18th Wing Kadena Air Base

Frequently Asked Questions on Excavated Barrels in Okinawa City
Civil Engineer and Bioenvironmental Version

Q1) How are we certain there are no barrels underneath the ground of the schools or in close proximity?
A1) All the information we have found to this point, indicates that the sites are separate. The areas under the schools were previously used as horse stables, and the playground area appears to have been the riding area for the horse stables. Some of the drums found within the soccer field are mixed in with construction debris that appears to have been placed after the land was returned to Government of Japan. We will continue to research official records, personal testimonies, and historic maps to better understand how the area was used.

Q2) Is it expensive to do a magnetic scan of the playground at the school on base?
A2) A horizontal magnetic survey of the playground area is estimated to cost $50,000. That survey would detect metallic objects to a depth of 3 to 4 feet. All objects detected would then need to be excavated to determine what was buried. The cost estimate above does not include any costs required for the excavation.

Q3) Do you know how many of the barrels are intact?
A3) From the pictures provided thus far to Kadena by the Government of Japan, none of the barrels appear to be fully intact. The majority of the barrels are severally deformed and rusted. A few of the barrels still retain the overall shape of a barrel, but appear to have multiple holes from rusting.

Q4) What does dioxin mean and what is it used for?
A4) See the dioxin fact sheet.

Q5) Do we know if we as in the U.S. are saying that these barrels are U.S. residue or were they there after we gave the land back to the Japanese?
A5) The original use and owner of the barrels is unknown at this time.

Q6) Have we seen any Japanese writing on the barrels?
A6) Yes, some of drums have Japanese katakana writing on them. Some of the drums are clearly marked in English. The original use and owner of the barrels is unknown at this time.

Q7) Has DOW managed to identify any other information on these barrels?
A7) No, the only thing they have stated unequivocally is that they did not package or ship agent orange in the type of barrels that have been excavated thus far.

18th Wing Commanders Hotline: 18wg.cchotline@us.af.mil
18th Wing Public Affairs Customer Service number: 098-961-3813

Q8) Do we know if DOW shipped their product containers with specific markings for each country i.e. katakana?
A8) No. Historic practices for DOW production and shipping are not available to us at this time.

Q9) Did you think this area was a landfill in the past?
A9) At this time that information is unknown. The areas under the schools were previously used as horse stables, and the playground area appears to have been the riding area for the horse stables. We will continue to research official records, personal testimonies, and historic maps to better understand how the area was used.

Q10) Were the barrels side by side when they were found?
A10) No, the barrels have been found in multiple areas of the soccer field and buried in random orientations. They do not appear to have stacked or laid out in an orderly manner, but instead to have been dumped.

Q11) There's no record of any of the barrels being put in the ground when the military owned the land?
A11) No, we have found no record of barrels being buried in the area.

Q12) How can the stagnant water under the barrels be above limits but the soil surrounding the barrels be below limits?
A12) The water under the barrel is not a drinking water source. The standard for dioxins in the soil is 1000 parts per trillion (ppt) and the standard for drinking water is 30 ppt. The dioxin samples from the water under the drum was compared to the drinking water standard.

Dioxins exist throughout the environment in varying levels based on location. In rural areas, dioxin levels are lower and average around 5 parts per trillion (ppt) in the soil.
In urban areas, dioxin levels are higher ranging from 10-30 ppt in the soil. Areas in close proximity to incinerators, major highways, and other sources of dioxin levels can be higher

The environmental standard for dioxins in soil is 1000 ppt. The levels of dioxins found in the soil at the site were well below this standard and ranged from 52-58 ppt with an isolated high sample next to one of the barrels of 320 ppt. All are well below the environmental standards. These levels are consistent with background levels in other urban areas and the setting between two major highways can contribute to the slightly elevated levels.

18th Wing Commanders Hotline: 18wg.cchotline@us.af.mil
18th Wing Public Affairs Customer Service number: 098-961-3813

Q13) Where is that water under the barrels going and was it cleaned up?
A13) Sampling was conducted in June, when the water was present, since that time there have been many significant rain events (i.e. down pours and typhoons) resulting in site runoff leading to the East China Sea. Run off samples conducted by the Okinawa government have shown no levels above the environmental standard. In addition, there have also been several hot sunny days resulting in evaporation at the site. Therefore, the water sampled in June is unlikely to still be on site. However, to our knowledge the scope of the Okinawa government cleanup of the site has been restricted to removing barrels.

Q14) Why are we testing just 6 inches into the ground when we are sampling, shouldn't we go deeper?
A14) First, it is important to understand Kadena Air Base leadership's purpose of conducting soil samples around the recreational areas behind both Bob Hope Elementary and Amelia Earhart Intermediate schools. The goal is to determine whether or not the daily activity of children and faculty members at the school would expose them to any dangerous substances. The depth of 0 to 6 inches is representative of what the children and staff could be exposed to through various routine exposure routes i.e. ingestion, inhalation and contact. Sampling at deeper soil depth is not representative of what children and faculty members are potentially exposed to at the schools. The purpose of deeper sampling would be to fully assess the size, character and evolution of an area of suspected contamination over time. At this time, it has not been determined what kinds of future testing will take place in the space, but the current 6-inch sampling is sufficient to assess the immediate exposure risk to anyone using the space as an athletic field.

Q15) Why aren't we doing our own magnetic testing on our school grounds to ensure there are no barrels?
A15) At this time, it has not been determined what kinds of future testing will take place in the space. Base officials are conducting an extensive assessment based off of official records, personal testimonies, and historic maps to better understand how the area was used. The disruption and expense for more intensive searching and testing of the activity fields would be significant. Base officials will need to ensure that this type of testing is warranted based on the best available facts, which are still being gathered and assessed.

18th Wing Commanders Hotline: 18wg.cchotline@us.af.mil
18th Wing Public Affairs Customer Service number: 098-961-3813