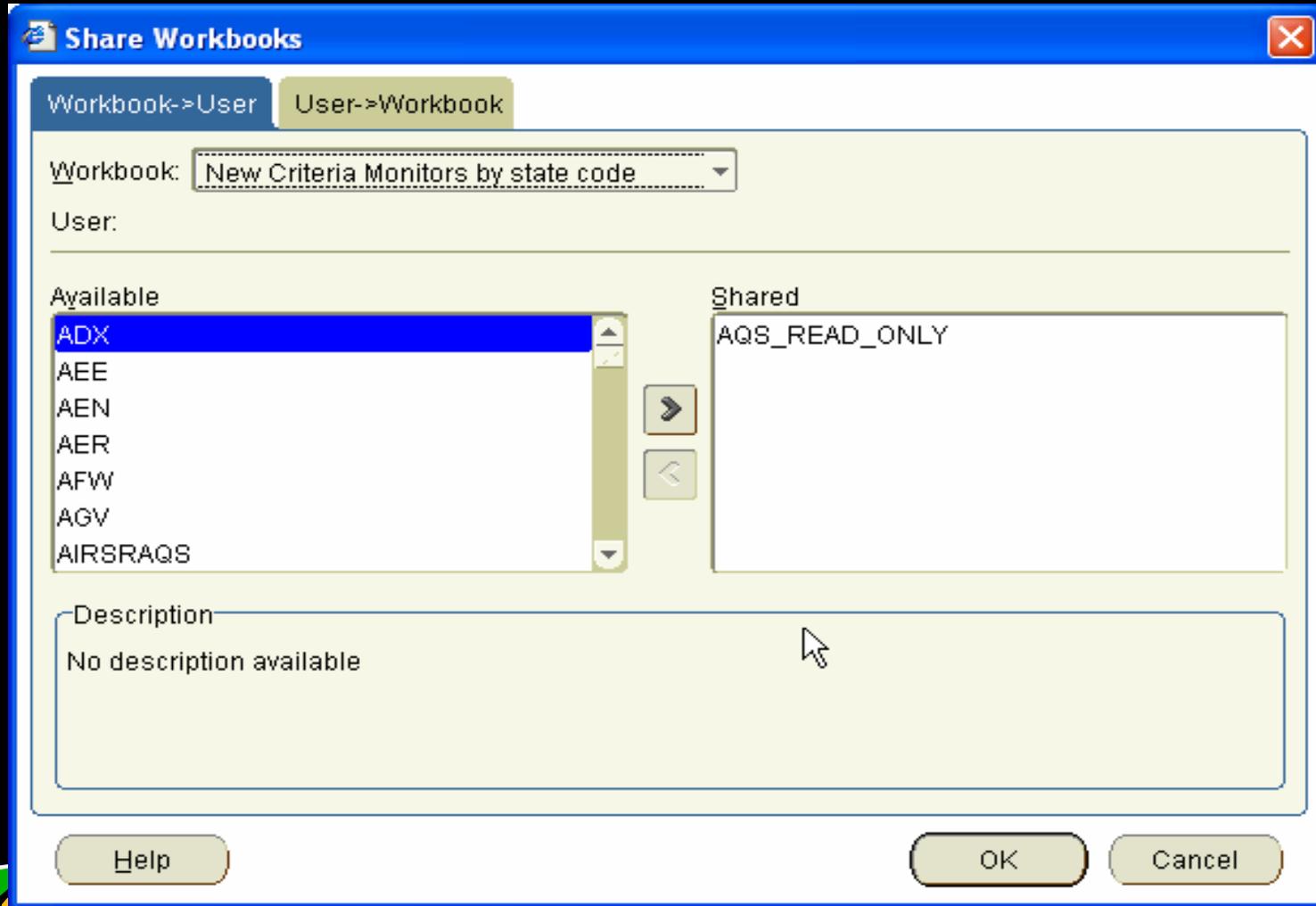
New name:
New Criteria Monitors by state code

Buttons: Help, Save, Cancel

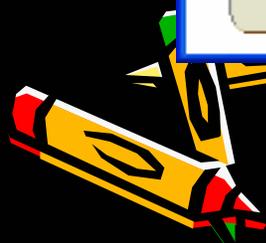
Background spreadsheet data:

County Code	Site ID	Parameter Code
121	0003	44201
073	1010	88101
073	1010	88101
113	0001	88101
232	0002	88101
232	0001	88101
021	8001	42602
013	9993	42602
013	9997	42602
007	0010	42602
001	0010	81101

Sharing your Queries, cont'd



Your userid will be inserted in front of your workbook name, e.g., "BOS.New Criteria Monitors by state code"



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\$ 350 2-years		
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