

The background of the slide is a light gray gradient with several realistic water droplets of various sizes scattered across it. The droplets have highlights and shadows, giving them a three-dimensional appearance. The largest droplet is in the bottom right corner, while others are smaller and more numerous in the top left and bottom center areas.

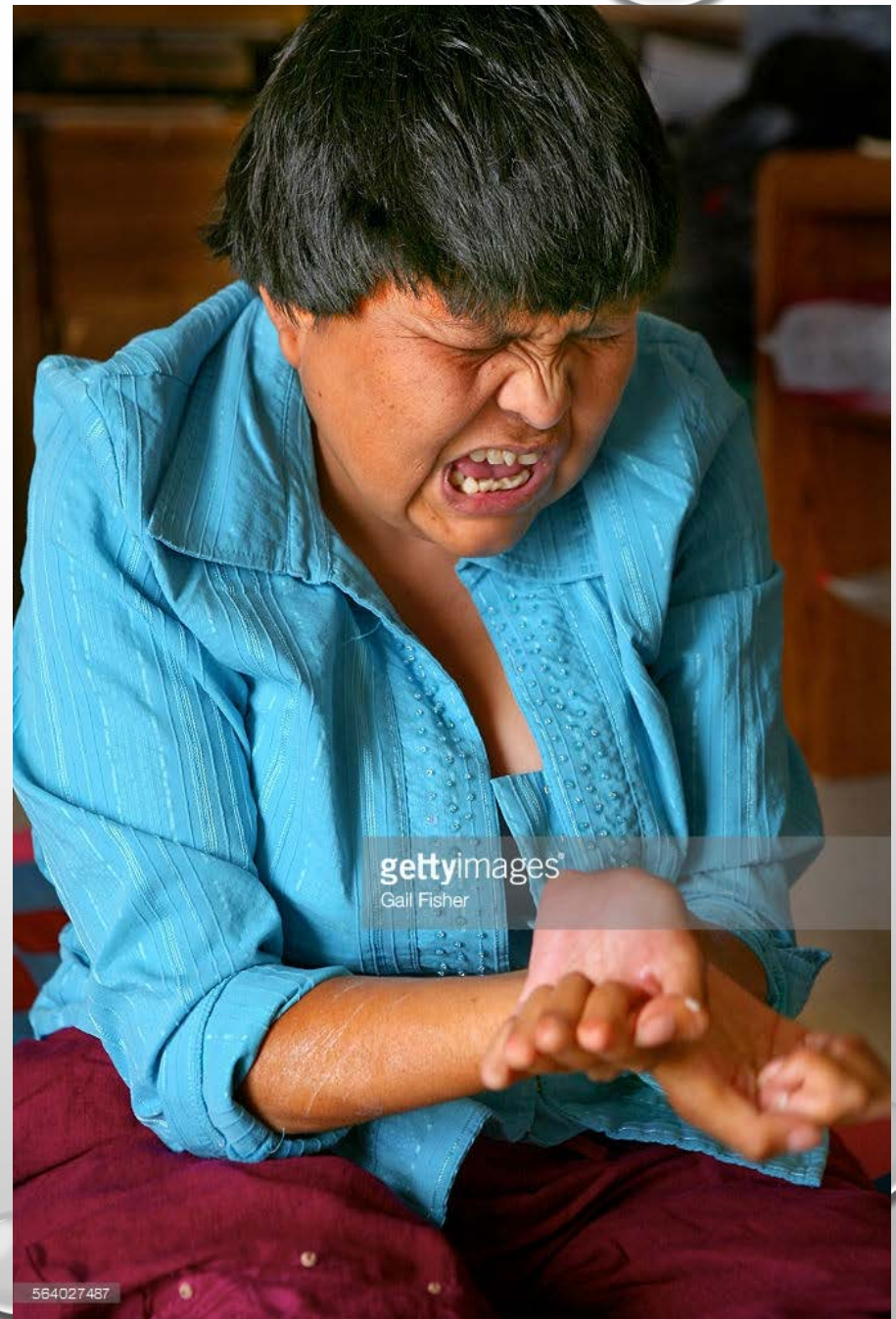
THE CLAY CLEAN WATER PROJECT

DR. ANTONIO LARA

THE PROBLEM

- 4 MILLION TONS OF URANIUM EXTRACTED FROM 1944-1986
- 1979 CHURCH ROCK SPILL – OVER 93,000,000 GALLONS
- THOUSANDS OF ABANDONED URANIUM MINES
- MANY WATER SOURCES CONTAMINATED WITH URANIUM – OVER 10% OF WATER SUPPLIES TESTED BY THE EPA
- LARGELY AFFECTS THE NAVAJO PEOPLE WHO HAVE NO OTHER OPTIONS FOR WATER
- 250,000 RESIDENTS ON NAVAJO NATION
- URANIUM TOXICITY CAUSING MANY DEATHS AND ILLNESSES SUCH AS “NAVAJO NEUROPATHY”





- NAVAJO WOMEN ARE 2 - 8 x MORE LIKELY TO HAVE A CHILD WITH BIRTH DEFECTS THAN THE NATIONAL AVERAGE
- MANY WITH NAVAJO NEUROPATHY DIE IN THEIR TEENS
- NAVAJO CHILDREN ARE 15 TIMES MORE LIKELY TO BE DIAGNOSED WITH TESTICULAR OR OVARIAN CANCER

URANIUM: THE INVISIBLE KILLER

- CANNOT SEE, SMELL, OR TASTE URANIUM IN WATER SAMPLES
- CANCERS, KIDNEY FAILURE, NEUROPATHY, BIRTH DEFECTS, AND MANY OTHER CONDITIONS LINKED TO EXPOSURE TO URANIUM FROM MINES, MILLS, AND CONTAMINATED WATER

Ta 182.04 105 [208]	W 183.84 106 [271]	Re 186.21 107 [272]	Os 190.23 108 [276]	Ir 192.22 109 [277]
Pr 140.91 59	Nd 144.24 60	Pm [145] 61	Sm 150.36 62	
Pa 1.04 91	U 238.03 92	Np [237] 93		

HOW TO ADDRESS IT?

- OVER ONE HUNDRED MILLION DOLLARS HAS BEEN SPENT TO DATE IN FINDING A SOLUTION TO THIS PROBLEM.
- PROBLEM STILL REMAINS
- NO SUSTAINABLE SOLUTION TO DATE; OTHER SOLUTIONS HAVE BEEN DEEMED UNFEASIBLE DUE TO HIGH COSTS
- PLUMB 3,064 HOMES IN 55 CHAPTERS = **\$192,000,000**



SO WHAT IS THE SOLUTION?

CLAY

- UBIQUITOUS, SUSTAINABLE, AFFORDABLE, ABUNDANT NM RESOURCE
- NATURALLY UNDERGOES CATION EXCHANGE AND BINDS HEAVY METALS SUCH AS URANIUM VERY WELL



THE PROBLEM WITH CLAY



- CLAY + WATER = MESSY
- MUD IS DIFFICULT TO WORK WITH
- DIFFICULT TO HANDLE AND DISPOSE ONCE URANIUM IS SORBED
- HOW TO ADDRESS THIS ISSUE?

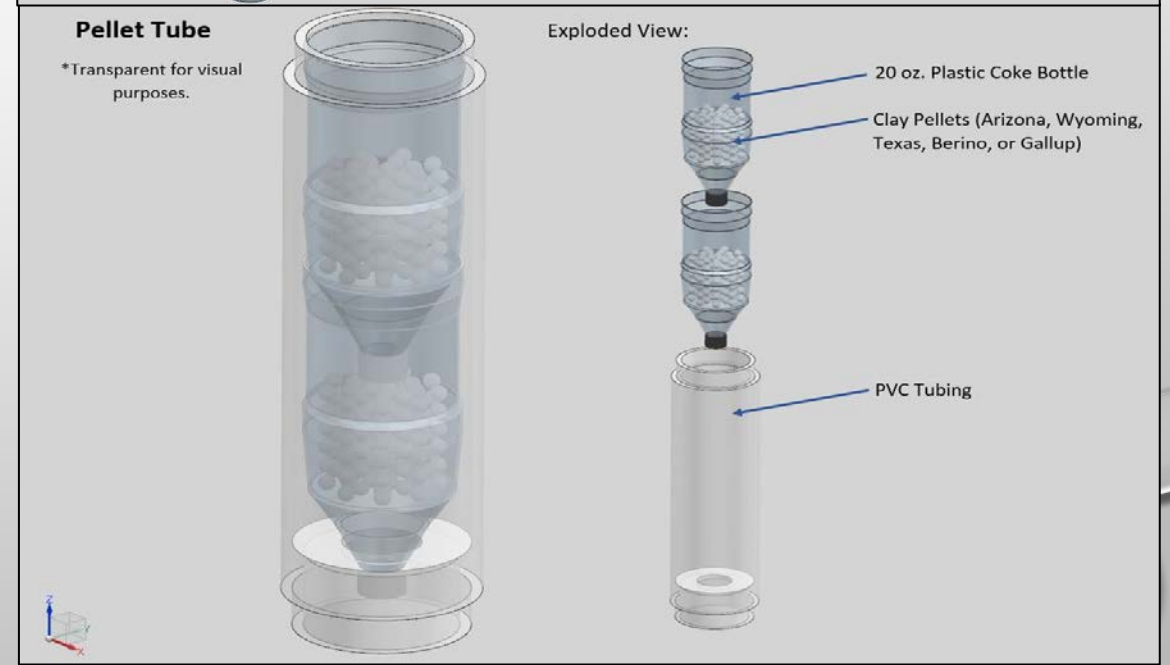
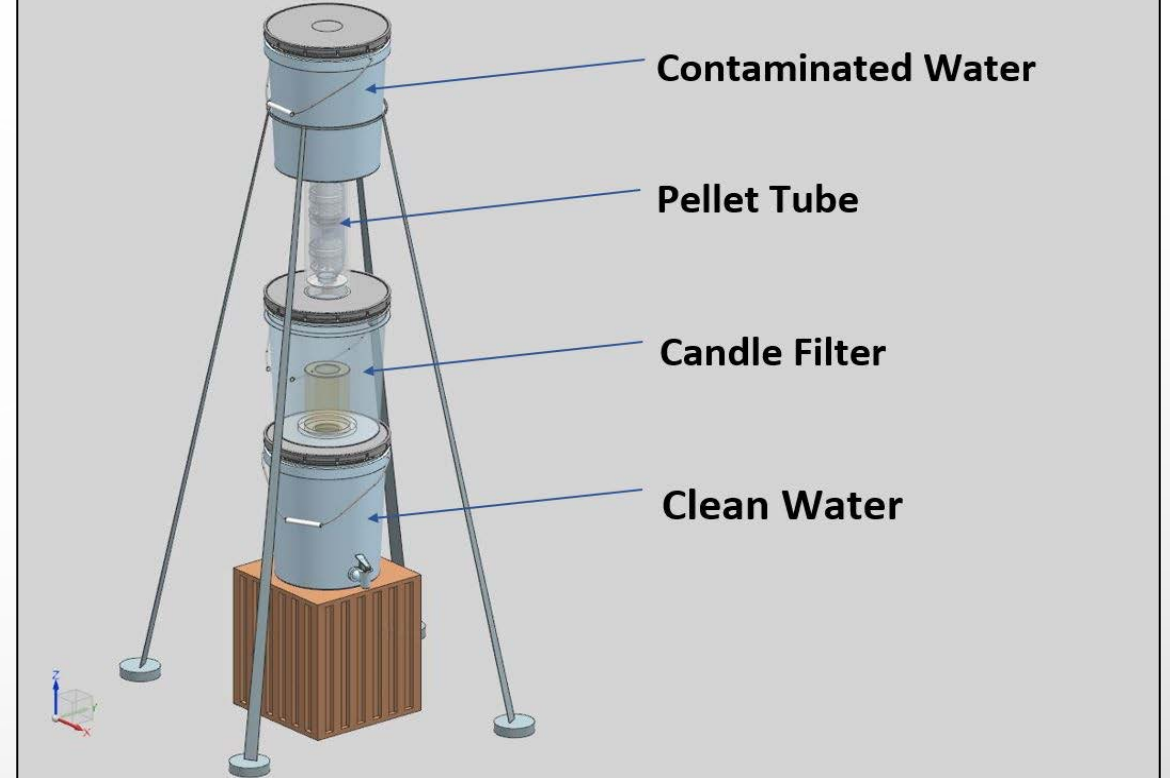
THE PELLETS

- WHEN MIXED WITH WATER AND HEATED AT HIGH TEMPERATURES, CLAY FORMS A ROBUST PELLETS
- IN OVER 100 LABORATORY TRIALS, THE PELLETS HAVE CONSISTENTLY ABATED URANIUM.
- MUCH EASIER TO IMPLEMENT AND DISPOSE OF WHEN SATURATED WITH URANIUM



CONTINUING RESEARCH

- TRICKLING CONTAMINATED WATER THROUGH A SYSTEM FILLED WITH PELLETS, URANIUM CAN BE EFFICIENTLY ABATED.
- CANDLE FILTER WITH COLLOIDAL SILVER REMOVES PATHOGENS AS WELL.
- SIMPLE AND SUSTAINABLE SOLUTION
- A NM SOLUTION TO A NM PROBLEM
- POTENTIAL TO REMOVE OTHER HEAVY METALS (CATIONS AND ANIONS)
- FLINT MI, HURRICANE KATRINA



The background features a light gray gradient with several realistic water droplets of various sizes scattered in the corners. The droplets have highlights and shadows, giving them a three-dimensional appearance. The text 'THANK YOU!' is centered in the middle of the page.

THANK YOU!