## Field Probes

1. Put on fresh pair of vinyl gloves and appropriate safety glasses.
2. Inspect field probes for excessive damage (chips/scratches/bent stems).
   1. If part has pre-existing impairment, notify PI/PM.
   2. Do not proceed until PI/PM verifies through written acknowledgement of previous damage presence.
3. ***NOTE: Field probes maybe specifically labeled.*** Take care to segregate parts to insure no intermingling of serial numbers. Through the course of the whole degreasing process it is paramount the field probe assemblies be kept separate if serial numbers are present. This can be accomplished by:
   1. Place in separate small containers labeling the exterior of container with serial number (using a chemical sticker).
   2. Placing on TX 2009 Beta Wipes marked for each serial number.
   3. Placing in nylon bag system labeled with serial number.
4. Separate field probe and field probe tips by unscrewing tips. Use caution while doing so as parts are small and can easily fall into floor grate or break. The tip may contain two different parts. Remove both tip parts from probe.
5. Field probe tips are copper. Material’s surface may be covered in tarnish from the oxidation of the copper. Impurity on surface should be removed by doing the following:
   1. Measure 4 oz. of Micro 90 detergent into a small container.
   2. Fill remainder of container with DI water at “rinse only” wet bench side.
   3. Use TX 2009 Beta Wipes to apply mixture directly onto part.
   4. Metal polish may also be utilized for persistent or hard to remove oxidation.
   5. Rinse thoroughly with DI water.
6. Place parts in separate small containers if necessary (see step 3). Parts need to be cleaned in ultrasonic (UHV) basin, accomplished as follows:
   1. Place containers in UHV.
   2. Close drain system of UHV.
   3. Fill each container ¾ full of DI water (each part needs to be completely submerged for UHV cleaning to successfully be performed).
   4. Fill UHV with at least 3 inches of DI water to prevent motors from overheating (thereby causing permanent damage to the UHV).
   5. Disperse 4 oz. of Citranox between basins.
   6. Ultrasonic 15 minutes.
7. Set up a compatible container with isopropyl for drying the probe tips (see step 3). Pour enough acetone in container to adequately submerge parts. Label exterior of container with chemical label to insure safety.
8. Parts will need to be bagged in nylon material:
   1. Cut appropriate length/width nylon bag for each part (see step 3)
   2. Seal one end of bag with sealing machine.
   3. Sets bags under hood in a dry place.
9. Put on fresh pair of vinyl gloves.
10. Remove containers from UHV after timer expires. After UHV cleaning all particulate needs to be rinsed away from part via this method:
    1. Transfer them to “rinse only” wet bench side (see step 3).
    2. Rinse with DI water hose; Thoroughly rinse each part, taking care not to allow tips to fall down drain
    3. Agitate in first rinse basin 3 times.
    4. Agitate in second rinse basin 3 times.
    5. Agitate in third rinse basin 3 times.
    6. Rinse again with DI water hose.
11. Place field probe under hood on TX 2009 Beta Wipes (see step 3).
12. Don pair of poly gloves for solvent exposure and switch from glasses to safety goggles; *optional* use ear PPE to reduce high decibel exposure from nitrogen (N2) gun drying.
13. Probe tips will oxidize in a short period of time. To reduce any chances of tarnish follow these steps:
    1. Set field probe tips into acetone basin (see step 3). Solvent will rapidly remove any moisture captured in tip.
    2. Jostle basin if necessary.
    3. Remove tips on at a time.
    4. Completely dry each tip with the N2 gun prior to removing next tip.
    5. Place dried tips on TX 2009 Beta Wipes.
14. Don fresh pair of vinyl gloves, switch from goggles to glasses if desired.
15. Inspect for remaining tarnish or oxidation. If blemishes remain:
    1. Mix another batch of cleaner (see step 5.a.-b.)
    2. Use lightest grade Scotch-Bright (light gray) to scrub surface of copper with Micro mixture.
    3. Scour in one direction.
    4. Rinse with DI water
    5. Repeat all previous steps from the beginning.
16. Bag field probe components (see step 3); probe tips bags will need to be purged of oxygen, to do so follow these steps::
    1. Only bag if part is COMPLETELY dry and no oxides appear on surface of part.
    2. Place part in its own bag.
    3. Seal opposite end of bag with sealing machine.
    4. Cut off corner of bag with scissors.
    5. Use N2 gun to purge bag of oxygen (O2); be careful not to bust bag with N2. There should be enough N2 trapped in bag to create “pillow” effect.
    6. Reseal bag on corner used to introduce N2.