July 17, 2015

Whitney Fields
Director, Safety & Risk Management
Human Resources and Employee Relations
SAN BERNARDINO COMMUNITY COLLEGE DISTRICT
114 South Del Rosa Drive
San Bernardino, California 92408

Re: CITADEL Project No. 0069.1079.0
Task Hazard Assessment Summary Letter
Maintenance and Operations, Emptying of Clay Pits
San Bernardino Valley College - Art Department
701 South Mount Vernon Avenue
San Bernardino, California 92410

Dear Mr. Fields:

Citadel Environmental Services, Inc., (Citadel) was contacted by San Bernardino Community College District (SBCCD) (Client), to conduct a Task Hazard Assessment for the Maintenance and Operations (M&O) employees at San Bernardino Valley College (SBVC, Site) located at 701 South Mount Vernon Avenue in San Bernardino, California. Citadel’s Director of Industrial Hygiene, Occupational Safety and Training, Ms. Michelle Campbell, conducted the limited investigation on July 1, 2015.

Citadel understands that M&O employees are tasked with removing sediment and water waste from two (2) interceptor systems: the first located off Art-126 referred to as the “Ceramics Trap”; and the second located off Art-120 referred to as the “Sculpture Trap”. The task hazard assessment serves to facilitate review and evaluation of the work practices employed to perform the sediment and waste water removal, existing controls (engineering, administrative, and PPE), and assist in identifying and prioritizing any necessary action items.

The hazard assessment consisted of a brief walkthrough of Rooms Art-120, Art-126, Art-129, the Ceramics and Sculpture Traps and the 55-gallon drums used to containerize the waste materials removed from the traps. Please note that the assessment did not include personal or area samples for any occupational exposures.

Observations

Citadel’s Director of Industrial Hygiene, Occupational Safety and Training, Ms. Michelle Campbell, completed the assessment on July 1, 2015. A summary of observations and recommendations for the project is presented in Table 1.0.
General Information

- A brief facility walkthrough was completed. M&O staff provided an overview of the work practices employed and the equipment used to complete the cleaning of the traps.
- Rance Freeman, a Lab Technician for the Humanities and Art department, provided general information on classes held in Art-120, Art-126, Art-129, in addition to general site conditions and uses.
  - Sink, tub and floor drains for Art-120 feed into the Sculpture Trap.
  - Sink and floor drains for Art-126 and Art-129 feed into the Ceramics Trap.
  - Sculpture clay is washed down the drains in all 3 rooms.
  - Students are instructed not to wash and/or pour glazing products down the drains but have been observed by Mr. Freeman to do so on occasion.
  - Some students, although instructed not to do so, bring in their own store bought glazes.
- Each trap is constructed of concrete with solid metal or metal grate cover plates and a rectangular shape with the following approximate dimensions: 1.5 feet width, 2 feet length, 4 feet depth.
- Citadel observed approximately 1 foot of sediment/water inside both traps at the time of the inspection.
- Each trap consists of two-stages (chambers). The first stage filters off water and drains into the second stage, leaving sediment behind. The second stage filters water and drains it into the sewer system, leaving sediment behind.
- Citadel was provided with lab reports dated June 1 and June 5, 2015, for water sample analysis (Total Threshold Limit Concentration (TTLC) and Solid Threshold Limit Concentration (STLC) waste characterization) performed by Enviro-Chem, Inc. and requested by Environmental Management Tech. The lab reports are presented in Appendix B.
  - Lab data indicated copper concentrations exceeded the STLC threshold level.

Task Information

- There are 4-5 M&O employees that can be tasked with emptying the Ceramics and Sculpture Traps. This task is rotated depending on employee availability and work load and is usually performed by one (1) employee.
- The traps are currently emptied once per year. Per information provided during the walkthrough this is looking to be changed to twice per year.
- M&O employees use a pole and bucket system to scoop out sediment and water from both traps. The employees do not enter the traps to perform this task. The sediment and water is then placed into a 55-gallon drum. Each trap fills one (1) 55-gallon drum. The drums are then removed to a storage container where they are stored until eventual disposal. The entire process takes approximately 3-hours to complete.
- M&O employees don the following personal protective equipment: heavy duty gloves and safety glasses. They also bring a clean uniform as the sediment and/or water can splash onto clothing.
- Once the traps are empty, the M&O employee replaces the metal covers. No cleaning of the interior of the traps is performed.
- Citadel was informed that the sediment is always wet and that there are no visible dust emissions during this task. This was verified by inspecting the contents of both traps during Citadel’s walkthrough– refer to photographic documentation in Table 1.0 below.
### Table 1.0 Summary of Task Observations

<table>
<thead>
<tr>
<th>Description</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Room Art-129: Glaze Room Sink and floor drain feed into Ceramics Trap.</strong></td>
<td><img src="image1" alt="Image" /> <img src="image2" alt="Image" /></td>
</tr>
<tr>
<td><strong>Room Art-126-Cermics Room Sink, tub and floor drains feed into Ceramics Trap.</strong></td>
<td><img src="image3" alt="Image" /> <img src="image4" alt="Image" /></td>
</tr>
<tr>
<td>Description</td>
<td>Photo</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>-------</td>
</tr>
</tbody>
</table>
| **Outside Sink at Art-120**  
Drain lines for Art-120 feed into Sculpture Trap.                           | ![Image](image1.jpg) |
| **Sculpture Trap**  
Two-stage with metal grate plate over the first stage and solid metal plate over the second. Approximately 1-foot of sediment/water observed inside. | ![Image](image2.jpg) |
| **Ceramics Trap**  
Solid metal plates over first and second stage.                           | ![Image](image3.jpg) |
<table>
<thead>
<tr>
<th>Description</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Storage Container M.O.2</strong></td>
<td></td>
</tr>
<tr>
<td>Two (2) 55-gallon drums stored on pallets. Drums contain sediment/sludge</td>
<td></td>
</tr>
<tr>
<td>waste from Ceramics and Sculpture Traps.</td>
<td></td>
</tr>
</tbody>
</table>
Conclusions

Citadel understands that concerns were raised with regards to potential occupational exposures to metals (namely copper and lead) during the emptying of the traps by an M&O employee following the review of the TTLC and STLC lab reports for the waste sediment/sludge material. Citadel would like to address this concern by first clarifying the interpretation of the data that was obtained by Environmental Management Tech. Both the TTLC and STLC are used when determining the hazardous waste characterization under California State regulations as outlined in Title 22 of the California Code of Regulations (CCR). This is specifically to determine how and where the material can be disposed. This data does not assess occupational exposures, which for metals is usually performed through personal air monitoring and/or settled dust surface wipe sampling.

The objective of this task hazard assessment was to determine what potential hazards existed during the emptying of the Ceramics and Sculpture Traps and to evaluate potential exposure routes for metals. Occupational exposures to metals occur primarily through inhalation of dusts and/or fumes, and to a lesser extent by ingestion and skin absorption. The emptying of the traps is performed wet with little to no employee contact with the sediment/sludge. No inhalation (dust) hazards were noted. Good personal hygiene would limit ingestion and/or skin absorption concerns. Citadel does not see the need for personal air monitoring at this time and would characterize this task as low hazard.

Recommendations

Based on observations made during Citadel’s assessment, the following general health and safety recommendations have been provided:

- Continue to provide M&O employees with cut resistant gloves and safety glasses to be donned prior to performing this task.
- Ensure all M&O employees are trained in safe lifting techniques for handling of the full 55-gallon waste drums.

We appreciate the continued opportunity to provide industrial hygiene services to the SBCCD. If after your review of this report, you have any questions or require additional information, please do not hesitate to telephone our office at (714) 547-4301.

Sincerely,

CITADEL ENVIRONMENTAL SERVICES, INC.

Michelle Campbell, CMC, CDPH, CAC, CIH
Director, Industrial Hygiene, Occupational Safety and Training

Attachment
Citadel arrived on site. Met w/ SBCCD rep Whitney Fields. Whitney walked me over to Art Dept and introduced me to M.O. employees and Range. Began walkthrough of sculpture and ceramic rooms.

09:20 Escorted over to storage container M.O.2 to inspect drums of waste.

10:00 Citadel off-site.

Ceramics Trap

Art-126

Sculpture Trap

Art-120

Current level of sediment/sludge
**TASK HAZARD ASSESSMENT FORM**

<table>
<thead>
<tr>
<th>Inspector</th>
<th>Michelle Campbell</th>
<th>Date</th>
<th>07/01/15</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project #</td>
<td>0069.1079.0</td>
<td>Project Location</td>
<td>SBVC</td>
</tr>
<tr>
<td>Department</td>
<td>Humanities and Art/Maintenance Operation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task (include brief description)</td>
<td>Emptying clay traps from Ceramics and Sculpture Rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shifts (list hours, no. of employees)</td>
<td>4-5 employees, 7am - 3:30 pm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site contact(s)</td>
<td>Rance Freeman (Lab Tech)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Does the Task involve any of the following potential hazards? (Check all that apply):**

- [ ] Asbestos exposure/disturbance
- [x] Back safety concerns (bending, lifting, twisting, etc.) - bending to scoop out contents of the traps
- [ ] Chemical Use/Storage
- [ ] Compressed Gases
- [ ] Confined Spaces
- [ ] Emergency/Evacuation Concerns (blocked aisles/doors, no alarms, etc.)
- [ ] Electrical Hazards (exposed wires, high voltage, frayed cords, etc.)
- [ ] Ergonomic hazards (prolonged sit/stand, awk. postures, repetitive motions)
- [ ] Fall Hazards (working from height < 6ft, ladders, scaffolds, etc.)
- [ ] Fire Safety Concerns (no extinguisher, flammable materials, etc.)
- [ ] General housekeeping (cluttered, dirty, obstructions, etc.)
- [ ] Hand/Power Tools
- [ ] Hazardous atmosphere (chemicals, O2 enriched/deficient, etc.)
- [x] Hazardous Waste (handling, manifesting, storage, etc.) - Copper > STLW threshold
- [ ] Heat (extreme- temperatures, ovens, boilers, etc.)
- [ ] Hot Work (welding, soldering, any open flame)
- [ ] Lead exposure/disturbance
- [ ] Lockout/Tagout (energized equipment/machinery)
- [ ] Machine Guarding concerns (exposed blades, moving parts, etc.)
- [ ] Manual Handling (moving heavy equipment, stacking supplies, etc.)
- [ ] Noise hazards (must raise voice to be heard, mechanical source, loud impact noise, etc.)
- [ ] Powered Industrial Trucks (forklifts, boom lifts, pallet jack, etc.)
- [ ] Respiratory hazards (vapors, dusts, fumes, etc.)
- [ ] Slip/Trips/Fall hazard(s)

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**Notes:**

- M+O staff transfer sediment/sludge to 55-gal drums and then transfer drums to storage container for disposal.
HAZARD CONTROLS

- Confined Space Permit
- Earthquake Bracing
- Emergency Shower/Eyewash
- Fail Safe/Deadman's Switch
- Fire Safety Devices
- Hot Work Permit
- Isolation of Source (cones, enclosure, etc.)
- Lab/Fume Hood(s)
- Lift Assist Equipment (dolly, cart, etc.)
- Local Exhaust Ventilation
- Lockout Tagout Station
- Monitoring Equipment
- MSDS Binder/Station
- Pressurized Room(s)/Spaces
- Spill Kit
- Waste Cans (haz waste, labeled, etc.)

Notes:
- 55 gal drums for the sediment/water/sludge
  1 drum per trap = 110 gal

PERSONAL PROTECTIVE EQUIPMENT

<table>
<thead>
<tr>
<th>Existing Equipment (Check all that apply)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ Safety glasses</td>
<td></td>
</tr>
<tr>
<td>□ Side shields</td>
<td></td>
</tr>
<tr>
<td>□ Face shield</td>
<td></td>
</tr>
<tr>
<td>□ Safety goggles/glasses</td>
<td></td>
</tr>
<tr>
<td>□ Prescription</td>
<td></td>
</tr>
<tr>
<td>□ Impact goggles</td>
<td></td>
</tr>
<tr>
<td>□ Welding helmet/shield/hood</td>
<td></td>
</tr>
<tr>
<td>□ Hearing protection (list Band, NRR)</td>
<td></td>
</tr>
<tr>
<td>□ Ear muffs</td>
<td></td>
</tr>
<tr>
<td>□ Ear plugs</td>
<td></td>
</tr>
<tr>
<td>□ Respiratory Protection</td>
<td></td>
</tr>
<tr>
<td>□ Dust Mask</td>
<td></td>
</tr>
<tr>
<td>□ Surgical Mask</td>
<td></td>
</tr>
<tr>
<td>□ 1/2 Face or Full Face APR</td>
<td></td>
</tr>
<tr>
<td>□ PAPR</td>
<td></td>
</tr>
<tr>
<td>□ SCBA</td>
<td></td>
</tr>
<tr>
<td>□ Protective Helmet</td>
<td></td>
</tr>
<tr>
<td>□ Type A (low voltage)</td>
<td></td>
</tr>
<tr>
<td>□ Type B (high voltage)</td>
<td></td>
</tr>
<tr>
<td>□ Type C</td>
<td></td>
</tr>
<tr>
<td>□ Bump cap</td>
<td></td>
</tr>
<tr>
<td>□ Hand Protection</td>
<td></td>
</tr>
<tr>
<td>□ Liquid/leak resistant</td>
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<tr>
<td>□ Latex</td>
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</tr>
<tr>
<td>□ Nitrile</td>
<td></td>
</tr>
<tr>
<td>□ Other Chemical resistant</td>
<td></td>
</tr>
<tr>
<td>□ Abrasion/cut resistant</td>
<td></td>
</tr>
<tr>
<td>□ Anti-vibration</td>
<td></td>
</tr>
<tr>
<td>□ Temperature resistant</td>
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<td>□ Protective Clothing</td>
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<tr>
<td>□ Lab Coat</td>
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</tr>
<tr>
<td>□ Coverall</td>
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</tr>
<tr>
<td>□ Apron/Smock</td>
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</tr>
<tr>
<td>□ Protective sleeves</td>
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</tr>
<tr>
<td>□ Chemical resistant</td>
<td></td>
</tr>
<tr>
<td>□ Heat resistant</td>
<td></td>
</tr>
<tr>
<td>□ Nomex</td>
<td></td>
</tr>
<tr>
<td>□ Arc resistant</td>
<td></td>
</tr>
<tr>
<td>□ Booties</td>
<td></td>
</tr>
</tbody>
</table>

GENERAL NOTES

- M+O employee uses pole + bucket to scoop up sediment/sludge/water in traps.
- Task takes approx. 3-hours.
- No visible dust emissions, wet process.
Date: June 5, 2015

Mr. Jeremy Brown  
Environmental Management Tech.  
1456 S. Gage Street  
San Bernardino, CA 92408  
Tel (800) 579-6834  Fax (909) 799-6547

Project: San Bernardino Valley College  
Location: 701 S. Mt. Vernon, San Bernardino, CA  
Lab I.D.: 150526-29, -30

Dear Mr. Brown:

The additional analytical results for the liquid samples, received by our lab on May 26, 2015, are attached. The samples were received intact, accompanying chain of custody and also stored per the EPA protocols.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

[Signature]
Curtis Desilets  
Vice President/Program Manager

[Signature]
Andy Wang  
Laboratory Manager
**LABORATORY REPORT**

CUSTOMER: Environmental Management Tech.  
1456 S. Gage Street, San Bernardino, CA 92408  
Tel (800) 579-6834 Fax (909) 799-6547

PROJECT: San Bernardino Valley College  
LOCATION: 701 S. Mt. Vernon, San Bernardino, CA

SAMPLING DATE: 05/26/15  
DATE RECEIVED: 05/26/15  
MATRIX: LIQUID  
DATE ANALYZED: 06/02-04/15  
REPORT TO: MR. JEREMY BROWN  
DATE REPORTED: 06/05/15

SAMPLE I.D.: Ceramics Clay (1)  
LAB I.D.: 150526-29

---

**SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS**  
UNIT: mg/L IN THE STLC LEACHATE

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>DESIGNATED</th>
<th>RESULT</th>
<th>PQL</th>
<th>DF</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (Ba)</td>
<td></td>
<td>5.68</td>
<td>0.5</td>
<td>1</td>
<td>10,000</td>
<td>100</td>
<td>6010B</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td></td>
<td>0.131</td>
<td>0.05</td>
<td>1</td>
<td>2,500</td>
<td>560/5.0@</td>
<td>6010B</td>
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<tr>
<td>Copper (Cu)</td>
<td>***</td>
<td>49.3</td>
<td>0.1</td>
<td>5</td>
<td>2,500</td>
<td>25</td>
<td>6010B</td>
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<tr>
<td>Lead (Pb)</td>
<td></td>
<td>0.426</td>
<td>0.05</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
<td>6010B</td>
</tr>
</tbody>
</table>

**COMMENTS**

DF = Dilution Factor  
PQL = Practical Quantitation Limit  
Actual Detection Limit = PQL X DF  
TTLC = Total Threshold Limit Concentration  
STLC = Soluble Threshold Limit Concentration  
@ = Must meet the TCLP limit/chromium (5.0 mg/L in TCLP leachate)  
** = TCLP Chromium/TTLC-Chromium VI recommended (if marked)  
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

Data Reviewed and Approved by:  
CAL-DHS ELAP CERTIFICATE No.: 1555
LABORATORY REPORT

CUSTOMER: Environmental Management Tech.
1456 S. Gage Street, San Bernardino, CA 92408
Tel (800) 579-6834  Fax (909) 799-6547

PROJECT: San Bernardino Valley College
LOCATION: 701 S. Mt. Vernon, San Bernardino, CA

SAMPLING DATE: 05/26/15  DATE RECEIVED: 06/02-04/15
MATRIX: LIQUID  DATE ANALYZED: 06/02-04/15
REPORT TO: MR. JEREMY BROWN  DATE REPORTED: 06/05/15

SAMPLE I.D.: Sculpture Clay (2)  LAB I.D.: 150526-30

SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS
UNIT: mg/L IN THE STLC LEACHATE

<table>
<thead>
<tr>
<th>ELEMENT ANALYZED</th>
<th>SAMPLE RESULT</th>
<th>PQL</th>
<th>DF</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead (Pb)</td>
<td>1.39</td>
<td>0.05</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
<td>6010B</td>
</tr>
</tbody>
</table>

COMMENTS
DF = Dilution Factor
PQL = Practical Quantitation Limit
Actual Detection Limit = PQL x DF
TTLC = Total Threshold Limit Concentration
STLC = Soluble Threshold Limit Concentration
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

Data Reviewed and Approved by: [Signature]
CAL-DHS ELAP CERTIFICATE No.: 1555
### METHOD BLANK REPORT

**CUSTOMER:** Environmental Management Tech.  
**1456 S. Gage Street, San Bernardino, CA 92408**  
**Tel (800) 579-6834**  
**Fax (909) 799-6547**

**PROJECT:** San Bernardino Valley College  
**LOCATION:** 701 S. Mt. Vernon, San Bernardino, CA  
**SAMPLING DATE:** 05/26/15  
**DATE RECEIVED:** 05/26/15  
**MATRIX:** LIQUID  
**DATE ANALYZED:** 06/02-04/15  
**REPORT TO:** MR. JEREMY BROWN  
**DATE REPORTED:** 06/05/15

**METHOD BLANK FOR LAB I.D.:** 150526-29, -30

**SOLUBLE THRESHOLD LIMIT CONCENTRATION (STLC) ANALYSIS**  
**UNIT:** mg/L IN THE STLC LEACHATE

<table>
<thead>
<tr>
<th>ELEMENT ANALYZED</th>
<th>SAMPLE RESULT</th>
<th>PQL</th>
<th>DF</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD USED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (Ba)</td>
<td>ND</td>
<td>0.5</td>
<td>1</td>
<td>10,000</td>
<td>100</td>
<td>6010B</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>ND</td>
<td>0.05</td>
<td>1</td>
<td>2,500</td>
<td>560/5.00@</td>
<td>6010B</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>ND</td>
<td>0.1</td>
<td>1</td>
<td>2,500</td>
<td>25</td>
<td>6010B</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>ND</td>
<td>0.05</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
<td>6010B</td>
</tr>
</tbody>
</table>

**COMMENTS**  
DF = Dilution Factor  
PQL = Practical Quantitation Limit  
Actual Detection Limit = PQL X DF  
ND = Below the actual detection limit or non-detected  
TTLC = Total Threshold Limit Concentration  
STLC = Soluble Threshold Limit Concentration  
@ = Must meet the TCLP limit/chromium (5.0 mg/L in TCLP leachate)  
** = TCLP Chromium/TTLC-Chromium VI recommended (if marked)  
*** = The concentration exceeds the STLC Limit, and the sample is defined as hazardous waste as per CAL-TITLE 22 (if marked)

Data Reviewed and Approved by: [Signature]  
CAL-DHS ELAP CERTIFICATE No.: 1555
## QA/QC for Metals Analysis -- STLC

### Matrix Spike/ Matrix Spike Duplicate/ LCS :

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Spk.Sample ID</th>
<th>LCS CONC.</th>
<th>LCS %Rec.</th>
<th>LCS STATUS</th>
<th>Sample Result</th>
<th>Spike Conc.</th>
<th>MS</th>
<th>% Rec</th>
<th>MSD</th>
<th>% Rec</th>
<th>% RPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (Ba)</td>
<td>150601-4</td>
<td>5.00</td>
<td>103</td>
<td>PASS</td>
<td>11.6</td>
<td>5.00</td>
<td>15.5</td>
<td>78%</td>
<td>15.6</td>
<td>80%</td>
<td>3%</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>150601-4</td>
<td>5.00</td>
<td>95</td>
<td>PASS</td>
<td>0.301</td>
<td>5.00</td>
<td>4.98</td>
<td>94%</td>
<td>5.11</td>
<td>96%</td>
<td>3%</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>150601-4</td>
<td>5.00</td>
<td>104</td>
<td>PASS</td>
<td>0.051</td>
<td>5.00</td>
<td>3.92</td>
<td>77%</td>
<td>4.00</td>
<td>79%</td>
<td>2%</td>
</tr>
</tbody>
</table>

### ANALYSIS DATE: 5/27/2015

<table>
<thead>
<tr>
<th>Analysis</th>
<th>Spk.Sample ID</th>
<th>LCS CONC.</th>
<th>LCS %Rec.</th>
<th>LCS STATUS</th>
<th>Sample Result</th>
<th>Spike Conc.</th>
<th>MS</th>
<th>% Rec</th>
<th>MSD</th>
<th>% Rec</th>
<th>% RPD</th>
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</thead>
<tbody>
<tr>
<td>Mercury (Hg)</td>
<td>150522-16</td>
<td>0.0125</td>
<td>96</td>
<td>PASS</td>
<td>0</td>
<td>0.0125</td>
<td>0.0112</td>
<td>90%</td>
<td>0.0113</td>
<td>90%</td>
<td>1%</td>
</tr>
</tbody>
</table>

#### MS/MSD Status:

<table>
<thead>
<tr>
<th>Analysis</th>
<th>%MS</th>
<th>%MSD</th>
<th>%LCS</th>
<th>%RPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barium (Ba)</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
</tr>
<tr>
<td>Chromium (Cr)</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
<td>PASS</td>
</tr>
</tbody>
</table>

#### Accepted Range:

- Barium (Ba): 75 ~ 125
- Chromium (Cr): 75 ~ 125
- Lead (Pb): 85 ~ 115
- Mercury (Hg): 0 ~ 20

* = Fail due to matrix interference
Note: LCS is in control therefore results are in control

**ANALYST:**

**FINAL REVIEWER:**


Good morning. Please run the STLC for the above referenced ID numbers. Also, please run the TCLP if necessary. I have also attached the analysis for your reference.

Thank you.

JEREMY BROWN
ENVIRONMENTAL MANAGEMENT TECHNOLOGIES, INC.
800-579-6834-O
951-323-4773-M
562-624-4567-F
JBROWN@EMT4ENV.COM

Attachments:

env management 15052629.pdf
LABORATORY REPORT

CUSTOMER: Environmental Management Tech.
1456 S. Gage Street, San Bernardino, CA 92408
Tel (800) 579-6834 Fax (909) 799-6547

PROJECT: San Bernardino Valley College
LOCATION: 701 S. Mt. Vernon, San Bernardino, CA

SAMPLING DATE: 05/26/15  DATE RECEIVED: 05/26/15
MATRIX: LIQUID  DATE ANALYZED: 05/28-06/01/15
REPORT TO: MR. JEREMY BROWN  DATE REPORTED: 06/05/15

SAMPLE I.D.: Ceramics Clay (1)  LAB I.D.: 150526-29

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED
PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS:
0% MORTALITY RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L

COMMENTS
mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ASSOCIATED LABORATORIES, ORANGE, CA

DATA reviewed and approved by: [Signature]
ENVIRO-CHEM’S CAL-DHS ELAP CERTIFICATE No.: 1555
LABORATORY REPORT

CUSTOMER: Environmental Management Tech.
1456 S. Gage Street, San Bernardino, CA 92408
Tel (800) 579-6834 Fax (909) 799-6547

PROJECT: San Bernardino Valley College
LOCATION: 701 S. Mt. Vernon, San Bernardino, CA

SAMPLING DATE: 05/26/15
DATE RECEIVED: 05/26/15
MATRIX: LIQUID
DATE ANALYZED: 05/28-06/01/15
REPORT TO: MR. JEREMY BROWN
DATE REPORTED: 06/05/15

SAMPLE I.D.: Sculpture Clay (2)
LAB I.D.: 150526-30

AQUATIC TOXICITY TESTING

METHOD: STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME APPROVED PROCEDURES USING PIMEPHALES PROMELAS (FATHEAD MINNOWS)

RESULTS:
0% MORTALITY RATE AT 750 mg/L CONCENTRATION
(100% SURVIVAL)

0% MORTALITY RATE AT 400 mg/L CONCENTRATION
(100% SURVIVAL)

THEREFORE, LC-50 > 750 mg/L

COMMENTS

mg/L = MILLIGRAM PER LITER = PPM
> = GREATER THAN
ANALYSIS WAS PERFORMED BY ASSOCIATED LABORATORIES, ORANGE, CA

DATA REVIEWED AND APPROVED BY:

ENVIRO-CHEM’S CAL-DHS ELAP CERTIFICATE No.: 1555
Client: Enviro-Chem Inc.
Address: 1214 E. Lexington Avenue
Pomona, CA 91768
Attn: Curtis Desilets

Comments: LC50 > 750 mg/L = Non Hazardous

This laboratory request covers the following listed samples which were analyzed for the parameters indicated on the attached Analytical Result Report. All analyses were conducted using the appropriate methods. Methods accredited by NELAC are indicated on the report. This cover letter is an integral part of the final report.

<table>
<thead>
<tr>
<th>Sample #</th>
<th>Client Sample ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>356545-001</td>
<td>Ceramics</td>
</tr>
<tr>
<td>356545-002</td>
<td>Sculpture</td>
</tr>
</tbody>
</table>

Thank you for the opportunity to be of service to your company. Please feel free to call if there are any questions regarding this report or if we can be of further service.

Approved By:

Helene Gardner, Ph.D / Technical Director
Hongling Cao / District Manager

NOTE: Unless notified in writing, all samples will be discarded by appropriate disposal protocol 45 days after date reported.

The reports of the Associated Laboratories are confidential property of our clients and may not be reproduced or used for publication in part or in full without our written permission. This is for the mutual protection of the public, our clients, and ourselves.
<table>
<thead>
<tr>
<th>Analyte</th>
<th>Result</th>
<th>DF</th>
<th>Units</th>
<th>Analyzed By</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>&gt;750</td>
<td>1</td>
<td>mg/L</td>
<td>05/28/15</td>
<td>quang</td>
</tr>
</tbody>
</table>

Matrix: Liquid  
Client: Enviro-Chem Inc.  
Collector: Client  
Sample #: 356545-001  
Client Sample #: Ceramics Clay (150526-29)  
Sample Type:

Method: CDFG P&M 1988  
Prep Method: Method  
QCBatchID:

Matrix: Liquid  
Client: Enviro-Chem Inc.  
Collector: Client  
Sample #: 356545-002  
Client Sample #: Sculpture Clay (150526-30)  
Sample Type:

Method: CDFG P&M 1988  
Prep Method: Method  
QCBatchID:
Sample Description: Liquid + Ceramics Clay (150526-29)

Test Organism: Pireneus Promelas
Source: Thomas Fish Farm
Acclimatization: 16 Days 20 deg. C (F B - 1)

Aquaria Volume: 10 liters
Aquaria Depth: 5 inches
No. Fish/Concentration: 10
Total Chlorine Residual: 0
Sample Conductivity: 265 umhos/cm

Organism Characteristics:
Length (mm): Min: 3.6 mm Max: 4.4 mm Avg: 4.0 mm
Weight (gm): Min: 0.47 gm Max: 0.55 gm Avg: 0.51 gm

Dilution Water:
Source: Soft Water
Hardness - Initial: 40 mg/l Final: 40 mg/l
Alkalinity - Initial: 30 mg/l Final: 40 mg/l

Aeration:
Control Hardness Initial: 40 mg/l Final: 50 mg/l
Control Alkalinity Initial: 30 mg/l Final: 35 mg/l
Control Conductivity: 205 umhos/cm

Aeration Rates: N/A
Aeration Duration: Tanks:

<table>
<thead>
<tr>
<th>Bioassay Conditions</th>
<th>Date</th>
<th>Time</th>
<th>Control</th>
<th>Control</th>
<th>750</th>
<th>%</th>
<th>400</th>
<th>%</th>
<th>750</th>
<th>%</th>
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<th>%</th>
<th>750</th>
<th>%</th>
<th>400</th>
<th>%</th>
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<tbody>
<tr>
<td>Organic Surviving</td>
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<td>10</td>
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<td>100</td>
<td>10</td>
<td>100</td>
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<td>100</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>05/29</td>
<td>10:00</td>
<td>100</td>
<td>100</td>
<td>10</td>
<td>100</td>
<td>10</td>
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<td>10</td>
<td>100</td>
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</tr>
<tr>
<td>pH</td>
<td>05/30</td>
<td>10:00</td>
<td>100</td>
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<tr>
<td></td>
<td>06/01</td>
<td>10:00</td>
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<td>100</td>
<td>10</td>
<td>100</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

Results - LC50 = > 750 mg/l

% Survival: N/A

Toxic Units T.U.: N/A

Laboratory Supervisor: 

Method of Calculations: LC50 Method

95% Confidence Limits
LABORATORY WORKSHEET

Report To: Enviro-chem Inc.

Sample Description: Liquid + Sculpure Clay (150526-30)

Test Organism: Pinionella Promelas
Source: Thomas Fish Farm
Acclimatization: 16 Days 20 deg. C (FB-1)

Aquaria Volume: 10 liters
Aquaria Depth: 6 inches
No. Fish/Concentration: 10
Total Chlorine Residual: N/D
Sample Conductivity: 380 umhos/cm

Organism Characteristics:
- Length (mm): Min: 3.6 mm Max: 4.4 mm Avg: 4.0 mm
- Weigh (gm): Min: 0.47 gm Max: 0.55 gm Avg: 0.51 gm

Dilution water:
- Source: Soft Water
- Hardness - Initial: 40 mg/l Final: 6.5 mg/l
- Alkaline - Initial: 3.0 mg/l Final: 4.5 mg/l

Aeration: N/A
Control Hardness Initial: 40 mg/l Final: 50 mg/l
Control Alkaline Initial: 50 mg/l Final: 35 mg/l
Control Conductivity: 205 umhos/cm

Aeration Rate: N/A
Aeration Duration: Tanks

<table>
<thead>
<tr>
<th>Bioassay Conditions</th>
<th>Date Time</th>
<th>Control</th>
<th>Dilution</th>
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<td>10 100</td>
<td>10 100</td>
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<tr>
<td></td>
<td>05/30</td>
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<td>10 100</td>
</tr>
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<td></td>
<td>05/31</td>
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<td></td>
<td>06/01</td>
<td>10 100</td>
<td>10 100</td>
</tr>
<tr>
<td>Dissolved Oxygen mg/L</td>
<td>10:30</td>
<td>6.6</td>
<td>6.2</td>
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<tr>
<td></td>
<td>11:40</td>
<td>6.8</td>
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</tr>
<tr>
<td></td>
<td>14:40</td>
<td>7.1</td>
<td>7.0</td>
</tr>
</tbody>
</table>

pH
- Start: 7.0
- 24 Hr: 7.2
- 48 Hr: 7.1
- 72 Hr: 7.0
- 96 Hr: 7.1

Temp
- Start: 20.2°C
- 24 Hr: 20.4°C
- 48 Hr: 20.5°C
- 72 Hr: 20.1°C
- 96 Hr: 20.3°C

Results - LC50 =
- > 750 mg/l
- > 750 mg/l

% Survival
- N/A (0)

Toxic Units T.U.
- N/A

Observation/Remarks

Method of Calculations
95% Confidence Limits
LC50 Method
Laboratory Supervisor
Data Qualifiers and Definitions

**Qualifiers**

B  Analyte was present in an associated method blank. Associated sample data was reported with qualifier.
B1 Analyte was present in an sample and associated method blank greater than MDL but less than DRL. Associated sample data was reported with qualifier.
BQ1 No valid test replicates. Result may be greater. Best result was reported with qualifier. Sample toxicity possible.
BQ2 No valid test replicates.
BQ3 Minimum DO is less than 1.0 mg/L. Result may be greater and reported with qualifier.
C Laboratory Contamination.
D RPD was not within control limits, the sample data was reported without further clarification.
D1 Lesser amount of sample was used due to insufficient amount of sample supplied.
DW Sample result is calculated on a dry weigh basis.
J Reported value is estimated.
L The laboratory control sample (LCS) or laboratory control sample duplicate (LCSD) was out of control limits. Associated sample data was reported with qualifier.
M The matrix spike (MS) or matrix spike duplicate (MSD) was not within control limits due to matrix interference. The associated LCS and/or LCSD was within control limits and the sample data was reported without further clarification.
NC The analyte concentration in the sample exceeded the spike level by a factor of four or greater, spike recovery and limits do not apply.
P Sample was received without proper preservation according to EPA guidelines.
P1 Temperature of refrigerator was out of acceptance limit due to technical difficulty.
Q1 Analyte Calibration Verification exceeds criteria and the result was reported with qualifier.
Q2 Analyte calibration was not verified and the result was estimated and reported with qualifier.
Q3 Analyte initial calibration was not available or exceeds criteria. The result was estimated and reported with qualifier.
Q4 Analyte result out of calibration range and was reported with qualifier.
S The surrogate recovery was out of control limits due to matrix interference. The associated method blank surrogate recovery was within control limits and the sample data was reported without further clarification.
T Sample was extracted/analyzed past the holding time.
T1 Reanalysis was reported past hold time due to failing replicates in the original analysis (BOD only).
T2 Sample was analyzed ASAP but received and analyzed past the 15 minute holding time.
T3 Sample received and analyzed out of hold time per client's request.
T4 Sample was analyzed out of hold time per client's request.
T5 Reanalysis was reported past hold time. The original analysis was within hold time, but not reportable.
T6 Hold time is indeterminable due to unspecified sampling time.

**Definitions**

DF  Dilution Factor.
MDL Method Detection Limit. Result is reported ND when it is less than or equal to MDL.
ND Analyte was not detected or was less than the detection limit.
RDL Reporting Detection Limit.
TIC Tentatively Identified Compounds.
Date: June 1, 2015

Mr. Jeremy Brown
Environmental Management Tech.
1456 S. Gage Street
San Bernardino, CA 92408
Tel (800) 579-6834 Fax (909) 799-6547

Project: San Bernardino Valley College
Location: 701 S. Mt. Vernon, San Bernardino, CA
Lab I.D.: 150526-29, -30

Dear Mr. Brown:

The analytical results (Fish Bioassay Pending) for the liquid samples, received by our lab on May 26, 2015, are attached. The samples were received intact, and accompanying chain of custody.

Enviro-Chem appreciates the opportunity to provide you and your company this and other services. Please do not hesitate to call us if you have any questions.

Sincerely,

[Signature]
Curtis Desilets
Vice President/Program Manager

[Signature]
Andy Wang
Laboratory Manager
# LABORATORY REPORT

**CUSTOMER:** Environmental Management Tech.  
1456 S. Gage Street, San Bernardino, CA 92408  
Tel (800) 579-6834  Fax (909) 799-6547

**PROJECT:** San Bernardino Valley College  
**LOCATION:** 701 S. Mt. Vernon, San Bernardino, CA  
**SAMPLING DATE:** 05/26/15  
**DATE RECEIVED:** 05/26/15  
**MATRIX:** LIQUID  
**DATE ANALYZED:** 05/27/15  
**REPORT TO:** MR. JEREMY BROWN  
**DATE REPORTED:** 06/01/15  
**SAMPLE I.D.:** Ceramics Clay (1)  
**LAB I.D.:** 150526-29

## TOTAL THRESHOLD LIMIT CONCENTRATION (TTLC) ANALYSIS

<table>
<thead>
<tr>
<th>ELEMENT</th>
<th>SAMPLE ANALYZED</th>
<th>PQL</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony (Sb)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>500</td>
<td>15</td>
</tr>
<tr>
<td>Arsenic (As)</td>
<td>1.10</td>
<td>0.20</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
</tr>
<tr>
<td>Barium (Ba)</td>
<td>159 *</td>
<td>2.09</td>
<td>1</td>
<td>10,000</td>
<td>100</td>
</tr>
<tr>
<td>Beryllium (Be)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>75</td>
<td>0.75</td>
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<tr>
<td>Cadmium (Cd)</td>
<td>0.255</td>
<td>0.20</td>
<td>1</td>
<td>100</td>
<td>1.0</td>
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<tr>
<td>Chromium (Cr), Total</td>
<td>21.3 **</td>
<td>0.20</td>
<td>1</td>
<td>2,500</td>
<td>560/5@</td>
</tr>
<tr>
<td>Chromium VI (Cr6)</td>
<td>--</td>
<td>0.01</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
</tr>
<tr>
<td>Cobalt (Co)</td>
<td>25.1</td>
<td>0.40</td>
<td>1</td>
<td>8,000</td>
<td>80</td>
</tr>
<tr>
<td>Copper (Cu)</td>
<td>487 *</td>
<td>0.40</td>
<td>10</td>
<td>2,500</td>
<td>25</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>8.79 *</td>
<td>0.20</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
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<tr>
<td>Mercury (Hg)</td>
<td>ND</td>
<td>0.002</td>
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<td>20</td>
<td>0.2</td>
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<td>Molybdenum (Mo)</td>
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<td>2.00</td>
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<tr>
<td>Nickel (Ni)</td>
<td>10.1</td>
<td>1.00</td>
<td>1</td>
<td>2,000</td>
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<tr>
<td>Selenium (Se)</td>
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<td>1</td>
<td>100</td>
<td>1.0</td>
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<td>Silver (Ag)</td>
<td>ND</td>
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<td>500</td>
<td>5.0</td>
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<tr>
<td>Thallium (Tl)</td>
<td>ND</td>
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<td>1</td>
<td>700</td>
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<tr>
<td>Vanadium (V)</td>
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<td>2,400</td>
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<tr>
<td>Zinc (Zn)</td>
<td>92.9</td>
<td>0.20</td>
<td>1</td>
<td>5,000</td>
<td>250</td>
</tr>
</tbody>
</table>

**COMMENTS:**

DF = Dilution Factor  
PQL = Practical Quantitation Limit  
Actual Detection Limit = PQL X DF  
ND = Below the Actual Detection Limit or non-detected  
TTLC = Total Threshold Limit Concentration  
STLC = Soluble Threshold Limit Concentration  
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5  
* = TTLC analysis for the metal recommended (if marked)  
** = Additional Analysis required, please call to discuss (if marked)  
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)  
-- = Not analyzed/not requested

Data Reviewed and Approved by:  
CAL-DHS ELAP CERTIFICATE No.: 1555
# LABORATORY REPORT

**CUSTOMER:** Environmental Management Tech.  
1456 S. Gage Street, San Bernardino, CA 92408  
Tel (800) 579-6834 Fax (909) 799-6547  

**PROJECT:** San Bernardino Valley College  
**LOCATION:** 701 S. Mt. Vernon, San Bernardino, CA  
**SAMPLING DATE:** 05/26/15  
**DATE RECEIVED:** 05/26/15  
**MATRIX:** LIQUID  
**DATE ANALYZED:** 05/27/15  
**REPORT TO:** MR. JEREMY BROWN  
**DATE REPORTED:** 06/01/15  

**SAMPLE I.D.:** Sculpture Clay (2)  
**LAB I.D.:** 150526-30

---

## TOTAL THRESHOLD LIMIT CONCENTRATION (TTLC) ANALYSIS

**UNIT:** mg/Kg = MILLIGRAM PER KILOGRAM = PPM

<table>
<thead>
<tr>
<th>ELEMENT ANALYZED</th>
<th>SAMPLE RESULT</th>
<th>PQL</th>
<th>DF</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony (Sb)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>500</td>
<td>15</td>
<td>6010B</td>
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<tr>
<td>Arsenic (As)</td>
<td>0.345</td>
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<td>500</td>
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<tr>
<td>Barium (Ba)</td>
<td>21.8</td>
<td>2.00</td>
<td>1</td>
<td>10,000</td>
<td>100</td>
<td>6010B</td>
</tr>
<tr>
<td>Beryllium (Be)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>75</td>
<td>0.75</td>
<td>6010B</td>
</tr>
<tr>
<td>Cadmium (Cd)</td>
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<td>1</td>
<td>100</td>
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</tr>
<tr>
<td>Chromium (Cr), Total</td>
<td>2.67</td>
<td>0.20</td>
<td>1</td>
<td>2,500</td>
<td>560/50</td>
<td>6010B</td>
</tr>
<tr>
<td>Chromium VI (Cr6)</td>
<td>--</td>
<td>0.01</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
<td>7196A</td>
</tr>
<tr>
<td>Cobalt (Co)</td>
<td>1.93</td>
<td>0.40</td>
<td>1</td>
<td>8,000</td>
<td>80</td>
<td>6010B</td>
</tr>
<tr>
<td>Copper (Cu)</td>
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<td>2,500</td>
<td>25</td>
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<tr>
<td>Lead (Pb)</td>
<td>11.5 *</td>
<td>0.20</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
<td>6010B</td>
</tr>
<tr>
<td>Mercury (Hg)</td>
<td>ND</td>
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<td>1</td>
<td>20</td>
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<tr>
<td>Molybdenum (Mo)</td>
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<td>3,500</td>
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<tr>
<td>Nickel (Ni)</td>
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<td>1</td>
<td>2,000</td>
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</tr>
<tr>
<td>Selenium (Se)</td>
<td>ND</td>
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<td>1</td>
<td>100</td>
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<td>6010B</td>
</tr>
<tr>
<td>Silver (Ag)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
<td>6010B</td>
</tr>
<tr>
<td>Thallium (Tl)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>700</td>
<td>7.0</td>
<td>6010B</td>
</tr>
<tr>
<td>Vanadium (V)</td>
<td>4.57</td>
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<td>1</td>
<td>2,400</td>
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<tr>
<td>Zinc (Zn)</td>
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<td>1</td>
<td>5,000</td>
<td>250</td>
<td>6010B</td>
</tr>
</tbody>
</table>

---

**COMMENTS:**

DF = Dilution Factor  
PQL = Practical Quantitation Limit  
Actual Detection Limit = PQL X DF  
ND = Below the Actual Detection Limit or non-detected  
TTLC = Total Threshold Limit Concentration  
STLC = Soluble Threshold Limit Concentration  
@ = Must meet both the STLC Limit at 560 and EPA-TCLP Limit at 5  
* = TTLC analysis for the metal recommended (if marked)  
** = Additional Analysis required, please call to discuss (if marked)  
*** = The concentration exceeds the TTLC Limit, and the sample is defined as hazardous waste as per CCR-TITLE 22 (if marked)  
-- = Not analyzed/not requested

Data Reviewed and Approved by: [Signature]

CAL-DHS ELAP CERTIFICATE No.: 1555
### METHOD BLANK REPORT

**CUSTOMER:** Environmental Management Tech.  
1456 S. Gage Street, San Bernardino, CA 92408  
Tel (800) 374-9134  Fax (909) 590-5907

**PROJECT:** San Bernardino Valley College  
**LOCATION:** 701 S. Mt. Vernon, San Bernardino, CA  
**SAMPLING DATE:** 05/26/15  
**DATE RECEIVED:** 05/26/15  
**MATRIX:** LIQUID  
**DATE ANALYZED:** 05/27/15  
**REPORT TO:** MR. JEREMY BROWN  
**DATE REPORTED:** 06/01/15

**METHOD BLANK FOR LAB I.D.:** 150526-29, -30

### TOTAL THRESHOLD LIMIT CONCENTRATION (TTLC) ANALYSIS

**UNIT:** mg/Kg = MILLIGRAM PER KILOGRAM = PPM

<table>
<thead>
<tr>
<th>ELEMENT ANALYZED</th>
<th>SAMPLE RESULT</th>
<th>PQL LIMIT</th>
<th>TTLC LIMIT</th>
<th>STLC LIMIT</th>
<th>EPA METHOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antimony(Sb)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>500</td>
<td>15</td>
</tr>
<tr>
<td>Arsenic(As)</td>
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<td>0.20</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
</tr>
<tr>
<td>Barium(Ba)</td>
<td>ND</td>
<td>2.00</td>
<td>1</td>
<td>10,000</td>
<td>100</td>
</tr>
<tr>
<td>Beryllium(Be)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>75</td>
<td>0.75</td>
</tr>
<tr>
<td>Cadmium(Cd)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>100</td>
<td>1.0</td>
</tr>
<tr>
<td>Chromium(Cr), Total</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>2,500</td>
<td>560/50</td>
</tr>
<tr>
<td>Chromium VI (Cr6)</td>
<td>--</td>
<td>0.01</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
</tr>
<tr>
<td>Cobalt(Co)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>8,000</td>
<td>80</td>
</tr>
<tr>
<td>Copper(Cu)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>2,500</td>
<td>25</td>
</tr>
<tr>
<td>Lead(Pb)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>1,000</td>
<td>5.0</td>
</tr>
<tr>
<td>Mercury(Hg)</td>
<td>ND</td>
<td>0.002</td>
<td>1</td>
<td>20</td>
<td>0.2</td>
</tr>
<tr>
<td>Molybdenum(Mo)</td>
<td>ND</td>
<td>2.00</td>
<td>1</td>
<td>3,500</td>
<td>350</td>
</tr>
<tr>
<td>Nickel(Ni)</td>
<td>ND</td>
<td>1.00</td>
<td>1</td>
<td>2,000</td>
<td>20</td>
</tr>
<tr>
<td>Selenium(Se)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>100</td>
<td>1.0</td>
</tr>
<tr>
<td>Silver(Ag)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>500</td>
<td>5.0</td>
</tr>
<tr>
<td>Thallium(Tl)</td>
<td>ND</td>
<td>0.40</td>
<td>1</td>
<td>700</td>
<td>7.0</td>
</tr>
<tr>
<td>Vanadium(V)</td>
<td>ND</td>
<td>2.00</td>
<td>1</td>
<td>2,400</td>
<td>24</td>
</tr>
<tr>
<td>Zinc(Zn)</td>
<td>ND</td>
<td>0.20</td>
<td>1</td>
<td>5,000</td>
<td>250</td>
</tr>
</tbody>
</table>

**COMMENTS:**

DF = Dilution Factor  
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--- = Not analyzed/not requested

Data Reviewed and Approved by:

CAL-DHS ELAP CERTIFICATE No.: 1555
<table>
<thead>
<tr>
<th>Analysis Date: 5/27/2015</th>
<th>Sample Spike</th>
<th>Matrix Spike</th>
<th>Duplicate/LCS</th>
<th>QA/QC for Metals Analysis</th>
<th>T/LC</th>
<th>Lig. Sludge matriz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury (Hg)</td>
<td>150527-1</td>
<td>150527-1</td>
<td>150527-1</td>
<td>150527-1</td>
<td>150527-1</td>
<td>150527-1</td>
</tr>
<tr>
<td>Nickel (Ni)</td>
<td>150526-30</td>
<td>150526-30</td>
<td>150526-30</td>
<td>150526-30</td>
<td>150526-30</td>
<td>150526-30</td>
</tr>
<tr>
<td>Lead (Pb)</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
</tr>
<tr>
<td>Arsenic (As)</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
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<td>90</td>
</tr>
<tr>
<td>Analysis Date: 5/27/2015</td>
<td>Sample Spike</td>
<td>Matrix Spike</td>
<td>Duplicate/LCS</td>
<td>QA/QC for Metals Analysis</td>
<td>T/LC</td>
<td>Lig. Sludge matriz</td>
</tr>
</tbody>
</table>
Section 1: Product and Company Identification

Product Names: Café Cinco, Dixon Sculpture, SBF, SBFG, Sedona, SRF, SRFG, Terra Red, & Terra Red + Barium Carbonate

Synonym Pottery Clays – Water based, moist, Cone 5 Dark Clays

Supplier/Manufacturer Aardvark Clay & Supplies
1400 East Pomona St.
Santa Ana, Ca. 92705 USA
714-541-4157 phone
714-541-2021 fax
contact@aardvarkclay.com

Emergency Phone Number 911
Product Use Pottery Manufacturing
Restrictions on use Not applicable

Section 2: Hazards Identification

OSHA/HCS status This mixture in dry form is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification of the substance or mixture OSHA - CARCINOGENICITY (Inhalation) - Category 1A
(See section 16 for OSHA, IARC, and NTP carcinogen listings)
OSHA - SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure) (respiratory tract) (inhalation) - Category 1

Signal Word Danger

Hazard Statement WARNING! Cancer Hazard. Contains quartz (crystalline silica) which can cause cancer.
Risk of cancer depends upon duration and level of exposure to dry clay dust. Not an acute hazard. Prolonged inhalation of dry clay dust may cause lung injury. Inhalation of high concentrations of dry clay dust may cause mechanical irritation and discomfort of the (respiratory tract). Repeated exposure may cause chronic effects.
Wear a N-95 face mask when cleaning up dry clay dust.
* Clay in moist form poses no health risk. Inhalation of dry clay dust should be avoided.

GHS label elements /
Hazard pictograms

Precautionary Statements
Avoid generating dust.
Do not breath dust.

Unclassified Hazards
Slippery when wet.

% of ingredients with unknown acute toxicity
None Known

Hazardous Materials Identification System

HAZARD INDEX
4 Severe Hazard 0 Minimal Hazard
3 Serious Hazard 1 Slight Hazard
2 Moderate Hazard

PERSONAL PROTECTION INDEX
A
B
C
D
E
F

* Chronic Potential

Café Cinco, Dixon Sculpture, SBF, SBFG, Sedona, SRF, SRFG, Terra Red, & Terra Red + Barium Carbonate

05/12/2015 EN (English)
Page 1
### Section 3: Composition / Information on Ingredients

#### Substances/Mixtures

A mixture - A trade secret claim is made for this group of substantially similar mixtures.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Numbers</th>
<th>Ingredient % of Product Mixture (Clay)</th>
<th>Chemical % of Ingredient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Oxide Dust and Fume</td>
<td>(as Fe)</td>
<td>Ball Clays 0 - 15, Fireclays 18 - 48, Red Clays 9 - 42, Iron Oxide 0 - 6, Silica 0 - 15, Manganese Dioxide 0 - 09.</td>
<td>Ball Clays 1.8 - 1.5, Fireclays 1.4 - 2.4, Red Clays 6 - 12, Iron Oxide 0.06, Silica &lt;0.1, Manganese Dioxide 1 - 5, Fe₂O₃ 0.1 - 0.3.</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>TiO2</td>
<td>Silica 0 - 15, Fireclays 18 - 48, Red Clays 9 - 42, Ball Clays 0 - 15.</td>
<td>Silica &lt;0.1, Fireclays 0 - 3.5, Red Clays 1 - 2, Ball Clays &lt;2.6.</td>
</tr>
</tbody>
</table>
## Section 4: First-Aid Measures

**Description of first-aid Measures:**

<table>
<thead>
<tr>
<th>First-aid measures</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>general</td>
<td>Never give anything by mouth to an unconscious person. If you feel unwell, seek medical attention.</td>
</tr>
<tr>
<td>after inhalation</td>
<td>Move victim to well ventilated area. If mechanical discomfort persists, seek medical attention.</td>
</tr>
<tr>
<td>after skin contact</td>
<td>Remove contaminated clothing. Wash affected area with soap and warm water. Obtain medical attention if irritation persists.</td>
</tr>
<tr>
<td>after eye contact</td>
<td>Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking, or redness persists.</td>
</tr>
<tr>
<td>after ingestion</td>
<td>Rinse mouth. Do NOT induce vomiting. Unlikely to be toxic by ingestion. If discomfort persists, seek medical attention.</td>
</tr>
</tbody>
</table>

## Most Important Symptoms and Effects, both Acute and Delayed:

<table>
<thead>
<tr>
<th>Symptoms/injuries</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>after inhalation</td>
<td>Causes damage to organs through prolonged or repeated exposure (inhalation) from dust.</td>
</tr>
<tr>
<td>after skin contact</td>
<td>May cause cancer by inhalation. Dust from this product may cause irritation to the respiratory tract.</td>
</tr>
<tr>
<td>after eye contact</td>
<td>Prolonged contact with large amounts of dust may cause mechanical irritation.</td>
</tr>
<tr>
<td>after ingestion</td>
<td>Prolonged contact with large amounts of dust may cause mechanical irritation.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>Repeated or prolonged exposure to respirable crystalline silica dust can cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.</td>
</tr>
</tbody>
</table>

If exposed or concerned, get medical advice and attention.

## Section 5: Fire-Fighting Measures

**NFPA**

![NFPA Rating](Image)

**National Fire Protection Association (U.S.A.)**

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>This product is not combustible. Use extinguishing media appropriate for surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>No restrictions on extinguishing media for this mixture.</td>
</tr>
<tr>
<td>Special hazards arising from the substance or mixture</td>
<td>This mixture is not flammable and does not support fire. The plastic bags and cardboard boxes containing the mixture are flammable.</td>
</tr>
<tr>
<td>Hazardous thermal decomposition products</td>
<td>This mixture does not contain hazardous decomposition products.</td>
</tr>
<tr>
<td>Special protective actions for fire-fighters</td>
<td>Product can become slippery when wet.</td>
</tr>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Fire-fighters should wear appropriate protective equipment.</td>
</tr>
</tbody>
</table>
Section 6: Accidental Release Measures

Use of personal precautions
Avoid inhalation of dry clay dust.
Wear a N-95 face mask when cleaning up dry clay dust.

Emergency procedures
There are no emergency procedures required for this mixture.

Methods and Materials for containment
Product comes in plastic bags and weigh 25 lbs.
There are no spill measures that apply for moist clay.

Clean up procedures
For dry dusts, use a vacuum to clean up spillage.
If appropriate, use gentle water spray to wet down and minimize dust generation. Place dry clay dust in a sealed container.
Wear a N-95 face mask when cleaning up dry clay dust.

Section 7: Handling & Storage

Precautions for safe handling
Keep out of direct sunlight. Do not expose to freezing.
Boxes of moist clay weigh 52 lbs. Use proper lifting techniques to avoid physical injury.

Recommendations on the conditions for safe storage
No special storage considerations, but keep in a dry, cool location.

Section 8: Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS Numbers</th>
<th>Occupational Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz, Crystalline Silica SiO2</td>
<td>CAS#14808-60-7</td>
<td>ACGIH TLV: TWA 0.025 mg/ m³ (respirable) OSHA PEL: TWA 10 mg/m³ divided by the value “%SiO2” + 2 (respirable) OSHA PEL: TWA 30 mg/m³ divided by the value “%SiO2” + 2 (total dust) CAL OSHA PEL: TWA .1 mg/m³ (respirable) CAL OSHA PEL: TWA .3 mg/m³ (total)</td>
</tr>
<tr>
<td>Amorphous Silica Glass &amp; Diatomaceous Earth SiO2</td>
<td>CAS#7631-86-9</td>
<td>ACGIH TLV: TWA 10 mg/m³ (respirable) OSHA PEL: TWA for amorphous silica (diatomaceous earth) is either 80 mg/m³ divided by the value “%SiO2” or 20 mmpcf. CAL OSHA PEL: TWA 3 mg/m³ (respirable) CAL OSHA PEL: TWA 6 mg/m³ (total)</td>
</tr>
<tr>
<td>Crystobalite SiO2</td>
<td>CAS#14464-46-1</td>
<td>ACGIH TLV: TWA .05 mg/m³ (respirable) OSHA PEL: TWA 5 mg/m³ divided by the value “%SiO2” + 2 (respirable) OSHA PEL: TWA 15 mg/m³ divided by the value “%SiO2” + 2 (total dust) CAL OSHA PEL: TWA .05 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Kaolinite AI2O3.2SiO2.2H2O</td>
<td>CAS#1332-58-7</td>
<td>ACGIH TLV: TWA 2 mg/m³ (respirable) / particulate matter containing no asbestos and &lt;1% crystalline silica (respirable) OSHA PEL: TWA 5 mg/m³ (respirable) OSHA PEL: TWA 15 mg/m³ (total) CAL OSHA PEL: TWA 2 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Alpha – Alumina Al2O3 (Alumina Oxide)</td>
<td>CAS#1344-28-1</td>
<td>ACGIH TLV: TWA 10 mg/m³ for particulate matter containing no asbestos and &lt; 1% crystalline silica OSHA PEL: TWA 5 mg/m³ (respirable) OSHA PEL: TWA 15 mg/m³ (total dust) CAL OSHA PEL: TWA 5 mg/m³ (respirable) CAL OSHA PEL: TWA 10 mg/m³ (total)</td>
</tr>
<tr>
<td>Magnesium Silicate Talc - non-asbestos Mg3Si2O5(CH2)4</td>
<td>CAS# 14807-96-6</td>
<td>ACGIH TLV: TWA 2 mg/m³ (respirable) OSHA PEL: TWA 20 mmpcf See Appendix C (Mineral Dusts) See Section 16) CAL OSHA PEL: TWA 2 mg/m³ (respirable)</td>
</tr>
<tr>
<td>Barium Carbonate BaCO3</td>
<td>CAS# 513-77-9</td>
<td>ACGIH TLV: TWA 3 mg/m³ (respirable) (as Ba) OSHA PEL: TWA 0.5 mg/m³ (total dust) (as Ba)</td>
</tr>
<tr>
<td>Mullite AI2O3.2SiO2</td>
<td>CAS# 1302-93-8</td>
<td>ACGIH TLV: TWA 2.0 mg/m³ (respirable) OSHA PEL: TWA 5 mg/m³ (respirable) as kaolin OSHA PEL: TWA 15 mg/m³ (total) as kaolin</td>
</tr>
<tr>
<td>Iron Oxide Dust and Fume (as Fe)</td>
<td>CAS# 1309-37-1</td>
<td>ACGIH TLV: TWA 5 mg/m³ (fume &amp; dust) OSHA PEL: TWA 5 mg/m³ (respirable) OSHA PEL: TWA 15 mg/m³ (total dust) CAL OSHA PEL: TWA 5 mg/m³ (total)</td>
</tr>
<tr>
<td>Titanium Dioxide TiO2</td>
<td>CAS# 13463-67-7</td>
<td>ACGIH TLV: TWA 10 mg/m³ (respirable) OSHA PEL: TWA 15 mg/m³ (total)</td>
</tr>
</tbody>
</table>

Café Cinco, Dixon Sculpture, SBF, SBFG, Sedona, SRF, SRFG, Terra Red, & Terra Red + Barium Carbonate
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Section 8: Exposure Controls / Personal Protection

Appropriate engineering controls

Clay in moist form poses no health risk and no inhalation risk.

Once clay has dried, there may be dust generated by cleaning and working processes.

In the event that dust is generated, use local exhaust ventilation or other engineering controls as required to maintain exposures below applicable occupational exposure limits (TLV).

Recommendations for personal protective measures

Local Exhaust: When dry sanding or grinding clay products, use sufficient local exhaust to reduce the level of respirable dust to the applicable standards set forth in Section III. See ACGIH “Industrial Ventilation, A Manual of Recommended Practice,” latest edition.

Respiratory Protection: Dust is generated when working with dry clay. To minimize exposure to dust and/or crystalline silica, cutting or sanding dry clay products should be conducted with sufficient ventilation.

Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by feasible engineering controls, including (but not limited to) wet sanding, wet suppression, ventilation, and process enclosure. When such controls are not feasible, NIOSH/MSHA approved respirators must be worn in accordance with a respiratory protection program which meets OSHA requirements as set forth at 29 CFR1910.134 and ANSI Z88.2-1080 “Practices for Respiratory Protection”. In most cases, a disposable N-95 Particulate Respirator is sufficient.

Eye Protection: Use NIOSH/OSHA approved safety glasses with side shields. Face shields should also be used when dry sawing clay products. Wear tight fitting dust goggles when excessively (visible) dusty conditions are present or are anticipated. NIOSH recommends that contact lenses not be worn when working with crystalline silica dust.

Skin Protection: Use gloves and/or protective clothing if abrasion or allergic reactions are experienced.

Work/Hygienic Practices: Avoid creating and breathing dust. Wear NIOSH/MSHA approved dust mask when working in dust conditions. (N-95) Food, beverages, and smoking materials should NOT be in the work area.

Persons using ceramic materials should wash thoroughly before eating, drinking, smoking, or applying cosmetics.

Section 9: Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Moist Plastic Clay</td>
</tr>
<tr>
<td>Appearance</td>
<td>Mud Brick</td>
</tr>
<tr>
<td>Odor</td>
<td>Earthy</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>pH</td>
<td>6 - 8</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>None</td>
</tr>
<tr>
<td>Melting Point</td>
<td>&gt; 1365 °C (&gt;2500°F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>&lt; 0 °C (&lt;32°F)</td>
</tr>
<tr>
<td>Specific Gravity / Relative Density</td>
<td>2.35 g/cc</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Vapor Density</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
Section 10: Stability & Reactivity

Reactivity
Hazardous reactions will not occur under normal conditions.

Chemical stability
Stable at standard temperature and pressure.
No stabilizers required to maintain chemical stability.
Safety issues – Mold may form in bag after several months of shelf life.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to avoid
None known.

Incompatible materials
None known

Hazardous decomposition products
None known

Section 11: Toxicological Information

Routes of Exposure
Inhalation of dry clay dust, Ingestion

Descriptions of the delayed, immediate, or chronic effects from short- and long-term exposure

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Inhalation of high concentrations of dry clay dust may cause mechanical irritation and discomfort. Repeated exposure may cause chronic effects.</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Not a primary eye irritant. May cause mechanical irritation.</td>
</tr>
<tr>
<td>Skin Contact/Irritation</td>
<td>Not a skin irritant. Not absorbed through skin.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Not a sensitizer.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Not an ingestion hazard.</td>
</tr>
</tbody>
</table>

Chronic Effects

OSHA Carcinogen
Lung cancer – Silica has been classified by OSHA as a human lung carcinogen. Repeated or prolonged exposure to respirable crystalline silica dust can cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.

Mutagenic Effects
None Known

Teratogenic Effects
None Known

Developmental Toxicity
None Known

Effects of Silicosis
Symptoms of Silicosis
Shortness of breath; possible fever.
Fatigue; loss of appetite.
Chest pain; dry, nonproductive cough.
Respiratory failure, which may eventually lead to death.

Numerical Measures of toxicity
None Known

Section 12: Ecological Information (non-mandatory)

Ecotoxicity
None Known

Biochemical oxygen demand (BOD5)
None Known

Chemical oxygen demand (COD)
None Known

Products of Biodegradation
None Known

Toxicity of the products of Biodegradation
None Known

Bioaccumulation Potential
None Known

Potential to move from soil to groundwater
None Known
Section 13: Disposal Considerations

Personal Protection: Refer to Section 8: "Recommendations for Personal Protective Measures" when disposing of ceramic waste.

Appropriate disposal containers: Standard waste disposal containers – no special requirements.

Appropriate disposal methods: Disposal of this product should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. In most cases, this is normal waste disposal. The generation of waste should be avoided or minimized. Dispose of non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Section 13: Disposal Considerations

Physical and chemical properties that may affect disposal: Dry clay dust should be placed in a sealed container or in a manner that reduces or eliminates the release of the product. Moist clay has no special requirements. Packaging should be recycled before disposal.

Sewage disposal: Do not dispose of into sinks or toilets. They will clog. Never dispose of this product into a sewer system.

Special precautions for landfills or incineration activities: There are no special precautions for disposal in a landfill. This product is non-combustible and is not suitable for incineration.

Section 14: Transportation Information

<table>
<thead>
<tr>
<th>Regulatory Information</th>
<th>UN Number</th>
<th>UN Proper Shipping Name</th>
<th>Transport Hazard Class</th>
<th>Packing Group Number</th>
<th>Bulk Transport Guidance</th>
<th>Special Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT Classification</td>
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<td>-</td>
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</tr>
</tbody>
</table>

Section 15: Regulatory Information

TSCA – Toxic Substances Control Act - EPA: Quartz and other chemicals are listed in the TSCA Chemical Substance Inventory

CONFORMS WITH ASTM D4236: Certified Non-Toxic in moist form. ASTM - American Society for Testing and Materials

California Prop. 65: WARNING: This product contains a chemical known to the State of California to cause cancer. (Prop. 65 - Calif. Health & Safety Code Section 2549 Et Seq.)

SARA/Title III (Emergency Planning & Community Right-to-Know Act): This mixture contains no substances at or above the reporting threshold under Section 313, based on available data.
OSHA, IARC, and NTP Carcinogen Classifications

<table>
<thead>
<tr>
<th>Chemicals with Carcinogen Potential</th>
<th>CAS#</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz, (Crystalline Silica)</td>
<td>SiO2</td>
<td>CAS #14808-60-7</td>
<td>Yes</td>
<td>Yes - Group 1</td>
</tr>
<tr>
<td>Amorphous Silica (Glass &amp; Diatomaceous Earth)</td>
<td>SiO2</td>
<td>CAS # 7631-86-9</td>
<td>No</td>
<td>No - Group 3</td>
</tr>
<tr>
<td>Cristobalite</td>
<td>SiO2</td>
<td>CAS # 14464-46-1</td>
<td>Yes</td>
<td>Yes - Group 1</td>
</tr>
<tr>
<td>Magnesium Silicate (Talc / non-asbestos)</td>
<td>Mg3Si4O10(OH)2</td>
<td>CAS# 14817-96-6</td>
<td>No</td>
<td>No - Group 3</td>
</tr>
<tr>
<td>Iron Oxide Dust and Fume (as Fe)</td>
<td>CAS # 1309-37-1</td>
<td>No</td>
<td>No - Group 3</td>
<td>No</td>
</tr>
<tr>
<td>Titanium Dioxide</td>
<td>TiO2</td>
<td>CAS # 13463-67-7</td>
<td>No</td>
<td>Yes - Group 2b</td>
</tr>
</tbody>
</table>

Substances, mixtures and exposure circumstances in this list have been classified by the IARC as Group 1: The agent (mixture) is carcinogenic to humans. The exposure circumstance entails exposures that are carcinogenic to humans. This category is used when there is sufficient evidence of carcinogenicity in humans. Exceptionally, an agent (mixture) may be placed in this category when evidence of carcinogenicity in humans is less than sufficient but there is sufficient evidence of carcinogenicity in experimental animals and strong evidence in exposed humans that the agent (mixture) acts through a relevant mechanism of carcinogenicity.

The agents in this list have been classified in Group 2A (probable carcinogens) by the IARC (International Agency for Research on Cancer). The term "agent" encompasses both substances and exposure circumstances that pose a risk. This designation is applied when there is limited evidence of carcinogenicity in humans as well as sufficient evidence of carcinogenicity in experimental animals. In some cases, an agent may be classified in this group when there is inadequate evidence of carcinogenicity in humans along with sufficient evidence of carcinogenicity in experimental animals and strong evidence that the carcinogenesis is mediated by a mechanism that also operates in humans. Exceptionally, an agent may be classified in this group solely on the basis of limited evidence of carcinogenicity in humans.

Substances, mixtures and exposure circumstances in this list have been classified by the International Agency for Research on Cancer (IARC) as Group 2B: The agent (mixture) is possibly carcinogenic to humans. The exposure circumstance entails exposures that are possibly carcinogenic to humans. This category is used for agents, mixtures and exposure circumstances for which there is limited evidence of carcinogenicity in humans and less than sufficient evidence of carcinogenicity in experimental animals. It may also be used when there is inadequate evidence of carcinogenicity in humans but there is sufficient evidence of carcinogenicity in experimental animals. In some instances, an agent, mixture or exposure circumstance for which there is inadequate evidence of carcinogenicity in humans but there is sufficient evidence of carcinogenicity in experimental animals and sufficient evidence of carcinogenicity in experimental animals together with supporting evidence from other relevant data may be placed in this group. Further details can be found in the preamble to the IARC Monograph.

Substances, mixtures and exposure circumstances in this list have been classified by the IARC as Group 3: The agent (mixture or exposure circumstance) is not classifiable as to its carcinogenicity to humans. This category is used most commonly for agents, mixtures and exposure circumstances for which the evidence of carcinogenicity is inadequate in humans and inadequate or limited in experimental animals. Exceptionally, agents (mixtures) for which the evidence of carcinogenicity is inadequate in humans but sufficient in experimental animals may be placed in this category when there is strong evidence that the mechanism of carcinogenicity in experimental animals does not operate in humans. Agents, mixtures and exposure circumstances that do not fall into any other group are also placed in this category. Further details can be found in the IARC Monographs.

Appendix C – Supplementary Exposure Limits

Mineral Dusts

OSHA PELs for "mineral dusts" listed below are from Table Z-3 of 29 CFR 1910.1000. The OSHA PEL (8-hour TWA) for crystalline silica (as respirable quartz) is either 250 mppcf divided by the value "%SiO₂ + 5" or 10 mg/m³ divided by the value "%SiO₂ + 2." The OSHA PEL (8-hour TWA) for crystalline silica (as total quartz) is 30 mg/m³ divided by the value "%SiO₂ + 2." The OSHA PELs (8-hour TWAs) for cristobalite and tridymite are ¼ the values calculated above using the count or mass formulae for quartz.

The OSHA PEL (8-hour TWA) for amorphous silica (including diatomaceous earth) is either 80 mg/m³ divided by the value "%SiO₂ + 2." or 20 mppcf.

The OSHA PELs (8-hour TWAs) for talc (not containing asbestos), mica, and soapstone are 20 mppcf. The PELs for talc (not containing asbestos), mica, and soapstone, are applicable if the material contains less than 1% crystalline silica.
Definitions

ASTM means American System of Testing and Materials
OSHA means Occupational Safety & Health Administration
IARC means International Agency for Research on Cancer
NTP means National Toxicology Program
HCS means Hazardous Communication Standard
CAS means Chemical Abstract Service
ACGIH means American Conference of Governmental Industrial Hygienists
CAL-OSHA means California OSHA, most CAL-OSHA standards defer to the federal OSHA standards
OSHA means Occupational Safety & Health Administration
OSHA PEL means OSHA Permissible Exposure Limit
OSHA STEL means spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods
TWA means Time Weighted Average (average exposure on the basis of an 8h/day, 40h/week work schedule)
TLV means Threshold Limit Value - American Conference of Governmental Industrial Hygienists (ACGIH)
Three types of TLVs for chemical substances as defined by the ACGIH are:
1. TLV-TWA - Time weighted average - average exposure on the basis of an 8h/day, 40h/week work schedule.
2. TLV-STEL - Short-term exposure limit - spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods.
3. TLV-C - Ceiling limit - absolute exposure limit that should not be exceeded at any time.

This SDS is in compliance with The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – prepared May 12, 2015. This data sheet is subject to change without notice.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user’s responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.
# Safety Data Sheet

## Section 1: Product and Company Identification

**Product Name(s):** Café Cinco, Dixon Sculpture, SBF, SBFG, Sedona, SRF, SRFG, Terra Red, & Terra Red + Barium Carbonate  

**Synonym:** Pottery Clays – Water based, moist, Cone 5 Dark Clays  

**Supplier/ Manufacturer:** Aardvark Clay & Supplies  
1400 East Pomona St.  
Santa Ana, Ca. 92705 USA  
714-541-4157 phone  
714-541-2021 fax  
contact@aardvarkclay.com

**Emergency Phone Number:** 911  

**Product Use:** Pottery Manufacturing  

**Restrictions on use:** Not applicable

## Section 2: Hazards Identification

**OSHA/HCS status:** This mixture in dry form is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)  

**Classification of the substance or mixture:**  
- **OSHA - CARCINOGENICITY** (Inhalation) - Category 1A  
- **OSHA - SPECIFIC TARGET ORGAN TOXICITY (Repeated Exposure)** (respiratory tract) (Inhalation) - Category 1  

**Signal Word:** Danger  

**Hazard Statement:**  
**WARNING!** Cancer Hazard. Contains quartz (crystalline silica) which can cause cancer. Risk of cancer depends upon duration and level of exposure to dry clay dust. Not an acute hazard. Prolonged inhalation of dry clay dust may cause lung injury. Inhalation of high concentrations of dry clay dust may cause mechanical irritation and discomfort of the (respiratory tract). Repeated exposure may cause chronic effects. Wear a N-95 face mask when cleaning up dry clay dust.  
* Clay in moist form poses no health risk. Inhalation of dry clay dust should be avoided.

## GHS label elements / Hazard pictograms

![GHS pictogram]

## Precautionary Statements

**Avoid generating dust.**  
**Do not breathe dust.**

## Unclassified Hazards

Slippery when wet.

## % of ingredients with unknown acute toxicity

None Known

---

<table>
<thead>
<tr>
<th>Hazardous Materials Identification System</th>
</tr>
</thead>
<tbody>
<tr>
<td>HAZARD INDEX</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>4 Severe Hazard</td>
</tr>
<tr>
<td>3 Serious Hazard</td>
</tr>
<tr>
<td>2 Moderate Hazard</td>
</tr>
<tr>
<td>1 Slight Hazard</td>
</tr>
</tbody>
</table>

Café Cinco, Dixon Sculpture, SBF, SBFG, Sedona, SRF, SRFG, Terra Red, & Terra Red + Barium Carbonate  

05/12/2015  
EN (English)  
Page 1
### Section 4: First-Aid Measures

<table>
<thead>
<tr>
<th>Description of first-aid Measures:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First-aid measures general</strong></td>
<td>Never give anything by mouth to an unconscious person. If you feel unwell, seek medical attention.</td>
</tr>
<tr>
<td><strong>First-aid measures after inhalation</strong></td>
<td>Move victim to well ventilated area. If mechanical discomfort persists, seek medical attention.</td>
</tr>
<tr>
<td><strong>First-aid measures after skin contact</strong></td>
<td>Remove contaminated clothing. Wash affected area with soap and warm water. Obtain medical attention if irritation persists.</td>
</tr>
<tr>
<td><strong>First-aid measures after eye contact</strong></td>
<td>Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking, or redness persists.</td>
</tr>
<tr>
<td><strong>First-aid measures after ingestion</strong></td>
<td>Rinse mouth. Do NOT induce vomiting. Unlikely to be toxic by ingestion. If discomfort persists, seek medical attention.</td>
</tr>
</tbody>
</table>

### Most Important Symptoms and Effects, both Acute and Delayed:

<table>
<thead>
<tr>
<th>Symptoms/injuries</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms/injuries after inhalation</td>
<td>Causes damage to organs through prolonged or repeated exposure (inhalation) from dust.</td>
</tr>
<tr>
<td>Symptoms/injuries after skin contact</td>
<td>May cause cancer by Inhalation. Dust from this product may cause irritation to the respiratory tract.</td>
</tr>
<tr>
<td>Symptoms/injuries after eye contact</td>
<td>Prolonged contact with large amounts of dust may cause mechanical irritation.</td>
</tr>
<tr>
<td>Symptoms/injuries after ingestion</td>
<td>Prolonged contact with large amounts of dust may cause mechanical irritation.</td>
</tr>
<tr>
<td>Chronic symptoms</td>
<td>If a large quantity has been ingested: Intestinal blockage. Gastrointestinal irritation.</td>
</tr>
</tbody>
</table>

If exposed or concerned, get medical advice and attention.

### Section 5: Fire-Fighting Measures

#### NFPA

![NFPA Diamond Rating](Image)

**National Fire Protection Association (U.S.A.)**

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>This product is not combustible. Use extinguishing media appropriate for surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unsuitable extinguishing media</td>
<td>No restrictions on extinguishing media for this mixture.</td>
</tr>
<tr>
<td>Special hazards arising from the substance or mixture</td>
<td>This mixture is not flammable and does not support fire. The plastic bags and cardboard boxes containing the mixture are flammable.</td>
</tr>
<tr>
<td>Hazardous thermal decomposition products</td>
<td>This mixture does not contain hazardous decomposition products.</td>
</tr>
<tr>
<td>Special protective actions for fire-fighters</td>
<td>Product can become slippery when wet.</td>
</tr>
<tr>
<td>Special protective equipment for fire-fighters</td>
<td>Fire-fighters should wear appropriate protective equipment.</td>
</tr>
</tbody>
</table>
**Section 8: Exposure Controls / Personal Protection**

**Appropriate engineering controls**

Clay in moist form poses no health risk and no inhalation risk. Once clay has dried, there may be dust generated by cleaning and working processes. In the event that dust is generated, use local exhaust ventilation or other engineering controls as required to maintain exposures below applicable occupational exposure limits (TLV).

**Recommendations for personal protective measures**

**Local Exhaust:** When dry sanding or grinding clay products, use sufficient local exhaust to reduce the level of respirable dust to the applicable standards set forth in Section III. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice," latest edition.

**Respiratory Protection:** Dust is generated when working with dry clay. To minimize exposure to dust and/or crystalline silica, cutting or sanding dry clay products should be conducted with sufficient ventilation. Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of appropriate exposure limits should be reduced by feasible engineering controls, including (but not limited to) wet sanding, wet suppression, ventilation, and process enclosure. When such controls are not feasible, NIOSH/MSHA approved respirators must be worn in accordance with a respiratory protection program which meets OSHA requirements as set forth at 29 CFR 1910.134 and ANSI Z88.2-1080 "Practices for Respiratory Protection". **In most cases, a disposable N-95 Particulate Respirator is sufficient.**

**Eye Protection:** Use NIOSH/OSHA approved safety glasses with side shields. Face shields should also be used when dry sawing clay products. Wear tight fitting dust goggles when excessively (visible) dusty conditions are present or are anticipated. NIOSH recommends that contact lenses not be worn when working with crystalline silica dust.

**Skin Protection:** Use gloves and/or protective clothing if abrasion or allergic reactions are experienced.

**Work/Hygienic Practices:** Avoid creating and breathing dust. Wear NIOSH/MSHA approved dust mask when working in dust conditions. (N-95) Food, beverages, and smoking materials should NOT be in the work area. Persons using ceramic materials should wash thoroughly before eating, drinking, smoking, or applying cosmetics.

**Protective Clothing Pictograms**

- Gloves
- Face mask: N-95

---

**Section 9: Physical & Chemical Properties**

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Moist Plastic Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
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<td>Solubility in Water</td>
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<tr>
<td>Partition Coefficient: n-octanol/water</td>
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Section 13: Disposal Considerations

**Personal Protection**
Refer to Section 8: “Recommendations for Personal Protective Measures” when disposing of ceramic waste.

**Appropriate disposal containers**
Standard waste disposal containers – no special requirements.

**Appropriate disposal methods**
Disposal of this product should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. In most cases, this is normal waste disposal. The generation of waste should be avoided or minimized. Dispose of non-recyclable products via a licensed waste disposal contractor. Waste packaging should be recycled. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Section 13: Disposal Considerations

**Physical and chemical properties that may affect disposal**
Dry clay dust should be placed in a sealed container or in a manner that reduces or eliminates the release of the product. Moist clay has no special requirements. Packaging should be recycled before disposal.

**Sewage disposal**
Do not dispose of into sinks or toilets. They will clog. Never dispose of this product into a sewer system.

**Special precautions for landfills or incineration activities**
There are no special precautions for disposal in a landfill. This product is non-combustible and is not suitable for incineration.

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<td>IATA-DGR Class</td>
<td>Not regulated</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

Section 15: Regulatory Information

**TSCA – Toxic Substances Control Act - EPA**
Quartz and other chemicals are listed in the TSCA Chemical Substance Inventory.

**CONFORMS WITH ASTM D4236**
Certified Non-Toxic in moist form.
ASTM - American Society for Testing and Materials

**California Prop. 65**
**WARNING:** This product contains a chemical known to the State of California to cause cancer. (Prop. 65 - Calif. Health & Safety Code Section 2549 Et Seq.)

**SARA/Title III**
(Emergency Planning & Community Right-to-Know Act)
This mixture contains no substances at or above the reporting threshold under Section 313, based on available data.
Definitions

ASTM means American System of Testing and Materials
OSHA means Occupational Safety & Health Administration
IARC means International Agency for Research on Cancer
NTP means National Toxicology Program
HCS means Hazardous Communication Standard
CAS means Chemical Abstract Service
ACGIH means American Conference of Governmental Industrial Hygienists
CAL-OSHA means California OSHA, most CAL-OSHA standards defer to the federal OSHA standards
OSHA means Occupational Safety & Health Administration
OSHA PEL means OSHA Permissible Exposure Limit
OSHA STEL means spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods
TWA means Time Weighted Average (average exposure on the basis of an 8h/day, 40h/week work schedule)
TLV means Threshold Limit Value - American Conference of Governmental Industrial Hygienists (ACGIH)
Three types of TLVs for chemical substances as defined by the ACGIH are:
1. TLV-TWA - Time weighted average - average exposure on the basis of an 8h/day, 40h/week work schedule.
2. TLV-STEL - Short-term exposure limit - spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods.
3. TLV-C - Ceiling limit - absolute exposure limit that should not be exceeded at any time.

This SDS is in compliance with The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) – prepared May 12, 2015. This data sheet is subject to change without notice.

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief but is not guaranteed to be so. Nothing herein is to be construed as recommending any practice or any product in violation of any patent or in violation of any law or regulation. It is the user’s responsibility to determine for himself the suitability of any material for a specific purpose and to adopt such safety precautions as may be necessary. We make no warranty as to the results to be obtained in using any material and, since conditions of use are not under our control, we must necessarily disclaim all liability with respect to the use of any material supplied by us.
# Task Hazard Analysis

**Job/Task Name:** Emptying Clay Traps  
**Date:** 07-17-15

**Employee(s)/Position(s) Performing the Job:** Maintenance & Operations  
**Supervisor(s):**  
**Analysis By:** Michelle Campbell

**Company Name:** SBCCD  
**Location:** SBVC Art-120, Art-126 and Art-129  
**Department(s):** Art  
**Reviewed By:**

**Required Personal Protective Equipment:** Uniform, gloves, safety glasses  
**Shift (if applicable):** 7am – 3:30 pm  
**Approved By:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Potential Health and Safety Hazards</th>
<th>Safe Work Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Emptying two (2) clay traps</td>
<td></td>
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<tr>
<td></td>
<td><strong>Staff utilize a bucket</strong></td>
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<tr>
<td></td>
<td><strong>attached to a pole to scoop</strong></td>
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<td></td>
<td><strong>accumulated liquid (water, clay)</strong></td>
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<tr>
<td></td>
<td><strong>from the bottom of the trap.</strong></td>
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<tr>
<td></td>
<td><strong>The liquid is poured into</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>a 55-gallon drum.</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>over the traps. Bending over to</td>
<td>-Ensure staff have been properly trained in back safety and safe lifting techniques.</td>
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<tr>
<td></td>
<td>scoop out contents.</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Slips, trips and falls – wet process</td>
<td>-Wear appropriate footwear with non-slip soles when performing task.</td>
</tr>
<tr>
<td></td>
<td>with potential for spilling water/</td>
<td>-Implement good housekeeping (e.g., clean up all spills, clean up all tools, etc.) to eliminated slip, trip and fall hazards.</td>
</tr>
<tr>
<td></td>
<td>sediment. Traps have a depth of</td>
<td>-Demark work area, if necessary, to prevent trip or fall into trap during task.</td>
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<tr>
<td></td>
<td>approx. four (4) feet below ground</td>
<td>-Ensure that all covers are replaced following completion of task to prevent trip or fall hazards.</td>
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<tr>
<td></td>
<td>surface.</td>
<td>-Always follow safe work practices when leaning over/bending/stooping to perform task.</td>
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<tr>
<td>c.</td>
<td>Splash Hazard- potential for</td>
<td>-Ensure that staff have been properly trained in slip/trip/fall prevention.</td>
</tr>
<tr>
<td></td>
<td>accumulated liquid to splash into</td>
<td></td>
</tr>
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<td></td>
<td>the eyes during task.</td>
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</tbody>
</table>
## CITADEL ENVIRONMENTAL SERVICES, INC.
### TASK HAZARD ANALYSIS

<table>
<thead>
<tr>
<th>2</th>
<th>Transporting two (2) 55-gallon drums to storage container</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Heavy lifting – potential for drums to weigh excess of 50 lbs. when filled.</td>
</tr>
<tr>
<td></td>
<td>- Always use safe lifting techniques and utilize carts and dollies when possible to handle and transport drums and tools.</td>
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<tr>
<td></td>
<td>- Wear appropriate gloves, if necessary, to ensure adequate grip and hand protection when handling drums and tools.</td>
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<tr>
<td></td>
<td>- Wear appropriate footwear to prevent injury if drum were to fall or roll onto foot.</td>
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<tr>
<td></td>
<td>- Ensure staff have been properly trained in use and maintenance of personal protective equipment.</td>
</tr>
<tr>
<td>b.</td>
<td>Pinch/Crash Hazard - potential for injury to hands/fingers when using tools to open/close drums. Potential for crushing hazard if drum were dropped or rolled onto foot.</td>
</tr>
<tr>
<td></td>
<td>- Wear appropriate gloves, if necessary, to ensure adequate grip and hand protection when using tools.</td>
</tr>
<tr>
<td></td>
<td>- Wear appropriate footwear to prevent injury (if drum were to fall or roll onto foot).</td>
</tr>
<tr>
<td></td>
<td>- Ensure staff have been properly trained in use and maintenance of hand tools and personal protective equipment.</td>
</tr>
<tr>
<td>c.</td>
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</tbody>
</table>

### NOTES:
- Task is currently performed annually and takes approximately 3-hours to complete.
- Lab reports dated June 1 and June 5, 2015, for water sample analysis (Total Threshold Limit Concentration (TTLC) and Solid Threshold Limit Concentration (STLC) waste characterization) performed by Enviro-Chem, Inc. and requested by Environmental Management Tech indicated copper concentrations exceeded the STLC threshold level.

### Recommended Training:

### Recommended PPE/Equipment:
- Work gloves, drum dolly, safety shoes.