WELL DRAINED

SANDY
TEXTURED

(PROFILE 5)

SOIL

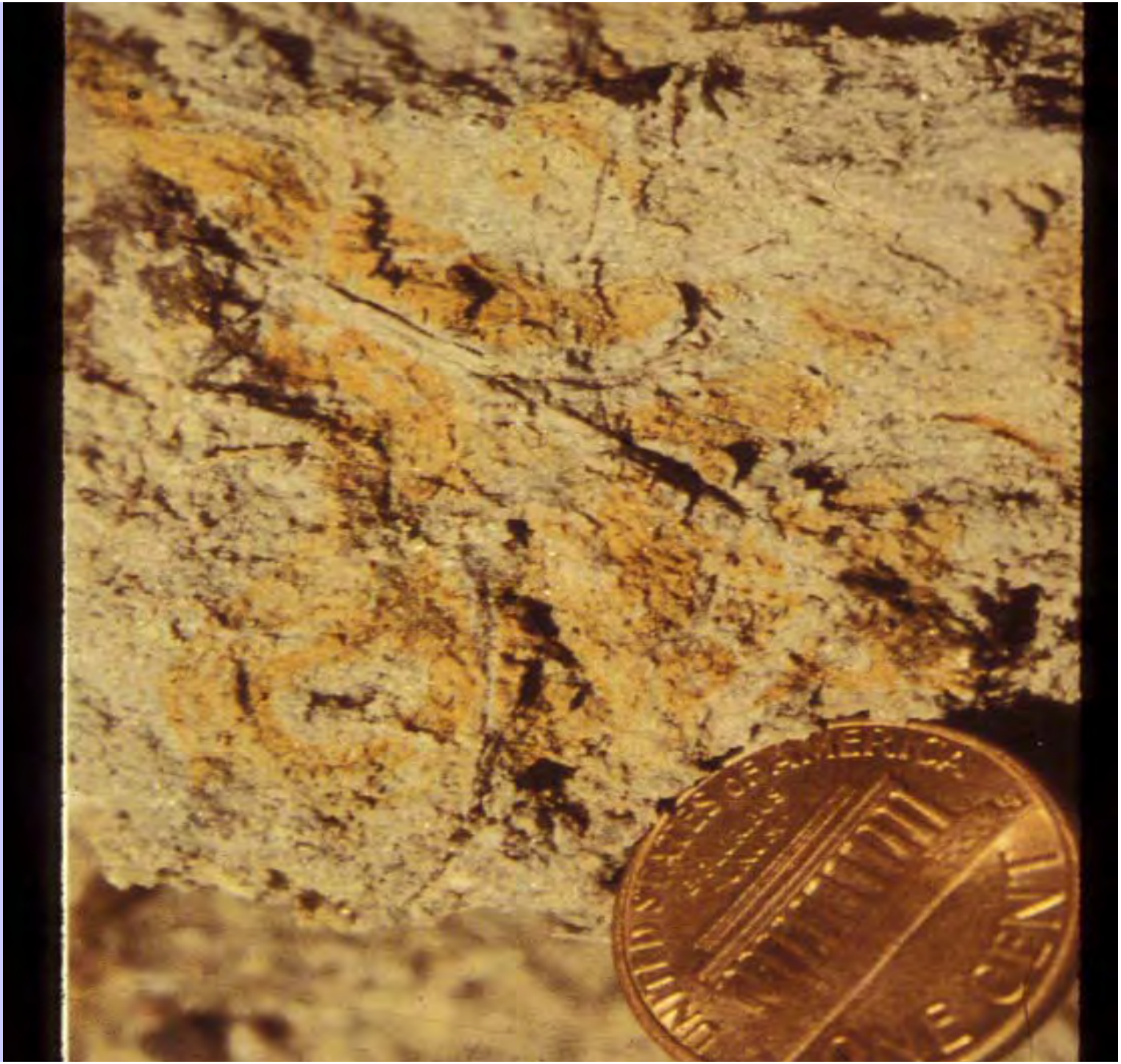
TRADITIONAL MOTTLING

REDOXIMORPHIC FEATURES

OXIDIZED

RHIZO-

SPHERES



SOIL EVALUATION

- **DEVELOPED FOR AGRICULTURE (GROWING CROPS)**
- **BASED ON SOIL MORPHOLOGY (MOTTLING/REDOXIMPRPHIC FEATURES) BIOCHEMICAL PROCESS**
- **SOIL MICROBE ACTIVITY DEPENDENT ON TEMPERATURE AND OXYGEN**

SOIL EVALUATION

- **DOESN'T WORK WELL FOR FLASHY OR COOL SEASON WATER TABLES – OXYAQUIC CONDITIONS – OR UNUSUAL YEARS**
- **PROBLEM AREAS INCLUDE:**
  - **LONG SLOPING SITES (SANDY TEXTURES AND A HARD PAN)**
  - **COOL CLIMATES - DOWNEAST, NORTHERN MAINE OR WESTERN MOUNTAINS**
  - **ENRICHED SITES**
  - **ALTERED SITES (DRAINED, PLOWED, FILLED, FLOODED)**
  - **SOMEWHAT POORLY/POORLY DRAINED**
  - **SPODOSOLS (ESP. FOR SANDY SOILS)**
  - **SANDY SOILS**

403.2.6 SOIL DRAINAGE

- **DEPTH TO SEASONAL WATER TABLE AS DETERMINED BY MOTTLING, ORGANIC STREAKING, CONCRETIONS,THICKNESS AND COLOR OF “B” HORIZON, THICKNESS AND COLOR OF “E” HORIZON, AND/OR OTHER SOIL MORPHOLOGICAL FEATURES INDICATIVE OF A SEASONAL WATER TABLE**

WHAT TO LOOK FOR

- **POSITION IN LANDSCAPE**
- **VEGETATION (LOOK FOR INDICATORS IN VARIOUS LAYERS)**
- **SIGNS OF HYDROLOGY (PIT/MOUND, WATER STAINED LEAVES)**
- **ROOTING DEPTH (BARK COVERED ROOTS)**
- **ORGANIC MATTER ACCUMULATION ON SURFACE**
- **ORGANIC STREAKING (MOSTLY SANDY SOILS) – ORGANIC MATTER IS TRANSPORTED VERTICALLY AND HORIZONTALLY**
- **MATRIX COLOR OF SOIL HORIZONS (ESP. FOR SANDY SOILS)**
- **UNIFORMITY OF SOIL HORIZON COLOR**
- **PRESENCE OR ABSENCE OF HORIZONS (A and B)**
- **COMPARISON TO PROFILES IN KNOWN DRAINAGE CONDITIONS AT SITE (CALIBRATION)**

WHAT TO LOOK FOR

- **VALUE AND CHROMA OF Ap HORIZON (OM ACCUM.)**
- **THICKNESS OF Ap HORIZON**
- **REDOX FEATURES WITHIN THE Ap**
- **REDOX FEATURES IMMEDIATELY BENEATH Ap**
- **STRUCTURE OF A OR Ap HORIZON**
- **CONCRETIONS OR NODULES**
- **OXIDIZED RHIZOSPHERES**
- **SPODOSOLS -**
- **THICKNESS OF E HORIZON**
- **COLOR OF E HORIZON**
- **COLOR OF BHs OR Bs HORIZON**
- **THICKNESS OF BHs or Bh HORIZON**
- **CONSISTENCE OF BHs OR Bh HORIZON (ORTSTIEN)**

- **RANGLEY MAINE AREA**

NOTE SHALLOW ROOTING DEPTH

NOTE ROOTING DEPTH - TO BOTTOM OF PIT

- **PORTLAND MAINE AREA**

- **NEWPORT MAINE AREA**

ENRICHED

SOIL

ON RIGHT

SPODOSOLS

WELL DRAINED SPODOSOL

WELL DRAINED

SANDY
TEXTURED

(PROFILE 5)

SOIL

POORLY DRAINED SPODOSOL

(PROFILE 5)

NOTE COLOR AND THICKNESS OF E AND

BHs HORIZON

SANDY SOIL (SPODOSOL) WITH THICK E AND DARK B (PROFILE 5)

ROQUE BLUFF STATE PARK (PROFILE 5)

WHEN IN DOUBT

- **BUILD ABOVE GROUND DISPOSAL FIELDS**
- **INSTALL CURTAIN DRAINS**
- **DESIGN IMMEDIATELY BELOW FOUNDATION**
- **INCREASE SEPERATION DISTANCE**
- **WHEN ALL ELSE FAILS - ASK FOR HELP**
- **MY PHONE: 287-2666**

- **DOWNEAST HYDRIC SOILS TOUR LAST SEPTEMBER**

HISTOSOL

PROFILE 10

WET HISTOSOL

VS

DRY FOLIST

PROFILE 10

NOTE

SOIL STRUCTURE

CREASEY

SOIL

(PROFILE 2)

NOTE

RED COLOR

INCLUDING

BEDROCK

- **PHOTO'S TAKEN DURING FIELD INDICATORS FALL TOURS BY JIM TOURENE, NRCS, RHODE ISLAND**

- **THE END**