

Kilauea (Kauai) Community Pesticide Investigation

Hawai'i Department of Health
Hazard Evaluation & Emergency Response (HEER) Office



Fig. 3. Railroad Sprayer used at Kilauea.

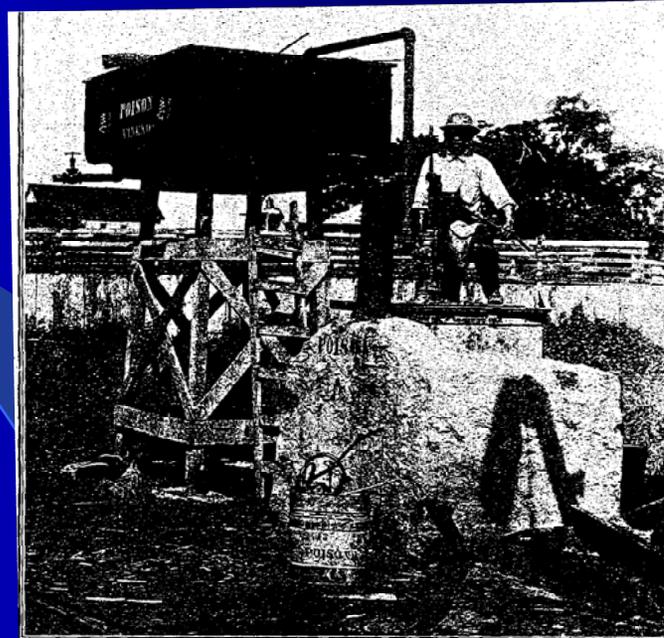


Fig. 2. Boiler and Tank for Stock Solution at Kilauea. The solution is pumped with the small hand pump from the boiler into the tank whence it runs by gravity into the Supply Tanks or other conveyances.

Kilauea Community Meeting

March 30, 2011



Kilauea Community Meeting Agenda

- 6:00 pm Information session for medical community
- 6:30 pm Community information session
- 7:00 pm Welcome by Director Loretta Fuddy
 - Brief presentation on the continuing investigation: Gary Gill & DOH Team
 - Arsenic and Health Overview: Alvin C. Bronstein MD, Hawaii Poison Center
- 7:30 pm Information session & one on one discussions



The Problem in Kilauea: Residential Exposure to Pesticides

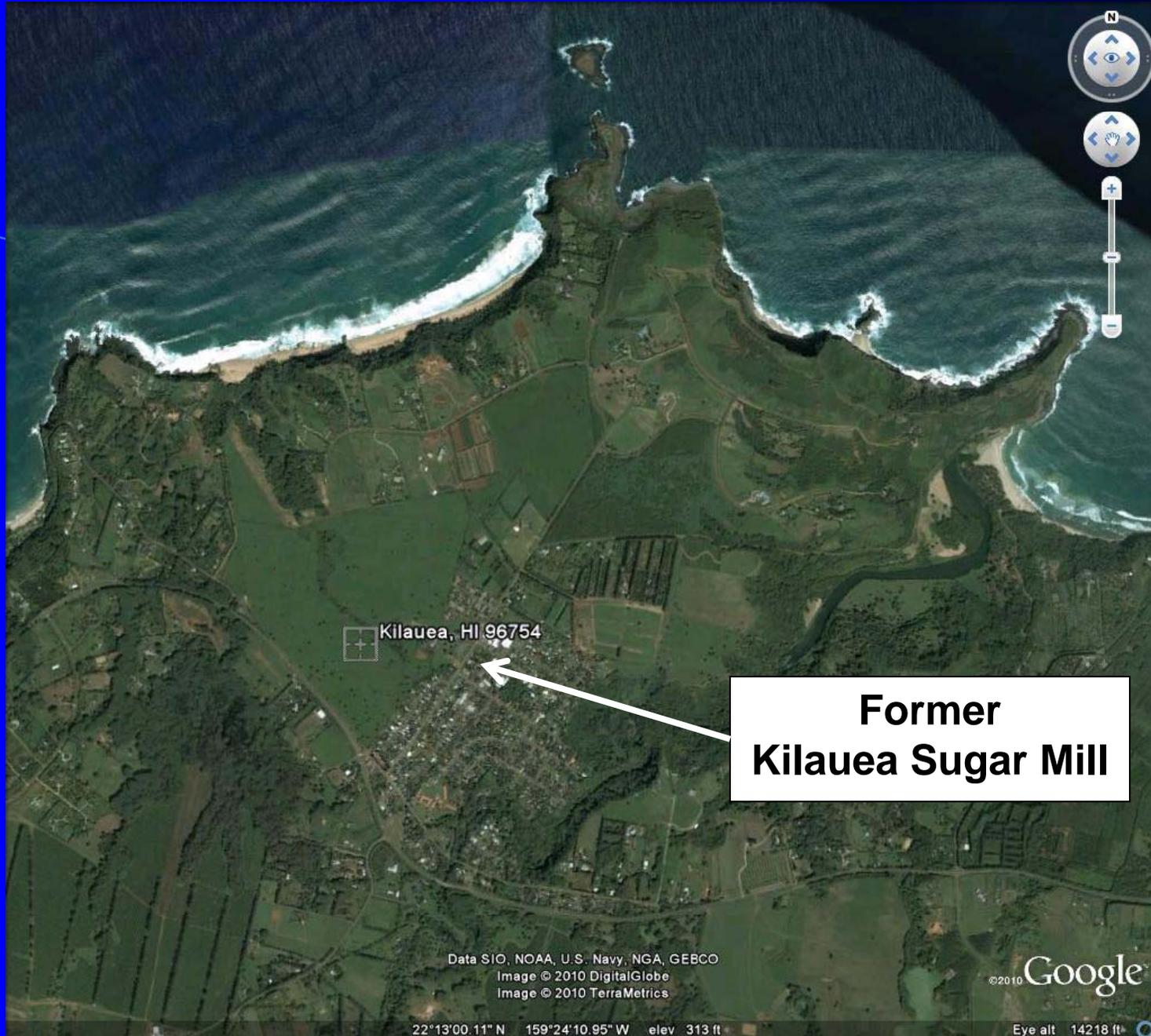
- Neighborhood built on former sugar mill site
- 2 lots built on top of old pesticide mixing area
 - Arsenic in soil: up to 80x acceptable level
 - Dioxin in soil: up to 15x acceptable levels
- Potential exposure occurs through SOIL INGESTION
- No immediate health effects under typical conditions
- Toddlers eating large amount (teaspoons) of soil could experience acute health effects



Current Conditions in Kilauea:

- Highly contaminated area limited to ditch area and one adjacent residence
- DOH Hazard Management Activities:
 - Site assessed for exposure risks
 - Residents informed of risk reduction actions they can take
 - Ditch area signed and fenced
 - Coordination with District Health Office
 - Survey of neighborhood for other potential risks
 - Consultation with medical toxicologists





Kilauea, HI 96754

**Former
Kilauea Sugar Mill**

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image © 2010 DigitalGlobe
Image © 2010 TerraMetrics

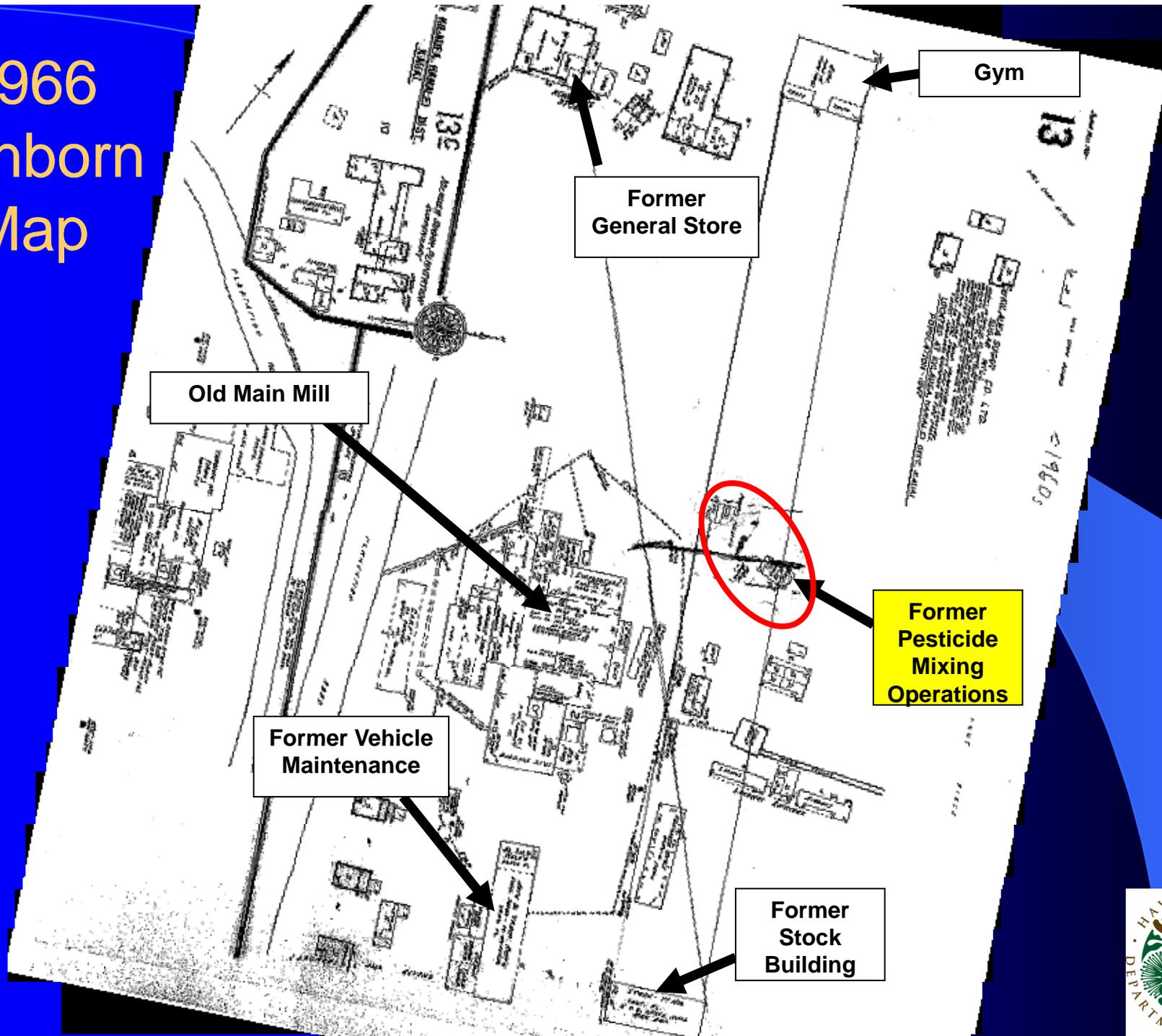
©2010 Google

22°13'00.11" N 159°24'10.95" W elev 313 ft

Eye alt 14218 ft



1966 Sanborn Map



Overlay of Former Kilauea Sugar Mill

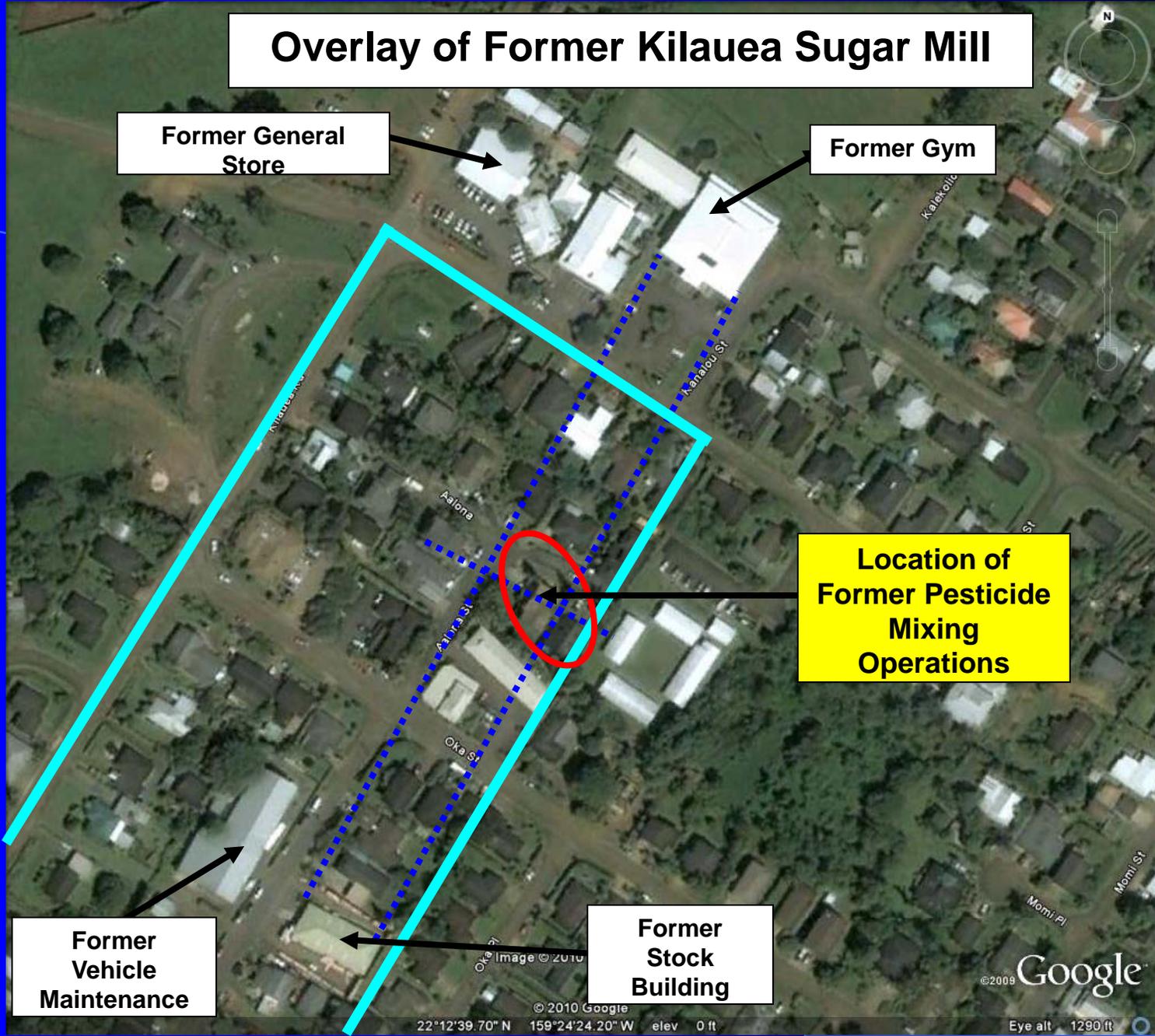
Former General Store

Former Gym

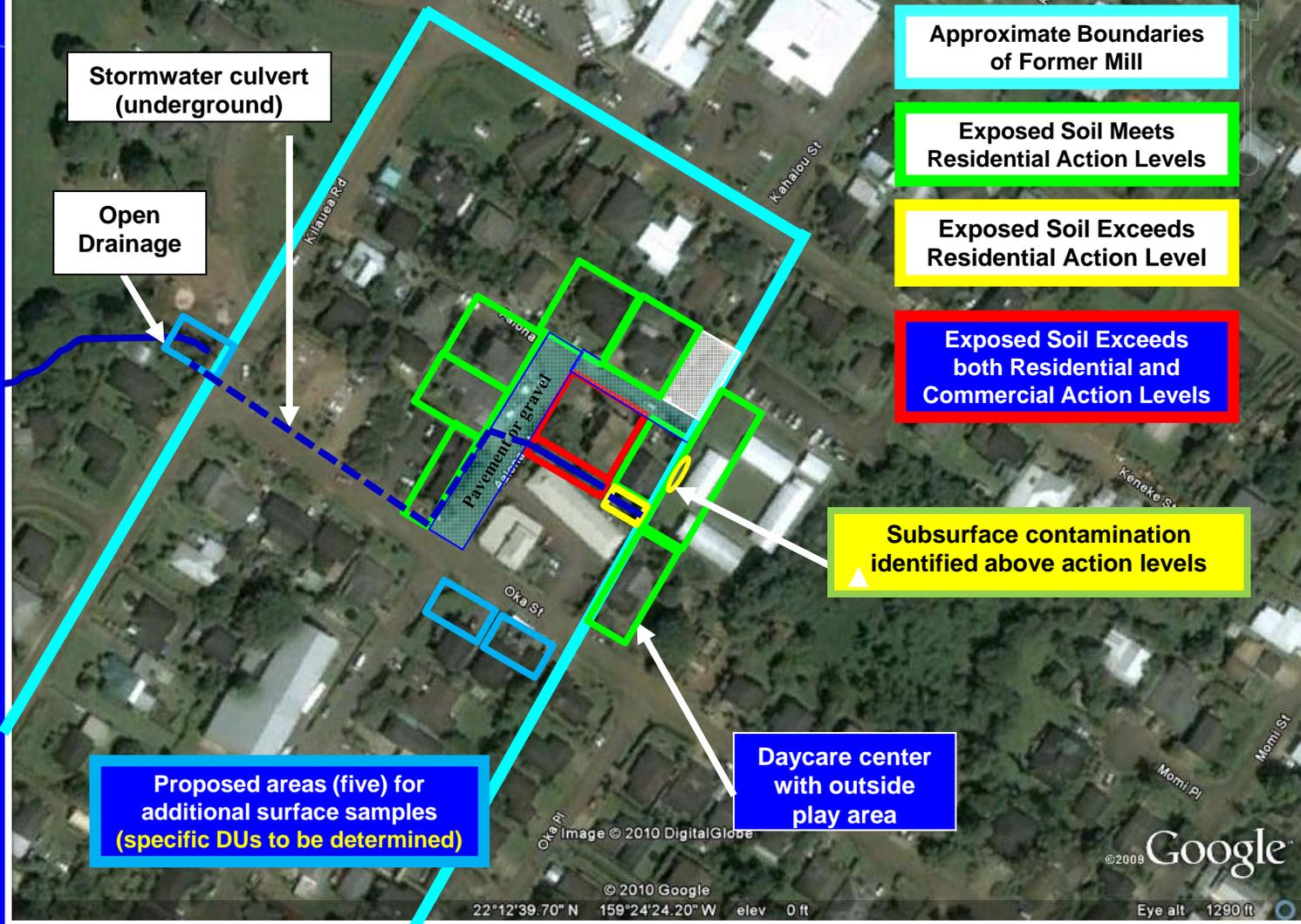
Location of Former Pesticide Mixing Operations

Former Vehicle Maintenance

Former Stock Building



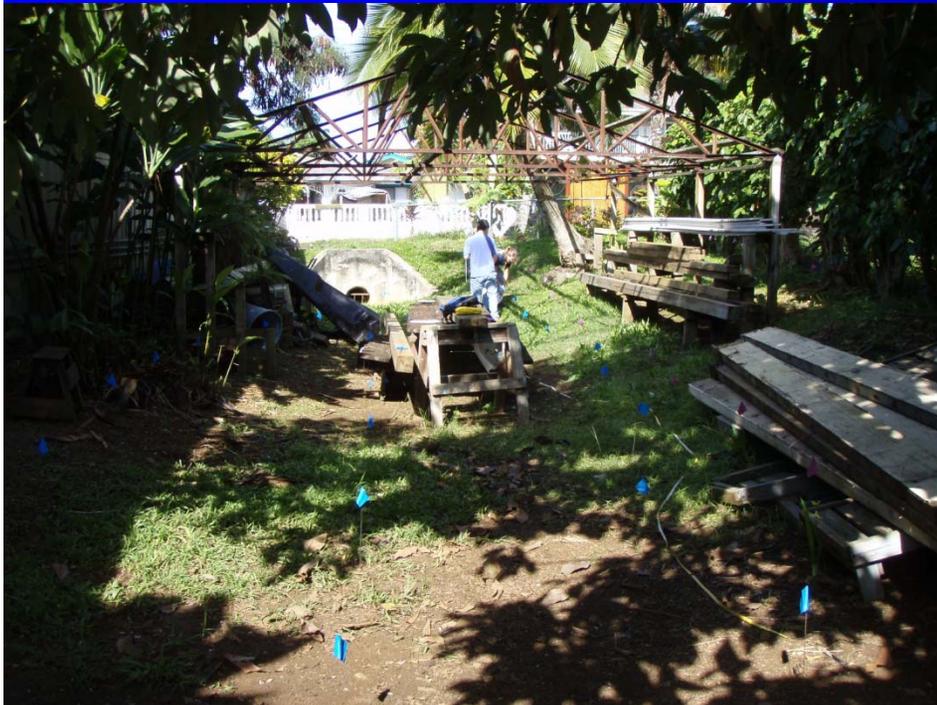
Former Kilauea Sugar Mill Area Preliminary Pesticide Investigation March, 2011



Highest Risk: Ditch Area

Exposure hazards:

- Children playing in exposed soils
- Accidental ingestion of soil



Looking west,
work storage area in ditch



Repaired fence & new signage



Residential Home Affected (No Children Residing)

Exposure hazards from:

- Gardening
- Accidental soil ingestion



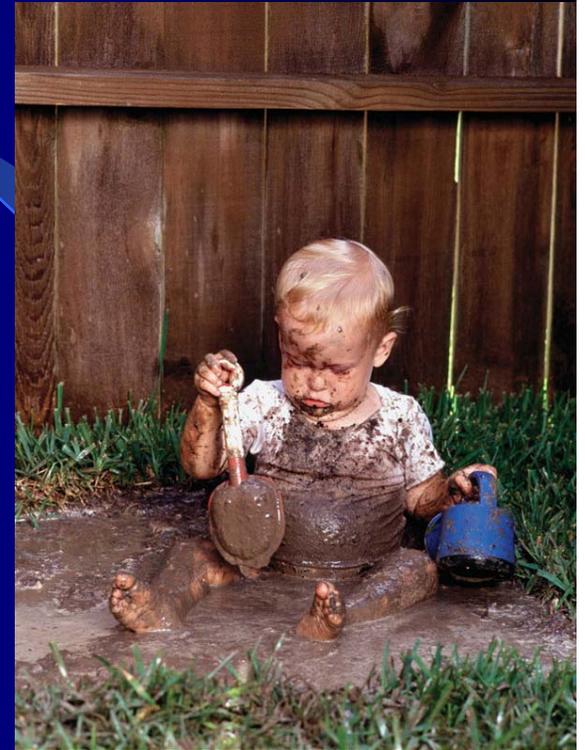
Clean fill in planting beds



No exposed, contaminated soils

Environmental Health Assessment

- How are people exposed?
- Accidentally eating contaminated soil
 - Children playing in dirt
 - Gardening
 - Not washing fruits & vegetables thoroughly
 - Tracking dirt into homes
- Message to residents
 - Keep bare soils covered
 - No digging until data available on subsurface
 - Wash hands, remove shoes
 - Keep children from playing in dirt
 - No access to ditch area
- Health questions
 - See your doctor if you have concerns
 - DOH will work with health provider to assist



Hawaii Poison Center: Arsenic Calls 2000 – 30 March 2011

- 125 Calls over 11+ years
- No deaths, major medical outcomes or permanent effects reported
- No Calls from Zip Code 96754
- Exposure Summary
 - Elevated urine arsenic levels (diet related)
 - Grants Ant Stakes (reformulated in 2007)
 - No chelation treatment



Outreach Actions to date

- Face-to-face & telephone contact with residents, owners and businesses
- Private meeting for affected neighbors 3/9
- Briefings for Governor, Kauai legislators, County officials 2/28 -3/10
- Talk story with community leaders
- Site visits with ex-mill employees
- Legislative Briefing 3/16



Planned Next Steps

- Further Sampling: April
 - Subsurface investigation
 - Drainage towards ocean
 - Additional discovery
- Identify feasible solutions and present to community
- Select appropriate remedy and implement beginning summer, 2011



Questions?

- For further information, contact the Hawaii Department of Health, Hazard Evaluation & Emergency Response (HEER) Office at (808) 586-4249
 - Fenix Grange, Site Discovery & Remediation
 - Dr. Barbara Brooks, Toxicologist

