

Software for LEPCs

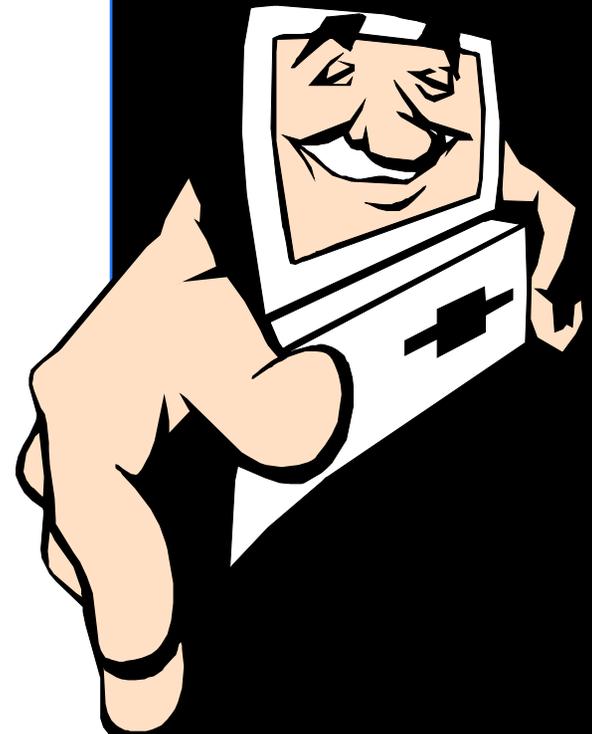


CAMEO
ALOHA
MARPLOT



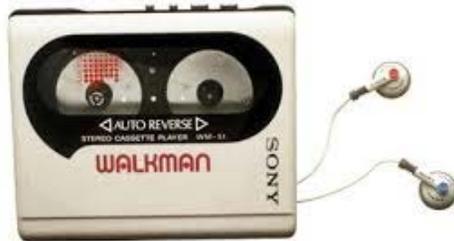
What is CAMEO?

Computer
Aided
Management of
Emergency
Operations





1987



MICHAEL JACKSON

▶ CAMEOfm

Response Planning and Record Keeping, Tier II Data

▶ CAMEO Chemicals

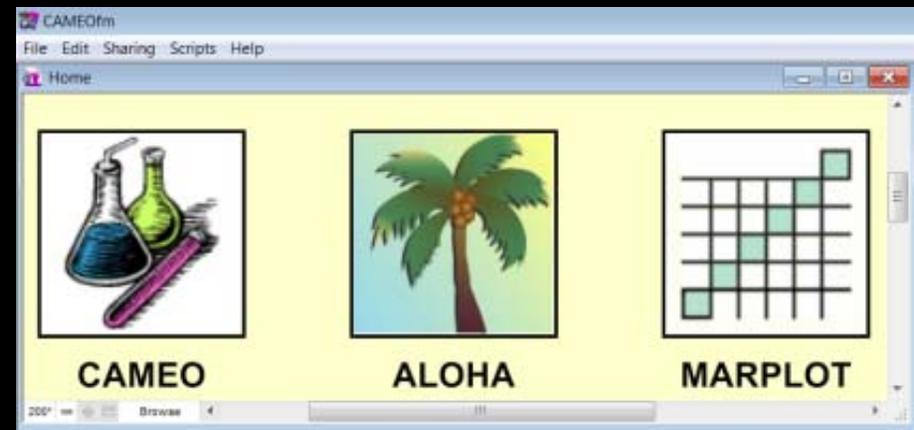
Chemicals database, Chemical Datasheets, ERG, MSDS, Reactions, Chemical Hazards, Firefighting

▶ ALOHA

Aerial Plume Modeling Module

▶ MARPLOT

Plume and Response Mapping Program





**KEEP
CALM
CAUSE
IT'S
FREE !**

Search for a Chemical

Search for a Facility



CAMEO
Chemicals



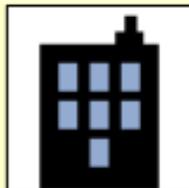
ALOHA



MARPLOT



Help



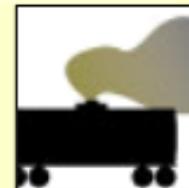
Facilities



Chemicals
In Inventory



Contacts



Incidents



Special
Locations



Routes



Resources



Screening &
Scenarios

CAMEO Chemicals

An online library of more than 6,000 (true chemical) data sheets.



Data Sheets Contain:

- Response-related information
- Recommendations for **HAZMAT** commonly transported, used, and/or stored in the United States.

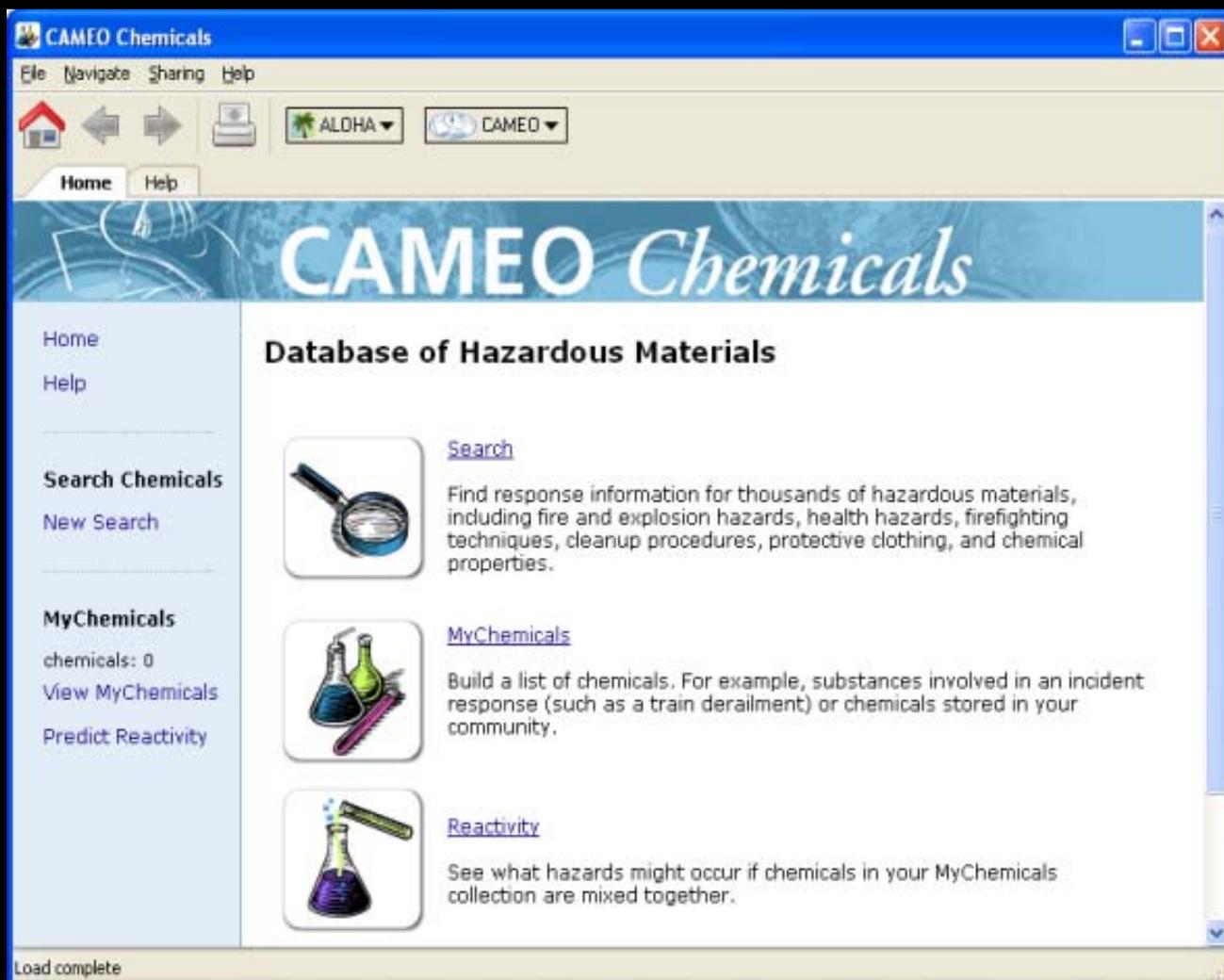
CAMEO CHEMICALS LIBRARY



**Chemical
Search Tool**

My Chemicals

**Reactivity
Worksheet**



The screenshot shows the CAMEO Chemicals web application interface. The browser window title is "CAMEO Chemicals". The navigation bar includes "File", "Navigate", "Sharing", and "Help". Below the navigation bar are icons for home, back, forward, and print, along with dropdown menus for "ALPHA" and "CAMEO". The main content area features a blue header with the text "CAMEO Chemicals". On the left side, there is a sidebar with links for "Home", "Help", "Search Chemicals", "New Search", "MyChemicals", "chemicals: 0", "View MyChemicals", and "Predict Reactivity". The main content area is titled "Database of Hazardous Materials" and contains three sections: "Search" (with a magnifying glass icon), "MyChemicals" (with a flask and test tube icon), and "Reactivity" (with a flask and test tube icon). Each section includes a brief description of its function. The status bar at the bottom indicates "Load complete".

CAMEO CHEMICALS SEARCH TOOL



**Search:
Ammonium
nitrate**

File Navigate Sharing Help

ALPHA CAMEO

Search Help

CAMEO Chemicals

Home
Help

Search Chemicals
New Search
Modify Search
Search Results

MyChemicals
chemicals: 0
View MyChemicals
Predict Reactivity

Search

Enter a chemical name or identification number to begin searching for datasheets.

[How does this search work? ▶](#)

Name (not case sensitive)

CAS Number (with or without dashes)

UN/NA Number (4-digit number)

Other ways to find chemicals
[Advanced Search](#) [Browse](#)

CAMEO Chemicals version 2.4.1

CAMEO CHEMICALS SEARCH RESULTS

File Navigate Sharing Help

ALPHA CAMEO

Search Results Help

CAMEO Chemicals

Home
Help

Search Chemicals

New Search
Modify Search
Search Results

MyChemicals

chemicals: 0
View MyChemicals
Predict Reactivity

Search Results

27 datasheets matched all search criteria

Name contains **ammonium nitrate** matched 27 datasheets
Name contains **ammonium** matched 167 datasheets
Name contains **nitrate** matched 143 datasheets

1 - 20 of 27 results < Prev Next > Page 1 of 2 Go to page: Go

AMMONIUM NITRATE, WITH ORGANIC COATING
Odorless white to light gray or brown solid pellets or flakes. Sinks and mixes with water. (USCS)
DOT Hazard Label: Explosive 1.1D PAC-3: 440 mg/m3
CAS Number: 6484-52-2
UN/NA Number: 0222
This chemical is also known as:
• AMMONIUM NITRATE, WITH ORGANIC COATING
• AMMONIUM NITRATE
• AMMONIUM NITRATE, [ORGANIC COATING]

AMMONIUM NITRATE, [NO ORGANIC COATING]
A colorless crystalline solid. Soluble in water. Does not readily burn but will do so if contain...
DOT Hazard Label: Oxidizer PAC-3: 440 mg/m3
CAS Number: 6484-52-2
UN/NA Number: 1942
This chemical is also known as:

Load complete

File Navigate Sharing Help

ALPHA CAMEO

Help

AMMONIUM NITRATE FERTILIZER
A brownish-black granular solid. Will accelerate the burning of combustible materials. Can be c...
DOT Hazard Label: Oxidizer PAC-3: 440 mg/m3
CAS Number: 6484-52-2
UN/NA Number: 1942
This chemical is also known as:
• AMMONIUM NITRATE FERTILIZER

AMMONIUM NITRATE FERTILIZER, N.O.S.
A grayish white solid in the form of prills. Soluble in water. Produces toxic oxides of nitrog...
DOT Hazard Label: Oxidizer PAC-3: 440 mg/m3
CAS Number: 6484-52-2
UN/NA Number: 2072
This chemical is also known as:
• AMMONIUM NITRATE FERTILIZER, N.O.S.
• AMMONIUM NITRATE FERTILIZERS
• AMMONIUM NITRATE FERTILIZERS, [TYPE B]

AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL
A grayish white solid in the form of prills. Does not readily burn but will readily do so if co...
DOT Hazard Label: Class 9 PAC-3: 440 mg/m3
CAS Number: 6484-52-2
UN/NA Number: 2071
This chemical is also known as:
• AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL
• AMMONIUM NITRATE FERTILIZER, [WITH <= 45% AMMONIUM NITRATE]
• AMMONIUM NITRATE FERTILIZERS

**View
Datasheet**

CAMEO CHEMICALS DATA SHEETS

Data Sheet:
Ammonium
nitrate fertilizer
UN 1942

Lists:

- Chemical Identifiers
- Hazards
- Response Recommendations
- Physical Properties
- Regulatory Information
- Alternate Chemical Names

The screenshot displays the CAMEO Chemicals interface for Ammonium Nitrate Fertilizer. The title "AMMONIUM NITRATE FERTILIZER" is circled in red. Below it, a navigation bar includes links for "Chemical Identifiers", "Hazards", "Response Recommendations", "Physical Properties", "Regulatory Information", and "Alternate Chemical Names". A yellow hazard diamond with a flame and the number "51" is visible. The "Chemical Identifiers" section includes a table with the following data:

CAS Number	UN/NA Number	DOT Hazard Label	CHRIS Code
6404-52-2	1942	Oxidizer	none

The NFPA 704 hazard diamond is also shown, with the following data:

Diamond	Hazard	Value	Description
0	Health	0	No hazard beyond that of ordinary combustible material.
0	Flammability	0	Will not burn under typical fire conditions.
3	Instability	3	Capable of detonation or explosive decomposition or explosive reaction but requires a strong initiating source or must be heated under confinement before initiation.
OX	Special	OX	Possesses oxidizing properties.

CAMEO CHEMICALS DATA SHEETS (CONT.)

Ammonium nitrate Hazards:

- Reactivity Alerts: Explosive, Strong Oxidizing Agent
- Air and Water Reaction
- Fire Hazard
- Health Hazard
- Reactivity Profile
- Reactive Group Listings
- Potentially Incompatible Absorbents

The screenshot shows the CAMEO Chemicals interface for Ammonium Nitrate Fertilizer. The page is titled "NITRATE FERTILIZER" and includes a "Help" button. The "Hazards" section is highlighted in orange and contains the following information:

Reactivity Alerts

- Explosive
- Strong Oxidizing Agent

Air & Water Reactions

Water soluble. Hot aqueous solutions of the nitrate above 50% conc., under confinement may decompose explosively. This process is aided catalytically with such substances as nitric acid and chloride ion, Chem. Abz., 1982, 97, 78074.

Fire Hazard

Excerpt from [GUIDE 140](#) [Oxidizers]:

These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)

Health Hazard

Excerpt from [GUIDE 140](#) [Oxidizers]:

Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death. Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. (ERG, 2012)

Reactivity Profile

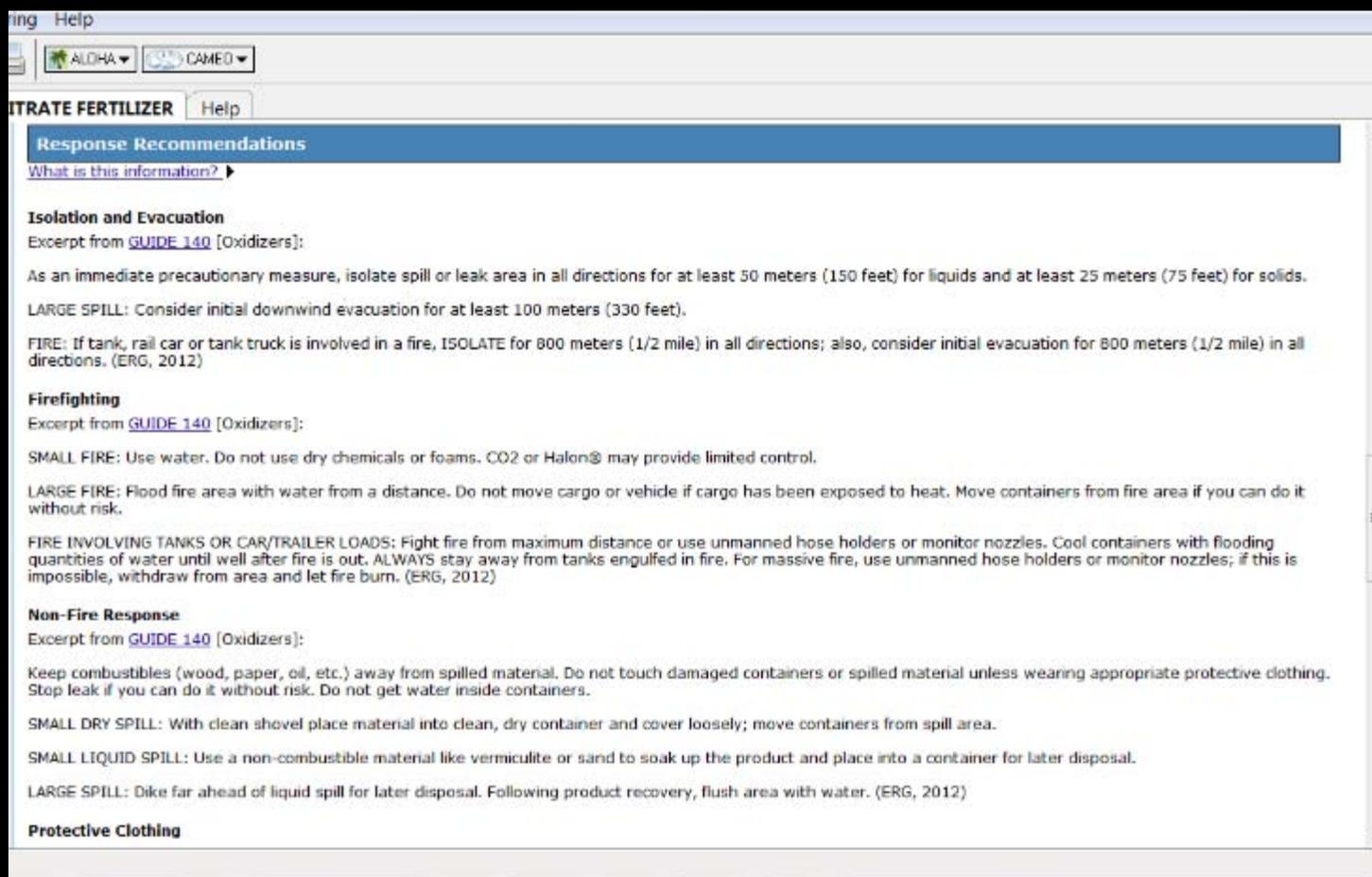
AMMONIUM NITRATE offers well studied fire and explosion hazards. Has caused several extremely severe explosions with significant loss of life and property, [Chem. Eng. News, 1962, 70, 91; see Bretherick 5th edition for additional other references]. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture with aluminum powder can be used as an explosive. Mixtures with zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony behave similarly. A number of explosions have occurred when ammonium nitrate and aluminum were mixed with carbon, hydrocarbons, with or without oxidizing agents [Mellor 5:219 1946-47]. A mixture with acetic acid ignites when warmed, especially if the acid is concentrated [Von Schwartz, p. 322 1918]. Causes decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:350 1956].

Belongs to the Following Reactive Group(s)

CAMEO CHEMICALS DATA SHEETS (CONT.)

Ammonium Nitrate Response Recommendations:

- Isolation and Evacuation
- Firefighting
- Non-Fire Response
- Protective Clothing
- First Aid



The screenshot displays the CAMEO Chemicals Data Sheet for Ammonium Nitrate Fertilizer. The interface includes a search bar with 'ALPHA' and 'CAMEO' dropdowns, and a title bar for 'NITRATE FERTILIZER'. The main content area is titled 'Response Recommendations' and contains the following information:

Response Recommendations
[What is this information?](#)

Isolation and Evacuation
Excerpt from [GUIDE 140](#) [Oxidizers]:
As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet).
FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)

Firefighting
Excerpt from [GUIDE 140](#) [Oxidizers]:
SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or Halon® may provide limited control.
LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk.
FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

Non-Fire Response
Excerpt from [GUIDE 140](#) [Oxidizers]:
Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers.
SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.
SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.
LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)

Protective Clothing

CAMEO CHEMICALS SEARCH TOOL

Search by UN:



ring Help

ALPHA CAMEO

CAMEO Chemicals

Search

Enter a chemical name or identification number to begin searching for datasheets.

[How does this search work? ▶](#)

Name (not case sensitive)

CAS Number (with or without dashes)

UN/NA Number (4-digit number)

Other ways to find chemicals

[Advanced Search](#) [Browse](#)

CAMEO Chemicals version 2.4.1

CAMEO CHEMICALS SEARCH TOOL

Search by UN:
Produces this view in
CAMEO Chemicals

- Links to Datasheets
- Links to ERG

United Nations/North American Number Datasheet

UN/NA 1942

CAMEO Chemicals has 2 chemical datasheets with this UN/NA number. Response recommendations from the ERG are provided below.

Emergency Response Guidebook (ERG, 2012)

Material Names
Ammonium nitrate, with not more than 0.2% combustible substances

2012 ERG

Response Guide 140

There are no Initial Isolation and protective action distances listed in the ERG.

The ERG doesn't predict that large amounts of toxic-by-inhalation gases will be produced if this material is spilled.

Hazmat Table (49 CFR 172.101)

GUIDE 140 OXIDIZERS

EMERGENCY RESPONSE

FIRE

Small Fire

- Use water. Do not use dry chemicals or foam. CO₂ or foam may provide limited control.

Large Fire

- Do not fight fires until you have been instructed.
- To prevent more tanks or railcars from being exposed to heat, allow them to cool with lots of water until they are safe.
- Fight fires from a safe distance or from a protected base (hazard or reaction barrier).
- Cool containers with flooding quantities of water until well after fire is out.
- For tanks, this also applies to heated liquid containers or vessels if they are rapidly filled from above and they boil over.

SPILL OR LEAK

- Keep containers upright, avoid contact with eyes, clothing and other exposed materials.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do so without risk.
- Do not get water into containers.

Small Dry Spill

- Why does more than minimal protection, dry container and cover loosely, remove from fire risk area.

Small Liquid Spill

- Use a noncombustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

Large Spill

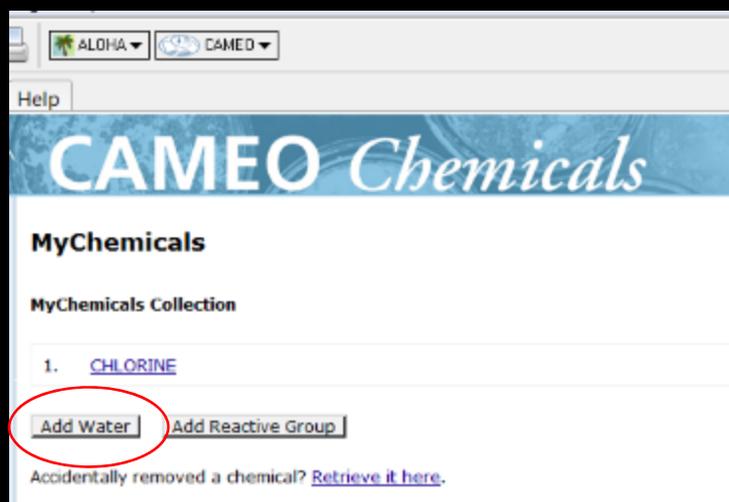
- Stop for a second if liquid spill the area is exposed.
- Following general emergency, look area with water.

FIRST AID

- Allow victim to breathe.
- Call 911 or emergency medical service.
- Get medical attention if irritation or breathing.
- Antidote: Supportive treatment of 20% O₂.



CAMEO CHEMICALS REACTIVITY WORKSHEET



Type in a chemical:
Chlorine

Add Water

View and Print
Reactivity Report

Chemical Reactivity

Substances In The Mix

1. CHLORINE
2. WATER

⚠️ Reactivity Alerts

CHLORINE

- ⚠️ Strong Oxidizing Agent
- ⚠️ Water-Reactive

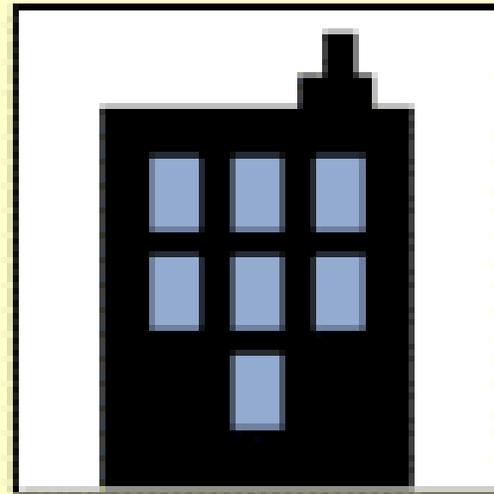
⚠️ Hazard Predictions

WATER mixed with
CHLORINE

- ⚠️ Reaction products may be corrosive
- ⚠️ Reaction liberates gaseous products and may cause pressurization
- ⚠️ Exothermic reaction at ambient temperatures (releases heat)
- ⚠️ Reaction may be particularly intense, violent, or explosive
- ⚠️ Reaction products may be toxic
- ⚠️ May produce the following gases:
 - Acid Fumes
 - Chlorine
 - Chlorine Dioxide
 - Hydrogen Sulfide
 - Hydrogen Bromide
 - Hydrogen Cyanide
 - Hydrogen Chloride
 - Hydrogen Fluoride
 - Hydrogen Halide
 - Nitrogen Oxides
 - Oxygen
 - Sulfur Dioxide

Facilities Module of CAMEOfm

- Allows User to Build Library of Tier II Facility Data
- Developed to work with Tier II Submit
- Allows User to Easily Import Tier II Data



Facilities

Facilities Module of CAMEOfm

CAMEOfm - [Facilities]
File Edit Record Search Sharing Scripts Help

Home View List New Search Edit New Record Help 1 of 1 found

Facilities Last Modified 5/15/2014

Shipper Report Year 2013

Facility Name Hiland Dairy Foods--Norman
Department Site of

ID and Regs State Fields Map Data Site Plan Notes
Address Facility Phones Contacts Chemical Inventory Checklist

Street Address (where hazardous materials are present)
302 S. Porter Ave.

City Norman State OK Zip 73071
County Cleveland Fire District Norman Fire Department
Country USA Cross Street

Mailing Address (if different from street address)
PO Box 1248

City Norman State OK Zip 73070
Country USA

for a Facility

New Record Help 1 of 1 found

characters hiland

pt Street Address
302 S. Porter Ave. No

Click on the Facility List, and Look up the Facility Record

Facilities Module of CAMEOofm

- Facility Address and Coordinates
- Facility Contact Names and Phone Numbers
- Chemical Inventory on Site
 - Facility Site Maps

User can Add Any Attachments they Like . . .

The screenshot displays the CAMEOofm web application interface. At the top, there is a menu bar with options: File, Edit, Record, Search, Sharing, Scripts, Help. Below this is a navigation bar with buttons: Home, View List, New Search, Edit, New Record, Help, and a search indicator showing '1 of 1 found'. The main header area is titled 'Facilities' and includes a 'Last Modified' date of 5/15/2014.

The main content area is divided into several sections:

- Facility Information:** Includes a checkbox for 'Shipper', a 'Report Year' dropdown set to '2013', a text field for 'Facility Name' containing 'Hiland Dairy Foods--Norman', a text field for 'Department', and a 'Site' dropdown set to '1 of 1'.
- Navigation Tabs:** A row of tabs for 'Address', 'Facility Phones', 'Contacts', 'Chemical Inventory', and 'Checklist'. Below this is another row of tabs for 'ID and Regs', 'State Fields', 'Map Data', 'Site Plan', and 'Notes'.
- Attachments:** A list of files is displayed in a table-like format:
 - AMMONIA SUTDOWN INSIDE.AVI
 - AMMONIA SHUT DOWN OUTSIDE.AVI
 - AMMONIA TANK OUTSIDE KING VALVE.JPG
 - AMMONIA TANKS OUTSIDE KING.JPG
 - Emergency Action Plan for Ammonia Release example.doc
- Action:** An 'Open' button is located to the right of the attachment list.

WHAT IS ALOHA?

- ▶ **Areal Locations of Hazardous Atmospheres.**
- ▶ **Air Dispersion Model**
- ▶ **Evaluates Hazardous Chemical Release Scenarios**
- ▶ **Predicts Dispersion**
- ▶ **Includes TEELs, ERPGs, and AEGLs.**

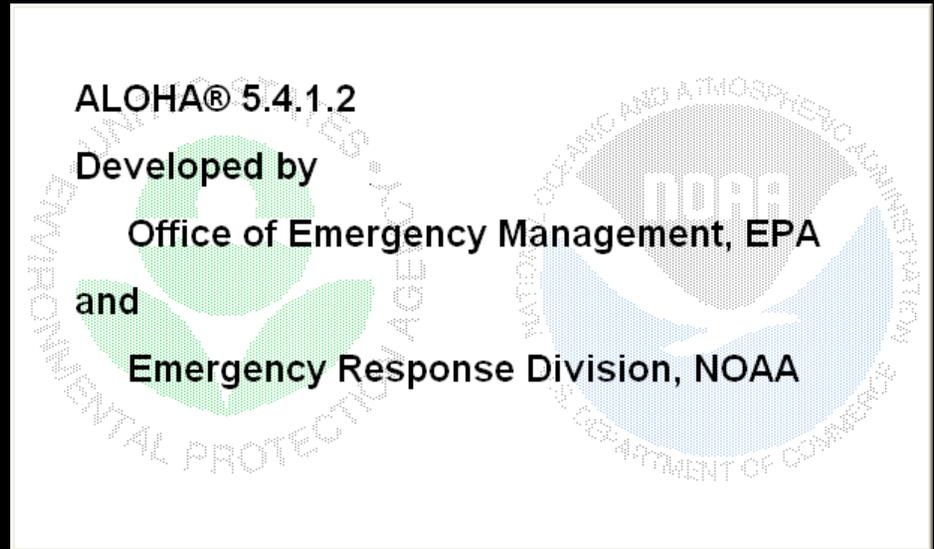
ALOHA® 5.4.1.2

Developed by

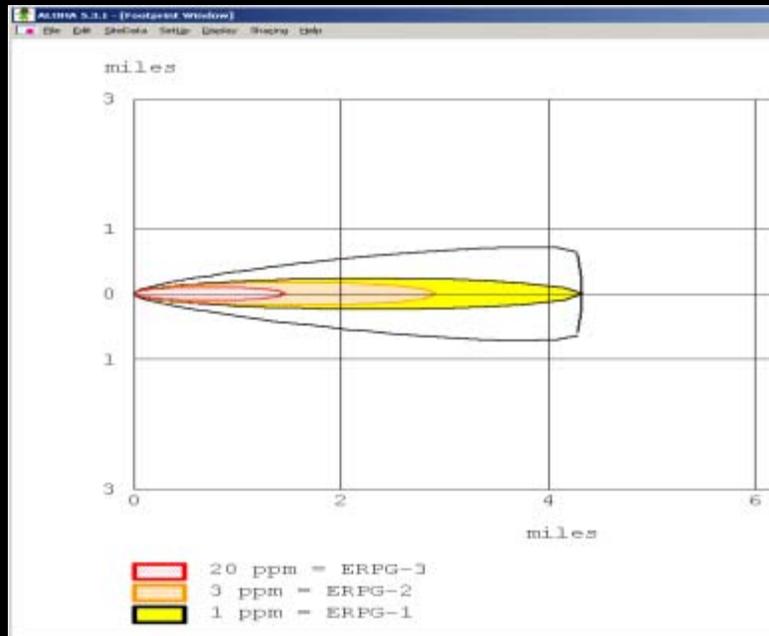
Office of Emergency Management, EPA

and

Emergency Response Division, NOAA



WHAT CAN ALOHA DO?



**FOOTPRINT
PLOT**

- ▶ Estimates: Impact Distances
- ▶ Uses Toxicological / Physical Properties of Released Chemical
- ▶ Uses Real Time Weather
- ▶ Plots Predicted Affected Area
- ▶ Shows Concentrations at important locations.

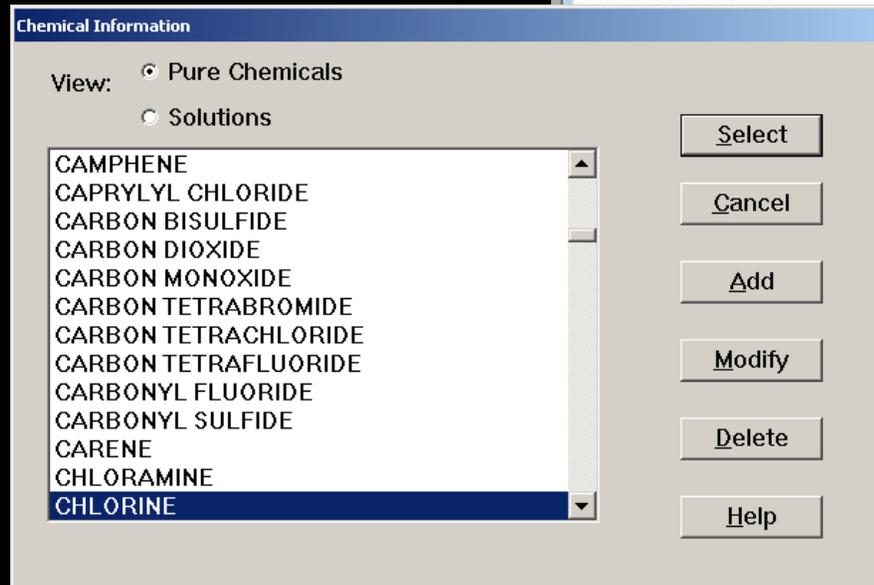
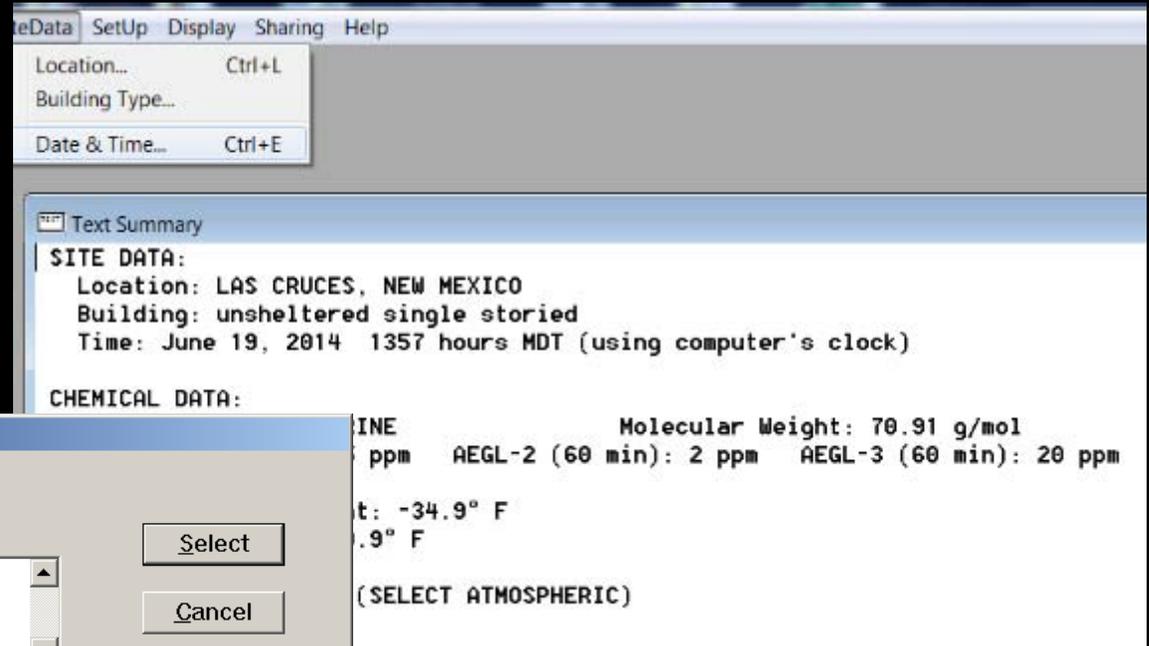
**Provides Estimates, not
Precise Answers!!!**

WHAT DO YOU NEED TO DO TO RUN ALOHA?

▶ SPECIFY SITE DATA

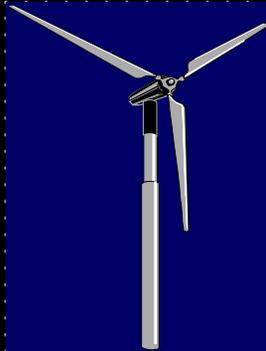
- ▶ Incident location
- ▶ Release time / date

▶ SPECIFY CHEMICAL INFORMATION



WHAT DO YOU NEED TO DO TO RUN ALOHA?

▶ **ENTER WEATHER CONDITIONS**



▶ **ENTER SOURCE INFORMATION**

- Direct
- Puddle
- Tank
- Gas Pipeline

Atmospheric Options

Wind Speed is : knots mph meters/sec

Wind is from : Enter degrees true or text (e.g. ESE)

Measurement Height above ground is:

OR enter value : feet meters

Ground Roughness is :

Open Country OR Urban or Forest OR Input Roughness (Z₀) :

Open Water

Select Cloud Cover :

Tank Size and Orientation

Select tank type and orientation:

Horizontal cylinder

Vertical cylinder

Sphere

OR enter value : (0 - 10)

Enter two of three values:

diameter feet meters

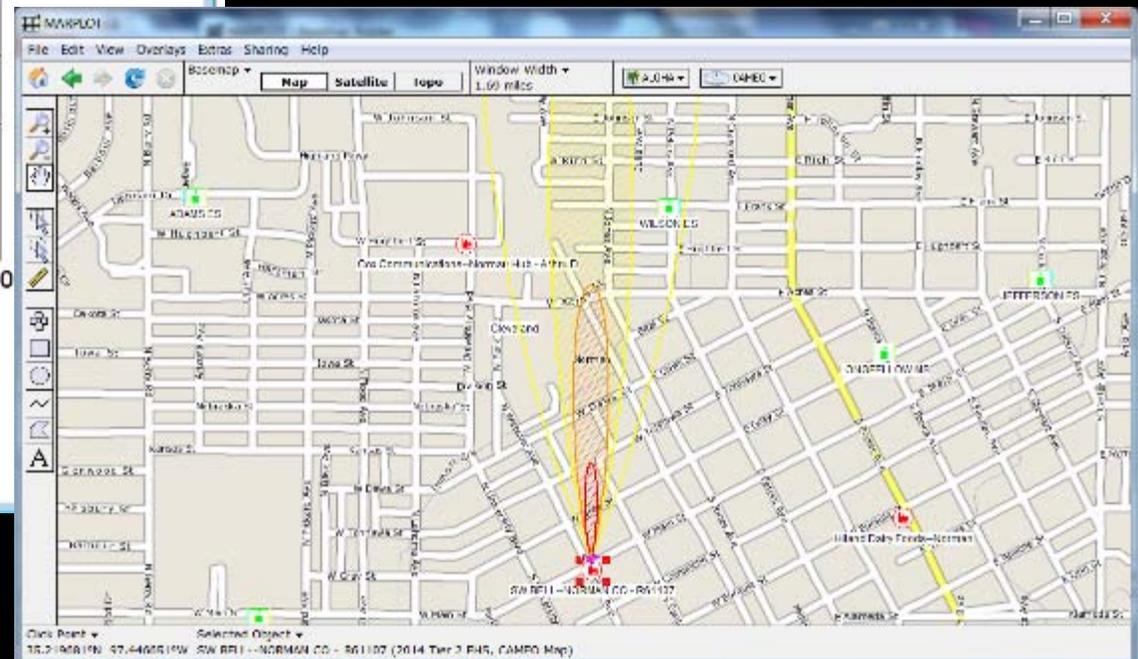
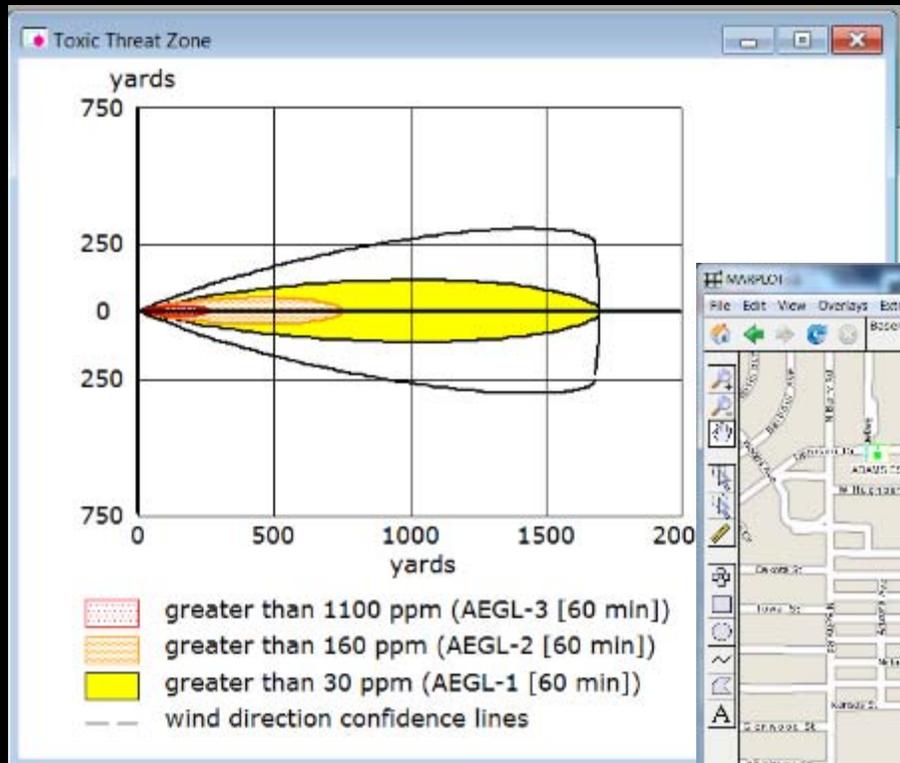
length gallons cu feet

volume

WHAT DO YOU NEED TO DO TO RUN ALOHA?

▶ ALOHA Models the plume

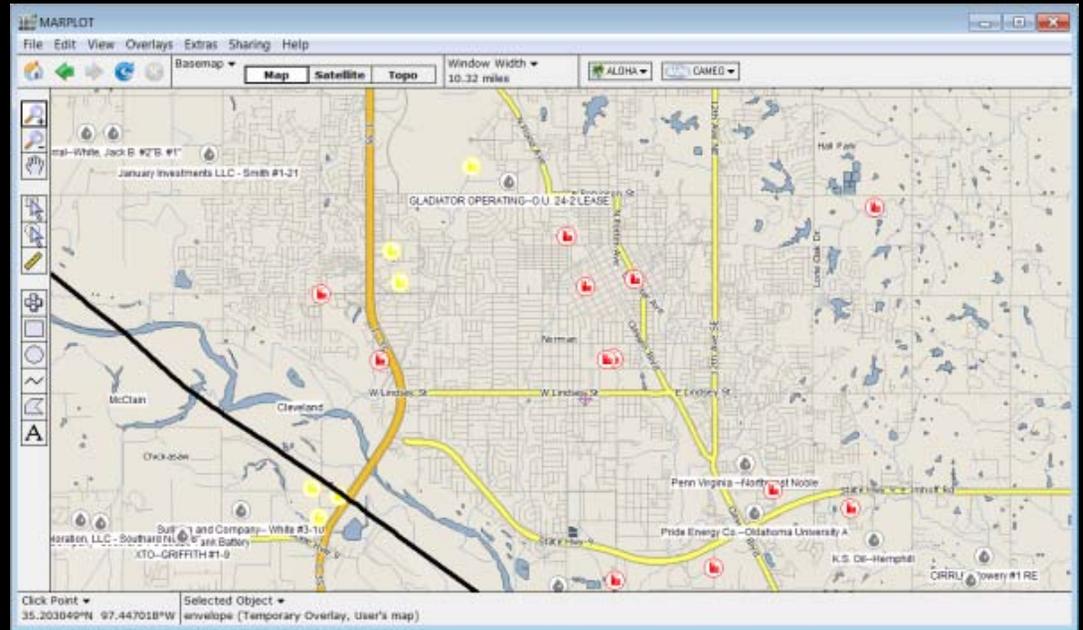
▶ Add the plume on the map in MARPLOT



MARPLOT

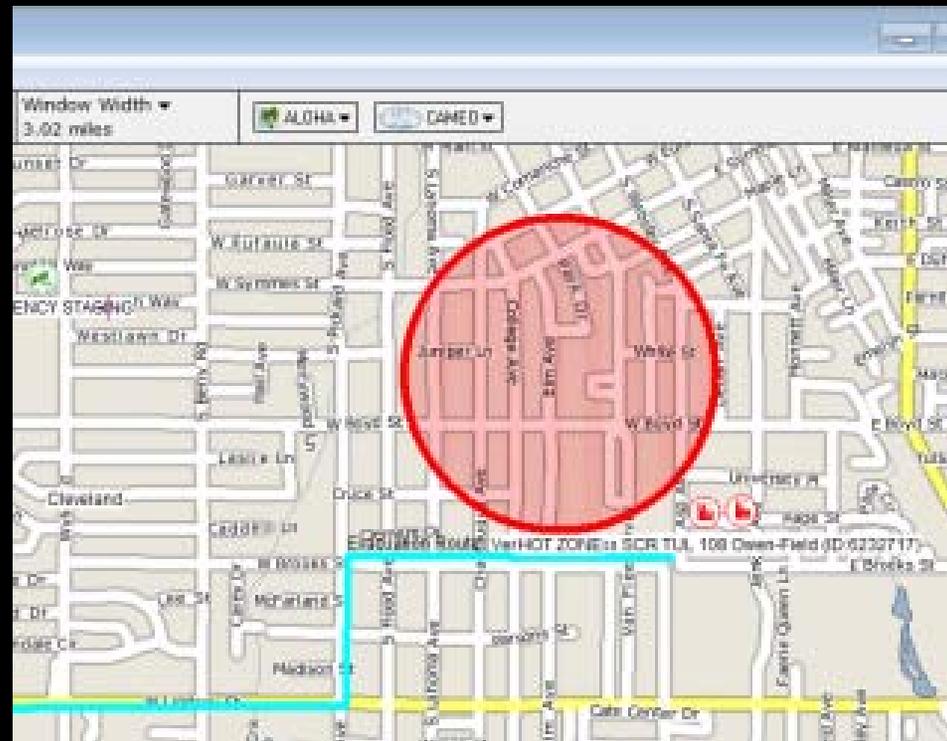
Mapping Application

Consists of a
Basemap
and
Overlay Tools



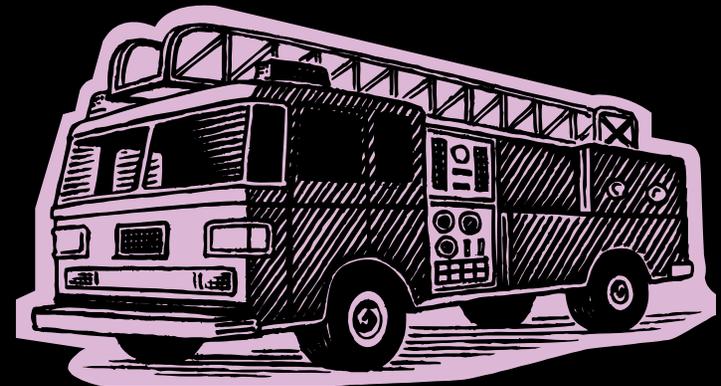
MARPLOT

- Basemap contains data such as streets, population data, and aerial photos
- Use overlay tools to draw on the basemap
- View information within the basemap



INCOMING CALL...

- ▶ *Chlorine release in wastewater treatment area at Champion Technologies 115 Proctor Street.*
- ▶ *Look up the facility record in CAMEOofm...*



- Find record in Facilities module.
- Look up chemicals on site and building site plans.

Facilities Last Modified: 11/13/2003

Shipper Report Year: 2000

Facility Name: Green Valley Water Facility (DEMO)
Department: Chlorination Division Site: 1 of 1

ID Codes | State Fields | Map Data | Site Plan | Notes

Address | Facility Phones | Contacts | Chemical Inventory | Checklist

Street Address

U.S. Highway 15

City: Haymarket State: VA Zip: 87530

County: North Fire District:

Country: Cross Street:

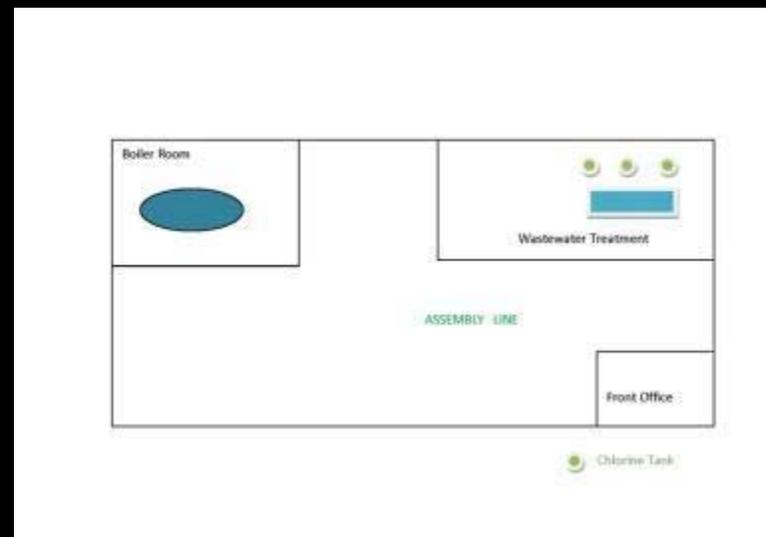
Mailing Address (if different from street address)

Town Hall

City: Haymarket State: VA Zip: 87530

Country:

Email



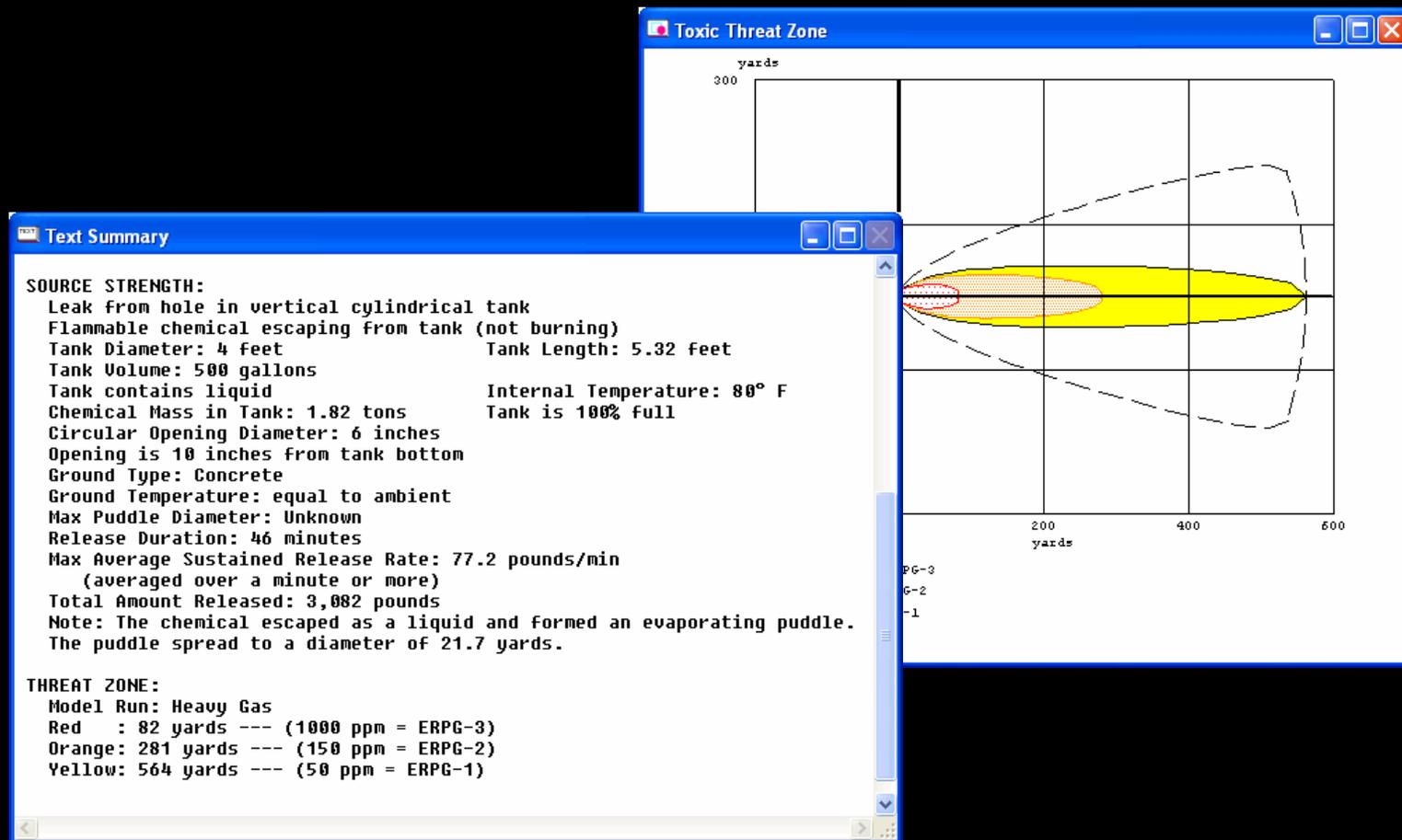
LOOK UP CHEMICAL HAZARDS IN CAMEO CHEMICALS...

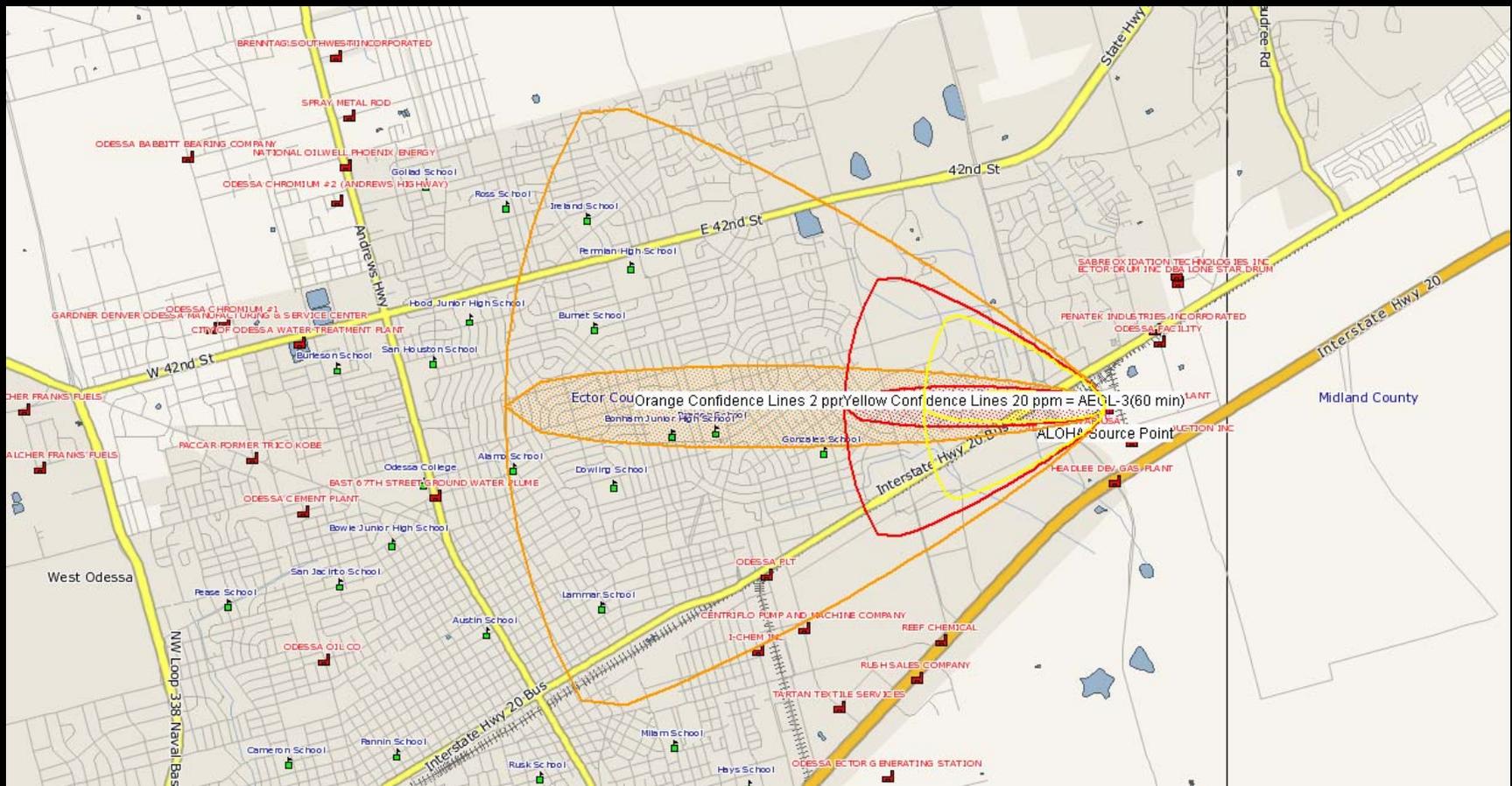
CHLORINE		CLX
CAUTIONARY RESPONSE INFORMATION		
Evacuation Routes: Upwind and uphill. Evacuate downwind and downhill.	Isolation Distances:	Shipping Paper:
Fire:	Exposure:	Health Hazards:
Water Pollution:	Environmental Hazards:	Physical & Chemical Properties:
1. Control/Prevention Measures:	2. Environmental Concerns:	3. Health Hazards:
4. Environmental Fate:	5. Physical & Chemical Properties:	6. Shipping Information:

GUIDE 124 GASES - TOXIC AND/OR CORROSIVE - OXIDIZING ERG2008

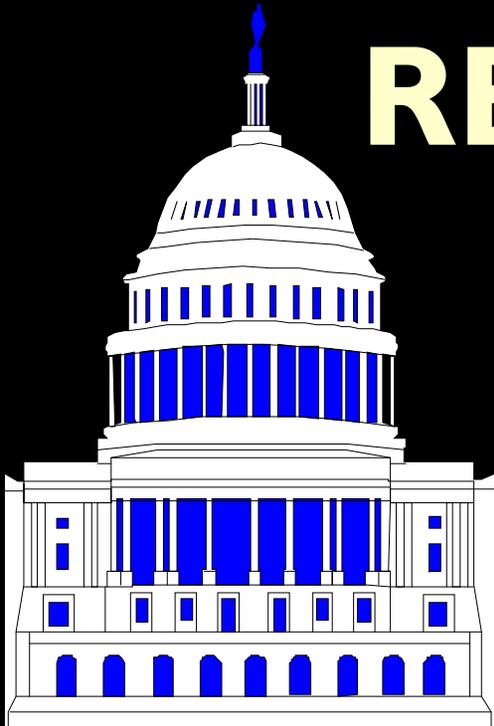
POTENTIAL HAZARDS
HEALTH <ul style="list-style-type: none"> • TOXIC: may be fatal if inhaled or absorbed through skin. • Fire will produce irritating, corrosive and/or toxic gases. • Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. • Runoff from fire control may cause pollution.
FIRE OR EXPLOSION <ul style="list-style-type: none"> • Substance does not burn but will support combustion. • Vapors from liquefied gas are initially heavier than air and spread along ground. • These are strong oxidizers and will react vigorously or explosively with many materials including fuels. • May ignite combustibles (wood, paper, oil, clothing, etc.). • Some will react violently with air, moist air and/or water. • Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. • Containers may explode when heated. • Ruptured cylinders may rocket.
PUBLIC SAFETY <ul style="list-style-type: none"> • CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover. • As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. • Keep unauthorized personnel away. • Stay upwind. • Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). • Keep out of low areas. • Ventilate closed spaces before entering.
PROTECTIVE CLOTHING <ul style="list-style-type: none"> • Wear positive pressure self-contained breathing apparatus (SCBA). • Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. • Structural firefighters' protective clothing provides limited protection in fire situations. ONLY if it is not effective in spill situations where direct contact with the substance is possible.
EVACUATION
Spill <ul style="list-style-type: none"> • See Table 1 - Initial Isolation and Protective Action Distances.
Fire <ul style="list-style-type: none"> • If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

MODEL AN AERIAL PLUME IN ALOHA...





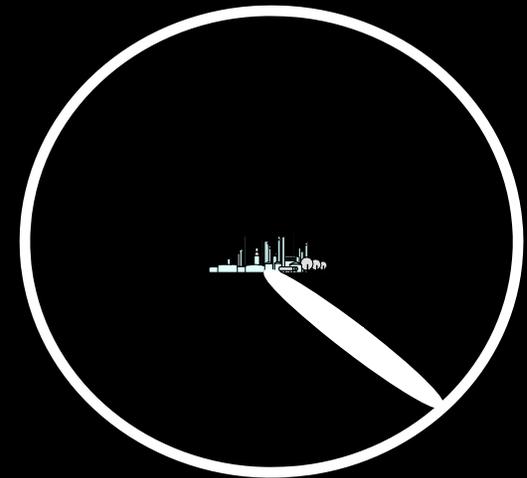
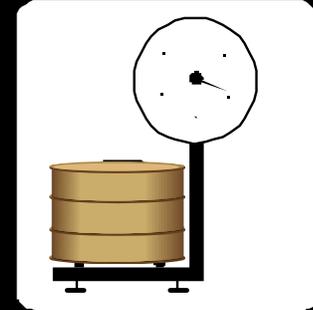
**USE ALOHA FOR
MEETING FEDERAL
REQUIREMENTS**



FEDERAL REQUIREMENTS

▶ **ALOHA** useful for:

- ▶ **Emergency planning for EHSs under EPCRA**
- ▶ **Hazard analysis under CAA 112(r)**
- ▶ **EPA's RMP rule.**



OKC/MOORE F5 TORNADO



OKC/MOORE F5 TORNADO

- ▶ EF5 tornado struck Moore, OK, May 20, 2013
- ▶ Killed 24 people
- ▶ Injured 377
- ▶ Stayed on ground 39 minutes over a 17-mile path
- ▶ 1.3 miles wide at its peak

EXAMPLE OF F5 DAMAGE



CAMEO USAGE DURING THE EVENT

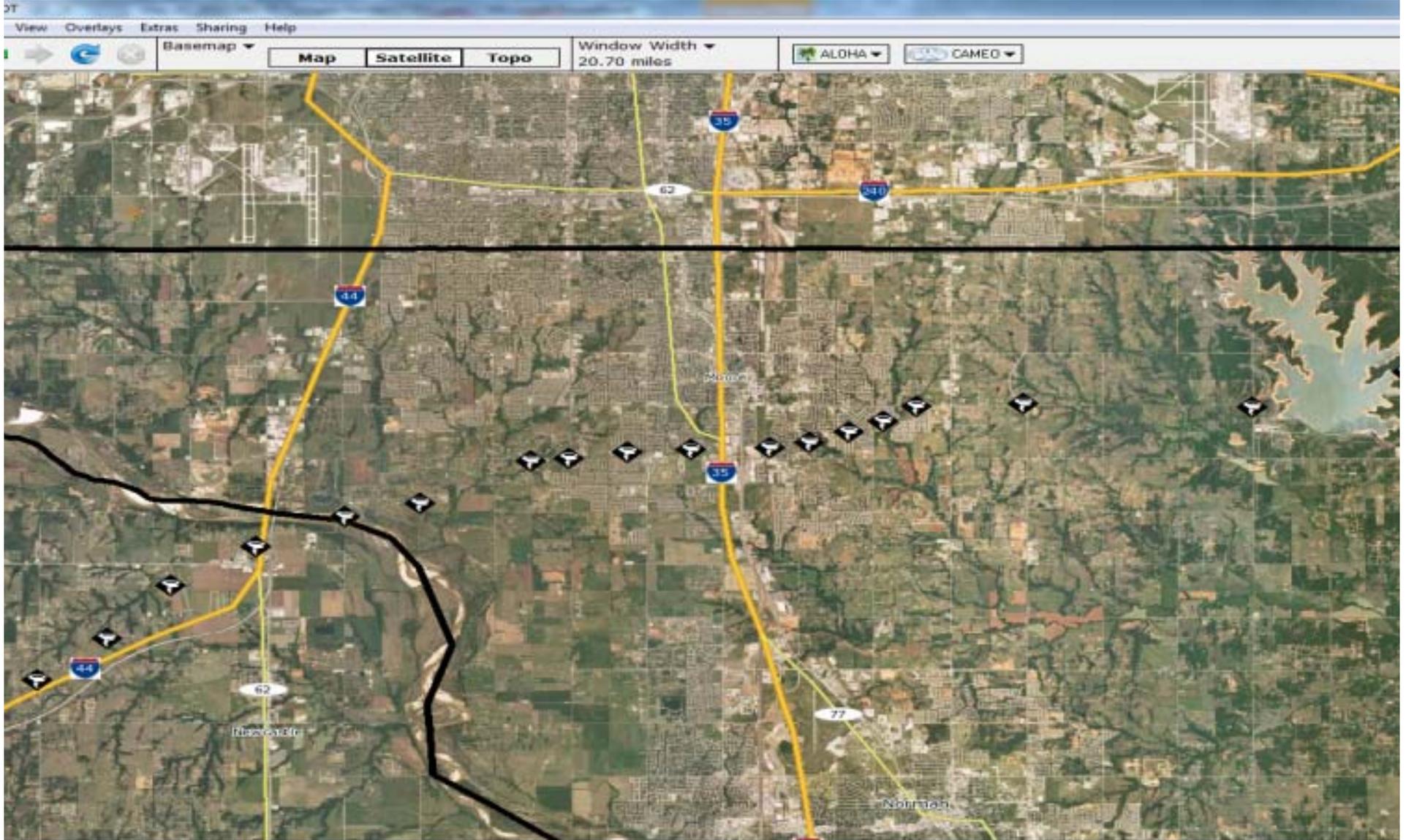
▶ MARPLOT:

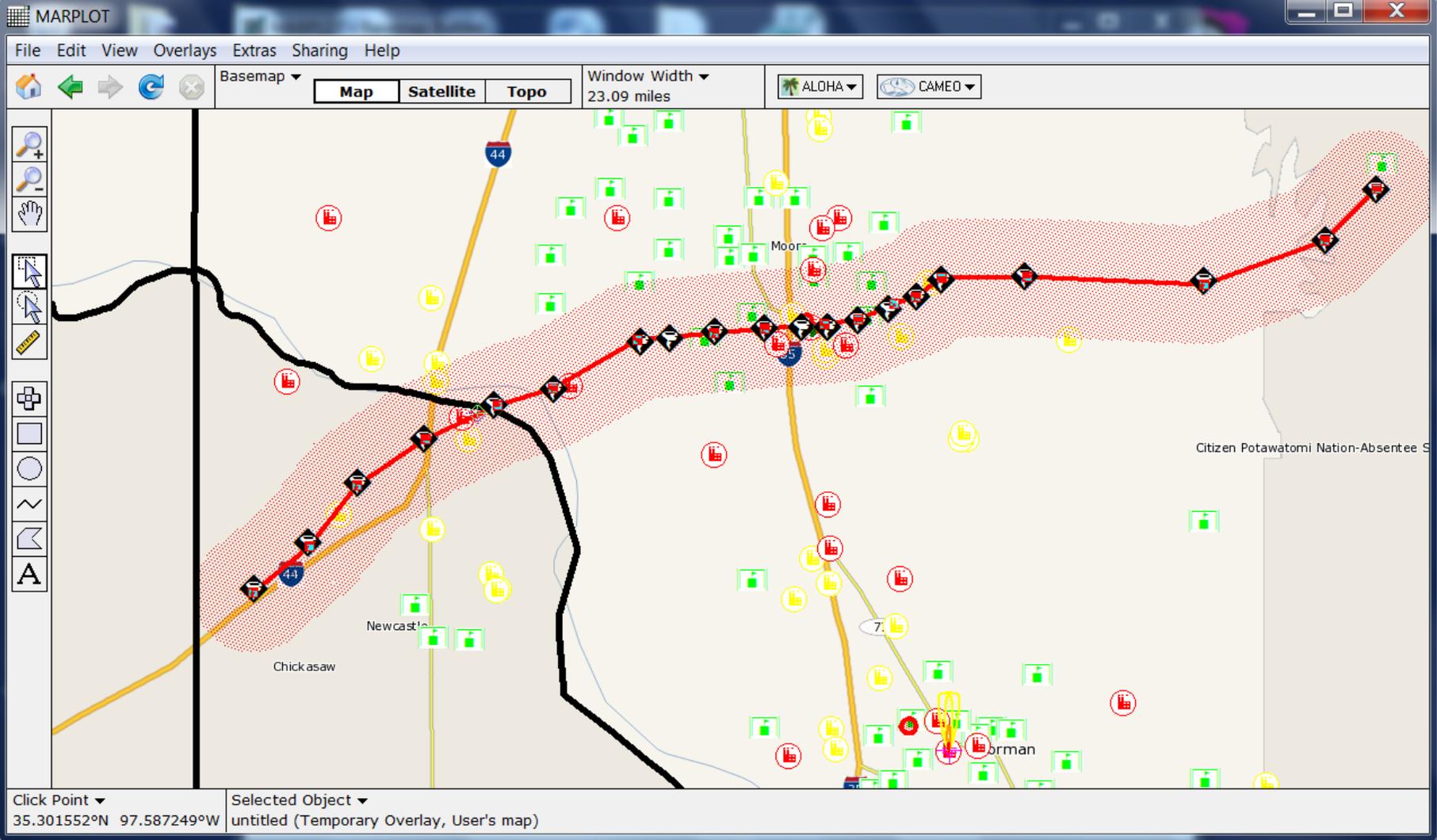
- Tracked potential damage areas in real time
- Produced affected population estimates
- Assisted responders in Search and Rescue Ops

▶ CAMEO/MARPLOT:

- Identified sensitive locations and Tier 2 sites

REAL TIME REPORTED TORNADO POINTS





MARPLOTT
MARPLOTT

File Edit View Overlays Extras Sharing Help

Basemap Map Satellite Topo Window Width 23.09 miles ALOHA CAMED

MARPLOTT - Population Estimate

Population within selected MARPI O

Total Population 24,172

Total Housing Units 9,122

Population Estimate Disclaimer

Census level used CensusBlocks

Number tallied 281

Close

Click Point 35.305656°N 97.534613°W Selected Object envelope (Temporary Overlay, User's map)



CLEVELAND CO PARCELS.csv - Microsoft Excel

File Home Insert Page Layout Formulas Data Review View Add-Ins Acrobat

Normal Page Layout Page Break Preview Custom Views Full Screen

Workbook Views

Ruler Formula Bar Gridlines Headings

Show

Zoom 100% Zoom to Selection

Zoom

New Window Arrange All Freeze Panes

Split Hide Unhide

View Side by Side Synchronous Scrolling Reset Window Position

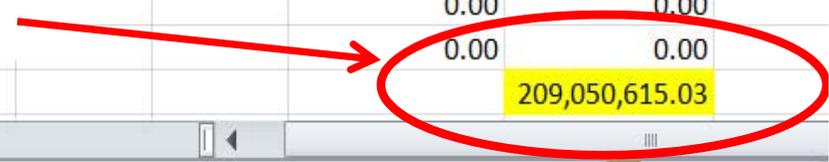
Save Workspace

Window

I1 dan_ACCOUNT

	I	J	K	L	M	N	O	P	Q	R	T	U	V
1	dan_ACCO	dan_PARC	dan_OWN	dan_OWN	dan_M	PROPERTY	OWNER	dan_MA	dan_MAIL	LOCATION	dan_ACTUAL	VALUE_ASSESS	
13758	R0163094	MC2	10	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120		500.00	60.00	
13759	R0161568	MC2	10	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120		500.00	60.00	
13760	R0135739	MC2	10	ALDI INC	DIR. O 2500 WES	DENTON	TX		76207		1,000.00	120.00	
13761	R0153062	MC2	RORS	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120		1,000.00	120.00	
13762	R0153060	MC2	RORS	BANCFIRST	PO BOX 26788	OKLAHOM	OK		73126	701 SW 19	1,157,077.00	138,849.24	
13763	R0153061	MC2	RORS	ROYAL PARK OF MOC	13308 OAK CLIFF	OKLAHOM	OK		73120	651 SW 19	484,703.00	58,164.36	
13764	R0163099	MC2	RORS	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120	SW 119TH	117,612.00	14,113.44	
13765	R0163098	MC2	RORS	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120	SW 119TH	239,144.00	28,697.28	
13766	R0163097	MC2	RORS	ROYAL PARK BUSINES	13308 OAK CLIFF	OKLAHOM	OK		73120	SW 119TH	151,589.00	18,190.68	
13767	R0163096	MC2	RORS	DBMC RESTAURANTS	16851 JEFFERSON	BATON RC	LA		70817	SW 119TH	229,997.00	27,599.64	
13768	R0161569	MC2	ROYF	ROYAL ROCK I, LLC	13308 OAK CLIFF	OKLAHOM	OK		73120	631 SW 19	940,854.00	112,902.48	
13769	R0158197	MC2	RORS	NSC PROPERTIES, LP	6 WINDMILL	MINERAL	TX		76068	625 SW 19	673,591.00	80,830.92	
13770	R0135740	MC2	RPBD	ALDI INC	DIR. O 2500 WES	DENTON	TX		76207	601 SW 19	1,040,831.00	124,899.72	
13771	R0120911	MC2	10	CITY OF MOORE	301 N BROADWA	MOORE	OK		73160	1 ASSESSC	0.00	0.00	
13772	R0120565	MC2	ROYF	CITY OF MOORE	301 N BROADWA	MOORE	OK		73160	1 ASSESSC	0.00	0.00	
13773											0.00	0.00	
13774											0.00	0.00	
13775											0.00	0.00	
13776											209,050,615.03		

Estimated Damage: Over \$200 Million



CLEVELAND CO PARCELS

Ready

100%

Other Uses for CAMEO:

- Map all fire hydrants, tin horns in MARPLOT, use CAMEO Facilities records to track maintenance schedule.
- Search and Rescue: Use MARPLOT to mark of searched areas

HTTP://WWW2.EPA.GOV/CAMEO



The screenshot shows the EPA CAMEO website in an Internet Explorer browser window. The address bar displays "http://www2.epa.gov/cameo". The page features the EPA logo and navigation tabs for "Learn the Basics", "Software & Technology", "Laws & Regulations", and "About EPA". The main heading is "CAMEO (Computer-Aided Management of Emergency Operations)". Below this, a paragraph describes CAMEO as a system of software applications used for planning and responding to chemical emergencies. The page is organized into several sections: "CAMEO" with a keyboard image and links for "What is CAMEO?", "Download CAMEO for...", and "Download CAMEO Chemicals"; "ALOHA" with a map image and a link to "Download ALOHA for Windows and Macintosh"; "MARPLOTT" with a grid image and links for "Download MARPLOTT", "MARPLOTT Manual", and "MARPLOTT for Macintosh"; and "Training and Resources" with a graphic and links for "Instructors' Corner", "CAMEO Training and Events", and "Online Resources". On the right side, there are "Top Downloads" (CAMEO, ALOHA, MARPLOTT) and "Updates" (listing various software versions and manuals). The Windows taskbar at the bottom shows the system tray with the date and time: "12:41 AM 5/18/2014".

Hilary Gafford
Weston Solutions

hilary.gafford@westonsolutions.com

214-460-7541