

Nevada Site Specific Advisory Board (NSSAB)

Full Board Meeting - Wednesday, July 19, 2023

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Briefing (Work Plan Item #4)

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NSSAB minutes, agendas, recommendations, meeting dates and locations, handouts, and member application is available on the NSSAB website at: www.nnss.gov/NSSAB/
NSSAB Phone: 702-523-0894; NSSAB Email: nssab@emcbc.doe.gov
NSSAB Address: 100 N. City Parkway, Suite 1750, Las Vegas, NV 89106
www.facebook.com/NNSANevada

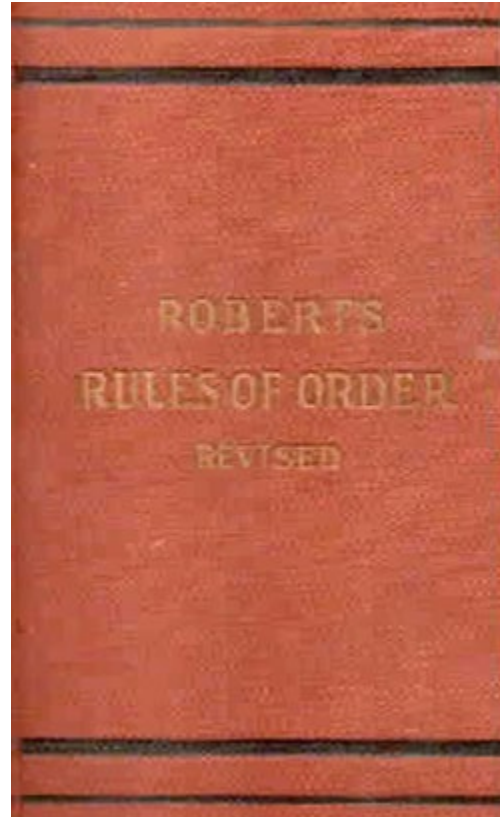
NSSAB FULL BOARD MEETING ATTENDANCE

October 2022 through September 2023 (FY 2023)

Name	1/18/23	2/15/23	4/19/23	7/19/23	9/20/23	Max Terms
MEMBERS						
Erik Anderson	√	√	√			2028
Joycelyn Austin-Mabe	√	√	√			2028
Lisa Blandi	√	√	√			2028
John Cole	√	√	√			2028
William DeWitt	√	√	√			2024
Bill Dolan	√	E	√			2026
Gary Elgort	√	√	√			2026
Anthony Graham	√	√	√			2024
Mark Hilton	√	√	√			2026
Bruce Jabbour	√	E	√			2026
Dan Peterson	U	√	√			2026
Janice Six	√	√	√			2024
Kevin Trainor	√	E	U			2028
Favil West	√	√	√			2026
Eddie Williams	√	√	√			2028
LIAISONS						
Clark County	√	E	U			
Consolidated Group of Tribes & Organizations	E	E	E			
Elko County Commission (limited)						
Esmeralda County Commission (limited)	√					
Lincoln County Commission	U	U	U			
Nye County Commission	V	√	√			
Nye County Emergency Management	√	√	√			
Nye Co. Natural Resources and Federal Facility	√	√	√			
State of NV Division of Env Protection	√	√	√			
U.S. Natl Park Service (limited)	√					
White Pine County Commission (limited)						
KEY: √ - Present E - Excused V - Vacant U - Unexcused						



Robert's Rules



Frank Bonesteel, NCEM Liaison
July 19, 2023



Robert's Minimum

- To introduce (motion.)
- To change a motion (amend.)
- To adopt (accept a report without discussion.)
- To adjourn (end the meeting.)



Robert's Basics

- Motion
- Postpone Indefinitely
- Amend
- Commit
- Question
- Table
- Adjourn



Robert's Recap

A main motion must be moved, seconded, and stated by the chair before it can be discussed.

- **If you want to move, second, or speak to a motion, *be recognized and address the chair.***
- **If you approve the motion as is, *vote for it.***
- **If you disapprove the motion, *vote against it.***
- **If you approve the idea of the motion but want to change it, *amend it or submit a substitute for it.***
- **If you want advice or information to help you make your decision, *move to refer the motion to an appropriate quorum or committee with instructions to report back.***
- **If you feel they can handle it better than the assembly, *move to refer the motion to a quorum or committee with power to act.***
- **If you feel that there the pending question(s) should be delayed so more urgent business can be considered, *move to lay the motion on the table.***



Robert's Recap 2

- **If you want time to think the motion over,** *move that consideration be deferred to a certain time.*
- **If you think that further discussion is unnecessary,** *move the previous question.*
- **If you think that the assembly should give further consideration to a motion referred to a quorum or committee,** *move the motion be recalled.*
- **If you think that the assembly should give further consideration to a matter already voted upon,** *move that it be reconsidered.*
- **If you do not agree with a decision rendered by the chair,** *appeal the decision to the assembly.*
- **If you think that a matter introduced is not germane to the matter at hand,** *a point of order may be raised.*
- **If you think that too much time is being consumed by speakers,** *you can move a time limit on such speeches.*
- **If a motion has several parts, and you wish to vote differently on these parts,** *move to divide the motion.*



QUESTIONS?

IN THE MEETING

TO INTRODUCE A MOTION:

Stand when no one else has the floor.

Address the Chair by the proper title.

Wait until the chair recognizes you.

- Now that you have the floor and can proceed with your motion say "I move that..." state your motion clearly and sit down.
- Another member may second your motion. A second merely implies that the seconder agrees that the motion should come before the assembly and not that he/she is in favor of the motion.
- If there is no second, the Chair says, "The motion is not before you at this time." The motion is not lost, as there has been no vote taken.
- If there is a second, the Chair states the question by saying "It has been moved and seconded that ...(state the motion). . ., is there any discussion?"

DEBATE OR DISCUSSING THE MOTION:

- The member who made the motion is entitled to speak first.
- Every member has the right to speak in debate.
- The Chair should alternate between those "for" the motion and those "against" the motion.
- The discussion should be related to the pending motion.
- Avoid using a person's name in debate.
- All questions should be directed to the Chair.
- Unless there is a special rule providing otherwise, a member is limited to speak once to a motion.
- Asking a question or a brief suggestion is not counted in debate.
- A person may speak a second time in debate with the assembly's permission.

VOTING ON A MOTION:

- Before a vote is taken, the Chair puts the question by saying "Those in favor of the motion that ... (repeat the motion)... say "Aye." Those opposed say "No." Wait, then say "The motion is carried," or "The motion is lost."
- Some motions require a 2/3 vote. A 2/3 vote is obtained by standing
- If a member is in doubt about the vote, he may call out "division." A division is a demand for a standing vote.
- A majority vote is more than half of the votes cast by persons legally entitled to vote.
- A 2/3 vote means at least 2/3 of the votes cast by persons legally entitled to vote.
- A tie vote is a lost vote, since it is not a majority.

PARLIAMENTARY PROCEDURE AT A GLANCE

		Debatable	Amendable	Can Be Reconsidered	Requires 2/3 Vote
Privileged Motions	Fix Time at Which to Adjourn	No	Yes	No	No
	Adjourn	No	No	Yes	No
	Question of Privilege	No	Yes	Yes	No
	Call for Order of Day	No	No	Yes	No
Incidental Motions	Appeal	Yes	No	Yes	No
	Objection to Consideration of a Question	No	No	Yes	Yes
	Point of Information	No	No	No	No
	Point of Order	No	No	No	No
	Read Papers	No	No	Yes	No
	Suspend the Rules	No	No	No	Yes
	Withdraw a Motion	No	No	Yes	No
Subsidiary Motions	Lay on the Table	No	No	Yes	No
	The Previous Question (close debate)	No	No	Yes	Yes
	Limit or Extend Debate	No	Yes	Yes	Yes
	Postpone to a Definite Time	Yes	Yes	Yes	No
	Refer to Committee	Yes	Yes	Yes	No
	Amend the Amendment	Yes	No	No	No
	Amendment	Yes	Yes	Yes	No
	Postpone Indefinitely	Yes	No	Yes	No
Main Motion	Main or Procedural Motion	Yes	Yes	Yes	No

This table presents the motions in order of precedence. Each motion takes precedence over (i.e. can be considered ahead of) the motions listed below it. No motion can supersede (i.e. be considered before) any of the motions listed above it.

PLEASE NOTE: many organizations use only the Main Motion and Subsidiary Motions, handling other matters on an informal basis.

PARLIAMENTARY PROCEDURE AT A GLANCE

TO DO THIS	YOU SAY THIS	MAY YOU INTERRUPT SPEAKER	MUST YOU BE SECONDED	IS MOTION DEBATABLE	WHAT VOTE REQUIRED
Adjourn meeting*	I move that we adjourn	No	Yes	No	Majority
Recess meeting	I move that we recess until...	No	Yes	No	Majority
Complain about noise, room temperature, etc.*	Point of privilege	Yes	No	No	No vote
Suspend further consideration of something*	I move we table it	No	Yes	No	Majority
End debate	I move the previous question	No	Yes	No	2/3 vote
Postpone consideration of something	I move we postpone this matter until...	No	Yes	Yes	Majority
Have something studied further	I move we refer this matter to committee	No	Yes	Yes	Majority
Amend a motion	I move this motion be amended by...	No	Yes	Yes	Majority
Introduce business (a primary motion)	I move that...	No	Yes	Yes	Majority
Object to procedure or personal affront*	Point of order	Yes	No	No	No vote, Chair decides
Request information	Point of information	Yes	No	No	No vote
Ask for actual count to verify voice vote	I call for a division of the house	No	No	No	No vote
Object consideration of undiplomatic vote*	I object to consideration of this question	Yes	No	No	2/3 vote
Take up a matter previously tabled*	I move to take from the table...	No	Yes	No	Majority
Reconsider something already disposed of*	I move we reconsider our action relative to...	Yes	Yes	Yes	Majority
Consider something already out of its schedule*	I move we suspend the rules and consider	No	Yes	No	2/3 vote
Vote on a ruling by the Chair	I appeal the Chair's decision	Yes	Yes	Yes	Majority

*Not amendable

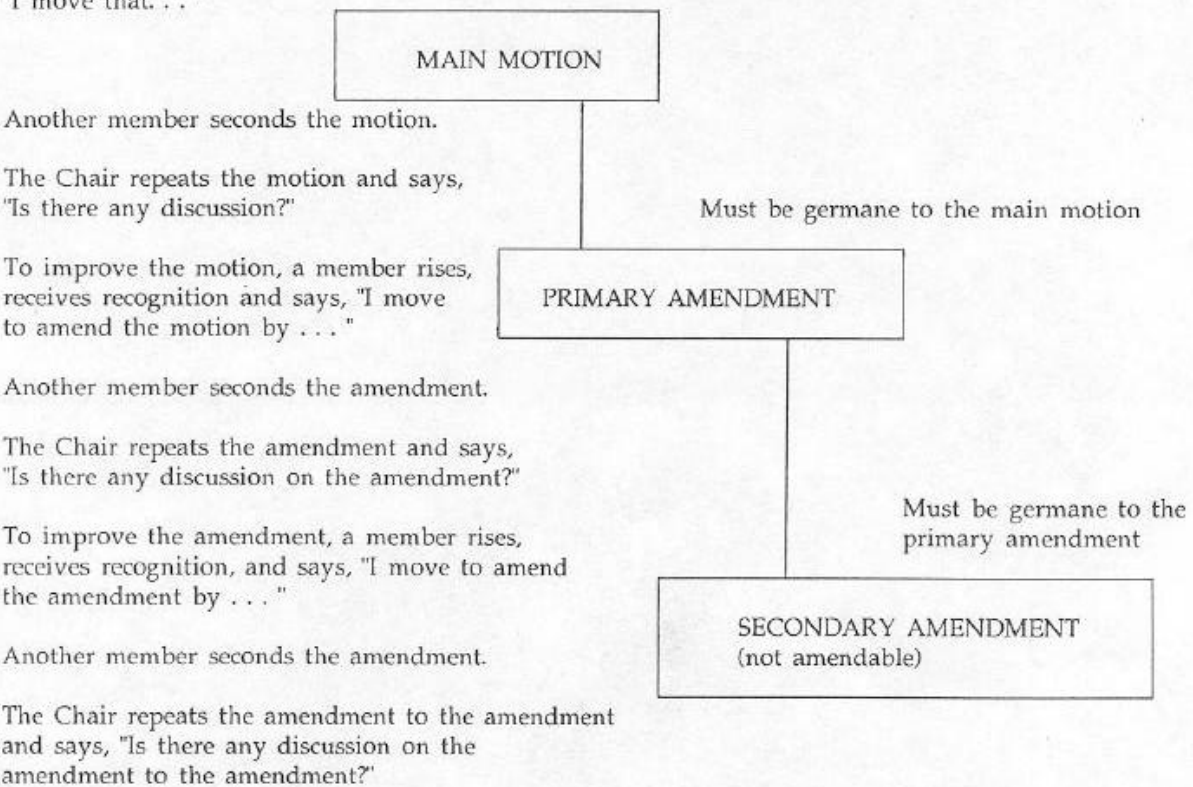
AMENDMENTS ILLUSTRATED

Any main motion or resolution may be amended by:

1. Adding at the end
2. Striking out a word or words
3. Inserting a word or words
4. Striking out and inserting a word or words
5. Substitution

A member rises, addresses the chair, receives recognition, and states the motion:

"I move that . . ."



- When discussion ceases, the Chair says, "Those in favor of the amendment to the amendment say 'Aye.' Those opposed say 'No.'"
- If the vote was in the affirmative, the amendment is included in the primary amendment. The Chair then says, "Is there any discussion on the amended amendment?"
- If there is no discussion, a vote is taken on the amended amendment. If the vote in the affirmative, the amendment is included in the main motion. The chair then says, "Is there any discussion on the amended motion?"
- At this place, the motion can again be amended.
- If there is no further discussion, a vote is taken on the amended motion.
- Even though the amendments carried in the affirmative, the main motion as amended can be defeated.



Round Robin Guidelines

- During the EM SSAB National Chairs' Meeting, each of the 8 local boards has five (5) minutes and one (1) slide to present to EM Headquarters leadership as part of the Round Robin agenda item
- Things to remember/consider:
 - This is your opportunity to speak directly to leadership regarding what is important to the Board
 - Leadership is already aware of the site's accomplishments
 - Highlight the Board's top interest/concern and/or Board's accomplishment

Chair & Vice-Chair Responsibilities

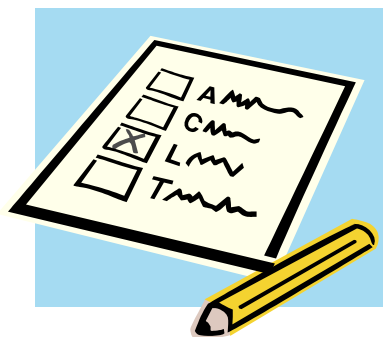
What are the Chair responsibilities?



- Serves as the Chair for 12 months (October 1 - September 30)
- Participates in EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Leads full board meetings and ensures all members have the opportunity to participate
- Certifies to the accuracy of all minutes within 45 days
- Signs recommendations that the Board has passed
- Serves as spokesperson for the NSSAB between regular meetings of the Board
- Attends national EM SSAB meetings and/or workshops semi-annually
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)

What are the Vice-Chair responsibilities?

- Serves as the Vice-Chair for 12 months (October 1 - September 30)
- Participates in EM SSAB Chairs conference calls
- Assists in the development of draft meeting agendas
- Acts as the NSSAB chair in the absence of the elected chair
- Attends national EM SSAB meetings and/or workshops semi-annually
- Adheres to all standard NSSAB member responsibilities (i.e. attendance requirements, etc.)



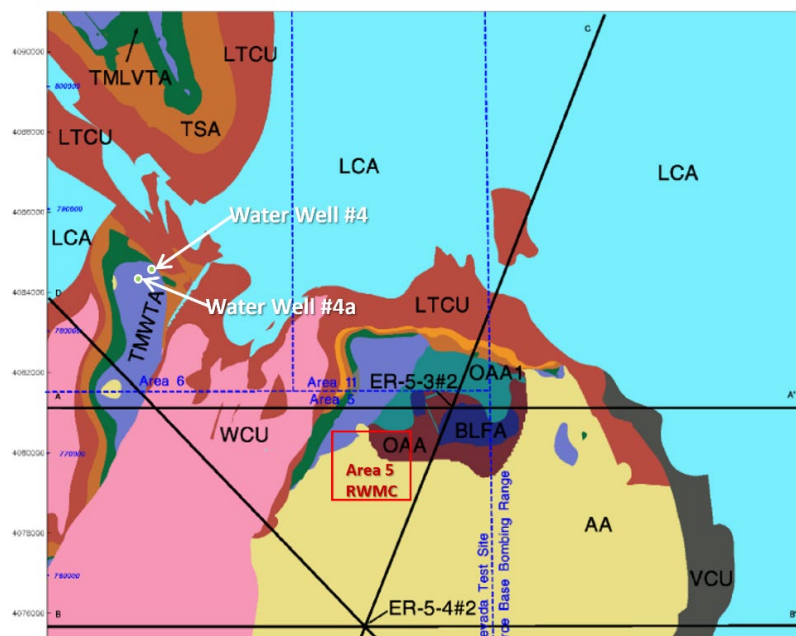
Please contact the NSSAB office by COB on September 1 and advise if you are willing to be considered for the FY 2024 Chair and/or Vice-Chair positions.

Responses to Questions from the April 19, 2023, NSSAB Meeting Regarding 2023 Work Plan Item #5

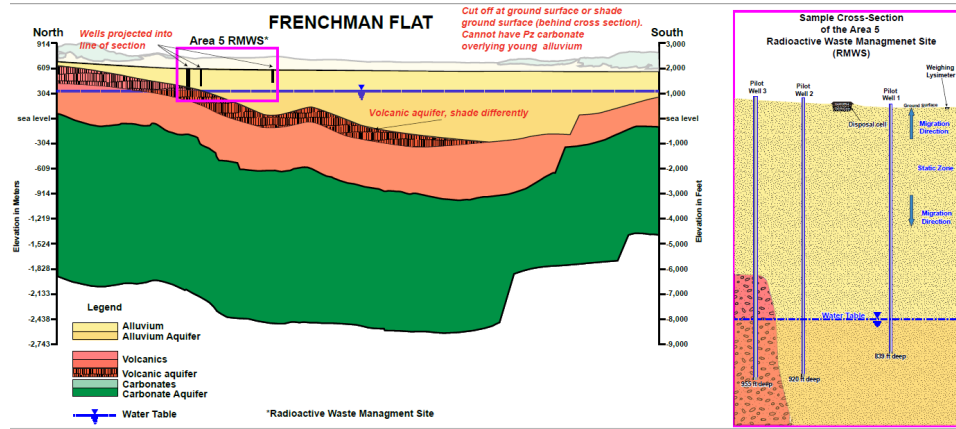
- Where is the well the water trucks and baker tanks get filled from to irrigate in Area 5?
Water is pumped from Water Wells 4 and 4A, which are four miles to the northwest of the Area 5 RWMC, to a fill stand at the Area 5 RWMC, where the water trucks get filled (see map).



- What aquifer does that well draw from?
Water in these wells appears to originate primarily from fractures in the more densely welded portions of the Rainier Mesa and Paintbrush/Topopah Spring tuff units, specifically, the Timber Mountain Welded Tuff Aquifer (TMWTA), which is a volcanic aquifer. The wells are shown in the map below, which is a diagram of the water table.



This is a volcanic aquifer, versus an alluvial aquifer, which underlays most of the Area 5 RWMC, as shown in the cross section below.



3. Is there any water reclamation or treatment on site that would allow for the utilization of greywater to irrigate?
No. There is no water treatment or reclamation on the NNSS.

4. How much irrigation are we applying?
Typically, one to two inches of irrigation is applied after planting in February and again in March for germination. Another inch of irrigation is usually applied in April for germination and to help the new seedlings grow their roots and become established. In late May and early June, another two inches of irrigation is applied to get the soil moisture as deep as possible so the roots of the seedlings will continue to grow deep and to help them survive the summer. Another one to two inches of irrigation is applied in August to stimulate creosote bush germination and help the existing seedlings become established. However, these amounts vary based on factors including temperature, natural precipitation, and competition from invasive species like saltlover (*Halogeton glomeratus*).

5. What are the specific plant species that we are using?
The following table provides a list of biologist-recommended species that are typically used in the seed mix; these are subject to availability, and include species recommended in the *Tribal Revegetation Project Final Project Report, 92-Acre Area, Area 5 Radioactive Waste Management Complex, Nevada National Security Site, Nevada, March 2021*.

Life Form	Common Name	Species
Shrub	White bursage	<i>Ambrosia dumosa</i>
	Fourwing saltbush	<i>Atriplex canescens</i>
	Shadscale saltbush	<i>Atriplex confertifolia</i>
	Cattle saltbush	<i>Atriplex polycarpa</i>
	Nevada jointfir	<i>Ephedra nevadensis</i>
	Winterfat	<i>Krascheninnikovia lanata</i>
	Creosote bush	<i>Larrea tridentata</i>

Grass	Indian ricegrass	<i>Achnatherum hymenoides</i> <i>Paloma</i>
	Squirreltail	<i>Elymus elymoides</i> Toe Jam
Forb	Desert marigold	<i>Baileya multiradiata</i>
	Palmer penstemon	<i>Penstemon palmeri</i> Cedar
	Desert globemallow	<i>Sphaeralcea ambigua</i>

6. Is there any evidence of cheatgrass or brome on the covers?

Yes, both. The following invasives are observed on the covers: Arabian schismus (*Schismus arabicus*), saltlover (*Halogeton glomeratus*), cheatgrass (*Bromus tectorum*), red brome (*Bromus madritensis*), flatcrown buckwheat (*Eriogonum deflexum*), and Russian thistle (*Salsola tragus*).

7. What are the metrics for a revegetation being considered successful?

The objective of vegetation monitoring for the first five to ten years after seeding is to determine if seeds have germinated and plants are becoming established to minimize moisture near buried waste through evapotranspiration. During vegetation assessments, plant density (i.e., number of plants per square meter) and plant cover (i.e., percentage of an area that is covered by plant species as opposed to rock, bare ground, or litter) on the revegetated areas is measured and compared to a reference area located on the NNSS within one mile outside the Area 5 RWMC boundary.

Success will be determined by density and plant cover of 60 percent found on the reference area and sufficient plant cover to evapotranspire moisture out of the covers to prevent infiltration towards buried waste. Plant density and plant cover is measured to determine if the vegetation is approaching or meeting expectations to achieve the proposed success standards or if remedial actions are required. If the density and plant cover do not appear adequate, remedial actions such as re-seeding or planting of outplants may be required.

8. What is the age of the outplants?

Generally, the nursery starts growing the outplants about 1½ years before they are transported to the site for planting. See photos below, of outplants planted on Cells 19 and 20 in March 2023, for an idea of size.



Sampling Plan for Pahute Mesa Groundwater Corrective Action Units – Work Plan Item #4



Ken Rehfeldt, UGTA Manager
Navarro, Contractor to the
U.S. Department of Energy (DOE)
Environmental Management (EM) Nevada Program
July 19, 2023



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safety – performance – cleanup – closure



ID 3149 – 7/19/2023
Log No: EMRP-2023-054

NSSAB - Work Plan Item #4

- From a community perspective, the Nevada Site Specific Advisory Board (NSSAB) will provide a recommendation on improvement and/or refinement for the Pahute Mesa Groundwater Sampling Plan
- NSSAB recommendation is due in September 2023



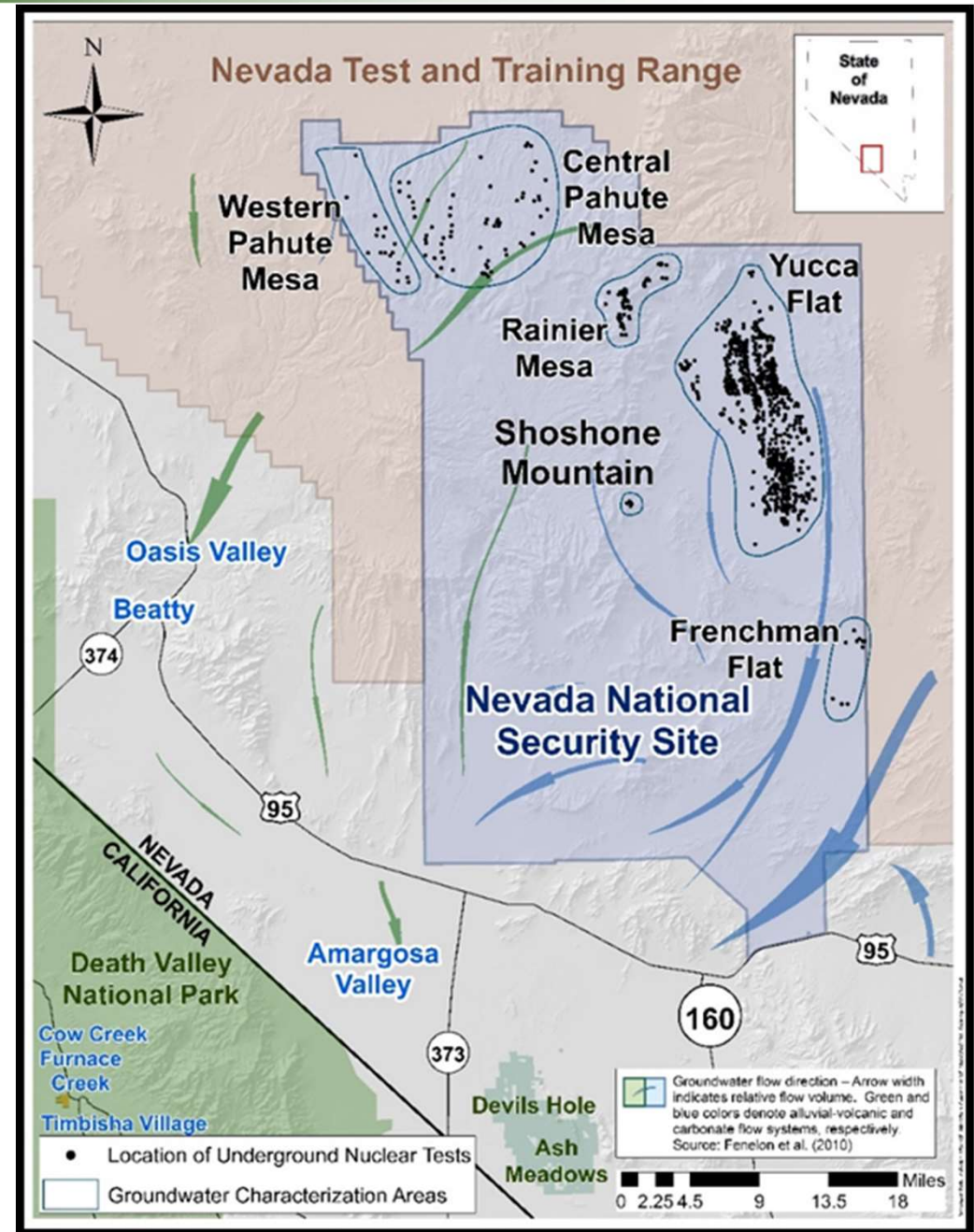
Discussion Topics

- Background on the Nevada National Security Sites' (NNSS) Pahute Mesa Corrective Action Units (CAUs)
- Methods of sample collection
- Sampling results
- The Pahute Mesa Sampling Plan (November 2020)
 - Background
 - Description
 - Recent changes
 - Future



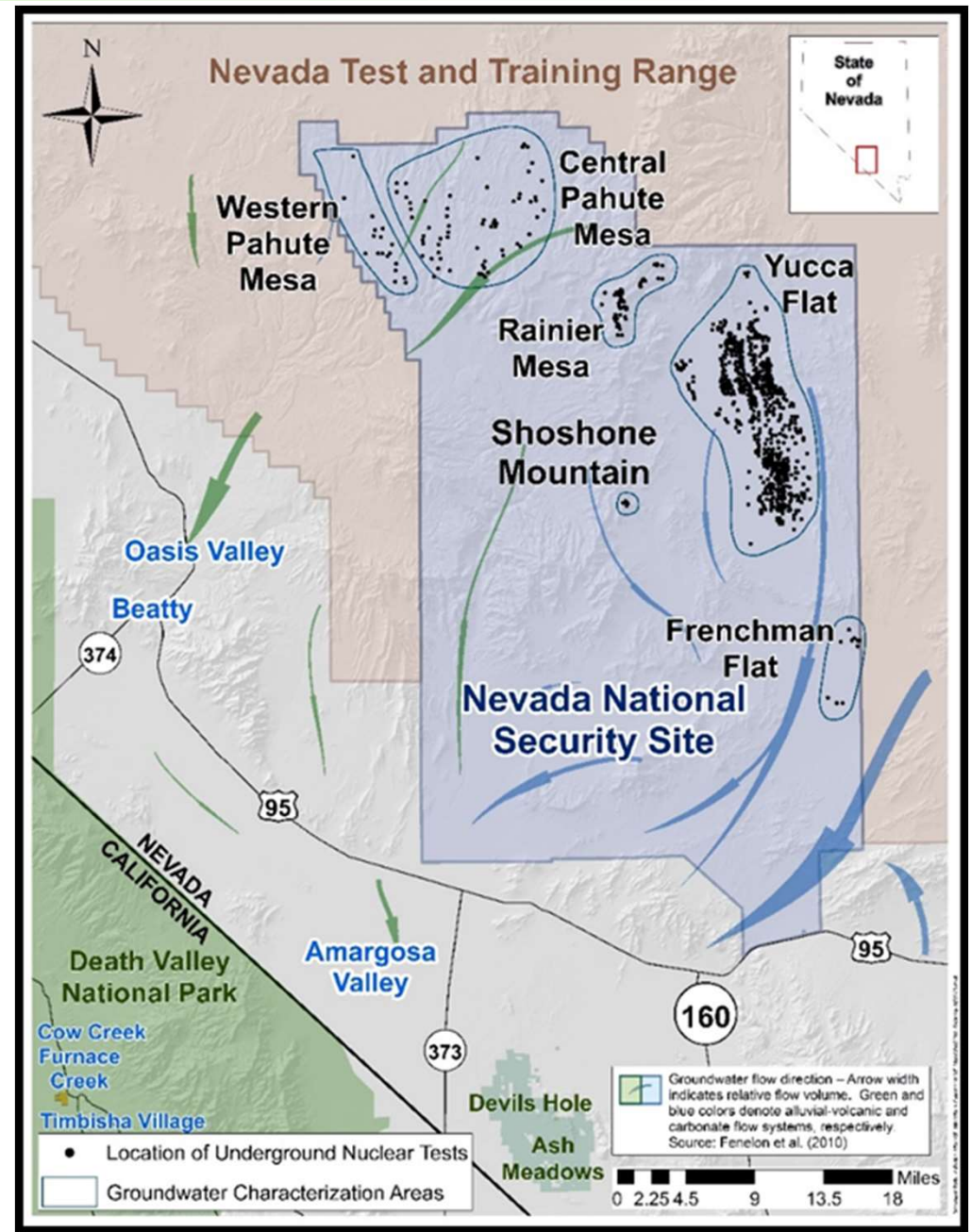
NNSS Closed Groundwater CAUs

- Closure achieved at Frenchman Flat, Yucca Flat and Rainier Mesa/Shoshone Mountain CAUs
 - Sampling defined in the respective Closure Reports
 - Defines location, frequency, radionuclides
 - Regulatory commitment



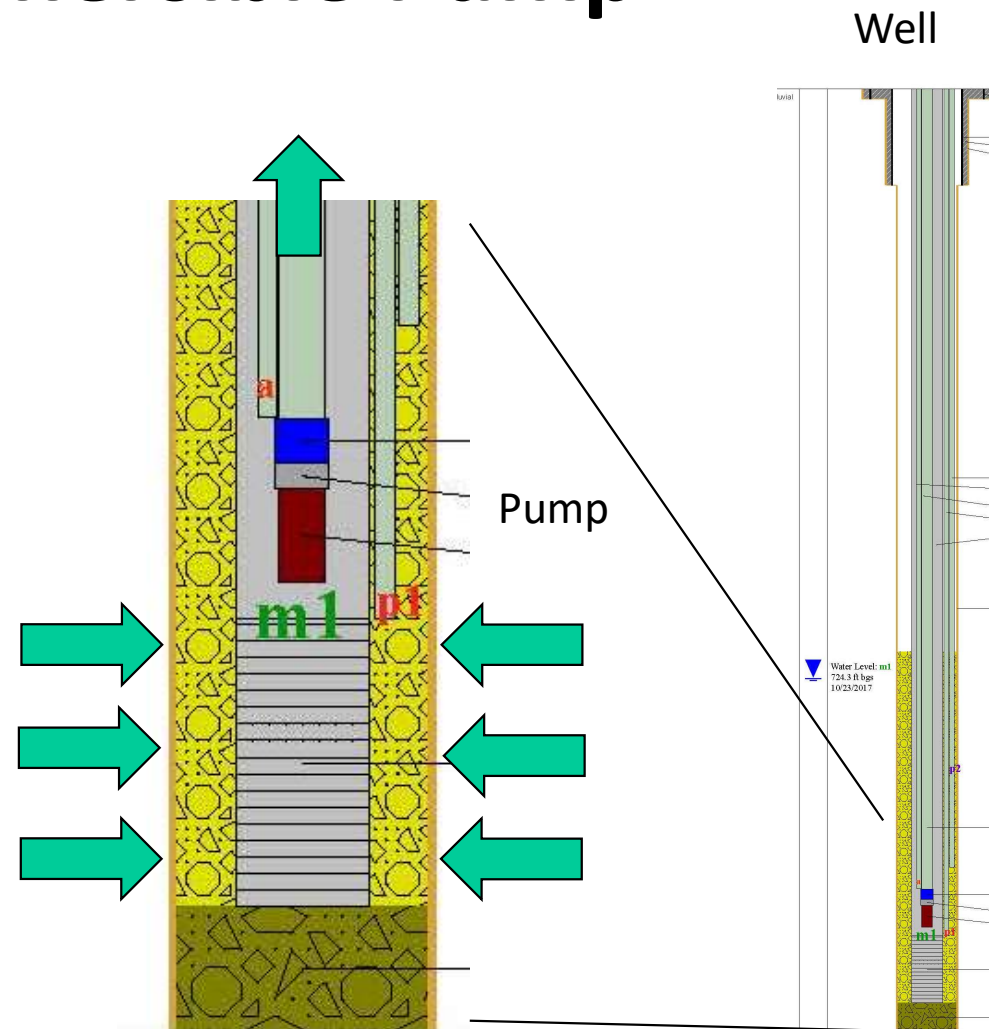
NNSS Pahute Mesa Groundwater CAUs

- Pahute Mesa CAUs are currently in Corrective Action Decision Document / Corrective Action Plan (CADD/CAP) stage
 - Sampling in support of Model Evaluation
 - Pahute Mesa Sampling Plan guides sampling
 - Location, frequency, analytes (chemical and radiologic)
 - Provides flexibility – not a commitment



Sampling Methods: Electric Submersible Pump

- Advantages
 - Higher flow rates (~25 gallons per minute)
 - Purge large amount of water from the well before sampling
 - Integrated sample across the open interval
- Disadvantages
 - Water disposal (1,000s of gallons)
 - Requires generator, pump, controllers, manifold, etc.



Electric Submersible Pump

Generator, electrical controllers

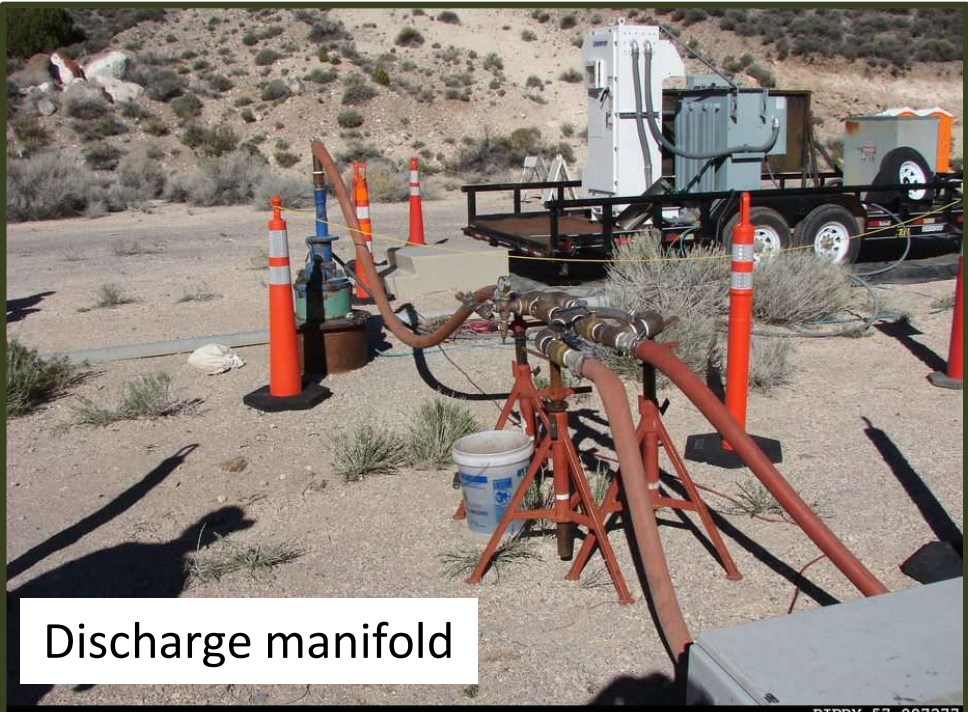


Electric Submersible Pump (continued)



Electrical power to pump, discharge manifold, flow meter, discharge line to a sump





Discharge manifold

PIRDY-57-227377



Discharge manifold and sampling port

PIRDY-57-227359



Discharge to sump

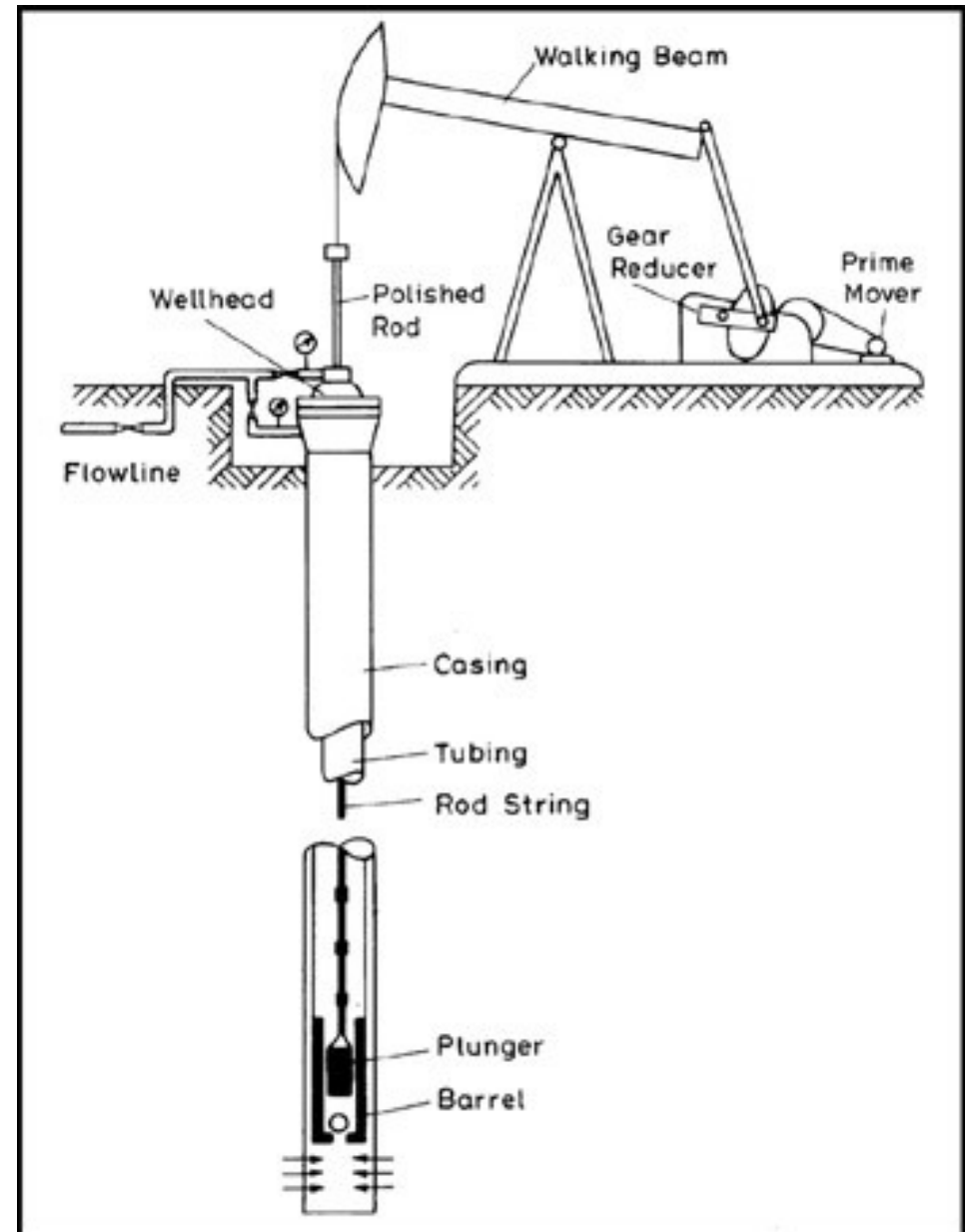
PIRDY-57-227358

Electric Submersible Pump (continued)

- Discharge manifold includes a purge line, flowmeter line, pressure relief line and sampling port

Sampling Methods: Insert Rod Pump

- Advantages
 - Pump smaller diameter wells
 - Integrated sample
- Disadvantages
 - Low flow rate – takes a long time to purge the well
 - Pump installation and removal can be costly



Rod Pump



Pump inserted into a piezometer



Historically installed with a crane



Rod Pump (continued)



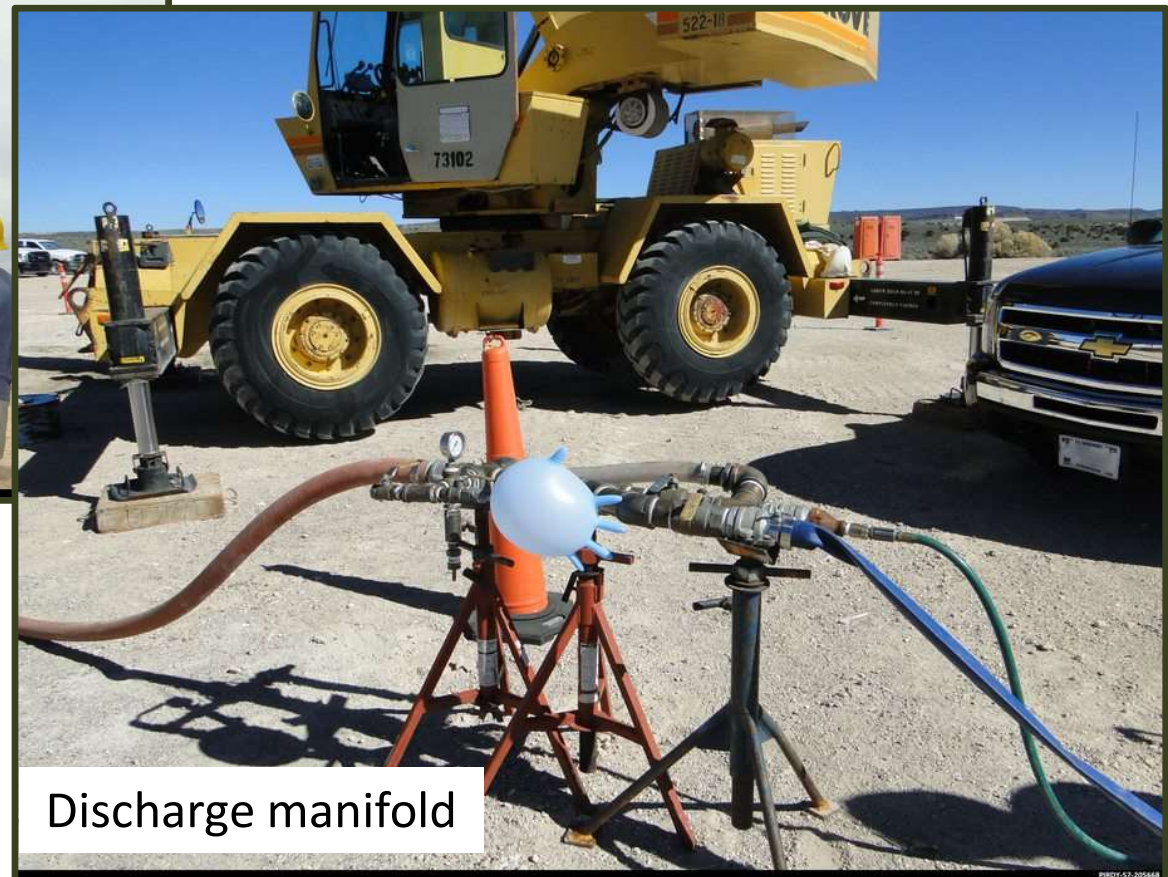
Pump installation



Pump and rods ready for installation



Rod Pump (continued)



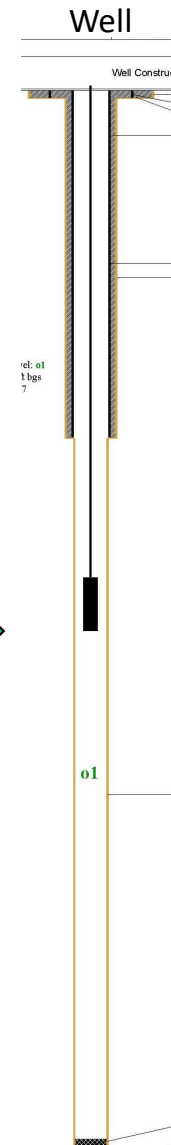
- Discharge to surface can take ~4 hours – nitrile glove is used to test that pump is working



Sampling Methods: Depth Discrete Bailer

- Advantages
 - Simpler, less equipment
- Disadvantages
 - Little to no purging
 - Samples one discrete zone

Sample
at this
depth



Depth Discrete Bailer



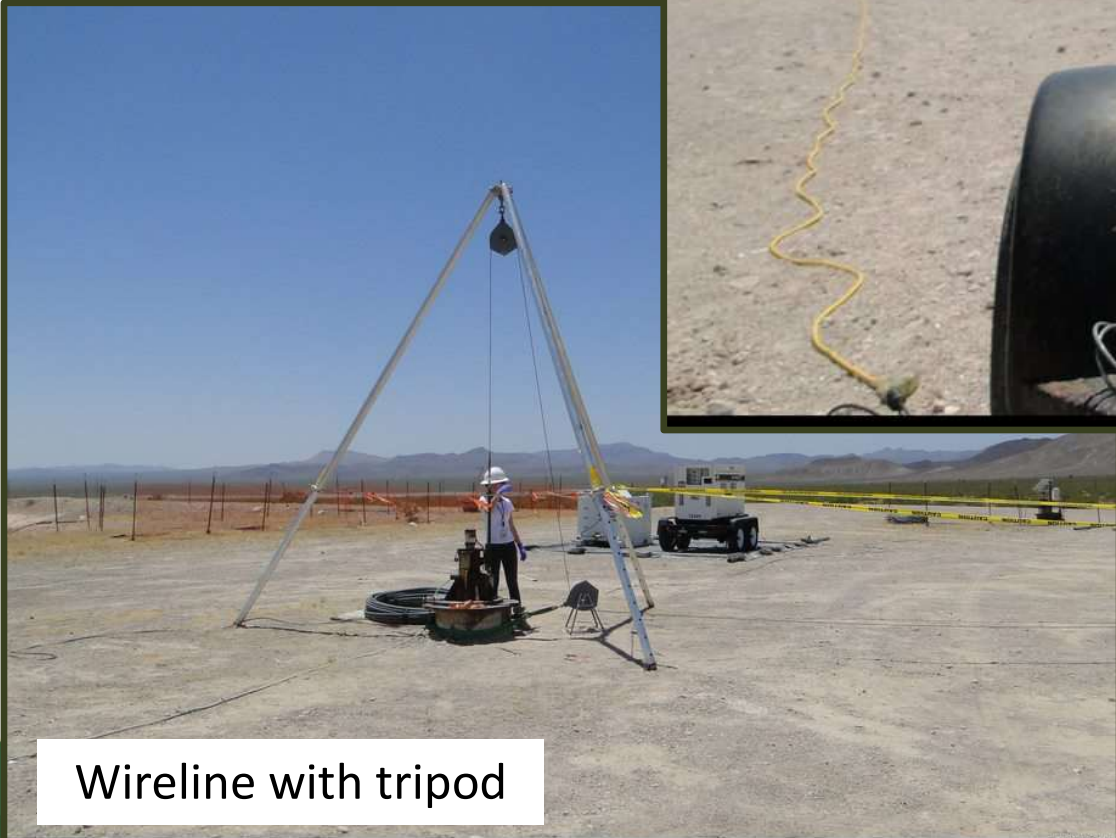
Wireline with bailer downhole



Transfer of sample from bailer to bottle



Depth Discrete Bailer (continued)



Wireline with tripod



Bailer lowered and retrieved with a wireline



Depth Discrete Bailer (continued)



Transfer of sample from bailer to bottle

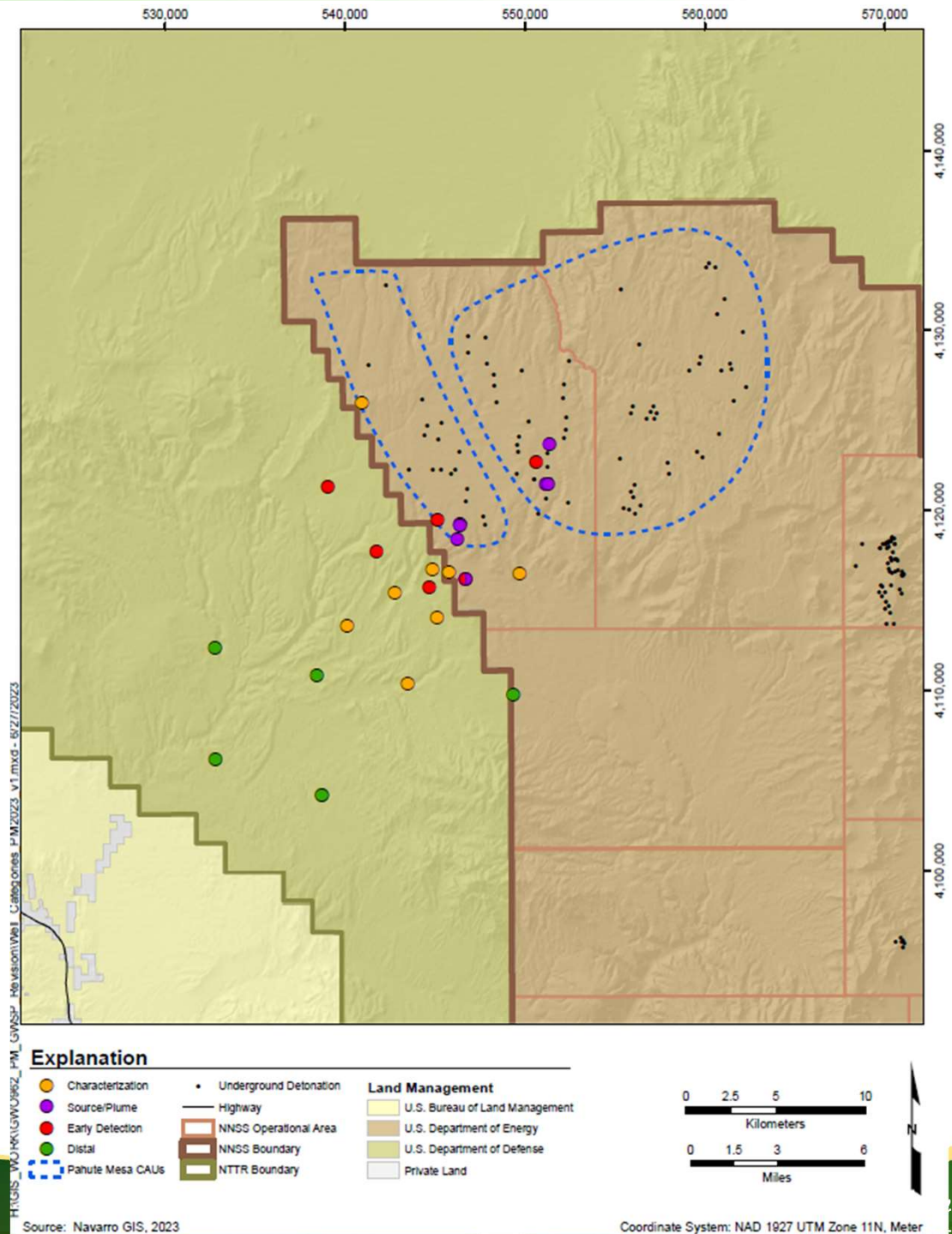


Sample Location Types

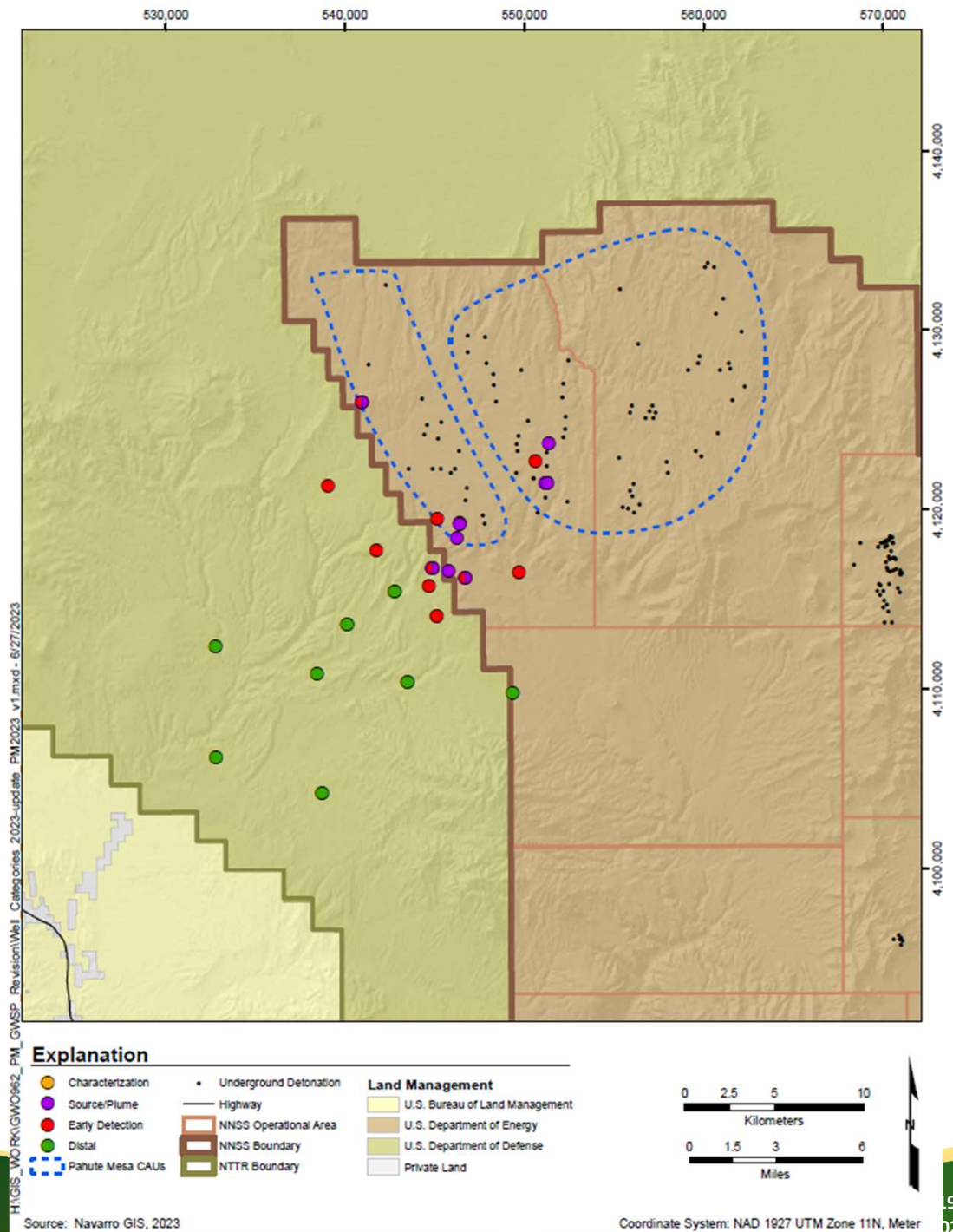
- Characterization – used for groundwater flow system characterization or model evaluation that is typically assigned to a different type after 3 sets of samples are available – sampled every 3 years including a larger list of constituents
- Source/Plume – for locations with test-related contamination present (defined as tritium above 1,000 picocuries per liter [pCi/L]) – constituents are tritium, carbon-14, and iodine-129 – sampled every 4 years
- Early Detection – locations downgradient or near known contamination that may show detectable contamination in the future – constituents are low-level tritium to ensure early detection of contaminants – sampled every 5 years
- Distal – beyond early detection locations – constituent is standard tritium (detection limit of 1,000 pCi/L) – sampled every 5 years



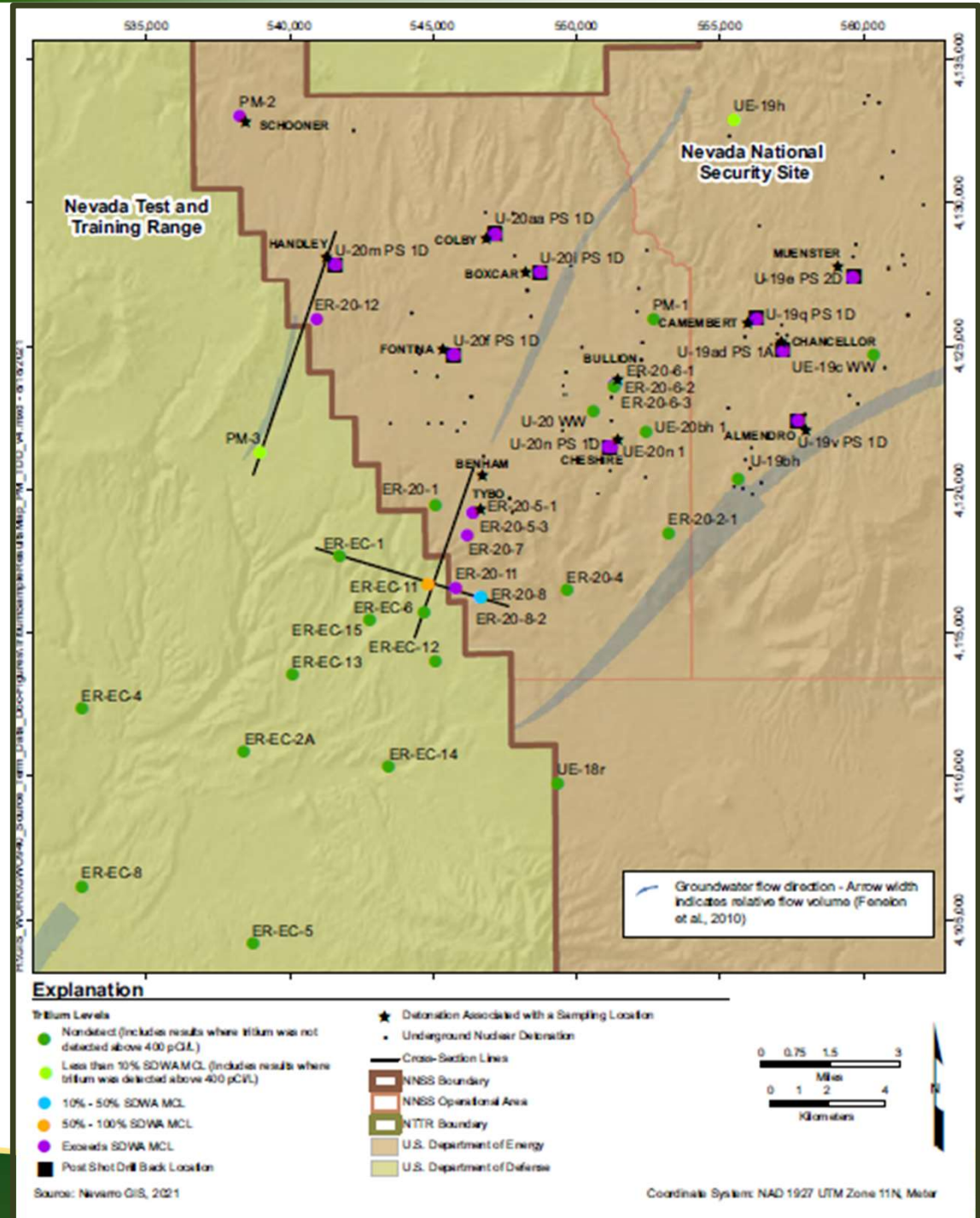
Pahute Mesa Sampling Location Types per the Sampling Plan



Pahute Mesa Sampling Location Types Recategorized



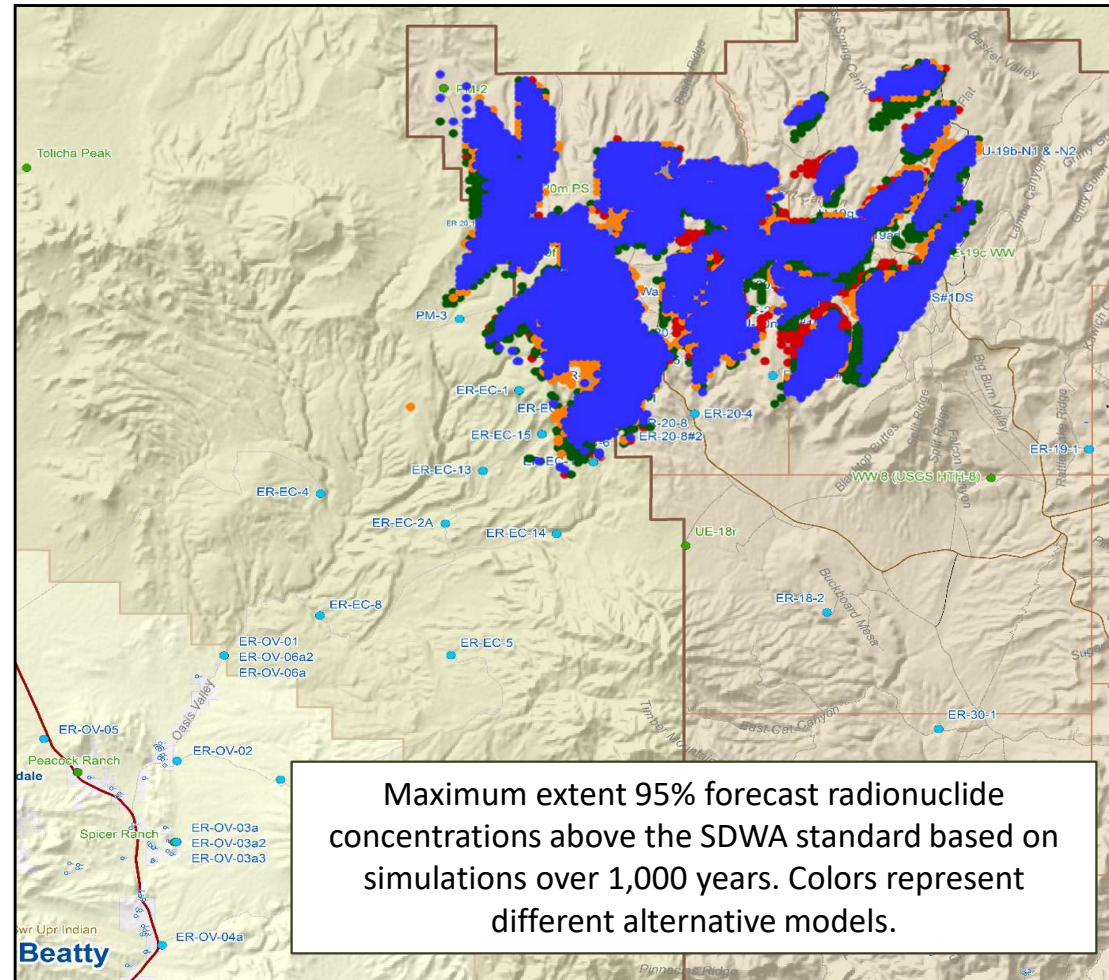
Pahute Mesa Sampling Results



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Radionuclide Migration from Pahute Mesa Model Forecast Maximum Extent

- Radionuclides above the Safe Drinking Water Act (SDWA) standard are forecast to migrate onto the Nevada Test and Training Range (NTTR) in the near future
- Maximum extent nearly two miles onto NTTR
- Groundwater use restrictions are likely in the contaminated area on federally-controlled land
 - No additional restrictions to public water supplies expected



Pahute Mesa Sampling Plan

- Describes the approach for collecting and analyzing groundwater samples from Pahute Mesa to meet Underground Test Area (UGTA) objectives
- Comprises sample collection and analysis for assessing the extent of groundwater contamination from underground nuclear testing during the Corrective Action Investigation and CADD/CAP stages of the Federal Facility Agreement and Consent Order



Disposition of the Pahute Mesa Sampling Plan

- Sample location types are several years old and would be ready for an update after fiscal year (FY) 2023 to include most recent samples and changes to location type
- The Sampling Plan will guide Model Evaluation Sampling in FY 2025
- Plan for future
 - Sampling through FY 2025 will provide the baseline for development of the Closure Report for Pahute Mesa
 - Sampling after closure will be defined in the Closure Report
 - Retire the Pahute Mesa Sampling Plan after the approval of the Pahute Mesa Closure Report



Key Messages

- Sampling was very useful during characterization to ensure adequate samples were collected to support modeling
- Sampling based on the plan will continue into FY 2025 for model evaluation
- Some location types are ready to be updated from characterization to one of the other types
- Is it important to update the Sampling Plan as it is expected to be retired when Pahute Mesa transitions into closure?



Questions



EM Nevada Program Subject Matter Expert (SME):
John Myers

Navarro SME:
Ken Rehfeldt

