



## **Welcome to the CLU-IN Internet Seminar**

### **NARPM Presents...Software Demonstration of the ATSDR Brownfields/Land Reuse Site Tool and the ATSDR Dose Calculator Tool**

Delivered: October 4, 2011, 1:00 PM - 3:00 PM, EDT (17:00-19:00 GMT)

*Presenters:*

*Gary D. Perlman, US Public Health Service ATSDR Region 1 (gap6@CDC.GOV, perlman.gary@epa.gov,  
or 617-918-1492)*

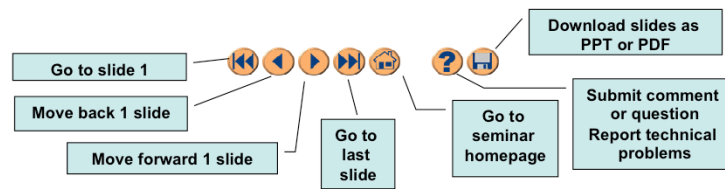
*Moderators:*

*Michael Adam, U.S. EPA, Technology Innovation and Field Services Division (adam.michael@epa.gov or  
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**Visit the Clean Up Information Network online at [www.cluin.org](http://www.cluin.org)**

# Housekeeping

- Please mute your phone lines, Do NOT put this call on hold
  - press \*6 to mute #6 to unmute your lines at anytime
- Q&A
- Turn off any pop-up blockers
- Move through slides using # links on left or buttons



- This event is being recorded
- Archives accessed for free <http://clu.in.org/live/archive/>

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Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press \*6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interrupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1<sup>st</sup> and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.

## *Brownfields Software Tools*

October 4, 2011

Presenter: Gary Perlman

Team: Laurel Berman and Leann Bing

Agency for Toxic Substances and  
Disease Registry (ATSDR)

ATSDR

## ***Who We Are - ATSDR***

- ATSDR is a federal public health agency of the U.S. Department of Health and Human Services.
- Our goal is to prevent harmful exposures and diseases related to toxic substances.
- Our Brownfields/Land Reuse Initiative integrates public health principles into redevelopment.

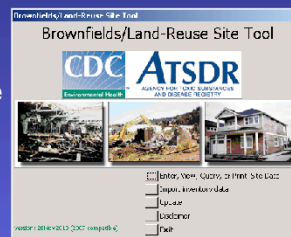


# What Tools Are Available?

- Land Reuse SiteTool
- Dose Calculator
- Action Model
- DVDs – healthy redevelopment videos



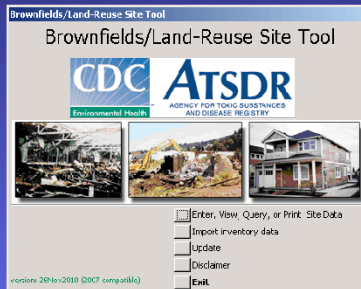
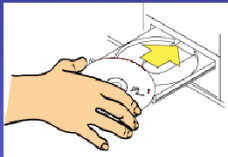
- - We will focus on the Land Reuse Site Tool and Dose Calculator



ATSDR

## Land Reuse Screening Tool

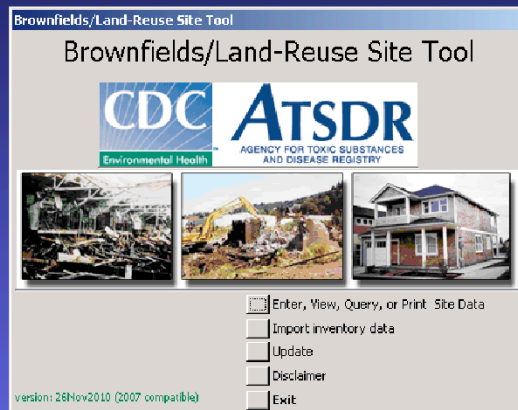
- Can be used for Brownfields inventory
- Rapid site assessment
- Easy to use
- Uses site information to assess public health involvement.
- Includes an integrated Dose Calculator module
- Requires Microsoft® Access®



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**Brownfields/Land Re-use Site Tool**

- This Tool is an inventory, rapid site screening and multiple chemical exposure dose calculating tool that allows users to assess sites by past/future use, institutional controls, sensitive populations, and suspected or confirmed contamination.

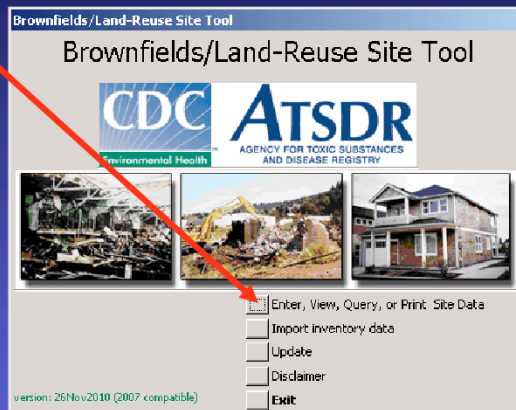


ATSDR

Gary

- Evaluate exposures by defining exposed populations and sub-groups, multiple exposure pathways, user specific ingestion rates for population groups or use defaults
- Calculate doses using ranges of exposure parameters, 95% confidence intervals, geometric mean, and other statistical parameters.
- Test the data for Normal/Log Normal distributions Import and process laboratory data (10,000 data points per minute throughput)
- Import site data from Excel.
- Export data.
- Query data.
- Troubleshoot analytical problems.
- Set up quality-assurance or quality-control programs.
- Compare various laboratory methods.

Start by clicking on  
the button labeled  
“Enter, View, Query,  
or Print Site Data”

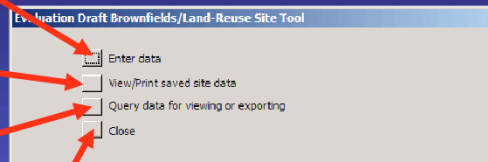


Click here to enter new site data.

Click here to View or Print saved data.

Click here to Query data for viewing or exporting as a CSV file.

Click here to close the dialog box.



**Brownfields/Land Re-use Site Tool**

The information for each site is entered on a series of 13 screens. The screens are also known as “pages”. The first page contains information related to “Site Information”. Enter the site information, then click on the name of the next “page”.

Close Save Scenario Name ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

Site Name:

Site Address:

Site City:  Site State:  Site Zip:

Site County:

Site Latitude (LAT):  Size of Site:

Site Longitude (LONG):  Units:

Site Contact Name:

Site Contact Affiliation:

Site Contact Phone:

Site Contact Email:

Institutional Controls (description):

Start Date:

End Date:

Stewardship:

Catalogue of Violations:

Catalogue of Spills:

Catalogue of Emergency Response(s):

Knowledge of Property

☐ State ☐ Tribal

☐ County

☐ City/Town

Brownfield\_Status:

Owners:

Site Code:

Date Accepted:

Soil removal (tons):

Site Status:

Site Owner Name:

File Number:

Institutional\_controls\_type:

GIV Removed (gals):

☐ Restricted land Use

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Enter "Past type(s), Current Uses, and Adjacent site(s) information.  
Select from the list and add to the box to the right.

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. The form has a tabbed interface with 'Info' selected. The 'Past Use(s)' section is active, showing a dropdown list of site types. A red arrow points to the 'Former Industrial Manufacturing Site' option in the list. The 'Past Use(s)' box on the right contains 'Coal Gasification' and 'Commercial'. The 'Current Use(s)' box contains 'Dry Cleaners'. The 'Adjacent Site(s)' box contains 'Hospital'. The 'Site Type lookup list' is open, showing a list of site types including 'Former Industrial Manufacturing Site', 'Hospital', 'Illegal Dumping', 'Incinerator', 'Lagoon/Ponds/Impoundments', 'Landfill/Junkyard/Dump', 'Leaking Underground Storage Tank (LUST / UST)', 'Light Bulb Mfg', 'Livestock Confinement Operations (CAFO)', 'Mall', 'Meth Lab', 'Military', 'Military Equipment', 'Mill', 'Mining', 'Mixed Use (Residential/Commercial)', 'Municipal', 'Municipal Offices', 'Municipal Wells', and 'Munitions'. The 'add >>' button is highlighted.



Enter information on this page labeled “Data” then click the next “page”. If you will be importing analytical data, save the site data first and provide a “scenario name”.

**Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form**

Close Save Scenario Name: ID:

Info | Type | **Data** | Involvement | Future Use | Proximity | Chems | Concerns | Hazards | Exposures | Attach | Log | Site Visit

**Data From Various Media**

- ☐ Air
- ☐ Biota
- ☐ Soil
- ☐ Well Data
- ☐ Vapor Intrusion (soil gas)
- ☐ Food data
- ☐ Sediment data
- ☐ Product Container

**Reports Available**

- ☐ City Historical Reports
- ☐ Emergency Response
- ☐ Phase One Environmental Site Assessment
- ☐ Phase Two (sampling data) Environmental Site Assessment
- ☐ Removal Action Memo
- ☐ Pollution Report (POUREP)

☐ Contains Linked Air Data

**Evaluation Draft Brownfields/Land Re-use Site Tool**

Please save the scenario before adding data.

☐ Inventory Conducted Date Inventory Conducted:

☐ Buildings on Site Construction Date of the Building(s):

☐ Subsistence Activities Observed on Site

☐ Subsistence Resources Affected

☐ Community Plan Available Community Plan (year):

Name of Interviewer:  Name of People Interviewed:

☐ Children Attracted to Site

☐ Animals Attracted to Site

Local Resources Available to Assist:

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Enter information on this page labeled "Involvement" then click the next "page".

**Evaluation Draft Brownfields/Land-Reuse Site Tool - Data Entry Form**

Close Save Scenario Name: ID:

Info Type Data **Involvement** Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

☐ Prior ATSDR Involvement by Whom, Date(s):

☐ Prior State Involvement by Whom, Date(s):

☐ Prior County Involvement by Whom, Date(s):

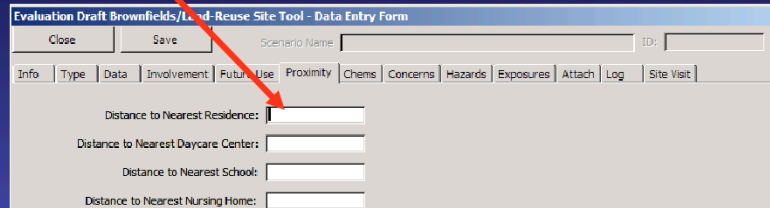
☐ Prior City/Town Involvement by Whom, Date(s):

☐ Prior Tribal Involvement by Whom, Date(s):

Enter “future Use” information. Select from the list and add to the box to the right.

The screenshot shows a web-based data entry form titled "Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form". At the top, there are buttons for "Close" and "Save", followed by a "Scenario Name" input field and an "ID:" field. Below these are several tabs: "Info", "Type", "Data", "Involvement", "Future Use", "Proximity", "Chems", "Concerns", "Hazards", "Exposures", "Attach", "Log", and "Site Visit". The "Future Use" tab is currently selected. On the left, under the heading "Future Use Lookup List (press enter after you enter a new use)", there is a scrollable list box containing the following items: Agricultural, Commercial, Government, Housing, Industrial, Manufacturing, Mixed Use, Open Office Park, Recreational Park, Sidewalk, and Skating Park. To the right of this list are two buttons: "add >>" and "remove <<". A red arrow points from the instruction text above to the "add >>" button. On the far right, under the heading "Future Use(s)", there is a text area containing the text "Daycare Center School".

Enter information on this page labeled  
“Proximity” then click the next “page”.



Close Save Scenario Name ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

Distance to Nearest Residence:

Distance to Nearest Daycare Center:

Distance to Nearest School:

Distance to Nearest Nursing Home:

The information on this page is descriptive only chemical names will be saved. Select the chemical name then click “add>>” to add it to the site information to be saved. Analytical data can only be imported on the Data page.

**Evaluation Draft: Brownfields/Land-Reuse Site Tool - Data Entry Form**

Close Save Scenario Name ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

☒ Air

Chemical (press enter after entering a new chemical)

delete this chemical add >>

CASN remove <<

Synonym

Chemical(s) in Air

1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE

☒ Soil

Chemical (press enter after entering a new chemical)

delete this chemical add >>

CASN 000050-00-0 remove <<

Synonym

Chemical(s) in Soil

FORMALDEHYDE

☒ Water

Chemical (press enter after entering a new chemical)

delete this chemical add >>

CASN 1,1-DCE remove <<

Synonym

Chemical(s) in Water

1,1-DCE

Enter health and other concerns by selecting from the list and clicking “add>>”.

**Evaluation Draft Brownfields/Land-Reuse Site Tool - Data Entry Form**

Close Save Scenario Name ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

Health Concern Lookup List (press enter after you enter a new concern)

☒ Health Concerns

- cancer
- cardiovascular
- death
- dermal
- endocrine
- eye
- gastrointestinal
- genitourinary
- genotoxic
- hematological
- hepatic
- immunological
- kidney
- lymphoreticular
- metabolic
- musculoskeletal
- nausea
- neurological
- non distinct aches pain
- non distinct anxiety

☒ Other Concerns

add >> remove <<

Health Concern(s)

eye irritation

Other Concern(s)

air quality  
noise

add >> remove <<

**Brownfields/Land Re-use Site Tool**

Enter information on this page labeled “Hazards” then click the next “page”. The hazards are entered by selecting from the list and clicking “add>>”.

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. The 'Hazards' tab is active. A red arrow points to the 'add >>' button. The 'Hazards Lookup List' contains the following items:

- above ground storage tanks
- asbestos containing materials
- batteries
- biohazards
- compressed gas cylinders
- dioxin
- drug/lab waste
- leakage
- light fixtures (Hg)
- other metals
- paint
- pesticides
- petroleum
- polycyclic aromatic hydrocarbons (PAH)
- radioactive waste
- soil
- tires
- trash piles
- underground storage tank (UST)
- unexploded ordnance (UXO)

The 'Hazards on Site' list is currently empty.

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Enter information on this page labeled “Exposure”.  
Then click on the tab labeled “Attach.”

**Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form**

Close Save Scenario Name: ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

**Potential Exposure Routes**

- ☐ Air Exposure Route
- ☐ Soil Exposure Route
- ☐ Water Exposure Route
- ☐ Sediment Exposure Route
- ☐ Soil Gas Exposure Route

**Potential Exposed Populations**

- ☐ Adults
- ☐ Children
- ☐ Elderly

Brief description of who is accessing site:

Frequency of Site Access:

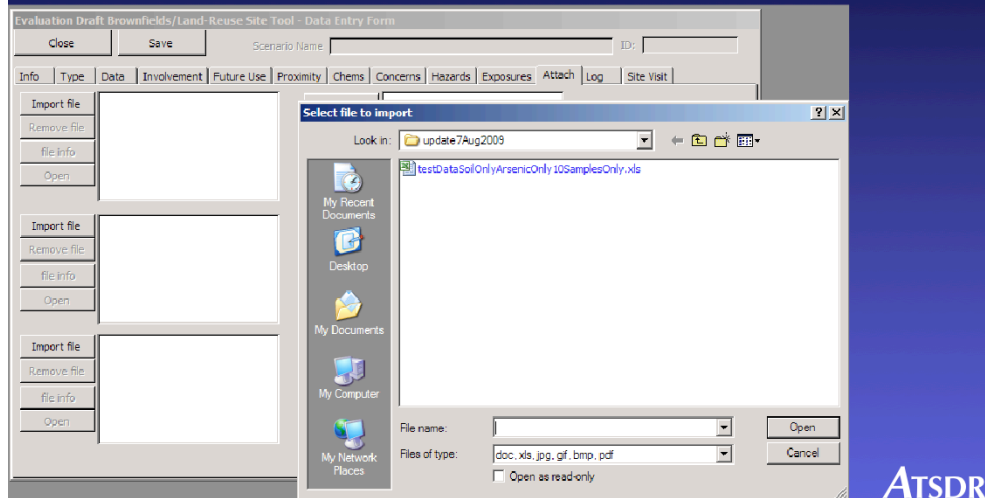
**Exposure scenarios**

- ☐ Secure Perimeter Fence
- ☐ Biking
- ☐ Skating
- ☐ Playing
- ☐ Swimming
- ☐ Homeless Shelter

Other:



**You may attach up to 5 files (documents, spreadsheets, image files or PDF files).**



Enter additional information about the site here.

Evaluation Draft Brownfields/Land-Reuse Site Tool - Data Entry Form

Close Save Scenario Name ID#

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

Inquiries About Site:

Enter additional information about this site here.

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Site visit information (if available) can be entered on this page and sub-pages.

Close Save Site Name: ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

☒ Enter the Visit Data

**Site Visit Information**

Status Physical Hazard/ Water Distances Sensitive Populations Contact Info Community Other Observations

☐ Active  
☐ Inactive  
☐ Abandoned  
☐ Residential  
☐ Commercial  
☐ Agricultural  
☐ Industrial

## Site Visit sub-pages: Physical Hazard/Water

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. At the top, there are buttons for 'Close' and 'Save', followed by a 'Scenario Name' field and an 'ID' field. Below these are tabs for 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chemicals', 'Concerns', 'Hazards', 'Exposures', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is selected. Underneath, there is a checkbox for 'Enter Site Visit Data' which is checked. The main section is titled 'Site Visit Information' and contains several sub-tabs: 'Status', 'Physical Hazard/Water', 'Distances', 'Sensitive Populations', 'Contact Info', 'Community', and 'Other Observations'. The 'Physical Hazard/Water' sub-tab is selected and highlighted with a red arrow. This sub-tab contains two columns of checkboxes: 'Physical Hazards' and 'Private/Public Water Sources'. The 'Physical Hazards' column includes checkboxes for 'Dilapidated', 'Barrels', 'Unlimited Access', and 'Pits/Ponds/Lagoons'. The 'Private/Public Water Sources' column includes checkboxes for 'Private Wells', 'Public Surface', and 'Public Groundwater'.

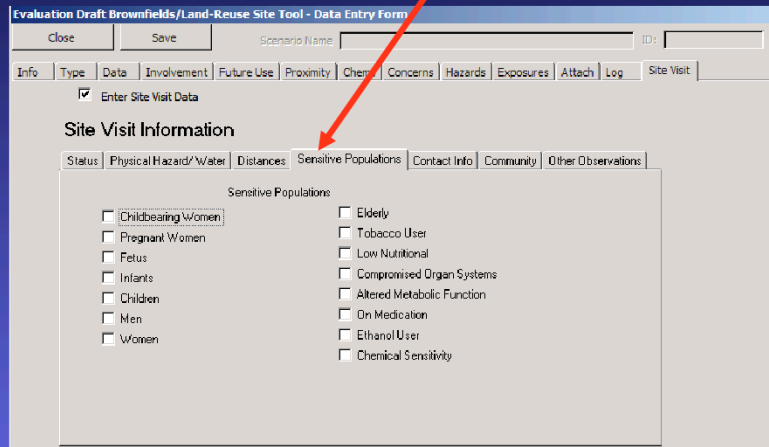
Physical Hazards		Private/Public Water Sources	
<input type="checkbox"/> Dilapidated		<input type="checkbox"/> Private Wells	
<input type="checkbox"/> Barrels		<input type="checkbox"/> Public Surface	
<input type="checkbox"/> Unlimited Access		<input type="checkbox"/> Public Groundwater	
<input type="checkbox"/> Pits/Ponds/Lagoons			

## Site Visit sub-pages: Distances

The screenshot displays the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. At the top, there are buttons for 'Close' and 'Save', followed by a 'Scenario Name' field and an 'ID' field. Below these are tabs for 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chems', 'Concerns', 'Hazards', 'Exposures', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is selected, and a checkbox labeled 'Enter Site Visit Data' is checked. Under the 'Site Visit Information' heading, there are several sub-tabs: 'Status', 'Physical Hazard/ Water', 'Distances', 'Sensitive Populations', 'Contact Info', 'Community', and 'Other Observations'. The 'Distances' tab is highlighted with a red arrow. This tab contains four rows of input fields, each with a label and a unit specification: 'Distance to Residence' (units: feet, miles, meters, etc), 'Distance to Day Care Center' (units: feet, miles, meters, etc), 'Distance to School' (units: feet, miles, meters, etc), and 'Distance to Nursing Home' (units: feet, miles, meters, etc).

Distance to Residence	Distance to Day Care Center	Distance to School	Distance to Nursing Home
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
units (feet, miles, meters, etc)	units (feet, miles, meters, etc)	units (feet, miles, meters, etc)	units (feet, miles, meters, etc)

## Site Visit sub-pages: Sensitive Populations



The screenshot displays the 'Evaluation Draft Brownfields/Land-Reuse Site Tool - Data Entry Form'. At the top, there are buttons for 'Close' and 'Save', followed by fields for 'Scenario Name' and 'ID:'. Below these are tabs for 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chemical', 'Concerns', 'Hazards', 'Exposures', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is active, and a red arrow points to the 'Sensitive Populations' sub-tab. The 'Sensitive Populations' sub-tab contains a list of checkboxes for various sensitive populations:

- ☐ Childbearing Women
- ☐ Pregnant Women
- ☐ Fetus
- ☐ Infants
- ☐ Children
- ☐ Men
- ☐ Women
- ☐ Elderly
- ☐ Tobacco User
- ☐ Low Nutritional
- ☐ Compromised Organ Systems
- ☐ Altered Metabolic Function
- ☐ On Medication
- ☐ Ethanol User
- ☐ Chemical Sensitivity

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## Site Visit sub-pages: Contact Info

The screenshot displays the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. At the top, there are 'Close' and 'Save' buttons, followed by a 'Scenario Name' field and an 'ID' field. Below these are several tabs: 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chems', 'Concerns', 'Hazard', 'Exposures', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is selected, and a sub-tab 'Enter Site Visit Data' is checked. Under 'Site Visit Information', there are several sub-tabs: 'Status', 'Physical Hazard/ Water', 'Distances', 'Sensitive Populations', 'Contact Info', 'Community', and 'Other Observations'. The 'Contact Info' sub-tab is selected, and it contains a list of contact types with corresponding input fields: 'EPA Brownfield Contact', 'Site Owner', 'State Health', 'City, Local Official', 'Government Entities', and 'Private Citizens'. A red arrow points to the 'Contact Info' sub-tab.

## Site Visit sub-pages: Community

The screenshot displays the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. At the top, there are buttons for 'Close' and 'Save', followed by a 'Scenario Name' field and an 'ID' field. Below these are several tabs: 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chem', 'Concerns', 'Hazards', 'Exposure', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is active, and within it, the 'Enter Site Visit Data' checkbox is checked. The 'Site Visit Information' section contains several sub-tabs: 'Status', 'Physical Hazard/Water', 'Distances', 'Sensitive Populations', 'Contact Info', 'Community', and 'Other Observations'. The 'Community' tab is selected, and a red arrow points to it. The 'Community' sub-page contains three input fields: 'Approx Number of People Accessing Site', 'Frequency of Site Access', and 'Community Health Concerns'. There is also a 'Data Gape' input field.

Close Save Scenario Name ID:

Info Type Data Involvement Future Use Proximity Chem Concerns Hazards Exposure Attach Log Site Visit

☒ Enter Site Visit Data

**Site Visit Information**

Status Physical Hazard/Water Distances Sensitive Populations Contact Info **Community** Other Observations

Approx Number of People Accessing Site

Frequency of Site Access

Community Health Concerns

Data Gape



## Site Visit sub-pages: Other Observations

The screenshot displays the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. At the top, there are buttons for 'Close' and 'Save', followed by a 'Scenario Name' field and an 'ID:' field. Below these are several tabs: 'Info', 'Type', 'Data', 'Involvement', 'Future Use', 'Proximity', 'Chems', 'Concerns', 'Hazards', 'Exposures', 'Attach', 'Log', and 'Site Visit'. The 'Site Visit' tab is selected, and a sub-tab 'Enter Site Visit Data' is also selected. Under 'Enter Site Visit Data', there is a section titled 'Site Visit Information' with several sub-tabs: 'Status', 'Physical Hazard/Water', 'Distances', 'Sensitive Populations', 'Contact Info', 'Community', and 'Other Observations'. The 'Other Observations' sub-tab is selected, and a red arrow points to it. Below the sub-tabs is a large text area labeled 'OtherObservations:' with a scroll bar.

Click on Save, then enter a scenario name.

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form'. The 'Save' button is highlighted with a red arrow. A dialog box titled 'Evaluation Draft Brownfields/Land Re-use Site Tool' is open, showing the 'Enter a scenario name' field with the text 'Parcel 11c Northville MA' and 'OK'/'Cancel' buttons. A second red arrow points to the 'Enter a scenario name' field.

Close Save Scenario Name ID#

Info Type Data Involvement Future Use

☒ Enter Site Visit Data

Site Visit Information

Status Physical Hazard/ Water Distance

Other Observations:

Enter a scenario name OK Cancel

Parcel 11c Northville MA

Importing analytical data. Click on the “Data” page, then click on “Add Data To Scenario”.

**Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form**

Close Save Scenario Name: Parcel 11c Northville MA ID:

Info Type **Data** Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

**Data From Various Media**

- ☐ Air
- ☐ Biota
- ☐ Soil
- ☐ Well Data
- ☐ Vapor Intrusion (soil gas)
- ☐ Food data
- ☐ Sediment data
- ☐ Product Container

**Reports Available**

- ☐ City Historical Reports
- ☐ Emergency Response
- ☐ Phase One Environmental Site Assessment
- ☐ Phase Two (sampling data) Environmental Site Assessment
- ☐ Removal Action Memo
- ☐ Pollution Report (POLREP)

**Data Available (other):**

**Add Data To Scenario**

Click this to import data from an Excel file.

- ☐ Contains Linked Soil Data
- ☐ Contains Linked Water Data
- ☐ Contains Linked Fish Data

Select body weight for the dose calculations that will be conducted on the imported data.

Import and Process Data Cancel

Start Here

Select Body Weight:

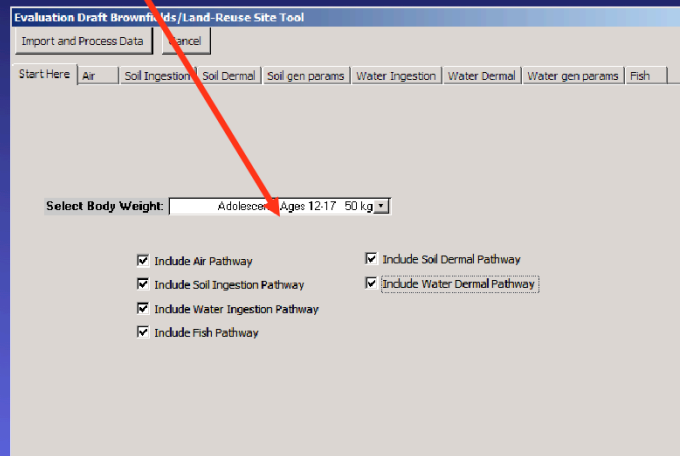
- Adolescents Ages 12-17 50 kg
- Adults Ages 18-70 70 kg
- Children Ages 1-11 30 kg
- Infants Under Age 1 10 kg

☐ Include Soil Ingestion Pathway ☐ Include Soil Dermal Pathway

☐ Include Water Ingestion Pathway ☐ Include Water Dermal Pathway

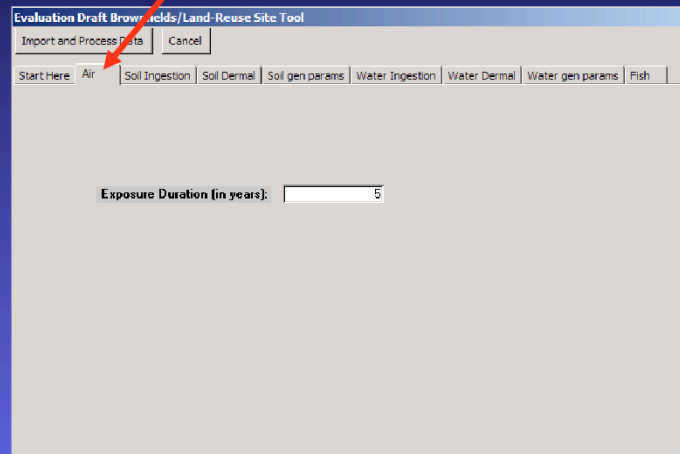
☐ Include Fish Pathway

Then select the pathways to analyze. The database will check for each pathway in the datafile.



The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' window. At the top, there are buttons for 'Import and Process Data' and 'Cancel'. Below these is a 'Start Here' section with tabs for 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion', 'Water Dermal', 'Water gen params', and 'Fish'. The 'Air' tab is selected. In the center, there is a 'Select Body Weight:' label followed by a dropdown menu showing 'Adolescent Ages 12-17 50 kg'. Below this, there are six checkboxes, all of which are checked: 'Include Air Pathway', 'Include Soil Ingestion Pathway', 'Include Water Ingestion Pathway', 'Include Fish Pathway', 'Include Soil Dermal Pathway', and 'Include Water Dermal Pathway'. The ATSDR logo is visible in the bottom right corner.

Enter the pathway-specific parameters.



The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool' window. At the top, there are buttons for 'Import and Process Data' and 'Cancel'. Below these is a 'Start Here' section with a row of tabs: 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion', 'Water Dermal', 'Water gen params', and 'Fish'. A red arrow points to the 'Air' tab. Below the tabs, the 'Exposure Duration (in years):' is displayed with a text input field containing the number '5'.

Enter the pathway-specific parameters.

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool' window. At the top, there are buttons for 'Import and Process Data' and 'Cancel'. Below these are several tabs: 'Start Here', 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion', 'Water Dermal', 'Water gen params', and 'Fish'. A red arrow points to the 'Soil Ingestion' tab. The 'Soil Ingestion' tab is active, showing the 'Soil Intake:' section. This section has two radio buttons: 'Enter Soil Intake Rate/day' and 'Use Standard Intake Rate'. The 'Use Standard Intake Rate' option is selected. To the right of this option is a text box containing '200 mg/day - Child average' and a dropdown arrow. The unit 'mg/day' is also displayed to the right of the text box.

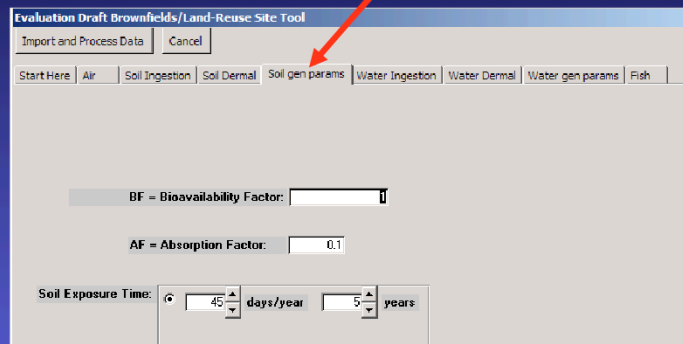
Enter the pathway-specific parameters. (Select areas exposed to contaminants).

The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' interface. The 'Soil Dermal' tab is selected. The formula  $A = \text{Total Soil Adherence (mg)} = \text{Exposed Skin Area} \times \text{Soil Adherence Concentration}$  is displayed. The 'Exposed Skin Area' is calculated as  $1.36E+04$  cm<sup>2</sup>, and the 'Soil Adherence Concentration' is  $0.2$ . The resulting 'A' value is  $2.76E+03$ . Below this, the 'Total Surface Area (SA) [cm<sup>2</sup>]' is  $15238$ . A table lists the percentage of total SA for various body parts:

Body Part	% of total SA
Head	9.30%
Torso	32.70%
Arms	12.43%
Hands	5.30%
Legs	32.53%
Feet	7.66%



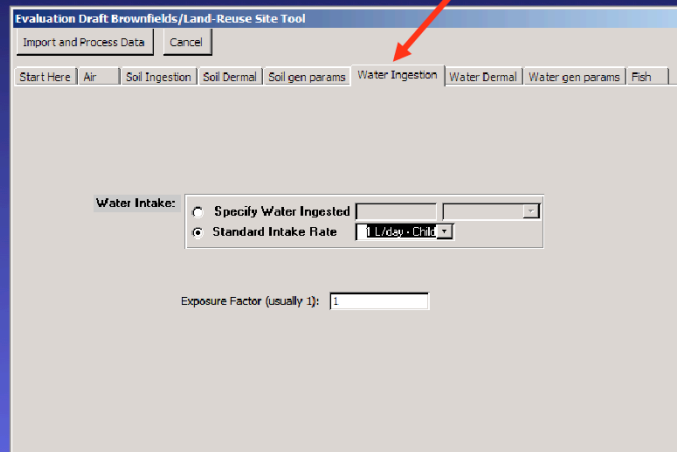
Enter the pathway-specific parameters.



The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' window. The 'Soil gen params' tab is selected, indicated by a red arrow. The window contains the following fields:

- BF = Bioavailability Factor:** A text input field with the value '1'.
- AF = Absorption Factor:** A text input field with the value '0.1'.
- Soil Exposure Time:** A group box containing two spinners. The first spinner is set to '45' and is labeled 'days/year'. The second spinner is set to '5' and is labeled 'years'.

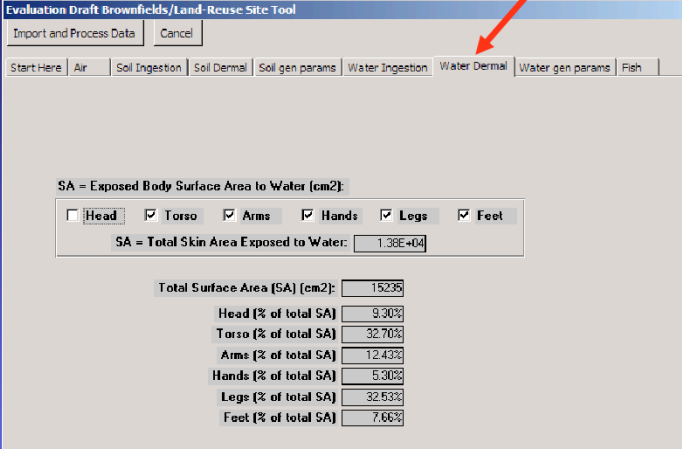
Enter the pathway-specific parameters.



The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' window. The 'Water Ingestion' tab is selected, as indicated by a red arrow. The window contains the following elements:

- Buttons: 'Import and Process Data' and 'Cancel'.
- Tabbed interface with the following tabs: 'Start Here', 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion' (active), 'Water Dermal', 'Water gen params', and 'Fish'.
- Water Intake:**
  - ☐ Specify Water Ingested: A text input field with a unit dropdown menu.
  - ☒ Standard Intake Rate: A dropdown menu showing '1 L/day • Child'.
- Exposure Factor (usually 1):** A text input field containing the value '1'.

Enter the pathway-specific parameters.



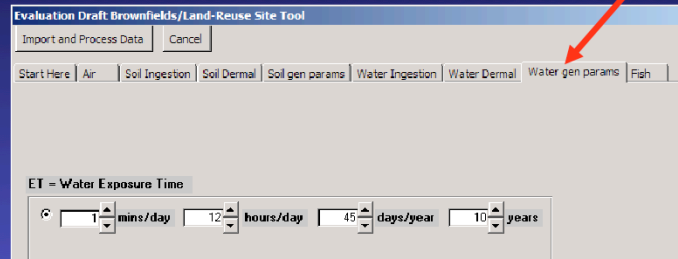
SA = Exposed Body Surface Area to Water (cm<sup>2</sup>):

☐ Head ☒ Torso ☒ Arms ☒ Hands ☒ Legs ☒ Feet

SA = Total Skin Area Exposed to Water: 1.36E+04

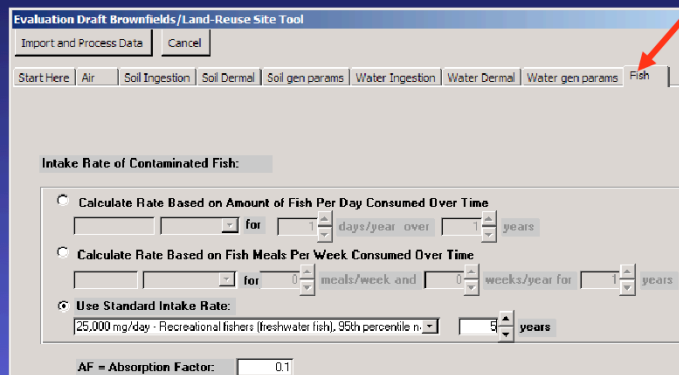
Total Surface Area (SA) (cm <sup>2</sup> ):	15235
Head (% of total SA)	9.30%
Torso (% of total SA)	32.70%
Arms (% of total SA)	12.43%
Hands (% of total SA)	5.30%
Legs (% of total SA)	32.53%
Feet (% of total SA)	7.66%

Enter the pathway-specific parameters.



The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' window. At the top, there are buttons for 'Import and Process Data' and 'Cancel'. Below these are several tabs: 'Start Here', 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion', 'Water Dermal', 'Water gen params', and 'Fish'. A red arrow points to the 'Water gen params' tab. The 'Water gen params' tab is active, displaying the 'ET = Water Exposure Time' section. This section contains four input fields with units: 'mins/day' (value 1), 'hours/day' (value 12), 'days/year' (value 45), and 'years' (value 10).

Enter the pathway-specific parameters.



The screenshot shows the 'Evaluation Draft Brownfields/Land-Reuse Site Tool' interface. At the top, there is a title bar and a navigation bar with tabs: 'Start Here', 'Air', 'Soil Ingestion', 'Soil Dermal', 'Soil gen params', 'Water Ingestion', 'Water Dermal', 'Water gen params', and 'Fish'. A red arrow points to the 'Fish' tab. Below the navigation bar, the 'Intake Rate of Contaminated Fish:' section is visible. It contains three radio button options: 'Calculate Rate Based on Amount of Fish Per Day Consumed Over Time', 'Calculate Rate Based on Fish Meals Per Week Consumed Over Time', and 'Use Standard Intake Rate:'. The 'Use Standard Intake Rate:' option is selected. Below this, there is a dropdown menu showing '[25,000 mg/day - Recreational fishers (freshwater fish), 95th percentile n...]' and a text input field with the value '3' and a unit 'years'. At the bottom, there is a label 'AF = Absorption Factor:' followed by a text input field with the value '0.1'.

Click on “Import and Process Data”. The data will be imported from a previously formatted file. The data must be formatted using the companion tool “Data Conversion Tool” (see next 12 slides).

Evaluation Draft - Brownfields/Land Re-use Site Tool

Import and Process Data Cancel

Start Here Air Soil Ingestion Soil Dermal Soil gen params Water Ingestion Water Dermal Water gen params Fish

**Intake Rate of Contaminated Fish:**

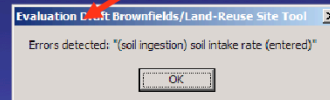
☐ Calculate Rate Based on Amount of Fish Per Day Consumed Over Time  
[ ] for [ ] days/year over [ ] years

☐ Calculate Rate Based on Fish Meals Per Week Consumed Over Time  
[ ] for [ ] meals/week and [ ] weeks/year for [ ] years

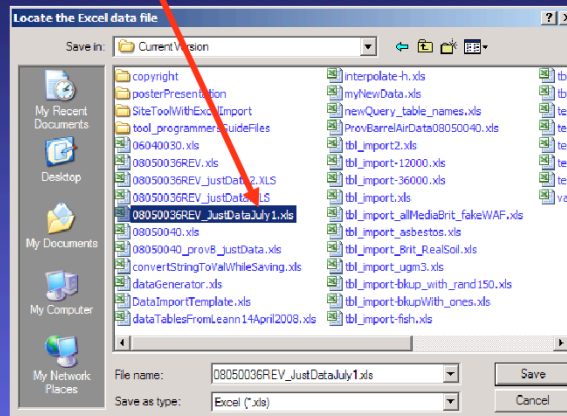
☒ Use Standard Intake Rate:  
[25,000 mg/day - Recreational fishers (freshwater fish), 95th percentile n=...] [3] years

AF = Absorption Factor: [0.1]

If there are no errors in the exposure parameters the following dialog will be displayed, otherwise the error(s) will be identified.

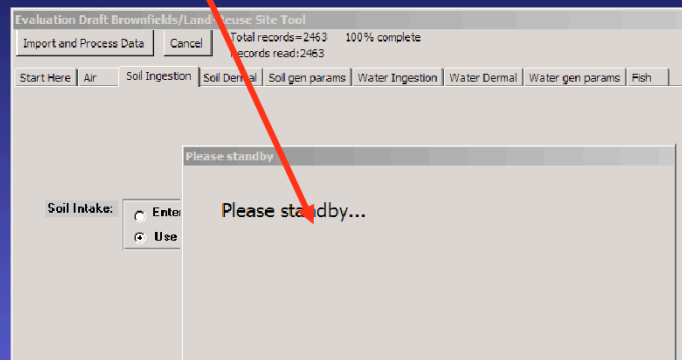


Locate the spreadsheet then click save. This system is only able to import xls files.





The number of records will be display along with the percent of all records read.



If there are any errors in the data (missing heading file, incorrect media, etc) they will be displayed. Otherwise, the dialog listed below will be displayed.



**Save** the data, then click on **Close**.

**Evaluation Draft Brownfields/Land Re-use Site Tool - Data Entry Form**

Close Save Scenario Name: Parcel 11c Northville MA ID:

Info Type Data Involvement Future Use Proximity Chems Concerns Hazards Exposures Attach Log Site Visit

**Data From Various Media**

- ☐ Air
- ☐ Biota
- ☐ Soil
- ☐ Well Data
- ☐ Vapor Intrusion (soil gas)
- ☐ Food data
- ☐ Sediment data
- ☐ Product Container

**Reports Available**

- ☐ City Historical Reports
- ☐ Emergency Response
- ☐ Phase One Environmental Site Assessment
- ☐ Phase Two (sampling data) Environmental Site Assessment
- ☐ Removal Action Memo
- ☐ Pollution Report (POLREP)

**Add Data To Scenario**

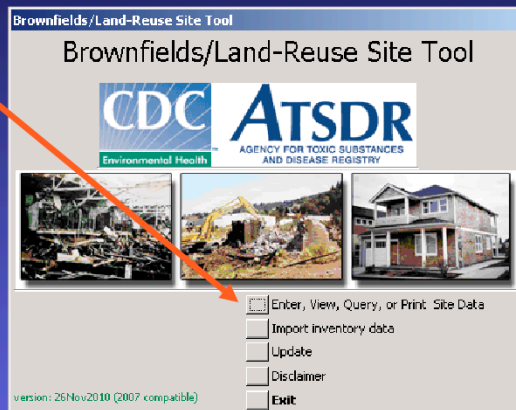
Click this to import data from an Excel file.

- ☐ Contains Linked Soil Data
- ☐ Contains Linked Water Data
- ☐ Contains Linked Fish Data

Data Available (other):

ATSDR

To view and print the processed data, click on the top button.



Click on View/Print site data



The most recent site will be the last record. Use the query function to search for a specific record.

A checkboxes indicates there are site visit data and linked imported analytical data for viewing

The data from these (287) records can be exported to a CSV file. Use the Query function to select specific records.

The record displayed can be edited or deleted.

View and print the site data and site visit data (if available).

The screenshot shows the 'Evaluation Draft Brownfields/Land Re-use Site Tool' window. It contains the following elements:

- Site Information:** Site Name (Parcel 11c), Address, City (Northville), State (MASSACHUSETTS), and Scenario Name (Parcel 11c Northville MA).
- Data Linkage Checkboxes:** ☒ Contains Linked Site Visit Data, ☐ Contains Linked Air Data, ☒ Contains Linked Soil Data, ☐ Contains Linked Water Data, and ☐ Contains Linked Fish Data.
- Export Function:** A button labeled 'Export Record(s) as a comma delimited file'.
- Action Buttons:** 'Edit Record' and 'Delete Record' buttons.
- Reporting Section:** Divided into 'Site Data Reports' (with 'Site Data' and 'Site Visit' buttons) and 'Environmental Sampling Reports' (with 'Air Data', 'Soil Data', 'Fish Data', and 'Water Data' buttons).
- Summary Statistics:** Checkboxes for 'Maximum Values', 'Average Values', 'Geometric Mean Values', 'SSUCL (untransformed data with normality test)', and 'SSUCL (Log transformed data with normality test)'.
- Footer:** A 'Close' button and a status bar showing 'Records: 14 of 287'.

Red arrows from the text on the left point to the following features in the interface:

- From 'A checkboxes indicates...': Points to the 'Contains Linked Site Visit Data' checkbox.
- From 'The data from these (287) records...': Points to the 'Export Record(s) as a comma delimited file' button.
- From 'The record displayed can be edited or deleted.': Points to the 'Edit Record' and 'Delete Record' buttons.
- From 'View and print the site data and site visit data...': Points to the 'Site Data' and 'Site Visit' buttons in the 'Site Data Reports' section.
- From the bottom arrow: Points to the 'Records: 14 of 287' status bar.

The most recent site will be the last record. Use the query function to search for a specific record.

Site Name: Parcel 11c  
Address:   
City: Northville State: MASSACHUSETTS  
Scenario Name: Parcel 11c Northville MA

☒ Contains Linked Site Visit Data ☐ Contains Linked Air Data  
☒ Contains Linked Soil Data ☐ Contains Linked Water Data  
☐ Contains Linked Fish Data

Export Record(s) as a comma delimited file

Edit Record Delete Record

Site Data Reports: Site Data Site Visit

Environmental Sampling Reports: Air Data Soil Data Fish Data Water Data

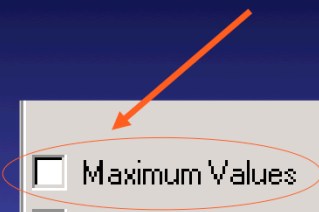
☐ Maximum Values ☐ 95UCL (untransformed data with normality test)  
☐ Average Values ☐ 95UCL (Log transformed data with normality test)  
☐ Geometric Mean Values

Close

Records: 14 of 287

View and print the analytical dose calculations report for available media

View and print various reports. The dose calculation in each report is based on the statistical parameter in the report name (e.g., view the dose calculation based on the Maximum).

**Reports – Maximum Values**☐ Maximum Values☐ Average Values☐ Geometric Mean Values☐ 95UCL  
(untransformed data  
with normality test)☐ 95UCL (Log  
transformed data  
with normality test)



## Reports – Maximum values used in the calculations

*Soil-Results based on the maximum values.*

bw: 5.00E+01 IR: 2.00E+02 A: 0.00E+00 BF: 1.00E+00 SA: 0.00E+00  
AF: 1.00E+01 EF: 1.23E+01 ED yrs: 5.00E+00 limbs:

Chemical CASN Units CV name CV value >CV N #ND #nonND>CV MXConc IngDose DermalDose IngestCa DermCa

*Actual data are above a CV value.*

Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	#nonND>CV	MXConc	IngDose	DermalDose	IngestCa	DermCa
Arsenic	007440-38-2	ppm	Soil CREG SE-01		Y	11	0	11	1.9E+01	7.6E-05		6.1E-06	

acute MRL: 5.E-03

int MRL: n/a

chr MRL: 3.E-04

min=2.7E+0, Q1=4.8E+0, median=6.8E+0, arithmetic mean=7.8E+0, Q3=1.0E+1, max=1.9E+1, range=1.6E+1  
NS:.....Q1.....QE.....Q3.....NDX  
CV:.....

**Reports – Average Values**☐ Maximum Values☐ Average Values☐ Geometric Mean Values☐ 95UCL(untransformed data  
with normality test)☐ 95UCL (Logtransformed data  
with normality test)

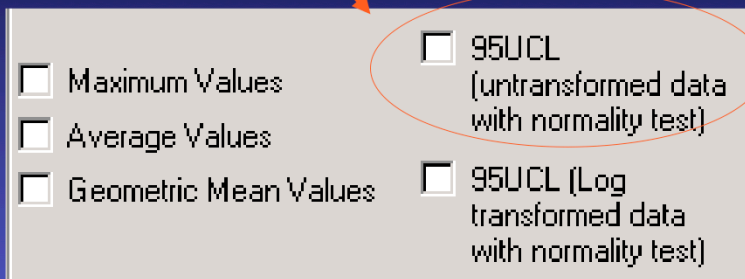
## Reports – Average (arithmetic mean) values used in the calculations

Soil-Results based on the arithmetic mean.													
bw: 5.00E+01   IR: 2.00E+02   A: 0.00E+00   BF: 1.00E+00   SA: 0.00E+00													
AF: 1.00E-01   EF: 1.23E-01   ED <sub>15</sub> : 5.00E+00   Limbs:													
Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND>CV	Avg Conc	Ing Dose	DermalDose	IngestCa	DermCa
Actual data are above a CV value													
Arsenic	007440-38-2	ppm	Soil CREG	5E-01	Y	11	0	11	7.8E+00	3.1E-05		3.3E-08	
acute MRL: 5.E-03													
int MRL: n/a													
chr MRL: 3.E-04													
min=2.7E+0, Q1=4.5E+0, median=6.5E+0, arithmetic mean=7.5E+0, Q3=1.0E+1, max=1.5E+1, range=1.6E+1													
CV:.....													

**Reports – Geometric Mean Values**☐ Maximum Values☐ Average Values☐ Geometric Mean Values☐ 95UCL(untransformed data  
with normality test)☐ 95UCL (Logtransformed data  
with normality test)

## Reports – Geometric Mean values used in the calculations

<i>Soil-Results based on the geometric mean.</i>													
<i>bw: 5.00E+01    IR: 2.00E+02    A: 0.00E+00    BF: 1.00E+00    SA: 0.00E+00</i>													
<i>AF: 1.00E+01    EF: 1.23E-01    ED_ysr: 5.00E+00    Imbs:</i>													
Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	#non ND>CV	GMConc	Ing Dose	DermalDose	IngestCa	DermCa
<u>Actual data are above a CV value</u>													
Arsenic	007440-38-2	ppm	Soil CREG SE-01		Y	11	0	11	6.9E+00	2.7E-05		2.9E-06	
acute MRL: 5.E-03 int MRL: n/a chr MRL: 3.E-04  min=2.7E+0, Q1=4.9E+0, median=6.9E+0, arithmetic mean=7.9E+0, Q3=1.0E+1, max=1.9E+1, range=1.6E+1 MR.....Q1.....Q2.....Q3..... CV.....													

**Reports – 95 UCL (untransformed data)**

☐ Maximum Values

☐ Average Values

☐ Geometric Mean Values

☐ 95UCL (untransformed data with normality test)

☐ 95UCL (Log transformed data with normality test)

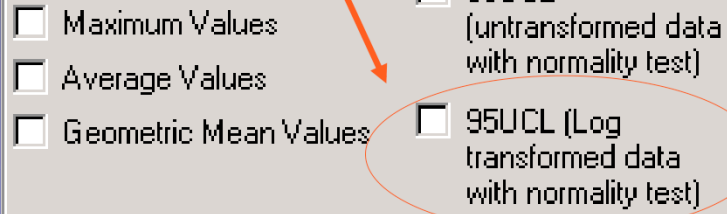
## Reports –95 UCL (untransformed data) values used in the calculations

*Soil-Results based on the 95% UCL of the arithmetic mean values.*

bw: 5.00E+01 IR: 2.00E+02 A: 0.00E+00 BF: 1.00E+00 Sd: 0.00E+00  
AF: 1.00E-01 EF: 1.20E-01 ED\_yrs: 5.00E+00 limits:

Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	#non ND>CV	UCL	Ing Dose	DermalDose	IngestCa	DermCa
<i>Actual data are above a CV value.</i>													
Benzo(a)anthracene	000058-55-3	ppm	PRG ResSoil	1E-01	Y	12	0	12	2.0E+01	8.1E-05			
acute MRL: n/a													
int MRL: n/a													
chr MRL: n/a													
min=1.2E+0, Q1=2.1E+0, median=3.E+0, arithmetic mean=9.E+0, Q3=7.E+0, max=6.5E+1, range=6.4E+1													
W-Stat=4.5e-1 p-value=6.2e-6 p-value is < 0.05. These data are not normally distributed.													

**Reports – 95 UCL (Log transformed data)**

- 
- ☐ Maximum Values
  - ☐ Average Values
  - ☐ Geometric Mean Values
  - ☐ 95UCL (untransformed data with normality test)
  - ☐ 95UCL (Log transformed data with normality test)



## Reports –95 UCL (Log transformed data) values used in the calculations

<i>Soil-Results based on the 95% UCL of the Log transformed values.</i>													
<i>bw: 5.00E+01    IR: 2.00E+02    A: 0.00E+00    BF: 1.00E+00    SA: 0.00E+00</i>													
<i>AF: 1.00E-01    EF: 1.23E-01    ED<sub>yrs</sub>: 5.00E+00    limb:</i>													
Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND>CV	UCL_log	Ing Dose	DermalDose	IngestCa	DermCa
<u>Actual data are above a CV value</u>													
Arsenic	007440-38-2	ppm	Soil CREG	SE-01	Y	11	0	11	1.2E+01	4.6E-05		5.0E-06	
acute MRL: 5.E-03													
int MRL: n/a													
chr MRL: 3.E-04													
min=2.7E+0, Q1=4.5E+0, median=6.5E+0, arithmetic mean=7.6E+0, Q3=1.0E+1, max=1.9E+1, range=1.6E+1													
SD: .....Q1.....Q2.....Q3.....MAX													
CV: .....													
W-Stat=9.7e-1    p-value=8.4e-1 These data are Log-normally distributed													

## Dose report - interpretation Key 1 of 5

"CV"= comparison value

">CV"= Number of data points above the comparison value

"N"= Number of data points

"#ND"= Number of data points that are non detect

"#non ND>CV"= Number of data points that contained a value that was above the CV

"MXConc"= Maximum concentration

"Ing Dose"= Ingestion dose based on the Maximum Concentration

"DermalDose"= Dermal dose based on the Maximum Concentration

"IngestCa"= Ingestion cancer risk based on exposure parameters using the Maximum Concentration

"DermCa"= Dermal cancer risk based on exposure parameters using the Maximum Concentration

*Soil-Results based on the maximum values.*

Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	#non ND>CV	MXConc	Ing Dose	DermalDose	IngestCa	DermCa
<i>Actual data are above a CV value</i>													
Arsenic	007440-38-2	ppm	Soil CREG	5E-01	Y	16	0	16	3.1E+01	1.2E-04	2.1E-05	1.3E-05	2.3E-06
acute MRL: 5.E-03 int MRL: n/a chr MRL: 3.E-04 min=1.7E+0, Q1=4.6E+0, median=5.1E+0, arithmetic mean=7.6E+0, Q3=9.7E+0, max=9.1E+1, range=2.7E+1 HQ100: .....Q3: ..... CV: .....													
Benzo(a)anthracene	000056-55-3	ppm	PRG ResSoil	1E-01	Y	16	14	2	8.3E-01	3.3E-06	5.7E-07		
acute MRL: n/a int MRL: n/a chr MRL: n/a													

"bw"= Body weight (kg)  
 "AF"= Absorption fraction (unitless)  
 "IR"= Ingestion rate (mg/day)  
 "EF"=Exposure factor (unitless)  
 "ED\_yrs"=Exposure duration (yrs)  
 "BF"=Bioavailability factor (unitless)  
 "A"=Surface Area (cm<sup>2</sup>)  
 "A"= Total soil adhered (exposed skin \* soil adherence concentration) (mg)  
 "limbs"=Areas of the body that were selected for the exposure scenario

Soil-Results based on the maximum values.						bw: 5.00E+01	IR: 2.00E+02	A: 2.76E+03	BF: 1.00E+00	SA: 1.39E+04			
Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND>CV	MXConc	IngDose	DermalDose	IngestCa	DermCa
Actual data are above a CV value													
Arsenic	007440-38-2	ppm	Soil CREG	5E-01	Y	16	0	16	3.1E+01	1.2E-04	2.1E-05	1.3E-05	2.3E-08
									acute MRL: 5.E-03				
									int MRL: n/a				
									chr MRL: 3.E-04				
min=0.7E+0, Q1=4.6E+0, median=8.1E+0, arithmetic mean=7.9E+0, Q3=8.7E+0, max=9.1E+1, range=2.7E+1 95%IQR: 4.6E+0-8.7E+0 CV: 10.0													
Benzo(a)anthracene	000058-55-3	ppm	PRG ResSoil	1E-01	Y	16	14	2	8.3E-01	3.3E-06	5.7E-07		
									acute MRL: n/a				
									int MRL: n/a				
									chr MRL: n/a				


- “acute MRL”= Acute MRL
- “int MRL”= Intermediate MRL
- “chr MRL”= Chronic MRL
- “n/a”= not available
- “5E-01”= Scientific notation for 0.5
- “Y”=yes, used to indicate that at least one data point was above the CV
- “min”= Minimum value
- “Q1”= First quartile (25% of the data)
- “Q2”= Second quartile (50% of the data)
- “median”=Middle value, half of the data points are above this value, also known as the Q2
- “arithmetic mean”= average value of the raw (non-transformed) data
- “Q3”= Third quartile (75% of the data)
- “max”= Maximum value
- “range”=Maximum minus the minimum

The two lines below graphically depict the spread (distribution of the data relative to the comparison value (see next slide for an enlarged version).

Soil-Results based on the maximum values.													
Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND	MXConc	Ing Dose	DermalDose	IngestCa	DermCa
Actual data are above a CV value													
Arsenic	007440-38-2	ppm	Soil CREG	5E-01	Y	16	0	16	3.1E+01	1.2E-04	2.1E-05	1.3E-05	2.3E-06
acute MRL: 5.E-03 int MRL: n/a chr MRL: 5.E-04													
min=3.1E+0, Q1=4.6E+0, median=5.1E+0, arithmetic mean=7.0E+0, Q3=8.7E+0, max=9.1E+1, range=2.1E+1													
MP192: <input type="text"/>													

## Dose report - interpretation Key 4 of 5

There are 100 dots from the minimum to the maximum. Each dot represents the range/100. This is an arbitrary depiction of the data, and is used to provide a general visual picture of how the data are distributed.



min=3.7E+0, Q1=4.6E+0, median=5.1E+0, arithmetic mean=7.5E+0, Q3=8.7E+0, max=3.1E+1, range=2.7E+1  
MNQ1Q2.....Q3.....MX  
CV.....

## Dose report - interpretation Key 5 of 5

The 95% UCL of the Log transformed data and the 95% UCL of the un transformed reports contain an additional line of information.

"WL"= shapiro-wilk W statistic for normality

"p-value"= the probability that the data are normally (or log-normally) distributed. If this value is less than 0.05 than the data are considered to NOT be normally (or log-normally) distributed)

*Soil-Results based on the 95% UCL of the arithmetic mean values.*

bw: 5.00E+01 IR: 2.00E+02 A: 0.00E+00 BF: 1.00E+00 SA: 0.00E+00  
AF: 1.00E-01 EF: 1.23E-01 ED\_yrs: 5.00E+00 limbs:

Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND>CV	UCL log Dose	DermalDose	IngestCa	DermCa
<i>Actual data are above a CV value</i>												
Benzo(a)anthracene	000056-55-3	ppm	PRG ResSoil	1E-01	Y	12	0	12	2.0E+01	8.1E-05		
acute MRL: n/a												
int MRL: n/a												
chr MRL: n/a												
min=2.2E+0, Q1=2.1E+0, median=2.5E+0, arithmetic mean=2.5E+0, Q3=7.5E+0, max=6.1E+0, range=6.1E+0												
MF:.....Q1.....Q2.....Q3.....MX												
CV:.....												
W-Stat=4.5E-1 p-value=8.2E-6 p-value is < 0.05. These data are not normally distributed.												

Soil-Results based on the 95% UCL of the Log transformed values.

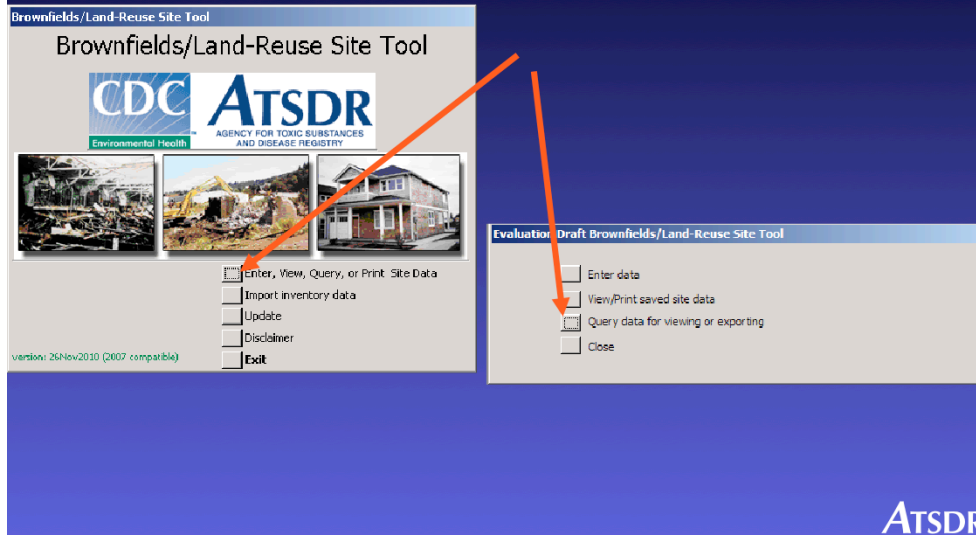
bw: 5.00E+01 IR: 2.00E+02 A: 0.00E+00 BF: 1.00E+00 SA: 0.00E+00  
AF: 1.00E-01 EF: 1.23E-01 ED\_yrs: 5.00E+00 limbs:

Chemical	CASN	Units	CV name	CV value	>CV	N	#ND	# non ND>CV	UCL log	Ing Dose	DermalDose	IngestCa	DermCa
Actual data are above a CV value													
Arsenic	007440-38-2	ppm	Soil CREG	5E-01	Y	11	0	11	1.2E+01	4.6E-05		5.0E-06	
acute MRL: 5 E-03 int MRL: n/a chr MRL: 3 E-04 min=2.7E+0, Q1=4.5E+0, median=6.1E+0, arithmetic mean=5E+0, Q3=1.0E+1, max=1.9E+1, range=1.4E+1 MF:.....Q1.....Q2.....Q3.....MX CV:.....													
W-Stat=9.7E-1 p-value=8.4E-1 These data are Log- normally distributed.													

ATSDR

## Query function

On the main screen, click “enter, View, Query, or Print Site Data”. Then click on “Query data for viewing or exporting”



## Query function

Select the criteria of the record(s) you are trying to locate then click "Run Query"

**Evaluation Draft Brownfields/Land Re-use Site Tool - Data Query Form**

Please select at least one criterion from the lists and check boxes on all tabs, then click "Run Query".

**Run Query** **Close** **Reset Query Fields**

**Info** **Type** **Data** **Involvement** **Future Use** **Proximity** **Chems** **Concerns** **Hazards** **Exposures** **Site Visit**

Site Name:

Site Address:

Site City:

Site County:

Site State:

Site Zip:

Site Latitude:

Site Longitude:

Site Contact:

Site Contact Affil:

Site Contact Phone:

Site Contact email:

Institutional Controls (description):

Start Date:

End Date:

Stewardship:

Catalogue of Violations:

Catalogue of Spills:

Catalogue of Emergency Response(s):

Knowledge of Property

☐ State ☐ Tribal

☐ County

☐ City/Town

Brownfield Status:

Owner:

Site Code:

Date Accepted:

Soil removal (tons):

Site Status:

Site Owner Name:

File Number:

Institutional Controls (type):

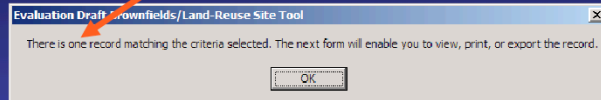
GIW Removed (gals):

☐ Restricted land Use



## Query function

The number of record(s) matching the criteria are listed in the dialog box.



## Query function

The record(s) matching the criteria are listed in the form below. (note the queried data are filtered and represent a subset of the entire data.)

Evaluation Draft Brownfields/Land-Reuse Site Tool

Site Name: Parcel 11c

Address:

City: Northville State: MASSACHUSETTS

Scenario Name: Parcel 11c Northville MA

☒ Contains Linked Site Visit Data ☐ Contains Linked Air Data

☒ Contains Linked Soil Data

☐ Contains Linked Water Data

☐ Contains Linked Fish Data

Export Record(s) as a comma delimited file

Edit Record Delete Record

Site Data Reports: Site Data Site Visit

Environmental Sampling Reports: Air Data Soil Data Fish Data Water Data

☐ Maximum Values ☐ SEUCL (untransformed data with normality test)

☐ Average Values ☐ SEUCL (Log transformed data with normality test)

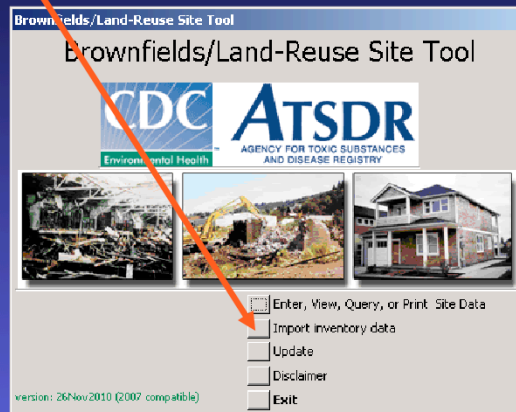
☐ Geometric Mean Values

Close

Record: 1 of 1 (Filtered)

## Import Inventory Data Function

Existing site data (not analytical data) can be imported by clicking on "Import inventory data."



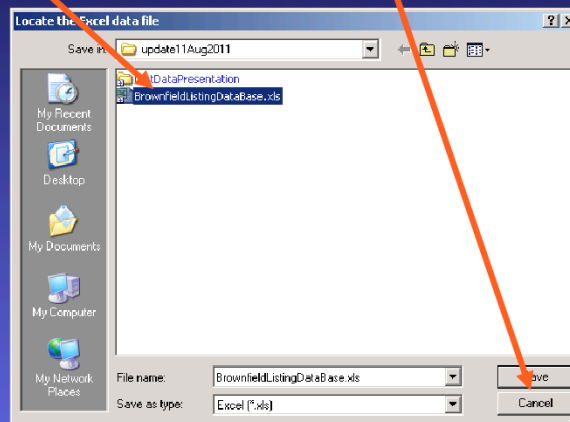
## Import Inventory Data Function

Click on "1) Import data"

The screenshot shows a software window titled "Evaluation Craft Brownfields/Land-Reuse Site Tool - Data Importation Form". At the top, there are three buttons: "1) Import Data", "2) Save and Close", and "Cancel". Below these is a "Field Mapping" section. It contains a "Fields In Data File" dropdown menu, a "Map to this field" button with a downward arrow icon, and two empty text input fields. At the bottom, there is a "Fields In tbl\_site\_data" dropdown menu. An orange arrow points to the "1) Import Data" button.

## Import Inventory Data Function

Locate the data file containing Inventory Data, then click Save.



## Import Inventory Data Function

Match fields in the imported data to the fields in the tool.

The screenshot shows the 'Brownfields/Land Re-use Site Tool - Data Importation Form' with the 'Field Mapping' tab selected. At the top are three buttons: '1) Import Data', '2) Save and Close', and 'Cancel'. Below the tab is the 'Field Mapping' section, which contains two lists of fields. The first list, 'Fields In Data File', has 'Site Name' selected. The second list, 'Fields In tbl\_site\_data', has 'site\_name' selected. A 'Map to this field' button with a downward arrow is positioned between the two lists. Two red arrows originate from the left side of the slide: one points to the 'Site Name' field in the 'Fields In Data File' list, and the other points to the 'site\_name' field in the 'Fields In tbl\_site\_data' list.

Fields In Data File	Fields In tbl_site_data
Site Name	site_name
	site_address
	site_city
	site_state
	site_zip
	site_lat
	site_long
	size_of_site

## Import Inventory Data Function

Match each field in the data file to the fields in the table containing site data.

- 1) Select the field from the top list (which contain the fields in the data file)
- 2) Select the matching field from the second list
- 3) Click on the Large Black Down Arrow.
- 4) When finished, click on Save and Close
- 5) Note: each record must contain a unique field that must be matched up with "scenario" in the bottom list.

**Brownfields/Land Re-use Site Tool - Data Importation Form**

1) Import Data 2) Save and Close Cancel

Field Mapping

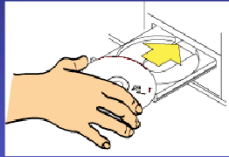
Fields In Data File

Map to this field

tbl\_import.[Site Name] as site\_name,  
site\_name,

Fields In tbl\_site\_data

- Updates distributed on CD
- Evaluating tablet platform
- Suggestions always welcome



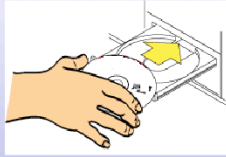


## ***For more information***

- Gary D. Perlman  
US Public Health Service  
ATSDR Region 1

gap6@cdc.gov

## ATSDR Dose Calculator quick guide



1) Insert the CD.

2) Copy the file named "DoseCalculatorNov2010WithImport.mde" from the CD to your computer.

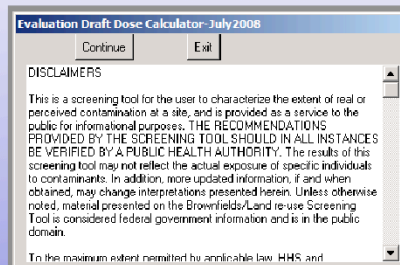
3) The Dose Calculator requires Microsoft Office 2003 Professional with Service Pack 2. If your computer lacks Service Pack 2 you will not be able to run the Dose Calculator, and the following error is often displayed:

Visual Basic for Applications (VBA) encountered a problem while attempting to access a property or method. The problem may be one of the following:  
A reference is missing.  
For help restoring missing references, see the Microsoft Knowledge Base article 283806.

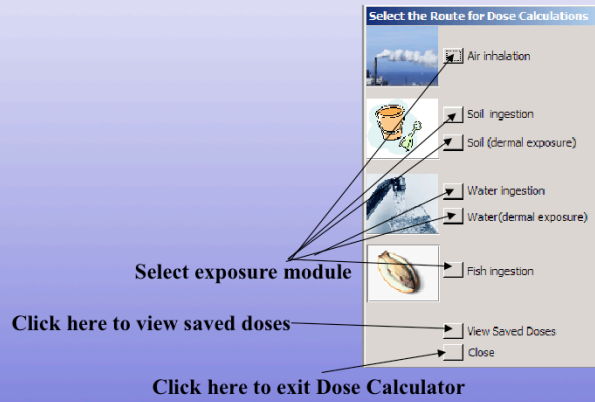
An Expression is misspelled.

4) Double click the file named "DoseCalculatorNov2010WithImport.mde" to run.

## Disclaimer Screen



## Exposure Module Selection Screen



Enter Chemical by selecting either name, synonym or CASN

Enter Units

Click here to close this exposure module

Click here to save this dose

Enter Concentration

Enter Exposure Factor (between 0 and 1)

Click here to calculate dose

Enter exposure duration in years here

Click here to calculate cancer risk (if applicable)

Enter notes here

ATSDR Dose Calculator - Air Exposure Module

Air Exposure Dose Equation:  $CD = IC \times IR \times EF \times CF / 10^6$

Exposure Dose Calculator will automatically convert units to standard units.

Enter Chemical Name:  Units:  Concentration:  Exposure Factor:  Exposure Duration:  Years

Calculate Exposure Dose

Calculate Cancer Risk

Close

Save

Results for:

Parameter	Value	Units
Exposure Dose	0.0001	mg/kg/day
Exposure Dose	0.0001	mg/kg/day
Exposure Dose	0.0001	mg/kg/day
Cancer Risk	1.0000	10^-6

Notes:

Enter notes here

ATSDR Dose Calculator - quick guide.

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## Soil Ingestion Exposure Module (example)

**Exposure Dose Calculator**

Soil Exposure Dose Equation:  $ED = [C \times IR \times EF \times BF \times CF] / BW$  **\*\* Equation and all default values are taken from ATSDR's Public Health Assessment Guidance Manual.**

Exposure Dose Calculator will automatically convert units to standard units.

Contaminant: CHLORDANE Mol Wt.: 409.76 g/mol  
 Synonym: Value Source:  
 CASN:

Exposure Dose Calculation | Health Comparison Values | Cancer Classification | Alternative Comparison Values

C=Contaminant Concentration: 95 ppb

IR = Intake Rate of Contaminated Air:

☐ Calculate Rate Based on Amount of Soil Ingested Per Day  
 mg/day

☒ Use Standard Intake Rate  
 200 mg/day • Child average

EF = Exposure Factor (unitless): 1  
 BF = Bioavailability Factor (unitless): 1  
 CF = Conversion Factor: 1.00E-03

$\frac{\mu g}{kg} \times \frac{mg}{1,000 \mu g} \times \frac{kg}{1 \times 10^{-3} mg}; CF = 1 \times 10^{-3}$

BW = Body Weight: ☐ Specify body weight kg  
☒ Standard body weight Children (1-6 yrs) • 16 kg

**Results for** CHLORDANE 000057-74-9

Calculate Exposure Dose

ED = Exposure Dose: 1.19E-05 (mg/kg/day)  
 Daily Intake: 1.90E-05 (mg/day)

Cancer Risk (Optional) CR = ED x Oral Slope Factor \* (Exposure Years / 70)

ED = Exposure Duration (in years): 5 Calculate Cancer Risk Ca risk: 2.97E-08

Notes:

ATSDR Dose Calculator - quick guide.

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## Soil Dermal Exposure Module (example)

**Exposure Dose Calculator**

**Soil Dermal Exposure Dose Equation:**  $ED = (C \times A \times AF \times EF \times CF) / BW$   
 Exposure Dose Calculator will automatically convert units to standard units.

**Contaminant:** POLYCHLORINATED BIPHENYLS **Mol Wt.:** 189.684 g/mol **Close**  
**Synonym:** **Value Source:** **Save Dose**  
**CASN:**

Exposure Dose Calculation | Health Comparison Values | Cancer Classification

**C=Contaminant Concentration:** 90 mg/kg

**EF = Exposure Factor (unitless):** **Calculate Exposure Factor Based on Amount of Skin Exposure Over Time**  
☒ 100 days/year 5 years  
☐ Enter Exposure Factor: 2.74E-01

**AF = Bioavailability Factor (unitless):** 1.00E-01  $\frac{mg}{kg} \times \frac{kg}{1 \times 10^{-6} mg}$ ;  $CF = 1 \times 10^{-6}$   
**CF = Conversion Factor:** 1.00E-06  $\frac{kg}{1 \times 10^{-6} mg}$

**BW = Body Weight:** Adolescents Ages 12-17 50 kg

**A = Total Soil Adhered (mg) = Exposed Skin Area x Soil Adherence Concentration:**  
☐ Head ☐ Torso ☒ Arms ☒ Hands ☐ Legs ☒ Feet  
**A = Exposed Skin Area:** 3068.01415 x **Soil Adherence Concentration:** 0.2  
**A =** 773.60283

**Results for** POLYCHLORINATED BIPHENYLS 001336-36-3

**ED = Exposure Dose:** 3.82E-05 (mg/kg/day)  
**Daily Intake:** 1.91E-03 (mg/day)

**Cancer Risk (Optional) CR = ED x Oral Slope Factor (1/absorption fraction) \* (Exposure Years / 70)**  
**ED = Exposure Duration (in years):** 9 **Calculate Cancer Risk** **Ca risk:** 5.45E-06

**Total Surface Area (SA) (cm2):** 15235  
 Head (percent of total SA) 9.30%  
 Torso (percent of total SA) 32.70%  
 Arms (percent of total SA) 12.43%  
 Hands (percent of total SA) 5.30%  
 Legs (percent of total SA) 32.63%  
 Feet (percent of total SA) 7.66%

**Notes:**

ATSDR Dose Calculator - quick guide.

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## Water Ingestion Exposure Module (example)

**Exposure Dose Calculator**

Water Ingestion Exposure Dose Equation:  $ED = (C \times IR \times EF \times CF) / BW$  \*\* Equation and all default values are taken from ATSDR's Public Health Assessment Guidance Manual.

Exposure Dose Calculator will automatically convert units to standard units.

Contaminant:  Mol Wt.: 78.12 g/mol

Synonym:  Value Source:

CASN: 000071-43-2

Exposure Dose Calculation | Health Comparison Values | Cancer Classification | Alternative Comparison Values

C=Contaminant Concentration: 10 ppm

IR = Intake Rate of Contaminated Water:

☒ Specify Water Ingested  
1.5 L/day

☐ Standard Intake Rate

EF = Exposure Factor (unitless): 1

CF = Conversion Factor: 1.0E+00  $\frac{mg}{L}$ ; CF = 1

BW = Body Weight:

☐ Specify body weight  kg

☒ Standard body weight Children (1-6 yrs) - 16 kg

Results for BENZENE 000071-43-2

Calculate Exposure Dose

ED = Exposure Dose: 9.38E-01 (mg/kg/day)

Daily Intake: 1.50E+01 (mg/day)

Cancer Risk (Optional) CR = ED x Oral Slope Factor x (Exposure Years / 70)

ED = Exposure Duration (in years): 10

Calculate Cancer Risk

Ca risk: 7.37E-03

Notes:

ATSDR Dose Calculator - quick guide.

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## Water Dermal Exposure Module (example)

**Exposure Dose Calculator**

\*\* Equation and all default values are taken from ATSDR's Public Health Assessment Guidance Manual.

**Water Dermal Exposure Dose Equation:**  $ED = (C \times P \times SA \times ET \times CF) / BW$   
 Exposure Dose Calculator will automatically convert units to standard units.

Contaminant:  Mol Wt.:   
 Synonym:  Value Source:   
 CASN:

Close Save Dose

Exposure Dose Calculation Health Comparison Values Cancer Classification

C=Contaminant Concentration:  ppm

ET = Exposure Time (unitless):  min/day  hour/day  days/year  years  
 Enter Exposure Time:

P = Permeability Coefficient:  cm/hr source: [http://www.epa.gov/oswer/riskassessment/ragse/pdf/or04\\_01.xls](http://www.epa.gov/oswer/riskassessment/ragse/pdf/or04_01.xls)

CF = Conversion Factor:   $\frac{mg}{L} \times \frac{L}{1,000 \text{ cm}^3} \cdot CF = 1 \times 10^{-3}$

BW = Body Weight:  kg

SA = Exposed Body Surface Area (cm<sup>2</sup>):

☐ Head ☒ Torso ☒ Arms ☒ Hands ☒ Legs ☒ Feet

A = Exposed Skin Area:

**Results for**

Calculate Exposure Dose ED = Exposure Dose:  (mg/kg/day)  
 Daily Intake:  (mg/day)

Cancer Risk (Optional) CR = ED x Oral Slope Factor \* (Exposure Years / 70)

ED = Exposure Duration (in years):  Calculate Cancer Risk Ca risk:

Notes:

Total Surface Area (SA) (cm <sup>2</sup> ):	15235
Head (percent of total SA)	9.30%
Torso (percent of total SA)	32.70%
Arms (percent of total SA)	12.43%
Hands (percent of total SA)	5.30%
Legs (percent of total SA)	32.53%
Feet (percent of total SA)	7.66%

ATSDR Dose Calculator - quick guide.

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## Fish Ingestion Exposure Module (example)

**Exposure Dose Calculator**

Fish Ingestion Exposure Dose Equation:  $ED = (C \times IR \times AF \times EF \times CF) / BW$  \*\* Equation and all default values are taken from ATSDR's Public Health Assessment Guidance Manual.

Exposure Dose Calculator will automatically convert units to standard units.

Contaminant:  Mol Wt.:

Synonym:  Value Source:

CASN:

Close Save Dose

Exposure Dose Calculation | Health Comparison Values | Cancer Classification | Alternative Comparison Values

C=Contaminant Concentration:  ppm

IR = Intake Rate of Contaminated Fish:

☒ Calculate Rate Based on Amount of Fish Per Day Consumed Over Time

g/day for  days/year over  years

☐ Calculate Rate Based on Fish Meals Per Week Consumed Over Time

meals/week and  weeks/year for  years

☐ Use Standard Intake Rate:

EF = Exposure Factor (unitless):   $\frac{mg}{kg} \times \frac{kg}{1 \times 10^{-5} mg}$ , CF =  $1 \times 10^{-5}$

AF = Bioavailability Factor (unitless):

CF = Conversion Factor:

BW = Body Weight: ☐ Specify body weight  kg

☒ Standard body weight

**Results for**

**Calculate Exposure Dose**

ED = Exposure Dose:  Daily Intake:

Cancer Risk (Optional) CR = ED x Oral Slope Factor \* (Exposure Years / 70)

ED = Exposure Duration (in years):  Calculate Cancer Risk Ca risk:

Notes:

ATSDR Dose Calculator - quick guide.

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# Resources & Feedback

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- Please complete the [Feedback Form](#) to help ensure events like this are offered in the future

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