HOW TO CONSTRUCT AND INSTALL AN OBSERVATION PORT TO MEASURE WATER DEPTH

MATERIALS:
- 2-10 FEET OF 3-INCH DIAMETER PVC PIPE (SCH40 IF IN FAUCETY, SCH80 IF OFFSET).
- 4 FEET OF 3-INCH DIAMETER WELL SCREEN (CANAL LACE SCREEN) (0.01-INCH SLOTS)
- 3-INCH DIAMETER COUPLING
- TEST PLUG (EXPANDING) AND/OR LOOSE FITTING TOP CAP
- 3-INCH DIAMETER PVC END CAP
- BENTONITE (USE MEDIUM-SIZED CHIPS) OR CONCRETE
- SAND PACK (75# MESH)

INSTRUCTIONS:
1. AUGER THE PORT HOLE
   SURROUND THE PORT HOLE IN BOTTOM OF FACILITY OR RUN PIPE FROM TOP OF FACILITY ALONG BOTTOM TO OBSERVATION PORT VERTICAL PIPE IN BERMS (SEE DETAIL A) USING A FOUR-INCH DIAMETER HAN Auger or Post-Hole Digger. THE PORT HOLE SHOULD EXTEND 6" BELOW THE BOTTOM OF THE FACILITY.
2. CONSTRUCT THE OBSERVATION PORT CASING.
3. PACK THE CASING WITH SAND.
4. SEAL WITH BENTONITE OR CONCRETE.
   TO PREVENT SURFACE WATER FROM FLOWING DOWN THE OUTSIDE OF THE CASING, FILL THE REMAINDER OF THE HOLE WITH A LAYER OF BENTONITE OR CONCRETE ON TOP OF THE SAND.
5. INSTALL THE CasINg.
   USE A PERMANENT MARKER TO WRITE AN IDENTIFICATION NUMBER ON THE SIDE OF THE CASING. MARK A REFERENCE POINT ON THE TOP EDGE OF RISER FROM WHICH ALL MEASUREMENTS WILL BE TAKEN.
6. READ WATER TABLE DEPTH.
   A. MEASURE DISTANCE FROM TOP EDGE OF RISER TO SOIL SURFACE.
   B. MEASURE DISTANCE FROM TOP EDGE OF RISER TO WATER SURFACE INSIDE OF PIPE.
   C. SUBTRACT A FROM B FOR DEPTH TO WATER TABLE.

MODIFICATION FOR CRESCENT GAGE (OPTIONAL)

MATERIALS:
- 4-6 FEET OF 1-INCH DIAMETER PVC
- CORN DUST

INSTRUCTIONS:
1. CUT THE CRESCENT GAGE TO LENGTH.
   SIZE THE CRESCENT GAGE TO FIT INSIDE THE OBSERVATION PORT CASING. THE CRESCENT GAGE SHOULD SIT IN THE BOTTOM OF THE CASING AND BE FLUSH WITH THE TOP OF THE CASING.
2. ADD CORN DUST.
   REMOVE THE CRESCENT GAGE FROM THE OBSERVATION PORT CASING. ADD ABOUT ONE-HALF TEASPOON OF CORN DUST INTO THE OBSERVATION PORT CASING. IF YOU MAKE YOUR OWN CORN DUST, GRIND IT TO THE TEXTURE OF COURSEY GRIND COFFEE. PLACE THE CRESCENT GAGE IN THE OBSERVATION PORT. REPLACE THE OBSERVATION PORT TOP CAP OR PLUG.
3. READ THE MAXIMUM WATER LEVEL.
4. RINSE OUT CORN DUST.
   AFTER YOU RECORD THE MEASUREMENT, REMOVE THE CORN DUST FROM THE CRESCENT GAGE. Rinse the gage with the OBSERVATION PORT CASING WITH A SQUIRT BOTTLE. PLACE THE CRESCENT GAGE IN THE OBSERVATION PORT. REPLACE THE OBSERVATION PORT TOP CAP.
5. INSTALL THE 3" PVC OBSERVATION PORT.