

# Nevada Test Site **Underground Test Area** (UGTA) Sub-Project

828 underground nuclear tests were conducted on the Nevada Test Site from 1951 to 1992. Some of the tests occurred near or below the water table, resulting in groundwater contamination.

Pahute Mesa Earth Vision three-dimensional

computer model

UGTA Sub-Project staff are responsible for evaluating the impact of historic nuclear tests on groundwater resources and studying the extent of contaminant migration.

The UGTA Approach:

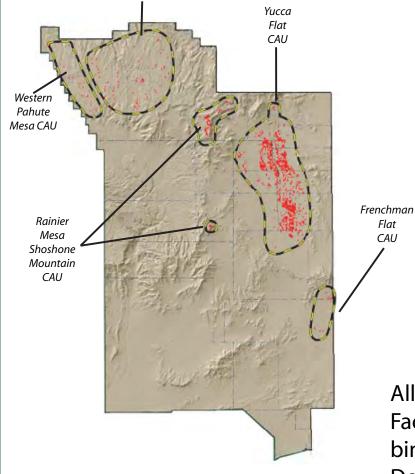
- · Organized into five Corrective Action Units (CAUs)
- A CAU is a grouping of Corrective Action Sites (CASs), based on the locations of historic underground nuclear tests and similar geology
- Each CAU is analyzed and evaluated

Central Pahute Mesa CAU

- · Wells are drilled to collect field data (samples)
- Field data is used to create three-dimensional computer models
- Models are used to estimate groundwater flow and transport parameters
- Models are the preferred decision tools for predicting current and future location of contamination
- Monitoring of groundwater is used to evaluate model predictions and ensure compliance with regulatory requirements



UGTA well ER-2-1 during mobilization on Yucca Flat



DOE staff works with other organizations in a collaborative approach to understand the nature and extent of groundwater contamination:

- Lawrence Livermore National Laboratory
- Los Alamos National Laboratory
- Desert Research Institute
- United States Geological Survey
- State of Nevada
- National Security Technologies
- Navarro-Intera

UGTA Corrective Action Unit (CAU) Boundaries

All activities are conducted in accordance with the Federal Facility Agreement and Consent Order (FFACO), a legally binding document agreed to by the State of Nevada, the U.S. Department of Energy, and the U.S. Department of Defense.



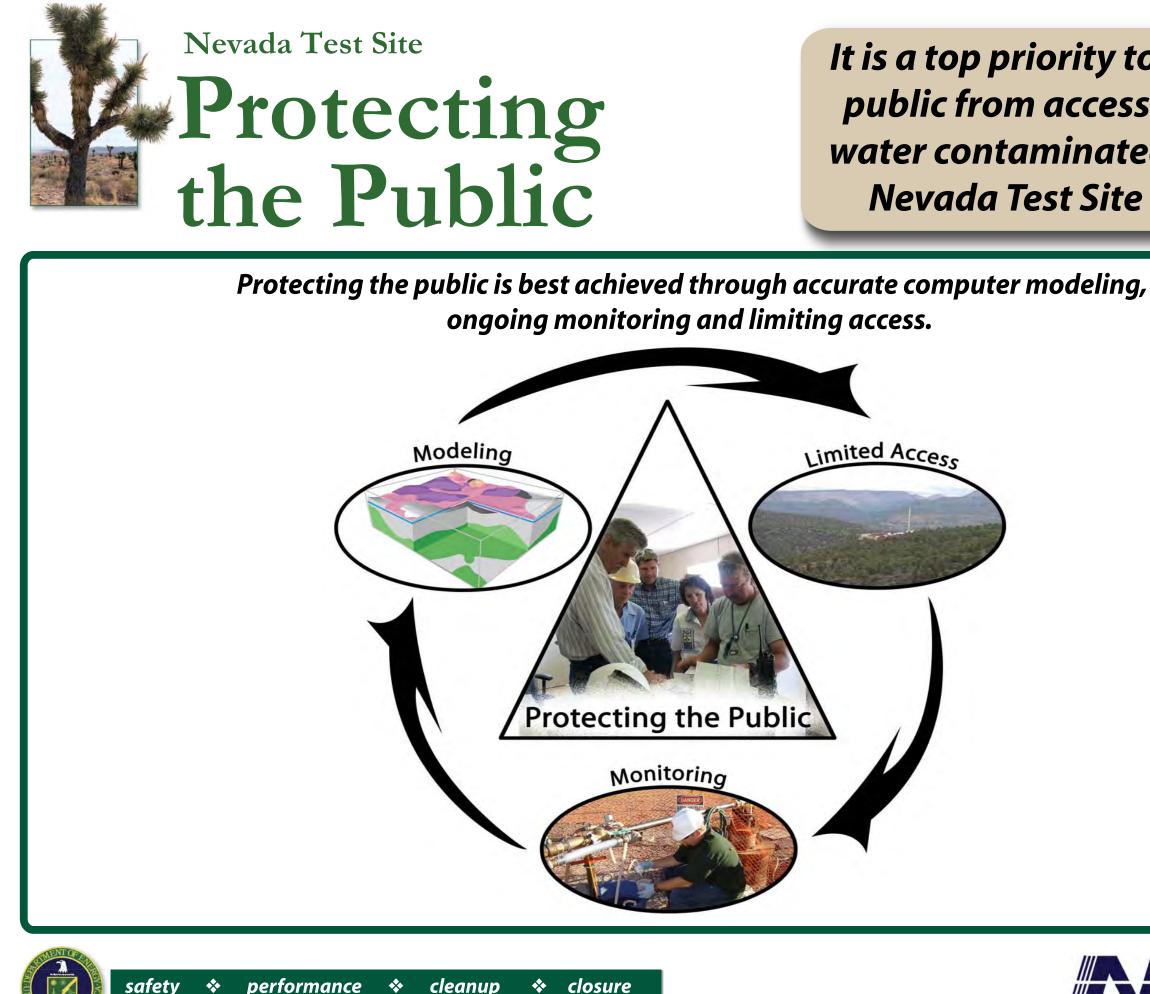
#### safetv \* closure performance cleanup ∻

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Flat

CAU





April 2010, DOE/NV-1373

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## It is a top priority to protect the public from access to groundwater contaminated by historic Nevada Test Site activities.



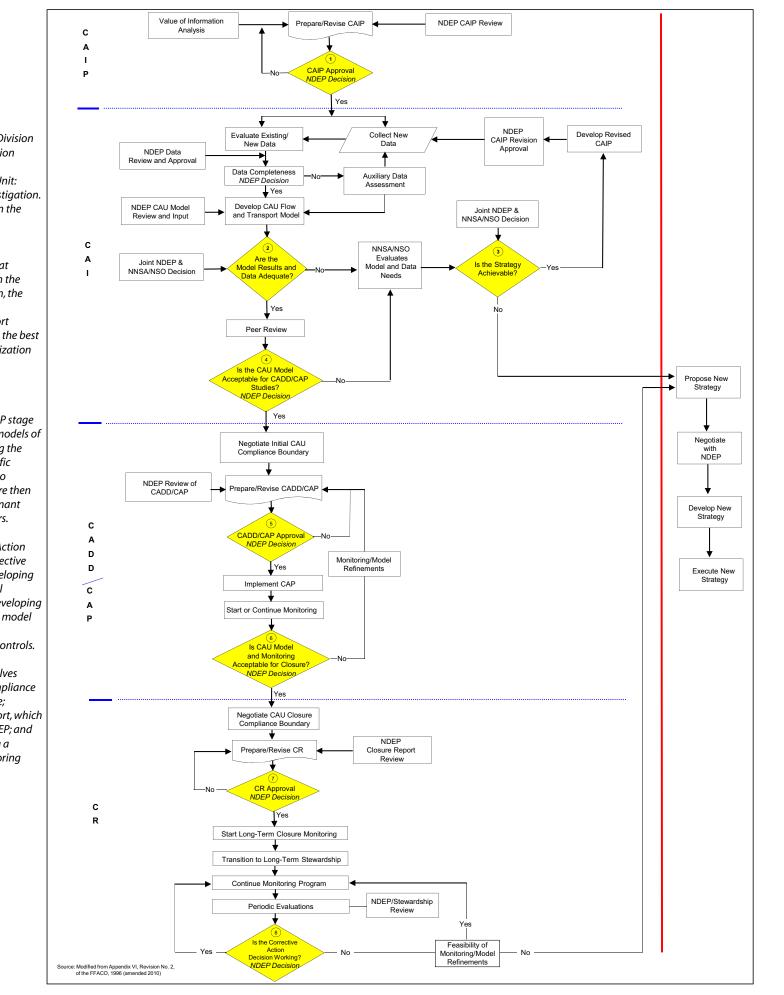


# Nevada Test Site UGTA Strategy

The Federal Facility Agreement and Consent Order (FFACO) is a legally-binding agreement between the State of Nevada and the DOE.

Section 3, Appendix VI

Federal Facility Agreement and Consent Order



**NDEP** - State of Nevada Division of Environmental Protection

**CAU** - Corrective Action Unit: group of sites under investigation. There are five CAUs within the UGTA Sub-Project.

**CAIP** - Corrective Action Investigation Plan: looks at existing information from the weapons testing program, the regional flow model, and one-dimensional transport simulations to determine the best options for site characterization and prioritization.

**CAI** - Corrective Action Investigation: uses the information from the CAIP stage to develop CAU-specific models of flow and transport, taking the uncertainty of each specific hydrogeologic setting into account. These models are then used to forecast contaminant boundaries for 1,000 years.

**CADD/CAP** - Corrective Action Decision Document/Corrective Action Plan: includes developing and negotiating an initial compliance boundary, developing monitoring programs for model testing and closure, and identifying institutional controls.

**CR** - Closure Report: involves negotiating the final compliance boundary for CAU closure; developing a closure report, which must be approved by NDEP; and developing and initiating a long-term closure monitoring program.



#### safety **\*** performance **\*** cleanup **\*** closure

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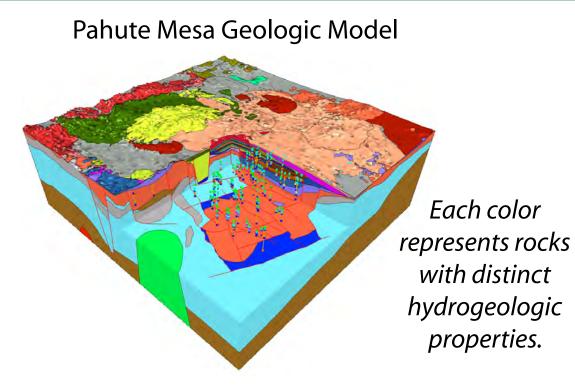
#### Nevada Test Site



# **Complex Geology**

closure

The complexity of the sub-surface geology creates technical challenges for scientists to accurately determine where and how fast groundwater and contaminants migrate. The Underground Test Area Sub-Project works extensively to characterize the geology and represent the uncertainty of contaminant migration. The geologic models provide the initial framework for all groundwater modeling.



#### Geologic Cross Section at Pahute Mesa

Time America Tests Tef Time America Tests Tef Decision Security Constraints and Constraint



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The complex geologic features of Pahute Mesa include:

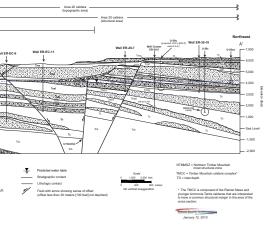
cleanup

- At least six Tertiary-age calderas
- Basin-and-range normal faults
- Mesozoic-age thrust faults
- Granite bodies intruded through a basement of highly deformed sedimentary rocks



performance

## Geology at the Nevada Test Site is diverse and complex.





# Nevada Test Site **Groundwater Well** Drilling

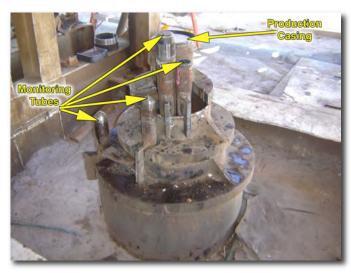
• Four wells drilled during 2009 - well ER-EC-11 is the first location off the Nevada Test Site to have tritium detected in groundwater samples

# Well ER-EC-11 During Drilling

- First well drilled was ER-20-7, which is the site recommended by the Community Advisory Board (CAB) for Nevada Test Site Programs
- Well depths range from 2,338 feet to 4,148 feet
- Four more wells are planned during 2010 -2011 drilling campaign beginning in June



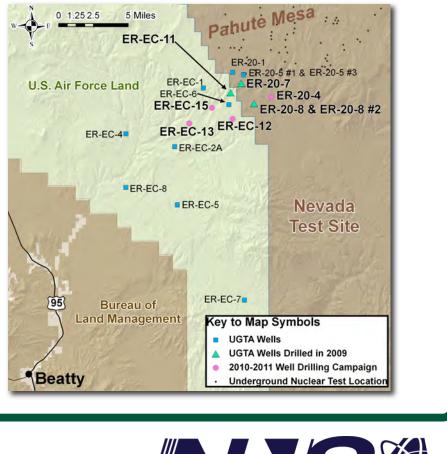
Lined Sump at ER-EC-11 to Hold Up to Four Million Gallons of Water During Well **Drilling & Pumping Activities** 



Well ER-EC-11 Well Head with Four Monitoring Tubes and One **Production Casing** 

#### 2009 Well Drilling Summary

4	Drilling Plans								
WELL NUMBER	PLANNED DEPTH (feet)	ACTUAL DEPTH (feet)	DELTA (feet)		AIN HOLE		WELL NUMBER	PLANNED DEPTH (feet)	TARGET ZONES
ER-20-7	2,600	2,936	336	22	29	7	ER-EC-12	3,650	3
ER-20-8	3,700	3,442	(258)	31	34	3	ER-20-4	3,100	1
ER-20-8 #2	2,400	2,338	(62)	14	11	(3)	ER-EC-13	3,000	2
ER-EC-11	3,500	4,148	648	29	39	10	ER-EC-15	3,200	3
FY 2009 Drilling Campaign TOTALS	12,200	12,864	664	96	113	17	FY 2010 Drilling Campaign TOTALS	12,950	









Wells are drilled to collect geologic and aquifer data, which is used in computer models to predict groundwater movement and contaminant boundaries.

2010-2011 Well

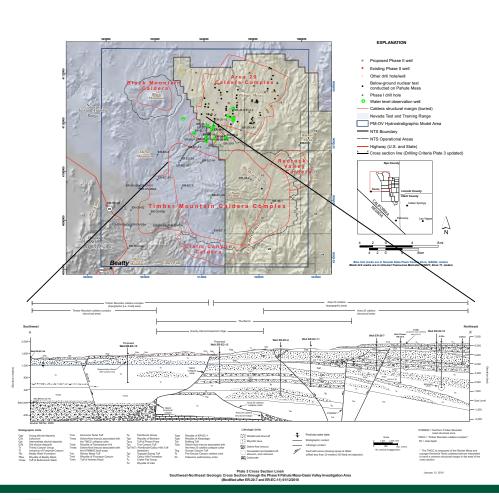


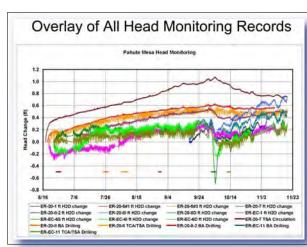


# Nevada Test Site Well Development, Hydraulic Testing and Groundwater Sampling on Pahute Mesa

During well development, characterization wells are pumped to remove drilling fluids and particulates. Hydraulic testing and sampling are then performed to collect aquifer data for use in computer models to predict groundwater movement and contaminant boundaries.

- Pahute Mesa well development and testing completed at Well ER-20-8#2.
- Nine wells are to be developed, tested and sampled over the next four years.
- Wells to be completed in multiple target aguifers at depths from 2,500 to 4,200 ft.
- Well designs allow for isolation of aguifers and discrete access for the collection of aguifer-specific data (e.g. water levels and groundwater samples).
- During pump testing, water levels at nearby wells are monitored to check aquifer-specific water level responses from pumping.





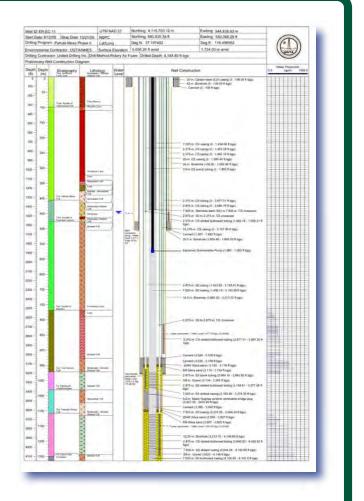


Above: Workers install pump at a well. Left: Typical fluid storage sump near well.

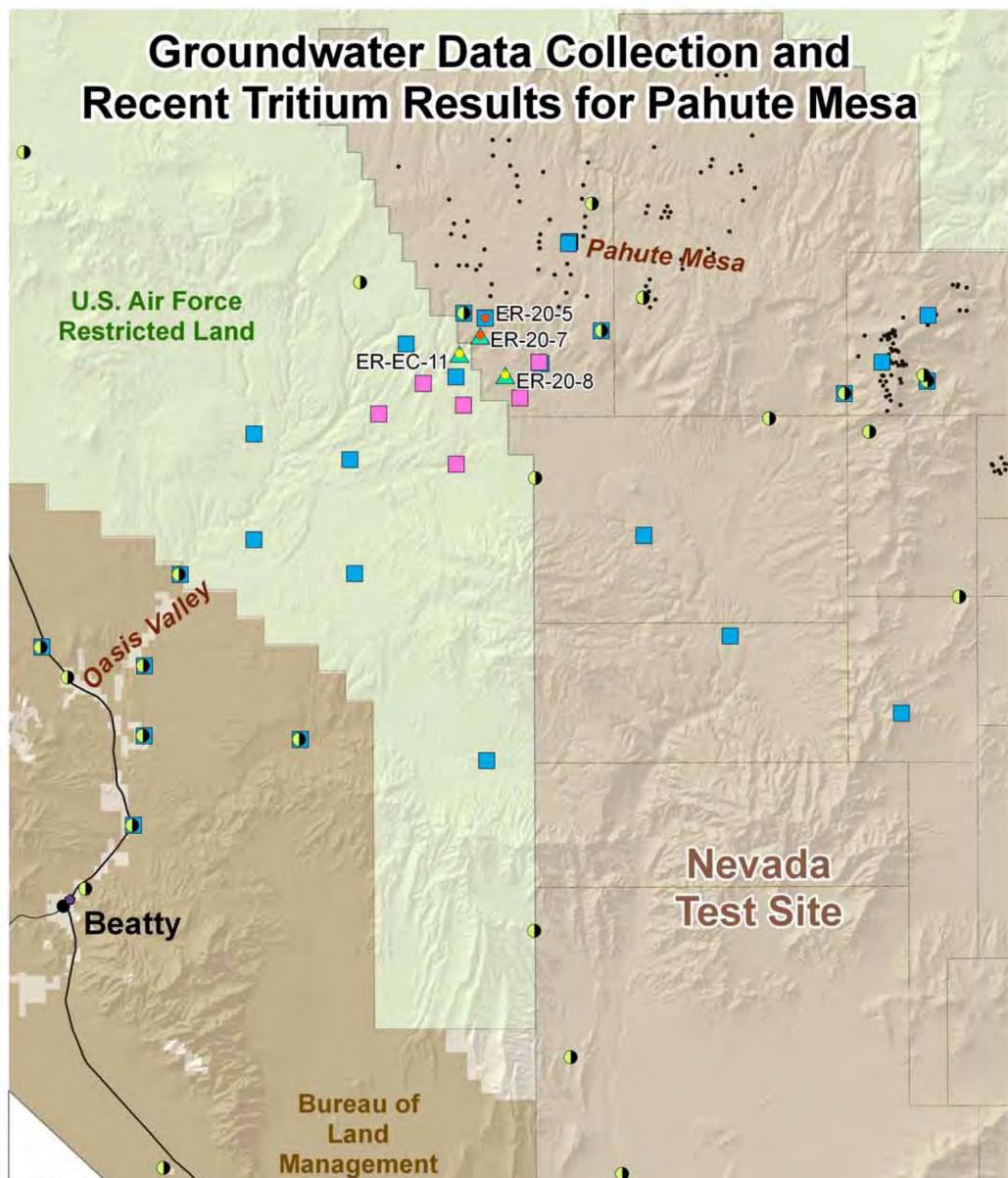


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Amargosa

Valley

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#### Map Symbols

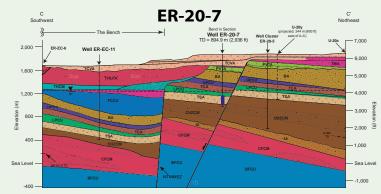
- Underground Test Area (UGTA) Characterization Wells
- UGTA Wells Drilled in 2009
- Well with Tritium Detected Below EPA Safe Drinking Water Act (SDWA) Standards
- Well with Tritium Detected Above SDWA
- Proposed UGTA Well Location
- Community Environmental Monitoring Program (CEMP) Location
- Routine Radiological Environmental Monitoring Program (RREMP) Location
- Historic Underground Nuclear Test Location



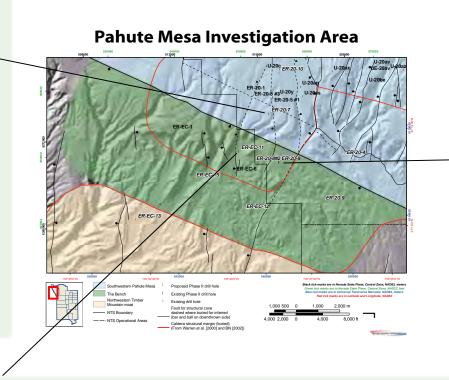
# **Nevada Test Site Information on Source Term from New Wells**

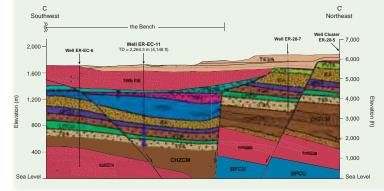
"Source term" models predict the amount and type of contaminants that will be found in the groundwater in the future.

Data acquired from 2009 drilling activities supports conceptual model: contamination moves off Pahute Mesa in deeper geographic units to stratigraphically higher geographic units as caldera structure down drops the volcanics to the south. The Benham aquifer is hypothesized to be the main aquifer of concern at the leading edge of the contaminant plume.



- Located within modeled flow paths; downgradient of the ER-20-5 site; contamination expected
- Two saturated aguifers
- TCA tritium (3,000,000 pCi/L) and Pu (0.04 pCi/L) in drilling fluids; cased off
- TSA tritium (20,000,000 pCi/L) and Pu (0.12 pCi/L) in drilling fluids; slotted completion zone over entire interval





#### **ER-EC-11**

- Located within modeled flow paths, across the Nevada Test Site boundary
- Three saturated aquifers
- BA tritium (~10,000 pCi/L) in drilling fluids; BA cased off
- TCA tritium not detected; slotted completion zone over entire interval
- TSA tritium not detected; slotted completion zone over entire interval

- Three saturated aquifers

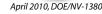
- slotted zone in BA

#### LEGEND

- pCi/L picoCuries per liter BA - Benham aquifer TCA - Tiva Canyon aquifer
- TSA Topopah Spring aquifer

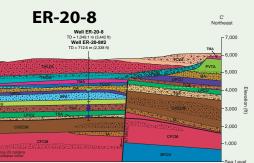


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 Located within modeled flow paths BA - tritium (40,000-100,000 pCi/L) in drilling fluids in isolated zone; BA cased off TCA - tritium (<20,000 pCi/L); slotted completion</li>

zone over entire interval

• TSA - tritium (<20,000 pCi/L); slotted completion zone over entire interval

• ER-20-8#2 subsequently drilled and completed with



#### Nevada Test Site

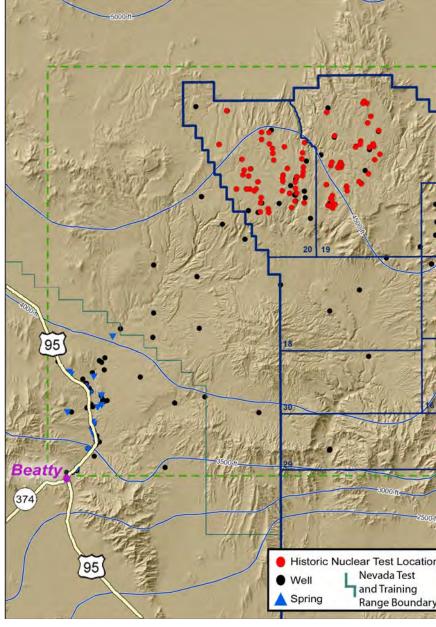
# Modeling Pahute Mesa **Groundwater Flow**

Computer modeling depicts the Nevada Test Site Pahute Mesa groundwater to flow from north-northeast to south-southwest with a discharge point along Oasis Valley.

Computer models are a three-dimensional, mathematical representation of the important physical features within the flow system.

Pahute Mesa groundwater flow computer models were created from information obtained through well drilling, sampling, geophysical data collection, and research. Complex geologic alternatives are included in the models to account for uncertainties within the Nevada Test Site setting.

Flow Model Alternatives	Description
Raised Paleozoic	Raises the basement surface to highest plausible to focus flow in higher rocks.
Thirsty Canyon Lineament	Treats Thirsty Canyon Lineament as a continuous feature.
Deep Rooted Thrust	Considers Belted Range thrust to be more extensive resulting in a low permeability thrust sheet over most of the model.
Gravity Ridge	Aquifer units are truncated against older lower permeability rocks presumed to resist or hinder flow off Pahute Mesa.
Southeast Paleozoic	Changes Paleozoic carbonates into continuous sheet in southeastern area.
Silent Canyon Caldera Complex	Structurally uncoupled from basin and range faults. Circular caldera ring faults and collapse features. Faults do not extend to much depth.





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- The flow models have been calibrated to approximate observed water levels in wells and discharge in springs.
- The flow models also demonstrate the approximate natural chemical constituents in groundwater (such as chloride and sulfate) and how they change along flow paths.



#### **Nevada Test Site**



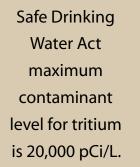
# Modeling the Movement of Contamination

Estimating how quickly and how far potential contamination may move beyond Nevada Test Site boundaries is essential to implementing the appropriate protective measures.

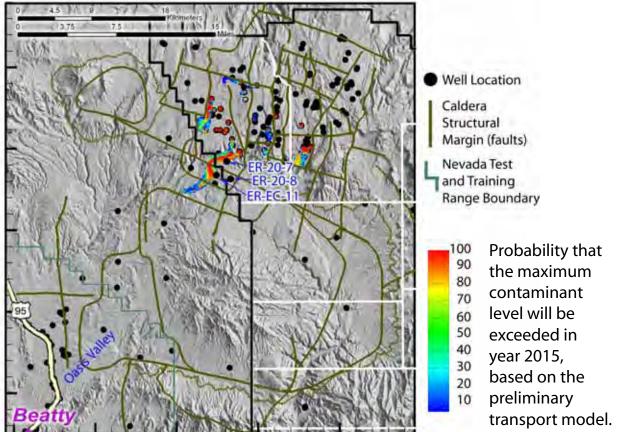
The contaminant transport model simulates the movement of a variety of radiological contaminants through the groundwater, and predicts where contaminants will be found.

- Rate and distance parameters are applied to the flow model to predict how contaminants are transported over time.
- The transport model is developed using experimental results from laboratory and field tests of contaminant movement in aquifer material.
- Most well sampling results have not detected the presence of radionuclides, thereby posing challenges when comparing against predictions.
- Preliminary estimate of exceeding the maximum contaminant level 50 years after contamination occurred is depicted in the map to the right (red is more probable and blue is less probable).
- Continued well drilling and data collection will improve and refine the transport models.





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# Nevada Test Site Frenchman Flat Groundwater Monitoring Network Design

## Monitoring is a key element of the UGTA strategy, along with modeling and institutional controls.

#### **Monitoring Stages**

There is current groundwater monitoring and two planned monitoring stages identified in the Underground Test Area (UGTA) Sub-Project Strategy:

**Current Monitoring:** established during nuclear testing and continuing today.

**Pre-Closure Monitoring**: a model evaluation stage to check model forecasts after the State of Nevada and DOE accept the Frenchman Flat model.

**Long-term Closure Monitoring**: occurs long-term, after investigations have ended.

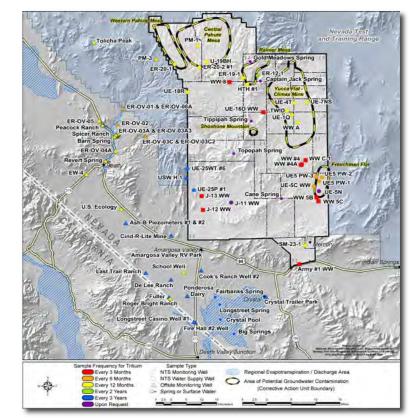
#### **Objectives for groundwater monitoring**

Each monitoring stage emphasizes different objectives, though there is overlap. In all cases the overall goal is protection of the public and environment. Specific objectives focus on:

- Safety of existing water supply wells (Current Monitoring)
- Data collection for evaluating model forecast (Pre-Closure Monitoring)
- Monitoring for regulatory compliance and early detection of contamination (Long-Term Monitoring)

#### **Frenchman Flat Current Monitoring**

Monitoring of groundwater in ten wells in Frenchman Flat is ongoing as part of the Nevada Test Site Routine Radiological Environmental Monitoring Plan (RREMP). Some of these wells may become part of the long-term monitoring networks.



The map shows the well locations for the RREMP in 2008 and can be found in the Nevada Test Site Environmental Summary Report.

#### Frenchman Flat Pre-Closure Monitoring

Pre-closure monitoring seeks to provide new data, not used in the modeling effort, to build confidence in the model forecasts. Types of data include the presence or absence of contamination, groundwater levels, types of rocks encountered below the watertable, and aquifer properties.

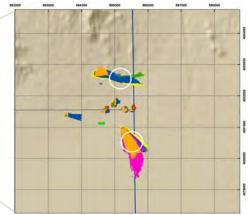




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The map above shows the south-east corner of the Nevada Test Site, including the northern testing area in Frenchman Flat (gray box on map to left shows the location), and composite 1,000-year contaminant boundaries calculated using models.

The white circles show the general locations proposed for the pre-closure monitoring wells. Information from these wells will be used to evaluate model forecasts and assess their reliability.

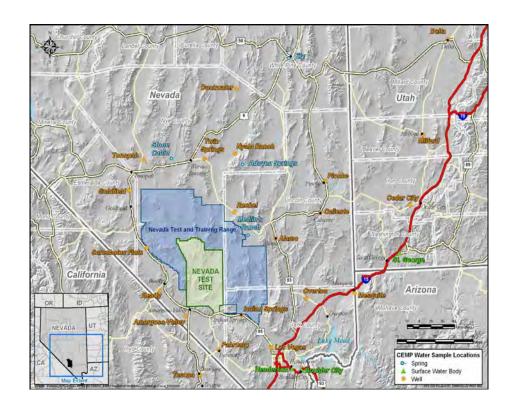
After that assessment, there may be an iterative process of model improvement. Once the model and monitoring are acceptable for closure, a long-term monitoring network will be developed.





# Nevada Test Site **Community Environmental Monitoring Program** (CEMP)

The CEMP samples the water supply yearly at each community hosting a CEMP station to test for the presence of man-made radioactivity. CEMP analyzes the samples for tritium because it is the most common radioactive contaminant at the Nevada Test Site and it moves most rapidly in groundwater.



**CEMP** monitoring test results are available at www.cemp.dri.edu

- CEMP's network of monitoring stations use instruments to detect airborne radiation (if present) and record weather data. This information is available real-time on the CEMP web site at www.cemp.dri.edu.
- Private citizens operate CEMP monitoring stations in Nevada, Utah, and California communities and ranches that are near the Nevada Test Site.
- Desert Research Institute administers the CEMP.
- CEMP is funded by the U.S. Department of **Energy, National Nuclear Security Administration** Nevada Site Office.

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To date, monitoring station results show that tritium levels are at or below background.



ritium Results from CEMP offsite water tests (3H - pCi/L)

Location	2009	2008+	2007	2006	2005	2004	2003	2002	2001	
Adaven Springs*	12.4	10.7	9.7	22.6	20	12	16	15	NT	
Alamo^	0.4	0.8	-6.4	-9.7	-4	-3	-1	2	7	
Amargosa Valley^	-0.1	0.0	6.4	-6.4	-3	-2	3	0.1	3	
Beatty^	0.1	-0.2	3.2	-12.9	-3	-2	0	2	3	
Boulder City*	21.6	24.1	19.3	35.4	24	29	35	27	34	
Caliente^	4.7	5.4	3.2	-3.2	8	7	5	8	12	
Cedar City^	-0.1	0.2	6.4	0.0	3	-4	-4	-3	1	
Delta^	-0.1	-0.1	3.2	6.4	-8	2	-1	-0.8	1	
Duckwater^	0.1	0.3	6.4	NT	NT	NT	NT	NT	NT	
Ely*	2.7	2.8	16.1	9.7	-2	NT	NT	NT	NT	
Goldfield^	0.0	0.4	3.2	-9.7	0	-4	5	-0.3	<1	
Henderson*	22.4	23.2	32.2	16.1	24	27	27	26	34	
ndian Springs^	-0.3	0.1	3.2	9.7	-5	-1	4	5	2	
Las Vegas^	0.8	0.8	12.9	3.2	-5	3	-2	1	<1	
Medlin's Ranch*	3.8	5.1	3.2	0.0	10	9	9	4	13	
Mesquite^	-0.1	0.0	0.0	0.0	NT	NT	NT	NT	NT	
Milford^	0.0	-0.3	0.0	12.9	1	-5	-2	-1	<1	
Nyala Ranch <sup>^</sup>	0.5	0.5	-3.2	9.7	0	-1	-4	-1	NT	
Overton^	0.1	-0.1	12.9	6.4	-4	3	2	0.4	1	
Pahrump^	0.1	0.1	0.0	3.2	-5	-1	2	-2.0	1	
Pioche^	-0.1	0.1	0.0	6.4	-7	2	-1	4	<1	
Rachel^	-0.1	-0.2	-6.4	3.2	-1	-1	-9	1	<1	
Sarcobatus Flats <sup>^</sup>	0.3	0.1	19.3	-3.2	-3	3	-7	-4	NT	
Stone Cabin Ranch*	0.5	0.8	-6.4	0.0	2	-2	3	2	NT	
St. George*	9.3	9.4	22.6	9.7	8	-3	4	8	9	
Tecopa^	0.4	-0.2	NT	NT	NT	NT	NT	NT	NT	
Tonopah^	-0.3	-0.1	9.7	-3.2	-4	-2	4	-2	<1	
Twin Springs^	0.0	-0.1	-9.7	3.2	-2	-3	-1	0.7	NT	
* Sample taken from spring or surface water. * Sample taken from well water. + In 2008, analyses began to be conducted using enriched gas proportional counting. Prior to that year gas proportional or liquid scintillation counting was used. The safe drinking water standard for tritium allows 20,000 pCi/L. Source: Nevada Test Site										

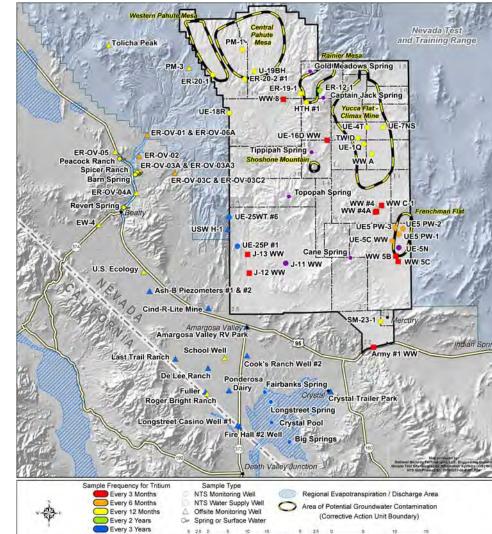




# Nevada Test Site **Routine Radiological Environmental Monitoring Program (RREMP)**

### **RREMP** monitors a comprehensive network of wells, springs and surface water locations.

- Wells and springs on the Nevada Test Site are sampled to help identify the location of groundwater contamination.
- In areas where groundwater contamination has been located on the Nevada Test Site, wells and springs are monitored over time to determine if the levels of radioactivity are changing.
- Groundwater wells and springs near the Nevada Test Site are monitored to determine if any radioactivity has migrated off the site into the public domain.
- Contamination resulting from historic underground nuclear testing has not been detected at a RREMP water sampling location off the Nevada Test Site.



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**RREMP** monitoring results are updated annually in the Nevada Test Site Environmental Report. This report is available at www.nv.energy.gov/library/publications/aser.aspx



Sampling results from RREMP sites located off the Nevada Test Site (1999 - 2009).



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	Average Tritium Concentration (pCi/L)										
Location	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Non-Potable NNSA/NSO We	lls										
Ash-B Piezometer #1	3.0	-	-	-	16.8	-	-	-7.0	-	16.4	-3.0
Ash-B Piezometer #2	7.4	-	-	-	7.4	-	-	-8.8		-6.3	8.4
ER-OV-01	-0.2	-3.7	-3.8	10.9	5.2	-	18.3	-3.5	-13.4	-2.4	7.6
ER-OV-02	-1.8	2.0	2.1	8.8	5.7	-5.9	6.7	-1.9	-8.1	-5.8	-5.6
ER-OV-03A	-4.6	9.1	-6.1	8.1	24.1	-6.9	1.0	-4.4	-8.7	-6.2	-7.7
ER-OV-03A3	0.0	3.3	-11.0	12.4	15.6	-9.0	-	0.0	4.1	-5.6	3.0
ER-OV-03C	1.4	-10.5	-5.9	20.7	9.9	-7.2	12.3	-0.7	-13.1	-4.6	9.3
ER-OV-03C2	-0.6	-3.0	-12.8	16.7	13.9	7.8	20.8	2.2	-10.5	-6.5	1.1
ER-OV-04A	3.2	-8.4	-4.3	23.2	3.3	-10.9	20.1	0.2	-6.8	-6.0	-2.3
ER-OV-05	3.3	4.2	-12.9	9.6	9.0	-4.8	-8.5	4.2	-1.2	-9.8	4.9
ER-OV-06A	1.4	-10.7	-11.5	10.6	8.7	-	4.3	3.9	-11.9	-4.1	-5.1
PM-3 (1560 ft bgs)	23.8	21.9	16.0	29.0	9.3	18.8	-9.5	3.4	-3.6	0.5	-
PM-3 (1993 ft bgs)	4.7	8.5	15.8	3.5	10.1	-	-4.9	-1.0	-17.1	-4.7	-
Offsite Private/Community	Drinkins	Water	Wells								
Amargosa Valley RV Park	6.1				1.3		-10.4	-	4.4	1.4	3.7
Barn Well #2 - Ponderosa Dairy	20.1				3.5		-	-		19.3	
Beatty Water and Sewer (a)				11.6	5.0	6.0	29.9	0.7	-8.9	6.8	2.3
Cind-R-Lite Mine	-9.0				0.1		9.4	-	-6.6	-1.6	1.2
Cook's Ranch Well #2	-6.0				6.5	-	-20.1	-	-0.4	9.5	0.4
Crystal Trailer Park (b)	-3.8				-8.4	11.2	-10.9		-13.9	-9.7	
DeLee Ranch	-4.0				3.3		-13.2	-	-6.0	3.8	4.1
EW-4 Well (b)	-0.8						-	-			
Fire Hall #2 Well	3.0				-2.7		8.3		-11.8	-7.9	1.4
Fuller Property (b)	-6.9			11.1	-5.4	-	-	-			
Last Trail Ranch	1.5				2.1		-	-	0.0	-7.0	2.9
Longstreet Casino Well #1	-3.0				0.4		-16.1		-0.5		3.8
Roger Bright Ranch	-3.7		-16.8	14.1	-7.9	8.9	-7.9	14.8	-1.0	-4.7	-0.5
School Well	4.0		-1.0	19.9	4.5	3.0	-13.9	7.4	-6.3	-7.0	3.9
Tolicha Peak	-1.2		-6.2	9.3	-1.0	9.5	7.1	-10.3	-0.6	4.7	14.3
U.S. Ecology	-10.2		2.1	12.9	4.6	11.2	10.0	37.4	-6.2	0.0	1.3
Offsite Springs/Surface Wate	ers										
Barn Spring (b)			6.8			-	-	-			
Big Springs	-5.1			18.7		-	-4.7	-9.6	-2.0	-7.5	
Crystal Pool	-10.7			13.9			-2.3	-12.8	-3.0	-4.7	
Fairbanks Spring	-0.7			14.0	-	-	0.8	-8.1	4.0	-4.9	
Longstreet Spring	-11.6			13.4			15.4	-15.2	-1.0	-3.6	
Peacock Ranch	0.9		-2.9	24.9	-1.1			-7.9	-4.0	-1.0	
Revert Spring	-1.3		-4.5	15.4	0.6	-1.1	-5.4	-9.5	-2.3	-2.1	
Spicer Ranch	-7.1		-6.9	22.2	10.6	6.7	-7.3	-26.7	-4.4	4.6	





Nevada Test Site **Radiation Facts** 

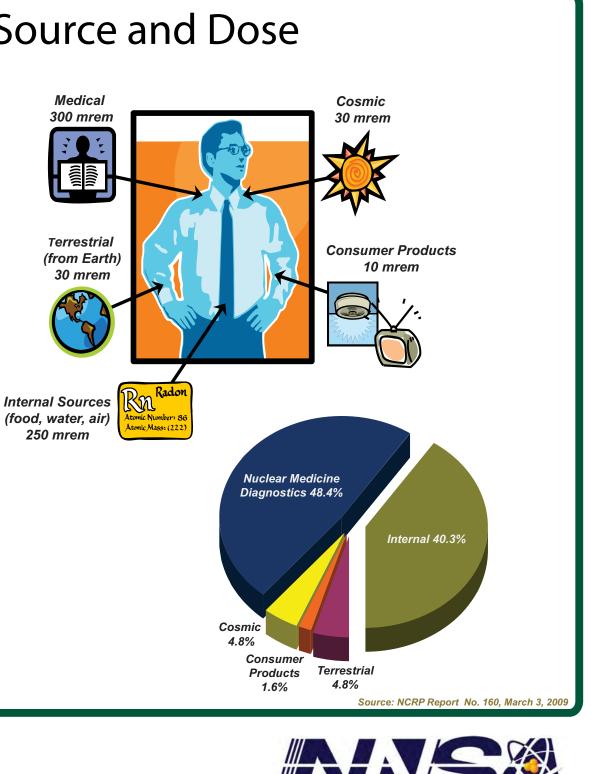
## **Average Annual Radiation Source and Dose**

*Rem* measures the biological damage, or "dose" of radiation. A *millirem* (mrem) is one one-thousandth of a rem.

The average person receives approximately 620 mrem of radiation per year from all sources. The maximum legal radiation dose limit for a person whose profession permits exposure is 5,000 mrem per year.

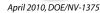


U.S. Environmental Protection Agency maximum contaminant level (MCL) for beta particle and photon radioactivity in drinking water = 4 mrem per year









For more information about the Environmental Management program, contact: U.S. Department of Energy • National Nuclear Security Administration Nevada Site Office • Office of Public Affairs P.O. Box 98518, Las Vegas, NV 89193-8518 • (702) 295-3521 • envmgt@nv.doe.gov • www.nv.energy.gov







# Nevada Test Site Your Questions Answered

The Nevada Site Office is committed to addressing your concerns.

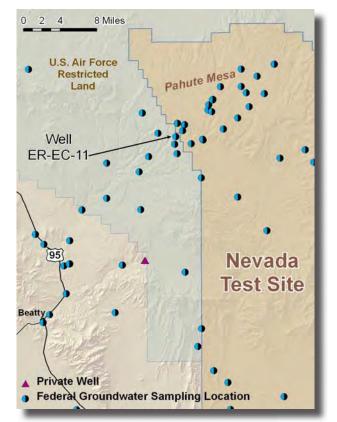
The following are answers to the three most frequently asked questions at the last Groundwater Open House in February 2009.

How long will it take for contamination from historic nuclear testing to reach the public?

The only well off the Nevada Test Site where contamination has been detected (well ER-EC-11) is 14 miles from the nearest private well. According to a range of computer model predictions, contamination is not expected to reach this private water source for at least 100 years and may, in fact, never travel this distance.

Does the Nevada Site Office have a plan if contamination exceeding EPA standards is found at a private or public drinking water source?

If groundwater contaminants from Nevada Test Site activities were verified at a public or private drinking water source beyond the test site boundary, and the levels exceeded the EPA drinking water standards, the Nevada Site Office would immediately coordinate with the State of Nevada to shut down the well and pursue an alternate water supply.



Will the Nevada Site Office spend more time interacting with interested communities?

Yes. Based on attendance at the February 2009 Open House, the Nevada Site Office organized this year's Open House and will continue pursuing opportunities to spend time in communities surrounding the Nevada Test Site.

> The Nevada Site Office also maintains an active Community Outreach Program, through which speakers, educational resources and exhibits are available upon request.

If you have questions, comments or simply want more information relating to groundwater at the Nevada Test Site, please call the Office of Public Affairs at (702) 295-3521, or email us at envmgt@nv.doe.gov.



Groundwater Open House (February 2009) attendees learns about computer models developed for the Pahute Mesa region of the Nevada Test Site.



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# Nevada Test Site **Community Advisory Board**

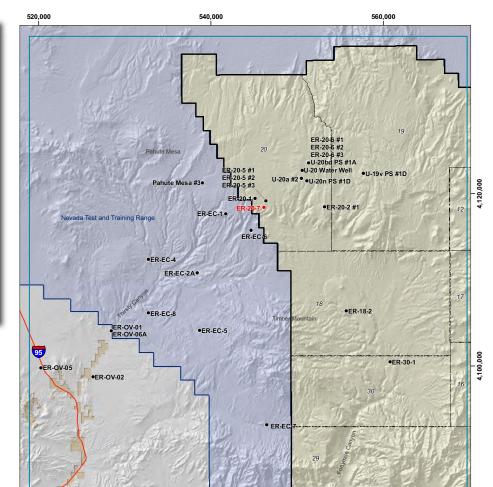
**Current and past CAB** members reside in Beatty, Amargosa Valley, Pahrump, and Las Vegas.

The Community Advisory Board (CAB) is made up of Southern Nevada residents and is federally-chartered to provide recommendations to the Environmental Management Program at the Nevada Test Site.

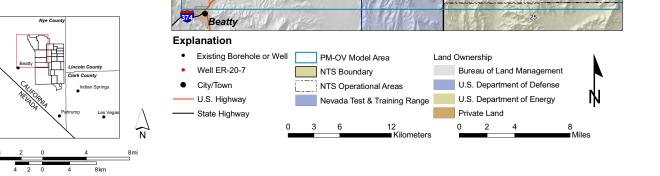
In 2002, the U.S. Department of Energy asked the CAB to site the location of a groundwater well that could be used to gain data for the Underground Test Area Sub-Project. In 2006, after four years of extensive research, the CAB recommended three groundwater wells on and near Pahute Mesa. In 2009, the U.S. Department of Energy drilled well ER-20-7, which was one of the CAB's recommended sites.

Community Advisory Board members tour the drill site they recommended for the Underground Test Area Project. Well ER-20-7 is located on Pahute Mesa at the Nevada Test Site.





A Community Advisory Board meeting held in Las Vegas, NV.





#### performance safety \* closure \* \* cleanup

For more information about the Environmental Management program, contact: U.S. Department of Energy • National Nuclear Security Administration Nevada Site Office • Office of Public Affairs P.O. Box 98518, Las Vegas, NV 89193-8518 • (702) 295-3521 • envmgt@nv.doe.gov • www.nv.energy.gov



#### **Community Advisory Board** for Nevada Test Site Programs

#### What is the CAB?

A group of southern Nevada volunteers providing recommendations to the Department of Energy on clean-up activities at the Nevada Test Site





#### All meetings are open to the public

Full Board meetings:

- Typically held the evening of the second Wednesday of odd-numbered months
- Usually in Las Vegas, but occasionally throughout southern Nevada

#### Member Responsibilities

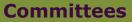
- Attend Full Board and committee meetings
- Actively participate in a committee
- Review materials with timely response
- Commit 10-20 hours per month
- No technical experience is required











...citizens working together on environmental issues

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The CAB includes a variety of committees focusing on specific clean-up activities at the Nevada Test Site. Public participation on committees does not require CAB membership. Committees typically meet every other month.

#### Budget

...reviews and prioritizes funding for clean-up projects

#### Groundwater (UGTA)

...issues related to groundwater contamination, characterization, drilling and modeling

#### **Industrial Sites**

...issues related to decontaminating and disposing of obsolete buildings and facilities

Membership

...recruits new members

#### Outreach

...increases public awareness of the Community Advisory Board

#### Soils

...issues related to clean-up standards used to remediate surface soil contaminated by historic nuclear testing

#### **Transportation/Waste**

...issues related to transportation of hazardous and radioactive waste and waste disposal activities

#### *Phone* 702-657-9088

#### Website www.nv.energy.gov/NTSCAB

*Email* NTSCAB@nv.doe.gov