

**Training Aid Delivery Device
(TADD)**



Sample for Evaluation

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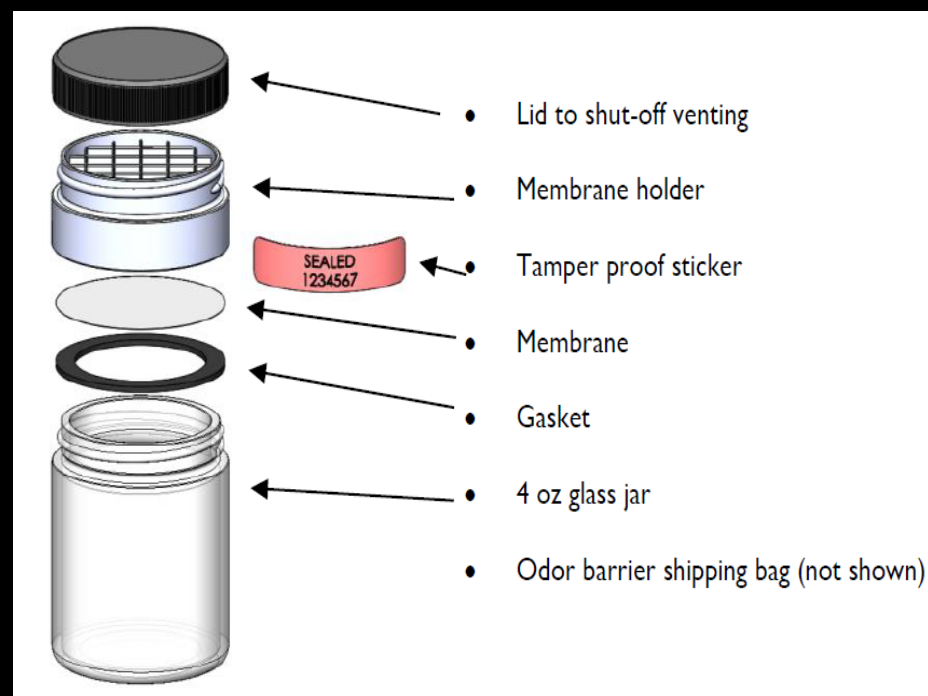
Patent Pending #US20170367290A1

Training Aid Delivery Device (TADD)

Trials of Training Aid
Delivery Device for
Underwater Oil Detection
Canine Training

What is a TADD?

- A Training Aid Delivery Device (TADD) is a small 4oz (other sizes available) glass jar sample containment system. Comprising of a gas-tight chemical-resistant gasket, a hydrophobic and oleophobic membrane, and a custom polypropylene membrane holder with a safety grid to prevent membrane puncture and a gas-tight chemical resistant polypropylene lid – adapted from the Scientific Canine Solutions <https://www.scik9.com/>





DROP TEST

Plastic TADDs = 10 feet
Glass TADDs = Variable*



VIBRATION TEST

Plastic TADDs = PASS
Glass TADDs = PASS



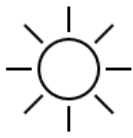
ALTITUDE TEST**

Plastic TADDs = PASS
Glass TADDs = PASS



8 FT WATER SUBMERSION TEST

Plastic TADDs = PASS
Glass TADDs = PASS



HIGH TEMPERATURE TEST**

Plastic TADDs = PENDING
Glass TADDs = PENDING



2 FT GROUND BURIAL TEST

Plastic TADDs = PASS
Glass TADDs = PASS



LOW TEMPERATURE TEST**

Plastic TADDs = PASS
Glass TADDs = PASS



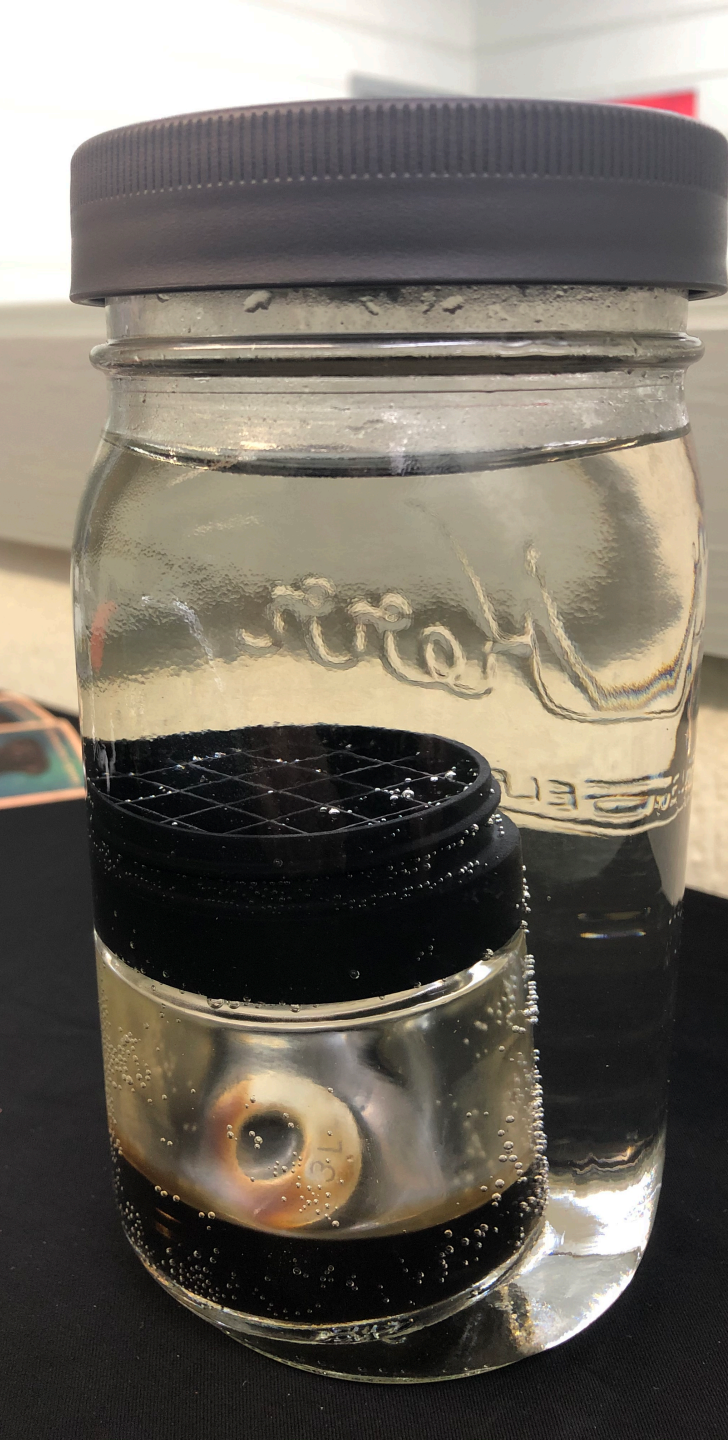
CRUSH TEST

Plastic TADDs = PASS
Glass TADDs = PASS



*1 foot (Large 8oz. TADD) – 4 feet (Small 2oz. and Medium 4 oz. TADDs)

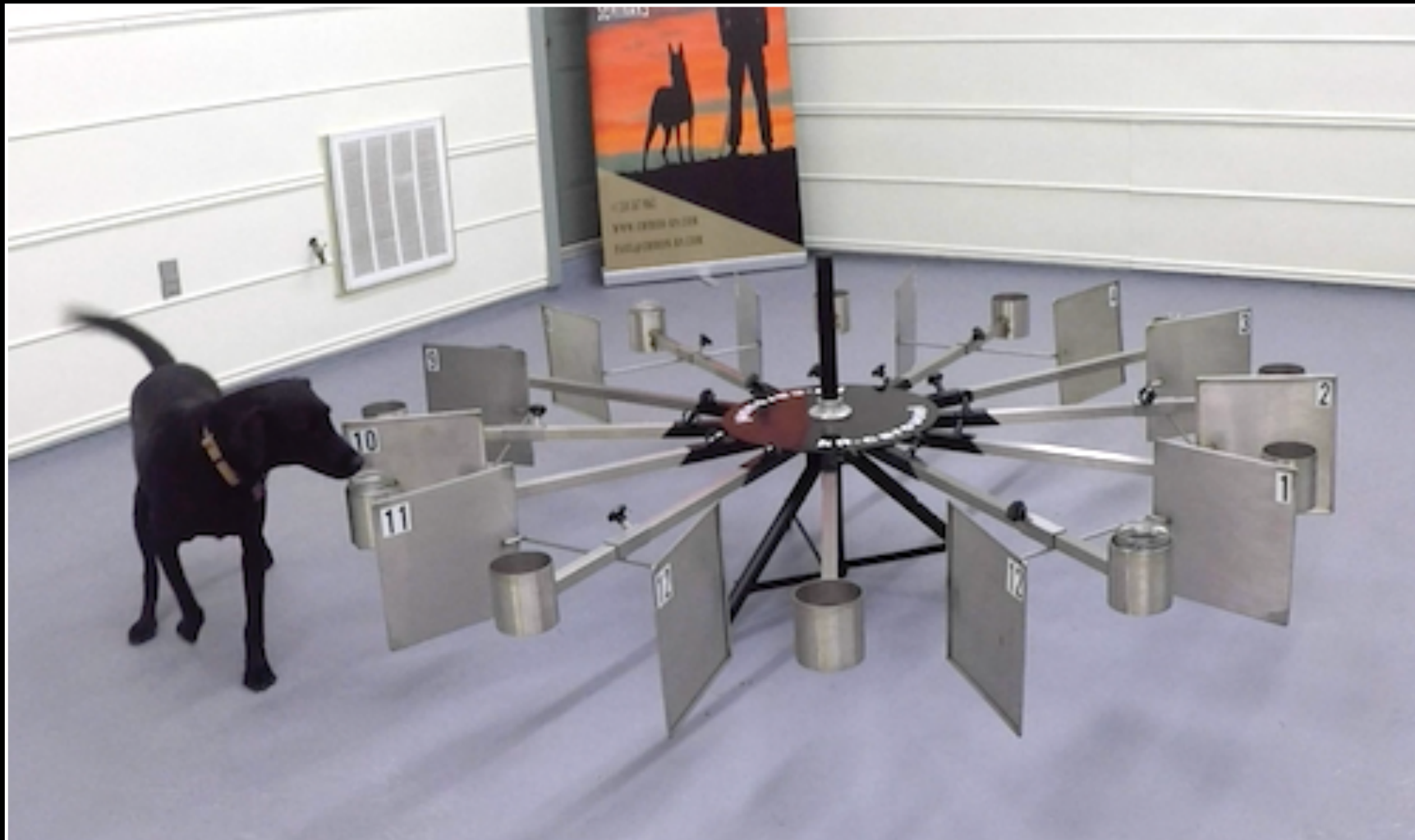
** MIL-STD-810G (High: 95°F -160°F for seven 24h periods, Cold: -50°F)



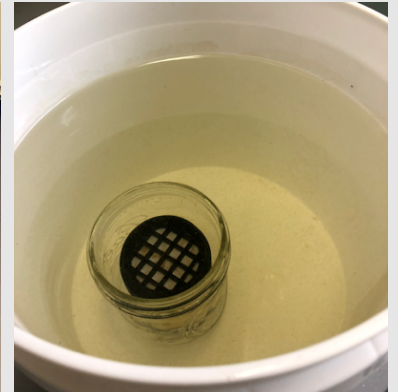
- A series of study trials were conducted to determine the most efficient and effective methods of TADD utilization within the Oil Detection Canine field. A trained and certified Oil Detection Canine, experienced in detecting oil underwater, was utilized throughout the study. The study trials were both field and lab-based and used a consistent oil target.



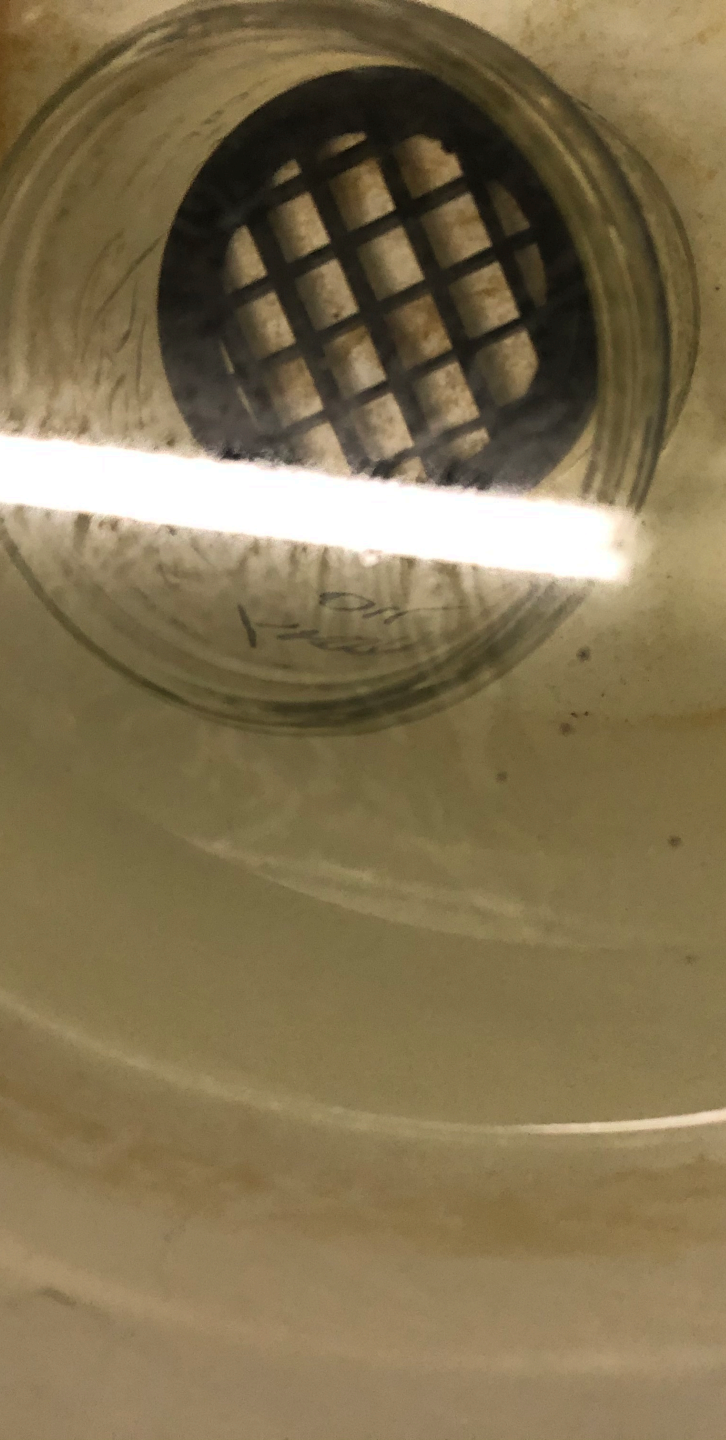
Baseline Assessment



Odor Recognition



Deeper water Assessment



Key Findings

- The various studies reported here show that TADDs can be used to train ODCs without exposing the water source to contamination by the target oil sample.
- Odor molecules, which a trained ODC can identify, pass through the TADD membrane into water or air medium.
- For effective utilization of the TADD, in-field training, the ODC should be imprinted and trained on the device containing the target, underwater.
- On one occasion of prolonged exposure for five days in static water, oil in a TADD led to the presence of a silver sheen on the water surface.



Key Recommendations

- Field trials need to be conducted in static water
- Field trials need to be undertaken in running water
- Future trials need to investigate the longevity of available headspace molecules from the TADD containing oil.



Applications

- The TADD can be used in:
- Introduction of field survey training on buried targets
- Training ODC's in underwater targets
- Placed in seafood trays for taint training of ODCs.
- Placed in any area utilized in ODC deployment including onsite calibration.