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AGREEMENT

**30627**

THIS AGREEMENT is made and entered, in duplicate, as of February 5, 2008, for reference purposes only, pursuant to a minute order adopted by the City Council of the City of Long Beach at its meeting on September 4, 2007, by and between SMITH EMERY LABORATORIES, INC., a California corporation, with a place of business at 781 East Washington Blvd., Los Angeles, California 90021 ("Consultant"), and the CITY OF LONG BEACH, a municipal corporation ("City").

WHEREAS, City requires specialized services requiring unique skills to be performed in connection with As-Needed Certified Materials Testing and Inspection, and Construction Management Services for Public Works Infrastructure and Facility Projects ("Project"); and

WHEREAS, City has selected Consultant in accordance with City's administrative procedures and City has determined that Consultant and its employees are qualified, licensed, if so required, and experienced in performing these specialized services; and

WHEREAS, City desires to have Consultant perform these specialized services, and Consultant is willing and able to do so on the terms and conditions in this Agreement;

NOW, THEREFORE, in consideration of the mutual terms, covenants, and conditions in this Agreement, the parties agree as follows:

1. SCOPE OF WORK OR SERVICES.

A. Consultant shall furnish specialized services more particularly described in Exhibit "A", attached to this Agreement and incorporated by this reference, in accordance with the standards of the profession, and City shall pay for these services in the manner described below, not to exceed \$1,750,000.00, at the rates or charges shown in Exhibit "A".

B. Consultant may select the time and place of performance for

1 these services; provided, however, that access to City documents, records and the  
2 like, if needed by Consultant, shall be available only during City's normal business  
3 hours and provided that milestones for performance, if any, are met.

4 C. Consultant has requested to receive regular payments. City  
5 shall pay Consultant in due course of payments following receipt from Consultant  
6 and approval by City of invoices showing the services or task performed, the time  
7 expended (if billing is hourly), and the name of the Project. Consultant shall certify  
8 on the invoices that Consultant has performed the services in full conformance  
9 with this Agreement and is entitled to receive payment. Each invoice shall be  
10 accompanied by a progress report indicating the progress to date of services  
11 performed and covered by the invoice, including a brief statement of any Project  
12 problems and potential causes of delay in performance, and listing those services  
13 that are projected for performance by Consultant during the next invoice cycle.  
14 Where billing is done and payment is made on an hourly basis, the parties  
15 acknowledge that this arrangement is either customary practice for Consultant's  
16 profession, industry or business, or is necessary to satisfy audit and legal  
17 requirements which may arise due to the fact that City is a municipality.

18 D. Consultant represents that Consultant has obtained all  
19 necessary information on conditions and circumstances that may affect its  
20 performance and has conducted site visits, if necessary.

21 E. CAUTION: Consultant shall not begin work until this  
22 Agreement has been signed by both parties and until Consultant's evidence of  
23 insurance has been delivered to and approved by City.

24 2. TERM. The term of this Agreement shall commence at midnight on  
25 January 1, 2008, and shall terminate at 11:59 p.m. on December 31, 2010, unless sooner  
26 terminated as provided in this Agreement, or unless the services or the Project is  
27 completed sooner.

28 3. COORDINATION AND ORGANIZATION.

1           A. Consultant shall coordinate its performance with City's  
2 representative, if any, named in Exhibit "B", attached to this Agreement and  
3 incorporated by this reference. Consultant shall advise and inform City's  
4 representative of the work in progress on the Project in sufficient detail so as to  
5 assist City's representative in making presentations and in holding meetings on  
6 the Project. City shall furnish to Consultant information or materials, if any,  
7 described in Exhibit "C", attached to this Agreement and incorporated by this  
8 reference, and shall perform any other tasks described in the Exhibit.

9           B. The parties acknowledge that a substantial inducement to City  
10 for entering this Agreement was and is the reputation and skill of Consultant's key  
11 employee Gina Digby. City shall have the right to approve any person proposed  
12 by Consultant to replace that key employee.

13           4. INDEPENDENT CONTRACTOR. In performing its services,  
14 Consultant is and shall act as an independent contractor and not an employee,  
15 representative or agent of City. Consultant shall have control of Consultant's work and  
16 the manner in which it is performed. Consultant shall be free to contract for similar  
17 services to be performed for others during this Agreement; provided, however, that  
18 Consultant acts in accordance with Section 9 and Section 11 of this Agreement.  
19 Consultant acknowledges and agrees that (a) City will not withhold taxes of any kind from  
20 Consultant's compensation; (b) City will not secure workers' compensation or pay  
21 unemployment insurance to, for or on Consultant's behalf; and (c) City will not provide  
22 and Consultant is not entitled to any of the usual and customary rights, benefits or  
23 privileges of City employees. Consultant expressly warrants that neither Consultant nor  
24 any of Consultant's employees or agents shall represent themselves to be employees or  
25 agents of City.

26           5. INSURANCE.

27           A. As a condition precedent to the effectiveness of this  
28 Agreement, Consultant shall procure and maintain, at Consultant's expense for the

OFFICE OF THE CITY ATTORNEY  
ROBERT E. SHANNON, City Attorney  
333 West Ocean Boulevard, 11th Floor  
Long Beach, CA 90802-4664

1 duration of this Agreement, from insurance companies that are admitted to write  
2 insurance in California and have ratings of or equivalent to A:V by A.M. Best  
3 Company or from authorized non-admitted insurance companies subject to  
4 Section 1763 of the California Insurance Code and that have ratings of or  
5 equivalent to A:VIII by A.M. Best Company, the following insurance:

6 (a) Commercial general liability insurance (equivalent in scope to  
7 ISO form CG 00 01 11 85 or CG 00 01 10 93) in an amount not less than  
8 \$1,000,000 per each occurrence and \$2,000,000 general aggregate. This  
9 coverage shall include but not be limited to broad form contractual liability,  
10 cross liability, independent contractors liability, and products and  
11 completed operations liability. City, its boards and commissions, and their  
12 officials, employees and agents shall be named as additional insureds by  
13 endorsement (on City's endorsement form or on an endorsement  
14 equivalent in scope to ISO form CG 20 10 11 85 or CG 20 26 11 85), and  
15 this insurance shall contain no special limitations on the scope of  
16 protection given to City, its boards and commissions, and their officials,  
17 employees and agents. This policy shall be endorsed to state that the  
18 insurer waives its right of subrogation against City, its boards and  
19 commissions, and their officials, employees and agents.

20 (b) Workers' Compensation insurance as required by the California  
21 Labor Code and employer's liability insurance in an amount not less than  
22 \$1,000,000. This policy shall be endorsed to state that the insurer waives  
23 its right of subrogation against City, its boards and commissions, and their  
24 officials, employees and agents.

25 (c) Professional liability or errors and omissions insurance in an  
26 amount not less than \$1,000,000 per claim.

27 (d) Commercial automobile liability insurance (equivalent in scope  
28 to ISO form CA 00 01 06 92), covering Auto Symbol 1 (Any Auto) in an

4 Hired and Non-owned Autos

ASSISTANT  
SF  
Initial

1 amount not less than \$500,000 combined single limit per accident.

2 B. Any self-insurance program, self-insured retention, or  
3 deductible must be separately approved in writing by City's Risk Manager or  
4 designee and shall protect City, its officials, employees and agents in the same  
5 manner and to the same extent as they would have been protected had the policy  
6 or policies not contained retention or deductible provisions.

7 C. Each insurance policy shall be endorsed to state that  
8 coverage shall not be reduced, non-renewed or canceled except after thirty (30)  
9 days prior written notice to City, shall be primary and not contributing to any other  
10 insurance or self-insurance maintained by City, and shall be endorsed to state that  
11 coverage maintained by City shall be excess to and shall not contribute to  
12 insurance or self-insurance maintained by Consultant. Consultant shall notify City  
13 in writing within five (5) days after any insurance has been voided by the insurer or  
14 cancelled by the insured.

15 D. If this coverage is written on a "claims made" basis, it must  
16 provide for an extended reporting period of not less than one hundred eighty (180)  
17 days, commencing on the date this Agreement expires or is terminated, unless  
18 Consultant guarantees that Consultant will provide to City evidence of  
19 uninterrupted, continuing coverage for a period of not less than three (3) years,  
20 commencing on the date this Agreement expires or is terminated.

21 E. Consultant shall require that all subconsultants or contractors  
22 that Consultant uses in the performance of these services maintain insurance in  
23 compliance with this Section unless otherwise agreed in writing by City's Risk  
24 Manager or designee.

25 F. Prior to the start of performance, Consultant shall deliver to  
26 City certificates of insurance and the endorsements for approval as to sufficiency  
27 and form. In addition, Consultant shall, within thirty (30) days prior to expiration of  
28 the insurance, furnish to City certificates of insurance and endorsements

1 evidencing renewal of the insurance. City reserves the right to require complete  
2 certified copies of all policies of Consultant and Consultant's subconsultants and  
3 contractors, at any time. Consultant shall make available to City's Risk Manager  
4 or designee all books, records and other information relating to this insurance,  
5 during normal business hours.

6 G. Any modification or waiver of these insurance requirements  
7 shall only be made with the approval of City's Risk Manager or designee. Not  
8 more frequently than once a year, City's Risk Manager or designee may require  
9 that Consultant, Consultant's subconsultants and contractors change the amount,  
10 scope or types of coverages required in this Section if, in his or her sole opinion,  
11 the amount, scope or types of coverages are not adequate.

12 H. The procuring or existence of insurance shall not be  
13 construed or deemed as a limitation on liability relating to Consultant's  
14 performance or as full performance of or compliance with the indemnification  
15 provisions of this Agreement.

16 6. ASSIGNMENT AND SUBCONTRACTING. This Agreement  
17 contemplates the personal services of Consultant and Consultant's employees, and the  
18 parties acknowledge that a substantial inducement to City for entering this Agreement  
19 was and is the professional reputation and competence of Consultant and Consultant's  
20 employees. Consultant shall not assign its rights or delegate its duties under this  
21 Agreement, or any interest in this Agreement, or any portion of it, without the prior  
22 approval of City, except that Consultant may with the prior approval of the City Manager  
23 of City, assign any moneys due or to become due Consultant under this Agreement. Any  
24 attempted assignment or delegation shall be void, and any assignee or delegate shall  
25 acquire no right or interest by reason of an attempted assignment or delegation.  
26 Furthermore, Consultant shall not subcontract any portion of its performance without the  
27 prior approval of the City Manager or designee, or substitute an approved subconsultant  
28 or contractor without approval prior to the substitution. Nothing stated in this Section

1 shall prevent Consultant from employing as many employees as Consultant deems  
2 necessary for performance of this Agreement.

3           7.    CONFLICT OF INTEREST.    Consultant, by executing this  
4 Agreement, certifies that, at the time Consultant executes this Agreement and for its  
5 duration, Consultant does not and will not perform services for any other client which  
6 would create a conflict, whether monetary or otherwise, as between the interests of City  
7 and the interests of that other client. And, Consultant shall obtain similar certifications  
8 from Consultant's employees, subconsultants and contractors.

9           8.    MATERIALS.    Consultant shall furnish all labor and supervision,  
10 supplies, materials, tools, machinery, equipment, appliances, transportation and services  
11 necessary to or used in the performance of Consultant's obligations under this  
12 Agreement, except as stated in Exhibit "C".

13           9.    OWNERSHIP OF DATA.    All materials, information and data  
14 prepared, developed or assembled by Consultant or furnished to Consultant in  
15 connection with this Agreement, including but not limited to documents, estimates,  
16 calculations, studies, maps, graphs, charts, computer disks, computer source  
17 documentation, samples, models, reports, summaries, drawings, designs, notes, plans,  
18 information, material and memorandum ("Data") shall be the exclusive property of City.  
19 Data shall be given to City, and City shall have the unrestricted right to use and disclose  
20 the Data in any manner and for any purpose without payment of further compensation to  
21 Consultant. Copies of Data may be retained by Consultant but Consultant warrants that  
22 Data shall not be made available to any person or entity for use without the prior approval  
23 of City. This warranty shall survive termination of this Agreement for five (5) years.

24           10. TERMINATION. Either party shall have the right to terminate this  
25 Agreement for any reason or no reason at any time by giving fifteen (15) calendar days  
26 prior notice to the other party. In the event of termination under this Section, City shall  
27 pay Consultant for services satisfactorily performed and costs incurred up to the effective  
28 date of termination for which Consultant has not been previously paid. The procedures

1 for payment in Section 1.B. with regard to invoices shall apply. On the effective date of  
2 termination, Consultant shall deliver to City all Data developed or accumulated in the  
3 performance of this Agreement, whether in draft or final form, or in process. And,  
4 Consultant acknowledges and agrees that City's obligation to make final payment is  
5 conditioned on Consultant's delivery of the Data to City.

6 11. CONFIDENTIALITY. Consultant shall keep all Data confidential and  
7 shall not disclose the Data or use the Data directly or indirectly, other than in the course  
8 of performing its services, during the term of this Agreement and for five (5) years  
9 following expiration or termination of this Agreement. In addition, Consultant shall keep  
10 confidential all information, whether written, oral or visual, obtained by any means  
11 whatsoever in the course of performing its services for the same period of time.  
12 Consultant shall not disclose any or all of the Data to any third party, or use it for  
13 Consultant's own benefit or the benefit of others except for the purpose of this  
14 Agreement.

15 12. BREACH OF CONFIDENTIALITY. Consultant shall not be liable for  
16 a breach of confidentiality with respect to Data that: (a) Consultant demonstrates  
17 Consultant knew prior to the time City disclosed it; or (b) is or becomes publicly available  
18 without breach of this Agreement by Consultant; or (c) a third party who has a right to  
19 disclose does so to Consultant without restrictions on further disclosure; or (d) must be  
20 disclosed pursuant to subpoena or court order.

21 13. ADDITIONAL COSTS AND REDESIGN.

22 A. Any costs incurred by City due to Consultant's failure to meet  
23 the standards required by the scope of work or Consultant's failure to perform fully  
24 the tasks described in the scope of work which, in either case, causes City to  
25 request that Consultant perform again all or part of the Scope of Work shall be at  
26 the sole cost of Consultant and City shall not pay any additional compensation to  
27 Consultant for its re-performance.

28 B. If the Project involves construction and the scope of work



1 requires Consultant to prepare plans and specifications with an estimate of the  
2 cost of construction, then Consultant may be required to modify the plans and  
3 specifications, any construction documents relating to the plans and specifications,  
4 and Consultant's estimate, at no cost to City, when the lowest bid for construction  
5 received by City exceeds by more than ten percent (10%) Consultant's estimate.  
6 This modification shall be submitted in a timely fashion to allow City to receive new  
7 bids within four (4) months after the date on which the original plans and  
8 specifications were submitted by Consultant.

9 14. AMENDMENT. This Agreement, including all Exhibits, shall not be  
10 amended, nor any provision or breach waived, except in writing signed by the parties  
11 which expressly refers to this Agreement.

12 15. LAW. This Agreement shall be governed by and construed pursuant  
13 to the laws of the State of California (except those provisions of California law pertaining  
14 to conflicts of laws). Consultant shall comply with all laws, ordinances, rules and  
15 regulations of and obtain all permits, licenses and certificates required by all federal, state  
16 and local governmental authorities.

17 16. ENTIRE AGREEMENT. This Agreement, including all Exhibits,  
18 constitutes the entire understanding between the parties and supersedes all other  
19 agreements, oral or written, with respect to the subject matter in this Agreement.

20 17. INDEMNITY. Consultant shall, with respect to services performed in  
21 connection with this Agreement, indemnify and hold harmless City, its Boards,  
22 Commissions, and their officials, employees and agents (collectively in this Section,  
23 "City") from and against any and all liability, claims, allegations, demands, damage, loss,  
24 causes of action, proceedings, penalties, costs and expenses (including attorney's fees,  
25 court costs, and expert and witness fees) (collectively "Claims" or individually "Claim")  
26 arising, directly or indirectly, in whole or in part, out of any negligent act or omission of  
27 Consultant, its officers, employees, agents, sub-consultants or anyone under  
28 Consultant's control (collectively "Indemnitor"), breach of this Agreement by Indemnitor,

1 misrepresentation or willful misconduct by Indemnitor, and Claims by any employee of  
2 Indemnitor relating in any way to workers' compensation. Independent of the duty to  
3 indemnify and as a free-standing duty on the part of Consultant, Consultant shall defend  
4 City and shall continue this defense until the Claim is resolved, whether by settlement,  
5 judgment or otherwise. No finding or judgment of negligence, fault, breach or the like on  
6 the part of Indemnitor shall be required for the duty to defend to arise. Consultant shall  
7 notify City of any Claim within ten (10) days. Likewise, City shall notify Consultant of any  
8 Claim, shall tender the defense of the Claim to Consultant, and shall assist Consultant at  
9 Consultant's sole expense, as may be reasonably requested, in the defense.

10 18. AMBIGUITY. In the event of any conflict or ambiguity between this  
11 Agreement and any Exhibit, the provisions of this Agreement shall govern.

12 19. COSTS. If there is any legal proceeding between the parties to  
13 enforce or interpret this Agreement or to protect or establish any rights or remedies under  
14 it, the prevailing party shall be entitled to its costs, including reasonable attorneys' fees.

15 20. NONDISCRIMINATION.

16 A. In connection with performance of this Agreement and subject  
17 to applicable rules and regulations, Consultant shall not discriminate against any  
18 employee or applicant for employment because of race, religion, national origin,  
19 color, age, sex, sexual orientation, AIDS, HIV status, handicap or disability.  
20 Consultant shall ensure that applicants are employed, and that employees are  
21 treated during their employment, without regard to these bases. These actions  
22 shall include, but not be limited to, the following: employment, upgrading, demotion  
23 or transfer; recruitment or recruitment advertising; layoff or termination; rates of  
24 pay or other forms of compensation; and selection for training, including  
25 apprenticeship.

26 B. It is the policy of City to encourage the participation of  
27 Disadvantaged, Minority and Women-Owned Business Enterprises in City's  
28 procurement process, and Consultant agrees to use its best efforts to carry out

1 this policy in its use of subconsultants and contractors to the fullest extent  
2 consistent with the efficient performance of this Agreement. Consultant may rely  
3 on written representations by subconsultants and contractors regarding their  
4 status. City's policy is attached as Exhibit "D" to this Agreement. Consultant shall  
5 report to City in May and in December or, in the case of short-term agreements,  
6 prior to invoicing for final payment, the names of all subconsultants and  
7 contractors hired by Consultant for this Project and information on whether or not  
8 they are a Disadvantaged, Minority or Women-Owned Business Enterprise, as  
9 defined in Section 8 of the Small Business Act (15 U.S.C. Sec. 637).

10 21. NOTICES. Any notice or approval required by this Agreement shall  
11 be in writing and personally delivered or deposited in the U.S. Postal Service, first class,  
12 postage prepaid, addressed to Consultant at the address first stated above, and to City at  
13 333 West Ocean Boulevard, Long Beach, California 90802, Attn: City Manager, with a  
14 copy to the City Engineer at the same address. Notice of change of address shall be  
15 given in the same manner as stated for other notices. Notice shall be deemed given on  
16 the date deposited in the mail or on the date personal delivery is made, whichever occurs  
17 first.

18 22. COPYRIGHTS AND PATENT RIGHTS.

19 A. Consultant shall place the following copyright protection on all  
20 Data: © City of Long Beach, California \_\_\_\_, inserting the appropriate year.

21 B. City reserves the exclusive right to seek and obtain a patent  
22 or copyright registration on any Data or other result arising from Consultant's  
23 performance of this Agreement. By executing this Agreement, Consultant assigns  
24 any ownership interest Consultant may have in the Data to City.

25 C. Consultant warrants that the Data does not violate or infringe  
26 any patent, copyright, trade secret or other proprietary right of any other party.  
27 Consultant agrees to and shall protect, defend, indemnify and hold City, its officials  
28 and employees harmless from any and all claims, demands, damages, loss,

1 liability, causes of action, costs or expenses (including reasonable attorney's fees)  
2 whether or not reduced to judgment, arising from any breach or alleged breach of  
3 this warranty.

4 23. COVENANT AGAINST CONTINGENT FEES. Consultant warrants  
5 that Consultant has not employed or retained any entity or person to solicit or obtain this  
6 Agreement and that Consultant has not paid or agreed to pay any entity or person any  
7 fee, commission or other monies based on or from the award of this Agreement. If  
8 Consultant breaches this warranty, City shall have the right to terminate this Agreement  
9 immediately notwithstanding the provisions of Section 10 or, in its discretion, to deduct  
10 from payments due under this Agreement or otherwise recover the full amount of the fee,  
11 commission or other monies.

12 24. WAIVER. The acceptance of any services or the payment of any  
13 money by City shall not operate as a waiver of any provision of this Agreement or of any  
14 right to damages or indemnity stated in this Agreement. The waiver of any breach of this  
15 Agreement shall not constitute a waiver of any other or subsequent breach of this  
16 Agreement.

17 25. CONTINUATION. Termination or expiration of this Agreement shall  
18 not affect rights or liabilities of the parties which accrued pursuant to Sections 7, 10, 11,  
19 17, 19, 22 and 28 prior to termination or expiration of this Agreement.

20 26. TAX REPORTING. As required by federal and state law, City is  
21 obligated to and will report the payment of compensation to Consultant on Form 1099-  
22 Misc. Consultant shall be solely responsible for payment of all federal and state taxes  
23 resulting from payments under this Agreement. Consultant's Employer Identification  
24 Number is [REDACTED] If Consultant has a Social Security Number rather than an  
25 Employer Identification Number, then Consultant shall submit that Social Security  
26 Number in writing to City's Accounts Payable, Department of Financial Management.  
27 Consultant acknowledges and agrees that City has no obligation to pay Consultant until  
28 Consultant provides one of these numbers.

1           27. ADVERTISING. Consultant shall not use the name of City, its  
2 officials or employees in any advertising or solicitation for business or as a reference,  
3 without the prior approval of the City Manager or designee.

4           28. AUDIT. City shall have the right at all reasonable times during the  
5 term of this Agreement and for a period of five (5) years after termination or expiration of  
6 this Agreement to examine, audit, inspect, review, extract information from and copy all  
7 books, records, accounts and other documents of Consultant relating to this Agreement.

8           29. THIRD PARTY BENEFICIARY. This Agreement is not intended or  
9 designed to or entered for the purpose of creating any benefit or right for any person or  
10 entity of any kind that is not a party to this Agreement.

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OFFICE OF THE CITY ATTORNEY  
ROBERT E. SHANNON, City Attorney  
333 West Ocean Boulevard, 11th Floor  
Long Beach, CA 90802-4664

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IN WITNESS WHEREOF, the parties have caused this document to be duly executed with all formalities required by law as of the date first stated above.

SMITH EMERY LABORATORIES, INC., a California corporation

February 20, 2008

By James E. Partridge  
James E. Partridge  
Civil Engineer  
Type or Print Name

February 20, 2008

By Patricia L. Partridge  
Patricia Partridge  
Type or Print Name  
Secretary  
Title

"Consultant"

CITY OF LONG BEACH, a municipal corporation

April 28, 2008

By Steve  
ASSISTANT  
City Manager

"City" EXECUTED PURSUANT TO SECTION 301 OF THE CITY CHARTER.

This Agreement is approved as to form on 3-31, 2008.

ROBERT E. SHANNON, City Attorney

By Andrew Goulet  
Deputy

# **EXHIBIT "A"**

## **SCOPE OF WORK**

## **Scope of Services**

### **ON CALL / AS-NEEDED CERTIFIED MATERIALS TESTING AND INSPECTION SERVICES FOR PUBLIC WORKS INFRASTRUCTURE FACILITY PROJECTS**

#### **A. PROJECT DESCRIPTION AND OVERVIEW**

The City of Long Beach, acting through its Department of Public Works, desires to engage the services of one or more Material Testing Laboratories and or Professional Engineering Firms to provide, Certified Materials Testing and Inspection Services and on an on call / as-needed basis for Public Works infrastructure and facilities projects. Inspection services shall be performed by ICC certified deputy inspections. The approximate term of services is anticipated between February 2008 and February 2010.

#### **B. DEFINITIONS**

OWNER – City of Long Beach

CITY – The City of Long Beach or designated representative.

CONSULTANT – The individual, Partnership, corporation, joint venture, or other legal entity named as such in the contract documents to perform the work.

#### **C. BACKGROUND – GENERAL**

##### **1.1 CERTIFIED MATERIAL TESTING LABORATORY SERVICES**

The Certified Material Testing Laboratory must be currently certified for materials testing and reporting in accordance with AASHTO, Caltrans, Federal ISTEA and Federal Aviation Administration funding requirements, as well as qualified to meet all standards, licenses, reports analysis and recommendations. The consulting laboratory shall coordinate and dispatch qualified personnel to perform material testing and inspection at multiple sites the day following notification. It is desirable that the consulting laboratories have the ability to dispatch qualified personnel. When needed, within four hours. The requested services are typically performed between the hours of 7:00 a.m. and 5 p.m. seven days a week, but may be required on a 24 – hour basis.



### **1.1.2 CERTIFICATION OF COMPLIANCE**

Upon completion of the project the laboratory shall provide under the appropriate professional registration a letter certifying the project.

## **1.2 INSPECTION SERVICES**

Construction Inspection Services are classified in three areas of work as follows:

### **1.2.1 CONSTRUCTION INSPECTION**

Inspects projects in the public right-of-way and insures that they are in compliance with the project plans and specifications including all applicable laws and regulations.

### **1.2.2 SPECIAL INSPECTION**

Provide continuous or periodic deputy inspection service as required by code. Special inspections shall include but is not limited to grading, reinforced concrete, prestressed concrete, masonry, structural steel, steel moment and ductile frames, welding, pile driving, high strength bolts, epoxy anchors, fireproofing, structural observation, and special inspectors shall be duly certified by ICC and other applicable governing agencies, and licensed to perform special inspections in the City of Long Beach.

### **1.2.3 CONSTRUCTION MANAGEMENT**

Oversees the inspection and management of facility and tenant improvement projects.

## **D. BASIC AND OTHER SERVICES**

In addition to the requirements described in the background requirement listed above, this Scope of Work is intended to procure professional services to be provided hereunder shall include, but not be limited to the following:

### **1.3 MATERIAL TESTING LABORATORY SERVICES**

The Material Testing Laboratory Services consist of material testing of specimen of concrete, masonry, aggregates, asphalt and asphalt plant inspection, soils, epoxies, metals, steel reinforcement and welds, diamond bit coring of asphalt, concrete or masonry, environmental sampling and testing of soil and water, including ground water sampling and testing in accordance with Environmental Protection agency (EPA) standards, road rating and profilograph testing streets, and other general laboratory materials tests per the "Standard Specifications for Public Works Construction," 2003 edition.

#### **1.4 CONSTRUCTION INSPECTION**

Inspection projects in the public right-of-way and insures that they are in compliance with the project plans and specifications including all applicable laws and regulations.

#### **E CITY RESPONSIBILITES**

1.5 Provide City-side project management as designated by the Director, Engineering Bureau, Planning and Facility Bureau, Redevelopment, Construction Services Officer, Project Management Officer, Division Engineer, Senior Civil Engineer, or other appropriate Public Works Manager.

1.6 Provide **coordination** to avoid interfering with other City construction projects and/or major events.

#### **F MISCELLANEOUS/CONSULTANT'S LEAD REPRESENTATIVE**

1.7 Prior to final selection, the City must agree to the Proposing Firm's designated Lead Representative (LR) by review of his or her qualifications contained in the Firm's Proposals as well as his or her performance during the Oral interview. If after a period of time, the City is not satisfied with the work and progress of the LR, another LR shall be furnished by the consultant firm. The LR, once selected, shall not be replaced, unless approved by the City.



## Schedule of Fees for Inspection Services

*The prices quoted below for Inspection Services are firm until December 31, 2008. On January 1, 2009, the charges for services set forth in this Schedule of Fees will be adjusted by changes to in our general administrative and overhead expenses. These adjusted charges shall become the agreed upon basis for charges by Smith-Emery to Client. A separate Schedule of Fees is included for each calendar year of this contract.*

To 12/31/2008

### Concrete Inspection

1110	Shoring	\$ 90.00
1111	Foundations	90.00
1112	Walls/Columns	90.00
1113	Slabs on Grade	90.00
1114	Elevated Slabs	90.00
1115	Slabs-Metal Deck	90.00
1116	Precast Plant	90.00
1117	Gunite/Shotcrete	90.00
1118	Prestress/Post-Tension	90.00
1119	Batch Plant	90.00

### Masonry Inspection

1410	Retaining Walls	90.00
1411	Structural Walls	90.00
1412	Stair Shaft	90.00
1413	Veneer	90.00
1414	Grouting	90.00
1415	Repointing	90.00
1416	Pressure Grouting	90.00

### Fireproofing Inspection

1810	Thickness Evaluation	90.00
1811	Density Sampling	90.00
1812	Repair Application	90.00
1813	Adhesion/Cohesion	90.00

### Steel Field-Visual Inspection

1310	Weld-Frame	90.00
1311	Weld-Deck	90.00
1312	Weld-Rebar	90.00
1313	Weld-Shoring	90.00
1314	Weld-Miscellaneous	90.00
1315	High Strength Bolts	90.00
1316	Curtain Wall	90.00
1317	Procedure Qualification	90.00
1318	Welder Qualification	90.00
1319	Precast Panel	90.00

### Steel Field-Non-Destructive Testing

2310	Ultrasonic (Plus Equipment)	95.00
2311	Magnetic Particle (Plus Equipment)	95.00
2312	Dye Penetrant (Plus Equipment)	95.00
2400	NDT Equipment, per day	40.00

### Steel Shop-Visual Inspection

1210	Visual	\$ 90.00
1211	Material I.D.	90.00
1212	Quantity Verification	90.00
1213	Procedure Qualification	90.00
1214	Welder Qualification	90.00
1215	Other	90.00

### Steel Shop-Non-Destructive Testing

2210	Ultrasonic (Plus Equipment)	95.00
2211	Magnetic Particle (Plus Equipment)	95.00
2212	Dye Penetrant (Plus Equipment)	95.00
2400	NDT Equipment, per day	40.00

### Finishing Inspection

1910	Drywall Fastening	90.00
1911	Electrical	90.00
1912	H.V.A.C.	90.00
1913	Plumbing	90.00
1914	Firesprinkler	90.00
1915	Ceramic Tile	90.00
1916	Waterproofing	90.00
1917	Curtain Wall	90.00
1918	Miscellaneous Finishing	90.00

### Miscellaneous Inspection

1613	Fiberwrap	90.00
2010	Essential Building Inspector	90.00
2013	Concrete/Epoxy Injection	90.00
2014	Dowels/Anchors-Pull/Torque	90.00
9310	Quality Control Inspection	90.00
9311	Epoxy Dowels/Anchors	90.00
9312	Expansion Anchors	90.00
9313	Grouting of Baseplate	90.00
1815	Miscellaneous Inspection	90.00
1817	Combination Concrete/Soils	92.00
2016	Deputy Grading Inspector	105.00

### Additional Services

9110	Report Charge, each	1.75
1101	Mileage, per mile	0.75

**Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.**



## Schedule of Fees for Inspection Services – Continued

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Registered Professional Engineer, per hour .....	9602 .....	\$ 150.00
Staff Engineer, per hour .....	9600 .....	120.00
Metallurgical Engineer, per hour .....	6933 .....	200.00
Inspection Supervisor, regular time, per hour .....	1247 .....	95.00
Level III Supervisor – ASNT, per hour .....	2443 .....	100.00
Expert Witness Testimony		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

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## Schedule of Fees for Laboratory Services

### Professional Staff

	Activity	Cost
Registered Professional Engineer, Laboratory, per hour .....	3011 .....	\$ 150.00
Staff Engineer, per hour.....	3015 .....	120.00
Laboratory Supervisor, regular time, per hour.....	3012 .....	95.00
Test Technicians -- Laboratory, regular time, per hour .....	3013 .....	85.00
Test Technicians -- Away from Lab, regular time, per hour .....	3014 .....	85.00
<b>Expert Witness Testimony</b>		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

### Miscellaneous Support Fees

General Testing-Rush Charges .....	4812 .....	50%
Miscellaneous Sample Pick-up, per hour.....	5022 .....	50.00
Miscellaneous Pick-up, per trip minimum.....	5023 .....	50.00
Subsistence, per day .....	1103 .....	85.00
Travel Time, per hour.....	4456 .....	55.00
Mileage, per mile.....	5101 .....	0.75
Fuel Surcharge.....	4443 .....	2% of Invoice

### Laboratory Hours

Laboratory hours are 7:00AM through 4:00PM, Monday through Friday, Hours 7:00AM through 12:00PM Saturday.

Additional charges will be made for off-hours or weekend testing as follows:

Off-hour Laboratory Operations, per hour.....	5051 .....	1,000
Holiday Laboratory Operations, per hour.....	5052 .....	1,500

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## Laboratory-General Field Services

<b>General Field Services</b>	<b>Activity</b>	<b>Cost</b>
Technician with Pachometer, per hour .....	3110 .....	\$ 85.00
Film Adhesion, ASTM D4541, per hour .....	4474 .....	85.00
Dry Film Thickness, ASTM D6132, per hour .....	4475 .....	85.00
Fireproofing Technician, per hour .....	3210 .....	85.00
Firestopping Technician .....	3211 .....	85.00
Batch Plant Technician .....	3310 .....	85.00
Roofing Technician, per hour .....	3410 .....	85.00
Membrane Technician, per hour .....	3510 .....	85.00
Roofing/Waterproofing Technician, per hour .....	3511 .....	85.00
Water Control Technician, per hour .....	3610 .....	85.00
Field Coring Technician, per hour .....	3720 .....	130.00
Mileage .....	5101 .....	0.75

### Field Technician Minimums

Regular Hours: Monday through Friday, 6:30am to 4:00pm.

Show-up time, no work performed ..... 2-hour minimum charge

Field Service Calls..... 4 and 8-hour minimum charge

Field Services Work ..... a minimum of 1 hour per week engineering supervision may be charged

### Overtime

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours ..... time and one-half

Sundays and Holidays, 1 to 8 Hours ..... time and one-half

Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7<sup>th</sup> consecutive day ..... double time

### Field Equipment Charges

Skidmore, per day .....	4415 .....	50.00
Torque Wrench, per day .....	4413 .....	25.00
Multiplier, per day .....	4414 .....	10.00
Pull Test Equipment (ram, pump, gage), per day .....	4464 .....	50.00
Dynamometer, per day .....	4465 .....	25.00
Schmidt Hammer, per day .....	9704 .....	40.00
Windsor Probe, per location (3-shots) .....	9705 .....	50.00
Rental Dipstick 2000, per week .....	4825 .....	2500.00
Flatness Testing, (under 10,000-square feet), per hour .....	4814 .....	135.00
Flatness Testing, (over 10,000-square feet), per square foot .....	4826 .....	0.05
Field Hardness Equipment, per day .....	9117 .....	50.00
Metallographic Replication Kit, per day .....	9118 .....	50.00
Dry Film Thickness Gage, per day .....	4409 .....	40.00
Concrete Air Meter, Pressure of Volumetric, per day .....	4431 .....	25.00
Concrete Unit Weight Kit, scale, bucket, plate, mallet, and rod, per day .....	4436 .....	25.00
2-inch cube brass embecco molds, each per day .....	4437 .....	25.00
Film Adhesion Equipment, Dollies and Epoxy, per day .....	4443 .....	50.00

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## Laboratory Testing-Concrete

<b>Cylinders, Beams &amp; Cores</b>	<b>Activity</b>	<b>Cost</b>
Compression Test, 6" x 12" cylinders, including hold, ASTM C 39, each .....	4300 .....	\$ 15.00
Weight per cubic foot of lightweight concrete cylinders, each.....	4303 .....	20.00
Flexure Test, 6" x 6" beams, ASTM C 78, each.....	4304 .....	85.00
Splitting Tensile, 6" x 12" cylinders, ASTM C 496, each.....	4305 .....	65.00
Modulus of Elasticity Test - Static, ASTM C 469, each.....	4306 .....	125.00
Compression Test, 2" - 4" - 6" Cores, ASTM C 42, each .....	4311 .....	40.00
In Laboratory Core Cutting, each.....	4312 .....	50.00
Cylinder Pick-up (within 40-mile radius from Laboratory)		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample.....	5000 .....	10.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday, .....	5001 .....	19.00
Sunday and Holidays - per sample .....	5002 .....	25.00
Minimum Pick-up Charge .....	5003 .....	21.00
Pick-Up of Flexural Test Beams, each .....	5021 .....	29.00
 <b>Forensic Testing</b>		
Moisture Vapor Transmission, Calcium Chloride Moisture Kit, ASTM F1869.....	4459 .....	25.00
Inplace Moisture Content .....	4457 .....	75.00
 <b>Shrinkage</b>		
Length Change (3 bars, 4 readings, up to 90 days), ASTM C 157 Modified.....	4307 .....	240.00
Additional Reading, per set of 3 bars .....	4308 .....	40.00
Storage over 90 days, per set of 3 bars, per month .....	4308 .....	40.00
Pick-up/Deliver Shrinkage Molds/Samples, per set.....	5020 .....	42.00
 <b>Mix Design</b>		
Mix Design, Determination of Proportions, (3 Business Day Turn Around) each .....	9500 .....	125.00
Mix Design, Determination of Proportions, Requiring Same Day Service .....	9501 .....	150.00
Preparation of Special Strength Documentation for Mix Design, each .....	9502 .....	200.00
Amend or Retype Existing Smith-Emery Mix Designs not involving calculations, each .....	9503 .....	85.00
Review Mix Design prepared by Others, each .....	9504 .....	100.00
 <b>Laboratory Trial Batch</b>		
Laboratory Trial Batch, (includes slump, % air, unit weight, and up to 7-cylinders; ASTM C 192, each .....	4309 .....	500.00
Laboratory Trial Batch, (including the items above and shrinkage; ASTM C 192, each .....	4310 .....	600.00
Sampling Material for Laboratory Trial Batches, per hour.....	4315 .....	130.00
 <b>Gunite &amp; Shotcrete</b>		
Compression, 2", 4", 6" Cores, ASTM C 42, each.....	4314 .....	40.00
Pick-up Shotcrete Cores .....	5016 .....	10.00
Pick-up Gunite Field Sample (40-mile radius) less than 100 lbs., each.....	5017 .....	60.00
Pick-up Gunite Field Sample (40-mile radius) more than 100 lbs., each.....	5018 .....	100.00
ACI 506.2 Core Grading, per core.....	5027 .....	70.00
 <b>Lightweight Roof Fill ASTM C 495</b>		
Compression Test, each.....	4380 .....	45.00
Density, each .....	4381 .....	40.00

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## Laboratory Testing-Reinforcement

### Reinforcing Steel ASTM A 615/A 706

	<b>Activity</b>	<b>Cost</b>
Tensile Test, No. 11 Bar or Smaller, each .....	4600 .....	\$ 35.00
Bend Test, No. 11 Bar or Smaller, each .....	4601 .....	20.00
Tensile Test, No. 14 Bar, each .....	4602 .....	75.00
Tensile Test, No. 18 Bar, each .....	4603 .....	150.00
Chemical Analysis .....	4616 .....	150.00
Deformation Compliance .....	4617 .....	55.00
Sampling and Tagging at Fabricators Plant (within 40-mile radius from Laboratory)		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample .....	5005 .....	19.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday - per sample .....	5006 .....	27.00
Sunday and Holidays - per sample .....	5007 .....	27.00
Minimum Sample Charge, per trip .....	5008 .....	50.00
Pick-up Rebar Samples at Jobsite - per sample .....	5024 .....	19.00

### Welded Specimens

Tensile Test, Welded, No. 11 Bar or Smaller, each .....	4604 .....	50.00
Tensile Test, Welded, No. 14 Bar, each .....	4605 .....	75.00
Tensile Test, Welded, No. 18 Bar, each .....	4606 .....	150.00
Nick Break, Welded Re-Bar, each .....	4607 .....	65.00
Straightening Hoops .....	4615 .....	40.00

### Coupled Reinforcement

Tensile Test, Mechanically Spliced Bar, No. 11 Bar or Smaller, each .....	4612 .....	50.00
Tensile Test, Mechanically Spliced Bar, No. 14 Bar, each .....	4613 .....	75.00
Tensile Test, Mechanically Spliced Bar, No. 18 Bar, each .....	4614 .....	150.00

### Post-Tensioning Strand

Tensile Test and Elongation in 24" for Prestress Strand, ASTM A 416, each .....	4609 .....	90.00
Tensile Test and Elongation in 10" for Prestressing Wire, ASTM A 421, each .....	4610 .....	90.00
Modulus of Elasticity (Prestress Strand), each .....	4611 .....	130.00
Pick-up Post Tension Cables, per sample .....	5025 .....	19.00

### Welded Wire Fabric ASTM A 185

Parent Material Tensile, 5 required, \$30.00 each .....	4618 .....	150.00
Weld-Included Tensile, 5 required, \$30.00 each .....	4619 .....	150.00
Shear-Weld Area, 5 required, \$35.00 each .....	4620 .....	175.00
Bend Test, 5 requires, \$20.00 each .....	4621 .....	100.00
Mesh Evaluation, ASTM C427 .....	4622 .....	\$575.00

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## Laboratory Testing-Masonry

### Brick ASTM C 67

	Activity	Cost
Compressive Strength, each.....	4200	\$ 40.00
Modulus of Rupture (flexure), each.....	4201	50.00
Flexural Bond Strength, each .....	4217	300.00
Dimensions, overall, coring, shell and web thickness, per brick .....	4202	50.00
Coefficient of Friction (slip test), each .....	4203	185.00
Initial Rate of Absorption, each.....	4204	35.00
Absorption - 5 hour or 24 hour, each.....	4205	70.00
Boil, 1, 2 or 5 hour, each .....	4206	50.00
Efflorescence, each.....	4207	75.00
Cores, Compression, each.....	4208	40.00
Cores, Shear, 6" and 8" Diameter, 2 Faces, per core.....	4209	70.00
Pick-up Brick Samples, each .....	5009	9.00
Freeze Thaw (8x8, 4x4), 5 samples, 50 cycles .....	4222	1,500.00

### Concrete Block ASTM C 140

Compression, 3 required, \$40.00 each.....	4210	120.00
Moisture Content as Received, each.....	4211	50.00
Absorption, 3 required, \$40.00 each.....	4212	120.00
Shrinkage, Modified British, ASTM C 426, 3 required, \$95.00 each.....	4213	285.00
Compression, 4" - 6" - 8" Cores, each.....	4221	40.00
Pick-up Block Samples, each .....	5010	15.00
Complete C140.....	4220	525.00

### Masonry Prisms ASTM E 1314

Compression Test, Grouted Prisms, each .....	4218	150.00
Compression Test with MOE, Grouted Prisms, each .....	4223	600.00
Unit Weight, Grouted Prisms, each .....	4224	100.00
Pick-up Prisms - within a 40-mile radius of laboratory, each.....	5013	40.00

### Mortar & Grout UBC St'd 21-16 & 21-18

Compression, 2" x 4" Masonry Mortar Cylinder, each .....	4214	20.00
Compression, 2" Grout Cubes, ASTM C 109, each .....	4215	50.00
Compression, 3" x 6" Masonry Grout, each .....	4216	25.00
Pick-up Mortar Samples, each .....	5011	10.00
Pick-up Grout Samples, each.....	5012	10.00
Pick-up Grout Cubes, each .....	5015	10.00

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## Laboratory Testing-Construction Materials

### Roofing Tile

	Activity	Cost
Absorption, each.....	4700	\$ 40.00
Breaking Strength per U.B.C., each.....	4702	45.00

### Slate

Modulus of Elasticity, ASTM C120, 3 parallel, 3 perpendicular, \$90 each .....	4805	540.00
Modulus of Rupture, ASTM C120, 3 parallel, 3 perpendicular, \$90 each .....	4806	540.00
Water Absorption, ASTM C121, 3 parallel, 3 perpendicular, \$40 each .....	4807	240.00
Weathering, ASTM C217, 3-samples, \$90 each.....	4808	270.00

### Wire Rope

Wire Rope 0 through 1" diameter, each .....	4426	80.00
Wire Rope 1 through 2" diameter, each .....	4427	250.00

Note: Sockets furnished by client

### Epoxy - Cores & Coring

Field Coring Technician and standard equipment, per hour .....	3710	130.00
Shear Test on Epoxied Cores, each .....	4318	60.00
Compression Test, Cylinders.....	4316	50.00
Compression Test, Cores.....	4317	50.00
Pick-up Epoxy Cylinders - per sample .....	5026	9.00

### Fireproofing Tests

Oven Dry Density, per sample.....	4350	35.00
Pick-up Fireproofing Samples, per sample.....	5014	10.00
Adhesion/Cohesion Testing, per hour (4-hour minimum).....	4351	85.00

### Glass Fiber Reinforced Concrete

Flexural Strength, without M.O.E. 6 required, \$45.00 each .....	4320	270.00
Flexural Strength with M.O.E., 6 required, \$145.00 each .....	4321	870.00
Density, 3 required, \$50.00 each .....	4322	150.00
Tensile Strength, 3 required, \$75.00 each .....	4323	225.00
Shear Strength, 3 required, \$75.00 each .....	4324	225.00

### Fiber Wrap

Tensile Strength, 1 panel (12"x12"), 5 samples, \$150.00 each .....	4326	750.00
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### Saturation Resin for Fiber Composite

Water Absorption, ASTM D570.....	4340	200.00
Compressive Yield Strength, ASTM D695 .....	4341	600.00
Flexural Strength, ASTM D790.....	4342	750.00
Shore Hardness, ASTM D2240 .....	4343	200.00
Tensile Strength and Elongation, ASTM D638 .....	4344	750.00

### Specialty Grout

Time of Setting, ASTM C266, each .....	4490	150.00
Sulfate Expansion. ASTM C1012, each .....	4491	500.00
Flexural Strength, ASTM C348, each .....	4492	400.00
Consistence (Cone Test), ASTM C939, each .....	4493	250.00
Bleeding, ASTM C940.....	4494	350.00
Total Chloride Ions, ASTM C1152, each .....	4495	150.00
Permeability, ASTM C1202, each.....	4496	600.00

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## Laboratory Testing - Structural Testing

<b>Testing Machines</b>	<b>Activity</b>	<b>Cost</b>
60,000 to 120,000 Pound Machine (Universal), including set-up time, per hour .....	4400 .....	\$ 175.00
440,000 Pound Machine (Universal), including set-up time, per hour .....	4401 .....	200.00
600,000 Pound Machine (Compression only), including set-up time, per hour.....	4402 .....	250.00
1,100,000 Pound Machine (Universal), including set-up time, per hour .....	4462 .....	750.00
 <b>Manhole Cover and Tree Grate Tests, (L.A. City)</b>		
1-3, each .....	4423 .....	100.00
4 or more, each .....	4424 .....	80.00
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial		
Up to 100,000 lb., each.....	4411 .....	50.00
100,001 to 200,000 lb., each.....	4412 .....	100.00
Tensile Test -- Mechanical Non-Printout Extensometer for Strain, each .....	4432 .....	35.00
Tensile Test -- Electronic Extensometer with Recorded Printout, 1 test .....	4433 .....	45.00
Mechanical Bend Test, each.....	4435 .....	35.00
 <b>Geogrid Testing</b>		
Connection Testing, NCMA Test Method SRWU-1, each.....	4444 .....	350.00
Shear Strength Testing, NCMA Test Method SRWU-1, each.....	4445 .....	350.00

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## Laboratory Testing-Calibration Services

<b>Calibration of Skidmore-Wilhelm Device &amp; Torque Wrench</b>	<b>Activity</b>	<b>Cost</b>
Calibration of Skidmore-Wilhelm Device, in Lab.....	4403 .....	\$100.00
Calibration of Torque Wrench by Skidmore-Wilhelm Device, each bolt size (3 required).....	4404 .....	70.00

### Calibration of Hydraulic Jacks

Up to 50-tons.....	4450 .....	125.00
50 to 74-Tons.....	4451 .....	150.00
75-99-tons.....	4452 .....	160.00
100 to 199-tons.....	4453 .....	180.00
200-299-tons.....	4454 .....	250.00
300-500-tons.....	4466 .....	500.00

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

### Calibration of Measuring Device

Infrared Temperature Gun, each.....	4486 .....	50.00
Ampmeter, each.....	4487 .....	50.00
Torque Wrench, each.....	4488 .....	70.00

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## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
C.T.I. Stain Resistance (8 required) Set.....	CTI T72.....4921	\$ 108.00
Shear Tests, 1 to 5 incl., each .....	4925	35.00
Shear Tests, each .....	4926	32.00
Mortar Skinning Test, each.....	4941	115.00
Mortar Initial Setting Time, each.....	4942	73.00
Grout Skinning Test, each .....	4951	115.00
Grout Compression - 2" cubes, each .....	4954	34.00
Autoclave (3 required), each.....	4930	350.00
Water Immersion Processing for Shear Tests, each.....	4931	15.00
Oven Processing for Shear Tests, each.....	4932	15.00
Low Temperature Processing for Shear Tests, each.....	4933	15.00

### Laboratory Tile Testing In Accordance with A.S.T.M.

Lab Technician, per hour.....	3013	85.00
Thickness, 5.50 each (ANSI requires 80) .....	ASTM C499.....4900	480.00
Facial Dim, 5.50 each (ANSI requires 80) .....	ASTM C499.....4901	480.00
Warpage, 7.00 each (80 required).....	ASTM C485.....4902	560.00
Wedging, 6.50 each (80 required) .....	ASTM C502.....4903	560.00
Static Coefficient of Friction (3) per set (Not Modified).....	ASTM C1028.....4904	205.00
Coefficient of Friction (3) per set (Modified).....	ASTM C1028.....4934	300.00
Dynamic Coefficient of Friction - James Machine (3) per set .....	ASTM D2047.....4935	205.00
Water Absorption, 35.00 each (5 required) .....	ASTM C373.....4905	175.00
Bond Strength, 47.00 each (shear test) (5 required) .....	ASTM C482.....4906	235.00
Breaking Strength, 20.00 each (10 required) .....	ASTM C648.....4907	200.00
Abrasive Wear Index, 95.00 each (4 required) .....	ASTM C501.....4908	380.00
Crazing, 74.00 each (10 required) .....	ASTM C424.....4909	740.00
(ANSI Crazing Requirement) per set.....	4910	209.00
Thermal Shock, 73.00 each (3 required).....	ASTM C484.....4911	219.00
Chemical Resistance.....	ASTM C650.....4913	122.00
Freeze-Thaw Resistance (10) 15 cycles, per set .....	ASTM C1026.....4914	850.00
Additional cycles, per cycle/tile .....	4915	10.00
Modulus of Rupture, 34.00 each (3 required) .....	ASTM C133.....4916	102.00
Moisture Expansion, 73.00 each (5 required) .....	ASTM C370.....4917	365.00
Floor Installation Performance Level .....	ASTM C627-76	
First Panel -- Not Including Tile or Installation.....	4918	1800.00
Second or More on Same Purchase Order .....	4919	1200.00
Impact, (15 required), per set.....	ASTM C368.....4920	225.00
Mohs Hardness (5 required) per set.....	4923	75.00
Tensile Tests in Laboratory, 50.00 each, (5 required).....	4924	250.00

### Mortar Testing

Mortar Compression Test, each.....	ASTM C109.....4944	45.00
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*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Laboratory Testing-Ceramic Tile Continued

### Dimension Stone / Building Stone Testing

	Activity	Cost
Compression Test, (*20 required), per set.....	ASTM C170.....4800	\$1,000.00
Flex Strength, Cut Samples (*20 required), per set.....	ASTM C880.....4801	1,000.00
Flex Strength, Full Size Samples (*20 required), per set.....	ASTM C880.....4931	3,500.00
Modulus/Rupture (*20 required), per set.....	ASTM C99.....4802	1,000.00

\*20 Samples tested as follows:

- 5 Samples tested Wet, Parallel to the grain
- 5 Samples tested Wet, Perpendicular to the grain
- 5 Samples tested Dry, Parallel to the grain
- 5 Samples tested Dry, Perpendicular to the grain

Specific Gravity, (3 required), per set.....	ASTM C97.....4803	225.00
Water Absorption, (3 required), per set.....	ASTM C97.....4804	225.00
Abraision Resistance, (3 required), per set.....	ASTM C1353.....4810	400.00
Anchor Testing, each.....	ASTM C1354.....4932	85.00

### Field Testing

Field Technician, per hour.....	3014	85.00
Field Slip Resistance Test, ASTM C1028, first test.....	4957	425.00
Field Slip Resistance Test, ASTM C1028, additional test in same area, each.....	4958	205.0
Pick-up Sample, per hour.....	5019	55.00
Ceramic Tile Technician Mileage, per mile.....	5101	0.75

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Laboratory Testing-Metallurgical

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Metallurgical Engineer, per hour.....	6933 .....	\$200.00
Metallurgical Technician, per hour.....	6919 .....	85.00
 <b>Metallurgical Services</b>		
Charpy Impact Test - Ambient Temperature (Set of 3 Specimens), per set.....	6902 .....	105.00
Charpy Impact Test - Reduced Temperature (Set of 3 Specimens), per set .....	6903 .....	155.00
Galvanized Coating - Acid Strip Method, per specimen of plate, and wire .....	6904 .....	200.00
Hardness Tests Brinell, Rockwell (Standard or Superficial), excluding specimen preparation if required .....	6905 .....	47.50
Spectrographic Chemical Analysis - Ferrous Material (carbon steel, low alloy), each.....	6920 .....	127.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Spectrographic technique .....	6943 .....	180.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Filings.....	6011 .....	240.00
Wet Chemical Analysis From Filings - Ferrous Material (carbon, low alloy), each.....	6012 .....	200.00
Field Hardness Equipment, per day.....	9117 .....	120.00
Metallographic Replication Kit, per day.....	9118 .....	150.00
Mileage, per mile.....	5101 .....	0.75
Scanning Electron Microscopy (SEM), and EDS, per Hour (min 1 hr).....	6913 .....	215.00
Scanning Electron Photomicrographs, each (5 x 4") .....	6915 .....	8.50
 <b>Mechanical Testing</b>		
Tensile Test - With Electronic Extensometer, excludes sample cutting and specimen preparation, each.....	6934 .....	75.00
Tensile Test - Square or Round Tubes up to 1.75-in. OD.....	6939 .....	215.00
Talbot Test - Sample preparation and test per specimen.....	6957 .....	250.00
 <b>Fastener Testing</b>		
Tensile Test - Anchor Bolts, Studs or Threaded Rods under 100, 000lbf, tested full-size, each .....	6948 .....	125.00
Tensile Test - Anchor Bolts, Studs or Threaded Rods up to 100, 000-120,000lbf, tested full-size, each .....	6958 .....	195.00
Tensile Test - Anchor Bolts, Studs or Threaded Rods up to 1.0-in diam. by machined specimens, each.....	6959 .....	195.00
Tensile Test - Anchor Bolts, Studs or Threaded Rods,1.0 - 2.0in diam. by machined specimens, each.....	6013 .....	205.00
Tensile Test - Anchor Bolts, Studs or Threaded Rods over 2.0-in diam. by machined specimens, each,.....	6014 .....	235.00
Nut - Hardness and Proof Load test under 100,000 lbf, each.....	6949 .....	35.00
Nut - Hardness and Proof Load test 100,000 - 120,000 lbf, each.....	6960 .....	47.50
Nut - Hardness In Core Method in lieu of proof Load test above 120,000lbf, each.....	6015 .....	55.00
Washer or Nut - Not Galvanized - Hardness, each .....	6950 .....	25.00
Washer or Nut - Galvanized - Hardness after stripping, each .....	6016 .....	38.50
A325 or A490 - Bolt hardness only, each .....	6951 .....	35.00
Bolt A325 or A490 - Wedge Tensile up to 100, 000 lbf, and Hardness, each .....	6952 .....	68.00
Bolt A325 or A490 - Tensile over 120,000 lbf by machined specimens, each .....	6975 .....	195.00
Bolt A325 or A490 - Wedge Tensile Under 150, 000 - 200, 000 lbf, and Hardness, each.....	6970 .....	110.00
Bolt A325 or A490 - Wedge Tensile Under 200, 000 - 250,000 lbf, and Hardness, each.....	6971 .....	150.00
Bolt A325 or A490 - Wedge Tensile Over 250, 000 lbf, and Hardness, each.....	6953 .....	200.00

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Laboratory Testing-Metallurgical Continued

<b>Weld Procedure Qualification and Welder Qualification</b>	<b>Activity</b>	<b>Cost</b>
Sample Cut & Machine for Weld Test, over 1.0-in thickness, each .....	6962 .....	\$ 120.00
Sample Cut & Machine for Weld Test, 1.0-in thickness, each .....	6908 .....	85.00
Sample Cut & Machine for Weld Test, under ½-in thickness, each .....	6910 .....	50.00
Sample Cut & Machine for Weld Test, ½ - 1.0in thickness, each .....	6911 .....	60.00
Welded Fabric Weld shear strength, each sample .....	6963 .....	75.00
Guided Weld Bend Test, excluding specimen preparation, each.....	6927 .....	35.00
Age Bend Specimens – 48 Hrs, up to 3 specimens.....	6956 .....	125.00
Sample Cut & Perform Weld-Fillet Weld Fracture Test, each .....	6929 .....	130.00
Weld-Fillet Weld Fracture Test In Sheet Steel & Evaluate, each.....	6969 .....	130.00
Weld-Macro Etch (Plate)- cut, polish, etch, and evaluate, each .....	6930 .....	90.00
Weld-Macro Etch (Rebar # 3 thru # 9) - cut, polish, etch, and evaluate, each .....	6972 .....	90.00
Weld-Macro Etch (Rebar # 10 thru # 14) - cut, polish, etch, and evaluate, each .....	6973 .....	110.00
Weld-Macro Etch (Rebar # 18)- cut, polish, etch, and evaluate, each.....	6974 .....	180.00
Weld Transverse Tensile Test, plate up to 1.0-in thick excluding machining, each.....	6932 .....	80.00
Weld Transverse Tensile Test, plate over 1.0-in thick excluding machining, each.....	6964 .....	150.00
Welded Rebar Transverse Tensile Test, # 3 thru # 9.....	6965 .....	105.00
Welded Rebar Transverse Tensile Test, # 10 thru # 14.....	6966 .....	140.00
Welded Rebar Transverse Tensile Test, # 18 .....	6967 .....	450.00
Review Welding Procedure Specification (WPS), each .....	6921 .....	175.00
Prepare Welding Procedure Specification (WPS), each .....	6922 .....	350.00
WPS, PQR Weld Certificate, each.....	6971 .....	65.00

**Unless otherwise noted, costs above do not include sample preparation.**

### Administrative Charges

Rush Turnaround, 48 - 72 hours (50% Surcharge) .....	6935 .....	+ 50% of invoice
Rush Turnaround, 24 - 48 hours (100% Surcharge) .....	6936 .....	+100% of invoice
Test Report Charge.....	6110 .....	Minimum 65.00
Same day testing + report (200% Surcharge) .....	6937 .....	+ 200%of invoice
Minimum laboratory charge .....	6923 .....	150.00
Multiple copies for distribution, copies and mailing, per distributor per copy each.....	6924 .....	4.50
Digital Photographs, photo quality paper, each .....	9116 .....	8.50
Digital Photographs, photo quality paper, per copy report each.....	9116 .....	4.50

### Sample Preparation

Sample Cut & Machine Specimen - over 1.0-in thick, each.....	6968 .....	120.00
Sample Cut & Machine Specimen - 1.0-in thick, each .....	6908 .....	80.00
Sample Cut & Machine Charpy V-Notch Specimens (Set of 3 specimens), per set.....	6909 .....	140.00
Sample Cut & Machine Sub-size Charpy V-Notch Specimens (Set of 3 specimens), per set .....	6940 .....	170.00
Sample Cut & Machine Charpy V-Notch Specimens From 'K' Section (Set of 3 specimens), per set .....	6941 .....	190.00
Sample Cut & Machine Specimen – under ½-in, each .....	6910 .....	50.00
Sample Cut & Machine Specimen – ½ - 1.0-in, each.....	6911 .....	60.00
Metallurgical Mount, 1-1/4-in. including preparation without evaluation, each .....	6914 .....	120.00
Metallurgical Mount, 2.0-in. including preparation without evaluation, each.....	6918 .....	150.00
Add additional piece in mount, each piece.....	6925 .....	25.00

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**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Professional, per hour .....	7207 .....	\$ 80.00
Staff Professional, per hour .....	7206 .....	90.00
Project Manager, per hour .....	7205 .....	95.00
Project Professional, per hour .....	7204 .....	100.00
Senior Professional, per hour .....	7203 .....	110.00
Principal Professional, per hour .....	7202 .....	120.00
Senior Principal Professional, per hour .....	7201 .....	150.00
Office Support, per hour .....	7209 .....	35.00
Word Processor, per hour .....	7219 .....	40.00
Illustrator, per hour .....	7208 .....	45.00

**Field Staff**

Field Technician, Laboratory and Field with density equipment, per hour .....	7212 .....	65.00
Environmental Technician, per hour .....	7240 .....	85.00
CalTrans Certified Technician with density equipment, per hour .....	7274 .....	85.00
Supervising Technician, Laboratory and Field with density equipment, per hour .....	7214 .....	85.00
Soils Deputy Grading Inspector .....	7563 .....	90.00

**Geotechnical Minimums**

Show-up time, no work performed .....	2-hour minimum charge
Field Service Calls .....	4 and 8-hour minimum charge
Field Soils Work .....	a minimum of 1 hour per week engineering supervision may be charged

**Overtime**

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours .....	7222 .....	time and one-half
Sundays and Holidays, 1 to 8 Hours .....	7222 .....	time and one-half
Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7 <sup>th</sup> consecutive day .....	7232 .....	double time

**Administrative Charges**

Pick-Up/Delivery, per hour (2-hours minimum) .....	7215 .....	35.00
Mileage, per mile .....	7313 .....	0.75
Travel Time, per hour .....	7235 .....	50.00
Facsimile, per page .....	7315 .....	1.00
Reproduction, per page .....	7225 .....	1.50
Report Surcharge, per copy .....	7317 .....	50.00
Cellular Telephone, per day .....	7319 .....	35.00
Air Express/Over-night Delivery, each .....	7325 .....	35.00

**Support Equipment Foundation/Geological Investigations**

Nuclear Density Gage, per day .....	7327 .....	Field Staff
Sand Cone Kit, per day .....	7328 .....	Field Staff
Soil Sampling:		
Encore Sample Container, per container .....	7125 .....	\$ 9.00
Tubes and Rings, per sample .....	7122 .....	5.00

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## Geotechnical and Environmental Services-Continued

### Environmental Investigations and Reports

	Activity	Cost
Health and Safety Plan .....	7320 .....	\$350.00

### Support Equipment Environmental

Air Monitoring Equipment, per day .....	7216 .....	100.00
Magnetometer Equipment, per day .....	7309 .....	100.00
Water Pump and Generator, per day .....	7311 .....	150.00
Water Monitoring Equipment .....	7316 .....	50.00
<b>Health Safety Equipment:</b>		
Level C, per Person, per day, plus hourly rate .....	7229 .....	75.00
Health and Safety Supplies, per day .....	7217 .....	150.00

### Concrete Coring Services

Technician and Equipment Concrete (4 and 8 hour minimum), per hour .....	3710 .....	130.00
<b>Individual Core Prices (all prices are for a four core minimum job):</b>		
Slab on Grade Coring for 2", 3" and 4" Diameter (First 6" in depth), each .....	7023 .....	60.00
Slab on Grade Coring for 6" and 8" Diameter (first 6" in depth), each .....	7025 .....	65.00
Slab on Grade Concrete Core (price per inch after 6" in depth), each .....	7026 .....	5.00
Wall Cores 2", 3" and 4" Diameter (first 6" in depth), each .....	7027 .....	75.00
Wall Concrete Core (price per inch after 6" in depth), per inch .....	7028 .....	5.00
<i>(Wall core prices based on Contractor supplying access to area to be cored)</i>		
<b>Miscellaneous Concrete Coring Prices:</b>		
Patching Slab on Grade Cored Holes with 2500 psi Concrete Patch, each .....	7345 .....	10.00
Thickness Determination per ASTM C42, each .....	7346 .....	10.00
Compression Strength Determination .....	7347 .....	40.00
Pachometer to Locate Reinforcing Steel (coring jobs only, 2 hour minimum), per hour .....	7344 .....	85.00
Travel Time, per hour .....	7235 .....	50.00
Mileage, per mile .....	7313 .....	0.75

### Asphalt Concrete Coring Services

Technician and Equipment Asphaltic Concrete Cores (4 and 8 hour minimum), per hour .....	3710 .....	130.00
<b>Alternate Individual Core Prices (all prices are for a four core minimum job):</b>		
Asphaltic Concrete Cores 2", 3" and 4" Diameter (First 6" in depth), each .....	7022 .....	60.00
Asphaltic Concrete Cores 6" and 8" Diameter (first 6" in depth), each .....	7029 .....	60.00
Asphaltic Concrete Cores price per inch after 6" in depth), each .....	7030 .....	3.50
<b>Miscellaneous Asphaltic Coring Prices:</b>		
Patching of Core Drilled Holes Using Cold Patch Material, each .....	7031 .....	25.00
Thickness Determination per ASTM C42, each .....	7032 .....	25.00
<b>Specific Gravity for Determination of Percent Compaction per ASTM D 2726</b>		
(Includes thickness determination), each .....	7033 .....	35.00
Specific Gravity for Determination of Percent Compaction by paraffin, each .....	7034 .....	55.00

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## Laboratory Testing-Soil

### Soil Properties

	Activity	Cost
California Impact, CAL 216, each.....	7018 .....	\$ 150.00
Moisture Density-Chuck Density, In-Situ, ASTM D2937, each .....	7555 .....	50.00
Moisture Density-Drive Tube Density, In-Situ, each .....	7137 .....	50.00
Material Finer - #200 Sieve, ASTM D 1140/C 117, each .....	7110 .....	50.00
Moisture, ASTM D2216, each.....	7111 .....	25.00
Moisture (microwave), ASTM D4643, each .....	7019 .....	15.00
Moisture-Density Relations of Soils, ASTM D1557, Method A each.....	7113 .....	130.00
Moisture-Density Relations of Soils, ASTM D1557, Method B or C each.....	7114 .....	140.00
Moisture-Density Check Point, each .....	7135 .....	50.00
"R" (Resistance) Value, Lime Treated or Requiring Recombining, each.....	7120 .....	250.00
"R" (Resistance) Value, Calif. 301, ASTM D 2844, each .....	7119 .....	200.00
Sieve Analysis of Combined Fine and Coarse, ASTM D-422, each .....	7124 .....	150.00
Sieve and Hydrometer Analysis, ASTM D 422, each .....	7109 .....	200.00
Specific Gravity for Soils, ASTM D 854, each .....	7127 .....	120.00

### Foundation Testing

Atterberg Limits, (LL, PI) ASTM D 4318, each .....	7100 .....	175.00
Atterberg Shrinkage Limit, ASTM D 4318, each.....	7099 .....	150.00
California Bearing Ratio, ASTM D 1883, set.....	7130 .....	450.00
Consolidation Test, ASTM D 2435, each.....	7102 .....	200.00
Consolidation Time/Rate Curves, each.....	7103 .....	50.00
Remolding of Samples, each .....	7104 .....	30.00
Direct Shear Test, ASTM D 3080:		
Consolidated, Drained 1 Point, each.....	7107 .....	125.00
Consolidated, Undrained 1 Point, each.....	7106 .....	100.00
Unconsolidated, Undrained, 1 Point, each.....	7105 .....	100.00
Remolding of Samples, each .....	7104 .....	30.00
Expansion Index, UBC-18-2, ASTM D 4829, each.....	7108 .....	110.00
Permeability, Constant Head, ASTM D 2434, CAL 220, each .....	7116 .....	225.00
Permeability, Falling Head, CAL 220, each.....	7117 .....	225.00
Unconfined Compression Test, ASTM D 2166, each.....	7129 .....	70.00
Unconfined Compression Test with Graph, ASTM D 2166, each.....	7134 .....	120.00

### Peat Moss

Loss on Ignition, ASTM D 2974 each.....	7040 .....	45.00
Bulk Specific Gravity, ASTM D 4531, each .....	7041 .....	45.00
Classification, ASTM D 4427, each .....	7012 .....	150.00
pH, ASTM D 2976, each.....	7043 .....	45.00
Absorption, ASTM D 2980, each .....	7044 .....	20.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM D1557, Method A
- ASTM D4829 / UBC 18-2
- ASTM C136
- ASTM C117, ASTM D1140
- ASTM C131
- ASTM D2937
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Aggregate

<b>Aggregate Properties</b>	<b>Activity</b>	<b>Cost</b>
Absorption, Coarse, ASTM C 127, each .....	7000 .....	\$ 45.00
Fine, ASTM C 128, each .....	7001 .....	55.00
In Lab Core Cutting.....	4312 .....	50.00
Percent Flat/Elongated CRD C 119, ASTM D 4791, each .....	7010 .....	200.00
Sodium or Magnesium soundness, 5 cycles, ASTM C 88, each.....	7012 .....	200.00
Specific Gravity, Bulk SSD, Coarse, ASTM C 127, each .....	7013 .....	70.00
Specific Gravity, Bulk SSD, Fine, ASTM C 128, each.....	7014 .....	80.00
Specific Gravity, Bulk SSD, Coarse, Complete ASTM C 127, each.....	7045 .....	125.00
Specific Gravity, Bulk SSD, Fine, Complete ASTM C 128, each.....	7046 .....	135.00
Unconfined Compression Test of Intact Rock, ATM D2938, each .....	7021 .....	70.00
Unit Weight, ASTM C 29, (No Air Void Determination) each .....	7017 .....	70.00
Unit Weight and Air Void Determination – Coarse Aggregates, ASTM C 29, each.....	7035 .....	200.00
Unit Weight and Air Void Determination – Fine Aggregates, ASTM C 29, each.....	7036 .....	200.00

### Conformity

Clay Lumps/Friable Particles, ASTM C 142, each.....	7101 .....	80.00
Cleanness Value, Calif. 227, each .....	7004 .....	125.00
Durability Index, Calif. 229, Coarse, each .....	7005 .....	150.00
Durability Index, Calif. 229, Fine, each .....	7006 .....	150.00
Los Angeles Rattler, ASTM C 131, each .....	7008 .....	150.00
Los Angeles Rattler, ASTM C 535, each .....	7009 .....	175.00
Lightweight Aggregate, Coarse, ASTM C 123, each .....	7007 .....	250.00
Lightweight Aggregate, Fine, ASTM C 123, each .....	8514 .....	200.00
Organic Impurities, ASTM D2974 .....	7115 .....	45.00
Sand Equivalent (Average of 3) Calif. 217, each .....	8516 .....	80.00
Sand Equivalent (Average of 3) ASTM D 2419, each.....	7123 .....	80.00
Sieve Analysis, Coarse, ASTM C 136, each .....	7015 .....	100.00
Sieve Analysis, Fine, ASTM C 136, each .....	7016 .....	100.00
Sieve Analysis, Fine and Coarse Combined, ASTM C 136, each .....	7549 .....	150.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM C136
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Asphalt Concrete

<b>Asphalt Concrete</b>	<b>Activity</b>	<b>Cost</b>
Aggregate Correction for Ignition Oven, each .....	4117 .....	\$ 50.00
Asphalt Core Density, each .....	4112 .....	35.00
Centrifuge Kerosene Equivalent.....	4118 .....	150.00
Extraction, % Asphalt, ASTM D 2172 (Method A, B, or C) or Calif. 310. Excluding Ash Correction, each.....	4110 .....	75.00
Extraction, % Asphalt, Ignition Oven, each .....	4111 .....	100.00
Gradation on Extracted Sample (Including Wash) Calif. 202, each .....	4108 .....	100.00
<b>Maximum Density</b>		
Hveem, Lab-mixed - Calif. 366, each.....	4104 .....	175.00
Hveem, Pre-mixed - Calif. 366, each.....	4105 .....	125.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4106 .....	175.00
Marshall, Pre-mixed - ASTM D 1559, each .....	4107 .....	125.00
Maximum Theoretical Unit Weight (Rice Gravity) ASTM 2041, each.....	4120 .....	175.00
Moisture Vapor Susceptibility .....	4113 .....	200.00
Penetration ASTM D 5, each.....	4109 .....	60.00
<b>Stability Tests:</b>		
Hveem, Lab-mixed - Calif. 304, each.....	4100 .....	250.00
Hveem, Pre-mixed - Calif. 304, each.....	4101 .....	200.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4102 .....	250.00
Marshall, Pre -mixed - ASTM D 1559, each .....	4103 .....	200.00

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## Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories</b>	<b>Activity</b>	<b>Cost</b>
Administrative Support for Special Projects.....	3074 .....	+ 20% of Hourly Rate
Administrative Office Support.....	3075 .....	\$ 46.00
Task Tracking.....	3076 .....	65.00
Report Surcharge, per copy .....	3077 .....	50.00
Report Copy Charge, per sheet.....	3078 .....	1.75
Reproduction, per page.....	3079 .....	1.50
File Retrieval, per file.....	3080 .....	20.00
Processing Certificates, Affidavits, & Notary Services, each.....	3082 .....	25.00
Facsimile, per page.....	3083 .....	1.00
Shipping Charges.....	3084 .....	At Cost
Air Express/Delivery, each.....	3085 .....	At Cost
Cellular Telephone, per day.....	3086 .....	35.00
Minor Report Revision, minimum.....	3089 .....	25.00

**END OF DOCUMENT – SCHEDULE OF FEES**

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Additional Services

The following are additional services provided by Smith-Emery Laboratories which are outside of the general scope of services for this contract. These services do not have established schedule of fees and are determined by a number of factors, including size, weight, quantity, location, ect... Should any of these services be required, a cost estimate will be provided based on project specific information provided.

### Inspection Services

<b>Miscellaneous Inspection</b>	<b>Activity</b>	<b>Cost</b>
Project Inspector/IOR/OSA.....	1818.....	By Quote
<b>Additional Services</b>		
Seismic Evaluation.....	2018.....	By Quote
Subsistence.....	1103.....	By Quote
Travel Time.....	1102.....	By Quote
Project Inspector/IOR/OSA.....	1818.....	By Quote
<b>Outside Services</b>		
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory Services

<b>Miscellaneous Support Fees</b>		
Sample Preparation.....	4408.....	By Quote
Final Report.....	9111.....	By Quote
Sample Disposal.....	4425.....	By Quote
Special Test Set-Up.....	4422.....	By Quote
<b>Outside Services</b>		
Concrete Core Cutting.....	4313.....	By Quote
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory-General Field Services

<b>General Field Services</b>		
Special Testing/Inspection Services.....	4420.....	By Quote
Structural Investigations of Existing Buildings.....	3088.....	By Quote
Corrosion Survey.....	3096.....	By Quote
<b>Field Equipment Charges</b>		
Misc. Equipment Charge.....	4416.....	By Quote
Photostress, per day.....	4419.....	By Quote
Vibration and Sound Monitoring, per day.....	4430.....	By Quote
Strain Gages.....	4467.....	By Quote



**Laboratory Testing-Concrete**

<b>Forensic Testing</b>	<b>Activity</b>	<b>Cost</b>
Petrographic Examination, ASTM C856 .....	4319 .....	By Quote
Corrosion Potential, Half Cell, ASTM C876 .....	4448 .....	By Quote
Pulse Velocity, ASTM C597 .....	4449 .....	By Quote
Cement Analysis, ASTM C114, each .....	4473 .....	By Quote

**Laboratory Testing-Reinforcement**

<b>Reinforcing Steel ASTM A 1035</b> .....		
Tensile Test, each, .....	4327 .....	By Quote
Bend Test, each .....	4328 .....	By Quote

**Laboratory Testing-Masonry**

<b>Masonry Prisms ASTM E 1314</b>		
Cutting Prisms, when required.....	4219 .....	By Quote
<b>Unreinforced Masonry Building Tests</b>		
In-Place Shear (Push) Tests .....	4809 .....	By Quote
15 Degree Core Shear Tests .....	4815 .....	By Quote
Wall Anchors.....	4816 .....	By Quote
Flat Jack Testing.....	4827 .....	By Quote

**Laboratory Testing-Construction Materials**

<b>Roofing Tile</b> .....		
Additional/Special Tests.....	4701 .....	By Quote
<b>Wire Rope</b>		
Wire Rope over 2" diameter, each.....	4428 .....	By Quote
<b>Note: Sockets furnished by client</b>		
<b>Salt Spray</b>		
24 Hours, per panel.....	4407 .....	By Quote
<b>Saturation Resin for Fiber Composite</b>		
Evaluation per MWD RFQ 704 .....	4345 .....	By Quote
<b>Structural Lumber</b>		
Flexure, ASTM D198 .....	4470 .....	By Quote
Compression, ASTM D198 .....	4471 .....	By Quote
Tension, ASTM D198 .....	4472 .....	By Quote
Torsion, ASTM D198 .....	4473 .....	By Quote
Shear, ASTM D198 .....	4474 .....	By Quote
<b>Specialty Grout</b>		
Rapid-Hardening Grout, ASTM C928.....	4395 .....	By Quote
Non-Shrink Grout, ASTM C1107.....	4396 .....	By Quote





## Laboratory Testing - Structural Testing

<b>Testing Machines</b>	<b>Activity</b>	<b>Cost</b>
Load Tests .....	4405 .....	By Quote
Special Test Set-Up.....	4422 .....	By Quote
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial Over 200,000 lb., each.....	4410 .....	By Quote
Strain Gauge Testing .....	4418 .....	By Quote
Special Testing, Load Tests, Flexural, Bend, Impact, Axial, Racking Shear .....	4420 .....	By Quote
Machining and Preparation of Samples.....	4435 .....	By Quote
 <b>Hydrostatic Tests</b> .....	 4429 .....	 By Quote
 <b>Structural Testing</b>		
Diaphragm .....	4436 .....	By Quote
Monotonic Shear Wall.....	4437 .....	By Quote
Cyclic Shear Wall.....	4438 .....	By Quote
Moment Frame Connection .....	4439 .....	By Quote
Component Compression.....	4440 .....	By Quote
Component Shear .....	4441 .....	By Quote
Component Flexural .....	4442 .....	By Quote
Uniform Load .....	4443 .....	By Quote
 <b>Product Evaluation Services</b>		
Code Consulting .....	3095 .....	By Quote
ICC ES/IAS Fabricator Quality Assurance Services .....	3090 .....	By Quote
ICC ES Product Evaluation Services.....	3091 .....	By Quote
CISCA Product Evaluation Services .....	3092 .....	By Quote
AAMA Product Evaluation Services.....	3093 .....	By Quote
ATC 24, FEMA 350, FEMA 450 Product Evaluation Services .....	3094 .....	By Quote

## Laboratory Testing-Calibration Services

<b>Calibration of Hydraulic Jacks</b>		
Custom Systems .....	4455 .....	By Quote

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

<b>Calibration of Measuring Device.....</b>		
Calibration of Linear Measuring Device, each .....	4430 .....	By Quote
Calibration of Temperature Measuring Device, each .....	4431 .....	By Quote
Calibration of Mass Measuring Device, each .....	4432 .....	By Quote
Force, each.....	4483 .....	By Quote
Pressure, each .....	4484 .....	By Quote
Temperature, each .....	4485 .....	By Quote

## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
Reflectance Test, each .....	4922 .....	By Quote
Mortar Drop-off Test, each .....	4943 .....	By Quote
 <b>Laboratory Tile Testing In Accordance with A.S.T.M.</b>		
Color Uniformity .....	ASTM C609.....4912 .....	By Quote
Ceramic Tile Material Purchase .....	4956 .....	By Quote
Ceramic Tile Miscellaneous .....	4929 .....	By Quote
Veneer Bond Strength, 2-required .....	ASTM C482.....4928 .....	By Quote
 <b>Mortar Testing</b>		
Mortar ANSI Test.....	4940 .....	By Quote
Mortar Miscellaneous Test .....	4945 .....	By Quote
 <b>Grout Testing</b>		
Grout ANSI Test.....	4950 .....	By Quote
Grout Drop-off Test.....	4953 .....	By Quote
Grout Miscellaneous Test .....	4955 .....	By Quote
 <b>Field Testing</b>		
Field Veneer Bond Strength .....	ASTM C482.....4959 .....	By Quote

## Laboratory Testing-Plastics & Plumbing

<b>Plastic</b> .....		
Weatherometer Test, each .....	4422 .....	By Quote
Plastic Tensile Tests, each .....	4425 .....	By Quote
Plastic Pipe Flexural Tests, each .....	4500 .....	By Quote
Plastic Pipe Load Tests, each .....	4501 .....	By Quote
Plastic Pipe Acetone Test, each .....	4502 .....	By Quote
Plastic Pipe Flattening Tests, each.....	4503 .....	By Quote
Plastic Pipe Heat Distortion, each .....	4504 .....	By Quote
Plastic Pipe Hydrostatic Burst .....	4505 .....	By Quote
Plastic Pipe Impact Tests (Reduced Temperatures), each .....	4506 .....	By Quote
Plastic Pipe Impact Tests (Ambient Temperatures), each .....	4507 .....	By Quote
Plastic Pipe Joint Tightness, each.....	4508 .....	By Quote
Plastic Pipe Load/Crush Test.....	4509 .....	By Quote
Plastic Pipe Miscellaneous Tests .....	4510 .....	By Quote
Plastic Pipe Stiffness, Deflection Load, Crush Resist, each .....	4511 .....	By Quote
Plastic Pipe Sustained Pressure.....	4512 .....	By Quote
Plastic Pipe Tensile Tests .....	4513 .....	By Quote
Plastic Pipe Water Resistance, each .....	4514 .....	By Quote
Plastic Pipe Water Absorption Test.....	4515 .....	By Quote
 <b>Plumbing</b>		
Plumbing Area Impact Tests .....	4516 .....	By Quote
Plumbing Bond Strength Tests, set of 5.....	4517 .....	By Quote
Plumbing Cigarette Test, each.....	4518 .....	By Quote
Plumbing Chemical Resistance .....	4519 .....	By Quote
Plumbing Cleanability and Wear, each.....	4520 .....	By Quote
Plumbing Color Fastness 200 hr .....	4521 .....	By Quote
Plumbing Color Fastness 700 hr.....	4522 .....	By Quote
Plumbing Color Fastness 1000 hr.....	4523 .....	By Quote
Plumbing Cracking And Crazing, each .....	4524 .....	By Quote
Plumbing Fitting Dimensions, each.....	4525 .....	By Quote
Plumbing Pipe Dimensions, each .....	4526 .....	By Quote
Plumbing Drain Fitting Connections, each.....	4527 .....	By Quote
Plumbing Fire Tests, each.....	4528 .....	By Quote



## Laboratory Testing-Plastics & Plumbing Continued

<b>Plumbing continued...</b>	<b>Activity</b>	<b>Cost</b>
Plumbing Barcal Hardness, each .....	4529 .....	By Quote
Plumbing Load Tests, each .....	4530 .....	By Quote
Plumbing Miscellaneous Tests .....	4532 .....	By Quote
Plumbing Point Impact Tests, each .....	4533 .....	By Quote
Plumbing Sidewall Load Tests .....	4534 .....	By Quote
Plumbing Stain Resistance, each .....	4535 .....	By Quote
Plumbing Subsurface Test, each .....	4536 .....	By Quote
Plumbing Surface Test, each .....	4537 .....	By Quote
Plumbing Temperature Resistance, each .....	4538 .....	By Quote
Plumbing Washability, each .....	4539 .....	By Quote
Plumbing Water Absorption, each .....	4540 .....	By Quote
Plumbing Water Resistance, each .....	4541 .....	By Quote
Plumbing Water Resistance Cycling Test .....	4542 .....	By Quote
Gel Coat Thickness, each .....	4543 .....	By Quote

## Laboratory Testing-Metallurgical

### **Metallurgical Services**

Failure Analysis, Metallurgical Consulting, and Forensic Metallurgy .....	6010 .....	By Quote
Stucco Netting, ICC Evaluation, per roll .....	6912 .....	By Quote
Microhardness Survey, (includes metallurgical mount & preparation), each .....	6921 .....	By Quote
Special Preparation and Testing .....	6917 .....	By Quote

### **Mechanical Testing**

Bend Test – Base material .....	6900 .....	By Quote
Load Tests (Proof Load, Flexural, Stress-corrosion, etc.) .....	6907 .....	By Quote

### **Fastener Testing**

Nut Cone Proof Load Test, each .....	6961 .....	By Quote
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### **Weld Procedure Qualification and Welder Qualification .....**

Weld-Radiography .....	6931 .....	By Quote
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**Unless otherwise noted, costs above do not include sample preparation.**



## Laboratory Testing - Curtain Wall

### Mock-Up Performance Testing

#### 9 Testing Bays Available in the Following Sizes:

Number of Available Test Bays	Height (feet)	Width (feet)
1	100	35
1	45	75
5	34	20
1	30	10
1	20	20

#### Custom Test Bay Sizes Available by Quote.

Inspection and Testing	Activity	Cost
Lab Tech Away from Lab .....	3014 .....	\$ 125.00
Special Curtain Wall Evaluation, per hour .....		125.00
Curtain Wall Attachment, per hour .....		125.00
Exterior Skin from Swing Stage (2 men), per hour .....		250.00
Caulking, Sealants, Adhesives, per hour .....		125.00
Coatings, Paint, per hour .....		By Quote
<b>Materials Evaluation</b>		
Glass, Granite, Metal Cladding, Caulking, Paint Coatings		
Adhesive Bond, Chemical Analysis .....	8112 .....	By Quote
Field Water Test, AAMA 501.2, (2 men) per hour .....	8113 .....	250.00
Static Water Infiltration, ASTM E 331/1105 .....	8102 .....	By Quote
Static Air Infiltration, ASTM E 283/783 .....	8104 .....	By Quote
Seismic Structural Loading .....	8122 .....	By Quote
Structural Performance ASTM E 330 .....	8106 .....	By Quote
Concentrated Load Testing (window washer, etc.) .....	8109 .....	By Quote
Stress and Rupture - Stone and Granite .....	8111 .....	By Quote
Dynamic Water Infiltration .....	8103 .....	1,500.00
Water Penetration By Cyclic Air Pressure, ASTM E 547 .....	8105 .....	By Quote
AAMA Thermal Testing .....	8110 .....	By Quote

### Special Testing

<b>Multi-Channel Computer Aided Data Acquisition of: .....</b>		
Acceleration .....	4465 .....	By Quote
Vibration .....	4430 .....	By Quote
Movements (0.0001 inch) .....	4466 .....	By Quote
Pressure .....	4467 .....	By Quote
Machine Control Movement .....	4468 .....	By Quote
Temperature .....	4469 .....	By Quote
Strain Gauge .....	4418 .....	By Quote
Stress Analysis .....	4475 .....	By Quote
Cyclic Seismic Testing of Components of Steel Structures, ATC-24, FEMA 350, FEMA 450 .....	4439 .....	By Quote



**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Expert Witness, per hour .....	7200 .....	By Quote
<b>Administrative Charges</b>		
Contracted Services-Drilling .....	7300 .....	By Quote
Contracted Services-Testing.....	7301 .....	By Quote
Contracted Services-Expenses.....	7303 .....	By Quote
<b>Foundation/Geological Investigations</b> .....		
Geotechnical Field Exploration .....	7308 .....	By Quote
Final Report of Compacted Fill (submitted at end of project, if required) .....	7305 .....	By Quote
<b>Environmental Investigations and Reports</b>		
Site Assessments Phase I.....	7306 .....	By Quote
Site Assessments Phase II.....	7307 .....	By Quote
Report Preparation.....	7340 .....	By Quote
<b>Support Equipment Environmental.....</b>		
Health Safety Equipment:		
Level A, per Person .....	7227 .....	By Quote
Level B, per Person, per day, plus hourly rate.....	7228 .....	By Quote

**Laboratory Testing-Soil**

<b>Soil Properties</b>		
California Impact, CAL 216, each.....	7018 .....	\$ 150.00
Corrosivity: Resistivity, pH, Sulfates, Chlorides, each.....	7020 .....	By Quote
Relative Density (max/min) D 4254, each.....	7534 .....	By Quote
<b>Foundation Testing</b>		
Collapse Potential, each.....	7559 .....	By Quote
Triaxial Unconsolidated, Undrained, ASTM D 2850, each.....	7132 .....	By Quote

**Laboratory Testing-Aggregate**

<b>Aggregate Properties</b> .....		
Hardness Test, ASTM D 1865, each .....	7557 .....	By Quote
Loss On Ignition, ASTM C25.....	7037 .....	By Quote
Plate Bearing Test, ASTM D 1195, D 1196 .....	7118 .....	By Quote
Petrographic Analysis of Aggregate for Concrete, ASTM C295, each .....	7024 .....	By Quote
Potential Alkali-Silica Reactivity of Aggregate for Concrete, ASTM C 289, Chemical Method, each .....	7551 .....	By Quote
Potential Alkali Reactivity of Aggregate for Concrete, ASTM C 1260, Mortar-Bar Method, each.....	7552 .....	By Quote
Potential Alkali Reactivity of Carbonate Rocks for Concrete, ASTM C 586, Rock Cylinder Method, each.....	7565 .....	By Quote
<b>Conformity</b>		
Staining Materials, ASTM C 641, each.....	7553 .....	By Quote

**Laboratory Testing-Asphalt Concrete**

<b>Asphalt Concrete</b> .....		
Complete Asphalt Concrete Mix Design, each.....	4119 .....	By Quote



## Laboratory Tests - Chemical

<b>Administrative Charges</b>	<b>Activity</b>	<b>Cost</b>
Manager, Supervisor, or Consultant, per hour .....	6409 .....	By Quotation
Chemist, per hour .....	6406 .....	By Quotation
Technician, per hour .....	6430 .....	By Quotation
Clerical Assistant, per hour .....	6432 .....	By Quotation
Calculation Charge .....	6403 .....	By Quotation
Report Preparation Charge .....	6418 .....	By Quotation
Sample Preparation .....	6424 .....	By Quotation
Sample Composite, per sample .....	6425 .....	By Quotation
Sample Disposal .....	6421 .....	By Quotation
Sample Transport, per hour .....	6427 .....	By Quotation
Shipping Charges .....	6433 .....	By Quotation
Sample Containers .....	6434 .....	By Quotation
Equipment Rental .....	6435 .....	By Quotation
Photography .....	6420 .....	By Quotation
Standard Report/QC Package .....	6511 .....	By Quotation
Diskette Surcharge, 10% .....	6512 .....	By Quotation
RWQCB Package Surcharge, 15% .....	6513 .....	By Quotation
NEESA, Army Corps of Engineers, CLP, Etc., Surcharge .....	6514 .....	By Quotation
 <b>Field Sampling</b>		
Technician, Per hour .....	6430 .....	By Quotation
Mileage, per mile .....	6415 .....	By Quotation
Automatic Composite Sampler, per 24-hours .....	6400 .....	By Quotation
Discharge Flow Measurement, each .....	6412 .....	By Quotation
 <b>Supplies</b>		
5035 Encore (5g), each .....	6434 .....	By Quotation
5035 Sampling Tool, each .....	6435 .....	By Quotation
5035 Easy Draw .....	6534 .....	By Quotation
 <b>Rush Analyses</b>		
Rush Surcharge, 72 Hours .....	6535 .....	By Quotation
Rush Surcharge, 48 Hours .....	6540 .....	By Quotation
Rush Surcharge, 24 Hours .....	6545 .....	By Quotation
Rush Surcharge, Same Day .....	6550 .....	By Quotation
Rush Surcharge .....	6530 .....	By Quotation



## Laboratory Tests – Organic Chemistry

<b>Organic Analyses</b>	<b>Activity</b>	<b>Cost</b>
1664 TRPH.....	6201 .....	By Quotation
413.1 Oil and Grease .....	6236 .....	By Quotation
Oil & Grease, Floatable .....	6237 .....	By Quotation
418.1 TRPH.....	6258 .....	By Quotation
8015B TPH-Gasoline .....	6268 .....	By Quotation
8015B TPH-Diesel .....	6269 .....	By Quotation
8015B TPH-Gasoline and Diesel.....	6267 .....	By Quotation
8015B TPH-Hydrocarbon Range.....	6263 .....	By Quotation
8015B Methanol/Ethanol.....	6264 .....	By Quotation
602 or 8021B BTEX.....	6202 .....	By Quotation
8015B/8021B Combination-Gasoline.....	6203 .....	By Quotation
601 or 8021B Halogenated Organics.....	6228 .....	By Quotation
624 / 8260B Volatile Organics .....	6250 .....	By Quotation
524 Volatile Organics.....	6249 .....	By Quotation
625 or 8270C Extractable Organics.....	6216 .....	By Quotation
608 or 8082 PCBs Water or Soil .....	6242 .....	By Quotation
8082 PCBs Oil.....	6244 .....	By Quotation
608 or 8081A Chlorinated Pesticides .....	6206 .....	By Quotation
608 or 8082 / 8081A PCBs and Pesticides .....	6243 .....	By Quotation
8151A Chlorinated Herbicides .....	6207 .....	By Quotation
Total Organic Carbon.....	6254 .....	By Quotation
Total Organic Halides.....	6256 .....	By Quotation
Flash Point.....	6218 .....	By Quotation
Organic Analysis.....	6238 .....	By Quotation
Petroleum Analysis.....	6246 .....	By Quotation
Identification/Interpretation of Spectrum .....	6232 .....	By Quotation
5035 or 5030, 8015B / 8260B Gasoline and Volatile Organics.....	.....	By Quotation
 <b>Mobile Laboratory Services</b>		
Mobile Lab per 10 hour weekday .....	6460 .....	By Quotation
Mobile Lab per 10 hour weekend.....	6465 .....	By Quotation
Mobile Lab hours in excess of 10 hours .....	6461 .....	By Quotation
Mobilization fee.....	6467 .....	By Quotation
Mobile Lab Standby Time.....	6439 .....	By Quotation
Mobile Lab Cancellation .....	6468 .....	By Quotation



## Laboratory Tests – Inorganic Chemistry

### **Inorganic Analyses - Wet Chemistry**

	<b>Activity</b>	<b>Cost</b>
Alkalinity.....	6001	By Quotation
Ammonia, Direct.....	6002	By Quotation
Ammonia, Distillation.....	6004	By Quotation
Biochemical Oxygen Demand (BOD).....	6006	By Quotation
Chemical Oxygen Demand (COD).....	6008	By Quotation
Chloride, IC.....	6010	By Quotation
Chloride, Argentometric.....	6012	By Quotation
Chlorine.....	6014	By Quotation
Color.....	6016	By Quotation
Conductance.....	6018	By Quotation
Cyanide, Amenable *(surcharge to Total cyanide).....	6022	By Quotation
Cyanide, Free.....	6024	By Quotation
Cyanide, Total.....	6028	By Quotation
Cyanide, Reactive.....	6026	By Quotation
Fluoride, IC.....	6042	By Quotation
Hardness.....	6050	By Quotation
Mercaptans.....	6070	By Quotation
Nitrate, IC.....	6078	By Quotation
Nitrate, Colorimetric.....	6076	By Quotation
Nitrite.....	6080	By Quotation
Nitrogen, Kjeldahl.....	6082	By Quotation
Oxygen, Dissolved.....	6096	By Quotation
pH, Aqueous.....	6102	By Quotation
pH, Non-aqueous.....	6100	By Quotation
Phosphate, IC.....	6110	By Quotation
Phenols.....	6104	By Quotation
Solids, Total Dissolved.....	6132	By Quotation
Solids, Settleable.....	6126	By Quotation
Solids, Suspended.....	6128	By Quotation
Solids, Total.....	6130	By Quotation
Sulfide, Dissolved.....	6138	By Quotation
Sulfide, Reactive.....	6140	By Quotation
Sulfide, Total.....	6142	By Quotation
Sulfate, IC.....	6136	By Quotation
Sulfate, Gravimetric.....	6134	By Quotation
Surfactants, MBAS.....	6150	By Quotation
Thiosulfate.....	6158	By Quotation
Turbidity.....	6174	By Quotation
Water by Karl Fischer titration.....	6272	By Quotation
Construction Materials Analysis.....	6020	By Quotation
Semi-Quantitative Screen by ICP.....	6062	By Quotation
Semi-Quantitative Screen by IC.....	6058	By Quotation





## Laboratory Tests – Inorganic Chemistry Continued

<b>Metals Preparation</b>	<b>Activity</b>	<b>Cost</b>
Digestion, Aqueous .....	6030 .....	By Quotation
Digestion, Nonaqueous.....	6032 .....	By Quotation
STLC Extraction.....	6036 .....	By Quotation
EP-Tox.....	6034 .....	By Quotation
TCLP Extraction.....	6154 .....	By Quotation
Parr Oxygen Bomb.....	6098 .....	By Quotation
TCLP Extraction ZHE, Per Sample.....	6155 .....	By Quotation
 <b>Metals Analysis</b>		
Individual Metals, per element .....	6072 .....	By Quotation
Hexavalent Chromium.....	6052 .....	By Quotation
Organic Lead .....	6094 .....	By Quotation
Total Lead.....	6069 .....	By Quotation
Lead in Paint.....	6068 .....	By Quotation
Lead in Drinking Water.....	6067 .....	By Quotation
 <b>Metals Group Determinations</b>		
TTLIC CAM Metals .....	6162 .....	By Quotation
STLC CAM Metals .....	6160 .....	By Quotation
RCRA Metals .....	6118 .....	By Quotation
Priority Pollutant Metals.....	6112 .....	By Quotation
 <b>Outside Laboratory Services</b>		
Asbestos Analysis.....	6300 .....	By Quotation
Other Analyses .....	6436 .....	By Quotation
 <b>FDA Testing of Tableware for Lead and Cadmium</b>		
FDA Testing, on six like pieces, per test.....	6038 .....	By Quotation
 <b>VOC (Volatile Organic Content) Testing</b>		
VOC, including water or exempt solvent AQMD reg).....	6266 .....	By Quotation
 <b>Biological</b>		
Biotoxicity, aqueous.....	6500 .....	By Quotation
Biotoxicity, nonaqueous.....	6505 .....	By Quotation
Coliform, total .....	6515 .....	By Quotation
Coliform, fecal.....	6516 .....	By Quotation

### Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories .....</b>		
Administrative Support for Special Projects.....	3074 .....	+ 20% of Hourly Rate
Insurance, Extra Charges as ordered by Client.....	3081 .....	By Quote
Contracted Services .....	3087 .....	By Quote

**END OF DOCUMENT - ADDITIONAL SERVICES**





## Schedule of Fees for Inspection Services

*The prices quoted below for Inspection Services are firm until December 31, 2009. On January 1, 2010, the charges for services set forth in this Schedule of Fees will be adjusted by changes to in our general administrative and overhead expenses. These adjusted charges shall become the agreed upon basis for charges by Smith-Emery to Client. A separate Schedule of Fees is included for each calendar year of this contract.*

To 12/31/2009

### Concrete Inspection

1110	Shoring	\$ 91.35
1111	Foundations	91.35
1112	Walls/Columns	91.35
1113	Slabs on Grade	91.35
1114	Elevated Slabs	91.35
1115	Slabs-Metal Deck	91.35
1116	Precast Plant	91.35
1117	Gunite/Shotcrete	91.35
1118	Prestress/Post-Tension	91.35
1119	Batch Plant	91.35

### Masonry Inspection

1410	Retaining Walls	91.35
1411	Structural Walls	91.35
1412	Stair Shaft	91.35
1413	Veneer	91.35
1414	Grouting	91.35
1415	Repointing	91.35
1416	Pressure Grouting	91.35

### Fireproofing Inspection

1810	Thickness Evaluation	91.35
1811	Density Sampling	91.35
1812	Repair Application	91.35
1813	Adhesion/Cohesion	91.35

### Steel Field-Visual Inspection

1310	Weld-Frame	91.35
1311	Weld-Deck	91.35
1312	Weld-Rebar	91.35
1313	Weld-Shoring	91.35
1314	Weld-Miscellaneous	91.35
1315	High Strength Bolts	91.35
1316	Curtain Wall	91.35
1317	Procedure Qualification	91.35
1318	Welder Qualification	91.35
1319	Precast Panel	91.35

### Steel Field-Non-Destructive Testing

2310	Ultrasonic (Plus Equipment)	96.43
2311	Magnetic Particle (Plus Equipment)	96.43
2312	Dye Penetrant (Plus Equipment)	96.43
2400	NDT Equipment, per day	40.00

### Steel Shop-Visual Inspection

1210	Visual	\$ 91.35
1211	Material I.D.	91.35
1212	Quantity Verification	91.35
1213	Procedure Qualification	91.35
1214	Welder Qualification	91.35
1215	Other	91.35

### Steel Shop-Non-Destructive Testing

2210	Ultrasonic (Plus Equipment)	96.43
2211	Magnetic Particle (Plus Equipment)	96.43
2212	Dye Penetrant (Plus Equipment)	96.43
2400	NDT Equipment, per day	40.00

### Finishing Inspection

1910	Drywall Fastening	91.35
1911	Electrical	91.35
1912	H.V.A.C.	91.35
1913	Plumbing	91.35
1914	Firesprinkler	91.35
1915	Ceramic Tile	91.35
1916	Waterproofing	91.35
1917	Curtain Wall	91.35
1918	Miscellaneous Finishing	91.35

### Miscellaneous Inspection

1613	Fiberwrap	91.35
2010	Essential Building Inspector	91.35
2013	Concrete/Epoxy Injection	91.35
2014	Dowels/Anchors-Pull/Torque	91.35
9310	Quality Control Inspection	91.35
9311	Epoxy Dowels/Anchors	91.35
9312	Expansion Anchors	91.35
9313	Grouting of Baseplate	91.35
1815	Miscellaneous Inspection	91.35
1817	Combination Concrete/Soils	93.38
2016	Deputy Grading Inspector	106.58

### Additional Services

9110	Report Charge, each	1.75
1101	Mileage, per mile	0.75

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## Schedule of Fees for Inspection Services – Continued

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Registered Professional Engineer, per hour.....	9602 .....	\$ 152.25
Staff Engineer, per hour.....	9600 .....	121.80
Metallurgical Engineer, per hour.....	6933 .....	203.00
Inspection Supervisor, regular time, per hour.....	1247 .....	96.43
Level III Supervisor – ASNT, per hour.....	2443 .....	101.50
Expert Witness Testimony		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

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## Schedule of Fees for Laboratory Services

### Professional Staff

	Activity	Cost
Registered Professional Engineer, Laboratory, per hour .....	3011 .....	\$ 152.25
Staff Engineer, per hour .....	3015 .....	121.80
Laboratory Supervisor, regular time, per hour .....	3012 .....	96.43
Test Technicians -- Laboratory, regular time, per hour .....	3013 .....	86.28
Test Technicians -- Away from Lab, regular time, per hour .....	3014 .....	86.28
Expert Witness Testimony		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

### Miscellaneous Support Fees

General Testing-Rush Charges .....	4812 .....	50%
Miscellaneous Sample Pick-up, per hour .....	5022 .....	50.00
Miscellaneous Pick-up, per trip minimum .....	5023 .....	50.00
Subsistence, per day .....	1103 .....	85.00
Travel Time, per hour .....	4456 .....	55.00
Mileage, per mile .....	5101 .....	0.75
Fuel Surcharge .....	4443 .....	2% of Invoice

### Laboratory Hours

Laboratory hours are 7:00AM through 4:00PM, Monday through Friday, Hours 7:00AM through 12:00PM Saturday.

Additional charges will be made for off-hours or weekend testing as follows:

Off-hour Laboratory Operations, per hour .....	5051 .....	1,000
Holiday Laboratory Operations, per hour .....	5052 .....	1,500

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## Laboratory-General Field Services

### General Field Services

	<b>Activity</b>	<b>Cost</b>
Technician with Pachometer, per hour .....	3110 .....	\$ 86.28
Film Adhesion, ASTM D4541, per hour .....	4474 .....	85.00
Dry Film Thickness, ASTM D6132, per hour .....	4475 .....	85.00
Fireproofing Technician, per hour .....	3210 .....	86.28
Firestopping Technician .....	3211 .....	86.28
Batch Plant Technician.....	3310 .....	86.28
Roofing Technician, per hour .....	3410 .....	86.28
Membrane Technician, per hour.....	3510 .....	86.28
Roofing/Waterproofing Technician, per hour.....	3511 .....	86.28
Water Control Technician, per hour .....	3610 .....	86.28
Field Coring Technician, per hour.....	3720 .....	131.95
Mileage.....	5101 .....	0.75

### Field Technician Minimums

Regular Hours: Monday through Friday, 6:30am to 4:00pm.

Show-up time, no work performed ..... 2-hour minimum charge

Field Service Calls..... 4 and 8-hour minimum charge

Field Services Work ..... a minimum of 1 hour per week engineering supervision may be charged

### Overtime

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours ..... time and one-half

Sundays and Holidays, 1 to 8 Hours..... time and one-half

Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7<sup>th</sup> consecutive day ..... double time

### Field Equipment Charges

Skidmore, per day .....	4415 .....	50.00
Torque Wrench, per day .....	4413 .....	25.00
Multiplier, per day .....	4414 .....	10.00
Pull Test Equipment (ram, pump, gage), per day .....	4464 .....	50.00
Dynamometer, per day .....	4465 .....	25.00
Schmidt Hammer, per day .....	9704 .....	40.00
Windsor Probe, per location (3-shots) .....	9705 .....	50.00
Rental Dipstick 2000, per week.....	4825 .....	2500.00
Flatness Testing, (under 10,000-square feet), per hour.....	4814 .....	135.00
Flatness Testing, (over 10,000-square feet), per square foot .....	4826 .....	0.05
Field Hardness Equipment, per day .....	9117 .....	50.00
Metallographic Replication Kit, per day.....	9118 .....	50.00
Dry Film Thickness Gage, per day .....	4409 .....	40.00
Concrete Air Meter, Pressure of Volumetric, per day .....	4431 .....	25.00
Concrete Unit Weight Kit, scale, bucket, plate, mallet, and rod, per day .....	4436 .....	25.00
2-inch cube brass embecco molds, each per day .....	4437 .....	25.00
Film Adhesion Equipment, Dollies and Epoxy, per day.....	4443 .....	50.00

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## Laboratory Testing-Concrete

	<b>Activity</b>	<b>Cost</b>
<b>Cylinders, Beams &amp; Cores</b>		
Compression Test, 6" x 12" cylinders, including hold, ASTM C 39, each .....	4300	\$ 15.00
Weight per cubic foot of lightweight concrete cylinders, each.....	4303	20.00
Flexure Test, 6" x 6" beams, ASTM C 78, each.....	4304	85.00
Splitting Tensile, 6" x 12" cylinders, ASTM C 496, each.....	4305	65.00
Modulus of Elasticity Test - Static, ASTM C 469, each.....	4306	125.00
Compression Test, 2" - 4" - 6" Cores, ASTM C 42, each .....	4311	40.00
In Laboratory Core Cutting, each.....	4312	50.00
Cylinder Pick-up (within 40-mile radius from Laboratory)		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample.....	5000	10.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday, .....	5001	19.00
Sunday and Holidays - per sample .....	5002	25.00
Minimum Pick-up Charge .....	5003	21.00
Pick-Up of Flexural Test Beams, each .....	5021	29.00
<b>Forensic Testing</b>		
Moisture Vapor Transmission, Calcium Chloride Moisture Kit, ASTM F1869 .....	4459	25.00
Inplace Moisture Content .....	4457	75.00
<b>Shrinkage</b>		
Length Change (3 bars, 4 readings, up to 90 days), ASTM C 157 Modified.....	4307	240.00
Additional Reading, per set of 3 bars .....	4308	40.00
Storage over 90 days, per set of 3 bars, per month.....	4308	40.00
Pick-up/Deliver Shrinkage Molds/Samples, per set.....	5020	42.00
<b>Mix Design</b>		
Mix Design, Determination of Proportions, (3 Business Day Turn Around) each .....	9500	125.00
Mix Design, Determination of Proportions, Requiring Same Day Service .....	9501	150.00
Preparation of Special Strength Documentation for Mix Design, each .....	9502	200.00
Amend or Retype Existing Smith-Emery Mix Designs not involving calculations, each .....	9503	85.00
Review Mix Design prepared by Others, each .....	9504	100.00
<b>Laboratory Trial Batch</b>		
Laboratory Trial Batch, (includes slump, % air, unit weight, and up to 7-cylinders; ASTM C 192, each .....	4309	500.00
Laboratory Trial Batch, (including the items above and shrinkage; ASTM C 192, each .....	4310	600.00
Sampling Material for Laboratory Trial Batches, per hour.....	4315	130.00
<b>Gunite &amp; Shotcrete</b>		
Compression, 2", 4", 6" Cores, ASTM C 42, each.....	4314	40.00
Pick-up Shotcrete Cores .....	5016	10.00
Pick-up Gunite Field Sample (40-mile radius) less than 100 lbs., each.....	5017	60.00
Pick-up Gunite Field Sample (40-mile radius) more than 100 lbs., each.....	5018	100.00
ACI 506.2 Core Grading, per core.....	5027	70.00
<b>Lightweight Roof Fill ASTM C 495</b>		
Compression Test, each.....	4380	45.00
Density, each .....	4381	40.00

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## Laboratory Testing-Reinforcement

### Reinforcing Steel ASTM A 615/A 706

	<b>Activity</b>	<b>Cost</b>
Tensile Test, No. 11 Bar or Smaller, each .....	4600	\$ 35.00
Bend Test, No. 11 Bar or Smaller, each .....	4601	20.00
Tensile Test, No. 14 Bar, each.....	4602	75.00
Tensile Test, No. 18 Bar, each.....	4603	150.00
Chemical Analysis.....	4616	150.00
Deformation Compliance.....	4617	55.00
Sampling and Tagging at Fabricators Plant (within 40-mile radius from Laboratory)		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample.....	5005	19.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday - per sample .....	5006	27.00
Sunday and Holidays - per sample .....	5007	27.00
Minimum Sample Charge, per trip .....	5008	50.00
Pick-up Rebar Samples at Jobsite - per sample .....	5024	19.00

### Welded Specimens

Tensile Test, Welded, No. 11 Bar or Smaller, each.....	4604	50.00
Tensile Test, Welded, No. 14 Bar, each .....	4605	75.00
Tensile Test, Welded, No. 18 Bar, each .....	4606	150.00
Nick Break, Welded Re-Bar, each.....	4607	65.00
Straightening Hoops .....	4615	40.00

### Coupled Reinforcement

Tensile Test, Mechanically Spliced Bar, No. 11 Bar or Smaller, each.....	4612	50.00
Tensile Test, Mechanically Spliced Bar, No. 14 Bar, each .....	4613	75.00
Tensile Test, Mechanically Spliced Bar, No. 18 Bar, each .....	4614	150.00

### Post-Tensioning Strand

Tensile Test and Elongation in 24" for Prestress Strand, ASTM A 416, each.....	4609	90.00
Tensile Test and Elongation in 10" for Prestressing Wire, ASTM A 421, each.....	4610	90.00
Modulus of Elasticity (Prestress Strand), each .....	4611	130.00
Pick-up Post Tension Cables, per sample .....	5025	19.00

### Welded Wire Fabric ASTM A 185

Parent Material Tensile, 5 required, \$30.00 each .....	4618	150.00
Weld-Included Tensile, 5 required, \$30.00 each .....	4619	150.00
Shear-Weld Area, 5 required, \$35.00 each.....	4620	175.00
Bend Test, 5 requires, \$20.00 each.....	4621	100.00
Mesh Evaluation, ASTM C427 .....	4622	\$575.00

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## Laboratory Testing-Masonry

	<b>Activity</b>	<b>Cost</b>
<b>Brick ASTM C 67</b>		
Compressive Strength, each.....	4200 .....	\$ 40.00
Modulus of Rupture (flexure), each.....	4201 .....	50.00
Flexural Bond Strength, each .....	4217 .....	300.00
Dimensions, overall, coring, shell and web thickness, per brick .....	4202 .....	50.00
Coefficient of Friction (slip test), each .....	4203 .....	185.00
Initial Rate of Absorption, each.....	4204 .....	35.00
Absorption - 5 hour or 24 hour, each.....	4205 .....	70.00
Boil, 1, 2 or 5 hour, each .....	4206 .....	50.00
Efflorescence, each.....	4207 .....	75.00
Cores, Compression, each.....	4208 .....	40.00
Cores, Shear, 6" and 8" Diameter, 2 Faces, per core.....	4209 .....	70.00
Pick-up Brick Samples, each .....	5009 .....	9.00
Freeze Thaw (8x8, 4x4), 5 samples, 50 cycles .....	4222 .....	1,500.00
 <b>Concrete Block ASTM C 140</b>		
Compression, 3 required, \$40.00 each.....	4210 .....	120.00
Moisture Content as Received, each.....	4211 .....	50.00
Absorption, 3 required, \$40.00 each.....	4212 .....	120.00
Shrinkage, Modified British, ASTM C 426, 3 required, \$95.00 each.....	4213 .....	285.00
Compression, 4" - 6" - 8" Cores, each.....	4221 .....	40.00
Pick-up Block Samples, each .....	5010 .....	15.00
Complete C140.....	4220 .....	525.00
 <b>Masonry Prisms ASTM E 1314</b>		
Compression Test, Grouted Prisms, each .....	4218 .....	150.00
Compression Test with MOE, Grouted Prisms, each .....	4223 .....	600.00
Unit Weight, Grouted Prisms, each .....	4224 .....	100.00
Pick-up Prisms - within a 40-mile radius of laboratory, each.....	5013 .....	40.00
 <b>Mortar &amp; Grout UBC St'd 21-16 &amp; 21-18</b>		
Compression, 2" x 4" Masonry Mortar Cylinder, each .....	4214 .....	20.00
Compression, 2" Grout Cubes, ASTM C 109, each .....	4215 .....	50.00
Compression, 3" x 6" Masonry Grout, each .....	4216 .....	25.00
Pick-up Mortar Samples, each.....	5011 .....	10.00
Pick-up Grout Samples, each.....	5012 .....	10.00
Pick-up Grout Cubes, each .....	5015 .....	10.00

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## Laboratory Testing-Construction Materials

	<b>Activity</b>	<b>Cost</b>
<b>Roofing Tile</b>		
Absorption, each.....	4700	\$ 40.00
Breaking Strength per U.B.C., each.....	4702	45.00
<b>Slate</b>		
Modulus of Elasticity, ASTM C120, 3 parallel, 3 perpendicular, \$90 each.....	4805	540.00
Modulus of Rupture, ASTM C120, 3 parallel, 3 perpendicular, \$90 each.....	4806	540.00
Water Absorption, ASTM C121, 3 parallel, 3 perpendicular, \$40 each.....	4807	240.00
Weathering, ASTM C217, 3-samples, \$90 each.....	4808	270.00
<b>Wire Rope</b>		
Wire Rope 0 through 1" diameter, each.....	4426	80.00
Wire Rope 1 through 2" diameter, each.....	4427	250.00
Note: Sockets furnished by client		
<b>Epoxy - Cores &amp; Coring</b>		
Field Coring Technician and standard equipment, per hour.....	3710	131.95
Shear Test on Epoxied Cores, each.....	4318	60.00
Compression Test, Cylinders.....	4316	50.00
Compression Test, Cores.....	4317	50.00
Pick-up Epoxy Cylinders - per sample.....	5026	9.00
<b>Fireproofing Tests</b>		
Oven Dry Density, per sample.....	4350	35.00
Pick-up Fireproofing Samples, per sample.....	5014	10.00
Adhesion/Cohesion Testing, per hour (4-hour minimum).....	4351	85.00
<b>Glass Fiber Reinforced Concrete</b>		
Flexural Strength, without M.O.E. 6 required, \$45.00 each.....	4320	270.00
Flexural Strength with M.O.E., 6 required, \$145.00 each.....	4321	870.00
Density, 3 required, \$50.00 each.....	4322	150.00
Tensile Strength, 3 required, \$75.00 each.....	4323	225.00
Shear Strength, 3 required, \$75.00 each.....	4324	225.00
<b>Fiber Wrap</b>		
Tensile Strength, 1 panel (12"x12"), 5 samples, \$150.00 each.....	4326	750.00
<b>Saturation Resin for Fiber Composite</b>		
Water Absorption, ASTM D570.....	4340	200.00
Compressive Yield Strength, ASTM D695.....	4341	600.00
Flexural Strength, ASTM D790.....	4342	750.00
Shore Hardness, ASTM D2240.....	4343	200.00
Tensile Strength and Elongation, ASTM D638.....	4344	750.00
<b>Specialty Grout</b>		
Time of Setting, ASTM C266, each.....	4490	150.00
Sulfate Expansion, ASTM C1012, each.....	4491	500.00
Flexural Strength, ASTM C348, each.....	4492	400.00
Consistence (Cone Test), ASTM C939, each.....	4493	250.00
Bleeding, ASTM C940.....	4494	350.00
Total Chloride Ions, ASTM C1152, each.....	4495	150.00
Permeability, ASTM C1202, each.....	4496	600.00

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## Laboratory Testing - Structural Testing

	<b>Activity</b>	<b>Cost</b>
<b>Testing Machines</b>		
60,000 to 120,000 Pound Machine (Universal), including set-up time, per hour .....	4400 .....	\$ 175.00
440,000 Pound Machine (Universal), including set-up time, per hour .....	4401 .....	200.00
600,000 Pound Machine (Compression only), including set-up time, per hour.....	4402 .....	250.00
1,100,000 Pound Machine (Universal), including set-up time, per hour .....	4462 .....	750.00
 <b>Manhole Cover and Tree Grate Tests, (L.A. City)</b>		
1-3, each .....	4423 .....	100.00
4 or more, each .....	4424 .....	80.00
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial		
Up to 100,000 lb., each.....	4411 .....	50.00
100,001 to 200,000 lb., each.....	4412 .....	100.00
Tensile Test -- Mechanical Non-Printout Extensometer for Strain, each .....	4432 .....	35.00
Tensile Test -- Electronic Extensometer with Recorded Printout, 1 test .....	4433 .....	45.00
Mechanical Bend Test, each.....	4435 .....	35.00
 <b>Geogrid Testing</b>		
Connection Testing, NCMA Test Method SRWU-1, each.....	4444 .....	350.00
Shear Strength Testing, NCMA Test Method SRWU-1, each.....	4445 .....	350.00

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## Laboratory Testing-Calibration Services

<b>Calibration of Skidmore-Wilhelm Device &amp; Torque Wrench</b>	<b>Activity</b>	<b>Cost</b>
Calibration of Skidmore-Wilhelm Device, in Lab.....	4403 .....	\$100.00
Calibration of Torque Wrench by Skidmore-Wilhelm Device, each bolt size (3 required).....	4404 .....	70.00

### Calibration of Hydraulic Jacks

Up to 50-tons.....	4450 .....	125.00
50 to 74-Tons.....	4451 .....	150.00
75-99-tons.....	4452 .....	160.00
100 to 199-tons.....	4453 .....	180.00
200-299-tons.....	4454 .....	250.00
300-500-tons.....	4466 .....	500.00

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

### Calibration of Measuring Device

Infrared Temperature Gun, each.....	4486 .....	50.00
Ampmeter, each.....	4487 .....	50.00
Torque Wrench, each.....	4488 .....	70.00

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## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
C.T.I. Stain Resistance (8 required) Set.....	CTI T72.....4921 .....	\$ 108.00
Shear Tests, 1 to 5 incl., each .....	.....4925 .....	35.00
Shear Tests, each .....	.....4926 .....	32.00
Mortar Skinning Test, each.....	.....4941 .....	115.00
Mortar Initial Setting Time, each.....	.....4942 .....	73.00
Grout Skinning Test, each .....	.....4951 .....	115.00
Grout Compression - 2" cubes, each .....	.....4954 .....	34.00
Autoclave (3 required), each.....	.....4930 .....	350.00
Water Immersion Processing for Shear Tests, each.....	.....4931 .....	15.00
Oven Processing for Shear Tests, each.....	.....4932 .....	15.00
Low Temperature Processing for Shear Tests, each.....	.....4933 .....	15.00

### **Laboratory Tile Testing In Accordance with A.S.T.M.**

Lab Technician, per hour.....	.....3013 .....	86.28
Thickness, 5.50 each (ANSI requires 80) .....	ASTM C499.....4900 .....	480.00
Facial Dim, 5.50 each (ANSI requires 80) .....	ASTM C499.....4901 .....	480.00
Warpage, 7.00 each (80 required).....	ASTM C485.....4902 .....	560.00
Wedging, 6.50 each (80 required) .....	ASTM C502.....4903 .....	560.00
Static Coefficient of Friction (3) per set (Not Modified).....	ASTM C1028.....4904 .....	205.00
Coefficient of Friction (3) per set (Modified).....	ASTM C1028.....4934 .....	300.00
Dynamic Coefficient of Friction - James Machine (3) per set.....	ASTM D2047.....4935 .....	205.00
Water Absorption, 35.00 each (5 required) .....	ASTM C373.....4905 .....	175.00
Bond Strength, 47.00 each (shear test) (5 required) .....	ASTM C482.....4906 .....	235.00
Breaking Strength, 20.00 each (10 required) .....	ASTM C648.....4907 .....	200.00
Abrasive Wear Index, 95.00 each (4 required) .....	ASTM C501.....4908 .....	380.00
Crazing, 74.00 each (10 required) .....	ASTM C424.....4909 .....	740.00
(ANSI Crazing Requirement) per set.....	.....4910 .....	209.00
Thermal Shock, 73.00 each (3 required).....	ASTM C484.....4911 .....	219.00
Chemical Resistance.....	ASTM C650.....4913 .....	122.00
Freeze-Thaw Resistance (10) 15 cycles, per set.....	ASTM C1026.....4914 .....	850.00
Additional cycles, per cycle/tile .....	.....4915 .....	10.00
Modulus of Rupture, 34.00 each (3 required) .....	ASTM C133.....4916 .....	102.00
Moisture Expansion, 73.00 each (5 required) .....	ASTM C370.....4917 .....	365.00
Floor Installation Performance Level .....	ASTM C627-76 .....	
First Panel -- Not Including Tile or Installation.....	.....4918 .....	1800.00
Second or More on Same Purchase Order .....	.....4919 .....	1200.00
Impact, (15 required), per set.....	ASTM C368.....4920 .....	225.00
Mohs Hardness (5 required) per set.....	.....4923 .....	75.00
Tensile Tests in Laboratory, 50.00 each, (5 required) .....	.....4924 .....	250.00

### **Mortar Testing**

Mortar Compression Test, each.....	ASTM C109.....4944 .....	45.00
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## Laboratory Testing-Ceramic Tile Continued

### Dimension Stone / Building Stone Testing

	Activity	Cost
Compression Test, (*20 required), per set .....	ASTM C170.....4800	\$1,000.00
Flex Strength, Cut Samples (*20 required), per set .....	ASTM C880.....4801	1,000.00
Flex Strength, Full Size Samples (*20 required), per set.....	ASTM C880.....4931	3,500.00
Modulus/Rupture (*20 required), per set.....	ASTM C99.....4802	1,000.00

\*20 Samples tested as follows:

- 5 Samples tested Wet, Parallel to the grain
- 5 Samples tested Wet, Perpendicular to the grain
- 5 Samples tested Dry, Parallel to the grain
- 5 Samples tested Dry, Perpendicular to the grain

Specific Gravity, (3 required), per set .....	ASTM C97.....4803	225.00
Water Absorption, (3 required), per set .....	ASTM C97.....4804	225.00
Abraision Resistance, (3 required), per set .....	ASTM C1353.....4810	400.00
Anchor Testing, each.....	ASTM C1354.....4932	85.00

### Field Testing

Field Technician, per hour.....	3014	86.28
Field Slip Resistance Test, ASTM C1028, first test .....	4957	425.00
Field Slip Resistance Test, ASTM C1028, additional test in same area, each.....	4958	205.0
Pick-up Sample, per hour .....	5019	55.00
Ceramic Tile Technician Mileage, per mile .....	5101	0.75

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## Laboratory Testing-Metallurgical

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Metallurgical Engineer, per hour.....	6933 .....	\$203.00
Metallurgical Technician, per hour.....	6919 .....	86.28
 <b>Metallurgical Services</b>		
Charpy Impact Test - Ambient Temperature (Set of 3 Specimens), per set.....	6902 .....	105.00
Charpy Impact Test - Reduced Temperature (Set of 3 Specimens), per set .....	6903 .....	155.00
Galvanized Coating - Acid Strip Method, per specimen of plate, and wire .....	6904 .....	200.00
Hardness Tests Brinell, Rockwell (Standard or Superficial), excluding specimen preparation if required .....	6905 .....	47.50
Spectrographic Chemical Analysis – Ferrous Material (carbon steel, low alloy), each.....	6920 .....	127.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Spectrographic technique .....	6943 .....	180.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Filings.....	6011 .....	240.00
Wet Chemical Analysis From Filings – Ferrous Material (carbon, low alloy), each.....	6012 .....	200.00
Field Hardness Equipment, per day.....	9117 .....	120.00
Metallographic Replication Kit, per day.....	9118 .....	150.00
Mileage, per mile.....	5101 .....	0.75
Scanning Electron Microscopy (SEM), and EDS, per Hour (min 1 hr).....	6913 .....	215.00
Scanning Electron Photomicrographs, each (5 x 4") .....	6915 .....	8.50
 <b>Mechanical Testing</b>		
Tensile Test – With Electronic Extensometer, excludes sample cutting and specimen preparation, each.....	6934 .....	75.00
Tensile Test – Square or Round Tubes up to 1.75-in. OD .....	6939 .....	215.00
Talbot Test – Sample preparation and test per specimen.....	6957 .....	250.00
 <b>Fastener Testing</b>		
Tensile Test – Anchor Bolts, Studs or Threaded Rods under 100, 000lbf , tested full-size, each .....	6948 .....	125.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods up to 100, 000-120,000lbf, tested full-size, each .....	6958 .....	195.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods up to 1.0-in diam. by machined specimens, each.....	6959 .....	195.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods,1.0 - 2.0in diam. by machined specimens, each.....	6013 .....	205.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods over 2.0-in diam. by machined specimens, each,.....	6014 .....	235.00
Nut – Hardness and Proof Load test under 100,000 lbf, each.....	6949 .....	35.00
Nut – Hardness and Proof Load test 100,000 – 120,000 lbf, each.....	6960 .....	47.50
Nut – Hardness In Core Method in lieu of proof Load test above 120,000lbf, each.....	6015 .....	55.00
Washer or Nut – Not Galvanized - Hardness, each .....	6950 .....	25.00
Washer or Nut – Galvanized – Hardness after stripping, each .....	6016 .....	38.50
A325 or A490 – Bolt hardness only, each .....	6951 .....	35.00
Bolt A325 or A490 – Wedge Tensile up to 100, 000 lbf, and Hardness, each .....	6952 .....	68.00
Bolt A325 or A490 – Tensile over 120,000 lbf by machined specimens, each .....	6975 .....	195.00
Bolt A325 or A490 – Wedge Tensile Under 150, 000 – 200, 000 lbf , and Hardness, each.....	6970 .....	110.00
Bolt A325 or A490 – Wedge Tensile Under 200, 000 – 250,000 lbf, and Hardness, each.....	6971 .....	150.00
Bolt A325 or A490 – Wedge Tensile Over 250, 000 lbf, and Hardness, each.....	6953 .....	200.00

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Laboratory Testing-Metallurgical Continued

<b>Weld Procedure Qualification and Welder Qualification</b>	<b>Activity</b>	<b>Cost</b>
Sample Cut & Machine for Weld Test, over 1.0-in thickness, each .....	6962 .....	\$ 120.00
Sample Cut & Machine for Weld Test, 1.0-in thickness, each .....	6908 .....	85.00
Sample Cut & Machine for Weld Test, under ½-in thickness, each .....	6910 .....	50.00
Sample Cut & Machine for Weld Test, ½ - 1.0in thickness, each .....	6911 .....	60.00
Welded Fabric Weld shear strength, each sample .....	6963 .....	75.00
Guided Weld Bend Test, excluding specimen preparation, each.....	6927 .....	35.00
Age Bend Specimens – 48 Hrs, up to 3 specimens .....	6956 .....	125.00
Sample Cut & Perform Weld-Fillet Weld Fracture Test, each .....	6929 .....	130.00
Weld-Fillet Weld Fracture Test In Sheet Steel & Evaluate, each.....	6969 .....	130.00
Weld-Macro Etch (Plate)- cut, polish, etch, and evaluate, each .....	6930 .....	90.00
Weld-Macro Etch (Rebar # 3 thru # 9) - cut, polish, etch, and evaluate, each .....	6972 .....	90.00
Weld-Macro Etch (Rebar # 10 thru # 14) - cut, polish, etch, and evaluate, each .....	6973 .....	110.00
Weld-Macro Etch (Rebar # 18)- cut, polish, etch, and evaluate, each.....	6974 .....	180.00
Weld Transverse Tensile Test, plate up to 1.0-in thick excluding machining, each .....	6932 .....	80.00
Weld Transverse Tensile Test, plate over 1.0-in thick excluding machining, each .....	6964 .....	150.00
Welded Rebar Transverse Tensile Test, # 3 thru # 9 .....	6965 .....	105.00
Welded Rebar Transverse Tensile Test, # 10 thru # 14 .....	6966 .....	140.00
Welded Rebar Transverse Tensile Test, # 18 .....	6967 .....	450.00
Review Welding Procedure Specification (WPS), each .....	6921 .....	175.00
Prepare Welding Procedure Specification (WPS), each .....	6922 .....	350.00
WPS, PQR Weld Certificate, each.....	6971 .....	65.00

**Unless otherwise noted, costs above do not include sample preparation.**

### Administrative Charges

Rush Turnaround, 48 - 72 hours (50% Surcharge) .....	6935 .....	+ 50% of invoice
Rush Turnaround, 24 - 48 hours (100% Surcharge) .....	6936 .....	+100% of invoice
Test Report Charge.....	6110 .....	Minimum 65.00
Same day testing + report (200% Surcharge) .....	6937 .....	+ 200%of invoice
Minimum laboratory charge .....	6923 .....	150.00
Multiple copies for distribution, copies and mailing, per distributor per copy each.....	6924 .....	4.50
Digital Photographs, photo quality paper, each .....	9116 .....	8.50
Digital Photographs, photo quality paper, per copy report each.....	9116 .....	4.50

### Sample Preparation

Sample Cut & Machine Specimen - over 1.0-in thick, each .....	6968 .....	120.00
Sample Cut & Machine Specimen - 1.0-in thick, each .....	6908 .....	80.00
Sample Cut & Machine Charpy V-Notch Specimens (Set of 3 specimens), per set.....	6909 .....	140.00
Sample Cut & Machine Sub-size Charpy V-Notch Specimens (Set of 3 specimens), per set .....	6940 .....	170.00
Sample Cut & Machine Charpy V-Notch Specimens From 'K' Section (Set of 3 specimens), per set .....	6941 .....	190.00
Sample Cut & Machine Specimen – under ½-in, each .....	6910 .....	50.00
Sample Cut & Machine Specimen – ½ - 1.0-in, each.....	6911 .....	60.00
Metallurgical Mount, 1-1/4-in. including preparation without evaluation, each .....	6914 .....	120.00
Metallurgical Mount, 2.0-in. including preparation without evaluation, each.....	6918 .....	150.00
Add additional piece in mount, each piece .....	6925 .....	25.00

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**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Professional, per hour .....	7207 .....	\$ 81.20
Staff Professional, per hour .....	7206 .....	91.35
Project Manager, per hour .....	7205 .....	96.43
Project Professional, per hour .....	7204 .....	101.50
Senior Professional, per hour .....	7203 .....	111.65
Principal Professional, per hour .....	7202 .....	121.80
Senior Principal Professional, per hour .....	7201 .....	152.25
Office Support, per hour .....	7209 .....	35.53
Word Processor, per hour .....	7219 .....	40.60
Illustrator, per hour .....	7208 .....	45.68

**Field Staff**

Field Technician, Laboratory and Field with density equipment, per hour .....	7212 .....	65.98
Environmental Technician, per hour .....	7240 .....	86.28
CalTrans Certified Technician with density equipment, per hour .....	7274 .....	86.28
Supervising Technician, Laboratory and Field with density equipment, per hour .....	7214 .....	86.28
Soils Deputy Grading Inspector .....	7563 .....	91.35

**Geotechnical Minimums**

Show-up time, no work performed .....	2-hour minimum charge
Field Service Calls .....	4 and 8-hour minimum charge
Field Soils Work .....	a minimum of 1 hour per week engineering supervision may be charged

**Overtime**

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours .....	7222 .....	time and one-half
Sundays and Holidays, 1 to 8 Hours .....	7222 .....	time and one-half
Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7 <sup>th</sup> consecutive day .....	7232 .....	double time

**Administrative Charges**

Pick-Up/Delivery, per hour (2-hours minimum) .....	7215 .....	35.00
Mileage, per mile .....	7313 .....	0.75
Travel Time, per hour .....	7235 .....	50.00
Facsimile, per page .....	7315 .....	1.00
Reproduction, per page .....	7225 .....	1.50
Report Surcharge, per copy .....	7317 .....	50.00
Cellular Telephone, per day .....	7319 .....	35.00
Air Express/Over-night Delivery, each .....	7325 .....	35.00

**Support Equipment Foundation/Geological Investigations**

Nuclear Density Gage, per day .....	7327 .....	Field Staff
Sand Cone Kit, per day .....	7328 .....	Field Staff
Soil Sampling:		
Encore Sample Container, per container .....	7125 .....	\$ 9.00
Tubes and Rings, per sample .....	7122 .....	5.00

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## Geotechnical and Environmental Services-Continued

### Environmental Investigations and Reports

	Activity	Cost
Health and Safety Plan .....	7320 .....	\$350.00

### Support Equipment Environmental

Air Monitoring Equipment, per day .....	7216 .....	100.00
Magnetometer Equipment, per day .....	7309 .....	100.00
Water Pump and Generator, per day .....	7311 .....	150.00
Water Monitoring Equipment .....	7316 .....	50.00
<b>Health Safety Equipment:</b>		
Level C, per Person, per day, plus hourly rate .....	7229 .....	75.00
Health and Safety Supplies, per day .....	7217 .....	150.00

### Concrete Coring Services

Technician and Equipment Concrete (4 and 8 hour minimum), per hour .....	3710 .....	131.95
<b>Individual Core Prices (all prices are for a four core minimum job):</b>		
Slab on Grade Coring for 2", 3" and 4" Diameter (First 6" in depth), each .....	7023 .....	60.00
Slab on Grade Coring for 6" and 8" Diameter (first 6" in depth), each .....	7025 .....	65.00
Slab on Grade Concrete Core (price per inch after 6" in depth), each .....	7026 .....	5.00
Wall Cores 2", 3" and 4" Diameter (first 6" in depth), each .....	7027 .....	75.00
Wall Concrete Core (price per inch after 6" in depth), per inch .....	7028 .....	5.00
<i>(Wall core prices based on Contractor supplying access to area to be cored)</i>		
<b>Miscellaneous Concrete Coring Prices:</b>		
Patching Slab on Grade Cored Holes with 2500 psi Concrete Patch, each .....	7345 .....	10.00
Thickness Determination per ASTM C42, each .....	7346 .....	10.00
Compression Strength Determination .....	7347 .....	40.00
Pachometer to Locate Reinforcing Steel (coring jobs only, 2 hour minimum), per hour .....	7344 .....	85.00
Travel Time, per hour .....	7235 .....	50.00
Mileage, per mile .....	7313 .....	0.75

### Asphalt Concrete Coring Services

Technician and Equipment Asphaltic Concrete Cores (4 and 8 hour minimum), per hour .....	3710 .....	131.95
<b>Alternate Individual Core Prices (all prices are for a four core minimum job):</b>		
Asphaltic Concrete Cores 2", 3" and 4" Diameter (First 6" in depth), each .....	7022 .....	60.00
Asphaltic Concrete Cores 6" and 8" Diameter (first 6" in depth), each .....	7029 .....	60.00
Asphaltic Concrete Cores price per inch after 6" in depth), each .....	7030 .....	3.50
<b>Miscellaneous Asphaltic Coring Prices:</b>		
Patching of Core Drilled Holes Using Cold Patch Material, each .....	7031 .....	25.00
Thickness Determination per ASTM C42, each .....	7032 .....	25.00
<b>Specific Gravity for Determination of Percent Compaction per ASTM D 2726</b>		
(Includes thickness determination), each .....	7033 .....	35.00
Specific Gravity for Determination of Percent Compaction by paraffin, each .....	7034 .....	55.00

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## Laboratory Testing-Soil

### Soil Properties

	<b>Activity</b>	<b>Cost</b>
California Impact, CAL 216, each.....	7018	\$ 150.00
Moisture Density-Chuck Density, In-Situ, ASTM D2937, each .....	7555	50.00
Moisture Density-Drive Tube Density, In-Situ, each .....	7137	50.00
Material Finer - #200 Sieve, ASTM D 1140/C 117, each .....	7110	50.00
Moisture, ASTM D2216, each.....	7111	25.00
Moisture (microwave), ASTM D4643, each .....	7019	15.00
Moisture-Density Relations of Soils, ASTM D1557, Method A each.....	7113	130.00
Moisture-Density Relations of Soils, ASTM D1557, Method B or C each.....	7114	140.00
Moisture-Density Check Point, each .....	7135	50.00
"R" (Resistance) Value, Lime Treated or Requiring Recombining, each.....	7120	250.00
"R" (Resistance) Value, Calif. 301, ASTM D 2844, each.....	7119	200.00
Sieve Analysis of Combined Fine and Coarse, ASTM D-422, each .....	7124	150.00
Sieve and Hydrometer Analysis, ASTM D 422, each .....	7109	200.00
Specific Gravity for Soils, ASTM D 854, each .....	7127	120.00

### Foundation Testing

Atterberg Limits, (LL, PI) ASTM D 4318, each .....	7100	175.00
Atterberg Shrinkage Limit, ASTM D 4318, each.....	7099	150.00
California Bearing Ratio, ASTM D 1883, set.....	7130	450.00
Consolidation Test, ASTM D 2435, each.....	7102	200.00
Consolidation Time/Rate Curves, each.....	7103	50.00
Remolding of Samples, each .....	7104	30.00
Direct Shear Test, ASTM D 3080:		
Consolidated, Drained 1 Point, each.....	7107	125.00
Consolidated, Undrained 1 Point, each.....	7106	100.00
Unconsolidated, Undrained, 1 Point, each.....	7105	100.00
Remolding of Samples, each .....	7104	30.00
Expansion Index, UBC-18-2, ASTM D 4829, each.....	7108	110.00
Permeability, Constant Head, ASTM D 2434, CAL 220, each .....	7116	225.00
Permeability, Falling Head, CAL 220, each.....	7117	225.00
Unconfined Compression Test, ASTM D 2166, each.....	7129	70.00
Unconfined Compression Test with Graph, ASTM D 2166, each.....	7134	120.00

### Peat Moss

Loss on Ignition, ASTM D 2974 each.....	7040	45.00
Bulk Specific Gravity, ASTM D 4531, each .....	7041	45.00
Classification, ASTM D 4427, each .....	7012	150.00
pH, ASTM D 2976, each.....	7043	45.00
Absorption, ASTM D 2980, each .....	7044	20.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM D1557, Method A
- ASTM D4829 / UBC 18-2
- ASTM C136
- ASTM C117, ASTM D1140
- ASTM C131
- ASTM D2937
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Aggregate

<b>Aggregate Properties</b>	<b>Activity</b>	<b>Cost</b>
Absorption, Coarse, ASTM C 127, each .....	7000 .....	\$ 45.00
Fine, ASTM C 128, each .....	7001 .....	55.00
In Lab Core Cutting.....	4312 .....	50.00
Percent Flat/Elongated CRD C 119, ASTM D 4791, each .....	7010 .....	200.00
Sodium or Magnesium soundness, 5 cycles, ASTM C 88, each.....	7012 .....	200.00
Specific Gravity, Bulk SSD, Coarse, ASTM C 127, each .....	7013 .....	70.00
Specific Gravity, Bulk SSD, Fine, ASTM C 128, each .....	7014 .....	80.00
Specific Gravity, Bulk SSD, Coarse, Complete ASTM C 127, each.....	7045 .....	125.00
Specific Gravity, Bulk SSD, Fine, Complete ASTM C 128, each.....	7046 .....	135.00
Unconfined Compression Test of Intact Rock, ATM D2938, each .....	7021 .....	70.00
Unit Weight, ASTM C 29, (No Air Void Determination) each.....	7017 .....	70.00
Unit Weight and Air Void Determination – Coarse Aggregates, ASTM C 29, each.....	7035 .....	200.00
Unit Weight and Air Void Determination – Fine Aggregates, ASTM C 29, each.....	7036 .....	200.00
 <b>Conformity</b>		
Clay Lumps/Friable Particles, ASTM C 142, each.....	7101 .....	80.00
Cleanness Value, Calif. 227, each .....	7004 .....	125.00
Durability Index, Calif. 229, Coarse, each .....	7005 .....	150.00
Durability Index, Calif. 229, Fine, each .....	7006 .....	150.00
Los Angeles Rattler, ASTM C 131, each .....	7008 .....	150.00
Los Angeles Rattler, ASTM C 535, each .....	7009 .....	175.00
Lightweight Aggregate, Coarse, ASTM C 123, each .....	7007 .....	250.00
Lightweight Aggregate, Fine, ASTM C 123, each .....	8514 .....	200.00
Organic Impurities, ASTM D2974 .....	7115 .....	45.00
Sand Equivalent (Average of 3) Calif. 217, each .....	8516 .....	80.00
Sand Equivalent (Average of 3) ASTM D 2419, each.....	7123 .....	80.00
Sieve Analysis, Coarse, ASTM C 136, each .....	7015 .....	100.00
Sieve Analysis, Fine, ASTM C 136, each .....	7016 .....	100.00
Sieve Analysis, Fine and Coarse Combined, ASTM C 136, each .....	7549 .....	150.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM C136
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Asphalt Concrete

<b>Asphalt Concrete</b>	<b>Activity</b>	<b>Cost</b>
Aggregate Correction for Ignition Oven, each .....	4117 .....	\$ 50.00
Asphalt Core Density, each .....	4112 .....	35.00
Centrifuge Kerosene Equivalent.....	4118 .....	150.00
Extraction, % Asphalt, ASTM D 2172 (Method A, B, or C) or Calif. 310. Excluding Ash Correction, each.....	4110 .....	75.00
Extraction, % Asphalt, Ignition Oven, each .....	4111 .....	100.00
Gradation on Extracted Sample (Including Wash) Calif. 202, each .....	4108 .....	100.00
<b>Maximum Density</b>		
Hveem, Lab-mixed - Calif. 366, each.....	4104 .....	175.00
Hveem, Pre-mixed - Calif. 366, each.....	4105 .....	125.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4106 .....	175.00
Marshall, Pre-mixed - ASTM D 1559, each .....	4107 .....	125.00
Maximum Theoretical Unit Weight (Rice Gravity) ASTM 2041, each.....	4120 .....	175.00
Moisture Vapor Susceptibility.....	4113 .....	200.00
Penetration ASTM D 5, each.....	4109 .....	60.00
<b>Stability Tests:</b>		
Hveem, Lab-mixed - Calif. 304, each.....	4100 .....	250.00
Hveem, Pre-mixed - Calif. 304, each.....	4101 .....	200.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4102 .....	250.00
Marshall, Pre -mixed - ASTM D 1559, each .....	4103 .....	200.00

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## Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories</b>	<b>Activity</b>	<b>Cost</b>
Administrative Support for Special Projects.....	3074 .....	+ 20% of Hourly Rate
Administrative Office Support.....	3075 .....	\$ 46.69
Task Tracking.....	3076 .....	65.98
Report Surcharge, per copy .....	3077 .....	50.00
Report Copy Charge, per sheet.....	3078 .....	1.75
Reproduction, per page.....	3079 .....	1.50
File Retrieval, per file.....	3080 .....	20.00
Processing Certificates, Affidavits, & Notary Services, each.....	3082 .....	25.00
Facsimile, per page.....	3083 .....	1.00
Shipping Charges.....	3084 .....	At Cost
Air Express/Delivery, each.....	3085 .....	At Cost
Cellular Telephone, per day.....	3086 .....	35.00
Minor Report Revision, minimum.....	3089 .....	25.00

**END OF DOCUMENT – SCHEDULE OF FEES**

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Additional Services

The following are additional services provided by Smith-Emery Laboratories which are outside of the general scope of services for this contract. These services do not have established schedule of fees and are determined by a number of factors, including size, weight, quantity, location, ect... Should any of these services be required, a cost estimate will be provided based on project specific information provided.

### Inspection Services

<b>Miscellaneous Inspection</b>	<b>Activity</b>	<b>Cost</b>
Project Inspector/IOR/OSA.....	1818.....	By Quote
 <b>Additional Services</b>		
Seismic Evaluation.....	2018.....	By Quote
Subsistence.....	1103.....	By Quote
Travel Time.....	1102.....	By Quote
Project Inspector/IOR/OSA.....	1818.....	By Quote
 <b>Outside Services</b>		
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory Services

<b>Miscellaneous Support Fees</b>		
Sample Preparation.....	4408.....	By Quote
Final Report.....	9111.....	By Quote
Sample Disposal.....	4425.....	By Quote
Special Test Set-Up.....	4422.....	By Quote
 <b>Outside Services</b>		
Concrete Core Cutting.....	4313.....	By Quote
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory-General Field Services

<b>General Field Services</b>		
Special Testing/Inspection Services.....	4420.....	By Quote
Structural Investigations of Existing Buildings.....	3088.....	By Quote
Corrosion Survey.....	3096.....	By Quote
 <b>Field Equipment Charges</b>		
Misc. Equipment Charge.....	4416.....	By Quote
Photostress, per day.....	4419.....	By Quote
Vibration and Sound Monitoring, per day.....	4430.....	By Quote
Strain Gages.....	4467.....	By Quote



### Laboratory Testing-Concrete

<b>Forensic Testing</b>	<b>Activity</b>	<b>Cost</b>
Petrographic Examination, ASTM C856.....	4319 .....	By Quote
Corrosion Potential, Half Cell, ASTM C876 .....	4448 .....	By Quote
Pulse Velocity, ASTM C597 .....	4449 .....	By Quote
Cement Analysis, ASTM C114, each.....	4473 .....	By Quote

### Laboratory Testing-Reinforcement

<b>Reinforcing Steel ASTM A 1035.....</b>		
Tensile Test, each,.....	4327 .....	By Quote
Bend Test, each .....	4328 .....	By Quote

### Laboratory Testing-Masonry

<b>Masonry Prisms ASTM E 1314</b>		
Cutting Prisms, when required.....	4219 .....	By Quote
 <b>Unreinforced Masonry Building Tests</b>		
In-Place Shear (Push) Tests .....	4809 .....	By Quote
15 Degree Core Shear Tests .....	4815 .....	By Quote
Wall Anchors.....	4816 .....	By Quote
Flat Jack Testing.....	4827 .....	By Quote

### Laboratory Testing-Construction Materials

<b>Roofing Tile.....</b>		
Additional/Special Tests.....	4701 .....	By Quote
 <b>Wire Rope</b>		
Wire Rope over 2" diameter, each.....	4428 .....	By Quote
<b>Note:</b> Sockets furnished by client		
 <b>Salt Spray</b>		
24 Hours, per panel.....	4407 .....	By Quote
 <b>Saturation Resin for Fiber Composite</b>		
Evaluation per MWD RFQ 704.....	4345 .....	By Quote
 <b>Structural Lumber</b>		
Flexure, ASTM D198 .....	4470 .....	By Quote
Compression, ASTM D198 .....	4471 .....	By Quote
Tension, ASTM D198 .....	4472 .....	By Quote
Torsion, ASTM D198.....	4473 .....	By Quote
Shear, ASTM D198 .....	4474 .....	By Quote
 <b>Specialty Grout</b>		
Rapid-Hardening Grout, ASTM C928.....	4395 .....	By Quote
Non-Shrink Grout, ASTM C1107.....	4396 .....	By Quote





## Laboratory Testing - Structural Testing

<b>Testing Machines</b>	<b>Activity</b>	<b>Cost</b>
Load Tests .....	4405 .....	By Quote
Special Test Set-Up.....	4422 .....	By Quote
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial		
Over 200,000 lb., each.....	4410 .....	By Quote
Strain Gauge Testing .....	4418 .....	By Quote
Special Testing, Load Tests, Flexural, Bend, Impact, Axial, Racking Shear .....	4420 .....	By Quote
Machining and Preparation of Samples .....	4435 .....	By Quote
 <b>Hydrostatic Tests.....</b>	 4429 .....	 By Quote
 <b>Structural Testing</b>		
Diaphragm .....	4436 .....	By Quote
Monotonic Shear Wall.....	4437 .....	By Quote
Cyclic Shear Wall.....	4438 .....	By Quote
Moment Frame Connection .....	4439 .....	By Quote
Component Compression.....	4440 .....	By Quote
Component Shear .....	4441 .....	By Quote
Component Flexural .....	4442 .....	By Quote
Uniform Load .....	4443 .....	By Quote
 <b>Product Evaluation Services</b>		
Code Consulting .....	3095 .....	By Quote
ICC ES/IAS Fabricator Quality Assurance Services .....	3090 .....	By Quote
ICC ES Product Evaluation Services.....	3091 .....	By Quote
CISCA Product Evaluation Services .....	3092 .....	By Quote
AAMA Product Evaluation Services.....	3093 .....	By Quote
ATC 24, FEMA 350, FEMA 450 Product Evaluation Services .....	3094 .....	By Quote

## Laboratory Testing-Calibration Services

<b>Calibration of Hydraulic Jacks</b>		
Custom Systems .....	4455 .....	By Quote

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

<b>Calibration of Measuring Device.....</b>		
Calibration of Linear Measuring Device, each.....	4430 .....	By Quote
Calibration of Temperature Measuring Device, each .....	4431 .....	By Quote
Calibration of Mass Measuring Device, each .....	4432 .....	By Quote
Force, each.....	4483 .....	By Quote
Pressure, each .....	4484 .....	By Quote
Temperature, each .....	4485 .....	By Quote

## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
Reflectance Test, each .....	4922 .....	By Quote
Mortar Drop-off Test, each .....	4943 .....	By Quote
 <b>Laboratory Tile Testing In Accordance with A.S.T.M.</b>		
Color Uniformity .....	ASTM C609 .....	4912 .....
Ceramic Tile Material Purchase .....	4956 .....	By Quote
Ceramic Tile Miscellaneous .....	4929 .....	By Quote
Veneer Bond Strength, 2-required .....	ASTM C482 .....	4928 .....
 <b>Mortar Testing</b>		
Mortar ANSI Test .....	4940 .....	By Quote
Mortar Miscellaneous Test .....	4945 .....	By Quote
 <b>Grout Testing</b>		
Grout ANSI Test .....	4950 .....	By Quote
Grout Drop-off Test .....	4953 .....	By Quote
Grout Miscellaneous Test .....	4955 .....	By Quote
 <b>Field Testing</b>		
Field Veneer Bond Strength .....	ASTM C482 .....	4959 .....

## Laboratory Testing-Plastics & Plumbing

<b>Plastic</b> .....		
Weatherometer Test, each .....	4422 .....	By Quote
Plastic Tensile Tests, each .....	4425 .....	By Quote
Plastic Pipe Flexural Tests, each .....	4500 .....	By Quote
Plastic Pipe Load Tests, each .....	4501 .....	By Quote
Plastic Pipe Acetone Test, each .....	4502 .....	By Quote
Plastic Pipe Flattening Tests, each .....	4503 .....	By Quote
Plastic Pipe Heat Distortion, each .....	4504 .....	By Quote
Plastic Pipe Hydrostatic Burst .....	4505 .....	By Quote
Plastic Pipe Impact Tests (Reduced Temperatures), each .....	4506 .....	By Quote
Plastic Pipe Impact Tests (Ambient Temperatures), each .....	4507 .....	By Quote
Plastic Pipe Joint Tightness, each .....	4508 .....	By Quote
Plastic Pipe Load/Crush Test .....	4509 .....	By Quote
Plastic Pipe Miscellaneous Tests .....	4510 .....	By Quote
Plastic Pipe Stiffness, Deflection Load, Crush Resist, each .....	4511 .....	By Quote
Plastic Pipe Sustained Pressure .....	4512 .....	By Quote
Plastic Pipe Tensile Tests .....	4513 .....	By Quote
Plastic Pipe Water Resistance, each .....	4514 .....	By Quote
Plastic Pipe Water Absorption Test .....	4515 .....	By Quote
 <b>Plumbing</b>		
Plumbing Area Impact Tests .....	4516 .....	By Quote
Plumbing Bond Strength Tests, set of 5 .....	4517 .....	By Quote
Plumbing Cigarette Test, each .....	4518 .....	By Quote
Plumbing Chemical Resistance .....	4519 .....	By Quote
Plumbing Cleanability and Wear, each .....	4520 .....	By Quote
Plumbing Color Fastness 200 hr. ....	4521 .....	By Quote
Plumbing Color Fastness 700 hr. ....	4522 .....	By Quote
Plumbing Color Fastness 1000 hr. ....	4523 .....	By Quote
Plumbing Cracking And Crazing, each .....	4524 .....	By Quote
Plumbing Fitting Dimensions, each .....	4525 .....	By Quote
Plumbing Pipe Dimensions, each .....	4526 .....	By Quote
Plumbing Drain Fitting Connections, each .....	4527 .....	By Quote
Plumbing Fire Tests, each .....	4528 .....	By Quote



## Laboratory Testing-Plastics & Plumbing Continued

<b>Plumbing continued...</b>	<b>Activity</b>	<b>Cost</b>
Plumbing Barcal Hardness, each .....	4529 .....	By Quote
Plumbing Load Tests, each .....	4530 .....	By Quote
Plumbing Miscellaneous Tests .....	4532 .....	By Quote
Plumbing Point Impact Tests, each .....	4533 .....	By Quote
Plumbing Sidewall Load Tests .....	4534 .....	By Quote
Plumbing Stain Resistance, each .....	4535 .....	By Quote
Plumbing Subsurface Test, each .....	4536 .....	By Quote
Plumbing Surface Test, each .....	4537 .....	By Quote
Plumbing Temperature Resistance, each .....	4538 .....	By Quote
Plumbing Washability, each .....	4539 .....	By Quote
Plumbing Water Absorption, each .....	4540 .....	By Quote
Plumbing Water Resistance, each .....	4541 .....	By Quote
Plumbing Water Resistance Cycling Test .....	4542 .....	By Quote
Gel Coat Thickness, each .....	4543 .....	By Quote

## Laboratory Testing-Metallurgical

### **Metallurgical Services**

Failure Analysis, Metallurgical Consulting, and Forensic Metallurgy .....	6010 .....	By Quote
Stucco Netting, ICC Evaluation, per roll .....	6912 .....	By Quote
Microhardness Survey, (includes metallurgical mount & preparation), each .....	6921 .....	By Quote
Special Preparation and Testing .....	6917 .....	By Quote

### **Mechanical Testing**

Bend Test – Base material .....	6900 .....	By Quote
Load Tests (Proof Load, Flexural, Stress-corrosion, etc.) .....	6907 .....	By Quote

### **Fastener Testing**

Nut Cone Proof Load Test, each .....	6961 .....	By Quote
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### **Weld Procedure Qualification and Welder Qualification .....**

Weld-Radiography .....	6931 .....	By Quote
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**Unless otherwise noted, costs above do not include sample preparation.**



## Laboratory Testing - Curtain Wall

### Mock-Up Performance Testing

#### 9 Testing Bays Available in the Following Sizes:

Number of Available Test Bays	Height (feet)	Width (feet)
1	100	35
1	45	75
5	34	20
1	30	10
1	20	20

#### Custom Test Bay Sizes Available by Quote.

Inspection and Testing	Activity	Cost
Lab Tech Away from Lab .....	3014 .....	\$ 125.00
Special Curtain Wall Evaluation, per hour .....		125.00
Curtain Wall Attachment, per hour.....		125.00
Exterior Skin from Swing Stage (2 men), per hour.....		250.00
Caulking, Sealants, Adhesives, per hour.....		125.00
Coatings, Paint, per hour .....		By Quote
<b>Materials Evaluation</b>		
Glass, Granite, Metal Cladding, Caulking, Paint Coatings		
Adhesive Bond, Chemical Analysis .....	8112 .....	By Quote
Field Water Test, AAMA 501.2, (2 men) per hour.....	8113 .....	250.00
Static Water Infiltration, ASTM E 331/1105.....	8102 .....	By Quote
Static Air Infiltration, ASTM E 283/783 .....	8104 .....	By Quote
Seismic Structural Loading.....	8122 .....	By Quote
Structural Performance ASTM E 330.....	8106 .....	By Quote
Concentrated Load Testing (window washer, etc.).....	8109 .....	By Quote
Stress and Rupture - Stone and Granite .....	8111 .....	By Quote
Dynamic Water Infiltration.....	8103 .....	1,500.00
Water Penetration By Cyclic Air Pressure, ASTM E 547 .....	8105 .....	By Quote
AAMA Thermal Testing.....	8110 .....	By Quote

### Special Testing

<b>Multi-Channel Computer Aided Data Acquisition of:.....</b>		
Acceleration.....	4465 .....	By Quote
Vibration.....	4430 .....	By Quote
Movements (0.0001 inch).....	4466 .....	By Quote
Pressure .....	4467 .....	By Quote
Machine Control Movement.....	4468 .....	By Quote
Temperature.....	4469 .....	By Quote
Strain Gauge .....	4418 .....	By Quote
Stress Analysis.....	4475 .....	By Quote
Cyclic Seismic Testing of Components of Steel Structures, ATC-24, FEMA 350,FEMA 450.....	4439 .....	By Quote



**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Expert Witness, per hour .....	7200 .....	By Quote
<b>Administrative Charges</b>		
Contracted Services-Drilling .....	7300 .....	By Quote
Contracted Services-Testing .....	7301 .....	By Quote
Contracted Services-Expenses .....	7303 .....	By Quote
<b>Foundation/Geological Investigations .....</b>		
Geotechnical Field Exploration .....	7308 .....	By Quote
Final Report of Compacted Fill (submitted at end of project, if required) .....	7305 .....	By Quote
<b>Environmental Investigations and Reports</b>		
Site Assessments Phase I .....	7306 .....	By Quote
Site Assessments Phase II .....	7307 .....	By Quote
Report Preparation .....	7340 .....	By Quote
<b>Support Equipment Environmental .....</b>		
Health Safety Equipment:		
Level A, per Person .....	7227 .....	By Quote
Level B, per Person, per day, plus hourly rate .....	7228 .....	By Quote

**Laboratory Testing-Soil**

<b>Soil Properties</b>		
California Impact, CAL 216, each .....	7018 .....	\$ 150.00
Corrosivity: Resistivity, pH, Sulfates, Chlorides, each .....	7020 .....	By Quote
Relative Density (max/min) D 4254, each .....	7534 .....	By Quote
<b>Foundation Testing</b>		
Collapse Potential, each .....	7559 .....	By Quote
Triaxial Unconsolidated, Undrained, ASTM D 2850, each .....	7132 .....	By Quote

**Laboratory Testing-Aggregate**

<b>Aggregate Properties .....</b>		
Hardness Test, ASTM D 1865, each .....	7557 .....	By Quote
Loss On Ignition, ASTM C25 .....	7037 .....	By Quote
Plate Bearing Test, ASTM D 1195, D 1196 .....	7118 .....	By Quote
Petrographic Analysis of Aggregate for Concrete, ASTM C295, each .....	7024 .....	By Quote
Potential Alkali-Silica Reactivity of Aggregate for Concrete, ASTM C 289, Chemical Method, each .....	7551 .....	By Quote
Potential Alkali Reactivity of Aggregate for Concrete, ASTM C 1260, Mortar-Bar Method, each .....	7552 .....	By Quote
Potential Alkali Reactivity of Carbonate Rocks for Concrete, ASTM C 586, Rock Cylinder Method, each .....	7565 .....	By Quote
<b>Conformity</b>		
Staining Materials, ASTM C 641, each .....	7553 .....	By Quote

**Laboratory Testing-Asphalt Concrete**

<b>Asphalt Concrete .....</b>		
Complete Asphalt Concrete Mix Design, each .....	4119 .....	By Quote



## Laboratory Tests - Chemical

<b>Administrative Charges</b>	<b>Activity</b>	<b>Cost</b>
Manager, Supervisor, or Consultant, per hour.....	6409	By Quotation
Chemist, per hour.....	6406	By Quotation
Technician, per hour.....	6430	By Quotation
Clerical Assistant, per hour.....	6432	By Quotation
Calculation Charge.....	6403	By Quotation
Report Preparation Charge.....	6418	By Quotation
Sample Preparation.....	6424	By Quotation
Sample Composite, per sample.....	6425	By Quotation
Sample Disposal.....	6421	By Quotation
Sample Transport, per hour.....	6427	By Quotation
Shipping Charges.....	6433	By Quotation
Sample Containers.....	6434	By Quotation
Equipment Rental.....	6435	By Quotation
Photography.....	6420	By Quotation
Standard Report/QC Package.....	6511	By Quotation
Diskette Surcharge, 10%.....	6512	By Quotation
RWQCB Package Surcharge, 15%.....	6513	By Quotation
NEESA, Army Corps of Engineers, CLP, Etc., Surcharge.....	6514	By Quotation
 <b>Field Sampling</b>		
Technician, Per hour.....	6430	By Quotation
Mileage, per mile.....	6415	By Quotation
Automatic Composite Sampler, per 24-hours.....	6400	By Quotation
Discharge Flow Measurement, each.....	6412	By Quotation
 <b>Supplies</b>		
5035 Encore (5g), each.....	6434	By Quotation
5035 Sampling Tool, each.....	6435	By Quotation
5035 Easy Draw.....	6534	By Quotation
 <b>Rush Analyses</b>		
Rush Surcharge, 72 Hours.....	6535	By Quotation
Rush Surcharge, 48 Hours.....	6540	By Quotation
Rush Surcharge, 24 Hours.....	6545	By Quotation
Rush Surcharge, Same Day.....	6550	By Quotation
Rush Surcharge.....	6530	By Quotation



## Laboratory Tests – Organic Chemistry

<b>Organic Analyses</b>	<b>Activity</b>	<b>Cost</b>
1664 TRPH.....	6201	By Quotation
413.1 Oil and Grease .....	6236	By Quotation
Oil & Grease, Floatable .....	6237	By Quotation
418.1 TRPH.....	6258	By Quotation
8015B TPH-Gasoline .....	6268	By Quotation
8015B TPH-Diesel .....	6269	By Quotation
8015B TPH-Gasoline and Diesel.....	6267	By Quotation
8015B TPH-Hydrocarbon Range.....	6263	By Quotation
8015B Methanol/Ethanol.....	6264	By Quotation
602 or 8021B BTEX.....	6202	By Quotation
8015B/8021B Combination-Gasoline.....	6203	By Quotation
601 or 8021B Halogenated Organics.....	6228	By Quotation
624 / 8260B Volatile Organics .....	6250	By Quotation
524 Volatile Organics.....	6249	By Quotation
625 or 8270C Extractable Organics.....	6216	By Quotation
608 or 8082 PCBs Water or Soil .....	6242	By Quotation
8082 PCBs Oil.....	6244	By Quotation
608 or 8081A Chlorinated Pesticides .....	6206	By Quotation
608 or 8082 / 8081A PCBs and Pesticides .....	6243	By Quotation
8151A Chlorinated Herbicides .....	6207	By Quotation
Total Organic Carbon.....	6254	By Quotation
Total Organic Halides.....	6256	By Quotation
Flash Point.....	6218	By Quotation
Organic Analysis .....	6238	By Quotation
Petroleum Analysis.....	6246	By Quotation
Identification/Interpretation of Spectrum .....	6232	By Quotation
5035 or 5030, 8015B / 8260B Gasoline and Volatile Organics.....		By Quotation
 <b>Mobile Laboratory Services</b>		
Mobile Lab per 10 hour weekday.....	6460	By Quotation
Mobile Lab per 10 hour weekend.....	6465	By Quotation
Mobile Lab hours in excess of 10 hours .....	6461	By Quotation
Mobilization fee.....	6467	By Quotation
Mobile Lab Standby Time.....	6439	By Quotation
Mobile Lab Cancellation .....	6468	By Quotation



## Laboratory Tests – Inorganic Chemistry

### **Inorganic Analyses - Wet Chemistry**

	<b>Activity</b>	<b>Cost</b>
Alkalinity.....	6001	By Quotation
Ammonia, Direct.....	6002	By Quotation
Ammonia, Distillation.....	6004	By Quotation
Biochemical Oxygen Demand (BOD).....	6006	By Quotation
Chemical Oxygen Demand (COD).....	6008	By Quotation
Chloride, IC.....	6010	By Quotation
Chloride, Argentometric.....	6012	By Quotation
Chlorine.....	6014	By Quotation
Color.....	6016	By Quotation
Conductance.....	6018	By Quotation
Cyanide, Amenable *(surcharge to Total cyanide).....	6022	By Quotation
Cyanide, Free.....	6024	By Quotation
Cyanide, Total.....	6028	By Quotation
Cyanide, Reactive.....	6026	By Quotation
Fluoride, IC.....	6042	By Quotation
Hardness.....	6050	By Quotation
Mercaptans.....	6070	By Quotation
Nitrate, IC.....	6078	By Quotation
Nitrate, Colorimetric.....	6076	By Quotation
Nitrite.....	6080	By Quotation
Nitrogen, Kjeldahl.....	6082	By Quotation
Oxygen, Dissolved.....	6096	By Quotation
pH, Aqueous.....	6102	By Quotation
pH, Non-aqueous.....	6100	By Quotation
Phosphate, IC.....	6110	By Quotation
Phenols.....	6104	By Quotation
Solids, Total Dissolved.....	6132	By Quotation
Solids, Settleable.....	6126	By Quotation
Solids, Suspended.....	6128	By Quotation
Solids, Total.....	6130	By Quotation
Sulfide, Dissolved.....	6138	By Quotation
Sulfide, Reactive.....	6140	By Quotation
Sulfide, Total.....	6142	By Quotation
Sulfate, IC.....	6136	By Quotation
Sulfate, Gravimetric.....	6134	By Quotation
Surfactants, MBAS.....	6150	By Quotation
Thiosulfate.....	6158	By Quotation
Turbidity.....	6174	By Quotation
Water by Karl Fischer titration.....	6272	By Quotation
Construction Materials Analysis.....	6020	By Quotation
Semi-Quantitative Screen by ICP.....	6062	By Quotation
Semi-Quantitative Screen by IC.....	6058	By Quotation





## Laboratory Tests – Inorganic Chemistry Continued

<b>Metals Preparation</b>	<b>Activity</b>	<b>Cost</b>
Digestion, Aqueous .....	6030 .....	By Quotation
Digestion, Nonaqueous.....	6032 .....	By Quotation
STLC Extraction.....	6036 .....	By Quotation
EP-Tox.....	6034 .....	By Quotation
TCLP Extraction.....	6154 .....	By Quotation
Parr Oxygen Bomb .....	6098 .....	By Quotation
TCLP Extraction ZHE, Per Sample.....	6155 .....	By Quotation
 <b>Metals Analysis</b>		
Individual Metals, per element .....	6072 .....	By Quotation
Hexavalent Chromium.....	6052 .....	By Quotation
Organic Lead .....	6094 .....	By Quotation
Total Lead.....	6069 .....	By Quotation
Lead in Paint.....	6068 .....	By Quotation
Lead in Drinking Water.....	6067 .....	By Quotation
 <b>Metals Group Determinations</b>		
TTLIC CAM Metals .....	6162 .....	By Quotation
STLC CAM Metals .....	6160 .....	By Quotation
RCRA Metals .....	6118 .....	By Quotation
Priority Pollutant Metals.....	6112 .....	By Quotation
 <b>Outside Laboratory Services</b>		
Asbestos Analysis.....	6300 .....	By Quotation
Other Analyses .....	6436 .....	By Quotation
 <b>FDA Testing of Tableware for Lead and Cadmium</b>		
FDA Testing, on six like pieces, per test .....	6038 .....	By Quotation
 <b>VOC (Volatile Organic Content) Testing</b>		
VOC, including water or exempt solvent AQMD reg) .....	6266 .....	By Quotation
 <b>Biological</b>		
Biotoxicity, aqueous .....	6500 .....	By Quotation
Biotoxicity, nonaqueous.....	6505 .....	By Quotation
Coliform, total .....	6515 .....	By Quotation
Coliform, fecal.....	6516 .....	By Quotation

### Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories .....</b>		
Administrative Support for Special Projects.....	3074 .....	+ 20% of Hourly Rate
Insurance, Extra Charges as ordered by Client.....	3081 .....	By Quote
Contracted Services .....	3087 .....	By Quote

END OF DOCUMENT - ADDITIONAL SERVICES





## Schedule of Fees for Inspection Services

*The prices quoted below for Inspection Services are firm until December 31, 2010. On January 1, 2011, the charges for services set forth in this Schedule of Fees will be adjusted by changes to in our general administrative and overhead expenses. These adjusted charges shall become the agreed upon basis for charges by Smith-Emery to Client. A separate Schedule of Fees is included for each calendar year of this contract.*

To 12/31/2010

### Concrete Inspection

1110	Shoring	\$ 92.72
1111	Foundations	92.72
1112	Walls/Columns	92.72
1113	Slabs on Grade	92.72
1114	Elevated Slabs	92.72
1115	Slabs-Metal Deck	92.72
1116	Precast Plant	92.72
1117	Guniting/Shotcrete	92.72
1118	Prestress/Post-Tension	92.72
1119	Batch Plant	92.72

### Masonry Inspection

1410	Retaining Walls	92.72
1411	Structural Walls	92.72
1412	Stair Shaft	92.72
1413	Veneer	92.72
1414	Grouting	92.72
1415	Repointing	92.72
1416	Pressure Grouting	92.72

### Fireproofing Inspection

1810	Thickness Evaluation	92.72
1811	Density Sampling	92.72
1812	Repair Application	92.72
1813	Adhesion/Cohesion	92.72

### Steel Field-Visual Inspection

1310	Weld-Frame	92.72
1311	Weld-Deck	92.72
1312	Weld-Rebar	92.72
1313	Weld-Shoring	92.72
1314	Weld-Miscellaneous	92.72
1315	High Strength Bolts	92.72
1316	Curtain Wall	92.72
1317	Procedure Qualification	92.72
1318	Welder Qualification	92.72
1319	Precast Panel	92.72

### Steel Field-Non-Destructive Testing

2310	Ultrasonic (Plus Equipment)	97.88
2311	Magnetic Particle (Plus Equipment)	97.88
2312	Dye Penetrant (Plus Equipment)	97.88
2400	NDT Equipment, per day	40.00

### Steel Shop-Visual Inspection

1210	Visual	\$ 92.72
1211	Material I.D.	92.72
1212	Quantity Verification	92.72
1213	Procedure Qualification	92.72
1214	Welder Qualification	92.72
1215	Other	92.72

### Steel Shop-Non-Destructive Testing

2210	Ultrasonic (Plus Equipment)	97.88
2211	Magnetic Particle (Plus Equipment)	97.88
2212	Dye Penetrant (Plus Equipment)	97.88
2400	NDT Equipment, per day	40.00

### Finishing Inspection

1910	Drywall Fastening	92.72
1911	Electrical	92.72
1912	H.V.A.C.	92.72
1913	Plumbing	92.72
1914	Firesprinkler	92.72
1915	Ceramic Tile	92.72
1916	Waterproofing	92.72
1917	Curtain Wall	92.72
1918	Miscellaneous Finishing	92.72

### Miscellaneous Inspection

1613	Fiberwrap	92.72
2010	Essential Building Inspector	92.72
2013	Concrete/Epoxy Injection	92.72
2014	Dowels/Anchors-Pull/Torque	92.72
9310	Quality Control Inspection	92.72
9311	Epoxy Dowels/Anchors	92.72
9312	Expansion Anchors	92.72
9313	Grouting of Baseplate	92.72
1815	Miscellaneous Inspection	92.72
1817	Combination Concrete/Soils	94.78
2016	Deputy Grading Inspector	108.18

### Additional Services

9110	Report Charge, each	1.75
1101	Mileage, per mile	0.75

**Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.**



## Schedule of Fees for Inspection Services – Continued

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Registered Professional Engineer, per hour .....	9602 .....	\$ 154.53
Staff Engineer, per hour .....	9600 .....	123.63
Metallurgical Engineer, per hour .....	6933 .....	206.00
Inspection Supervisor, regular time, per hour .....	1247 .....	97.88
Level III Supervisor – ASNT, per hour .....	2443 .....	103.00
<b>Expert Witness Testimony</b>		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Schedule of Fees for Laboratory Services

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Registered Professional Engineer, Laboratory, per hour .....	3011 .....	\$ 154.53
Staff Engineer, per hour.....	3015 .....	123.63
Laboratory Supervisor, regular time, per hour.....	3012 .....	97.88
Test Technicians -- Laboratory, regular time, per hour .....	3013 .....	87.57
Test Technicians -- Away from Lab, regular time, per hour .....	3014 .....	87.57
<b>Expert Witness Testimony</b>		
Court Appearance, per hour, four-hour minimum .....	9603 .....	350.00
Preparation for Court, Consultations, per hour .....	9605 .....	250.00
<i>Plus actual expenses when out-of-town</i>		

### Miscellaneous Support Fees

General Testing-Rush Charges .....	4812 .....	50%
Miscellaneous Sample Pick-up, per hour.....	5022 .....	50.00
Miscellaneous Pick-up, per trip minimum.....	5023 .....	50.00
Subsistence, per day .....	1103 .....	85.00
Travel Time, per hour.....	4456 .....	55.00
Mileage, per mile.....	5101 .....	0.75
Fuel Surcharge.....	4443 .....	2% of Invoice

### Laboratory Hours

Laboratory hours are 7:00AM through 4:00PM, Monday through Friday, Hours 7:00AM through 12:00PM Saturday.

Additional charges will be made for off-hours or weekend testing as follows:

Off-hour Laboratory Operations, per hour.....	5051 .....	1,000
Holiday Laboratory Operations, per hour.....	5052 .....	1,500

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## Laboratory-General Field Services

<b>General Field Services</b>	<b>Activity</b>	<b>Cost</b>
Technician with Pachometer, per hour .....	3110 .....	\$ 87.57
Film Adhesion, ASTM D4541, per hour .....	4474 .....	85.00
Dry Film Thickness, ASTM D6132, per hour .....	4475 .....	85.00
Fireproofing Technician, per hour .....	3210 .....	86.28
Firestopping Technician .....	3211 .....	86.28
Batch Plant Technician .....	3310 .....	86.28
Roofing Technician, per hour .....	3410 .....	86.28
Membrane Technician, per hour .....	3510 .....	86.28
Roofing/Waterproofing Technician, per hour .....	3511 .....	86.28
Water Control Technician, per hour .....	3610 .....	86.28
Field Coring Technician, per hour .....	3720 .....	133.93
Mileage .....	5101 .....	0.75

### Field Technician Minimums

Regular Hours: Monday through Friday, 6:30am to 4:00pm.

Show-up time, no work performed .....	2-hour minimum charge
Field Service Calls .....	4 and 8-hour minimum charge
Field Services Work .....	a minimum of 1 hour per week engineering supervision may be charged

### Overtime

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours .....	time and one-half
Sundays and Holidays, 1 to 8 Hours .....	time and one-half
Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7 <sup>th</sup> consecutive day .....	double time

### Field Equipment Charges

Skidmore, per day .....	4415 .....	50.00
Torque Wrench, per day .....	4413 .....	25.00
Multiplier, per day .....	4414 .....	10.00
Pull Test Equipment (ram, pump, gage), per day .....	4464 .....	50.00
Dynamometer, per day .....	4465 .....	25.00
Schmidt Hammer, per day .....	9704 .....	40.00
Windsor Probe, per location (3-shots) .....	9705 .....	50.00
Rental Dipstick 2000, per week .....	4825 .....	2500.00
Flatness Testing, (under 10,000-square feet), per hour .....	4814 .....	135.00
Flatness Testing, (over 10,000-square feet), per square foot .....	4826 .....	0.05
Field Hardness Equipment, per day .....	9117 .....	50.00
Metallographic Replication Kit, per day .....	9118 .....	50.00
Dry Film Thickness Gage, per day .....	4409 .....	40.00
Concrete Air Meter, Pressure of Volumetric, per day .....	4431 .....	25.00
Concrete Unit Weight Kit, scale, bucket, plate, mallet, and rod, per day .....	4436 .....	25.00
2-inch cube brass embecco molds, each per day .....	4437 .....	25.00
Film Adhesion Equipment, Dollies and Epoxy, per day .....	4443 .....	50.00

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## Laboratory Testing-Concrete

	<b>Activity</b>	<b>Cost</b>
<b>Cylinders, Beams &amp; Cores</b>		
Compression Test, 6" x 12" cylinders, including hold, ASTM C 39, each .....	4300 .....	\$ 15.00
Weight per cubic foot of lightweight concrete cylinders, each.....	4303 .....	20.00
Flexure Test, 6" x 6" beams, ASTM C 78, each.....	4304 .....	85.00
Splitting Tensile, 6" x 12" cylinders, ASTM C 496, each.....	4305 .....	65.00
Modulus of Elasticity Test - Static, ASTM C 469, each.....	4306 .....	125.00
Compression Test, 2" - 4" - 6" Cores, ASTM C 42, each .....	4311 .....	40.00
In Laboratory Core Cutting, each .....	4312 .....	50.00
Cylinder Pick-up (within 40-mile radius from Laboratory)		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample.....	5000 .....	10.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday, .....	5001 .....	19.00
Sunday and Holidays - per sample .....	5002 .....	25.00
Minimum Pick-up Charge .....	5003 .....	21.00
Pick-Up of Flexural Test Beams, each .....	5021 .....	29.00
<b>Forensic Testing</b>		
Moisture Vapor Transmission, Calcium Chloride Moisture Kit, ASTM F1869 .....	4459 .....	25.00
Inplace Moisture Content .....	4457 .....	75.00
<b>Shrinkage</b>		
Length Change (3 bars, 4 readings, up to 90 days), ASTM C 157 Modified.....	4307 .....	240.00
Additional Reading, per set of 3 bars .....	4308 .....	40.00
Storage over 90 days, per set of 3 bars, per month .....	4308 .....	40.00
Pick-up/Deliver Shrinkage Molds/Samples, per set.....	5020 .....	42.00
<b>Mix Design</b>		
Mix Design, Determination of Proportions, (3 Business Day Turn Around) each .....	9500 .....	125.00
Mix Design, Determination of Proportions, Requiring Same Day Service .....	9501 .....	150.00
Preparation of Special Strength Documentation for Mix Design, each .....	9502 .....	200.00
Amend or Retype Existing Smith-Emery Mix Designs not involving calculations, each .....	9503 .....	85.00
Review Mix Design prepared by Others, each .....	9504 .....	100.00
<b>Laboratory Trial Batch</b>		
Laboratory Trial Batch, (includes slump, % air, unit weight, and up to 7-cylinders; ASTM C 192, each .....	4309 .....	500.00
Laboratory Trial Batch, (including the items above and shrinkage; ASTM C 192, each .....	4310 .....	600.00
Sampling Material for Laboratory Trial Batches, per hour.....	4315 .....	130.00
<b>Gunite &amp; Shotcrete</b>		
Compression, 2", 4", 6" Cores, ASTM C 42, each.....	4314 .....	40.00
Pick-up Shotcrete Cores .....	5016 .....	10.00
Pick-up Gunite Field Sample (40-mile radius) less than 100 lbs., each.....	5017 .....	60.00
Pick-up Gunite Field Sample (40-mile radius) more than 100 lbs., each.....	5018 .....	100.00
ACI 506.2 Core Grading, per core.....	5027 .....	70.00
<b>Lightweight Roof Fill ASTM C 495</b>		
Compression Test, each.....	4380 .....	45.00
Density, each .....	4381 .....	40.00

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## Laboratory Testing-Reinforcement

<b>Reinforcing Steel ASTM A 615/A 706</b>	<b>Activity</b>	<b>Cost</b>
Tensile Test, No. 11 Bar or Smaller, each .....	4600 .....	\$ 35.00
Bend Test, No. 11 Bar or Smaller, each .....	4601 .....	20.00
Tensile Test, No. 14 Bar, each.....	4602 .....	75.00
Tensile Test, No. 18 Bar, each.....	4603 .....	150.00
Chemical Analysis.....	4616 .....	150.00
Deformation Compliance.....	4617 .....	55.00
<b>Sampling and Tagging at Fabricators Plant (within 40-mile radius from Laboratory)</b>		
6:30 a.m. to 5:00 p.m., Monday through Friday - per sample.....	5005 .....	19.00
Before 6:30 a.m. and after 5:00 p.m. and Saturday - per sample .....	5006 .....	27.00
Sunday and Holidays - per sample .....	5007 .....	27.00
Minimum Sample Charge, per trip .....	5008 .....	50.00
Pick-up Rebar Samples at Jobsite - per sample .....	5024 .....	19.00
 <b>Welded Specimens</b>		
Tensile Test, Welded, No. 11 Bar or Smaller, each.....	4604 .....	50.00
Tensile Test, Welded, No. 14 Bar, each .....	4605 .....	75.00
Tensile Test, Welded, No. 18 Bar, each .....	4606 .....	150.00
Nick Break, Welded Re-Bar, each.....	4607 .....	65.00
Straightening Hoops .....	4615 .....	40.00
 <b>Coupled Reinforcement</b>		
Tensile Test, Mechanically Spliced Bar, No. 11 Bar or Smaller, each.....	4612 .....	50.00
Tensile Test, Mechanically Spliced Bar, No. 14 Bar, each .....	4613 .....	75.00
Tensile Test, Mechanically Spliced Bar, No. 18 Bar, each .....	4614 .....	150.00
 <b>Post-Tensioning Strand</b>		
Tensile Test and Elongation in 24" for Prestress Strand, ASTM A 416, each.....	4609 .....	90.00
Tensile Test and Elongation in 10" for Prestressing Wire, ASTM A 421, each.....	4610 .....	90.00
Modulus of Elasticity (Prestress Strand), each .....	4611 .....	130.00
Pick-up Post Tension Cables, per sample .....	5025 .....	19.00
 <b>Welded Wire Fabric ASTM A 185</b>		
Parent Material Tensile, 5 required, \$30.00 each .....	4618 .....	150.00
Weld-Included Tensile, 5 required, \$30.00 each .....	4619 .....	150.00
Shear-Weld Area, 5 required, \$35.00 each.....	4620 .....	175.00
Bend Test, 5 requires, \$20.00 each.....	4621 .....	100.00
Mesh Evaluation, ASTM C427 .....	4622 .....	\$575.00

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## Laboratory Testing-Masonry

	<b>Activity</b>	<b>Cost</b>
<b>Brick ASTM C 67</b>		
Compressive Strength, each.....	4200 .....	\$ 40.00
Modulus of Rupture (flexure), each.....	4201 .....	50.00
Flexural Bond Strength, each .....	4217 .....	300.00
Dimensions, overall, coring, shell and web thickness, per brick .....	4202 .....	50.00
Coefficient of Friction (slip test), each .....	4203 .....	185.00
Initial Rate of Absorption, each.....	4204 .....	35.00
Absorption - 5 hour or 24 hour, each.....	4205 .....	70.00
Boil, 1, 2 or 5 hour, each .....	4206 .....	50.00
Efflorescence, each.....	4207 .....	75.00
Cores, Compression, each.....	4208 .....	40.00
Cores, Shear, 6" and 8" Diameter, 2 Faces, per core.....	4209 .....	70.00
Pick-up Brick Samples, each .....	5009 .....	9.00
Freeze Thaw (8x8, 4x4), 5 samples, 50 cycles .....	4222 .....	1,500.00
 <b>Concrete Block ASTM C 140</b>		
Compression, 3 required, \$40.00 each.....	4210 .....	120.00
Moisture Content as Received, each.....	4211 .....	50.00
Absorption, 3 required, \$40.00 each.....	4212 .....	120.00
Shrinkage, Modified British, ASTM C 426, 3 required, \$95.00 each.....	4213 .....	285.00
Compression, 4" - 6" - 8" Cores, each.....	4221 .....	40.00
Pick-up Block Samples, each .....	5010 .....	15.00
Complete C140.....	4220 .....	525.00
 <b>Masonry Prisms ASTM E 1314</b>		
Compression Test, Grouted Prisms, each .....	4218 .....	150.00
Compression Test with MOE, Grouted Prisms, each .....	4223 .....	600.00
Unit Weight, Grouted Prisms, each .....	4224 .....	100.00
Pick-up Prisms - within a 40-mile radius of laboratory, each.....	5013 .....	40.00
 <b>Mortar &amp; Grout UBC St'd 21-16 &amp; 21-18</b>		
Compression, 2" x 4" Masonry Mortar Cylinder, each .....	4214 .....	20.00
Compression, 2" Grout Cubes, ASTM C 109, each .....	4215 .....	50.00
Compression, 3" x 6" Masonry Grout, each .....	4216 .....	25.00
Pick-up Mortar Samples, each.....	5011 .....	10.00
Pick-up Grout Samples, each.....	5012 .....	10.00
Pick-up Grout Cubes, each .....	5015 .....	10.00

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## Laboratory Testing-Construction Materials

### Roofing Tile

	Activity	Cost
Absorption, each.....	4700	\$ 40.00
Breaking Strength per U.B.C., each.....	4702	45.00

### Slate

Modulus of Elasticity, ASTM C120, 3 parallel, 3 perpendicular, \$90 each .....	4805	540.00
Modulus of Rupture, ASTM C120, 3 parallel, 3 perpendicular, \$90 each .....	4806	540.00
Water Absorption, ASTM C121, 3 parallel, 3 perpendicular, \$40 each .....	4807	240.00
Weathering, ASTM C217, 3-samples, \$90 each.....	4808	270.00

### Wire Rope

Wire Rope 0 through 1" diameter, each .....	4426	80.00
Wire Rope 1 through 2" diameter, each .....	4427	250.00

Note: Sockets furnished by client

### Epoxy - Cores & Coring

Field Coring Technician and standard equipment, per hour .....	3710	133.93
Shear Test on Epoxied Cores, each .....	4318	60.00
Compression Test, Cylinders.....	4316	50.00
Compression Test, Cores.....	4317	50.00
Pick-up Epoxy Cylinders - per sample .....	5026	9.00

### Fireproofing Tests

Oven Dry Density, per sample.....	4350	35.00
Pick-up Fireproofing Samples, per sample .....	5014	10.00
Adhesion/Cohesion Testing, per hour (4-hour minimum).....	4351	85.00

### Glass Fiber Reinforced Concrete

Flexural Strength, without M.O.E. 6 required, \$45.00 each .....	4320	270.00
Flexural Strength with M.O.E., 6 required, \$145.00 each .....	4321	870.00
Density, 3 required, \$50.00 each .....	4322	150.00
Tensile Strength, 3 required, \$75.00 each .....	4323	225.00
Shear Strength, 3 required, \$75.00 each .....	4324	225.00

### Fiber Wrap

Tensile Strength, 1 panel (12"x12"), 5 samples, \$150.00 each .....	4326	750.00
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### Saturation Resin for Fiber Composite

Water Absorption, ASTM D570.....	4340	200.00
Compressive Yield Strength, ASTM D695 .....	4341	600.00
Flexural Strength, ASTM D790.....	4342	750.00
Shore Hardness, ASTM D2240 .....	4343	200.00
Tensile Strength and Elongation, ASTM D638.....	4344	750.00

### Specialty Grout

Time of Setting, ASTM C266, each .....	4490	150.00
Sulfate Expansion, ASTM C1012, each .....	4491	500.00
Flexural Strength, ASTM C348, each .....	4492	400.00
Consistence (Cone Test), ASTM C939, each .....	4493	250.00
Bleeding, ASTM C940.....	4494	350.00
Total Chloride Ions, ASTM C1152, each .....	4495	150.00
Permeability, ASTM C1202, each.....	4496	600.00

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## Laboratory Testing - Structural Testing

<b>Testing Machines</b>	<b>Activity</b>	<b>Cost</b>
60,000 to 120,000 Pound Machine (Universal), including set-up time, per hour .....	4400 .....	\$ 175.00
440,000 Pound Machine (Universal), including set-up time, per hour .....	4401 .....	200.00
600,000 Pound Machine (Compression only), including set-up time, per hour.....	4402 .....	250.00
1,100,000 Pound Machine (Universal), including set-up time, per hour .....	4462 .....	750.00
 <b>Manhole Cover and Tree Grate Tests, (L.A. City)</b>		
1-3, each .....	4423 .....	100.00
4 or more, each .....	4424 .....	80.00
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial		
Up to 100,000 lb., each.....	4411 .....	50.00
100,001 to 200,000 lb., each.....	4412 .....	100.00
Tensile Test -- Mechanical Non-Printout Extensometer for Strain, each .....	4432 .....	35.00
Tensile Test -- Electronic Extensometer with Recorded Printout, 1 test .....	4433 .....	45.00
Mechanical Bend Test, each.....	4435 .....	35.00
 <b>Geogrid Testing</b>		
Connection Testing, NCMA Test Method SRWU-1, each.....	4444 .....	350.00
Shear Strength Testing, NCMA Test Method SRWU-1, each.....	4445 .....	350.00

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## Laboratory Testing-Calibration Services

<b>Calibration of Skidmore-Wilhelm Device &amp; Torque Wrench</b>	<b>Activity</b>	<b>Cost</b>
Calibration of Skidmore-Wilhelm Device, in Lab.....	4403 .....	\$100.00
Calibration of Torque Wrench by Skidmore-Wilhelm Device, each bolt size (3 required).....	4404 .....	70.00

### Calibration of Hydraulic Jacks

Up to 50-tons.....	4450 .....	125.00
50 to 74-Tons.....	4451 .....	150.00
75-99-tons.....	4452 .....	160.00
100 to 199-tons.....	4453 .....	180.00
200-299-tons.....	4454 .....	250.00
300-500-tons.....	4466 .....	500.00

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

### Calibration of Measuring Device

Infrared Temperature Gun, each.....	4486 .....	50.00
Ampmeter, each.....	4487 .....	50.00
Torque Wrench, each.....	4488 .....	70.00

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## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
C.T.I. Stain Resistance (8 required) Set.....	CTI T72.....4921 .....	\$ 108.00
Shear Tests, 1 to 5 incl., each .....	.....4925 .....	35.00
Shear Tests, each .....	.....4926 .....	32.00
Mortar Skinning Test, each.....	.....4941 .....	115.00
Mortar Initial Setting Time, each.....	.....4942 .....	73.00
Grout Skinning Test, each .....	.....4951 .....	115.00
Grout Compression - 2" cubes, each .....	.....4954 .....	34.00
Autoclave (3 required), each.....	.....4930 .....	350.00
Water Immersion Processing for Shear Tests, each.....	.....4931 .....	15.00
Oven Processing for Shear Tests, each.....	.....4932 .....	15.00
Low Temperature Processing for Shear Tests, each.....	.....4933 .....	15.00
 <b>Laboratory Tile Testing In Accordance with A.S.T.M.</b>		
Lab Technician, per hour.....	.....3013 .....	87.57
Thickness, 5.50 each (ANSI requires 80).....	ASTM C499.....4900 .....	480.00
Facial Dim, 5.50 each (ANSI requires 80) .....	ASTM C499.....4901 .....	480.00
Warpage, 7.00 each (80 required).....	ASTM C485.....4902 .....	560.00
Wedging, 6.50 each (80 required) .....	ASTM C502.....4903 .....	560.00
Static Coefficient of Friction (3) per set (Not Modified).....	ASTM C1028.....4904 .....	205.00
Coefficient of Friction (3) per set (Modified).....	ASTM C1028.....4934 .....	300.00
Dynamic Coefficient of Friction - James Machine (3) per set.....	ASTM D2047.....4935 .....	205.00
Water Absorption, 35.00 each (5 required) .....	ASTM C373.....4905 .....	175.00
Bond Strength, 47.00 each (shear test) (5 required) .....	ASTM C482.....4906 .....	235.00
Breaking Strength, 20.00 each (10 required) .....	ASTM C648.....4907 .....	200.00
Abrasive Wear Index, 95.00 each (4 required) .....	ASTM C501.....4908 .....	380.00
Crazing, 74.00 each (10 required) .....	ASTM C424.....4909 .....	740.00
(ANSI Crazing Requirement) per set.....	.....4910 .....	209.00
Thermal Shock, 73.00 each (3 required).....	ASTM C484.....4911 .....	219.00
Chemical Resistance.....	ASTM C650.....4913 .....	122.00
Freeze-Thaw Resistance (10) 15 cycles, per set.....	ASTM C1026.....4914 .....	850.00
Additional cycles, per cycle/tile .....	.....4915 .....	10.00
Modulus of Rupture, 34.00 each (3 required) .....	ASTM C133.....4916 .....	102.00
Moisture Expansion, 73.00 each (5 required) .....	ASTM C370.....4917 .....	365.00
Floor Installation Performance Level .....	ASTM C627-76 .....	
First Panel -- Not Including Tile or Installation.....	.....4918 .....	1800.00
Second or More on Same Purchase Order .....	.....4919 .....	1200.00
Impact, (15 required), per set.....	ASTM C368.....4920 .....	225.00
Mohs Hardness (5 required) per set.....	.....4923 .....	75.00
Tensile Tests in Laboratory, 50.00 each, (5 required) .....	.....4924 .....	250.00
 <b>Mortar Testing</b>		
Mortar Compression Test, each.....	ASTM C109.....4944 .....	45.00

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## Laboratory Testing-Ceramic Tile Continued

### Dimension Stone / Building Stone Testing

	Activity	Cost
Compression Test, (*20 required), per set.....	ASTM C170.....4800	\$1,000.00
Flex Strength, Cut Samples (*20 required), per set.....	ASTM C880.....4801	1,000.00
Flex Strength, Full Size Samples (*20 required), per set.....	ASTM C880.....4931	3,500.00
Modulus/Rupture (*20 required), per set.....	ASTM C99.....4802	1,000.00

\*20 Samples tested as follows:

- 5 Samples tested Wet, Parallel to the grain
- 5 Samples tested Wet, Perpendicular to the grain
- 5 Samples tested Dry, Parallel to the grain
- 5 Samples tested Dry, Perpendicular to the grain

Specific Gravity, (3 required), per set .....	ASTM C97.....4803	225.00
Water Absorption, (3 required), per set .....	ASTM C97.....4804	225.00
Abraision Resistance, (3 required), per set .....	ASTM C1353.....4810	400.00
Anchor Testing, each.....	ASTM C1354.....4932	85.00

### Field Testing

Field Technician, per hour.....	3014	87.57
Field Slip Resistance Test, ASTM C1028, first test .....	4957	425.00
Field Slip Resistance Test, ASTM C1028, additional test in same area, each.....	4958	205.0
Pick-up Sample, per hour .....	5019	55.00
Ceramic Tile Technician Mileage, per mile .....	5101	0.75

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## Laboratory Testing-Metallurgical

<b>Professional Staff</b>	<b>Activity</b>	<b>Cost</b>
Metallurgical Engineer, per hour.....	6933 .....	\$206.00
Metallurgical Technician, per hour.....	6919 .....	87.57
 <b>Metallurgical Services</b>		
Charpy Impact Test - Ambient Temperature (Set of 3 Specimens), per set.....	6902 .....	105.00
Charpy Impact Test - Reduced Temperature (Set of 3 Specimens), per set .....	6903 .....	155.00
Galvanized Coating - Acid Strip Method, per specimen of plate, and wire .....	6904 .....	200.00
Hardness Tests Brinell, Rockwell (Standard or Superficial), excluding specimen preparation if required .....	6905 .....	47.50
Spectrographic Chemical Analysis – Ferrous Material (carbon steel, low alloy), each.....	6920 .....	127.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Spectrographic technique .....	6943 .....	180.00
Evaluate Carbon Equivalent (C.E), each to include chemical analysis from Filings.....	6011 .....	240.00
Wet Chemical Analysis From Filings – Ferrous Material (carbon, low alloy), each.....	6012 .....	200.00
Field Hardness Equipment, per day.....	9117 .....	120.00
Metallographic Replication Kit, per day.....	9118 .....	150.00
Mileage, per mile.....	5101 .....	0.75
Scanning Electron Microscopy (SEM), and EDS, per Hour (min 1 hr).....	6913 .....	215.00
Scanning Electron Photomicrographs, each (5 x 4") .....	6915 .....	8.50
 <b>Mechanical Testing</b>		
Tensile Test – With Electronic Extensometer, excludes sample cutting and specimen preparation, each.....	6934 .....	75.00
Tensile Test – Square or Round Tubes up to 1.75-in. OD .....	6939 .....	215.00
Talbot Test – Sample preparation and test per specimen.....	6957 .....	250.00
 <b>Fastener Testing</b>		
Tensile Test – Anchor Bolts, Studs or Threaded Rods under 100, 000lbf , tested full-size, each .....	6948 .....	125.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods up to 100, 000-120,000lbf, tested full-size, each .....	6958 .....	195.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods up to 1.0-in diam. by machined specimens, each.....	6959 .....	195.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods,1.0 - 2.0in diam. by machined specimens, each.....	6013 .....	205.00
Tensile Test – Anchor Bolts, Studs or Threaded Rods over 2.0-in diam. by machined specimens, each.....	6014 .....	235.00
Nut – Hardness and Proof Load test under 100,000 lbf, each.....	6949 .....	35.00
Nut – Hardness and Proof Load test 100,000 – 120,000 lbf, each.....	6960 .....	47.50
Nut – Hardness In Core Method in lieu of proof Load test above 120,000lbf, each.....	6015 .....	55.00
Washer or Nut – Not Galvanized - Hardness, each .....	6950 .....	25.00
Washer or Nut – Galvanized – Hardness after stripping, each .....	6016 .....	38.50
A325 or A490 – Bolt hardness only, each .....	6951 .....	35.00
Bolt A325 or A490 – Wedge Tensile up to 100, 000 lbf, and Hardness, each .....	6952 .....	68.00
Bolt A325 or A490 – Tensile over 120,000 lbf by machined specimens, each .....	6975 .....	195.00
Bolt A325 or A490 – Wedge Tensile Under 150, 000 – 200, 000 lbf , and Hardness, each.....	6970 .....	110.00
Bolt A325 or A490 – Wedge Tensile Under 200, 000 – 250,000 lbf, and Hardness, each.....	6971 .....	150.00
Bolt A325 or A490 – Wedge Tensile Over 250, 000 lbf, and Hardness, each.....	6953 .....	200.00

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Laboratory Testing-Metallurgical Continued

<b>Weld Procedure Qualification and Welder Qualification</b>	<b>Activity</b>	<b>Cost</b>
Sample Cut & Machine for Weld Test, over 1.0-in thickness, each .....	6962 .....	\$ 120.00
Sample Cut & Machine for Weld Test, 1.0-in thickness, each .....	6908 .....	85.00
Sample Cut & Machine for Weld Test, under ½-in thickness, each .....	6910 .....	50.00
Sample Cut & Machine for Weld Test, ½ - 1.0in thickness, each .....	6911 .....	60.00
Welded Fabric Weld shear strength, each sample .....	6963 .....	75.00
Guided Weld Bend Test, excluding specimen preparation, each.....	6927 .....	35.00
Age Bend Specimens – 48 Hrs, up to 3 specimens.....	6956 .....	125.00
Sample Cut & Perform Weld-Fillet Weld Fracture Test, each .....	6929 .....	130.00
Weld-Fillet Weld Fracture Test In Sheet Steel & Evaluate, each.....	6969 .....	130.00
Weld-Macro Etch (Plate)- cut, polish, etch, and evaluate, each .....	6930 .....	90.00
Weld-Macro Etch (Rebar # 3 thru # 9) - cut, polish, etch, and evaluate, each .....	6972 .....	90.00
Weld-Macro Etch (Rebar # 10 thru # 14) - cut, polish, etch, and evaluate, each .....	6973 .....	110.00
Weld-Macro Etch (Rebar # 18)- cut, polish, etch, and evaluate, each.....	6974 .....	180.00
Weld Transverse Tensile Test, plate up to 1.0-in thick excluding machining, each.....	6932 .....	80.00
Weld Transverse Tensile Test, plate over 1.0-in thick excluding machining, each.....	6964 .....	150.00
Welded Rebar Transverse Tensile Test, # 3 thru # 9.....	6965 .....	105.00
Welded Rebar Transverse Tensile Test, # 10 thru # 14.....	6966 .....	140.00
Welded Rebar Transverse Tensile Test, # 18.....	6967 .....	450.00
Review Welding Procedure Specification (WPS), each .....	6921 .....	175.00
Prepare Welding Procedure Specification (WPS), each .....	6922 .....	350.00
WPS, PQR Weld Certificate, each.....	6971 .....	65.00

**Unless otherwise noted, costs above do not include sample preparation.**

### Administrative Charges

Rush Turnaround, 48 - 72 hours (50% Surcharge) .....	6935 .....	+ 50% of invoice
Rush Turnaround, 24 - 48 hours (100% Surcharge) .....	6936 .....	+100% of invoice
Test Report Charge.....	6110 .....	Minimum 65.00
Same day testing + report (200% Surcharge) .....	6937 .....	+ 200%of invoice
Minimum laboratory charge.....	6923 .....	150.00
Multiple copies for distribution, copies and mailing, per distributor per copy each.....	6924 .....	4.50
Digital Photographs, photo quality paper, each .....	9116 .....	8.50
Digital Photographs, photo quality paper, per copy report each.....	9116 .....	4.50

### Sample Preparation

Sample Cut & Machine Specimen - over 1.0-in thick, each .....	6968 .....	120.00
Sample Cut & Machine Specimen - 1.0-in thick, each .....	6908 .....	80.00
Sample Cut & Machine Charpy V-Notch Specimens (Set of 3 specimens), per set.....	6909 .....	140.00
Sample Cut & Machine Sub-size Charpy V-Notch Specimens (Set of 3 specimens), per set .....	6940 .....	170.00
Sample Cut & Machine Charpy V-Notch Specimens From 'K' Section (Set of 3 specimens), per set .....	6941 .....	190.00
Sample Cut & Machine Specimen – under ½-in, each .....	6910 .....	50.00
Sample Cut & Machine Specimen – ½ - 1.0-in, each.....	6911 .....	60.00
Metallurgical Mount, 1-1/4-in. including preparation without evaluation, each .....	6914 .....	120.00
Metallurgical Mount, 2.0-in. including preparation without evaluation, each.....	6918 .....	150.00
Add additional piece in mount, each piece .....	6925 .....	25.00

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**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Professional, per hour .....	7207 .....	\$ 82.42
Staff Professional, per hour .....	7206 .....	92.72
Project Manager, per hour .....	7205 .....	97.88
Project Professional, per hour .....	7204 .....	103.02
Senior Professional, per hour .....	7203 .....	113.32
Principal Professional, per hour .....	7202 .....	123.63
Senior Principal Professional, per hour .....	7201 .....	154.53
Office Support, per hour .....	7209 .....	36.06
Word Processor, per hour .....	7219 .....	41.21
Illustrator, per hour .....	7208 .....	46.37

**Field Staff**

Field Technician, Laboratory and Field with density equipment, per hour .....	7212 .....	66.97
Environmental Technician, per hour .....	7240 .....	87.57
CalTrans Certified Technician with density equipment, per hour .....	7274 .....	87.57
Supervising Technician, Laboratory and Field with density equipment, per hour .....	7214 .....	87.57
Soils Deputy Grading Inspector .....	7563 .....	92.72

**Geotechnical Minimums**

Show-up time, no work performed .....	2-hour minimum charge
Field Service Calls .....	4 and 8-hour minimum charge
Field Soils Work .....	a minimum of 1 hour per week engineering supervision may be charged

**Overtime**

Monday through Friday, Over 8 Hours or after 4:00 p.m.; Saturday, 1 to 12 Hours .....	7222 .....	time and one-half
Sundays and Holidays, 1 to 8 Hours .....	7222 .....	time and one-half
Monday through Saturday, Over 12 Hours; Sundays and Holidays, Over 8 Hours, 7 <sup>th</sup> consecutive day .....	7232 .....	double time

**Administrative Charges**

Pick-Up/Delivery, per hour (2-hours minimum) .....	7215 .....	35.00
Mileage, per mile .....	7313 .....	0.75
Travel Time, per hour .....	7235 .....	50.00
Facsimile, per page .....	7315 .....	1.00
Reproduction, per page .....	7225 .....	1.50
Report Surcharge, per copy .....	7317 .....	50.00
Cellular Telephone, per day .....	7319 .....	35.00
Air Express/Over-night Delivery, each .....	7325 .....	35.00

**Support Equipment Foundation/Geological Investigations**

Nuclear Density Gage, per day .....	7327 .....	Field Staff
Sand Cone Kit, per day .....	7328 .....	Field Staff
<b>Soil Sampling:</b>		
Encore Sample Container, per container .....	7125 .....	\$ 9.00
Tubes and Rings, per sample .....	7122 .....	5.00

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## Geotechnical and Environmental Services-Continued

### Environmental Investigations and Reports

	Activity	Cost
Health and Safety Plan .....	7320 .....	\$350.00

### Support Equipment Environmental

Air Monitoring Equipment, per day .....	7216 .....	100.00
Magnetometer Equipment, per day .....	7309 .....	100.00
Water Pump and Generator, per day .....	7311 .....	150.00
Water Monitoring Equipment .....	7316 .....	50.00
<b>Health Safety Equipment:</b>		
Level C, per Person, per day, plus hourly rate .....	7229 .....	75.00
Health and Safety Supplies, per day .....	7217 .....	150.00

### Concrete Coring Services

Technician and Equipment Concrete (4 and 8 hour minimum), per hour .....	3710 .....	133.93
<b>Individual Core Prices (all prices are for a four core minimum job):</b>		
Slab on Grade Coring for 2", 3" and 4" Diameter (First 6" in depth), each .....	7023 .....	60.00
Slab on Grade Coring for 6" and 8" Diameter (first 6" in depth), each .....	7025 .....	65.00
Slab on Grade Concrete Core (price per inch after 6" in depth), each .....	7026 .....	5.00
Wall Cores 2", 3" and 4" Diameter (first 6" in depth), each .....	7027 .....	75.00
Wall Concrete Core (price per inch after 6" in depth), per inch .....	7028 .....	5.00
(Wall core prices based on <u>Contractor</u> supplying access to area to be cored)		
<b>Miscellaneous Concrete Coring Prices:</b>		
Patching Slab on Grade Cored Holes with 2500 psi Concrete Patch, each .....	7345 .....	10.00
Thickness Determination per ASTM C42, each .....	7346 .....	10.00
Compression Strength Determination .....	7347 .....	40.00
Pachometer to Locate Reinforcing Steel (coring jobs only, 2 hour minimum), per hour .....	7344 .....	85.00
Travel Time, per hour .....	7235 .....	50.00
Mileage, per mile .....	7313 .....	0.75

### Asphalt Concrete Coring Services

Technician and Equipment Asphaltic Concrete Cores (4 and 8 hour minimum), per hour .....	3710 .....	133.93
<b>Alternate Individual Core Prices (all prices are for a four core minimum job):</b>		
Asphaltic Concrete Cores 2", 3" and 4" Diameter (First 6" in depth), each .....	7022 .....	60.00
Asphaltic Concrete Cores 6" and 8" Diameter (first 6" in depth), each .....	7029 .....	60.00
Asphaltic Concrete Cores price per inch after 6" in depth), each .....	7030 .....	3.50
<b>Miscellaneous Asphaltic Coring Prices:</b>		
Patching of Core Drilled Holes Using Cold Patch Material, each .....	7031 .....	25.00
Thickness Determination per ASTM C42, each .....	7032 .....	25.00
Specific Gravity for Determination of Percent Compaction per ASTM D 2726 (Includes thickness determination), each .....	7033 .....	35.00
Specific Gravity for Determination of Percent Compaction by paraffin, each .....	7034 .....	55.00

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## Laboratory Testing-Soil

<b>Soil Properties</b>	<b>Activity</b>	<b>Cost</b>
California Impact, CAL 216, each.....	7018 .....	\$ 150.00
Moisture Density-Chuck Density, In-Situ, ASTM D2937, each .....	7555 .....	50.00
Moisture Density-Drive Tube Density, In-Situ, each .....	7137 .....	50.00
Material Finer - #200 Sieve, ASTM D 1140/C 117, each .....	7110 .....	50.00
Moisture, ASTM D2216, each.....	7111 .....	25.00
Moisture (microwave), ASTM D4643, each .....	7019 .....	15.00
Moisture-Density Relations of Soils, ASTM D1557, Method A each.....	7113 .....	130.00
Moisture-Density Relations of Soils, ASTM D1557, Method B or C each .....	7114 .....	140.00
Moisture-Density Check Point, each .....	7135 .....	50.00
"R" (Resistance) Value, Lime Treated or Requiring Recombining, each.....	7120 .....	250.00
"R" (Resistance) Value, Calif. 301, ASTM D 2844, each.....	7119 .....	200.00
Sieve Analysis of Combined Fine and Coarse, ASTM D-422, each .....	7124 .....	150.00
Sieve and Hydrometer Analysis, ASTM D 422, each .....	7109 .....	200.00
Specific Gravity for Soils, ASTM D 854, each .....	7127 .....	120.00

### Foundation Testing

Atterberg Limits, (LL, PI) ASTM D 4318, each .....	7100 .....	175.00
Atterberg Shrinkage Limit, ASTM D 4318, each.....	7099 .....	150.00
California Bearing Ratio, ASTM D 1883, set.....	7130 .....	450.00
Consolidation Test, ASTM D 2435, each.....	7102 .....	200.00
Consolidation Time/Rate Curves, each.....	7103 .....	50.00
Remolding of Samples, each .....	7104 .....	30.00
Direct Shear Test, ASTM D 3080:		
Consolidated, Drained 1 Point, each.....	7107 .....	125.00
Consolidated, Undrained 1 Point, each.....	7106 .....	100.00
Unconsolidated, Undrained, 1 Point, each.....	7105 .....	100.00
Remolding of Samples, each .....	7104 .....	30.00
Expansion Index, UBC-18-2, ASTM D 4829, each.....	7108 .....	110.00
Permeability, Constant Head, ASTM D 2434, CAL 220, each .....	7116 .....	225.00
Permeability, Falling Head, CAL 220, each.....	7117 .....	225.00
Unconfined Compression Test, ASTM D 2166, each.....	7129 .....	70.00
Unconfined Compression Test with Graph, ASTM D 2166, each.....	7134 .....	120.00

### Peat Moss

Loss on Ignition, ASTM D 2974 each.....	7040 .....	45.00
Bulk Specific Gravity, ASTM D 4531, each .....	7041 .....	45.00
Classification, ASTM D 4427, each .....	7012 .....	150.00
pH, ASTM D 2976, each.....	7043 .....	45.00
Absorption, ASTM D 2980, each .....	7044 .....	20.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM D1557, Method A
- ASTM D4829 / UBC 18-2
- ASTM C136
- ASTM C117, ASTM D1140
- ASTM C131
- ASTM D2937
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Aggregate

<b>Aggregate Properties</b>	<b>Activity</b>	<b>Cost</b>
Absorption, Coarse, ASTM C 127, each .....	7000 .....	\$ 45.00
Fine, ASTM C 128, each .....	7001 .....	55.00
In Lab Core Cutting.....	4312 .....	50.00
Percent Flat/Elongated CRD C 119, ASTM D 4791, each.....	7010 .....	200.00
Sodium or Magnesium soundness, 5 cycles, ASTM C 88, each.....	7012 .....	200.00
Specific Gravity, Bulk SSD, Coarse, ASTM C 127, each.....	7013 .....	70.00
Specific Gravity, Bulk SSD, Fine, ASTM C 128, each.....	7014 .....	80.00
Specific Gravity, Bulk SSD, Coarse, Complete ASTM C 127, each.....	7045 .....	125.00
Specific Gravity, Bulk SSD, Fine, Complete ASTM C 128, each.....	7046 .....	135.00
Unconfined Compression Test of Intact Rock, ATM D2938, each.....	7021 .....	70.00
Unit Weight, ASTM C 29, (No Air Void Determination) each.....	7017 .....	70.00
Unit Weight and Air Void Determination – Coarse Aggregates, ASTM C 29, each.....	7035 .....	200.00
Unit Weight and Air Void Determination – Fine Aggregates, ASTM C 29, each.....	7036 .....	200.00
 <b>Conformity</b>		
Clay Lumps/Friable Particles, ASTM C 142, each.....	7101 .....	80.00
Cleaness Value, Calif. 227, each .....	7004 .....	125.00
Durability Index, Calif. 229, Coarse, each .....	7005 .....	150.00
Durability Index, Calif. 229, Fine, each .....	7006 .....	150.00
Los Angeles Rattler, ASTM C 131, each .....	7008 .....	150.00
Los Angeles Rattler, ASTM C 535, each .....	7009 .....	175.00
Lightweight Aggregate, Coarse, ASTM C 123, each .....	7007 .....	250.00
Lightweight Aggregate, Fine, ASTM C 123, each .....	8514 .....	200.00
Organic Impurities, ASTM D2974 .....	7115 .....	45.00
Sand Equivalent (Average of 3) Calif. 217, each .....	8516 .....	80.00
Sand Equivalent (Average of 3) ASTM D 2419, each.....	7123 .....	80.00
Sieve Analysis, Coarse, ASTM C 136, each .....	7015 .....	100.00
Sieve Analysis, Fine, ASTM C 136, each .....	7016 .....	100.00
Sieve Analysis, Fine and Coarse Combined, ASTM C 136, each .....	7549 .....	150.00

A Rush Charge of 100% for same-day results apply to the following tests:

- ASTM C136
- ASTM C29 (Unit Weight only)

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## Laboratory Testing-Asphalt Concrete

<b>Asphalt Concrete</b>	<b>Activity</b>	<b>Cost</b>
Aggregate Correction for Ignition Oven, each .....	4117 .....	\$ 50.00
Asphalt Core Density, each .....	4112 .....	35.00
Centrifuge Kerosene Equivalent.....	4118 .....	150.00
Extraction, % Asphalt, ASTM D 2172 (Method A, B, or C) or Calif. 310. Excluding Ash Correction, each.....	4110 .....	75.00
Extraction, % Asphalt, Ignition Oven, each .....	4111 .....	100.00
Gradation on Extracted Sample (Including Wash) Calif. 202, each .....	4108 .....	100.00
<b>Maximum Density</b>		
Hveem, Lab-mixed - Calif. 366, each.....	4104 .....	175.00
Hveem, Pre-mixed - Calif. 366, each.....	4105 .....	125.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4106 .....	175.00
Marshall, Pre-mixed - ASTM D 1559, each .....	4107 .....	125.00
Maximum Theoretical Unit Weight (Rice Gravity) ASTM 2041, each.....	4120 .....	175.00
Moisture Vapor Susceptibility .....	4113 .....	200.00
Penetration ASTM D 5, each.....	4109 .....	60.00
<b>Stability Tests:</b>		
Hveem, Lab-mixed - Calif. 304, each.....	4100 .....	250.00
Hveem, Pre-mixed - Calif. 304, each.....	4101 .....	200.00
Marshall, Lab-mixed - ASTM D 1559, each .....	4102 .....	250.00
Marshall, Pre -mixed - ASTM D 1559, each .....	4103 .....	200.00

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## Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories</b>	<b>Activity</b>	<b>Cost</b>
Administrative Support for Special Projects.....	3074 .....	+ 20% of Hourly Rate
Administrative Office Support.....	3075 .....	\$ 47.39
Task Tracking.....	3076 .....	66.97
Report Surcharge, per copy .....	3077 .....	50.00
Report Copy Charge, per sheet.....	3078 .....	1.75
Reproduction, per page.....	3079 .....	1.50
File Retrieval, per file.....	3080 .....	20.00
Processing Certificates, Affidavits, & Notary Services, each.....	3082 .....	25.00
Facsimile, per page.....	3083 .....	1.00
Shipping Charges.....	3084 .....	At Cost
Air Express/Delivery, each.....	3085 .....	At Cost
Cellular Telephone, per day.....	3086 .....	35.00
Minor Report Revision, minimum.....	3089 .....	25.00

**END OF DOCUMENT – SCHEDULE OF FEES**

*Verbal requests will be considered authorization to perform billable work, please designate those members of your staff who have authority to request our services.*



## Additional Services

The following are additional services provided by Smith-Emery Laboratories which are outside of the general scope of services for this contract. These services do not have established schedule of fees and are determined by a number of factors, including size, weight, quantity, location, ect... Should any of these services be required, a cost estimate will be provided based on project specific information provided.

### Inspection Services

<b>Miscellaneous Inspection</b>	<b>Activity</b>	<b>Cost</b>
Project Inspector/IOR/OSA.....	1818.....	By Quote
 <b>Additional Services</b>		
Seismic Evaluation.....	2018.....	By Quote
Subsistence.....	1103.....	By Quote
Travel Time.....	1102.....	By Quote
Project Inspector/IOR/OSA.....	1818.....	By Quote
 <b>Outside Services</b>		
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory Services

<b>Miscellaneous Support Fees</b>		
Sample Preparation.....	4408.....	By Quote
Final Report.....	9111.....	By Quote
Sample Disposal.....	4425.....	By Quote
Special Test Set-Up.....	4422.....	By Quote
 <b>Outside Services</b>		
Concrete Core Cutting.....	4313.....	By Quote
Materials Purchased.....	4406.....	By Quote
Rental of Equipment.....	4416.....	By Quote
Outside Laboratory.....	4417.....	By Quote
Outside Services.....	9702.....	By Quote

### Laboratory-General Field Services

<b>General Field Services</b>		
Special Testing/Inspection Services.....	4420.....	By Quote
Structural Investigations of Existing Buildings.....	3088.....	By Quote
Corrosion Survey.....	3096.....	By Quote
 <b>Field Equipment Charges</b>		
Misc. Equipment Charge.....	4416.....	By Quote
Photostress, per day.....	4419.....	By Quote
Vibration and Sound Monitoring, per day.....	4430.....	By Quote
Strain Gages.....	4467.....	By Quote



### Laboratory Testing-Concrete

<b>Forensic Testing</b>	<b>Activity</b>	<b>Cost</b>
Petrographic Examination, ASTM C856.....	4319 .....	By Quote
Corrosion Potential, Half Cell, ASTM C876 .....	4448 .....	By Quote
Pulse Velocity, ASTM C597 .....	4449 .....	By Quote
Cement Analysis, ASTM C114, each.....	4473 .....	By Quote

### Laboratory Testing-Reinforcement

<b>Reinforcing Steel ASTM A 1035.....</b>	.....	
Tensile Test, each, .....	4327 .....	By Quote
Bend Test, each .....	4328 .....	By Quote

### Laboratory Testing-Masonry

<b>Masonry Prisms ASTM E 1314</b>		
Cutting Prisms, when required.....	4219 .....	By Quote
<b>Unreinforced Masonry Building Tests</b>		
In-Place Shear (Push) Tests.....	4809 .....	By Quote
15 Degree Core Shear Tests .....	4815 .....	By Quote
Wall Anchors.....	4816 .....	By Quote
Flat Jack Testing.....	4827 .....	By Quote

### Laboratory Testing-Construction Materials

<b>Roofing Tile.....</b>		
Additional/Special Tests.....	4701 .....	By Quote
<b>Wire Rope</b>		
Wire Rope over 2" diameter, each.....	4428 .....	By Quote
<b>Note: Sockets furnished by client</b>		
<b>Salt Spray</b>		
24 Hours, per panel.....	4407 .....	By Quote
<b>Saturation Resin for Fiber Composite</b>		
Evaluation per MWD RFQ 704.....	4345 .....	By Quote
<b>Structural Lumber</b>		
Flexure, ASTM D198 .....	4470 .....	By Quote
Compression, ASTM D198 .....	4471 .....	By Quote
Tension, ASTM D198 .....	4472 .....	By Quote
Torsion, ASTM D198.....	4473 .....	By Quote
Shear, ASTM D198 .....	4474 .....	By Quote
<b>Specialty Grout</b>		
Rapid-Hardening Grout, ASTM C928.....	4395 .....	By Quote
Non-Shrink Grout, ASTM C1107.....	4396 .....	By Quote





## Laboratory Testing - Structural Testing

<b>Testing Machines</b>	<b>Activity</b>	<b>Cost</b>
Load Tests .....	4405 .....	By Quote
Special Test Set-Up.....	4422.....	By Quote
 <b>Mechanical Testing Services</b>		
Tensile Test -- No Strain Measurement, Yield by Halt of Dial		
Over 200,000 lb., each.....	4410 .....	By Quote
Strain Gauge Testing .....	4418 .....	By Quote
Special Testing, Load Tests, Flexural, Bend, Impact, Axial, Racking Shear .....	4420 .....	By Quote
Machining and Preparation of Samples .....	4435 .....	By Quote
 <b>Hydrostatic Tests.....</b>	 4429 .....	 By Quote
 <b>Structural Testing</b>		
Diaphragm .....	4436 .....	By Quote
Monotonic Shear Wall.....	4437 .....	By Quote
Cyclic Shear Wall.....	4438 .....	By Quote
Moment Frame Connection .....	4439 .....	By Quote
Component Compression.....	4440 .....	By Quote
Component Shear .....	4441 .....	By Quote
Component Flexural .....	4442 .....	By Quote
Uniform Load .....	4443 .....	By Quote
 <b>Product Evaluation Services</b>		
Code Consulting .....	3095 .....	By Quote
ICC ES/IAS Fabricator Quality Assurance Services .....	3090 .....	By Quote
ICC ES Product Evaluation Services.....	3091 .....	By Quote
CISCA Product Evaluation Services .....	3092 .....	By Quote
AAMA Product Evaluation Services.....	3093 .....	By Quote
ATC 24, FEMA 350, FEMA 450 Product Evaluation Services .....	3094 .....	By Quote

## Laboratory Testing-Calibration Services

<b>Calibration of Hydraulic Jacks</b>		
Custom Systems .....	4455 .....	By Quote

**Note: Extra-handling charges will be made on any ram or pump too heavy or bulky for one man to lift.**

<b>Calibration of Measuring Device.....</b>		
Calibration of Linear Measuring Device, each .....	4430 .....	By Quote
Calibration of Temperature Measuring Device, each .....	4431 .....	By Quote
Calibration of Mass Measuring Device, each .....	4432 .....	By Quote
Force, each.....	4483 .....	By Quote
Pressure, each .....	4484 .....	By Quote
Temperature, each .....	4485 .....	By Quote

## Laboratory Testing-Ceramic Tile

<b>Ceramic Tile Institute Standard</b>	<b>Activity</b>	<b>Cost</b>
Reflectance Test, each .....	4922 .....	By Quote
Mortar Drop-off Test, each .....	4943 .....	By Quote
 <b>Laboratory Tile Testing In Accordance with A.S.T.M.</b>		
Color Uniformity .....	ASTM C609 .....	4912 .....
Ceramic Tile Material Purchase .....	4956 .....	By Quote
Ceramic Tile Miscellaneous .....	4929 .....	By Quote
Veneer Bond Strength, 2-required .....	ASTM C482 .....	4928 .....
 <b>Mortar Testing</b>		
Mortar ANSI Test .....	4940 .....	By Quote
Mortar Miscellaneous Test .....	4945 .....	By Quote
 <b>Grout Testing</b>		
Grout ANSI Test .....	4950 .....	By Quote
Grout Drop-off Test .....	4953 .....	By Quote
Grout Miscellaneous Test .....	4955 .....	By Quote
 <b>Field Testing</b>		
Field Veneer Bond Strength .....	ASTM C482 .....	4959 .....

## Laboratory Testing-Plastics & Plumbing

<b>Plastic</b> .....		
Weatherometer Test, each .....	4422 .....	By Quote
Plastic Tensile Tests, each .....	4425 .....	By Quote
Plastic Pipe Flexural Tests, each .....	4500 .....	By Quote
Plastic Pipe Load Tests, each .....	4501 .....	By Quote
Plastic Pipe Acetone Test, each .....	4502 .....	By Quote
Plastic Pipe Flattening Tests, each .....	4503 .....	By Quote
Plastic Pipe Heat Distortion, each .....	4504 .....	By Quote
Plastic Pipe Hydrostatic Burst .....	4505 .....	By Quote
Plastic Pipe Impact Tests (Reduced Temperatures), each .....	4506 .....	By Quote
Plastic Pipe Impact Tests (Ambient Temperatures), each .....	4507 .....	By Quote
Plastic Pipe Joint Tightness, each .....	4508 .....	By Quote
Plastic Pipe Load/Crush Test .....	4509 .....	By Quote
Plastic Pipe Miscellaneous Tests .....	4510 .....	By Quote
Plastic Pipe Stiffness, Deflection Load, Crush Resist, each .....	4511 .....	By Quote
Plastic Pipe Sustained Pressure .....	4512 .....	By Quote
Plastic Pipe Tensile Tests .....	4513 .....	By Quote
Plastic Pipe Water Resistance, each .....	4514 .....	By Quote
Plastic Pipe Water Absorption Test .....	4515 .....	By Quote
 <b>Plumbing</b>		
Plumbing Area Impact Tests .....	4516 .....	By Quote
Plumbing Bond Strength Tests, set of 5 .....	4517 .....	By Quote
Plumbing Cigarette Test, each .....	4518 .....	By Quote
Plumbing Chemical Resistance .....	4519 .....	By Quote
Plumbing Cleanability and Wear, each .....	4520 .....	By Quote
Plumbing Color Fastness 200 hr. ....	4521 .....	By Quote
Plumbing Color Fastness 700 hr. ....	4522 .....	By Quote
Plumbing Color Fastness 1000 hr. ....	4523 .....	By Quote
Plumbing Cracking And Crazing, each .....	4524 .....	By Quote
Plumbing Fitting Dimensions, each .....	4525 .....	By Quote
Plumbing Pipe Dimensions, each .....	4526 .....	By Quote
Plumbing Drain Fitting Connections, each .....	4527 .....	By Quote
Plumbing Fire Tests, each .....	4528 .....	By Quote



**Laboratory Testing-Plastics & Plumbing Continued**

<b>Plumbing continued...</b>	<b>Activity</b>	<b>Cost</b>
Plumbing Barcal Hardness, each .....	4529 .....	By Quote
Plumbing Load Tests, each .....	4530 .....	By Quote
Plumbing Miscellaneous Tests .....	4532 .....	By Quote
Plumbing Point Impact Tests, each .....	4533 .....	By Quote
Plumbing Sidewall Load Tests .....	4534 .....	By Quote
Plumbing Stain Resistance, each .....	4535 .....	By Quote
Plumbing Subsurface Test, each .....	4536 .....	By Quote
Plumbing Surface Test, each .....	4537 .....	By Quote
Plumbing Temperature Resistance, each .....	4538 .....	By Quote
Plumbing Washability, each .....	4539 .....	By Quote
Plumbing Water Absorption, each .....	4540 .....	By Quote
Plumbing Water Resistance, each .....	4541 .....	By Quote
Plumbing Water Resistance Cycling Test .....	4542 .....	By Quote
Gel Coat Thickness, each .....	4543 .....	By Quote

**Laboratory Testing-Metallurgical**

**Metallurgical Services**

Failure Analysis, Metallurgical Consulting, and Forensic Metallurgy .....	6010 .....	By Quote
Stucco Netting, ICC Evaluation, per roll .....	6912 .....	By Quote
Microhardness Survey, (includes metallurgical mount & preparation), each .....	6921 .....	By Quote
Special Preparation and Testing .....	6917 .....	By Quote

**Mechanical Testing**

Bend Test – Base material .....	6900 .....	By Quote
Load Tests (Proof Load, Flexural, Stress-corrosion, etc.) .....	6907 .....	By Quote

**Fastener Testing**

Nut Cone Proof Load Test, each .....	6961 .....	By Quote
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**Weld Procedure Qualification and Welder Qualification .....**

Weld-Radiography .....	6931 .....	By Quote
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Unless otherwise noted, costs above do not include sample preparation.



## Laboratory Testing - Curtain Wall

### Mock-Up Performance Testing

#### 9 Testing Bays Available in the Following Sizes:

Number of Available Test Bays	Height (feet)	Width (feet)
1	100	35
1	45	75
5	34	20
1	30	10
1	20	20

**Custom Test Bay Sizes Available by Quote.**

<b>Inspection and Testing</b>	<b>Activity</b>	<b>Cost</b>
Lab Tech Away from Lab .....	3014 .....	\$ 125.00
Special Curtain Wall Evaluation, per hour .....		125.00
Curtain Wall Attachment, per hour.....		125.00
Exterior Skin from Swing Stage (2 men), per hour.....		250.00
Caulking, Sealants, Adhesives, per hour.....		125.00
Coatings, Paint, per hour .....		By Quote
<b>Materials Evaluation</b>		
Glass, Granite, Metal Cladding, Caulking, Paint Coatings		
Adhesive Bond, Chemical Analysis .....	8112 .....	By Quote
Field Water Test, AAMA 501.2, (2 men) per hour.....	8113 .....	250.00
Static Water Infiltration, ASTM E 331/1105.....	8102 .....	By Quote
Static Air Infiltration, ASTM E 283/783 .....	8104 .....	By Quote
Seismic Structural Loading.....	8122 .....	By Quote
Structural Performance ASTM E 330.....	8106 .....	By Quote
Concentrated Load Testing (window washer, etc.).....	8109 .....	By Quote
Stress and Rupture - Stone and Granite .....	8111 .....	By Quote
Dynamic Water Infiltration.....	8103 .....	1,500.00
Water Penetration By Cyclic Air Pressure, ASTM E 547 .....	8105 .....	By Quote
AAMA Thermal Testing.....	8110 .....	By Quote

### Special Testing

<b>Multi-Channel Computer Aided Data Acquisition of:.....</b>		
Acceleration.....	4465 .....	By Quote
Vibration.....	4430 .....	By Quote
Movements (0.0001 inch).....	4466 .....	By Quote
Pressure .....	4467 .....	By Quote
Machine Control Movement.....	4468 .....	By Quote
Temperature.....	4469 .....	By Quote
Strain Gauge.....	4418 .....	By Quote
Stress Analysis.....	4475 .....	By Quote
Cyclic Seismic Testing of Components of Steel Structures, ATC-24, FEMA 350,FEMA 450.....	4439 .....	By Quote



**Geotechnical and Environmental Services**  
**GeoServices – A Division of Smith-Emery Laboratories**  
**Soils – Foundations – Geology**

<b>Professional Staff (Geotechnical Engineers, Geologists, Staff Specialist)</b>	<b>Activity</b>	<b>Cost</b>
Expert Witness, per hour .....	7200 .....	By Quote
<b>Administrative Charges</b>		
Contracted Services-Drilling .....	7300 .....	By Quote
Contracted Services-Testing .....	7301 .....	By Quote
Contracted Services-Expenses .....	7303 .....	By Quote
<b>Foundation/Geological Investigations</b> .....		
Geotechnical Field Exploration .....	7308 .....	By Quote
Final Report of Compacted Fill (submitted at end of project, if required) .....	7305 .....	By Quote
<b>Environmental Investigations and Reports</b>		
Site Assessments Phase I .....	7306 .....	By Quote
Site Assessments Phase II .....	7307 .....	By Quote
Report Preparation .....	7340 .....	By Quote
<b>Support Equipment Environmental</b> .....		
Health Safety Equipment:		
Level A, per Person .....	7227 .....	By Quote
Level B, per Person, per day, plus hourly rate .....	7228 .....	By Quote

**Laboratory Testing-Soil**

<b>Soil Properties</b>		
California Impact, CAL 216, each .....	7018 .....	\$ 150.00
Corrosivity: Resistivity, pH, Sulfates, Chlorides, each .....	7020 .....	By Quote
Relative Density (max/min) D 4254, each .....	7534 .....	By Quote
<b>Foundation Testing</b>		
Collapse Potential, each .....	7559 .....	By Quote
Triaxial Unconsolidated, Undrained, ASTM D 2850, each .....	7132 .....	By Quote

**Laboratory Testing-Aggregate**

<b>Aggregate Properties</b> .....		
Hardness Test, ASTM D 1865, each .....	7557 .....	By Quote
Loss On Ignition, ASTM C25 .....	7037 .....	By Quote
Plate Bearing Test, ASTM D 1195, D 1196 .....	7118 .....	By Quote
Petrographic Analysis of Aggregate for Concrete, ASTM C295, each .....	7024 .....	By Quote
Potential Alkali-Silica Reactivity of Aggregate for Concrete, ASTM C 289, Chemical Method, each .....	7551 .....	By Quote
Potential Alkali Reactivity of Aggregate for Concrete, ASTM C 1260, Mortar-Bar Method, each .....	7552 .....	By Quote
Potential Alkali Reactivity of Carbonate Rocks for Concrete, ASTM C 586, Rock Cylinder Method, each .....	7565 .....	By Quote
<b>Conformity</b>		
Staining Materials, ASTM C 641, each .....	7553 .....	By Quote

**Laboratory Testing-Asphalt Concrete**

<b>Asphalt Concrete</b> .....		
Complete Asphalt Concrete Mix Design, each .....	4119 .....	By Quote



## Laboratory Tests - Chemical

<b>Administrative Charges</b>	<b>Activity</b>	<b>Cost</b>
Manager, Supervisor, or Consultant, per hour.....	6409 .....	By Quotation
Chemist, per hour .....	6406 .....	By Quotation
Technician, per hour.....	6430 .....	By Quotation
Clerical Assistant, per hour.....	6432 .....	By Quotation
Calculation Charge .....	6403 .....	By Quotation
Report Preparation Charge .....	6418 .....	By Quotation
Sample Preparation.....	6424 .....	By Quotation
Sample Composite, per sample.....	6425 .....	By Quotation
Sample Disposal .....	6421 .....	By Quotation
Sample Transport, per hour .....	6427 .....	By Quotation
Shipping Charges.....	6433 .....	By Quotation
Sample Containers.....	6434 .....	By Quotation
Equipment Rental .....	6435 .....	By Quotation
Photography.....	6420 .....	By Quotation
Standard Report/QC Package .....	6511 .....	By Quotation
Diskette Surcharge, 10% .....	6512 .....	By Quotation
RWQCB Package Surcharge, 15%.....	6513 .....	By Quotation
NEESA, Army Corps of Engineers, CLP, Etc., Surcharge.....	6514 .....	By Quotation
 <b>Field Sampling</b>		
Technician. Per hour.....	6430 .....	By Quotation
Mileage, per mile.....	6415 .....	By Quotation
Automatic Composite Sampler, per 24-hours.....	6400 .....	By Quotation
Discharge Flow Measurement, each.....	6412 .....	By Quotation
 <b>Supplies</b>		
5035 Encore (5g), each.....	6434 .....	By Quotation
5035 Sampling Tool, each .....	6435 .....	By Quotation
5035 Easy Draw .....	6534 .....	By Quotation
 <b>Rush Analyses</b>		
Rush Surcharge, 72 Hours .....	6535 .....	By Quotation
Rush Surcharge, 48 Hours .....	6540 .....	By Quotation
Rush Surcharge, 24 Hours .....	6545 .....	By Quotation
Rush Surcharge, Same Day .....	6550 .....	By Quotation
Rush Surcharge.....	6530 .....	By Quotation



## Laboratory Tests – Organic Chemistry

<b>Organic Analyses</b>	<b>Activity</b>	<b>Cost</b>
1664 TRPH.....	6201.....	By Quotation
413.1 Oil and Grease.....	6236.....	By Quotation
Oil & Grease, Floatable.....	6237.....	By Quotation
418.1 TRPH.....	6258.....	By Quotation
8015B TPH-Gasoline.....	6268.....	By Quotation
8015B TPH-Diesel.....	6269.....	By Quotation
8015B TPH-Gasoline and Diesel.....	6267.....	By Quotation
8015B TPH-Hydrocarbon Range.....	6263.....	By Quotation
8015B Methanol/Ethanol.....	6264.....	By Quotation
602 or 8021B BTEX.....	6202.....	By Quotation
8015B/8021B Combination-Gasoline.....	6203.....	By Quotation
601 or 8021B Halogenated Organics.....	6228.....	By Quotation
624 / 8260B Volatile Organics.....	6250.....	By Quotation
524 Volatile Organics.....	6249.....	By Quotation
625 or 8270C Extractable Organics.....	6216.....	By Quotation
608 or 8082 PCBs Water or Soil.....	6242.....	By Quotation
8082 PCBs Oil.....	6244.....	By Quotation
608 or 8081A Chlorinated Pesticides.....	6206.....	By Quotation
608 or 8082 / 8081A PCBs and Pesticides.....	6243.....	By Quotation
8151A Chlorinated Herbicides.....	6207.....	By Quotation
Total Organic Carbon.....	6254.....	By Quotation
Total Organic Halides.....	6256.....	By Quotation
Flash Point.....	6218.....	By Quotation
Organic Analysis.....	6238.....	By Quotation
Petroleum Analysis.....	6246.....	By Quotation
Identification/Interpretation of Spectrum.....	6232.....	By Quotation
5035 or 5030, 8015B / 8260B Gasoline and Volatile Organics.....	6232.....	By Quotation
 <b>Mobile Laboratory Services</b>		
Mobile Lab per 10 hour weekday.....	6460.....	By Quotation
Mobile Lab per 10 hour weekend.....	6465.....	By Quotation
Mobile Lab hours in excess of 10 hours.....	6461.....	By Quotation
Mobilization fee.....	6467.....	By Quotation
Mobile Lab Standby Time.....	6439.....	By Quotation
Mobile Lab Cancellation.....	6468.....	By Quotation



## Laboratory Tests – Inorganic Chemistry

### **Inorganic Analyses - Wet Chemistry**

	<b>Activity</b>	<b>Cost</b>
Alkalinity.....	6001	By Quotation
Ammonia, Direct.....	6002	By Quotation
Ammonia, Distillation.....	6004	By Quotation
Biochemical Oxygen Demand (BOD).....	6006	By Quotation
Chemical Oxygen Demand (COD).....	6008	By Quotation
Chloride, IC.....	6010	By Quotation
Chloride, Argentometric.....	6012	By Quotation
Chlorine.....	6014	By Quotation
Color.....	6016	By Quotation
Conductance.....	6018	By Quotation
Cyanide, Amenable *(surcharge to Total cyanide).....	6022	By Quotation
Cyanide, Free.....	6024	By Quotation
Cyanide, Total.....	6028	By Quotation
Cyanide, Reactive.....	6026	By Quotation
Fluoride, IC.....	6042	By Quotation
Hardness.....	6050	By Quotation
Mercaptans.....	6070	By Quotation
Nitrate, IC.....	6078	By Quotation
Nitrate, Colorimetric.....	6076	By Quotation
Nitrite.....	6080	By Quotation
Nitrogen, Kjeldahl.....	6082	By Quotation
Oxygen, Dissolved.....	6096	By Quotation
pH, Aqueous.....	6102	By Quotation
pH, Non-aqueous.....	6100	By Quotation
Phosphate, IC.....	6110	By Quotation
Phenols.....	6104	By Quotation
Solids, Total Dissolved.....	6132	By Quotation
Solids, Settleable.....	6126	By Quotation
Solids, Suspended.....	6128	By Quotation
Solids, Total.....	6130	By Quotation
Sulfide, Dissolved.....	6138	By Quotation
Sulfide, Reactive.....	6140	By Quotation
Sulfide, Total.....	6142	By Quotation
Sulfate, IC.....	6136	By Quotation
Sulfate, Gravimetric.....	6134	By Quotation
Surfactants, MBAS.....	6150	By Quotation
Thiosulfate.....	6158	By Quotation
Turbidity.....	6174	By Quotation
Water by Karl Fischer titration.....	6272	By Quotation
Construction Materials Analysis.....	6020	By Quotation
Semi-Quantitative Screen by ICP.....	6062	By Quotation
Semi-Quantitative Screen by IC.....	6058	By Quotation





## Laboratory Tests – Inorganic Chemistry Continued

<b>Metals Preparation</b>	<b>Activity</b>	<b>Cost</b>
Digestion, Aqueous .....	6030 .....	By Quotation
Digestion, Nonaqueous.....	6032 .....	By Quotation
STLC Extraction.....	6036 .....	By Quotation
EP-Tox.....	6034 .....	By Quotation
TCLP Extraction.....	6154 .....	By Quotation
Parr Oxygen Bomb .....	6098 .....	By Quotation
TCLP Extraction ZHE, Per Sample.....	6155 .....	By Quotation
 <b>Metals Analysis</b>		
Individual Metals, per element .....	6072 .....	By Quotation
Hexavalent Chromium.....	6052 .....	By Quotation
Organic Lead .....	6094 .....	By Quotation
Total Lead.....	6069 .....	By Quotation
Lead in Paint.....	6068 .....	By Quotation
Lead in Drinking Water.....	6067 .....	By Quotation
 <b>Metals Group Determinations</b>		
TTLIC CAM Metals .....	6162 .....	By Quotation
STLC CAM Metals .....	6160 .....	By Quotation
RCRA Metals .....	6118 .....	By Quotation
Priority Pollutant Metals.....	6112 .....	By Quotation
 <b>Outside Laboratory Services</b>		
Asbestos Analysis.....	6300 .....	By Quotation
Other Analyses .....	6436 .....	By Quotation
 <b>FDA Testing of Tableware for Lead and Cadmium</b>		
FDA Testing, on six like pieces, per test .....	6038 .....	By Quotation
 <b>VOC (Volatile Organic Content) Testing</b>		
VOC, including water or exempt solvent AQMD reg).....	6266 .....	By Quotation
 <b>Biological</b>		
Biotoxicity, aqueous .....	6500 .....	By Quotation
Biotoxicity, nonaqueous .....	6505 .....	By Quotation
Coliform, total .....	6515 .....	By Quotation
Coliform, fecal.....	6516 .....	By Quotation

### Administrative Fees

On occasion we are asked to perform services beyond our normal business activity. Under these circumstances, such services will be billed at the rates below. These services will be performed only at the request of the client.

<b>Administrative Services - Laboratories .....</b>	
Administrative Support for Special Projects.....	3074 ..... + 20% of Hourly Rate
Insurance, Extra Charges as ordered by Client.....	3081 ..... By Quote
Contracted Services.....	3087 ..... By Quote

END OF DOCUMENT - ADDITIONAL SERVICES

## **EXHIBIT “B”**

### **THE CITY’S REPRESENTATIVE**

The City’s representative will be Gillis Monroe

## **EXHIBIT “C”**

### **MATERIALS FURNISHED BY THE CITY**

No specific materials will be furnished by the City except for the following:

## **EXHIBIT “D”**

### **CITY’S POLICY FOR DISADVANTAGED, MINORITY – AND WOMEN-OWNED BUSINESS ENTERPRISES**

The City of Long Beach is an equal opportunity employer and requires all Consultants to comply with policies and regulations concerning equal opportunity.

It is the policy of the City of Long Beach to utilize Disadvantaged, Minority- and Women- Owned Business Enterprises (DBEs, MBEs, and WBEs) in all aspects of contracting relating to construction, materials and services, professional services, land development related activities, leases and concessions.