



# AGGREGATE GRADE BENCH

Jody Bollinger

Ed Perez

Gary Dekens

Bryan Davis

Delia Aguirre

Adrian Esparza

# Potential PCC Sources



★ Test prior to mix design





**Confused ?**



# Resident Engineer's Responsibilities

- ★ Send copy of CEM-3103 to area lab
- ★ Assure sampling and testing of potential sources by District Lab
- ★ Transportation of samples to Translab after District approval

# TL-101

STATE OF CALIFORNIA • DEPARTMENT OF TRANSPORTATION  
**SAMPLE IDENTIFICATION CARD** CARD NUMBER **C 543276**  
 TL-101 (REV. 10/97)

PRELIMINARY TESTS    SAMPLE SENT TO:    FIELD NO. **2**  
 PROCESS TESTS     HDQTRS. LAB  
 ACCEPTANCE TESTS     BRANCH LAB    DIST. LAB NO.  
 INDEPENDENT ASSURANCE TESTS     DIST. LAB    LOT NO.  
 TRANS. LAB    SHIPMENT NO.    P.O. OR REG. NO.  
 SPECIAL TESTS    AUTHORIZATION NO.

SAMPLE OF **37.5 mm x 19 mm - FCC. Source Testing**  
 FOR USE IN **Class A & D Concrete**

SAMPLE FROM **Stockpile**

DEPTH \_\_\_\_\_  
 LOCATION OF SOURCE **Syar Industries, Healdsburg**  
**SMARA # 91-49-0030**

THIS SAMPLE IS SHIPPED IN (NO CONTAINERS) **2** AND IS ONE OF A GROUP OF **1** SAMPLES REPRESENTING (TONS, BAGS, BULK, ETC.) **unlim**

OWNER OR MANUFACTURER **Syar Industries**

TOTAL QUANTITY AVAILABLE **unlim** TEST RESULTS DESIRED  NORMAL  PRIORITY DATE NEEDED **1/19/01**

REMARKS **D.L.: Please Run Ca. Test # 206 & 211**  
**Hdqtrs. Pls Run Ca. Test # 214 & C269**  
**Please Fax Results to Pet. Lab 707-781-2649**

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLED **12/28/00**

BY **C. McIlroy** TITLE **TET**

DIST., CO., RTE., P.M. **04-Son-101-56 0/R80 S**

LIMITS **Sonoma Co. in & near Healdsburg from 0.3 km N/of**  
**Westside Rd U/Crossing to S. Cloverdale U/Crossing**

CONT. NO. **04-CC5004**  
 FED. NO. **ACNH-P101(947)E**  
 RES. ENGR. OR SUPT. **D. LeGaltee**  
 ADDRESS **Santa Rosa Construction**  
 CONTRACTOR **Conc Engineering**

MAIL TO SAME DESTINATION AS SAMPLE

Properly filled out

TL-101 (REV. 8-79) STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION  
 SAMPLE IDENTIFICATION CARD NO. **23215**

PRELIMINARY TESTS    SAMPLE SENT TO:    FIELD NO. \_\_\_\_\_  
 PROCESS TESTS     HDQTRS. LAB    DIST. \_\_\_\_\_  
 ACCEPTANCE TESTS     BRANCH LAB    LAB NO. **2504-3**  
 INDEPENDENT ASSURANCE TESTS     DIST. LAB    LOT NO. \_\_\_\_\_  
 DIST. LAB    SHIPMENT NO.    P. O. OR REG. NO. \_\_\_\_\_  
 TRANS. LAB    AUTHORIZATION NO. \_\_\_\_\_  
 SPECIAL TESTS

SAMPLE OF **found**

FOR USE IN \_\_\_\_\_

SAMPLE FROM **P-17**

DEPTH **15' - 17'**

LOCATION OF SOURCE **MRTN2**

THIS SAMPLE IS SHIPPED IN (NO CONTAINERS) \_\_\_\_\_ AND IS ONE OF A GROUP OF \_\_\_\_\_ SAMPLES REPRESENTING (TONS, BAGS, BULK, ETC.) \_\_\_\_\_

OWNER OR MANUFACTURER \_\_\_\_\_

TOTAL QUANTITY AVAILABLE \_\_\_\_\_ TEST RESULTS DESIRED  NORMAL  PRIORITY DATE NEEDED \_\_\_\_\_

REMARKS **CAN.**

COVER ADDITIONAL INFORMATION WITH LETTER

DATE SAMPLED **8-10-01**

BY **Rick Jones** TITLE **Geologist**

DIST., CO., RTE., P.M. **04-CC-680**

LIMITS \_\_\_\_\_

CONT. NO. **04-228561**  
 FED. NO. \_\_\_\_\_  
 RES. ENGR. OR SUPT. **ali kaddous**  
 ADDRESS **111 Grand**  
 CONTRACTOR \_\_\_\_\_

Improperly filled out

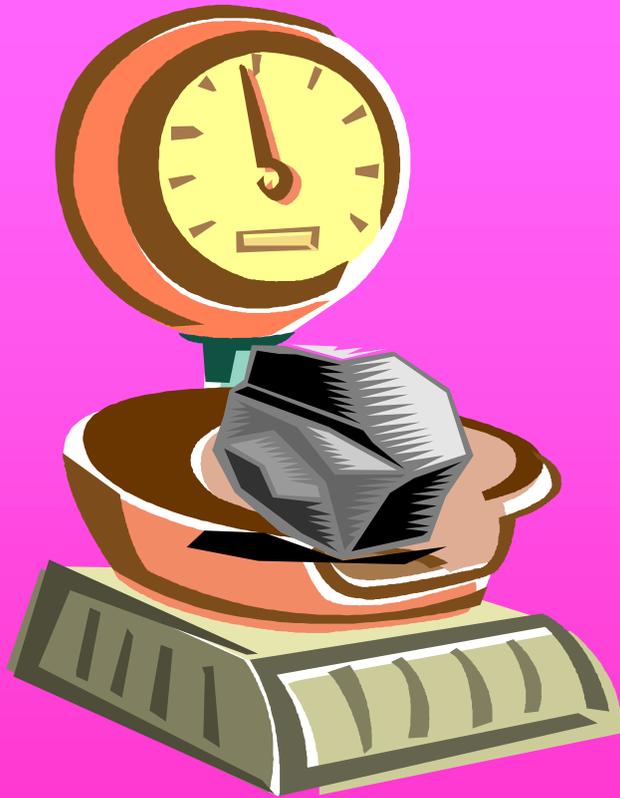
# Sieve Analysis CT 202

Is performed to determine the particle size distribution of the aggregates



# Specific Gravity

Determines the bulk specific gravity and absorption of coarse and fine aggregate



CT 206



CT 207

# Specific Gravity



CT 206



CT 207

# Specific Gravity



CT 206



CT 207

# Los Angeles Rattler Test CT 211

Determines resistance of aggregate to impact in a rotating cylinder containing metal spheres



# Organic Impurities CT 213

Determines presence of destructive organic compounds in natural sands

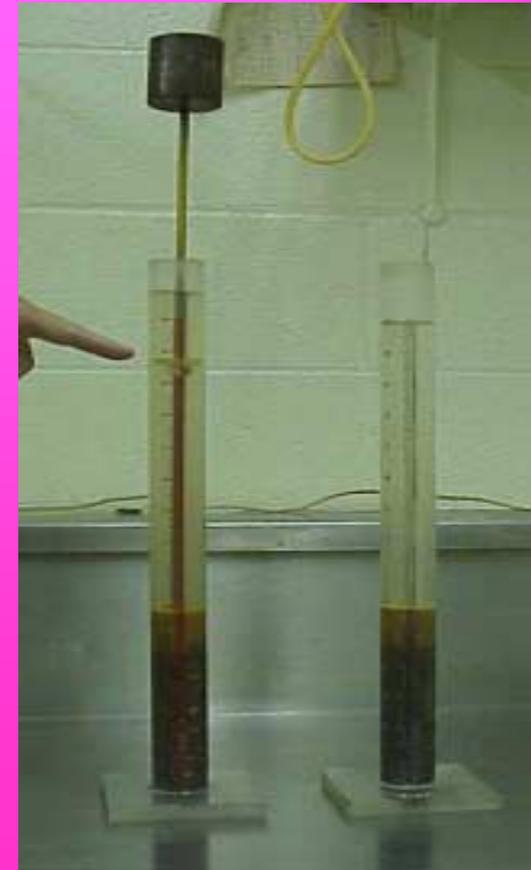


# Sand Equivalent CT 217

# Cleanness Value CT 227

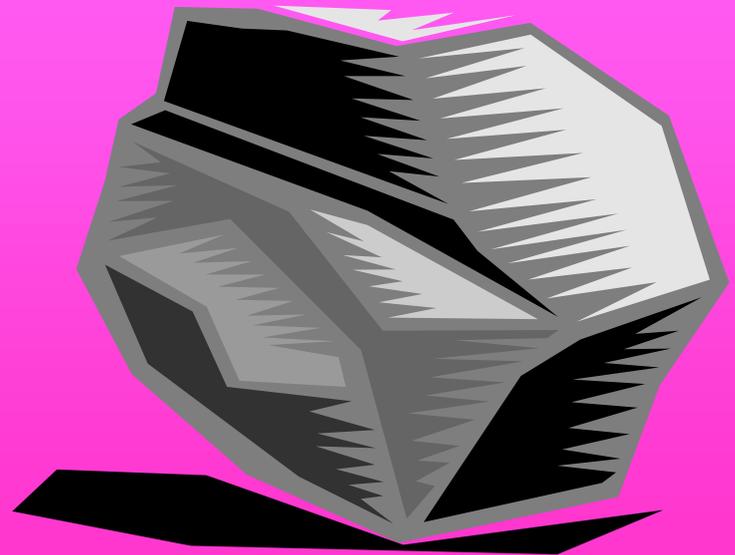
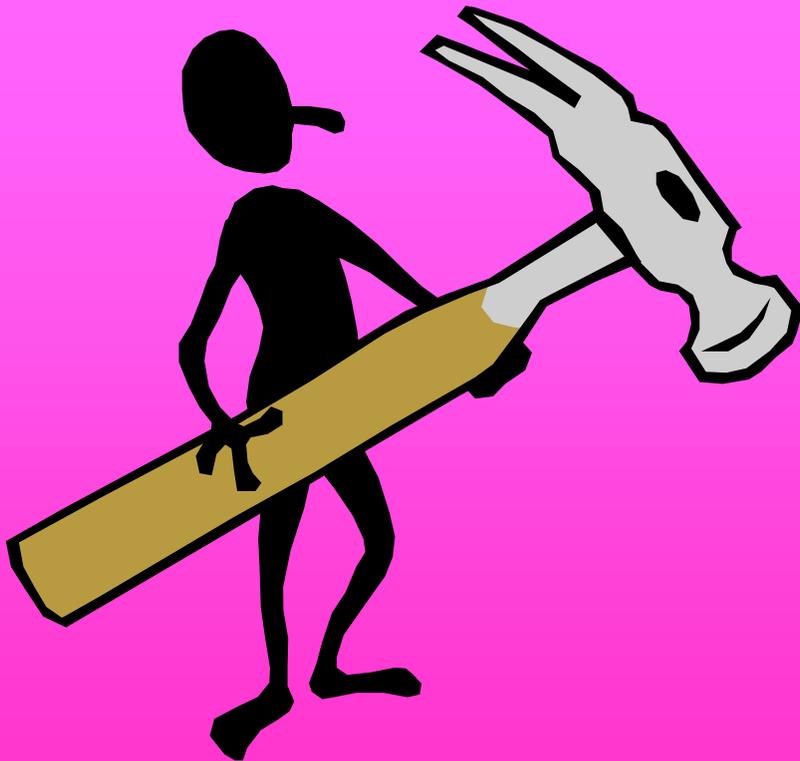
Provides a measure of clay-like materials on coarse and fine aggregates

We're clean now!



# Durability CT 229

Measures abrasion of the aggregates



# Minimum Quantities of Aggregates Needed for Testing

★ 1 sack of Sand



★ 2 sacks of 1" x #4

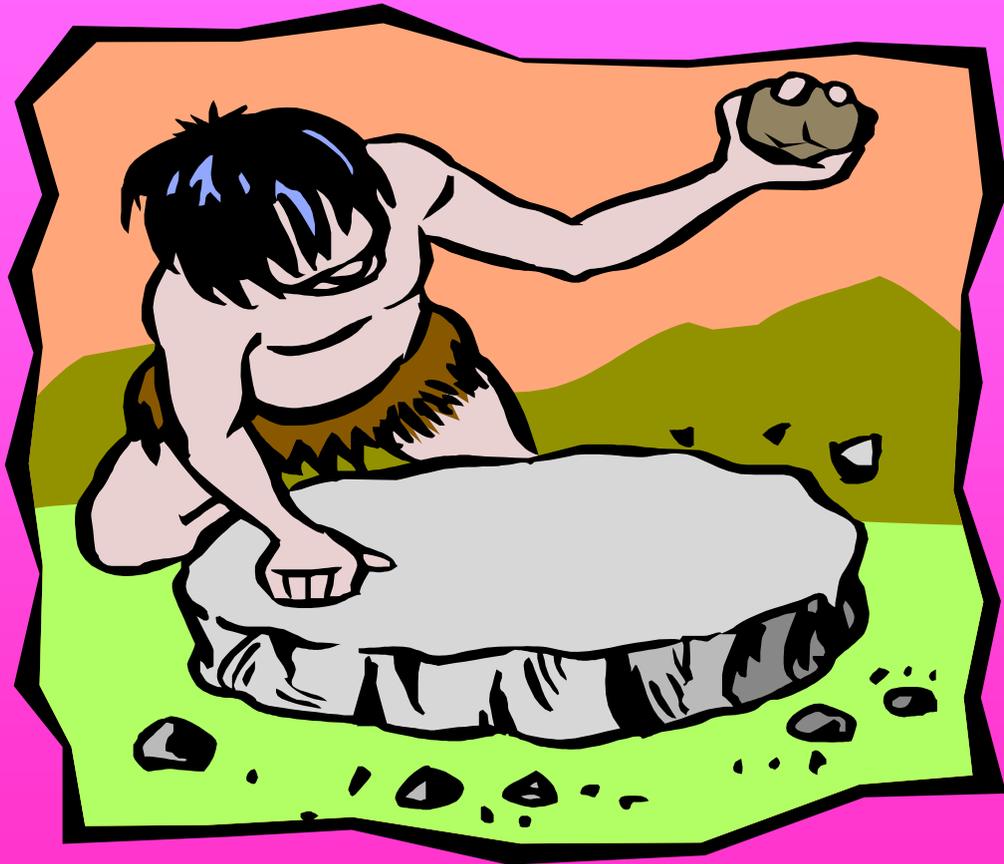


★ 8 sacks of 1-1/2" x 3/4"



# Sodium Sulfate Soundness CT 214

Determines resistance to disintegration by sodium sulfate saturation



# Processed Aggregates



Soak samples for 17 hours





Samples are placed in oven  
for 4 hours



# Aggregate "Break Down"



Passing Material After  
Final Sieving



Retained Material After  
Final Sieving

# Relative Mortar Strength CT 515



# Cement Section

Patrick J. Monahan III



# The End



Patrick

Larry