THOMPSON & COLEGATE LLP
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H. L. THOMPSON
(1884-1962)

ROY W. COLEGATE
(1906-1960)

Reply to:
John A. Boyd
jboyd@tclaw.net

January 6, 2012

VIA OVERNIGHT MAIL

Keith Olinger, Enforcement Office (SFD-7-5)
U.S. EPA, Region 9
75 Hawthorne St.
San Francisco, CA 94105

Re: Paul Hubbs Construction Company's Response To Information Request Letter Related to Stringfellow Superfund Site
Our File No.: 1336-113217

Dear Mr. Olinger:

As you are aware, our office serves as legal counsel for Paul Hubbs Construction Company, Inc. (hereinafter "HUBBS"). The following is HUBBS' formal response to your office's Section 104(e) information request originally dated November 3, 2011 and addressed to Jay P. Hubbs. As a preface however, please note that HUBBS has not had mining operations since 2006. Presently, HUBBS is minimally operational and many of the records sought by your office are not available. For additional information, please see the response submitted by the current operator, Stone Valley Materials, LLC, on November 14, 2011.

1. The following persons assisted with this response:

    a. Jay Hubbs, 3500 Pyrite Street, Riverside, CA 92509, 951-360-3990, President;

    b. Patty Taylor, 3500 Pyrite Street, Riverside, CA 92509, 951-360-3990 Account Manager – 8 years;

    c. (Source – Same)

2. The following was the individual responsible for environmental matters at the Site:

    a. Daniel D. Johnston, (b) (6) [redacted] (b) (6), Project Coordinator 1998-2006 Reclamation Area Mining Operations;

    b. (Source – Jay Hubbs)

3. HUBBS is currently active but has not had mining operations since June 2006. Please see document attached as Exhibit A listing the companies that have occupied the site;

a. (Source – Jay Hubbs, Exhibit A listing companies in or near Pyrite canyon from 1978-2006)

4. HUBBS was incorporated on October 17, 1989 in the State of California;

   a. (Source – California Secretary of State)

5. HUBBS is and has been a California Corporation;

   a. (Source – California Secretary of State)

6. Copies of HUBBS' Articles of Incorporation and Bylaws are attached as Exhibit B;

   a. (Source – Jay Hubbs, HUBBS' Bylaws)

7. HUBBS has not used a fictitious name at the Site.

   a. (Source – Jay Hubbs)

8. HUBBS operated at the Site from 1978-2006. The following individuals have served as owners/directors of HUBBS:

   a. Jay P. Hubbs, president - present

   b. Paul J. Hubbs, deceased

   c. Lucille Hubbs, deceased

   d. John L. Hubbs, deceased

   e. (Source – Jay Hubbs)

9. HUBBS does not and did not own real property on the Site. For more information, please see attached Exhibit A for a listing of the companies that have occupied the Site.

   a. (Source – Jay Hubbs, Exhibit A listing companies in or near Pyrite canyon from 1978-2006)

10. See response to Request #9.

   a. (Source – Jay Hubbs, Exhibit A listing companies in or near Pyrite canyon from 1978-2006)

11. HUBBS conducted mining operations at the site from 1978-2006. Please see the copy of the Stringfellow Quarry Surface Mining Reclamation Plan (hereinafter "Reclamation Plan) attached as Exhibit C for a detailed description of the types of operations conducted.

    a. (Source – Jay Hubbs, Exhibit C - Reclamation Plan prepared by Tom Dodson & Associates)

12. Riverside Mining Limited is the current owner of the property. Prior to that, the property was owned by the Paul J. Hubbs and Lucile M. Hubbs Survivor's Trust Under Trust Dated May 26, 1992. Please see attached Exhibit A for a listing of the companies that have occupied the Site. HUBBS has not had mining operations on the Site since 2006. Since 2006, Stone Valley Materials, LLC, 3500-B Pyrite, Riverside, CA 92509, has been conducting mining operations on the Site.

    a. (Source – Jay Hubbs, Exhibit A listing companies in or near Pyrite canyon from 1978-2006)

13. HUBBS conducted mining operations on the Site from 1978 to 2006. For a more detailed description of the activities and a map of the areas involved, please see the Reclamation Plan attached as Exhibit C.

    a. (Source – Jay Hubbs, Exhibit C - Reclamation Plan prepared by Tom Dodson & Associates)

14. Please see Reclamation Plan attached as Exhibit C and the Storm Water Pollution Prevention Plan ("SWPPP") generated October 2005 and attached as Exhibit D for scaled maps of the Site. In addition, attached as Exhibit E is a report from Baxter Blasting Company generated 6/16/2008 which provides a blasting history at the Site.

    a. (Source – Jay Hubbs, Exhibit C - Reclamation Plan prepared by Tom Dodson & Associates, Exhibit D - Storm Water Pollution Prevention Plan ("SWPPP") prepared for the California Regional Water Quality Control Board, Exhibit E - Baxter Blasting Company, Dana Casemier, P.O. Box 245 El Cajon, CA 92022, 619-443-7800)

15. Please see the Reclamation Plan attached as Exhibit C for a detailed description of the mining activities conducted by HUBBS on the Site from 1978 to 2006.

    a. (Source – Jay Hubbs, Exhibit C - Reclamation Plan prepared by Tom Dodson & Associates)

16. Please see the Hazardous Materials Business Emergency Plan attached as Exhibit F for a list of the chemicals and hazardous substances used by HUBBS at the Site along with the corresponding Material Safety Data Sheets (MSDSs).

    a. (Source – Danny Johnston, Project Coordinator, Exhibit F - Department of Environmental Health, County of Riverside, Hazardous Materials Division, Room 123, P.O. Box 7489, Riverside, CA 92513)

17. Please see the Hazardous Materials Business Emergency Plan attached as Exhibit F for a list of the chemicals and hazardous substances used by HUBBS at the Site and include MSDSs.

    a. (Source – Danny Johnston, Project Coordinator, Exhibit F - Department of Environmental Health, County of Riverside, Hazardous Materials Division, Room 123, P.O. Box 7489, Riverside, CA 92513)

18. There have not been any leaks, spills, or releases of hazardous substances by HUBBS known by HUBBS at this time. No substances of any chemical character were used on the Site by HUBBS other that in connection with its quarry operations. Please see Baxter Blasting Company report attached as Exhibit F which provides a blasting history at the Site along with information on the blasting agents used. HUBBS is informed and believes that other parties were responsible for the release of hazardous substances in the past in the area and has included miscellaneous documents related thereto. Please see the Northrop Corporation remote test site documents attached as Exhibit G, which provides information regarding their remote ordnance facility. See also the settlement documents, deposition and attached exhibits of James W. Anderson regarding Universal Propulsion Company's release of ammonium nitrate and other substances attached as Exhibit H.

    a. (Source – Jay Hubbs, Exhibit G - Northrop Corporation internal memorandum dated August 1965, Exhibit H - Universal Propulsion Company documents related to settlement with the State of California Department of Health Services)

19. A copy of the most recent annual report to the Regional Water Quality Control Board from Stone Valley Materials, LLC is attached as Exhibit I. Also provided is the Winter 2005 Surface Water Monitoring Report attached as Exhibit J. Finally, please see the SWPPP attached as Exhibit D.

    a. (Source – Exhibit I - Stone Valley Materials, LLC/E.S. Babcock & Sons, Inc., Exhibit J - GeoLogic Associates, 1831 Commercenter East, San Bernardino, CA 92408, 909-383-8728).

20. Not applicable.

21. Please see Reclamation Plan attached as Exhibit C. A quarry plan is attached as Exhibit K.

    a. (Source - Jay Hubbs, Exhibit C - Reclamation Plan prepared by Tom Dodson & Associates, Exhibit K - Brown & Mullins, Inc., 2150 North Arrowhead Ave., San Bernardino, CA 92485, 714-886-4768).

22. Please see the Baxter Blasting Company report attached as Exhibit E. No explosives were stored on Site by HUBBS.

    a. (Source – Jay Hubbs, Exhibit E - Baxter Blasting Company, Dana Casemier, P.O. Box 245 El Cajon, CA 92022, 619-443-7800).

23. Please see the Baxter Blasting Company report attached as Exhibit E.

    a. (Source – Jay Hubbs, Exhibit E - Baxter Blasting Company, Dana Casemier, P.O. Box 245 El Cajon, CA 92022, 619-443-7800).

24. HUBBS used Golden West Oil as its disposal company. HUBBS cannot locate records related to Golden West Oil, which is no longer in business.

    a. (Source – Jay Hubbs)

25. Please see the SWPPP attached as Exhibit D and the Hazardous Materials Business Emergency Plan attached as Exhibit F.

    a. (Source – Jay Hubbs, Exhibit D - SWPPP prepared for the California Regional Water Quality Control Board, Department of Environmental Health, County of Riverside, Hazardous Materials Division, Room 123, P.O. Box 7489, Riverside, CA 92513).

26. Please see the Northrop Corporation remote test site documents attached as Exhibit G which provides information regarding their remote ordnance facility. See also the deposition and attached exhibits of James W. Anderson regarding Universal Propulsion Company's release of ammonium nitrate and other substances attached as Exhibit H.

    a. (Source – Jay Hubbs)

Very truly yours,

ANDREW T. CHAN of
THOMPSON & COLEGATE LLP
(achan@tclaw.net)

ATC:AC
Enclosures

cc: Jay Hubbs

EXHIBIT A (#3, 9, 12)

List of Company #3, #8, #12, #26

LIST OF COMPANIES IN OR NEAR PYRITE CANYON 1978- 2006

→ **STRINGFELLOW** ---------- PROPERTY OWNER AND ROCK QUARF
TILL 1978

TELEDYNE ----------AEROSPACE RESEARCH COMPAN
1960 – 1980

NORTRONICS " " "

UNIVERSAL PROPULSION " " "

PAUL HUBBS CONSTRUCTION CO. INC ---------- QUARRY OPERATIONS
1978 — 2006

HUTCHENSON CONSTRUCTION----------BRIDGE CONSTRUCTORS
TILL 1997

STATE OF CALIFORNIA TOXIC SUBSTANCES CONTROL-TREATMENT PLANT
(*AND SUB CONTRACTORS*) ***1985 – CURRENT***

BECTEL AND HAWLEY JOINT VENTURE----------CONTRACT TRAP CHANNEL
1988 – 89

VANCE CORP----- ----------GEN. ENGINEERING CONTRACTOR
1983 – 1986 1999 – 2000

I.E.A. SIGN CO ----------SIGN COMPANY
1997 – CURRENT

GAIL MATERIALS ----------ROCK SCREENING (ROYALTY)
1998 – CURRENT

CORONA D.G. " " "
2004 – 2005

THE BAG LADY---------- SAND BAGS EROSION CONTROL COMPANY
2004 – 2006

CAL CRAFT CONSTRUCTION CO. ---------- GENERAL CONTRACTING CO.
1998 – 2006

ROCK HARD TRANSPORTATION --- ---------- TRUCKING COMPANY
2006 – CURRENT

→ **RIVERSIDE MINING LIMITED**-ROCK QUARRY / NEW PROPERTY OWNER
2006 – CURRENT

ENVIRONETICS ---------- EROSION CONTROL COMPANY
2006 – CURRENT

CORAL CONSTRUCTION ---------- GENERAL ENGINEERING (TEMP. YARD)
2005 – CURRENT

D.C. HUBBS CONSTRUCTION CO.---------- GENERAL ENGINEERING CO.
2003 – 2005

BAXTER BLASTING ---------- --- BLASTING CONTRACTING COMPANY
2000 – 2006

A.G.C.---------- THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
1987 – 1990

EXHIBIT B (#6)

1470022

State of California

OFFICE OF THE SECRETARY OF STATE

CORPORATION DIVISION

I, *MARCH FONG EU*, Secretary of State of the State of California, hereby certify:

That the annexed transcript has been compared with the corporate record on file in this office, of which it purports to be a copy, and that same is full, true and correct.

Corporation Doc.

~~3, 4, 5,~~ 6

IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this

OCT 17 1989

March Fong Eu

Secretary of State

THE GREAT SEAL OF THE STATE OF CALIFORNIA

1470022

ENDORSED
FILED
in the office of the Secretary of State
of the State of California

OCT 11 1989

MARCH FONG EU, Secretary of State

ARTICLES OF INCORPORATION

OF

PAUL HUBBS CONSTRUCTION COMPANY, INC.

I

The name of this corporation is PAUL HUBBS CONSTRUCTION COMPANY, INC.

II

The purpose of this corporation is to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of California other than the banking business, the trust company business or the practice of a profession permitted to be incorporated by the California Corporations Code.

III

The name and address in the State of California of this corporation's initial agent for service of process is;

PAUL J. HUBBS
140 W. VALLEY BLVD.
RIALTO, CA 92376

IV

This corporation is authorized to issue only one class of shares of stock; and the total number of shares is 100,000 shares.

Dated:

Paul J. Hubbs
PAUL J. HUBBS

I hereby declare that I am the person who executed the foregoing Articles of Incorporation, which execution is my act and deed.

Paul J. Hubbs

MINUTES OF ACTION OF THE BOARD OF DIRECTORS

OF

PAUL HUBBS CONSTRUCTION COMPANY, INC.

TAKEN WITHOUT A MEETING BY UNANIMOUS WRITTEN CONSENT

The actions described in these minutes of action were taken by the board of directors of the above-named corporation by unanimous written consent pursuant to a provision in the corporation's bylaws permitting such action to be taken.

The directors hereby adopt the following recitals, resolutions, and statements:

Election of Fred Resnick as Secretary

WHEREAS, due to his day to day involvement in the management of the corporation, the board of directors deems it to be in the best interest of the corporation to elect Fred Resnick as Secretary of the corporation;

NOW BE IT RESOLVED: That Fred Resnick is hereby elected as Secretary of this corporation to hold such office until the first meeting of the board of directors following the next annual meting of shareholders of this corporation and until his successor is elected and qualified or until his earlier resignation or removal, an such officer shall serve at the pleasure of the board of directors of this corporation.

The undersigned, constituting all of the directors of the corporation, hereby adopt these minutes of action effective on and as of October 15, 1994.

Paul J. Hubbs

John L. Hubbs

Lucille Hubbs

Jay P. Hubbs

2/R/TJP/H0002/001/MINACTBD.003

BYLAWS

OF

PAUL HUBBS CONSTRUCTION COMPANY, INC.

A CALIFORNIA CORPORATION

ARTICLE I

OFFICES

Section 1. PRINCIPAL OFFICE. The principal office for the transaction of business of the corporation is hereby fixed and located at 140 West Valley Boulevard, in the City of Rialto, County of San Bernardino, State of California. The location may be changed by approval of a majority of the authorized directors, and additional offices may be established and maintained at such other place or places, either within or without the State of California, as the Board of Directors may from time to time designate.

Section 2. OTHER OFFICES. Branch or subordinate offices may at any time be established by the Board of Directors at any place or places where the corporation is qualified to do business.

ARTICLE II

DIRECTORS - MANAGEMENT

Section 1. RESPONSIBILITY OF BOARD OF DIRECTORS. Subject to the provisions of the General Corporation Law and to any limitations in the Articles of Incorporation of the corporation relating to action required to be approved by the shareholders, as that term is defined in section 153 of the California Corporations Code, or by the outstanding shares, as that term is defined in section 152 of the code, the business and affairs of the corporation shall be managed and all corporate powers shall be exercised by or under the direction of the Board of Directors. The board may delegate the management of the day-to-day operation of the business of the corporation to a management company or other person, provided that the business and affairs of the corporation shall be managed and all corporate powers shall be exercised under the ultimate direction of the board.

Section 2. STANDARD OF CARE. Each director shall perform the duties of a director, including the duties as a member of any committee of the board upon which the director may serve, in good faith, in a manner such director believes to be in the best interests of the corporation, and with such care, including reasonable inquiry, as an ordinary prudent person in a like position would use under similar circumstances.

Section 3. EXCEPTION FOR CLOSE CORPORATION. Notwithstanding the provisions of section 1, in the event that this corporation shall elect to become a close corporation as defined in section 186, its shareholders may enter into a shareholders' agreement as provided in section 300(b). Said agreement may provide for the exercise of corporate powers and the management of the business and affairs of this corporation by the shareholders, provided, however, such agreement shall, to the extent and so long as the discretion or the powers of the board in its management of corporate affairs is controlled by such agreement impose upon each shareholder who is a party thereof, liability for managerial acts performed or omitted by such person pursuant thereto otherwise imposed upon directors as provided in section 300(d).

Section 4. NUMBER AND QUALIFICATION OF DIRECTORS. The authorized number of directors shall be three (3) until changed by a duly adopted amendment to the Articles of Incorporation or by an amendment to this Bylaw adopted by the vote or written consent of holders of a majority of the outstanding shares entitled to vote, as provided in section 212.

Section 5. ELECTION AND TERM OF OFFICE OF DIRECTORS. Directors shall be elected at each annual meeting of the shareholders to hold office until the next annual meeting. Each director, including a director elected to fill a vacancy, shall hold office until the expiration of the term for which elected and until a successors has been elected and qualified.

Section 6. VACANCIES. Vacancies in the Board of Directors may be filled by a majority of the remaining directors, though less than a quorum, or by a sole remaining director, except that a vacancy created by the removal of a director by the vote or written consent of the shareholders or by court order may be filled only by the vote of a majority of the shares entitled to vote represented at a duly held meeting at which a quorum is present, or by the written consent of the holders of a majority of the outstanding shares entitled to vote. Each director so elected shall hold office until the next annual meeting of the shareholders and until a successor has been elected and qualified.

A vacancy or vacancies in the Board of Directors shall be deemed to exist in the event of the death, resignation, or removal of any director, or if the Board of Directors by resolution declares vacant the office of a director who has been declared of unsound mind by an order of court or convicted of a felony, or if the authorized number of directors is increased, or if the shareholders fail, at any meeting of shareholders at which any director or directors are elected, to elect the number of directors to be voted for at that meeting.

The shareholders may elect a director or directors at any time to fill any vacancy or vacancies not filled by the directors, but any such election by written consent shall require the consent of a majority of the outstanding shares entitled to vote.

Any director may resign effective on giving written notice to the Chairman of the Board, the Chief Executive Officer, the Secretary, or the Board of Directors, unless the notice specifies a later time for that resignation to become effective. If the resignation of a director is effective at a future time, the Board of Directors may elect a successor to take office when the resignation becomes effective.

No reduction of the authorized number of directors shall have the effect of removing any director before that director's term of office expires.

Section 7. REMOVAL OF DIRECTORS. The entire Board of Directors or any individual director may be removed from office as provided by sections 302, 303, and 304 of the Corporations Code of the State of California. In such case, the remaining board members may elect a successor director to fill such vacancy for the remaining unexpired term of the director so removed.

Section 8. NOTICE, PLACE, AND MANNER OF MEETINGS. Meetings of the Board of Directors may be called by the Chairman of the Board, or the Chief Executive Officer, or any Vice President, or the Secretary, or any two (2) directors and shall be held at the principal executive office of the corporation, unless some other place is designated in the notice of the meeting. Members of the board may participate in a meeting through use of a conference telephone or similar communications equipment so long as all members participating in such a meeting can hear one another. Accurate minutes of any meeting of the board or any committee thereof, shall be maintained as required by section 312 of the code by the Secretary or other officer designated for that purpose.

Section 9. ORGANIZATION MEETINGS. The organization meetings of the Board of Directors shall be held immediately following the adjournment of the annual meetings of the shareholders.

Section 10. OTHER REGULAR MEETINGS. Regular meetings of the Board of Directors shall be held at the corporate offices, or such other place as may be designated by the Board of Directors, as follows:

Time of Regular Meeting: 10:00 a.m.
Date of Regular Meeting: 3rd Monday in April

If said day shall fall upon a holiday, such meeting shall be held on the next succeeding business day thereafter. No notice need be given of such regular meetings.

Section 11. SPECIAL MEETINGS - NOTICES - WAIVERS. Special meetings of the board may be called at any time by the Chief Executive Officer, or, if he or she is absent or unable or refuses to act, by any Vice President or the Secretary or by any two (2) directors, or by one (1) director if only one is provided.

At least forty-eight (48) hours' notice of the time and place of special meetings shall be delivered personally to the directors or personally communicated to them by a corporate officer by telephone or telegraph. If the notice is sent to a director by letter, it shall be addressed to him or her at his or her address as it is shown upon the records of the corporation, or if it is not so shown on such records or is not readily ascertainable, at the place in which the meetings of the directors are regularly held. In case such notice is mailed, it shall be deposited in the United States mail, postage prepaid, in the place in which the principal executive office of the corporation is located at least four (4) days prior to the time of the holding of the meeting. Such mailing, telegraphing, telephoning or delivery as above provided shall be due, legal and personal notice to such director.

When all of the directors are present at any directors' meeting, however called or noticed, and either (i) sign a written consent thereto on the records of such meeting, or (ii) if a majority of the directors are present and if those not present sign a waiver of notice of such meeting or a consent to holding the meeting or an approval of the minutes thereof, whether prior to or after the holding of such meeting, which said waiver, consent or approval shall be filed with the Secretary of the corporation, or (iii) if a director attends a meeting without notice but without protesting, prior thereto or at its commencement, the lack of notice, then the transactions thereof are as valid as if had at a meeting regularly called and noticed.

Section 12. SOLE DIRECTOR PROVIDED BY ARTICLES OF INCORPORATION OR BYLAWS. In the event only one (1) director is required by the Bylaws or Articles of Incorporation, then any reference herein to notices, waivers, consents, meetings or other actions by a majority or quorum of the directors shall be deemed to refer to such notice, waiver, etc., by such sole director, who shall have all the rights and duties and shall be entitled to exercise all of the powers and shall assume all the responsibilities otherwise herein described as given to a Board of Directors.

Section 13. DIRECTORS ACTION BY UNANIMOUS WRITTEN CONSENT. Any action required or permitted to be taken by the Board of Directors may be taken without a meeting and with the same force and effect as if taken by a unanimous vote of directors, if authorized by a writing signed individually or collectively by all members of the board. Such consent shall be filed with the regular minutes of the board.

Section 14. QUORUM. A majority of the number of directors as fixed by the Articles of Incorporation or Bylaws shall be necessary to constitute a quorum for the transaction of business, and the action of a majority of the directors present at any meeting at which there is a quorum, when duly assembled, is valid as a corporate act; provided that a minority of the directors, in the absence of a quorum, may adjourn from time to time, but may not transact any business. A meeting at which a quorum is initially present may continue to transact business, notwithstanding the withdrawal of directors, if any action taken is approved by a majority of the required quorum for such meeting.

Section 15. NOTICE OF ADJOURNMENT. Notice of the time and place of holding an adjourned meeting need not be given to absent directors if the time and place be fixed at the meeting adjourned and held without twenty-four (24) hours, but if adjourned more than twenty-four (24) hours, notice shall be given to all directors not present at the time of the adjournment.

Section 16. COMPENSATION OF DIRECTORS. Directors, as such, shall not receive any stated salary for their services, but by resolution of the board a fixed sum and expense of attendance, if any, may be allowed for attendance at each regular and special meeting of the board; provided that nothing therein contained shall be construed to preclude any director from serving the corporation in any other capacity and receiving compensation therefor.

Section 17. COMMITTEES. Committees of the board may be appointed by resolution passed by a majority of the whole board, and shall have such powers of the board as may be expressly delegated to it by resolution of the Board of Directors, except those powers expressly made non-delegable by section 311.

Section 18. ADVISORY DIRECTORS. The Board of Directors from time to time may elect one or more persons to be advisory directors who shall not by such appointment be members of the Board of Directors. Advisory directors shall be available from time to time to perform special assignments specified by the Chief Executive Officer, to attend meetings of the Board of Directors upon invitation and to furnish consultation to the board. The period during which the title shall be held may be prescribed by the Board of Directors. If no period is prescribed, the title shall be held at the pleasure of the board.

Section 19. RESIGNATIONS. Any director may resign effective upon giving written notice to the Chairman of the Board, the Chief Executive Officer, the Secretary or the Board of Directors of the corporation, unless the notice specifies a later time for the effectiveness of such resignation. If the resignation is effective at a future time, a successor may be elected to take office when the resignation becomes effective.

ARTICLE III

OFFICERS

Section 1. OFFICERS. The officers of the corporation shall be a Chief Executive Officer, a Secretary, and a Chief Financial Officer. The corporation may also have, at the discretion of the Board of Directors, a Chairman of the Board, one or more Vice Presidents, one or more Assistant Secretaries, one or more Assistant Treasurers, and such other officers as may be appointed in accordance with the provisions of section 3 of this Article III. Any number of offices may be held by the same person.

Section 2. ELECTION. The officers of the corporation, except such officers as may be appointed in accordance with the provisions of section 3 or section 5 of this article, shall be chosen annually by the Board of Directors, and each shall hold office until he or she shall resign or shall be removed or otherwise disqualified to serve, or a successor shall be elected and qualified.

Section 3. SUBORDINATE OFFICERS, ETC. The Board of Directors may appoint such other officers as the business of the corporation may require, each of whom shall hold office for such period, have such authority and perform such duties as are provided in the Bylaws or as the Board of Directors may from time to time determine.

Section 4. REMOVAL AND RESIGNATION OF OFFICERS. Subject to the rights, if any, of an officer under any contract of employment, any officer may be removed, either with or without cause, by the Board of Directors, at any regular or special meeting of the board, or, except in case of an officers chosen by the Board of Directors, by any officer upon whom such power of removal may be conferred by the Board of Directors.

Any officer may resign at any time by giving written notice to the corporation. Any resignation shall take effect at the date of the receipt of that notice or at any later time specified in that notice; and, unless otherwise specified in that notice, the acceptance of the resignation shall not be necessary to make it effective. Any resignation is without prejudice to the rights, if any, of the corporation under any contract to which the officer is a party.

Section 5. VACANCIES. A vacancy in any office because of death, resignation, removal, disqualification or any other cause shall be filled in the manner prescribed in the Bylaws for regular appointments to that office.

Section 6. CHAIRMAN OF THE BOARD. The Chairman of the Board, if such an officer be elected, shall, if present, preside at meetings of the Board of Directors and exercise and perform such other powers and duties as may be from time to time assigned by the Board of Directors or prescribed by the Bylaws. If there is no Chief Executive Officer, the Chairman of the Board shall in addition be the Chief Executive Officer of the corporation and shall have the powers and duties prescribed in section 7 of this Article III.

Section 7. CHIEF EXECUTIVE OFFICER. Subject to such supervisory powers, if any, as may be given by the Board of Directors to the Chairman of the Board, if there be such an officer, the Chief Executive Officer shall be the chief executive officer of the corporation and shall, subject to the control of the Board of Directors, have general supervision, direction and control of the business and officers of the corporation. He or she shall preside at all meetings of the shareholders and in the absence of the Chairman of the Board, or if there be none, at all meetings of the Board of Directors. The Chief Executive Officer shall be ex officio a member of all the standing committees, including the Executive Committee, if any, and shall have the general powers and duties of management usually vested in the office of Chief Executive Officer of a corporation, and shall have such other powers and duties as may be prescribed by the Board of Directors or the Bylaws.

Section 8. VICE PRESIDENT. In the absence or disability of the Chief Executive Officer, the Vice Presidents, if any, in order of their rank as fixed by the Board of Directors, or if not ranked, the Vice President designated by the Board of Directors, shall perform all the duties of the Chief Executive Officer, and when so acting shall have all the powers of, and be subject to, all the restrictions upon, the Chief Executive Officer. The Vice Presidents shall have such other powers and perform such other duties as from time to time may be prescribed for them respectively by the Board of Directors or the Bylaws.

Section 9. SECRETARY. The Secretary shall keep, or cause to be kept, a book of minutes at the principal office or such other place as the Board of Directors may order, of all meetings of directors and shareholders, with the time and place of holding, whether regular or special, and if special, how authorized, the notice thereof given, the names of those present at directors' meetings, the number of shares present or represented at shareholders' meetings, and the proceedings thereof.

The Secretary shall keep, or cause to be kept, at the principal office or at the office of the corporation's transfer agent, a share register, or duplicate share register, showing the names of the shareholders and their addresses; the number and classes of shares held by each; the number and date of certificates issued for the same; and the number and date of cancellation of every certificate surrendered for cancellation.

The Secretary shall give, or cause to be given, notice of all the meetings of the shareholders and of the Board of Directors required by the Bylaws or by law to be given. He or she shall keep the seal of the corporation in safe custody, and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or by the Bylaws.

Section 10. CHIEF FINANCIAL OFFICER. The Chief Financial Officer shall keep and maintain, or cause to be kept and maintained in accordance with generally accepted accounting principles, adequate and correct accounts of the properties and business transactions of the corporation, including accounts of its assets, liabilities, receipts, disbursements, gains, losses, capital, earnings (or surplus) and shares. The books of account shall at all reasonable times be open to inspection by any director.

This officer shall deposit all moneys and other valuables in the name and to the credit of the corporation with such depositaries as may be designated by the Board of Directors. He or she shall disburse the funds of the corporation as may be ordered by the Board of Directors, shall render to the Chief Executive Officer and directors, whenever they request it, an account his or her transactions and of the financial condition

of the corporation, and shall have such other powers and perform such other duties as may be prescribed by the Board of Directors or the Bylaws.

ARTICLE IV

SHAREHOLDERS' MEETINGS

Section 1. PLACE OF MEETINGS. All meetings of the shareholders shall be held at the principal executive office of the corporation unless some other appropriate and convenient location be designated for that purpose from time to time by the Board of Directors.

Section 2. ANNUAL MEETINGS. The annual meetings of the shareholders shall be held, each year, at the time and on the day following:

Time of Meeting: 9:00 a.m.
Date of Meeting: 3rd Monday in April

If this day shall be a legal holiday, then the meeting shall be held on the next succeeding business day, at the same hour. At the annual meeting, the shareholders shall elect a Board of Directors, consider reports of the affairs of the corporation and transact such other business as may be properly brought before the meeting.

Section 3. SPECIAL MEETINGS. Special meetings of the shareholders may be called at any time by the Board of Directors, the Chairman of the Board, the Chief Executive Officer, a Vice President, the Secretary, or by one or more shareholders holding not less than one-tenth (1/10th) of the voting power of the corporation. Except as next provided, notice shall be given as for the annual meeting.

Upon receipt of a written request addressed to the Chairman, Chief Executive Officer, Vice President, or Secretary, mailed or delivered personally to such officer by any person (other than the board) entitled to call a special meeting of the shareholders, such officer shall cause notice to be given, to the shareholders entitled to vote, that a meeting will be held at a time requested by the person or persons calling the meeting, not less than thirty-five (35) nor more than sixty (60) days after the receipt of such request. If such notice is not given within twenty (20) days after receipt of such request, the persons calling the meeting may give notice thereof in the manner provided by these Bylaws or apply to the superior court as provided in section 305(c).

Section 4. NOTICE OF MEETINGS - REPORTS. Notices of meetings, annual or special, shall be given in writing not less than ten (10) nor more than sixty (60) days before the date of the meeting to shareholders entitled to vote thereat. Such notice shall be given by the Secretary or the Assistant Secretary, or if there be no such officer, or in the case of his or her neglect or refusal, by any director or shareholder.

Such notices or any reports shall be given personally or by mail or other means of written communication as provided in section 601 of the code and shall be sent to the shareholder's address appearing on the books of the corporation, or supplied by him or her to the corporation for the purpose of notice, and in the absence thereof, as provided in section 601 of the code.

Notice of any meeting of shareholders shall specify the place, the day and the hour of meeting, and (1) in case of a special meeting, the general nature of the business to be transacted and no other business may be transacted, or (2) in the case of an annual meeting, those matters which the board at date of mailing, intends to present for action by the shareholders. At any meetings where directors are to be elected, notice shall include the names of the nominees, if any, intended at date of notice to be presented by management for election.

If a shareholder supplies no address, notice shall be deemed to have been given if mailed to the place where the principal executive office of the corporation, in California, is situated, or published at least once in some newspaper of general circulation in the county of said principal office.

Notice shall be deemed given at the time it is delivered personally or deposited in the mail or sent by other means of written communication. The officer giving such notice or report shall prepare and file an affidavit or declaration thereof.

When a meeting is adjourned for forty-five (45) days or more, notice of the adjourned meeting shall be given as in case of an original meeting. Save, as aforesaid, it shall not be necessary to give any notice of adjournment or of the business to be transacted at an adjourned meeting other than by announcement at the meeting at which such adjournment is taken.

Section 5. WAIVER OF NOTICE OR CONSENT BY ABSENT SHAREHOLDERS. The transactions of any meeting of shareholders, however called and noticed, shall be valid as though had at a meeting duly held after regular call and notice, if a quorum be present either in person or by proxy, and if, either before or after the meeting, each of the shareholders entitled to vote, not present in person or by proxy, sign

a written waiver of notice, or a consent to the holding of such meeting or an approval of the minutes thereof. All such waivers, consents or approvals shall be filed with the corporate records or made a part of the minutes of the meeting. Attendance shall constitute a waiver of notice, unless objection shall be made as provided in section 601(e).

Section 6. SHAREHOLDERS ACTING WITHOUT A MEETING - DIRECTORS. Any action which may be taken at a meeting of the shareholders, may be taken without a meeting or notice of meeting if authorized by a writing signed by all of the shareholders entitled to vote at a meeting for such purpose, and filed with the Secretary of the corporation, provided, further, that while ordinarily directors can only be elected by unanimous written consent under section 603(d), if the directors fail to fill a vacancy, then a director to fill that vacancy may be elected by the written consent of persons holding a majority of shares entitled to vote for the election of directors.

Section 7. OTHER ACTIONS WITHOUT A MEETING. Unless otherwise provided in the General Corporation Law or the Articles, any action which may be taken at any annual or special meeting of shareholders may be taken without a meeting and without prior notice, if a consent in writing, setting forth the action so taken, signed by the holders of outstanding shares having not less than the minimum number of votes that would be necessary to authorize or take such action at a meeting at which all shares entitled to vote thereon were present and voted.

Unless consents of all shareholders entitled to vote have been solicited in writing,

(1) Notice of any shareholder approval pursuant to sections 310, 317, 1201, or 2007 without a meeting by less than unanimous written consent shall be given at least ten (10) days before the consummation of the action authorized by such approval, and

(2) Prompt notice shall be given of the taking of any other corporate action approved by shareholders without a meeting by less than unanimous written consent, to each of those shareholders entitled to vote who have not consented in writing.

Any shareholder giving a written consent, or the shareholder's proxyholders, or a transferee of the shares of a personal representative of the shareholder or their respective proxyholders, may revoke the consent by a writing received by the corporation prior to the time that written consents of the number of shares required to authorize the

proposed action have been filed with the Secretary of the corporation, but may not do so thereafter. Such revocation is effective upon its receipt by the Secretary of the corporation.

Section 8. QUORUM. The holders of a majority of the shares entitled to vote thereat, present in person, or represented by proxy, shall constitute a quorum at all meetings of the shareholders for the transaction of business except as otherwise provided by law, by the Articles of Incorporation, or by these Bylaws. If, however, such majority shall not be present or represented at any meeting of the shareholders, the shareholders entitled to vote thereat, present in person, or by proxy, shall have the power to adjourn the meeting from time to time, until the requisite amount of voting shares shall be present. At such adjourned meeting at which the requisite amount of voting shares shall be represented, any business may be transacted which might have been transacted at a meeting as originally notified.

If a quorum be initially present, the shareholders may continue to transact business until adjournment, notwithstanding the withdrawal of enough shareholders to leave less than a quorum, if any action taken is approved by a majority of the shareholders required to initially constitute a quorum.

Section 9. VOTING. Only persons in whose names shares entitled to vote stand on the stock records of the corporation on the day of any meeting of shareholders, unless some other day be fixed by the Board of Directors for the determination of shareholders of record, and then on such other day, shall be entitled to vote at such meeting.

Provided the candidate's name has been placed in nomination prior to the voting and one or more shareholder has given notice at the meeting prior to the voting of the shareholder's intent to cumulate the shareholder's votes, every shareholder entitled to vote at any election for directors of any corporation for profit may cumulate their votes and give one candidate a number of votes equal to the number of directors to be elected multiplied by the number of votes to which his or her shares are entitled, or distribute his or her votes on the same principle among as many candidates as he or she thinks fit.

The candidates receiving the highest number of votes up to the number of directors to be elected are elected.

The Board of Directors may fix a time in the future not exceeding thirty (30) days preceding the date of any meeting of shareholders or the date fixed for the payment of any dividend or distribution, or for the allotment of rights, or when any change

or conversion or exchange of shares shall go into effect, as a record date for the determination of the shareholders entitled to notice of and to vote at any such meeting, or entitled to receive any such dividend or distribution, or any allotment of rights, or to exercise the rights in respect to any such change, conversion or exchange of shares. In such case only shareholders of record on the date so fixed shall be entitled to notice of and to vote at such meeting, or to receive such dividends, distribution or allotment of rights, or to exercise such rights, as the case may be, notwithstanding any transfer of any share on the books of the corporation after any record date fixed as aforesaid. The Board of Directors may close the books of the corporation against transfers of shares during the whole or any part of such period.

Section 10. PROXIES. Every shareholder entitled to vote, or to execute consents, may do so, either in person or by written proxy, executed in accordance with the provisions of sections 604 and 705 of the code and filed with the Secretary of the corporation.

Section 11. ORGANIZATION. The Chief Executive Officer, or in the absence of the Chief Executive Officer, any Vice President, shall call the meeting of the shareholders to order, and shall act as chairman of the meeting. In the absence of the Chief Executive Officer and all of the Vice Presidents, the shareholders shall appoint a chairman for such meeting. The Secretary of the corporation shall act as secretary of all meetings of the shareholders, but in the absence of the Secretary at any meeting of the shareholders, the presiding officer may appoint any person to act as secretary of the meeting.

Section 12. INSPECTORS OF ELECTION. In advance of any meeting of shareholders the Board of Directors may, if they so elect, appoint inspectors of election to act at such meeting or any adjournment thereof. If inspectors of election be not so appointed, or if any persons so appointed fail to appear or refuse to act, the chairman of any such meeting may, and on the request of any shareholder or his or her proxy shall, make such appointment at the meeting in which case the number of inspectors shall be either one (1) or three (3) as determined by a majority of the shareholders represented at the meeting.

Section 13. (A) SHAREHOLDERS' AGREEMENTS. Notwithstanding the above provisions, in the event this corporation elects to become a close corporation, an agreement between two (2) or more shareholders thereof, if in writing and signed by the parties thereof, may provide that in exercising any voting rights the shares held by them shall be voted as provided therein or in section 706, and may otherwise modify these provisions as to shareholders' meetings and actions.

(B) EFFECTS OF SHAREHOLDERS' AGREEMENTS. Any shareholders' agreement authorized by section 300(b), shall only be effective to modify the terms of these Bylaws if this corporation elects to become a close corporation with appropriate filing of or amendment to its Articles as required by section 202 and shall terminate when this corporation ceases to be a close corporation. Such an agreement cannot waive or alter sections 158, (defining close corporations), 202 (requirements of Articles of Incorporation), 500 and 501 relative to distributions, 111 (merger), 1201(e) (reorganization) or chapters 15 (records and reports), 16 (rights of inspection), 18 (involuntary dissolution) or 22 (crimes and penalties). Any other provisions of the code or these Bylaws may be altered or waived thereby, but to the extent they are not so altered or waived, these Bylaws shall be applicable.

ARTICLE V

CERTIFICATES AND TRANSFER OF SHARES

Section 1. CERTIFICATES FOR SHARES. Certificates for shares shall be of such form and device as the Board of Directors may designate and shall state the name of the record holder of the shares represented thereby; its number; date of issuance; the number of shares for which it is issued; a statement of the rights, privileges, preferences and restrictions, if any; a statement as to the redemption or conversion, if any; a statement of liens or restrictions upon transfer or voting, if any; if the shares be assessable or, if assessments are collectible by personal action, a plain statement of such facts.

All certificates shall be signed in the name of the corporation by the Chairman of the Board or Vice Chairman of the Board or the Chief Executive Officer or Vice President and by the Chief Financial Officer or an Assistant Treasurer or the Secretary or any Assistant Secretary, certifying the number of shares and the class or series of shares owned by the shareholder.

Any or all of the signatures on the certificate may be facsimile. In case any officer, transfer agent, or registrar who has signed or whose facsimile signature has been placed on a certificate shall have ceased to be that officer, transfer agent, or registrar before that certificate is issued, it may be issued by the corporation with the same effect as if that person were an officer, transfer agent, or registrar at the date of issue.

Section 2. TRANSFER ON THE BOOKS. Upon surrender to the Secretary or transfer agent of the corporation of a certificate for shares duly endorsed or accompanied by proper evidence of succession, assignment or authority to transfer, it

shall be the duty of the corporation to issue a new certificate to the person entitled thereto, cancel the old certificate and record the transaction upon its books.

Section 3. LOST OR DESTROYED CERTIFICATES. Any person claiming a certificate of stock to be lost or destroyed shall make an affidavit of affirmation of that fact and shall, if the directors so require, give the corporation a bond of indemnity, in form and with one or more sureties satisfactory to the board, in at least double the value of the stock represented by said certificate, whereupon a new certificate may be issued in the same tenor and for the same number of shares as the one alleged to be lost or destroyed.

Section 4. TRANSFER AGENTS AND REGISTRARS. The Board of Directors may appoint one or more transfer agents or transfer clerks, and one or more registrars, which shall be an incorporated bank or trust company, either domestic or foreign, who shall be appointed at such times and places as the requirements of the corporation may necessitate and the Board of Directors may designate.

Section 5. CLOSING STOCK TRANSFER BOOKS - RECORD DATE. In order that the corporation may determine the shareholders entitled to notice of any meeting or to vote or entitled to receive payment of any dividend or other distribution or allotment of any rights or entitled to exercise any rights in respect of any other lawful action, the board may fix, in advance, a record date, which shall not be more than sixty (60) nor less than ten (10) days prior to the date of such meeting nor more than sixty (60) days prior to any other action.

If no record date is fixed, the record date for determining shareholders entitled to notice of or to vote at a meeting of shareholders shall be at the close of business on the business day next preceding the day on which notice is given, or, if notice is waived, at the close of business on the business day next preceding the day on which the meeting is held. The record date for determining shareholders entitled to give consent to corporate action in writing without a meeting, when no prior action by the board is necessary, shall be the day on which the first written consent is given.

The record date for determining shareholders for any other purpose shall be at the close of business on the day on which the board adopts the resolution relating thereto, or the sixtieth (60th) day prior to the date of such other action, whichever is later.

Section 6. LEGEND CONDITION. In the event any shares of this corporation are issued pursuant to a permit or exemption therefrom requiring the

imposition of a legend condition, the person or persons issuing or transferring said shares shall make sure said legend appears on the certificate and shall not be required to transfer any shares free of such legend unless an amendment to such permit or a new permit be first issued so authorizing such a deletion.

Section 7. CLOSE CORPORATION CERTIFICATES. All certificates representing shares of this corporation, in the event it shall elect to become a close corporation, shall contain the legend required by section 418(c).

ARTICLE VI

RECORDS - REPORTS - INSPECTION

Section 1. RECORDS. The corporation shall maintain, in accordance with generally accepted accounting principles, adequate and correct accounts, books and records of its business and properties. All of such books, records and accounts shall be kept at its principal executive office in the State of California, as fixed by the Board of Directors from time to time.

Section 2. INSPECTION OF BOOKS AND RECORDS. All books and records provided for in section 1500 shall be open to inspection of the directors and shareholders from time to time and in the manner provided in said sections 1600 through 1602.

Section 3. CERTIFICATION AND INSPECTION OF BYLAWS. The original or a copy of these Bylaws, as amended or otherwise altered to date, certified by the Secretary, shall be kept at the corporation's principal executive office and shall be open to inspection by the shareholders of the corporation at all reasonable times during office hours, as provided in section 213 of the Corporations Code.

Section 4. CHECKS, DRAFTS, ETC. All checks, drafts, or other orders for payment of money, notes or other evidences of indetedness, issued in the name of or payable to the corporation, shall be signed or endorsed by such person or persons and in such manner as shall be determined from time to time by resolution of the Board of Directors.

Section 5. CONTRACTS ETC. -- HOW EXECUTED. The Board of Directors, except as in the Bylaws otherwise provided, may authorize any officer or officers, agent or agents, to enter into any contract or execute any instrument in the name of and on behalf of the corporation. Such authority may be general or confined to

specific instances. Unless so authorized by the Board of Directors, no officer, agent, or employee shall have any power or authority to bind the corporation by any contract or agreement, or to pledge its credit, or to render it liable for any purpose or to any amount, except as provided in section 313 of the Corporations Code.

ARTICLE VII

ANNUAL REPORTS

Section 1. REPORT TO SHAREHOLDERS, DUE DATE. The Board of Directors shall cause an annual report to be sent to the shareholders not later than one hundred twenty (120) days after the close of the fiscal or calendar year adopted by the corporation. This report shall be sent at least fifteen (15) days before the annual meeting of shareholders to be held during the next fiscal year and in the manner specified in section 4 of Article IV of these Bylaws for giving notice to shareholders of the corporation. The annual report shall contain a balance sheet as of the end of the fiscal year and an income statement and statement of changes in financial position for the fiscal year, accompanied by any report of independent accountants or, if there is no such report, the certificate of an authorized officer of the corporation that the statements were prepared without audit from the books and records of the corporation.

ARTICLE VIII

AMENDMENTS TO BYLAWS

Section 1. AMENDMENT BY SHAREHOLDERS. New Bylaws may be adopted or these Bylaws may be amended or repealed by the vote or written consent of holders of a majority of the outstanding shares entitled to vote; provided, however, that if the Articles of Incorporation of the corporation set forth the number of authorized directors of the corporation, the authorized number of directors may be changed only by an amendment of the Articles of Incorporation.

Section 2. POWERS OF DIRECTORS. Subject to the right of the shareholders to adopt, amend, or repeal Bylaws, as provided in section 1 of this Article VIII, and the limitations of section 204 (a)(5) and section 212, the Board of Directors may adopt, amend, or repeal any of these Bylaws other than a Bylaw or amendment thereof changing the authorized number of directors.

Section 3. RECORD OF AMENDMENTS. Whenever an amendment or new Bylaw is adopted, it shall be copied in the book of Bylaws with the original Bylaws,

in the appropriate place. If any Bylaw is repealed, the fact of repeal with the date of the meeting at which the repeal was enacted or written assent was filed shall be stated in said book.

ARTICLE IX

MISCELLANEOUS

Section 1. CORPORATE SEAL. The corporate seal shall be circular in form, and shall have inscribed thereon the name of the corporation, the date of its incorporation, and the word, "California."

Section 2. REFERENCES TO CODE SECTIONS. "Section" references herein refer to the equivalent sections of the General Corporation Law effective January 1, 1977, as amended.

Section 3. REPRESENTATION OF SHARES IN OTHER CORPORATIONS. Shares of other corporations standing in the name of this corporation may be voted or represented and all incidents thereto may be exercised on behalf of the corporation by the Chairman of the Board, the Chief Executive Officer, or any Vice President and the Secretary or an Assistant Secretary.

Section 4. SUBSIDIARY CORPORATIONS. Shares of this corporation owned by a subsidiary shall not be entitled to vote on any matter. A subsidiary for these purposes is defined as a corporation, the shares of which possessing more than twenty-five (25) percent of the total combined voting power of all classes or shares entitled to vote, are owned directly or indirectely through one (1) or more subsidiaries.

Section 5. INDEMNITY. The corporation may indemnify any director, officer, agent, or employee as to those liabilities and on those terms and conditions as are specified in section 317 of the code. In any event, the corporation shall have the right to purchase and maintain insurance on behalf of any such persons whether or not the corporation would have the power to indemnify such person against the liability insured against.

Section 6. ACCOUNTING YEAR. The accounting year of the corporation shall be fixed by resolution of the Board of Directors.

CERTIFICATE BY SECRETARY OF CORPORATION BY SHAREHOLDERS' VOTE

THIS IS TO CERTIFY:

That I am the duly elected, qualified and acting Secretary of the above-named corporation and that the above and foregoing code of Bylaws was submitted to the shareholders at their first meeting and recorded in the minutes thereof, was ratified by the vote of shareholders entitled to exercise the majority of the voting power of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand this
day of .

PAUL J. HUBBS
Secretary

CERTIFICATE OF SECRETARY

OF

PAUL HUBBS CONSTRUCTION COMPANY, INC.

I, the undersigned, do hereby certify that:

1. I am the duly appointed and acting secretary of the above-named corporation;

2. The attached amendment to the bylaws of the corporation is a true and correct copy of the amendment duly adopted by the shareholders and the board of directors of the above-named corporation pursuant to minutes of action of the shareholders and minutes of action of the board of directors, dated effective August 12, 1993;

3. Said amendment has not been rescinded or modified since its adoption; and

4. Except for said amendment and any prior amendments thereto, the bylaws of the corporation have not been modified, and are in full force and effect.

In witness whereof, the undersigned has signed this certificate.

Dated: _____

Paul J. Hubbs, Secretary

Amendment of Bylaws

WHEREAS, the board of directors has reviewed an amendment to the corporation's bylaws previously approved by the shareholders of the corporation to increase the number of authorized directors designated in the bylaws of the corporation from three (3) to four (4);

NOW BE IT RESOLVED: That the bylaws of the corporation be amended to reflect an increase in the number of authorized directors from three (3) to four (4);

RESOLVED FURTHER: That the secretary of the corporation shall be, and he hereby is, authorized and directed to execute a certificate indicating that the bylaws have been amended and to insert a copy of the amended bylaws in the corporate minute book.

EXHIBIT C (#11, 13, 14, 15, 21)

Reclamation
PLAN
Questions
#2, #11, #13

STRINGFELLOW QUARRY

SURFACE MINING RECLAMATION PLAN

EXHIBIT NO. _____
RecPl CASE NO. 123

Prepared by: Tom Dodson & Associates
for
Paul Hubbs Construction Company

Project Description

A. Description of Mineral Commodity

The mining operations in the local area have apparently been conducted since the turn of the century. The existing Stringfellow quarry has been in operation for approximately 40 years. Figures 1 & 2 show the location of the property. The mineral commodity being mined at this quarry is granite rock.

The main facility on the property is a large open pit rock quarry called Stringfellow Quarry. (See figure 3) Granite rock is quarried at this location and used for a variety of purposes, primarily riprap for flood control projects. The operating area of the quarry consists of one major working bench and face (quarry wall) that encompasses approximately 10 acres. The attached maps show location and topography of the site and the drawings clearly define the quarry's present configuration.

B. General Geology and Deposits Being Mined

The Stringfellow (originally Shannahan) quarry is located in the Jurupa Mountains which are considered the northern most extension of the Perris fault block. Most geologists consider the Jurupa Mountains as part of the cryntalline granitic rocks that comprise the southern California batholith. (The primary reference used in compiling geologic information for the site is "Geology of the Jurupa Mountains. San Bernardino and Riverside Counties, California, Edward M. Mackevett. Special Report 5, Department of Natural Resources, Division of Mines, February, 1951.)

The existing quarry is located in a granodiorite ridge that is typical both of the loacal area and of the southern California batholigh. Mackevett termed the quarry material the Woodson Mountain granodiorite. Immediately adjacent to the quarry on the east is an outcrop of typical quartzbiotite gneiss. The rock of primary interest is the Woodson Mountain granodirite.

As indicated above, the Jurupa Mountains are considered the northern most outcrop of the southern California batholith and may represent a "structural transition between the Peninsular Ranges to the south and these of the Transverse Ranges to the north." The general conclusion is that local faults occur in the Jurupa Mountains, but no large, continuous faults are known to exist. As to origin, the granitic material appears to be Cretaceous or younger in origin, whereas the adjacent metasedimentary gneiss is considered to be between Triassic or Paleozoic in age.

The southeastern portion of the quarry site is covered with stream deposited alluvium derived from the drainage basin extending to the northeast. This material is typical coarse to medium sand deposited in the upper portion of a drainage basin.

C. The following is a limited description of the natural environmental and land use characteristics for the project site and adjacent area:

1. Geology and Topography. See Section B above for a discussion of the historical, structural and lithologic characteristics of the site. The quarry is located at the end of a granitic ridge. The eastern portion of the site is flat and includes both alluvial area and a portion of the old working bench. The quarry wall is over 100 feet high at its center with one real working bench. Elevation ranges from approximately 1000 feet to a little above 1100 feet. The rest of the area within the reclamation boundary consists of steep sloped ridge area.

2. Hydrology. The project site does not contain any permanent surface water. During the winter precipitation period, sheet flow occurs off of the undisturbed ridge area and the quarry face. The alluvial area is primarily an area of percolation, ie., groundwater recharge. The eastern most portion of the site contains an intermittently flowing stream with a drainage area of approximately one square mile. Data on surface water quality indicates that some contamination from the Stringfellow acid waste pits has affected the winter stream flow in the channel. (Refer to "Engineering Study of Stringfellow Class I Disposal Site", Montgomery, James M. Consulting Engineers, Inc., October, 1976.) The future quality of surface water in the stream will depend upon how effective current cleanup measures turn out to be.

Groundwater is not known to occur in the granitic portion of the quarry site. It does occur on the eastern portion of the site in the alluvium. Groundwater in this area is known to be contaminated (refer to Montgomery report) by underflow out of the Stringfellow Class I site. The exact extent of this contamination is not presently known. The quarry site obtains its water for operations from a well located approximately one quarter mile south of the quarry site. Water quality data (from the reference above and from "The Stringfellow Industrial Waste Disposal Site: A Technical Assessment of Environmental Impact" California Dept. of Health Services, Hatayama, et. al. March 1979) from this well is not conclusive regarding contamination. Sampling will have to be continued in the future to ensure the water is acceptable for continued industrial use.

3. Soils. The soils on the property are identified as being in the Cieneba-Rock Land Association (Data from Western Riverside Area Soil Survey, Soil Conservation Service). These soils are generally found on upland rocky areas with steep slopes. They are generally shallow, low fertility soils. The alluvial soil on the east portion of the site is a combination of Madera fine sandy loam and young alluvial soil. This is a capability III and IV type soil which will serve well for future reclamation. The Cieneba soil is subject to erosion and on steep slopes severe erosion potential exists. These soils are too shallow to warrant stockpiling. The areas that have been quarried and/or disturbed have had all soil removed and the remaining material consists of rocks and weathered parent material.

4. Biotic Community. The quarry area is a blend of natural and non-native biotic communities. Undisturbed hill areas generally belong to the coastal sage scrub plant community. The quarry itself is devoid of vegetation and the alluvial area consists of native trees and exotics, especially red box (Eucalyptus Polyanthemas). In some alluvial areas "weedy" species have invaded and are the dominant plants. Common plants are identified in the Plant List Appendix A. No known rare, threatened or endangered species are known to inhabit this site. A species of annual mint, Pringle Monardella (Monardella Pringlei) is considered rare and may be located at springs in nearby areas. The absence of springs within the reclamation boundary precludes its presence on site.

The faunal community at this site is very complex. Field observations indicate a large population of small mammals (mice and rabbits) and a commensurate population of raptors and carnivores. Golden eagles are known to hunt in the area as well as owls. The trees in the area provide good potential nesting sites as well as hunting perches. Coyotes appeared to be the dominent carnivores based on filed observations. No rare, threatened or endangered species are known to inhabit the area. A list of species at the site is provided in Appendix B.

5. Land Use. Of the 60 acre site reserved for quarry operations in this reclamation plan, approximately one half has been disturbed by historic quarry operations. Access is provided by a paved extension of Pyrite Avenue. The site has an extensive equipment storage area, an explosives storage structure, working bench and quarry face. This area comprises approximately 30 acres. The rest of the site is relatively undisturbed. Adjacent uses are: West, open space and automobile dismantling yard; North, open space, an abandoned ordnance manufacturing area and the Stringfellow Class I disposal site, which has failed and is being reclaimed by the State; East, open space and an exisiting ordnance manufacturing facility; South, open space, operations building and weighing scales and ultimately Highway 60 and the Community of Glen Avon. In general this quarry is located in an area of uses that are compatible with its operations.

Proposed Operations:

A. Quarry operations at the existing site have been ongoing since at least the 1930's. The present owner has operated the quarry since 1976. Stringfellow quarry has been operated intermittently since the present owner began operations. Based on existing rules and regulations under the Surface Mining and Reclamation Act the present operator has had a vested right of operations since 1976. Even though the only area requiring reclamation is the area quarried since 1976, the owner proposes to reclaim the whole quarry site at the end of operations. This is necessary since areas mined prior to 1976 are integrally tied to current operations.

B. The projected lifetime for this reclamation plan is 30-years. This is based on the intermittent operations of the quarry and a reasonable length of operation in which to initiate reclamation operations. Sufficient mineable rock lies adjacent to the quarry so that its operational lifetime could be extended if desired; however no plans presently exist to do this.

C. The present mining method is a multibench rock quarry operation.

D. Rock quarry operations are carried out intermittently at the Stringfellow site.

E.

1. Tonnage of mined material: Estimated as 10,000 TPY (tons per year)

2. Tonnage of waste overburden: A minimal amount of overburden is generated since almost all material will be used for construction operations. Estimated as 1,000 TPY.

3. Total tonnage to be handled: Estimated 11,000 TPY.

F. All quarry operations will be at or above the local surface level. Although not extending below the surface, the quarry will have walls or working faces that will result in vertical relief of from 100-200 feet at the end of the 30 year planning period.

G. No processing operations are conducted at the Stringfellow quarry. A rock crusher is used to reduce the size of rocks and to segregate them by size.

H. Current water consumption varies depending on the extent of operations. When rock is being quarried the operation consumes an estimated 5000 gallons per day. This water is used for dust control either during quarrying or during crushing operations.

MINING PLAN

A. The prosed progession of mining for the Stringfellow quarry is shown in Figures 4 through 6. Ten year increments are shown on the cross sections drawn in Figures 7 and 8. Ten year increments were selected because of the present limited use of Stringfellow quarry. At 10,000 TPY removal rate the ten year increments show a total of 100,000 tons of rock removed from the quarry face. Figure 6 shows the final contours after 30 years of operation and the removal of 300,000 tons of rock.

B. As discussed above, quarry operations have been conducted at Stringfellow for decades. Aside from heavy equipment and trucks for handling, loading and delivery of rock material, a part of the flat area adjacent to the quarry working area is used for storage of old equipment and equipment not currently being used. As necessary, additional equipment is brought to the quarry to meet operational requirements. As equipment is determined to be excess to needs it will be sold for scrap value.

C. Items C-1 through C-5 are maps that are provided in this report as Figures 1 through 8.

RECLAMATION PLAN

A. Refer to figures 7 and 8 for the cross-sections illustrating the quarry topography in its final form after 30 years. Note that even with 300,000 tons of projected rock removal the present quarry face is only modified a minor amount.

B. The area that will be reclaimed at the rock quarry is shown in Figure 3. Approximately 60 acres will be reclaimed based on 30 years of operation.

C. The rock quarry will remain essentially as it is now, a flat worked over area at the base of the high quarry working face. Some benches will be out into the working face as shown on the maps and cross-sections. In new working areas, benches at 40 feet intervals will be worked. If a decision is made to utilize the quarry area for alternative uses, several possible uses exist. Depending on future zoning the flat quarry floor would make an ideal industrial area, particularly for ordnance industry uses which are already located in the adjacent area. The quarry face will be unusable in the future except the bench areas which may be used for storage of small quantities of explosive. The whole face area, including the marsh area at the base of the quarry face, could also be designated as open space without adversely affecting use of adjacent flat areas for industrial purposes. The face, of course, can serve only as non-functional open space.

D. The amount of soil that will be disturbed during quarry activity over the 30 year period will be minimal. This is a result of the amount of exposed face available for quarry operations. The soil that will be disturbed on the top of the ridge is extremely poor, thin soil with no stock pile value. At the end of quarry operations the fine material, although not actually soil, will be available for emplacement on flat areas. With proper fertilization and management this material should serve as an adequate growing medium which will eventually evolve into soil.

E. Reclamation Methods, Sequence and Timing.

1. The initial reclamation effort will consist of implementing safety measures. Fences will be placed so as to prevent access to the quarry face within six months after approval of this plan. Fenced areas will be properly signed in English and Spanish. Areas designated for storage of equipment and for access to the working face will be fenced and access will be controlled.

2. Backfilling and grading: Vertical quarry faces or walls will not be reclaimed by this method. The quarry floor will be covered with fine materials remaining form quarry operations and imported topsoil as necessary. A depth of 1 to 2 feet will be spread by loaders and graded. Quarry face benches will be left with no surface cover and a gentle slope away from the quarry face where runoff will be allowed to flow down the face. This reclamation operation will be done at the end of the mining operation. Unless otherwise noted, all reclamation measures will be implemented within one year after mine closure. The existing vertical quarry face is very stable, as is typical in most granitic rock quarries. The walls will be scaled (loose material knocked off) and left in their final mined state. The existing face does not exhibit any joint patterns that would indicate future instability. If such a condition develops the slope will be modified to a safe non-hazardous angle and it will be properly stabilized by artificial means, if necessary. At the base of the main face a sufficient buffer area will be set aside to provide a rock fall space free of incompatible uses. Scaling and slope control will be undertaken at the end of operations.

3. The quarry operation will not generate any accumulative tailing pile. All materials will be consumed as generated except small quantities of fine material which will ultimately be used in reclamation. Material will be used as needed during the life of the quarry.

4. At present the only runoff from the quarry is on the face and then from the base of the cliff a small amount of runoff flows overland as sheet flow to the main runoff channel in Pyrite Canyon. Due to this unusual surface runoff setting at Stringfellow Quarry, it is deemed wiser to allow runoff to continue to flow down the face to the existing marsh habitat at its base. This option provides the best opportunity to control or minimize erosion by collecting flow at the base of the impermeable face and allowing it to flow as sheet flow from this location. If in the future the runoff increases, a channel can be constructed to the Pyrite Canyon main channel, approximately 1/3 mile distant.

5. As previously noted part of the quarry area is used to store old equipment. All usuable equipment will be removed at the end of operations, if the quarry is closed. All other equipment and debris will be disposed of by the operator at a proper disposal or recycling facility

or it will be sold to a salvage operator. There are no structures to be concerned about, except one small explosive storage magazine. Clean up operations will continue throughout the operational life of the project. Final clean up will be completed within one year after quarry operations are terminated.

6. As far as is known no contaminants are generated at the Stringfellow quarry operation. Sediment from quarrying is deposited in the marsh area. The only other contaminant would be petroleum spilled accidentally during operations. Such spills would be minor and will be handled on a case-by-case basis.

7. Erosion potential at this quarry is minimal. Based on field observations the only erosion control measures required will be slope control on the face and management of flow from the wet area at the base of the face. As previously indicated a channel can be constructed if needed.

8. The only hazards directly caused by the quarry operations at Stringfellow will be the remaining vertical walls. (Note that the Stringfellow acid pits are located adjacent to the quarry and there may be residual hazards in the area caused by their presence). As described previously a fence set back 10-20 feet from the top of the vertical wall, will be installed. A barbed wire or chain length fence will be constructed around the whole top of the wall. The fence will be properly signed as a warning to any persons. At the base of the vertical face the area will be fenced and signed, noting the danger of falling rock.

Revegetation at the Stringellow site will be restricted to the flat quarried area below the vertical face. This decision is made because the small benches will be graded to direct runoff to the front of the face to minimize overall erosion and this type of slope would cause any topsoil to be eroded. The flat area will be revegetated with a species mix as defined in Appendix C. Initial revegetation will be with native species but, if the area is utilized for alternative uses in the future, the use of exotic landscape species can be expected. Fertilizers and/or hydromulch will be used where necessary. The area will be surveyed after initial revegetation attempts and, if necessary, a follow up effort will be conducted.

10. Since all quarried material will be consumed as generated, this operation will not leave any waste piles onsite. All final slopes will be field reviewed and checked by an engineer to confirm their stability prior to the completion of the reclamation effort.

F. During operation of the quarry the following reclamation activites will be implemented.

1. Fences will be installed and properly signed. Two strand barbed wire will be used except in cases where chain length fencing is necessary.

2. A survey of rare, endangered and sensitive plant and animal species has already been prepared for this area. Although the marsh area at the base of face is manmade, it is a possible location for a rare annual mint, Monardella Pringlei, suspected to inhabit the local area. A survey of this area will be conducted in the first year following adoption of this reclamation plan.

3. All operating piles of quarry material will be maintained at a stable slope, and to the degree necessary, quarry walls will be periodically scaled to minimize the hazard from falling rock.

G. Because the whole quarry will be in operation and use during the period the reclamation plan is in effect, the major site reclamation will be undertaken at the end of the 30 year operation period. Should the quarry continue to operate after this period, the mining plan will be amended as necessary.

H. Reclamation will not permanently affect future quarry operations assuming Stringfellow is still economically viable at the end of the 30 year nominal operational period. Should the quarry be reopened after reclamation, it could disturb parts of the reclaimed area. Adverse alterations to the reclaimed area would be noted on a plan amendment and a new final reclamation plan would be established.

APPENDIX A

PLANTS

Common Name	Generic Name
Eucalyptus, red box	*Eucalyptus polyanthemas*
California Buckwheat	*Eriogonum fasiculatum*
California Sagebrush	*Artemesia californica*
Black Sage	*Salvia melifera*
White Sage	*Salvia apiana*
California Encelia	*Encelia californica*
Brittle Bush	*Encelia farinosa*
Wild Oats	*Avena fatua*
Rip-gut Brome	*Bromus diandrus*
Squaw Bush	*Rhus trilobata*
Laurel Sumac	*Rhus laurina*
Lemonade Berry	*Rhus integrifolia*
Poison Oak	*Rhus diversiloba*
Holly Leaf Cherry	*Prunus ilicifolia*
California Pepper Tree	*Schinus molle*
Deerweed	*Lotus scoparius*
Brome Grass	*Bromus rubens*
Mexican Elderberry	*Sambucus caerulea*
Rattlesnake Weed	*Euphorbia polycarpa*
Doveweed	*Eremocarpus setigerus*
Valley Cholla	*Opuntia parryi*
Gourd, Calabazilla	*Cucurbita foetidissima*
Tree Tobacco	*Nicotiana glauca*
Horehound	*Marrubium vulgare*
Castor Bean	*Ricinus communis*
Sunflower	*Helianthus annuus*
Mustard	*Brassica geniculata*
Star Thistle, Tocalote	*Centaurea melitensis*
Thistle	*Cirsium sp.*

APPENDIX A

PLANTS (continued)

Common Name	Generic Name
Wild Heliotrope	*Phacelia minor*
Wild Heliotrope	*Phacelia ramocissima*
Croton	*Croton californica*
Arroyo Willow	*Salix lasiolepis*
Jimsonweed	*Datura meteloides*
Western Sycamore	*Platanus racimosa*
Cattail	*Typha latifolia*
Sand-bur	*Ambrosia acanthicarpa*
Washington Palm	*Washingtonia robusta*
Palm (unknown)	?
Telegraph Weed	*Heterotheca grandiflora*
Mule Fat	*Baccharis viminea*
Morning Glory	*Calystegia macrostegia*
Chamise	*Adenostoma fasciculatum*
Buckwheat	*Eriogonum gracile*
Redberry	*Rhamnus crocea*
Tumbleweed, Russian Thistle	*Salsola iberica*
Giant Ryegrass	*Elymus condensatus*
California Fuschia	*Zauschneria california*
Popcorn Flower	*Cryptantha sp.*
White Felt Plant	*Tetradymia comosa*
Mallow	*Malvastrum sp.*
Mustard	*Brassica sp.*
(none)	*Corethrogyne filaginifolia*
Sweet Bush	*Bebbia juncea*
Brickel Bush	*Brickellia arguta*
(none)	*Eriastrum sp.*
Nightshade	*Solanum sp.*
Hoaryleaf Ceanothus	*Ceanothus crassifolius*
Bush Mallow	*Malacothamnus fasciculatus*
Tarweed	*Hemizonia sp.*
Snakeweed	*Guterezzia californica*
Hedge Nettle	*Stachys sp.*

APPENDIX B

VERTEBRATE WILDLIFE

Birds (confirmed)	
Swainson's Hawk	*Buteo swainsoni*
Red-tailed Hawk	*Buteo jamaicensis*
Kestrel	*Falco sparverius*
California Quail	*Lophortyx californicus*
Mourning Dove	*Zenaidura macroura*
Anna's Hummingbird	*Calypte anna*
Hummingbird (unidentified)	?
Rock Wren	*Salpinctes obsoletus*
Bewicks Wren	*Thryomanes bewickii*
Western Kingbird	*Tyrannus verticalis*
Mockingbird	*Mimus polyglotus*
California Thrasher	*Toxostoma redivium*
Loggerhead Shrike	*Lanius ludovicianus*
Western Meadowlark	*Sturnella neglecta*
White-throated Swift	*Aeronautes saxatalis*
House Finch	*Carpodacus mexicanus*
House Sparrow	*Passer domesticus*
Sage Sparrow	*Amphispiza belli*
Brown Towhee	*Pipilo fuscus*
Common Bushtit	*Psaltriparus minimus*
Flycatcher (unidentified)	*Empidonax sp.*
Bullock's Oriole	*Icterus bullockii*
Owl 'droppings' (unknown)	?
Mammals (confirmed)	
Black-tailed Hare (Jackrabbit)	*Lepus californicus*
Audubon Cottontail	*Sylvilagus audubonii*
California (Beechey) Ground Squirrel	*Otospermophilus beecheyi*

VERTEBRATE WILDLIFE

(continued)

Mammals (confirmed)

Mule Deer	*Odocoileus hemionous*
Coyote	*Canis latrans*
Feral Dogs	*Canus canis*

Reptiles (confirmed)

California Whiptail Lizard	*Cnemodophorus tigris*
Granite Spiny Lizard	*Sceloporus orcutti*
Side-blotch Lizard	*Uta stansbyriana*

INFERRED VERTEBRATE WILDLIFE*

Mammals

Pacific Kangaroo Rat
Spotted Skunk
Striped Skunk
Grey Fox
Bobcat
Opossum
Deer Mouse

Western Harvest Mouse
Western Pipestrelle Bat

California Myotis Bat

Reptiles

Coast Horned Lizard
Western Fence Lizard
Western Rattlesnake
California Rosy Boa
California Striped Racer
Gopher Snake

*These species have previously been identified in similar habitats within three miles of the site, and/or it is considered reasonable that further research would verify their presence. Names given are commonly used in the literature.

INFERRED VERTEBRATE WILDLIFE

(continued)

Birds (Inferred*)

Cooper's Hawk

Great Horned Owl

Barn Owl

Ash-throated Flycatcher

Scrub Jay

American Goldfinch

Turkey Vulture

Killdeer

Robin

Common Raven

*various warblers, swallows, sparrows, and raptors

*These and many other species may be expected as vagrants, migrants, or occasional site users. Some also may be seasonal or year-round residents.

APPENDIX C

GRASS FOR COASTAL SAGE/VALLEY GRASSLAND

PLANTS FOR RESEEDING (GRASSES)

AUENA BARBATA	SLENDER OAT
AUENA FATUA	WILD OAT
BROMUS MOLLIS	SOFT BROME
BROMUS RUBENS	RED BROME
BROMUS DIANDRUS	RIPGUT BROME
FESTUCA MEGA LURA	FOXTAIL FESCUE
FESTUCA MYUROS	RATTAIL FESCUE
FESTUCA REFLEXA	FEW FLAVORED FESCUE
KOELERIA CRISTATA	PRAINE JUNEGRASS
*POA SCABELLA	PINE BLUEGRASS
POA ANNUA	ANNUAL BLUEGRASS
*STIPA PULCHRA	PURPLE STIPA
STIPA LEPIDA	FOOTHILL STIPA

*DOMINANTS

HERBAEOUS PLANTS

SALVIA APIANA	WHITE SAGE
*SALVIA MELLIFERA	BLACK SAGE
SALVIA LEUCOPHYLLA	GRAY SAGE
ENCELIA CALIFORNIA	CALIFORNIA ENCELIA
*ERIOGONUM FASCICULATION	CALIFORNIA BUCKWHEAT

*DOMINANTS

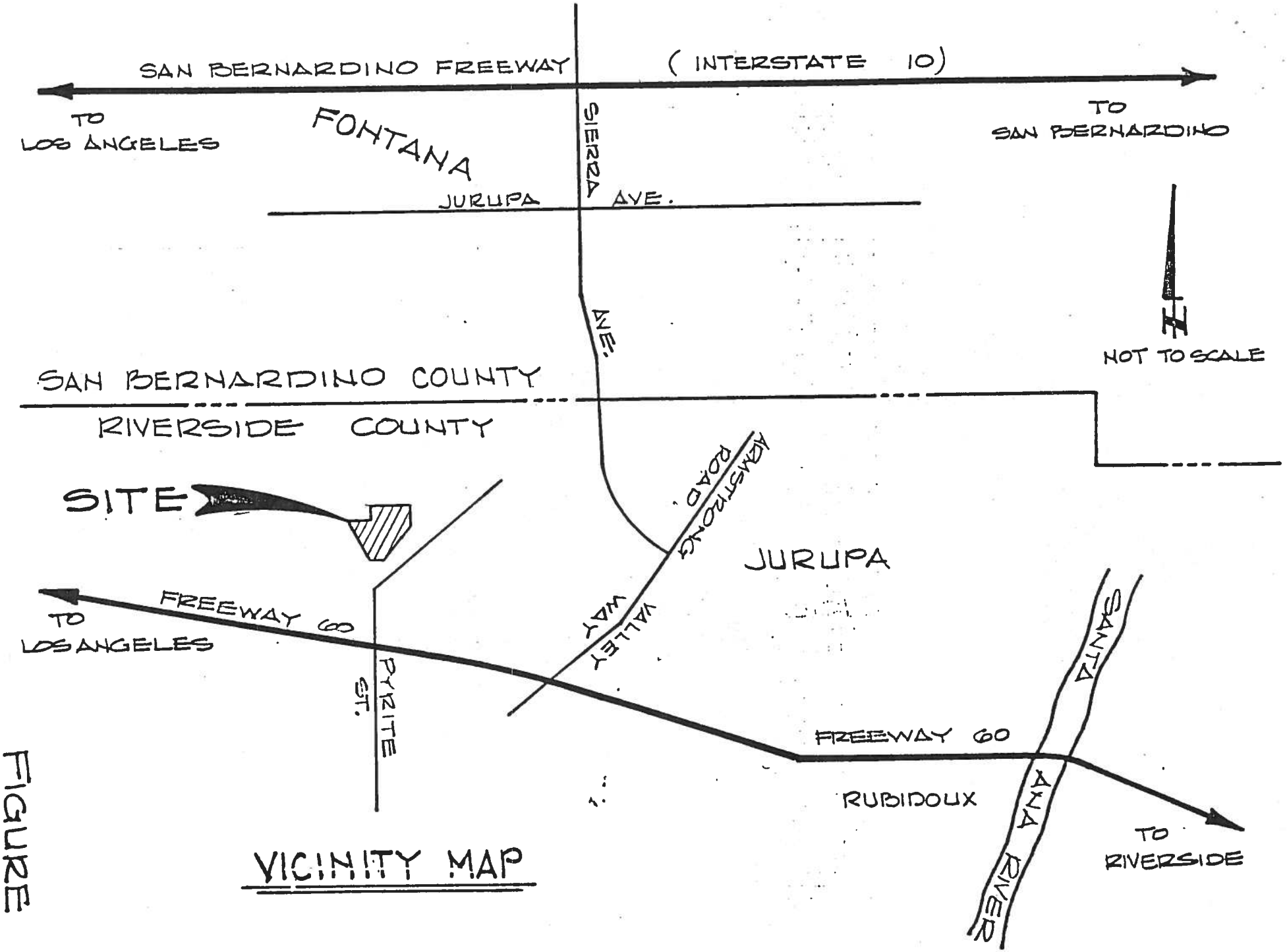
NATURE PLANTS/SALT LAKE CITY	801-582-0144
S & S SEEDS/SANTA BARBARA	805-965-5243
ENVIR SEED PRODUCERS/EL MONTE, CA	213-442-3330

APPENDEX D

That certain real property in the County of Riverside, State of California described as,
That portion of Section 1, Township 2 South, Range 6 West, San Bernardino Meridian, described as follows;
Commencing at the South one-quarter corner of said Section 1; Thence North 0°12'53" East, along the Westerly line of the East one-half of said Section, a distance of 1142.04 feet to its intersection with the Northeasterly line of the land described in deed to the Metropolitan Water District of Southern California, recorded March 27, 1936 in Book 273 of Official Records, page 104, said point being the TRUE POINT OF BEGINNING; thence North 18°55'49" West, along said Northeasterly line, a distance of 1533.59 to an angle point therein; thence continuing along the Easterly line of said Water District land, North 4°31'40" West, a distance of 73.78 feet to Northerly line of the South one-half of said Section; thence North 89° 52' 41" East along said Northerly line a distance of 509.06 feet to the center one-quarter corner of said section; thence North o°12'53" East, along said Westerly line of the East one-half of said Section, a distance of 568.10 feet to the Northerly line of the Southerly 568.09 feet of the Northwest one-quarter of said Section; thence North 89°52'41" East along the last described Northerly line, a distance of 1300.00 feet; thence South 0°12'53" West, parallel with said Westerly line of the East one-half of Section 1, a distance of 900.00 feet; thence Southwesterly, 1500 feet, more or less, to a point that bears South 89°47'07" East 500.00 feet from the TRUE POINT OF BEGINNING; thence North 89°47'07" West 500.00 feet to the TRUE POINT OF BEGINNING.

Containing approximately 60 acres.

Portion of Assessor Parcel numbers 173-17-15, 173-18-3&4



VICINITY MAP

FIGURE 1

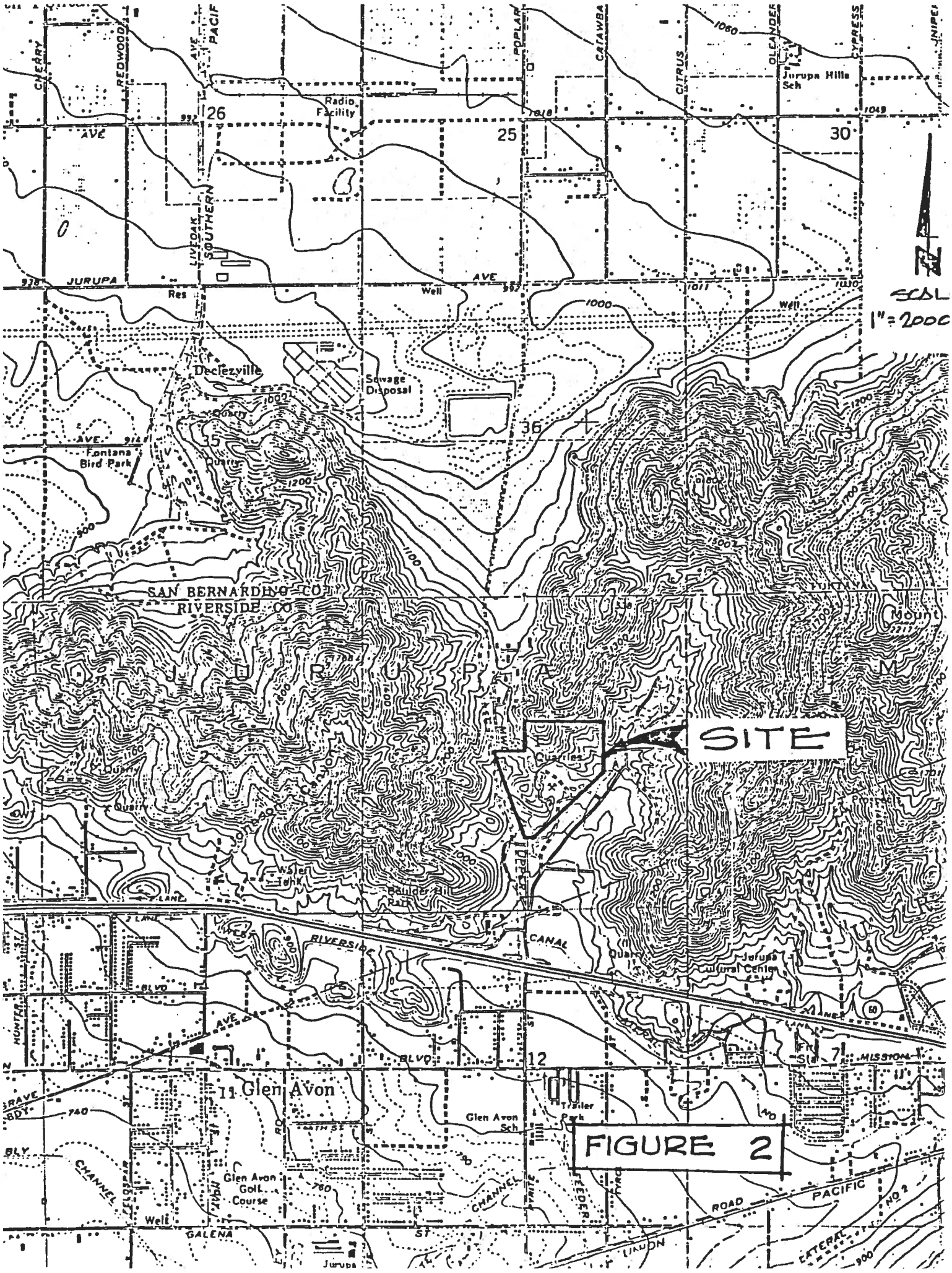

SITE
SCALE
1" = 2000
Jurupa Hills Sch
Radio Facility
Declezville
Sewage Disposal
Fontana Bird Park
SAN BERNARDINO CO
RIVERSIDE CO
Quarries
Water Tank
Boulder Hill Park
Jurupa Cultural Center
Glen Avon
Glen Avon Sch
Trailer Park
Glen Avon Golf Course
JURUPA AVE
RIVERSIDE CANAL
GALENA ST
CHANNEL
PACIFIC
ROAD
MISSION
CHERRY
REDWOOD
LIVEOAK
SOUTHERN
POPLAR
CATAWBA
CITRUS
OLEANDER
CYPRESS
26
25
30
36
35
12
7

FIGURE 2

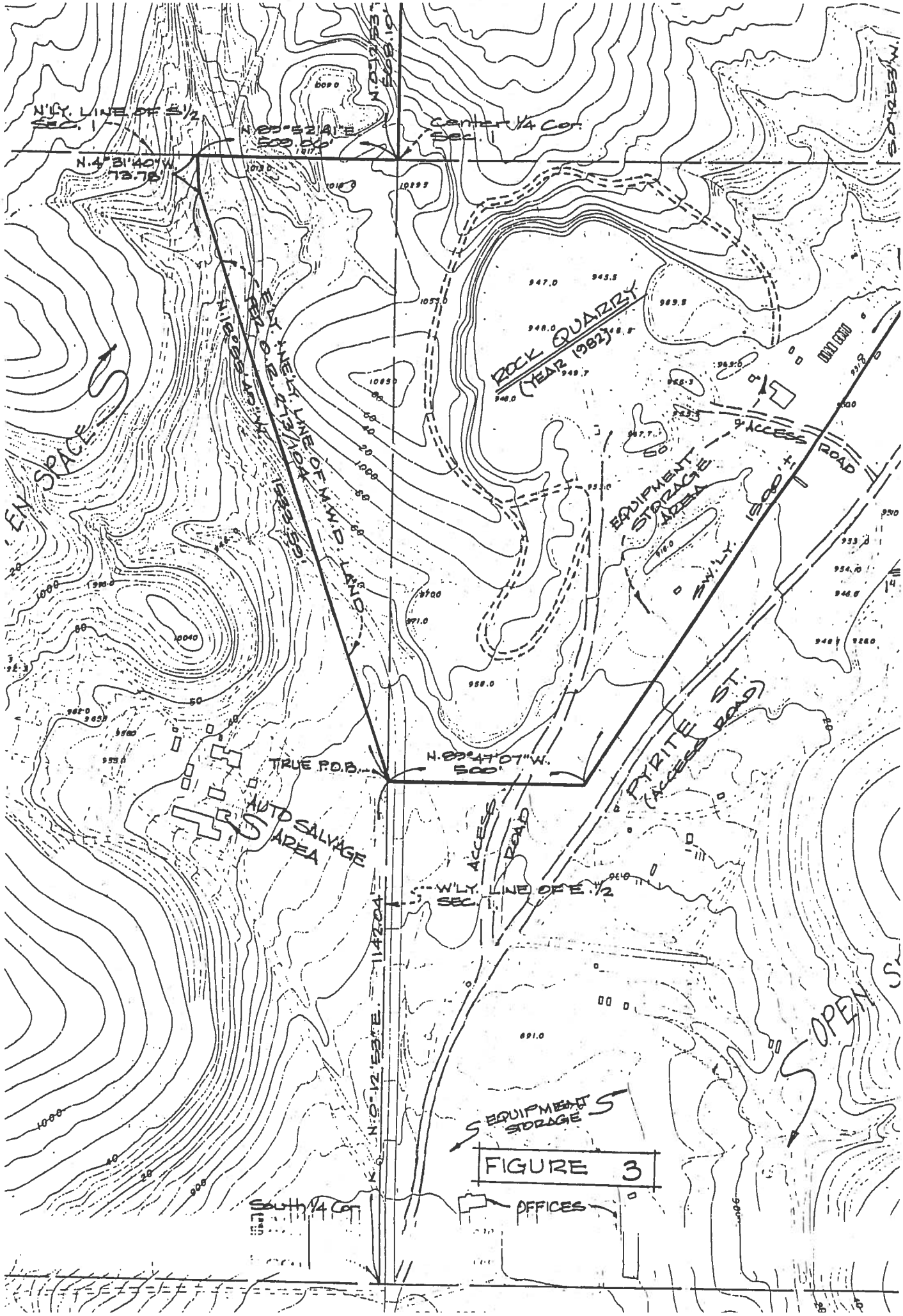
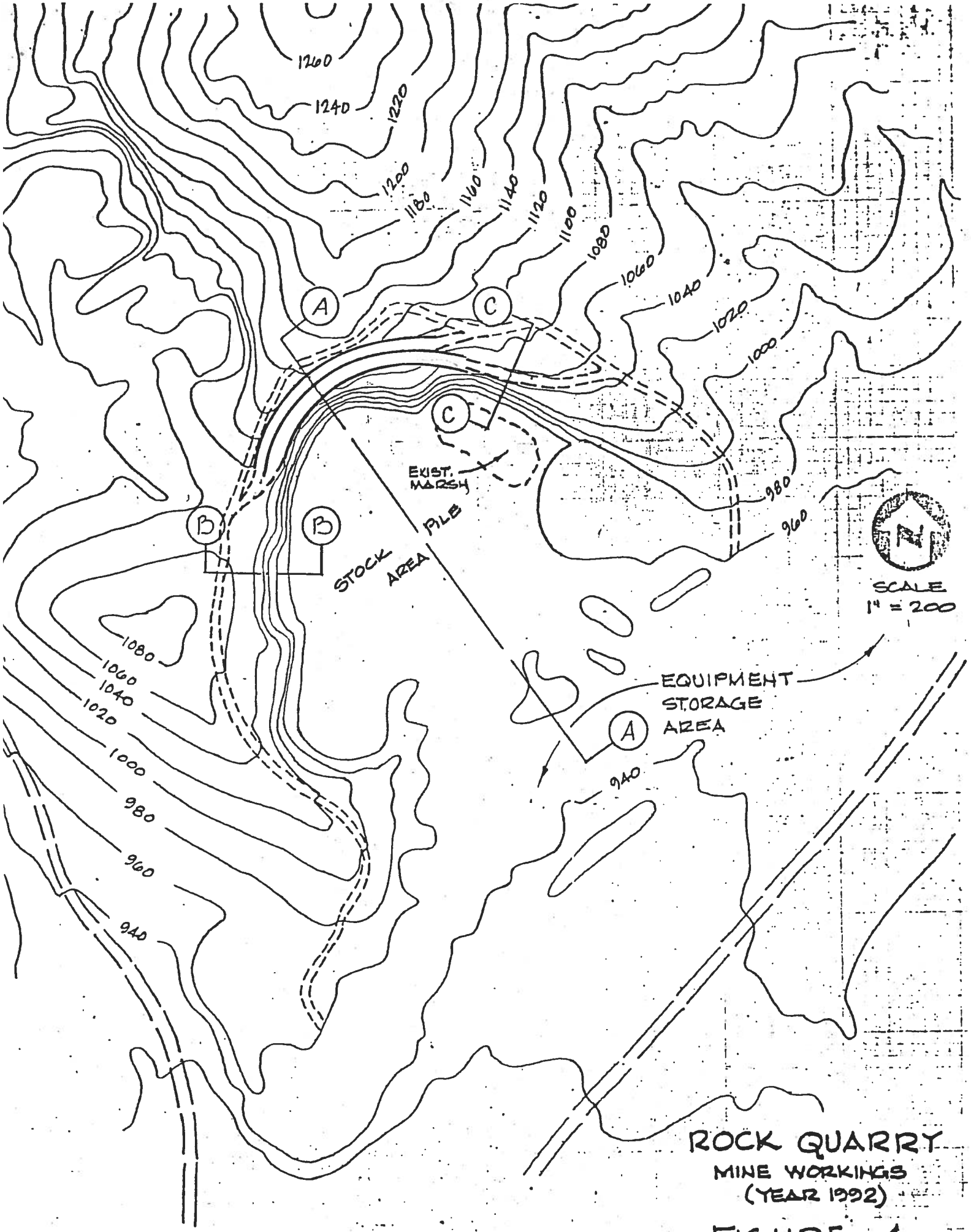
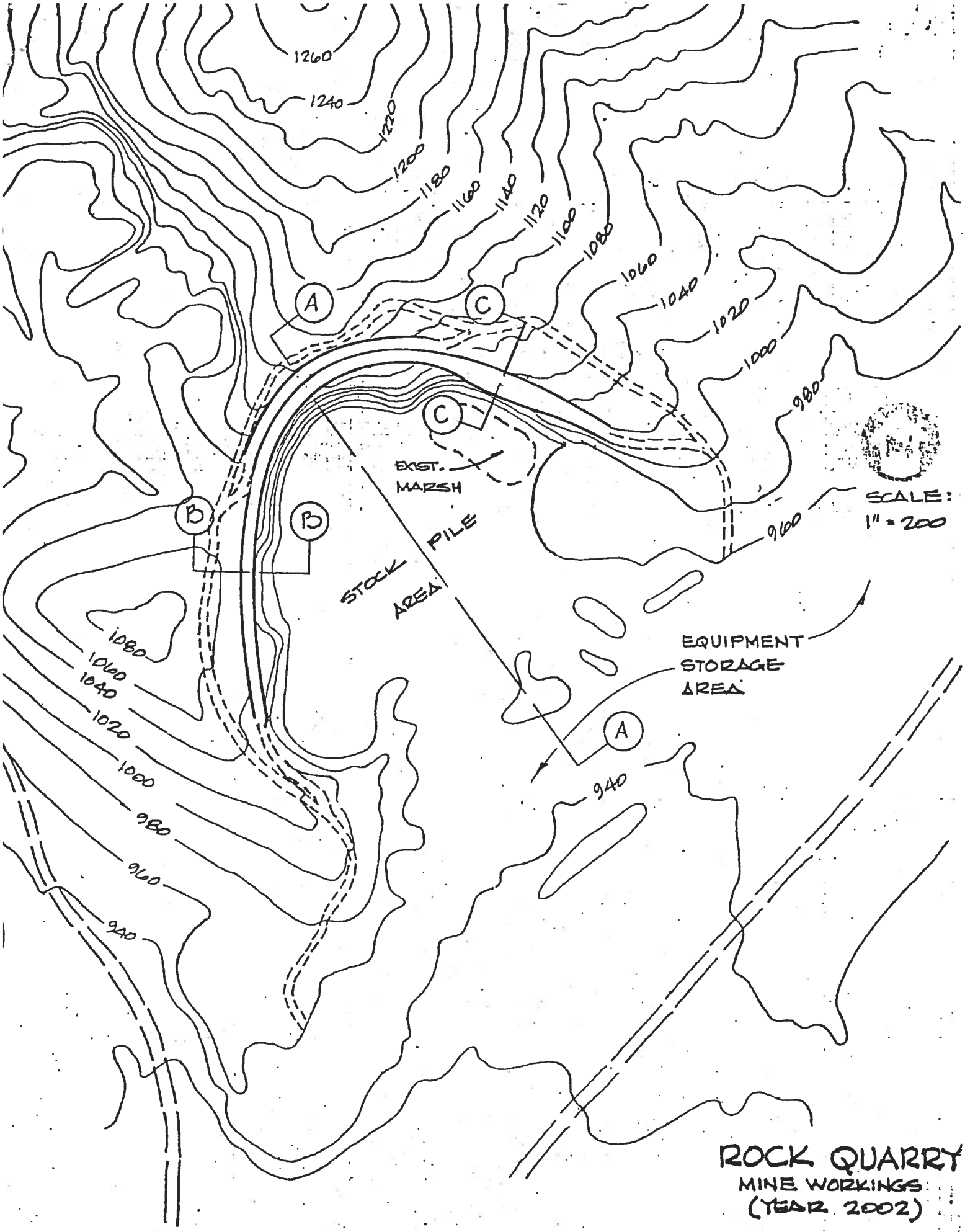

N'LY. LINE OF S1/2 SEC. 1
N.89°52'41"E. 509.06'
Center 1/4 Cor. Sec. 1
N.4°31'40"W. 73.78'
ROCK QUARRY (YEAR 1982)
ACCESS ROAD
EQUIPMENT STORAGE AREA
SW'LY. 1500'±
PYRITE ST. (ACCESS ROAD)
TRUE P.O.B.
N.89°47'07"W. 500'
AUTO SALVAGE AREA
ACCESS ROAD
W'LY. LINE OF E.1/2 SEC. 1
N.0°12'53"E. 1142.04
EQUIPMENT STORAGE
OFFICES
South 1/4 Cor.
OPEN S
EN SPACE

FIGURE 3



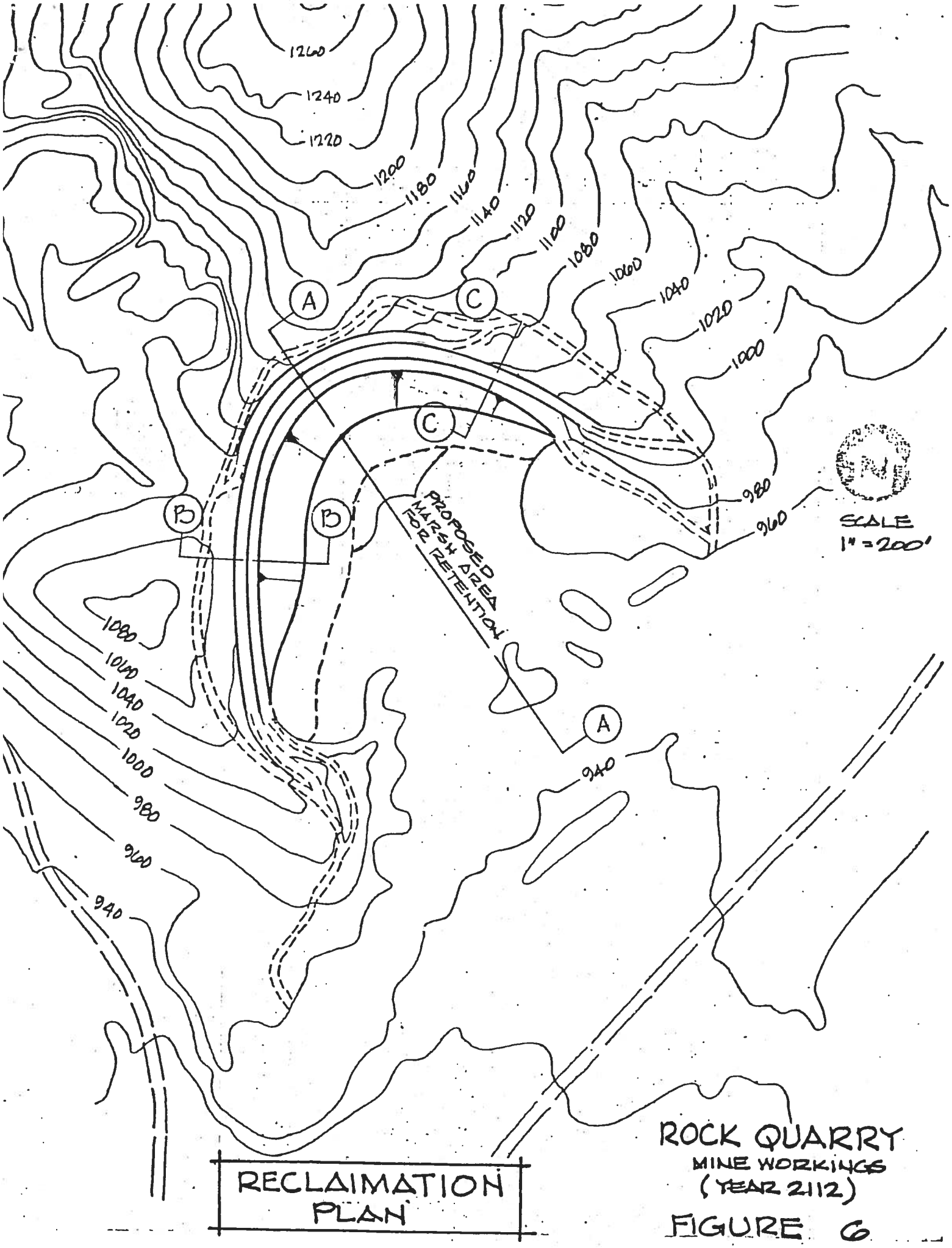
ROCK QUARRY
MINE WORKINGS
(YEAR 1992)

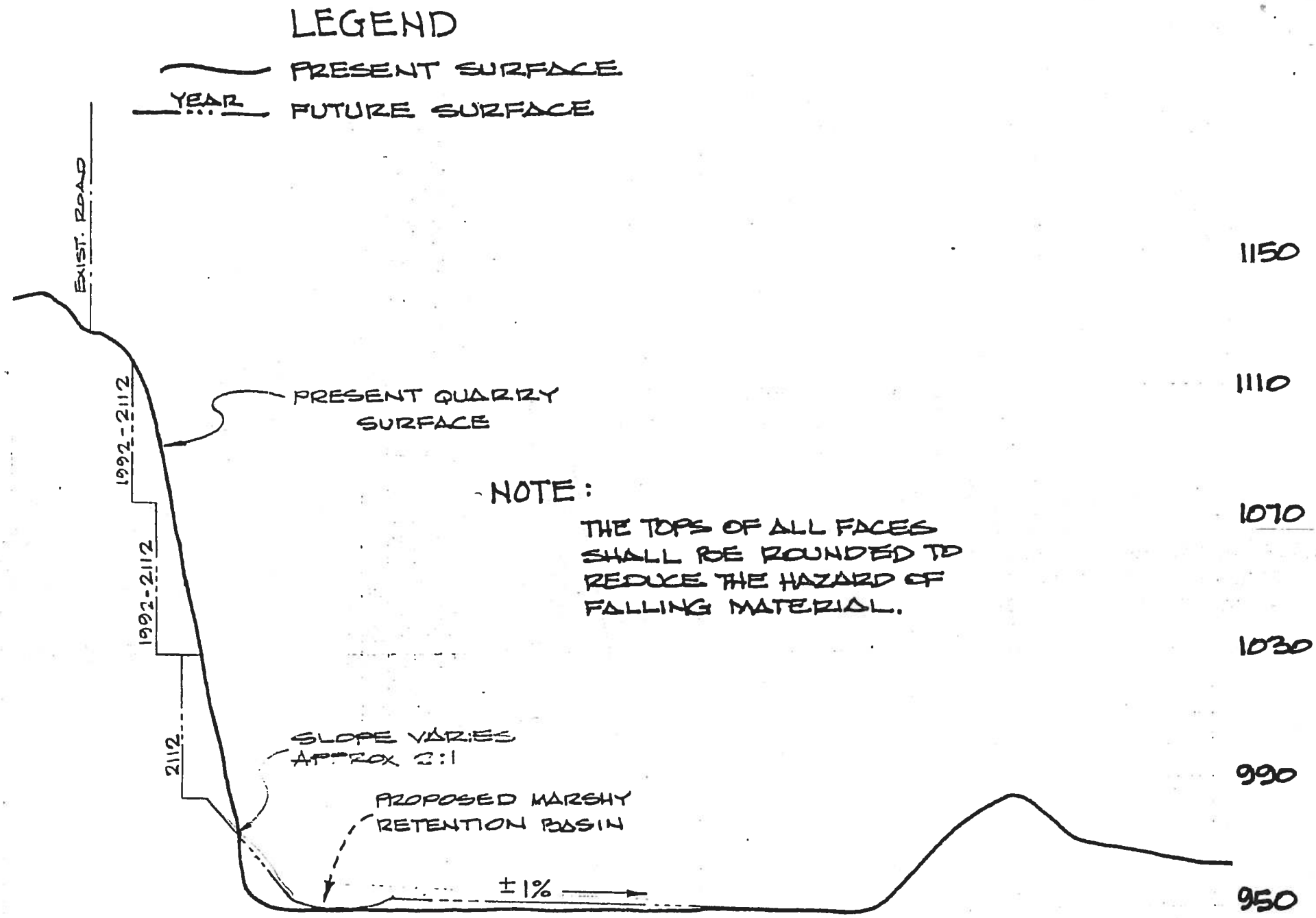
FIGURE 4



ROCK QUARRY
MINE WORKINGS
(YEAR 2002)

FIGURE 5


1260
1240
1220
1200
1180
1160
1140
1120
1100
1080
1060
1040
1020
1000
980
960
940
A
B
C
PROPOSED MARSH AREA FOR RETENTION
SCALE
1" = 200'
RECLAIMATION PLAN
ROCK QUARRY
MINE WORKINGS
(YEAR 2112)
FIGURE 6



SECTION A-A

SCALE

1" = 100' HORIZ.

1" = 40' VERT.

FIGURE 7

EXHIBIT D (#14, 19, 25)

STORM WATER POLLUTION PREVENTION PLAN

(SWPPP)

FOR

STORM WATER DISCHARGES ASSOCIATED WITH FACILITY ACTIVITY

SWPPP FOR PYRITE QUARRY

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

SANTA ANA REGION

3737 MAIN STREET, SUITE 500

RIVERSIDE, CA 92501

GENERAL PERMIT NO. CAS000001

Prepared For:

PAUL HUBBS CONSTRUCTION CO., INC.
3500 PYRITE STREET
RIVERSIDE, CA 92509

Prepared By:

PAUL HUBBS CONSTRUCTION CO., INC.
3500 PYRITE STREET
RIVERSIDE, CA 92509

SWPPP# 14
19 #21

OCTOBER 2005

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Section 500 Body of SWPPP

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Attachment B Photographs of Site Rock Check Desilting Dams
Attachment C BMP Consideration Checklist
Attachment D Runoff Coefficient Calculations
Attachment E Run-on Discharge Calculations
Attachment G Program for Maintenance, Inspection and Repair of Facility
Attachment H Storm Water Quality Construction Site Inspection List
Attachment I Trained Personnel Log
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Attachment K Notice of Discharge, Written Notice
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Attachment M Annual Certification of Compliance
Attachment N Checklist to Submit (NOI) and Fact Sheet (General Permit)
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Attachment S Wind Erosion Control
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Attachment U Surface Water Monitoring Report Winter 2005

Section 100 Title Page Information

Project Name:	**Pyrite Quarry** **3500 Pyrite Street** **Riverside, CA 92509**
Contact No.:	**(951) 360-3990**
Contractor:	**Paul Hubbs Construction Co., Inc.** **3500 Pyrite Street** **Riverside, CA 92509** **Attn: Danny Johnston**
Job Site Address:	**3500 Pyrite Street** **Riverside, CA 92509**
Person Responsible for Implementing the SWPPP:	**Danny Johnston** **3500 Pyrite Street** **Riverside, CA 92509**
Preparation Date:	**October 18, 2005**

Section 200 Certification and Approval Page and Amendment Log

*200.1 SWPPP Certification and Approval

Project Name: Pyrite Quarry

"I certify under a penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Jay P. Hubbs

Signature

10-19-05

Date

Jay P. Hubbs, President

Name and Title

(951) 360-3990

Phone Number

Section 300 Introduction/Facility Description

Project Location: **3500 Pyrite Street**
Riverside, CA 92509

Facility Features: **This facility produces crushed and broken rocks, including riprap**

Estimated Facility Operation Start and Finish: **Presently operating**

Unique Facility Features Relating to Adjacent Water Bodies:

Pyrite Creek which runs North-East to South-West of facility property serves as the primary discharge point for on-site and off-site flows from flows coming from the North and East of facility property.

SWPPP: **A copy of this SWPPP can be obtained from Pyrite Quarry located at 3500 Pyrite Street, Riverside, CA 92509, Telephone No. (951) 360-3990.**

Section 500 Body of SWPPP

*500.1 Purpose and Objective

* The purpose and objective of this SWPPP is to:

  - Identify pollutant sources that may affect the quality of discharges of storm water associated with the construction activities of the project.

  - Identify, construct and implement storm water pollution control measures to reduce pollutants in storm water discharges from the construction site during construction and after construction.

* This SWPPP contains the required elements of Permit No. CAS000001 issued by the State Water Resources Control Board.

* The preparation of this SWPPP is based on the principles of BMP's and not numeric effluent limitations to control and abate the discharge of pollutants into receiving waters.

* The SWPPP will be amended whenever there is a change in operations. The SWPPP will also be amended if it is in violation of any condition of the Permit or has not achieved the general objective of reducing pollutants in storm water discharges.

500.2 Source Identification and Pollution Controls

*500.2.1 Area or Vicinity Map – See Attachment "A"

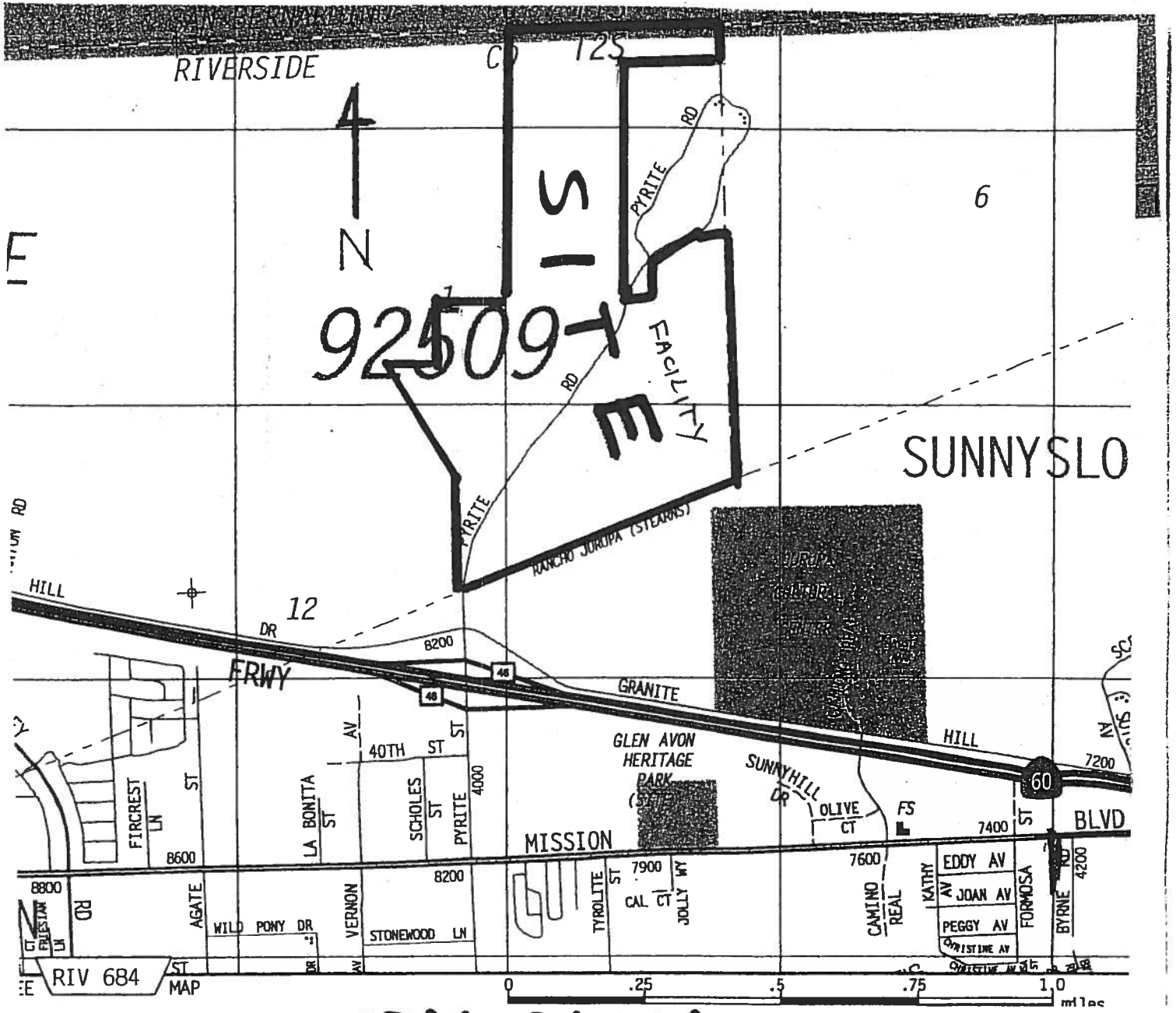
Portions of the topographic map entitled Pyrite Quarry are included herein (Attachment A, Vicinity Map). Geographic and site features can be found as follows:

- Facility Site
- Surface Water Bodies
- Wells – None identified
- Outline of offsite drainage areas draining into the site
- General Topography
- Discharge locations

*500.2.2 Water Pollution Control Drawings

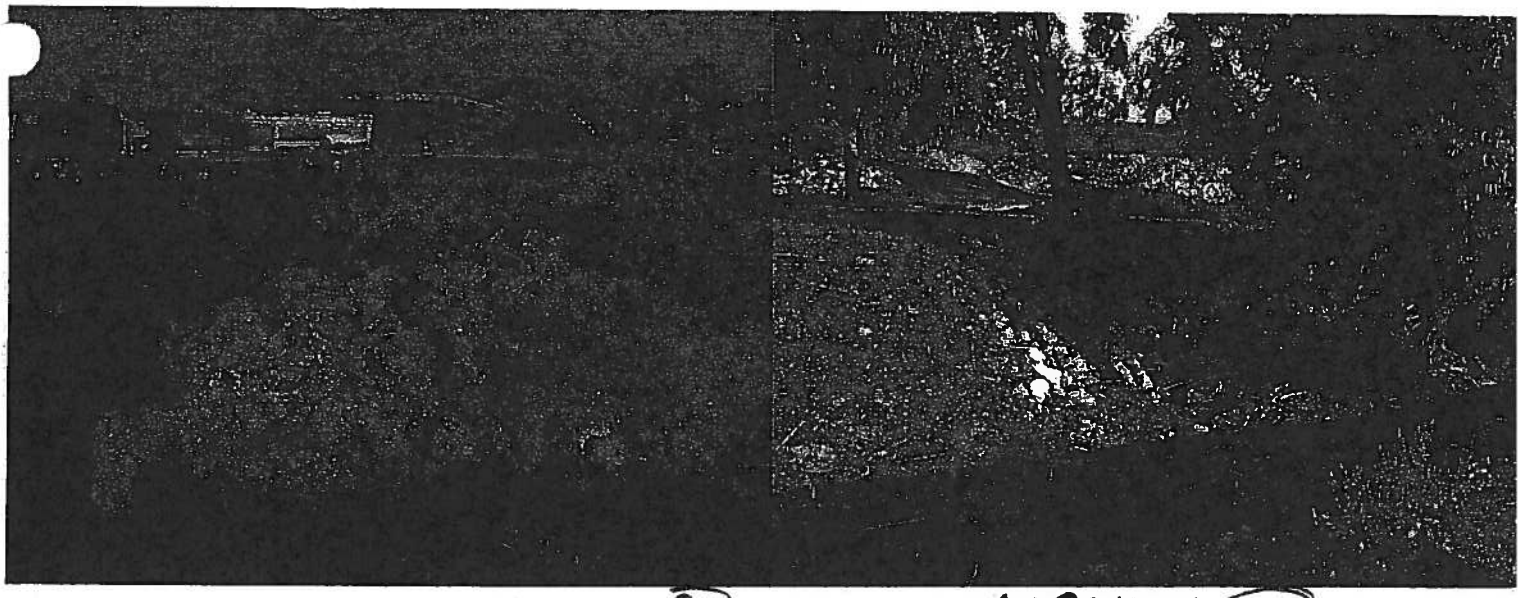
The Water Pollution Control Drawings (WPCDs) are included in Attachment "A"

ATTACHMENT A-1



VICINITY PLAN

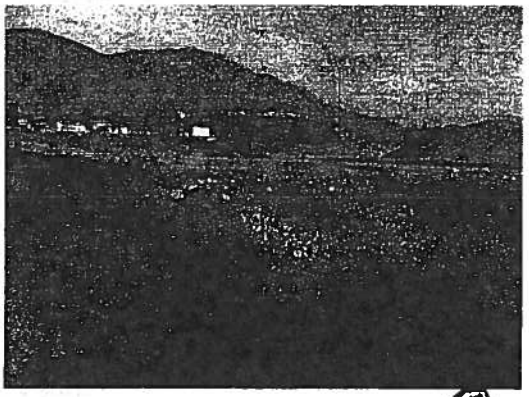
HI TACH
DISILTING ROCK CHECK DAMS



(2) LOCATION (2)

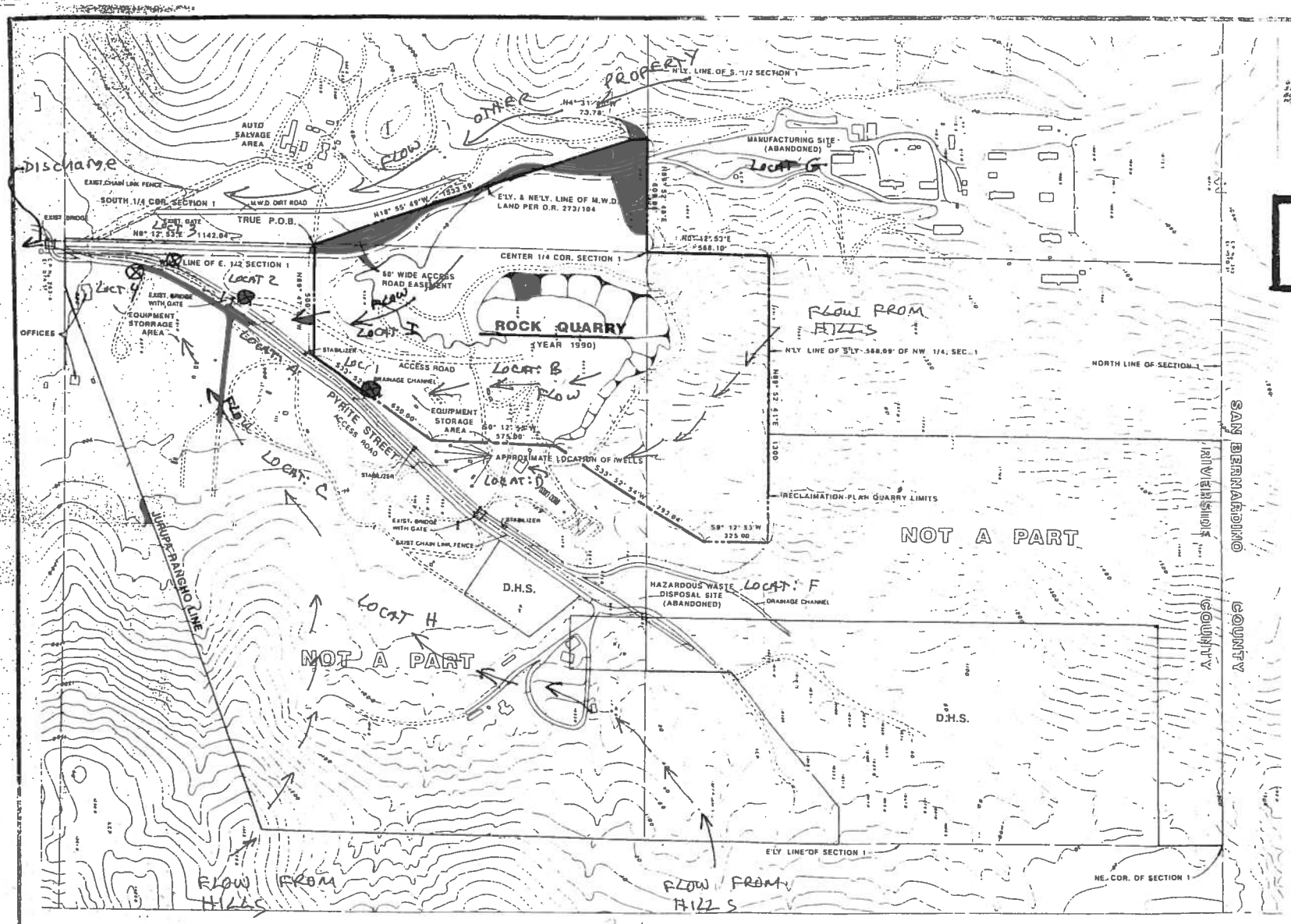
LOCATION (3) (1)

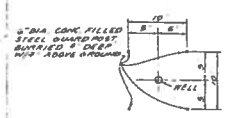
LOCATION (1)



(3)

ATTACHMENT A





GUARD POST PLACEMENT DETAIL
FOR THE PROTECTION OF
EXTRACTION &OBSERVATION WELLS

STORM WATER
POLLUTION
CONTROL PLAN

LEGAL DESCRIPTION

That certain real property in the County of Riverside, State of California described as,

That portion of Section 1, Township 2 South, Range 6 West, San Bernardino Meridian, described as follows

Commencing at the South one-quarter corner of said Section 1

Thence North 0°12'53" East, along the Westerly line of the East one-half of said Section, a distance of 1142.04 feet to its intersection with the Northeasterly line of the land described in deed to the Metropolitan Water District of Southern California, recorded March 27, 1936 in Book 273 of Official Records, page 104, said point being the True Point Of Beginning.

Thence North 18°55'49" West, along said Northeasterly line, a distance of 1533.59 feet to an angle point therein.

Thence continuing along the Easterly line of said Water District land, North 4°31'40" West, a distance of 73.78 feet to Northerly line of the South one-half of said Section;

Thence North 89°52'41" East along said Northerly line a distance of 509 feet to the center one-quarter corner of said section;

Thence North 0°12'53" East, along said Westerly line of the East one-half of said Section, a distance of 568.10 feet to the Southerly line of the Southerly 568.09 feet of the Northwest one-quarter of said Section;

Thence North 89°52'41" East along the last described Northerly line, a distance of 1300.00 feet;

Thence South 0°12'53" West, parallel with said Westerly line of the East one-half of Section 1, a distance of 325.00 feet;

Thence South 33°52'54" West, a distance of 793.04 feet.

Thence South 0°12'53" West, a distance of 575.00 feet.

Thence South 33°52'54" West, a distance of 650.00 feet to a point that bears South 89°47'07" East, 500.00 feet from the True Point Of Beginning.

Thence North 89°47'07" West, 500.00 feet the True Point Of Beginning

Containing approximately 54.2 acres

SCALE 1"=200'

LEGEND:
⊗ ROCK SEDIMENT DESILT BASIN CHEK DAMS

revisions	TOPOGRAPHIC SURVEY PYRITE QUARRY/SITE PLAN PORTION OF THE EAST 1/2 OF SECTION 1, T2S, R6W, S.B.M. 3500 PYRITE STREET RIVERSIDE CA 92509	brown & mullins, inc. engineering · planning · surveying 2150 north arrowhead avenue san bernardino california 92405 (714) 886-4768	prepared under the direction of: drawn by: checked:	prepared for: PAUL J. & LUCILE HUBBS 140 WEST VALLEY BLVD RIALTO, CALIF. 92376 (714) 877-2726	date MAY, 1990 j.o. no. 89-5-6 DWG. NO. E-1724	sheet 1 of 5

Attachment C

BMP Consideration Checklist

CONSIDERATION CHECKLIST

The Contractor shall consider using all BMPs listed hereon. Those BMPs which are not included in the SWPPP shall be checked as "Not Used" with a brief statement describing why it is not being used.
All selected BMPs shall be included in the Schedule of Values, except for those items shown on the plans and paid for as a separate item or work

TEMPORARY SOIL STABILIZATION BMPs

BMP No.	BMP	MINIMUM REQUIREMENT (2)	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
SS-1	Scheduling	–	☐	☒	☐	
SS-2	Preservation of Existing Vegetation	–	☐	☐	☒	N/A
SS-3	Hydraulic Mulch	– (1)	☐	☐	☒	N/A
SS-4	Hydroseeding	– (1)	☐	☐	☒	N/A
SS-5	Soil Binders	– (1)	☐	☐	☒	N/A
SS-6	Straw Mulch	– (1)	☐	☐	☒	N/A
SS-7	Geotextiles, Plastic Covers, & Erosion Control Blankets/Mats	– (1)	☐	☐	☒	N/A
SS-8	Wood Mulching		☐	☐	☒	N/A
Temporary Concentrated Flow Conveyance Controls			☐	☐	☐	
SS-9	Earth Dikes/Drainage Swales & Lined Ditches		☐	☒	☐	
SS-10	Outlet Protection/ Velocity Dissipation Devices		☐	☒	☐	
SS-11	Slope Drains		☐	☐	☒	N/A

(1) The Contractor shall select one of the five measures listed or a combination thereof to achieve and maintain the contract's rainy season disturbed soil area (DSA) requirements.
(2) Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be verified by the Contractor or determined by Caltrans.

CONSIDERATION CHECKLIST

The Contractor shall consider using all BMPs listed hereon. Those BMPs which are not included in the SWPPP shall be checked as "Not Used" with a brief statement describing why it is not being used.
All selected BMPs shall be included in the Schedule of Values, except for those items shown on the plans and paid for as a separate item or work

BMP No.	BMP	MINIMUM REQUIREMENT (2)	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
TEMPORARY SEDIMENT CONTROL BMPs						
SC-1	Silt Fence	–	☐	☐	☒	ROCK CHECK DAMS ARE IN USE
SC-2	Desilting Basin		☐	☒	☐	
SC-3	Sediment Trap		☐	☒	☐	
SC-4	Check Dam		☐	☒	☐	
SC-5	Fiber Rolls		☐	☐	☒	ROCK CHECK DAMS ARE IN USE
SC-6	Gravel Bag Berm		☐	☐	☒	"
SC-7	Street Sweeping and Vacuuming	–	☐	☐	☒	"
SC-8	Sand Bag Barrier		☐	☐	☒	"
SC-9	Straw Bale Barrier		☐	☐	☒	"
SC-10	Storm Drain Inlet Protection	–	☐	☐	☒	N/A
WIND EROSION CONTROL BMPs						
WE-1	Wind Erosion Control	–	☐	☒	☐	DUST CONTROL W/WATER TRUCKS
TRACKING CONTROL BMPs						
TC-1	Stabilized Construction Entrance/Exit		☐	☐	☒	THIS IS NOT A CONSTRUCTION SITE
TC-2	Stabilized Construction Roadway		☐	☐	☒	"
TC-3	Entrance/Outlet Tire Wash		☐	☐	☒	"

(2) Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be verified by the contractor or determined by Caltrans.

CONSIDERATION CHECKLIST

The Contractor shall consider using all BMPs listed hereon. Those BMPs which are not included in the SWPPP shall be checked as "not used" with a brief statement describing why it is not being included.
All selected BMPs shall be included in the Schedule of Values, except for those items shown on the plans and paid for as a separate item or work

NON-STORM WATER MANAGEMENT BMPs

BMP No.	BMP	MINIMUM REQUIREMENT (2)	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
NS-1	Water Conservation Practices		☐	☒	☐	
NS-2	Dewatering Operations		☐	☐	☒	N/A
NS-3	Paving and Grinding Operations		☐	☐	☒	"
NS-4	Temporary Stream Crossing		☐	☐	☒	"
NS-5	Clear Water Diversion		☐	☐	☒	"
NS-6	Illicit Connection/Illegal Discharge Detection and Reporting	–	☐	☐	☒	"
NS-7	Potable Water/Irrigation		☐	☐	☒	No Irrigation Required
Vehicle and Equipment Operations			☐	☐	☐	
NS-8	Vehicle and Equipment Cleaning	–	☐	☒	☐	
NS-9	Vehicle and Equipment Fueling	–	☐	☒	☐	
NS-10	Vehicle and Equipment Maintenance	–	☐	☒	☐	

(2) Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be verified by the contractor or determined by Caltrans.

CONSIDERATION CHECKLIST

The Contractor shall consider using all BMPs listed hereon. Those BMPs which are not included in the SWPPP shall be checked as "not used" with a brief statement describing why it is not being used.
All selected BMPs shall be included in the Schedule of Values, except for those items shown on the plans and paid for as a separate item or work

WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs

BMP No.	BMP	MINIMUM REQUIREMENT (2)	CHECK IF CONTRACT REQUIREMENT	CHECK IF USED	CHECK IF NOT USED	IF NOT USED, STATE REASON
WM-1	Material Delivery and Storage	–	☐	☒	☐	
WM-2	Material Use	–	☐	☐	☒	N/A
WM-3	Asphalt Concrete Stockpiles		☐	☐	☒	"
WM-4	Spill Prevention and Control	–	☐	☒	☐	
WM-5	Solid Waste Management	–	☐	☐	☒	N/A
WM-6	Hazardous Waste Management		☐	☐	☒	"
WM-7	Contaminated Soil Management		☐	☐	☒	"
WM-8	Concrete Waste Management		☐	☐	☒	"
WM-9	Sanitary/Septic Waste Management	–	☐	☒	☐	
WM-10	Liquid Waste Management		☐	☐	☒	ONLY USE IN DUST CONTROL

(2) Not all minimum requirements may be applicable to every project. Applicability to a specific project shall be verified by the contractor or determined by Caltrans.

Attachment D

Computation Sheet for Determining Runoff Coefficients

Total Site Area = 11,543,400 s.f. (A)

Existing Site Conditions

Impervious Site Area[1] = 115,400 s.f. (B)

Impervious Site Area Runoff Coefficient [2, 4] = 0.95 (C)

Pervious Site Area[3] = 11,428,000 s.f. (D)

Pervious Site Area Runoff Coefficient[4] = .58 (E)

Existing Site Area Runoff Coefficient $\frac{(B \times C) + (D \times E)}{(A)}$ = .58 (F)

$$\frac{109,630 + 6,628,240}{11,543,400}$$

Proposed Site Conditions (after construction) (N/A)

Impervious Site Area[1] = _____ (G)

Impervious Site Area Runoff Coefficient [2, 4] = _____ (H)

Pervious Site Area[3] = _____ (I)

Pervious Site Area Runoff Coefficient[4] = _____ (J)

Proposed Site Area Runoff Coefficient $\frac{(G \times H) + (I \times J)}{(A)}$ = _____ (K)

1. Includes paved areas, areas covered by buildings, and other impervious surfaces.
2. Use 0.95 unless lower or higher runoff coefficient can be verified.
3. Includes areas of vegetation, most unpaved or uncovered soil surfaces, and other pervious areas.
4. See the table on the following page for typical C values.

Table C-1
Runoff Coefficients for Undeveloped Areas
Watershed Types

	Extreme	***High***	***Normal***	***Low***
Relief	0.28 -0.35 Steep, rugged terrain with average slopes above 30%	0.20 - 0.28 Hilly, with average slopes of 10 to 30%	0.14 -0.20 Rolling, with average slopes of 5 to 10%	0.08 - 0.14 Relatively flat land, with average slopes of 0 to 5%
Soil Infiltration	0.12 - 0.16 No effective soil cover, either rock or thin soil mantle of negligible infiltration capacity	0.08 - 0.12 Slow to take up water, clay or shallow loam soils of low infiltration capacity, imperfectly or poorly drained	0.06 - 0.08 Normal; well drained light or medium textured soils, sandy loams, silt and silt loams	0.04 - 0.06 High; deep sand or other soil that takes up water readily, very light well drained soils
Vegetal Cover	0.12 - 0.16 No effective plant cover, bare or very sparse cover	0.08 - 0.12 poor to fair; clean cultivation crops, or poor natural cover, less than 20% of drainage area over good cover	0.06 - 0.08 Fair to good; about 50% of area in good grassland or woodland, not more than 50% of area in cultivated crops	0.04 - 0.06 Good to excellent; about 90% of drainage area in good grassland, woodland or equivalent cover
Surface Storage	0.10 - 0.12 Negligible surface depression few and shallow; drainage-ways steep and small, no marshes	0.08 - 0.10 Low; well defined system of small drainageways; no ponds or marshes	0.06 - 0.08 Normal; considerable surface depression storage; lakes and pond marshes	0.04 - 0.06 High; surface storage, high; drainage system not sharply defined; large flood plain storage or large number of ponds or marshes

Given An undeveloped watershed consisting of:
1) rolling terrain with average slopes of 5%,
2) clay type soils,
3) good grassland area, and
4) normal surface depressions.

Find The runoff coefficient, C, for the above watershed

Solution:

Relief	0.14
Soil Infiltration	0.08
Vegetal Cover	0.04
Surface Storage	0.06
C =	0.32

Reference: Caltrans Highway Design Manual, July 1995

Table C-2 Runoff Coefficients for Developed Areas	
Type of Drainage Area	***Runoff Coefficient***
Business:	
Downtown areas	0.70 - 0.95
Neighborhood areas	0.50 - 0.70
Residential:	
Single-family areas	0.30 - 0.50
Multi-units, detached	0.40 - 0.60
Multi-units, attached	0.60 - 0.75
Suburban	0.25 - 0.40
Apartment dwelling areas	0.50 - 0.70
Industrial:	
Light areas	0.50 - 0.80
Heavy areas	0.60 - 0.90
Parks, cemeteries:	0.10 - 0.25
Playgrounds:	0.20 - 0.40
Railroad yard areas:	0.20 - 0.40
Unimproved areas:	0.10 - 0.30
Lawns:	
Sandy soil, flat, 2%	0.05 - 0.10
Sandy soil, average, 2-7%	0.10 - 0.15
Sandy soil, steep, 7%	0.15 - 0.20
Heavy soil, flat, 2%	0.13 - 0.17
Heavy soil, average, 2-7%	0.18 - 0.25
Heavy soil, steep, 7%	0.25 - 0.35
Streets:	
Asphaltic	0.70 - 0.95
Concrete	0.80 - 0.95
Brick	0.70 - 0.85
Drives and walks	0.75 - 0.85
Roofs:	0.75 - 0.95

Reference: Caltrans Highway Design Manual, July 1995

Attachment E

Computational Sheet for Determining Run-on Discharges

Existing Site Conditions

Area Runoff Coefficient		=	.32	(A)
Area Rainfall Intensity		=	12.7 mm/hr	(B)
Drainage Area		=	.71 km^2	(C)
Site Area Run-on Discharge	0.28x(A)x(B)x (C)	=	.81 m^3/sec	(D)

Attachment E -*Example*

Computational Sheet for Determining Run-on Discharges

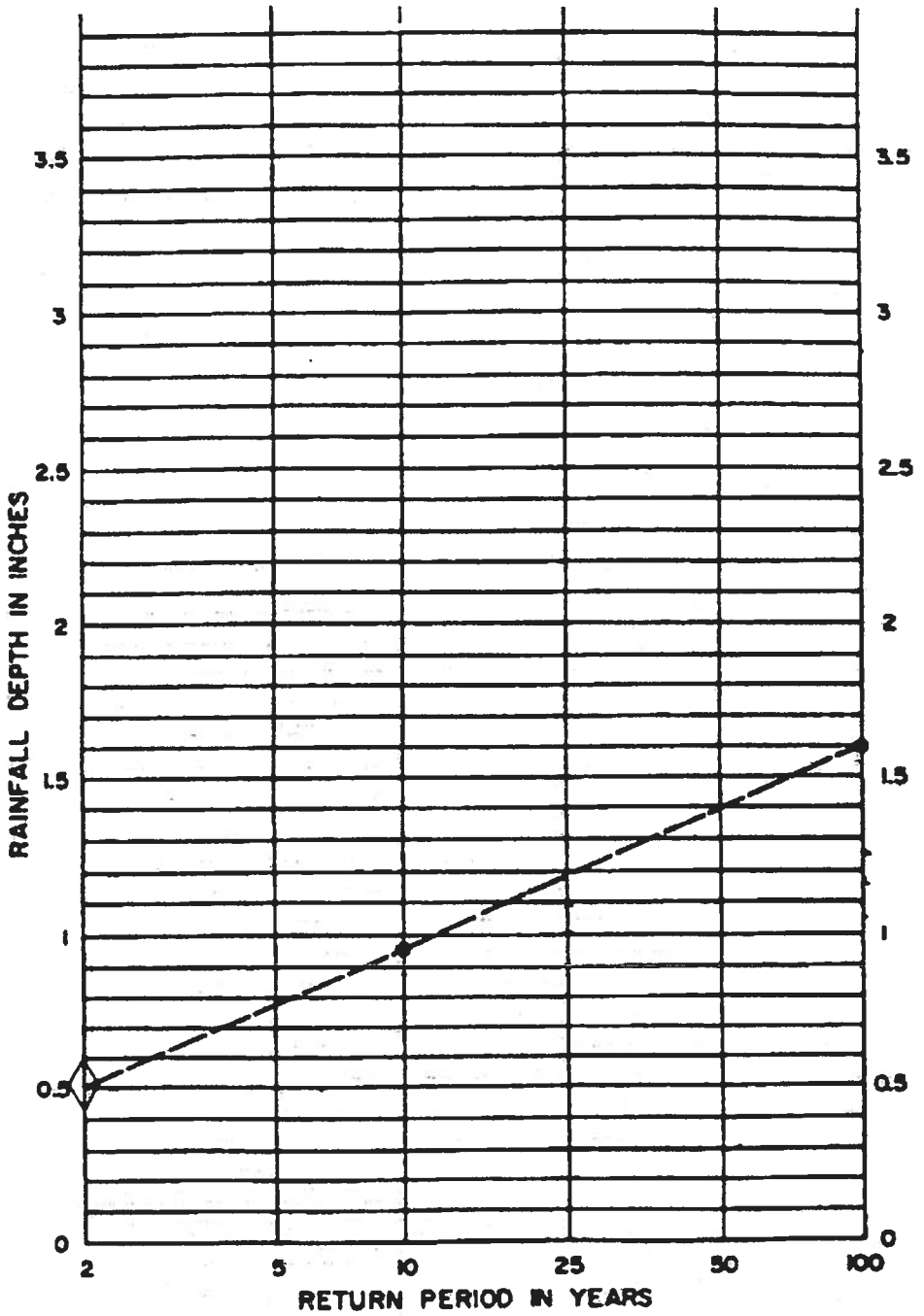
Existing Site Conditions

Area Runoff Coefficient[1]		=	0.32	(A)
Area Rainfall Intensity [2]		=	12.7 mm/hr	(B)
Drainage Area[3]		=	0.71 km^2	(C)
Site Area Run-on Discharge	0.28x(A)x(B)x (C)	=	0.81 m^3/sec	(D)

1. The runoff coefficient represents the percent of water, which will run off the ground surface during the storm for the area depicted on page 7. The value for the runoff coefficient, .32, was determined from Figure 819.2A, page 5, based on the site characteristics (terrain, type of soil, vegetation, etc.) for an undeveloped area.

2. Rainfall intensity, in millimeters per hour, is the average rainfall intensity for the selected frequency and duration (2 year, 1 hour storm). The Rainfall Depth versus Return Period chart, page 7, from the San Bernardino County Flood Control Hydrology Manual gives a value of 0.5 in/hr (12.7 mm/hr) for the site area.

3. Drainage area, in square kilometers, depicted on page 5 is 0.71 km^2.



NOTE:

1 FOR INTERMEDIATE RETURN PERIODS PLOT 10-YEAR AND 100-YERAR ONE HOUR VALUES FROM MAPS, THEN CONNECT POINTS AND READ VALUE FOR DESIRED RETURN PERIOD. FOR EXAMPLE GIVEN 10-YEAR ONE HOUR = 0.95" AND 100-YEAR ONE HOUR = 1.60", 2-YEAR ONE HOUR = 0.5".

REFERENCE NOAA ATLAS 2, VOLUME II-CAL., 1973

SAN BERNARDINO COUNTY
HYDROLOGY MANUAL

RAINFALL DEPTH VERSUS RETURN PERIOD FOR PARTIAL DURATION SERIES

Attachment G

Program for Maintenance, Inspection, and Repair of Facility Site BMPs

P.H.C.C. shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP/WPCP		
BEST MANAGEMENT PRACTICES (BMPs)	**INSPECTION FREQUENCY (all controls)**	**MAINTENANCE/REPAIR PROGRAM**
TEMPORARY SEDIMENT CONTROL BMPs		
SC-4 Check Dam SC-10 Storm Drain Inlet Protection	Bi-weekly Prior to forecast storm After a rain event that causes runoff from the construction site At 24-hour intervals during extended rain events	■ Repair any slope damage as soon as weather conditions permit. ■ Replace torn sand bags as required. ■ Remove retained sediments before they reach 1/3 of the barrier height or ½ of the sediment holding capacity ■ Clean and dispose of accumulated sediment deposited in sediment traps around drainage inlets. "CHECK DAM" as needed ■
SC-2 Desilting Basins	Bi-weekly Prior to forecast storm After a rain event that causes runoff from the construction site At 24-hour intervals during extended rain events	■ Remove sediment as necessary. ■ Pump and discharge accumulated water. ■ Check outlet structure and spillway for any damage or obstructions. Repair damage and remove obstructions as needed. ■ Check outlet area for erosion and stabilize, if required. ■ Remove sediments when storage zone is one-third full. ■ Examine basin banks for seepage and structural soundness.
WIND EROSION CONTROL BMPs		
WE-1 Wind Erosion Control	Daily	■ Maintain water trucks and water distribution equipment in good order and fix leaks immediately
		■

SAMPLE

P.H.C.C. shall use the following guidelines for maintenance, inspection, and repair of BMPs identified in the SWPPP/WPCP		
BEST MANAGEMENT PRACTICES (BMPs)	**INSPECTION FREQUENCY (all controls)**	**MAINTENANCE/REPAIR PROGRAM**
NON-STORM WATER MANAGEMENT BMPs		
NS-9 Vehicle and Equipment Fueling NS-10 Vehicle and Equipment Maintenance	Weekly	■ Remove vehicles and/or equipment that leak. ■ Replace drip pans or absorbent materials as needed. Re-stock spill materials. ■ Remove BMPs when no longer needed, as directed by the Engineer. Repair slopes/surfaces damaged by BMP removal
WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL BMPs		
WM-1 Material Delivery and Storage WM-4 Spill Prevention and Control WM-5 Solid Waste Management WM-9 Sanitary/Septic Waste Management	Weekly Prior to forecast storm After a rain event that causes runoff from the construction site At 24-hour intervals during extended rain events	■ Keep storage areas clean, well organized, and equipped with ample clean-up supplies as appropriate for the materials stored ■ Repair or replace perimeter controls, containment structures, covers and liners as needed to maintain proper function and protection. ■ Properly remove and dispose accumulated rainwater from containment facilities. ■ Maintain waste fluid containers in leak proof condition. Repair or replace dumpsters that leak. ■ Provide timely service and removal to prevent dumpsters and sanitary facilities from overflowing. ■ Schedule Refuse Contractor to pick up waste containers weekly.
		■

SAMPLE

Attachment H

Storm Water Quality Construction Site Inspection Checklist

GENERAL INFORMATION				
Facility Name	Paul Hubbs Construction Company/ Pyrite Quarry			
Caltrans Contract N°	n/a			
Contractor	n/a			
Inspector's Name	Danny Johnston			
Inspector's Title	Project Coordinator			
Signature	Danny Johnston			
Date of Inspection	10-18-2005			
Inspection Type (Check Applicable)	☐ Prior to forecast rain		☐ After a rain event	
	☐ 24-hr intervals during extended rain		Xx Other _____	
Season (Check Applicable)	☐ Rainy		☐ Non-Rainy	
Storm Data	Storm Start Date & Time:	n/a	Storm Duration (hrs):	n/a
	Time elapsed since last storm (Circle Applicable Units)	Min. Hr. 180 Days	Approximate Rainfall Amount (mm)	

PROJECT AREA SUMMARY AND DISTURBED SOIL AREA (DSA) SIZE LIMITS FROM SPECIAL PROVISIONS				
Total Project Area	_____	Hectares	265	Acres
Rainy Season DSA Limit	_____	Hectares	n/a	Acres
Field Estimate of Active DSAs	_____	Hectares	n/a	Acres

OTHER REQUIREMENTS				
Requirement	**Yes**	**No**	**N/A**	**Corrective Action**
Preservation of Existing Vegetation				
Is temporary fencing provided to preserve vegetation in areas where no construction activity is planned?			x	
Location: 1			x	
Location: 2			x	
Location: 3			x	
Location: 4			x	
Temporary Soil Stabilization				
Does the applied temporary soil stabilization provide 100% coverage for the required areas?			x	
Are any non-vegetated areas that may require temporary soil stabilization?			x	
Is the area where temporary soil stabilization required free from visible erosion?			x	
Location: 1			x	
Location: 2			x	
Location: 3			x	
Location: 4			x	
Temporary Linear Sediment Barriers				
Are temporary linear sediment barriers properly installed in accordance with the details, functional and maintained?	X			
Are temporary linear sediment barriers free of accumulated litter?	x			
Is the built-up sediment less than 1/3 the height of the barrier?	x			
Are cross barriers installed where necessary and properly spaced?			x	
Location: 1	x			
Location: 2	x			
Location: 3	x			
Location: 4	x			
Location:				
Storm Drain Inlet Protection				
Are storm drain inlets internal to the project properly protected with either Type 1, 2 or 3 inlet protection?			x	
Are storm drain inlet protection devices in working order and being properly maintained?			x	
Location: 1			x	
Location: 2			x	
Location: 3			x	
Location: 4			x	
Location:				
Desilting Basins				

OTHER REQUIREMENTS				
Requirement	**Yes**	**No**	**N/A**	**Corrective Action**
Are basins maintained to provide the required retention/detention?	x			
Are basin controls (inlets, outlets, diversions, weirs, spillways, and racks) in working order?	x			
Location: 1	x			
Location: 2	x			
Location: 3	x			
Location: 4	x			
Stockpiles				
Are all locations of temporary stockpiles, including soil, hazardous waste, and construction materials in approved areas?			x	
Are stockpiles protected from run-on, run-off from adjacent areas and from winds?			x	
Are stockpiles located at least 15 m from concentrated flows, downstream drainage courses and storm drain inlets?			x	
Are required covers and/or perimeter controls in place?			x	
Location:				
Location:				
Location:				
Location:				
Concentrated Flows				
Are concentrated flow paths free of visible erosion?	x			
Location: H	x			
Location: I	x			
Location:				
Location:				
Tracking Control				
Are points of ingress/egress to public/private roads inspected and swept and vacuumed daily?	x			
Are all paved areas free of visible sediment tracking or other particulate matter?	x			
Location: A	x			
Location:				
Location:				
Location:				
Wind Erosion Control				
Is dust control implemented in conformance with Section 10 of the Standard Specifications?	x			
Location: B	x			
Location: C	x			
Location:				

OTHER REQUIREMENTS				
Requirement	Yes	No	N/A	Corrective Action
Location:				
Dewatering Operations				
Is dewatering handled in conformance with the dewatering permit issued by the RWQCB?			x	
Is required treatment provided for dewatering effluent?			x	
Location:				
Location:				
Location:				
Location:				
Vehicle & Equipment Fueling, Cleaning, and Maintenance				
Are vehicle and equipment fueling, cleaning and maintenance areas reasonably clean and free of spills, leaks, or any other deleterious material?	x			
Are vehicle and equipment fueling, cleaning and maintenance activities performed on an impermeable surface in dedicated areas?	x			
If no, are drip pans used?			x	
Are dedicated fueling, cleaning, and maintenance areas located at least 15 m away from downstream drainage facilities and water courses and protected from run-on and runoff?	x			
Is wash water contained for infiltration/ evaporation and disposed of outside the highway right of way?			x	
Is on-site cleaning limited to washing with water (no soap, soaps substitutes, solvents, or steam)?	x			
On each day of use, are vehicles and equipment inspected for leaks and if necessary, repaired?	x			
Location: D	x			
Location:				
Location:				
Location:				
Waste Management & Materials Pollution Control				
Are material storage areas and washout areas protected from run-on and runoff, and located at least 15 m from concentrated flows and downstream drainage facilities?	x			
Are all material handling and storage areas clean; organized; free of spills, leaks, or any other deleterious material; and stocked with appropriate clean-up supplies?	x			
Are liquid materials, hazardous materials, and hazardous wastes stored in temporary containment facilities?	x			
Are bagged and boxed materials stored on pallets?	x			
Are hazardous materials and wastes stored in appropriate, labeled containers?	x			
Are proper storage, clean-up, and spill-reporting procedures for hazardous materials and wastes posted in open, conspicuous and accessible locations adjacent to storage areas?	x			
Are temporary containment facilities free of spills and rainwater?	x			

OTHER REQUIREMENTS				
Requirement	**Yes**	**No**	**N/A**	**Corrective Action**
Are temporary containment facilities and bagged/boxed materials covered?	x			
Are temporary concrete washout facilities designated and being used?			x	
Are temporary concrete washout facilities functional for receiving and containing concrete waste and are concrete residues prevented from entering the drainage system?			x	
Do temporary concrete washout facilities provide sufficient volume and freeboard for planned concrete operations?			x	
Are concrete wastes, including residues from cutting and grinding, contained and disposed of off-site or in concrete washout facilities?			x	
Are spills from mobile equipment fueling and maintenance properly contained and cleaned up?	x			
Is the site free of litter?	x			
Are trash receptacles provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods?	x			
Is litter from work areas within the construction limits of the project site collected and placed in watertight dumpsters?			x	
Are waste management receptacles free of leaks?	x			
Are the contents of waste management receptacles properly protected from contact with storm water or from being dislodged by winds?	x			
Are waste management receptacles filled at or beyond capacity?		x		
Location: E	x			
Location:				
Location:				
Location:				
Temporary Water Body Crossing or Encroachment				
Are temporary water body crossings and encroachments constructed as shown on the plans or as approved by the engineer?			x	
Does the project conform to the requirements of the 404 permit and/or 1601agreement?			x	
Location:				
Location:				
Location:				
Location:				
Illicit Connection/Illegal Discharge Detection and Reporting				
Is there any evidence of illicit discharges or illegal dumping on the project site?			x	
If yes, has the Engineer been notified?			x	
Location:				
Location:				
Location:				

OTHER REQUIREMENTS				
Requirement	**Yes**	**No**	**N/A**	**Corrective Action**
Location:				
Discharge Points				
Are discharge points and discharge flows free from noticeable pollutants?	x			
Are discharge points free of any significant erosion or sediment transport?	x			
Location: 1	x			
Location: 2	x			
Location: 3	x			
Location:				
WPCP/SWPPP Update				
Does the WPCP/SWPPP, Project Schedule/Water Pollution Control Schedule and WPCDs adequately reflect the current site conditions and contractor operations?	x			
Are all BMPs shown on the WPCDs installed in the proper location(s) and according to the details for the plan?	x			
Location: 1,2,3,A,B,C,D,E	x			
Location:				
Location:				
Location:				
General				
Are there any other potential water pollution control concerns at the site?	x			
Location: F	x			
Location: G	x			
Location:				
Location:				

Attachment I

Trained Contractor Personnel Log

Storm Water Management Training Log

Facility Name: Paul Hubbs Construction Company Inc./ Pyrite Quarry

Caltrans Contract Number: n/a

Storm Water Management Topic: (check as appropriate)

- ☐ Temporary Soil Stabilization
- x Temporary Sediment Control
- x Wind Erosion Control
- ☐ Tracking Control
- ☐ Non-storm water management
- ☐ Waste Management and Materials Pollution Control

Specific Training Objective: Rock Check Dam maintenance. And dust control

Location: 3500 Pyrite Street, Riverside,CA

Date: 10-17-2005

Instructor: Danny Johnston

Telephone: 951 360 3990

Attendee Roster (attach additional forms if necessary)

Name	Company	Phone
Danny Johnston	Paul Hubbs Construction	951 360 3990
Dave Graham	" " "	951 360 3990
Jack Haskins	" " "	951 360 3990
Jeff Hubbs	" " "	951 360 3990

Name	Company	Phone

COMMENTS:

Attachment J

Subcontractor Notification Letter and Notification Log

SWPPP Notification

No subcontractors

Dear Sir/Madam,

Please be advised that the California State Water Resources Control Board has adopted the NPDES Statewide Storm Water Permit (Permit) to the State of California, and the General Permit (casooodol) for Storm Water Discharges Associated with Construction Activity (CAS000001, Order No. 97-03-DWQ). The goal of these permits is prevent the discharge of pollutants associated with construction activity from entering the storm drain system, ground and surface waters.

Paul Hubbs Construction Co. Inc. has developed a Storm Water Pollution Prevention Plan (SWPPP) in order to implement the requirements of the Permits.

As a subcontractor, you are required to comply with the SWPPP and the Permits for any work that you perform on site. Any person or group who violates any condition of the Permits may be subject to substantial penalties in accordance with state and federal law. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP and the Permits. A copy of the Permits and the SWPPP are available for your review at the construction office. Please contact me if you have further questions.

Sincerely,

Danny Johnston

Danny Johnston
Project Coordinator

SAMPLE

SUBCONTRACTOR NOTIFICATION LOG

Project Name: Paul Hubbs Construction Co. Inc./ Pyrite Quarry

Caltrans Contract Number: N/A

SUBCONTRACTOR COMPANY NAME	CONTACT NAME	ADDRESS	PHONE NUMBER	PAGER/ FIELD PHONE	DATE NOTIFICATION LETTER SENT	TYPE OF WORK

SAMPLE

USE ADDITIONAL PAGES AS NECESSARY

Attachment K

Notice of Discharge, Written Notice, or Order

To: Date:

Subject: Notice of Discharge

Project Name: Paul Hubbs Construction Co. Inc./ Pyrite Quarry

Caltrans Contract Number: N/A

In accordance with the Caltrans NPDES Statewide Permit for Storm Water Discharges Associated with Construction Activity, the following instance of discharge is noted:

Date, time, and location of discharge

Insert description and date of event

Nature of the operation that caused the discharge

insert description of operation

Initial assessment of any impact cause by the discharge

insert assessment

Existing BMP(s) in place prior to discharge event

list BMPs in place

Date of deployment and type of BMPs deployed after the discharge.

BMPs deployed after the discharge (with dates)

Steps taken or planned to reduce, eliminate and/or prevent recurrence of the discharge

insert steps taken to prevent recurrence

Implementation and maintenance schedule for any affected BMPs

insert implementation and maintenance schedule

If further information or a modification to the above schedule is required, notify the contact person below.

Danny Johnston	Project Coordinator
Name of Contact Person	Title
Paul Hubbs Construction Co. Inc.	951 360 3990
Company	Telephone Number
Danny Johnston	Oct. 19, 2005
Signature	Date

Attachment L

Storm Water Pollution Prevention Plan (SWPPP) and Monitoring Program

Checklist

COMPANY: PAUL HUBBS CONSTRUCTION COMPANY INC.
" PYRITE ROCK QUARRY "

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP)				
CHECK IF ADDRESSED N/A IF NOT APPLICABLE	**SWPPP Section**	**ITEM**	**GENERAL PERMIT REF.**	**COMMENTS**
		SWPPP Certification and Approval		THIS FACILITY IS NOT
	200	SWPPP Certification		A CONSTRUCTION
	200	SWPPP Approval		SITE
		SWPPP Amendments		
N/A		Amendment number and date entered into SWPPP – Amendment Log		
N/A		Amendment Certification and Approval		
		Introduction/Project Description		
	300	Project Description and Location (narrative)		
	300	Unique Site Features (narrative)		
		Project Schedule/Water Pollution Control Schedule (narrative or graphical)		
		References		
		Vicinity Map (narrative or graphic)		
	ATTACH A	Site perimeter		
N/A		Geographic Features		
	ATTACH A	General topography		
		Water Pollution Control Drawings (WPCDs) (graphic or narrative)		
N/A		Site perimeter		
N/A		Existing and proposed buildings, lots, and roadways		
N/A		Storm water collection and discharge points		

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CHECK IF ADDRESSED N/A IF NOT APPLICABLE	SWPPP Section	ITEM	GENERAL PERMIT REF.	COMMENTS
	ATTACH A	General topography before and after construction		
N/A		Anticipated discharge location(s)		
	ATTACH A	Drainage patterns including the entire relevant drainage areas		
N/A		Temporary on-site drainage(s)		
		Pollutant Source and BMP Identification (narrate/ or indicate on site map)		
		Drainage		
N/A		Drainage patterns after major grading		
N/A		Slopes after major grading		
	ATTACH D	Calculations for storm water run-on		
N/A		BMPs that divert off-site drainage from passing through site		
		Storm Water Inlets		
	ATTACH A	Drainage patterns to storm water inlets or receiving water		
	ATTACH T	BMPs that protect storm water inlets or receiving water		
		Site History (narrative; if possible, indicate location(s) on the Water Pollution Control Drawings)		
N/A		Nature of fill material and data describing the soil. Description of toxic materials treated, stored, disposed, spilled or leaked on site		
	ATTACH T	BMPs that minimize contact of contaminants with storm water		
		Location of Areas Designated for:		
N/A		Vehicle storage & service		
	ATTACH P	Equipment storage, cleaning, maintenance		
N/A		Soil or waste storage		
N/A		Construction material loading, unloading, storage and access		
N/A		Areas outside of Owners right-of-way (yards, borrow areas, etc.)		
		BMP Locations or Descriptions for:		
		Waste handling and disposal areas		
N/A		On-site storage and disposal of construction materials and waste		
N/A		Minimum exposure of storm water to construction materials, equipment, vehicles, waste		
		Post Construction BMPs		

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CHECK IF ADDRESSED N/A IF NOT APPLICABLE	SWPPP Section	ITEM	GENERAL PERMIT REF.	COMMENTS
N/A		Listing or Description of Post-construction BMPs		
N/A		Location of post-construction BMPs		
N/A		Parties responsible for long-term maintenance		
		Additional Information		
N/A		Description of other pollutant sources and BMPs		
N/A		Pre-construction control practices		
N/A		Inventory of materials and activities that may pollute storm water		
N/A		BMPs to reduce/eliminate potential pollutants listed in the inventory		
	ATTACH D	Runoff coefficient (before & after)		
	ATTACH D	Percent impervious (before & after)		
N/A		Copy of the NOC		
N/A		Construction activity schedule		
	100	Contact information		
		SOIL STABILIZATION (EROSION CONTROL)		
		The SWPPP shall include:		
N/A		Areas of vegetation on site		
N/A		Areas of soil disturbance that will be stabilized during rainy season		
N/A		Areas of soil disturbance which will be exposed during any part of the rainy season		
N/A		Implementation schedule for erosion control measures		
N/A		BMPs for erosion control		
	ATTACH S	BMPs to control wind erosion		
		SEDIMENT CONTROL		
	ATTACH T	Description/Illustration of BMPs to prevent increase of sediment load in discharge		
	ATTACH T	Implementation schedule for sediment control measures		
	ATTACH T	BMPs to control sediment tracking		
		NON-STORM WATER MANAGEMENT		
N/A		Description of non-storm water discharges to receiving waters		
N/A		Locations of discharges		
N/A		Description of BMPs		

SECTION A: STORM WATER POLLUTION PREVENTION PLAN (SWPPP)

CHECK IF ADDRESSED N/A IF NOT APPLICABLE	SWPPP Section	ITEM	GENERAL PERMIT REF.	COMMENTS
N/A		Name and phone number of person responsible for non-storm water management		
		POST-CONSTRUCTION		
N/A		Description of post-construction BMPs		THIS FACILITY IS NOT
N/A		Operation/Maintenance of BMPs after project completion (including short-term funding, long-term funding and responsible party)		A CONSTRUCTION CONSTRUCTION SITE
		MAINTENANCE, INSPECTIONS, AND REPAIR		
N/A		Name and phone number of person(s) responsible for inspections		
N/A		Complete inspection checklist: date, weather, inadequate BMPs, visual observations of BMPs, corrective action, inspector's name, title, signature		
		OTHER REQUIREMENTS		
N/A		Documentation of all training		
N/A		List of Contractors/Subcontractors		

SECTION B: MONITORING AND REPORTING REQUIREMENTS

CHECK IF ADDRESSED N/A IF NOT APPLICABLE	SWPPP Section	ITEM	GENERAL PERMIT REF.	COMMENTS
N/A		Description of Site Inspection Plans		
	ATTACH U	Compliance certification (annually 7/1)		
N/A		Discharge reporting		
N/A		Keep records of all inspections, compliance certifications, and noncompliance reports on site for a period of at least three years		

SECTION C: STANDARD PROVISIONS FOR CONSTRUCTION ACTIVITIES

CHECK IF ADDRESSED N/A IF NOT APPLICABLE	SWPPP Section	ITEM	GENERAL PERMIT REF.	COMMENTS
	200	Signed SWPPP Certification	C.9,10	

CALTRANS NPDES PERMIT No. CAS000003 REQUIREMENTS				
CHECK IF ADDRESSED N/A IF NOT APPLICABLE	**SWPPP Section**	**ITEM**	**CALTRANS PERMIT REF.**	**COMMENTS**
N/A		SWPPP references and/or includes permanent and temporary BMPs		
	ATTACH N	SWPPP contains all elements required in the State General Permit. CAS000002		
N/A		SWPPP limits application, generation, & migration of toxic substances		
N/A		Implementation of adequate Erosion and Sediment Controls after construction		
N/A		Copy of the Notification of Construction (NOC)		
N/A		SWPPP contains BMPs for mobile operations (material production or recycling operations) including AC recycling, PCC Recycling, Concrete Mixing, Crushing, & storage of materials that are established by the contractor on the construction site or on other property specifically arranged for by Caltrans.		
N/A		SWPPP applies to all areas that are directly related to construction including but not limited to staging & storage yards, material borrow areas, or access roads whether or not they reside in CT R/W.		
N/A		The SWPPP contains RWQCB WDR requirements for projects that reuse Aerially Deposited Lead. (Applicable only for projects that reuse ADL soils.)		

Attachment M

Annual Certification of Compliance Form

Annual Certification of Compliance for the Construction Contractor

Project Name: Paul Hubbs Construction Company Inc.

Caltrans Contract Number: None

Contractor Company Name: None

Contractor Address: 3500 Pyrite Street Riverside, CA 92509

Construction Start Date: N/A **Completion Date:** N/A

Description of Work: ACTIVE ROCK QUARRY

Work Now in Progress: ACTIVE ROCK QUARRY

Work Planned for Next 12 Months: ACTIVE ROCK QUARRY

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Contractor Signature: Jay P. Hubbs Date: 10-19-05

Approval by the Resident Engineer for the Annual Certification of Compliance

Resident Engineer's Findings

I, and/or personnel acting under my direction and supervision, have inspected the project site and the work described above and find as follows:

1. ☐ YES ☐ NO Storm water pollution control measures are being implemented in accordance with the SWPPP approved for the project.

2. ☐ YES ☐ NO The project site and activities thereon are in compliance with the Caltrans Statewide , the NPDES General Permit No. CAS000001, or Local NPDES permits, which ever is applicable.

When both 1 and 2 above are checked "yes", the resident engineer must complete the annual certification below.

If either 1 or 2 above are checked "no", the resident engineer must:

- File a notice of non-compliance within 30 days of identification of the noncompliance;
- Document follow up actions below;
- Notify the contractor; and
- Initiate corrective actions in accordance with the contract.

Resident Engineer's Follow up Actions:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

CERTIFICATION BY STATE WATER CONTROL BOARD

_____ _____

Resident Engineer's Name and Signature Date

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5538
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • Internet Address: http://www.waterboards.ca.gov

Alan C. Lloyd Ph.D.
Secretary for Environmental Protection

Arnold Schwarzengge
Governor

ATTACHMENT N

To: STORM WATER DISCHARGER

SUBJECT: CHECKLIST FOR SUBMITTING A NOTICE OF INTENT

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted to either of the addresses indicated below:

1._____ NOI (please keep a copy for your files) with all applicable sections completed and original signature of the facility operator;

2._____ Check made out to the "State Water Resources Control Board" with the appropriate fee. The regular fee is **$830.00** ($700 plus 18.5% surcharge).

3. _____ Site Map of the facility (see NOI instructions). DO NOT SEND BLUEPRINTS

U.S. Postal Service Address

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water Section
P.O. Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address

State Water Resources Control Board
Division Of Water Quality
Attn: Storm Water, 15th Floor
1001 I Street
Sacramento, CA 95814

NOIs are processed in the order they are received. A NOI receipt letter will be mailed to the facility operator within approximately two weeks. Incomplete NOI submittals will be returned to the facility operator within the same timeframe and will specify the reason(s) for return. If you need a receipt letter by a specific date (for example, to provide to a local agency), we advise that you submit your NOI thirty (30) days prior to the date the receipt letter is needed.

Please do not call us to verify your NOI status. A copy of your NOI receipt letter will be available on our web page within twenty-four (24) hours of processing. Go to: http://www.waterboards.ca.gov/stormwtr/databases.html to retrieve an electronic copy of your NOI receipt letter. If you have any questions regarding this matter, please contact us at (916) 341-5538.

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WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

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FOR

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)
WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) that establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) published final regulations that establish application requirements for storm water permits. The regulations require that storm water associated with industrial activity (storm water) that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

U.S. EPA developed a four-tier permit issuance strategy for storm water discharges associated with industrial activity as follows:

Tier I, Baseline Permitting--One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity.

Tier II, Watershed Permitting--Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual or watershed-specific general permits.

Tier III, Industry-Specific Permitting--Specific industry categories will be targeted for individual or Industry-specific general permits.

Tier IV, Facility-Specific Permitting--A variety of factors will be used to target specific facilities for individual permits.

The regulations allow authorized states to issue general permits or individual permits to regulate storm water discharges.

Consistent with Tier I, Baseline Permitting, of the U.S. EPA permitting strategy, the State Water Board issued a statewide General Permit on November 19, 1991 that applied to all storm water discharges requiring a permit except construction activity. The monitoring requirements of this General Permit were amended September 17, 1992. A separate statewide general permit has been issued for construction activity.

To obtain authorization for continued and future storm water discharge under this General Permit, each facility operator must submit a Notice of Intent (NOI). This approach is consistent with the four-tier permitting strategy described in Federal regulations, i.e., Tier 1, Baseline Permitting. Tier 1, Baseline Permitting, enables the State to begin reducing pollutants in industrial storm water in the most efficient manner possible.

This General Permit generally requires facility operators to:

1. Eliminate unauthorized non-storm water discharges;
2. Develop and implement a storm water pollution prevention plan (SWPPP); and
3. Perform monitoring of storm water discharges and authorized non-storm water discharges.

TYPES OF STORM WATER DISCHARGES COVERED BY THIS GENERAL PERMIT

This General Permit is intended to cover all new or existing storm water discharges and authorized non-storm water discharges from facilities required by Federal regulations to obtain a permit including those (1) facilities previously covered by the San Francisco Bay Regional Water Quality Control Board Order No. 92-011 (as amended by Order No. 92-116), (2) facilities designated by the Regional Water Quality Control Boards (Regional Water Boards), (3) facilities whose operators seek coverage under this General Permit, (4) and facilities required by future U.S. EPA storm water regulations.

The General Permit is intended to cover all facilities described in Attachment 1, whether the facility is primary or is auxiliary to the facility operator's function. For example, although a school district's primary function is education, a facility that it operates for vehicle maintenance of school buses is a transportation facility that is covered by this General Permit.

The definition of "storm water associated with industrial activity" is provided in Attachment 4, Definition 9, of this General Permit. Facilities that discharge storm water associated

with industrial activity requiring a General Permit are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14) (Federal Register, Volume 55 on

Pages 48065-66) and in Attachment 1 of this General Permit. The facilities can be publicly or privately owned. General descriptions of these categories are:

1. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR Subchapter N);

2. Manufacturing facilities;

3. Mining/oil and gas facilities;

4. Hazardous waste treatment, storage, or disposal facilities;

5. Landfills, land application sites, and open dumps that receive industrial waste;

6. Recycling facilities such as metal scrap yards, battery reclaimers, salvage yards, automobile yards;

7. Steam electric generating facilities;

8. Transportation facilities that conduct any type of vehicle maintenance such as fueling, cleaning, repairing, etc.;

9. Sewage treatment plants;

10. Construction activity (covered by a separate general permit); and

11. Certain facilities (often referred to as "light industry") where industrial materials, equipment, or activities are exposed to storm water.

For the most part, these facilities are identified in the Federal regulations by a Standard Industrial Classification (SIC).

Category 1 Dischargers

The following categories of facilities currently have storm water effluent limitation guidelines for at least one of their

subcategories. They are cement manufacturing (40 CFR Part 411); feedlots (40 CFR Part 412); fertilizer manufacturing (40 CFR Part 418); petroleum refining (40 CFR Part 419); phosphate manufacturing (40 CFR Part 422); steam electric power generation (40 CFR Part 423); coal mining (40 CFR Part 434); mineral mining and processing (40 CFR Part 436); ore mining and dressing (40 CFR Part 440); and asphalt emulsion (40 CFR Part 443). A facility operator whose facility falls into one of these general categories should examine the effluent guidelines to determine if the facility is categorized in one of the subcategories that have storm water effluent guidelines. If a facility is classified as one of those subcategories, that facility is subject to the standards listed in the CFR for that category and is subject to this General Permit. This General Permit contains additional requirements (see Section B.6.) for facilities with storm water effluent limitations guidelines.

Category 5 Dischargers

Inactive or closed landfills, land application sites, and open dumps that have received industrial wastes (Category 5) may be subject to this General Permit unless the storm water discharges from the sites are already regulated by an NPDES permit issued by the appropriate Regional Water Board. Facility operators of closed landfills that are regulated by waste discharge requirements (WDRs) may be required to comply with this General Permit. In some cases, it may be appropriate for closed landfills to be covered by the State Water Board's General Permit during closure activities. The Construction Activities General Permit should cover new landfill construction. Facility operators should contact their Regional Water Board to determine the appropriate permit coverage.

Category 10 Dischargers

Facility operators of Category 10 (light industry) facilities are not subject to this General Permit if they can certify that the following minimum conditions at their facilities are met:

1. All prohibited non-storm water discharges have been eliminated or otherwise permitted.

2. All areas of past exposure have been inspected and cleaned, as appropriate.

3. All materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

4. All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

5. There is no exposure of materials associated with industrial activity through other direct or indirect pathways such as particulates from stacks and exhaust systems.

6. There is periodic re-evaluation of the facility to ensure Conditions 1, 3, 4, and 5 are continuously met.

Currently, facility operators that can certify that the above conditions are met are not required to notify the State Water

Board or Regional Water Board. These facility operators are advised to retain such certification documentation on site.

The Ninth Circuit Court of Appeals invalidated the exemption granted by U.S. EPA for storm water discharges from facilities in Category 11 that do not have exposure and remanded the regulation to U.S. EPA for further action. The State Water Board, at this time, is not requiring storm water discharges from facilities in Category 11 that do not have exposure to be covered by this General Permit. Instead, the State Water Board will await future U.S. EPA or court action clarifying the types of storm water discharges that must be permitted. If necessary, the State Water Board will reopen the General Permit to accommodate such a clarification.

Section 1068 of the Intermodal Surface Transportation Act of 1991 exempts municipal agencies serving populations of less than 100,000 from Phase I permit requirements for most facilities they operate (uncontrolled sanitary landfills, power plants, and airports are still required to be permitted in Phase I). Phase II of the Permit Program scheduled to begin August 7, 2001 will cover the facilities that are exempt from Phase I permit requirements.

TYPES OF DISCHARGES NOT COVERED BY THIS GENERAL PERMIT

1. CONSTRUCTION ACTIVITY: Discharges from construction activity of five acres or more, including clearing, grading, and excavation. A separate general permit was adopted on August 20, 1992 for this industrial category.

2. FACILITIES WHICH HAVE NPDES PERMITS CONTAINING STORM WATER PROVISIONS: Some storm water discharges may be regulated by other individual or general NPDES permits issued by the State

Water Board or the Regional Water Boards. This General Permit shall not regulate these discharges. When the individual or general NPDES permits for such discharges expire, the State Water Board or Regional Water Board may authorize coverage under this General Permit or another general NPDES permit, or may issue a new individual NPDES permit consistent with the Federal and State storm water regulations. Interested parties may petition the State Water Board or appropriate Regional Water Board to issue individual or General NPDES Permits. General Permits may be issued for a particular industrial group or watershed area.

3. FACILITIES DETERMINED INELIGIBLE BY REGIONAL WATER BOARDS: Regional Water Boards may determine that discharges from a facility or groups of facilities, otherwise eligible for coverage under this General Permit, have potential water quality impacts that may not be appropriately addressed by this General Permit. In such cases, a Regional Water Board may require such discharges to be covered by an individual or general NPDES permit. Interested persons may petition the appropriate Regional Water Board to issue individual NPDES permits. The applicability of this General Permit to such discharges will be terminated upon adoption of an individual NPDES permit or a different general NPDES permit.

4. FACILITIES WHICH DO NOT DISCHARGE STORM WATER TO WATERS OF THE UNITED STATES: The discharges from the following facilities are not required to be permitted:

   a. FACILITIES THAT DISCHARGE STORM WATER TO MUNICIPAL SANITARY SEWER SYSTEMS: Facilities that discharge storm water to municipal sanitary sewer systems or combined sewer systems are not required by Federal regulations to be covered by an NPDES storm water permit or to submit an NOI to comply with this General Permit. (It should be noted that many municipalities have sewer use ordinances that prohibit storm drain connections to their sanitary sewers.)

   b. FACILITIES THAT DO NOT DISCHARGE STORM WATER TO SURFACE WATERS OR SEPARATE STORM SEWERS: Storm water that is captured and treated and/or disposed of with the facility's NPDES permitted process wastewater and storm water that is disposed of to evaporation ponds, percolation ponds, or combined sewer systems are not required to obtain a storm water permit. To avoid liability, the facility operator should be certain that no discharge of storm water to surface waters would occur under any circumstances.

5. MOST SILVICULTURAL ACTIVITIES: Storm water discharges from most silvicultural activities such as thinning, harvesting operations, surface drainage, or road construction and maintenance are exempt from this permit. Log sorting or log storage facilities that fall within SIC 2411 are required to be permitted.

6. MINING AND OIL AND GAS FACILITIES: Oil and gas facilities that have not released storm water resulting in a discharge of a reportable quantity (RQ) for which notification is or was required pursuant to 40 CFR Parts 110, 117, and 302 at any time after November 19, 1987 are not required to be permitted unless the industrial storm water discharge contributed to a violation of a water quality standard. Mining facilities that discharge storm water that does not come into contact with any overburden, raw materials, intermediate product, finished product, by-product, or waste product located at the facility are not required to be permitted. These facilities must be permitted if they have a new release of storm water resulting in a discharge of an RQ.

7. FACILITIES ON INDIAN LANDS: the U.S. EPA will regulate Discharges from facilities on Indian lands.

NOTIFICATION REQUIREMENTS

Storm water discharges from facilities described in the section titled "Types of Storm Water Discharges Covered by This General Permit" must be covered by an NPDES permit. An NOI must be submitted by the facility operator for each individual facility to obtain coverage. Certification of the NOI signifies that the facility operator intends to comply with the provisions of the General Permit. Facility operators who have filed NOIs for the State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-011 (as amended by Order No. 92-116) will be sent an abbreviated NOI soon after adopting this General Permit that must be completed and returned within 45 days of receipt. Where operations have discontinued and significant materials remain on site (such as at closed landfills), the landowner may be responsible for filing an NOI and complying with this General Permit. A landowner may also file an NOI for a facility if the landowner, rather than the facility operator(s), is responsible for compliance with this General Permit.

A facility operator that does not submit an NOI for a facility must submit an application for an individual NPDES permit. U.S. EPA's regulations [40 CFR 122.21 (a)] exclude facility

operators covered by a general permit from requirements to submit an individual permit application unless required by the Regional Water Board. The NOI requirements of this General Permit are intended to establish a mechanism which can be used to establish a clear accounting of the number of facility operators complying with the General Permit, their identities, the nature of operations at the facilities, and location.

All facility operators filing an NOI after the adoption of this General Permit must comply with this General Permit. Existing facility operators who have filed NOIs prior to the adoption of this General Permit shall continue to complete the requirements of the previous General Permit through June 30, 1997 including submitting annual reports to the Regional Water Boards by July 1, 1997. Group Leaders are required to submit a 1996-97 Group Evaluation Report by August 1, 1997.

DESCRIPTION OF GENERAL PERMIT CONDITIONS

Prohibitions

This General Permit authorizes storm water and authorized non-storm water discharges from facilities that are required to be covered by a storm water permit. This General Permit prohibits discharges of material other than storm water (non-storm water discharges) that are not authorized by the General Permit and discharges containing hazardous substances in storm water in excess of reportable quantities established at 40 CFR 117.3 and 40 CFR 302.4. Authorized non-storm water discharges are addressed in the Special Conditions of the General Permit.

Effluent Limitations

NPDES Permits for storm water discharges must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require control of pollutant discharges using best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards.

U.S. EPA regulations (40 CFR Subchapter N) establish effluent limitation guidelines for storm water discharges from facilities in ten industrial categories. For these facilities, compliance

with the effluent limitation guidelines constitutes compliance with BAT and BCT for the specified pollutants and must be met to comply with this General Permit.

For storm water discharges from facilities not among the ten industrial categories listed in 40 CFR Subchapter N, it is not feasible at this time to establish numeric effluent limitations. The reasons why establishment of numeric effluent limitations is not feasible are discussed in detail in State Water Board Orders No. WQ 91-03 and WQ 91-04. Therefore, this General Permit allows the facility operator to implement best management practices (BMPs) to comply with the requirements of this General Permit. This approach is consistent with the U.S. EPA's August 1, 1996 "Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits".

Receiving Water Limitations

Storm water discharges shall not cause or contribute to a violation of an applicable water quality standard. The General Permit requires facility operators to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges through the development and implementation of BMPs which constitutes compliance with BAT and BCT and, in most cases, compliance with water quality standards. If receiving water quality standards are exceeded, facility operators are required to submit a written report providing additional BMPs that will be implemented to achieve water quality standards.

Storm Water Pollution Prevention Plans (SWPPPs)

All facility operators must prepare, retain on site, and implement an SWPPP. The SWPPP has two major objectives: (1) to help identify the sources of pollution that affect the quality of industrial storm water discharges and authorized non-storm water discharges, and (2) to describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized non-storm water discharges.

This General Permit requires development and implementation of an SWPPP emphasizing BMPs. This approach provides the flexibility necessary to establish appropriate BMPs for different types of industrial activities and pollutant sources. As this General Permit covers vastly different types of facilities, the State Water Board recognizes that there is no single best way of developing or organizing an SWPPP. The SWPPP requirements contain the essential elements that all facility operators must consider and address in the SWPPP. This General Permit's SWPPP requirements are more detailed than the previous general permit's

SWPPP requirements, and the suggested order of the SWPPP elements have been rearranged (1) to correspond more closely with other storm water permits in effect throughout the country, and (2) to generally follow a more logical path. Facility operators that have already developed and implemented SWPPPs under previous general permits are required to review the SWPPP's requirements contained in this General Permit and then review their existing SWPPP for adequacy. If the existing SWPPP adequately identifies and assesses all potential sources of pollutants and describes the appropriate BMPs necessary to reduce or prevent pollutants, the facility operator is not required to revise the existing SWPPP.

One of the major elements of the SWPPP is the elimination of unauthorized non-storm water discharges to the facility's storm drain system. Unauthorized non-storm water discharges can be generated from a wide variety of potential pollutant sources. They include waters from the rinsing or washing of vehicles, equipment, buildings, or pavement; materials that have been improperly disposed of or dumped, and spilled; or leaked materials. Unauthorized non-storm water discharges can contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping can often be addressed through BMPs. Unauthorized non-storm water discharges may enter the storm drain system via conveyances such as floor drains. All conveyances should be evaluated to determine whether they convey unauthorized non-storm water discharges to the storm drain system. Unauthorized non-storm water discharges (even when commingled with storm water) shall be eliminated or covered by a separate NPDES Permit.

There are many non-storm water discharges that, under certain conditions, should not contain pollutants associated with industrial activity (i.e., air conditioning condensate, potable water line testing, landscaping overflow, etc.). Item D, Special Conditions, provides the conditions where certain listed non-storm water discharges are authorized by this General Permit.

Monitoring Program

The General Permit requires development and implementation of a monitoring program. The objectives of the monitoring program are to (1) demonstrate compliance with the General Permit, (2) aid in the implementation of the SWPPP, and (3) measure the effectiveness of the BMPs in reducing or preventing pollutants in storm water discharges and authorized non-storm water discharges.

All facility operators (with the exception of inactive mining operations) are required to:

1. Perform visual observations of storm water discharges and authorized storm water discharges.

2. Collect and analyze samples of storm water discharges. Analysis must include pH, total suspended solids (TSS), total organic carbon (TOC), specific conductance, toxic chemicals, and other pollutants which are likely to be present in storm water discharges in significant quantities, and those parameters listed in Table D of this General Permit. The Table D parameters are those listed in the U.S. EPA Multi-Sector General Permit. Facility operators subject to Federal storm water effluent limitation guidelines in 40 CFR Subchapter N must also sample and analyze for any pollutant specified in the appropriate category of 40 CFR Subchapter N.

Facility operators are not required to collect samples or perform visual observations during adverse climatic conditions. Sample collection and visual observations are required only during scheduled facility operating hours. Visual observations are required only during daylight hours. Facility operators that are unable to collect any of the required samples or visual observations because of the above circumstances must provide documentation to the Regional Water Board in their annual report.

Facility operators may be exempt from performing sampling and analysis if they: (1) do not have areas of industrial activity exposed to storm water, (2) receive an exemption from a local agency which has jurisdiction over the storm sewer system, or (3) receive an exemption from the appropriate Regional Water Board. Facility operators must always perform sampling and analysis for any pollutant specified in storm water effluent limitation guidelines.

This General Permit contains a new procedure where facility operators, if they meet certain minimum conditions, may certify compliance with the General Permit and reduce the number of sampling events required to be sampled for the remaining term of the General Permit. Each Regional Water Board may develop instructions, guidance, and checklists to assist facility operators to complete sampling reduction requests.

Local agencies that wish to provide sampling and analysis exemptions or reductions to facility operators within their jurisdiction shall develop a certification program that clearly indicates the certification procedures and criteria used by the local agency. At a minimum, these programs should include site inspections, a review of the facility operator's SWPPP, and a review of other records such as monitoring data, receiving water

data, etc. The certification program shall be approved by the local Regional Water Board before implementation.

Alternative Monitoring

Facility operators are required to develop a facility-specific monitoring program that satisfies both the minimum monitoring program requirements and the objectives of the monitoring program. Some facility operators have indicated that cost-effective alternative monitoring programs can be developed that provide equivalent or more accurate indicators of pollutants and/or BMP performance than a monitoring program based upon the minimum monitoring program requirements. An example of such an alternative monitoring program would be one that identifies sample locations at or near pollutant sources rather than sampling an entire drainage area where the storm water discharge has been diluted with storm water from areas with little or no industrial activity.

The State Water Board does not want to preclude facility operators from developing better, and perhaps more cost-effective, monitoring programs. This General Permit allows facility operators to submit alternative monitoring programs for approval by the Regional Water Board. For individual facilities, these proposals must be facility specific and demonstrate how the alternative monitoring program will result in an equivalent or more accurate indicator of pollutants and/or BMP effectiveness. Facility operators with similar industrial activities may also propose alternative monitoring programs for approval by the Regional Water Boards. These proposals must demonstrate how the alternative monitoring program will result in an equivalent or more accurate indicator of pollutants and/or BMP effectiveness for all of the participating facilities.

Facility operators shall continue to comply with the existing monitoring program requirements until receiving approval by the Regional Water Board.

Group Monitoring

Each facility operator may either perform sampling and analysis individually or participate in a group monitoring program. A group monitoring program may be developed either by a group leader representing a group of similar facilities or by a local agency which holds a storm water permit for a municipal separate storm sewer system for industrial facilities within its jurisdiction. The group leader or local agency responsible for the group monitoring program must schedule all participating facilities to sample two storm events over the life of this General Permit. Facility operators subject to Federal effluent limitations guidelines in 40 CFR Subchapter N must individually sample and analyze for pollutants listed in the appropriate Federal regulations.

Participants within a group may be located within the jurisdiction of more than one Regional Water Board. Multi-Regional Water Board groups must receive the approval of the State Water Board Executive Director (with the concurrence of the appropriate Regional Water Boards).

Each group leader or local agency responsible for group sampling must: (1) provide guidance or training so that the monitoring is done correctly, (2) recommend appropriate BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges from group participants, (3) evaluate and report the monitoring data to the State Water Board and/or the appropriate Regional Water Board(s), and (4) conduct two on-site inspections at each facility over the five year term of this General Permit to evaluate facility compliance and recommend BMPs to achieve compliance with this General Permit. The group leader or local agency may designate, hire, or train inspectors to conduct these inspections that are or are not directly affiliated with the group leader or local agency. It is the group leader's or local agency's responsibility to select inspectors that are capable of evaluating each facility's compliance with the General Permit and can recommend appropriate BMPs. All group monitoring plans are subject to State Water Board and/or Regional Water Board(s) review. Consistent with the four-tier permitting strategy described in the Federal regulations, the Regional Water Board(s) may evaluate the data and results from group monitoring to establish future permitting decisions. As appropriate, the State Water Board and/or the Regional Water Board(s) may terminate or require substantial amendment to the group monitoring plans. The State Water Board and/or the Regional Water Board(s) may terminate a facility's participation in group monitoring or require additional monitoring activities.

Retention of Records

The facility operator is required to retain records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOI for a period of five years from the date of measurement, report, or monitoring activity. This period may be extended by the State and/or Regional Water Boards. All records are public documents and must be provided to the Regional Water Boards on request.

Watershed Management

The State and Regional Water Boards are undertaking a focussed effort in watershed management throughout the State. In reissuing this General Permit, the State Water Board recognizes both the evolving nature of watershed management and the long-term desirability of structuring monitoring programs to support the Watershed Management Initiative. Therefore, the amended monitoring and reporting provisions provide flexibility for individual facility operators or groups of facility operators to propose and participate in, subject to Regional Water Board approval, watershed monitoring programs in lieu of some or all of the monitoring requirements contained in this General Permit.

Facility Operator Compliance Responsibilities

This General Permit has been written to encourage individual facility operators to develop their own SWPPP and monitoring programs. Many facility operators, however, choose to obtain compliance assistance either by hiring a consultant on an individual basis or by participating in a group monitoring plan. Regardless of how a facility operator chooses to pursue compliance, it is the facility operator that is responsible for compliance with this General Permit.

The State Water Board recognizes that industrial activities and operating conditions at many facilities change over time. In addition, new and more effective BMPs are being developed by various facility operators and by industrial groups. The SWPPP and monitoring program requirements include various inspections, reviews, and observations all of which recognize, encourage, and mandate an iterative self-evaluation process that is necessary to consistently comply with this General Permit. In general, facility operators that develop and implement SWPPPs that comply with this General Permit should not be penalized when discovering minor violations through this iterative self-evaluation process. The General Permit provides facility operators up to 90 days to revise and implement the SWPPP to correct such violations.

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)
WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

The State Water Board finds that:

1. Federal regulations for storm water discharges were issued by the U.S. Environmental Protection Agency (U.S. EPA) on November 16, 1990 (40 Code of Federal Regulations [CFR] Parts 122, 123, and 124). The regulations require operators of specific categories of facilities where discharges of storm water associated with industrial activity (storm water) occur to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm discharges.

2. This General Permit shall regulate storm water discharges and authorized non-storm water discharges from specific categories of industrial facilities identified in Attachment 1, storm water discharges and authorized non-storm water discharges from facilities as designated by the Regional Water Quality Control Boards (Regional Water Boards), and storm water discharges and authorized non-storm water discharges from other facilities seeking General Permit coverage. This General Permit may also regulate storm water discharges and authorized non-storm water discharges from facilities as required by U.S. EPA regulations. This General Permit shall regulate storm water discharges and authorized non-storm water discharges previously regulated by San Francisco Bay Regional Water Board Order, No.92-11 (as amended by Order No. 92-116). This General Permit excludes storm water discharges and non-storm water discharges that are regulated by other individual or general NPDES permits, storm water discharges and non-storm water discharges from construction activities, and storm water discharges and non-storm water discharges excluded by the Regional Water Boards for coverage by this General Permit. Attachment 2 contains the addresses and telephone numbers of each Regional Water Board office.

3. To obtain coverage for storm water discharges and authorized non-storm water discharges pursuant to this General Permit, operators of facilities (facility operators) must submit a Notice of Intent (NOI), in accordance with the Attachment 3 instructions, and appropriate annual fee to the State Water Board. This includes facility operators that have participated in U.S. EPA's group application process.

4. This General Permit does not preempt or supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and authorized non-storm water discharges to storm drain systems or other water-courses within their jurisdictions as allowed by State and Federal law.

5. If an individual NPDES permit is issued to a facility operator otherwise subject to this General Permit or an alternative NPDES general permit is subsequently adopted which covers storm water discharges and/or authorized non-storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual NPDES permit or the date of approval for coverage under the subsequent NPDES general permit.

6. Effluent limitations and toxic and effluent standards established in Sections 208(b), 301, 302, 303(d), 304, 306, 307, and 403 of the Federal Clean Water Act (CWA), as amended, are applicable to storm water discharges and authorized non-storm water discharges regulated by this General Permit.

7. This action to adopt an NPDES general permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the California Water Code.

8. Federal regulations (40 CFR Subchapter N) establish effluent limitations guidelines for storm water discharges from some facilities in ten industrial categories.

9. For facilities which do not have established effluent limitation guidelines for storm water discharges in 40 CFR Subchapter N, it is not feasible at this time to establish numeric effluent limitations. This is due to the large number of discharges and the complex nature of storm water discharges. This is also consistent with the U.S. EPA's

August 1, 1996 "Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits."

10. Facility operators are required to comply with the terms and conditions of this General Permit. Compliance with the terms and conditions of this General Permit constitutes compliance with BAT/BCT requirements and with requirements to achieve water quality standards. This includes the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges.

11. Best Management Practices (BMPs) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges are appropriate where numeric effluent limitations are infeasible, and the implementation of BMPs is adequate to achieve compliance with BAT/BCT and with water quality standards.

12. The State Water Board has adopted a Watershed Management Initiative that encourages watershed management throughout the State. This General Permit recognizes the Watershed Management Initiative by supporting the development of watershed monitoring programs authorized by the Regional Water Boards.

13. Following adoption of this General Permit, the Regional Water Boards shall enforce its provisions.

14. Following public notice in accordance with State and Federal laws and regulations, the State Water Board held a public hearing on November 12, 1996 and heard and considered all comments pertaining to this General Permit. A response to all significant comments has been prepared and is available for public review.

15. This Order is an NPDES General Permit in compliance with Section 402 of the CWA and shall take effect upon adoption by the State Water Board.

16. All terms that are defined in the CWA, U.S. EPA storm water regulations and the Porter-Cologne Water Quality Control Act will have the same definition in this General Permit unless otherwise stated.

IT IS HEREBY ORDERED that all facility operators required to be regulated by this General Permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Except as allowed in Special Conditions (D.1.) of this General Permit, materials other than storm water (non-storm water discharges) that discharge either directly or indirectly to waters of the United States are prohibited. Prohibited non-storm water discharges must be either eliminated or permitted by a separate NPDES permit.

2. Storm water discharges and authorized non-storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.

B. EFFLUENT LIMITATIONS:

1. Storm water discharges from facilities subject to storm water effluent limitation guidelines in Federal regulations (40 CFR Subchapter N) shall not exceed the specified effluent limitations.

2. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

3. Facility operators covered by this General Permit must reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges through implementation of BAT for toxic and non-conventional pollutants and BCT for conventional pollutants. Development and implementation of an SWPPP that complies with the requirements in Section A of the General Permit and that includes BMPs that achieve BAT/BCT constitutes compliance with this requirement.

C. RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized non-storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. Storm water discharges and authorized non-storm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the applicable Regional Water Board's Basin Plan.

3. A facility operator will not be in violation of Receiving Water Limitation C.2. as long as the facility operator has implemented BMPs that achieve BAT/BCT and the following procedure is followed:

a. The facility operator shall submit a report to the appropriate Regional Water Board that describes the BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of water quality standards. The report shall include an implementation schedule. The Regional Water Board may require modifications to the report.

b. Following approval of the report described above by the Regional Water Board, the facility operator shall revise its SWPPP and monitoring program to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required.

4. A facility operator shall be in violation of this General Permit if he/she fails to do any of the following:

a. Submit the report described above within 60 days after either the facility operator or the Regional Water Board determines that discharges are causing or contributing to an exceedance of an applicable water quality standard;

b. Submit a report that is approved by the Regional Water Board; or

c. Revise its SWPPP and monitoring program as required by the approved report.

D. SPECIAL CONDITIONS

1. Non-Storm Water Discharges

a. The following non-storm water discharges are authorized by this General Permit provided that they satisfy the conditions specified in Paragraph b. below: fire hydrant flushing; potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems; drinking fountain water; atmospheric condensates including refrigeration, air conditioning, and compressor condensate; irrigation drainage; landscape watering; springs; ground water; foundation or footing drainage; and sea water infiltration where the sea waters are discharged back into the sea water source.

b. The non-storm water discharges as provided in Paragraph a. above are authorized by this General Permit if all the following conditions are met:

i. The non-storm water discharges are in compliance with Regional Water Board requirements.

ii. The non-storm water discharges are in compliance with local agency ordinances and/or requirements.

iii. BMPs are specifically included in the SWPPP to (1) prevent or reduce the contact of non-storm water discharges with significant materials or equipment and (2) minimize, to the extent practicable, the flow or volume of non-storm water discharges.

iv. The non-storm water discharges do not contain significant quantities of pollutants.

v. The monitoring program includes quarterly visual observations of each non-storm water discharge and its sources to ensure that BMPs are being implemented and are effective.

vi. The non-storm water discharges are reported and described annually as part of the annual report.

c. The Regional Water Board or its designee may establish additional monitoring programs and reporting requirements for any non-storm water discharge authorized by this General Permit.

d. Discharges from firefighting activities are authorized by this General Permit and are not subject to the conditions of Paragraph b. above.

E. PROVISIONS

1. All facility operators seeking coverage by this General Permit must submit an NOI for each of the facilities they operate. Facility operators filing an NOI after the adoption of this General Permit shall use the NOI form and instructions (Attachment 3) attached to this General Permit. Existing facility operators who have filed an NOI pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116) shall submit an abbreviated

NOI form provided by the State Water Board. The abbreviated NOI form shall be submitted within 45 days of receipt.

2. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in accordance with Section A of this General Permit in a timely manner, but in no case later than August 1, 1997. Facility operators beginning industrial activities after adoption of this General Permit must develop and implement an SWPPP in accordance with Section A of this General Permit when the industrial activities begin.

3. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing Monitoring Program and shall implement any necessary revisions to their Monitoring Program in accordance with Section B of the General Permit in a timely manner, but in no case later than August 1, 1997. Facility operators beginning industrial activities after adoption of this General Permit must develop and implement a Monitoring Program in accordance with Section B of this General Permit when industrial activities begin.

4. Facility operators of feedlots as defined in 40 CFR Part 412 that are in full compliance with Section 2560 to Section 2565, Title 23, California Code of Regulations (Chapter 15) will be in compliance with all effluent limitations and prohibitions contained in this General Permit. Facility operators of feedlots that comply with Chapter 15, however, must perform monitoring in compliance with the requirements of Section B.4.d. and B.14. of this General Permit. Facility operators of feedlots must also comply with any Regional Water Board WDRs or NPDES general permit regulating their storm water discharges.

5. All facility operators must comply with lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding storm water discharges and non-storm water discharges entering storm drain systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Boards to local agencies.

6. All facility operators must comply with the standard provisions and reporting requirements for each facility covered by this General Permit contained in Section C, Standard Provisions.

7. Facility operators that operate facilities with co-located industrial activities (facilities that have industrial activities that meet more than one of the descriptions in Attachment 1) that are contiguous to one another are authorized to file a single NOI to comply with the General Permit. Storm water discharges and authorized non-storm water discharges from the co-located industrial activities are authorized if the SWPPP and Monitoring Program addresses each co-located industrial activity.

8. Upon reissuance of a successor NPDES general permit by the State Water Board, the facility operators subject to this reissued General Permit may be required to file an NOI.

9. Facility operators may request to terminate their coverage under this General Permit by filing a Notice of Termination (NOT) with the Regional Water Board. The NOT shall provide all documentation requested by the Regional Water Board. The facility operator will be notified when the NOT has been approved. Should the NOT be denied, facility operators are responsible for continued compliance with the requirements of this General Permit.

10. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116) shall:

    a. Complete the 1996-97 activities required by those general permits. These include, but are not limited to, conducting any remaining visual observations, sample collection, annual site inspection, annual report submittal, and (for group monitoring leaders) Group Evaluation Reports; and

b. Comply with the requirements of this General Permit no later than August 1, 1997.

11. If the Regional Water Board determines that a discharge may be causing or contributing to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the applicable Regional Water Board's Basin Plan, the Regional Water Board may order the facility operator to comply with the requirements described in Receiving Water Limitation C.3. The facility operator shall comply with the requirements within the time schedule established by the Regional Water Board.

12. If the facility operator determines that its storm water discharges or authorized non-storm water discharges are causing or contributing to an exceedance of any applicable water quality standards, the facility operator shall comply with the requirements described in Receiving Water Limitation C.3.

13. State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) and San Francisco Bay Regional Water Board Order No. 91-011 (as amended by Order No. 92-116) are hereby rescinded.

F. REGIONAL WATER BOARD AUTHORITIES

1. Following adoption of this General Permit, Regional Water Boards shall:

   a. Implement the provisions of this General Permit, including, but not limited to, reviewing SWPPPs, reviewing annual reports, conducting compliance inspections, and taking enforcement actions.

   b. Issue other NPDES general permits or individual NPDES storm water permits as they deem appropriate to individual facility operators, facility operators of specific categories of industrial activities, or facility operators in a watershed or geographic area. Upon issuance of such NPDES permits by a Regional Water Board, the affected facility operator shall no longer be regulated by this General Permit. Any new NPDES permit issued by the Regional Water Board may contain different requirements than the requirements of this General Permit.

2. Regional Water Boards may provide guidance to facility operators on the SWPPP and the Monitoring Program and reporting implementation.

3. Regional Water Boards may require facility operators to conduct additional SWPPP and Monitoring Program and reporting activities necessary to achieve compliance with this General Permit.

4. Regional Water Boards may approve requests from facility operators whose facilities include co-located industrial activities that are not contiguous within the facilities (e.g., some military bases) to comply with this General Permit under a single NOI. Storm water discharges and authorized non-storm water discharges from the co-located industrial activities and from other sources within the facility that may generate significant quantities of pollutants are authorized provided the SWPPP and Monitoring Program addresses each co-located industrial activity and other sources that may generate significant quantities of pollutants.

CERTIFICATION

The undersigned, Administrative Assistant to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on April 17, 1997.

AYE: John P. Caffrey
John W. Brown
James M. Stubchaer
Marc Del Piero
Mary Jane Forster

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

SECTION A: STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

A storm water pollution prevention plan (SWPPP) shall be developed and implemented for each facility covered by this General Permit in accordance with the following schedule.

a. Facility operators beginning industrial activities before October 1, 1992 shall develop and implement the SWPPP no later than October 1, 1992. Facility operators beginning industrial activities after October 1, 1992 shall develop and implement the SWPPP when industrial activities begin.

b. Existing facility operators that submitted a Notice of Intent (NOI), pursuant to State Water Resources Control Board (State Water Board) Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Quality Control Board (Regional Water Board) Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in a timely manner, but in no case later than August 1, 1997.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. *Pollution Prevention Team*

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Section B of this General Permit. The SWPPP shall clearly identify the General Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

b. *Review Other Requirements and Existing Facility Plans*

The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this General Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A
FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS

PLANNING AND ORGANIZATION

*Form Pollution Prevention Team
*Review other plans

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ASSESSMENT PHASE

*Develop a site map
*Identify potential pollutant sources
*Inventory of materials and chemicals
*List significant spills and leaks
*Identify non-storm water discharges
*Assess pollutant Risks

↓

BEST MANAGEMENT PRACTICES IDENTIFICATION PHASE

*Non-structural BMPs
*Structural BMPs
*Select activity and site-specific BMPs

↓

IMPLEMENTATION PHASE

*Train employees
*Implement BMPs
*Conduct recordkeeping and reporting

↓

EVALUATION / MONITORING

*Conduct annual site evaluation
*Review monitoring information
*Evaluate BMPs

*Review and revise SWPPP

The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

i. Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

ii. Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

iii. Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

iv. Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or

non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this General Permit.

v. Non-Storm Water Discharges

Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D. are prohibited by this General Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D. are authorized by this General Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

vi. Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water

discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:

i. Which areas of the facility are likely sources of pollutants in storm water discharges and authorized non-storm water discharges, and

ii. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm

water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery	fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to preventive tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel tanks	fuel oil	
		Hosing or washing down fuel area	fuel oil	
		Leaking storage tanks	fuel oil	
		Rainfall running off fueling area, and rainfall running onto and off fueling area	fuel oil	

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

i. Good Housekeeping

Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

ii. Preventive Maintenance

Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

iii. Spill Response

This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

iv. Material Handling and Storage

This includes all procedures to minimize the

potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

v. Employee Training

This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

vi. Waste Handling/Recycling

This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

vii. Recordkeeping and Internal Reporting

This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

viii. Erosion Control and Site Stabilization

This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

ix. Inspections

This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be

described to ensure adequate corrective actions are taken and SWPPPs are made.

x. Quality Assurance

This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

i. Overhead Coverage

This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

ii. Retention Ponds

This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

iii. Control Devices

This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

iv. Secondary Containment Structures

This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

v. Treatment

This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this General Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions 9. and 10. of Section C. of this General Permit.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

d. Other than as provided in Provisions B.11, B.12, and E.2 of the General Permit, the SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this General Permit.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Provision E.2 or Sections A.1, A.9, A.10.c, and A.10.d of this General Permit due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a

schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

SECTION B. MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

Each facility operator shall develop a written monitoring program for each facility covered by this General Permit in accordance with the following schedule:

a. Facility operators beginning industrial activities before October 1, 1992 shall develop and implement a monitoring program no later than October 1, 1992. Facility operators beginning operations after October 1, 1992 shall develop and implement a monitoring program when the industrial activities begin.

b. Facility operators that submitted a Notice Of Intent (NOI) pursuant to State Water Resources Control Board (State Water Board) Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Quality Control Board (Regional Water Board) Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing monitoring program and implement any necessary revisions to their monitoring program in a timely manner, but in no case later than August 1, 1997. These facility operators may use the monitoring results conducted in accordance with those expired general permits to satisfy the pollutant/parameter reduction requirements in Section B.5.c., Sampling and Analysis Exemptions and Reduction certifications in Section B.12., and Group Monitoring Sampling credits in B.15.k. For facilities beginning industrial activities after the adoption of this General Permit, the monitoring program shall be developed and implemented when the facility begins the industrial activities.

2. *Objectives*

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with the Discharge Prohibitions, Effluent Limitations, and Receiving Water Limitations specified in this General Permit.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Section A of this General Permit.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-storm Water Discharge Visual Observations*

a. Facility operators shall visually observe all drainage areas within their facilities for the presence of unauthorized non-storm water discharges;

b. Facility operators shall visually observe the facility's authorized non-storm water discharges and their sources;

c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. Facility operators shall conduct quarterly visual observations within 6-18 weeks of each other.

d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as

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[1] "Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.

necessary, and implemented in accordance with Section A of this General Permit.

4. *Storm Water Discharge Visual Observations*

a. With the exception of those facilities described in Section B.4.d. below, facility operators shall visually observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Section A of this General Permit.

d. Feedlots (subject to Federal effluent limitations guidelines in 40 Code of Federal Regulations [CFR] Part 412) that are in compliance with Sections 2560 to 2565, Article 6, Chapter 15, Title 23, California Code of Regulations, and facility operators with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

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[2] Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.

a. Facility operators shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. Facility operators that do not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the Annual Report why the first storm event was not sampled.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

   i. Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC; and

   ii. Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the facility operator may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again; and

   iii. Other analytical parameters as listed in Table D (located at the end of this Section). These parameters are dependent on the facility's standard industrial classification (SIC) code. Facility operators are not required to analyze a parameter listed in Table D when the parameter is not already required to be analyzed pursuant to Section B.5.c.i. and ii. or B.6 of this General Permit, and either of the two following conditions are met: (1) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (2) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP. Facility operators

that do not analyze for the applicable Table D parameters shall certify in the Annual Report that the above conditions have been satisfied.

iv. Other parameters as required by the Regional Water Board.

6. *Facilities Subject to Federal Storm Water Effluent Limitation Guidelines*

Facility operators with facilities subject to Federal storm water effluent limitation guidelines, in addition to the requirements in Section B.5. above, must complete the following:

a. Collect and analyze two samples for any pollutant specified in the appropriate category of 40 CFR Subchapter N. The sampling and analysis exemptions and reductions described in Section B.12. of this General Permit do not apply to these pollutants.

b. Estimate or calculate the volume of storm water discharges from each drainage area;

c. Estimate or calculate the mass of each regulated pollutant as defined in the appropriate category of 40 CFR Subchapter N; and

d. Identify the individual(s) performing the estimates or calculations in accordance with Subsections b. and c. above.

7. *Sample Storm Water Discharge Locations*

a. Facility operators shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the facility operator should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow,

submerged outfalls), facility operators shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. Facility operators that determine that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (i) collect samples from a reduced number of substantially identical

drainage areas, or (ii) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. Facility operators must document such a determination in the annual report.

8. *Visual Observation and Sample Collection Exceptions*

Facility operators are required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season until the minimum requirements of Sections B.4. and B.5. are completed with the following exceptions:

a. A facility operator is not required to collect a sample and conduct visual observations in accordance with Section B.4 and Section B.5 due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. Facility operators that do not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the Annual Report why the sampling or visual observations could not be conducted.

b. A facility operator may conduct visual observations and sample collection more than one hour after discharge begins if the facility operator determines that the objectives of this Section will be better satisfied. The facility operator shall include an explanation in the Annual Report why the visual observations and sample collection should be conducted after the first hour of discharge.

9. *Alternative Monitoring Procedures*

Facility operators may propose an alternative monitoring program that meets Section B.2 monitoring program objectives

for approval by the Regional Water Board. Facility operators shall continue to comply with the monitoring requirements of this Section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board. Alternative monitoring plans are subject to modification by the Regional Water Boards.

10. *Monitoring Methods*

a. Facility operators shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section B.2. This shall include:

i. Rationale and description of the visual observation methods, location, and frequency.

ii. Rationale and description of the sampling methods, location, and frequency; and

iii. Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a facility operator's own field instruments for measuring pH and Electro Conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. All metals shall be reported as total metals. With the exception of analysis conducted by facility operators, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. Facility operators may conduct their own sample analyses if the facility operator has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

11. *Inactive Mining Operations*
Inactive mining operations are defined in Attachment 1 of this General Permit. Where comprehensive site compliance evaluations, non-storm water discharge visual observations, storm water discharge visual observations, and storm water sampling are impracticable, facility operators of inactive mining operations may instead obtain certification once every three years by a Registered Professional Engineer that an SWPPP has been prepared for the facility and is being implemented in accordance with the requirements of this General Permit. By means of these certifications, the Registered Professional Engineer having examined the facility and being familiar with the provisions of this General Permit shall attest that the SWPPP has been prepared in accordance with good engineering practices. Facility operators of mining operations who cannot obtain a certification because of noncompliance must notify the appropriate Regional Water Board and, upon request, the local agency which receives the storm water discharge.

12. *Sampling and Analysis* Exemptions and Reductions

A facility operator who qualifies for sampling and analysis exemptions, as described below in Section B.12.a.i., or who qualifies for reduced sampling and analysis, as described below in Section B.12.b., must submit the appropriate certifications and required documentation to the Regional Water Boards prior to the wet season (October 1) and recertify as part of the Annual Report submittal. A facility operator that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section B.12.a.ii. and iii., shall submit certification and documentation in accordance with the requirements of those programs. Facility operators who provide certifications in accordance with this Section are still required to comply with all other monitoring program and reporting requirements. Facility operators shall prepare and submit their certifications using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. Facility operators whose facility no longer meets the certification conditions must notify the Regional Water Boards (and local agency) within 30 days and immediately comply with the Section B.5. sampling and analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, facility operators must immediately comply with the Section B.5. sampling and analysis requirements.

a. Sampling and Analysis Exemptions

A facility operator is not required to collect and analyze samples in accordance with Section B.5. if the facility operator meets all of the conditions of one of the following certification programs:

i. No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, facility operators must certify that their facilities meet all of the following conditions:

(1) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

(2) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

(3) All areas of past exposure have been inspected and cleaned, as appropriate.

(4) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

(5) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

(6) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

(7) There is periodic re-evaluation of the facility to ensure conditions (1), (2), (4), (5), and (6) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

ii. Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section B.5. Sampling and Analysis Requirements

if it determines a facility operator has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (1) exempt facility operators whose facilities infrequently discharge storm water to waters of the United States, and (2) exempt facility operators that demonstrate compliance with the terms and conditions of this General Permit.

iii. Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption

from the Section B.5. Sampling and Analysis Requirements or reduce the frequency of sampling if it determines that a facility operator has demonstrated compliance with the terms and conditions of this General Permit.

b. Sampling and Analysis Reduction

i. A facility operator may reduce the number of sampling events required to be sampled for the remaining term of this General Permit if the facility operator provides certification that the following conditions have been met:

(1) The facility operator has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

(2) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

(3) The facility operator demonstrates compliance with the terms and conditions of the General Permit for the previous two years (i.e., completed Annual Reports, performed visual observations, implemented appropriate BMPs, etc.);

(4) The facility operator demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

(5) Conditions (2), (3), and (4) above are expected to remain in effect for a minimum of one year after filing the certification.

ii. Unless otherwise instructed by the Regional Water Board, facility operators shall collect and analyze samples from two additional storm events (or one additional storm event when certification filed for the wet season beginning October 1, 2001) during the remaining term of this General Permit in accordance with Table C below. Facility operators shall collect samples of the first storm event of the wet season. Facility operators that do not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. Facility operators that do not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. Facility operators shall explain in the Annual Report why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table C schedule.

Table C
REDUCED MONITORING SAMPLING SCHEDULE

Facility Operator Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in These Wet Seasons	
	Sample 1	Sample 2
Oct. 1, 1997	Oct. 1, 1997-May 31, 1998	Oct. 1, 1999-May 31, 2000
Oct. 1, 1998	Oct. 1, 1998-May 31, 1999	Oct. 1, 2000-May 31, 2001
Oct. 1, 1999	Oct. 1, 1999-May 31, 2000	Oct. 1, 2001-May 31, 2002
Oct. 1, 2000	Oct. 1, 2000-May 31, 2001	Oct. 1, 2001-May 31, 2002
Oct. 1, 2001	Oct. 1, 2001-May 31, 2002	-

13. *Records*

Records of all storm water monitoring information and copies of all reports (including the Annual Reports) required by this General Permit shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates (if required by Section B.6);

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections B.3. and 4.);

i. Visual observation and sample collection exception records (see Section B.5.a, 7.d, 8, and 12.b.ii.);

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section B.12);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

14. *Annual Report*

All facility operators shall submit an Annual Report by July 1 of each year to the Executive Officer of the Regional Water Board responsible for the area in which the facility is located and to the local agency (if requested).

The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section A.9., an explanation of why a facility did not implement any activities required by the General Permit (if not already included in the Evaluation Report), and records specified in Section B.13.i. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit." The Annual Report shall be signed and certified in accordance with Standard Provisions 9. and 10. of Section C of this General Permit. Facility operators shall prepare and submit their Annual Reports using the annual report forms provided by the State

Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

15. *Group Monitoring*

Facility operators may participate in group monitoring as described below. A facility operator that participates in group monitoring shall develop and implement a written site-specific SWPPP and monitoring program in accordance with the General Permit and must satisfy any group monitoring requirements. Group monitoring shall be subject to the following requirements:

a. A group monitoring plan (GMP) shall be developed and implemented by a group leader representing a group of similar facility operators regulated by this General Permit or by a local agency which holds an NPDES permit (local agency permittee) for a municipal separate storm sewer system. GMPs with participants that discharge storm water within the boundaries of a single Regional Water Board shall be approved by that Regional Water Board. GMPs with participants that discharge storm water within the boundaries of multiple Regional Water Boards shall be approved by the State Water Board. The State Water Board and/or Regional Water Board(s) may disapprove a facility's participation in a GMP or require a GMP participant to conduct additional monitoring activities.

b. Each GMP participant shall collect and analyze samples from at least two storm events in accordance with Section B.5. over the five-year period of this General Permit. The two storm event minimum applies to new and existing members. The group leader or local agency permittee shall schedule sampling to meet the following conditions: (i) to evenly distribute the sample collection over the five-year term of this General Permit, and (ii) to collect samples from the two storm events at each participant's facility in different and non-consecutive wet seasons. New participants who join in Years 4 and 5 of this General Permit are not subject to Condition (ii) above. Group leaders shall explain in the annual Group Evaluation Report why any scheduled samples were not collected and reschedule the sampling so that all required samples are collected during the term of this General Permit.

c. The group leader or local agency permittee must have the appropriate resources to develop and implement the GMP. The group leader or local agency permittee must also have the authority to terminate any participant who is not complying with this General Permit and the GMP.

d. The group leader or local agency permittee is responsible for:

i. Developing, implementing, and revising the GMP;

ii. Developing and submitting an annual Group Evaluation Report to the State Water Board and/or Regional Water Board by August 1 of each year that includes:

(1) An evaluation and summary of all group monitoring data,

(2) An evaluation of the overall performance of the GMP participants in complying with this General Permit and the GMP,

(3) Recommended baseline and site-specific BMPs that should be considered by each participant based upon Items (1) and (2) above, and

(4) A copy of each evaluation report and recommended BMPs as required in Section B.15.d.v. below.

iii. Recommending appropriate BMPs to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges;

iv. Assisting each participant in completing their Annual Comprehensive Site Compliance Evaluation and Annual Report;

v. Conducting a minimum of two on-site inspections of each participant's facility (it is recommended that these inspections be scheduled during the Annual Comprehensive Site Compliance Evaluation) during the term of this General Permit to evaluate the participant's compliance with this General Permit and the GMP, and to recommend any additional BMPs necessary to achieve compliance with this General Permit. Participants that join in Years 4 and 5 shall be scheduled for one evaluation. A copy of the evaluation and recommended BMPs shall be provided to the participants;

vi. Submitting a GMP (or revisions, as necessary), to the appropriate Regional Water Board(s) and State Water Board no later than September 1, 1997 (or

August 1 in subsequent years). Once approved, a group leader or local agency permittee shall submit a letter of intent by August 1 of each year to continue the approved GMP. The letter of intent must include a roster of participants, participant's Waste Discharge Identification number (WDID#), updated sampling schedules, and any other revisions to the GMP;

vii. Revising the GMP as instructed by the Regional Water Board or the State Water Board; and

viii. Providing the State Water Board and/or Regional Water Board with quarterly updates of any new or deleted participants and corresponding changes in the sampling and inspection schedule.

e. The GMP shall:

i. Identify the participants of the GMP by name, location, and WDID number;

ii. Include a narrative description summarizing the industrial activities of participants of the GMP and explain why the participants, as a whole, have sufficiently similar industrial activities and BMPs to be covered by a group monitoring plan;

iii. Include a list of typical potential pollutant sources associated with the group participant's facilities and recommended baseline BMPs to prevent or reduce pollutants associated with industrial activity in the storm water discharges and authorized non-storm water discharges;

iv. Provide a five-year sampling and inspection schedule in accordance with Subsections b. and d.v. above.

v. Identify the pollutants associated with industrial activity that shall be analyzed at each participant's facility in accordance with Section B.5. The selection of these pollutants shall be based upon an assessment of each facility's potential pollutant sources and likelihood that pollutants associated with industrial activity will be present in storm water discharges and authorized non-storm water discharges in significant quantities.

f. Sampling and analysis shall be conducted in accordance with the applicable requirements of this Section.

g. Unless otherwise instructed by the Regional Water Board or the State Water Board Executive Director, the GMPs shall be implemented at the beginning of the wet season (October 1).

h. All participants in an approved GMP that have not been selected to sample in a particular wet season are required to comply with all other monitoring program and reporting requirements of this Section including the submittal of an Annual Report by July 1 of each year to the appropriate Regional Water Board.

i. GMP participants subject to Federal storm water effluent limitation guidelines must perform the monitoring described in Section B.6. and submit the results of the monitoring to the appropriate Regional Water Board within the facility operator's Annual Report.

j. GMPs and Group Evaluation Reports should be prepared in accordance with State Water Board (or Regional Water Board) guidance.

k. GMP participants may receive Sampling and Analysis Reduction sampling credit in accordance with the following conditions:

   i. Current or prior participants (group participants) of approved GMPs, who have not collected and analyzed samples from six storm events as required in Section B.7.b.i.(1), may substitute credit earned through participation in a GMP for up to four of the six required storm events. Credits for GMP participation shall be calculated as follows:

      (1) Credit may only be earned in years of participation where the GMP participant was not scheduled to sample and the GMP was approved.

      (2) One credit will be earned for each year of valid GMP participation.

      (3) One additional credit may be earned for each year the overall GMP sample collection performance is greater than 75 percent.

ii. GMP participants substituting credit as calculated above shall provide proof of GMP participation and certification that all the conditions in Section B.12.b.i. have been met. GMP participants substituting credit in accordance with Section B.15.k.i.(3) shall also provide GMP sample collection performance documentation.

iii. GMP participants that qualify for Sampling and Analysis Reduction and have already sampled a storm event after October 1, 1997 shall only be required to sample one additional storm event during the remainder of this General Permit in accordance with the "Sample 2" schedule (or "Sample 1" schedule when certification filed for the wet season beginning October 1, 2001) in Table C of this Section.

n. Group leaders shall furnish, within 60 days of receiving a request from the State Water Board or Regional Water Board, any GMP information and documentation necessary to verify the Section B.15.k. sampling credits. Group leaders may also provide this information and documentation to the group participants.

16. *Watershed Monitoring Option*

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this Section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating facility operator compliance with the requirements of this General Permit.

TABLE D
ADDITIONAL ANALYTICAL PARAMETERS

Subsector	SIC	Activity Represented	Parameter
SECTOR A. TIMBER PRODUCTS			
A1	2421	General Sawmills and Planing Mills	COD;TSS;Zn
A2	2491	Wood Preserving	As;Cu
A3	2411	Log Storage and Handling	TSS
A4	2426	Hardwood Dimension and Flooring Mills	COD;TSS
A4	2429	Special Product Sawmills, Not Elsewhere Classified	COD;TSS
A4	243X	Millwork, Veneer, Plywood, and Structural Wood	COD;TSS
A4	(except 2434--Wood Kitchen Cabinet Manufacturers)		
A4	244X	Wood Containers	COD;TSS
A4	245X	Wood Buildings and Mobile Homes	COD;TSS
A4	2493	Reconstituted Wood Products	COD;TSS
A4	2499	Wood Products, Not Elsewhere Classified	
SECTOR B. PAPER AND ALLIED PRODUCTS MANUFACTURING			
B1	261X	Pulp Mills	
B2	262X	Paper Mills	
B3	263X	Paperboard Mills	COD
B4	265X	Paperboard Containers and Boxes	
B5	267X	Converted Paper and Paperboard Products, Except Containers and Boxes	
SECTOR C. CHEMICAL AND ALLIED PRODUCTS MANUFACTURING			
C1	281X	Industrial Inorganic Chemicals	Al;Fe;N+N
C2	282X	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic, and Other Manmade Fibers Except Glass	Zn
C3	283X	Drugs	
C4	284X	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations	N+N;Zn
C5	285X	Paints, Varnishes, Lacquers, Enamels, and Allied Products	
C6	286X	Industrial Organic Chemicals	
C7	287X	Nitrogenous and Phosphatic Basic Fertilizers, Mixed Fertilizer, Pesticides, and Other Agricultural Chemicals	Fe;N+N;Pb;Zn;P
C8	289X	Miscellaneous Chemical Products	
	3952	Inks and Paints, Including China Painting Enamels, India Ink, (limited to list) Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints, and Artist's Watercolors	
SECTOR D. ASPHALT PAVING/ROOFING MATERIALS MANUFACTURERS AND LUBRICANT MANUFACTURERS			
D1	295X	Asphalt Paving and Roofing Materials	TSS
D2	2992	Lubricating Oils and Greases	

Parameter Names

Al - Aluminum	Cd - Cadmium	Cu - Copper	Mg - Magnesium	BOD - Biochemical Oxygen Demand
As - Arsenic	CN - Cyanide	Fe - Iron	Ag - Silver	N + N - Nitrate & Nitrite Nitrogen
NH_3- Ammonia	Hg - Mercury	P - Phosphorus	Se - Selenium	Pb - Lead
Zn - Zinc	TSS -Total Suspended Solids	COD - Chemical Oxygen Demand		

S ector	SIC	Activity Represented	Parameter
SECTOR E. GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCT MANUFACTURING			
E1	3211	Flat Glass	
E1	322X	Glass and Glassware, Pressed or Blown	
E1	323X	Glass Products Made of Purchased Glass	
E2	3241	Hydraulic Cement	
E3	325X	Structural Clay Products	A
E3	326X	Pottery and Related Products	A
E3	3297	Non-Clay Refractories	A
E4	327X	Concrete, Gypsum, and Plaster Products (Except Lime) (except 3274).	TSS;Fe
E4	3295	Minerals and Earths, Ground, or Otherwise Treated	TSS;Fe
SECTOR F. PRIMARY METALS			
F1	331X	Steel Works, Blast Furnaces, Rolling & Finishing Mill	Al;Zn
F2	332X	Iron and Steel Foundries	Al;TSS;Cu;Fe;Zn
F3	333X	Primary Smelting and Refining of Nonferrous Metals	
F4	334X	Secondary Smelting and Refining of Nonferrous Metals	
F5	335X	Rolling, Drawing, and Extruding of Nonferrous Metals	Cu;Zn
F6	336X	Nonferrous Foundries (Castings)	Cu;Zn
F7	339X	Miscellaneous Primary Metal Products	
SECTOR G. METAL MINING (ORE MINING AND DRESSING) EXCEPT INACTIVE METAL MINING ACTIVITIES ON FEDERAL LANDS WHERE AN OPERATOR CANNOT BE IDENTIFIED			
G1	101X	Iron Ores	
G2	102X	Copper Ores	TSS;COD;N+N
G3	103X	Lead and Zinc Ores	
G4	104X	Gold and Silver Ores	
G5	106X	Ferroalloy Ores, Except Vanadium	
G6	108X	Metal Mining Services	
G7	109X	Miscellaneous Metal Ores	
SECTOR H. COAL MINES AND COAL MINING-RELATED FACILITIES			
NA	12XX	Coal Mines and Coal Mining-Related Facilities	TSS;Al;Fe
SECTOR I. COAL MINES AND COAL MINING-RELATED FACILITIES			
I1	131X	Crude Petroleum and Natural Gas	
I2	132X	Natural Gas Liquids	
I3	138X	Oil and Gas Field Services	
SECTOR J. MINERAL MINING AND DRESSING EXCEPT INACTIVE MINERAL MINING ACTIVITIES OCCURRING ON FEDERAL LANDS WHERE AN OPERATOR CANNOT BE IDENTIFIED			
J1	141X	Dimension Stone	TSS
J1	142X	Crushed and Broken Stone, Including Rip Rap	TSS
J1	148X	Nonmetallic Minerals, Except Fuels	TSS
J2	144X	Sand and Gravel	TSS;N+N
J3	145X	Clay, Ceramic, and Refractory Materials	
J4	147X	Chemical and Fertilizer Mineral Mining	
J4	149X	Miscellaneous Nonmetallic Minerals, Except Fuels	

Subsector	SIC	Activity Represented	Parameters
SECTOR K. HAZARDOUS WASTE TREATMENT STORAGE OR DISPOSAL FACILITIES			
NA	4953	Hazardous Waste Treatment Storage or Disposal	**NH_3;Mg;COD;A Cd;CN;P Hg;Se;A**
SECTOR L. LANDFILLS AND LAND APPLICATION SITES			
NA	4953	Landfills and Land Application Sites That Receive or Have Received Industrial Wastes, Except Inactive Landfills or Land Applications Sites Occurring on Federal Lands Where an Operator Cannot be Identified	**TSS;F**
SECTOR M. AUTOMOBILE SALVAGE YARDS			
NA	5015	Facilities Engaged in Dismantling or Wrecking Used Motor Vehicles for Parts Recycling or Resale and for Scrap	**TSS;Fe;Pb;A**
SECTOR N. SCRAP RECYCLING FACILITIES			
NA	5093	Processing, Reclaiming, and Wholesale Distribution of Scrap and Waste Materials	**TSS;Fe;P Al;Cu;Zn;CO**
SECTOR O. STEAM ELECTRIC GENERATING FACILITIES			
NA	4911	Steam Electric Power Generating Facilities	
SECTOR P. LAND TRANSPORTATION FACILITIES THAT HAVE VEHICLE AND EQUIPMENT MAINTENANCE SHOPS AND/OR EQUIPMENT CLEANING OPERATIONS			
P1	40XX	Railroad Transportation	
P2	41XX	Local and Highway Passenger Transportation	
P3	42XX	Motor Freight Transportation and Warehousing	
P4	43XX	United States Postal Service	
P5	5171	Petroleum Bulk Stations and Terminals	
SECTOR Q. WATER TRANSPORTATION FACILITIES THAT HAVE VEHICLE (VESSEL) & EQUIPMENT MAINTENANCE SHOPS AND/OR EQUIPMENT CLEANING OPERATIONS			
NA	44XX	Water Transportation	**Al;Fe;Pb;Z**
SECTOR R. SHIP AND BOAT BUILDING OR REPAIRING YARDS			
NA	373X	Ship and Boat Building or Repairing Yards	
SECTOR S. AIR TRANSPORTATION FACILITIES			
NA	45XX	Air Transportation Facilities That Have Vehicle Maintenance Ships, Material Handing Facilities, Equipment Cleaning Operations, or Airport and/or Aircraft Deicing/Anti-icing Operations	**BOD;COD;NH_3;pl**

Sub-sector	SIC	Activity Represented	Parameters
SECTOR T. TREATMENT WORKS			
NA	4952	Treatment Works Treating Domestic Sewage or Any Other Sewage Sludge or Wastewater Treatment Device or System Used in the Storage, treatment, recycling, or Reclamation of Municipal or Domestic Sewage with a Design Flow of 1.0 MGD or More or Required to Have an Approved Pretreatment Program	
SECTOR U. FOOD AND KINDRED PRODUCTS			
U1	201X	Meat Products	
U2	202X	Dairy Products	
U3	203X	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties	
U4	204X	Grain Mill Products	**TSS**
U5	205X	Bakery Products	
U6	206X	Sugar and Confectionery Products	
U7	207X	Fats and Oils	**BOD;COD;TSS;N+N**
U8	208X	Beverages	
U9	209X	Miscellaneous Food Preparations and Kindred Products	
NA	21XX	Tobacco Products	
SECTOR V. TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING			
V1	22XX	Textile Mill Products	
V2	23XX	Apparel and Other Finished Products Made From Fabrics and Similar Materials	
SECTOR W. FURNITURE AND FIXTURES			
NA	25XX	Furniture and Fixtures	
NA	2434	Wood Kitchen Cabinets	
SECTOR X. PRINTING AND PUBLISHING			
NA	2732	Book Printing	
NA	2752	Commercial Printing, Lithographic	
NA	2754	Commercial Printing, Gravure	
NA	2759	Commercial Printing, Nor Elsewhere Classified	
NA	2796	Platemaking and Related Services	
SECTOR Y. RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISC. MANUFACTURING INDUSTRIES			
Y1	301X	Tires and Inner Tubes	**Zn**
Y1	302X	Rubber and Plastics Footwear	**Zn**
Y1	305X	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting	**Zn**
Y1	306X	Fabricated Rubber Products, Not Elsewhere Classified	**Zn**
Y2	308X	Miscellaneous Plastics Products	

Subsector	SIC	Activity Represented	Parameters
Y2	393X	Musical Instruments	
Y2	394X	Dolls, Toys, Games, and Sporting and Athletic Goods	
Y2	395X	Pens, Pencils, and Other Artists' Materials	
Y2	396X	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal	
Y2	399X	Miscellaneous Manufacturing Industries	
SECTOR Z. LEATHER TANNING AND FINISHING			
NA	311X	Leather Tanning and Finishing	
NA	NA	Facilities that Make Fertilizer Solely From Leather Scraps and Leather Dust	
SECTOR AA. FABRICATED METAL PRODUCTS			
AA1	3429	Hardware, Not Elsewhere Classified	Zn;N+N;Fe;A
AA1	3441	Fabricated Structural Metal	Zn;N+N;Fe;A
AA1	3442	Metal Doors, Sash, Frames, Molding, and Trim	Zn;N+N;Fe;A
AA1	3443	Fabricated Plate Work (Boiler Shops)	Zn;N+N;Fe;A
AA1	3444	Sheet Metal Work	Zn;N+N;Fe;A
AA1	3451	Screw Machine Products	Zn;N+N;Fe;A
AA1	3452	Bolts, Nuts, Screws, Rivets, and Washers	Zn;N+N;Fe;A
AA1	3462	Iron and Steel Forgings	Zn;N+N;I
AA1	3471	Electroplating, Plating, Polishing, Anodizing, and Coloring	Zn;N+N;Fe;A
AA1	3494	Valves and Pipe Fittings, Not Elsewhere Classified	Zn;N+N;Fe;A
AA1	3496	Miscellaneous Fabricated Wire Products	Zn;N+N;Fe;A
AA1	3499	Fabricated Metal Products, Not Elsewhere Classified	Zn;N+N;Fe;A
AA1	391X	Jewelry, Silverware, and Plated Ware	Zn;N+N;Fe;A
AA2	3479	Coating, Engraving, and Allied Services	Zn;N+
SECTOR AB. TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY			
NA	35XX	Industrial and Commercial Machinery (except 357X Computer and Office Equipment)	
NA	37XX	Transportation Equipment (except 373X Ship and Boat Building and Repairing	
SECTOR AC. ELECTRONIC, ELECTRICAL. PHOTOGRAPHIC, AND OPTICAL GOODS			
NA	36XX	Electronic and Other Electrical Equipment and Components, Except Computer Equipment	
NA	38XX	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical, and Optical Goods; Watches and Clocks	
NA	357X	Computer and Office Equipment	

Section C: STANDARD PROVISIONS

1. Duty to Comply

The facility operator must comply with all of the conditions of this General Permit. Any General Permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for (a) enforcement action for (b) General Permit termination, revocation and reissuance, or modification or (c) denial of a General Permit renewal application.

The facility operator shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the facility operator for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition, and the facility operator so notified.

3. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a facility operator in an enforcement action that it would have been necessary to halt or reduce the general permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The facility operator shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The facility operator at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the facility operator to achieve compliance with the conditions of this General Permit and with the requirements of storm water pollution prevention plans (SWPPPs). Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a facility operator when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The facility operator shall furnish the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), U.S. Environmental Protection Agency (U.S. EPA), or local storm water management agency, within a reasonable time specified by the agencies, any requested information to determine compliance with this General Permit. The facility operator shall also furnish, upon request, copies of records required to be kept by this General Permit.

8. Inspection and Entry

The facility operator shall allow the Regional Water Board, State Water Board, U.S. EPA, and local storm water management agency, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the facility operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this General Permit;

b. Have access to and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) that are related to or may impact storm water discharge or authorized non-storm water discharge; and

d. Conduct monitoring activities at reasonable times for the purpose of ensuring General Permit compliance.

9. Signatory Requirements

a. All Notices of Intent (NOIs) submitted to the State Water Board shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

b. All reports, certifications, or other information required by the General Permit or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above and retained as part of the SWPPP.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for named position.)

(3) If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be attached to the SWPPP prior to submittal of any reports, certifications, or information signed by the authorized representative.

10. Certification

Any person signing documents under Provision 9. above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

11. Reporting Requirements

a. Planned changes: The facility operator shall give advance notice to the Regional Water Board and local storm water management agency of any planned physical alteration or additions to the general permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged.

b. Anticipated noncompliance: The facility operator will give advance notice to the Regional Water Board and local storm water management agency of any planned changes at the permitted facility which may result in noncompliance with General Permit requirements.

c. Compliance schedules: Reports of compliance or noncompliance with or any progress reports on interim and final requirements contained in any compliance schedule of this General Permit shall be submitted no later than 14 days following each scheduled date.

d. Noncompliance reporting: The facility operator shall report any noncompliance at the time monitoring reports are submitted. The written submission shall contain (1) a description of the noncompliance and its cause; (2) the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (3) steps taken or planned to reduce and prevent recurrence of the noncompliance.

12. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the facility operator from any responsibilities, liabilities, or penalties to which the facility operator is or may be subject under Section 311 of the CWA.

13. Severability

The provisions of this General Permit are severable; and if any provision of this General Permit or the application of

any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

14. Reopener Clause

This General Permit may be modified, revoked, and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 CFR 122.62, 122.63, 122.64, and 124.5. This General Permit may be reopened to modify the provisions regarding authorized non-storm water discharges specified in Section D. Special Conditions.

15. Penalties for Violations of General Permit Conditions.

a. Section 309 of the CWA provides significant penalties for any person who violates a General Permit condition implementing Sections 301, 302, 306, 307 308, 318, or 405 of the CWA, or any General Permit condition or limitation implementing any such section in a General Permit issued under Section 402. Any person who violates any General Permit condition of this General Permit is subject to a civil penalty not to exceed $25,000 per day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties in some cases greater than those under the CWA.

16. Availability

A copy of this General Permit shall be maintained at the facility and be available at all times to the appropriate facility personnel and to Regional Water Board and local agency inspectors.

17. Transfers

This General Permit is not transferable from one facility operator to another facility operator nor may it be transferred from one location to another location. A new facility operator of an existing facility must submit an NOI

in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit.

18. Continuation of Expired General Permit

This General Permit continues in force and effect until a new general permit is issued or the State Water Board rescinds the General Permit. Facility operators authorized to discharge under the expiring general permit are required to file an NOI to be covered by the reissued General Permit.

19. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both.

Attachment 1

FACILITIES COVERED BY THIS GENERAL PERMIT

Industrial facilities include Federal, State, municipally owned, and private facilities from the following categories:

1. FACILITIES SUBJECT TO STORM WATER EFFLUENT LIMITATIONS GUIDELINES, NEW SOURCE PERFORMANCE STANDARDS, OR TOXIC POLLUTANT EFFLUENT STANDARDS (40 Code of Federal Regulations (CFR) SUBCHAPTER N). Currently, categories of facilities subject to storm water effluent limitations guidelines are Cement Manufacturing (40 CFR Part 411), Feedlots (40 CFR Part 412), Fertilizer Manufacturing (40 CFR Part 418), Petroleum Refining (40 CFR Part 419), Phosphate Manufacturing (40 CFR Part 422), Steam Electric (40 CFR Part 423), Coal Mining (40 CFR Part 434), Mineral Mining and Processing (40 CFR Part 436), Ore Mining and Dressing (40 CFR Part 440), and Asphalt Emulsion (40 CFR Part 443).

2. MANUFACTURING FACILITIES: Standard Industrial Classifications (SICs) 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, and 373.

3. OIL AND GAS/MINING FACILITIES: SICs 10 through 14 including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l) because of performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released, or except for area of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990); oil and gas exploration, production, processing, or treatment operations; or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations. Inactive mining operations are mined sites that are not being actively mined but which have an identifiable facility operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material; or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

4. HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES: Includes those operating under interim status or a general

permit under Subtitle C of the Federal Resource, Conservation, and Recovery Act (RCRA).

5. LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS: Sites that receive or have received industrial waste from any of the facilities covered by this General Permit, sites subject to regulation under Subtitle D of RCRA, and sites that have accepted wastes from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance of five acres or more).

6. RECYCLING FACILITIES: SICs 5015 and 5093. These codes include metal scrapyards, battery reclaimers, salvage yards, motor vehicle dismantlers and wreckers, and recycling facilities that are engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, oil waste, etc.

7. STEAM ELECTRIC POWER GENERATING FACILITIES: Includes any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.

8. TRANSPORTATION FACILITIES: SICs 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified herein that are associated with industrial activity.

9. SEWAGE OR WASTEWATER TREATMENT WORKS: Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility with a design flow of one million gallons per day or more or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the Clean Water Act.

10. MANUFACTURING FACILITIES WHERE INDUSTRIAL MATERIALS, EQUIPMENT, OR ACTIVITIES ARE <u>EXPOSED</u> TO STORM WATER: SICs 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-4225.

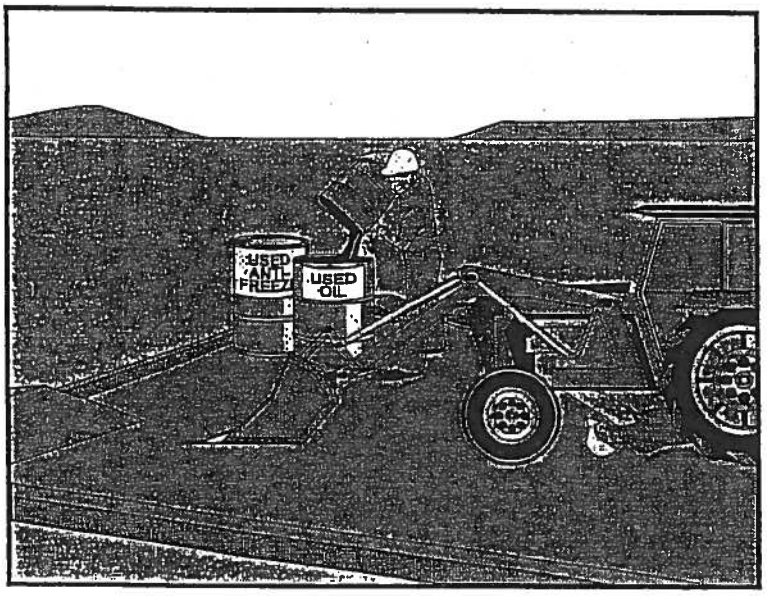
Attachment 2

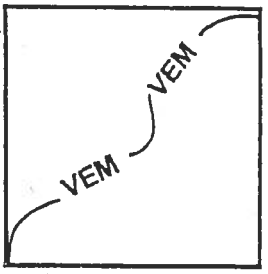
STORM WATER CONTACTS FOR THE STATE AND REGIONAL WATER BOARDS

See Storm Water Contacts at:
http://www.waterboards.ca.gov/stormwtr/contact.html

ATTACHMENT P

Vehicle and Equipment Maintenance NS-10





Standard Symbol

BMP Objectives

- o Soil Stabilization
- o Sediment Control
- o Tracking Control
- o Wind Erosion Control
- ● Non-Storm Water Management
- o Materials and Waste Management

Definition and Purpose

Procedures and practices to minimize or eliminate the discharge of pollutants to the storm drain systems or to watercourses from vehicle and equipment maintenance procedures.

Appropriate Applications

These procedures are applied on all construction projects where an onsite yard area is necessary for storage and maintenance of heavy equipment and vehicles.

Limitations

- None identified.

Standards and Specifications

- Drip pans or absorbent pads shall be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- All maintenance areas are required to have spill kits and/or use other spill protection devices.
- Dedicated maintenance areas shall be protected from storm water run-on and runoff, and shall be located at least 15 m (50 ft) from downstream drainage facilities and watercourses.
- Drip Pans or plastic sheeting shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than one hour.
- Absorbent spill clean-up materials shall be available in maintenance areas and shall be disposed of properly after use. Substances used to coat asphalt transport trucks and asphalt-spreading equipment shall be non-toxic.
- Use off-site maintenance facilities whenever practical.

- For long-term projects, consider constructing roofs or using portable tents over maintenance areas.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not dump fuels and lubricants onto the ground.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose or recycle used batteries.
- Do not bury used tires.
- Repair of fluid and oil leaks immediately.
- Provide spill containment dikes or secondary containment around stored oil and chemical drums.

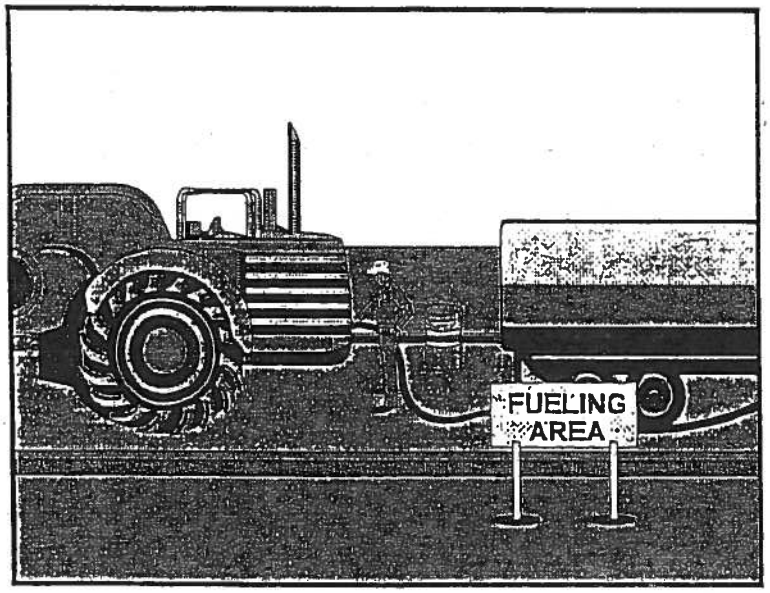
Maintenance and Inspection

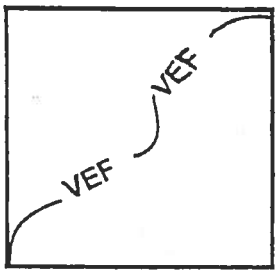
- Maintain waste fluid containers in leak proof condition.
- Vehicle and equipment maintenance areas shall be inspected regularly.
- Vehicles and equipment shall be inspected on each day of use. Leaks shall be repaired immediately or the problem vehicle(s) or equipment shall be removed from the project site.
- Inspect equipment for damaged hoses and leaky gaskets routinely. Repair or replace as needed.

ATTACHMENT Q

Vehicle and Equipment Fueling

NS-9





Standard Symbol

BMP Objectives

- o Soil Stabilization
- o Sediment Control
- o Tracking Control
- o Wind Erosion Control
- • Non-Storm Water Management
- o Materials and Waste Management

Definition and Purpose

Vehicle and equipment fueling procedures and practices are designed to minimize or eliminate the discharge of fuel spills and leaks into storm drain systems or to watercourses.

Appropriate Applications

These procedures are applied on all construction sites where vehicle and equipment fueling takes place.

Limitations

- Onsite vehicle and equipment fueling shall only be used where it's impractical to send vehicles and equipment off-site for fueling.

Standards and Specifications

- When fueling must occur onsite, the contractor shall select and designate an area to be used, subject to approval of the Resident Engineer (RE).
- Absorbent spill clean-up materials and spill kits shall be available in fueling areas and on fueling trucks and shall be disposed of properly after use.
- Drip pans or absorbent pads shall be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Dedicated fueling areas shall be protected from storm water run-on and runoff, and shall be located at least 15 m (50 ft) from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut-off to control drips. Fueling operations shall not be left unattended.
- Protect fueling areas with berms and/or dikes to prevent run-on, runoff, and to contain spills.

- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management Districts (AQMD). Ensure the nozzle is secured upright when not in use.
- Fuel tanks shall not be "topped-off."
- Vehicles and equipment shall be inspected on each day of use for leaks. Leaks shall be repaired immediately or problem vehicles or equipment shall be removed from the project site.
- Absorbent spill clean-up materials shall be available in fueling and maintenance areas and used on small spills instead of hosing down or burying techniques. The spent absorbent material shall be removed promptly and disposed of properly.
- Federal, state, and local requirements shall be observed for any stationary above ground storage tanks. Refer to WM-1, "Material Delivery and Storage."
- Mobile fueling of construction equipment throughout the site shall be minimized. Whenever practical, equipment shall be transported to the designated fueling area.

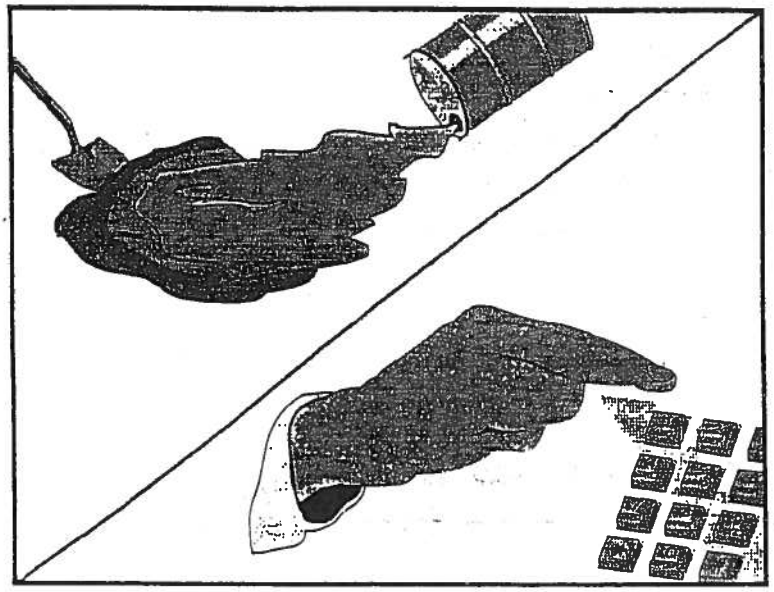
Maintenance and Inspection

- Fueling areas and storage tanks shall be inspected regularly.
- Keep an ample supply of spill cleanup material on the site.
- Immediately cleanup spills and properly dispose of contaminated soil and cleanup materials.

ATTACHMENT R

Spill Prevention and Control

WM-4



Standard Symbol

BMP Objectives

- ○ Soil Stabilization
- ○ Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ● Non-Storm Water Management
- ● Materials and Waste Management

Definition and Purpose

These procedures and practices are implemented to prevent and control spills in a manner that minimizes or prevents the discharge of spilled material to the drainage system or watercourses.

Appropriate Application

This best management practice (BMP) applies to all construction projects. Spill control procedures are implemented anytime chemicals and/or hazardous substances are stored. Substances may include, but are not limited to:

- Soil stabilizers/binders.
- Dust Palliatives.
- Herbicides.
- Growth inhibitors.
- Fertilizers.
- Deicing/anti-icing chemicals.
- Fuels.
- Lubricants.
- Other petroleum distillates.

To the extent that the work can be accomplished safely, spills of oil, petroleum products, substances listed under 40 CFR parts 110, 117, and 302, and sanitary and septic wastes shall be contained and cleaned up immediately.

Spill Prevention and Control

WM-4

Limitations

- This BMP only applies to spills caused by the contractor.
- Procedures and practices presented in this BMP are general. Contractor shall identify appropriate practices for the specific materials used or stored on-site.

Standards and Specifications

- To the extent that it doesn't compromise clean up activities, spills shall be covered and protected from storm water run-on during rainfall.
- Spills shall not be buried or washed with water.
- Used clean up materials, contaminated materials, and recovered spill material that is no longer suitable for the intended purpose shall be stored and disposed of in conformance with the special provisions.
- Water used for cleaning and decontamination shall not be allowed to enter storm drains or watercourses and shall be collected and disposed of in accordance with BMP WM-10, "Liquid Waste Management."
- Water overflow or minor water spillage shall be contained and shall not be allowed to discharge into drainage facilities or watercourses.
- Proper storage, clean-up and spill reporting instruction for hazardous materials stored or used on the project site shall be posted at all times in an open, conspicuous and accessible location.
- Waste storage areas shall be kept clean, well organized and equipped with ample clean-up supplies as appropriate for the materials being stored. Perimeter controls, containment structures, covers and liners shall be repaired or replaced as needed to maintain proper function.

Education

- Educate employees and subcontractors on what a "significant spill" is for each material they use, and what is the appropriate response for "significant" and "insignificant" spills.
- Educate employees and subcontractors on potential dangers to humans and the environment from spills and leaks.
- Hold regular meetings to discuss and reinforce appropriate disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.
- The Contractor's Water Pollution Control Manager (WPCM) shall oversee and enforce proper spill prevention and control measures.

Cleanup and Storage Procedures

- Minor Spills
  - Minor spills typically involve small quantities of oil, gasoline, paint, etc., which can be controlled by the first responder at the discovery of the spill.
  - Use absorbent materials on small spills rather than hosing down or burying the spill.
  - Remove the absorbent materials promptly and dispose of properly.
  - The practice commonly followed for a minor spill is:
    - Contain the spread of the spill.
    - Recover spilled materials.
    - Clean the contaminated area and/or properly dispose of contaminated materials.
- Semi-Significant Spills
  - Semi-significant spills still can be controlled by the first responder along with the aid of other personnel such as laborers and the foreman, etc. This response may require the cessation of all other activities.
  - Clean up spills immediately:
    - Notify the project foreman immediately. The foreman shall notify the Resident Engineer (RE).
    - Contain spread of the spill.
    - If the spill occurs on paved or impermeable surfaces, clean up using "dry" methods (absorbent materials, cat litter and/or rags). Contain the spill by encircling with absorbent materials and do not let the spill spread widely.
    - If the spill occurs in dirt areas, immediately contain the spill by constructing an earthen dike. Dig up and properly dispose of contaminated soil.
    - If the spill occurs during rain, cover spill with tarps or other material to prevent contaminating runoff.

- Significant/Hazardous Spills
  - For significant or hazardous spills that cannot be controlled by personnel in the immediate vicinity, the following steps shall be taken:
    - Notify the RE immediately and follow up with a written report.
    - Notify the local emergency response by dialing 911. In addition to 911, the contractor will notify the proper county officials. It is the contractor's responsibility to have all emergency phone numbers at the construction site.
    - Notify the Governor's Office of Emergency Services Warning Center, (805) 852-7550.
    - For spills of federal reportable quantities, in conformance with the requirements in 40 CFR parts 110,119, and 302, the contractor shall notify the National Response Center at (800) 424-8802.
    - Notification shall first be made by telephone and followed up with a written report.
    - The services of a spills contractor or a Haz-Mat team shall be obtained immediately. Construction personnel shall not attempt to clean up the spill until the appropriate and qualified staff have arrived at the job site.
    - Other agencies which may need to be consulted include, but are not limited to, the Fire Department, the Public Works Department, the Coast Guard, the Highway Patrol, the City/County Police Department, Department of Toxic Substances, California Division of Oil and Gas, Cal/OSHA, RWQCB, etc.

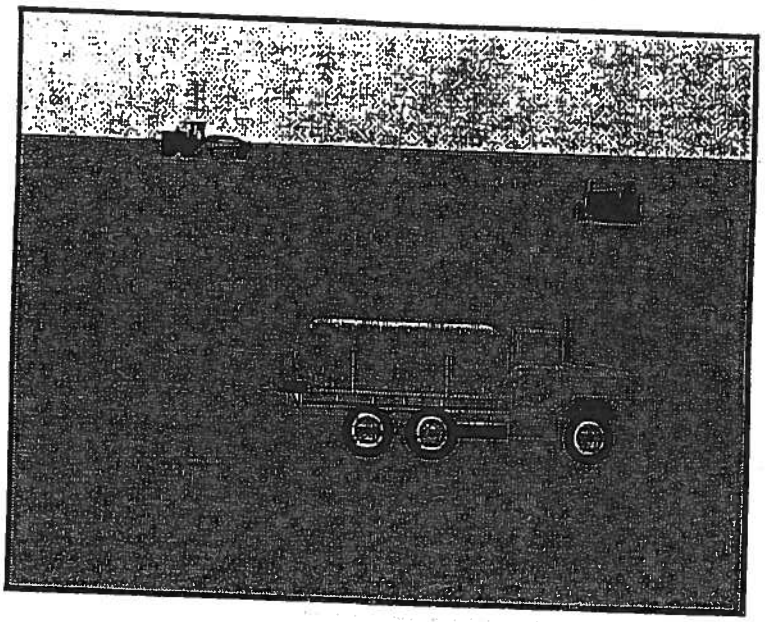
Maintenance and Inspection

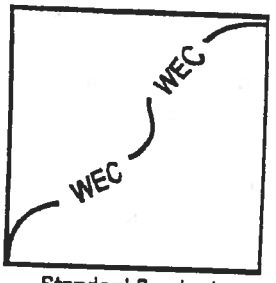
- Verify weekly that spill control clean up materials are located near material storage, unloading, and use areas.
- Update spill prevention and control plans and stock appropriate clean-up materials whenever changes occur in the types of chemicals used or stored onsite.

ATTACHMENT S

Wind Erosion Control

WE-1





Standard Symbol

BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ● Wind Erosion Control
- ○ Non-Storm Water Management
- ○ Materials and Waste Management

Definition and Purpose

Wind erosion control consists of applying water and/or other dust palliatives as necessary to prevent or alleviate erosion by the forces of wind. Dust control shall be applied in accordance with Caltrans standard practices. Covering of small stockpiles or areas is an alternative to applying water or other dust palliatives.

Appropriate Applications

- This practice is implemented on all exposed soils subject to wind erosion.

Limitations

- Effectiveness depends on soil, temperature, humidity and wind velocity.

Standards and Specifications

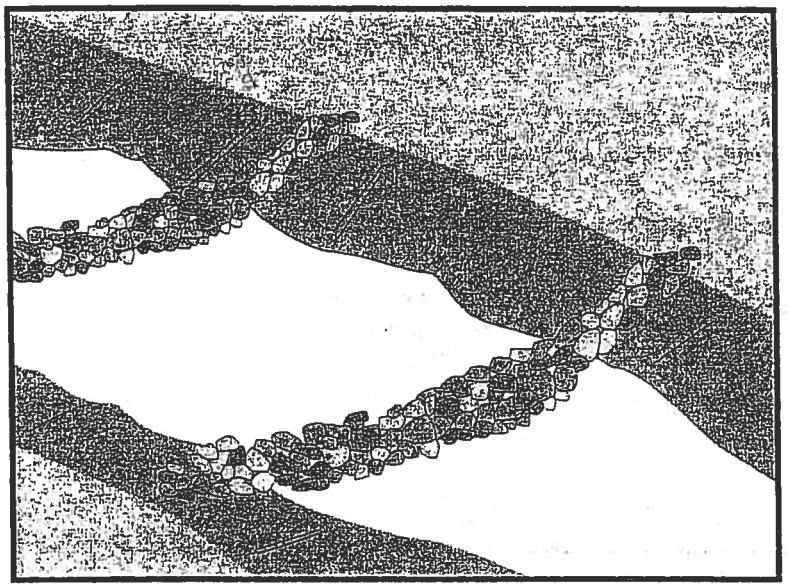
- Water shall be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment shall be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit shall be available at all times to apply water or dust palliative to the project.
- If reclaimed water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board requirements. Non-potable water shall not be conveyed in tanks or drain pipes that will be used to convey potable water and there shall be no connection between potable and non-potable supplies. Non-potable tanks, pipes and other conveyances shall be marked "NON-POTABLE WATER - DO NOT DRINK."
- Materials applied as temporary soil stabilizers and soil binders will also provide wind erosion control benefits.

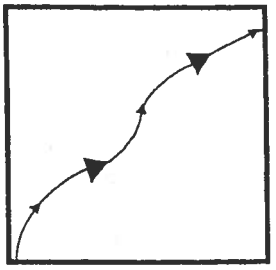
Maintenance and Inspection

- Check areas that have been protected to ensure coverage.

ATTACHMENT T

CD34(2)
Check Dams





BMP Objectives

- ● Soil Stabilization
- ● Sediment Control
- ○ Tracking Control
- ○ Wind Erosion Control
- ○ Non-Storm Water

Definition and Purpose

Procedures and practices to reduce the discharge of pollutants to the storm drain system or to watercourses as a result of construction activity by utilizing temporary dams of rocks, logs, or timbers placed across a channel or ditch in order to reduce erosion of the conveyance and to help slow flows so that sediment can settle and be trapped.

Appropriate Applications

- In small open channels which drain 4 ha (10 ac) or less.
- In steep channels where storm water runoff velocities must be reduced to protect against erosion.
- During the establishment of grass linings in drainage ditches or channels.
- In temporary ditches or channels where the short length of service does not allow or warrant establishment or construction of erosion-resistant linings.
- Where slowing the flow of water is required to settle suspended sediment.

Limitations

- Not to be used in live streams.
- Not appropriate in channels which drain areas greater than 4 ha (10 ac).
- Not to be placed in channels which are already grass lined unless erosion is expected, as installation may damage vegetation.

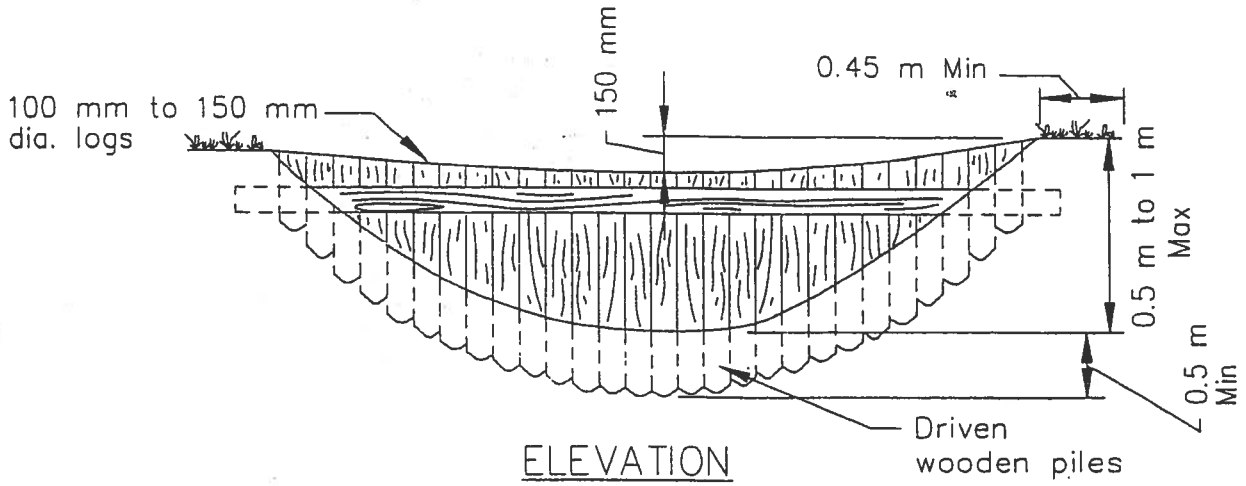
- Require extensive maintenance following high velocity flows.
- Promotes sediment trapping which can be resuspended during subsequent storms or removal of the check dam.
- Not to be constructed from straw bales or silt fences.

Standards and Specifications

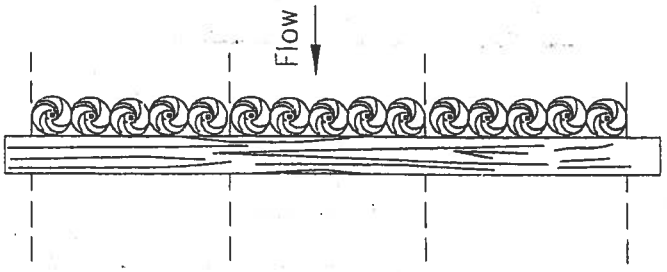
- Check dams shall be placed at a distance and height to allow small pools to form behind them.
- For multiple check dam installation, backwater from downstream check dam shall reach the toe of the upstream dam.
- High flows (typically a 2 year storm or larger) shall safely flow over the check dam without an increase in upstream flooding or damage to the check dam.
- Where grass is used to line ditches, check dams shall be removed when grass has matured sufficiently to protect the ditch or swale.
- A sump shall be provided immediately upstream of the dam for the purpose of capturing excessive sediment.
- Rock shall be placed individually by hand or by mechanical methods (no dumping of rock) to achieve complete ditch or swale coverage.

Maintenance and Inspection

- Inspect check dams after each significant rainfall event. Repair damage as needed.
- Remove sediments when depth reaches one-third of the check dam height.

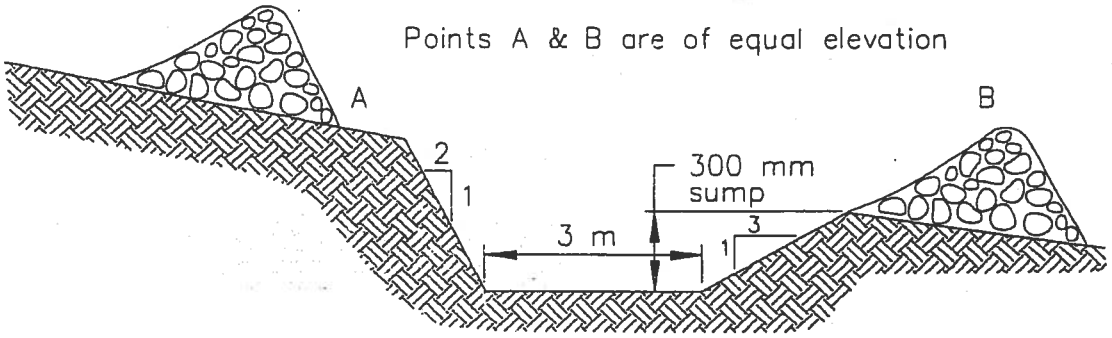


ELEVATION



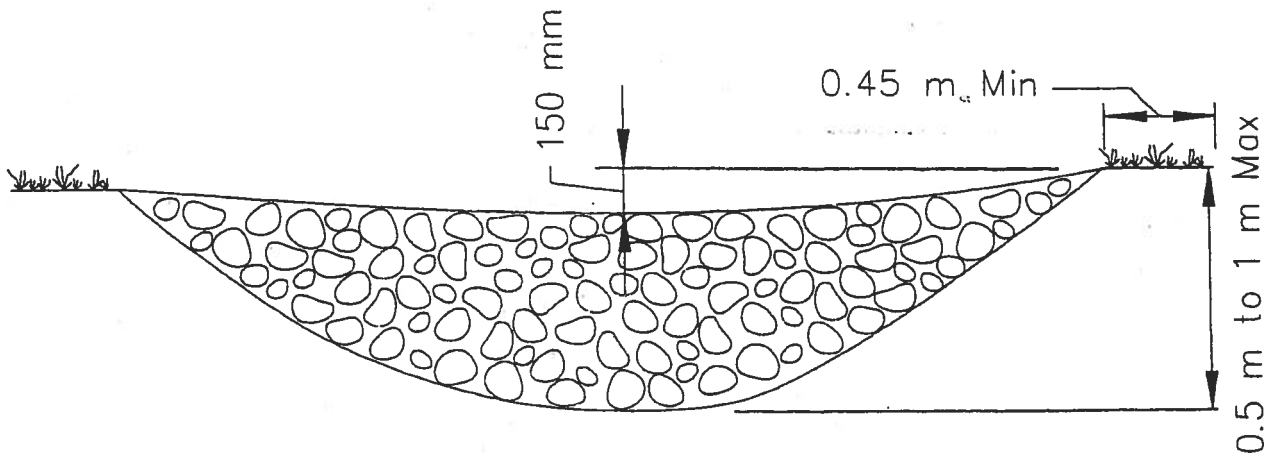
PLAN VIEW

LOG CHECK DAM
NOT TO SCALE

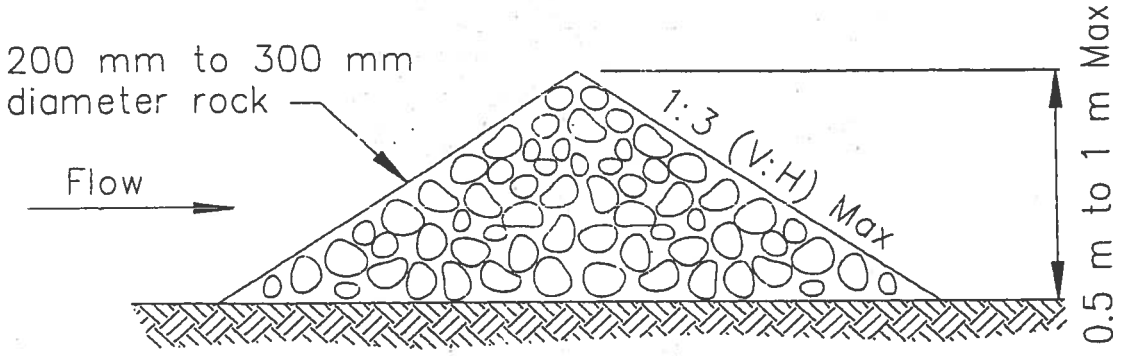


TYPICAL SPACING BETWEEN CHECK DAMS
NOT TO SCALE

Sheet 1



ELEVATION



TYPICAL ROCK CHECK DAM SECTION

ROCK CHECK DAM
NOT TO SCALE

Sheet 2

EXHIBIT E (#14, 22, 23)

BAXTER BLASTING COMPANY

FACSIMILE TRANSMITTAL SHEET

TO: Paul Hubbs	FROM: DANA CASEMIER
COMPANY:	DATE: 6/16/2008
FAX NUMBER: 951 360-3990	TOTAL NO. OF PAGES INCLUDING COVER: 10
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
RE: PYRITE QUARRY	YOUR REFERENCE NUMBER:

The information you requested by telephone on 6/12/08:

1. Blasting History at Pyrite Quarry
2. Agents used

BAXTER

#14, #15, #22

#23

P. O. BOX 245 EL CAJON CA 92022-0245
619 4437800 FAX 561-4434

Hubbs Pyrite Quarry Shot History

Date Shot	Shot #
5/22/02	02-01
9/16/02	02-02
3/26/03	03-01
5/29/03	03-02
8/18/03	03-03
2/17/04	04-01
6/11/04	04-02
6/30/04	04-03
11/5/04	04-04
11/16/04	04-05
12/6/04	04-06
12/10/04	04-07
3/10/05	05-01
3/17/05	05-02
3/29/05	05-03
4/20/05	05-04
5/6/05	05-05
5/18/05	05-06
6/16/05	05-07
6/28/05	05-08
8/24/05	05-09
9/21/05	05-10
10/6/05	05-11
10/13/05	05-12
11/3/05	05-13
11/9/05	05-14
11/17/05	05-15
12/2/05	05-16
12/9/05	05-17
12/29/05	05-18
12/30/05	05-19

Slurran XG

Material Safety Data Sheet

SEC Investments Corp. LLC.
5700 N. Portland, Suite 301 / Oklahoma City, OK 73112 / Phone: (405) 947-0765 / Fax: (405) 947-0768

SECTION 1 - PRODUCT INFORMATION

TRADE NAME:	Slurran XG
SYNONYM:	NA
CHEMICAL FAMILY:	Watergel Slurry Explosive
FORMULA:	Mixture
CAS NUMBER:	None
UN/NA NUMBER:	UN0332
DOT HAZARD CLASS:	Explosive, Blasting, Type E, Class 1.5 D

SECTION 2 - HEALTH ALERT

DANGER - If misused or disposed of improperly, material could explode and cause death or serious injury.
DO NOT HANDLE WHEN IN DOUBT!!
See section VIII - Personal Protection
CHEM-TEL, INC. (800) 255-3924.

SECTION 3 - HEALTH HAZARD INFORMATION

EYE May cause moderate irritation.
SKIN: May cause moderate irritation characterized my redness and/or rash.
INHALATION: Inhalation of decomposed products may irritate the respiratory tract. Prolonged exposure to these fumes may result in respiratory difficulties (shortness of breath, etc.) and possibly more severe toxic effects.
INGESTION: Swallowing large quantities may cause toxicity characterized by dizziness, bluish skin coloration, methemoglobinemia, unconsciousness, abdominal spasms, nausea, and pain. Constituents can cause iodine uptake inhibition in the thyroid – this is not normally significant unless long term exposure at fairly high levels (not likely to occur in gel form) occurs. Avoid ingestion.

SECTION 4 - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush with large amounts of water. Seek medical aid.
SKIN CONTACT: Remove contaminated clothing. Wash skin thoroughly with soap and water
INHALATION: Remove from exposure. If breathing stops or is difficult, administer artificial respiration or oxygen. Seek medical aid.
INGESTION: Give 8-16 oz. of milk or water. Induce vomiting. Seek medical aid.

SECTION 5 - RECOMMENDED OCCUPATIONAL EXPOSURE LIMIT/ HAZARDOUS INGREDIENTS
EXPOSURE LIMIT (PRODUCT): None required for product.

HAZARDOUS INGREDIENTS:	PERCENT	EXPOSURE LIMIT	CAS NO.
Ammonium Nitrate	10 - 20	Not Listed	6484-52-2
Sodium Nitrate	10 - 20	10 mg/m3 (nuisance dust)	7631-99-4
Ammonium Perchlorate	20 - 30	10 mg/m3 (nuisance dust)	7790-98-9
Nitric Acid*	5 - 10	2 ppm (ACGIH TWA)	7697-37-2
Hexamine*	10 -1 5	10 mg/m3 (nuisance dust)	100-97-0
Micro-balloons	<5%	10 mg/m3 (nuisance dust	65997-17-3

*React to form Hexaminedinitrate
NOTE: All ingredients are present in a gelled slurry matrix and individual hazard may not be present in this formulation.

SECTION 6 - REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY: Heat (confinement); Stacking (burning).
INCOMPATIBILITY: Can react violently or explode, with reducing agents and organic materials. Avoid amines, strong alkalis & acids. HAZARDOUS REACTION / DECOMPOSITION PRODUCTS: At high temperatures, especially >374 F, may emit severe toxic fumes of nitrogen oxides.
CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Not applicable.

SECTION 7 - FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT & METHOD: NA
FLAMMABLE LIMITS (% BY VOLUME/AIR): LOWER: NA UPPER: NA
AUTO IGNITION TEMPERATURE: Explodes
EXTINGUISHING MEDIA: Water

Slurran XG

Material Safety Data Sheet

SECTION 7 - FIRE AND EXPLOSION HAZARD INFORMATION (cont.)

FIRE-FIGHTING PROCEDURES. When explosive is burning, EVACUATE AREA. Avoid breathing vapor
FIRE & EXPLOSION HAZARDS: Dangerous when exposed to heat or flame. Can support combustion of other materials involved in a fire and is capable of undergoing detonation if heated to high temperatures especially under confinement including being piled on itself in a burning fire. When heated to decomposition, highly toxic fumes may be emitted. Do not return to area of explosion, until smoke and fumes have dissipated. Dry alkali or amine salts are explosive.

SECTION 8 - PERSONAL PROTECTION INFORMATION

EYE PROTECTION: Safety goggles approved for the handling of explosives materials.
SKIN PROTECTION: Neoprene, natural rubber, polyethylene or polyvinyl chloride gloves. Use barrier creams, hand protection and protective clothing
RESPIRATORY PROTECTION: Not normally required. Mechanical filter or supplied air type respirator as required for concentrations exceeding the occupational exposure limit.
VENTILATION: Maintain adequate ventilation. Use local exhaust if needed.

SECTION 9 - PERSONAL HANDLING INSTRUCTIONS

HANDLING: Explosives should not be abandoned at any location for any reason. Do not handle during electrical storms.
STORAGE: Store in a cool, dry, well-ventilated area remote from operations. Storage area should be of non-combustible construction Organic materials, flammable substances and finely divided metals should be stored separately. Flames, smoking and unauthorized personnel are prohibited where this product is used or stored. Protect against physical damage, static electricity and lightning.
WARNING: Use of this product by persons lacking adequate training, experience and supervision may result in death or serious injury.
Obey all Federal, State, and local laws / regulations applicable to transportation, storage, handling, and use of explosives.
DISTANCE: Always stay from area of explosion or disposal sites. Stay behind suitable barriers.

SECTION 10 - SPILL & LEAK PROCEDURES

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED (IN ADDITION, SEE SECTION 8): Isolate area. Eliminate ALL sources of ignition. Avoid skin contact. Scrape up. Remove soiled clothing.
WASTE DISPOSAL - USE APPROPRIATE METHOD(S): Disposal of unexploded or deteriorated explosives material can be hazardous. Expert assistance is positively recommended in destroying explosives. Accidents can be prevented by thorough planning and handling in accordance with approved methods. Consult your supervisor for assistance. If improperly disposed of, material could explode and cause death or serious injury.

In all cases, follow facility emergency response procedures. Contact Facility Environmental Manager for assistance. Report any discharge of oil or hazardous substance that may enter surface waters to the National Response Center (800) 424 - 8802.

Observe all applicable local, state, and federal environmental spill and water quality regulations.

SECTION 11 - PHYSICAL DATA

BOILING POINT:	NA	BULK DENSITY:	1.22 g/cc
MELTING POINT:	NA	%VOLATILE BY VOLUME:	NA
VAPOR PRESSURE:	NA	EVAPORATION RATE (ETHER=1):	NA
SOLUBILITY IN WATER:	Negligible with short-term exposure	DECOMPOSITION POINT:	200 C
APPEARANCE/ ODOR:	Odorless, gray/white gel		

SECTION 12 – COMMENTS

This product is classified as a Blasting Agent and need not be stored in a high explosive magazine, except where required by local regulations, as long as it is completely separate from any high explosives. Storage should be in a well-constructed, well-ventilated, dry structure located to conform to local, state, and federal regulations. The area surrounding an explosive magazine must be kept clear of combustible materials for a distance of 50 feet. Magazine floors and containers must be properly cleaned. Normal operating conditions are assumed unless otherwise stated. If any given information is not clear or does not apply to your situation, STOP, store the material suitably, and seek correct help from your supervisors or the Institute of Makers of Explosives. Bureau of Alcohol, Tobacco, and Firearms regulations for explosive storage and handling should be consulted and complied with. Disposal sites must be clear of people at the time of disposal

NOTICE: The data and recommendations presented herein are based upon data, which are considered accurate. However, SEC makes no guarantee or warranty, either expressed or implied, of the accuracy or completeness of these data and recommendations For more detailed information on the hazards of this product, contact the Regulatory Compliance Department at the address below:

DataCorp, PO Box 462, Columbus, Kansas 66724, (620) 597-2562.

RECEIVED APR 12 2004

ETI CANADA INC.

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT IDENTIFICATION

HMIS HAZARD RATINGS:			KEY:
	HEALTH	= 1	4 = SEVERE
	FLAMMABILITY	= 1	3 = SERIOUS
	REACTIVITY	= 2	2 = MODERATE
			1 = SLIGHT
			0 = MINIMAL

NAME: DRY BLASTING AGENTS

TRADE NAMES AND SYNONYMS:

ANFO ###	NILITE® WR ###
FRAGMAX™ ###	NBL ###
FRAGPAK™ ###	EL ###
LO-RITE ###	WATERBLOCK
	NILITE ###

- NUMBER, NAME AND/OR LETTER DESIGNATION FOR PRODUCTS

MANUFACTURER/DISTRIBUTOR:

GOLDEN STATE EXPLOSIVES
2901 STATE HWY. 16
PLYMOUTH, CA 95669
(800) 210-5786

ETI CANADA INC.
PO BOX 900
350 DUPONT ROAD
NORTH BAY, ONTARIO
P1B 8K2

PRODUCT INFORMATION PHONE: (705) 472-1300, EXT. 145

	USA	CANADA
TRANSPORTATION EMERGENCY PHONE:	(800) 424-9300	(705) 472-1300

("ONLY IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT")

SECTION 2 - HAZARDOUS COMPONENTS

CHEMICAL	CAS NUMBER	TLV
AMMONIUM NITRATE	6484-52-2	NONE ESTABLISHED
FUEL OIL	68476-30-2	NONE ESTABLISHED
ALUMINUM	7429-90-5	5 MG/M^3
GUAR	9000-30-0	NONE ESTABLISHED

NAME: DRY BLASTING AGENTS

SECTION 3 - TOXIC CHEMICALS NOTIFICATION PER 40 CFR 372

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS THAT ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND 40 CFR PART 372:

CHEMICAL	CAS NUMBER	% BY WEIGHT
Ammonium Nitrate	6484-52-2	96 (MAX.)

SECTION 4 - PHYSICAL DATA

SPECIFIC GRAVITY:	0.8 - 1.1
FORM:	FREE-FLOWING SOLID
COLOR:	CREAMY WHITE, PINK, ORANGE, GREEN OR GRAY/BLACK
ODOR:	SLIGHT FUEL OIL

SECTION 5 - REACTIVITY DATA

STABILITY: UNSTABLE WITH HEAT AND SHOCK.

COMPATIBILITY: INCOMPATIBLE WITH ACIDS, ALKALIES, OXIDANTS.

DECOMPOSITION: DECOMPOSES WITH HEAT, SHOCK AND BY REACTION WITH ACIDS, ALKALIES, OXIDANTS. HAZARDOUS GASES PRODUCED ARE NITROGEN OXIDES.

POLYMERIZATION: WILL NOT OCCUR.

SECTION 6 - FIRE AND EXPLOSION HAZARD DATA

FIRE AND EXPLOSION DATA
WILL DETONATE IF SUITABLY PRIMED. CAN DETONATE WITH SEVERE IMPACT OR BY HEAT OR FLAME. HAZARDOUS GASES PRODUCED IN FIRE ARE NITROGEN OXIDES, SILICA AND ALUMINA FUMES. DOT CLASSIFICATION: BLASTING AGENT, N.O.S.

EXTINGUISHING MEDIA
WATER.

SPECIAL FIRE FIGHTING INSTRUCTIONS
DELUGE WITH WATER. DO NOT FIGHT LARGE FIRE. ISOLATE AREA. KEEP PERSONNEL REMOVED AND UPWIND OF FIRE.

NAME: DRY BLASTING AGENTS

SECTION 7 - HEALTH HAZARD INFORMATION

PRINCIPAL HEALTH HAZARDS

BLASTING AGENTS ARE MIXTURES AND HAVE NOT BEEN TESTED FOR TOXICITY. DETONATION MAY CAUSE SEVERE PHYSICAL INJURY, INCLUDING DEATH. OVEREXPOSURE TO THESE PRODUCTS BY INHALATION, EYE OR SKIN CONTACT OR INGESTION MAY CAUSE THE HEALTH EFFECTS DESCRIBED BELOW FOR THE COMPONENTS.

AMMONIUM NITRATE

A SKIN AND EYE IRRITANT.

HUMAN HEALTH EFFECTS FROM OVEREXPOSURE BY INHALATION, SKIN CONTACT OR INGESTION MAY INITIALLY INCLUDE SKIN IRRITATION WITH DISCOMFORT OR RASH; EYE IRRITATION WITH DISCOMFORT, TEARING OR BLURRING OF VISION; AND IRRITATION OF THE RESPIRATORY TRACT.

ALUMINUM POWDER

TOXIC EFFECTS DESCRIBED IN ANIMALS FROM SHORT EXPOSURES TO ALUMINUM POWDER BY INHALATION INCLUDE PULMONARY EFFECTS. HUMAN HEALTH EFFECTS FROM OVEREXPOSURE INHALATION, INGESTION, OR SKIN OR EYE CONTACT MAY INITIALLY INCLUDE TEMPORARY LUNG IRRITATION EFFECTS WITH COUGH, DISCOMFORT, DIFFICULTY BREATHING, OR SHORTNESS OF BREATH. CHRONIC AND EXCESSIVE EXPOSURES MAY LEAD TO CHRONIC LUNG DISORDERS WITH SYMPTOMS OF LUNG INSUFFICIENCY. INDIVIDUALS WITH PREEXISTING DISEASES OF THE LUNGS MAY HAVE INCREASED SUSCEPTIBILITY TO THE TOXICITY OF EXCESSIVE EXPOSURES. MEMBRANE AND UPPER RESPIRATORY TRACT IRRITATION MAY RESULT FROM LIBERATION OF ACID BY HYDROLYSIS. EXCESSIVE LEVEL OF ALUMINUM IN THE BRAIN HAS BEEN ASSOCIATED WITH SENILITY AND ALZHEIMER'S DISEASE.

FUEL OIL

A SKIN IRRITANT. TOXIC EFFECTS DESCRIBED IN ANIMALS FROM EXPOSURE BY INHALATION INCLUDE LIVER AND KIDNEY EFFECTS. IN A LIFETIME SKIN PAINTING STUDY IN MICE, NO.2 BURNER FUEL REPORTEDLY SHOWED WEAK CARCINOGENIC ACTIVITY. HUMAN HEALTH EFFECTS FROM OVEREXPOSURE BY INHALATION, EYE OR SKIN CONTACT OR INGESTION MAY INITIALLY INCLUDE SKIN IRRITATION WITH DISCOMFORT OR RASH; EYE IRRITATION WITH DISCOMFORT, TEARING OR BLURRING OF VISION; HEADACHES AND DIZZINESS MAY BE ANESTHETIC AND MAY CAUSE OTHER CENTRAL NERVOUS SYSTEM EFFECTS IF INHALED; IF INGESTED INTO THE LUNGS, MAY CAUSE SEVERE HEALTH EFFECTS (BRONCHOPNEUMONIA OR PULMONARY EDEMA).

NAME: DRY BLASTING AGENTS

SECTION 7 - HEALTH HAZARD INFORMATION (CONTD.)

NITROGEN OXIDE FUMES FROM DETONATION

NITROGEN OXIDES ARE SKIN, EYE AND RESPIRATORY SYSTEM IRRITANTS. SYSTEMIC TOXICITY RESULTING FROM OXIDATION OF LUNG TISSUE INCLUDES EMPHYSEMA, BRONCHITIS AND BRONCHO- PNEUMONIA. ACUTE EXPOSURE CAN LEAD TO DEATH FROM ASPHYXIA OR PULMONARY EDEMA. IN ANIMALS, NITROGEN OXIDE CAUSED METHEMOGLOBINEMIA, WAS NOT CARCINOGENIC, BUT CAUSED EMBRYOTOXICITY AND REPRODUCTIVE EFFECTS.

CARCINOGENICITY

NONE OF THE COMPONENT(S) OF THIS MATERIAL IS LISTED AS A CARCINOGEN BY NTP, IARC, OR OSHA.

EXPOSURE LIMITS

"TLV" (ACGIH):	NONE ESTABLISHED
PEL (OSHA):	NONE ESTABLISHED

SAFETY PRECAUTIONS

AVOID BREATHING VAPORS OR MIST. AVOID CONTACT WITH EYES AND SKIN. AVOID CONTACT WITH CLOTHING, WASH THOROUGHLY AFTER HANDLING. WASH CLOTHING AFTER USE.

FIRST AID

INHALATION

NOT A LIKELY ROUTE OF EXPOSURE. SEEK MEDICAL ATTENTION.

SKIN CONTACT

FLUSH SKIN WITH WATER. SEEK MEDICAL ATTENTION.

EYE CONTACT

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN.

INGESTION

IF SWALLOWED, GIVE LARGE QUANTITIES OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL A PHYSICIAN.

NOTE: IF DETONATION CAUSES PHYSICAL INJURY, GET MEDICAL ATTENTION IMMEDIATELY. IF DETONATION FUMES ARE INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN.

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. KEEP AWAY FROM HEAT, SPARKS AND FLAMES. KEEP CONTAINER IN A COOL PLACE. DO NOT MIX WITH ACIDS, ALKALIES, OXIDANTS. CONSULT "ALWAYS AND NEVERS" ON CASE INSERT SUPPLIED WITH PRODUCT. DO NOT CONSUME FOOD, DRINK OR TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL.

NAME: DRY BLASTING AGENTS

SECTION 8 - PROTECTION INFORMATION

PERSONAL PROTECTIVE EQUIPMENT

COVERALL CHEMICAL SPLASH GOGGLES IF EYE CONTACT IS LIKELY. PROTECTIVE CLOTHING IF SPLASH IS LIKELY. IMPERVIOUS GLOVES, SUCH AS NEOPRENE, IF CONTACT WITH PRODUCT IS LIKELY.

SPILL, LEAK OR RELEASE

REVIEW FIRE AND EXPLOSION HAZARDS AND SAFETY PRECAUTIONS BEFORE PROCEEDING WITH CLEAN UP. USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT DURING CLEAN UP.

DIKE SPILL. PREVENT THIS PRODUCT FROM ENTERING SEWERS, WATERWAYS OR LOW AREAS. CONTROL ACCESS TO AREA AND REMOVE SOURCES OF HEAT OR IMPACT. PICK UP BY HAND USING NON-SPARKING TOOLS. DO NOT USE POWER EQUIPMENT. RECOVER FOR USE AS LOWER QUALITY PRODUCT OR RECYCLE (WITH TECHNICAL ASSISTANCE) INTO BLEND PRODUCTS.

WASTE DISPOSAL

DO NOT BURN. WASTE TREATMENT, STORAGE, TRANSPORTATION AND DISPOSAL MUST BE IN ACCORDANCE WITH FEDERAL, STATE/PROVINCIAL AND LOCAL REGULATIONS. CONSULT AN EXPLOSIVES MANUFACTURER FOR SAFETY/TECHNICAL CONSIDERATIONS ASSOCIATED WITH DESTROYING EXPLOSIVE MATERIALS. DO NOT FLUSH TO SURFACE WATER OR SANITARY SEWER SYSTEM.

SECTION 9 - SHIPPING AND STORAGE INFORMATION

ANFO ###, FRAGMAX™ ###, FRAGPAK™ ###, LO-RITE ###, NBL ###, EL ###

	USA	CANADA
SHIPPING NAME:	EXPLOSIVE, BLASTING, TYPE B ALSO AMMONIUM NITRATE- FUEL OIL MIXTURE*	EXPLOSIVE, BLASTING, TYPE I
HAZARD CLASS:	1.5D	1.5D
UN/NA NO.:	UN 0331; ALSO NA 0331*, PGII	UN 0331, PGII
IMDG PAGE NO.:	1117	
LABEL(S):	EXPLOSIVE 1.5D	1.5D
PLACARD(S):	BLASTING AGENTS OR 1.5 BLASTING AGENT	1.5D

*DOMESTIC ONLY FOR ANFO, ANFO-P, ANFO-X AND ANFO-UG

NILITE® WR

SHIPPING NAME:	EXPLOSIVE, BLASTING, TYPE E	EXPLOSIVE, BLASTING, TYPE I
HAZARD CLASS:	1.5D	1.5D
UN/NA NO.:	UN 0332, PGII	UN 0331, PGII
IMDG PAGE NO.:	1117	
LABEL(S):	BLASTING AGENT 1.5D	1.5D
PLACARD(S):	BLASTING AGENTS OR 1.5 BLASTING AGENTS	1.5D

SECTION 9 - SHIPPING AND STORAGE INFORMATION (CONT'D)

SHIPPING INFORMATION - USA

SHIPPING INFORMATION DEPENDS ON PACKAGING AND PRODUCT CHARACTERISTICS. CHECK MANUFACTURER OR SHIPPER FOR SPECIFIC INFORMATION.

STORAGE CONDITIONS - USA

STORE IN WELL VENTILATED, COOL, APPROVED TYPE MAGAZINE. STORE IN ACCORDANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION AND FEDERAL REGULATIONS. DO NOT STORE OR CONSUME FOOD, DRINK OR TOBACCO IN AREAS WHERE THEY MAY BECOME CONTAMINATED WITH THIS MATERIAL.

SHIPPING AND STORAGE INFORMATION - CANADA

TRANSPORT AND STORE ACCORDING TO CTC AND EXPLOSIVES ACT. ALSO REFER TO TRANSPORT CANADA'S PUBLICATION "EMERGENCY RESPONSE GUIDE TO DANGEROUS GOODS".

DATE OF LATEST REVISION: 3/98
PERSON RESPONSIBLE FOR MSDS: TECHNICAL
ADDRESS:
ETI CANADA INC.
PO BOX 900
350 DUPONT ROAD
NORTH BAY, ONTARIO P1B 8K2

Disclaimer
The statements contained herein are offered for information purposes only and any use of this product and product information is intended only for persons having related technical skills. Because conditions and manner of use are outside our control, it is the user's responsibility to determine the conditions of safe use of the product. While the information is believed to be correct, ETI Canada Inc. shall in no event be responsible for any damages whatsoever, directly or indirectly, resulting from the publication or use of or reliance upon data contained herein. No warranty, either expressed or implied, of merchantability, or fitness, or of any nature with respect to the product, or to the data, is made herein.

EXHIBIT F (#16, 17)

COUNTY OF RIVERSIDE • COMMUNITY HEALTH AGENCY

DEPARTMENT OF ENVIRONMENTAL HEALTH

MSDS / Co. Emerg. PLAN

May 13, 2003

Facility: 84776

Anniversary 6/28/2003

Area: 1 District: 1

Jay P Hubbs
Paul Hubbs Construction
3500 Pyrite St
Riverside, CA 92509

#16, 17,

Under the requirements of County Ordinance Nos. 615, 617, 651, and the State Health and Safety Code, establishments within the County of Riverside which, in some manner, handle hazardous materials must maintain a valid permit for those activities.

Our records indicate you operate the following facility:

Paul Hubbs Construction
3500 Pyrite St
Riverside, CA 92509

Category	Description	Revenue Code	Amt Invoiced
Cal EPA	Cal EPA Surcharge	208141	$17.50
C	DISCLOSURE- Special Handler	726020	$272.00
11-25	GENERATOR- 11 to 25 employees	726040	$393.00
		Total:	**$682.50**

Penalties will be assessed on payments received after 7/28/2003 as indicated below. A citation for failure to comply may be issued at any time within the penalty phase. Hazardous Materials Management Division reserves the right to refer past due accounts to a collection agency if payment is not received by 10/26/03.

After 7/28/2003 $815.50
After 8/27/2003 $1,347.50

} Additional penalty of 50% of BEP level for City of Corona disclosure fees will be charged if BEP Certification Form is not submitted.

Please direct any questions you may have regarding this matter to your local office. Make check payable to:

Environmental Health
Hazardous Materials Division, Room 123
P.O. Box 7489, Riverside, CA 92513-7489
Visit our website at www.rivcoeh.org

Western County Office
4065 County Circle Dr.
Riverside, CA 92503
(909) 358-5055

Desert County Office
47-923 Oasis Street E4
Indio, CA 92201
(760) 863-8976

South County Office
800 S. Sanderson Avenue
Hemet, CA 92545
(909) 766-6524

Facility Phone (___)_____ Contact_____

Emergency Phone (___)_____ EPA# _____

PLEASE INCLUDE A COPY OF THIS INVOICE AND BUSINESS EMERGENCY PLAN CERTIFICATION FORM (if enclosed) WITH YOUR PAYMENT.

Office Use Only
Level _____
Initials _____
Date Reviewed _____

HAZARDOUS MATERIALS
BUSINESS EMERGENCY PLAN AND INVENTORY CERTIFICATION FORM

Business Name Paul Hubbs Const. Co. Inc. Facility # 84776
Owner/Operator Name Paul Hubbs Const. Co. Inc. Telephone _____
Facility Address 3500 Myrtle Street
City Riverside State CA Zip Code 92509-1101

Annual Business Emergency Plan Inventory Review and Update

X The information contained on the annual inventory form most recently submitted to the administering agency is complete, accurate, and up to date and complies with all of the following statements:

1. There has been no change in the quantity of any hazardous material as reported in the most recently submitted annual inventory;
2. No hazardous materials subject to the inventory requirements of Chapter 6.95 H&SC are being handled that are not listed on the most recently submitted annual inventory form; and
3. The most recently submitted annual inventory form contains the information required by sec. 11022 of Title 42 of the United States Code. (The County/OES form 2731 meets this requirement)

___ The inventory as previously reported has changed. Attached are new inventory reporting forms for all changes.

Triennial (3 Year) Business Emergency Plan Review and Certification

___ I certify that the Business Emergency Plan has been reviewed and the information contained in it is accurate and complete as of this date _____.

___ I certify that I have reviewed the Business Emergency Plan and have updated the following items (updated items are attached):

- ___ Emergency contacts names and/or telephone numbers.
- ___ Site and/or facility map(s).
- ___ Emergency procedures.
- ___ Other Information: _____.

Notification should be made to this agency within 30 days if any of the following events occur: change of ownership; change of business name; mailing address; phone number; location; emergency contact person; 100% or more increase in the quantity of a disclosed material; or any handling of a previously undisclosed material subject to regulation. A copy of this form should be kept at the business and available for review upon request of this agency. This form can only be used if you have already submitted the most current version of the Chemical Inventory Form (OES Form 2731). If your business falls under EPCRA/SARA Title III, this form does not meet the annual inventory reporting requirements.

I certify under penalty of law that I have examined and am familiar with the information submitted in this and all attached documents, that the information provided herein is true, accurate, and complete to the best of my knowledge.

Name Danny Johnston Signature Danny Johnston
Title Project Coordinator Date 5-20-2003

02/02

UNIFIED PROGRAM CONSOLIDATED FORM
FACILITY INFORMATION
BUSINESS ACTIVITIES

I. FACILITY IDENTIFICATION

FACILITY ID # 1

EPA ID # (Hazardous Waste Only) 2: CAL 000095133

BUSINESS NAME (Same as Facility Name of DBA-Doing Business As) 3: Paul Hubbs Construction Co., Inc

II. ACTIVITIES DECLARATION

NOTE: If you check YES to any part of this list, please submit the Business Owner/Operator Identification page (OES Form 2730).

Does your facility...			If Yes, please complete these pages of the UPCF....
A. HAZARDOUS MATERIALS			
Have on site (for any purpose) hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355 Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	☒ YES	☐ NO 4	HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION (OES 2731)
B. UNDERGROUND STORAGE TANKS (USTs)			
1. Own or operate underground storage tanks?	☐ YES	☒ NO 5	UST FACILITY (Formerly SWRCB Form A) UST TANK (one page per tank) (Formerly Form B)
2. Intend to upgrade existing or install new USTs?	☐ YES	☒ NO 6	UST FACILITY UST TANK (one per tank) UST INSTALLATION - CERTIFICATE OF COMPLIANCE (one page per tank) (Formerly Form C)
3. Need to report closing a UST?	☐ YES	☒ NO 7	UST TANK (closure portion –one page per tank)
C. ABOVE GROUND PETROLEUM STORAGE TANKS (ASTs)			
Own or operate ASTs above these thresholds: —any tank capacity is greater than 660 gallons, or —the total capacity for the facility is greater than 1,320 gallons?	☒ YES	☐ NO 8	NO FORM REQUIRED TO CUPA
D. HAZARDOUS WASTE			
1. Generate hazardous waste?	☒ YES	☐ NO 9	EPA ID NUMBER – provide at the top of this page Complete the Hazardous Waste Generator, County of Riverside Form.
2. Recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	☐ YES	☒ NO 10	RECYCLABLE MATERIALS REPORT (one per recycler)
3. Treat hazardous waste on site?	☐ YES	☒ NO 11	ONSITE HAZARDOUS WASTE TREATMENT – FACILITY (Formerly DTSC Forms 1772) ONSITE HAZARDOUS WASTE TREATMENT – UNIT (one page per unit) (Formerly DTSC Forms 1772 A,B,C,D and L)
4. Treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	☐ YES	☒ NO 12	CERTIFICATION OF FINANCIAL ASSURANCE (Formerly DTSC Form 1232)
5. Consolidate hazardous waste generated at a remote site?	☐ YES	☒ NO 13	REMOTE WASTE / CONSOLIDATION SITE ANNUAL NOTIFICATION (Formerly DTSC Form 1196)
6. Need to report the closure/removal of a tank that was classified as hazardous waste and cleaned onsite?	☐ YES	☒ NO 14	HAZARDOUS WASTE TANK CLOSURE CERTIFICATION (Formerly DTSC Form 1249)

E. LOCAL REQUIREMENTS

Note: If you have answered "NO" to question A listed above, complete and submit the Statement of Exemption page.

FILE COPY

Statement of Exemption

N/A

Statement Of Exemption only to be completed if you do NOT have to prepare a plan.

Business Name: _____

Business Address: _____

_____

Business Telephone: ( ) _____

I understand the requirements for submitting a Hazardous Materials Business Emergency Plan and I declare, under penalty for perjury, that a Hazardous Materials Business Emergency Plan is not required for this business.

Business Owner/Operator Name: _____

Signature: _____ Date: _____

Title of Signer: _____

Reason you believe your business is exempt:

_____

_____

_____

_____

UNIFIED PROGRAM CONSOLIDATED FORM
FACILITY INFORMATION
BUSINESS OWNER/OPERATOR IDENTIFICATION

I. IDENTIFICATION

FACILITY ID# 1		BEGINNING DATE 100 —	ENDING DATE 101
BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3 Paul Hubbs Construction Co., Inc		BUSINESS PHONE 102 (951) 360-3990	
BUSINESS SITE ADDRESS 103 3500 Pyrite Street			
CITY 104 Riverside	CA	ZIP CODE 105 92509	
DUN & BRADSTREET 106 00-880-0120		SIC CODE (4 digit #) 107 1629	
COUNTY 108 Riverside			
BUSINESS OPERATOR NAME 109 Dave Graham		BUSINESS OPERATOR PHONE 110 (b) (6) [redacted]	

II. BUSINESS OWNER

OWNER NAME 111 Paul Hubbs Construction Co., Inc.		OWNER PHONE 112 (951) 360-3990	
OWNER MAILING ADDRESS 113 3500 Pyrite Street			
CITY 114 Riverside	STATE 115 CA	ZIP CODE 116 92509	

III. ENVIRONMENTAL CONTACT

CONTACT NAME 117 Jay P. Hubbs		CONTACT PHONE 118 (951) 360-3990	
CONTACT MAILING ADDRESS 119 3500 Pyrite Street			
CITY 120 Riverside	STATE 121 CA	ZIP CODE 122 92509	

IV. EMERGENCY CONTACTS

-PRIMARY-	-SECONDARY-
NAME 123 Jay P. Hubbs	NAME 128 Dave Graham
TITLE 124 President	TITLE 129 Superintendent
BUSINESS PHONE 125 951 360-3990	BUSINESS PHONE 130 951 360-3990
24-HOUR PHONE 126 (b) (6) [redacted]	24-HOUR PHONE 131 (b) (6) [redacted]
PAGER # 127 —	PAGER # 132 —

ADDITIONAL LOCALLY COLLECTED INFORMATION: 133

Certification: Based on my inquiry of those individuals responsible for obtaining the information, I certify under penalty of law that I have personally examined and am familiar with the information submitted and believe the information is true, accurate, and complete.

SIGNATURE OF OWNER/OPERATOR OR DESIGNATED REPRESENTATIVE	DATE 134 04/28/06	NAME OF DOCUMENT PREPARER 135 Patty Taylor
NAME OF SIGNER (print) 136 Jay P. Hubbs	TITLE OF SIGNER 137 President	

HAZARDOUS MATERIALS BUSINESS EMERGENCY PLAN
EMERGENCY PROCEDURES

Emergency response plans and procedures are an integral part of the HMBEP. By taking the time to develop plans and procedures for your business, you will avoid complications resulting from inaction or misguided action during an emergency. Once the plans and procedures are developed, your employees will have an informative guide to follow in the event of an emergency. You must address each of the following items, however, the amount of detail you provide will depend upon the size and nature of the business, the damage potential of the hazardous materials handled and the location of the business with respect to residential or other populated areas.

1. EMERGENCY RESPONSE PLANS AND PROCEDURES

A. **If you have a release or threatened release of hazardous materials, your business is required by state law to provide immediate notification to the following agencies:**

Immediately call:

Local emergency response personnel
(Fire, paramedics, police or sheriff).....911

State Office of Emergency Services.....(800) 852-7550
or (916) 262-1621

Immediately call the appropriate jurisdiction:

County of Riverside
Hazardous Materials Management Division.....951, 358-5055

CDF/Banning Fire Service.....951) 922-3210

City of Corona Fire Department..... 951 736-2220

City of Riverside Fire Department..... 951 826-5321

Person(s) within the business required responding to a hazardous materials incident:

Name: Jay P. Hubbs Telephone: 951 360-3990 [redacted]
Name: Dave Graham Telephone: 951 360-3990 [redacted]

B. Identify the local emergency medical facility that will be used by your business in the event of an injury caused by the release of a hazardous material:

Name: Tri-Industrial Medical Center
Address: 10427 San Sevaine Way, Suite J
City: Mira Loma
Phone: 951 360-8333

2. PREVENTION

Describe the kinds of hazards associated with the materials present at your business. Provide information on the steps taken at your business, or the policies or procedures now in place, to **help prevent** an accidental release of a hazardous material. Issues for discussion may include safety, storage, and containment procedures. Be specific for each type of hazardous materials at your business.

CONCRETE CONTAINMENT RESERVOIR BUILT AROUND STORAGE TANK
PROPERTY FENCED IN AND LOCKED WHEN NOT IN OPERATION
WEEKLY SAFETY MEETINGS
CHAINED GAS CYLINDERS
REVIEW FUELING PROCEDURES
HIRE ALL UNION TRAINED EMPLOYEES

3. MITIGATION

Describe the procedures to be followed to **reduce the severity** of a release of threatened release of a hazardous material at your business. The procedures should detail the actions to be taken by employees to stop a release, contain a release, or to reduce the problems associated with a release. What is your immediate response to a spill, fire, explosion of airborne release at your business? Do not write procedures that exceed the capabilities of employee or equipment at you business or that violate any workers safety laws.

1. SMALL SPILL (OIL OR DIESEL) A. NOTIFY SITE SUPERVISOR
   B. SITE SUPERVISOR WILL DETERMINE IF SPILL/LEAK CAN BE NIGATED
   C. QUALIFIED PERSON WILL CONTAIN & DISPOSE OF SUBSTANCE
2. LARGE SPILL (OIL OR DIESEL) A. NOTIFY SITE SUPERVISOR
   B. AREA WILL BE ISOLATED, EMPLOYEES EVACUATED AND EMERGENCY SERVICES ACTIVATED BY CALLING 911
3. FIRE.....A. NOTIFY SITE SUPERVISOR
   B. EVACUATED EMPLOYEES
   C. CALL (911)

4. ABATEMENT

Describe what you would do to **stop** and **remove** each hazard. How do you handle the complete process of stopping a release, cleaning up, and disposing of released materials at your business? What aspects of the response are beyond your ability and need to be handled by others? Who would you call to handle the release?

1. DISCONTINUE ANY ACTION THAT CAUSED RELEASE
2. NOTIFY SITE SUPERVISOR
3. TAKE ALL NECESSARY STEPS TO CLEAN UP PROBLEM
4. EVALUATE AND MODIFY PROCEDURES TO INSURE THAT PROBLEM DOES NOT REOCCUR.

5. EVACUATION

Describe the procedures to be followed for immediate notification and evacuation of your facility:

NOTIFICATION: VERBAL AND COMPANY RADIO-PHONE
MAPS: IN OFFICE - SHOP - SCALE HOUSE SHOWING EVACUATION ROUTES AND STAGING AREAS
STAGING AREAS: E/S1:0MAIN OFFICE LOT E/S2 PYRITE AND GRANITE HILLS
EVACUATION: EMPLOYEES TO GO TO EVACUATION STAGING AREA/S
CONFIRM: FULL EVACUATION (PERSONNEL RECORDS AT PYRITE MAIN OFFICE)

6. EARTHQUAKES

Identify the areas and equipment in your business, which would require **immediate inspection or isolation** due to their vulnerability to earthquake related ground motion. Check for equipment suck as gas cylinders, piping, drums, etc., that may need to be secured or spillage that may require mitigation or abatement.

GAS CYLINDERS	MAP 1	GRID	O3
SOLVENT	MAP 1	GRID	O3
OIL	MAP 1	GRID	O3
DIESEL FUEL	MAP 1	GRID	m3

7. HAZARDOUS WASTE CONTINGENCY

Specific procedures for prevention, mitigation and abatement of a release of **hazardous waste** generated at your business. This section only applies to hazardous waste generators.

MATERIAL SAFETY DATA SHEETS (MSDS) AT SHOP/SCALEHOUSE/OFFICE
SAFETY MEETING FOR INITIAL AND REFRESHER TRAINING

8. UNAUTHORIZED RELEASE RESPONSE PLAN

Specific procedures for mitigation, abatement and reporting of an unauthorized release from an **underground storage tank (UST)**. The plan must address a release from a single wall or a double wall tank system as applicable. This plan should cover the entire UST system. This section only applies to UST owner/operators.

N/A

Employee Training Plan

Businesses that handle hazardous materials are required to have a program, which provides employees with initial and refresher training. The HMBEP shall include a training program, which is reasonable and appropriate for the size of the business and the nature of the hazardous materials handled. The training program shall take into consideration the responsibilities of the employees to be trained. The training program shall, at a minimum, include:

A. Methods for safe handling of hazardous materials stored at your business, including familiarity with the characteristics and hazards of each material and measures employees can take to protect themselves from chemical hazards;
B. Procedures for coordination with local emergency response organizations;
C. Proper use of personal protective equipment;
D. The prevention, abatement and mitigation procedures you have developed for your business and explained in the HMBEP, including proper use of emergency equipment and supplies;
E. The emergency evacuation plans you have developed, the notification procedure used to alert people to evacuate, and the closest location to obtain appropriate emergency medical care;
F. Procedures to coordinate with and assist the local emergency personnel that may respond to your business;
G. Who and how to call for immediate assistance in the event of an accident involving hazardous materials;
H. Procedures for ensuring that appropriate personnel receive initial and refresher training.

All employee training shall be documented and updated annually

1. Personnel

A. Are there any specially trained hazardous materials emergency response personnel at your business?
Yes X No ____ Number Trained _____

B. Do you have decontamination capabilities for victims of exposure to hazardous materials at your business? Yes X No ____ Type of Decon _____

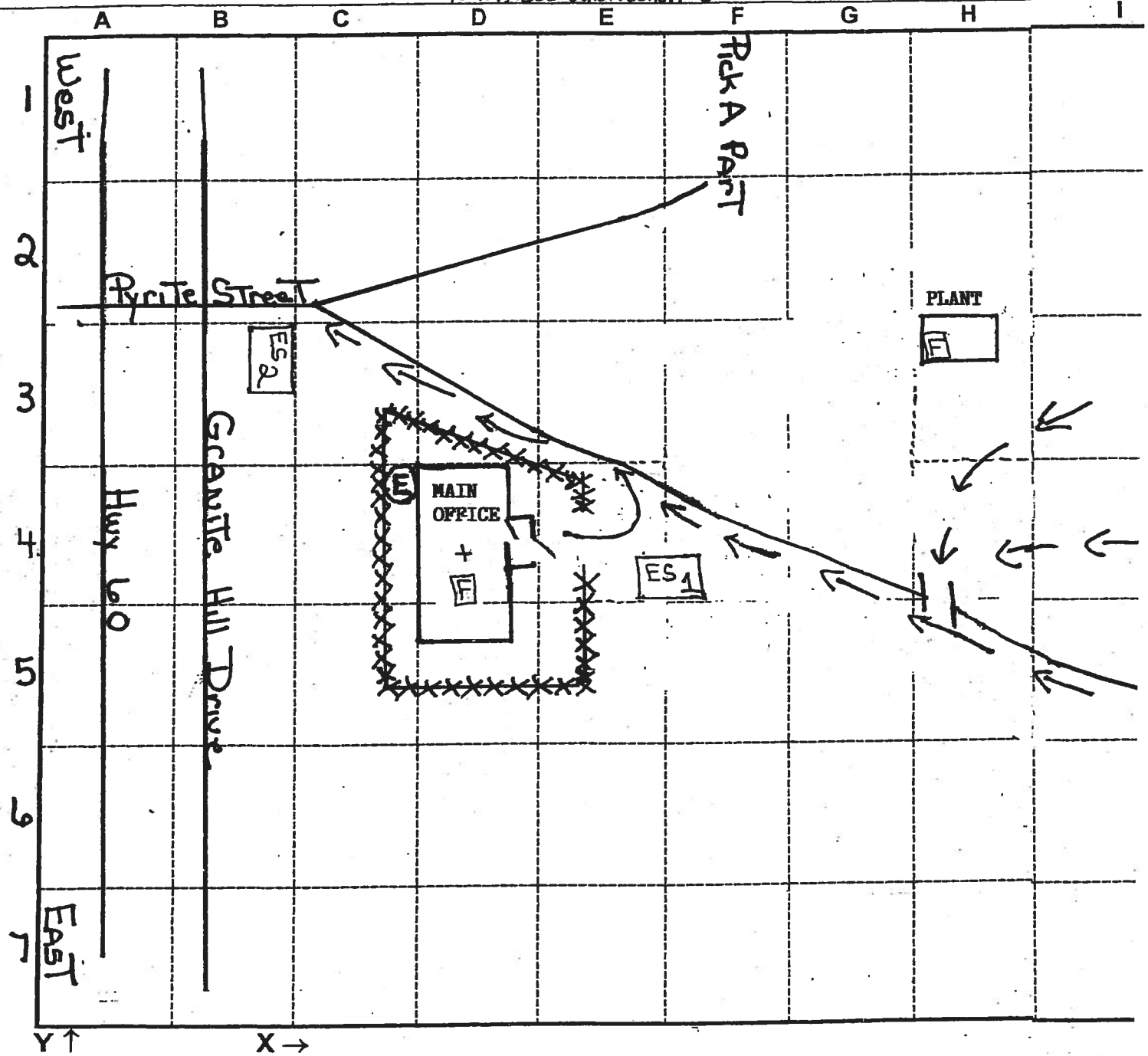
C. Do you have personnel that will provide site security at your business during and after a hazardous materials incident? Yes X No ____

2. Equipment

A. List the type and location of equipment that can or will be used for response to hazardous materials incidents at your business.

First Aid Kits + CPR Kits Located in the office, Shop + Scale house
Fire Extinguishers, Absorbent/Dirt
Heavy Equipment (Dozers + Loaders), End Dump trucks, Water Truck.
(Equipment is Located through out the facility)

ANNOTATED SITE MAP Business Name: Paul Hubbs Construction Co Site Address: 3500 Pyrite Street Map #:



UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ ADD ☐ DELETE ☒ REVISE 200 Page 4 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201 | CHEMICAL LOCATION CONFIDENTIAL EPCRA 202 ☐ YES ☐ NO

FACILITY ID # | MAP# (optional) 203 | GRID# (optional) 204

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Acetylene | TRADE SECRET 206 ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Acetylene | EHS* 208 ☐ Yes ☐ No

CAS# 209: 74-86-2 | *If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211 | RADIOACTIVE ☐ Yes ☒ No 212 | CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☐ b. LIQUID ☒ c. GAS 214 | LARGEST CONTAINER 4cc Cylinder 215

FIRE HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☒ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
.05 Cylinder	3-5 Cylinders	NONE	

UNITS* (Check one item only) ☐ a. GALLONS ☒ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221 | DAYS ON SITE: 222: 365
* If EHS, amount must be in pounds.

STORAGE CONTAINER ☐ a. ABOVE GROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☒ l. CYLINDER ☐ p. TANK WAGON 223

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 0 FLAMMABILITY 4 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION # 2.1 UN# 1001

If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☒REVISE 200 Page 5 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201: Shop Area

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203: 1

GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Antifreeze

TRADE SECRET 206: ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Antifreeze & Coolant

EHS* 208: ☐ Yes ☐ No

CAS# 209: Various

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211: ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE

RADIOACTIVE 212: ☐ Yes ☒ No

CURIES 213

PHYSICAL STATE (Check one item only) 214: ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS

LARGEST CONTAINER 215: 55 Gal. Drum

FED HAZARD CATEGORIES (Check all that apply) 216: ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217: 0.22 Gal.

MAXIMUM DAILY AMOUNT 218: 55 Gal

ANNUAL WASTE AMOUNT 219: NONE

STATE WASTE CODE 220

UNITS* (Check one item only) 221: ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE: 222: 365

STORAGE CONTAINER 223: ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 90-95 226	Ethylene Glycol 227	☐ Yes ☒ No 228	107-21-1 229
2 0-5 230	Diethylene Glycol 231	☐ Yes ☒ No 232	111-46-6 233
3 1-2 234	Di Potassium Phosphate 235	☐ Yes ☒ No 236	7758-11-4 237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____

If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☐REVISE 200 Page 6 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201 | CHEMICAL LOCATION CONFIDENTIAL EPCRA 202 ☐ YES ☐ NO

FACILITY ID # 1 | MAP# (optional) 203: 1 | GRID# (optional) 204: M3

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Dyed Diesel Fuel #2 | TRADE SECRET 206 ☐ Yes ☒ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Diesel Fuel | EHS* 208 ☐ Yes ☐ No

CAS# 209: 68476 34 6 | *If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211 ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE | RADIOACTIVE 212 ☐ Yes ☒ No | CURIES 213

PHYSICAL STATE (Check one item only) 214 ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS | LARGEST CONTAINER 215: 8,000 gallon Tank

FED HAZARD CATEGORIES (Check all that apply) 216 ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
145	7500	NONE	

UNITS* (Check one item only) 221 ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds. | DAYS ON SITE: 222: 365

STORAGE CONTAINER 223
☒ a. ABOVE GROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE 224 ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225 ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 0 FLAMMABILITY 2 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____
If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☐REVISE 200 Page 6 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co. Inc.

CHEMICAL LOCATION 201

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202 ☐ YES ☐ NO

FACILITY ID # 1 MAP# (optional) 203 GRID# (optional) 204

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
Diesel Fuel (Fuel Oil) On Highway

TRADE SECRET ☐ Yes ☒ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
Diesel #2

EHS* ☐ Yes ☐ No 208

CAS# 209
68476 34 6

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 10,000 GAL. 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
14 GAL.

MAXIMUM DAILY AMOUNT 218
4,996 GAL.

ANNUAL WASTE AMOUNT 219

STATE WASTE CODE 220

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CU FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE: 365 222

STORAGE CONTAINER
☒ a. ABOVE GROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☐ l. CYLINDER ☐ p. TANK WAGON 223

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 0 FLAMMABILITY 2 REACTIVITY 0 SPECIAL HAZARD___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____
If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☒REVISE 200 Page 7 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201: Shop Area
CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1
MAP# (optional) 203: 1
GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Petroleum Grease
TRADE SECRET 206: ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Grease - 76 Unoba EP Grease 0
EHS* 208: ☐ Yes ☐ No

CAS# 209: Mixture
*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211: ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE
RADIOACTIVE 212: ☐ Yes ☒ No
CURIES 213

PHYSICAL STATE (Check one item only) 214: ☐ a. SOLID ☐ b. LIQUID ☐ c. GAS
LARGEST CONTAINER 215: 35 lbs

FED HAZARD CATEGORIES (Check all that apply) 216: ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217: 2 lbs.
MAXIMUM DAILY AMOUNT 218: 35 lb
ANNUAL WASTE AMOUNT 219: None
STATE WASTE CODE 220

UNITS* (Check one item only) 221: ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.
DAYS ON SITE: 222: 365

STORAGE CONTAINER 223: ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

	%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	1-5 (226)	Calcium Componet (227)	☐ Yes ☒ No (228)	1317-65-3 (229)
2	<1 (230)	Zinc Compound (231)	☐ Yes ☒ No (232)	Proprietary (233)
3	81-94 (234)	Lubricant Base Oil (235)	☐ Yes ☒ No (236)	Various (237)
4	5-14 (238)	Additives (239)	☐ Yes ☒ No (240)	Proprietary (241)
5	(242)	(243)	☐ Yes ☐ No (244)	(245)

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____
If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ ADD ☐ DELETE ☒ REVISE 200 Page 8 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co, Inc

CHEMICAL LOCATION 201: Shop Area
CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1
MAP# (optional) 203: 1
GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Petroleum Grease
TRADE SECRET 206: ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Grease - Red-1 EP Lithium Grease NLGI #2
EHS* 208: ☐ Yes ☐ No

CAS# 209: Mixture
*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211: ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE
RADIOACTIVE 212: ☐ Yes ☒ No
CURIES 213

PHYSICAL STATE (Check one item only) 214: ☐ a. SOLID ☐ b. LIQUID ☐ c. GAS
LARGEST CONTAINER 215: 120 lb Drum

FED HAZARD CATEGORIES (Check all that apply) 216: ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217: 2-16
MAXIMUM DAILY AMOUNT 218: 120-16
ANNUAL WASTE AMOUNT 219: None
STATE WASTE CODE 220:

UNITS* (Check one item only) 221: ☐ a. GALLONS ☐ b. CUBIC FEET ☒ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.
DAYS ON SITE: 222: 365

STORAGE CONTAINER 223: ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☒ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

	%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	<5 (226)	Lithium Hydroxide (227)	☐ Yes ☒ No (228)	1310-66-3 (229)
2	<15 (230)	12-Hydroxystearic acid (231)	☐ Yes ☒ No (232)	106-14-9 (233)
3	<70 (234)	Hydrotreated Heavy Naphthenic distillate (235)	☐ Yes ☒ No (236)	64742-52-5 (237)
4	<10 (238)	Polybutene (239)	☐ Yes ☒ No (240)	9003-29-6 (241)
5	<1 (242)	Antimony Dialkyldithiocarbamate (243)	☐ Yes ☒ No (244)	64742-52-5 (245)
	<1	Dimethyl benzene (xylene)		1330-20-7

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____
If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☒REVISE 200 Page 9 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201: Shop

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203: 1

GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Aliphatic Hydrocarbon

TRADE SECRET ☐ Yes ☐ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Mineral Spirts

EHS* ☐ Yes ☐ No 208

CAS# 209: 8052-41-3

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 55 gal. Drum 215

FED HAZARD CATEGORIES (Check all that apply) ☐ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217: 0.5 Gal.

MAXIMUM DAILY AMOUNT 218: 55 Gal.

ANNUAL WASTE AMOUNT 219: None

STATE WASTE CODE 220

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE: 365 222

STORAGE CONTAINER ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 2 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION # 173.115 UN#_____

If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ ADD ☐ DELETE ☒ REVISE 200 Page 10 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co, Inc

CHEMICAL LOCATION 201
Shop

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203
1

GRID# (optional) 204
03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
Nitrogen

TRADE SECRET ☐ Yes ☐ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
Nitrogen

EHS* ☐ Yes ☐ No 208

CAS# 209
7727-37-9

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☐ b. LIQUID ☒ c. GAS 214

LARGEST CONTAINER 1 Cylinder 2.2 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☒ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
0.02

MAXIMUM DAILY AMOUNT 218
1 Cylinder 2.2

ANNUAL WASTE AMOUNT 219
NONE

STATE WASTE CODE 220

UNITS* (Check one item only) ☐ a. GALLONS ☒ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE: 222
365

STORAGE CONTAINER ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☒ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION # 2.2 UN# 1066

If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ ADD ☐ DELETE ☒ REVISE 200 Page 11 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202 ☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203: 1

GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Oxygen

TRADE SECRET 206 ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: Oxygen

EHS* 208 ☐ Yes ☐ No

CAS# 209: 7782-44-7

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211 ☒ a. PURE ☐ b. MIXTURE ☐ c. WASTE

RADIOACTIVE 212 ☐ Yes ☒ No

CURIES 213

PHYSICAL STATE (Check one item only) 214 ☐ a. SOLID ☐ b. LIQUID ☒ c. GAS

LARGEST CONTAINER 215: 2 cc Cylinder

FED HAZARD CATEGORIES (Check all that apply) 216 ☒ a. FIRE ☐ b. REACTIVE ☒ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217	MAXIMUM DAILY AMOUNT 218	ANNUAL WASTE AMOUNT 219	STATE WASTE CODE 220
0.44 Cylinder	5 cylinders	NONE	

UNITS* (Check one item only) 221 ☐ a. GALLONS ☒ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE: 222: 365

STORAGE CONTAINER 223
☐ a. ABOVE GROUND TANK ☐ e. PLASTIC/NONMETALLIC DRUM ☐ i. FIBER DRUM ☐ m. GLASS BOTTLE ☐ q. RAIL CAR
☐ b. UNDERGROUND TANK ☐ f. CAN ☐ j. BAG ☐ n. PLASTIC BOTTLE ☐ r. OTHER
☐ c. TANK INSIDE BUILDING ☐ g. CARBOY ☐ k. BOX ☐ o. TOTE BIN
☐ d. STEEL DRUM ☐ h. SILO ☒ l. CYLINDER ☐ p. TANK WAGON

STORAGE PRESSURE 224 ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225 ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1 226	227	☐ Yes ☐ No 228	229
2 230	231	☐ Yes ☐ No 232	233
3 234	235	☐ Yes ☐ No 236	237
4 238	239	☐ Yes ☐ No 240	241
5 242	243	☐ Yes ☐ No 244	245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 0 FLAMMABILITY 0 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION # 2.2 UN# 1072

If EPCRA, Please Sign Here

OES Form 2731

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☐REVISE 200 Page 12 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201: Shop

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203: 1

GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Gear Lubricant

TRADE SECRET 206: ☐ Yes ☐ No
If Subject to EPCRA, refer to instructions

COMMON NAME 207: 76 Extra Duty Gear Lube 2 EP

EHS* 208: ☐ Yes ☐ No

CAS# 209: Various

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) 211: ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE

RADIOACTIVE 212: ☐ Yes ☒ No

CURIES 213

PHYSICAL STATE (Check one item only) 214: ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS

LARGEST CONTAINER 215: 55 gal Drum

FED HAZARD CATEGORIES (Check all that apply) 216: ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH

AVERAGE DAILY AMOUNT 217: 0.88 Gal.

MAXIMUM DAILY AMOUNT 218: 55 Gal

ANNUAL WASTE AMOUNT 219: None

STATE WASTE CODE 220

UNITS* (Check one item only) 221: ☐ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS
* If EHS, amount must be in pounds.

DAYS ON SITE: 222: 365

STORAGE CONTAINER 223: ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☐ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER

STORAGE PRESSURE 224: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT

STORAGE TEMPERATURE 225: ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC

%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
97-99 (226)	Lubricant Base Oil (Petroleum) (227)	☐ Yes ☒ No (228)	Various (229)
2 1-3 (230)	Additives (231)	☐ Yes ☒ No (232)	Proprietary (233)
3 (234)	(235)	☐ Yes ☐ No (236)	(237)
4 (238)	(239)	☐ Yes ☐ No (240)	(241)
5 (242)	(243)	☐ Yes ☐ No (244)	(245)

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____

If EPCRA, Please Sign Here

OES Form 273

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☒REVISE 200 Page 13 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co., Inc

CHEMICAL LOCATION 201
Shop

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202
☐ YES ☐ NO

FACILITY ID # 1

MAP# (optional) 203
1

GRID# (optional) 204
03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205
Crankcase Oil

TRADE SECRET ☐ Yes ☐ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207
76 T5X Heavy Duty 30

EHS* ☐ Yes ☐ No 208

CAS# 209
Various

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212

CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 55 Gal Drum 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217
7.95 Gal.

MAXIMUM DAILY AMOUNT 218
55 Gal

ANNUAL WASTE AMOUNT 219
2900 gal Oil / 275 gal filters

STATE WASTE CODE 220

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE: 222
365

STORAGE CONTAINER ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 223

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 224

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 225

	%WT		HAZARDOUS COMPONENT (For mixture or waste only)		EHS		CAS #	
1	2	226	Zinc Compound	227	☐ Yes ☒ No	228	Proprietary	229
2	86-90	230	Lubricant Base Oil (Petroleum)	231	☐ Yes ☒ No	232	Various	233
3	10-14	234	Additivies	235	☐ Yes ☒ No	236	Proprietary	237
4		238		239	☐ Yes ☐ No	240		241
5		242		243	☐ Yes ☐ No	244		245

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____

If EPCRA, Please Sign Here

OES Form 273

Revised (5/03)

UNIFIED PROGRAM CONSOLIDATED FORM
HAZARDOUS MATERIALS

HAZARDOUS MATERIALS INVENTORY – CHEMICAL DESCRIPTION

(one page per material per building or area)

☐ADD ☐DELETE ☒REVISE 200 Page 14 of 18

I. FACILITY INFORMATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3
Paul Hubbs Construction Co, Inc

CHEMICAL LOCATION 201: Shop

CHEMICAL LOCATION CONFIDENTIAL EPCRA 202: ☐ YES ☐ NO

FACILITY ID # 1 | MAP# (optional) 203: 1 | GRID# (optional) 204: 03

II. CHEMICAL INFORMATION

CHEMICAL NAME 205: Transmission Oil

TRADE SECRET ☐ Yes ☐ No 206
If Subject to EPCRA, refer to instructions

COMMON NAME 207: 76 Hydraulic / Tractor Fluid

EHS* ☐ Yes ☐ No 208

CAS# 209: Various

*If EHS is "Yes", all amounts below must be in lbs.

FIRE CODE HAZARD CLASSES (Complete if required by CUPA) 210

HAZARDOUS MATERIAL TYPE (Check one item only) ☐ a. PURE ☒ b. MIXTURE ☐ c. WASTE 211

RADIOACTIVE ☐ Yes ☒ No 212 | CURIES 213

PHYSICAL STATE (Check one item only) ☐ a. SOLID ☒ b. LIQUID ☐ c. GAS 214

LARGEST CONTAINER 5 gallon 215

FED HAZARD CATEGORIES (Check all that apply) ☒ a. FIRE ☐ b. REACTIVE ☐ c. PRESSURE RELEASE ☐ d. ACUTE HEALTH ☐ e. CHRONIC HEALTH 216

AVERAGE DAILY AMOUNT 217: 0.24 Gallon | MAXIMUM DAILY AMOUNT 218: 5 Gallon | ANNUAL WASTE AMOUNT 219: see page 12 | STATE WASTE CODE 220

UNITS* (Check one item only) ☒ a. GALLONS ☐ b. CUBIC FEET ☐ c. POUNDS ☐ d. TONS 221
* If EHS, amount must be in pounds.

DAYS ON SITE: 365 222

STORAGE CONTAINER ☐ a. ABOVE GROUND TANK ☐ b. UNDERGROUND TANK ☐ c. TANK INSIDE BUILDING ☒ d. STEEL DRUM ☐ e. PLASTIC/NONMETALLIC DRUM ☐ f. CAN ☐ g. CARBOY ☐ h. SILO ☐ i. FIBER DRUM ☐ j. BAG ☐ k. BOX ☐ l. CYLINDER ☐ m. GLASS BOTTLE ☐ n. PLASTIC BOTTLE ☐ o. TOTE BIN ☐ p. TANK WAGON ☐ q. RAIL CAR ☐ r. OTHER 22

STORAGE PRESSURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT 22

STORAGE TEMPERATURE ☐ a. AMBIENT ☐ b. ABOVE AMBIENT ☐ c. BELOW AMBIENT ☐ d. CRYOGENIC 22

	%WT	HAZARDOUS COMPONENT (For mixture or waste only)	EHS	CAS #
1	1-2 226	Zinc Compound 227	☐ Yes ☒ No 228	Proprietary 2
2	86-87 230	Lubricant Base Oil (Petroleum) 231	☐ Yes ☒ No 232	Various 2
3	13-14 234	Additives 235	☐ Yes ☒ No 236	Proprietary 2
4	238	239	☐ Yes ☐ No 240	2
5	242	243	☐ Yes ☐ No 244	2

If more hazardous components are present at greater than 1% by weight if non-carcinogenic, or 0.1% by weight if carcinogenic, attach additional sheets of paper capturing the required information.

NFPA HAZARD INDENTIFICATION: HEALTH 1 FLAMMABILITY 1 REACTIVITY 0 SPECIAL HAZARD ___ 246

HAZARD CLASS OR DIVISION #_____ UN#_____

If EPCRA, Please Sign Here

OES Form 27

Revised (5/03)

BOC GASES

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: ACETYLENE

1. Chemical Product and Company Identification

BOC Gases,
Division of
The BOC Group, Inc.
575 Mountain Avenue
Murray Hill, NJ 07974

TELEPHONE NUMBER: (908) 464-8100
24-HOUR EMERGENCY TELEPHONE NUMBER:
CHEMTREC (800) 424-9300

BOC Gases
Division of
BOC Canada Limited
5975 Falbourne Street, Unit 2
Mississauga, Ontario L5R 3W6

TELEPHONE NUMBER: (905) 501-1700
24-HOUR EMERGENCY TELEPHONE NUMBER:
(905) 501-0802
EMERGENCY RESPONSE PLAN NO: 20101

PRODUCT NAME: ACETYLENE
CHEMICAL NAME: Acetylene
COMMON NAMES/SYNONYMS: Ethyne, Acetylen, Ethine
TDG (Canada) CLASSIFICATION: 2.1
WHMIS CLASSIFICATION: A, B1, D2B

PREPARED BY: Loss Control (908)464-8100/(905)501-1700
PREPARATION DATE: 6/1/95
REVIEW DATES: 6/7/96

2. Composition, Information on Ingredients

INGREDIENT	% VOLUME	PEL-OSHA[1]	TLV-ACGIH[2]	LD_{50} or LC_{50} Route/Species
Acetylene FORMULA: C_2H_2 CAS: 74-86-2 RTECS #: AO9600000	95.0 to 99.6	Not Available	Simple Asphyxiant	Not Available
Acetone FORMULA: C3H6O CAS: 67-64-1 RTECS #: AL3150000	Not Available	1000 ppm TWA	750 ppm TWA 1000 ppm STEL	LD_{50} 1297 mg/kg (mouse)

[1] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)
[2] As stated in the ACGIH 1994-95 Threshold Limit Values for Chemical Substances and Physical Agents

3. Hazards Identification

EMERGENCY OVERVIEW

Simple Asphyxiant. This product does not contain oxygen and may cause asphyxia if released in a confined area. Maintain oxygen levels above 19.5%. May cause anesthetic effects. Highly flammable under pressure. Spontaneously combustible in air at pressures above 15 psig. Acetylene liquid is shock sensitive.

PRODUCT NAME: ACETYLENE

ROUTE OF ENTRY:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
No	No	No	Yes	No

HEALTH EFFECTS:

Exposure Limits	Irritant	Sensitization
Yes	Yes	No
Teratogen	**Reproductive Hazard**	**Mutagen**
No	No	No
Synergistic Effects None Reported		

Carcinogenicity -- NTP: No IARC: No OSHA: No

EYE EFFECTS:
None known since product is a gas at room temperature. Contact of liquid acetylene with the eyes may cause temporary irritation.

SKIN EFFECTS:
Skin effects are not likely. Contact with liquid acetylene may cause irritation and dermatitis upon repeated exposures.

INGESTION EFFECTS:
Ingestion is unlikely, since acetylene is a gas at room temperature.

INHALATION EFFECTS:
Acetylene is an asphyxiant and may cause anesthetic effects at high concentrations. High concentrations may exclude an adequate supply of oxygen to the lungs. Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgement, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death.

Under normal operating conditions, acetone is not released from the cylinder. However, if the cylinder is overcharged with acetone or acetylene, acetone may occassionally "spit" out. Acetone is primarily a central nervous system toxin causing headache, nausea, dizziness, vomiting and fatigue. Moderate concentrations may cause respiratory irritation.

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

NFPA HAZARD CODES		HMIS HAZARD CODES		RATINGS SYSTEM
Health:	0	Health:	0	0 = No Hazard
Flammability:	4	Flammability:	4	1 = Slight Hazard
Reactivity:	0	Reactivity:	0	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

PRODUCT NAME: ACETYLENE

4. First Aid Measures

EYES:
None normally required. Consult a physician if direct contact with pressurized material occurs. Immediately flush with low pressure, cool water for at least 15 minutes, opening eyelids to ensure flushing. Get medical attention.

SKIN:
Wash affected areas with soap and warm water. If irritation develops, seek medical attention.

INGESTION:
None normally required.

INHALATION:
PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. If breathing has stopped administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive. Keep victim warm and quiet.

5. Fire Fighting Measures

Conditions of Flammability: Flammable		
Flash point: Not Available	Method: Not Applicable	Autoignition Temperature: 565°F (296°C)
LFL (%): 2.2	UEL (%): 80 to 85*	
Hazardous combustion products: Carbon Monoxide, Carbon Dioxide		
Sensitivity to mechanical shock: Not Available		
Sensitivity to static discharge: Not Available		

FIRE AND EXPLOSION HAZARDS:
*Pure acetylene can ignite by decomposition above 15 psig; therefore, the UEL is 100% if the ignition source is of sufficient intensity.

GASEOUS ACETYLENE IS SPONTANEOUSLY COMBUSTIBLE IN AIR AT PRESSURE ABOVE 15 PSI (207 kPa.). It requires a very low ignition energy so that fires which have been extinguished without stopping the flow of gas can easily reignite with possible explosive force. Acetylene has a density very similar to that of air so when leaking it does not readily dissipate. Gas may travel to a source of ignition and flash back.

Fires involving acetylene occur occassionally at fusible metal pressure relief plugs at the tops and bottoms of cylinders, commonly due to hot metal or slag being dropped on the fusible plugs. When the fusible plug releases a large volume of acetylene will rush out, creating a "roaring" sound. The flame may extend a foot or two away from the cylinder until the pressure is reduced. In some cases, the other end of the cylinder may develop a coating of frost.

EXTINGUISHING MEDIA:
Carbon dioxide, dry chemical.

PRODUCT NAME: ACETYLENE

FIRE FIGHTING INSTRUCTIONS:
WARNING: ALWAYS EXTINGUISH A FIRE BEFORE CLOSING THE CYLINDER VALVE. If the flame is small from the fusible plug or valve stem, try to put it out. Wear SCBA and fully protective clothing for fire fighting. If the fire is allowed to keep burning it is likely that the fusible plug will melt and result in a large release of acetylene. A glove or heavy cloth or any wet material slapped on the flame will frequently extinguish it.

If the flame is large, burning from a fusible plug, DO NOT try to put it out unless the cylinder is outdoors or in a very well ventilated area free from sources of ignition. Usually it is very difficult to extinguish large fires because the escaping acetylene may be reignited by adjacent ignition sources, thereby possibly creating a confined space explosion. Keep containers cool with water spray.

6. Accidental Release Measures

Evacuate all personnel from affected areas. Isolate the area for over 1/2 mile in all directions in the event of leakage of a tank, rail car or tank truck. Use appropriate protective equipment.

If possible to do safely, shut off ignition sources and stop the leak by closing the valve. For small leaks, cylinders may be moved to an area outdoors and away from any source of ignition. Circumstances which, it is advisable to attempt removal of the cylinder are when cylinders are in close proximity to other compressed gases, when highly flammable materials or hazardous materials are in the vicinity of the acetylene cylinder(s), or where protection of the building is unusually difficult and spreading of a fire may produce a major loss of life or property. When the cylinder is removed, it may be hosed down with water to keep it cool. Open valve slowly to let the acetylene escape. Tag the cylinder with "WARNING - Leaking Flammable Gas". Close valve when empty.

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest BOC location.

7. Handling and Storage

Electrical Classification:
Class 1, Group A.

Acetylene is shipped in a cylinder packed with a porous mass material, and a liquid solvent, commonly acetone. Acetylene is dissolved in the acetone solution and dispersed throughout the porous medium. When the valve of a charged acetylene cylinder is opened, the acetylene comes out of solution and passes out in the gaseous form.

IT IS CRUCIAL THAT FUSE PLUGS IN THE TOPS AND BOTTOMS OF ALL ACETYLENE CYLINDERS BE THOROUGHLY INSPECTED WHENEVER HANDLED. REMOVE AND QUARANTINE IN A SAFE LOCATION ANY DEFECTIVE CYLINDER.

Post "NO SMOKING OR OPEN FLAMES" signs in the storage area or use area. There should be no sources of ignition in the storage or use area.

PRODUCT NAME: ACETYLENE

Use only in well-ventilated areas. Stationary customer site vessels should be operated in accordance with the manufacturer's and BOC instructions. Do not attempt to repair, adjust or in any other way modify the operation of these vessels. If there is a malfunction or other type of operations problem with the vessel, contact the closest BOC location immediately for assistance.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. DO NOT allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders from being stored for excessive periods of time.

Valve protection caps must remain in place unless container is secured with valve outlet piping to use point. Close valve after each use and when the container is empty. Do not drag, slide or roll cylinders on their sides. Use a suitable hand truck for container movement. Use a pressure reducing regulator when connecting container to piping or systems. Do not use gas directly from container. Do not heat container by any means to increase the discharge rate of product from the container.

Never attempt to repair or alter cylinders. Never tamper with pressure relief devices or fusible plugs. Under no circumstances allow a torch flame to contact the fusible plug. While welding, avoid contact of the cylinder welding equipment or electrical circuits.

If rough handling or other occurrences should cause any fusible plug to leak, move the cylinder to an open space well away from an possible source of a sign on the cylinder warning of "Leaking Flammable Gas".

Unless oxygen and acetylene are separated, there should be a non-combustible partition of at least 5 ft high with a fire resistance rating of one-half hour between cylinders. In the U.S. cylinders stored inside a building near user locations must be limited to a total capacity of 2500 ft^3 of gas, exclusive of in-use or attached for use cylinders.

Do not store cylinders on their side. This makes the acetylene less stable and less safe, and increases the likelihood of solvent loss and resultant decomposition.

For additional information, consult the Compressed Gas Association (CGA) pamphlets P-1, G-1, SB-4-1990; NFPA #51-1984, and OSHA 1910 Subpart H & Q.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS[1]:

INGREDIENT	% VOLUME	PEL-OSHA[2]	TLV-ACGIH[3]	LD_{50} or LC_{50} Route/Species
Acetylene FORMULA: C_2H_2 CAS: 74-86-2 RTECS #: AO9600000	95.0 to 99.6	Not Available	Simple Asphyxiant	Not Available
Acetone FORMULA: C3H60 CAS: 67-64-1 RTECS #: AL3150000	Not Avaliable	1000 ppm TWA	750 ppm TWA 1000 ppm STEL	LD_{50} 1297 mg/kg (mouse)

[1] Refer to individual state of provincial regulations, as applicable, for limits which may be more stringent than those listed here.
[2] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1991)
[3] As stated in the ACGIH 1994-1995 Threshold Limit Values for Chemical Substances and Physical Agents

PRODUCT NAME. ACETYLENE

ENGINEERING CONTROLS:
Provide general room ventilation and local exhaust to prevent accumulation above the exposure limit and to maintain oxygen levels above 19.5%. Mechanical ventilation should be designed in accordance with electrical codes.

EYE/FACE PROTECTION:
Safety goggles or glasses as appropriate for the job.

SKIN PROTECTION:
PVC or rubber in laboratory; as required for cutting and welding.

RESPIRATORY PROTECTION:
Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

OTHER/GENERAL PROTECTION:
Safety shoes.

9. Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: 635	psia
Vapor density (Air = 1)	: Not Available	
Evaporation point	: Not Available	
Boiling point	: -118.8	°F
	: -83.8	°C
Freezing point	: -113	°F
	: -80.6	°C
pH	: Not Available	
Specific gravity	: 0.906	
Oil/water partition coefficient	: Not Available	
Solubility (H20)	: Soluble	
Odor threshold	: Not Available	
Odor and appearance	: Pure acetylene has an etheral odor. Commercial (carbide) acetylene has a distinctive garlic-like odor; A colorless gas.	

10. Stability and Reactivity

STABILITY:
Unstable - shock sensitive in the liquid state. Do not allow free gas (outside of cylinder) to exceed 15 psig. Do not expose cylinders to sudden shock or heat. Acetylene will decompose violently with cylinder failure.

INCOMPATIBLE MATERIALS:
Oxygen and other oxidizers including all halogens and halogen compounds. Forms explosive acetylide compounds with copper, mercury, silver, brasses containing >66% copper and brazing materials containing silver or copper.

PRODUCT NAME: ACETYLENE

HAZARDOUS DECOMPOSITION PRODUCTS:
Acetylene decomposes at high pressure to its constituent elements of carbon and hydrogen. Carbon monoxide may be produced from burning.

Under certain conditions, acetylene forms readily explosive acetylide compounds when in contact with copper, silver, and mercury. Therefore, use of acetylene and these metals, or their salts, compounds, and high concentration alloys should be avoided.

The presence of moisture, certain acids or alkaline materials tends to enhance the formation of copper acetylides.

HAZARDOUS POLYMERIZATION:
Temperatures as low as 250°F (121°C) at high pressure, or at low pressure in the presence of a catalyst are sufficient to initiate a polymerization reaction. The hazard here is that the polymerization normally liberates heat and may, therefore, lead to ignition and decomposition of acetylene if conditions permit.

11. Toxicological Information

Low concentrations (10-20% in-air) cause symptoms similar to that of being intoxicated. As a narcotic gas or intoxicant, it causes hypercapnia (an excessive amount of carbon dioxide in the blood). Repeated exposures to tolerable levels has not shown deleterious effects.

TC_{Lo}, human - Inhalation of 20 ppb inhaled has been shown to cause headache and dyspnea.

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

12. Ecological Information

No data given.

13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to BOC Gases or authorized distributor for proper disposal.

14. Transport Information

PARAMETER	United States DOT	Canada TDG
PROPER SHIPPING NAME:	Acetylene, dissolved	Acetylene, dissolved
HAZARD CLASS:	2.1	2.1
IDENTIFICATION NUMBER:	UN 1001	UN 1001
SHIPPING LABEL:	FLAMMABLE GAS	FLAMMABLE GAS

15. Regulatory Information

U.S. FEDERAL REGULATORY INFORMATION

PRODUCT NAME: ACETYLENE

Acetone is regulated as a Hazardous Substance under CERCLA.

Acetylene is listed under the Clean Air Act (CAA) Section 112(r) with a threshold quantity (TQ) of 10,000 pounds.

SARA TITLE III NOTIFICATIONS AND INFORMATION

Releases of acetone in quantities equal to or greater than the reportable quantity (RQ) of 5,000 pounds are subject to reporting to the National Response Center under CERCLA, Section 304 SARA Title III.

SARA TITLE III - HAZARD CLASSES:
Acute Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard
Reactivity Hazard

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION:
This product contains the following toxic chemicals subject to reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372:

CAS NUMBER	INGREDIENT NAME	PERCENT OF VOLUME
67-64-1	Acetone	Unknown

This information must be included on all MSDSs that are copied and distributed for this material.

REGULATED INGREDIENTS
INGREDIENT: Acetone
CAS NUMBER: 67-64-1
REGULATIONS: ILL MAS NJS NJW PAW STC WHM
ILL - Illinois Toxic Substance
MAS - Massachusetts Hazardous Substance
NJS - New Jersey Special Health Hazardous Substance
NJW - New Jersey Workplace Hazardous Substance
PAW - Pennsylvania Workplace Hazardous Substance
STC - SARA Section 313 Toxic Chemical
WHS - WHMIS (Canada)

INGREDIENT: Acetylene
CAS NUMBER: 74-86-2 PERCENT BY VOLUME: 95.0 to 99.6
REGULATIONS: ILL MAS NJS NJW PAW WHM
ILL - Illinois Toxic Substance
MAS - Massachusetts Hazardous Substance
NJS - New Jersey Special Health Hazardous Substance
NJW - New Jersey Workplace Hazardous Substance
PAW - Pennsylvania Workplace Hazardous Substance
STC - SARA Section 313 Toxic Chemical
WHS - WHMIS (Canada)

CANADIAN REGULATORY INFORMATION:
In Canada, regulations limit the capacity of acetylene cylinders stored inside a building at user locations to a total capacity of 2160 ft3 of gas in unsprinklered combustible structures, or 6130 ft3 in sprinklered buildings of combustible or non-combustible structures.

PRODUCT NAME: ACETYLENE

16. Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:
Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Post-It® Fax Note 7671	Date 11/6	# of pages ▶ 9
To Jim Welch	From Old World	
Co./Dept. Merit Oil	Co. Cochise	
Phone #	Phone # 847/559-2139	
Fax # 909/877-4723	Fax #	

Effective Date: 09/01/98

PRODUCT IDENTITY: FULLFORCE ® ANTIFREEZE & COOLANT

1. SUPPLIER

OLD WORLD INDUSTRIES, INC.
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 708-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. INGREDIENTS

MATERIAL	*CAS#*	*% BY WT*	*PEL (OSHA)*	*TLV (ACGIH)*
Ethylene Glycol	107-21-1	90 - 95	50 ppm	50 ppm
Diethylene Glycol	111-46-6	0 - 5	None	None
Di Potassium Phosphate	7758-11-4	1 - 2	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor. May be fatal if swallowed. Vapors can cause eye irritation.

LOWEST KNOWN LD50 (ORAL)	107-21-1	5840 mg/kg (Rats)
LOWEST KNOWN LD50 (SKIN)	107-21-1	9530 mg/kg (Rabbits)

HAZARD RATING SYSTEM (NFPA)

HEALTH: 1 *FLAMMABILITY: 1* *REACTIVITY: 0*

KEY: 0 - Minimal, 1 - Slight, 2 - Moderate, 3 - Serious, 4 - Severe

FULL FORCE ANTIFREEZE & COOLANT

The Patented Universal Formula

New Car Aluminum Protection PLUS... Meets Heavy Duty Low Silicate Requirements

5-WAY PROTECTION:

- Freeze-Up
- Scale Build-Up
- Boil-Over
- Sludge Clogging
- Rust Corrosion

SPECIFICATIONS:

GENERAL
Meets the performance requirements and specifications for aftermarket antifreeze/coolants including:

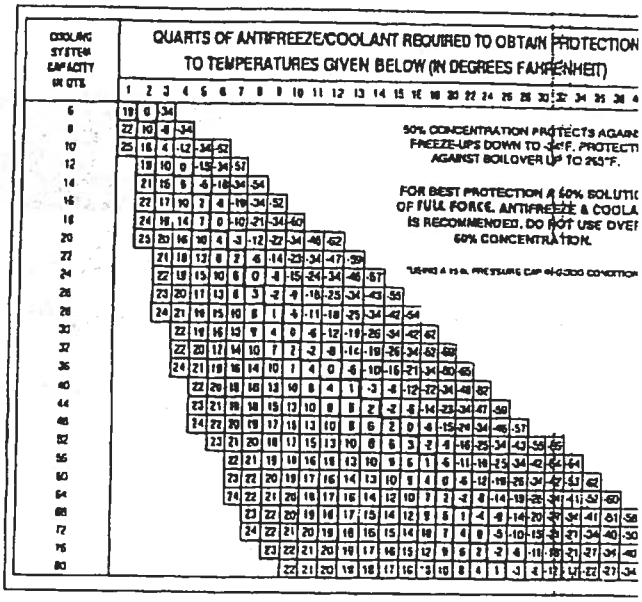
HEAVY-DUTY

- ASTM D-4985
- G.M. 1899M
- SAE J1941
- Cummins 90T8-4
- Caterpillar
- RP-302B Maintenance Council American Trucking
- John Deere H24
- Detroit Diesel 7SE298
- Freightliner 48-22880
- Volvo/GM Heavy Truck
- Mack

AUTOMOBILE

- ASTM D-3306
- ASTM D-4340
- SAE J1034
- G.M. 1825M
- Ford ESE-M97B44-A
- Chrysler MS 7170
- GSA A-A-870

PROTECTION CHART °F



FREEZE/BOIL PROTECTION CHART	% Cooling system capacity	Protection from freezing down to	Protection from boiling up to
*Using 15psi pressure cap	40	-10°F	259°F
	50	-34°F	265°F
	60	-62°F	270°F

PHYSICAL AND PERFORMANCE PROPERTIES

Properties	Typical Values	ASTM Test Method Latest Issue
Specific Gravity at 60/60° F	1.120-1.130	D 1122
Boiling Point, Reflux	325° F., Min.	D 1120
Foam Test	50 ml. / 3 sec., Max.	D 1881
pH, 50% Volume Solution	10.5 Min. - 11.0 Max.	D 1287
Reserve Alkalinity	11 ml. Min.	D 1121
Flash Point, COC	250° F., Min.	D 92
Total Water	5% Max.	D 1123
Total Glycols	95% Min.	E 202
Silicon	250 ppm., Max.	

Universal Patented Corrosion Protection

Very low corrosion weight changes by standard ASTM Glassware (D-1384), Simulated Service, (D-2570) and Vehicle Service (D-2847) test methods. These methods use the 6 different metals: copper, solder, brass, steel cast iron and aluminum commonly found in an automotive or truck cooling system. Compatible with all nationally distributed water filters and supplemental liquid coolant additives. When using as a diesel coolant SCA's must be added.

PRODUCT SHIPPING INFORMATION

Nationwide Distribution Centers

PRODUCT CODE	UNIT	PACK	GROSS WEIGHT	UNITS PER PALLET	UNITS PER TRUCK	PALLETS PER TRUCK
905	Gallons	6	60# per case	36 cases	720 cases	20
902	Drums	55 gal.	553# per drum	4 drums	80 drums	20
903	Bulk (Gal.)	–	9.30 - 9.40# per gal.	–	5000 gallons	

1 Gallon UPC Package 74804-00905 UPC Case 74804-10905

Distributed By:

FULL FORCE
Quality Automotive Products

This catalog sheet supersedes all earlier editions FF-01-0696

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

INGESTION: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

CANCER INFORMATION: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

TERATOLOGY (BIRTH DEFECTS): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

4. FIRST AID MEASURES

Ensure physician has access to this MSDS.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

Inhalation: If inhaled, immediately remove victim to fresh air and call ***emergency medical care.*** If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: If swallowed give two glasses of water and immediately ***call physician.*** Induce vomiting of conscious patient by pressing finger down throat. Small amounts entering mouth should be rinsed out for 5 minutes.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASH POINT: 119/C (247/F)
METHOD USED: Setaflash
AUTOIGNITION TEMPERATURE: Autoignition temperature for ethylene glycol is 398/C (748/F).

FLAMMABILITY LIMITS - % of vapor concentration at which product can ignite in presence of spark.
Lower Flammability Limit: 3.2%
Upper Flammability Limit: 22%

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

EXTINGUISHING MEDIA: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

FIRE FIGHTING INSTRUCTIONS: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or faceshield can be used during cleanup of spill site.

PROTECT THE ENVIRONMENT: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

CLEANUP: Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers for disposal. Ensure compliance with all applicable statues that require notification of appropriate government officials.

7. HANDLING AND STORAGE

Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below
- 22°C (-8°F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection: Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration, any self-contained breathing apparatus with a full facepiece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Escape: Any air-purifying full facepiece respirator (gas mask) with a chin-style or front- or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.

Skin Protection: Protective gloves recommended when prolonged skin contact can not be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.

Eye Protection: Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.

Engineering Controls: Use general or local exhaust ventilation to meet TLV requirements.

9. PHYSICAL PROPERTIES

BOILING RANGE:	171 - 175°C (339 - 348°F)
FREEZE POINT:	-22°C (-8°F)
SPECIFIC GRAVITY (Water =1):	1.12
POUNDS/GALLONS	9.3
VAPOR PRESSURE (mm of Hg) @ 20C:	<0.1
VAPOR DENSITY (air=1):	2.1
WATER SOLUBILITY:	Complete
EVAPORATION RATE (BuAc = 1):	Nil
% VOLATILE BY VOLUME:	97.0
APPEARANCE:	Green
ODOR:	Mild

10. STABILITY and REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Isolate from oxidizers, heat & open flame.
MATERIALS TO AVOID:	Isolate from strong oxidizers such as permanganates, chromates & peroxides.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide from burning.
HAZARDOUS POLYMERIZATION:	Material is not known to polymerize.

11. TOXICOLOGICAL INFORMATION

SKIN: The dermal LD50 has not been determined.

INGESTION: The lethal dose in humans is estimated to be 100 ml (3 ounces). The oral LD50 for rats is in the 6000-13,000 mg/kg range.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is 6.0E-08 atm-m3/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p/p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.29 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (Pimephales promelas) is 51000 mg/L. Acute LC50 for bluegill (Lepomis macrochirus) is 27549 mg/L. Acute LC50 for rainbow trout (Oncorhynchus mykiss) is about 18000-46000 mg/L. Acute LC50 for guppy (Poecilia reticulata) is 49300 mg/L. Acute LC50 for water flea (Daphnia magna) is 46300-51100 mg/L. Acute LC50 for the cladoceran Ceriodaphnia dubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (Artemia salina) is 20000 mg/L. Acute LC50 for golden orfe (Leuciscus idus) is greater than 10000 mg/L. Acute LC50 for goldfish (Carassius auratus) is greater than 5000 mg/L. Growth inhibition EC50 for green alga Selenastrum capricornutum is 9500-13000 mg/L.

13. DISPOSAL CONSIDERATIONS

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

Proper Shipping Name:	Proprietary Antifreeze	ID No.:	Not regulated
Hazard Class:	Not regulated	Packaging Group:	Not regulated
Label:	Not regulated		

15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

CHEMICAL NAME	*CAS NUMBER*
Ethylene Glycol	107-21-1

UNITED STATES - TSCA - Inventory: Listed

WATER STANDARDS: No data available

ATMOSPHERIC STANDARDS: Clean Air Act (1990) - List of Hazardous Air Contaminants: listed

CERCLA: Reportable Quantity (RQ): 5,000 pounds (532 gallons)

SARA Title III:

Section 311/312 - Categories: Acute hazard; chronic hazard

Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.

Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.

Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.

STATE RIGHT-TO-KNOW:

California - Exposure Limits - Ceilings:	vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances:	listed
Florida - Hazardous Substances List:	listed
Massachusetts - Right-to-Know List:	listed
Minnesota - Haz. Subs. List:	listed (particulate and vapor)
New Jersey - Right-to-Know List (Total):	Present greater than 1.0%
Pennsylvania Right-to-Know List:	environmental hazard

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

WHMIS INFORMATION: D2A - material has potential toxic effects.
Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

16. OTHER INFORMATION

Contact: Technical department Phone: (847) 559-2000

Old World Industries, Inc. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, Inc. as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, Inc. assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: No. 2 Diesel Fuel
Product Code: Multiple
Synonyms: CARB Diesel TF3
CARB Diesel
CARB Diesel 10%
Diesel Fuel Oil
EPA Low Sulfur Diesel Fuel
EPA Low Sulfur Diesel Fuel - Dyed
EPA Off Road High Sulfur Diesel - Dyed
Fuel Oil No. 2 - CAS # 68476-30-2
No. 2 Diesel Fuel Oil
No. 2 Fuel Oil - Non Hiway - Dyed
No. 2 High Sulfur Diesel - Dyed
No. 2 Low Sulfur Diesel - Dyed
No. 2 Low Sulfur Diesel - Undyed

Responsible Party: Tosco Corporation
1700 East Putnam Avenue
Old Greenwich, CT 06870

Help Desk 8am - 4pm Pacific Time, Mon-Fri: 1-800-762-0942

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:

Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control
System: (800)356-3129

Health Hazards: Causes severe skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Physical Hazards: Flammable liquid and vapor. Keep away from heat, sparks, flames, static electricity or other sources of ignition.

Physical Form: Liquid

- Physical Form: Liquid
- Appearance: Straw-colored to dyed red
- Odor: Characteristic petroleum

NFPA HAZARD CLASS: Health: 0 (Least)
Flammability: 2 (Moderate)
Reactivity: 0 (Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	% Volume	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Diesel Fuel No. 2 CAS# 68476-34-6	100	100* mg/m3	ACGIH	TWA-SKIN
Naphthalene CAS# 91-20-3	<1	10 ppm	ACGIH	TWA
		15 ppm	ACGIH	STEL
		10 ppm	OSHA	TWA
		250 ppm	NIOSH	IDLH

Tosco Low Sulfur No. 2 Diesel meets the specifications of 40 CFR 60.41 for low sulfur diesel fuel.

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

*Proposed ACGIH (1999)

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Severe skin irritant. Contact may cause redness, itching, burning, and severe skin damage. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin, leading to dermatitis (inflammation). Not acutely toxic by skin absorption, but prolonged or repeated skin contact may be harmful (see Section 11).

Inhalation (Breathing): No information available. Studies by

other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): Low degree of toxicity by ingestion. ASPIRATION HAZARD - This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea, diarrhea and transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).

Cancer: Possible skin cancer hazard (see Sections 11 and 14).

Target Organs: There is limited evidence from animal studies that overexposure may cause injury to the kidney (see Section 11).

Developmental: Inadequate data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders and kidney disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Immediately remove contaminated shoes, clothing, and constrictive jewelry and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek immediate medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the

lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties: Flash Point: >125°F/>52°C
OSHA Flammability Class: Combustible liquid
LEL%: 0.3 / UEL%: 10.0
Autoignition Temperature: 500°F/260°C

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be

done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors (see Section 5). Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharge. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is

advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation, and skin damage (see glove manufacturer literature for information on permeability). Depending on conditions of use, apron and/or arm covers may be necessary.

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn when skin contact is possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Flash Point: >125°F / >52°C
Flammable/Explosive Limits (%): LEL: 0.3 / UEL: 10.0
Autoignition Temperature: 500°F / 260°C
Appearance: Straw-colored to dyed red
Physical State: Liquid
Odor: Characteristic petroleum

laboratory animals.

Target Organ(s): Limited evidence of renal impairment has been noted from a few case reports involving excessive exposure to diesel fuel No. 2.

Naphthalene (CAS# 91-20-3)

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has not been identified as a carcinogen by IARC or OSHA.

12. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristic(s) of ignitability (D001) and benzene (D018). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container rinsate could be considered a RCRA hazardous waste and must be disposed of with care and in full compliance with federal, state and local regulations. Larger empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller empty containers, consult with state and local regulations and disposal authorities.

13. TRANSPORT INFORMATION

DOT Proper Shipping Name / Technical Name: Diesel Fuel
Hazard Class or Division: 3
ID #: NA1993
Packing Group: III

14. REGULATORY INFORMATION

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

COMPONENT	CAS NUMBER	WEIGHT %
-- None known --		

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

COMPONENT	EFFECT
Benzene	Cancer, Developmental and Reproductive Toxicant
Toluene	Developmental Toxicant

Diesel engine exhaust, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any. Diesel exhaust is a probable cancer hazard based on tests in laboratory animals. It has been identified as a carcinogen by IARC.

EPA (CERCLA) Reportable Quantity: --None--

15. DOCUMENTARY INFORMATION

Issue Date: 05/15/01
Previous Issue Date: 07/10/00
Product Code: Multiple
Previous Product Code: Multiple

16. DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY**

OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

MATERIAL SAFETY DATA SHEET
76 Unoba EP Grease 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 76 Unoba EP Grease 0
Product Code: 5448000000
Sap Code:
Intended Use: Grease
Chemical Family: Petroleum hydrocarbon
Responsible Party: Phillips 66 Company
Lubricants Division
P.O. Box 25376
Santa Ana, CA 92799-5376
For Additional MSDSs: 800-762-0942
Technical Information:

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance: Green
Physical Form: Semi-solid
Odor: Mild, bland petroleum

NFPA Hazard Class:

Health: 1 (Slight)
Flammability: 1 (Slight)
Reactivity: 0 (Least)

HMIS Hazard Class

Not Evaluated

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	% WEIGHT	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Calcium Carbonate CAS# 1317-65-3	1-5	10 mg/m3 15 mg/m3 5 mg/m3	ACGIH OSHA OSHA	TWA TWA-Tot. TWA-Resp.
Zinc Compound CAS# Proprietary	<1	Not Established		

OTHER COMPONENTS	% WEIGHT	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Lubricant Base Oil (Petroleum) CAS# Various	81-94	(See: Oil Mist, If Generated)		
Additives CAS# Proprietary	5-14	Not Established		

REFERENCE	EXPOSURE GUIDELINE		
	Limits	Agency	Type
Oil Mist, If Generated CAS# None	5 mg/m3	ACGIH	TWA
	10 mg/m3	ACGIH	STEL
	5 mg/m3	OSHA	TWA
	2500 mg/m3	NIOSH	IDLH

All components are listed on the TSCA inventory

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No data available. However, inhalation is not an expected route of exposure.

Ingestion (Swallowing): Low degree of toxicity by ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: Inadequate data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): First aid is not normally required. If breathing difficulties develop, move victim away from source of exposure and into fresh air. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point: 450°F/232°C (COC)
OSHA Flammability Class: Not applicable
LEL%: 0.9 / UEL%: 7.0
Autoignition Temperature: No Data
Burn Rate (solids): No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily.

Extinguishing Media: Dry chemical, carbon dioxide, foam, water, sand, or earth is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confines spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Cool equipment exposed to fire with water, if it can be done with minimal risk.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Notify fire authorities and appropriate federal, state, and local agencies. Cleanup under expert supervision is advised. Minimize dust generation. Sweep up and package appropriately for disposal. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National

Handling: The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Physical State: Semi-solid
Odor: Mild, bland petroleum
Vapor Pressure (mm Hg): <0.01
Vapor Density (air=1): >5
Boiling Point/Range: No Data
Freezing/Melting Point: No Data
Solubility in Water: Negligible
Specific Gravity: 0.90 @ 60°F
Percent Volatile: Negligible
Evaporation Rate (nBuAc=1): <0.01
Bulk Density: 7.50 lbs/gal
Flash Point: 450°F / 232°C (COC)
Flammable/Explosive Limits (%): LEL: 0.9 / UEL: 7.0

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen, sulfur, phosphorus, and zinc oxides.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, is not a RCRA "listed" or "characteristic" hazardous waste. Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. Along with properly characterizing all waste materials consult state and local regulations regarding the proper disposal of this material.

14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health: No
Chronic Health: No
Fire Hazard: No
Pressure Hazard: No
Reactive Hazard: No

SARA 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component	CAS Number	Weight %
Zinc Compound	Proprietary	<1

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

--None Known--

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity:

--None--

16. OTHER INFORMATION

Issue Date: 01/01/02
Previous Issue Date: 11/16/99
Product Code: 5448000000
Revised Sections: None
Previous Product Code: 5448000000
MSDS Number: 5448000000

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

CODE:50042

Material Safety Data Sheet

Revised: 8/24/00

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

LUBRICATING SPECIALTIES COMPANY
8015 PARAMOUNT BLVD.
PICO RIVERA, CA 90660

PHONE NUMBERS:
Business hours: (562) 776-4000
24 hours: Chemtrec: (800) 424-9300
General MSDS: (562) 776-4000

Product Name: Red-I EP Lithium Grease NLGI # 2
Chemical Name: Petroleum grease CAS #: Mixture
Common Name: Grease

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CHEMICAL NAME	CAS NO.	%
Lithium Hydroxide		1310-66-3	<5
12-Hydroxystearic acid		106-14-9	<15
Hydrotreated heavy naphthenic distillate		64742-52-5	<70
Polybutene		9003-29-6	<10
Antimony dialkyldithiocarbamate		64742-52-5	<1
[illegible]		[illegible]	<1

MATERIAL SAFETY DATA SHEET

Ashland

Subsidiary Of Ashland Oil, Inc
P.O. BOX 2219
COLUMBUS, OHIO 43216
(614) 889-3333

Emergency Telephone
1(800) 274-5263
1(800) ASHLAND

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MINERAL SPIRITS 66

Page:

THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD COMMUNICATION STANDARD)

****

Product Name: MINERAL SPIRITS 66
CAS NUMBER: 8052-41-3

MERIT OIL COMPANY
P.O. BOX 341
BLOOMINGTON CA 92316

05 50 033 5470030-

Data Sheet No: C000591-005.000
Prepared: 03/02/92
Supersedes: 05/31/89

PRODUCT: 2518000
INVOICE: 601405
INVOICE DATE: 05/29/93
TO: MERIT OIL COMPANY
1020 W. BLOOMINGTON AVENUE
BLOOMINGTON CA 92316

ATTN: PLANT MGR./SAFETY DIR.

SECTION I - PRODUCT IDENTIFICATION

General or Generic ID: ALIPHATIC HYDROCARBON

DOT Hazard Classification: COMBUSTIBLE (173.115)

SECTION II - COMPONENTS

IF PRESENT, IARC, NTP AND OSHA CARCINOGENS AND CHEMICALS SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III SECTION 313 ARE IDENTIFIED IN THIS SECTION. SEE DEFINITION PAGE FOR CLARIFICATION

INGREDIENT	% (by WT)	PEL	TLV	Note
ALIPHATIC HYDROCARBONS (STODDARD TYPE) CAS #: 8052-41-3	100	760 PPM	100 PPM	(1)

Notes:

(1) NIOSH RECOMMENDS A LIMIT OF 350 MG/CUM - 8 HOUR TIME WEIGHTED AVERAGE, 1800 MG/CUM AS DETERMINED BY A 15 MINUTE SAMPLE.

SECTION III - PHYSICAL DATA

Boiling Point	for PRODUCT	315.00 Deg F (157.22 Deg C) @ 760.00 mm Hg
Vapor Pressure	for PRODUCT	2.00 mm Hg @ 68.00 Deg F (20.00 Deg C)
Specific Vapor Density	AIR = 1	4.90
Specific Gravity		.782 - .786 @ 60.00 Deg F (15.55 Deg C)
Percent Volatiles		100.00%
Evaporation Rate	(BUTYL ACETATE = 1)	.12
Appearance		CLEAR, SAYBOLT COLOR 30 MIN
State		LIQUID
Form		HOMOG SOLN

SECTION IV FIRE AND EXPLOSION INFORMATION

FLASH POINT(TCC) 105.0 Deg F (40.6 Deg C)

EXPLOSIVE LIMIT (PRODUCT) LOWER - 1.0%

EXTINGUISHING MEDIA: REGULAR FOAM OR CARBON DIOXIDE OR DRY CHEMICAL

HAZARDOUS DECOMPOSITION PRODUCTS: MAY FORM TOXIC MATERIALS:, CARBON DIOXIDE AND CARBON MONOXIDE, VARIOUS HYDROCARBONS, ETC.

FIREFIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE WHEN FIGHTING FIRES.

SPECIAL FIRE & EXPLOSION HAZARDS: VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND OR BE MOVED BY VENTILATION AND IGNITED BY HEAT, PILOT LIGHTS, OTHER FLAMES AND IGNITION SOURCES AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT.

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN IGNITE EXPLOSIVELY.

ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS INCLUDING TANK CARS AND TANK TRUCKS SHOULD BE GROUNDED AND/OR BONDED WHEN MATERIAL IS TRANSFERRED.

NFPA CODES: HEALTH- 1 FLAMMABILITY- 2 REACTIVITY- 0

SECTION V-HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LEVEL 100 PPM

THRESHOLD LIMIT VALUE 100 PPM

NOT ESTABLISHED FOR PRODUCT. SEE SECTION II.

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MATERIAL SAFETY DATA SHEET

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MINERAL SPIRITS 66

SECTION V-HEALTH HAZARD DATA (Continued)

EFFECTS OF ACUTE OVEREXPOSURE:

EYES - EXPOSURE TO LIQUID OR VAPORS MAY CAUSE SEVERE EYE IRRITATION. SYMPTOMS MAY INCLUDE BURNING, TEARING, REDNESS, SWELLING, AND EYE DAMAGE.
SKIN - EXPOSURE MAY CAUSE MILD SKIN IRRITATION. PROLONGED OR REPEATED EXPOSURE MAY DRY THE SKIN. SYMPTOMS MAY INCLUDE REDNESS, BURNING, DRYING AND CRACKING, AND SKIN BURNS.
BREATHING - EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION, CENTRAL NERVOUS SYSTEM EFFECTS INCLUDING DIZZINESS, WEAKNESS, FATIGUE, NAUSEA, HEADACHE AND POSSIBLE UNCONSCIOUSNESS, AND EVEN DEATH.
SWALLOWING - CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING, AND DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

FIRST AID:

IF ON SKIN: REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH SOAP AND WATER. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. IF SYMPTOMS PERSIST, SEEK MEDICAL ATTENTION.

IF IN EYES: IF SYMPTOMS DEVELOP, IMMEDIATELY MOVE INDIVIDUAL AWAY FROM EXPOSURE AND INTO FRESH AIR. FLUSH EYES FOR AT LEAST 20 MINUTES WHILE HOLDING EYELIDS APART AND SEEK IMMEDIATE MEDICAL ATTENTION.

IF SWALLOWED: DO NOT INDUCE VOMITING. KEEP PERSON WARM, QUIET, AND GET MEDICAL ATTENTION. ASPIRATION OF MATERIAL INTO THE LUNGS DUE TO VOMITING CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL.

IF BREATHED: IF AFFECTED, REMOVE INDIVIDUAL TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF BREATHING HAS STOPPED GIVE ARTIFICIAL RESPIRATION. KEEP PERSON WARM, QUIET AND GET MEDICAL ATTENTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION, SKIN CONTACT

EFFECTS OF CHRONIC OVEREXPOSURE:

OVEREXPOSURE TO THIS MATERIAL (OR ITS COMPONENTS) HAS BEEN SUGGESTED AS A CAUSE OF THE FOLLOWING EFFECTS IN HUMANS:, CENTRAL NERVOUS SYSTEM EFFECTS

SECTION VI-REACTIVITY DATA

HAZARDOUS POLYMERIZATION: CANNOT OCCUR

STABILITY: STABLE

INCOMPATIBILITY: AVOID CONTACT WITH:, STRONG OXIDIZING AGENTS

SECTION VII-SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILL: ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS). PERSONS NOT WEARING PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED FROM AREA OF SPILL UNTIL CLEAN-UP HAS BEEN COMPLETED. STOP SPILL AT SOURCE. PREVENT FROM ENTERING DRAINS, SEWERS, STREAMS OR OTHER BODIES OF WATER. PREVENT FROM SPREADING. IF RUNOFF OCCURS, NOTIFY AUTHORITIES AS REQUIRED. PUMP OR VACUUM TRANSFER SPILLED PRODUCT TO CLEAN CONTAINERS FOR RECOVERY. ABSORB UNRECOVERABLE PRODUCT. TRANSFER CONTAMINATED ABSORBENT, SOIL AND OTHER MATERIALS TO CONTAINERS FOR DISPOSAL.

PREVENT RUN-OFF TO SEWERS, STREAMS OR OTHER BODIES OF WATER. IF RUN-OFF OCCURS, NOTIFY PROPER AUTHORITIES AS REQUIRED, THAT A SPILL HAS OCCURED.

WASTE DISPOSAL METHOD:

SMALL SPILL: DISPOSE OF IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

LARGE SPILL: DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

SECTION VIII-PROTECTIVE EQUIPMENT TO BE USED

RESPIRATORY PROTECTION: IF WORKPLACE EXPOSURE LIMIT(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED IN ABSENCE OF PROPER ENVIRONMENTAL CONTROL. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (NEGATIVE PRESSURE TYPE) UNDER SPECIFIED CONDITIONS (SEE YOUR SAFETY EQUIPMENT SUPPLIER). ENGINEERING OR ADMINISTRATIVE CONTROLS SHOULD BE IMPLEMENTED TO REDUCE EXPOSURE.

VENTILATION: PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S).

PROTECTIVE GLOVES: WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

EYE PROTECTION: CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS ARE ADVISED; HOWEVER, OSHA REGULATIONS ALSO PERMIT OTHER TYPE SAFETY GLASSES. (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER)

OTHER PROTECTIVE EQUIPMENT: TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING AND BOOTS.

SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTIED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED.

WARNING!!! SUDDEN RELEASE OF HOT ORGANIC CHEMICAL VAPORS OR MISTS FROM PROCESS EQUIPMENT OPERATING AT ELEVATED TEMPERATURE AND PRESSURE, OR SUDDEN INGRESS OF AIR INTO VACUUM EQUIPMENT, MAY RESULT IN IGNITIONS WITHOUT THE PRESENCE OF OBVIOUS IGNITION SOURCES. PUBLISHED "AUTOIGNITION" OR "IGNITION" TEMPERATURE VALUES CANNOT BE TREATED AS SAFE OPERATING TEMPERATURES IN CHEMICAL PROCESSES WITHOUT ANALYSIS OF THE ACTUAL PROCESS CONDITIONS. ANY USE OF THIS PRODUCT IN ELEVATED TEMPERATURE PROCESSES SHOULD BE THOROUGHLY EVALUATED TO ESTABLISH AND MAINTAIN SAFE OPERATING CONDITIONS.

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MATERIAL SAFETY DATA SHEET

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1(800) ASHLAND

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MINERAL SPIRITS 66

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SECTION IX-SPECIAL PRECAUTIONS OR OTHER COMMENTS (Continued)

THE INFORMATION ACCUMULATED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT WARRANTED TO BE WHETHER ORIGINATING WITH THE COMPANY OR NOT. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED THAT THE INFORMATION IS CURRENT, APPLICABLE, AND SUITABLE TO THEIR CIRCUMSTANCES.

LAST PAGE--SEE ATTACHMENT PAGE ENCLOSED--LAST PAGE

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DEFINITIONS

This definition page is intended for use with Material Safety Data Sheets supplied by the Ashland Chemical Company. Recipients of these data sheets should consult the OSHA Safety and Health Standards (29 CFR 1910), particularly subpart G – Occupational Health and Environmental Control, and subpart I – Personal Protective Equipment, for general guidance on control of potential Occupational Health and Safety Hazards.

SECTION I
PRODUCT IDENTIFICATION

GENERAL OR GENERIC ID: Chemical family or product description.

DOT HAZARD CLASSIFICATION: Product meets DOT criteria for hazards listed.

SECTION II
COMPONENTS

Components are listed in this section if they present a physical or health hazard and are present at or above 1% in the mixture. If a component is identified as a CARCINOGEN by NTP, IARC, or OSHA as of the date on the MSDS, it will be listed and footnoted in this section when present at or above 0.1% in the product. Negative conclusions concerning carcinogenicity are not reported. Additional health information may be found in Section V. Components subject to the reporting requirements of Section 313 of SARA Title III are identified in the footnotes in this section, along with typical percentages. Other components may be listed if deemed appropriate.

Exposure recommendations are for components. OSHA Permissible Exposure Limits (PELS) and American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs) appear on the line with the component identification. Other recommendations appear as footnotes.

SECTION III
PHYSICAL DATA

BOILING POINT: Of product if known. The lowest value of the components is listed for mixtures.

VAPOR PRESSURE: Of product if known. The highest value of the components is listed for mixtures.

SPECIFIC VAPOR DENSITY: Compared to AIR = 1. If the Specific Vapor Density of a product is not known, the value is expressed as lighter or greater than air.

SPECIFIC GRAVITY: Compared to WATER = 1. If Specific Gravity of product is not known, the value is expressed as less than or greater than water.

pH if applicable.

PERCENT VOLATILES: Percentage of material with initial boiling point below 425 degrees Fahrenheit and vapor pressure above 0.1mm Hg at 68 F.

EVAPORATION RATE: Indicated as faster or slower than ETHYL ETHER, unless otherwise stated.

SECTION IV
FIRE AND EXPLOSION DATA

FLASH POINT: Method identified.

EXPLOSION LIMITS: For product if known. The lowset value of the components is listed for mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Known or expected hazardous products resulting from heating, burning or other reactions.

SECTION IV (cont.)

EXTINGUISHING MEDIA: Following National Fire Protection Association criteria.

FIREFIGHTING PROCEDURES: Minimum equipment to protect firefighters from toxic products of vaporization, combustion or decomposition in fire situations. Other firefighting hazards may also be indicated.

SPECIAL FIRE AND EXPLOSION HAZARDS: States hazards not covered by other sections.

NFPA CODES: Hazard ratings assigned by the National Fire Protection Association.

SECTION V
HEALTH HAZARD DATA

PERMISSIBLE EXPOSURE LIMIT: For product.

THRESHOLD LIMIT VALUE: For product.

EFFECTS OF ACUTE OVEREXPOSURE: Potential local and systemic effects due to single or short term overexposure to the eyes and skin or through inhalation or ingestion.

EFFECTS OF CHRONIC OVEREXPOSURE: Potential local and systemic effects due to repeated or long term overexposure to the eyes and skin or through inhalation or ingestion.

FIRST AID: Procedures to be followed when dealing with accidental overexposure.

PRIMARY ROUTE OF ENTRY: Based on properties and expected use.

SECTION VI
REACTIVITY DATA

HAZARDOUS POLYMERIZATION: Conditions to avoid to prevent hazardous polymerization resulting in a large release of energy.

STABILITY: Conditions to avoid to prevent hazardous or violent decomposition.

INCOMPATIBILITY: Materials and conditions to avoid to prevent hazardous reactions.

SECTION VII
SPILL OR LEAK PROCEDURES

Reasonable precautions to be taken and methods of containment, clean-up and disposal. Consult federal, state and local regulations for accepted procedures and any reporting or notification requirements.

SECTION VIII
PROTECTIVE EQUIPMENT TO BE USED

Protective equipment which may be needed when handling the product.

SECTION IX
SPECIAL PRECAUTIONS OR OTHER COMMENTS

Covers any relevant points not previously mentioned.

ADDITIONAL COMMENTS

Containers should be either reconditioned by CERTIFIED firms or properly disposed of by APPROVED firms. Disposal of containers should be in accordance with applicable laws and regulations. "EMPTY" drums should not be given to individuals. Serious accidents have resulted from the misuse of "EMPTIED" containers (drums,pails,etc.). Refer to Sections IV and IX.

BOC GASES

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: NITROGEN

1. Chemical Product and Company Identification

BOC Gases,
A Division of
The BOC Group, Inc
575 Mountain Avenue
Murray Hill, NJ 07974

TELEPHONE NUMBER: (908)464-8100
24-HOUR EMERGENCY TELEPHONE
NUMBER: CHEMTREC (800)424-9300

BOC Gases,
A Division of
BOC Canada Ltd.
89 Queensway West
Mississauga, Ontario L5B 2V2

TELEPHONE NUMBER: (905)273-7700
24-HOUR EMERGENCY TELEPHONE
NUMBER: (905)949-3777
EMERGENCY RESPONSE PLAN NO: 20101

PRODUCT NAME: NITROGEN
CHEMICAL NAME: Nitrogen
COMMON NAMES/SYNONYMS: Nitrogen, compressed; Nitrogen gas
TDG CLASSIFICATION: 2.2
WHMIS CLASSIFICATION: A

PREPARED BY: Loss Control (908)464-8100/(905)273-7700
PREPARATION DATE: 04/01/95
REVIEW DATES: 04/01/95
LATEST REVISION DATE: 04/01/95
PREVIOUS REVISION DATE: None

2. Composition, Information on Ingredients

INGREDIENT	% VOLUME	PEL-OSHA[1]	TLV-ACGIH[2]	LC_{50} or DC_{50} Route/Species
Nitrogen FORMULA: N2 CAS: 7727-37-9 RTECS #: QW9700000	99.995 to 99.999	Simple Asphyxiant	Simple Asphyxiant	Not Available

[1] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)
[2] As stated in the ACGIH 1994-95 Threshold Limit Values for Chemical Substances and Physical Agents

3. Hazards Identification

EMERGENCY OVERVIEW

Simple Asphyxiant - This product does not contain oxygen and may cause asphyxia if released in a confined area. Maintain oxygen levels above 19.5%. Contact with product may cause frostbite or freeze burns in exposed tissues. Nonflammable.

(2)

PRODUCT NAME: NITROGEN

ROUTE OF ENTRY:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
Yes	No	Yes	Yes	No

HEALTH EFFECTS:

Exposure Limits	Irritant	Sensitization
No	No	No
Teratogen	**Reproductive Hazard**	**Mutagen**
No	No	No
Synergistic Effects None reported		

Carcinogenicity: – NTP: No IARC: No OSHA: No

EYE EFFECTS:
Contact with evaporating liquid may cause tissue freezing.

SKIN EFFECTS:
Contact with rapidly evaporating liquid can cause cryogenic "burns" or frostbite. Frostbite effects are a change in color of the skin to gray or white, possibly followed by blistering.

INGESTION EFFECTS:
Ingestion is unlikely. Contact with product may cause tissue freezing.

INHALATION EFFECTS:
Product is a non-toxic simple asphyxiant. Effects of oxygen deficiency resulting from simple asphyxiants may include: rapid breathing, diminished mental alertness, impaired muscular coordination, faulty judgement, depression of all sensations, emotional instability, and fatigue. As asphyxiation progresses, nausea, vomiting, prostration, and loss of consciousness may result, eventually leading to convulsions, coma, and death.

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

NFPA HAZARD CODES	HMIS HAZARD CODES	RATINGS SYSTEM
Health: 0	Health: 0	0 = No Hazard
Flammability: 0	Flammability: 0	1 = Slight Hazard
Reactivity: 0	Reactivity: 0	2 = Moderate Hazard
		3 = Serious Hazard
		4 = Severe Hazard

4. First Aid Measures

EYES:
Never introduce ointment or oil into the eyes without medical advice! In case of freezing or cryogenic "burns" caused by rapidly evaporating liquid, DO NOT WASH THE EYES WITH HOT OR EVEN TEPID WATER! Remove victim from the source of contamination. Open eyelids wide to allow liquid to evaporate. If pain is present, refer the victim to an ophthalmologist for treatment and follow up. If the victim cannot tolerate light, protect the eyes with a light bandage.

(3)

PRODUCT NAME: NITROGEN

SKIN:
For dermal contact or frostbite: Remove contaminated clothing and flush affected areas with lukewarm water DO NOT USE HOT WATER. A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

INGESTION:
A physician should see the patient promptly if the cryogenic "burn" has resulted in blistering of the dermal surface or deep tissue freezing.

INHALATION:
PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Further treatment should be symptomatic and supportive.

5. Fire Fighting Measures

Conditions of Flammability: Nonflammable		
Flash point: None	Method: Not Applicable	Autoignition Temperature: None
LEL(%): None	UEL(%): None	
Hazardous combustion products: None		
Sensitivity to mechanical shock: None		
Sensitivity to static discharge: None		

FIRE AND EXPLOSION HAZARDS:
None. Nonflammable.

EXTINGUISHING MEDIA:
None required. Use as appropriate for surrounding materials.

6. Accidental Release Measures

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest BOC location.

7. Handling and Storage

Electrical classification:
Non-hazardous.

This gas mixture is noncorrosive and may be used with all common structural materials.

Use only in well-ventilated areas. Valve protection caps must remain in place unless container is secured with valve protection outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000

psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area of non-combustible construction away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time.

For additional recommendations, consult Compressed Gas Association Pamphlets P-1, P-14, P-9, and Safety Bulletin SB-2.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS:

INGREDIENT	% VOLUME	PEL-OSHA[1]	TLV-ACGIH[2]	LD_{50} or CC_{50} Route/Species
Nitrogen FORMULA: N2 CAS: 7727-37-9 RTECS #: QW9700000	99.995 to 99.999	Simple Asphyxiant	Simple Asphyxiant	Not Available

Refer to individual state or provincial regulations, as applicable, for limits which may be more stringent than those listed here.

ENGINEERING CONTROLS:
Local exhaust to prevent accumulation of high concentrations so as to reduce the oxygen level in the air to less than 19.5%

EYE/FACE PROTECTION:
Safety goggles or glasses as appropriate for the job. Faceshield recommended when handling cryogenic liquid material.

SKIN PROTECTION:
Protective gloves of material appropriate for the job. Insulated gloves recommended when handling cryogenic liquid material.

RESPIRATORY PROTECTION:
Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

OTHER/GENERAL PROTECTION:
Safety shoes or other footwear as appropriate for the job

(5)

PRODUCT NAME: NITROGEN

9. Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: Not Available	
Vapor density (Air=1)	: 0.97	
Evaporation point	: Not Available	
Boiling point	: -320.4	°F
	: -195.8	°C
Freezing point	: -345.9	°F
	: -209.9	°C
pH	: Not Applicable	
Specific gravity	: Not Available	
Oil/water partition coefficient	: Not Available	
Solubility (H20)	: Very slightly soluble	
Odor threshold	: Not Applicable	
Odor and appearance	: Colorless, odorless gas	

10. Stability and Reactivity

STABILITY:
Stable

INCOMPATIBLE MATERIALS:
None

HAZARDOUS POLYMERIZATION:
Does not occur.

11. Toxicological Information

Oxygen deficiency during pregnancy has produced developmental abnormalities in humans and experimental animals.

No data given in the Registry of Toxic Effects of Chemical Substances (RTECS) or Sax, Dangerous Properties of Industrial Materials, 7th ed.

12. Ecological Information

No data given.

13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to BOC Gases or authorized distributor for proper disposal.

(6)

PRODUCT NAME: NITROGEN

14. Transport Information

PARAMETER	US DOT	CTDG
PROPER SHIPPING NAME:	Nitrogen, compressed	Nitrogen, compressed
HAZARD CLASS:	2.2	2.2
IDENTIFICATION NUMBER:	UN 1066	UN 1066
SHIPPING LABEL:	NONFLAMMABLE GAS	NONFLAMMABLE GAS

15. Regulatory Information

SARA TITLE III NOTIFICATIONS AND INFORMATION

SARA TITLE III - HAZARD CLASSES:
Sudden Release of Pressure Hazard

16. Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:
Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

BOC GASES

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: OXYGEN

1. Chemical Product and Company Identification

BOC Gases.
Division of
The BOC Group, Inc.
575 Mountain Avenue
Murray Hill, NJ 07974

TELEPHONE NUMBER: (908) 464-8100
24-HOUR EMERGENCY TELEPHONE NUMBER:
CHEMTREC (800) 424-9300

BOC Gases
Division of
BOC Canada Limited
5975 Falbourne Street, Unit 2
Mississauga, Ontario L5R 3W6

TELEPHONE NUMBER: (905) 501-1700
24-HOUR EMERGENCY TELEPHONE NUMBER:
(905) 501-0802
EMERGENCY RESPONSE PLAN NO: 20101

PRODUCT NAME: OXYGEN
CHEMICAL NAME: Oxygen
COMMON NAMES/SYNONYMS: None
TDG (Canada) CLASSIFICATION: 2.2 (5.1)
WHMIS CLASSIFICATION: A, C

PREPARED BY: Loss Control (908)464-8100/(905)501-1700
PREPARATION DATE: 6/1/95
REVIEW DATES: 6/7/96

2. Composition, Information on Ingredients

INGREDIENT	% VOLUME	PEL-OSHA[1]	TLV-ACGIH[2]	LD_{50} or LC_{50} Route/Species
Oxygen FORMULA: O_2 CAS: 7782-44-7 RTECS #: RS2060000	99.5 to 100.0	Not Available	Not Available	Not Available

[1] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)
[2] As stated in the ACGIH 1994-95 Threshold Limit Values for Chemical Substances and Physical Agents

3. Hazards Identification

EMERGENCY OVERVIEW

Elevated oxygen levels may result in cough and other pulmonary changes. High concentrations of oxygen (greater than 75%) causes symptoms of hyperoxia which included cramps, nausea, dizziness, hypothermia, amnylopsia, respiration difficulties, bradycardia, fainting spells and convulsions capable of leading to death. Nonflammable. Oxidizer will accelerate combustion.

ROUTE OF ENTRY:

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
No	No	No	Yes	No

PRODUCT NAME: OXYGEN

HEALTH EFFECTS:

Exposure Limits	Irritant	Sensitization
No	No	No
Teratogen	**Reproductive Hazard**	**Mutagen**
No	No	Yes

Synergistic Effects
None known

Carcinogenicity: -- NTP: No IARC: No OSHA: No

EYE EFFECTS:
Adverse effects not anticipated.

SKIN EFFECTS:
Adverse effects not anticipated.

INGESTION EFFECTS:
Adverse effects not anticipated.

INHALATION EFFECTS:
High concentrations of oxygen (greater than 75%) causes symptoms of hyperoxia which includes cramps, nausea, dizziness, hypothermia, ambylopia, respiration difficulties, bradycardia, fainting spells and convulsions capable of leading to death. The property is that of hyperoxia which leads to pneumonia. Concentrations between 25 and 75% present a risk of inflammation of organic matter in the body.

Oxygen concentrations between 20 to 95% have produced genetic changes in mammalian cell assay test systems.

NFPA HAZARD CODES	HMIS HAZARD CODES	RATINGS SYSTEM
Health: 0	Health: 0	0 = No Hazard
Flammability: 0	Flammability: 0	1 = Slight Hazard
Reactivity: 0	Reactivity: 0	2 = Moderate Hazard
		3 = Serious Hazard
		4 = Severe Hazard

4. First Aid Measures

EYES:
Never introduce ointment or oil into the eyes without medical advice. If pain is present, refer the victim to an ophthalmologist for treatment and follow-up.

SKIN:
Remove contaminated clothing and flush affected areas with lukewarm water. If irritation persists seek medical attention.

INGESTION:
Ingestion is not anticipated.

PRODUCT NAME: OXYGEN

INHALATION:
PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE TO OXYGEN. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS. Conscious persons should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Further treatment should be symptomatic and supportive. Inform the treating physician that the patient could be experiencing hyperoxia.

5. Fire Fighting Measures

Conditions of Flammability: Not flammable. Oxidizer		
Flash point: None	Method: Not Applicable	Autoignition Temperature: None
LEL(%): None	UEL(%): None	
Hazardous combustion products: None		
Sensitivity to mechanical shock: None		
Sensitivity to static discharge: None		

FIRE AND EXPLOSION HAZARDS:
High oxygen concentrations vigorously accelerate combustion.

EXTINGUISHING MEDIA:
Water spray to keep cylinders cool. Extinguishing agent appropriate for the combustible material.

FIRE FIGHTING INSTRUCTIONS:
If possible, stop the flow of oxygen which is supporting the fire.

6. Accidental Release Measures

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1 or call your closest BOC location.

7. Handling and Storage

Electrical classification:
Nonhazardous

Dry product is noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they include volume and lose their protective role (rust formation). Concentrations of SO_2, Cl_2, salt, etc. in the moisture enhances the rusting of metals in air.

Carbon steels and low alloy steels are acceptable for use at lower pressures.

For high pressure applications stainless steels are acceptable as are copper and its alloys, nickel and its alloys, brass bronze, silicon alloys, Monel®, Inconel® and beryllium. Lead and silver or lead tin alloys are good gasket materials. Teflon®, Teflon® composites, or Kel-F® are preferred non-metallic gasket materials.

Check with the supplier to verify oxygen compatibility for the service conditions.
Oxygen should not be used as a substitute for compressed air in pneumatic equipment, since this type generally contains flammable lubricants.

PRODUCT NAME: OXYGEN

Stationary customer site vessels should operate in accordance with the manufacturer's and BOC's instruction. Do not attempt to repair, adjust or in any other way modify the operation of these vessels. If there is a malfunction or other type of operations problem with the vessel, contact the closest BOC location immediately.

Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the system.

Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 130°F (54°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full cylinders being stored for excessive periods of time. Post "NO SMOKING OR OPEN FLAMES" signs in the storage area or use area. There should be no sources of ignition in the storage or use area.

For additional storage recommendations, consult Compressed Gas Association's Pamphlets P-1, P-14 and Safety Bulletin SB-2.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS[1]:

INGREDIENT	% VOLUME	PEL-OSHA[2]	TLV-ACGIH[3]	LD_{50} or LC_{50} Route/Species
Oxygen FORMULA: O_2 CAS: 7782-44-7 RTECS #: RS2060000	99.6 to 100.0	Not Available	Not Available	Not Available

[1] Refer to individual state of provincial regulations, as applicable, for limits which may be more stringent than these listed here

[2] As stated in 29 CFR 1910, Subpart Z (revised July 1, 1993)

[3] As stated in the ACGIH 1994-1995 Threshold Limit Values for Chemical Substances and Physical Agents

ENGINEERING CONTROLS:
Use local exhaust to prevent accumulation of high concentrations that increase the oxygen level in air to more than 25%.

EYE/FACE PROTECTION:
Safety goggles or glasses as appropriate for the job.

SKIN PROTECTION:
Protective gloves made of any suitable material appropriate for the job.

OTHER/GENERAL PROTECTION:
Safety shoes, safety shower.

PRODUCT NAME: OXYGEN

9. Physical and Chemical Properties

PARAMETER	VALUE	UNITS
Physical state (gas, liquid, solid)	: Gas	
Vapor pressure	: Above critical temp.	
Vapor density (Air = 1)	: 1.11	
Evaporation point	: Not Available	
Boiling point	: -297.3	°F
	: -182.9	°C
Freezing point	: -361.8	°F
	: -218.8	°C
pH	: Not Applicable	
Specific gravity at STP	: Not Available	
Oil/water partition coefficient	: Not Available	
Solubility (H20)	: Slightly soluble	
Odor threshold	: Not Applicable	
Odor and appearance	: Colorless, odorless gas	

10. Stability and Reactivity

STABILITY:
Stable.

INCOMPATIBLE MATERIALS:
All flammable materials.

HAZARDOUS DECOMPOSITION PRODUCTS:
None.

HAZARDOUS POLYMERIZATION:
Will not occur.

11. Toxicological Information

MUTAGENIC:
Oxygen concentrations between 20 to 95% have produced genetic changes in mammalian cell assay test systems

12. Ecological Information

No data given.

13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities. Return in the shipping container PROPERLY LABELED, WITH ANY VALVE OUTLET PLUGS OR CAPS SECURED AND VALVE PROTECTION CAP IN PLACE to BOC Gases or authorized distributor for proper disposal.

PRODUCT NAME: OXYGEN

14. Transport Information

PARAMETER	United States DOT	Canada TDG
PROPER SHIPPING NAME:	Oxygen, compressed	Oxygen compressed
HAZARD CLASS:	2.2	2.2 (5.1)
IDENTIFICATION NUMBER:	UN 1072	UN 1072
SHIPPING LABEL:	NONFLAMMABLE GAS OXIDIZER	NONFLAMMABLE GAS, OXIDIZER

15. Regulatory Information

SARA TITLE III NOTIFICATIONS AND INFORMATION

SARA TITLE III - HAZARD CLASSES:
Fire Hazard
Sudden Release of Pressure Hazard

16. Other Information

Compressed gas cylinders shall not be refilled without the express written permission of the owner. Shipment of a compressed gas cylinder which has not been filled by the owner or with his/her (written) consent is a violation of transportation regulations.

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:
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MATERIAL SAFETY DATA SHEET
76 Extra Duty Gear Lube 2EP

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: 76 Extra Duty Gear Lube 2EP
Product Code: 5246020000
Sap Code:
Intended Use: Gear lubricant
Chemical Family: Petroleum hydrocarbon
Responsible Party: Phillips 66 Company
Lubricants Division
P.O. Box 25376
Santa Ana, CA 92799-5376
For Additional MSDSs: 800-762-0942
Technical Information:

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance: Clear yellow
Physical Form: Liquid
Odor: Characteristic petroleum

NFPA Hazard Class:

Health: 1 (Slight)
Flammability: 1 (Slight)
Reactivity: 0 (Least)

HMIS Hazard Class

Not Evaluated

2. COMPOSITION/INFORMATION ON INGREDIENTS

No hazardous components identified per 29 CFR 1910.1200.

OTHER COMPONENTS	% VOLUME	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Lubricant Base Oil (Petroleum)	97-99	(See: Oil Mist, If Generated)		

CAS# Various

Additives CAS# Proprietary	1-3	Not Established

REFERENCE	EXPOSURE GUIDELINE		
	Limits	Agency	Type
Oil Mist, If Generated CAS# None	5 mg/m3	ACGIH	TWA
	10 mg/m3	ACGIH	STEL
	5 mg/m3	OSHA	TWA
	2500 mg/m3	NIOSH	IDLH

All components are listed on the TSCA inventory

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point: >396°F/>202°C COC
OSHA Flammability Class: Not applicable
LEL/UEL%: No Data
Autoignition Temperature: No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended.

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: Clear yellow
Physical State: Liquid
Odor: Characteristic petroleum
pH: Not applicable
Vapor Pressure (mm Hg): <1
Vapor Density (air=1): >1
Boiling Point/Range: >555°F / >291°C
Freezing/Melting Point: No Data
Solubility in Water: Negligible
Specific Gravity: 0.88-0.89
Percent Volatile: Negligible
Evaporation Rate (nBuAc=1): <1
Viscosity: 66-71 cSt @ 40°C
Bulk Density: 7.33 lbs/gal
Flash Point: >396°F / >202°C COC
Flammable/Explosive Limits (%): No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield aldehydes and carbon, nitrogen, sulfur and phosphorus oxides. Thermal decomposition may produce hydrogen sulfide and other sulfur-containing gases at temperatures greater than 113°F.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

SARA 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

--None--

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

--None Known--

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity:

--None--

16. OTHER INFORMATION

Issue Date: 01/01/02
Previous Issue Date: 03/31/00
Product Code: 5246020000
Revised Sections: None
Previous Product Code: 5246020000
MSDS Number: 5246020000

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data

Sheet was prepared. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

76 Lubricants Company

MATERIAL SAFETY DATA SHEET
76 T5X Heavy Duty 30

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	76 T5X Heavy Duty 30
Product Code:	3654030000
Sap Code:	
Intended Use:	Crankcase oil
Chemical Family:	Petroleum hydrocarbon
Responsible Party:	Phillips 66 Company Lubricants Division P.O. Box 25376 Santa Ana, CA 92799-5376
For Additional MSDSs:	800-762-0942
Technical Information:	

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance:	Clear brown
Physical Form:	Liquid
Odor:	Characteristic petroleum

NFPA Hazard Class:

Health:	1 (Slight)
Flammability:	1 (Slight)
Reactivity:	0 (Least)

HMIS Hazard Class

Not Evaluated

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	% VOLUME	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Zinc Compound CAS# Proprietary	[illegible]	Not Established		

	% VOLUME	EXPOSURE GUIDELINE

OTHER COMPONENTS

		Limits	Agency	Type
Lubricant Base Oil (Petroleum) CAS# Various	86-90	(See: Oil Mist, If Generated)		
Additives CAS# Proprietary	10-14	Not Established		

REFERENCE	EXPOSURE GUIDELINE		
	Limits	Agency	Type
Oil Mist, If Generated CAS# None	5 mg/m3	ACGIH	TWA
	10 mg/m3	ACGIH	STEL
	5 mg/m3	OSHA	TWA
	2500 mg/m3	NIOSH	IDLH

All components are listed on the TSCA inventory

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point: 428°F/220°C (COC)
OSHA Flammability Class: Not applicable
LEL/UEL%: No Data
Autoignition Temperature: No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide. foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113°F may lead to thermal decomposition, resulting in the generation of hydrogen sulfide and other sulfur containing gases. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Appearance: Clear brown
Physical State: Liquid
Odor: Characteristic petroleum
pH: Not applicable
Vapor Pressure (mm Hg): <1
Vapor Density (air=1): >1
Boiling Point/Range: 555°F / 291°C
Freezing/Melting Point: No Data
Solubility in Water: Negligible
Specific Gravity: 0.88-0.89
Percent Volatile: Negligible
Evaporation Rate (nBuAc=1): <1
Viscosity: 11.0-12.0 cSt @ 100°C /89-95 cSt @ 40°C
Bulk Density: 7.34-7.43 lbs/gal
Flash Point: 428°F / 220°C (COC)
Flammable/Explosive Limits (%): No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with acids, halogenated compounds and strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen, sulfur, phosphorus, and zinc oxides. Hydrogen sulfide and alkyl mercaptans may also be released. Methacrylate monomers may also be formed.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as

hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

Note: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component	CAS Number	Weight %
Zinc Compound	Proprietary	1-2

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Effect

Used engine oils, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any. Used motor oil has been identified as a possible skin carcinogen by IARC.

EPA (CERCLA) Reportable Quantity:

--None--

16. OTHER INFORMATION

Issue Date: 01/01/02
Previous Issue Date: 05/15/01
Product Code: 3654030000
Revised Sections: None
Previous Product Code: 3654030000
MSDS Number: 3654030000

Disclaimer of Expressed and Implied Warranties:

The Information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF

THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

76 Lubricants

MATERIAL SAFETY DATA SHEET
76 Hydraulic/Tractor Fluid

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	76 Hydraulic/Tractor Fluid
Product Code:	3970000000
Intended Use:	Transmission oil
Chemical Family:	Petroleum hydrocarbon
Responsible Party:	76 Lubricants A Division of ConocoPhillips 600 N. Dairy Ashford Houston, TX 77079-1175
For Additional MSDSs	800-762-0942
Technical Information:	800-435-7761

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:
Spill, Leak, Fire or Accident
Call CHEMTREC
North America: (800)424-9300
Others: (703)527-3887 (collect)

California Poison Control System: (800) 356-3129

Health Hazards/Precautionary Measures: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Keep away from all sources of ignition.

Appearance:	Amber
Physical form:	Liquid
Odor:	Characteristic petroleum

NFPA Hazard Class:

Health: 1 (Slight)
Flammability: 1 (Slight)
Reactivity: 0 (Least)

HMIS Hazard Class

Health: 1 (Slight)
Flammability: 1 (Slight)
Physical Hazard: 0 (Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS	% VOLUME	EXPOSURE GUIDELINE		
		Limits	Agency	Type
Zinc Compound CAS# Proprietary	1-2	Not Established		

OTHER COMPONENTS	% VOLUME	EXPOSURE GUIDELINE Limits	Agency	Type
Lubricant Base Oil (Petroleum) CAS# Various	86-87	(See: Oil Mist, If Generated)		
Additives CAS# Proprietary	13-14	Not Established		

REFERENCE	EXPOSURE GUIDELINE Limits	Agency	Type
Oil Mist, If Generated CAS# None	5 mg/m3	ACGIH	TWA
	10 mg/m3	ACGIH	STEL
	5 mg/m3	OSHA	TWA
	2500 mg/m3	NIOSH	IDLH
	5 mg/m3	NOHSC	TWA

The base oil for this product can be a mixture of any of the following highly refined petroleum streams: CAS 64741-88-4; CAS 64741-89-5; CAS 64741-96-4; CAS 64741-97-5; CAS 64742-01-4; CAS 64742-52-5; CAS 64742-53-6; CAS 64742-54-7; CAS 64742-55-8; CAS 64742-56-9; CAS 64742-57-0; CAS 64742-62-7; CAS 64742-63-8; CAS 64742-65-0; CAS 72623-85-9; CAS 72623-86-0; CAS 72623-87-1

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

1%=10,000 PPM.

All components are listed on the TSCA inventory.

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness, and a burning sensation. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin leading to dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea and diarrhea.

Cancer: Inadequate evidence available to evaluate the cancer hazard of this material. See Section 11 for carcinogenicity information of individual components, if any.

Target Organs: No data available for this material.

Developmental: No data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Wipe material from skin and remove contaminated shoes and clothing. Cleanse affected area(s) thoroughly by washing with mild soap and water and, if necessary, a waterless skin cleanser. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Note To Physicians: High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point: 437°F/225°C (COC)
OSHA Flammability Class: Not regulated
LEL/UEL%: No Data
Autoignition Temperature: No Data

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Spilled material may be absorbed into an appropriate absorbent material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing of high pressure hydraulic oil equipment.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat and all sources of ignition. Storage temperatures above 113°F may lead to thermal decomposition, resulting in the generation of hydrogen sulfide and other sulfur containing gases. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits (see Section 2), additional engineering controls may be required.

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with a Type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a NIOSH approved self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode if there is potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact and possible irritation (see manufacturers literature for information on permeability).

Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

Suggestions for the use of specific protective materials are based on readily available published data. Users should check with specific manufacturers to confirm the performance of their products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm).
Appearance: Amber
Physical State: Liquid
Odor: Characteristic petroleum
pH: Not applicable
Vapor Pressure (mm Hg): <1
Vapor Density (air=1): >1
Boiling Point/Range: >520°F / >271°C
Freezing/Melting Point: No Data
Solubility in Water: Negligible
Specific Gravity: 0.88
Percent Volatile: Negligible
Evaporation Rate (nBuAc=1): <1
Viscosity: 9.8 cSt @ 100°C / 61 cSt @ 40°C
Bulk Density: 7.32 lbs/gal
Flash Point: 437°F / 225°C (COC)
Flammable/Explosive Limits (%): No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Conditions To Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products: Combustion can yield carbon, nitrogen, sulfur, phosphorus and zinc oxides. Hydrogen sulfide and alkyl mercaptans may also be released. Methacrylate monomers may also be formed.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Lubricant Base Oil (Petroleum) (CAS# Various)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including solvent extraction, hydrotreating, and dewaxing to remove aromatics and improve performance characteristics. None of the oils used are listed as a carcinogen by NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material under most intended uses would become used oil due to contamination by physical or chemical impurities. RECYCLE ALL USED OIL. While being recycled, used oil is regulated by 40 CFR 279. Use resulting in chemical or physical change or contamination may also subject it to regulation as hazardous waste. Under federal regulations, used oil is a solid waste managed under 40 CFR 279. However, in California, used oil is managed as hazardous waste until tested to show it is not hazardous. Consult state and local regulations regarding the proper handling of used oil. In the case of used oil, the intent to discard it may cause the used oil to be regulated as hazardous waste.

Contents should be completely used and containers emptied prior to discard. Rinsate may be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or a drum reconditioner. To assure proper disposal of small empty containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

DOT Shipping Description: Not classified as hazardous

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

SARA 313 and 40 CFR 372:
This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component	CAS Number	Weight %
Zinc Compound	Proprietary	1-2

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

--None Known--

Carcinogen Identification:
This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity:

--None--

Canada - Domestic Substances List: Listed

WHMIS Class:
Not regulated
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

16. OTHER INFORMATION

Issue Date: 02/26/03

Previous Issue Date: 01/01/02
Product Code: 3970000000
Revised Sections: New Format
Previous Product Code: 3970000000
MSDS Number: 721190
Status: Final

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

EXHIBIT G (#18, 26)

In reply refer to:

NORTHROP NORTRONICS

inter-office memorandum

to: R. E. Watts, Division Counsel

from: J. C. Joerger

subject: NORTRONICS' REMOTE TEST SITE

date: 4 August 1965

copies: F. Lynch
M. Skilling
R. Tucker
File

ref:

The attached documents contain information associated with Nortronics' acquisition of a remote ordnance test site.

It is requested that you obtain corporate approval for future lease discussions. Will you please advise M. E. Skilling, Chief Plant Engineer, upon obtaining corporate approval, so that Mr. Skilling can arrange with you for joint meetings with the Riverside Planning Commission and with the Stringfellow interests.

It is further requested that the Stringfellow lease cover a minimum period of five years with an option to renew for an additional five years, at a maximum cost of $10,000 per year. Northrop Corporation should retain the right to cancel at the end of three years.

This office will be available should additional information or assistance be required.

NORTRONICS

J. C. Joerger, Director
Ordnance Systems Section
Y6700 - Ext. 1032

APPROVED: F. W. Lynch, Vice President
Operations Department
Y6000 - Ext. 201

PLAINTIFF'S EXHIBIT
110A-N
5-8-84
TAO, NP

C 4523

Ex. 110A

REMOTE ORDNANCE FACILITY

PLAN

CONCURRENCE: _____

Ordnance Systems Section

Dated: 4 August 1965

Prepared by:

Industrial Engineering

28 July 1965

C 4524

SCOPE:

The purpose of this report is as follows:

1. To establish the concept of a Remote Ordnance Site.
2. To list the site data for the Stringfellow Quarry.
3. To schedule a course of action.
4. To obtain management approval for lease negotiations for the Stringfellow Quarry.

CONCEPT:

A remote ordnance site will be established to supplement the existing facilities available to the Ordnance Section for the development, testing, and loading in pilot quantities of explosive ordnance, delivery systems, and tactical weapons systems. (See Appendix I and II for utilization and facility/equipment requirements related to tasks.)

The on-site development and test center was constructed at Anaheim in 1960. This facility has limited capability for explosive storage, mixing, casting, machining, loading, and test firing with a free-flight limitation of 50 feet.

A license was obtained from the U.S. Government in April, 1965, for the use of 10 square miles at Camp Irvin for a period of one year for the purpose of test firings up to a range of 4,000 yards, including lateral dispersion in flight. It is planned that this license will be renewed as long as the need for this type of firing continues, and that all necessary test firing that cannot be conducted at our own Remote Site will be conducted at Camp Irvin.

The selection and facilitation of a Remote Ordnance Site will be based on providing, at the greatest convenience and least practical expense, an overall capability for development, testing, and loading in pilot quantities for military programs in explosive ordnance, delivery systems, and tactical weapons systems, including the facilities already available for this use.

The present development work load is beyond capacity and capability of the Anaheim facility, so this overload work must be done at a Remote Ordnance Site.

A test firing range for 4,000 yards or one for 2,000 meters would require areas of approximately 18 square miles or 3 square miles respectively. The acquisition of a site of this size would be economically unfeasible, so these long range test firings will continue to be performed at Camp Irvin. However, it would be inconvenient and costly in travel time to perform all test firings and static explosions at Camp Irvin, so limited facilities for these items are included in the Remote Site requirements.

The Remote Site must provide facilities for loading in pilot quantities as none are presently available.

STRINGFELLOW QUARRY SITE:

1. Location

The Stringfellow Quarry site is located on U.S. Route 60, approximately 6 miles west of Riverside as shown on the attached map. It is approximately 40 miles and 50 minutes by motor vehicle from Nortronics Anaheim.

2. Present Usage

The Stringfellow property consists of three-fourths of a section of land with portions of the property presently being utilized for the following purposes.

a. A Stringfellow-operated stone quarry
b. A Stringfellow-operated heavy construction business
c. Two separate ordnance operations on leased ground
d. An automobile wrecking yard on leased ground
e. A heavy equipment rental yard on leased ground
f. Stringfellow-operated acid and alkali dump pits

3. Nortronics Area

The site available for lease by Nortronics is within the red boundaries shown on the attached sketch. The area enclosed in red is approximately 110 acres but Nortronics would have non-exclusive use with respect to the Stringfellow-operated acid and alkali dump pits which are located between the two existing roads shown in blue on the attached sketch. In addition, we would have use of the quarry site (coordinated with the quarry operation) for static tests.

SITE DATA FOR STRINGFELLOW QUARRY:

The following table and drawings indicate the data pertaining to a Remote Ordnance Site located at Stringfellow Quarry.

1. Distance from Nortronics Anaheim	40 Miles
2. Firing Test Range (gun firing of projectiles of up to 10 pounds high explosive, TNT, or equivalent, content)	
a. Direction of firing (for photographic purposes) . .	Northeast
b. Firing distance - range (yards)	50 Yards
c. Range width (yards) 7.5° each side of ℄ . . .	15 Yards
d. Range slope (%).	2-3 maximum
e. Impact zone radius (yards)	7.5 yards
f. Impact zone configuration slope (%)	2-10 maximum
g. Separation from other activities (feet) . . .	1,000 feet
h. Separation from other activities - barrier . .	Artificial earth-works backstop and natural barrier

Ex. 110-D

SITE DATA (Continued)

3. Static explosion tests (warhead or other devices of high explosive, TNT or equivalent, content) . . . . . 10 Pounds
   a. Test arena area diameter (yards) . . . . . 100 Yards
   b. Separation from other activities - barrier . . . 500 Feet w/o barrier

4. Explosives Storage Magazine Sites
   a. 2,000 pounds capacity class "A" (TNT or equiv.) explosives - quantity 2
   b. 2,000 pounds capacity class "C" (black power or equiv.) explosives - quantity 1
   c. Separation and barrier from other magazines . . . 140' w/o barrier and 70 with barrie
   d. Separation and barrier from other activities . . 1,010' w/o barrier and 505' with Barr

5. Utilities
   a. Non-potable water - gal. per day 1,000
   b. Potable water - gal. per day (fully activated site) 100
   c. Electric power . . . . . 100 KVA
   d. Communication: on site . . . . . Telephone & Loud-speaker
      Communication: off site . . . . . Telephone

6. Security, privacy and public relations (and safety) considerations
   a. Barrier against intrusion by "public" . . . . . Artificial barrier
   b. Blast - shock and sound - barrier or separation from "public" . . . . . Natural barrier or 5/8 mile
   c. Fragments and debris - barrier or separation from "public" . . . . . Natural barrier or 500 feet
   d. Smoke and/or fumes - separation distance from "public" . . . . . 5/8 mile

7. Building Sites - Relatively Flat Plots cut from Hillside
   a. Loading and assembly building (contents 100 pounds TNT or equiv.) Barrier and distance from other operations . . . . . Barrier and 190' o no barrier and 38
   b. Explosive mixing building (contents 100 pounds TNT or equiv.) Barrier and distance from other operations . . . . . Barrier and 190' o no barrier and 38

Ex. 110 E

SITE DATA (Continued)

7. Building Sites (cont.)

   c. Lab/office building (contents 10 pounds TNT or equiv.) Barrier and distance from other operations . . . . . Barrier and 150' or no barrier and 300'

   d. Utility building - no explosives . . . . 1/4 Acre

8. Parking Area - Size and Surface . . . . . 1/2 acre/rock and oil

9. Roadways

   a. Access to site entrance . . . . . 1 lane paved

   b. On-site service roads . . . . . 1 lane paved

10. Fire Hazards . . . . . Devoid of or cleared of combustible material

Ex. 110F

SCHEDULE OF PROPOSED ACTION:

		E.C.D.
1.	Obtain Ordnance Section's concurrence of plan . . .	7-30-65
2.	Obtain Department Manager's approval of plan . . .	8-02-65
3.	Review site with Riverside Planning Commission . .	8-03-65
4.	Obtain Corporate approval to commit	8-13-65
5.	Negotiate lease for Stringfellow site	8-27-65
6.	Implement site for static tests and test firing . .	10-1-65
7.	Implement site for overflow development work . . .	12-1-65
8.	Implement site for pilot quantity loading	3-01-66

Ex. 110 G

ZONING OF STRINGFELLOW SITE AND PENDING ZONING ORDINANCES:

The property is zoned M-3 which, by present Riverside County ordinances, allows all of the work which we are proposing for this site. We would, of course, be subject to the restrictions of the State Division of Forestry with respect to fire hazards and some clearing would have to be done. This item would be checked out before signing a lease, but it is not felt that extensive expenditures would be required.

The Planning Commission of Riverside County has approved a new ordinance which requires that a variance be obtained in order to do any testing, development, firing, or loading of explosives in any type zoning. The ordinance was to be read at the meeting of the Board of Supervisors on 23 July 1965; the ordinance could be passed by the Board of Supervisors on 30 July 1965, and would then become law on 30 August 1965. The law would not be retro-active in its application to existing facilities.

However, with this ordinance in effect, any new building or additional facilities desired during the period of the lease would require that a new variance be obtained. Thus, if this proposed ordinance is adopted (and dependent on the timing), Nortronics' installation would be subject to a zone variance. Upon management approval of this plan, Plant Engineering will initiate the necessary actions with the Riverside Planning Commission.

PRELIMINARY LEASE DISCUSSIONS:

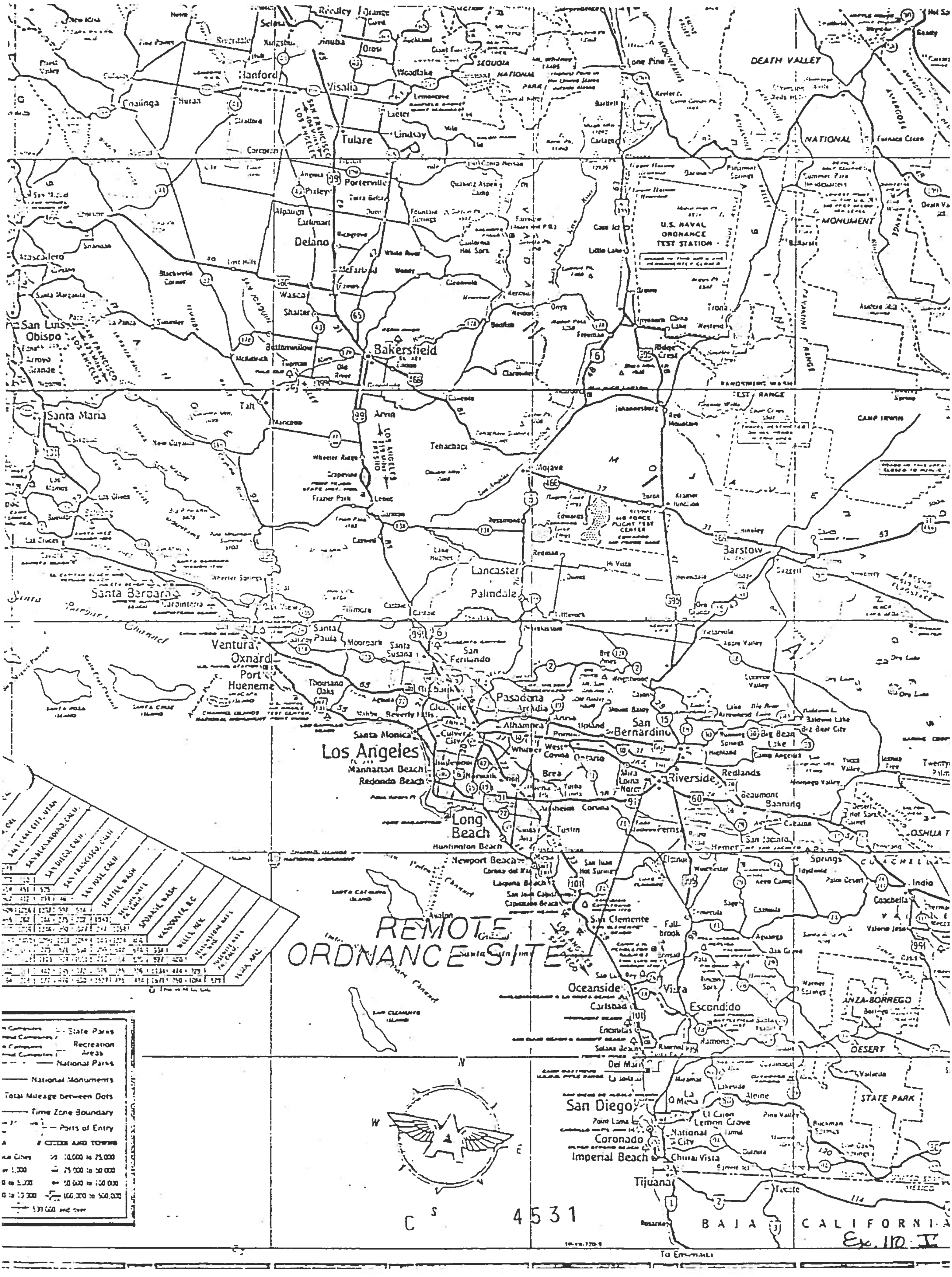
The Stringfellow property is available for lease to Nortronics for $400 to $500 per month on an annual lease with options to renew annually for a total period of 15 years. At the expiration of the lease, improvements could be removed or left on the property at the option of the lessee. If any part of an improvement were removed, then the lessor would have the option to request that the complete improvement be removed; e.g., if a building were removed at the option of the lessee, the lessor could require the foundation removed.

In addition, Nortronics would have the right of first refusal to lease two additional parcels of approximately 25 acres each. One of the parcels is presently vacant and unimproved. The other parcel is presently improved with several buildings and is being used for ordnance work. The option on the lease of this second parcel would become valid only if the present lessee gave up his lease.

AVAILABLE FINANCING OF IMPROVEMENTS:

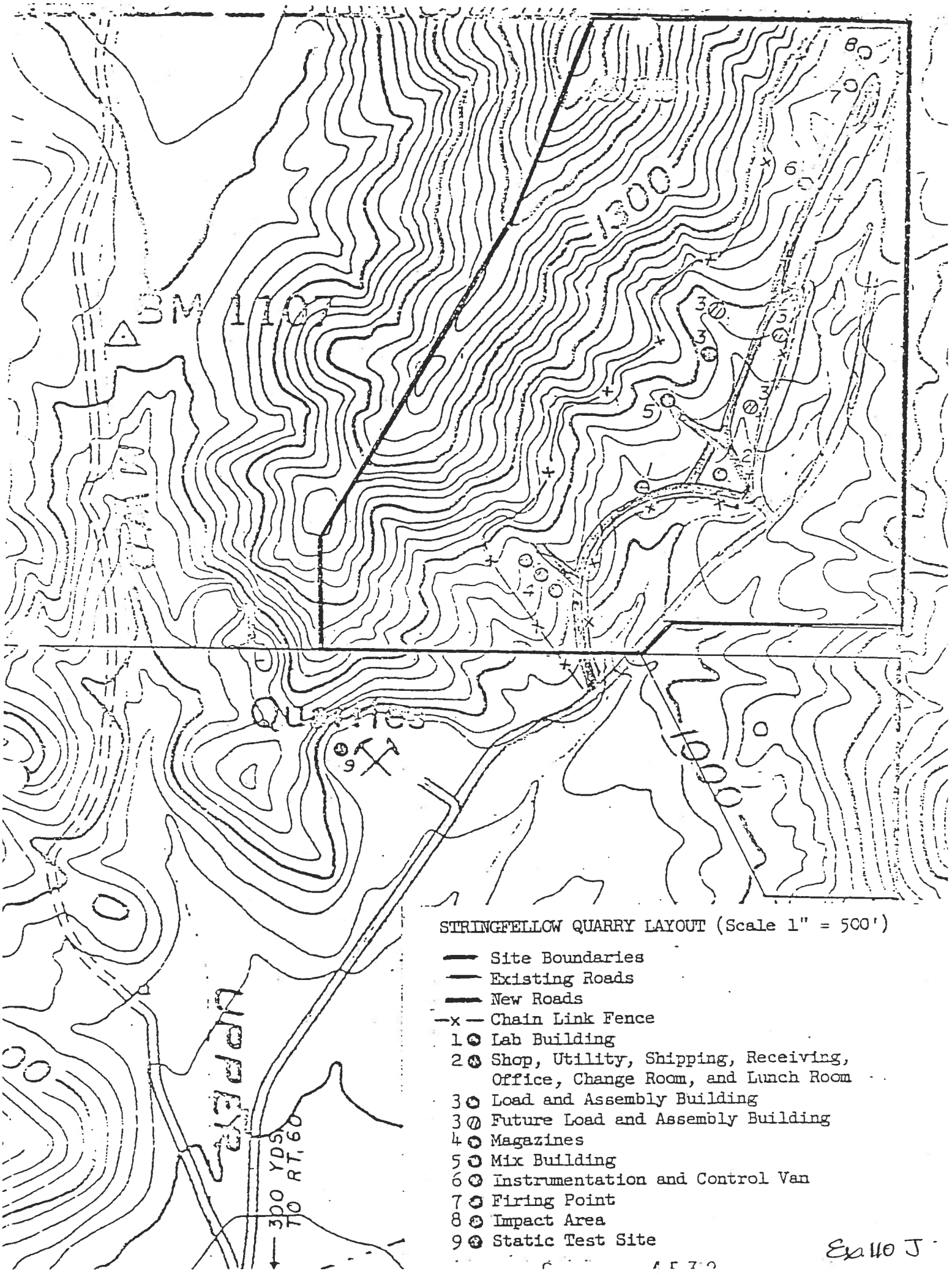
The lessor is willing to finance improvements up to a value of approximately $150,000 and amortize the costs over any reasonable period so long as Nortronics would guarantee to pay the unamortized balance at any time the lease were not renewed prior to completion of payment for the improvements.

Ex. 110 H



REMOTE ORDNANCE SITE
DEATH VALLEY
NATIONAL
MONUMENT
U.S. NAVAL ORDNANCE TEST STATION
SEQUOIA NATIONAL PARK
Hanford
Visalia
Tulare
Coalinga
Porterville
Delano
Wasco
Bakersfield
San Luis Obispo
Arroyo Grande
Santa Maria
Taft
Tehachapi
Mojave
Lancaster
Palmdale
Barstow
Santa Barbara
Ventura
Oxnard
Port Hueneme
Santa Paula
San Fernando
Pasadena
Alhambra
Los Angeles
Santa Monica
Beverly Hills
Manhattan Beach
Redondo Beach
Long Beach
Huntington Beach
Newport Beach
Laguna Beach
San Juan Capistrano
San Clemente
Oceanside
Carlsbad
Encinitas
Del Mar
San Diego
Coronado
Imperial Beach
Chula Vista
Tijuana
San Bernardino
Riverside
Redlands
Banning
Beaumont
Ontario
Upland
Pomona
Corona
Brea
Tustin
Anaheim
Whittier
Hemet
Vista
Escondido
Fallbrook
Ramona
La Mesa
El Cajon
Lemon Grove
National City
Indio
Coachella
Trona
Ridgecrest
Lone Pine
Edwards
AIR FORCE FLIGHT TEST CENTER
CAMP IRWIN
ANZA-BORREGO
DESERT
STATE PARK
BAJA CALIFORNIA
State Parks
Recreation Areas
National Parks
National Monuments
Total Mileage between Dots
Time Zone Boundary
Ports of Entry
CITIES AND TOWNS
4531

Ex. 110 I

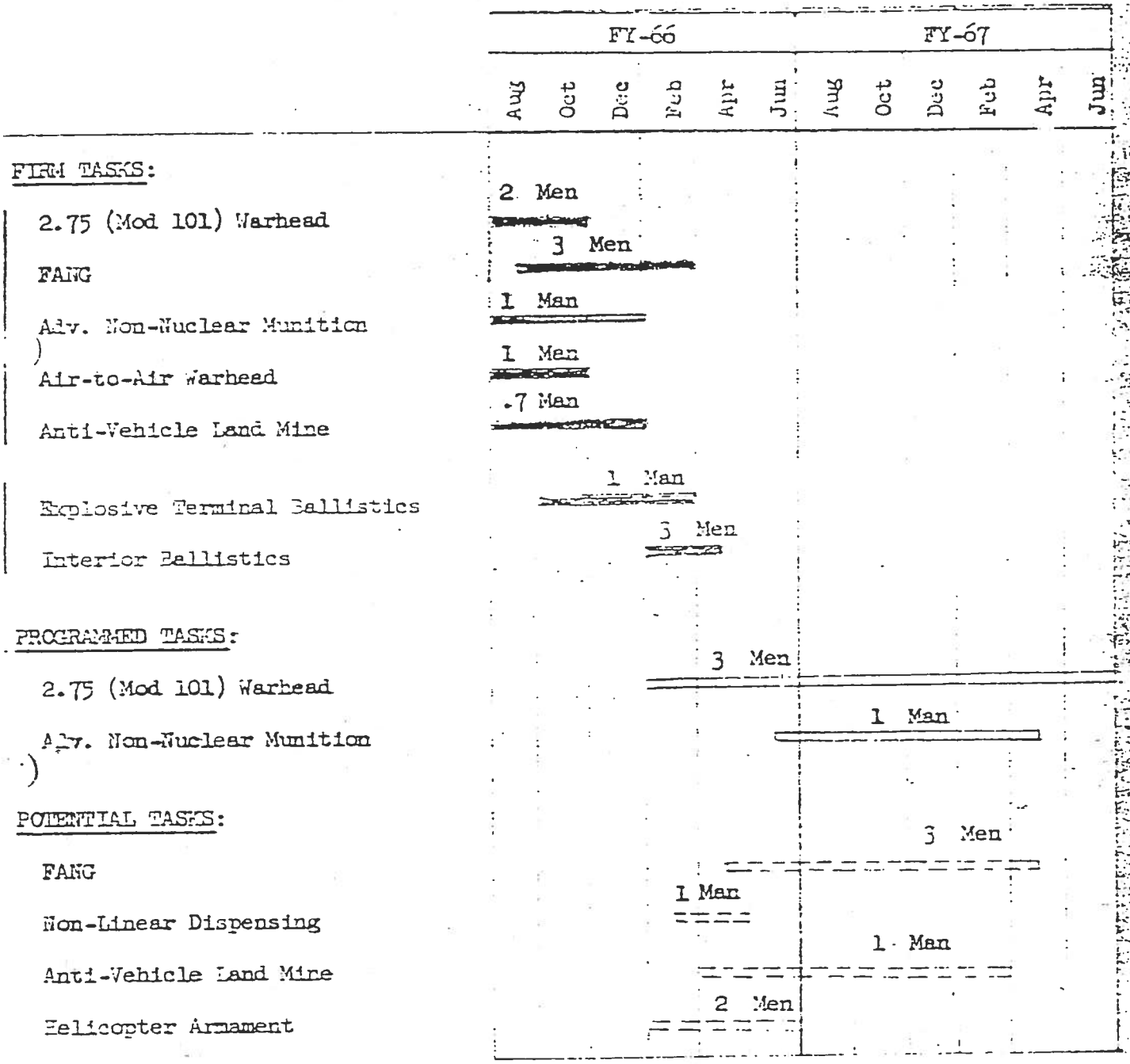

BM 1107
1300
1000
Quarries
UPPER
300 YDS TO RT. 60
STRINGFELLOW QUARRY LAYOUT (Scale 1" = 500')
Site Boundaries
Existing Roads
New Roads
Chain Link Fence
1 Lab Building
2 Shop, Utility, Shipping, Receiving, Office, Change Room, and Lunch Room
3 Load and Assembly Building
3 Future Load and Assembly Building
4 Magazines
5 Mix Building
6 Instrumentation and Control Van
7 Firing Point
8 Impact Area
9 Static Test Site

Ex 110 J

APPENDIX I

REMOTE SITE UTILIZATION

RELATED TO TASKS



Ex. 110K

APPENDIX II

FACILITY/EQUIPMENT REQUIREMENTS

RELATED TO TASKS

	Static Test Arena	50 Yard Long Firing Range	Instrument and Control Center	Magazine	Loading/Assembly Facilities	Shop/Utility Facilities	Lab/Office Facilities	Propellant-Explosives Mix Facilities	Drop Tower	Jolt-Jumble Tester	Pyro-Processing Equip. (Oven, pump, presses, Impactor)	Centrifuge	Steam Jenny	Utility Truck (Hyd. Tail Gate & A-Frame)	Photo Equip. (Special Cameras and controls, anal. projects)
2.75 (Mod 101) Warhead	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
FAMG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Adv. Non-Nuclear Mun.	X		X	X	X		X							X	X
Anti-Vehicle Land Mine	X		X	X	X	X	X		X	X				X	X
Explosive Term. Ball.	X	X	X	X	X	X	X							X	X
Interior Ballistics	X		X	X	X		X							X	X
Air-to-Air Warhead	X		X	X	X		X							X	X
OGRAMMED:															
2.75 (Mod 101) Warhead	X	X	X	X	X	X	X	X	X	X	X	X		X	X
Adv. Non-Nuclear Mun.	X		X	X	X	X	X							X	X
TENTIAL:															
FAMG	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Non-Linear Dispensing	X		X	X		X	X		X	X		X		X	X
Anti-Vehicle Land Mine	X		X	X	X	X	X		X	X				X	X
Helicopter Armament	X	X	X	X	X	X	X	X	X		X	X	X	X	X

Ex 110 L

APPENDIX III

PREVIOUS TEST PROGRAMS
AT GOVERNMENT FACILITIES

Past practice has been to utilize government reservations for ordnance test programs and the following installations have all been used:

Camp Joseph H. Pendleton (U.S.M.C.)
El Toro Marine Air Station
El Centro Parachute Test Facility (U.S. Navy)
Edwards Air Force Base
Mohave "B" Range (under Edwards AFB cognizance)
Naval Ordnance Test Station, China Lake
Holloman Air Force Base, Alamogordo, N.M.)

However, the use of the government facilities has been limited to test firing. None of the above facilities nor Camp Irwin, which is presently being utilized for test firing, will permit development work or prototype loading to be undertaken at the government site.

It is anticipated that the ordnance remote site will be used approximately 90 percent for development work and prototype loading and only 10 percent for test firings.

Ex. 110m

APPENDIX IV

ORDNANCE SALES FORECAST*

FOR EXISTING CONTRACTS REQUIRING

DEVELOPMENT, TESTING, AND PROTOTYPE LOADING FACILITIES

	FY-65	FY-66	FY-67	FY-68	FY-69	FY-70
2.75 Flechette Warhead	.30M	12.15M		12.00M		
FANG	.42M	.65	1.00M	4.30	10.00M	17.00M
Non-Linear Dispensing	1.00	2.90	.50	2.00	4.00	4.00
Advanced Air Delivered Non-Nuclear Munitions	.48	1.40	1.00	3.00	10.00	10.00
Air-to-Air Warhead Tech.	.20	.20	.20	.50	1.00	1.50
Combat Vehicle Armament Study	.25	.42	2.00	5.00	10.00	10.00
Anti-Vehicle Land Mine	.32	.80	1.00	1.50	1.50	1.00
Totals:	2.97M	18.52M	5.70M	28.30M	36.50M	43.50M

Six Year Total: 135.49M**

* Source: Marketing survey and program plan for Ordnance Systems, dated 7-23-65.

** Failure to acquire a remote site will not only compromise these programs, but will significantly affect the acquisition of additional programs not identified.

Ex. 110 N

RINGFELLOW QUARRY LAYOUT (Scale 1" = 500')

- Site Boundaries
- Existing Roads
- New Roads
- Chain Link Fence
- 1 Lab Building
- 2 Shop, Utility, Shipping, Receiving, Office, Change Room, and Lunch Room
- 3 Load and Assembly Building
- 3 Future Load and Assembly Building
- 4 Magazines
- 5 Mix Building
- 6 Instrumentation and Control Van
- 7 Firing Point
- 8 Impact Area
- 9 Static Test Site

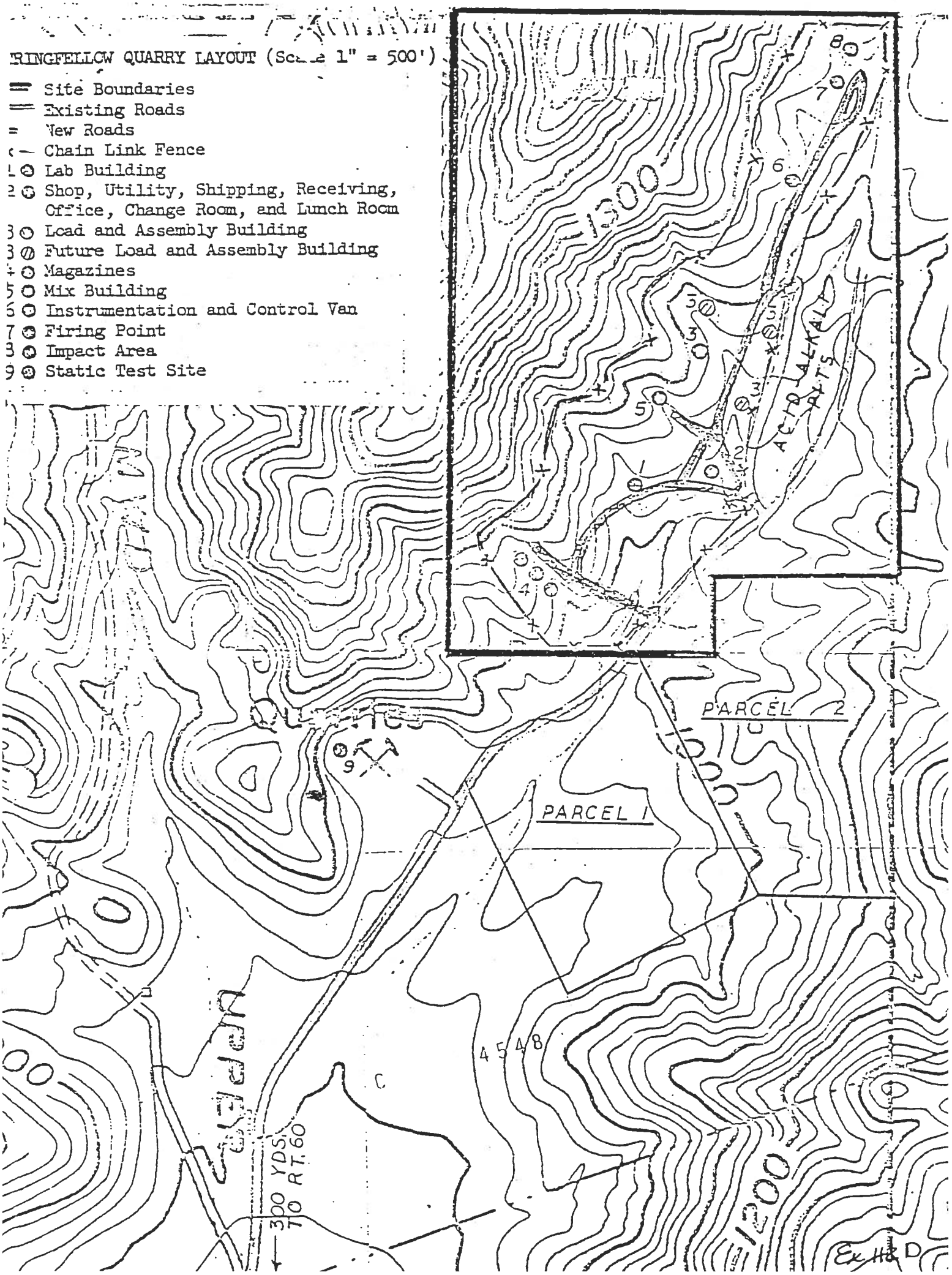
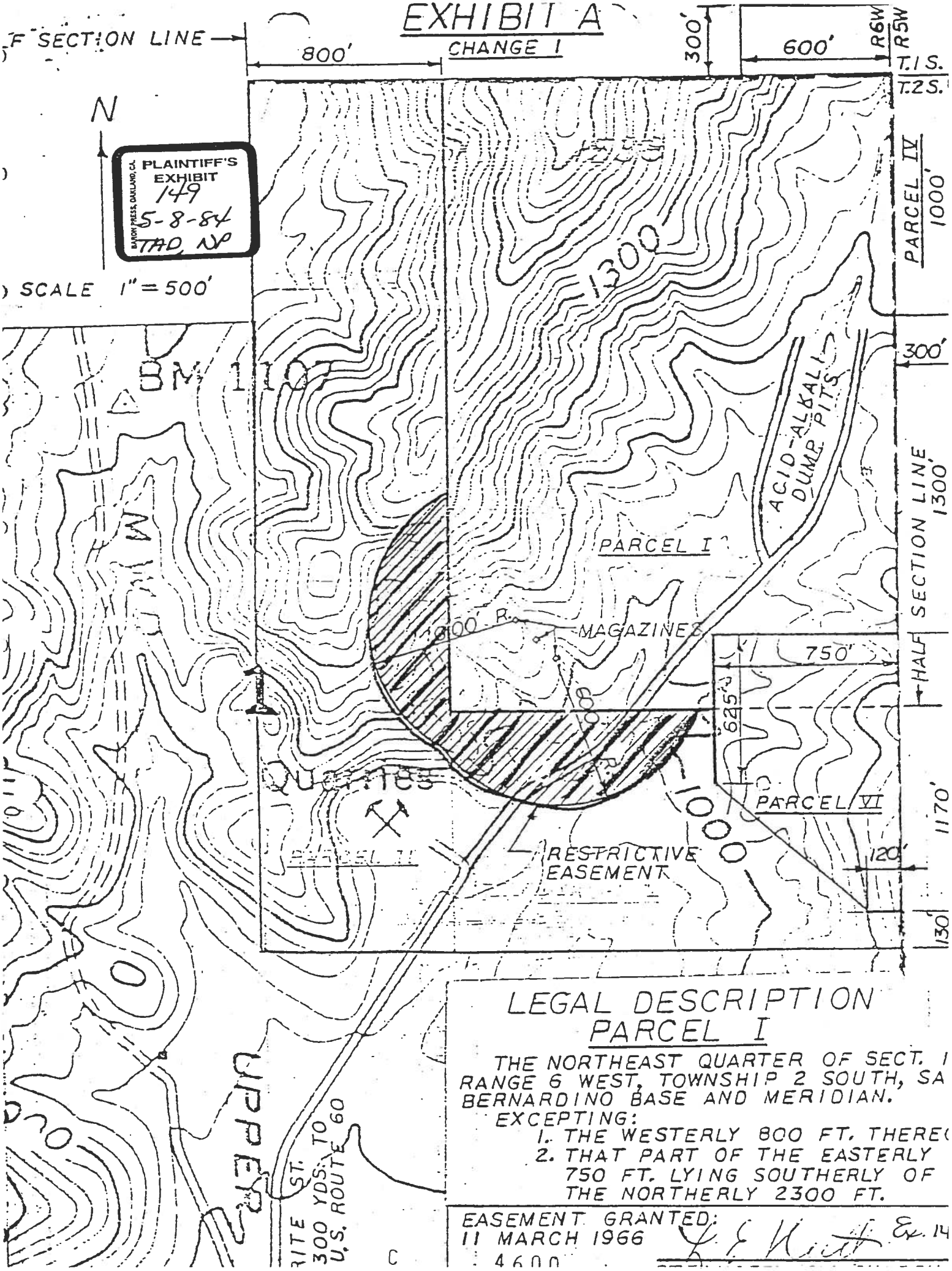


EXHIBIT A

CHANGE I



LEGAL DESCRIPTION
PARCEL I

THE NORTHEAST QUARTER OF SECT. 1
RANGE 6 WEST, TOWNSHIP 2 SOUTH, SA
BERNARDINO BASE AND MERIDIAN.

EXCEPTING:

1. THE WESTERLY 800 FT. THERE(
2. THAT PART OF THE EASTERLY 750 FT. LYING SOUTHERLY OF THE NORTHERLY 2300 FT.

EASEMENT GRANTED:
11 MARCH 1966

Ex. 14

1-1

NORTRONICS. 500 EAST ORANGETHORPE AVENUE. ANAHEIM. CALIFORNIA

A DIVISION OF NORTHROP CORPORATION.

In reply refer to:
Y6110-5-E-183

24 August 1965

Riverside Planning Commission
Court House
Riverside, California

Dear Sirs:

Attached are two (2) copies of a request for a Conditional Use Permit on approximately 122 acres of land located north of the intersection of Pyrite Street and Mission Boulevard (U.S. Route 60). Attached also are seven (7) copies of a plot plan showing the area for which this application applies.

The proposed usage of the property is for the development, testing, and loading in pilot quantities for military programs in explosive ordnance, delivery systems, and tactical weapons systems. The attached plot plan shows the proposed development of the site with the maximum quantity of explosives for each location. The dynamic gun firing will be limited to 155 mm. weapons firing at a range of 250 yards into an earth embankment. There will be no rocket firing at the site. Static testing will be limited to 100 pounds of explosives within an existing quarry in which much larger charges are presently being fired. A maximum of 12,000 pounds of explosives will be stored at the site in 6 separate magazines constructed and spaced per requirements of the U.S. Department of Defense and State of California Industrial Safety Regulations.

It is anticipated that temporary trailers will be used initially to activate the site, but that these will be replaced by permanent buildings as indicated on the plot plan. Buildings will be constructed and spaced per requirements of the U.S. Department of Defense and State of California Industrial Safety Regulations, as well as the Riverside County Building Code.

It is anticipated that twelve (12) full-time employees will initially occupy the site, with a build-up to 50 to 60 employees as the work load develops.

A $50.00 check for the filing fee for this application is attached. We will greatly appreciate your expeditious handling of this application, as Northrop work in connection with the National Defense effort is involved.

Very truly yours,

CONCURRENCE:
D. C. Gillghant, 8-24-65

M. E. Skilling,
Chief Plant Engineer

MES/jm
Attachments

C 4552

PLAINTIFF'S EXHIBIT 115 5-8-84 TAD, NP

Ex. 115

RIVERSIDE, CALIF.
ENTERPRISE
D. 24,307 — S. 54,925

SEP 30 1965

$250,000 investment

Planners approve weapons test site

By DIANE SOREM
Daily Enterprise Staff Writer

Weapons for use in Southeast Asia may be developed at a testing site in the area known as the Stringfellow Quarry in the Jurupa District.

The Riverside County Planning Commission Tuesday approved a conditional use permit for Northrup Corp. to test military weapons in a regulated industrial zone in Glen Avon.

The commission's decision will be reported to the Board of Supervisors, where no further action is required unless it is appealed.

A REPRESENTATIVE of Northrup, which has ordnance headquarters in Anaheim, said the corporation's program has been accelerated because of the Viet Nam conflict.

The firm has had a similar operation in the City of Anaheim for the past five years, but its business has expanded so it can no longer be accommodated at that site, the spokesman said. Firing in Anaheim is done in an eight-foot diameter conduit, while testing here would be in the quarries.

Company representative Merrill Skilling said afterward the firm hopes to begin working on the site in about 60 days. He said it is negotiating a 15-year lease on the property with another 15-year option.

IF THE PLAN materializes, Skilling said, Northrup would spend in excess of $250,000 on the project in the first five years.

It would be located north of the extension of Pyrite Street extending to the Riverside-San Bernardino County line. Pyrite would be used for access.

Skilling described one phase of development as involving a from an airplane which would explode into fragments given velocity by the plane's speed.

THE EQUIPMENT would be tested on the ground, and Skilling said the nature of the tests would keep fragments in the area. He also said safeguards would make it impossible to elevate the guns to shoot above or out of the impact area.

The spokesman said there would be about three test periods a week with tests two or three times a day.

He said 10 to 12 small buildings are planned. They would begin with a few trailers and gradually construct facilities as the business picture warrants, he said.

Ten to 12 employes at the start could be increased to 50 or 60 according to Skilling.

WIRE FENCES topped by barbed wire will be built around the storage magazine construction under with armor plate according to the firm. The commission also required chain link fencing around the firing range.

Gun firing will be limited by the conditions of approval to 155mm weapons fired at a range of 250 yards into an earth embankment. No rocket firing will be permitted.

Skilling also said no noise problem was expected. Commission restrictions added at Tuesday's meeting included firing hours of 7 a.m. to sunset.

THE COMMISSION considered putting a five-year review clause in the conditions, but decided the county's power to revoke a permit on grounds that a project is detrimental to the public health or safety or a public nuisance, would be adequate.

The operation would be adjacent to acid dump pits and near another weapons testing facility, according to the planning department. Northrup had attempted earlier to establish a site in the Hemet-San Jacinto area but [illegible]

4561

PLAINTIFF'S EXHIBIT
124
5-8-84
TAO, NP
BARON PRESS, OAKLAND, CA.

Ex. 124

RIVERSIDE, CALIF.
PRESS
— D. 31,634 —

OCT 18 1965

Supervisors to air weapons test site

The proposed Northrop Corp. weapons testing site in Glen Avon, which narrowly achieved official approval last week, was set today for a hearing Nov. 15 by the Board of Supervisors.

The conditional use permit for the site was approved by the county Planning Commission and routinely reported to the board last week, but a petition filed within the seven-day deadline forced the hearing.

EIGHTEEN names appeared on the petition which charges that the tests would be "detrimental to the public safety, a public nuisance and adverse to the general welfare."

Supervisor Paul Anderson, who represents the Jurupa District, had little comment after the meeting, saying he had not yet formed an opinion on the issue. He said he did not recognize any of the names on the petition and had not been contacted by opponents of the permit.

The Anaheim corporation has stated in a letter to the board that testing at the site in the Stringfellow Quarry area will be limited to 155 mm. weapons firing at a range of 50 yards into an earth embankment and to 100 pounds of explosives within an existing quarry. There would be no rocket firings according to the firm.

A MAXIMUM of 12,000 pounds would be stored in six separate storage facilities, the letter said.

The location is three-quarters of a mile north of the intersection of Pyrite and Mission Blvd. about six miles west of Riverside.

There was no opposition at a commission hearing on the matter Sept. 28. Northrop representatives said then their program had been stepped up because of the Viet Nam conflict.

They also said the firm planned to spend something over $250,000 on the site which it intends to lease for 15 years with another 15-year option.

There is another weapons testing site presently in the same area.

PLAINTIFF'S EXHIBIT
139
5-8-84
TMO, NP
BARON PRESS, OAKLAND, CA.

Ex. 139

AUG 2 1972

Northrop Corporation Electro-Mechanical Division NORTHROP 500 East Orangethorpe Avenue Anaheim, California 92801

Reply to: 6100-72-FM&M-24

31 July 1972

OK
file

Stringfellow Quarry Company
P.O. Box 6
Riverside, California 92502

Attention: Earl Nutt
Jimmy Stringfellow

Gentlemen:

According to the terms of our agreement of July 11, 1972, at your office we have attached a list of the property to be abandoned by Northrop. This property includes buildings and appurtenances, including light fixtures, plumbing fixtures, wiring, conduits, piping, etc., and generally does not include any plant equipment, i.e., personal property.

In return for this abandonment you have agreed to reimburse us for two thirds of the unsecured property taxes for the annual period starting July 1, 1972 and ending June 30, 1973.

We will, therefore, deduct from our remaining lease payments of $1200.00 due for the three month period starting 1 August 1972 and ending 31 October 1972, the sum of $1,047.11.

This deduction will include the August and September payments of $400 each with the October payment to be $152.89 instead of $400.

If you need any further information, please contact me at your convenience.

Very truly yours,

NORTHROP CORPORATION
Electro-Mechanical Division

M. E. Skilling
Chief Plant Engineer

Attachments -3

cc: Boston, McInnis, Neidhardt, J. Simon, R. S. Taylor, File

PLAINTIFF'S EXHIBIT
180A-D
5-8-84
TAO, NP

Ex. 180A

Attachment #1
6100-72-FM&M-24
31 July 1972

PROPERTY TO BE ABANDONED BY NORTHROP

LOAD ASSEMBLY BUILDING

2	Electric duct heaters, one 3KW, one 8KW
18	Steber par-38 lamps
22	Western 53296-SL 8' fixtures
1	Bulldog PL12R panel

GENERAL UTILITY BUILDING

2	Pre-fabricated shower
3	Tank type water closet
3	Lavatory
1	Sanitary sink
1	80 Gallon electric hot water heater
4	Evaporative (swamp) room cooler
3	Chromalux LVH-50 heaters & control
1	24 circuit 120/240V panel
28	2-lamp 430,8' strips
4	2-lamp 430,6' strips
2	Restroom exhaust fans
10	Stonco par-38 fixtures

MELT CAST BUILDING

8	Steber par-38 lamps
6	Receptacles
1	240V, 30A 2P WP SW

TOTAL REPLACEMENT COST: $9,254.

C 4644 Ex. 180B

Attachment #2
6100-72-FM&M-24
31 July 1972

PROPERTY TO BE RETURNED TO NORTHROP

LOAD ASSEMBLY BUILDING

1	5-Ton Carrier 50DA006 air cooled roof mounted air conditioner
1	1-1/2 Ton window air conditioning unit
1	15KVA transformer

GENERAL UTILITY BUILDING

1	25KVA transformer
2	Wide light w/photo cell

MELT CAST BUILDING

2	Wide light w/photo cell
1	Red light beacon
400'	2/0 TW wire
1	120/240V, 225A main, 100A breaker panel, NAB12-3AB

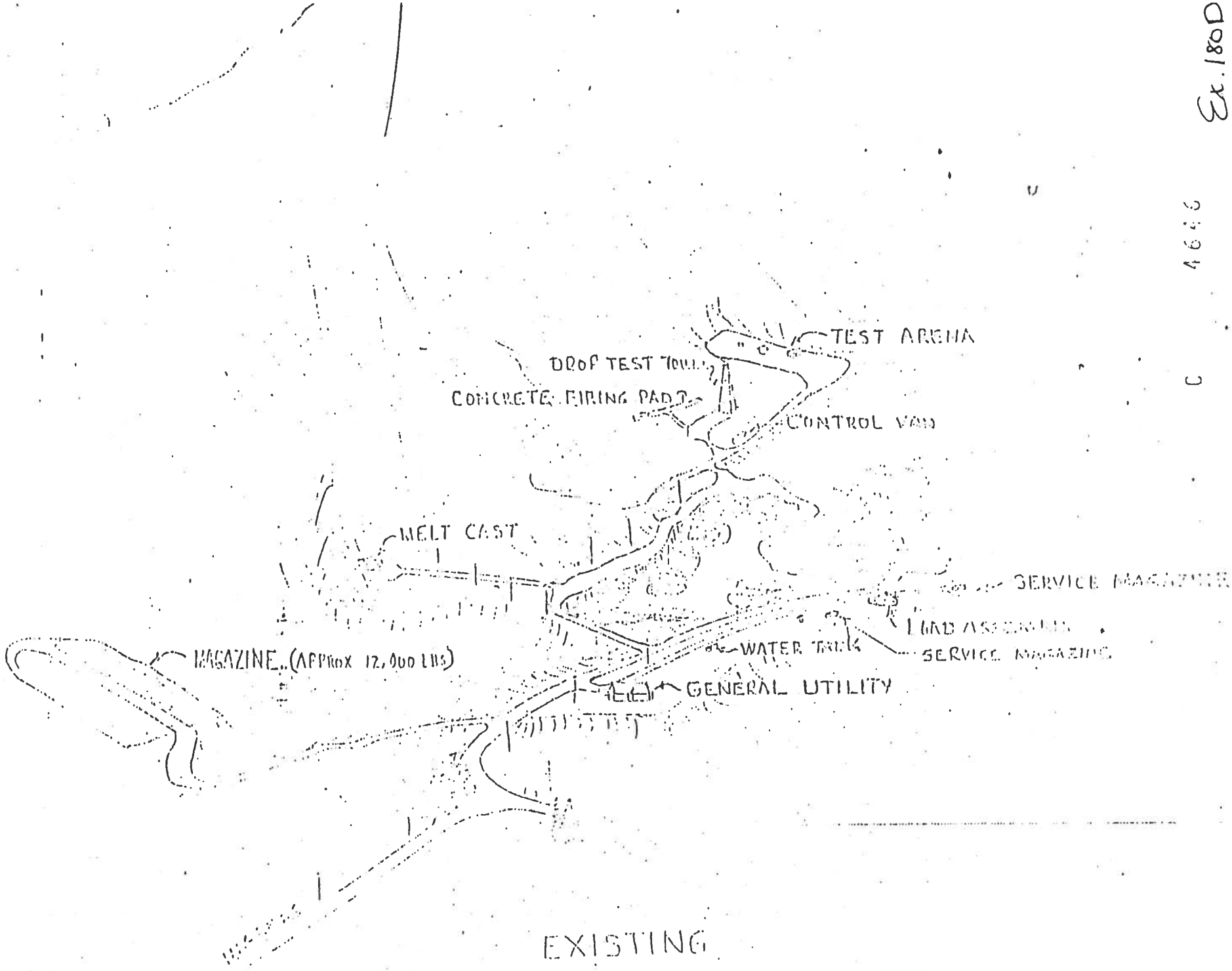
TEST ARENA

1100'	1-1/2" conduit
3300'	#1 TW wire
1	8-circuit panel
1	Red light system

TOTAL REPLACEMENT COST: $7,408.

Attachment #3
6100-72-EM&M-24
31 July 1972

Ex. 180D



EXISTING

IROP NORTRONICS

A Division of Northrop Corpo

500 East Orangethorpe Avenue, Anaheim, Calif.

6790-6-OSC-74/DRP:ih

2 February 1966

Universal Propulsion Company
P.O. Box 546
Riverside, California

Attention: Frank Marion

Dear Sir:

This letter is submitted to confirm an inquiry made by our Mr. B. W. Morris in November of 1965 regarding access to your property located at 300 Pyrite Street, Riverside, California. Your property adjoins a test site leased by Nortronics, A Division of Northrop Corporation.

Nortronics is planning to conduct an evaluation of a small spray system by dispensing water-containing a dye which will aid in determining the spray droplet size. The system to be evaluated dispenses a maximum of fifty (50) gallons of liquid and we anticipate a maximum of five (5) dispensations a day for one (1) or two (2) days per week over a period of two (2) or three (3) months. The results of each group of runs are evaluated prior to the beginning of the next series; hence, the intermittency of the schedule.

Nortronics would like to dispense the spray from an area beyond your explosive mix plant. The spray would be dispensed only when the prevailing wind will carry the spray over the Nortronics' leased site upon which measuring devices will be installed.

The equipment we would bring on your site will be a pickup truck and a four-wheel trailer. We would like to leave the trailer at your site at our risk during the test period. Our field crews are experienced in working at remote sites, with cognizant supervision, and with all aspects of safety and public relations.

PLAINTIFF'S EXHIBIT
186 A, B
5-8-84
TAD, NP
BARON PRESS, OAKLAND, CA.

Ex. 186 A

Please consider this a request for your approval permitting Nortronics the right of access and regress to use your site in the manner described above. Nortronics would like to initiate the testing on 21 February 1965. Your assistance will be greatly appreciated.

Very truly yours,

NORTRONICS
A Division of Northrop Corporation

D. R. Porter
Contract Administrator
Ordnance Systems Contracts

3 Feb 66

You are welcome to pass through our plant, at your own risk, to do your tests, and to leave your trucks at our plant. If we may assist you in any way, let us know.

Very truly Yours
Frank Marion

C 4664 Ex 186B

INSTRUCTIONS TO DELIVERING EMPLOYEE

☐ Show to whom, date, and address where delivered ☐ Deliver ONLY to addressee

(Additional charges required for these services)

RECEIPT

Received the numbered article described below.

REGISTERED NO. 8631	SIGNATURE OR NAME OF ADDRESSEE (*Must always be filled in*)
CERTIFIED NO.	1
INSURED NO.	2 SIGNATURE OF ADDRESSEE'S AGENT, IF ANY Kathi Brusca
DATE DELIVERED OCT 1 1979	SHOW WHERE DELIVERED (*only if requested*) 3 Sirtingfell Cove Court

J. M. SIMON

c55—16—71548-10 GPO

C

4690

PLAINTIFF'S EXHIBIT
199 A-C
5-8-84
TAD, NP

Ex. 199 A

This agreement, made this 24 day of ~~April~~ MAY, 1971, between ~~McCormick Selph Industries, Inc.~~ Teledyne McCormick Selph Hollister, California hereinafter called ~~McCormick Selph,~~ Teledyne McCormick Selph (TMc/S) and Northrop Corporation, Electro-Mechanical Division, 500 E. Orangethorpe Avenue, Anaheim, California, hereinafter called Northrop, Witnesseth:

1. That for and in consideration of the promises made and monies paid, TMc/S ~~McCormick Selph~~ agrees to let and Northrop agrees to rent five sites shown upon Exhibit "A" attached to and made a part of this agreement, each site to consist of an area approximately square and containing approximately 500 square feet.

2. The above described sites are rented to Northrop for the purpose of Northrop's storing portable magazines containing all classes of explosive materials. TMc/S ~~McCormick Selph~~ will provide seven (7) days per week, 24 hour per day surveillance and reasonable protecti of the magazine storage containers and contents therein to be placed on the sites by Northrop during the term of this agreement, and agrees that Northrop personnel will be granted reasonable ingress and egress to their storage magazines at reasonable times during the term of this agreement.

3. This agreement shall be considered a month to month tenancy with cancellation rights on the part of either party upon 30 days advance notification in writing to the other party.

4. TMc/S ~~McCormick Selph~~ will be responsible for compliance with all applicable laws, ordinances, procedures and regulations pertaining to the storage of explosives at the site. Northrop will be responsible for compliance with all applicable laws, ordinances, procedures and regulations relative to the storage containers as placed at the site and the contents therein.

5. For and in consideration of the foregoing obligations on the part of TMc/S ~~McCormick Selph,~~ Northrop agrees to pay to TMc/S ~~McCormick Selph~~ the sum of $250 per month, each month's rental payable on or before the 15th day of the next ensuing month during the term of this lease.

6. As part of the mutual considerations for entering into this agreement, each party agrees to hold the other party harmless from any loss, cost, damage, expense or liability by reason of property damage or personal injury of whatsoever nature or kind arising out of, as a result of, or in relation to activities associated with the storage of explosive materials here under whether caused by negligence or otherwise; provided that nothing in this paragraph shall be construed as relieving either party of its obligations imposed by the preceding paragraphs.

IN WITNESS WHEREOF, TMc/S ~~McCormick Selph~~ and Northrop have executed this agreement on the day and year first above written.

~~McCormick Selph Industries, Inc.~~ Teledyne McCormick Selph
(signature)

Title: President

By: Northrop Corporation (signature)
R. L. Gibney, Vice President
Administration and Finance

Title:

Ex 199 B

Ex. 199

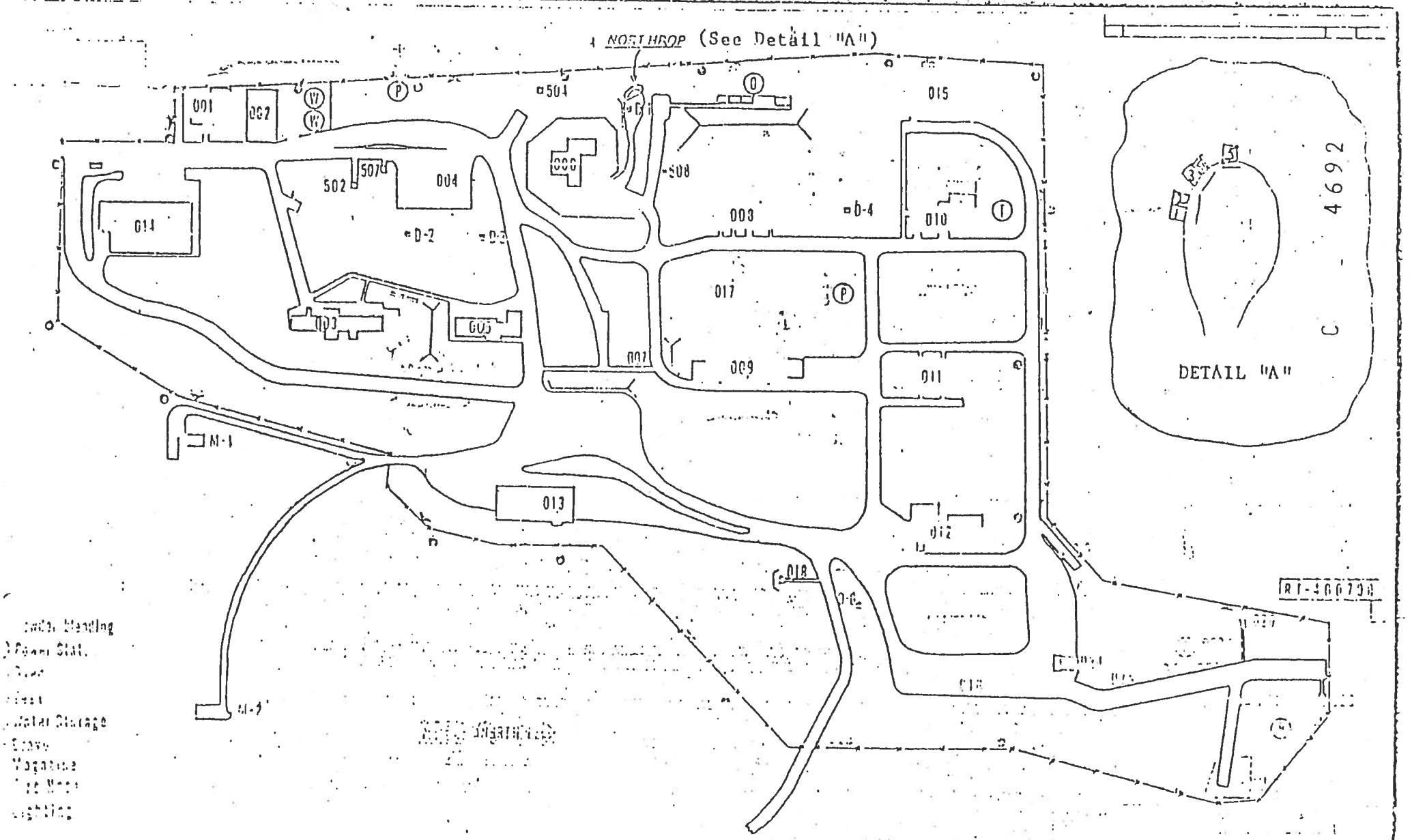


EXHIBIT "A"

MAR 27 1972

Reply to: Y6120-72-PE-033

23 March 1972

Mr. Web Winans
McCormick Selph Industries, Inc.
P.O. Box 6
Hollister Airport
Hollister, California 95023

Dear Mr. Winans:

Reference our lease agreement, dated 24 May 1971, for rental of storage space at the McCormick Selph Riverside plant and our telecon this date.

Northrop Corporation's requirement for the storage areas has ended. This letter will serve as Northrop's 30 day advance notification to terminate our lease agreement. As agreed upon in the telecon, Northrop will abandon in place five (5) explosive storage buildings at no cost to either party.

Thank you for the service extended to us during the past year and we hope we may be in a position to conduct mutually beneficial business arrangements in the near future.

Very truly yours,

NORTHROP CORPORATION
Electro-Mechanical Division

J. P. Saline, Jr., Supervisor
Plant Engineering

JPS:dd

bcc: E. U. Clark, R. L. Gibney, C. E. Howard, D. A. McInnis, R. J. Norton, H. E. Riggins, W. B. Simecka, J. M. Simon, M. E. Skilling, C. A. Smith, A. VanDerMost, File

C 4696

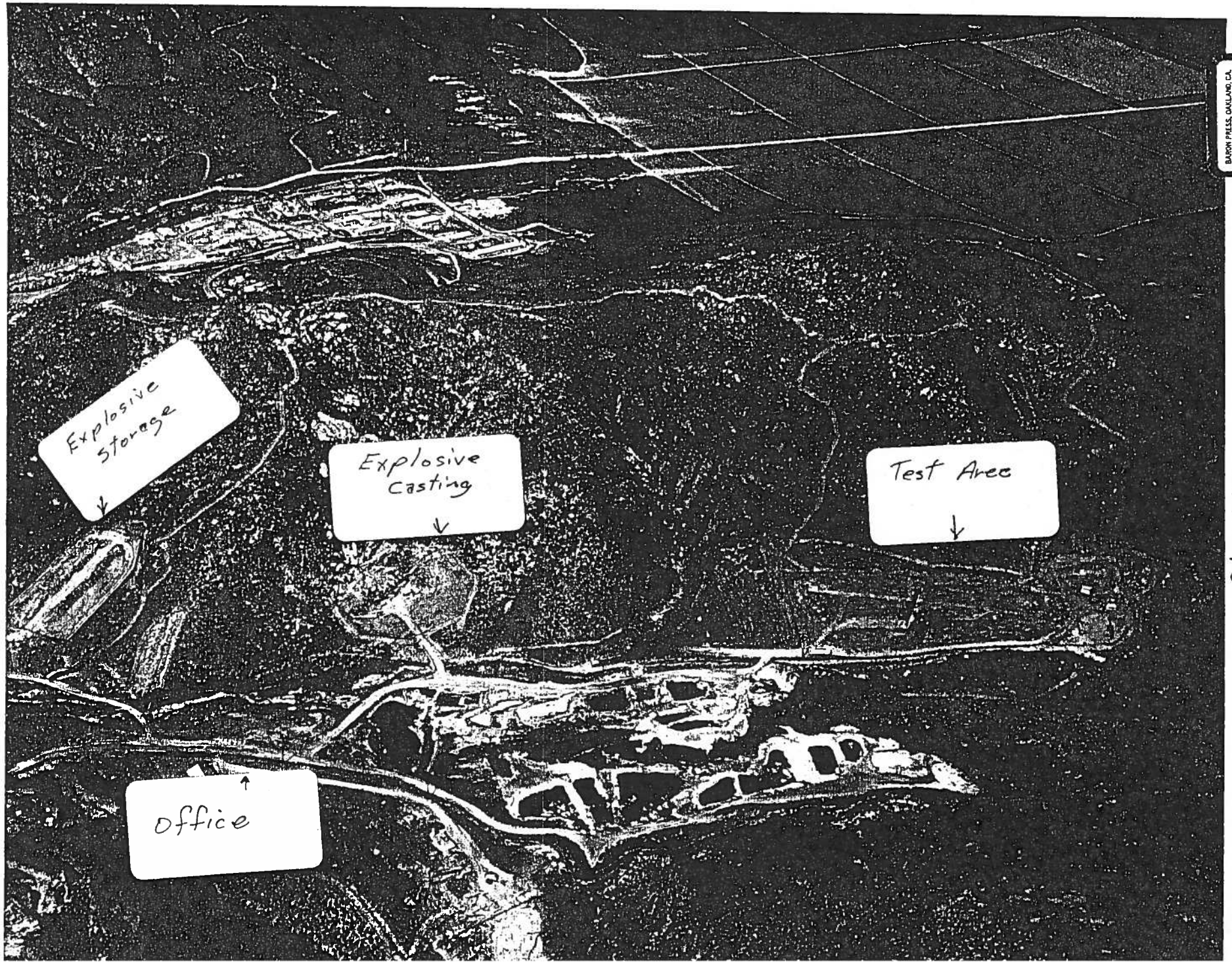
PLAINTIFF'S EXHIBIT 203 5-8-84 TAD N

Ex. 203

BARON PRESS, OAKLAND, CA.
PLAINTIFF'S EXHIBIT
205
5-8-84
TAD, NP

CA 3772

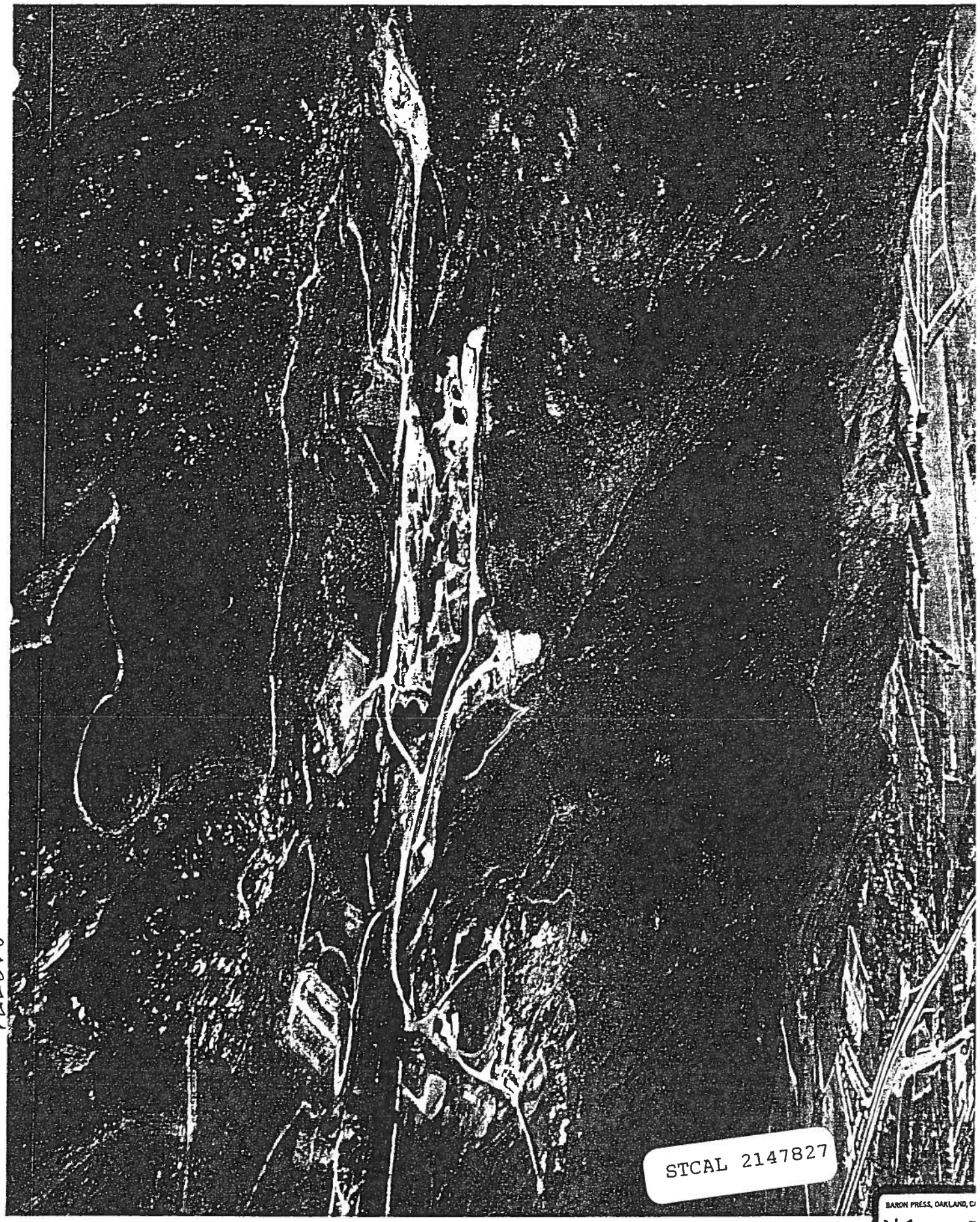
STCAL 2147823



PLAINTIFF EXHIBIT
206
5-8-84
7790, N/
BARON PRESS, OAKLAND, CA.

STCAL 2147825

C43773



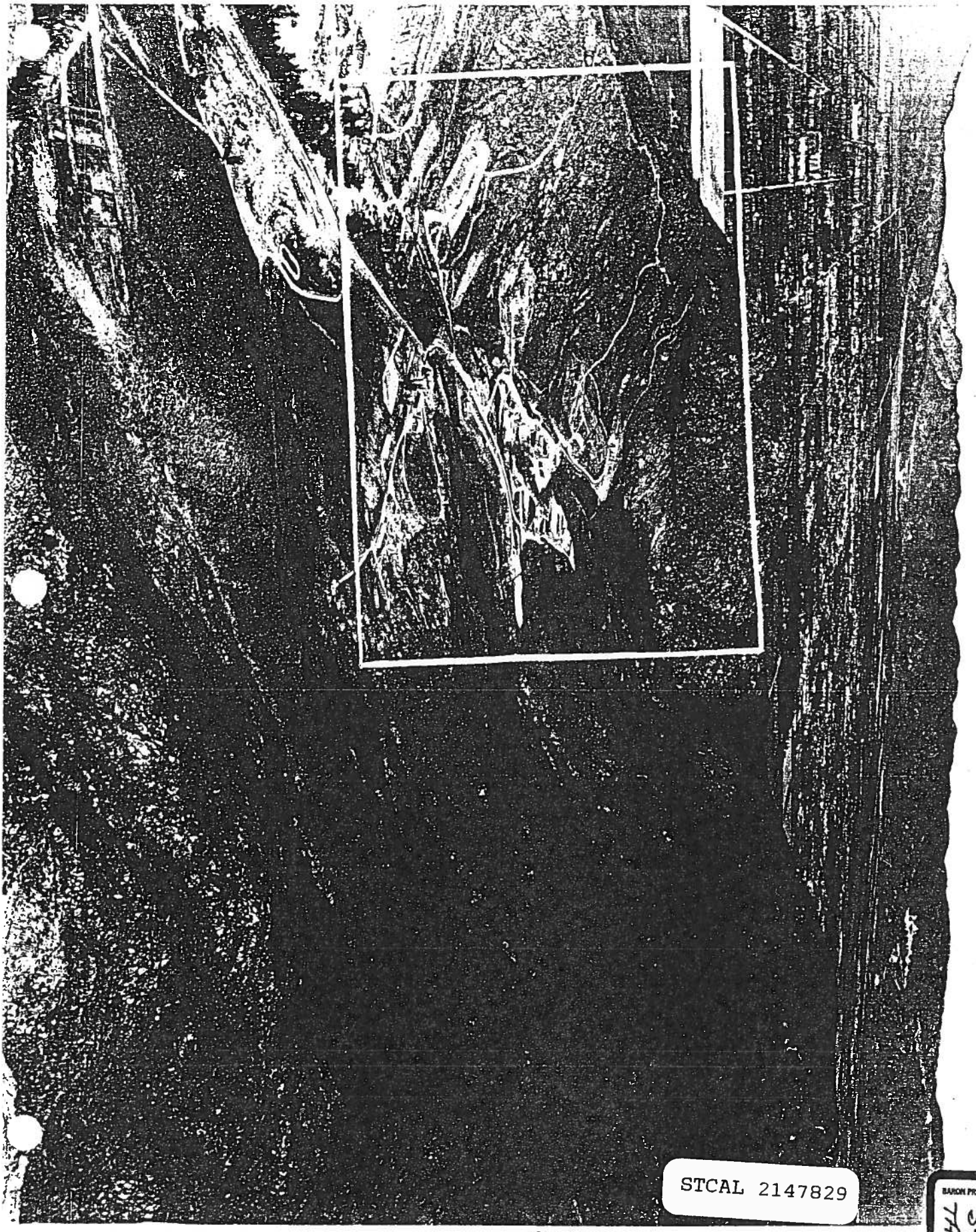
C43774

STCAL 2147827

C43774

BARON PRESS, OAKLAND, C

PLAINTI
EXHIBI
207
S-8-8
TAO,



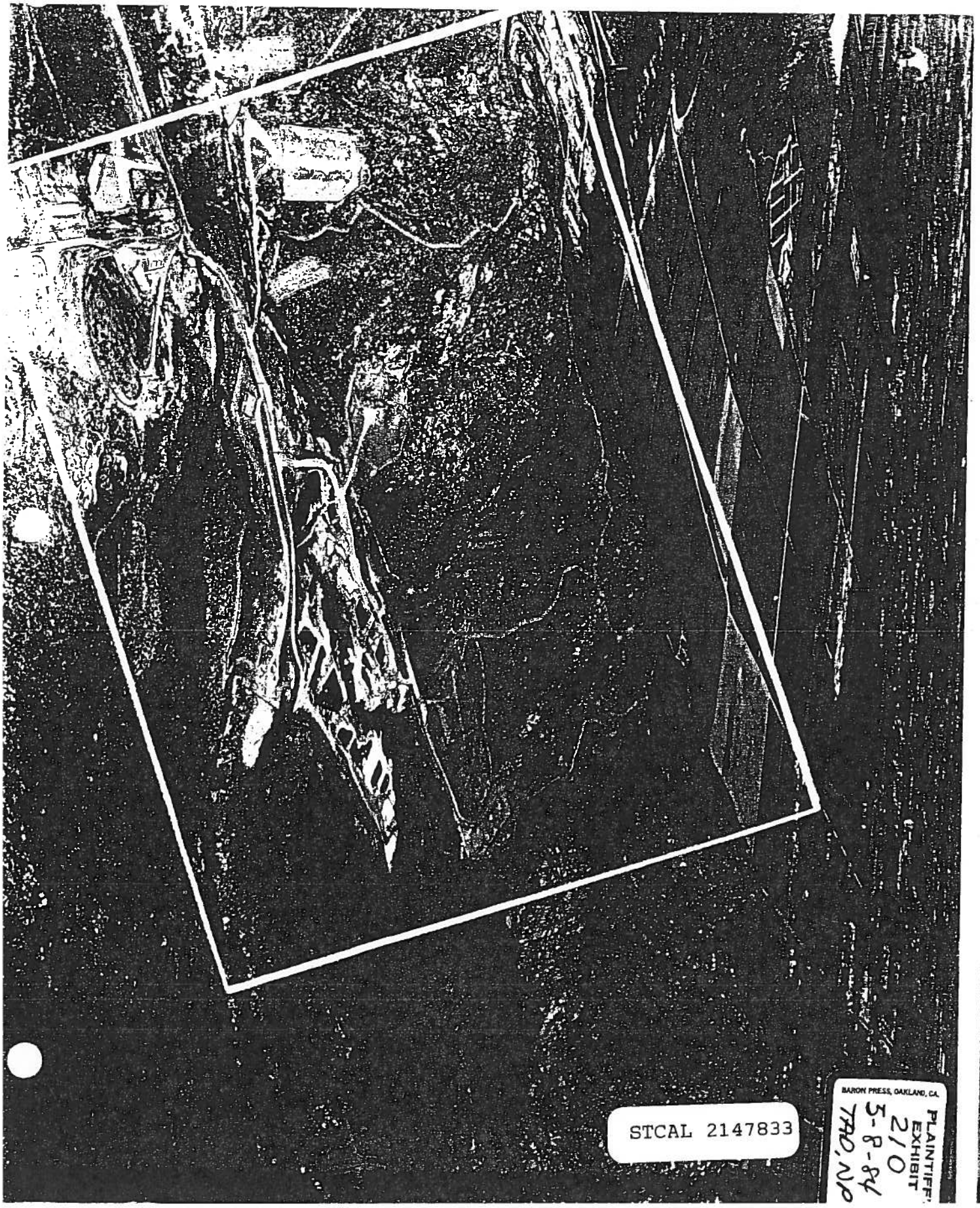
C43775

STCAL 2147829

BARON PRESS, OAKLAND, C
EXHIB
208
5-8-
TAO,

C43775

C43777



STCAL 2147833

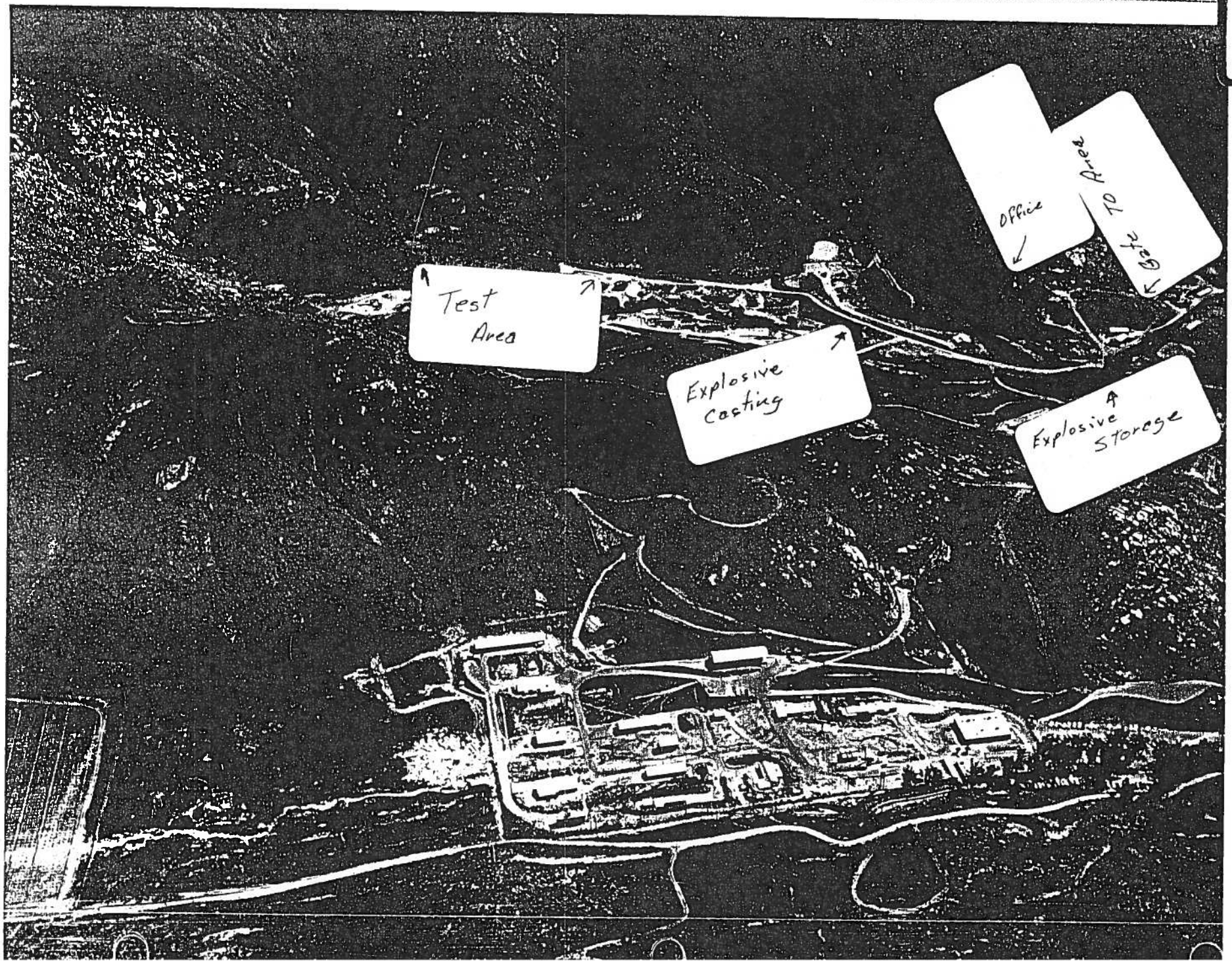
BARON PRESS, OAKLAND, CA.

PLAINTIFF'S EXHIBIT 210 5-8-84 TRD, NP

C43777

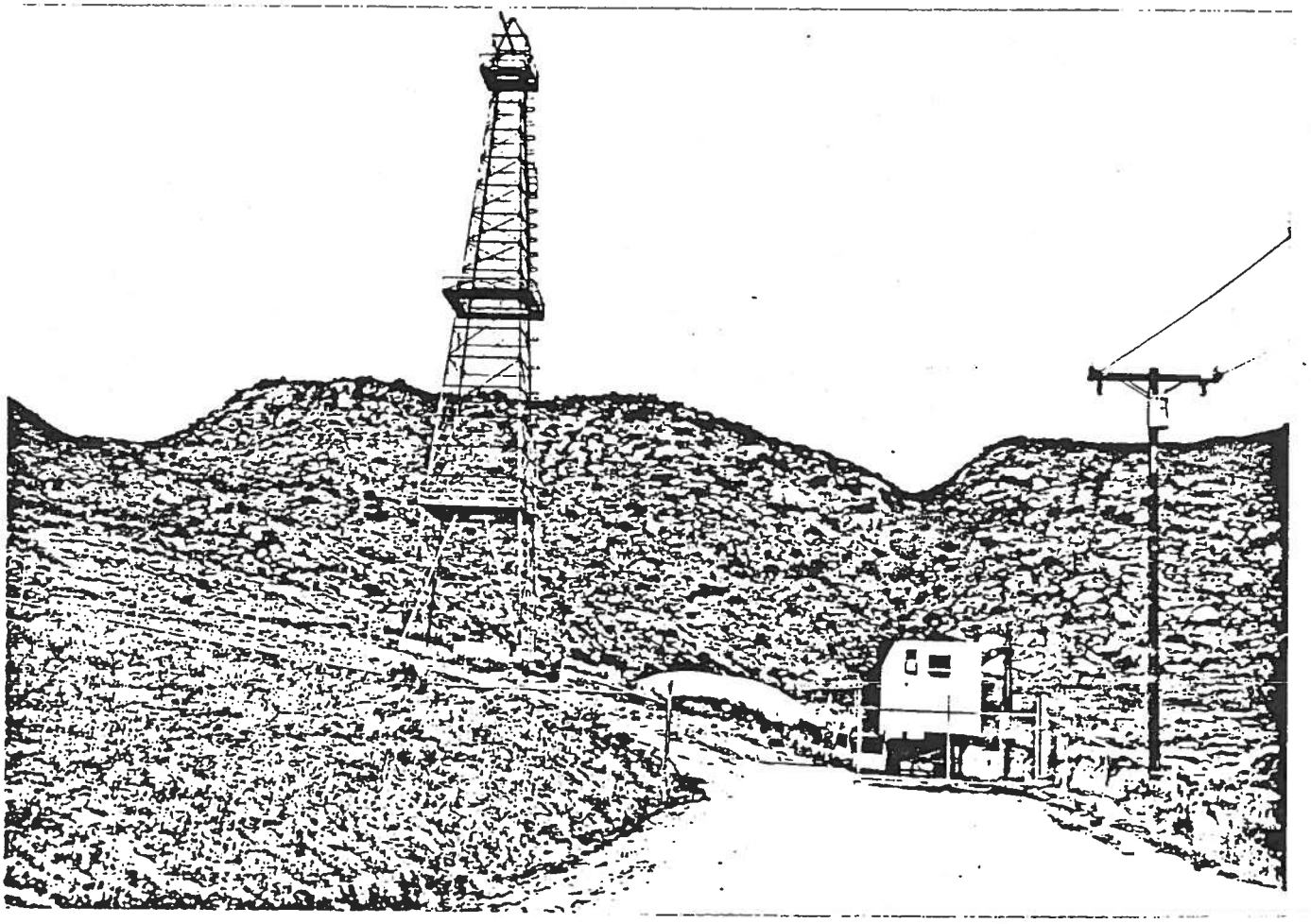
C43778

BARON PRESS, OAKLAND, CA.
PLAINTIFF EXHIBIT
211
5-8-84
TAD, NI



C43778

STCAL 2147835



STCAL 2147837

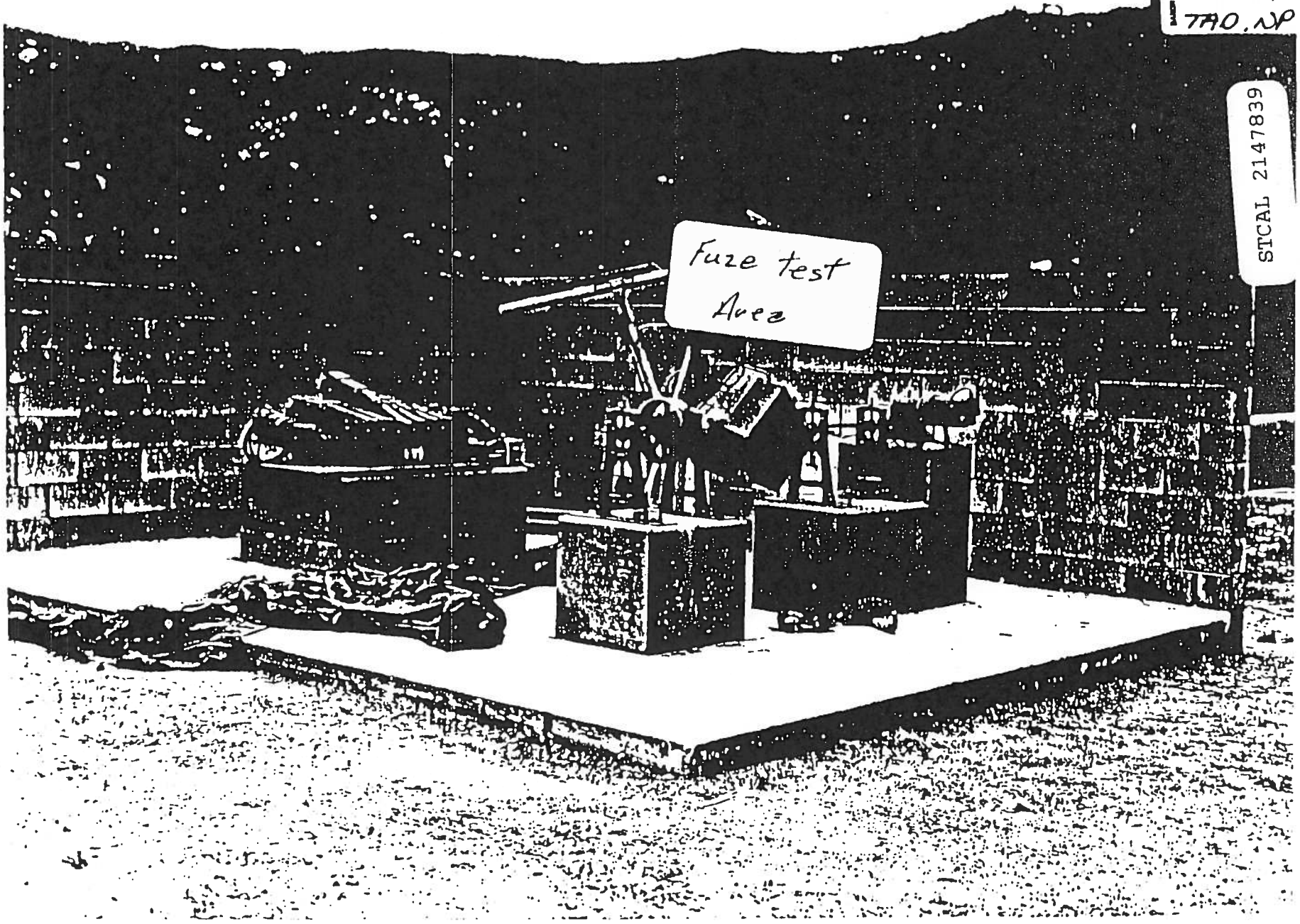
C61467

π Ex. Skilling 212

60442A

PLAINTIFF'S EXHIBIT 213 5-8-84 TAO, NP

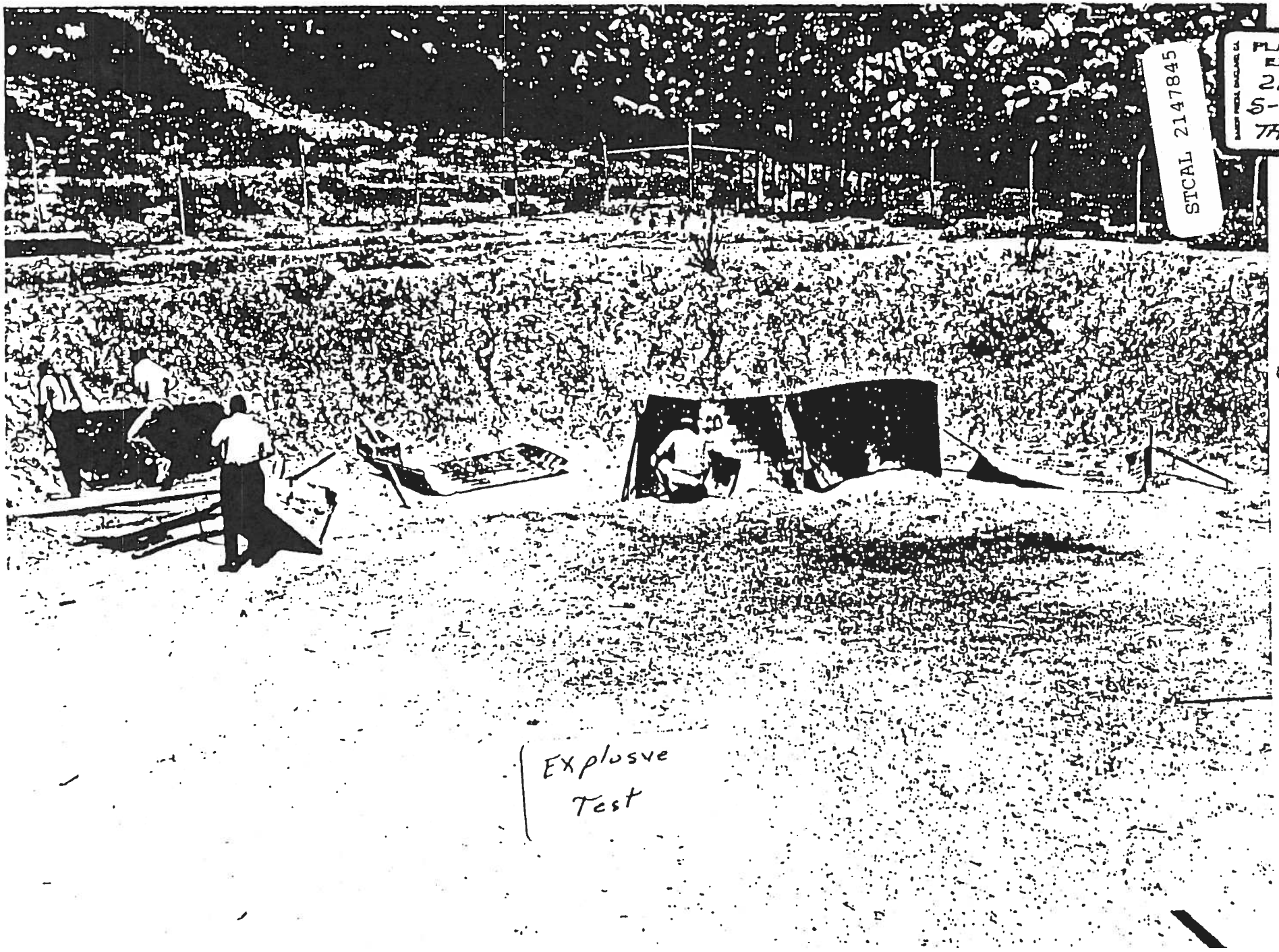
STCAL 2147839



PLAINT
EXHI
215
5-8-
TAD

STCAL 2147843

C 60444



Explosve
Test

STCAL 2147845

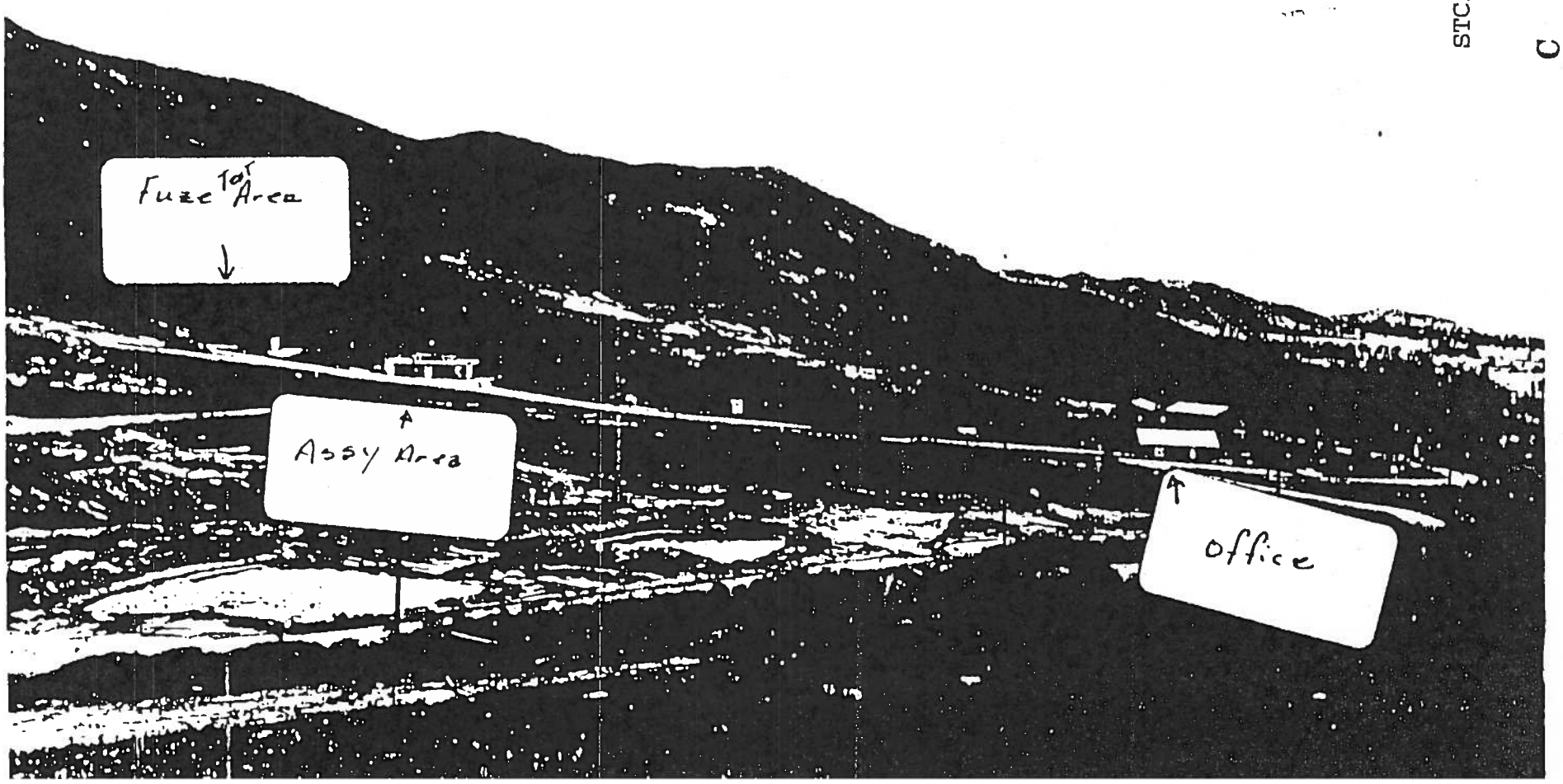
PLAIN
EXHI
216
5-8-
TRO,

C 60445

PLAINTIFF'S EXHIBIT
218
5-8-84
TAO, NV

STCAL 2147849

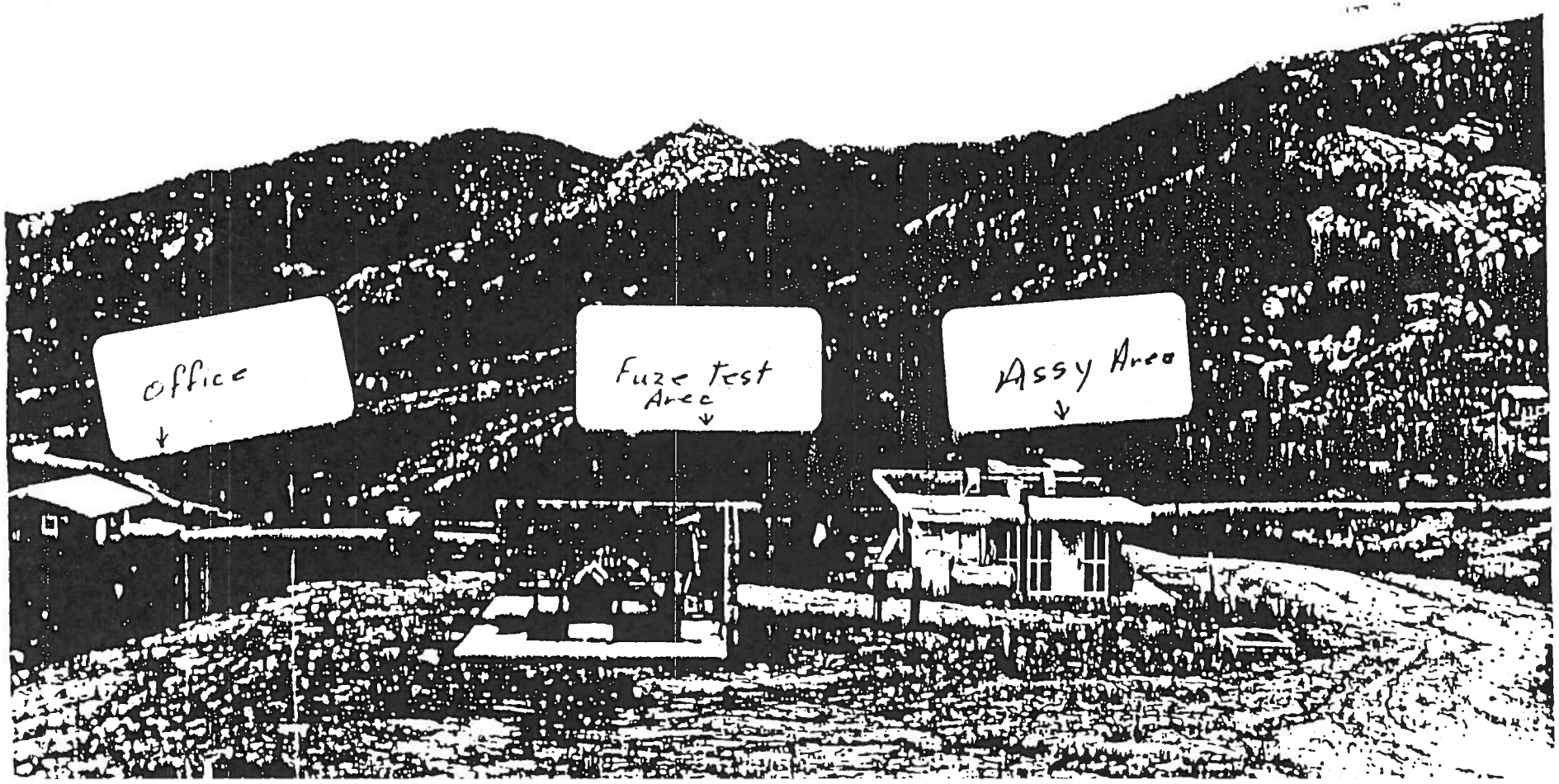
C 60446

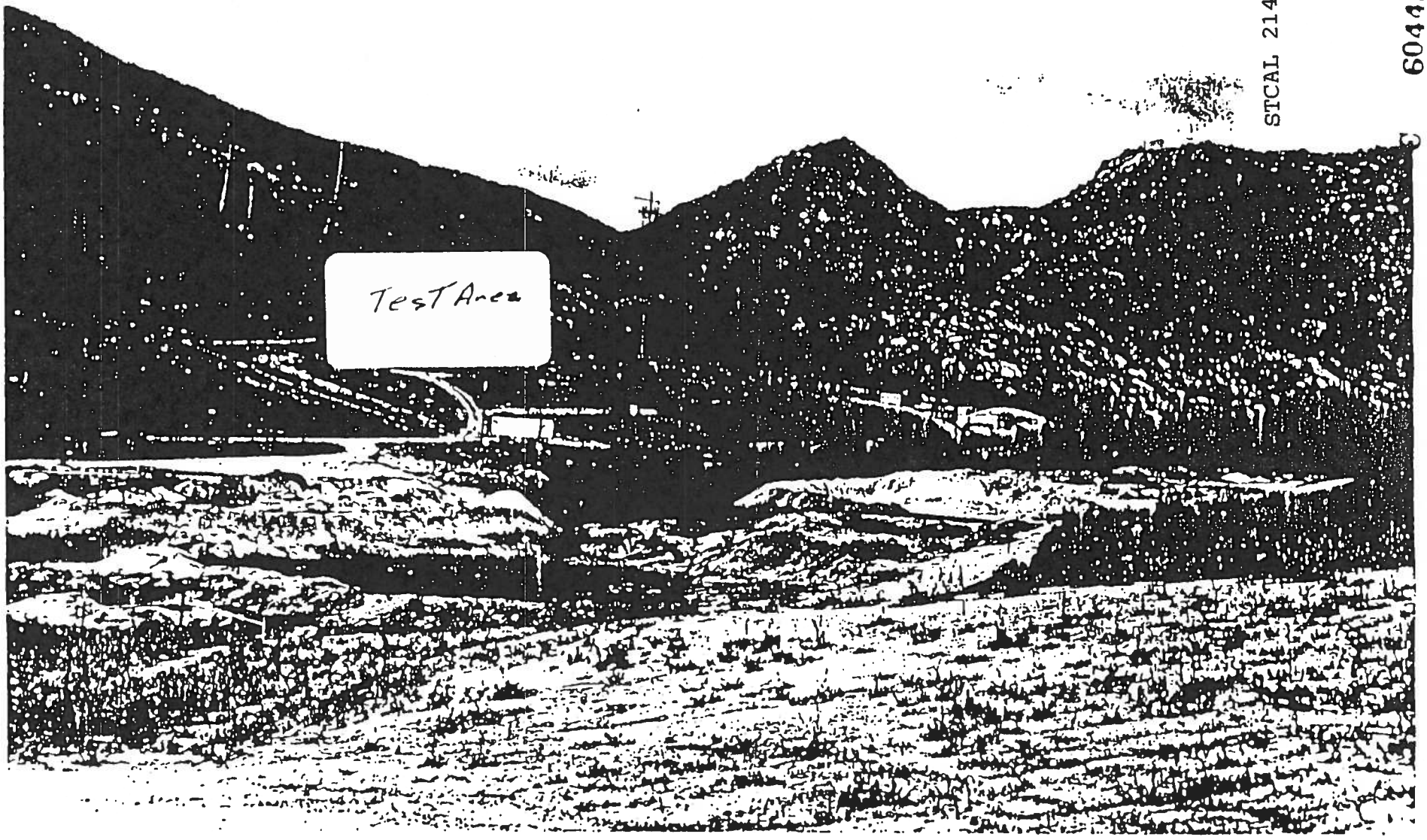


STCAL 2147851

PLAINTIFF
EXHIBIT
219
5-8-84
TAD, NJ

C. 60447

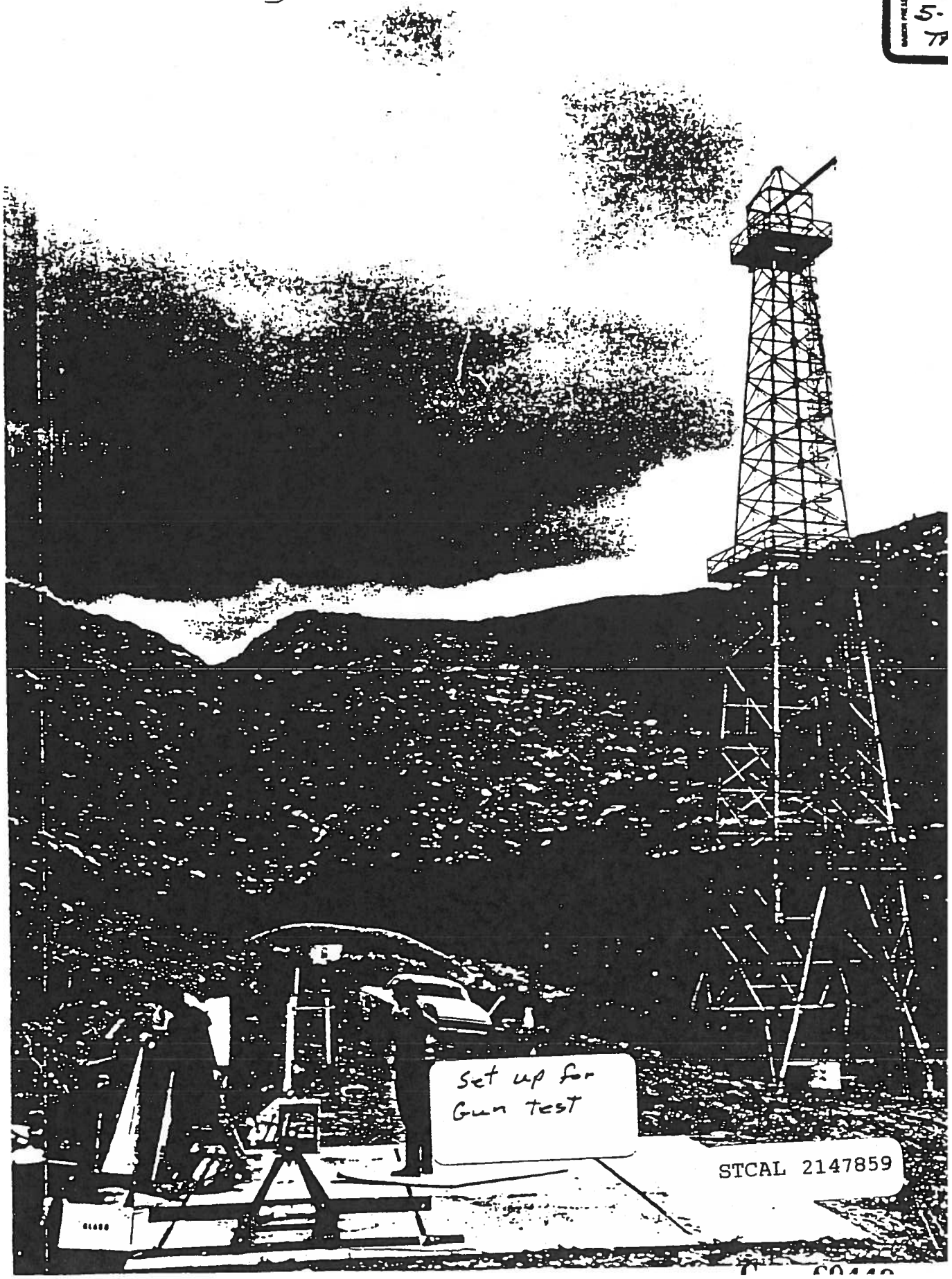




PLAINTIFF
EXHIBIT
221
5-8-84
TRD. N

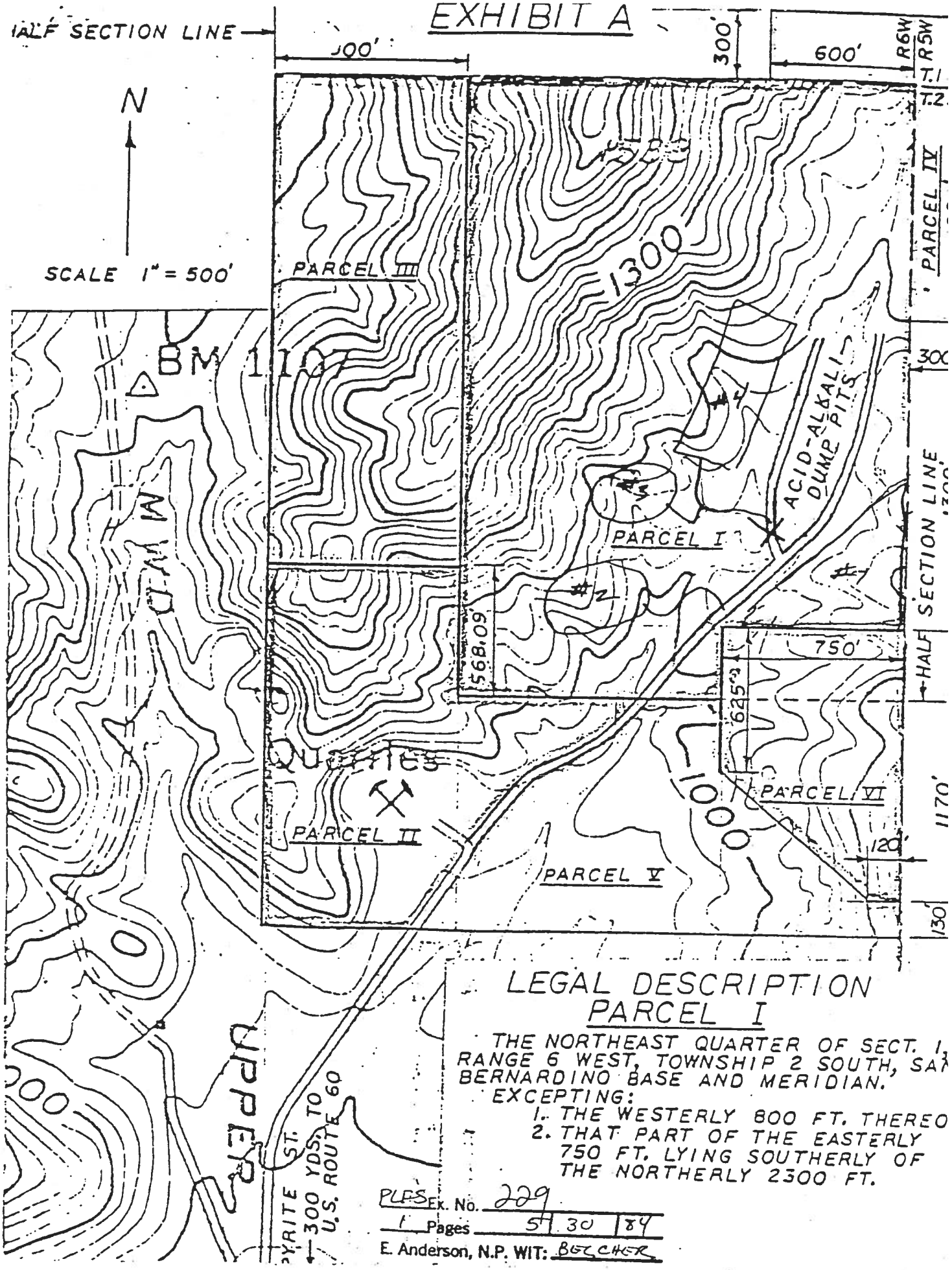
STCAL 2147857

60448



STCAL 2147859

EXHIBIT A



LEGAL DESCRIPTION
PARCEL I

THE NORTHEAST QUARTER OF SECT. 1, RANGE 6 WEST, TOWNSHIP 2 SOUTH, SAN BERNARDINO BASE AND MERIDIAN.

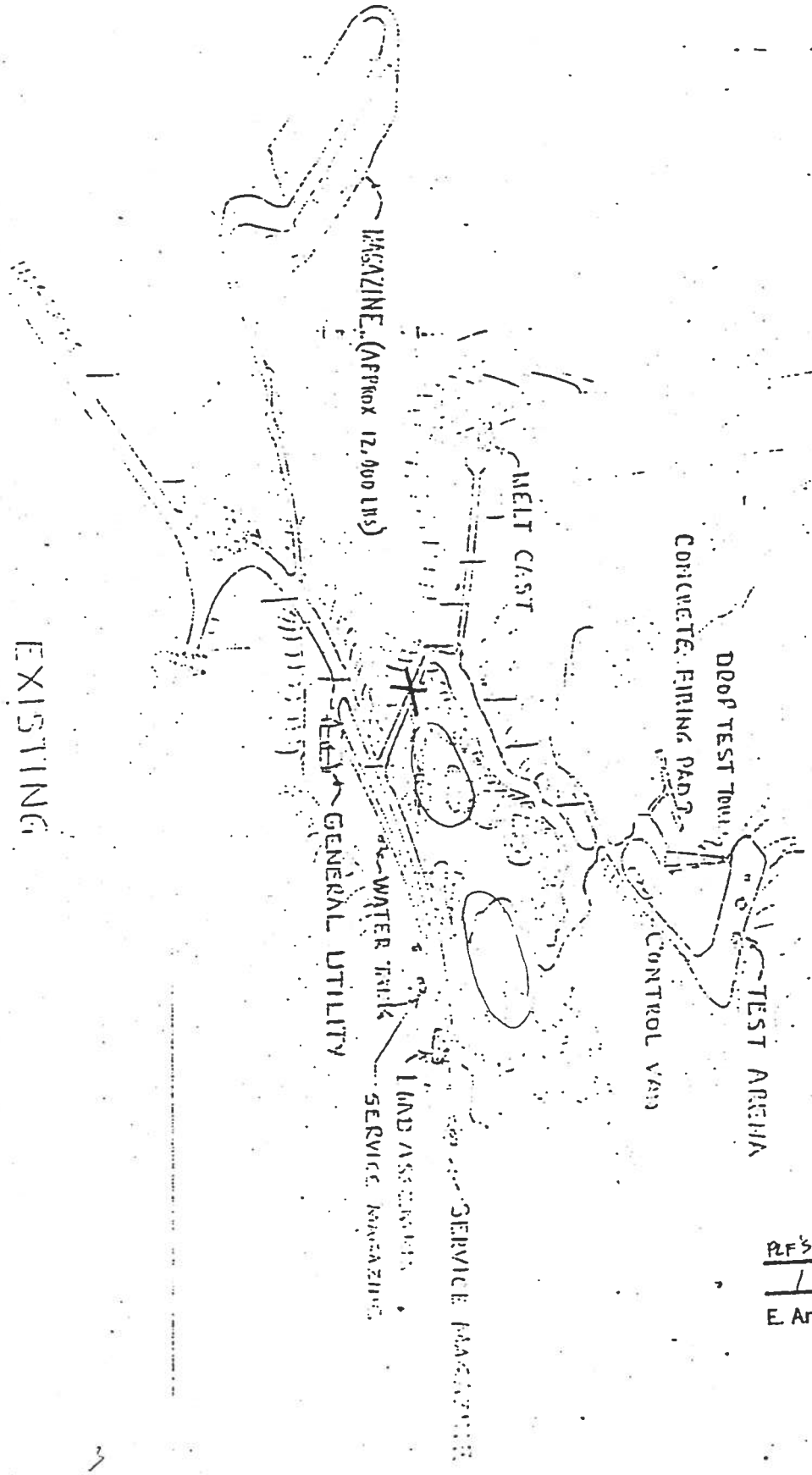
EXCEPTING:

1. THE WESTERLY 800 FT. THEREO
2. THAT PART OF THE EASTERLY 750 FT. LYING SOUTHERLY OF THE NORTHERLY 2300 FT.

PLFS Ex. No. 229
1 Pages 5 30 84
E. Anderson, N.P. WIT: BETCHER

050003

Attachment #3
6100-72-FM&M-24
31 July 1972



PLF'S Ex. No. 230
1 Pages 5 30 84
E. Anderson, N.P. WIT: BELCHER

TT 180 D

STCAL 2147819

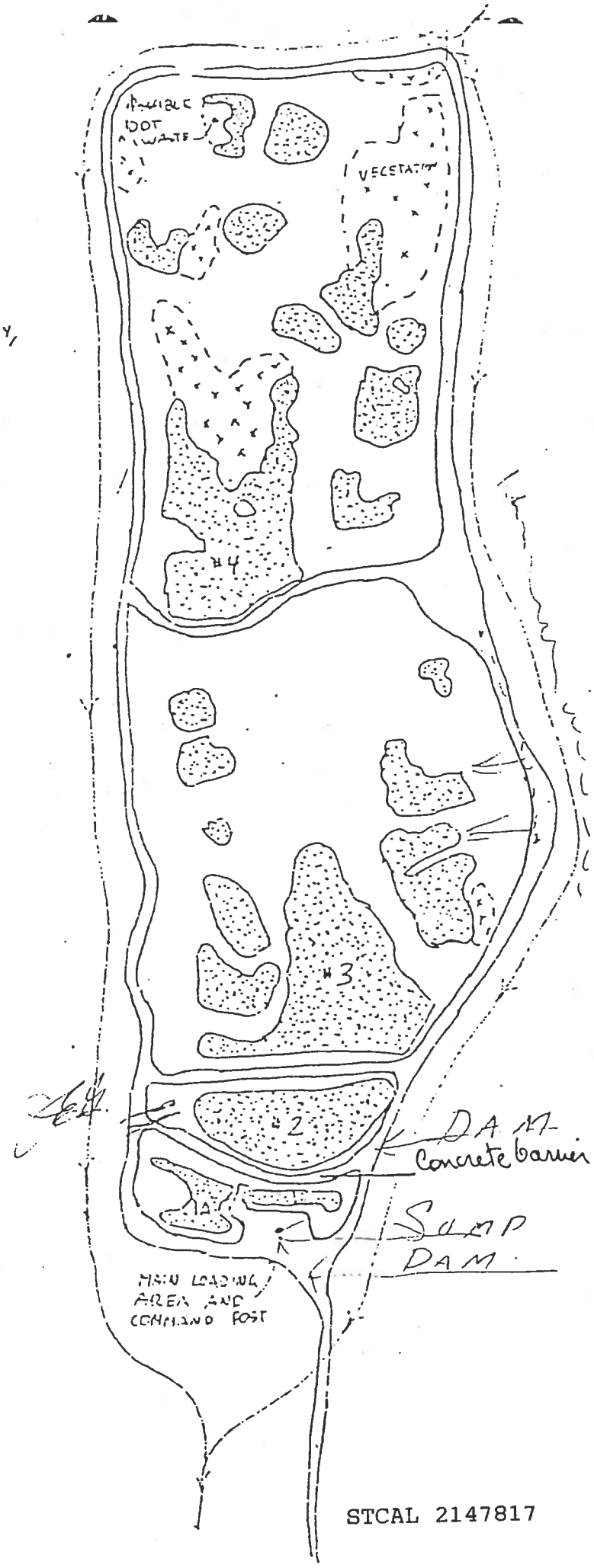
C50004

STRINGFELLOW
WASTE SITE

RIVERSIDE COUNTY,
CALIFORNIA

MARCH, 1980

NORTH



PLAINTIFF'S
EXHIBIT
232
6-26-84
TAD, NP

STCAL 2147817

4042

Ex. 232

Fed 1080.1

SELLER

PURCHASE ORDER

FORM 1141

GEORGE F. CASEY COMPANY
7222 W. SLAUSON AVENUE
LOS ANGELES 22, CALIFORNIA

NORTRONICS
A DIVISION OF NORTHROP CORPORATION

TERMS	DATE	VENDOR NO.	AREA CODE	P.O. NO.
NET 30	6/6	U 1092525		D50-60034

SHIP TO: 1 - 2301 W. 120 TH ST., HAWTHORNE, CALIF. 90250 - EAST DOCK; 2 - 2301 W. 120 TH ST., HAWTHORNE, CALIF. 90250 - WEST DOCK; 3 - 500 E. ORANGETHROPE, ANAHEIM, CALIF. 92801; 4 - 1 RESEARCH PARK, PALOS VERDES PENINSULA, CALIF. 90274 — 1 2 3 4 [3]

SHIP VIA: Y/T

F.O.B.: 1 2 3 [1] 1 - BUYER'S PLANT; 2 - SELLER'S PLANT; 3 - SEE NOTE BELOW

CONTRACT NUMBER: PA 1502-00

CONFIRM: 1 2 3 [2] 1 - LETTER; 2 - PHONE; 3 - WAYNE 6-7-5; 3 - WIRE

PRIORITY RATING: 1 2 3 4

INSPECTION: 1 - AT NORTRONICS; 2 - SOURCE GOV'T; 3 - SOURCE BUYER — 1 2 3 4 [1]

INTERNAL DIST. OF SPCL. COPIES: A2620

NOTE: FOR RESALE A B X 39202

ACKNOWLEDGMENT: X REQUIRED; NOT REQUIRED

ITEM	QUANTITY	UNIT	IN	ACCT. NO.	REQ. NO./INDEX NO.	PART NO. AND DESCRIPTION	UNIT PRICE	ITEM TOTAL
1	1	LT		96704	0133260	BLANKET	CEILING 3000.0000	3000.00
	REQ. #133260				1 00009999131 20000000 Y6110/Y4	9993 BOSTON		
						THIS PURCHASE ORDER ISSUED TO COVER THE COST OF HAULING HIGHLY ACIDIC INDUSTRIAL WASTE LIQUIDS FROM NORTRONICS TO DUMP AS DIRECTED. SERVICE TO INCLUDE REMOVAL FROM PROCESS TANKS LOCATED INSIDE BUILDINGS WHILE MAINTAINING SUITABLE SAFEGUARDS FOR PLANT PERSONNEL AND EQUIPMENT.		
						VENDOR TO DELIVER LETTER FROM NORTRONICS TO DUMP OPERATOR AT TIME THE LOAD IS DUMPED. LOADS TO BE APPROXIMATELY 1000 GALLONS EACH. COST OF REMOVAL AND DUMPING NOT TO EXCEED $75.00 PER LOAD. DELIVERY AS REQUIRED BY NORTRONICS.		
						SERVICE TO BE PERFORMED ON-CALL - WITH NO ADDITIONAL CHARGES FOR NIGHT OR WEEK-END LOADS. ALL LICENSES, PERMITS AND/OR RELEASES TO BE OBTAINED BY VENDOR EXCEPT NORTRONICS SHALL OBTAIN ACCESS TO SUITABLE DUMP AND SHALL PAY SEPARATELY DUMPING CHARGES.		
						THIS ORDER EFFECTIVE 14 JUNE 1965 THROUGH 14 JUNE 1966. SUPERSEDES PURCHASE ORDER P-266327-D. June 14, 1967		
						THIS PURCHASE ORDER SUBJECT TO CANCELLATION ON A 30 DAY WRITTEN NOTICE WITHOUT CHARGE TO NORTRONICS. THE LOT PRICE IS FOR LABOR ONLY AND IS NOT SUBJECT TO SALES TAX.		
						WILL IGNORE THESE HEADINGS		3000.00

SELLER'S SHIPPING PROMISE	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY
	1	AS REQUIRED																						
SELLER'S SHIPPING PROMISE	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY

INVOICE NUMBER	DATE	AMOUNT	R/R NO.	POSTED BY	DATE	ITEM	QTY.	ITEM	QTY.	ITEM	ITEM	ITEM	ITEM
#66	6-28	75.00	8-30	7H	9-14								
707	7-31	75.00	9-14		9-21								
806	8-26	60.00	9-24		9-27								
		210.00											

NOR 001934

ACCOUNTS PAYABLE COPY

PURCHASING AGENT

Fed 6299

VENDOR COPY

Please Mail Acknowledgment at once to:
Purchasing Department
Anaheim Division
Anaheim, California

NORTHROP AIRCRAFT, INC.

ANAHEIM DIVISION
800 E. ORANGETHORPE AVENUE
ANAHEIM, CALIF.

PURCHASE ORDER

NO. B66945-T
DATE 11-21-57

TO
(85130 S)
Stringfellow Quarry
P.O. Box 6
Riverside, Calif

SHIPPING INSTRUCTIONS
F.O.B. Your Plant
SHIP TO Anaheim Division
VIA Our Truck

CONFIRMING TO: Mr. Hutt
DATE 11-21-57
DELIVER TO: Maint- Cagwin.

TERMS	CONTRACT NUMBER	ACCT. & B.O. NO.	REQUISITION NO.	NOT FOR RESALE	FOR RESALE	RESALE PERMIT NO. E 110178
Net		837-0[illegible]-2105	[illegible]529	X		

INSTRUCTIONS	QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1. ROUTING INSTRUCTIONS MUST BE STRICTLY FOLLOWED BY VENDOR.			This order to cover the costs of liquid Industrial Waste Dumping Charges based upon a cost of $.015 per gallon. Anticipated quantity is 6000 gallons in loads of approximately 820 gallons.	$90.00 Ceiling	$90.00
2. SHIPPING PAPERS to be AIRMAILED on SAME DAY OF SHIPMENT.			This Purchase Order subject to cancellation on a 30 day written notice.		
3. DELIVERY schedule is a pertinent part of this order. Dates specified mean date of delivery at F.O.B. point.			From 11-21-57 thru Aug 3, 1958.		
4. TERMS of Schedule A on reverse side apply to this order.			Vdr. prom del: Blanket		
				TOTAL	$90.00

5. By acceptance of this order, Vendor agrees to [illegible] reverse of this Purchase Order.
6. CHANGES or further instructions are not binding [illegible] Purchase Order Change Notice, signed [illegible] properly acknowledged by Vendor.
7. INVOICES—3 copies are to be mailed promptly [illegible] Division, Northrop Aircraft, Inc. invoice to state [illegible] each sale [illegible]

CASE NO. CV 83-2501 JMI
U.S.
VS. STRINGFELLOW
PLAINTIFF'S EXHIBIT 6299
DATE _____ IDEN.
DATE _____ EVID.
BY _____
Deputy Clerk

AO 386

6937

STCAL 2129545

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed

SNC174

1957-1965

Fed 6299

VENDOR COPY

Please Mail Acknowledgment at once to:
Purchasing Department
Anaheim Division
Anaheim, California

NORTHROP AIRCRAFT, INC.

ANAHEIM DIVISION
800 E. ORANGETHORPE AVENUE
ANAHEIM, CALIF.

PURCHASE ORDER

NO. B56945-I
DATE 11-21-57

TO
(85130 S)
~~Jo-Dr~~ Stringfellow Quarry
P.O. Box 6
Riverside, Calif

SHIPPING INSTRUCTIONS
F.O.B. Your Plant
SHIP TO Anaheim Division
VIA Our Truck

CONFIRMING TO: Mr. Hutt
DATE 11-21-57
DELIVER TO: Maint- Cagwin.

TERMS	CONTRACT NUMBER	SECT. S.O.D. NO.	REQUISITION NO.	NOT FOR RESALE	FOR RESALE	RESALE PERMIT NO. E 110178
Net		837-0[illegible]-2155	[illegible]529	X		

QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE	TOTAL PRICE
		This order to cover the costs of liquid Industrial Waste Dumping Charges based upon a cost of $.015 per gallon. Anticipated quantity is 6000 gallons in loads of approximately 620 gallons.	$90.00 Ceiling	$90.00
		This Purchase Order subject to cancellation on a 30 day written notice.		
		From 11-21-57 thru Aug 3, 1958.		
		Vdr. prom del: Blanket		
		mc/ C II B	TOTAL	$90.00

Applicable attached Supplements are:

INSTRUCTIONS

1. ROUTING INSTRUCTIONS MUST BE STRICTLY FOLLOWED BY VENDOR.
2. SHIPPING PAPERS to be AIRMAILED on SAME DAY OF SHIPMENT.
3. DELIVERY schedule is a pertinent part of this order. Dates specified mean date of delivery at F.O.B. point.
4. TERMS of Schedule A on reverse side apply to this order.
5. By acceptance of this order, Vendor agrees to the conditions contained on the face and reverse of this Purchase Order.
6. CHANGES or further instructions are not binding on Buyer unless authorized by Buyer's duly executed Purchase Order Change Notice, signed by Buyer's authorized representative and properly acknowledged by Vendor.
7. INVOICES—4 copies are to be mailed promptly in attention of Accounts Payable, Anaheim Division, Northrop Aircraft, Inc. invoice to state "Date completed" or "order completed" as each note occurs.

NORTHROP AIRCRAFT, INC.
ANAHEIM DIVISION

G. R. Janvrin
DATE

G. R. Janvrin

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

LOC: CORRIDOR IN CORNER OF OFFICE-TRUPE FILE-DRAWER #3
FILE: Brown File Folder - Letter Size
DR: 123 Northrop Corp. 3 of 3
TITLE:
DOC NAME: #400888-400883
SCHD: 040489
1957-1965

SNC174

E56937

STCAL 2129546

FED 6327

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

VENDOR COPY

PURCHASE ORDER

Please Return Acknowledgement
NORTRONICS
Purchasing Department
Anaheim, California

NORTRONICS

A DIVISION OF NORTHROP AIRCRAFT INC
500 EAST ORANGETHORPE AVENUE
ANAHEIM, CALIFORNIA

NO. B-110659-Y
DATE 8-1-53

TO
(85130) S
J. B. Stringfellow Quarry
P.O. Box 6
Riverside, Calif.

SHIPPING INSTRUCTIONS

F.O.B. Your Plant
SHIP TO Anaheim Div.
VIA Our Truck

CONFIRMING TO: Mr. Nutt DATE 8-1-55 DELIVER TO: Maint. Cagwin

TERMS Net | CONTRACT NUMBER | ACCT. & S.O. NO. 867-04-2035-1402-00 | REQUISITION NO. 57038 | NOT FOR RESALE | FOR RESALE | RESALE PERMIT NO. E 110178

ITEM	QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE	TOTAL PRICE
1			This order to cover the costs of liquid industrial waste dumping charges based upon a cost of $.015 per gallon. Anticipated quantity is 6,000 gallons in loads of approximately 900 gallons. This order effective from 1 August 1958 through 31 July 1959. This Purchase Order subject to cancellation on a 30 day written notice. Vdr. proc. del: Blanket	90.00/ ceiling	$ 90.00
				TOTAL	$ 90.00

INSTRUCTIONS

1. ROUTING INSTRUCTIONS MUST BE STRICTLY FOLLOWED BY VENDOR.
2. SHIPPING PAPERS to be AIRMAILED on SAME DAY OF SHIPMENT.
3. DELIVERY Schedule is a pertinent part of this order. Dates specified mean date of delivery at F.O.B. point.
4. TERMS of Schedule

NORTRONICS
ANAHEIM, CALIF.

G. S. Jarmin

CASE NO. CV 83-2501 JMI
U.S.
VS. STRINGFELLOW
PLAINTIFF'S EXHIBIT 6327
DATE _____ IDEN.
DATE _____ EVID.
BY _____ Deputy Clerk

AO 386

E56948

SNC174

1957-1965

4327

Fed

NOTICE: If the film image is less clear than this notice, it is due to the quality of the document being filmed.

VENDOR COPY

PURCHASE ORDER

Please Return Acknowledgement Copy when to:
NORTRONICS
Purchasing Department
Anaheim, California

NORTRONICS

A DIVISION OF NORTHROP AIRCRAFT, INC
500 EAST ORANGETHORPE AVENUE
ANAHEIM, CALIFORNIA

NO. B-110559-Y
DATE 8-1-58

TO
(85130) S
J. B. Stringfellow Quarry
P.O. Box 6
Riverside, Calif.

SHIPPING INSTRUCTIONS

F.O.B. Your Plant
SHIP TO Anaheim Div.
VIA Our Truck

CONFIRMING TO: Mr. Nutt DATE 8-1-58 DELIVER TO: Maint. Carwin

TERMS	CONTRACT NUMBER	ACCT. & C.O. NO	REQUISITION NO		RESALE PERMIT
Net		867-01-2035-	52038	☐ NOT FOR RESALE ☐ FOR RESALE	NO. E 110178

INSTRUCTIONS

1. ROUTING INSTRUCTIONS MUST BE STRICTLY FOLLOWED BY VENDOR.
2. SHIPPING PAPERS to be AIRMAILED on SAME DAY OF SHIPMENT.
3. DELIVERY Schedule is a pertinent part of this order. Dates specified mean date of delivery at F.O.B. point.
4. TERMS of Schedule A on reverse side apply to this order.

ITEM	QUANTITY	PART NUMBER	DESCRIPTION	UNIT PRICE	TOTAL PRICE
	1	1102-00	This order to cover the costs of liquid industrial waste dumping charges based upon a cost of $.015 per gallon. Anticipated quantity is 6,000 gallons in loads of approximately 900 gallons. This order effective from 1 August 1958 through 31 July 1959. This Purchase Order subject to cancellation on a 30 day written notice. Vdr. prom. del: Blanket	90.00/ ceiling	$ 90.00
			Applicable attached Supplements are: ol CIB	TOTAL	$ 90.00

1. By acceptance of this order, Vendor agrees to the conditions contained on the face and reverse of this Purchase Order.
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3. INVOICES — 3 copies are to be mailed promptly to attention of Accounts Payable, Nortronics, Anaheim, Calif. Invoice to state "Item completed" or "Order completed" on each item covered.

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ANAHEIM, CALIF.

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SELLER:

STRINGFELLOW QUARRY CO.
P.O. BOX 6
RIVERSIDE, CALIF. 92502

PURCHASE ORDER Fed 7201

FORM 1140 (R. 10-

NORTRONICS

A DIVISION OF NORTHROP CORPORATION

TERMS	DATE	VENDOR NO.	AREA CODE			P.O. NO.
NET 30	5298	51711005255				T808-92555

SHIP TO: 2
1 - 2301 W. 120 th ST., HAWTHORNE, CALIF. 90250 - EAST DOCK
2 - 500 E. ORANGETHORPE, ANAHEIM, CALIF. 92803 - Y10
3 - 500 E. ORANGETHORPE, ANAHEIM, CALIF. 92803 - Y20
4 - 1 RESEARCH PARK, PALOS VERDES PENINSULA, CALIF. 90274
5 - 1541 PAGE COURT, ANAHEIM, CALIF. 92806 - Y41

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F. O. B.: 2 (1 - BUYER'S PLANT, 2 - SELLER'S PLANT, 3 - SEE NOTE BELOW)

CONTRACT NUMBER: 1502-00

CONFIRM: 2 (1 - LETTER, 2 - PHONE, 3 - WIRE) DATE 5-27-8

PRIORITY RATING*

INSPECTION: 1 - AT NORTRONICS, 2 - SOURCE GOV'T, 3 - SOURCE BUYER

INTERNAL DIST. OF SPCL. COPIES: NOT FOR RESALE [redacted] 39202

ACKNOWLEDGMENT: [ ] REQUIRED [X] NOT REQU

ITEM	QUANTITY	UNIT	ACCT. NO.	REQ. NO./INDEX NO.	PART NO. AND DESCRIPTION	UNIT PRICE	ITEM TOT
1	1	LTT	96704	00193852	THIS P.O. ISSUED TO COVER THE COST OF VENDOR *	15.0000	15.
REQ. #193852				1 00009993602	150000 C6110 BOSTON Y-4		

*TO FURNISH SITE TO DISPOSE OF INDUSTRIAL WASTE ACID.

CONFIRMING ONLY - REF: INV. DATED 2 MAY 1968.

GROUP 3 15.

← NOTE VENDOR WILL IGNORE THESE HEADINGS →

TERMS T-1, REVISED 3-68, ATTACHED, INCORPORATED HEREIN BY REFERENCE.

	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY
NORTRONICS REQUIRED DATE																								
SELLER'S SHIPPING PROMISE	ALL		5	2	8																			

INVOICE NUMBER	DATE	AMOUNT	R/R NO.	POSTED BY	DATE	ITEM QTY. @ $
					1968	
[illegible]	05-2	15 00	affs.	pm	6-24	1

CASE NO. CV 83-2501 JMI
U.S.
VS. STRINGFELLOW
PLAINTIFF'S EXHIBIT 7201
DATE _____ IDEN.
DATE _____ EVID.
BY _____
Deputy Clerk

ACCOUNTS PAYAB

AO 386

SELLER:

STRINGFELLOW QUARRY CO.
P.O. BOX 6
RIVERSIDE, CALIF. 92502

PURCHASE ORDER red 7201

FORM 1140 (R. 10

NORTRONICS

A DIVISION OF NORTHROP CORPORATION

TERMS	DATE	VENDOR NO.	AREA CODE			P. O. NO.
NET 30	5298 (196)	5171100525	5			T808-92555

SHIP TO: 2
1 - 2301 W. 120 TH ST., HAWTHORNE, CALIF. 90250 - EAST DOCK
2 - 500 E. ORANGETHORPE, ANAHEIM, CALIF. 92803 - Y10
3 - 500 E. ORANGETHORPE, ANAHEIM, CALIF. 92803 - Y20
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F. O. B.: 2 (1 - BUYER'S PLANT, 2 - SELLER'S PLANT, 3 - SEE NOTE BELOW)

CONTRACT NUMBER: 1502-00

CONFIRM: 2 (1 - LETTER, 2 - PHONE, 3 - WIRE) DATE 5-27-8

PRIORITY RATING*

INSPECTION: 1 - AT NORTRONICS, 2 - SOURCE GOV'T, 3 - SOURCE BUYER

INTERNAL DIST. OF SPCL. COPIES: NOT FOR RESALE [redacted] 39202

ACKNOWLEDGM: REQUIRED / NOT REQU

ITEM	QUANTITY	UNIT	ACCT. NO.	REQ. NO./INDEX NO.	PART NO. AND DESCRIPTION	UNIT PRICE	ITEM TOT
1	1	LTT	96704	00193852	THIS P.O. ISSUED TO COVER THE COST OF VENDOR *	15.0000	15
				1	00009993602 150000 C6110 BOSTON Y-4		
REQ. #193852							
					*TO FURNISH SITE TO DISPOSE OF INDUSTRIAL WASTE ACID.		
					CONFIRMING ONLY - REF: INV. DATED 2 MAY 1968.		
GROUP 3							15.

← NOTE: VENDOR WILL IGNORE THESE HEADINGS →

TERMS T-1, REVISED 3-68, ATTACHED, INCORPORATED HEREIN BY REFERENCE.

	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DAY	YR.	ITEM	QTY.	MO.	DA
NORTRONICS REQUIRED DATE																								
SELLER'S SHIPPING PROMISE	ALL		5	2	8																			

INVOICE NUMBER	DATE	AMOUNT	R/R NO.	POSTED BY	DATE	ITEM / QTY. / @ $	ITEM QTY. @ $	ITEM QTY. @ $	ITEM QTY. @ $	ITEM QTY. @ $	ITEM QTY. @ $
					1968						
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ACCOUNTS PAYABLE COPY

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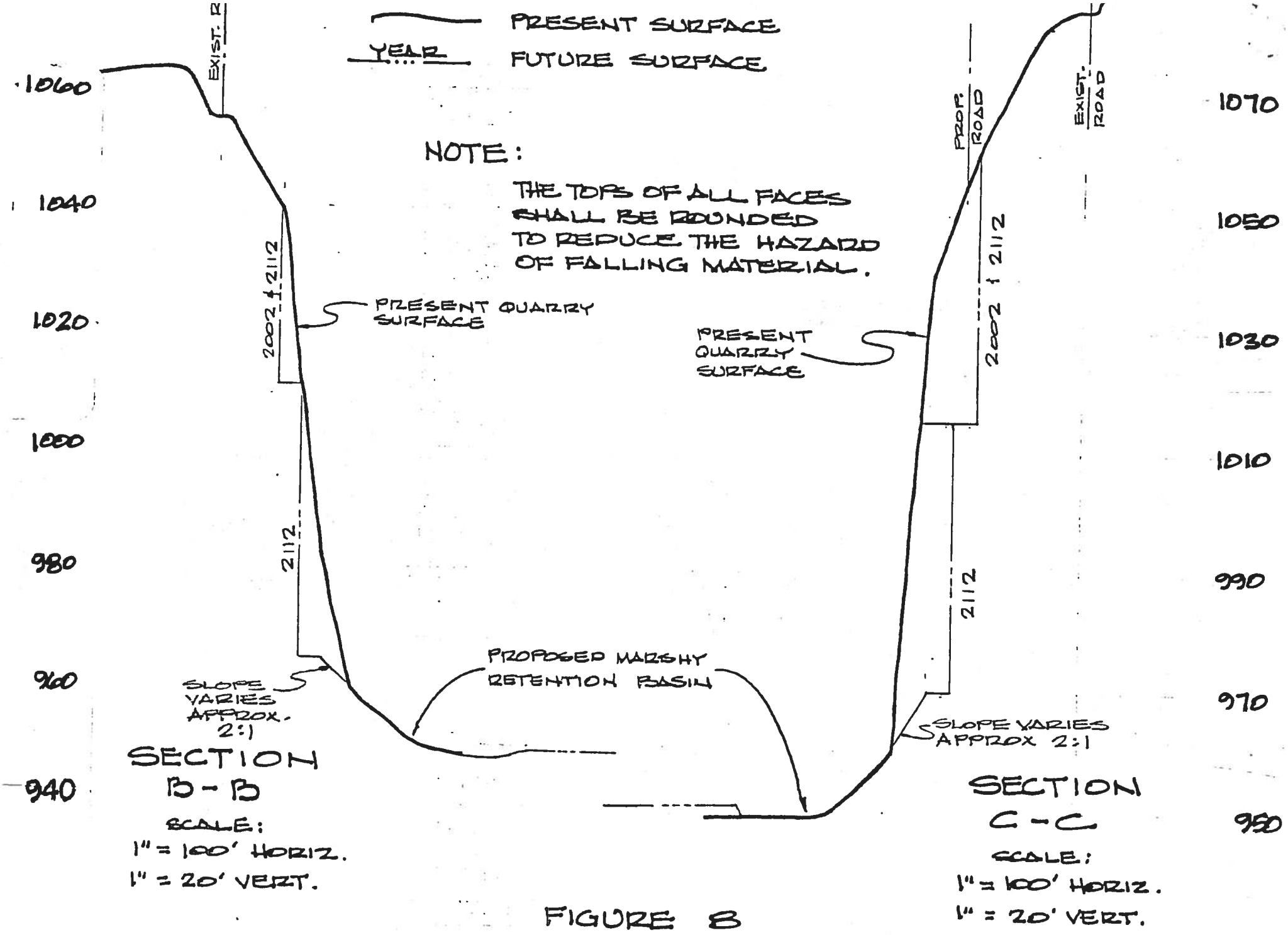
PRESENT SURFACE
YEAR
FUTURE SURFACE
EXIST. R
PROP. ROAD
EXIST. ROAD
1060
1040
1020
1000
980
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940
1070
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1030
1010
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970
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NOTE:
THE TOPS OF ALL FACES SHALL BE ROUNDED TO REDUCE THE HAZARD OF FALLING MATERIAL.
200' ± 2112
2112
PRESENT QUARRY SURFACE
PRESENT QUARRY SURFACE
PROPOSED MARSHY RETENTION BASIN
SLOPE VARIES APPROX. 2:1
SLOPE VARIES APPROX 2:1
SECTION B-B
SCALE:
1" = 100' HORIZ.
1" = 20' VERT.
SECTION C-C
SCALE:
1" = 100' HORIZ.
1" = 20' VERT.

FIGURE 8

EXHIBIT H (#18, 26)

COPY

Remote Test Site

McCUTCHEN, DOYLE, BROWN & ENERSEN
BARRY P. GOODE
MARILEE J. ALLAN
Three Embarcadero Center
San Francisco, California 94111
Telephone: (415) 393-2000

Attorneys for Defendant
Rohr Industries, Inc.

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA, et al., Plaintiffs, v. J. B. STRINGFELLOW, JR., et al., Defendants.	CASE NO. CV 83-2501 JMI
AND RELATED COUNTERCLAIMS, COMPLAINT-IN-INTERVENTION, AND THIRD PARTY COMPLAINTS	SUPPLEMENTAL MEMORANDUM OF ROHR INDUSTRIES, INC. IN OPPOSITION TO MOTION FOR PARTIAL SUMMARY JUDGMENT OF LIABILITY UNDER CERCLA §107(a) DATE: JUNE 18, 1985 TIME: 10:00 a.m. COURTROOM: Special Master Peetris

UNIVERSAL PROPULSION

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1 INTRODUCTION

2 Defendant Rohr Industries, Inc. ("Rohr") submits this
3 Supplemental Memorandum in addition to joining in the Joint
4 Memorandum of Points and Authorities in Opposition to Motion for
5 a Partial Summary Judgment of Liability under CERCLA §107(a)
6 ("Joint Brief" or "Joint Section 107(a) Brief"). In addition to
7 all of the reasons enumerated in defendants' joint brief for
8 denying plaintiffs' motions, Rohr contends that plaintiffs have
9 not met their burden under Rule 56 of the Federal Rules of Civil
10 Procedure in demonstrating that, as to Rohr, there are no genuine
11 issues as to any material fact. Plaintiffs are not entitled to
12 partial summary judgment on Section 107(a) liability as against
13 Rohr.[1]

14 There are at least four reasons plaintiffs are not so
15 entitled.

16 First, the substances which plaintiffs' "technical
17 expert" Thomas Dahl declares to have been sent to the
18 Stringfellow site by Rohr, in the Declaration of Thomas O. Dahl
19 in Support of Motion for Partial Summary Judgment ("the Dahl
20 declaration"), are not substances contributing to a release which
21 in fact causes or threatens to cause a significant risk of harm
22 or a substantial endangerment. The materials attributed to Rohr
23 by plaintiffs have never moved past the mid-canyon area of Pyrite
24

25 [1]See also Defendant Rohr Industries, Inc.'s Supplemental
26 Statement of Genuine Issues of Material Fact ("Rohr's Statement of Genuine Issues") filed herewith.

1 Canyon. Nor have they caused any incurrence of response costs.
2 If plaintiffs dispute any of these facts, then there is, at a
3 minimum, a dispute as to material facts. Summary judgment cannot
4 be granted.

5 Second, plaintiffs declare that two of the types of
6 materials allegedly sent by Rohr to the site have shown up at
7 monitoring well locations 1400 to 2000 feet downgradient from the
8 original concrete barrier. However, there is evidence that the
9 former Universal Propulsion plant in Pyrite Canyon is the source
10 for these constituents. As plaintiffs themselves acknowledge, at
11 this stage of proceeding "[t]he facts must be viewed and
12 inferences must be drawn in the manner most favorable to the
13 non-moving party." Retail Clerks Union Local 648 v. Hub
14 Pharmacy, Inc., 707 F.2d 1030, 1033 (9th Cir. 1983), quoted in
15 Plaintiffs' §107(a) Memorandum at 8. A dispute remains as to
16 this material fact, and summary judgment is inappropriate.

17 Third, plaintiffs have not established a part of their
18 prima facie case: plaintiffs still have not proved which, if
19 any, of Rohr's substances were indeed hazardous. There are
20 disputes of material fact in this area to be resolved at trial.

21 Fourth, by law of the case, a whole panoply of facts
22 will have to be resolved with respect to the Gore Amendment
23 criteria before any judgment of joint and several liability could
24 be imposed upon any party. Plaintiffs fail to show that there is
25 a set of undisputed facts here, and therefore they are not
26 entitled to summary judgment against Rohr on this basis.

1 I. Substances Purportedly Sent by Rohr to the Site
2 Do Not Cause or Threaten to Cause a Significant
3 Risk of Harm or a Substantial Endangerment.
4 The defendants' joint brief sets out the proper prima
5 facie case that plaintiffs would have to establish for summary
6 judgment on the liability of a particular defendant:
7 1. There has been a release or a threatened
8 release of a hazardous substance from a facility;
9 2. The generator defendant disposed of a
10 hazardous substance at a facility;
11 3. Hazardous substances of the sort disposed of
12 by the generator defendant are in the release (or
13 contributed to the release);
14 4. The release (or threatened release) presented
15 an endangerment which necessitated the incurrence of
16 response costs; and
17 5. Such response costs were not inconsistent with
18 the National Contingency Plan.
19 (Defendants' Joint Section 107(a) Brief at Section III.) The
20 joint brief's discussion of elements of a prima facie case under
21 Section 107(a) is incorporated herein by reference.
22 Plaintiffs' proof against Rohr consists only of the
23 following.
24 First, plaintiffs' proof of the substances Rohr sent to
25 / /
26 / /

1 the Stringfellow site consists of Paragraphs 11 and 12 of the
2 Dahl declaration. Paragraph 11, in turn, is based solely on a
3 database created by an EPA employee interpolating from some
4 information in the "Stringfellow file documents."
5 In Paragraph 11, Mr. Dahl states that his review of the
6 aforementioned computer database shows that Rohr "sent the
7 following hazardous substances to the Stringfellow disposal site:
8 . . .Chromium, Hydrochloric acid, Hydrofluoric
9 acid, Ferric Sulfate, Sodium dichromate, Potassium
10 hydroxide, Sodium hydroxide, Nitric acid, Sulfuric acid,
11 / /
12
13 [2]Paragraph 12, with respect to Rohr, should not form the basis for a summary judgment. Mr. Dahl did not fully review
14 Rohr's responses to interrogatories and thus cannot declare his opinion as to what they "admit."
15 For example, in Paragraph 12, Mr. Dahl makes a statement about only one substance with respect to Rohr: he states that
16 Rohr "admits" to have taken chromic acid to the site in its interrogatory responses. Apparently he bases his statement on
17 Rohr's response to Interrogatory No. 8(d). But nowhere in that response did Rohr specifically state that it sent chromic acid to
18 the site; in fact, Rohr carefully stated what it could about its metal processing department and referred plaintiffs to Rohr
19 documents provided prior to and contemporaneously with the responses.
20 <u>But Mr. Dahl admits he did not look at any of these documents</u>. In his deposition under oath he said that in making
21 his declaration he did not even review or refer to the documents provided by Rohr with its discovery responses. (Dahl deposition,
22 p. 2478)
If it is Mr. Dahl's opinion that a defendant's
23 interrogatory responses "indicate" a certain fact not contained in them, then that opinion is an improper subject for an expert's
24 declaration and cannot be used to resolve disputed issues of material fact. See Dahl deposition at 2100-01, Supplemental
25 Memorandum of General Electric Company et al., Supplemental Memorandum of Weyerhaeuser Company.
26

1 Phenol, Phosphoric acid, Ammonium bifluoride, Chromic
2 acid, [and] Ferrous sulfate. . . ."
3 Then, in Paragraph 16 of his declaration, Mr. Dahl
4 states that certain summarized data "consistently demonstrates
5 the presence" of ten hazardous substances in groundwater at the
6 site. Chromium and phenol are the only two of Rohr's attributed
7 substances to be included in Dahl's list of ten substances. He
8 states that these ten "continue to present the threat of release
9 from the disposal site." At Paragraph 18, he goes on to state
10 that data collected demonstrates that the substances [in
11 Paragraph 16] have migrated to locations downgradient from the
12 disposal site and, based on several assumptions, have been
13 released from the site and continue to pose a threat of further
14 release.
15 However, in his deposition, Mr. Dahl testified that
16 according to the EPA database, TCE is the only constituent that
17 has been found at or beyond well 1-Q-1, which is located
18 approximately 4000 feet from the original concrete barrier.
19 (Dahl deposition pp. 2170-71) Rohr sent no TCE to the
20 Stringfellow facility, and TCE is not a substance that plaintiffs
21 have ever attributed to Rohr.
22 As to the substances of the type which plaintiffs
23 attribute to Rohr, phenol is only present at Monitoring Well
24 ("MW") 7B and chromium is only found as far as MW13B. (Dahl
25 deposition pp. 652-54) MW7B and MW13B are just above the
26 midcanyon area roughly 1400 feet and 2000 feet, respectively,

1 downgradient from the concrete barrier. Mr. Dahl has testified
2 that he does not know why chromium has not migrated any farther
3 than MW13B in midcanyon in the 27 years since the site opened.
4 He admits that physical phenomena such as precipitation and ion
5 exchange may explain the retardation of migration of
6 metals such as chromium. Dahl did not have available enough
7 information, at the time of executing his declaration, to know
8 whether these physical phenomema for retardation are such that
9 chrome, or any constituents other than TCE, would move to any
10 area as far downgradient as well 1-Q-1. (Dahl deposition pp.
11 2166-71)

12 Thus plaintiffs put forth no evidence that chromium and
13 phenol have moved or will soon move beyond midcanyon.[3] As a
14 result, plaintiffs cannot prove that chromium and phenol have
15 been "released" from the site.[4] These substances are not
16 contributing to a release which in fact has caused or threatens
17 to cause a significant risk of harm or a substantial
18 endangerment. Nor has chromium or phenol caused the incurrence
19 of any response costs relating to an endangerment.

20 _____

21 [3]Moreover, defendants' expert, Dr. Langmuir, has reviewed available data and concluded that "such data collected
22 since 1979 do not support the hypothesis that metal constituents [including chromium] in the groundwater are migrating
23 significantly. In fact some species concentrations, including metals, may have been decreasing since 1979." Langmuir
24 declaration at ¶11.

25 [4]See discussion of definition of "site" or "facility" in the Joint Brief, Section IV.

26

Plaintiffs are not entitled to summary judgment on Section 107(a) liability issues as to Rohr.

II. Material Facts Are in Dispute as to the Source of Substances Found in Midcanyon.

Mr. Dahl has testified that he could not conclude that a substance has been "released" from the site without finding the substance downgradient from the site. (Dahl deposition pp. 662-68) Of the types of substances plaintiffs have attributed to Rohr, only chromium and phenol have been detected downgradient of the concrete barrier[5] at monitoring wells 13B and 7B respectively.

In Paragraph 18 of his declaration, Mr. Dahl states that because the hazardous substances referenced in Paragraph 16 (including phenol and chromium) ". . . (b) are not near any waste source other than the Stringfellow disposal site," he "conclude[s] they have been released from the Stringfellow disposal site and continue to pose a threat of further release." But one of Dahl's premises is wrong, and his conclusion cannot stand.

Plaintiffs have not eliminated the former Universal Propulsion Company ("UPCO") plant also located in Pyrite Canyon

---

[5]The concrete barrier is plaintiffs' sometime definition of the lower end of the "site." Of course Rohr, along with the other defendants, maintains that any monitoring well locations below the concrete barrier but above the Stringfellow property line just above Highway 60 are still within the "site" or facility. See Joint Brief, Section IV.

1 as the source of alleged hazardous substances, including phenol
2 and chromium.
3 Chromium has been found in the soil around and in water
4 sampled at an unauthorized dump site at the UPCO plant in Spring
5 1984. (Documents 000003, 000148, 0149, 0113, 0159, 0162 from the
6 DOHS files. True copies of documents from DOHS files are
7 numbered and attached hereto as Exhibit A.) Phenol, among many
8 other materials, was held for laboratory use at the UPCO
9 facility. (Document 0042, which is Exhibit 5 to a February 10,
10 1984 letter from Larry C. Kempton of UPCO to Angelo Bellomo,
11 Regional Administrator of DOHS). UPCO has admitted that it
12 disposed of "chemical and laboratory wastes" in a pond on the
13 land it leased in the canyon. (Document 000076) Plaintiff State
14 of California (DOHS) has admitted it "believes that the
15 unauthorized disposal of hazardous wastes [at the UPCO facility
16 in the canyon] there has contaminated the environment including,
17 but not limited to, surface water and surface, subsurface and
18 geologic material in, around, and near the points of disposal."
19 (Document 000075) UPCO paid for investigations made by the State
20 and was fined a civil penalty regarding materials disposed of on
21 its leased property. (Documents 000074-75)
22 Mr. Dahl's "investigation" of UPCO as a potential other
23 waste source never even considered these documents (see Dahl
24 deposition pp. 680-81, 688-89) even though plaintiffs had these
25 documents available in DOHS and EPA Region 9 files. Mr. Dahl was
26 not aware of what substances were handled at the UPCO facility

(Dahl deposition p. 688). Why plaintiffs chose to keep Mr. Dahl in the dark,[6] but to have him opine on the lack of "other waste sources" is curious, to say the least.

Mr. Dahl believes that MW13B, among others, is hydraulically downgradient from the UPCO plant. (Dahl deposition p. 691) He has testified that he does not recall the relative location of the UPCO facility as compared to MW7B (Dahl deposition p. 688). Indeed, if one refers to the Figure 4 included in Appendix 1 to the Joint Section 107(a) Brief, MW7B appears downgradient from the UPCO facility. The key point is that Mr. Dahl does not know, and that in the Ninth Circuit, inferences are to be "drawn in the manner most favorable to the non-moving party." Retail Clerks Union Local 648 v. Hub Pharmacy, Inc., supra. Moreover, Dahl admitted that neither he nor EPA understands yet the hydraulics of Pyrite Canyon: he testified that "[a]t this point we [EPA and the State] have very limited information about the flow pathways of water" with respect to water in and coming out of the canyon, moving through the alluvium. (Dahl deposition p. 692) That kind of information

---

[6]Dahl recalls that sometime later than Spring 1983 he asked DOHS personnel whether there was a report associated with an investigation of the UPCO site and that they were not aware of one. (Dahl deposition p. 695) He does recall seeing "a number of people, in excess of six" walking around investigating the UPCO site. (Id. at 697) His testimony makes it clear that EPA or DOHS did not show him any of the information collected, data of water and soil sampling, or the consent decree entered, regarding the unauthorized disposals at the UPCO facility or chemicals used at the facility.

1 -- the hydraulics of the canyon -- is precisely what is supposed
2 to be investigated and discussed in the RI/FS (Remedial
3 Investigation/Feasibility Study) plaintiffs are now performing.
4 Therefore, plaintiffs are not entitled at this juncture
5 to summary judgment as against Rohr. Even if plaintiffs are
6 correct that chromium and phenol threaten to be "released" and to
7 pose a substantial present endangerment, which Rohr contends they
8 do not, a dispute exists as to material facts as to the source of
9 chromium and phenol.

10 III. It Is Not an Undisputed Fact that
11 the Substances Rohr Sent to the
12 Site Were Hazardous.

13 Plaintiffs' proof of whether a substance sent to the
14 site by a defendant was a "hazardous substance" consists solely
15 of Mr. Dahl's declaration and its attached Exhibit A.
16 Plaintiffs' concept of "hazardous" does not take into account the
17 concentration or form of the waste: in his declaration Mr. Dahl
18 does not express any opinion regarding toxicity, concentration,
19 or volume of waste sent by any of the defendants, including
20 Rohr. (See Dahl deposition pp. 634, 637-38, 2423-24.) Thus
21 plaintiffs have failed to sustain their burden of proof.
22 Plaintiffs' interpretation of "hazardous" under CERCLA
23 and the corresponding regulations promulgated by EPA leads to
24 absurd results. Rohr adopts by reference the relevant portions
25 of the individual briefs of Alumax, Inc., Alcan Aluminum, and
26 General Electric Company, et al., and Weyerhaeuser Company on

this point. Material facts remain in dispute as to Rohr.

IV. Summary Judgment Cannot Be Granted Because Disputes of Material Fact Remain Regarding The Application of the "Gore Amendment" Factors to Rohr.

Plaintiffs' motion requests that the Court enter summary judgment that each defendant is jointly and severally liable under Section 107(a) of CERCLA. As demonstrated several times over in the Joint Brief and supporting declarations, summary judgment of joint and several liability cannot be entered. There is yet an additional reason that the Court cannot enter summary judgment of liability against Rohr at this stage of proceeding. It is the law of the case that "the guidelines of the Gore amendment should be used in determining whether damages should be apportioned"[7] -- i.e., whether an otherwise liable party should be "jointly and severally liable" or merely "severally liable." Plaintiffs are not entitled to summary judgment that Rohr is jointly and severally liable unless they can show both (1) there is no dispute of material fact regarding any of the six Gore Amendment criteria as applied to Rohr, and (2) under the Gore Amendment criteria joint and several liability still ought to be imposed against Rohr. At this point, plaintiffs have not, and cannot, show either.

---

[7]Judge Lucas' Order of April 5, 1984 granting in part and denying in part defendants' motion to dismiss, at page 9.

At the outset, there are disputed issues of material fact with respect to the Gore Amendment criteria. As stated in the joint briefs, defendants can show that separate contributions to any release (or threatened release) can be distinguished. This is true as to Rohr: none of the substances alleged to have been sent to the site by Rohr are found below mid-canyon in Pyrite Canyon. Even if a specific substance, say TCE, is eventually ruled by the Court to constitute a "release," because of the point to which it may have travelled,[8] Rohr's contribution is distinguished from that release. At least material disputes of fact exist as to whether Rohr's disposals at the site, can be distinguished from the types of material in that release.

Second, volumes of waste disposed of by the different generators can be determined. Indeed, EPA has already made preliminary "estimates." A trier of fact will be able to sort through and weigh the evidence and make these determinations.[9]

---

[8]Defendants believe that plaintiffs cannot make that showing, and certainly not now on summary judgment. See Declarations of Dr. Weber and Dr. Skibitzke.

[9]Rohr has records of what substances were sent to the Stringfellow facility from Rohr, and those records were produced to plaintiffs. Those records will prove what Rohr sent, but Mr. Dahl did not look at them.

Plaintiffs' "proof," paragraph 11 of the Dahl declaration, is based solely on a computer printout that an independent contractor assembled for EPA, gleaning information from the Stringfellow file documents. Obviously, choices were made by the person or persons entering information into the computer; the Stringfellow file documents themselves contain vague or incomplete waste descriptions and other ambiguities.

(Footnote continued on next page)

1 Third, there are material disputes of fact as to the
2 toxicity of various wastes disposed of at the site. It will be
3 possible at trial to put in evidence as to differing toxicity
4 factors of different substances, so summary judgment is
5 inappropriate on this basis. See Declaration of Dr. Donald
6 Lassiter filed herewith. The dilute nature of Rohr's wastes will
7 be relevant to the Court's determination on this guideline.
8 Fourth, Rohr, and presumably other generator defendants,
9 will be able to show its degree of involvement in the
10 "generation" of waste, and its lack of involvement with the
11 "treatment," "storage," or "disposal" of any waste directly at
12 the site.
13 Similarly, evidence will be shown at trial concerning
14 the fifth and sixth Gore criteria--Rohr's high degree of care
15 with respect to the waste concerned, and its cooperation with
16 governmental agencies with respect to their waste. As an
17 example, RHR 1920 and 1922 which are attached to Rohr's
18 Supplemental Statement of Genuine Issues filed herewith, show
19

---

20 (Footnote 9 continued)
21 Mr. Dahl does not know what those choices were. He does not
22 recall being contacted about a problem of ambiguous information
(Dahl deposition pp. 2174-75), he did not look at the
23 Stringfellow file documents themselves in preparing his
declaration, nor did he doublecheck the accuracy of the database
24 himself. (Dahl deposition pp. 2415-16). Plaintiffs have only
selectively incorporated information that is available to them
25 regarding evidence of wastes and have ignored other sources of
evidence. Thus material facts, as plaintiffs assert them, are
26 in dispute. See Rohr's Statement of Genuine Issues submitted
herewith.

1 Rohr's requests to and receipt of permission from the
2 governmental authorities to use the Stringfellow Class I waste
3 disposal site. Rohr relied on the State agencies' assurances
4 about the site, and cooperated with the governmental entities
5 concerning its wastes. Rohr will be able to show the highest
6 degree of cooperation with the governmental entities to prevent
7 any harm to the public health or environment. Summary judgment
8 of joint and several liability would be improper considering the
9 facts illuminating this Gore Amendment criterion.

10 CONCLUSION

11 Defendants' Joint Brief sets forth detailed reasons that
12 preclude the Court from granting plaintiffs a partial summary
13 judgment with respect to CERCLA Section 107(a). Defendants'
14 joint memorandum on the Section 107(b) partial summary judgment
15 motion similarly gives the Court ample information on the State's
16 role in causing the problems existing at the Stringfellow
17 facility. In this supplemental brief, Rohr has shown only some
18 of the many additional factual issues as to it that preclude
19 summary judgment on liability. While a trier of fact ultimately
20 can resolve these issues, it would be wrong to do so on a motion
21 for summary judgment. The evidentiary record at trial will
22 provide a basis for apportioning liability; it would violate the
23 law of the case to grant summary judgment of joint and several
24 liability.

25 / / /

26 / / /

EXHIBIT A: DOCUMENTS FROM DOHS FILES, LOS ANGELES REGION

LABORATORY REPORT

Hazardous Materials Unit
Southern California Laboratory Section

To : Lavinger

SCL No. : 1969-1970

Sampling No : SLA. SLB

Date of Report: 1/13/84

Sample Location: Hulk Const.
Tyrite Canyon Riverside

Analytical Procedures Used: Metals digestion w/ conc HNO_3 then analyzed by AA 706. Anions - Ion chromatography. B - by Carmine soln (colorimetric)

Analysis Results:

# 1969 - SLA	# 1970 - SLB
Metals	Metals:
Br = 40 mg/kg	Br = <2 mg/kg ppm
B = 8,100 "	B = 2,600 "
Zn = 42,000 "	Zn = 15 "
Cd = 24 "	Cd = <0.4 "
Cr = 9.1 "	Cr = <0.4 "
Pb = 79 "	Pb = 1.5 "
Cu = 7.8 "	Cu = 0.93 "
Ni = 4.5 "	Ni = <0.9 "
Anions	Anions
Cl^- = 770 mg/kg	F^- = 30 mg/kg; $SO_4^=$ = 3100
$SO_4^=$ = 5500 "	$PO_4^=$ = 150 "
$PO_4^=$ = 440 "	NO_3^- = 0.84 "
NO_3^- = <36 "	Cl^- = 3,000 "

Analysts' Signatures: [signature] 1/13/84 Date

Supervising Chemist's Signature: [signature]

Date

Copy To:

0000003

1661 – 1666
April 12, 1983
April 5, 1983
April 6, 1983

S Romero / S Lavinger
SBR010 - 015
Hubb Construction
near Stringfellow Quarry in Riverside
Samples were digested of conc HNO_3, and metals were analyzed by AA306.
Na & K by flame photometer; pH by pH meter

units of metal are in mg/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	Na	K	PH
1661	SBR010	0.62	<1	<1	4.3	<3	60			8.5
1662	11	<0.6	<1	<1	<1	<6	3.30			7.9
1663	12	<1	<1	<1	9.0	59	<1	75	93	6.1
~~1664~~	13	29	<1	<1	<2	<8	1.1			6.4
~~1665~~	14	<1	<1	<1	<2	230	1.9	4400	850	5.1
1666	15	0.83	<1	<1	<2	<8	<1			8.2

Note + pH are at 50% dilu except 1662 pH on as is sple

Norma Castillo 4/12/83 Mary W Claridge 4/12/83
Scott Y. Nee 4/12/83 Supervising Chemist

Mr Lowell [illegible] Bd Riverside

1667-68
April 12, 1983
April 5, 1983
April 6, 1983

SB Romero / S. Davinger
001 - 002
Hubb Construction
near Strongfellow Avenue in Riverside
Samples were digested of conc HNO_3
and metals were analyzed by AA 306
pH by pH meter

units of metals are in mg/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	pH
1667	001	25	22	<1	53	28	120	5.8 at 50% dil
1668	002	<0.5	<1	<1	<1	<3	<0.5	6.8

Norma Cassels 4/12/83 Mary W Claredge 4/12/83
Scott Y Nee 4/12/83 Supervising Chemist

Mr Darrell Smith, Reg Geol Coated Bd, Riverside

0000149

Rec'd UPCo 4/26/84

IT CORPORATION

17605 Fabrica Way
Cerritos, California 90701
(213) 921-9831

CERTIFICATE OF ANALYSIS

TO: IT Corporation
P.O. Box 1256
Wilmington, CA 90744
Attn: Evan McArthur

DATE REPORTED: April 24, 1984
PROJECT CODE: 29104/rjc
ORDER NUMBER: 2861
PAGE 1 OF 3

Four (4) water samples, #1-4, and three (3) soil samples, #5-7, from Stringfellow dump site 3-28-84.

The samples were analyzed according to standard E.P.A. methods. Results are presented in the following tables.

Sample	pH	*Specific conductance, umhos/cm
1	7.56	1000
2	6.45	1000
3	7.20	1100
4	7.10	580
5	6.87	1200
6	7.73	290
7	5.47	450

* For soil samples, specific conductance measurements were performed on a 1:1 soil/water extract.

Judith A. Jones
Judith A. Jones
Chemist
Title

Approved by

Accredited by the American Industrial Hygiene Association

0000111

IT CORPORATION

IT Corporation
E. McArthur

April 24, 1984
JN 29104 - Page 2

Milligrams/liter

	1	2	3	4
Boron	20.4	20.4	20.4	0.89
Chloride	51.3	50.9	50.4	17.0
Cyanide	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Fluoride	2.0	8.2	18.6	<0.25
Phosphate	2.5	9.4	32.5	<2.5

Milligrams/kilogram

	5	6	7
Boron	15.8	19.3	11.6
Chloride	28.7	10.0	19.9
Cyanide	0.1	1.5	53
Fluoride	1.6	3.1	8.7
Phosphate	<2.5	8.7	<2.5

Milligrams/liter

	1	2	3	4
Antimony	ND<2	ND<2	ND<2	ND<2
Arsenic	0.005	0.007	0.01	TR<0.001
Barium	ND<5	ND<5	ND<5	ND<5
Cadmium	ND<0.02	ND<0.02	ND<0.02	ND<0.02
Chromium	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Copper	ND<0.09	ND<0.09	ND<0.09	ND<0.09
Lead	ND<0.2	ND<0.2	ND<0.2	ND<0.2
Mercury	TR<0.01	TR<0.01	TR<0.01	TR<0.01
Nickel	ND<0.1	ND<0.1	ND<0.1	ND<0.1
Zinc	TR<0.05	TR<0.05	TR<0.05	TR<0.05

IT CORPORATION

IT Corporation
E. McArthur

April 24, 1984
JN 29104 - Page 3

Milligrams/Kilogram

	5	6	7
Antimony	ND<20	ND<20	ND<20
Arsenic	0.4	0.9	1.3
Barium	TR<50	TR<50	TR<50
Cadmium	0.2	0.3	0.5
Chromium	5	5	5
Copper	3.9	6.0	18
Lead	5.7	6.6	38
Mercury	0.01	0.01	0.01
Nickel	6.2	7.3	6.0
Zinc	27	30	59

1/2

Carl Nelson

LABORATORY ROOM 236
3575 11th STREET
RIVERSIDE, CALIFORNIA 92501

APR 27 1983
...ment
... Services
OS ANGELES

CHEMICAL ANALYSIS REPORT FORM
for
MULTIPLE SAMPLES

Industry Name (with address)
Hub Property
Pyrite Cyn, Glen Avon, CA

Collected by: Iversen

Date and Hour Collected:
4-4-83 1500

Matrix
Chemical + Soil

Date and Hour received by Lab (initialed)
4-5-83 0940 mcg

Samples Analysed for:

Lab Number	Sample Number	pH	LEAD	CHROMIUM	CADMIUM	ARSENIC
83-4-084	Hub-1	8.8	28	<3	<2	10
83-4-085	Hub-2	5.7	16	<3	<2	4
83-4-086	Hub-3	7.6	35	2	<2	30

Preliminary Report.

Reported by: M Griffin Chemist

Date:
4-5-83 - prelim
4-12-83 - prelim
[illegible]

Mg/gm

Page 1/2

0000159

Carl Nielson

DEPARTMENT OF HEALTH
LABORATORY ROOM 236
3575 11th STREET
RIVERSIDE, CALIFORNIA 9250

Received
APR 27 1983
California of Health
LOS ANGEL

CHEMICAL ANALYSIS REPORT FORM
for
MULTIPLE SAMPLES

Industry Name (with address)
Paul Hubb's Property
Pyrite Canyon, Glen Avon, CA

Collected by: Teresa
Date and Hour Collected: 4-6-83 3:00p

Matrix (Chalky) White Chemical

Date and Hour received by Lab (initialed) 4-7-83 1100 MCS

Samples Analysed for:

Lab Number	Sample Number	pH	Lead	Chromium	Cadmium	Arsenic
83-4-087	Hubb 4	8.8	77.	2.	10.	4.
83-4-088	Hubb 5	6.3	77.	2.	10.	2.

Reported by: M. Diffin, Chemist
Date: 4/19/83

1/2

UNIVERSAL PROPULSION COMPANY, INC. | Talley Industries

10 February 1984

Angelo Bellomo, Regional Administrator
California Department of Health Services
107 S. Broadway, Room 7128
Los Angeles, CA 90012

Re: Universal Propulsion Company, Inc., Settlement Agreement and Schedule of Compliance

Dear Mr. Bellomo:

UPCo encloses herewith the following information in compliance with the referenced Settlement Agreement, pages 7 & 8, paragraphs IX, 1, A, B, & C:

A & B A written description of hazardous materials which UPCo has reason to believe were disposed of at Sites 1 and 2 (Exhibit 1). Also included is a letter report from IT Corporation about their tests on a "canister" (Exhibit 2). A list of non-hazardous materials which UPCo has reason to believe were disposed of at Site 1 is also included (Exhibit 3).

C "Attachment A", a map showing the locations of the above identified materials (Exhibit 4).

We have compared the hazardous materials listed in Title 22, California Admin. Code, sections 66680 and 66685 to a list of the materials known to have been in the possession of UPCo during the years our company occupied the Riverside facility. From this comparison we derived a list of hazardous materials which UPCo had in its possession at any time at the Riverside facility (Exhibit 5). We have no reason to believe that any materials other than those listed in Exhibits 1 & 3 were disposed of at the Riverside facility.

We plan to continue the services of IT Corporation for the clean-up operation at Riverside and are prepared to proceed per the Agreement. Please contact me or Bill Hallas at (602) 869-8067.

I declare under penalty of perjury under the laws of the State of California that the foregoing letter, including Exhibits 1, 3, 4, & 5, which are incorporated herein, are true and correct. Executed this 12th day of February 1984 at Phoenix, Arizona.

Larry C. Kempton

Larry C. Kempton

Universal Propulsion Company, Inc. • a Talley Industries Company
Black Canyon Stage 1, Box 1140 • Phoenix, Arizona 85029 • Telephone (602) 869-8067 • TELEX: 666-467

Exhibit 1

DATA PER IX, 1, A, B, & C OF SETTLEMENT AGREEMENT

Site 1:

UPCo believes the following hazardous materials were disposed of at the "pond area" (Ref. Site 1 of Attachment A):

MATERIAL	Maximum ROM Wt. (Lb.)	HAZARD CHARACTERISTICS	SOURCE
Barium Nitrate (oxidizer)	100	F, T	*
Canisters	15	F, P	**
Potassium or Sodium Cyanide	1	T	*
Miscellaneous per the attached Hazardous Waste Manifest Nos. 039457 and 039458 (drum nos. 1 thru 4)	Reference Manifest	Reference Manifest	*

* Unknown. Current sources are listed in Chemical Week Buyer's Guide.

** Possibly Aeronutronic Division of Philco-Ford. See the attached letter from IT Corporation for the results of Hazard. Cat. tests on one of these items.

Site 2:

UPCo believes the following hazardous material was abandoned at the "barrel area" (Ref. Site 2 of Attachment A): Maximum ROM Wt. 400 lb. aluminum powder.

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # 039457

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split,additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. Vol.	Units	Conc. % ppm
1	Flammable Liquid, poisonous, n.o.s.	Flammable Liquid	UN/NA [illegible]	1	pt	Unk. % ppm
1	Poisonous solid, n.o.s. (cellulose acetate)	Poison B	UN/NA 2811	1	Lb.	Unk % ppm
1	Poisonous Solid, n.o.s. (rubber)	Poison B	UN/NA 2811	4	lb	Unk % ppm
1	Poisonous, solid, n.o.s. (plastic resin)	Poison B	UN/NA 2811	6	lb	Unk % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA 2810	1	pT	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA 2810	1	pT	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA 2810	1/2	pT.	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	2	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	3	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	5	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	6	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	4	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	gal	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	oz	100 % ppm
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	pT.	100 % ppm

Page 1 of 2 pages

Paul J. & Lucile Hubbs by [illegible]

28.

0000031

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # _____

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

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MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. or Vol.	Units	Conc. % ppm
1	Poisonous liquid, n.o.s. (polyurethane)	Poison B	UN/NA 2810	1	gal	100 % ppm
1	Poisonous solid, n.o.s. (resin catalyst)	Poison B	UN/NA 2811	11	oz	100 % ppm
1	Hobes TDS	ORM-C	UN/NA 2590	2	16	100 % ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm

Page 1 of 2 pages

Paul L. & Lucile Hubbs by [signature]

SIGNATURE OF GENERATOR

0000082

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # _____

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

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MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split,additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. Vol.	Units	Conc. % ppm
2	Poisonous Solid, N.O.S. (Complex ferricyanide)	Poison B	UN/NA 2511	7 [illegible]	pts	100 (% ppm)
2	Poisonous liquid, N.O.S. (polymer)	Poison B	UN/NA 2510	2	qt.	100 (% ppm)
2	Poisonous liquid, N.O.S. (polymer)	Poison B	UN/NA 2510	3	pts	100 (% ppm)
2	Poisonous liquid, N.O.S.	Poison B	UN/NA 2510	1	pt	100 (% ppm)
2	Poisonous liquid, N.O.S. (polymer)	Poison B	UN/NA 2510	1/2	[illegible]	100 (% ppm)
2	Poisonous Solid, N.O.S. (iron oxide)	Poison B	UN/NA 2511	3	lbs	100 (% ppm)
2	Poisonous Solid, N.O.S. (iron oxide)	Poison B	UN/NA 2511	25	lbs	100 (% ppm)
2	Poisonous liquid, N.O.S. (hexanethylene diisocyanate)	Poison B	UN/NA 2510	1	qt	100 (% ppm)
2	Poisonous liquid, N.O.S. (isophorone diisocyanate)	Poison B	UN/NA 2510	1	qt.	100 (% ppm)
2	Poisonous Solid, N.O.S. (powdered mica)	Poison B	UN/NA 2511	1	lb	100 (% ppm)
2	Poisonous liquid, N.O.S. (antioxidant)	Poison B	UN/NA 2510	4	oz	[illegible] (% ppm)
2	Poisonous Solid, N.O.S. (iron oxide)	Poison B	UN/NA 2511	4	oz	100 (% ppm)
2	Poisonous Solid, N.O.S. (insulating material)	Poison B	UN/NA [illegible]	3.2	lb	100 (% ppm)
2	Poisonous Solid, N.O.S. (bentonite)	Poison B	UN/NA 2511	[illegible]	lb	100 (% ppm)
2	Poisonous liquid, N.O.S. (antioxidant)	Poison B	UN/NA 2510	5	oz	100 (% ppm)

Page 1 of 1 pages

30. Paul J. & Lucile Hubbs by [illegible]

SIGNATURE OF GENERATOR

0000033

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMPLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

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MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split,additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. or Vol.	Units	Conc. % ppm
3	Poisonous solid, n.o.s. (insulation)	Poison B	UN/NA 2.8 11	5½	lb	100 % ppm
3	Poisonous solid, n.o.s. (iron oxide)	Poison B	UN/NA 2.8 11	5½	lb	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	pt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	qt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	qt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	pt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	5	oz	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	5	oz	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	5	oz	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	5	oz	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	5	qt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	qt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	1	qt	100 % ppm
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2.8 10	3	qt	100 % ppm
~~3~~	~~Poisonous liquid, n.o.s.~~	~~Poison B~~	UN/NA 2.8 10	~~3~~	~~qt~~	

0000034

31. Paul J. & Lucile Hubbs by [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split,additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. Vol.	Units	Conc. % ppm
3	Poisonous solid, n.o.s. ([illegible])	Poison B	UN/NA [illegible]	[illegible]	lbs	100 % ppm
3	Poisonous liquid, n.o.s. (mono amine)	Poison B	UN/NA 2810	3	[illegible]	100 % ppm
3	Poisonous solid, n.o.s. (ferrosine)	Poison B	UN/NA 2811	5	oz	100 % ppm
3	Poisonous solid, n.o.s. (vinyl latex)	Poison B	UN/NA 2811	2	lbs	100 % ppm
3	Poisonous solid, n.o.s. (quartz fiber)	Poison B	UN/NA 2811	4	lbs	100 % ppm
3	Poisonous solid, n.o.s.	Poison B	UN/NA 2811	1	lb	100 % ppm
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810	1	gal	unk % 100 ppm
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810	1	pt.	unk % ppm
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810	1	pt	unk % ppm
3	Corrosive liquid, poisonous, n.o.s. (acidic)	~~Poison B~~ corrosive	UN/NA 2922	1	pt	unk % ppm
3	Corrosive liquid, poisonous, n.o.s. (caustic)	~~Poison B~~ corrosive	UN/NA 2922	1	pt	unk % ppm
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810	1	pt	unk % ppm
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810	1	pt	unk % ppm
			UN/NA			% ppm
			UN/NA			% ppm

Page 2 of 2 pages

32. Paul J. & Lucila Hubbs by [illegible]

0000035

4.55

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # 0[illegible]

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE – LOAD ON ONE VEHICLE

If shipment is split, additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. Vol.	Units	Conc. % ppm
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1/2	lb	Unk % ppm
4	Oxidizer Corrosive, Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1	lb.	Unk % ppm
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1/2	lb	Unk % ppm
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1/2	lb	Unk % ppm
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1/2	lb	Unk % ppm
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA 9[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1	lb.	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	5	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	5	lb	Unk % ppm
4	Poisonous Solid N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2[illegible]	1/2	lb	Unk % ppm

Page 1 of 3 pages

33 Paul L. & Lucile Hubbs by [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split,additional manifests are necessary

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. or Vol.	Units	Conc. ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	2	16	Unk ppm
~~4~~	~~Poisonous Solid, N.O.S.~~	~~Poison B~~	~~UN/NA 2811~~	-		ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	2	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm
4	Poison Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk ppm

Page 2 of 3 pages

34 Paul L & Lucile Hubbs by [illegible]

[illegible]0037

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMPLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split additional manifests are necessary

Item on Manifest #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS (do not abbreviate)	UN/NA I D # / EPA HW #	Wt. or Vol.	Units	Conc. % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	02	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	02	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	02	Unk % ppm
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	02	Unk % ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm
			UN/NA			% ppm

Page 1 of 1 pages

Paul J. & Lucile Hubbs by [illegible]

SIGNATURE OF GENERATOR

IT CORPORATION

OSH - 201

September 20, 1983

Bill Hallas
Universal Propulsion Company
Box 1140
Black Canyon Stage No. 1
Phoenix, AZ 85029

Dear Bill:

This letter report contains the results of the hazard categorization test (Haz. Cat.) I performed on material contained in one of the cylindrical objects found at the Hubb Construction cleanup site.

Tests	Results
Flammability	Negative
Combustibility	Negative
Water Reactivity	Negative
pH of solution	6, note material did not appear to be soluable
Oxidant	Negative
Cyanide	Negative
Sulfide	Negative

It is important to point out that when using the Haz. Cat. tests one is always left with assumption that the material is "poisonous." Thus, given the results of a Haz. Cat., the poison assumption, and professional experience, one can, with a degree of confidence, properly handle, package and dispose of an unknown material.

If I can provide you with additional information please contact me.

Sincerely,

Dennis M. Robinson

Dennis M. Robinson
Regional Manager
Occupational Safety & Health

Exhibit 2

b.

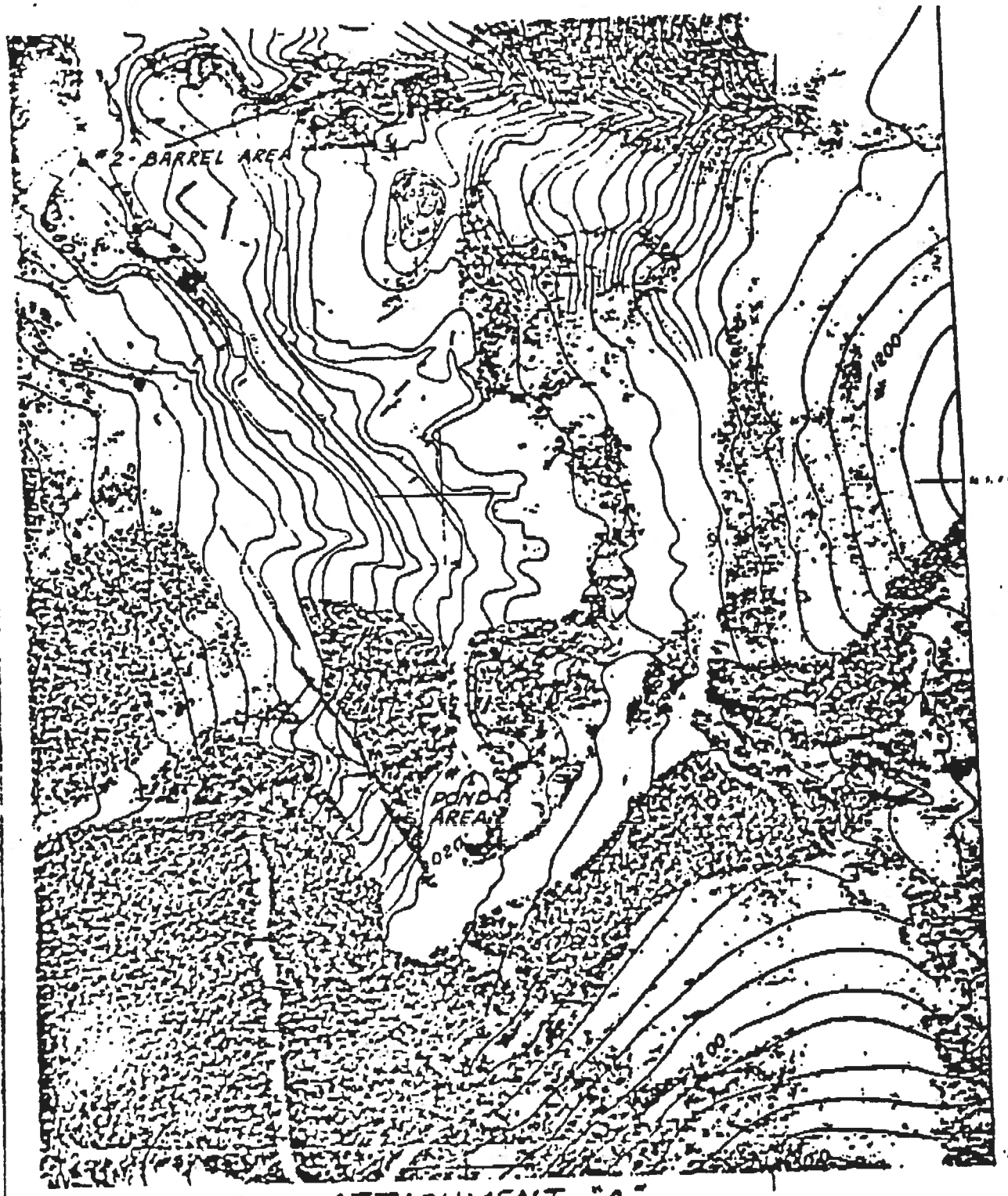
336 W Anaheim St • Wilmington CA 90744 • (213) 830-1781

SUPPLEMENTAL DATA PER 1X, 1, A, B, & C

UPCo believes the approximate quantities of the following non-hazardous materials were deposited at the "pond area" (Ref. Attachment "A"):

MATERIAL	Maximum ROM Wt. (Lb)
Ammonium Biborate & Pentaborate	500
Ammonium Phosphate	300
Sodium Tetraborate (Borax)	200
Empty steel casings, 10" max dia. & 60" long coated with thermo-protective material	Approx. 10 each

Exhibit 3



ATTACHMENT "A"

SCALE 1:2400

0 200 400 600 800 1000 FEET

CONTOUR INTERVAL 4 FEET
DATUM IS MEAN SEA LEVEL

SECTION 1
T.2S., R.6W.
SBB & M

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS

Exhibit 4
0000041

SUPPLEMENTARY DATA PER IX, 1, A, B, & C

UPCo had the following hazardous materials, but has no reason to believe any of these were disposed of at the Riverside facility. These materials were held in small quantities for laboratory/experimental use:

MATERIAL	MATERIAL
Acetone	Methyl Ethyl Ketone
Asbestos	Nitric Acid
Aluminum Fluoride	Oxalic Acid
Ammonium Nitrate	Paraformaldehyde
Ammonium Perchlorate	Phenol
Ammonium Persulfate	Potassium Chlorate
Antimony Trioxide	Potassium Fluoride
Barium Peroxide	Potassium Nitrate
Calcium Hydroxide	Potassium Perchlorate
Chromium Trichloride	Silicon Powder
Cobalt Naphthenate	Sodium Chlorate
Cupric Oxide	Sodium Nitrate
Formaldehyde	Sodium Perchlorate
Formic Acid	Strontium Nitrate
Hexane	Sulfuric Acid
Hydrochloric Acid	Tin Powder
Isopropanol	Toluene
Lead Iodate	Trichloroethylene
Lead Nitrate	Tungsten Powder
Lead Peroxide	Vinylidene Chloride
Lead Powder	Xylene
Lead Stearate	Zinc Borate
Magnesium Powder	Zinc Carbonate
Maleic Anhydride	Zinc Powder
Methyl Alcohol	Zinc Sulfate
	Zinc Stearate

Exhibit 5

133

BEFORE THE
DEPARTMENT OF HEALTH SERVICES
STATE OF CALIFORNIA

In Re: Universal Propulsion Company, Inc.	Case No. HWCA 0007 SETTLEMENT AGREEMENT AND SCHEDULE OF COMPLIANCE UNIVERSAL PROPULSION COMPANY, INC.

I.

This Settlement Agreement (Agreement) and Schedule of Compliance (Schedule) have been agreed to by Universal Propulsion Company, Inc., (UPCO) and the Department of Health Services (Department) to resolve the matters alleged herein without litigation and to facilitate implementation of the measures described herein.

II.

UPCO and the Department admit and agree that the Department has jurisdiction over these matters and the parties and has jurisdiction to issue an order specifying a schedule of compliance.

III.

This Agreement and Schedule shall apply to and be binding upon the parties and the successors and assigns of the parties.

IV.

For the purposes of this Agreement and Schedule only, UPCO neither admits nor denies the allegations in Paragraphs VII and VIII. UPCO agrees to waive any right to a hearing prior to issuance of the Order, or prior to the imposition of the penalty agreed to in Paragraph VI of this Agreement.

V.

UPCO agrees to reimburse the Department for its investigation expenses, including laboratory fees, in the amount of $10,000.00. Payment shall be made by cashier's check to the Department of Health Services no later than 30 calendar days after issuance of an Order and Schedule of Compliance in this matter. The Department agrees that performance by UPCO of the things to be done by it pursuant to this Settlement Agreement shall operate to discharge and

release UPCO from further liability for expenses incurred or to be incurred by the Department in connection with UPCO's performance hereunder.

VI.

UPCO agrees to pay to the Department a civil penalty of $3,000.00, pursuant to Health and Safety Code Section 25189(b). Payment shall be made by cashier's check to the Department of Health Services no later than 30 calendar days after issuance of an Order and Schedule of Compliance in this matter. The Department agrees that performance by UPCO of the things to be done by it pursuant to this Settlement Agreement shall operate to discharge and release UPCO from further liability for civil penalties which otherwise might be imposed or sought to be imposed by the Department in connection with UPCO's alleged disposal on the property of any materials which UPCO removes pursuant to this Settlement Agreement.

VII.

STATEMENT OF FACTS

1. Universal Propulsion Company, Inc. is a Delaware Corporation whose principal place of business is in Phoenix, Arizona.

2. From 1965 to 1980, UPCO leased property in the Jurupa Mountains near the City of Glen Avon, California (hereinafter "the property").

3. On September 15, 1981, UPCO executed a certificate of surrender of right to transact intrastate business in the State of California. This certificate is filed with the Secretary of State of the State of California.

4. UPCO used the leased property for rocket propellant manufacturing and thermal insulation coating manufacturing, and for research and development related to its manufacturing operations.

5. At the time UPCO abandoned use of the property, the site was owned by Paul and Lucille Hubbs. The Hubbs are the current owners of the property.

6. During UPCO's lease of the property, it disposed of chemical and laboratory wastes including, but not limited to, barium nitrates, phosphates and borates in an ephemeral pond located approximately as shown on the map set forth in Attachment A. UPCO also disposed of metal barrels in an area located approximately as shown on the map set forth in Attachment A. Barium nitrates and laboratory wastes are hazardous

wastes pursuant to Health and Safety Code § 25117 and 22 Cal. Adm. Code § 66680, and are hazardous substances pursuant to Health and Safety Code § 25316.

7. The property leased by UPCO was not a licensed hazardous waste disposal facility nor a site permitted by federal, state or local agencies for the disposal of hazardous wastes.

8. The Department believes that the unauthorized disposal of hazardous wastes has contaminated the environment including, but not limited to, surface water and surface, subsurface, and geologic material in, around, and near the points of disposal.

9. On August 24, 1983, cleanup of the two disposal areas was commenced by the IT Corporation under contract to UPCO. On August 29, 1983, cleanup of the pond area was halted when bomb casings and cannisters suspected by DHS to be explosive were uncovered. UPCO had reason to believe that the bomb casings had been buried in the pond and had failed to fully disclose the disposal of these wastes during cleanup planning.

10. On September 1, 1983, it was determined that the bomb casings were empty and, therefore, not explosive nor hazardous.

11. The cannisters are currently being investigated by the Department for hazardous characteristics. Based upon available information, the Department believes that these cannisters contain pyrotechnic, propellant or explosive material. As such, the cannisters would be hazardous wastes. All testing conducted to date by IT Corporation shows negative results for flammability, combustibility, oxidants, or water reactivity.

12. On September 8, 1983, a former employee of UPCO, Bob Hodges, Propellant Processing Supervisor, alleged to the Department of Health Services that he was told that 100-400 lbs. of rocket propellant had been disposed of by UPCO into the pond area. The allegation cannot be confirmed or denied by UPCO. Such rocket propellant would be a hazardous waste pursuant to Health and Safety Code § 25117 and 22 Cal. Adm. C. § 66680, and a hazardous substance pursuant to Health and Safety Code § 25316.

VIII. --

The unauthorized disposal of hazardous waste at the UPCO site consitutes a continuing violation of the State Hazardous Waste Control Law, Health and Safety Code §§ 25100 et seq.. Specifically, it is a continuing violation of Health and Safety Code §§ 25154 and 25189.

IX.

UPCO agrees to perform the following actions:

1. Within ten (10) working days of the effective date of the Order, UPCO shall disclose to the Department under penalty of perjury the following:

A. A written description of all hazardous, pyrotechnic or explosive materials and or wastes which UPCO has reason to believe have been abandoned, disposed of or interred on or near the property during the years 1965-1980. As used in this paragraph, "hazardous waste" means hazardous waste as defined in Section 25117 of the California Health and Safety Code.

B. A written description of the amount, hazardous characteristics, industrial use and source, if available, of each material identified in Part A.

C. A map, in plan, showing the location, to the best of UPCO's information, of all materials identified in Part A.

2. The Approved Clean-Up Plan (Attachment B) as amended by Department on July 15, 1983 (Attachment C) and the provisions of paragraphs IX (3) and (4), hereinbelow, in combination, set forth a remedial plan of action which shall hereinafter be referred to as the Total Clean-Up Plan. UPCO agrees to perform those elements of the Total Clean-Up Plan described as "Primary Problems".

3. The Total Clean-Up Plan, Primary Problems, shall include the following elements. If these elements are in conflict with any other provision of the Total Clean-Up Plan, these elements shall take precedence.

A. The Department shall delineate the boundaries of the pond site and UPCO, through its contractor, shall perform the excavation and disposal of 150 cubic yards of soil therefrom.

B. An explosive ordnance disposal expert shall be provided by UPCO and shall be present during the excavation phase of the cleanup to function as a consultant with respect to excavation, identification and disposal of any materials uncovered which are presumed to be pyrotechnic, propellant or explosive.

C. The explosive ordinance disposal expert shall have expertise and experience with handling and disposal of pyrotechnic, propellant and explosive materials; he shall be capable of performing the tasks outlined in B and the Total Clean-Up Plan; and he shall be subject to DHS approval. For the purposes of this paragraph IX (3)(C) and the preceding paragraph IX (3)(B), the Department agrees that Hugh McSpadden, UPCO's Chief Scientist, meets the requirements of these paragraphs.

D. All work involved with excavation and disposal of materials at the pond site shall be performed by a professional contractor approved by the Department, who has experience and expertise in chemical cleanup work and is capable of performing the tasks outlined in the Total Clean-Up Plan as amended herein.

E. Upon completion of all other aspects of the Total Clean-Up Plan, Primary Problems, UPCO shall have a qualified contractor, acceptable to the Department, perform the following sampling in accordance with the recommended protocol for sampling as described in "Samplers and Sampling Proceedures For Hazardous Waste Streams" EPA 600/2-80-018, January, 1980, and testing satisfactory to the Department in accordance with the California Assessment Manual:

i. Five (5) earth samples from the excavated area at locations and depths chosen by the Department. Each sample is to be tested separately.

ii. Three water samples from the excavated site. The samples may be mixed together and tested as a composite. Three water samples at the base of the hill below the spring. The samples may be mixed together and tested as a composite.

iii. Two weeks after extracting the above samples, three water samples from the excavated site. The samples may be

mixed together as a composite. Three water samples at the base of the hill below the spring. The samples may be mixed together and tested as a composite.

UPCO shall cause copies of the test results to be delivered to the Department.

F. In the event that any explosive, propellant or pyrotechnic material or waste must be disposed of "on site" or "off site", all necessary State, Federal and local permits must be obtained prior to any such disposal.

G. UPCO shall provide site security at the pond site as follows:

Guard service at the site from 4 p.m. to 12 a.m. (midnight) from resumption of clean up until completion of excavation pursuant to paragraph IX(3)(A), hereinabove.

4. All work to be performed in completing the cleanup of the site shall follow the schedule of tasks outlined below:

A. Excavation and disposal of bomb casings and cannisters already discovered at the northeast section of the pond shall begin within ten working days after the date which the Department receives the information required in IX(1).

B. Delineation of the pond site by the Department shall begin within three (3) working days after completion of Task A.

C. Excavation of the pond site and disposal of the material collected shall begin five (5) working days after completion of Task B.

D. Sampling as described in paragraph IX (3)(E) shall commence within ten (10) working days after completion of Task C.

E. Results of the sampling analyses conducted under "Primary Problems" shall be submitted to the Department within thirty (30) working days of the commencement of sampling.

5. In the event that materials and/or wastes which require special consideration because of their toxicity, reactivity or flammability characteristics are discovered during the course of completing the tasks described in the Total Clean-Up Plan as amended herein, the compliance schedule described herein shall be modified. The parties hereto shall negotiate and establish a modified compliance schedule within five (5) working days of such determination.

X.

If, for any reason, UPCO is unable to perform any activity or submit any document in compliance with the schedule set forth herein or in compliance with any work schedule submitted pursuant to this Agreement and approved by the Department, UPCO may request, in writing, an extension of the time specified. The extension request shall include a justification for the delay.

XI. --

If good cause exists for an extension as set forth in paragraph X, The Department will grant the request and specify in writing a new schedule. UPCO shall comply with the new schedule. No penalty shall be imposed or paid pursuant to paragraph XII for any time period included within an extention granted under this paragraph.

XII.

In the event that UPCO fails to submit any document or perform any activity within the time specified pursuant to the Order and Schedule of Compliance, as modified and/or extended as provided herein, UPCO shall pay to the Department a civil penalty of $1,000.00 for each day of noncompliance pursuant to Health and Safety Code Section 25188. No penalty shall be imposed or paid under this paragraph if UPCO can establish that its failure to comply with a deadline is due to weather, Department action, Act of God, or action or inaction of independent contractor(s) without fault on the part of UPCO. In the event of noncompliance due to action or inaction of independent contractor(s), UPCO shall nevertheless pay a civil penalty as described in this paragraph for each day of such noncompliance in excess of fourteen

consecutive calendar days of noncompliance, even if the delay beyond 14 days is without fault on the part of UPCO. Whenever the Department determines that UPCO is not in compliance with any provision of this Agreement, the Department shall immediately orally notify UPCO's representatives on the property and in writing notify UPCO as provided hereinbelow.

XIII.

In the event that UPCO fails to comply with any of its obligations hereunder, other than a noncompliance with the Schedule of Compliance, UPCO shall pay to the Department a civil penalty of $500.00 for each day of noncompliance pursuant to Health and Safety Code Section 25188. No penalty shall be imposed or paid under this paragraph if UPCO can establish that its failure to comply with a deadline is due to weather, Department action, Act of God, or action or inaction of independent contractor(s) without fault on the part of UPCO. In the event of noncompliance due to action or inaction of independent contractor(s), UPCO shall nevertheless pay a civil penalty as described in this paragraph for each day of such noncompliance in excess of fourteen consecutive calendar days of noncompliance, even if the delay beyond 14 days is without fault on the part of UPCO. Whenever the Department determines that UPCO is not in compliance with any provision of this Agreement, the Department shall imme-

diately orally notify UPCO's representatives on the property and in writing notify UPCO as provided hereinbelow. If UPCO corrects said noncompliance within three (3) working days of oral notice thereof, no penalty shall be imposed or paid.

XIV.

Upon the completion by UPCO of all things to be performed by it, UPCO and the Department shall meet and discuss, on the basis of information developed during UPCO's performance hereunder, including results of sampling and testing, what, if any, further clean-up of the site may be necessary. The Department acknowledges that UPCO has not agreed to perform any such further clean-up.

XV.

Except as specifically provided in the Settlement Agreement nothing in this Agreement and Schedule shall be construed to prevent or limit the Department from taking any additional action authorized by law against any person, including, but not limited to, removal, remedial or cost recovery actions pursuant to the Hazardous Substances Account Act, Health and Safety Code, Section 25300, et seq. This Agreement shall not be construed as a release or waiver of, and is without prejudice to, any claim or demand by the

Department against UPCO for UPCO to perform further clean-up of the property or for further investigative expenses or civil penalties except as expressly provided herein.

XVI.

Wherever notification, or submission of documents to the Department is required under this Agreement three copies shall be submitted to Angelo Bellomo, Regional Administrator, Department of Health Services, 107 South Broadway, Room 7128, Los Angeles, CA 90012. If this person or address changes, UPCO shall be immediately notified. Wherever notification to UPCO is required under this Agreement, notification shall be in writing by U.S. Mail, first class, prepaid addressed to Universal Propulsion Company, Inc., Black Canyon Stage 1, Box 1140, Phoenix, Arizona 85029, attn: Hal Watson, President.

XVII.

UPCO and the Department through their duly authorized representatives hereby consent to this Settlement Agreement and Schedule of Compliance and stipulate that without the necessity of a hearing or findings of fact and conclusions of law, the Director of the Department of Health Services or his duly authorized representative may enter an

order binding on the parties in accordance with this Settlement Agreement and Schedule of Compliance.

It is so agreed:

Peter Rank
Director

Department of Health Services
State of California

H. G. Watson
President & General Manager

8 Dec 1983
President
Universal Propulsion Company, Inc.

1 CERTIFICATE OF SERVICE

2 CATHERINE J. THALL hereby certifies:

3 1. That her name is Catherine J. Thall, she is
4 employed at and her business address is Three Embarcadero
5 Center, San Francisco, California 94111, that she is a citizen
6 of the United States and she is over the age of eighteen years;
7 and that she is not a party to the within entitled cause.

8 2. That she served a copy of the foregoing document
9 entitled: SUPPLEMENTAL MEMORANDUM OF ROHR INDUSTRIES, INC. IN OPPOSITION TO MOTION FOR PARTIAL SUMMARY JUDGEMENT
10 OF LIABILITY UNDER CERCLA § 107(a)

11

12

13

14 upon the following named person or persons by causing (i) an
15 envelope or envelopes to be addressed thereto as follows, (ii) a
16 copy of the foregoing document to be enclosed and sealed
17 therein, and (iii) said envelope or evelopes with postage fully
18 prepaid to be deposited in the United States mail at San
19 Francisco on April 15, 1985.

20 SEE ATTACHED SERVICE LIST

21

22

23 I certify under penalty of perjury that the foregoing
24 is true and correct and that this certificate was executed at
25 San Francisco, California on April 15, 1985.

26 CATHERINE J. THALL

CATHERINE J. THALL

G. Richard Duty, Esq.
Michael Wickok, Esq.
David Peterson, Esq.
McCutchen, Black, Verleger & Shea
600 Wilshire Boulevard
Los Angeles, CA 90017

Vincent C. Page, Esq.
Arthur B. Cook, Esq.
Hill, Ferrer & Burrill
Union Bank Building, 36th Floor
Los Angeles, CA 90071

Albert J. Galen, Esq.
Holley & Galien
800 South Figueroa Street
Los Angeles, CA 90017

Charles C. Ivie, Esq.
Wendy R. Kameda, Esq.
Gibson, Dunn & Crutcher
333 South Grand Avenue
Los Angeles, CA 90071

William P. Driscoll, Esq.
Musik, Peeler & Garrett
One Wilshire Boulevard
Los Angeles, CA 90017

David W. Alden, Esq.
Samuel B. Casey, Esq.
Laurie J. Miller, Esq.
Orrick, Herrington and Sutcliffe
600 Montgomery Street
San Francisco, CA 94111

Lawrence B. Graven, Esq.
Graesman, Graven, Perry and Bleck
One Wilshire Building, Suite 2620
Los Angeles, CA 90017

Neil M. Schwartz, Esq.
Burton K. Ward, Inc.
440 East La Habra Boulevard
La Habra, CA 90631

Patrick H. Hughes, Esq.
4605 Lankershim Boulevard, Suite 721
North Hollywood, CA 91602

Thomas Flattery, Esq.
Automation Industries
500 West Putnam Avenue
Greenwich, CT 06830

Jeffery Zinder, Esq.
Thomas C. Mercer, Esq.
Merced and Gallagher
3200 Wilshire South Tower, Suite 1310
Los Angeles, CA 90010

Orville O. Orr, Jr.
Morgan, Lewis & Bockius
611 West 6th Street, 9th Floor
Los Angles, CA 90017

Fritz B. Max, Esq.
Waters, McCluskey & Doehle
Roosevelt Building, Suite 1155
727 West 7th Street
Los Angeles, CA 90017

Ira Reiner, Esq.
City Attorney
James Pearson, Esq.
Senior Assistant City Attorney
James R. Kapel, Esq.
Assistant City Attorney
City of Los Angeles
61 World Way
Los Angeles, CA 90009

Ira Reiner, Esq.
City Attorney
Edward C. Farrell, Esq.
Chief Attorney for Water and Power
David L. Wye, Esq.
Deputy City Attorney
P.O. Box 111
Los Angeles, CA 90051

Richard S. Odom, Esq.
John L. Wasilewk, Esq.
Drobeck, Phleger & Harrison
444 South Flower Street, Suite 4300
Los Angeles, CA 90017

Everett L. Spriggs, Esq.
Bruce E. Disenhouse, Esq.
Kinkle, Rodiger & Spriggs
3393 14th Street
Riverside, CA 92501

Norman A. DuPont, Esq.
Paul, Hastings, Janofsky & Walker
1299 Ocean Avenue, 5th Floor
Santa Monica, CA 90401

Crane & Humphries
517 East Wilson Avenue, Suite 205
P.O. Box 10189
Glendale, CA 91209-3189

Robert C. Packard, Esq.
Steven H. Schwartz, Esq.
Thomas M. Jensen, Esq.
Kirtland and Packard
626 Wilshire Boulevard
Los Angeles, CA 90017

Herman R. Sallin, Esq.
Levin Sallin & Zimring
12650 Riverside Drive
North Hollywood, CA 91607

Patrick L. Finley, Esq.
Anthony P. Brown, Esq.
Mary Ann Aguirre, Esq.
Pillsbury, Madison & Sutro
225 Bush Street
P.O. Box 7880
San Francisco, CA 94120-7880

Michael C. Vepsey, Esq.
Business Section Legal Counsel
Gould Inc.
10 Gould Center
Rolling Meadows, IL 60008

Lawrence R. Resnick, Esq.
Jeffrey C. Bersin, Esq.
De Castro, West, Chodorow & Burns, Inc.
10960 Wilshire Boulevard, 18th Floor
Los Angeles, CA 90024

William K. Disl, Esq.
Richard C. Weal, Esq.
Lawler, Felix & Hall
700 South Flower Street, 31st Floor
Los Angeles, CA 90017

James S. Van Dam, Esq.
McKay, Byrne, Graham & Van Dam
600 West Fourth street, Suite C
Santa Ana, CA 92701

C. William Dahlin, Esq.
Sharp and Maroot
P.O. Box 1244
Hanford, CA 93232-1244

Steven C. Taylor, Esq.
Edward D. Vogel, Esq.
Sheppard, Mullin, Richter & Hampton
333 South Hope Street, 48th Floor
Los Angeles, CA 90071

Richard T. Anderson, Esq.
Virginia A. Ettinger, Esq.
Best, Best & Krieger
4200 Orange street
P.O. Box 1028
Riverside, CA 92502

Robert C. Packard, Esq.
Steven H. Schwartz, Esq.
Kirtland & Packard
626 Wilshire Boulevard
Los Angeles, CA 90017

Douglas W. Beck, Esq.
Nancy S. Cohen, Esq.
Tuttle & Taylor
609 South Grand Avenue
Los Angeles, CA 90017

Jonathan Kohn, Esq.
1100 Raymond Boulevard
Newark, New Jersey 07102

Leo M. Pruett, Esq.
Phil M. Walker, Esq.
120 Montgomery Street, Suite 2550
San Francisco, CA 94104

Schell & Delamer
Wilshire Square II
California
Suite 500
3333 Wilshire Boulevard
Los Angeles, CA 90010

Marshall R. Rutter
Olivia Goodkin
Rutter, O'Sullivan, Greene
& Hobbs, Inc.
1900 Avenue of the Stars
Suite 2200
Los Angeles, CA 90096

William O. Brennik
Leslie C. Randel
Maryne S. Fennell
3350 Wilshire Blvd., Suite 110
Los Angeles, CA 90010

David M. Simon, Esq.
Spensley, Horn, Jubas & Lubitz
1880 Century Park East, Suite 500
Los Angeles, California 90067

Warren B. Wimer, Esq.
Ballard, Wimer, Brockett
1400 North Harbor Boulevard, Suite 4
Fullerton, California 92635

Steven P. Rice, Esq.
Kindel & Anderson
555 South Flower Street, 26th Floor
Los Angeles, California 90071

The Honorable Harry V. Pontris
c/o The Honorable James M. Ideman
U. S. District Court
312 North Spring Street, Room 232
Los Angeles, California 90012

F. Henry Habicht II, Esq.
Acting Assistant Attorney General
Michael R.W. Green, Esq.
Trial Attorney
Land and Natural Resources Division
United States Department of Justice
10th Street and Pennsylvania Avenue, NW
Washington, D.C. 20530

Steven E. Trott, Esq.
United States Attorney
James R. Arnold, Esq.
Assistant United States Attorney
1100 United States Courthouse
312 North Spring Street
Los Angeles, CA 90012

John K. Van De Kamp, Esq.
Attorney General
Theodore P. Berger, Esq.
Thomas E. Warriner, Esq.
Assistant Attorney General
Donald A. Robinson, Esq.
Deputy Attorney General
California Department of Justice
3580 Wilshire Boulevard, Suite 800
Los Angeles, CA 90010

John Rothman, Esq.
Region IX
U.S. Environmental Protection Agency
215 Fremont Street
San Francisco, CA 94105

Marian King, Esq.
California Department of Health Services
714 P Street, Room 1216
Sacramento, CA 95814

Michael W. Steinberg, Esq.
Land and Resources Division
Environmental Defense Section
U.S. Department of Justice
P.O. Box 7415
Washington, DC 20044

Bill White, Esq.
State Water Resources Control Board
Office of the Chief Counsel
901 P Street
Sacramento, CA 95814

Heidi Hughes, Esq.
Office of Legal and Enforcement Counsel
U. S. Environmental Protection Agency
401 14th Street, S.W. LE-1345
Washington, D.C. 20460

Park Haney, Esq.
National Enforcement Investigation Center
Denver Federal Center, Building 53
P.O. Box 25227
Denver, CO 80225

Frank E. Russo
U.S. Environmental Protection Agency
Office of Waste Programs Enforcement (WH-527)
401 M Street, SW
Washington, D.C. 20460

Lawrence A. Salibra II, Esq.
Peter D. Miller, Esq.
Alcan Aluminum Corp.
100 Erieview Plaza
Cleveland, OH 44114

Richard L. Goff, Esq.
Rene P. Tetro, Esq.
Heller, Ehrman, White & McAuliffe
44 Montgomery Street, 34th Floor
San Francisco, CA 94104

Charles Vogel, Esq.
Robert I. McMurry, Esq.
Sidley & Austin
2049 Century Park East
Suite 3500
Los Angeles, CA 90067

Michael A. Kahn, Esq.
Douglas W. Sullivan, Esq.
Folger & Levin
100 Green Street
San Francisco, CA 94111

Allan J. Topol, Esq.
Patricia Barald, Esq.
Richard DeSanti, Esq.
Covington & Burling
1201 Pennsylvania Avenue, NW
Washington, DC 20044

Joseph D. Lonardo, Esq.
Vorys, Sater, Seymour & Pease
52 East Gay Street
P.O. Box 1008
Columbus, OH 43216

Christopher P. Bisgaard, Esq.
Mary O. Whitaker, Esq.
John Shimada, Esq.
Lewis, D'Amato, Brisbois & Bisgaard
261 South Figueroa Street
Los Angeles, CA 90012

Vincent Fish, Esq.
Steven Downer, Esq.
Chase, Rotchford, Drukker & Bogust
700 South Flower Street, Suite 500
Los Angeles, CA 90017

James Patterson, Esq.
15933 South Clark, Suite B
Bellflower, CA 90706

Wilfred Lemann, Esq.
Fullerton & Lemann
472 North Arrowhead Drive
San Bernardino, CA 92401

Fredric D. Woocher, Esq.
Joel R. Reynolds, Esq.
Center for Law in the Public Interest
10951 West Pico Boulevard, 3rd Floor
Los Angeles, CA 90064

Sedgwick, Detert, Moran & Arnold
111 Pine Street
San Francisco, CA 94111

McClintock, Kirwan, Benshoof,
Rochefort & Weston
601 West Sixth Street, Suite 2100
Los Angeles, CA 90071

Martin J. Foley, Esq.
Bryan, Cave, McPheeters & McRoberts
333 South Grand Avenue
3100 Crocker Center
Los Angeles, CA 90071

Joseph Stell, Esq.
Myra Barnett Esq.
Stell, Levine & Boolman
727 West 7th Street
Los Angeles, CA 90017

Frederick Seitz, Esq.
Kenneth H. Moreno, Esq.
Marilyn Cochran, Esq.
Murchison & Cumming
600 Wilshire Place
Los Angeles, CA 90005

David L. Mulliken, Esq.
Steven P. McDonald, Esq.
Latham & Watkins
701 "B" Street, Suite 2100
San Diego, CA 92101-8197

Peter R. Taft, Esq.
Allen Katz, Esq.
Steven Kristovich, Esq.
Munger, Toller & Rickershauser
612 South Flower Street
Los Angeles, CA 90017

Clifford L. Schaffer, Esq.
Alexander Chen, Esq.
Pachter, Gold & Schaffer
5757 Wilshire Boulevard, Suite 600
Los Angeles, CA 90036

Hugh H. Helm, Esq.
Michael F. Bell, Esq.
Booth, Mitchell, Strange & Smith
3435 Wilshire Boulevard, 30th Floor
Los Angeles, CA 90010-2097

Robert E. Kelly, Jr., Esq.
Kenneth Hoff, Esq.
LaFollette, Johnson, Schroeter & DeHess
520 North Vermont Avenue
Los Angeles, CA 90004

COPY 2208

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

UNITED STATES OF AMERICA, et al.,)
Plaintiffs,)
vs.) Case No. 83-2501-MML (MX)
J. B. STRINGFELLOW, JR., et al.,)
Defendants.)

Deposition of: JAMES W. ANDERSON (Volume XVI)

Date and time: Friday, May 25, 1984, 8:50 a.m.

Place: 3649 Seventh Street
Riverside, California

Reporter: Traci A. Dokich, CSR #3755
P.O. Box 3531
San Clemente, CA 92672-1331
(714) 498-0567

C26C2

about getting copies of their results as we provided them copies of our results.

Q. Do you happen to know, independent of documents, what the water samples from 1Q1 reflected as of the end of 1975?

A. I can't recall.

MR. BISGAARD: Let me ask the reporter to mark as Exhibit 1472, a one-page document on the letterhead of Universal Propulsion Company, dated March 8, 1974. It's signed by Frank A. Marion, Senior Vice President, Universal Propulsion Company. It's addressed to Mr. J. B. Stringfellow, Jr.

(Whereupon a document was marked Defendants' Exhibit Number 1472 for identification by the Notary Public.)

BY MR. BISGAARD: Q. Mr. Anderson, have you ever seen this letter before today?

A. I may have seen it during the State Board hearings. I don't recall specifically.

Q. Did you ever have any conversation with any representatives of Universal Propulsion Company concerning, allegation of odors at the site?

A. No.

Q. Did you ever have any discussion with anyone at Universal Propulsion Company on any matter?

A. Not that I recall.

Q. Mr. Anderson, do you have any knowledge,

1 information or belief about any buried ammonium nitrate on
2 the property that was occupied at one point in time by
3 Universal Propulsion Company?
4 A. I was informed by Mr. Zasadzinski that at some
5 time there was a company in that particular complex that had
6 closed and that they had spread ammonium nitrate on the
7 hillsides to discard that as excess product, and it was Mr.
8 Zasadzinski's opinion that that may have been the source of
9 high nitrates in the water supply. That's my only knowledge.
10 That was prior to my becoming executive officer.
11 Q. Now, when you mentioned the water supply, are you
12 referencing the samples from 1Q1?
13 A. That's correct.
14 Q. Do you know if there has been any testing done at
15 the site to confirm Mr. Zasadzinski's opinion or to
16 disconfirm it?
17 A. We tested soil samples around the peripheral of
18 the site to see if they contained any materials that could be
19 identified from the site or from any other source, and these
20 samples, as I recall, were negative.
21 MR. ROBINSON: Just by way of clarification,
22 Chris, when you said, to verify his opinion, did you mean his
23 opinion as to the ammonium nitrate on the hillside or his
24 opinion as to the cause of the contamination in 1Q1?
25 MR. BISGAARD: The latter.
26 BY MR. BISGAARD: Q. Did you understand that,

1 Mr. Anderson?
2 A. Yes.
3 Q. Outside of the soil samples that you just
4 mentioned, had there been any other test at the site
5 concerning this alleged ammonium nitrate on the property at
6 which one point was occupied by Universal Propulsion Company?
7 A. There's been a number of tests. None with
8 reference to the discarding of ammonium nitrate and trying to
9 verify that situation.
10 Q. When were the soil samples done that you talked
11 about?
12 A. These were between 1974 and 1978, and they were
13 samples taken by the Regional Board prior to the overflow of
14 the site, and subsequent to that time, there were samples
15 taken by the Health Department as part of their report.
16 Q. The samples between 1974 and 1978, those were
17 ongoing samplings?
18 A. No. They were one-time samplings by the Regional
19 Board staff to try to verify claims of that waste material
20 that had been sprayed outside of the site itself on the
21 hillsides, and we were trying to confirm that allegation and
22 we could not confirm it. And in that regard, we tested for
23 nitrates to see if nitrates were a cause of the ground water
24 quality changes in 1Q1, to see if there was any relationship,
25 and we couldn't verify either contention.
26 Q. Did anyone from the Regional Board have any

1 conversation with any representative of Stringfellow Quarry
2 Company about this allegation concerning the ammonium
3 nitrate?
4 A. I believe they may have. I had probably passing
5 conversation with Mr. Stringfellow, Mr. Gibson regarding that
6 event. I'm not sure whether other members of the staff went
7 into any detail on that.
8 Q. Do you recall specifically having a conversation
9 with Mr. Stringfellow about the ammonium nitrate?
10 A. Yes.
11 Q. Do you recall specifically what was discussed?
12 A. Not specifically, other than we talked about that
13 as part of the hand grenade manufacture out there.
14 Q. You said the Regional Board performed the soil
15 samplings. Can you describe generally how the samples were
16 obtained?
17 A. No.
18 Q. Who performed those samples?
19 A. One of the staff members. Probably Steve Herrera
20 or one of the other staff members obtained the samples and
21 had them analyzed, I believe, at Babcock Laboratories in
22 Riverside.
23 Q. Mr. Herrera is no longer with the Regional Board?
24 A. That's correct.
25 Q. Where is he currently located; do you know?
26 A. He works for the firm of Krieger and Stewart in

1 Riverside, an engineering firm.
2 MR. BISGAARD: Let's go off the record for a
3 moment.
4 (Off-the-record discussion was held.)
5 MR. BISGAARD: Let's go back on the record.
6 BY MR. BISGAARD: Q. Mr. Anderson, you have
7 been kind enough to bring with you today the litigation
8 guarantee, number 391294, effective date, February 23, 1979,
9 which reflects that the parcel which is the subject of the
10 litigation guarantee is owned by Stringfellow Quarry Company,
11 Inc.
12 MR. BISGAARD: Let's mark this as Exhibit
13 1473.
14 (Whereupon a document was marked Defendants'
15 Exhibit Number 1473 for identification by the Notary Public.)
16 BY MR. BISGAARD: Q. Mr. Anderson, this
17 document came out of the files of the Regional Board?
18 A. That's correct.
19 Q. Exhibit 1473?
20 A. Yes.
21 Q. Do you know what property this litigation
22 guarantee relates to? What portion of the site?
23 A. To my recollection, this represents, from Exhibit
24 B, appears to represent a rectangle parcel on the northern
25 boundary of the larger parcel.
26 Q. And directing your attention back to Exhibit 1113

2

REAL ESTATE SERVICES DIVISION
650 Howe Avenue
Sacramento, CA 95825
(916) 920-6265

Mr. James Stringfellow
P. O. Box 6
Riverside, CA 92502

Dear Mr. Stringfellow:

Re: California Regional Water Quality Control Board
Riverside County
Stringfellow Hazardous Waste Disposal Site

In our past meetings with James Anderson it was agreed that the State of California will accept conveyance of property held by Stringfellow interests (Stringfellow Quarry Co., a Limited Partnership, and Stringfellow Quarry Co., Inc., a Corporation) subject to existing liens against the property by the State.

The attached documents, consisting of:

a) Corporation Gift Deed from Stringfellow Quarry Co., Inc., a Corporation to the State of California (describing the small and large parcel)

and

b) Quitclaim Deed from Stringfellow Quarry Co., a Limited Partnership (describing the large parcel)

will accomplish proper conveyance.

For your further information I have enclosed a map showing properties to be conveyed to the State and Litigation Guarantees pertaining to the Stringfellow interests.

It was also understood that the State of California will assume the existing lease with Universal Propulsion Co., as lessee. Contacts are being made with the lessee to arrange for a release of their purchase option and to draft a new rental agreement.

If these enclosed documents meet with your approval, please properly execute them, before a notary public, and return them to me.

C 1595

DEFENDANT'S EXHIBIT
1114
7-13-83
TAD, NP

STCAL 2326288

500229A

You will recall that during our last meeting Mr. Peccorini, representing the Nabbs' interests, asked to review the legal description in the documents conveying from the Stringfellow property to the State of California. A copy of the conveyance documents are being sent to him for his inspection.

We are most anxious to proceed immediately to acquire the properties involved in the hazardous waste disposal site. If there are any questions, please phone me collect.

Sincerely,

FRANK D. KOTZY
Land Agent

FDK:ajl:RE-89
Attachments
cc: James H. Anderson
H. Michael Peccorini

C 1596

UNIVERSAL PROPULSION COMPANY, INC. | Talley Industries

10 February 1984

Angelo Bellomo, Regional Administrator
California Department of Health Services
107 S. Broadway, Room 7128
Los Angeles, CA 90012

Re: Universal Propulsion Company, Inc., Settlement Agreement and Schedule of Compliance

Dear Mr. Bellomo:

UPCo encloses herewith the following information in compliance with the referenced Settlement Agreement, pages 7 & 8, paragraphs IX, 1, A, B, & C:

A & B — A written description of hazardous materials which UPCo has reason to believe were disposed of at Sites 1 and 2 (Exhibit 1). Also included is a letter report from IT Corporation about their tests on a "canister" (Exhibit 2). A list of non-hazardous materials which UPCo has reason to believe were disposed of at Site 1 is also included (Exhibit 3).

C — "Attachment A", a map showing the locations of the above identified materials (Exhibit 4).

We have compared the hazardous materials listed in Title 22, California Admin. Code, sections 66680 and 66685 to a list of the materials known to have been in the possession of UPCo during the years our company occupied the Riverside facility. From this comparison we derived a list of hazardous materials which UPCo had in its possession at any time at the Riverside facility (Exhibit 5). We have no reason to believe that any materials other than those listed in Exhibits 1 & 3 were disposed of at the Riverside facility.

We plan to continue the services of IT Corporation for the clean-up operation at Riverside and are prepared to proceed per the Agreement. Please contact me or Bill Hallas at (602) 869-8067.

I declare under penalty of perjury under the laws of the State of California that the foregoing letter, including Exhibits 1, 3, 4, & 5, which are incorporated herein, are true and correct. Executed this 10th day of February 1984 at Phoenix, Arizona.

Larry C. Kempton

PLAINTIFF'S EXHIBIT 369-1 thru 369-13 7-10-85

Universal Propulsion Company, Inc. • a Talley Industries Company
Black Canyon Stage 1, Box 1140 • Phoenix, Arizona 85029 • Telephone (602) 869-8067 • TELEX: 668-487

California—Health and Welfare Agency

Department of Health Services

PRIORITY ☐
(Explain) _____

HML No. 9494 to 9496

HAZARDOUS MATERIALS SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector S LAVINGER Date Sampled 3/28/84 Time 1100 Hours

LOCATION OF SAMPLING:

Name UPCD Tel. No. _____

Address Pyrite Canyon (Number) Riverside (Street) (State) (Zip)

HML No. (Lab Only)	Collector's Sample No.	Type Of Sample*	FIELD INFORMATION**
9494	# 1	Liquid	Duplicate of IT sample
9495	# 5	Soil	Duplicate of IT sample
9496	# 8	Liquid	DHS sample only

quested: #1 and #5 - Antimony, Arsenic, Barium, Cadmium, Chromium, Copper, lead, Mercury, Nickel, Silver, Zinc, Cyanide, pH, Phosphates, Borates

Chloride, Flouride, Specific conductivity

8 BENZENE, Phenol, Trichloroethylene, Toulene

Chain of Custody:

	Signature	Title	Inclusive Dates
1.	S W Lavinger	WMS	3/28/84 - 4/5/84
2.	[illegible]	LAB ASST.	4.6.84 -
3.			-
4.			-

Special Remarks _____ (e.g., duplicate sample given to company, etc.)

PART II: LABORATORY SECTION

Received By Tom [illegible] Title PHC III Date 4-6-84

Sample Allocation: ☐ HML ☐ SCBL ☐ LBL ☐ Other _____ Date _____

Analysis Required Metal scan (see above); pH, CN^-, $PO_4^=$ + Borates on HML 9494 + 9495; Cl^-, F^- on HML 9494; VOA + phenol on HML 9496. Spec. conductivity on HML 9494 (Sent to S+R Lab on 4-10-84)

*Indicate whether sample is sludge, soil, etc.; Use back of page for additional information.

DHS 8002 (5/80) Orig.—Lab. Dup.—File Trip.—Inspector

0000030

SUPPLEMENTARY DATA PER IX, 1, A, B, & C

UPCo had the following hazardous materials, but has no reason to believe any of these were disposed of at the Riverside facility. These materials were held in small quantities for laboratory/experimental use:

MATERIAL	MATERIAL
Acetone	Methyl Ethyl Ketone
Asbestos	Nitric Acid
Aluminum Fluoride	Oxalic Acid
Ammonium Nitrate	Paraformaldehyde
Ammonium Perchlorate	Phenol
Ammonium Persulfate	Potassium Chlorate
Antimony Trioxide	Potassium Fluoride
Barium Peroxide	Potassium Nitrate
Calcium Hydroxide	Potassium Perchlorate
Chromium Trichloride	Silicon Powder
Cobalt Naphthenate	Sodium Chlorate
Cupric Oxide	Sodium Nitrate
Formaldehyde	Sodium Perchlorate
Formic Acid	Strontium Nitrate
Hexane	Sulfuric Acid
Hydrochloric Acid	Tin Powder
Isopropanol	Toluene
Lead Iodate	Trichloroethylene
Lead Nitrate	Tungsten Powder
Lead Peroxide	Vinylidene Chloride
Lead Powder	Xylene
Lead Stearate	Zinc Borate
Magnesium Powder	Zinc Carbonate
Maleic Anhydride	Zinc Powder
Methyl Alcohol	Zinc Sulfate
	Zinc Stearate

Exhibit 5

AN ATTACHMENT TO LAB-604

SAMPLES FOR CHEMICAL ANALYSIS

LAB NUMBER : [illegible]

SERIAL NUMBER : [illegible]

ANALYST : [illegible]

DATE REPORTED : 4-[illegible]

Volatile Organics

1. Acetone *
2. methylene chloride - 6.1 ug/l
3. methyl ethyl ketone *
4. Chloroform = 0.97 ug/l
5. trichloroethylene = 5.8 ug/l
6. methyl butyl ketone or 2,4 dimethylpentanal = trace
7. toluene = 0.41 ug/l
8. Chlorobenzene = 0.28 ug/l
9. ethylbenzene = trace
10. Xylenes = trace
11. P-dichlorobenzene = 0.50 ug/l
12. O-dichlorobenzene = 1.7 ug/l

PLAINTIFF'S EXHIBIT 369-4 7-10-85 TAD, NP
BARON PRESS, OAKLAND, CA.

0000169

C 51857

* unable to accurately quantitate using this method; but [illegible]

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
HEALTH PROTECTION DIVISION

SOUTHERN CALIFORNIA LABORATORY SECTION
1449 WEST TEMPLE STREET, ROM 10[illegible]
LOS ANGELES, CALIFORNIA 900265698

AN ATTACHMENT TO LAB-804

SAMPLES FOR CHEMICAL ANALYSIS

LAB NUMBER : 8850

SERIAL NUMBER : - 29 836

ANALYST : PF

DATE REPORTED : 4-7-83

Pinnacle Organics
1 acetone *
2 methylene chloride = 6.1 ug/l
3 methyl ethyl ketone *
4 chloroform = 0.97 ug/l
5* trichloroethylene = 5.8 ug/l
6. methyl butyl ketone or 2,4 dimethylcentanol = trace
7 toluene = 0.4 ug/l
8* chlorobenzene = 0.28 ug/l
9 ethylbenzene = trace
10 xylenes = trace
11 o-dichlorobenzene = 0.50 ug/l
12 o-dichlorobenzene = [illegible] ug/l

* [illegible] be small

C 51858 0000169

219-5

State of California—Health and Welfare Agency

Department of Health Services

HML No. _____ To _____

ORITY ☐
(plain) _____

HAZARDOUS MATERIALS SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

Collector _____ Date Sampled _____ Time _____ Hours

LOCATION OF SAMPLING :

Name _____ Tel. No. _____

Address _____ Number _____ Street _____ State _____ Zip _____

HML No. (Lab Only)	Collector's Sample No.	Type Of Sample*	FIELD INFORMATION**

Analysis Requested: [illegible]

[illegible]

Chain of Custody:

1. _____ Signature _____ Title _____ Inclusive Dates _____
2. _____ Signature _____ Title _____ Inclusive Dates _____
3. _____ Signature _____ Title _____ Inclusive Dates _____
4. _____ Signature _____ Title _____ Inclusive Dates _____

Special Remarks _____ (e.g., duplicate sample given to company, etc.)

PART II: LABORATORY SECTION

Received By _____ Title _____ Date _____

Sample Allocation: ☐ HML ☐ SCBL ☐ LBL ☐ Other _____ Date _____

Analysis Required _____

Specific Cond.

[illegible] HML 9494.

*Indicate whether sample is sludge, soil, etc.; Use back of page for additional information.

Orig.—Lab. Dup.—File Trip.—Inspector

C 51859

DHS 8002 (5/80)

0000100

369-6

California Department of Health Services
Hazardous Materials Laboratory

HML # 9496 to

LABORATORY REPORT (VOA) Revised

Collector's Name S. Lavinger

Date Received by Laboratory 4/6/84

Sampling Location VDCD
Pyrite Canyon, Riverside

Collector's Sample # #8 to

Analytical Procedures Used: EPA Method 5020 Test Methods for Evaluating Solid Wastes (Second Edition, 1982 SW846) HEADSPACE ANALYSIS (GC/MS)

Reference: see above

ANALYSIS RESULTS:

HML#	Collector#	Finding
9496	#8	No volatile organic compounds detected.*

* Detection Limit for chlorinated hydrocarbons is estimated as tetrachloroethylene as 1 ug/gram
Detection Limit for aromatic hydrocarbon as toluene is estimated as 2 ug/gram.

Analysts' Signatures:

1. [signature] June 11, 1984
date

2. _____ date

Signature of Supervising Chemist

for [signature] 6-12-84
date

California Department of Health Services - Hazardous Materials Laboratory

[illegible]

[illegible]

[illegible]

[illegible]: 1663

[illegible]: 4/12/83

[illegible]: Susan Romero + Steve Savinger

[illegible]: 4/5/83

[illegible]: SBR-012

[illegible]: 4/6/83

[illegible]: Hubb Construction

[illegible]: Heating test in a test tube using a Fisher burner. Qualitative test for Cl^- using $AgNO_3$ soln and for NO_3^- using 1% diphenylamine in conc H_2SO_4. Quantitative analysis for phosphate + sulfate by ion chromatography. Qualitative test for perchlorate - reference Colorimetric Methods of analysis by Snell + Snell 3rd edition, vol II, p 718

Sampling No - SBR-012

Sample was completely soluble in H_2O.
When sample was heated in a test tube, the solid at first liquefied then became yellow-brown in color producing the same color of dense fumes. Some liquid condensed on the sides of the tube.

Tests for chloride + nitrate were negative.

Quantitative analysis gave around 2200 $\frac{mg}{kg}$ phosphate & around 360 $\frac{mg}{kg}$ sulfate.

Test for perchlorate was positive

Erlinda X. Labano 4/12/83 Mary W Claridge 4/12/83

Scott [illegible] 4/12/83 Supervising Chemist

Mr Darrell Smith, Reg. Quat. Control Bd, Riverside

0000151

C - 51861

369-8

[illegible]

[illegible]

[illegible]: 1666,

[illegible]: 4/12/83

[illegible]: Susan Romero + Steve Lavinger

[illegible]: 4/5/83

[illegible]: SBR 015

[illegible]: 4/6/83

[illegible]: Hubb Construction

[illegible]: Burning test: use of a Fisher Burner

Qualitative test for H_3BO_3: CH_3OH + Conc H_2SO_4; for Sulfate: with $BaCl_2$; for Phosphate: with $SnCl_2$; for Chloride: with $AgNO_3$ + for nitrate: with 1% diphenylamine in conc H_2SO_4.

Qualitative test for perchlorate - reference Colorimetric Method of Analysis by Snell & Snell, 3rd Ed Vol II p 718

[illegible]:

SBR-015

When burned, the sample gave a green color to the flame.

When HNO_3 was added (during digestion for metals), H_3BO_3 was formed + this was confirmed by a test for H_3BO_3.

Tests for sulfate, phosphate, chloride + nitrate were negative

Ammonia can be smelled from the sample + the vapors of the sample turned pink litmus paper to blue

Test for perchlorate was negative.

Erlinda V. Rabano 4/12/83 Mary W Claridge 4/12/8

Scott J. Nee 4/12/83 Supervising Chemist

[illegible]: Mr. Darrell Smith, Reg Quality Control Bd, Riverside

C 51862

0000152

STATE OF CALIFORNIA
DEPARTMENT OF HEALTH SERVICES
HEALTH PROTECTION DIVISION

SOUTHERN CALIFORNIA LABORATORY SECTION
1449 WEST TEMPLE STREET, ROM 10[illegible]
LOS ANGELES, CALIFORNIA 900265698

AN ATTACHMENT TO LAB-804

SAMPLES FOR CHEMICAL ANALYSIS

LAB NUMBER : 8850

SERIAL NUMBER : - 29 836

ANALYST : PH

DATE REPORTED : 4-7-83

Purgable Organics
1 acetone *
2 methylene chloride = 6.1 ug/l
3 methyl ethyl ketone *
4 chloroform = 0.97 ug/l
5 trichloroethylene = 5.8 ug/l
6 methyl butyl ketone or 2,4 dimethylcentanol = trace
7 toluene = 0.41 ug/l
8 chlorobenzene = 0.28 ug/l
9 ethylbenzene = trace
10 xylenes = trace
11 p-dichlorobenzene = 0.50 ug/l
12 o-dichlorobenzene = .7 ug/l

* unable to [illegible] using this method [illegible] be small

C 51863

0000169

UNIVERSAL PROPULSION COMPANY, INC. | Talley Industries

27 May 1983

WEH-011-052403

Hazardous Materials Management Section
MAY 31 1983
California Department of Health Services
LOS ANGELES

John A. Hinton, P. E.
Hazardous Waste Management Branch
California Department of Health Services
107 South Broadway
Los Angeles, CA 90012

Dear Mr. Hinton:

JUN 2 1983

This is in response to your letter of 26 April 1983 in which you asked for certain information pertaining to a former Universal Propulsion Company, Inc., facility in Pyrite Canyon, Riverside County. The requested information is for your department's investigation of two reported illegal dump sites on that property.

Universal Propulsion Company has cooperated totally with its former landlord, Mr. Hubbs, through his attorney, Mr. Peccorini, since first hearing of the problem on 6 April 1983. We shall continue to do so.

Answers to the questions in your letter are as follows:

1. During one period in our occupancy of the Riverside facility, we conducted a program to develop thermo-protective coatings. These coatings consisted of epoxy-type binders filled with borates (typically borax or ammonium biborate) and/or phosphates (typically ammonium phosphate). This program was terminated in the development stage.

   Solid propellant, a Class "B" explosive, was manufactured at the facility. It is used in manned aircraft escape devices, i.e., ejection seats, etc. The propellant consists of a synthetic rubber binder (fuel) filled with granular oxidizers and fuel. The ingredients are:

   - Polybutadiene (chemically similar to automobile tire rubber)
   - Dibutyl Phthalate (platicizer)
   - Aluminum powder
   - Combinations of powdered oxidizers - ammonium perchlorate, potassium perchlorate, lead nitrate
   - Very small amounts of imine curatives and/or epoxy curatives

C 51864

21 C -11

In one part of our manufacturing process, the viscosity of the synthetic rubber must be decreased. The diluent we use, in relatively small quantities, is methylene chloride, which evaporates into the atmosphere.

2. It is possible that some small quantity of borates and/or phosphates were left at the site at the time we vacated the premises. We have no records that confirm or refute that possibility.

   Waste solid propellant was disposed of at the site by open burning pursuant to a standardized procedure. Approved fire-breaks were maintained around the property and necessary permits were acquired annually. The waste was burned only when the Air Pollution Control District and the Division of Forestry would allow such activity.

3. Non-hazardous wastes (waste paper, etc.) were transported from the facility by TRI-CO DISPOSAL, INC. Copies of their statements number 12722 and 14277 are enclosed.

   Waste chemicals were transported from the facility by J. S. Brower & Associates, Inc. (now BROCO, Inc.) of Pomona, CA. We enclose herewith the following supporting documents:

   - UPCo purchase order number 16927:

     J. S. Brower proposal 1052
     J. S. Brower invoice 004985
     UPCo lists of transported oxidizers, liquid polymers, fibers & miscellaneous
     Department of Health Hauling Records
     Ventura County Refuse Disposal Receipt Nos. C223027 & C223028

     The foregoing records are for two large truckloads shipped on 5/20/80.

   - UPCo purchase order number 17321:

     J. S. Brower invoice 005136
     J. S. Brower Job No. 3284 document
     UPCo list of chemicals hauled away

     These records are for the smaller truckload of residual chemicals shipped on 7/8/80.

C 51865

UPCO/RIVERSIDE

TYPE MATERIAL: _____

LOCATION	MATERIAL	POUNDS	GALLONS	TYPE CONTAINER
lab	~~acid, nitric~~		1	glass
lab	~~acetic acid~~		1	glass
hut	~~nitric acid~~		5	5, 1 gal glass
	~~phosphoric acid~~		1	glass
	~~sulfuric~~		16	1, 10 gal metal; 6, 1 gal glass; 5, 1 gal
	~~hydrochloric~~		5 1/2	" 1, 5 gal
hut	~~muriatic~~		1	"
	~~solvents~~ ✓			
ofc	~~xylene~~		5 gal	metal
	~~toluene~~		55	metal drum
lab	~~paint thinner~~		1	metal
	Tygon thinner		1 pt	metal
	methylene chloride		1	glass
lower quonset	methylene chloride (90% solvent)		< 55	metal drum
	~~paint~~			
ofc	lacquer, vinyl		5	1, 5 gal metal
hut	~~Amercoat primer~~		4	4, 1 gal metal
	~~lacquer, vinyl~~		5	1, 5 gal metal
	~~Shipbo marine paint~~		5	1, 5 gal metal
	CARBON BLACK		50 LBS	

0000258

C 51866 369-13

Exhibit 302
FDE 2

UNIVERSAL PROPULSION COMPANY, INC. | Talley Industries

10 February 1984

Angelo Bellomo, Regional Administrator
California Department of Health Services
107 S. Broadway, Room 7128
Los Angeles, CA 90012

Re: Universal Propulsion Company, Inc., Settlement Agreement and Schedule of Compliance

Dear Mr. Bellomo:

UPCo encloses herewith the following information in compliance with the referenced Settlement Agreement, pages 7 & 8, paragraphs IX, 1, A, B, & C:

A & B — A written description of hazardous materials which UPCo has reason to believe were disposed of at Sites 1 and 2 (Exhibit 1). Also included is a letter report from IT Corporation about their tests on a "canister" (Exhibit 2). A list of non-hazardous materials which UPCo has reason to believe were disposed of at Site 1 is also included (Exhibit 3).

C — "Attachment A", a map showing the locations of the above identified materials (Exhibit 4).

We have compared the hazardous materials listed in Title 22, California Admin. Code, sections 66680 and 66685 to a list of the materials known to have been in the possession of UPCo during the years our company occupied the Riverside facility. From this comparison we derived a list of hazardous materials which UPCo had in its possession at any time at the Riverside facility (Exhibit 5). We have no reason to believe that any materials other than those listed in Exhibits 1 & 3 were disposed of at the Riverside facility.

We plan to continue the services of IT Corporation for the clean-up operation at Riverside and are prepared to proceed per the Agreement. Please contact me or Bill Hallas at (602) 869-8067.

I declare under penalty of perjury under the laws of the State of California that the foregoing letter, including Exhibits 1, 3, 4, & 5, which are incorporated herein, are true and correct. Executed this 10th day of February 1984 at Phoenix, Arizona.

Larry C. Kempton

Larry C. Kempton

6/5/85
TAP
Plf
302-1

Universal Propulsion Company, Inc. • a Talley Industries Company
Black Canyon Stage 1, Box 1140 • Phoenix, Arizona 85029 • Telephone (602) 869-8067 • TELEX: 668-487

Exhibit 1

DATA PER IX, 1, A, B, & C OF SETTLEMENT AGREEMENT

Site 1:

UPCo believes the following hazardous materials were disposed of at the "pond area" (Ref. Site 1 of Attachment A):

MATERIAL	Maximum ROM Wt. (Lb.)	HAZARD CHARACTERISTICS	SOURCE
Barium Nitrate (oxidizer)	100	F, T	*
Canisters	15	F, P	**
Potassium or Sodium Cyanide	1	T	*
Miscellaneous per the attached Hazardous Waste Manifest Nos. 039457 and 039458 (drum nos. 1 thru 4)	Reference Manifest	Reference Manifest	*

* Unknown. Current sources are listed in Chemical Week Buyer's Guide.

** Possibly Aeronutronic Division of Philco-Ford. See the attached letter from IT Corporation for the results of Hazard. Cat. tests on one of these items.

Site 2:

UPCo believes the following hazardous material was abandoned at the "barrel area" (Ref. Site 2 of Attachment A): Maximum ROM Wt. 400 lb. aluminum powder.

C 51280

6/5/85 ~~480~~ 5

Plf 302-20

0000030

IT CORPORATION

OSH - 201

September 20, 1983

Bill Hallas
Universal Propulsion Company
Box 1140
Black Canyon Stage No. 1
Phoenix, AZ 85029

Dear Bill:

This letter report contains the results of the hazard categorization test (Haz. Cat.) I performed on material contained in one of the cylindrical objects found at the Hubb Construction cleanup site.

Tests	Results
Flammability	Negative
Combustibility	Negative
Water Reactivity	Negative
pH of solution	6, note material did not appear to be soluable
Oxidant	Negative
Cyanide	Negative
Sulfide	Negative

It is important to point out that when using the Haz. Cat. tests one is always left with assumption that the material is "poisonous." Thus, given the results of a Haz. Cat., the poison assumption, and professional experience, one can, with a degree of confidence, properly handle, package and dispose of an unknown material.

If I can provide you with additional information please contact me.

Sincerely,

Dennis M. Robinson

Dennis M. Robinson
Regional Manager
Occupational Safety & Health

b.

C 51272

Exhibit 2 6/5/85 TAD. Plfs 302-12 NF

336 W Anaheim St • Wilmington CA 90744 • (213) 830-1781

0000039

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # 039457

ONLY FOR NON-BULK SHIPMENTS INVOLVING MORE THAN TWO DOT PROPER SHIPPING NAMES. GENERATOR WRITES ONLY "SEE ATTACHED LIST" IN ITEM 5 OF THE MANIFEST AND COMLETES ALL OTHER ITEMS NORMALLY, SIGNING BOTH MANIFEST AND ATTACHED LIST(S).

MAKE 4 COPIES

One copy must accompany each copy of manifest

MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split, additional manifests are necessary

6/5/85 TAD

Plf 302-9

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	Wt. Vol.	Units	Conc.
1	Flammable liquid, poisonous, n.o.s.	Flammable liquid	UN/NA [illegible]	1	pT	Unk.
1	Poisonous solid, n.o.s. (cellulose acetate)	Poison B	UN/NA 2811	1	Lb.	Unk.
1	Poisonous solid, n.o.s. (rubber)	Poison B	UN/NA 2811	4	lb	Unk.
1	Poisonous, solid, n.o.s. (plastic resin)	Poison B	UN/NA 2811	6	lb	Unk.
1	Poisonous liquid, n.o.s. (antioxidants)	Poison B	UN/NA 2810	1	pT	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA 2810	1	pT	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA 2810	1/2	pT.	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	2	oz	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	3	oz	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	5	oz	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	6	oz	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	4	oz	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	[illegible]	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	[illegible]	100%
1	Poisonous liquid, n.o.s. (antioxidant)	Poison B	UN/NA [illegible]	1	pT.	100%

Page 1 of 2 pages

C 51269

28

Paul J. & Carole Hubbe by [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # _____

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MATERIALS MUST BE COMPATIBLE - LOAD ON ONE VEHICLE

If shipment is split additional manifests are necessary

6/8/85 TAD, NJ

Plf 302-10

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	Wt. or Vol.	Units	Conc. %
1	Poisonous liquid, n.o.s. (Polychlorinated biphenyls)	Poison B	UN/NA 2315	1	gal	100 ppm
1	Poisonous solid, n.o.s. (resin catalyst)	Poison B	UN/NA 2811	11	oz	100 ppm
1	Asbestos	ORM-C	UN/NA 2590	2	lb	100 %
			UN/NA			%
			UN/NA			%
			UN/NA			%
			UN/NA			%
			UN/NA			%
			UN/NA			%
			UN/NA			%
			UN/NA			%
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			UN/NA			%
			UN/NA			%

Page 2 of 2 pages

Paul J. & Lucile Hubbs by [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # _____

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If shipment is split additional manifests are necessary

6/5/85 TAD, N

Pg 302-11

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	Wt. Vol.	Units	Conc. % ppm
2	Poisonous solid, n.o.s. (complex ferricyanide)	Poison B	UN/NA 2511	7 [illegible]	pts	100
2	Poisonous liquid, n.o.s. (polymer)	Poison B	UN/NA 2510	2	qt.	100
2	Poisonous liquid, n.o.s. (polymer)	Poison B	UN/NA 2510	3	pts	100
2	Poisonous liquid, n.o.s.	Poison B	UN/NA 2510	1	pt	100
2	Poisonous liquid, n.o.s. (polymer)	Poison B	UN/NA 2510	1/2	[illegible]	100
2	Poisonous solid, n.o.s. (iron oxide)	Poison B	UN/NA 2511	3	lbs	100
2	Poisonous solid, n.o.s. (iron [illegible])	Poison B	UN/NA 2511	25	lbs	100
2	Poisonous liquid, n.o.s. ([illegible] diisocyanate)	Poison B	UN/NA 2510	1	qt	100
2	Poisonous liquid, n.o.s. (isophorone diisocyanate)	Poison B	UN/NA 2510	1	qt.	100
2	Poisonous solid, n.o.s. ([illegible])	Poison B	UN/NA 2511	1	lb	100
2	Poisonous liquid, n.o.s. (antimony)	Poison B	UN/NA 2510	4	oz	[illegible]
2	Poisonous solid, n.o.s. (iron oxide)	Poison B	UN/NA 2511	4	oz	100
2	Poisonous solid, n.o.s. ([illegible])	Poison B	UN/NA [illegible]	2.2	lb	100
2	Poisonous solid, n.o.s. ([illegible])	Poison B	UN/NA 2511	[illegible]	lb	[illegible]
2	Poisonous liquid, n.o.s. (antimony)	Poison B	UN/NA 2510	5	oz	[illegible]

Page 1 of 1 pages

C 51271 30. Paul J. & Lucila Hubbs by [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

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Pelp 302-
6/5/85
TAD, N

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	WT. or Vol.	Unit	Con
3	Poisonous solid, n.o.s. (insecticide)	Poison B	UN/NA 2588	5½	lbs	100
3	Poisonous solid, n.o.s. (iron oxide)	Poison B	UN/NA 2811	5½	lbs	100
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	pt.	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	qt.	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	qt.	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	pt.	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	5	oz	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	5	oz	10
3	Poisonous liquid n.o.s. (resin)	Poison B	UN/NA 2810	5	oz	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	5	oz	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	5	qt	10
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	qt	1
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	qt	1
3	Poisonous liquid, n.o.s. (resin)	Poison B	UN/NA 2810	1	qt	1
3	Poisonous liquid, n.o.s.	Poison B	UN/NA 2810			

Page 1 of 2 pages C 51264 D 1/1/ 302-4 1 of 1

8000034

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

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Plf 302-[illegible] 6/5/85 TAC [illegible]

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	Wt. Vol.	Units	Con[illegible]
3	Poisonous solid, N.O.S. ([illegible])	Poison B	UN/NA [illegible]	[illegible]	lbs	100
3	Poisonous liquid, N.O.S. (mono amine)	Poison B	UN/NA 2810	3	[illegible]	100
3	Poisonous solid, N.O.S. (ferrosine)	Poison B	UN/NA 2811	5	oz	100
3	Poisonous solid, N.O.S. (vinyl latex)	Poison B	UN/NA 2811	2	lbs	100
3	Poisonous solid, N.O.S. (quartz fiber)	Poison B	UN/NA 2811	4	lbs	100
3	Poisonous solid, N.O.S.	Poison B	UN/NA 2811	1	lb	100
3	Poisonous liquid, N.O.S.	Poison B	UN/NA 2810	1	gal	[illegible]
3	Poisonous liquid, N.O.S.	Poison B	UN/NA 2810	1	pt.	[illegible]
3	Poisonous liquid, N.O.S.	Poison B	UN/NA 2810	1	pt	[illegible]
3	Corrosive liquid, poisonous, N.O.S. (acidic)	~~Poison B~~ corrosive	UN/NA [illegible]	1	pt	[illegible]
3	Corrosive liquid, poisonous, N.O.S. (caustic)	~~Poison B~~ corrosive	UN/NA [illegible]	1	pt	[illegible]
3	Poisonous liquid, N.O.S.	Poison B	UN/NA 2810	1	pt	[illegible]
3	Poisonous liquid, N.O.S.	Poison B	UN/NA 2810	1	pt	[illegible]
			UN/NA			
			UN/NA			

Page 2 of 2 pages

32. Paul J. E. [illegible] 302-5 [illegible]

C 51265

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

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Plfs 302-[illegible]
6/5/85 TAP.

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DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. or Vol.	Units	Conc.
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1/2	lb	Unk
4	Oxidizer Corrosive, Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1	lb.	Unk
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1/2	lb	Unk
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1/2	lb	Unk
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1/2	lb	Unk
4	Oxidizer Poisonous Solid, N.O.S.	Oxidizer	UN/NA [illegible]	1/2	lb	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	lb	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	lb	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	lb	Un
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1	lb.	Un
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	lb	Un
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	5	lb	Un
4	Poisonous Solid N.O.S.	Poison B	UN/NA 2811	1/2	lb	Un
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	lb	Un
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	lb	Un

Page 1 of 3 pages

Paul J. & Lucile Hubbs by [illegible] 302-6

33

51266

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

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6/5/85 TAD, [illegible]

Pfp.302-7

DRUM or BOX #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW#	Wt. or Vol.	Units	Conc.
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	2	16	Unk
~~4~~	~~Poisonous Solid, N.O.S.~~	~~Poison B~~	~~UN/NA 2811~~			
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	2	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	1/2	16	Unk
4	Poisonous Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk
4	Poison Solid, N.O.S.	Poison B	UN/NA 2811	8	02	Unk

Page 2 of 3 pages

C 51267 34 Paul L. E. [illegible] [illegible]

ATTACHED LIST FOR HAZARDOUS WASTE MANIFEST # [illegible]

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If shipment is split, additional manifests are necessary

6/5/85 TAD

Pl. 302-8

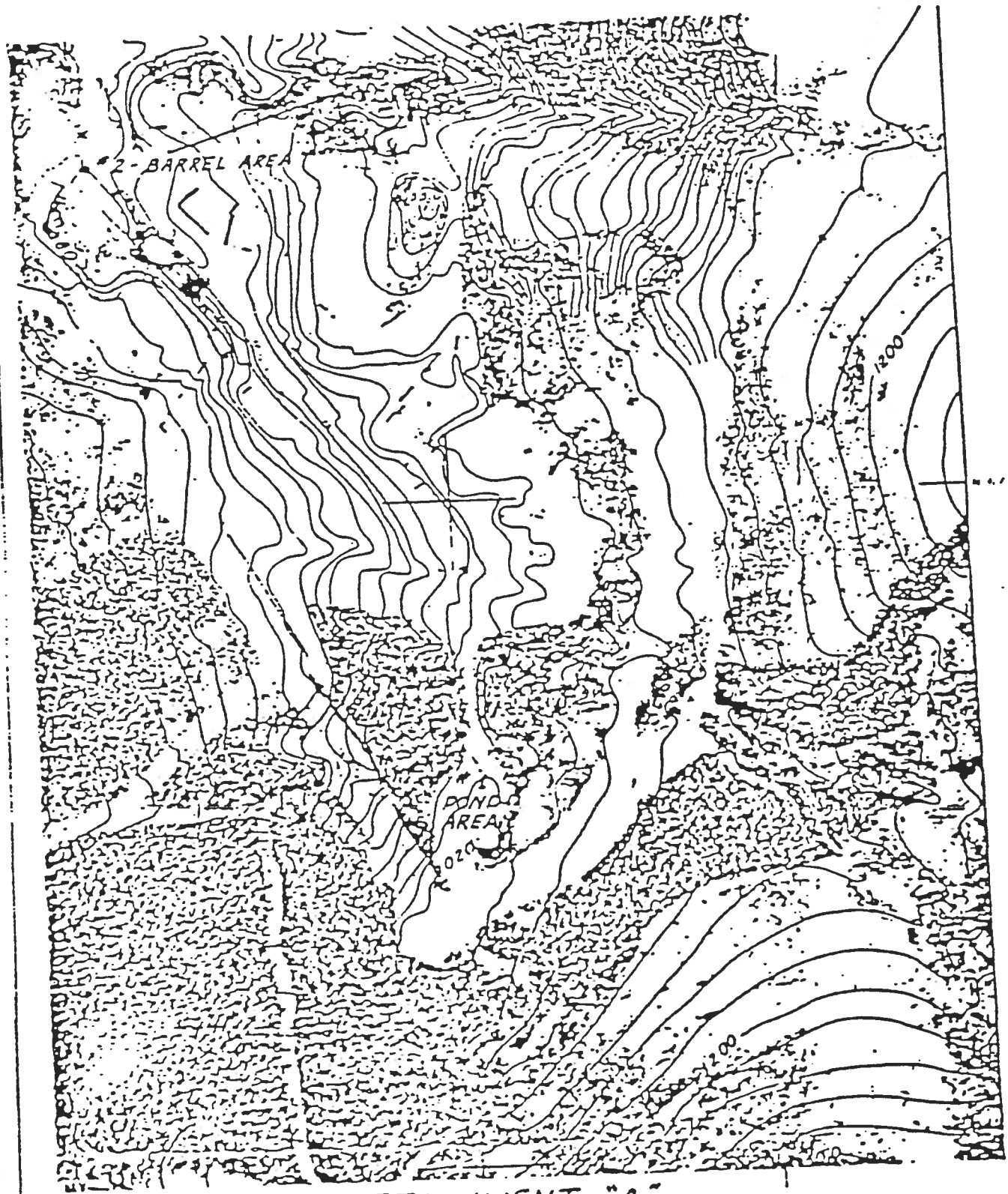
[illegible] on [illegible] #	DOT PROPER SHIPPING NAME (must be in 49 CFR 172.101)	HAZARD CLASS do not abbreviate	UN/NA I D # / EPA HW #	Wt. or Vol.	Units	Conc.
4	Poisonous Solid, NOS	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, NOS	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, NOS	Poison B	UN/NA 2811	8	02	Unk
4	Poisonous Solid, NOS	Poison B	UN/NA 2811	8	02	Unk
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			
			UN/NA			

Page [illegible] of [illegible] pages

Paul J. E. Lucile Hubbs by [illegible]

C 51268 35.

SIGNATURE OF GENERATOR



ATTACHMENT "A"

SCALE 1:2400

0 200 400 600 800 1000 FEET

CONTOUR INTERVAL 4 FEET
DATUM IS MEAN SEA LEVEL

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS 38.

SECTION 1
T.2S., R.6W.
SBB & M

6/5/85 TAD, NP
Plf 302-21

Exhibit 4

0000041

51281

SUPPLEMENTARY DATA PER IX, 1, A, B, & C

UPCo had the following hazardous materials, but has no reason to believe any of these were disposed of at the Riverside facility. These materials were held in small quantities for laboratory/experimental use:

MATERIAL	MATERIAL
Acetone	Methyl Ethyl Ketone
Asbestos	Nitric Acid
Aluminum Fluoride	Oxalic Acid
Ammonium Nitrate	Paraformaldehyde
Ammonium Perchlorate	Phenol
Ammonium Persulfate	Potassium Chlorate
Antimony Trioxide	Potassium Fluoride
Barium Peroxide	Potassium Nitrate
Calcium Hydroxide	Potassium Perchlorate
Chromium Trichloride	Silicon Powder
Cobalt Naphthenate	Sodium Chlorate
Cupric Oxide	Sodium Nitrate
Formaldehyde	Sodium Perchlorate
Formic Acid	Strontium Nitrate
Hexane	Sulfuric Acid
Hydrochloric Acid	Tin Powder
Isopropanol	Toluene
Lead Iodate	Trichloroethylene
Lead Nitrate	Tungsten Powder
Lead Peroxide	Vinylidene Chloride
Lead Powder	Xylene
Lead Stearate	Zinc Borate
Magnesium Powder	Zinc Carbonate
Maleic Anhydride	Zinc Powder
Methyl Alcohol	Zinc Sulfate
	Zinc Stearate

Exhibit 5

LABORATORY REPORT

Hazardous Materials Unit
Southern California Laboratory Section

To : Lavinger

SCL No. : 1969-19

Sampling No : SLA - SLB

Date of Report: 1/13/84

Sample Location: Hubb Const.
Pyrite Canyon Riverside

Analytical Procedures Used: Metals digestion w/ conc HNO_3 to analyzed by AA 306 Anions - Ion chromatography B - by Carmine stn (colorimetric)

Analysis Results:

# 1969 - SLA	# 1970 - SLB
Metals	Metals:
Br = 40 mg/kg	Br = <2 mg/kg ppm
B = 8100 "	B = 2,600 "
Zn = 42,000 "	Zn = 15 "
Cd = 24 "	Cd = <0.4 "
Cr = 9.1 "	Cr = <0.4 "
Pb = 79 "	Pb = 1.5 "
Cu = 7.8 "	Cu = 0.95 "
Ni = 4.5 "	Ni = <0.9 "
Anions.	Anions.
Cl^- = 770 mg/kg	F^- = 30 mg/kg; $SO_4^=$ = 21
$SO_4^=$ = 5500 "	$PO_4^=$ = 150 "
$PO_4^=$ = 440 "	NO_3^- = 0.84 "
NO_3^- = <36 "	Cl^- = 3,000 "

Analysts' Signatures:

[illegible] Date

Date

Supervising Chemist's Signature:

[illegible] Date 6/5/85

Copy To:

C 51276

302-16

18.

0000003

1661 - 1666

April 12, 1983

April 5, 1983

April 6, 1983

S Romero / S Lavinger

SBR010 - 015

Hubb Construction

near Stringfellow Quarry in Riverside

Samples were digested of conc HNO_3, and metals were analyzed by AA306. Na & K by flame photometer; pH by pH meter

units of metal are in ng/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	Na	K	PH *
1661	SBR010	0.62	<1	<1	4.3	<3	60			8.5
1662	11	<0.6	<1	<1	<1	<6	(3.340)			7.9
1663	12	<1	<1	<1	9.0	59	<1	75	93	6.1
~~1664~~	13	29	<1	<1	<2	<8	1.1			6.4
~~1665~~	14	<1	<1	<1	<2	230	1.9	4400	850	5.1
1666	15	0.83	<1	<1	<2	<8	<1			8.2

Note * pH are at 50% dilu except 1662 pH on ss is sple

Norma Cuchillo 6/12/83 Henry W Glaridge 4/2/8

Scott Y. Nee 6/12/83 Supervising Chemist

[illegible]

6/5/85 TAD, NP

Pg 302-17

C000148

1667-68
April 12, 1983
April 5, 1983
April 6, 1983

SE Romero / S. Davinger
001 - 002
Hubb Construction
near Stringfellow Quarry in Riverside
Samples were digested of conc HNO
Cond. metals were analyzed by AA 306
pH by pH meter

units of metals are in mg/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	pH
1667	001	25	22	<1	53	28	120	5.8 at 50% dil.
1668	002	<0.5	<1	<1	<1	<3	<0.5	6.8

Norma Castillo 4/12/83 Mary W. Claridge 4/12
Scott Y Nee 4/12/83 Supervising Chemist

Mr Darrell Smith, Reg Qual Control Bd. [illegible] 6/5/85
DJS 302-18

20. C 51278 0000149

Rec'd UPCo 4/26/84

IT CORPORATION

17605 Fabrica Way
Cerritos, California 90701
(213) 921-9831

CERTIFICATE OF ANALYSIS

TO: IT Corporation
P.O. Box 1256
Wilmington, CA 90744
Attn: Evan McArthur

DATE REPORTED: April 24, 1984
PROJECT CODE: 29104/rjc
ORDER NUMBER: 2861
PAGE 1 OF 3

Four (4) water samples, #1-4, and three (3) soil samples, #5-7, from Stringfellow dump site 3-28-84.

The samples were analyzed according to standard E.P.A. methods. Results are presented in the following tables.

Sample	pH	*Specific conductance, umhos/cm
1	7.56	1000
2	6.45	1000
3	7.20	1100
4	7.10	580
5	6.87	1200
6	7.73	290
7	5.47	450

* For soil samples, specific conductance measurements were performed on a 1:1 soil/water extract.

Judith A. Jones
Judith A. Jones
Chemist
Title

6/5/85 TA
Approved by Plp 302-13

000011:

C 51973

Milligrams/Kilogram

	5	6	7
Antimony	ND<20	ND<20	ND<20
Arsenic	0.4	0.9	1.3
Barium	TR<50	TR<50	TR<50
Cadmium	0.2	0.3	0.5
Chromium	5	5	5
Copper	3.9	6.0	18
Lead	5.7	6.6	38
Mercury	0.01	0.01	0.01
Nickel	6.2	7.3	6.0
Zinc	27	30	59

6/5/85 TAD.
Plfs 302-14

C 51274

Carl Nelson

DEPARTMENT OF HEALT
LABORATORY ROOM 23
3575 11th STREET
RIVERSIDE, CALIFORNIA 9

Hazard
APR 27 1983
California
of Health
LOS ANGEL

CHEMICAL ANALYSIS REPORT FORM
for
MULTIPLE SAMPLES

Industry Name (with address)
Paul Hubb's Property
Pyrite Canyon, Glen Avon, CA

Collected by: Iversen

Date and Hour Collected:
4-6-83 3:00p

Matrix (Chalky)
White Chemical

Date and Hour received by Lab (initialed)
4-7-83 1100 mcg

Samples Analysed for:

Lab Number	Sample Number	pH	Lead	Chromium	Cadmium	Arsenic
83-4-087	Hubb 4	8.8	77.	2.	10.	4.
83-4-088	Hubb 5	6.3	77.	2.	10.	2.

Reported by: M. Griffin, Chemist

Date: 4/19/83

6/5/85 TAD
NA

1/2

25. C 51275 Plgs 302-15

0000162

[illegible] to [illegible] Org. - head space analysis

(213-620-2380) Sa. Date: 4/5/83 Conc.

Pb — 53 mg/K soil
└ 0 ppm water

Zn 120 mg/K
0 H_2O

Sa Pond water

Found - Pb, Zn (Tadpoles) Conc > CAM limits (CAM ext.)

asked { Hubbs
{ Uni-Prop.

rq. C.U. of abandoned drums, etc.
Lab asked to ident. material there
List of things tested for

(Carl Nelson.
Steve Ravinger - eng.)

Sent not. ltr.
Resp. 5/9
List of proposed actions
ident. ext. of contam.
& Proposed C.U.
Newman has indicated that pond is layered

Disc. ongoing w/ Hubbs to do borings
Timing - unknown

[g. Bd. did sa down gradient
Sa results showed 0

PLAINTIFF'S EXHIBIT
302-1
6-5-85
TAD, NP

or Stringfellow 714-685-7487 (9-10:00)
City Council Chambers - RB mtg. (p.m.)

Phillippé to Shimmin
Aerojet had action ongoing there

Source of info: Stringfellow -
going up to site
Universal Propulsion on rt above Pallet yard
Aerojet on left - up Pyrite St.

- Anderson: was told it was propellant burn area

In Sacto - Aerojet piled up solvent + propellants
+ contam. rags.
clean mixing bowls - w/ solvents.

Q: Is there solvent associated w/ this?
May have had labs, drains. conduits to septic

SP talked to Green & Robinson
1) They wanted someone to contact Hinton
re outcome of neg. over pond
2) Wanted Reg 9 to follow up w/ phone
3007/104 questions
- Stringfellow
- Aerojet & Universal Propulsion
3) Use that info. to re group & see whats

Sources:
Laura Richardson - Chi. Tribune 6/5/85 TAD.
Penny Newman - 51262 Pll 3007-3

State of California

Department of Health

Memorandum

To : Angelo Bellomo
Acting Chief
Permits, Surveillance and
Enforcement Section

Date : July 28, 1983

Subject: Florence Pearson's Memorandum of June 30, 1983 Concerning the Site Adjacent to Stringfellow

From : John A. Hinton, P.E.
Regional Administrator
Permits, Surveillance and
Enforcement Section
Southern Region

AUG 02 1983

This is in direct response to Florence Pearson's memo referenced above in which she described the present conditions at the site and made recommendations for site mitigation. In her description of the site, she made three (3) points to which our response is as follows:

1. The site is situated on private property owned by Hubbs Construction and currently leased to the Pallette Company. The entire property is fenced and the only access point onto the property is the entrance gate into the Pallette Company which is locked during non-business hours. Thus Ms. Pearson's determination that the site is "open and accessible to the public" is unwarranted unless the public has the right to trespass on privately owned property or climbs a fence. (Fence is 6' high with 3 strands of barbed wire on top).

2. We agree that the wastes present seem to be laboratory wastes and/or reagent grade chemicals which have been discarded for some unknown reason. There is no evidence of "infectious waste," more likely there is reason to believe that the materials present may have been abandoned by the previous tenant of the property, Universal Propulsion Company. Her judgement that the "materials could be easily removed from the site" must be strongly renounced since there is good reason to believe that some of the chemicals present may be propellant, explosive or pyrotechnic. Furthermore please be advised that the site has been sampled twice by Department of Health Services, once by Riverside County Health, and the pond water and down gradient runoff have been sampled once by the Santa Ana Regional Water Quality Control Board. To this date, testing of these samples have revealed very little evidence of the presence of materials that would by categorized as hazardous or toxic by regulation. We strongly believe that some of the materials present are toxic but short of performing the acute 96 hour LC_{50} Toxicity test with flathead minnows this cannot be proved. All test results are enclosed for review.

TX0563982

3. With respect to the allegation that the site has "been used for an extended period of time by jet propulsion laboratory," please be advised that during the preparation of an EIR in 1980, the pond site was thoroughly investigated for the presence of an endangered plant species of the genus Monadrella in the Mint family. The consultant has told us that at that time, no chemicals or wastes as they appear today were present at the site.

We strongly agree with Ms. Pearson's recommendation that "a clean-up be accomplished in the near future". To this end, the responsible party has already submitted two clean up plans to this office for review and this office has approved the final plan subject to qualifications on July 13, 1983. These qualifications to the clean up plan are attached.

With respect to the performance of the task of writing this memo, this cost my enforcement staff 8 man-hours. Please be advised that most of this information presented here concerning the status of our investigation into this issue has been already relayed to Sacramento via the monthly reporting system. In the future, when visits are made to sites being handled by the Regional office, every effort should be made to involve the Regional office so that up-to-date information can be provided to the public.

Please be advised that the Director has viewed and was briefed on this situation by Carl Nelson on July 22, 1983.

cc: Florence Pearson
Tom Bailey
Bart Simmons
Richard Wilcoxon

Attachments

Memo to John Hinton from Angelo Bellomo
Florence Pearson's Memo
Department of Health Services Sample Results - Incomplete
Santa Ana Regional Water Quality Control Board Sample Results
Riverside County Health Sample Results
Department of Health Services Final Approval of Clean Up Plan

TX0563983

STATE OF CALIFORNIA—HEALTH AND WELFARE AGENCY

GEORGE DEUKMEJIAN, Governor

DEPARTMENT OF HEALTH SERVICES
107 SOUTH BROADWAY, ROOM 7128
ANGELES, CA 90012
(213) 620-2380

July 15, 1983

H.M. Peccorini
Attorney At Law
323 West Court Street
San Bernardino, CA 92401

Dear Mr. Peccorini:

CLEAN-UP PLAN FOR HUBBS CONSTRUCTION PROPERTY, Riverside County

The Clean-up Plan for Hubbs Construction Property, Riverside County, dated June 29, 1983 is hereby approved in concept provided that the following qualifications regarding implementation of the plan are met:

1. All materials collected for disposal except those categorized as propellant, explosive or pyrotechnic, must be disposed of at a permited Hazardous Waste Disposal Facility.

2. If materials categorized as propellant, explosive or pyrotechnic, are found, DHS must be notified immediately. Furthermore, DHS will decide in consultation with the contractor, UPCO and involved parties, the methods of collection, packaging segregation and disposal.

3. All work involving sampling, collection, segregation and packaging must be preformed by a professional contractor, hereafter referred to as the Contractor, who has experience and expertise in chemical leanup work and is capable of performing the tasks outlined in the plan.

4. Methods and Results of the Hazardous Categorization/Identification of all samples taken and/or materials collected will be provided to DHS for inspection. Those materials collected for disposal, except vegetation, which cannot be categorized as corrosive, oxidizer, reactive, flammable, propellant, explosive or pyrotechnic will be categorized as toxic.

5. Prior to implementation of the plan, the identity of the contractor must be known to and approved by DHS. Upon approval, a meeting must take place between DHS and the Contractor to discuss the specific details regarding plan implementation and on site safety.

TX0563099

6. Transport of collected materials for disposal must be performed by a DHS Registered Hazardous Waste Hauler.

7. Prior to implemention of Part B: Secondary Problems under the heading Proposed Actions and Procedures, a meeting must take place between DHS, the Contractor, and other involved parties to discuss the specific details and alternatives involved in performing the tasks described in Part B of the Plan.

8. All work performed in implementing and carrying out this plan must be in accordance with all applicable laws, regulations and ordinances.

It is our understanding that the problems regarding reaching an agreement with UPCO concerning financial responsibility for clean-up are now alleviated. Therefore as soon as possible but no later than July 29, 1983, this office must be notified that

1) An agreement assuming financial responsibility has been reached

2) A contractor has been retained for clean up

3) A tentative date for the start of clean up.

If you have any questions concerning this correspondence, please contact Carl Nelson at the letterhead telephone number.

Sincerely,

Miller C. Chambers

for John A. Hinton, P.E.
Regional Administrator
Southern Region
Permits, Surveillance and
Enforcement Section
Hazardous Waste Management Branch

cc: Arthur B. Cook
Hill, Farrer and Burrill
445 South Figueroa Street
Los Angeles, CA 90017

Bill Hallas
Universal Propulsion Co., Inc.
Black Canyon Stage 1, Box 1140
Phoenix, AZ 85029

Mark Dickerson
Talley Industries
1800 East Deer Valley Road
Phoenix, AZ 90527

TX0564000

Memorandum

John Hinton, Regional Administrator

Date : July 6, 1983

Subject: Site Adjacent to String-Fellow

Re : Florence Pearson's memorandum of June 30, 1983

: Angelo Bellomo, Acting Chief
Permits, Surveillance and
Enforcement Section

The above referenced memo is forwarded to you for appropriate action.

Please advise me of the status of this matter by July 22, 1983.

cc: Florence Pearson
Stan Phillipee
Bart Simmons

Hazardous
JUL 14 1983
California
of Health
LOS ANGELES

TX0563997

JUL 15 1983

Memorandum

To : Angelo Bellomo
Permit, Surveillance & Enforcement Section

Date : June 30, 1983

Subject: Stringfellow

V. : Jim Smith
Permit, Surveillance & Enforcement Section

From : Office of Public Participation & Liaison
714/744 P Street 3-6578

On June 29, 1983, I met with Penny Newman, President, Concerned Neighbors in Action. As part of our visit we went to Stringfellow to view the drainage system at the site and an old disposal site adjacent to Stringfellow on private property.

The local citizens are extremely concerned about this site. I told Penny I would make every effort to communicate information on the condition of the site to the appropriate individuals. The following is my description of the present conditions at the site.

1. The site is not secure, is not fenced and bears no signs warning the public that hazardous wastes are present. It is open and accessible to the public.

2. The wastes at the site look like wastes from a laboratory including various unmarked chemical bottles, broken laboratory vials, rubber gloves and open containers of used cotton swabs. I am concerned that these wastes may contain infectious wastes and extremely toxic chemicals. These materials could easily be removed from the site.

3. The site is alleged to have been used for an extended period of time by jet propulsion laboratory in the area. It may contain many chemicals from this activity.

I understand that the Los Angeles office is coordinating this clean-up. I suggest that every effort be made to secure the site as quickly as possible and that a clean-up be accomplished in the near future. I recommend that it be carried out by a reputable firm under very careful conditions.

Florence Pearson

Florence Pearson
Community Liaison

cc: Stan Phillipee
Bart Simmons

TX0563098

Canyon has left

...HRESS at the bottom of a ...his knee boots ...the muck, or in a raw- ...the middle of a pit near ...when things were slow, he ...measuring the depth. ...Bid park his battered old yel- ...truck in the shade of one of ...the few trees in the upper canyon ...and smoke away the sultry day.

Gibson actually left his post at the pits before the state takeover because of illness — aliments, he hastens to add, that had nothing to do with the pits. If the wastes were poisonous, Gibson contends, he would have been dead long ago.

Gibson, now recuperating at his San Bernardino home from a prostate operation and a slipped disc in his back, said he plans to seek work after his recovery. "I'm too young to retire," said Gibson.

Gibson is not the only fixture no longer in the canyon. Universal Propulsion Co. closed down its propellant mixing and testing facility in early July and relocated near the firm's Phoenix, Ariz., headquarters in a long-planned move.

For more than 15 years Universal had operated from several leased quonsets and temporary buildings on 124 acres just south of the acid pits. A work force of from eight to 15 people produced a mudlike, fast-burning propellant used in emergency release devices for aircraft and in missile recovery systems.

Larry Kempton, director of manufacturing for Universal's parent Talley Corp., said all employees had been offered the opportunity to move to the Phoenix plant and a few had elected to do so.

Among those who declined is Robert Hodges, manager of the local operation for the past several years, who will stay with the company only long enough to complete the relocation.

The only industry now located in Pyrite Canyon is the quarry

(See GHOST, Page B-2)

...ent-prise, sum w... ...howev- ...e area to ...e muscling ...nents of his ...g system. He ...he Ghost o' Pyrite ...nger keeps his vigil ...gfellow acid pits. ...n June 30, Johny ...aker and maintenan... ...e closed industrial ...site, and the state ...responsibility. ...what has been ...for the past ...'s assumption of ...r the pits and ...health hazards ...es may pose ...ship of the site ...1 after former owner James ...gfellow Jr. failed for the ...r to pay property taxes. ...ne... ...the ...ad pits since ...35, has been a lone ...were closed in November ...A long-time employee of the ...gfellow Construction Co., ...n was ...positioned at the site ...ringfellow and was kept on ...the state contracted with ...gfellow to keep a caretaker ...event illegal dumping ...away the curious. ...son monitored the pit ...d manned a jerrybuilt sys- ...of pipes, pumps and leaky ...which moved the acrid, ...fluid from the lower pits ...igher pits of the terraced

...mount of waste, swelled ...rains or the waters ...rground spring, has ...erflowed back to the ...On two occasions ...owed into a flood ...that goes through ...edley to the San-

...rainy seasons. ...ined at the pits ...tank trucks, ...o haul away ...of $450 per ...ere hauled ...danger of ...

John 'Hoot' Gibson
'...I'm too young...

PLAINTIFF'S EXHIBIT 22

Hidden Valley Wildlife Area. On Arlington Avenue, Riverside.
Indio Palms. Ramon Road, 10 miles northwest of Indio.
San Jacinto. On river between Record Road and Gilman Bridge.
Valley Hi. On Twin Pines Road in Banning.

Closed

Quashan. Along Interstate 10 near Arizona border.

Ghost . . .

(Continued from Page B-1)

operation carried on by Rialto contractor Paul J. Hubbs. He purchased most of the canyon from Stringfellow several years ago.

A locked gate now stands at the canyon's entrance just off Granite Hill Road, barring access to the service road winding up the canyon.

The county supervisors have given the canyon land a general plan designation for industrial use. Two industries seeking to locate there have been stalled by a requirement that the acid pits be cleaned up first. The companies are a small rocket assembly facility and a larger construction equipment assembly and storage yard.

The cleanup is under the direction of the Santa Ana Regional Water Quality Control Board. James Anderson, the executive officer of the agency, estimates the project could take from nine to 18 months. Water quality employees now control the site.

got the money to take care of this park."

McCall is not one of the more heavily attended developed parks in the county. Only those with horses are allowed to camp here. Campers at the park last weekend said they like it that way. They regard it as their own mountain getaway camp, and they are disturbed that the county plans to close it for half the year, from November to May.

The attitude expressed by Barbara Ward, of Norco, was typical: "We can clean the place ourselves. Just leave it open!"

Although the county now charges for use of the corrals, Susie Forsberg, 14, of Calimesa said, "We clean the pens ourselves. If anything, they should raise the fees in the winter to keep the park open."

Supervisors recently increased the day use fees from $1 to $1.50 per vehicle at McCall and the county's 10 other revenue-

Weather

RIVERSIDE — Hot weather to continue with slightly cooler temperatures and more humidity expected Wednesday. Today and tomorrow's high 100-108. Yesterday's high 104, overnight low 69.

LOS ANGELES — Patchy fog or low clouds early morning hours near coast. Otherwise sunny today and tomorrow with highs in mid-90s. Low 71.

BEACHES — Early morning clouds with today's high 72-76, low 68-74.

MOUNTAINS — Afternoon and evening clouds with isolated thundershowers. Today and tomorrow's high 85-95, low 58-68.

DESERTS — Some cloudiness during afternoon and evening with isolated thundershowers. Otherwise fair. High in upper deserts 104-110, lower deserts 108-113. Low in upper deserts 74-84, lower deserts 80-88.

Riverside Temperatures

	High	Low	Last Year's High
July 14	96	58	95
July 15	101	59	101
July 16	103	64	101
July 17	100	61	103
July 18	95	61	104
July 19	89	59	100
July 20	95	60	90
July 21	96	59	95

Smog Report

All county zones of the South Coast Air Quality Management District call a first-stage episode when pollutants reach these average concentrations: oxidant, .20 parts per million of air (ppm) for one hour; carbon monoxide, 40 ppm for one hour. Episodes are called for Riverside based on the readings in either Riverside or Rubidoux, whichever is higher.

August 10, 1980

	Oxidant	Carbon Monoxide	Nitrogen Dioxide	Sulfur Dioxide
Riverside	.14	—	—	—
Rubidoux	.18	—	—	—
Corona-Norco	.16	—	—	—
Banning	.09	—	—	—
Palm Springs	.10	—	—	—
Indio	.03	—	—	—
Perris	.15	—	—	—
San Bernardino	.21	—	—	—
Upland	.23	—	—	—
Fontana	.22	—	—	—
Pomona	.19	—	—	—
Downtown LA	.20	—	—	—
Anaheim	.08	—	—	—
Santa Ana Canyon	.11	—	—	—
Pasadena	.28	—	—	—

SUN, MOON

Aug. 18 — FIRST QTR
Aug. 26 — FULL MOON
Sept. 26 — LAST QTR
Sept. 9 — NEW MOON

Moon sets at 8:26 p.m. August 11, rises at 7:53 a.m. August 12.
Sun sets at 7:41 p.m. August 11, rises at 6:08 a.m. August 12.

Tides

National

	High	Low	Prc
Albany	80	65	.06
Albuquerque	96	68	....
Atlanta	95	75	....
Bismarck	75	52	....
Boise	90	64	....
Boston	83	66	.19
Brownsville	84	79	.86
Buffalo	77	65	....
Charlotte	97	73	....
Chicago	78	67	.31
Cincinnati	93	69	.06
Cleveland	79	68	.37
Dallas	98	78	....
Denver	87	57	....
Des Moines	86	67	1.04
Detroit	77	67	.28
Duluth	70	59	1.41
Fairbanks	82	55	....
Helena	81	49	....
Honolulu	90	72	....
Indianapolis	93	69	.81
Kansas City	96	69	1.76
Las Vegas	111	82	....
Louisville	98	75	....
Memphis	99	79	....
Miami	85	75	.16
Milwaukee	72	62	.03
Minneapolis	79	61	.05
New Orleans	94	77	....
New York	86	77	....
North Platte	87	51	.04
Oklahoma City	102	74	....
Omaha	89	63	1.96
Philadelphia	89	74	.03
Phoenix	107	85	....
Pittsburgh	89	68	.92
Portland, Me.	85	61	....
Portland, Ore.	95	54	....
Rapid City	77	52	....
Reno	101	52	....
Richmond	97	73	.04
St. Louis	101	74	.10

California

	High	Low	Prc
24 hours ending at 4 a.m. today.			
Bakersfield	103	77	

file Stanfellow → Universal Properties / the site cleanup

H. M. PECCORINI
ATTORNEY AT LAW
SUITE 403 FIRST AMERICAN BUILDING
323 WEST COURT STREET
SAN BERNARDINO, CALIFORNIA 92401
TELEPHONE
714-888-3731

May 6, 1983

Hazardous Materials Management Section
MAY 09 1983
Department
Health Services
LOS ANGELES

Department of Health Services
107 South Broadway, Room 7128
Los Angeles, CA 90012

Attn: Steve Lavinger

Dear Mr. Lavinger:

In response to Mr. Hinton's letter of April 26, 1983, addressed to me, regarding the two reported illegal dump sites located on the Hubbs property in Pyrite Canyon, please be advised as follows. No substances of any chemical character are used on the subject property by my client other than in connection with its quarry operations situated on the opposite extremity of said property. In connection with such quarry operation, my client uses explosives; principally, gelomite and hercomix. All such explosives are used and stored by my client in conformity with all applicable rules and regulations of the State of California. No waste product remains after the utilization of such explosive materials and none have been transported from the site. Neither my client nor any of his current lessees, to our knowledge, use any chemical substances or materials similar to those situated at the dump sites which we have viewed together.

As I informed you during our telephone conversation today, we have made substantial progress towards an agreement with Talley Industries relative to their participation in the clean-up of the sites in question. Tom Dodson has also prepared a Clean-up Plan for such sites and a copy of the same is enclosed herewith for your review and comment. A final financial agreement has not been made with Talley Industries, but it is contemplated that such agreement will be made in the very near future.

In the meantime, I would appreciate your advising me as to the suitability of the Clean-up Plan prepared by Mr. Dodson.

Very truly yours,

H. M. PECCORINI

HMP/cd
cc: John Hinton
John Fanning
Jim Anderson
Tom Dodson

TX0564011

State of California—Health and Welfare Agency

Department of Health Service
Hazardous Materials Management Sectio

MEMO OF CALL

Name: MIKE PECCORINI

Date: 5/20

Firm:

Time:

Address:

Person Taking or Making Call:

Telephone No.:

EPA No.

Subject:

Message:

Talley will do clean up
contracting for clean up company

Notified Mike that Talley was in violation
of Endorse. letter
attach lists were acquired
Lab is testing for compounds.

TX0564025

Tom Hamilton
wants letter
stating that
STATE IS LEAD
AGENCY

PENNY NEWMAN
(b) (6) [redacted]
Reported info. on
contact with Harold Watson, Pre
15 years as open Dump
used Bull Dozer to Cover
it up
prior to that Space X
used it similarly.

Watson → Richardson
↓
Newman
↙
Judy
↑
Steve

TX0564026

Cleanup plan
for Universal
propulsion
TX0564009

BACKGROUND SITUATION

Certain unknown chemicals and laboratory debris were left at a site on property owned by Paul and Lucile Hubbs. At this point, it is not positively known who left these materials or exactly when they were left. The site used for disposing of these materials is located at the end of a non-maintained dirt road near the easterly line of the Hubbs' property. A spring (assumed to be ephemeral) is located at this site and a small shallow pond presently exists at the site used for disposal. Some of the chemicals and the ponded water appear to have mixed and the water is assumed to be contaminated by these chemicals.

The disposal of laboratory or reagent grade chemicals at this site is illegal and it will be necessary to remove the chemicals and clean up any residual hazardous contamination. At the least, this site can be considered an open dump which is illegal under federal and state law and regulations. If the unknown chemicals are hazardous, the site violates regulations for disposal of hazardous wastes and creates a potential health and/or safety hazard. This problem has been complicated because failure to identify the chemicals has made it difficult to determine what type of disposal facility will be required and how severe the potential health and safety hazard may be.

This site is located in proximity to the Stringfellow Class I Disposal Site, which is currently being maintained by the State Department of Health. This fact, combined with the difficulty in identifying the chemicals present at the site, has resulted in a decision to proceed with the clean-up and restoration of the site under the assumption that the site is contaminated by hazardous waste and represents a health and safety hazard requiring immediate attention.

The property owner and a former tenant have agreed to undertake this task. The agreement of these parties as to how costs of this operation shall be divided shall be documented in a separate agreement. The within document will specify the actions and procedures required to accomplish the clean-up itself. Once a procedure is established that is mutually acceptable to all involved parties (Paul Hubbs, Universal Propulsion, State Department of Health, Riverside County Health Department and Santa Ana Regional Water Quality Control Board), it

TX0564013

will be implemented. Barring unforeseen circumstances, site clean-up and restoration will be considered complete when the actions and procedures defined in this document have been implemented. If problems arise during implementation, all involved parties will be consulted regarding alternative procedures and informed of any changes prior to implementation.

SPECIFIC PROBLEMS

The following specific clean-up and restoration problems have been identified for this unauthorized disposal location. Although these individual problems are inextricably linked, they will be addressed separately for management convenience when discussed in detail below. The primary or direct problems are:

a. identify the boundary of the direct contaminated site or area;

b. identify, package and dispose of all the chemicals at the site;

c. categorize the existing ponded water and collect and dispose of it; and,

d. under the same disposal category as the ponded water, collect, package and dispose of the surface layer of soil underlying the contaminated area.

The secondary or indirect problems are:

1. determine offsite contamination as a result of subsurface or surface water flow;

2. determine residual or continuing contamination of the spring and/or future ponded water; and,

3. determine if the subsoil under the site has any residual contamination.

At this point, this document will not address any further actions that may be required if the above evaluations positively identify offsite or residual contamination not corrected by actions to rectify primary problems. To attempt to identify specific actions in such a case would lead to speculation and unnecessarily complicate the initial clean-up procedure.

TX0564014

Should follow-up actions be required, it is recommended that the involved parties reconvene to select appropriate actions based upon the knowledge developed from secondary problem evaluations when they are completed. Once decontamination is completed, the site (and any extensions) will be suitably restored and the incident can be considered resolved. In addition, all empty barrels located in the borrow pit behind the present pallet manufacturing operation will be examined and a determination will be made about where each barrel should be transported for disposal.

PROPOSED ACTIONS AND PROCEDURES (Clean-up Procedures)

A. Primary Problems

1. Identify Contaminated Site Boundary (Action)

Procedures:

a. A representative(s) of the property owner and Universal Propulsion will conduct a final thorough examination of the contaminated area.

b. A boundary around the site will be identified and all vegetation or other obstructing material will be removed and stored for disposal in an appropriate container. No chemical or other materials will be removed and contaminated area disturbance will be kept at a minimum.

c. The site will be marked off (ropes or some other medium) and the site will be available for inspection by the involved parties.

d. After concurrence on site boundaries is reached, the site will be ready for decontamination to begin. (Adjustments to the site boundary will be made as necessary in the field, should new information indicate the need for it).

2. Chemical Clean-up (Action)

Procedures:

a. Identification: As agreed upon by all involved parties at the April 13 meeting in San Bernardino, each distinct chemical (whether in a container or without container) will be evaluated and identified at a generic level sufficient to prevent the packaging of incompatible wastes. At a minimum, the criteria in CFR 40, Part 261, Subpart C and D(paragraphs 261.20-261.30 and appendices)

and in Chapter 30 (CAC, Title 22, Div. 4) shall be used to insure adequate segregation. The following categories for segregation are suggested: corrosive, flammable (fuel or ignitable waste), toxic, reactive (including water reactive) or oxidizer.

Initial identification will be accomplished by a chemist provided by Universal Propulsion. This chemist will certify the identity of as many distinct chemicals as possible and collect them in proper containers for final packaging.

Any remaining chemicals will be evaluated and identified in the field by a professional hazardous waste management field team under contract to the owner and Universal Propulsion. The contractor will utilize the criteria discussed above.

Once all distinct chemicals or chemical assemblages are categorized, this part of the task will be completed.

Both the chemist and the contractor will survey the drums in the borrow area to determine if they must be handled as hazardous wastes. All barrels deemed non-hazardous will be crushed and hauled by a representative of the land owner to an approved sanitary land fill. All barrels considered hazardous will be either categorized and shipped for disposal or will be triple rinsed and recycled pursuant to regulations (ref. CFR 40, part 261, Subpart D, Para. 261.33).

b. Packaging: Packaging for all chemical wastes will be completed by the above-referenced contractor utilizing adequate segregation practices to ensure compliance with Para. 66500 of Title 22, Division 4, Chapter 30 of the CAC. All packaging materials will, at a minimum, comply with CF 449, Parts 100-199, particularly Parts 173, 177 and 178.

Should propellant, explosive or pyrotechnic wastes be identified at the site, the owner and Universal Propulsion will decide in consultation with the contractor and involved parties whether to detonate or burn the material (at the quarry) or to ship it for disposal.

Packaging operations may proceed at the same time as other operations in order to speed up the decontamination process. It is not our intent to implement all of one procedure prior to initiation of the next procedure. This will prevent double handling of the chemicals.

TX0564016

When all chemicals within the site boundaries have been packaged, this task will be completed.

c. Manifesting: The manifest will be completed by the contractor, utilizing generic category names where necessary. All involved parties will have an opportunity to review the manifest if desired.

The State Health Department will provide an "Extremely Hazardous Waste Disposal" permit if it judges such a permit is necessary for the wastes on the manifest.

Depending on the wastes identified, the contractor, in consultation with all involved parties, shall recommend licensed disposal facilities that can accept the wastes. Once accepted, these facilities shall be identified on the manifest as the final destination for the chemicals.

The landowner will sign the manifest as the producer of the waste.

When the manifest is completed and accepted by all involved parties, a copy will be retained by the generator and this task shall be complete.

d. Shipment: The contractor will haul or arrange for a licensed hauler to transport the wastes to the specified licensed facilities.

The manifest will be completed by the disposer and the proper copies returned to the producer and the State Department of Health.

With the return of the manifest to the producer, the chemical clean-up task is completed.

3. Pond Clean-Up (Action)

After all chemicals and observable chemical residues have been removed from the contaminated site, the pond water will be collected for disposal as a hazardous waste.

a. Categorization: The water in the pond has been exposed to and possibly mixed with a number of unidentified chemicals. The exact hazard is unknown, but an attempt will be made to categorize the waste using the general categories identified in paragraph A.2.a. above.

TX0564017

The contractor will collect two samples at opposite ends of the pond and apply the appropriate categorization criteria. If the water cannot be categorized, it will be identified as a general waste for purposes of disposal.

Once categorized, this task is completed.

b. Collection: The contractor will provide a vacuum truck with appropriate lining and sufficient capacity to collect all the pond water and loose surface debris.

The water will be collected and volume estimated from truck instruments or by the truck's operator.

When all pond water and loose surface material are removed from within the contaminated area, the soil removal can begin. After soil removal is completed, the remaining liquid shall be collected for disposal.

c. Manifesting and Shipment: Procedures outlined in Paragraphs A.2.c. and d. shall be followed for the liquid collected from the pond.

The State Department of Health shall provide waivers, if necessary, to dispose of this liquid at a mutually agreeable licensed disposal facility.

The contractor will deliver the liquid to the specified facility and this will complete this task.

With the return of the manifest from disposal of the pond liquid, the pond clean-up task is completed.

4. Contaminated Soil Clean-Up

Immediately after the pond liquid is removed, the surface soil and muck will have to be collected and removed for disposal as a hazardous waste. Based on discussions at the April 13 meeting, it is recommended that approximately the top 3 inches of soil be removed within the contaminated area. To do this, it is suggested that a back hoe with an even shovel be used to accomplish the task. The contractor may suggest an alternative to this method, and a final determination on the exact equipment and procedure should be left until feedback is obtained from the contractor.

a. Categorization: The soil removed from within the contaminated area will be classified in the same category accepted for the pond liquid.

This task is completed when the pond liquid is categorized.

b. Collection and Packaging: The contractor will use the method identified in this section or an alternate that will be accepted by the involved parties prior to implementation.

The soil material will be containerized in barrels or other acceptable enclosed containers (refer to Section A.2.b.). The most economical packaging media in compliance with regulations shall be used.

It is essential that soil collection begin immediately after the liquid is collected. The spring appears to still be flowing and the underlying soil (most of it) will be saturated. The timing of these two removal operations must be well coordinated. An assumption is being made that removal of the surface liquid, then the soil, and finally the liquid remaining within the contaminated area after soil removal will be sufficient to decontaminate the site. Sufficient testing will be conducted after this initial decontamination effort to judge whether this assumption is true. Until such data is available, it does not seem justifiable to attempt a more sophisticated clean-up approach to this site.

When the soil and final liquid vacuum collection efforts are complete, this task is complete.

c. Manifesting and Shipment: The procedure outlined in A.3.c. will be followed for the contaminated soil removal and this will complete this task.

With the return of the manifest from the disposal of the contaminated soil, the soil clean-up task is completed and the whole primary problem of decontamination of the contaminated site is completed. The remaining tasks will evaluate the success of this primary decontamination effort and determine the extent of offsite and secondary contamination problems.

B. Secondary Problems

As previously implied in the background and specific problem discussion sections, the procedures for solving the secondary problems are much less specifically defined for this site. In deciding to proceed with clean-up and decontamination of this site without identifying

TX0564019

the specific contaminants, a greater analytic burden is placed on the evaluations in this phase to determine potential offsite or residual contamination. Part of this burden will be removed if the chemical identification process provides a mutually acceptable diagnostic chemical or element for evaluating potential hazardous contamination. Without such a diagnostic chemical or element, it will be necessary to rely upon a mutually acceptable battery of chemical tests to reach conclusions about potential hazards. With this in mind, let us proceed with a proposed set of actions and procedures to evaluate secondary contamination problems.

1. Offsite Contamination (Action)

Procedures:

a. Sample Site Selection: Based on field observations and discussions at the April 13 meeting, the most appropriate location for sampling potential offsite (downstream, both surface and subsurface) contamination is at the base of the natural hill slope directly below the contaminated site. Groundwater resurfaces in this area and observations indicate that surface flows have deposited alluvium in this general area.

A representative of Mr. Hubbs and an engineer from the Santa Ana RWQCB (other involved party representatives, if needed) will select a composite water and surface soil sample for analysis from this area.

When a site is agreed upon, this task will be complete.

b. Sample Collection: A certified laboratory will be selected by the land owner and Universal Propulsion and will be taken to the identified site to collect an adequate sample for analysis.

After collecting the sample, this task is completed.

c. Sample Analysis: If a mutually acceptable diagnostic chemical or element for indication of contamination is identified, the sample will be analyzed for it.

If a diagnostic or indicator chemical or element is not acceptable, the following analyses are recommended. If none of these are found in abnormal

TX0564020

quantities or quantities of concern, then it will be concluded that offsite contamination does not exist:

Inorganic and physical properties:

Antimony	Vanadium
Arsenic	Zinc
Barium	Cyanide
Cadmium	Chloride
Chromium	Fluoride
Copper	pH
Lead	Specific Conductivity, micromho/cm
Mercury	Ignitability (CFR 40, Part 261,
Molybdenum	para. 261.21)
Nickel	Corrosivity (Ibid., para. 261.22)
Selenium	Reactivity (Ibid., para. 261.23)
Silver	EP Toxicity (Ibid., para. 261.24)
Thallium	or Calif. Toxicity Test (Title 22, Chapt. 30, para. 66886)

Organics:

Benzene	Trichloroethylene
Phenol	Toluene

Receipt of the analysis from the laboratory will conclude this task.

d. Contamination Evaluation and Follow-up: The involved parties will each review the sample analysis and reach independent conclusions regarding offsite contamination and the degree of potential hazard if contamination exists.

If the conclusion is that the downstream area has not been contaminated by the site, the information will be made public by an involved party representative and no further action will be required. This will end this task.

If the conclusion that contamination exists or may exist, the involved parties will reconvene and develop further investigation strategy. This will conclude the procedures outlined in this document but will not terminate the task of determining potential offsite contamination.

2. Residual Contamination of the Spring (Pond Water) (Action)

After removal of the existing ponded water, the immediate subsoil and the immediate volume of water

TX0564021

that will refill the contaminated site, the area will again refill itself. It will be necessary to evaluate this ponded water after it has some time to reestablish some sort of equilibrium. This section provides the procedures for evaluating the ponded water after it has had time to achieve a balance with its new circumstances.

Procedures:

a. Interval for Reestablishing Equilibrium: After the contaminated site has been decontaminated as proposed in Section A, an acceptable resampling time must be established for the pond area.

Since insufficient data is available on the flow of the spring, an arbitrary time interval of two weeks is suggested between clean-up completion and the resample date.

If this time frame is acceptable, this task is completed. If not acceptable, an alternative time frame with accompanying rationale should be supplied.

b. Sample Site Selection: Since the pond will have greater depth and exposure to wind, it should be well mixed by the time this sample is collected. A composite sample from the center and each end of the pond should be collected for analysis, and is expected to be representative of the pond water.

Acceptance of this proposal completes this task. Proposed alternatives should include a discussion of rationale for the proposal.

c. Sample Collection: Procedures outlined in Section B.1.b. should be adequate to fulfill this task.

d. Sample Analysis: If the existing pond water is categorized in physical or chemical terms, the residual sample should initially be screened for the same criteria.

If no acceptable evaluation criteria are available, including diagnostic or indicator chemical or element, then the analysis identified in Section B.1.c. should be conducted.

Receipt of the analyses from the laboratory will conclude this task.

TX0564022

e. Contamination Evaluation and Follow-Up: Procedures defined in Section B.1.d. should be followed to complete this task.

3. Subsoil Contamination (Action)

The subsoil beneath the pond may have been contaminated if water percolating through the soil carried soluble hazardous chemicals. In order to evaluate whether the soil contains enough contaminants to become a future independent source of hazardous material, it will have to be evaluated.

Procedures:

a. Sample Time: At the same time residual pond contamination is sampled, the subsoil should be sampled.

If this is accepted, this task is completed. If not acceptable, an alternative should be provided along with supporting rationale.

b. Sample Site Selection: Two sample sites are recommended - one near the spring (adjacent to the hill) and a second at the outside lip of the pond area.

These sites should be reviewed in the field by any involved party representatives; and, if these sites are unacceptable, two alternative locations should be selected.

When sites are accepted, this task is completed.

c. Sample Collection: With the assistance of the certified laboratory, two soil cores shall be collected by the landowner or the owner's representative to a depth of ten feet below the surface.

These samples will be integrated, and the laboratory will extract the necessary soil fluids for analysis.

Once the cores are provided to the certified laboratory, this task is complete.

d. Sample Analysis: Procedures defined in Section B.2.d. will be adequate for the soil liquid sample.

TX0564023

e. Contamination Evaluation and Follow-Up: Procedures defined in Section B.1.d. should be implemented to complete this task.

C. Conclusion

Completion of the secondary problem evaluation will demonstrate whether contamination from the chemicals is restricted to the immediate site or extends offsite. The information generated by this program will either terminate the evaluation program or provide a basis for defining future corrective measures. The program will move to physical restoration of the site or it will open up a complex site evaluation and restoration procedure. In the case of continuing evaluation due to offsite or residual contamination, the involved parties will have to reconvene to develop new strategy. If the area is adequately decontaminated, then the landowner will make a decision on how to physically restore the site and assume responsibility for returning the site to an acceptable physical condition.

TX0564024

State of California | Department of Health Services

Memorandum

To : John Hinton
Regional Administrator
Southern Region
Hazardous Waste Management Branch

Date : April 4, 1983

Subject : Report on Illegal Dump Site Near Stringfellow

APR 07 1983

From : W. C. Gedney W C Gedney
Sanitary Engineering Branch
San Bernardino

On April 1, 1983, at around 10:00 a.m., Tom Bailey with the Hazardous Waste Management Branch called to inform me that he had just received a report from a Laura Richardson of an "illegal dump-site" near Stringfellow. She is a reporter with the Chicago Tribune newspaper from the Dallas, Texas office and had claimed that she had been shown this site on March 31, 1983. She stated that it was uphill of the Stringfellow site. Located there was a shallow pond which contained several plastic buckets, test tubes and some mounds of chemical precipitate. She also mentioned that there were a large number of 50-gallon barrels located nearby. Tom requested that I follow-up on this and specifically do the following:

1. Contact Richardson and meet her out at the site to verify its location.

2. Determine the exact location of this site relative to Stringfellow. Obtain physical evidence (photographs) and samples if possible.

3. If the site were on State property, have Chancellor and Ogden vacuum up liquid portion and dispose of it at BKK landfill.

I met with Richardson in Jurupa and we then went to the site at approximately 11:30 a.m. Upon arrival, she directed me to go through the Pallette Company yard south-east of the Stringfellow site. It was determined that the illegal dumpsite is not located above Stringfellow. Attachment No. I shows its relative location. It is about 1000 feet south-east of the main access gate to Stringfellow and about 1500 feet off away from the clay dam. It is located at approximately 1050 feet in elevation. Several photographs are attached. In general, the area consisted of a pond with a number of trash barrels, plastic waste tubes, test tubes, other trash, and several "mounds" of chemical precipitate. One unbroken plastic bag of white powder was also in the pond. I took no samples and did not take any pH readings.

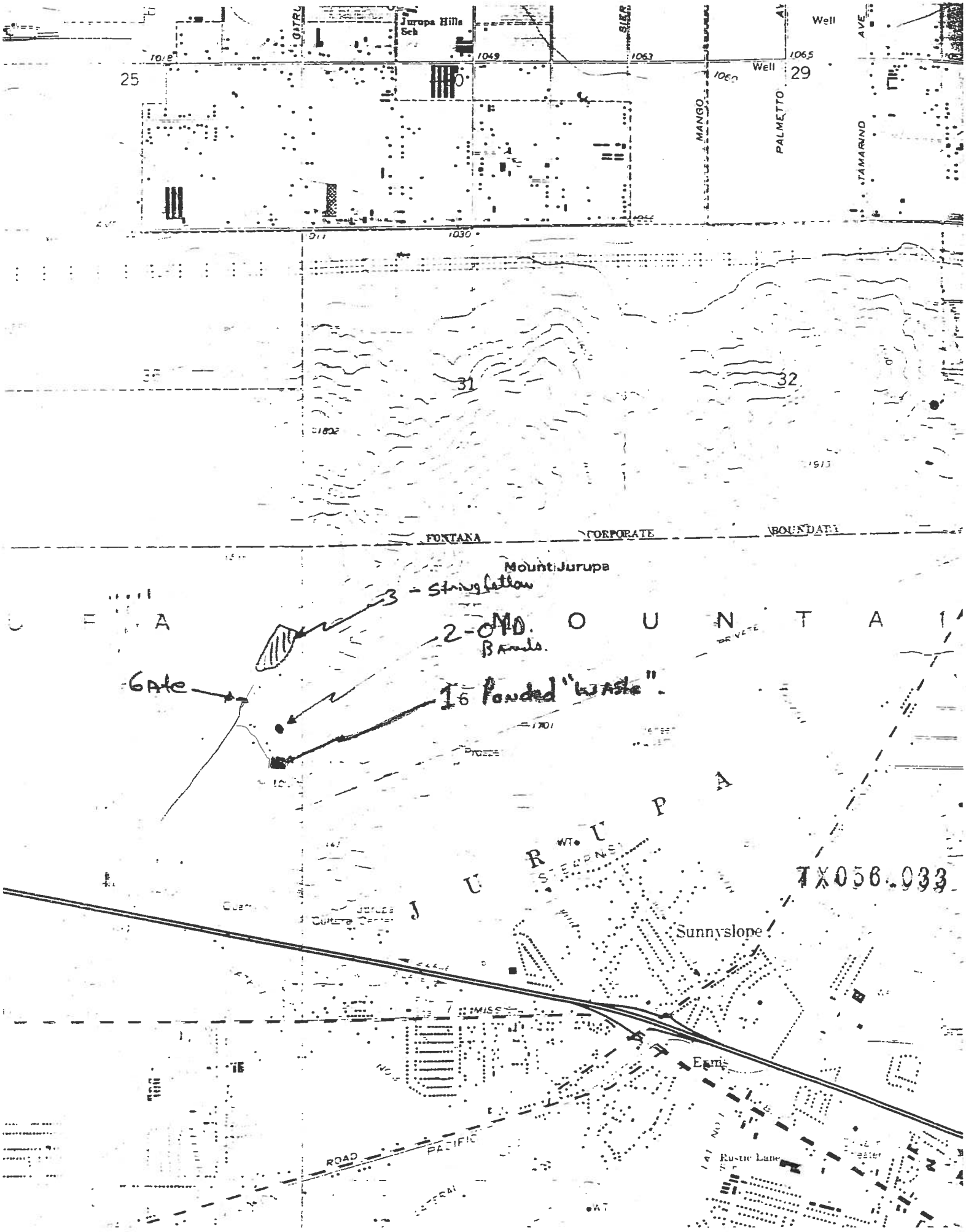
Laura then showed me a second area north of the pond. This is almost due east of the Stringfellow gate. There was some kind of small scale mining operation located there in the past. About 30 old 55-gallon drums were visible from above. I did not get close enough to read the labels. Laura claimed that some of them had "hazardous chemical" labels.

I then contacted Tom Bailey (from the Stringfellow site) to inform him of what I had found. He said he would contact John Hinton immediately and requested I document my findings in writing.

After my conversation, a Mr. Jerry Gatewood drove onto the Stringfellow site and chastised me for entering "his property" without contacting him beforehand. I informed him that I was investigating his pallete yard at the request of Tom Bailey. I assured him that he would definitely be contacted about this site in the very near future. It is noted that the reporter, Laura Richardson, later became very ill after leaving the area (about 1 - 2 hours later). Reportedly, this was due to a prior physical condition and was not apparently related to her having been at Stringfellow or the illegal dump site.

WCG:mo

cc: Tom Bailey, Hazardous Waste Management Branch, Sacto
Berk., S.D., District



Jurupa Hills Sch
Well
1049
1063
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25
29
MANGO
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TAMARIND
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31
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FONTANA
CORPORATE
BOUNDARY
Mount Jurupa
3 - Stringfellow
2 - OLD Barrels.
6 Ate
1 6 Ponded "waste".
J U R U P A
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Sunnyslope
Ernis
Rustic Lane
ROAD
PACIFIC

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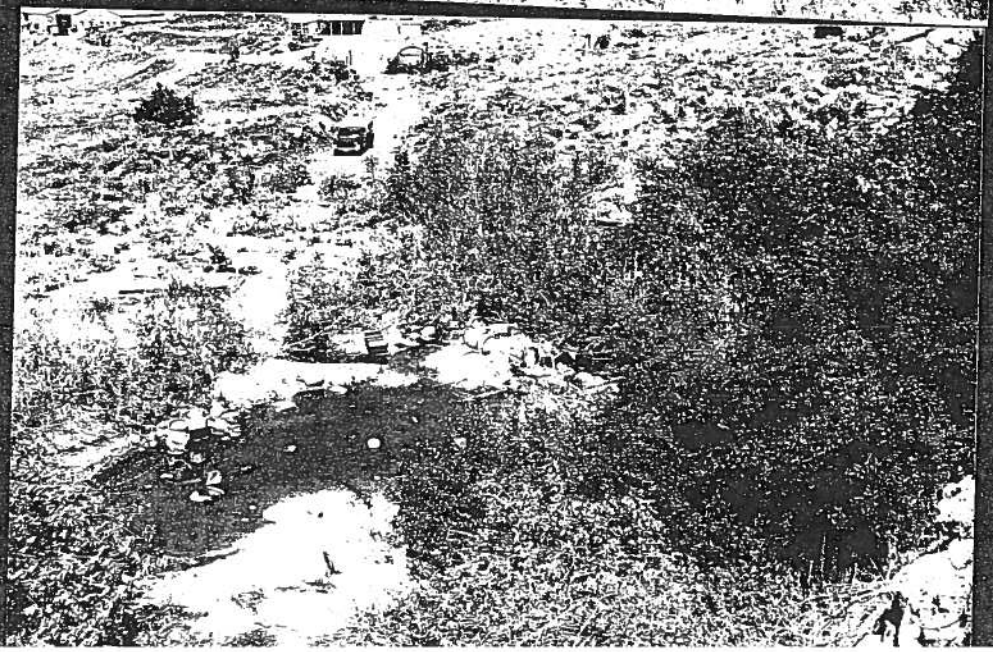


1.0560038

STF file

STATE OF CALIFORNIA

OFFICE MEMO
STD. 100 (REV. 11-75)

DATE 4/5/83

TO: Tom Bailey
DOHS-SCERS 4/11/3

ROOM NUMBER

FROM: Bill Gedney
DOHS - SEB

PHONE NUMBER

SUBJECT: Illegal Dumpsite Near Stringfellow.

Per your request, I have documented my actions and observations made on April 1, 1983 on the enclosed tape. A written memo on this incident was sent to John Hinton on 4/4/83 and a copy sent to you. This memo was fairly succinct and the enclosed tape expands upon it in greater detail. Also enclosed are photos of the dumpsite.

TX0564035

cc: Berk, SA, Dist.

[illegible] (Lab only) [illegible]

to 83-4086

RIVERSIDE COUNTY DEPARTMENT OF HEALTH
LABORATORY
HAZARDOUS MATERIALS SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

COLLECTOR J.K. Iversen DATE SAMPLED 4-4-83 TIME 3:00 PM

LOCATION OF SAMPLING:
NAME Hub Property TEL NO. ( )

ADDRESS Pyrite Cyn, Glen Avon, Cal
Number Street City State Zip

LAB NO. (Lab only)	SAMPLING NUMBER	TYPE OF SAMPLE*	FIELD INFORMATION**
83-4-084	Hub-1	Unknown Chemical	found in pond - white matt subway on west side of pond
83-4-085	Hub-2	Unknown Chemical	found beside pond on east side
83-4-086	Hub-3	soil	from pond bottom on west side

Analysis Requested pH, metals (Total)

CHAIN OF CUSTODY:

1. [illegible] Supervising Lab April 4, 83 - April 5, 83
signature title inclusive dates
2. [illegible] Chemist 4-5-83 - 4-13-83
signature title inclusive dates
3. signature title inclusive dates
4. signature title inclusive dates

SPECIAL REMARKS
(e.g. duplicate sample given to company, etc.)

PART II: LABORATORY SECTION

RECEIVED BY [illegible] TITLE Chemist DATE 4-5-83 9:40 am

ADDITIONAL INSTRUCTIONS:

TX0563093

*Indicate whether sample is sludge, soil, etc; **Use back of page for additional info.

3575 11th STREET
RIVERSIDE, CALIFORNIA 92

APR 27 1983
...nment
... Services
OS ANGELES

CHEMICAL ANALYSIS REPORT FORM
for
MULTIPLE SAMPLES

Industry Name (with address)
Hub Property
Pyrite Cyn, Glen Ave, CA

Collected by: Iversen
Date and Hour Collected:
4-4-83 1500

Matrix
Chemical + Soil

Date and Hour received by Lab (initialed)
4-5-83 0940 mcg

Samples Analysed for:

Lab Number	Sample Number	pH	LEAD	CHROMIUM	CADMIUM	ARSENIC
83-4-084	Hub-1	8.8	28	<3	<2	10
83-4-085	Hub-2	5.7	16	<3	<2	4
83-4-086	Hub-3	7.6	35	2	<2	30

ug/gm

Preliminary Report.
Reported by: M Griffin Chemist
Date:
4-5-83 - prelim
4-12-83 - prelim

Page 1/2

1X0563091

3575 11th STREET
RIVERSIDE, CALIFORNIA 925

CHEMICAL ANALYSIS REPORT FORM

for

MULTIPLE SAMPLES

Industry Name (with address)
Hub Property
Pyrite Cyn, Glen Avon, CA

Collected by: Iversen

Date and Hour Collected:
4-4-83 1500

Matrix
Chemical + Soil

Date and Hour received by Lab (initialed)
4-5-83 0940 mcg

Samples Analysed for:

Lab Number	Sample Number	Nickel	Mercury	Zinc	Copper	
83-4-084	Hub-1	24	2.0	12.	<3	
83-4-085	Hub-2	18	1.0	6	<3	
83-4-086	Hub-3	.21	1.8	34	10	

µg/gm

Reported by: McGiffin, Chemist

Date: 4/12/83 prelim. report
4/13/83 Final

TX0563092

Page 2/2

(...ain) _____

to 83-4-085

RIVERSIDE COUNTY DEPARTMENT OF HEALTH
LABORATORY
HAZARDOUS MATERIALS SAMPLE ANALYSIS REQUEST

PART I: FIELD SECTION

COLLECTOR J. Iversen DATE SAMPLED 4-6-83 TIME 3:00
LOCATION OF SAMPLING:
NAME Paul Hubb's Property TEL NO. ( )
ADDRESS Pyrite Cyn, Glen Avon, CA
Number Street City State Zip

LAB NO. (Lab only)	SAMPLING NUMBER	TYPE OF SAMPLE*	FIELD INFORMATION**
83-4-087	Hubb 4	Unknown Chemical	Found in plastic bag in pond (westsi
83-4-088	Hubb 5	Unknown Chemical	Found in plastic bag ~~[illegible]~~ on ground on west side of pond

Analysis Requested pH, total heavy metals

CHAIN OF CUSTODY:
1. [signature] Hazardous Sam 4-6-83 - 4-7-83
signature title inclusive dates
2. [signature] Chemist 4-7-83 - 4-20-83
signature title inclusive dates
3. ___ ___ - ___
signature title inclusive dates
4. ___ ___ - ___
signature title inclusive dates

SPECIAL REMARKS _____
(e.g. duplicate sample given to company, etc.)

PART II: LABORATORY SECTION

RECEIVED BY [signature] TITLE Chemist DATE 4-7-83

ADDITIONAL INSTRUCTIONS: _____

TX0563096

*Indicate whether sample is sludge, soil, etc; **Use back of page for additional info.
SAN 040 (New 12/82) Distribution: White - file; Canary - lab; Pink - Hazardous Waste Specialist

3575 11th STREET
RIVERSIDE, CALIFORNIA 9250

CHEMICAL ANALYSIS REPORT FORM

for

MULTIPLE SAMPLES

Industry Name (with address)
Paul Hubbs Property
Pyrite Canyon, Glen Avon, CA

Collected by: Iversen

Date and Hour Collected:
4-6-83 3:00p

Matrix (Check)
White Chemical

Date and Hour received by lab (initialed)
4-7-83 1100 mcj

Samples Analyzed for:

Lab Number	Sample Number	Zinc	Nickel	Silver	Copper	Mercury
83-4-057	H114	3.	8.	6	2.	0.6
83-4-058	H115	8.	10.	8	2.	0.2

Reported by: M. Hill, Chemist

Date: 4/19/83

2/2

1X0563095

LABORATORY ROOM 236
3575 11th STREET
RIVERSIDE, CALIFORNIA 9250

Hazardous

APR 27 1983

California Dept of Health

LOS ANGELES

CHEMICAL ANALYSIS REPORT FORM

for

MULTIPLE SAMPLES

Industry Name (with address)
Paul Hubb's Property
Pyrite Canyon, Lake Arrow, CA

Collected by: Iversen

Date and Hour Collected:
4-6-83 3:00p

Matrix (Chalky)
White Chemical

Date and Hour received by Lab (initialed)
4-7-83 1100 mcg

Samples Analysed for:

Lab Number	Sample Number	pH	Lead	Chromium	Cadmium	Arsenic
3-4-087	Hubb 4	8.8	77.	2.	10.	4.
3-4-088	Hubb 5	6.3	77.	2.	10.	2.

Reported by: M. Duffin, Chemist

Date: 4/19/83

TX0563094

1/2

SAMPLE FOR CHEMICAL ANALYSIS DJS 1 4/5/83 4-6- (Leave Blank) 8844

Purveyor and Address (include city and county): Santa Ana Regional WQCB 6809 Indiana Ave Riverside 92506

System Number: [ ][ ][X][ ][ ][ ]

Serial Number: C 09827

Sampling Point: Small Pond SE of Univ. Propulsion

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☒ Waste water ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☒ GENERAL MINERAL ANALYSIS

		(mg/l as $CaCO_3$)	
☐ Ca	55.	☐ Hardness	245.
☐ Mg	26.	☐ HCO_3	318.
☐ Fe Total	<002	☐ CO_3	112.
☐ Mn	002	☐ OH	0.
☐ Na	115.	☐ Total Alk	430.
☐ K	11.6	☐ Cl	60.
☐ pH	8.4	☐ SO_4	108.
☐ Total Dissolved Solids	1210	☐ F	0.45
		☐ NO_3	22.

TRACE ELEMENTS: ☐ Al ☐ Ag ☐ As ☐ B ☐ Cd ☐ Cr ☐ Cu ☐ Hg ☐ Pb ☐ Ni ☐ Se ☐ Zn ☐

☐ Other analyses desired (specify):

Date Reported: 4-8-83

Analyst: NL 28 ML MO

☐ Turb. TU ☐ NH_3-N ☐ BOD ☐ Susp. Solids ☐ PO_4

☐ Spec. Cond. µmhos/cm ☐ ORG-N ☐ Grease ☐ Set Solids ml/l/hour ☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California - Department of Health Services
Sanitation and Radiation Laboratory Section
Southern California Laboratory Section

SAMPLE FOR CHEMICAL ANALYSIS DJS 2 4/5/83

Date Received: 4-6-83 (Leave Blank)

Lab. No.: 8845

Purveyor and Address (include city and county): SARWQCB 6809 Indiana Riverside

System Number: [ ][ ][X][ ][ ][ ]

Serial Number: C 09830

Sampling Point: Drain Channel between Univ. Prop & Pond

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☒ Waste water ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☒ GENERAL MINERAL ANALYSIS

		(mg/l as $CaCO_3$)	
☐ Ca	39.	☐ Hardness	175.
☐ Mg	19.	☐ HCO_3	78.
☐ Fe Total	<002	☐ CO_3	0.
☐ Mn	<002	☐ OH	0.
☐ Na	39.0	☐ Total Alk	78.
☐ K	1.8	☐ Cl	32.
☐ pH	6.9	☐ SO_4	90.
☐ Total Dissolved Solids	400	☐ F	0.37
		☐ NO_3	49.

TRACE ELEMENTS: ☐ Al ☐ Ag ☐ As ☐ B ☐ Cd ☐ Cr ☐ Cu ☐ Hg ☐ Pb ☐ Ni ☐ Se ☐ Zn ☐

☐ Other analyses desired (specify):

Date Reported: 4-8-83

Analyst: KS ML MO, VT

☐ Turb. TU ☐ NH_3-N ☐ BOD ☐ Susp. Solids ☐ PO_4

☐ Spec. Cond. µmhos/cm ☐ ORG-N ☐ Grease ☐ Set Solids ml/l/hour ☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0563984

Southern California Laboratory Section
SAMPLE FOR CHEMICAL ANALYSIS DJS 3 4/5/83 | 4-6-8 | (Leave Blank) 8846

Purveyor and Address (include city and county): SARWQCB 6809 Indiana, Riverside

System Number: [X]

Serial Number: C 09834

Sampling Point: Pyrite channel below Stringfellow opposite storage tanks

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: [ ] Raw Surface Water [ ] Drinking Water [ ] Raw [ ] Treated [X] Waste water: [ ] Raw [ ] Chlorinated [ ] Trade Waste [ ] Other

Send Report To: [ ] WSS Dist. # [ ] County HD [ ] DOT Dist. # [ ] National Park Serv. [X] RWQCB # 8 [ ] Other

Results are expressed as mg/l unless specified

[X] GENERAL MINERAL ANALYSIS

		(mg/l as $CaCO_3$)	
Ca	60.	Hardness	300.
Mg	37.	HCO_3	56.
Fe Total	090	CO_3	0.
Mn	16	OH	0.
Na	47.0	Total Alk	56.
K	2.9	Cl	46
pH	7.2	SO_4	187
Total Dissolved Solids	565	F	180
		NO_3	8

TRACE ELEMENTS: Al, Ag, As, B, Cd, Cr, Cu, Hg, Pb, Ni, Se, Zn

[ ] Other analyses desired (specify):

Date Reported: 4-8-83 | Analyst: RS MO ML

[ ] Turb TU | [ ] NH_3-N | [ ] BOD | [ ] Susp. Solids | [ ] PO_4

[ ] Spec. Cond µmhos/cm | [ ] ORG-N | [ ] Grease | [ ] Set Solids ml/l/hour | [ ] MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California - Department of Health Services
Sanitation and Radiation Laboratory Section
Southern California Laboratory Section
SAMPLE FOR CHEMICAL ANALYSIS DJS 4 4/5/83

Date Received: 4-6-83 | (Leave Blank) Lab. No. 8847

Purveyor and Address (include city and county): SARWQCB 6809 Indiana, Riverside

System Number: [X]

Serial Number: C 09837

Sampling Point: Peripheral ditch at North side of Stringfellow Site

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: [ ] Raw Surface Water [ ] Drinking Water [ ] Raw [ ] Treated [X] Waste water: [ ] Raw [ ] Chlorinated [ ] Trade Waste [ ] Other

Send Report To: [ ] WSS Dist. # [ ] County HD [ ] DOT Dist. # [ ] National Park Serv. [X] RWQCB # 8 [ ] Other

Results are expressed as mg/l unless specified

[X] GENERAL MINERAL ANALYSIS

		(mg/l as $CaCO_3$)	
Ca	101.	Hardness	450.
Mg	48.	HCO_3	234.
Fe Total	<002	CO_3	0.
Mn	002	OH	0.
Na	76.	Total Alk	234.
K	2.5	Cl	88.
pH	7.5	SO_4	187.
Total Dissolved Solids	825	F	063
		NO_3	78.

TRACE ELEMENTS: Al, Ag, As, B, Cd, Cr, Cu, Hg, Pb, Ni, Se, Zn

[ ] Other analyses desired (specify):

Date Reported: 4-8-83 | Analyst: RS ML MO

[ ] Turb TU | [ ] NH_3-N | [ ] BOD | [ ] Susp. Solids | [ ] PO_4

[ ] Spec. Cond µmhos/cm | [ ] ORG-N | [ ] Grease | [ ] Set Solids ml/l/hour | [ ] MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball-point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0563085

SAMPLE FOR CHEMICAL ANALYSIS JJS 1 4/5/83 | 1 6 0 | (Leave Blank) 0 0 7 0

Purveyor and Address (include city and county): SARWQCB 6809 Indiana Riverside

System Number: [X]

Serial Number: C 09829

Sampling Point: Small Pond SE of Univ Propulsion

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: [ ] Raw Surface Water [ ] Drinking Water [ ] Raw [ ] Treated [X] Waste water: [ ] Raw [ ] Chlorinated [ ] Trade Waste [ ] Other

Send Report To: [ ] WSS Dist. # [ ] County HD [ ] DOT Dist. # [ ] National Park Serv. [X] RWQCB # 8 [ ] Other

Results are expressed as mg/l unless specified

[ ] GENERAL MINERAL ANALYSIS (mg/l as $CaCO_3$)

[ ] Ca		[ ] Hardness	
[ ] Mg		[ ] HCO_3	
[ ] Fe Total		[ ] CO_3	
[ ] Mn		[ ] OH	
[ ] Na		[ ] Total Alk	
[ ] K		[ ] Cl	
[ ] pH		[ ] SO_4	
[ ] Total Dissolved Solids		[ ] F	
		[ ] NO_3	

TRACE ELEMENTS: [ ] Al [ ] Ag [ ] As [ ] B [ ] Cd [ ] Cr [ ] Cu [ ] Hg [ ] Pb [ ] Ni [ ] Se [ ] Zn [ ]

[X] Other analyses desired (specify): Purgeable Organics

m, P-Xylenes = 0.21 µg/l

O-Xylene = 0.26 µg/l

Date Reported: 4-7-83 | Analyst: P.H.

[ ] Turb. TU | [ ] NH_3-N | [ ] BOD | [ ] Susp. Solids | [ ] PO_4

[ ] Spec. Cond µmhos/cm | [ ] ORG-N | [ ] Grease | [ ] Set Solids ml/l/hour | [ ] MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California - Department of Health Services
Sanitation and Radiation Laboratory Section
Southern California Laboratory Section

SAMPLE FOR CHEMICAL ANALYSIS DJS2 4/5/83

Date Received: 4-6-83 | Lab. No. (Leave Blank) 8849

Purveyor and Address (include city and county): SARWQCB 6809 Indiana Riverside

System Number: [X]

Serial Number: C 09833

Sampling Point: Small Drain Channel between Universal Propulsion & Pond

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: [ ] Raw Surface Water [ ] Drinking Water [ ] Raw [ ] Treated [X] Waste water: [ ] Raw [ ] Chlorinated [ ] Trade Waste [ ] Other

Send Report To: [ ] WSS Dist. # [ ] County HD [ ] DOT Dist. # [ ] National Park Serv. [X] RWQCB # 8 [ ] Other

Results are expressed as mg/l unless specified

[ ] GENERAL MINERAL ANALYSIS (mg/l as $CaCO_3$)

[ ] Ca		[ ] Hardness	
[ ] Mg		[ ] HCO_3	
[ ] Fe Total		[ ] CO_3	
[ ] Mn		[ ] OH	
[ ] Na		[ ] Total Alk	
[ ] K		[ ] Cl	
[ ] pH		[ ] SO_4	
[ ] Total Dissolved Solids		[ ] F	
		[ ] NO_3	

TRACE ELEMENTS: [ ] Al [ ] Ag [ ] As [ ] B [ ] Cd [ ] Cr [ ] Cu [ ] Hg [ ] Pb [ ] Ni [ ] Se [ ] Zn [ ]

[X] Other analyses desired (specify): Purgeable Organics

none detected.

(< 0.10 µg/l.)

Date Reported: 4-7-83 | Analyst: P.H.

[ ] Turb. TU | [ ] NH_3-N | [ ] BOD | [ ] Susp. Solids | [ ] PO_4

[ ] Spec. Cond µmhos/cm | [ ] ORG-N | [ ] Grease | [ ] Set Solids ml/l/hour | [ ] MBAS

Form LAB-800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0563986

SAMPLE FOR CHEMICAL ANALYSIS JS 3 4/5/83 | 4-6-8 (Leave Blank) 8850

Purveyor and Address (include city and county): SARWQCB, 6809 Indiana, Riverside

Sampling Point: Pyrite Channel below Stringfellow opposite storage tanks

System Number: [ ][ ][X][ ][ ][ ]

Serial Number: C 09836

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☐ Waste water: ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS (mg/l as $CaCO_3$)

☐ Ca		☐ Hardness	
☐ Mg		☐ HCO_3	
☐ Fe Total		☐ CO_3	
☐ Mn		☐ OH	
☐ Na		☐ Total Alk.	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS: ☐ Al ☐ Ag ☐ As ☐ B ☐ Cd ☐ Cr ☐ Cu ☐ Hg ☐ Pb ☐ Ni ☐ Se ☐ Zn ☐

☒ Other analyses desired (specify): Purgeable Organics see attached sheet.

Date Reported: 4-7-83 | Analyst: P.H

☐ Turb TU	☐ N-NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond µmhos/cm	☐ ORGA	☐ Grease	☐ Set Solids ml/l/hour	☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California - Department of Health Services
Sanitation and Radiation Laboratory Section
Southern California Laboratory Section

SAMPLE FOR CHEMICAL ANALYSIS DJS 9 4/5/83 | Date Received 4-6-83 (Leave Blank) Lab. No. 8851

Purveyor and Address (include city and county): SARWQCB, 6809 Indiana, Riverside

Sampling Point: Peripheral ditch at north side of Stringfellow Site

System Number: [ ][ ][X][ ][ ][ ]

Serial Number: C 09838

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☒ Waste water: ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS (mg/l as $CaCO_3$)

☐ Ca		☐ Hardness	
☐ Mg		☐ HCO_3	
☐ Fe Total		☐ CO_3	
☐ Mn		☐ OH	
☐ Na		☐ Total Alk.	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS: ☐ Al ☐ Ag ☐ As ☐ B ☐ Cd ☐ Cr ☐ Cu ☐ Hg ☐ Pb ☐ Ni ☐ Se ☐ Zn ☐

☒ Other analyses desired (specify): Purgeable Organics

Chloroform = 0.6 µg/l

a small amount of a compound similar to d-pinene (a terpene) also found.

Date Reported: 4-7-83 | Analyst: P.H

☐ Turb TU	☐ N-NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond µmhos/cm	☐ ORGA	☐ Grease	☐ Set Solids ml/l/hour	☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0563087

Southern California Laboratory Sector
SAMPLE FOR CHEMICAL ANALYSIS DJS 2 4/5/83 4-6-8- (Leave Blank) 8853

Purveyor and Address (include city and county)
SARWQCB 6809 Indiana Riverside

System Number | Serial Number C 09832

Sampling Point
Drain Channel between University Propulsion & Pond

Collected by D. Smith | Date and Hour Collected 4-5-83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☒ Waste water ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 2 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS

☐ Ca		☐ Total Alk. (as $CaCO_3$)	
☐ Mg		☐ HCO_3	
☒ Fe Total		☐ CO_3	
☒ Mn		☐ OH	
☐ Na		☐ Total Acid	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS

☐ Al	
☐ Ag	
☒ As	<0.005
☐ B	
☒ Cd	<0.001
☒ Cr total	<0.005
☐ Cu	
☐ Hg	
☒ Pb	<0.01
☐ Ni	
☐ Se	
☒ Zn	<0.01
☒ Ba	<0.100

☐ Other analyses desired (specify)

Date Reported 4-6-83 | Analyst ST

☐ Turb TU	☐ NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond. µmhos/cm	☐ ORG-N	☐ Grease	☐ Set Solids ml/l/hour	☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California - Department of Health Services
Sanitation and Radiation Laboratory Sector
Southern California Laboratory Section
SAMPLE FOR CHEMICAL ANALYSIS DJS 1 4-15/83

Date Received 4-6-83 (Leave Blank) | Lab. No. 8852

Purveyor and Address (include city and county)
SARWQCB 6809 Indiana Riverside

System Number | Serial Number C 09828

Sampling Point
Small Pond SE of Univ. Propulsion

Collected by D Smith | Date and Hour Collected 4/5/83

Type of Sample: ☐ Raw Surface Water ☐ Drinking Water ☐ Raw ☐ Treated ☒ Waste water ☐ Raw ☐ Chlorinated ☐ Trade Waste ☐ Other

Send Report To: ☐ WSS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 2 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS

☐ Ca		☐ Total Alk. (as $CaCO_3$)	
☐ Mg		☐ HCO_3	
☒ Fe Total		☐ CO_3	
☒ Mn		☐ OH	
☐ Na		☐ Total Acid	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS

☐ Al	
☐ Ag	
☒ As	0.009
☐ B	
☒ Cd	0.001
☒ Cr total	<0.005
☐ Cu	
☐ Hg	
☒ Pb	<0.01
☐ Ni	
☐ Se	
☒ Zn	<0.01
☒ Ba	<0.10

☐ Other analyses desired (specify)
For Fe and Mn, see results in general mineral analysis.

Date Reported 4-7-83 | Analyst ST

☐ Turb TU	☐ NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond. µmhos/cm	☐ ORG-N	☐ Grease	☐ Set Solids ml/l/hour	☐ MBAS

Form LAB 800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0565989

South. California Laboratory Section
SAMPLE FOR CHEMICAL ANALYSIS JJS 3 4/5/83

4-6-83 (Leave Blank) 8854

Purveyor and Address (include city and county): SARWQCB, 6809 Indiana, Riverside

System Number

Serial Number: C 09835

Sampling Point: Pyrite Channel below Stringfellow hazardous storage tanks

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☒ Waste water ☐ Drinking Water ☐ Raw ☐ Chlorinated ☐ Raw ☐ Trade Waste ☐ Treated ☐ Other

Send Report To: ☐ WQS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS

☐ Ca		☐ hardness (as $CaCO_3$)	
☐ Mg		☐ HCO_3	
☒ Fe Total		☐ CO_3	
☒ Mn		☐ OH	
☐ Na		☐ Total Alk.	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS

☐ Al	
☐ Ag	
☒ As	<0.005
☐ B	
☒ Cd	0.017
☒ Cr	HCT 0.25
☐ Cu	
☐ Hg	
☒ Pb	<0.01
☐ Ni	
☐ Se	
☒ Zn	0.285
☒ Be	<0.100

☐ Other analyses desired (specify):

Date Reported: 4-8-83 Analyst: ST

☐ Turb. TU	☐ N-NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond. µmhos/cm	☐ ORG-N	☐ Grease	☐ Set. Solids ml/l/hour	☐ MBAS

Form LAB-800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

State of California Department of Health Services
Sanitation and Radiation Laboratory Section
Southern California Laboratory Section
SAMPLE FOR CHEMICAL ANALYSIS JJS 4 4/5/83

Date Received: 4-6-83 (Leave Blank) 8855

Purveyor and Address (include city and county): SARWQCB, 6809 Indiana, Riverside

System Number

Serial Number: C 09839

Sampling Point: Peripheral ditch at north side of Stringfellow site

Collected by: D Smith

Date and Hour Collected: 4/5/83

Type of Sample: ☐ Raw Surface Water ☒ Waste water ☐ Drinking Water ☐ Raw ☐ Chlorinated ☐ Raw ☐ Trade Waste ☐ Treated ☐ Other

Send Report To: ☐ WQS Dist. # ☐ County HD ☐ DOT Dist. # ☐ National Park Serv. ☒ RWQCB # 8 ☐ Other

Results are expressed as mg/l unless specified

☐ GENERAL MINERAL ANALYSIS

☐ Ca		☐ hardness (as $CaCO_3$)	
☐ Mg		☐ HCO_3	
☒ Fe Total		☐ CO_3	
☒ Mn		☐ OH	
☐ Na		☐ Total Alk.	
☐ K		☐ Cl	
☐ pH		☐ SO_4	
☐ Total Dissolved Solids		☐ F	
		☐ NO_3	

TRACE ELEMENTS

☐ Al	
☐ Ag	
☒ As	<0.005
☐ B	
☒ Cd	<0.001
☒ Cr	HCT <0.005
☐ Cu	
☐ Hg	
☒ Pb	<0.01
☐ Ni	
☐ Se	
☒ Zn	<0.01
☒ Be	<0.100

☐ Other analyses desired (specify):

Date Reported: 4-8-83 Analyst: ST

☐ Turb. TU	☐ N-NH_3-N	☐ BOD	☐ Susp. Solids	☐ PO_4
☐ Spec. Cond. µmhos/cm	☐ ORG-N	☐ Grease	☐ Set. Solids ml/l/hour	☐ MBAS

Form LAB-800 (2-80)

Complete form and return all copies with sample to laboratory. Use ball point pen or sharp pencil. Indicate analyses desired by checking the box in front of the item or by writing specific request.

TX0563990

SP... AND EMERGENCY
RESPONSE SECTION
MAY 03 1983
CALIFORNIA DEPARTMENT OF
HEALTH SERVICES, SACRAMENTO

1661 – 1666
April 12, 1983
April 5, 1983
April 6, 1983

S Romero / S Lavinger
SBR010 - 015
Hubb Construction
near Stringfellow Quarry in Riverside
Samples were digested w/ conc HNO_3, and metals were analyzed by AA 306.
Na & K by flame photometer; pH by pH meter

units of metals are in mg/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	Na	K	pH #
1661	SBR010	0.62	<1	<1	4.3	<3	60			8.5
1662	11	<0.6	<1	<1	<1	<6	3,300			7.9
1663	12	<1	<1	<1	9.0	59	<1	75	93	6.1
1664	13	29	<1	<1	<2	<8	1.1			6.4
1665	14	<1	<1	<1	<2	230	1.9	4400	850	5.1
1666	15	0.83	<1	<1	<2	<8	<1			8.2

Note # pH are at 50% dilⁿ except 1662 pH on as is sple.

Norma Castillo 4/12/83
Scott Y. Nee 4/12/83
Mary W Claridge 4/12/83
Supervising Chemist

TX0564041

Copies to: Mr Darrell Smith, Reg Qual. Control Bd., Riverside
plus Bart Simmons, HML
Dan Coffey TSCO

1667-68

April 12, 1983

SB Romero / S. Daringer

April 5, 1983

001 - 002

April 6, 1983

Hubb Construction

near Stringfellow Quarry in Riverside

Samples were digested w/ conc HNO_3

and metals were analyzed by AA 306

pH by pH meter

units of metals are in mg/kg

Lab #	Sampling #	Cu	Ni	Cd	Pb	Cr	Zn	pH
1667	001	25	22	<1	53	28	120	5.8 at
								50% dil'n
1668	002	<0.5	<1	<1	<1	<3	<0.5	6.8

Norma Castillo 4/12/83 Mary W Claridge 4/12/83

Scott Y. Nee 4/12/83 Supervising Chemist

Mr. Darrell Smith, Reg. Qual. Control Bd., Riverside

TX0564042

SOUTHERN CALIFORNIA LABORATORY SECTION
HAZARDOUS MATERIALS MANAGEMENT UNIT

LABORATORY REPORT

SYM NO.: 1662

DATE OF REPORT: 4/12/83

TO: Susan Romero & Steve Savinger SAMPLING DATE: 4/5/83

SAMPLING NO.: SBR-011 DATE RECEIVED: 4/6/83

SAMPLE LOCATION: Hubb Construction (near Stringfellow in Riverside)

ANALYTICAL PROCEDURE USED: Burning test done on top of a Fisher burner heating test done in a test tube using the same burner. Qualitative test for nitrate using 1% diphenylamine in conc H_2SO_4 & for phosphate - $SnCl_2$ method. Quantitative analysis of the ions was done by ion chromatography. Qualitative test for Cl^-: $AgNO_3$ soln.

REFERENCE: Test for perchlorate - see SCL# 1663

Sampling No. SBR-011

ANALYTICAL RESULTS:

(1662): Sample is a white material floating on the liquid portion

(A) Qualitative analysis of the white substance:

Sample burns almost completely with a bright, yellow color.

" gives a dense white vapor that deposits along the wall of the test tube when heated. A black residue is left at the bottom of the test tube.

The solid part of the sple is insoluble in H_2O, but dissolved completely in conc HNO_3 forming large amounts of brown fumes.

No nitrate was found and the phosphate test was +.

(B) Liquid part of the sample: ~87 mg/kg sulfate + ~55 mg/kg Cl

Test for perchlorate was negative

ANALYSIS CONTRACTED:

Erlinda S. Rabano 4/12/83 Mary W Claridge 4/12/83
date

Scott Y. Nee 4/12/83 Supervising Chemist
date

Copies to: Mr Darrell Smith, Reg. Qual, Control Bd. Riverside

TX0564043

SOUTHERN CALIFORNIA LABORATORY SECTION
HAZARDOUS MATERIALS MANAGEMENT UNIT

LABORATORY REPORT

SOIL NO.: 1663

DATE OF REPORT: 4/12/83

TO: Susan Romero + Steve Lavinger

SAMPLING DATE: 4/5/83

SAMPLING NO.: SBR-012

DATE RECEIVED: 4/6/83

SAMPLE LOCATION: Hubb Construction

ANALYTICAL PROCEDURES USED: Heating test in a test tube using a Fisher burner. Qualitative test for Cl^- using $AgNO_3$ soln and for NO_3^- using 1% diphenylamine in conc H_2SO_4. Quantitative analysis for phosphate + sulfate by ion chromatography. Qualitative test for perchlorate - reference Colorimetric Methods of Analysis by Snell + Snell

REFERENCE: 3rd edition, vol II, p. 718

Sampling No - SBR-012

ANALYTICAL RESULTS:

Sample was completely soluble in H_2O.
When sample was heated in a test tube, the solid at first liquefied then became yellow-brown in color producing the same color of dense fumes. Some liquid condensed on the sides of the tube.

Tests for chloride + nitrate were negative.

Quantitative analysis gave around 2200 $\frac{mg}{kg}$ phosphate & around 360 $\frac{mg}{kg}$ sulfate.

Test for perchlorate was positive.

ANALYTICAL SIGNATURES:

Erlinda S. Rabano 4/12/83 date Mary W Claridge 4/12/83

Scott Y. Nee 4/12/83 date Supervising Chemist

Copies to: Mr Darrell Smith, Reg. Qual. Control Bd, Riverside

TX0564044

SOUTHERN CALIFORNIA LABORATORY SECTION
HAZARDOUS MATERIALS MANAGEMENT UNIT

LABORATORY REPORT

SPL NO.: 1664, 1665

DATE OF REPORT: 4/12/83

TO: Susan Romero + Steve Savinger SBR-013, 014

SAMPLING DATE: 4/5/83

SAMPLING NO.: Hubb Construction

DATE RECEIVED: 4/6/83

SAMPLE LOCATION: near Stringfellow Quarry in Riverside

ANALYTICAL PROCEDURES USED: Test for sulfur: Burn the sple + observe the SO_2 odor. Burning test done with a Fisher burner.

REFERENCE:

ANALYSIS RESULTS:

SBR-013

1664: Sample is yellow colored (similar to sulfur). When sple was burned, SO_2 odor was observed.

SBR-014

1665 Sample is a deep blue powder + it dissolved in H_2O. When sample was burned, most of the sple burned leaving a small amount of dark residue. When this residue was was burned further, an intense yellow flame was observed. Sample could be indigo carmine or some other blue dye.

ANALYSTS' SIGNATURES:

Orlinda S. Rabano 4/12/83 Mary W. Claridge 4/12/83
date

Scott Y. Nee 4/12/83 Supervising Chemist
date

Copies to: Mr Darrell Smith, Reg Qual Control Bd, Riverside

TX0564045

SOUTHERN CALIFORNIA LABORATORY SECTION
HAZARDOUS MATERIALS MANAGEMENT UNIT

LABORATORY REPORT

SOL NO.: 1666,

DATE OF REPORT: 4/12/83

TO: Susan Romero + Steve Lavinger

SAMPLING DATE: 4/5/83

SAMPLE NO.: SBR 015

DATE RECEIVED: 4/6/83

SAMPLE LOCATION: Hubb Construction

ANALYTICAL TEST TO BE USED: Burning test: use of a Fisher Burner
Qualitative test for H_3BO_3: CH_3OH + Conc H_2SO_4; for Sulfate with $BaCl_2$; for Phosphate: with $SnCl_2$; for Chloride: with $AgNO_3$ + for nitrate: with 1% diphenylamine in conc H_2SO_4.
Qualitative test for perchlorate - reference Colorimetric Methods of Analysis
REFERENCE: by Snell & Snell, 3rd Ed. Vol II p 718.

ANALYTICAL RESULTS:
SBR-015
When burned, the sample gave a green color to the flame.
When HNO_3 was added (during digestion for metals), H_3BO_3 was formed + this was confirmed by a test for H_3BO_3.

Tests for sulfate, phosphate, chloride + nitrate were negative
Ammonia can be smelled from the sample + the vapors of the sample turned pink litmus paper to blue.
Test for perchlorate was negative

ANALYSIS' SIGNATURES:

Erlinda L. Rabano 4/12/83 Mary W Claridge 4/12/83
date
Scott Y. Nee 4/12/83 Supervising Chemist
date

Copies to: Mr. Darrell Smith, Reg. Qual. Control Bd, Riverside

TX0564046

SOUTHERN CALIFORNIA LABORATORY SECTION
HAZARDOUS MATERIALS MANAGEMENT UNIT

LABORATORY REPORT

SOL NO.: 1668

Addendum Report
DATE OF REPORT: 4/29/83

TO: Susan Romero & Steve Lavingie

SAMPLING DATE: 4/5/83

SAMPLING NO.: 002

DATE RECEIVED: 4/6/83

SAMPLE LOCATION: Hubb Construction (near Stringfellow in Riverside)

ANALYTICAL PROCEDURE USED: Sample was identified through infrared technique.

REFERENCE: Addendum Report

ANALYSIS RESULTS: Infrared scan of the sample showed the presence of polybutadiene.

ANALYSIS SIGNATURES:

Erlinda S. Rabano 4/29/83 Mary W Claridge 4/29/83
date

date Supervising Chemist

Copies to: Mr Darrell Smith, Reg. Pcal. Control Bd, Riverside
Bart Simmon, HML
Dan Coffey Toxic Substances Control Division

TX0564047

[illegible]

[illegible]

[illegible]: 1669

[illegible]: 4/12/83

[illegible]: Susan Romero + Steve Lavinger

[illegible]: 4/5/83

[illegible]: 003

[illegible]: 4/6/83

[illegible]: Huff Construction

[illegible]: Silica - Std Methods, 14th edn, Heteropoly Blue Method. Qualitative test for sulfate: $BaCl_2$ reagent. Burning test: with Fisher Burner.

[illegible]:

[illegible]:

Sample is a moist solid, not soluble in H_2O.
No color seen in flame when sample was burned.
Negative test for sulfate.
Positive test for silica.

[illegible]:

Carlinda S. Rabano 4/12/83 Mary W Claridge 4/12/
date
Supervising Chemist
date

Copies to:

1X0564048

DEPARTMENT OF HEALTH SERVICES
HEALTH PROTECTION DIVISION

1449 WEST TEMPLE STREET, ROM 10
LOS ANGELES, CALIFORNIA 90026569

AN ATTACHMENT TO LAB-804

SAMPLES FOR CHEMICAL ANALYSIS

LAB NUMBER : 5850

SERIAL NUMBER : [illegible]9836

ANALYST : PF

DATE REPORTED : 4-7-83

Purgeable Organics
acetone *
2 methylene chloride = 6.1 ug/l
3 methyl ethyl ketone *
4 chloroform = 6.97 ug/l
5 trichloroethylene = 5.8 ug/l
6 methyl butyl ketone or 2,4 dimethylcentanal = trace
7 toluene = 0.[illegible] ug/l
8 chlorobenzene = 0.28 ug/l
9 ethylbenzene = trace
10 Xylenes = trace
11 P-dichlorobenzene = 0.50 ug/l
12 O-dichlorobenzene = 1.7 ug/l

* unable to accurately quantitate using this method, but amount appears to be small.

TX0563088

UNIVERSAL PROPULSION CO.

8 March 1974

Mr. J. B. Stringfellow, Jr.
Stringfellow Construction, Inc.
Pyrite Street
Riverside CA 92509

Dear Mr. Stringfellow:

With regard to the alleged "stench" from the acid pits, I can state the following:

1) During recent years, since you installed the water spray system, we cannot recall even noticing any odor from the acid pits unless a very strong wind was blowing toward our plant, and then we would only get an occasional whiff of odors, some of which could be called acrid.

2) During the first few years that we occupied this plant, we would occasionally notice the acrid odor for a few days during the hot and dry season, but this was an infrequent occurrence, and now seems to have been eliminated by the water spray.

3) We have occupied this plant for over eight years, and there has never been an odor from the acid pits that we would call a "stench". Because we are in the chemical business, we are extremely conscious of odors. We can state with some qualification that the odors that did occasionally waft our way were relatively mild.

4) We have enjoyed our coffee breaks, lunch breaks and in-between snacks, and I can assure you that there has been no "stench" from the acid pits to curb our appetites, or interfere with our digestion. As we live our working days within a few hundred yards of those pits, and work outdoors as well as indoors, I am very skeptical about such claims from people who live up to a mile further away from the acid pits.

I have no doubt that something may be stinking and rotten around where they live, but I think they should continue to look for the source, and look closer to their homes rather than farther away.

Sincerely,

C 3189

UNIVERSAL PROPULSION CO.

Frank A. Marion
Senior Vice President

FAM:as

DEFENDANT'S EXHIBIT
1472
5-25-84
TAD, NP

Ex. 1472

BOX 546 - RIVERSIDE, CALIF. . ZIP 92502 AREA CODE 714 PHONE 685-5966

DEPARTMENT OF PUBLIC HEALTH

COUNTY OF RIVERSIDE

Health-Finance Building
3575 11th Street Mall
P.O. Box 1370
Riverside, California 92502

Harold M. Erickson, M.D., M.P.H.
Director of Public Health
and Mental Health

February 14, 1974

TO: Harold M. Erickson, M.D., M.P.H., Director of Public Health

FROM: D. R. Boling, R.S., Director, Environmental Health Division

SUBJECT: Stringfellow Quarry

The current request of the Board of Supervisors on January 15, 1974 (with a return date of February 19, 1974) for the Health Department to take selected water samples for chemical analysis downstream from the Stringfellow Quarry site has been accomplished. Subsequent to that Board Order and request, we met with Supervisor Schroeder and it was decided that soil samples, in addition to the chemical water samples, would also be taken. Five (5) wells were selected as being the most representative and are shown on the attached plat. These wells in our opinion are the most representative wells in the immediate downstream vicinity that would give us an indication of the possibility of chemical contamination through the lower aquifers from Stringfellow Quarry. The six (6) soil samples were taken in the immediate hillside vicinity in close proximity to the pits of Stringfellow Quarry.

The chemical water and soil samples were submitted to Babcock and Sons Laboratory for analysis of chemical constituents that would give us an indication of their alleged contamination from Stringfellow Quarry. The results as reported by Babcock and Sons to us on February 4 & 7, 1974 for the water chemistries and February 11, 1974, for the soil chemistries indicate to us that the toxic materials located in Stringfellow Quarry are not, at this time, showing up in the water aquifers of the 5 wells. The soil sample results indicate varied physical characteristics and do not indicate that the soils have received significant amounts of mineral acids.

We have completely reviewed the original waste discharge requirements of the Santa Ana Regional Water Quality Control Board, the documentation establishing the contingencies and conditions for Variance Case No. 66 established by the Planning Commission and the Board of Supervisors, all subsequent data from the Santa Ana Regional Water Quality Control Board, Land Use Division of the Department of Building and Safety, and a private report developed for Mr. Stringfellow by Neste-Brudin & Stone. The data can be summarized as follows:

1. The floods of January, 1969, caused material of a toxic nature to flow from the site of Stringfellow Quarry to properties downstream.

DEFENDANT'S EXHIBIT 1704

2. The floods of 1972, caused flooding to a lesser degree resulting in toxic waste flowing off the site.

3. A crack occurred at the base of the dam which was designed to retain the toxic waste within the pits of Stringfellow Quarry which was exposed artificially and repaired.

4. Additional orders were given to Mr. Stringfellow to provide a more adequate drainage system around the perimeter of the pits, which he has partially accomplished to the complete satisfaction of the Flood Control and Water Conservation Districts.

5. Greater security measures relative to ingress and egress were asked of Mr. Stringfellow and prior to his closure, it is our opinion that he was complying with this request.

6. The closure of this Class I dump by Mr. Stringfellow has precluded the possibility of large volumes of toxic waste material to be deposited at the site.

7. The Glen Avon School well chemical sample taken by the Santa Ana Regional Water Quality Control Board in May of 1972, showed a trace of hexavalent chromium, which in itself is not desirable, but well below the maximum allowed in a public water supply. Subsequent samples have not indicated that it ever occurred again.

8. The Glen Avon residents were, and are, extremely concerned relative to the air pollution, odors, as well as the possibility of water degradation of the basin immediately below, i.e., downstream of Stringfellow Quarry. We have discussed these probabilities with many individuals of the Glen Avon Area.

9. As a result of their efforts to remove or keep Stringfellow Quarry closed, the State Water Resources Board will hold a hearing and make a determination whether to uphold, modify or deny the discharge requirements adopted by the Santa Ana Regional Water Quality Control Board on June 15, 1973. The hearing of the State Water Resources Board will be held on March 13, 1974, in the Board of Supervisors' Chambers, Riverside County. It is my understanding that the original effluent discharge requirements established for Stringfellow Quarry were set under the guidelines in effect in 1955, whereas the discharge requirements that will be discussed and possibly set by the Water Quality Control Board on March 13, 1974, will be established under the new guidelines that became effective on June 12, 1973. These are more restrictive and will require higher standards of compliance on the part of the waste discharger, i.e., Stringfellow Quarry.

10. On the property of Mr. Stringfellow's, but apparently off the approved site of the acid pits, is a well that apparently became contaminated and indicates nitrates on the order of 340 p.p.m. Although we cannot conslusively prove that this well was degraded as a result of seepage of toxic material and waste from the Stringfellow Quarry site or that degradation resulted as a result of the ammunitions manufacturing site discharge, it is our opinion that the degradation of this particular well was caused by illegal dumping of toxic wastes from the ammunition operation.

11. The recent action of the Board of Supervisors on February 13, 1974, which provides for the purchase of necessary equipment which will enable the Department of Public Health Laboratory to provide chemical analysis of waters has provided us with the tools for greater surveillance of the chemical quality of the waters of Glen Avon, as well as Riverside County.

Recommendations:

1. It is the recommendation of the Department of Public Health that although investigations, chemical analysis of soils and waters do not prove that there has been continued degradation of downstream water wells, even though a trace of hexavalent chromium was indicated at one point and time, but quickly disappeared; that chemical contamination occurred in the Stringfellow well; that Mr. Stringfellow is in violation of Variance Case #66, that orders effecting his permanent closure should be issued by the Department of Building and Safety, Land Use Division, subject to the legal hearing processes of this County.

2. We further recommend that in the interest of the population of Glen Avon and their very strong concern of the probability of air pollution, odors and degradation of the water aquifers of this basin, that the Stringfellow Quarry site operating as a Class I dump be closed and that steps should be taken for the removal of the existing materials in an acceptable manner to the Health Department, Regional Water Quality Control Board and other interested agencies.

We understand that the above recommendations leave the waste haulers of toxic materials without a convenient place to dispose of their materials, however, we believe that a suitable site can be located that would be convenient from a distance point of view and would provide for disposing of these toxic wastes economically.

It is our further recommendation that the California Division of Mines and Geology be contacted relative to their recent report indicating that several dry lakes in the high desert of San Bernardino County are the most likely potential dumping grounds for toxic wastes, including poisons, pesticides, oils, grease and heavy metals. A site located in a remote area, although not economically feasible from a hauling point of view, may be more acceptable geologically and certainly more acceptable from a public health point of view, and for general aesthetics.

DRB:jb

EXHIBIT I (#19)

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 1 of 4
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465

Received on Ice (Y/N): Yes Temp: 10 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A0L2465-01	Pond # 1 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:30	Stephen Van Der	12/23/10 10:00	Stephen Van Der Hart
A0L2465-02	Pond # 3 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:35	Stephen Van Der	12/23/10 10:00	Stephen Van Der Hart

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 2 of 4
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465

Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
A0L2465-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond # 1 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:30	12/23/10 10:00

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	9.9	1.0	pH Units	SM 4500H+ B	12/23/10 23:44	kam	
Specific Conductance	130	1.0	umhos/cm	SM 2510 B	12/23/10 23:44	kam	
Solids							
Total Suspended Solids	1600	40	mg/L	SM 2540D	12/28/10 12:45	ss	
Aggregate Organic Compounds							
Total Organic Carbon	2.9	0.70	mg/L	SM 5310B	12/30/10 00:00	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	01/04/11 14:36	lgt	

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
A0L2465-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond # 3 - Storm Water Stone Valley Materials	Liquid	12/22/10 16.35	12/23/10 10:00

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	8.0	1.0	pH Units	SM 4500H+ B	12/23/10 23:44	kam	
Specific Conductance	160	1.0	umhos/cm	SM 2510 B	12/23/10 23:44	kam	
Solids							
Total Suspended Solids	1100	66	mg/L	SM 2540D	12/28/10 12:45	ss	
Aggregate Organic Compounds							
Total Organic Carbon	3.2	0.70	mg/L	SM 5310B	12/30/10 00:00	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	01/04/11 14:36	lgt	

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1905

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 4 of 4
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465

Received on Ice (Y/N): Yes Temp: 10 °C

Notes and Definitions

pH:	Regulatory 15 minute holding time exceeded	A0L2465-01
pH:	Regulatory 15 minute holding time exceeded	A0L2465-02

ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / (Non-NELAP): NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

cc:

e-Short.rpt

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Analytical Report: Page 1 of 3
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006

Received on Ice (Y/N): Yes Temp: 11 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A0L2006-01	Pond #2 - Storm Water Stone Valley Materials	Liquid	12/20/10 07:00	Stephen Van Der	12/20/10 10:02	Stephen Van Der Hart

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006

Received on Ice (Y/N): Yes Temp: 11 °C

Laboratory Reference Number
A0L2006-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond #2 - Storm Water Stone Valley Materials	Liquid	12/20/10 07:00	12/20/10 10:02

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	7.4	1.0	pH Units	SM 4500H+ B	12/20/10 21:00	sbd	
Specific Conductance	360	1.0	umhos/cm	SM 2510 B	12/20/10 21:00	sbd	
Solids							
Total Suspended Solids	290	20	mg/L	SM 2540D	12/24/10 09:45	jma	
Aggregate Organic Compounds							
Total Organic Carbon	2.3	0.70	mg/L	SM 5310B	12/21/10 23:43	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	12/21/10 14:36	lgt	

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 1 of 1
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465

Received on Ice (Y/N): Yes Temp: 10 °C

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

Client: STONE VALLEY MATERIALS Contact: STEPHEN VANDER HART Fax No. 951-361-3370
Phone No. 909-973-6048 email: STEPHENVH@STONEVALLEYMATERIALS.COM
Project Name: STORM WATER Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush
Project Location: *Lab TAT Approval: By: *Additional Charges Apply

Additional Reporting Requests: Include QC Data Package: ☐ Yes ☐ No; FAX Results: ☐ Yes ☐ No; Email Results: ☐ Yes ☐ No; State EDT: ☐ Yes ☐ No (include Source Number in Notes)

Sampler Information
Name: STEPHEN VANDER HART
Employer: STONEVALLEY MATERIALS
Signature: [signature]

Sample ID	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NaOH/Zn Acetate	Ni-HCl	MCAA	Total # of Containers	Routine	Resample	Special	Analysis Requested	Matrix	Notes
POND #1	12/28/10	1900	1	3								4						
POND #3	12/28/10	1435	1	3								4						

Sample Type: PH, TSS, EC, O:Tot Tres, TOC

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Source; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]		12/28/10 1000	[signature]	[signature]

(For Lab Use Only)
Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Sample(s) Intact? Yes No
Temperature: 10 °C ☐ Cooler Blank

Sample Integrity Upon Receipt/Acceptance Criteria
Sample meets laboratory acceptance criteria? Yes No
Permission to continue: Yes No
Deviation/Notes:
Signature/Date:

Lab No. A0L2465
Logged in By/Date: DEC 28 2010
Page 1 of 1

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006

Received on Ice (Y/N): Yes Temp: 11 °C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded A0L2006-01

ND: Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / (Non-NELAP): NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Robin Glenney, Project Manager

cc:

e-Short.rpt

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
www.babcocklabs.com

NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102

E.S.BABCOCK&Sons,Inc.

Environmental Laboratories est 1906

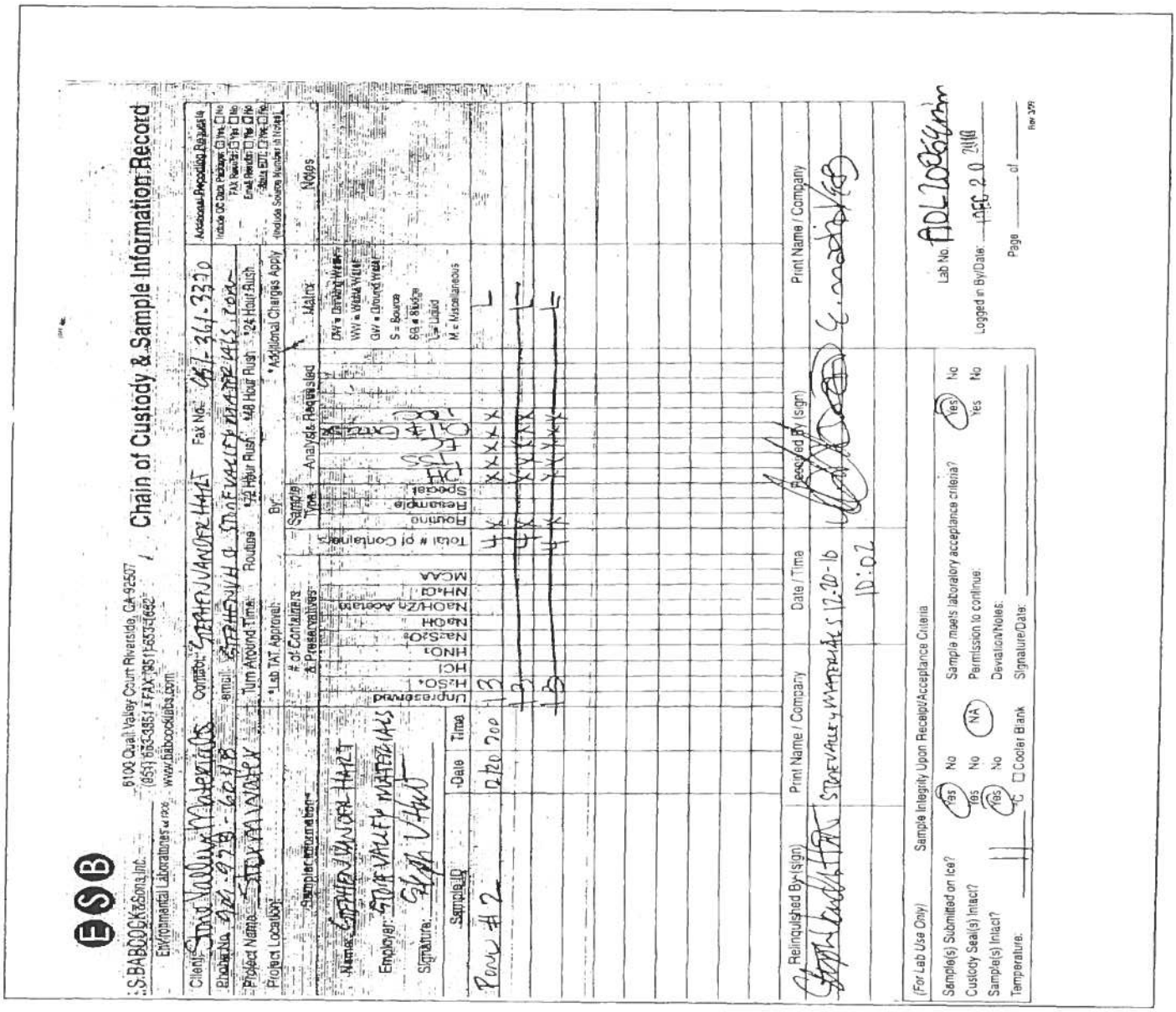
Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Analytical Report: Page 1 of 1
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006

Received on Ice (Y/N): Yes Temp: 11 °C



Hand Delivered by Ray.
7/1/2010 3pm.

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
2009-2010 ANNUAL REPORT
FOR STORM WATER DISCHARGES ASSOCIATED
WITH INDUSTRIAL ACTIVITIES

Reporting Period July 1, 2009 through June 30, 2010

An Annual Report is required to be submitted to your local Regional Water Quality Control Board (Regional Board) by July 1 of each year. This document must be certified and signed, under penalty of perjury, by the appropriate official of your company. Many of the Annual Report questions require an explanation. Please provide explanations on a separate sheet as an attachment. **Retain a copy of the completed Annual Report for your records.**

Please circle or highlight any information contained in Items A, B, and C below that is new or revised so we can update our records. Please remember that a Notice of Termination and new Notice of Intent are required whenever a facility operation is relocated or changes ownership.

If you have any questions, please contact your Regional Board Industrial Storm Water Permit Contact. The names, telephone numbers, and e-mail addresses of the Regional Board contacts, as well as the Regional Board Offices addresses are indicated below

REGIONAL BOARD INFORMATION:

Santa Ana Region
3737 Main Street, Ste 500
Riverside, CA 92501

Contact: Michael Roth
Tel: (951) 320-2027
Email: mroth@waterboards.ca.gov

GENERAL INFORMATION

A. Facility Information:

Riverside Mining Limited
3500 B Pyrite St
Riverside, CA 92509
WDID No: 8 331022115

Facility Contact: Bart Patel & Mike Renner
Email:
Phone: 951-686-6004

SIC Code(s):
1423 Crushed and Broken Granite

B. Facility Operator Information:

Riverside Mining Limited
3500 B Pyrite St
Riverside, CA 92509

Operator Contact: Bart Patel
Email:
Phone: 951-686-6004

C. Facility Billing Information:

Riverside Mining Limited
PO Box 3529
Riverside, CA 92519

Billing Contact: Bart Patel
Email:
Phone: 951-686-6004

2009-2010

ANNUAL REPORT

SPECIFIC INFORMATION

MONITORING AND REPORTING PROGRAM

D SAMPLING AND ANALYSIS EXEMPTIONS AND REDUCTIONS

1. For the reporting period, was your facility exempt from collecting and analyzing samples from two storm events in accordance with sections B 12 or 15 of the General Permit?

   ☐ YES Go to Item D 2 ☑ NO Go to Section E

2. Indicate the reason your facility is exempt from collecting and analyzing samples from two storm events. Attach a copy of the first page of the appropriate certification if you check boxes ii, iii, iv, or v

   i. ☐ Participating in an Approved Group Monitoring Plan Group Name: _____

   ii ☐ Submitted No Exposure Certification (NEC) Date Submitted: _____

   Re-evaluation Date _____

   Does facility continue to satisfy NEC conditions? ☐ YES ☐ NO

   iii ☐ Submitted Sampling Reduction Certification (SRC) Date Submitted: _____

   Re-evaluation Date _____

   Does facility continue to satisfy SRC conditions? ☐ YES ☐ NO

   iv ☐ Received Regional Board Certification Certification Date: _____

   v ☐ Received Local Agency Certification Certification Date: _____

3. If you checked boxes i or iii above, were you scheduled to sample one storm event during the reporting year?

   ☐ YES Go to Section E ☐ NO Go to Section F

c If you checked boxes ii, iv, or v, go to Section F

E. SAMPLING AND ANALYSIS RESULTS

1. How many storm events did you sample? 0 If less than 2, attach explanation (if you checked item D.2 i or iii above, only attach explanation if you answer '0').

2 Did you collect storm water samples from the first storm of the wet season that produced a discharge during scheduled facility operating hours? (Section B 5 of the General Permit)

   ☐ YES ☑ NO, attach explanation (Please note that if you do not sample the first storm event, you are still required to sample 2 storm events)

3 How many storm water discharge locations are at your facility? 3

4. For each storm event sampled, did you collect and analyze a sample from each of the facility's storm water discharge locations? ☐ YES, go to Item E.6 ☑ NO

5. Was sample collection or analysis reduced in accordance with Section B.7.d of the General Permit? ☐ YES ☑ NO attach explanation

   If "YES", attach documentation supporting your determination that two or more drainage areas are substantially identical

   Date facility's drainage areas were last evaluated 6/1/10

6. Were all samples collected during the first hour of discharge? ☐ YES ☑ NO, attach explanation

7. Was all storm water sampling preceded by three (3) working days without a storm water discharge? ☑ YES ☐ NO, attach explanation

8. Were there any discharges of stormwater that had been temporarily stored or contained? (such as from a pond) ☐ YES ☑ NO, go to Item E.10

9. Did you collect and analyze samples of temporarily stored or contained storm water discharges from two storm events? (or one storm event if you checked item D.2.i or iii above) ☐ YES ☐ NO, attach explanation

10. Section B.5. of the General Permit requires you to analyze storm water samples for pH, Total Suspended Solids (TSS), Specific Conductance (SC), Total Organic Carbon (TOC) or Oil and Grease (O&G), other pollutants likely to be present in storm water discharges in significant quantities, and analytical parameters listed in Table D of the General Permit.

    a. Does Table C contain any additional parameters related to your facility's SIC code(s)? ☐ YES ☑ NO, Go to Item E.11

    b. Did you analyze all storm water samples for the applicable parameters listed in Table D? ☐ YES ☑ NO

    c. If you did not analyze all storm water samples for the applicable Table D parameters, check one of the following reasons:

    ____ In prior sampling years, the parameter(s) have not been detected in significant quantities from two consecutive sampling events. **Attach explanation**

    ____ The parameter(s) is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator's evaluation. **Attach explanation**

    ✓ Other. **Attach explanation**

11. For each storm event sampled, attach a copy of the laboratory analytical reports and report the sampling and analysis results using Form 1 or its equivalent. The following must be provided for each sample collected:

- Date and time of sample collection
- Name and title of sampler.
- Parameters tested.
- Name of analytical testing laboratory
- Discharge location identification
- Testing results
- Test methods used.
- Test detection limits
- Date of testing
- Copies of the laboratory analytical results

F QUARTERLY VISUAL OBSERVATIONS

1 Authorized Non-Storm Water Discharges
Section B.3 b of the General Permit requires quarterly visual observations of all authorized non-storm water discharges and their sources

a Do authorized non-storm water discharges occur at your facility?

☐ YES ☑ NO Go to Item F.2

b Indicate whether you visually observed all authorized non-storm water discharges and their sources during the quarters when they were discharged. **Attach an explanation for any "NO" answers.** Indicate "N/A" for quarters without any authorized non-storm water discharges.

July-September	☐ YES	☐ NO	☐ N/A	October-December	☐ YES	☐ NO	☐ N/A
January-March	☐ YES	☐ NO	☐ N/A	April-June	☐ YES	☐ NO	☐ N/A

c Use Form 2 to report quarterly visual observations of authorized non-storm water discharges or provide the following information

i name of each authorized non-storm water discharge
ii date and time of observation
iii source and location of each authorized non-storm water discharge
iv characteristics of the discharge at its source and impacted drainage area/discharge location
v. name, title, and signature of observer
vi any new or revised BMPs necessary to reduce or prevent pollutants in authorized non-storm water discharges. Provide new or revised BMP implementation date

2 Unauthorized Non-Storm Water Discharges
Section B.3.a of the General Permit requires quarterly visual observations of all drainage areas to detect the presence of unauthorized non-storm water discharges and their sources.

a Indicate whether you visually observed all drainage areas to detect the presence of unauthorized non-storm water discharges and their sources. **Attach an explanation for any "NO" answers.**

July-September	☑ YES	☐ NO	October-December	☑ YES	☐ NO
January-March	☑ YES	☐ NO	April-June	☑ YES	☐ NO

b Based upon the quarterly visual observations, were any unauthorized non-storm water discharges detected?

☐ YES ☑ NO Go to item F.2 d

c. Have each of the unauthorized non-storm water discharges been eliminated or permitted?

☐ YES ☐ NO **Attach explanation**

d. Use Form 3 to report quarterly unauthorized non-storm water discharge visual observations or provide the following information

i name of each unauthorized non-storm water discharge.
ii. date and time of observation
iii source and location of each unauthorized non-storm water discharge
iv characteristics of the discharge at its source and impacted drainage area/discharge location
v name, title, and signature of observer.
vi. any corrective actions necessary to eliminate the source of each unauthorized non-storm water discharge and to clean impacted drainage areas. Provide date unauthorized non-storm water discharge(s) was eliminated or scheduled to be eliminated

G MONTHLY WET SEASON VISUAL OBSERVATIONS

Section B.4 a of the General Permit requires you to conduct monthly visual observations of storm water discharges at all storm water discharge locations during the wet season. These observations shall occur during the first hour of discharge or, in the case of temporarily stored or contained storm water, at the time of discharge

1 Indicate below whether monthly visual observations of storm water discharges occurred at all discharge locations. Attach an explanation for any "NO" answers. Include in this explanation whether any eligible storm events occurred during scheduled facility operating hours that did not result in a storm water discharge, and provide the date, time, name and title of the person who observed that there was no storm water discharge.

	YES	NO		YES	NO
October	☐	☑	February	☐	☑
November	☐	☑	March	☐	☑
December	☐	☑	April	☐	☑
January	☐	☑	May	☐	☑

2 Report monthly wet season visual observations using Form 4 or provide the following information

a date, time, and location of observation
b name and title of observer
c characteristics of the discharge (i.e., odor, color, etc.) and source of any pollutants observed
d any new or revised BMPs necessary to reduce or prevent pollutants in storm water discharges. Provide new or revised BMP implementation date

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION (ACSCE)

H ACSCE CHECKLIST

Section A.9 of the General Permit requires the facility operator to conduct one ACSCE in each reporting period (July 1-June 30). Evaluations must be conducted within 8-16 months of each other. The SWPPP and monitoring program shall be revised and implemented, as necessary, within 90 days of the evaluation. The checklist below includes the minimum steps necessary to complete a ACSCE. Indicate whether you have performed each step below. Attach an explanation for any "NO" answers.

1. Have you inspected all potential pollutant sources and industrial activities areas? ☑ YES ☐ NO
The following areas should be inspected.

- areas where spills and leaks have occured during the last year
- outdoor wash and rinse areas
- process/manufacturing areas.
- loading, unloading, and transfer areas.
- waste storage/disposal areas.
- dust/particulate generating areas
- erosion areas
- building repair, remodeling, and construction
- material storage areas
- vehicle/equipment storage areas
- truck parking and access areas
- rooftop equipment areas
- vehicle fueling/maintenance areas
- non-storm water discharge generating areas

2 Have you reviewed your SWPPP to assure that its BMPs address existing potential pollutant sources and industrial activities areas? ☑ YES ☐ NO

3. Have you inspected the entire facility to verify that the SWPPP's site map, is up-to-date? The following site map items should be verified: ☑ YES ☐ NO

- facility boundaries
- outline of all storm water drainage areas
- areas impacted by run-on
- storm water discharges locations
- storm water collection and conveyance system
- structural control measures such as catch basins, berms, containment areas, oil/water separators, etc.

4 Have you reviewed all General Permit compliance records generated since the last annual evaluation? ☑ YES ☐ NO

The following records should be reviewed

- quarterly authorized non-storm water discharge visual observations
- monthly storm water discharge visual observation
- records of spills/leaks and associated clean-up/response activities
- quarterly unauthorized non-storm water discharge visual observations
- Sampling and Analysis records
- preventative maintenance inspection and maintenance records

5 Have you reviewed the major elements of the SWPPP to assure compliance with the General Permit? ☑ YES ☐ NO

The following SWPPP items should be reviewed

- pollution prevention team
- list of significant materials
- description of potential pollutant sources
- assessment of potential pollutant sources
- identification and description of the BMPs to be implemented for each potential pollutant source

6 Have you reviewed your SWPPP to assure that a) the BMPs are adequate in reducing or preventing pollutants in storm water discharges and authorized non-storm water discharges, and b) the BMPs are being implemented? ☑ YES ☐ NO

The following BMP categories should be reviewed

- good housekeeping practices
- spill response
- employee training
- erosion control
- quality assurance
- preventative maintenance
- material handling and storage practices
- waste handling/storage
- structural BMPs

7 Has all material handling equipment and equipment needed to implement the SWPPP been inspected? ☑ YES ☐ NO

I. ACSCE EVALUATION REPORT

The facility operator is required to provide an evaluation report that includes

- identification of personnel performing the evaluation
- the date(s) of the evaluation
- necessary SWPPP revisions
- schedule for implementing SWPPP revisions
- any incidents of non-compliance and the corrective actions taken

Use **Form 5** to report the results of your evaluation or develop an equivalent form

J ACSCE CERTIFICATION

The facility operator is required to certify compliance with the Industrial Activities Storm Water General Permit. To certify compliance, both the SWPPP and Monitoring Program must be up to date and be fully implemented.

Based upon your ACSCE, do you certify compliance with the Industrial Activities Storm Water General Permit? ☑ YES ☐ NO

If you answered "NO" **attach an explanation** to the ACSCE Evaluation Report why you are not in compliance with the Industrial Activities Storm Water General Permit

ATTACHMENT SUMMARY

Answer the questions below to help you determine what should be attached to this annual report. Answer NA (Not Applicable) to questions 2-4 if you are not required to provide those attachments.

1. Have you attached Forms 1,2,3,4 and 5 or their equivalent?	☑ YES (Mandatory)		
2. If you conducted sampling and analysis, have you attached the laboratory analytical reports?	☐ YES	☐ NO	☑ NA
3. If you checked box II, III, IV, or V in item D.2 of this Annual Report, have you attached the first page of the appropriate certifications?	☐ YES	☐ NO	☑ NA
4. Have you attached an explanation for each "NO" answer in items E.1, E.2, E.5-E.7, E.9, E.10 c, F.1 b, F.2 a, F.2 c, G.1, H.1-H.7, or J?	☑ YES	☐ NO	☐ NA

ANNUAL REPORT CERTIFICATION

I am duly authorized to sign reports required by the INDUSTRIAL ACTIVITIES STORM WATER GENERAL PERMIT (see Standard Provision C.9) and I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those person directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: BART PATEL.

Signature: [signature] Date: 6.30.2010.

Title: G. Manager

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DESCRIPTION OF BASIC ANALYTICAL PARAMETERS

The Industrial Activities Storm Water General Permit (General Permit) requires you to analyze storm water samples for at least four parameters. These are pH, Total Suspended Solids (TSS), Specific Conductance (SC),and Total Organic Carbon (TOC). Oil and Grease (O&G) may be substituted for TOC. In addition, you must monitor for any other pollutants which you believe to be present in your storm water discharge as a result of industrial activity and analytical parameters listed in Table D of the General Permit. There are no numeric limitations for the parameters you test for.

The four parameters which the General Permit requires to be tested are considered *indicator* parameters. In other words, regardless of what type of facility you operate, these parameters are nonspecific and general enough to usually provide some indication whether pollutants are present in your storm water discharge. The following briefly explains what each of these parameters mean.

pH is a numeric measure of the hydrogen-ion concentration. The neutral, or acceptable, range is within 6.5 to 8.5. At values less than 6.5, the water is considered acidic, above 8.5 it is considered alkaline or basic. An example of an acidic substance is vinegar, and a alkaline or basic substance is liquid antacid. Pure rainfall tends to have a pH of a little less than 7. There may be sources of materials or industrial activities which could increase or decrease the pH of your storm water discharge. If the pH levels of your storm water discharge are high or low, you should conduct a thorough evaluation of all potential pollutant sources at your site.

Total Suspended Solids (TSS) is a measure of the undissolved solids that are present in your storm water discharge. Sources of TSS include sediment from erosion of exposed land, and dirt from impervious (i.e. paved) areas. Sediment by itself can be very toxic to aquatic life because it covers feeding and breeding grounds, and can smother organisms living on the bottom of a water body. Toxic chemicals and other pollutants also adhere to sediment particles. This provides a medium by which toxic or other pollutants end up in our water ways and ultimately in human and aquatic life. TSS levels vary in runoff from undisturbed land. It has been shown that TSS levels increase significantly due to land development.

Specific Conductance (SC) is a numerical expression of the ability of the water to carry an electric current. SC can be used to assess the degree of mineralization, salinity, or estimate the total dissolved solids concentration of a water sample. Because of air pollution, most rain water has a SC a little above zero. A high SC could affect the usability of waters for drinking, irrigation, and other commercial or industrial use.

Total Organic Carbon (TOC) is a measure of the total organic matter present in water. (All organic matter contains carbon) This test is sensitive and able to detect small concentrations of organic matter. Organic matter is naturally occurring in animals, plants, and man. Organic matter may also be man made (so called synthetic organics). Synthetic organics include pesticides, fuels, solvents, and paints. Natural organic matter utilizes the oxygen in a receiving water to biodegrade. Too much organic matter could place a significant oxygen demand on the water, and possibly impact its quality. Synthetic organics either do not biodegrade or biodegrade very slowly. Synthetic organics are a source of toxic chemicals that can have adverse affects at very low concentrations. Some of these chemicals bioaccumulate in aquatic life. If your levels of TOC are high, you should evaluate all sources of natural or synthetic organics you may use at your site.

Oil and Grease (O&G) is a measure of the amount of oil and grease present in your storm water discharge. At very low concentrations, O&G can cause a sheen (that floating "rainbow") on the surface of water (1 qt. of oil can pollute 250,000 gallons of water). O&G can adversely affect aquatic life and create unsightly floating material and film on water, thus making it undrinkable. Sources of O&G include maintenance shops, vehicles, machines and roadways.

If you have any questions regarding whether or not your constituent concentrations are too high, please contact your local Regional Board office. The United States Environmental Protection Agency (USEPA) has published stormwater discharge benchmarks for a number of parameters. These benchmarks may be helpful when evaluating whether additional BMPs are appropriate. These benchmarks can be accessed at our website at http://www.swrcb.ca.gov. It is contained in the Sampling and Analysis Reduction Certification.

See Storm Water Contacts at

http://www.waterboards.ca.gov/water_issues/programs/stormwater/contact.shtml

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SIDE A

FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Quarterly dry weather visual observations are required of each authorized NSWD.
- Observe each authorized NSWD source, impacted drainage area, and discharge location.
- Authorized NSWDs must meet the conditions provided in Section D (pages 5-6) of the General Permit.
- Make additional copies of this form as necessary

QUARTER: JULY-SEPT. DATE: 7/1	Observers Name: Sant Patel. Title: G.M. Signature:	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? ☐ YES ☑ NO If YES, complete reverse side of this form
QUARTER: OCT.-DEC. DATE: 10/1	Observers Name: Sant Patel Title: G.M. Signature:	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? ☐ YES ☑ NO If YES, complete reverse side of this form
QUARTER JAN.-MARCH DATE 1/7	Observers Name: Sant Patel Title: G.M. Signature:	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? ☐ YES ☑ NO If YES, complete reverse side of this form.
QUARTER APRIL-JUNE DATE 5/1	Observers Name: Sant Patel Title G.M. Signature:	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER? ☐ YES ☑ NO If YES, complete reverse side of this form

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SIDE A

FORM 3-QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Unauthorized NSWDs are discharges (such as wash or rinse waters) that do not meet the conditions provided in Section D (pages 5-6) of the General Permit.
- Quarterly visual observations are required to observe current and detect prior unauthorized NSWDs.
- Quarterly visual observations are required during dry weather and at all facility drainage areas.
- Each unauthorized NSWD source, impacted drainage area and discharge location must be identified and observed.
- Unauthorized NSWDs that can not be eliminated within 90 days of observation must be reported to the Regional Board in accordance with Section A.10.e of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: JULY-SEPT. DATE/TIME OF OBSERVATIONS 7/2 9:00 ☒ AM ☐ PM 2009	Observers Name: Sam Patel Title: G.M. Signature:	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.
QUARTER: OCT.-DEC. DATE/TIME OF OBSERVATIONS 10/1 9:00 ☒ AM ☐ PM	Observers Name: Sam Patel Title: G.M. Signature:	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.
QUARTER: JAN.-MARCH DATE/TIME OF OBSERVATIONS 1/7 2:00 ☐ AM ☒ PM	Observers Name: Sam Patel Title: G.M. Signature:	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side
QUARTER: APRIL-JUNE DATE/TIME OF OBSERVATIONS 5/3 2:00 ☐ AM ☒ PM	Observers Name: Sam Patel Title: G.M. Signature:	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side

2009-2010

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FORM 4-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE A

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.
- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

Observation Date: October 1-30 2009 Observers Name: Bart Patel Title: G.M. Signature: [signature]	Drainage Location Description	#1 NONE -	#2 NO STORM EVENTS	#3	#4
	Observation Time	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: November 2-30 2009 Observers Name: Bart Patel Title: G.M. Signature: [signature]	Drainage Location Description	#1 NONE - NO	#2 Discharges	#3 11/28 - Rain on Saturday not on site.	#4
	Observation Time	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: December 7 2009 Observers Name: Bart Patel Title: G.M. Signature: [signature]	Drainage Location Description	#1 NONE	#2	#3 12/7 - NO	#4 Discharge
	Observation Time	12:00 ☑ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Time Discharge Began	N/A ☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☑	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: January 1-30 2010 1/13 1/18 1/19 1/20 1/21 1/22 Observers Name: Bart Patel Title: G.M. Signature: [signature]	Drainage Location Description	#1 NONE 1/13 - NO Discharge	#2 1/18 - NO Discharge N/A	#3 1/19 N/A	#4 1/20 - N/A
	Observation Time	3:00 ☑ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☐

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FORM 4 (Continued)-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE A

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.
- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation
- Make additional copies of this form as necessary
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge

Observation Date: February 1-28 2010	Drainage Location Description	#1 NONE 2/20	#2 NONE 2/27	#3	#4
Observers Name: Bart Lee	Observation Time	2:00 ☐ P.M. ☐ A.M.	3:00 ☑ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Title: Gm	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Signature:	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☑	YES ☐ NO ☑	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: March 1-31 2010	Drainage Location Description	#1 NONE -	#2 NO Significant Rain Storms	#3	#4
Observers Name: Bart Lee	Observation Time	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Title: Gm	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Signature:	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: April 1-30 2010	Drainage Location Description	#1 NONE 4/5	#2 NONE 4/12	#3 NONE 4/22	#4
Observers Name: Bart Lee	Observation Time	3:00 ☐ P.M. ☐ A.M.	1:00 ☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Title: Gm	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Signature:	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☑	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: May 1-30 2010	Drainage Location Description	#1 NONE	#2 No Storms.	#3	#4
Observers Name: Bart Lee	Observation Time	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Title: Gm	Time Discharge Began	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.	☐ P.M. ☐ A.M.
Signature:	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐

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SIDE A

FORM 5-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS

EVALUATION DATE: 6.28.10 INSPECTOR NAME: [illegible] TITLE: [illegible] SIGNATURE: [illegible]

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)				
PERIMETER Drainage Swale	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☑NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☑NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)				
Construction Entrance	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☑NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☑NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)				
Material Storage Location	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☑NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☑NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)				
Equipment Storage Location	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☑NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☑NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation

2009-2010 Annual Report for storm water discharges associated with industrial activities.

Explanations

E.1 - No discharges took place to sample.
E.2 - No discharges took place to sample during the first storm during scheduled operating hours.
E.5 - No samples were taken so reducing in accordance with section B.7.d is not applicable
E.6 - No discharges took place to sample
E.10.c - No analyzes was done because no discharges took place.
G.1 - No discharges took place so there was no visual observation of discharges for any of the months.

Form 4 - October - No Discharges – No rain storms

Form 4 – November - No discharges
11/28 Rain Event – not on site.

Form 4 - December - No discharges
12/7 Rain Event – No Discharge

Form 4 - January - No discharges
1/13 Rain Event – No Discharge
1/18 Rain Event – No Discharge
1/19 Rain Event – No Discharge
1/20 Rain Event – No Discharge
1/21 Rain Event – No Discharge
1/22 Rain Event – No Discharge
1/23 Rain Event – No Discharge – No business hours
1/26 Rain Event – No Discharge
1/27 Rain Event – No Discharge

Form 4 - February - 2/20 Rain Event – No Discharge
2/27 Rain Event – No Discharge

Form 4 - March - No significant rain storm – No Discharge

Form 4 - April - 4/5 Rain Event – No Discharge
4/12 Rain Event – No Discharge
4/22 Rain Event – No Discharge

Form 4 - May - No Discharges – No Rain Events

2010-2011 Annual Report for State Water Resources Control Board

Facility ID Number 8331022115

Riverside Mining Limited

3500 Pyrite Ave

Riverside CA 92509

Explanation Page...

Why this report is late.

The correspondence was received by the office at 3500 Pyrite but not given to me until July 28. This is my first year monitoring the program, so I did not know what to expect. We have put in several administrative controls to ensure this delay will not happen again. This problem has been corrected. Thank you for your patience.

Please add my email stephenvh@stonevalleymaterials.com to the reminder list as well.

E2

While prepared to take a second sample, we did not get enough rain to cause discharge during business hours during that period. It seem to rain almost every weekend in February and March! We will make sure to get both samples next year even if it is after hours.

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5538
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
Fax (916) 341-5543 • http://www.waterboards.ca.gov/water_issues/programs/stormwater/

Edmund G. Brown Jr.
Governor

To Interested Parties:

2010-2011 ANNUAL REPORT ANNUAL REPORT FOR STORM WATER DISCHARGES ASSOCIATED WITH INDUSTRIAL ACTIVITIES

Storm Water Multi-Application Reporting and Tracking System (SMARTS) allows an individual discharger to file and submit their Annual Report electronically to the Regional Water Board. Currently SMARTS is not a mandatory reporting method, but we encourage all dischargers to register and use SMARTS.

To register to use SMARTS please visit: https://smarts.waterboards.ca.gov and download the SMARTS LRP registration form and instructions. Please fill out the form and mail it back to: SMARTS Registration, P.O. Box 1977, Sacramento, CA 95812. Once a complete registration form is received, a login name and password will be emailed to you.

For SMARTS registration questions or information please contact the SMARTS help center at 1-866-563-3107 or by email at smarts@waterboards.ca.gov.

To receive email updates on Storm Water Industrial permitting issues, please sign up at http://www.waterboards.ca.gov/resources/email_subscriptions/swrcb_subscribe.shtml The Storm Water program currently maintains five email lists:

- Storm Water Database Issues
- Storm Water Construction Permitting Issues
- Storm Water Industrial Permitting Issues
- Storm Water Municipal Permitting Issues
- Sustainable Development

For all other permitting questions please contact the Storm Water Section at 1-866-563-3107 or by email at stormwater@waterboards.ca.gov.

Sincerely,

Storm Water Section

State of California
STATE WATER RESOURCES CONTROL BOARD

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FOR
STORM WATER DISCHARGES ASSOCIATED
WITH INDUSTRIAL ACTIVITIES

Reporting Period July 1, 2010 through June 30, 2011

An annual report is required to be submitted to your local Regional Water Quality Control Board (Regional Board) by July 1 of each year. This document must be certified and signed, under penalty of perjury, by the appropriate official of your company. Many of the Annual Report questions require an explanation. Please provide explanations on a separate sheet as an attachment. **Retain a copy of the completed Annual Report for your records.**

Please circle or highlight any information contained in Items A, B, and C below that is new or revised so we can update our records. Please remember that a Notice of Termination and new Notice of Intent are required whenever a facility operation is relocated or changes ownership.

If you have any questions, please contact your Regional Board Industrial Storm Water Permit Contact. The names, telephone numbers and e-mail addresses of the Regional Board contacts, as well as the Regional Board office addresses can be found at http://www.waterboards.ca.gov/stormwtr/contact.html. To find your Regional Board information, match the first digit of your WDID number with the corresponding number that appears in parenthesis on the first line of each Regional Board office.

GENERAL INFORMATION:

A. *Facility Information:*

Facility WDID No: 833102215

Facility Business Name: RIVERSIDE Mining LIMITED
Contact Person: BART PATEL
Physical Address: 3500B PYRITE STREET
e-mail: BART@ERCONUSA.COM
City: RIVERSIDE
CA Zip: 92509 Phone: 951-571-3281
Standard Industrial Classification (SIC) Code(s): 1423

B. *Facility Operator Information:*

Operator Name: RIVERSIDE Mining LIMITED
Contact Person: BART PATEL
Mailing Address: 3500 B PYRITE STREET
e-mail: BART@ERCONUSA.COM
City: RIVERSIDE
State: CA Zip: 92509 Phone: 951-571-3281

C. *Facility Billing Information:*

Operator Name: RIVERSIDE Mining LIMITED
Contact Person: BART PATEL
Mailing Address: 3500B PYRITE STREET
e-mail: BART@ERCONUSA.COM
City: RIVERSIDE
State: CA Zip: 92509 Phone: 951-571-3281

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SPECIFIC INFORMATION

MONITORING AND REPORTING PROGRAM

D. SAMPLING AND ANALYSIS EXEMPTIONS AND REDUCTIONS

1 For the reporting period, was your facility exempt from collecting and analyzing samples from two storm events in accordance with sections B.12 or 15 of the General Permit?

☐ YES Go to Item D 2 ☒ NO Go to Section E

2. Indicate the reason your facility is exempt from collecting and analyzing samples from two storm events. Attach a copy of the first page of the appropriate certification if you check boxes ii, iii, iv, or v.

i. ☐ Participating in an Approved Group Monitoring Plan Group Name: _____

ii. ☐ Submitted No Exposure Certification (NEC) Date Submitted: ___/___/___

Re-evaluation Date: ___/___/___

Does facility continue to satisfy NEC conditions? ☐ YES ☐ NO

iii. ☐ Submitted Sampling Reduction Certification (SRC) Date Submitted: ___/___/___

Re-evaluation Date: ___/___/___

Does facility continue to satisfy SRC conditions? ☐ YES ☐ NO

iv. ☐ Received Regional Board Certification Certification Date: ___/___/___

v. ☐ Received Local Agency Certification Certification Date: ___/___/___

3. If you checked boxes i or iii above, were you scheduled to sample one storm event during the reporting year?

☐ YES Go to Section E ☐ NO Go to Section F

4. If you checked boxes ii, iv, or v, go to Section F.

E. SAMPLING AND ANALYSIS RESULTS

1. How many storm events did you sample? 1

If less than 2, **attach explanation** (if you checked item D.2.i or iii. above, only attach explanation if you answer "0").

2. Did you collect storm water samples from the first storm of the wet season that produced a discharge during scheduled facility operating hours? (Section B.5 of the General Permit)

☒ YES ☐ NO **attach explanation** (Please note that if you do not sample the first storm event, you are still required to sample 2 storm events)

3. How many storm water discharge locations are at your facility? 3

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4. For each storm event sampled, did you collect and analyze a sample from each of the facility's' storm water discharge locations? ☒ YES, go to Item E.6 ☐ NO

5. Was sample collection or analysis reduced in accordance with Section B.7.d of the General Permit? ☐ YES ☐ NO, attach explanation

   If "YES", attach documentation supporting your determination that two or more drainage areas are substantially identical.

   Date facility's drainage areas were last evaluated ___/___/___

6. Were all samples collected during the first hour of discharge? ☒ YES ☐ NO, attach explanation

7. Was all storm water sampling preceded by three (3) working days without a storm water discharge? ☒ YES ☐ NO, attach explanation

8. Were there any discharges of storm water that had been temporarily stored or contained? (such as from a pond) ☐ YES ☒ NO, go to Item E.10

9. Did you collect and analyze samples of temporarily stored or contained storm water discharges from two storm events? (or one storm event if you checked item D.2.i or iii above) ☐ YES ☐ NO, attach explanation

10. Section B.5. of the General Permit requires you to analyze storm water samples for pH, Total Suspended Solids (TSS), Specific Conductance (SC), Total Organic Carbon (TOC) or Oil and Grease (O&G), other pollutants likely to be present in storm water discharges in significant quantities, and analytical parameters listed in Table D of the General Permit.

    a. Does Table D contain any additional parameters related to your facility's SIC code(s)? ☒ YES ☐ NO, Go to Item E.11

    b. Did you analyze all storm water samples for the applicable parameters listed in Table D? ☒ YES ☐ NO

    c. If you did not analyze all storm water samples for the applicable Table D parameters, check one of the following reasons:

       _____ In prior sampling years, the parameter(s) have not been detected in significant quantities from two consecutive sampling events. Attach explanation

       _____ The parameter(s) is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator's evaluation. Attach explanation

       _____ Other. Attach explanation

11. For each storm event sampled, attach a copy of the laboratory analytical reports and report the sampling and analysis results using Form 1 or its equivalent. The following must be provided for each sample collected:

- Date and time of sample collection
- Name and title of sampler
- Parameters tested
- Name of analytical testing laboratory
- Discharge location identification
- Testing results
- Test methods used
- Test detection limits
- Date of testing
- Copies of the laboratory analytical results

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F. QUARTERLY VISUAL OBSERVATIONS

1. Authorized Non-Storm Water Discharges

Section B.3.b of the General Permit requires quarterly visual observations of all authorized non-storm water discharges and their sources.

a. Do authorized non-storm water discharges occur at your facility?

☐ YES ☒ NO Go to Item F.2

b. Indicate whether you visually observed all authorized non-storm water discharges and their sources during the quarters when they were discharged. **Attach an explanation for any "NO" answers.** Indicate "N/A" for quarters without any authorized non-storm water discharges.

July-September	☐ YES	☐ NO	☐ N/A	October-December	☐ YES	☐ NO	☐ N/A
January-March	☐ YES	☐ NO	☐ N/A	April-June	☐ YES	☐ NO	☐ N/A

c. Use **Form 2** to report quarterly visual observations of authorized non-storm water discharges or provide the following information:

i. name of each authorized non-storm water discharge
ii. date and time of observation
iii. source and location of each authorized non-storm water discharge
iv. characteristics of the discharge at its source and impacted drainage area/discharge location
v. name, title, and signature of observer
vi. any new or revised BMPs necessary to reduce or prevent pollutants in authorized non-storm water discharges. Provide new or revised BMP implementation date.

2. Unauthorized Non-Storm Water Discharges

Section B.3.a of the General Permit requires quarterly visual observations of all drainage areas to detect the presence of unauthorized non-storm water discharges and their sources.

a. Indicate whether you visually observed all drainage areas to detect the presence of unauthorized non- storm water discharges and their sources. **Attach an explanation for any "NO" answers.**

July-September	☒ YES	☐ NO	October-December	☒ YES	☐ NO
January-March	☒ YES	☐ NO	April-June	☒ YES	☐ NO

b. Based upon the quarterly visual observations, were any unauthorized non-storm water discharges detected?

☐ YES ☒ NO Go to Item F.2.d

c. Have each of the unauthorized non-storm water discharges been eliminated or permitted?

☐ YES ☐ NO Attach explanation

d. Use **Form 3** to report quarterly unauthorized non-storm water discharge visual observations or provide the following information:

i. name of each unauthorized non-storm water discharge
ii. date and time of observation
iii. source and location of each unauthorized non-storm water discharge
iv. characteristics of the discharge at its source and impacted drainage area/discharge location
v. name, title, and signature of observer
vi. any corrective actions necessary to eliminate the source of each unauthorized non-storm water discharge and to clean impacted drainage areas. Provide date unauthorized non-storm water discharge(s) was eliminated or scheduled to be eliminated.

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G. MONTHLY WET SEASON VISUAL OBSERVATIONS

Section B.4.a of the General Permit requires you to conduct monthly visual observations of storm water discharges at all storm water discharge locations during the wet season. These observations shall occur during the first hour of discharge or, in the case of temporarily stored or contained storm water, at the time of discharge.

1. Indicate below whether monthly visual observations of storm water discharges occurred at all discharge locations. **Attach an explanation for any "NO" answers.** Include in this explanation whether any eligible storm events occurred during scheduled facility operating hours that did not result in a storm water discharge, and provide the date, time, name and title of the person who observed that there was no storm water discharge.

	YES	NO		YES	NO
October	☒	☐	February	☒	☐
November	☒	☐	March	☒	☐
December	☒	☐	April	☒	☐
January	☒	☐	May	☒	☐

2. Report monthly wet season visual observations using **Form 4** or provide the following information:

   a. date, time, and location of observation
   b. name and title of observer
   c. characteristics of the discharge (i.e., odor, color, etc.) and source of any pollutants observed
   d. any new or revised BMPs necessary to reduce or prevent pollutants in storm water discharges. Provide new or revised BMP implementation date.

ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION (ACSCE)

H. ACSCE CHECKLIST

Section A.9 of the General Permit requires the facility operator to conduct one ACSCE in each reporting period (July 1-June 30). Evaluations must be conducted within 8-16 months of each other. The SWPPP and monitoring program shall be revised and implemented, as necessary, within 90 days of the evaluation. The checklist below includes the minimum steps necessary to complete a ACSCE. Indicate whether you have performed each step below. **Attach an explanation for any "NO" answers.**

1. Have you inspected all potential pollutant sources and industrial activities areas? ☒ YES ☐ NO
   The following areas should be inspected:

   - areas where spills and leaks have occurred during the last year
   - outdoor wash and rinse areas
   - process/manufacturing areas
   - loading, unloading, and transfer areas
   - waste storage/disposal areas
   - dust/particulate generating areas
   - erosion areas
   - building repair, remodeling, and construction
   - material storage areas
   - vehicle/equipment storage areas
   - truck parking and access areas
   - rooftop equipment areas
   - vehicle fueling/maintenance areas
   - non-storm water discharge generating areas

2. Have you reviewed your SWPPP to assure that its BMPs address existing potential pollutant sources and industrial activities areas? ☒ YES ☐ NO

3. Have you inspected the entire facility to verify that the SWPPP's site map is up-to-date? The following site map items should be verified: ☒ YES ☐ NO

   - facility boundaries
   - outline of all storm water drainage areas
   - areas impacted by run-on
   - storm water discharges locations
   - storm water collection and conveyance system
   - structural control measures such as catch basins, berms, containment areas, oil/water separators, etc.

4. Have you reviewed all General Permit compliance records generated since the last annual evaluation? ☒ YES ☐ NO

The following records should be reviewed:

- quarterly authorized non-storm water discharge visual observations
- monthly storm water discharge visual observation
- records of spills/leaks and associated clean-up/response activities
- quarterly unauthorized non-storm water discharge visual observations
- Sampling and Analysis records
- preventative maintenance inspection and maintenance records

5. Have you reviewed the major elements of the SWPPP to assure compliance with the General Permit? ☒ YES ☐ NO

The following SWPPP items should be reviewed:

- pollution prevention team
- list of significant materials
- description of potential pollutant sources
- assessment of potential pollutant sources
- identification and description of the BMPs to be implemented for each potential pollutant source

6. Have you reviewed your SWPPP to assure that a) the BMPs are adequate in reducing or preventing pollutants in storm water discharges and authorized non-storm water discharges, and b) the BMPs are being implemented? ☒ YES ☐ NO

The following BMP categories should be reviewed:

- good housekeeping practices
- spill response
- employee training
- erosion control
- quality assurance
- preventative maintenance
- material handling and storage practices
- waste handling/storage
- structural BMPs

7. Has all material handling equipment and equipment needed to implement the SWPPP been inspected? ☒ YES ☐ NO

I. ACSCE EVALUATION REPORT

The facility operator is required to provide an evaluation report that includes:

- identification of personnel performing the evaluation
- the date(s) of the evaluation
- necessary SWPPP revisions
- schedule for implementing SWPPP revisions
- any incidents of non-compliance and the corrective actions taken

Use Form 5 to report the results of your evaluation or develop an equivalent form.

J. ACSCE CERTIFICATION

The facility operator is required to certify compliance with the Industrial Activities Storm Water General Permit. To certify compliance, both the SWPPP and Monitoring Program must be up to date and be fully implemented.

Based upon your ACSCE, do you certify compliance with the Industrial Activities Storm Water General Permit? ☒ YES ☐ NO

If you answered "NO" **attach an explanation** to the ACSCE Evaluation Report why you are not in compliance with the Industrial Activities Storm Water General Permit.

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ATTACHMENT SUMMARY

Answer the questions below to help you determine what should be attached to this annual report. Answer NA (Not Applicable) to questions 2-4 if you are not required to provide those attachments.

1.	Have you attached Forms 1,2,3,4, and 5 or their equivalent?	☒ YES (Mandatory)		
2.	If you conducted sampling and analysis, have you attached the laboratory analytical reports?	☒ YES	☐ NO	☐ NA
3.	If you checked box II, III, IV, or V in item D.2 of this Annual Report, have you attached the first page of the appropriate certifications?	☐ YES	☐ NO	☒ NA
4.	Have you attached an explanation for each "NO" answer in items E.1, E.2, E.5-E.7, E.9, E.10.c, F.1.b, F.2.a, F.2.c, G.1, H.1-H.7, or J?	☒ YES	☐ NO	☐ NA

ANNUAL REPORT CERTIFICATION

I am duly authorized to sign reports required by the INDUSTRIAL ACTIVITIES STORM WATER GENERAL PERMIT (see Standard Provision C.9) and I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those person directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Printed Name: B. D. PATEL.

Signature: _____ Date: 8/3/2011

Title: _____

DESCRIPTION OF BASIC ANALYTICAL PARAMETERS

The Industrial Activities Storm Water General Permit (General Permit) requires you to analyze storm water samples for at least four parameters. These are pH, Total Suspended Solids (TSS), Specific Conductance (SC),and Total Organic Carbon (TOC). Oil and Grease (O&G) may be substituted for TOC. In addition, you must monitor for any other pollutants which you believe to be present in your storm water discharge as a result of industrial activity and analytical parameters listed in Table D of the General Permit. There are no numeric limitations for the parameters you test for.

The four parameters which the General Permit requires to be tested are considered *indicator* parameters. In other words, regardless of what type of facility you operate, these parameters are nonspecific and general enough to usually provide some indication whether pollutants are present in your storm water discharge. The following briefly explains what each of these parameters mean:

pH is a numeric measure of the hydrogen-ion concentration. The neutral, or acceptable, range is within 6.5 to 8.5. At values less than 6.5, the water is considered acidic; above 8.5 it is considered alkaline or basic. An example of an acidic substance is vinegar, and a alkaline or basic substance is liquid antacid. Pure rainfall tends to have a pH of a little less than 7. There may be sources of materials or industrial activities which could increase or decrease the pH of your storm water discharge. If the pH levels of your storm water discharge are high or low, you should conduct a thorough evaluation of all potential pollutant sources at your site.

Total Suspended Solids (TSS) is a measure of the undissolved solids that are present in your storm water discharge. Sources of TSS include sediment from erosion of exposed land, and dirt from impervious (i.e. paved) areas. Sediment by itself can be very toxic to aquatic life because it covers feeding and breeding grounds, and can smother organisms living on the bottom of a water body. Toxic chemicals and other pollutants also adhere to sediment particles. This provides a medium by which toxic or other pollutants end up in our water ways and ultimately in human and aquatic life. TSS levels vary in runoff from undisturbed land. It has been shown that TSS levels increase significantly due to land development.

Specific Conductance (SC) is a numerical expression of the ability of the water to carry an electric current. SC can be used to assess the degree of mineralization, salinity, or estimate the total dissolved solids concentration of a water sample. Because of air pollution, most rain water has a SC a little above zero. A high SC could affect the usability of waters for drinking, irrigation, and other commercial or industrial use.

Total Organic Carbon (TOC) is a measure of the total organic matter present in water. (All organic matter contains carbon) This test is sensitive and able to detect small concentrations of organic matter. Organic matter is naturally occurring in animals, plants, and man. Organic matter may also be man made (so called synthetic organics). Synthetic organics include pesticides, fuels, solvents, and paints. Natural organic matter utilizes the oxygen in a receiving water to biodegrade. Too much organic matter could place a significant oxygen demand on the water, and possibly impact its quality. Synthetic organics either do not biodegrade or biodegrade very slowly. Synthetic organics are a source of toxic chemicals that can have adverse affects at very low concentrations. Some of these chemicals bioaccumulate in aquatic life. If your levels of TOC are high, you should evaluate all sources of natural or synthetic organics you may use at your site.

Oil and Grease (O&G) is a measure of the amount of oil and grease present in your storm water discharge. At very low concentrations, O&G can cause a sheen (that floating "rainbow") on the surface of water (1 qt. of oil can pollute 250,000 gallons of water). O&G can adversely affect aquatic life and create unsightly floating material and film on water, thus making it undrinkable. Sources of O&G include maintenance shops, vehicles, machines and roadways.

If you have any questions regarding whether or not your constituent concentrations are too high, please contact your local Regional Board office. The United States Environmental Protection Agency (USEPA) has published stormwater discharge benchmarks for a number of parameters. These benchmarks may be helpful when evaluating whether additional BMPs are appropriate. These benchmarks can be accessed at our website at http://www.waterboards.ca.gov. It is contained in the Sampling and Analysis Reduction Certification.

See Storm Water Contacts at

http://www.waterboards.ca.gov/water_issues/programs/stormwater/contact.shtml

SIDE A

ANNUAL REPORT
FORM 3-QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Unauthorized NSWDs are discharges (such as wash or rinse waters) that do not meet the conditions provided in Section D (pages 5-6) of the General Permit.
- Quarterly visual observations are required to observe current and detect prior unauthorized NSWDs.
- Quarterly visual observations are required during dry weather and at all facility drainage areas
- Each unauthorized NSWD source, impacted drainage area, and discharge location must be identified and observed.
- Unauthorized NSWDs that can not be eliminated within 90 days of observation must be reported to the Regional Board in accordance with Section A.10.e of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: JULY-SEPT. DATE/TIME OF OBSERVATIONS 10/4/10 9:00 ☑ AM ☐ PM	Observers Name: STEPHEN VANDER HART Title: VP OPERATIONS Signature: Stephen V Hart	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.
QUARTER: OCT.-DEC. DATE/TIME OF OBSERVATIONS 12/15/10 9:00 ☑ AM ☐ PM	Observers Name: STEPHEN V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.
QUARTER: JAN.-MARCH DATE/TIME OF OBSERVATIONS 3/9/11 9:00 ☑ AM ☐ PM	Observers Name: STEPHEN V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.
QUARTER: APRIL-JUNE DATE/TIME OF OBSERVATIONS 6/10/11 9:00 ☒ AM ☐ PM	Observers Name: STEPHEN V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE UNAUTHORIZED NSWDs OBSERVED? ☐ YES ☒ NO WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs? ☐ YES ☒ NO	If YES to either question, complete reverse side.

ANNUAL REPORT

SIDE B

FORM 3 QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

OBSERVATION DATE (FROM REVERSE SIDE)	NAME OF UNAUTHORIZED NSWD EXAMPLE: Vehicle Wash Water	SOURCE AND LOCATION OF UNAUTHORIZED NSWD EXAMPLE: NW Corner of Parking Lot	DESCRIBE UNAUTHORIZED NSWD CHARACTERISTICS Indicate whether unauthorized NSWD is clear, cloudy, discolored, causing stains; contains floating objects or an oil sheen, has odors, etc.		DESCRIBE CORRECTIVE ACTIONS TO ELIMINATE UNAUTHORIZED NSWD AND TO CLEAN IMPACTED DRAINAGE AREAS. PROVIDE UNAUTHORIZED NSWD ELIMINATION DATE.
			AT THE UNAUTHORIZED NSWD SOURCE	AT THE UNAUTHORIZED NSWD AREA AND DISCHARGE LOCATION	
/ / : ☐ AM ☐ PM					
/ / : ☐ AM ☐ PM					
/ / : ☐ AM ☐ PM					
/ / : ☐ AM ☐ PM					

ANNUAL REPORT

SIDE A

FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Quarterly dry weather visual observations are required of each authorized NSWD.
- Observe each authorized NSWD source, impacted drainage area, and discharge location.
- Authorized NSWDs must meet the conditions provided in Section D (pages 5-6), of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: JULY-SEPT. DATE: 10/4/10	Observers Name: STEPHEN VANDER HART Title: VP OPERATIONS Signature: Stephen Vander Hart	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?	☐ YES ☒ NO If YES, complete reverse side of this form.
QUARTER: OCT.-DEC. DATE: 12/15/10	Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?	☐ YES ☒ NO If YES, complete reverse side of this form.
QUARTER: JAN.-MARCH DATE: 3/9/11	Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?	☐ YES ☒ NO If YES, complete reverse side of this form.
QUARTER: APRIL-JUNE DATE: 6/10/11	Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?	☐ YES ☒ NO If YES, complete reverse side of this form.

ANNUAL REPORT

SIDE B

FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

DATE /TIME OF OBSERVATION	SOURCE AND LOCATION OF AUTHORIZED NSWD EXAMPLE: Air conditioner Units on Building C	NAME OF AUTHORIZED NSWD EXAMPLE: Air conditioner condensate	DESCRIBE AUTHORIZED NSWD CHARACTERISTICS Indicate whether authorized NSWD is clear, cloudy, or discolored, causing staining, contains floating objects or an oil sheen, has odors, etc.		DESCRIBE ANY REVISED OR NEW BMPs AND PROVIDE THEIR IMPLEMENTATION DATE
			At the NSWD Source	At the NSWD Drainage Area and Discharge Location	
___/___/___ ___:___ ☐ AM ☐ PM					
___/___/___ ___:___ ☐ AM ☐ PM					
___/___/___ ___:___ ☐ AM ☐ PM					
___/___/___ ___:___ ☐ AM ☐ PM					
___/___/___ ___:___ ☐ AM ☐ PM					

ANNUAL REPORT

FORM 1-SAMPLING & ANALYSIS RESULTS

SIDE A

FIRST STORM EVENT

- If analytical results are less than the detection limit (or non detectable), show the value as less than the numerical value of the detection limit (example: <.05)
- If you did not analyze for a required parameter, do not report "0". Instead, leave the appropriate box blank
- When analysis is done using portable analysis (such as portable pH meters, SC meters, etc.), indicate "PA" in the appropriate test method used box
- Make additional copies of this form as necessary.

NAME OF PERSON COLLECTING SAMPLE(S): STEPHEN VANDER HART TITLE: VP OPERATIONS SIGNATURE: Stephen V Hart

DESCRIBE DISCHARGE LOCATION Example: NW Out Fall	DATE/TIME OF SAMPLE COLLECTION	TIME DISCHARGE STARTED	ANALYTICAL RESULTS For First Storm Event									
			BASIC PARAMETERS					OTHER PARAMETERS				
			PH	TSS	SC	O&G	TOC					
POND #2	12/20/10 1:00 ☒ AM ☐ PM	5:00 ☒ AM ☐ PM	SEE ATTACHED									
POND #1	12/22/10 4:30 ☐ AM ☒ PM	3:00 ☐ AM ☒ PM										
POND #3	12/22/10 4:30 ☐ AM ☒ PM	3:00 ☐ AM ☒ PM										
	/ / : ☐ AM ☐ PM	: ☐ AM ☐ PM										
TEST REPORTING UNITS:			pH Units	mg/l	umho/cm	mg/l	mg/l					
TEST METHOD DETECTION LIMIT:												
TEST METHOD USED:												
ANALYZED BY (SELF/LAB): LAB												

TSS - Total Suspended Solids SC - Specific Conductance O&G - Oil & Grease TOC - Total Organic Carbon

ANNUAL REPORT

FORM 1-SAMPLING & ANALYSIS RESULTS

SIDE B

SECOND STORM EVENT

- If analytical results are less than the detection limit (or non detectable), show the value as less than the numerical value of the detection limit (example: <.05)
- If you did not analyze for a required parameter, do not report "0". Instead, leave the appropriate box blank
- When analysis is done using portable analysis (such as portable pH meters, SC meters, etc.), indicate "PA" in the appropriate test method used box.

NAME OF PERSON COLLECTING SAMPLE(S): _____ TITLE: _____ SIGNATURE: _____

DESCRIBE DISCHARGE LOCATION Example: NW Out Fall	DATE/TIME OF SAMPLE COLLECTION	TIME DISCHARGE STARTED	ANALYTICAL RESULTS For Second Storm Event									
			BASIC PARAMETERS					OTHER PARAMETERS				
			PH	TSS	SC	O&G	TOC					
	/ / ☐ AM : ☐ PM	: ☐ AM ☐ PM										
	/ / ☐ AM : ☐ PM	: ☐ AM ☐ PM										
	/ / ☐ AM : ☐ PM	: ☐ AM ☐ PM										
	/ / ☐ AM : ☐ PM	: ☐ AM ☐ PM										
TEST REPORTING UNITS:			pH Units	mg/l	umho/cm	mg/l	mg/l					
TEST METHOD DETECTION LIMIT:												
TEST METHOD USED:												
ANALYZED BY (SELF/LAB):												

TSS - Total Suspended Solids SC - Specific Conductance O&G - Oil & Grease TOC - Total Organic Carbon

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 1 of 4
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465
Received on Ice (Y/N): Yes Temp: 10 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A0L2465-01	Pond # 1 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:30	Stephen Van Der	12/23/10 10:00	Stephen Van Der Hart
A0L2465-02	Pond # 3 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:35	Stephen Van Der	12/23/10 10:00	Stephen Van Der Hart

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465
Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number
A0L2465-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond # 1 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:30	12/23/10 10:00

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	9.9	1.0	pH Units	SM 4500H+ B	12/23/10 23:44	kam	
Specific Conductance	130	1.0	umhos/cm	SM 2510 B	12/23/10 23:44	kam	
Solids							
Total Suspended Solids	1600	40	mg/L	SM 2540D	12/28/10 12:45	ss	
Aggregate Organic Compounds							
Total Organic Carbon	2.9	0.70	mg/L	SM 5310B	12/30/10 00:00	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	01/04/11 14:36	lgt	

E.S.BABCOCK&Sons,Inc.

Environmental Laboratories

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 3 of 4
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465

Received on Ice (Y/N): Yes Temp: 10 °C

Laboratory Reference Number

A0L2465-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond # 3 - Storm Water Stone Valley Materials	Liquid	12/22/10 16:35	12/23/10 10:00

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	8.0	1.0	pH Units	SM 4500H+ B	12/23/10 23:44	kam	
Specific Conductance	160	1.0	umhos/cm	SM 2510 B	12/23/10 23:44	kam	
Solids							
Total Suspended Solids	1100	66	mg/L	SM 2540D	12/28/10 12:45	ss	
Aggregate Organic Compounds							
Total Organic Carbon	3.2	0.70	mg/L	SM 5310B	12/30/10 00:00	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	01/04/11 14:36	lgt	

E.S.BABCOCK & Sons, Inc.
Environmental Laboratories est. 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465
Received on Ice (Y/N): Yes Temp: 10 °C

Notes and Definitions

pH	Regulatory 15 minute holding time exceeded	A0L2465-01
pH	Regulatory 15 minute holding time exceeded	A0L2465-02

ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / (Non-NELAP): NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report

cc:

e-Short.rpt

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
www.babcocklabs.com

NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102

E.S.BABCOCK & Sons Inc.
Environmental Laboratories Service

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Analytical Report: Page 1 of 3
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006
Received on Ice (Y/N): Yes Temp: 11 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A0L2006-01	Pond #2 - Storm Water Stone Valley Materials	Liquid	12/20/10 07:00	Stephen Van Der	12/20/10 10:02	Stephen Van Der Hart

E.S.BABCOCK & Sons, Inc.
Environmental Laboratories Inc.

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Analytical Report: Page 2 of 3
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006
Received on Ice (Y/N): Yes Temp: 11 °C

Laboratory Reference Number
A0L2006-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Pond #2 - Storm Water Stone Valley Materials	Liquid	12/20/10 07:00	12/20/10 10:02

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Aggregate Properties							
pH	7.4	1.0	pH Units	SM 4500H+ B	12/20/10 21:00	sbd	
Specific Conductance	360	1.0	umhos/cm	SM 2510 B	12/20/10 21:00	sbd	
Solids							
Total Suspended Solids	290	20	mg/L	SM 2540D	12/24/10 09:45	jma	
Aggregate Organic Compounds							
Total Organic Carbon	2.3	0.70	mg/L	SM 5310B	12/21/10 23:43	cmd	
Oil & Grease (HEM)	ND	5.0	mg/L	EPA 1664A	12/21/10 14:36	lgt	

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 06-Jan-2011

Analytical Report: Page 1 of 1
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2465
Received on Ice (Y/N): Yes Temp: 10 °C

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories est 1906
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

Client: STONE VALLEY MATERIALS Contact: STEPHEN VANDER HART Fax No. 951-361-3370
Phone No. 909-923-6048 email: STEPHENH@STONEVALLEYMATERIALS.COM
Project Name: STORM WATER Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush
Project Location: *Lab TAT Approval: By: *Additional Charges Apply

Additional Reporting Requests: Include QC Data Package: ☐ Yes ☐ No; FAX Results: ☐ Yes ☐ No; Email Results: ☐ Yes ☐ No; State EDT: ☐ Yes ☐ No (Include Source Number in Notes)

Sampler Information
Name: STEPHEN VANDER HART
Employer: STONEVALLEY MATERIALS
Signature: Stephen Vander Hart

Sample ID	Date	Time	# of Containers & Preservatives: Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NaOH/Zn Acetate	NH4Cl	MCAA	Total # of Containers	Sample Type: Routine	Resample	Special	Analysis Requested: pH	TSS	Oil and Grease	TOC	Matrix	Notes
POND #1	12/20	1130p	1	1								4									
POND #2	12/20	1135p	1	1								4									

DW = Drinking Water
WW = Waste Water
GW = Ground Water
S = Source
SG = Sludge
L = Liquid
M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]		12/23/10 1000	[signature]	[signature]

(For Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria

Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Sample(s) Intact? Yes No
Temperature 10 °C ☐ Cooler Blank

Sample meets laboratory acceptance criteria? Yes No
Permission to continue: Yes No
Deviation/Notes:
Signature/Date:

Lab No. A0L2465
Logged in By/Date: DEC 23 2010
Page 1 of 1

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
www.babcocklabs.com

NELAP no. 02101CA
CA Elap no. 2698
EPA no. CA00102

E.S.BABCOCK&Sons,Inc.
Environmental Laboratories since 1905

Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006
Received on Ice (Y/N): Yes Temp: 11 °C

Notes and Definitions

pH: Regulatory 15 minute holding time exceeded A0L2006-01

ND: Analyte NOT DETECTED at or above the Method Detection Limit (if MDL is reported), otherwise at or above the Reportable Detection Limit (RDL)

NR: Not Reported

RDL: Reportable Detection Limit

MDL: Method Detection Limit

* / (Non-NELAP) NELAP does not offer accreditation for this analyte/method/matrix combination

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

Robin Glenney, Project Manager

cc:

e-Short rpt

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
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E.S.BABCOCK & Sons, Inc.

Environmental Laboratories since 1906

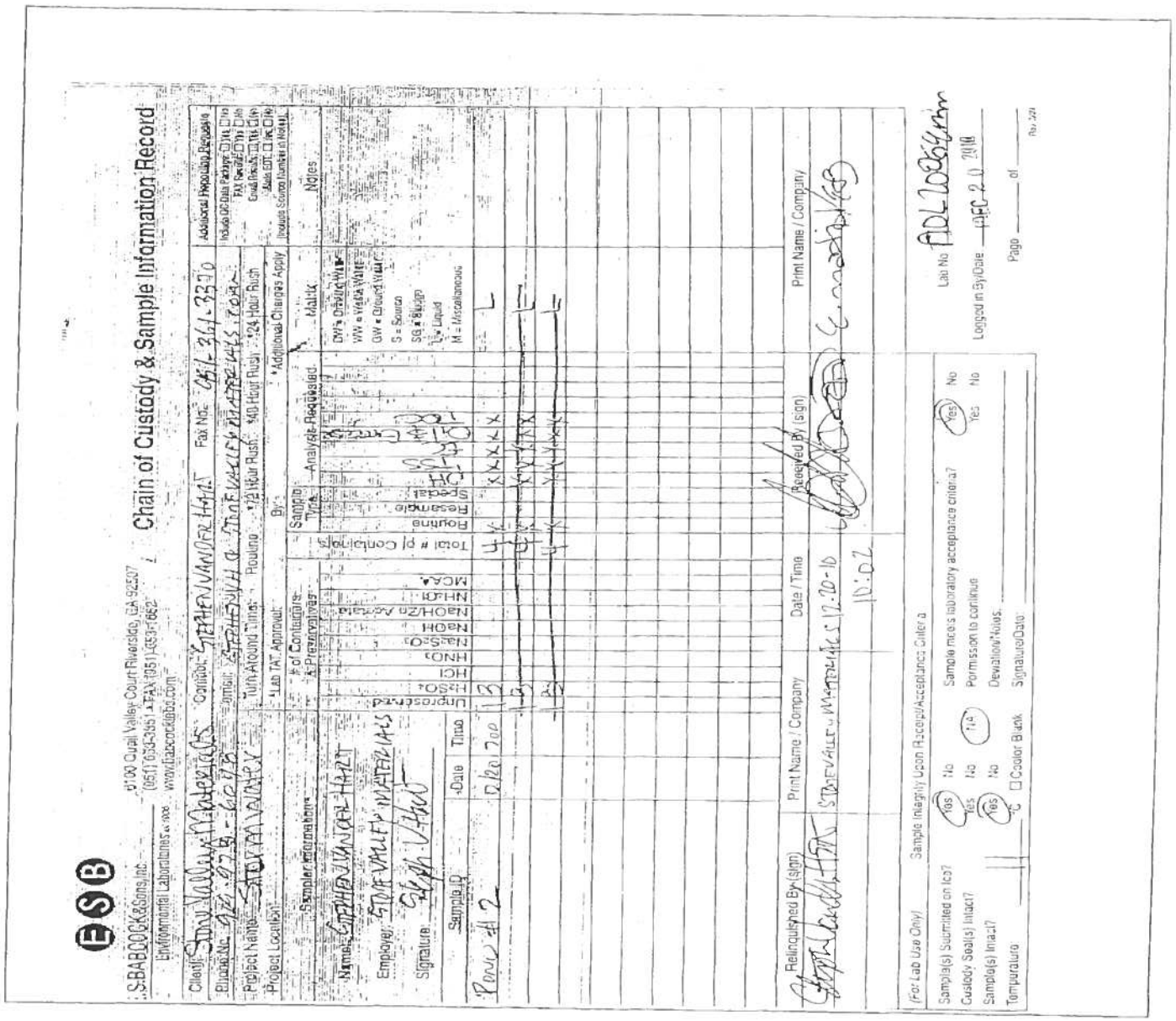
Client Name: Stone Valley Materials
Contact: Stephen
Address: 3500-B Pyrite
Riverside, CA 92509

Report Date: 29-Dec-2010

Analytical Report: Page 1 of 1
Project Name: Stormwater
Project Number: Storm Water

Work Order Number: A0L2006

Received on Ice (Y/N): Yes Temp: 11 °C



Chain of Custody & Sample Information Record

E.S.BABCOCK & Sons, Inc. — 6100 Quail Valley Court Riverside, CA 92507 — (951) 653-3351 • FAX (951) 653-1662 — www.babcocklabs.com

Client: Stone Valley Materials — Contact: Stephen Van Der Hart — Fax No: 951-314-3330

Email to: Stephen@stonevalleymaterials.com

Project Name: Stormwater — Project Number: Storm Water

Project Location: Riverside

Turn-Around Times: Routine; *72 Hour Rush; *48 Hour Rush; *24 Hour Rush

*Lab TAT Approval: By:

*Additional Charges Apply (Include Source Number in Notes)

Additional Requests/Requirements: Include QC Data Package: Yes No; Fax Results: Yes No; Email Results: Yes No; Save EDT: Yes No

Sampler Information Here

Name: Stephen Van Der Hart

Employer: Stone Valley Materials

Signature: Stephen Van Der Hart

Sample ID	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$NaHSO_4$	NaOH	$NaOH/Zn\ Acetate$	NH_4Cl	MCA	Total # of Containers	Routine	Resample	Special	Sample Type	Analysis Requested	Matrix	Notes
Pond #2	12/20/10	10:02	3									4						L	

# of Containers / # Preservatives

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Source; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (Sign): Stephen Van Der Hart — Print Name / Company: Stone Valley Materials — Date / Time: 12-20-10 10:02

Received By (Sign): [signature] — Print Name / Company: [signature]

For Lab Use Only: Sample Integrity Upon Receipt/Acceptance Criteria

Sample(s) Submitted on Ice? Yes No — Sample meets laboratory acceptance criteria? Yes No

Custody Seal(s) Intact? Yes No — Permission to continue: Yes No

Sample(s) Intact? Yes No — Deviation/Notes:

Temperature: °C — ☐ Cooler Blank — Signature/Date:

Lab No: A0L2006

Logged in By/Date: DEC 20 2010

Page ___ of ___

Rev. 3/01

mailing
P.O. Box 432
Riverside, CA 92502-0432

location
6100 Quail Valley Court
Riverside, CA 92507-0704

P 951 653 3351
F 951 653 1662
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CA Elap no. 2698
EPA no. CA00102

ANNUAL REPORT

SIDE A

FORM 5-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS

EVALUATION DATE: 6/10/11 INSPECTOR NAME: STEPH V HART TITLE: VP OF OPERATIONS SIGNATURE: Steph V Hart

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)			If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
ACTIVE MINE AREA	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?	☐ YES ☒ NO			
	ARE ADDITIONAL/REVISED BMPs NECESSARY?	☐ YES ☒ NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)			If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
EQUIPMENT FUELING AREA	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?	☐ YES ☒ NO			
	ARE ADDITIONAL/REVISED BMPs NECESSARY?	☐ YES ☒ NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)			If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
EQUIPMENT MAINTENACE AREA	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?	☐ YES ☒ NO			
	ARE ADDITIONAL/REVISED BMPs NECESSARY?	☐ YES ☒ NO			
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)			If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?	☐ YES ☐ NO			
	ARE ADDITIONAL/REVISED BMPs NECESSARY?	☐ YES ☐ NO			

201 .011

ANNUAL REPORT

FORM 4-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE A

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.
- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

		#1	#2	#3	#4
Observation Date: October 6 2010 (6th, 18th, 19th, 20th, 21st, 22nd, 25)	Drainage Location Description	NO DISCHARGE.			
Observers Name: STEPH V HART	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Title: VP OPERATIONS	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Signature: Steph V Hart	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: November 8 2010 (8th, 23rd, 24th)	Drainage Location Description	NO DISCHARGE			
Observers Name: STEPH V HART	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Title: VP OPERATIONS	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Signature: Steph V Hart	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: December 20 2010 (20th, 21st, 22nd, 29)	Drainage Location Description	20th	22nd		
Observers Name: STEPH V HART	Observation Time	700 : ☐ P.M. ☒ A.M.	730: ☐ P.M. ☒ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Title: VP OPERATIONS	Time Discharge Began	600 : ☐ P.M. ☒ A.M.	700: ☐ P.M. ☒ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Signature: Steph V Hart	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☐
Observation Date: January 3 2011	Drainage Location Description	NO DISCHARGE			
Observers Name: STEPH V HART	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Title: VP OPERATIONS	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
Signature: steph V Hart	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐

ANNUAL REPORT

FORM 4-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE B

DATE/TIME OF OBSERVATION (From Reverse Side)	DRAINAGE AREA DESCRIPTION EXAMPLE: Discharge from material storage Area #2	DESCRIBE STORM WATER DISCHARGE CHARACTERISTICS Indicate whether storm water discharge is clear, cloudy, or discolored; causing staining; containing floating objects or an oil sheen, has odors, etc	IDENTIFY AND DESCRIBE SOURCE(S) OF POLLUTANTS EXAMPLE: Oil sheen caused by oil dripped by trucks in vehicle maintenance area	DESCRIBE ANY REVISED OR NEW BMPs AND THEIR DATE OF IMPLEMENTATION
12/20/10 7:00 ☒ AM ☐ PM	POND #2	WATER WAS MUDDY WITH NO OIL SHEEN		PLACED MORE ROCK IN PONDS TO SLOW WATER 12-20-10
12/22/10 7:30 ☒ AM ☐ PM	POND #1 POND #3	WATER LESS MUDDY NO OIL SHEEN		BUICO BEAMS TO GUIDE WATER 12-22-10
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				

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ANNUAL REPORT

FORM 4 (Continued)-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE A

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.
- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

		#1	#2	#3	#4
Observation Date: February 25 2011 Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	Drainage Location Description	NO Runoff	2/19/11	WEEKEND STORM	
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: March 21 2011 21st 23rd 25th Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	Drainage Location Description	#1 MARCH 21	#2 MARCH 23 STORM	#3 WEEKEND	#4
	Observation Time	9 00 : ☐ P.M. ☒ A.M.	200 : ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	600 : ☐ P.M. ☒ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☒	YES ☐ NO ☒	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: April 8 2011 Observers Name: Steph V Hart Title: VP OPERATIONS Signature: Steph V Hart	Drainage Location Description	#1 NONE	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☒	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: May 17 2011 17th 18th Observers Name: STEPH V HART Title: VP OPERATIONS Signature: Steph V Hart	Drainage Location Description	#1 NONE	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐

ANNUAL REPORT

SIDE B

FORM 4 (Continued)-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

DATE/TIME OF OBSERVATION (From Reverse Side)	DRAINAGE AREA DESCRIPTION EXAMPLE Discharge from material storage Area #2	DESCRIBE STORM WATER DISCHARGE CHARACTERISTICS Indicate whether storm water discharge is clear, cloudy, or discolored, causing staining; containing floating objects or an oil sheen, has odors, etc.	IDENTIFY AND DESCRIBE SOURCE(S) OF POLLUTANTS EXAMPLE: Oil sheen caused by oil dripped by trucks in vehicle maintenance area.	DESCRIBE ANY REVISED OR NEW BMPs AND THEIR DATE OF IMPLEMENTATION
3/21/11 9:00 ☒ AM ☐ PM	Ponds 1, 2 & 3	SEDIMENT IN WATER NO ODOR OR SHEEN VERY LITTLE RUN OFF		
3/23/11 2:00 ☐ AM ☒ PM	Ponds 1, 2, 3	MUDDY WATER NO ODOR OR SHEEN VERY LITTLE RUN OFF		
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				

July 1, 2010 - July 1, 2011

October 6, 2010	.01" (.2mm)	February 25, 2010	.2" (5mm)
★ October 17, 2010	.01" (.2mm)	★ February 26, 2010	.74" (18.8mm)
October 18, 2010	.12" (.3mm)	March 7, 2010	.01" (.2mm)
October 19, 2010	.07" (1.7mm)	★ March 20, 2010	.58" (14.7mm)
October 20, 2010	.01" (.2mm)	March 21, 2010	.37" (9.4mm)
October 21, 2010	.04" (.1mm)	March 23, 2010	.27" (6.8mm)
October 22, 2010	.02" (.5mm)	March 25, 2010	.05" (1.2mm)
October 25, 2010	.03" (.7mm)	April 8, 2010	.1" (2.5mm)
★ October 30, 2010	.07" (1.7mm)	★ April 9, 2010	.5" (1.2)
November 8, 2010	.13" (3.3mm)	May 9, 2010	.01" (.2mm)
★ November 20, 2010	.27" (6.8mm)	★ May 15, 2010	.05" (1.2mm)
★ November 21, 2010	.19" (4.8mm)	May 17, 2010	.01" (.2mm)
November 23, 2010	.03" (.7mm)	May 18, 2010	.3" (7.6mm)
November 24, 2010	.24" (6.1mm)		
★ November 27, 2010	.06" (1.5mm)		
★ December 5, 2010	.33" (8.3mm)		
December 6, 2010	.16" (4mm)		
December 16, 2010	.23" (5.8mm)		
December 17, 2010	.04" (1mm)		
★ December 18, 2010	.16" (4mm)		
★ December 19, 2010	1.17" (29.7)		
December 20, 2010	2.05" (52mm)		
December 21, 2010	1.52" (38.6mm)		
December 22, 2010	2.64" (67mm)		
★ December 25, 2010	.14" (3.5mm)		
★ December 26, 2010	.03" (.7mm)		
December 29, 2010	.47" (11.9mm)		
★ January 2, 2010	.11" (2.7mm)		
January 3, 2010	.13" (3.3mm)		
★ January 30, 2010	.11" (2.7mm)		
January 31, 2010	.01" (.2mm)		
February 16, 2010	.17" (4.3mm)		
February 17, 2010	.01" (.2mm)		
February 18, 2010	.31" (7.8mm)		
★ February 19, 2010	.56" (14.2mm)		
★ February 20, 2010	.06" (1.5mm)		

California Regional Water Quality Control Board
Santa Ana Region

Linda S. Adams
Secretary for Environmental Protection

3737 Main Street, Suite 500, Riverside, California 92501-3348
Phone (951) 782-4130 • FAX (951) 781-6288 • TDD (951) 782-3221
www.waterboards.ca.gov/santaana

Edmund G. Brown Jr.
Governor

July 25, 2010

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Attn: Bart Patel & Mike Renner or Facility Manager
Riverside Mining Limited
3500 Pyrite St., Unit B
Riverside, CA 92509

Notice of Noncompliance: Failure to Comply With the General Permit for Storm Water Discharges Associated With Industrial Activities, Order No. 97-03-DWQ, NPDES NO. CAS000001 (General Permit), Waste Discharge Identification (WDID) Number 8 33I022115

Dear Bart Patel & Mike Renner or Facility Manager:

Your facility located at 3500 Pyrite St., Unit B, in the city of Riverside, is regulated under the General Permit and is identified by WDID number 8 33I022115. Section B.14 of the General Permit requires you to submit an annual report by July 1 of each year. Our records show that your annual report for the July 1, 2010 to June 30, 2011 reporting period has not been received.

You are in violation of the General Permit, the California Water Code and the federal Clean Water Act for failure to submit a complete 2010-2011 annual report. We request that you submit a complete 2010-2011 annual report to this office no later than 30 days from the date of this letter. A blank copy of the report form can be downloaded from the Storm Water section of the State Water Resources Control Board web site at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/annualreport.shtml

Along with the annual report, you must also provide a statement explaining why the annual report was not submitted by the July 1 deadline and the measures you have taken to ensure timely submittals in the future. Failure to submit the requested information may result in enforcement action, including civil monetary penalties of up to $10,000 for each day of violation. Please note that Section 13399.33 of the California Water Code stipulates a minimum penalty of $1,000 to those permittees that do not submit their annual reports after notification.

If you wish to be notified electronically of future annual report submittals prior to the due date, please update the first page of annual report contact information with the appropriate e-mail address. If you wish to add additional contact person(s) to the notification list, please indicate on a separate page.

Should you need assistance in completing the annual report or have any questions, please contact Nam Nguyen at 951-321-4582 (e-mail: nnguyen@waterboards.ca.gov), or Michael Roth at 951-320-2027 (e-mail: mroth@waterboards.ca.gov)

Sincerely,

Michael J. Adackapara
Division Chief

CC to Owner: Bart Patel or Facility Owner. Riverside Mining Limited. 3500 B Pyrite St., Riverside, CA 92509

Linda S. Adams
Secretary for Environmental Protection

MOST FREQUENTLY ASKED QUESTIONS ABOUT SWRCB STORM WATER FEES

Arnold Schwarzenegger
Governor

1. ***Why did I receive this invoice?***

   Storm Water fee invoices are sent to every person who filed a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB). The invoice is your bill for the twelve month period shown. Under state law, a fee is assessed annually for persons who may discharge industrial and/or construction storm water under a general permit. SWRCB fee information may be found on the internet at: http://www.waterboards.ca.gov/resources/fees/

2. ***What if I dispute this fee?***

   If you disagree with the assessment or the amount of the fee, you must pay the fee to SWRCB and submit a written description of your dispute along with any key facts with your invoice payment. You can also contact the Fee Branch at (916) 341-5247. SWRCB will then refund any monies due you as the law allows.

3. ***If I don't have any pollutants in my storm water discharge, am I still subject to an annual fee?***

   Yes. The permit is issued to allow you to discharge. The permit is effective as long as it is active and you are subject to this fee regardless of whether or not you are actively discharging.

4. ***What is my fee going toward?***

   The annual fee pays for the implementation and administration of the Storm Water Program.

5. ***What is a Facility Identification Number or WDID Number?***

   The facility identification number or WDID number is the number the SWRCB gives each permittee when they apply for an NOI. Consider it your account number with the SWRCB.

6. ***What is the SWRCB's Federal Tax Identification Number?***

   68-0281986

7. ***If my construction project has been completed or my facility is closed, am I still subject to the annual fee?***

   Yes. You are subject to the annual fee until you (1) file a Notice of Termination (NOT) with the Regional Board, and (2) the Regional Board approves your NOT. You can receive the NOT form by contacting the Fee Branch at (916) 341-5247 or on the SWRCB Website at:
   http://www.waterboards.ca.gov/water_issues/programs/stormwater/gen_const.shtml#const_permit or
   http://www.waterboards.ca.gov/water_issues/programs/stormwater/gen_indus.shtml#indus

the Water Board at 916-341-5247.

Retain this portion for your records

Please detach and return this portion with your payment

☐ CHECK HERE FOR ADDRESS CORRECTION ON THE BACK

INVOICE NO: SW-0016743

INDEX NO: 074229

(Please print the above number on check or money order)

RM #: 364099

SWRCB
PO BOX 1888
SACRAMENTO, CA 95812-1888

RIVERSIDE MINING LIMITED
BART PATEL
PO BOX 3529
RIVERSIDE, CA 92519
(951) 686-6004

AMOUNT DUE: $1,008.00
BILLING PERIOD: 04/01/10 - 03/31/11
DUE BY: 5/6/10
FACILITY ID (WDID): 8 331022115
FACILITY NAME: RIVERSIDE MINING LIMITED
3500 B PYRITE ST
RIVERSIDE, CA 92509

2149

STONE VALLEY MATERIALS
3500-B PYRITE STREET
RIVERSIDE, CA 92509
(951) 681-7830

usbank. All of us serving you

90-3582-1222

8/3/2011

PAY TO THE ORDER OF SWRCB $ **1,008.00

One Thousand Eight and 00/100********** DOLLARS

SWRCB
PO BOX 1888
SACRAMENTO,CA 95812-1888

VOID AFTER 120 DAYS

Security features. Details on back.

MEMO 8 331022115

AUTHORIZED SIGNATURE

⑈002149⑈ ⑆122235821⑆ 153464482550⑈

Date	Shot	1 Lb Booster	Booster 3/4 Lb		Booster 1/2 Lb		PowerDitch		ANFO
		Lbs	Units	Lbs	Units	Lbs	Units	Lbs	Lbs
1/6/11	1	88							
1/11/11	2				57	29			55
1/13/11	3				52	26			55
2/10/11	4				75	38			
2/23/11	5				119	60			
3/14/11	6				108	54			
3/15/11	7		77	57.75					6160
4/1/11	8				160	80	32	80	165
4/6/11	9	131							
4/27/11	10	175							
5/24/11	11		83	62.25					3740
6/24/11	12		137	102.75					
7/11/11	13		120	90					
7/29/11	14	90							
8/29/11	15	44							
9/9/11	T&M		12	9					275
9/20/11	16	111							
10/4/11	17		61	45.75					
10/14/11	T&M		64	48					
10/21/11	18	68							
11/18/11	19		64	48					
Total by product:		707	618	464	571	286	32	80	10,450

CentraControl 7000	Fortel 2.5x16		Fortel 3x16		Total Lbs/
Lbs	Units	Lbs	Units	Lbs	Shot
12,040					12,128
					84
					81
15,060					15,098
20,380					20,440
21,120					21,174
	120	399.96			6,618
	72	239.98			565
16,760					16,891
26,380					26,555
			193	966.93	4,769
6,400					6,503
10,960					11,050
15,040					15,130
9,360					9,404
			7	35.07	319
10,840					10,951
4,160					4,206
					48
6,660					6,728
7,500					7,548
182,660	192	640	200	1,002	196,288

Material Safety Data Sheet

Dyno Nobel Inc.
2650 Decker Lake Boulevard, Suite 300
Salt Lake City, Utah 84119
Phone: 801-364-4800 Fax: 801-321-6703
E-Mail: dnna.hse@am.dynonobel.com
FOR 24 HOUR EMERGENCY CALL CHEMTREC (USA) 800-424-9300
CANUTEC (CANADA) 613-996-6666

MSDS # 1108
Date 08/05/08

Supercedes
MSDS # 1108 01/23/06

SECTION I - PRODUCT IDENTIFICATION

Trade Name(s):

DYNO® CORD SENSITIVE BOOSTERS - CS35, CS45, CS90, CS135

TROJAN® SPARTAN®
TROJAN® SPARTAN® Slider
TROJAN® Stinger
TROJAN® NB
TROJAN® NB UNIVERSAL
TROJAN® Twinplex

Product Class: Cast Boosters

Product Appearance & Odor: Tan to brown solid with no odor. May also be silvery gray. Packaged in paper or plastic tube.

DOT Hazard Shipping Description: Booster 1.1D UN0042 II

NFPA Hazard Classification: Not Available (See Section IV - Special Fire Fighting Procedures)

SECTION II - HAZARDOUS INGREDIENTS

Ingredients:	CAS#	% (Range)	Occupational Exposure Limits ACGIH TLV-TWA	OSHA PEL-TWA
Pentaerythritol Tetranitrate (PETN)	78-11-5	35-70	None Established	None Established
Trinitrotoluene	118-96-7	30-50	0.1 mg/m^3 (skin)	1.5 mg/m^3 (skin)
RDX	121-82-4	0-25	0.5 mg/m^3 (skin)	1.5 mg/m^3 (skin)
HMX	2691-41-0	0-5	None Established	None Established
Aluminum	7429-90-5	0-15	10 mg/m^3 (dust)	15 mg/m^3 (total)

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in deminimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

DYNO Dyno Nobel
Groundbreaking Performance

Material Safety Data Sheet

SECTION III - PHYSICAL DATA

Melting Point: 176° F (80° C) (TNT)
Vapor Density: Not applicable
Percent Volatile by Volume: Not applicable
Evaporation Rate (Butyl Acetate = 1): Not applicable

Vapor Pressure: 0.042mm Hg at 80° C (TNT)
Density: 1.55 - 1.65 g/cc
Solubility in Water: < 0.01%

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: Not applicable
Flammable Limits: Not applicable
Extinguishing Media: (See Special Fire Fighting Procedures section)
Special Fire Fighting Procedures: Do not attempt to fight fires involving explosive materials. Evacuate all personnel to a predetermined safe location, no less than 2,500 feet in all directions.
Unusual Fire and Explosion Hazards: Can explode or detonate under fire conditions. Burning material may produce toxic vapors.

SECTION V - HEALTH HAZARD DATA

Effects of Overexposure

Eyes: Particulates in the eye may cause irritation, redness, and tearing. Prolonged or repeated contact may cause cataracts, optic neuritis, blurred vision or amblyopia.
Skin: Prolonged contact may cause irritation, severe eczema and sensitization dermatitis. TNT may be absorbed through the skin, which may be indicated by orange staining on exposed skin. See systemic effects below.
Ingestion: Harmful if swallowed. See systemic effects below.
Inhalation: Inhalation of dusts may cause irritation, sneezing or coughing. See systemic effects below.
Systemic or Other Effects: TNT is an irritant, neurotoxin, hepatotoxin, nephrotoxin and bone marrow depressant. Although exposure is unlikely, acute or chronic exposure may cause sensitization dermatitis, headache, dizziness, jaundice, lethargy, or problems with the liver or blood such as toxic nephritis, aplastic anemia, hemolytic anemia or methemoglobin formation. PETN is a known coronary vasodilator, and ingestion or inhalation may result in a lowering of blood pressure, headache or faintness, and a decreased tolerance for grain alcohol. Repeated over-exposure may result in chest pains in the absence of exposure.

Emergency and First Aid Procedures

Eyes: Irrigate with running water for at least fifteen minutes. If irritation persists, seek medical attention.
Skin: Remove contaminated clothing. Wash skin thoroughly with soap and water.
Ingestion: Seek medical attention.
Inhalation: In case of irritation, remove to fresh air. Seek medical attention if chronic symptoms occur.
Special Considerations: None.

SECTION VI - REACTIVITY DATA

Stability: Stable under normal conditions, may explode when subjected to fire, supersonic shock or high energy projectile impact, especially when confined or in large quantities.
Conditions to Avoid: Keep away from heat, flame, friction, impact, ignition sources and strong shock.
Materials to Avoid (Incompatibility): Corrosives (strong acids and bases or alkalis)
Hazardous Decomposition Products: Nitrogen Oxides (NO_x), Carbon Monoxide (CO)
Hazardous Polymerization: Will not occur.

DYNO Dyno Nobel
Breakthrough Performance

Material Safety Data Sheet

SECTION VII - SPILL OR LEAK PROCEDURES

Steps to be taken in Case Material is Released or Spilled: Protect from all ignition sources. In case of fire evacuate area not less than 2,500 feet in all directions. Notify authorities in accordance with emergency response procedures. Only personnel trained in emergency response should respond. If no fire danger is present, and product is undamaged and/or uncontaminated, repackage product in original packaging or other clean DOT approved container. Ensure that a complete account of product has been made and is verified. Follow applicable Federal, State and local spill reporting requirements.
Waste Disposal Method: Disposal must comply with Federal, State and local regulations. If product becomes a waste, it is potentially regulated as a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR, part 261. Review disposal requirements with a person knowledgeable with applicable environmental law (RCRA) before disposing of any explosive material.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: Not required for normal handling.
Respiratory Protection: None normally required
Protective Clothing: Non-permeable gloves and work clothing that reduce skin contact are recommended.
Eye Protection: Safety glasses are recommended.
Other Precautions Required: None.

SECTION IX - SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store in cool, dry location. Store in compliance with all Federal, State and local regulations. Keep away from heat, flame, ignition sources or strong shock.
Precautions to be taken during use: Avoid breathing the fumes or gases from detonation of explosives. Use accepted safe industry practices when using explosive materials. Unintended detonation of explosives or explosive devices can cause serious injury or death.
Other Precautions: It is recommended that users of explosives material be familiar with the Institute of Makers of Explosives Safety Library publications.

SECTION X - SPECIAL INFORMATION

This product contains the following substances that are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

Chemical Name	CAS Number	% By Weight
None Applicable		

Disclaimer

Dyno Nobel Inc. and its subsidiaries disclaim any warranties with respect to this product, the safety or suitability thereof, the information contained herein, or the results to be obtained, whether express or implied, INCLUDING WITHOUT LIMITATION, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE AND/OR OTHER WARRANTY. The information contained herein is provided for reference purposes only and is intended only for persons having relevant technical skills. Because conditions and manner of use are outside of our control, the user is responsible for determining the conditions of safe use of the product. Buyers and users assume all risk, responsibility and liability whatsoever from any and all injuries (including death), losses, or damages to persons or property arising from the use of this product or information. Under no circumstances shall either Dyno Nobel Inc. or any of its subsidiaries be liable for special, consequential or incidental damages or for anticipated loss of profits.

DYNO Dyno Nobel
Groundbreaking Performance

Material Safety Data Sheet

Preparation Date: 09-Aug-2007 **Revision Date:** 23-Mar-2011 **Revision Number:** 2

SECTION 1 – PRODUCT AND COMPANY INFORMATION

Supplier(s):

Orica Canada Inc.	Orica USA Inc
Maple Street	33101 E Quincy Ave
Brownsburg, QC	Watkins, CO 80137-9406
For MSDS Requests: 1-450-533-4201	For MSDS Requests: 1-303-268-5000

Product Name:	**Pentex™, BST™, Osx™ & ProTECT™ Cast Boosters**
Product Code:	20083
Alternate Name(s):	BST™MPB, BST™ D, Pentex™ CSL, Pentex™ SL, Pentex™ DUO, Pentex™ AP, Pentex™ SB, Pentex™ D, Pentex™ CD, BSX and Osx™ 8 Seismic Boosters, Osx™ 8 L Seismic Boosters, Osx™ 8 Z Seismic Boosters, Pentex™ Avalanche DUO, Pentex™ ProTECT-i, Pentex™ ProTECT-e, AVR, Pentex™ Powerplus™ P (Pentex™ PPP)
UN-No:	UN0042
Recommended Use:	Used for initiation of explosive mixtures

Emergency Telephone Number: FOR CHEMICAL EMERGENCIES (24 HOUR) INVOLVING TRANSPORTATION, SPILL, LEAK, RELEASE, FIRE OR ACCIDENTS: **IN CANADA CALL:** ORICA CANANDA TRANSPORTATION EMERGENCY RESPONSE SYSTEM AT **1-877-561-3636**. IN US CALL: CHEMTREC **1-800-424-9300. IN THE U.S.** FOR LOST, STOLEN OR MISPLACED EXPLOSIVES CALL: BATFE **1-800-800-3855.** FORM ATF F5400.0 MUST BE COMPLETED AND LOCAL AUTHORITIES (STATE/MUNICIPAL POLICE, ETC.) MUST BE ADVISED.

SECTION 2 – HAZARD IDENTIFICATION

Emergency Overview:
Danger Risk of explosion by shock, fire or other sources of ignition. Irritating to eyes, respiratory system and skin.

Appearance:	Physical State:	Odor:
Tan to brown	Solid	None

SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
2,4,6-Trinitrotoluene (TNT)	118-96-7	30-90
Cyclotrimethylene Trinitramine (RDX)	121-82-4	0-70
Pentaerythritol Tetranitrate (PETN)	78-11-5	0-60
Aluminum	7429-90-5	0-15
Enzymes	9014-01-1	0-5
Enzymes	9000-90-2	0-5

SECTION 4- FIRST AID MEASURES

General Advice:	Not applicable; this is a packaged product that will not result in exposure to the contents under normal conditions of use. In the event of contact, administer first aid appropriate for symptoms present.
Eye Contact:	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician
Skin Contact:	Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is not breathing AND no pulse. Obtain medical advice IMMEDIATELY.

Ingestion:	Rinse mouth. Harmful is swallowed. Seek medical attention IMMEDIATELY.
Notes to Physician:	No information available.

SECTION 5 – FIRE-FIGHTING MEASURES

Flammable properties:	Product burns if ignited, with possible transition to detonation. May ignite or explode if heated under confinement.
Suitable extinguishing media:	DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Evacuate surrounding areas. When controlling fire before involvement of explosives, fire-fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate. Water may be used on small fires.
Unsuitable extinguishing media:	DO NOT FIGHT FIRES INVOLVING EXPLOSIVES.
Specific hazards arising from the Chemical:	DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. This product is a high explosive with a mass detonation hazard. Thermal decomposition can lead to release of irritating gases and vapors.
Protective equipment and precautions for fire fighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH approved (or equivalent) and full protective gear.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Methods for containment:	Collect loose or spilled solid material for storage or transport to secured magazine.
Methods for cleaning up:	Review fire and explosion hazards before proceeding with clean up. Remove and protect ignition sources. Wear protective equipment during clean up. Mop up water using non-sparking tools. It is suggested that only personnel trained in Emergency Response should respond. Verify complete account of product(s). Notify authorities and follow applicable spill reporting requirements.

SECTION 7 - HANDLING AND STORAGE

Handling:	This product is an explosive and should only be used under the supervision of trained personnel. Protect containers from physical damage. Keep away from incompatible materials, heat, sparks, flames and other ignition sources. Avoid rough handling.
Storage:	Store under moderate temperatures recommended by a technical services representative. Store under dry conditions in a well ventilated magazine that has been approved for explosive storage. Do NOT store explosives in a detonator magazine or detonators in an explosive magazine. Keep away from heat, sparks and flames. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials, combustibles, and sources of heat. Keep away from incompatibles.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures:	Full-handling precautions should be taken at all times.
Personal Protective Equipment	
Eye/Face Protection:	Safety glasses with side-shields are recommended to prevent eye contact.
Skin Protection:	Long sleeved clothing. Impervious gloves.
Respiratory protection:	Use a NIOSH-approved respirator or equivalent during post-detonation clean up operations.
Hygiene Measures:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Tan to Brown	Odor:	None
		Viscosity:	No information available
Physical State:	Solid	Melting Point/Range:	80°C/ 176°F
pH:	No data available		
Flammable Limits (upper):	No data available	Flammable Limits (lower):	No data available
Explosion Power:	No data available	Specific Gravity:	1.5-1.7 g/cc

Water Solubility:	Negligible	**Other Solubility:**	No information available
Vapor Pressure:	Not available	**Oxidizing Properties:**	No information available
Partition Coefficient (n-octanol/water):	No data available		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Can explode from impact, heat or friction. PETN explodes at 190-210°C (374-410°F). Stable up to approximately 70°C.
Conditions to avoid:	Keep away from heat, impact and friction. Refer to Product Bulletin for proper applications and use procedures.
Incompatible materials;	Strong acids. (Nitric Acid). Strong oxidizing agents.
Hazardous decomposition products:	Carbon Monoxide & Nitrogen oxides (NO_x).

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information:	Decomposition products may be toxic.
Carcinogenicity:	The ingredients of this product are not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by T\NTP (National Toxicology Program).
Irritation:	Not applicable.
Corrosivity:	Not applicable.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity effects:	Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Burn under supervision of an expert at and explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an Orica Canada Inc. or Orica USA Inc. Technical Representative.
Contaminated Packaging:	No information available.

SECTION 14 - TRANSPORT INFORMATION

DOT Proper Shipping Name:	Boosters, without detonator
Hazard Class:	1.1D
UN-No:	UN0042
Packing Group:	II
TDG Proper Shipping Name:	Boosters, without detonator
Hazard Class:	1.1D
UN-No:	UN0042
Packing Group:	II

SECTION 15 - REGULATORY INFORMATION

CANADIAN CLASSIFICATION:	This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR
WHMIS hazard class:	This product is an explosive and is not regulated by WHMIS.
USA CLASSIFICATION:	

SARA Regulations Sections 313 and 40 CFR 372: No reportable components present.
SARA 311/312 Hazardous Categorization

Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	Yes
Sudden Release of Pressure Hazard:	Yes
Ozone Protection and 40 CFR 42:	No reportable quantities of ozone depleting agents.

Other Regulations/Legislations which apply to this product: No information available.

TSCA: Complies **DSL:** Complies **NDSL:** Complies

SECTION 16 - OTHER INFORMATION

Prepared By: Safety, Health & Environment
303-268-5000

Preparation Date: 09-Aug-07
Revision Date: 23-Mar-2011

The information contained herein is offered as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Orica will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.

End of MSDS

Material Safety Data Sheet

Preparation Date: 18-Feb-2008 **Revision Date:** 2-April-2009 **Revision Number:** 1

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Supplier(s):

Orica Canada Inc	Orica USA Inc.
Maple Street	33101 E. Quincy Avenue
Brownsburg, QC	Watkins, CO 80137-9406
For MSDS Requests: 1-450-533-4201	For MSDS Requests: 1-303-268-5000

Product Name:	**Centra™ Control 25, 30, 40, 50, 70, 80, 100 & ANE (USA)**
Product Code:	2120
Alternate Name(s):	Apex™ Gold 2502 Series
UN-No:	UN0332
Recommended Use:	A booster sensitive emulsion explosive

Emergency Telephone Number: FOR CHEMICAL EMERGENCIES (24 HOUR) INVOLVING TRANSPORTATION, SPILL, LEAK, RELEASE, FIRE OR ACCIDENTS: **IN CANADA CALL:** THE ORICA TRANSPORTATION EMERGENCY RESPONSE SYSTEM AT **1-877-561-3636. IN THE U.S. CALL: CHEMTREC 1-800-424-9300. IN THE U.S.:** FOR LOST, STOLEN, OR MISPLACED EXPLOSIVES CALL: BATF **1-800-800-3855.** FORM ATF F 5400.0 MUST BE COMPLETED AND LOCAL AUTHORITIES (STATE/MUNICIPAL POLICE, ETC.) MUST BE ADVISED.

SECTION 2 – HAZARD IDENTIFICATION

Emergency Overview:
Risk of explosion by shock, fire of other sources of ignition. May cause skin irritation and/or dermatitis. This product contains one or more substances, which are classified in the EU as carcinogenic, mutagenic and/or reprotoxic. Irritating to eyes. Harmful if swallowed. Oxidizing agent. May cause methemoglobinemia. May cause liver damage. May cause kidney damage.

Appearance:	**Physical State:**	**Odor:**
Pink, viscous putty-like	Viscous, putty-like	Diesel

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	**CAS-No**	**Weight %**
Ammonium Nitrate	6484-52-2	60-80
Diesel Fuel	68476-34-6	1-6
Mineral Oil	64742-53-6	1-6

Note: Diesel Fuel may be substituted for Mineral Oil in the emulsion matrix component.

SECTION 4 – FIRST AID MEASURES

General Advice:	In case of accident or if you feel unwell, seek medical advice IMMEDIATELY (show the product label where possible).
Eye Contact:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin Contact:	Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Ingestion:	Immediate medical attention is required. Do no induce vomiting. Clean mouth with water and afterwards drink plenty of water. If spontaneous vomiting occurs, have victim lean forward with head positioned to avoid breathing in of vomitus, rinse mouth and administer more water. Never give anything by mouth to and unconscious person.

Notes to physician:	Symptomatic. Administer oxygen if there are signs of cyanosis. If clinical condition deteriorates, administer 10cc Methylene Blue intravenously. It is unlikely for this to be required with methemoglobin level of less than 40%.

SECTION 5 – FIRE-FIGHTING MEASURES

Flammable properties:	Not itself combustible but assists fire in burning materials. The product does not flash. Rate of burning: does not sustain burning at atmospheric pressure.
Suitable extinguishing media:	DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Evacuate surrounding areas. When controlling fire before involvement of explosives, fire-fighters should wear positive pressure self containing breathing apparatus (SCBA) and full turnout gear. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate.
Unsuitable extinguishing media:	DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Attempts to smother a fire involving this product will be ineffective as it is its own oxygen source. Smother this product could lead to decomposition and explosion. This product is more sensitive to detonation if contaminated with organic or oxidisable material or if heated while confined. Unless the mass of product on fire is flooded with water, re-ignition is possible.
Specific hazards arising from the chemical:	This product is a high explosive with mass detonation hazard. DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. Thermal decomposition can lead to release of irritating gases and vapors.
Protective equipment and precautions for firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH approved (or equivalent) and full protective gear.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Methods for containment:	Contain or absorb leaking putty with sand or earth or other suitable substance.
Methods for cleaning up:	Avoid the use of metal tools containing iron and/or copper. Be careful to avoid shock, friction, and contact with grit. Collect product for recovery or disposal. For release to land, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Collect contaminated soil and water, and absorbent for proper disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.
Other information:	Deactivating chemicals: Detergents will break up emulsions if mixed in.

SECTION 7 – HANDLING AND STORAGE

Handling:	This product is an explosive and should only be used under the supervision of trained personnel. The use of coveralls is recommended. Use good industrial hygiene and housekeeping practices. Keep away from open flames, hot surfaces and sources of ignition.
Storage:	Store under moderate temperatures recommended by a technical services representative. Store under dry conditions in a well ventilated magazine that has been approved for either detonator storage or explosive storage. Do NOT store explosives in a detonator magazine or detonators in an explosive magazine. Keep away from heat, spark and flames. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials; combustibles, and sources of heat. Keep away from incompatibles. Ideal storage temperature is 10-27°C (50-80°F). Do not expose sealed containers to temperatures above 40°C (104°F).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diesel Fuel	TWA: 100 mg/m³ Skin		
Mineral Oil	5 mg/m³	5 mg/m³	

Other exposure guidelines:	Ammonium Nitrate: ORICA Guideline 5 mg/m³ (internal TWA)
Engineering Measures:	No information available.

Personal Protective Equipment

Eye/Face Protection:	Tightly fitting safety goggles
Skin Protection:	User should verify impermeability under normal conditions of use prior to general use. Impervious butyl rubber gloves.
Respiratory Protection:	In case of insufficient ventilation wear suitable respiratory equipment. A NIOSH-approved respirator, if required
Hygiene Measures:	Handle in accordance with good industrial hygiene and safety practice. Recommendations listed in this section indicate the type of equipment, which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Pink, viscous putty-like	Odor:	Diesel
Physical State:	Viscous, putty-like	Viscosity:	No information available
pH:	4- 6	Flash Point:	Not applicable
Autoignition Temperature:	230-265°C/ 446-509°F	Boiling Point/Range:	None
Melting Point/Range:	Not available	Flammable Limits (Upper):	Not applicable
Flammable Limits (Lower):	Not applicable	Explosion Power:	No data available
Specific Gravity:	1.20 – 1.30 g/cc	Water Solubility:	Negligible
Other Solubility:	No data available	Vapor Pressure:	0 mmHg @ 20°C
Oxidizing Properties:	Oxidizer	Partition Coefficient (n-octanol/water):	No data available

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions. Decomposition Temperature: Ammonium Nitrate will spontaneously decompose at 210°C (410°F)
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition. Not expected to be sensitive to static discharge. Not expected to be sensitive to mechanical impact
Incompatible materials:	Avoid oxidizable materials, metal powder, bronze & copper alloys, fuels (e.g. lubricants, machine oils), fluorocarbon lubricants, acids, corrosive liquids, chlorate, sulphur, sodium nitrite, charcoal, coke and other finely divided combustibles. Strong oxidizing and reducing agents.
Hazardous decomposition products:	The following toxic decomposition products may be released. At temperatures above 210°C (410°F), decomposition may be explosive, especially if confined. Nitrogen oxides (NOx). Carbon oxide. Hydrocarbons.
Hazardous Polymerization:	None under normal processing. Hazardous polymerization does not occur. Explosive material under shock conditions.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information: Irritating to eyes. May cause skin irritation. Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium Nitrate	2217 mg/kg Rat	3000 mg/kg Rabbit	88.8 mg/L Rat 4 h
Diesel Fuel	>5000 mg/kg (rabbit)		
Mineral Oil	4300 mg/kg Rat		

Subchronic Toxicity (28 Days): Ammonium Nitrate: Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.

Chronic Toxicity: May cause methemoglobinemia.

Carcinogenicity: The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Diesel Fuel	A3			

Legend: A3: Confirmed as an animal carcinogen.
Mutagenic effects: There is no evidence of mutagenic potential.

Irritation: Irritating to eyes. May cause irritation of respiratory tract. May cause skin irritation in susceptible persons.
Reproductive effects: No information is available and no adverse reproductive effects are anticipated.
Developmental effects: No information is available and no adverse developmental effects are anticipated.
Target Organ: Eyes, skin, respiratory system, blood, liver, urinary tract, gastrointestinal tract (GI), endocrine system, & immune system.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity effects: Dissolves slowly in water. Harmful to aquatic life at low concentrations.
Environmental Effects: Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Persistence/Degradability: Some water resistance but soluble with extended time periods.

Mobility in Environmental media: Dissolves slowly in water.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method: Burn under supervision of an expert at an explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an Orica Technical Representative.

SECTION 14 – TRANSPORT INFORMATION

DOT Proper Shipping Name: Explosive blasting type E
Hazard Class: 1.5D
UN-No: UN0332
Packing group: II
TDG Proper Shipping Name: Explosive blasting type E
Hazard Class: 1.5D
UN-No: UN0332
Packing group: II

Transportation Emergency Telephone Number: 1-877-561-3636 or CHEMTREC: 1-800-424-9300

SECTION 15 – REGULATORY INFORMATION

CANADIAN CLASSIFICATION: This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR.

WHMIS hazard class: This product is an explosive and is not regulated by WHMIS.
USA CLASSIFICATION:
SARA Regulations Sections 313 and 40 CFR 372: This product contains the following toxic chemical(s) subject to reporting requirements, Ammonium Nitrate (6484-52-2).
SARA 311/312 Hazardous Categorization
Acute Heath Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard: Yes
Reactive Hazard: No
Sudden Release of Pressure Hazard: Yes
Ozone Protection and 40 CFR 42: No reportable quantities of ozone depleting agents
Other Regulations/Legislations which apply to this product: New Jersey Right-to-Know, Pennsylvania Right-to-Know, Massachusetts Right-to-Know, Rhode Island Right-to-Know, Florida, New Jersey Special Health Hazard Substance List, Minnesota Hazardous Substance List, California Director's List of Hazardous Substances, California Proposition 65.

TSCA: Complies **DSL:** Complies **NDSL:** Complies

The components in the product are on the following international inventory lists:

Chemical Name	TSCA	DSL	NDSL	ENCS	EINECS	ELINCS	CHINA	KECL	PICCS	AICS
Ammonium Nitrate	X	X	-	X	X	-	X	X	X	X
Diesel Fuel	X	X	-	-	X	-	X	X	X	X
Mineral Oil	X	X	-	-	X	-	X	X	X	X

Legend: X – Listed

SECTION 16 – OTHER INFORMATION

Prepared by: Safety Health & Environment
303 268-5000

Preparation Date: 18-Feb-2008
Revision Date: 2-April 2009

The information contained herein is offered only as guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Orica will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.

End of MSDS

Material Safety Data Sheet

Preparation Date: 22-Mar-2006 **Revision Date:** 28-Oct-2008 **Revision Number:** 1

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Supplier(s):

Orica Canada Inc	Orica USA Inc
Maple Street	33101 E. Quincy Avenue
Brownsburg, QC	Watkins, CO 80137-9406
For MSDS Requests: 450-533-4201	For MSDS Requests: 1 303-268-5000

Product Name:	**POWERDITCH™ 1000, POWERPRO™, POWERFRAC™, GELDYNE™, COALITE™ 8SU, DYNASHEAR™, GEL COALITE™ Z, & XACTEX™**
Product Code:	40053
Alternate Name(s):	Not available
UN-No:	UN0081
Recommended Use:	A detonator-sensitive gelatin explosive.

Emergency Telephone Number: FOR CHEMICAL EMERGENCIES (24 HOUR) INVOLVING TRANSPORTATION, SPILL, LEAK, RELEASE, FIRE OR ACCIDENTS: **IN CANADA CALL:** THE ORICA TRANSPORTATION EMERGENCY RESPONSE SYSTEM AT **1-877-561-3636. IN THE U.S. CALL: CHEMTREC 1-800-424-9300. IN THE U.S.:** FOR LOST, STOLEN, OR MISPLACED EXPLOSIVES CALL: BATF **1-800-800-3855.** FORM ATF F 5400.0 MUST BE COMPLETED AND LOCAL AUTHORITIES (STATE/MUNICIPAL POLICE, ETC.) MUST BE ADVISED.

SECTION 2 – HAZARD IDENTIFICATION

Emergency Overview:
Risk of explosion by shock, fire or other sources of ignition. Very toxic if swallowed. Irritating to eyes, respiratory system and skin. Oxidizing agent.

Appearance:	Physical State:	Odor:
Light pink	Semi-Solid	Characteristic

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Ammonium Nitrate	6484-52-2	0-75
Sodium Nitrate	7631-99-4	0-50
Ethylene glycol, Dinitrate	628-96-6	8-76
Sulphur	7704-34-9	0-4
Nitroglycerin	55-63-0	1-20
Nitrocellulose	9004-70-0	0-6

SECTION 4 – FIRST AID MEASURES

General Advice:	In case of accident or if you feel unwell, seek medical advice IMMEDIATELY (show the product label where possible).
Eye Contact:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin Contact:	Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Ingestion:	Immediate medical attention is required. Do no induce vomiting. Clean mouth with water and afterwards drink plenty of water. If spontaneous vomiting occurs, have victim lean forward with head positioned to avoid breathing in of vomitus, rinse mouth and administer more water. Never give anything by mouth to and unconscious person.

Notes to physician: Symptomatic. Administer oxygen if there are signs of cyanosis. If clinical condition deteriorates, administer 10cc Methylene Blue intravenously. It is unlikely for this to be required with methemoglobin level of less than 40%.

SECTION 5 – FIRE-FIGHTING MEASURES

Flammable properties: Not itself combustible but assists fire in burning materials. The product does not flash. Explosive power: 337 kJ/100 g

Suitable extinguishing media: DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Evacuate surrounding areas to a predetermined safe location no less than 2500 feet (800 meters) in all directions. When controlling fire before involvement of explosives, fire-fighters should wear positive pressure self-containing breathing apparatus (SCBA) and full turnout gear. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate.

Unsuitable extinguishing media: DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Attempts to smother a fire involving this product will be ineffective as it is its own oxygen source. Smother this product could lead to decomposition and explosion. This product is more sensitive to detonation if contaminated with organic or oxidisable material or if heated while confined. Unless the mass of product on fire is flooded with water, re-ignition is possible.

Specific hazards arising from the chemical: This product is a high explosive with mass detonation hazard. DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. Thermal decomposition can lead to release of irritating gases and vapors.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH approved (or equivalent) and full protective gear.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Methods for containment: Contain or absorb leaking putty with sand or earth or other suitable substance.

Methods for cleaning up: Avoid the use of metal tools containing iron and/or copper. Be careful to avoid shock, friction, and contact with grit. Collect product for recovery or disposal. For release to land, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Collect contaminated soil and water, and absorbent for proper disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.

SECTION 7 – HANDLING AND STORAGE

Handling: This product is an explosive and should only be used under the supervision of trained personnel. The use of coveralls is recommended. Use good industrial hygiene and housekeeping practices. Keep away from open flames, hot surfaces and sources of ignition.

Storage: Store under moderate temperatures recommended by a technical services representative. Store under dry conditions in a well ventilated magazine that has been approved for either detonator storage or explosive storage. Do NOT store explosives in a detonator magazine or detonators in an explosive magazine. Keep away from heat, spark and flames. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials; combustibles, and sources of heat. Keep away from incompatibles. Ideal storage temperature is 10-27°C (50-80°F). Do not expose sealed containers to temperatures above 40°C (104°F).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium Nitrate	10 mg/cu m (nuisance dust)	NA	
Ethylene glycol, Dinitrate	TWA: 0.05 ppm Skin	Ceiling: 0.2 ppm Ceiling: 1 mg/ m³ Skin	
Nitroglycerin	(TWA skin) 0.46 mg/ cu m	Ceiling: 0.2 ppm Ceiling: 2 mg/ m³ Skin	

Other exposure guidelines: Ammonium Nitrate: ORICA Guideline 5 mg/m^3 (internal TWA)

Engineering Measures:	No information available.
Personal Protective Equipment	
Eye/Face Protection:	Face-shield Tightly fitting safety goggles.
Skin Protection:	User should verify impermeability under normal conditions of use prior to general use. Impervious gloves. Nitrile Rubber.
Respiratory Protection:	In case of insufficient ventilation wear suitable respiratory equipment. A NIOSH-approved respirator, if required
Hygiene Measures:	Handle in accordance with good industrial hygiene and safety practice. Recommendations listed in this section indicate the type of equipment, which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light pink	Odor:	Characteristic
Physical State:	Semi-Solid	Viscosity:	No information available
pH:	7	Flash Point:	> 100 °C
Autoignition Temperature:	-222°C (liquid NG) >=100>=212	Boiling Point/Range:	Not available
Melting Point/Range:	Not available	Flammable Limits (Upper):	Not applicable
Flammable Limits (Lower):	Not applicable	Explosion Power:	No data available
Specific Gravity:	085- 1.48 g/cc	Water Solubility:	In soluble in water
Other Solubility:	Slightly soluble in standard organic solvents	Vapor Pressure:	Not applicable
Oxidizing Properties:	Oxidizer	Partition Coefficient (n-octanol/water):	No data available

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions. Decomposition Temperature: Ammonium Nitrate will spontaneously decompose at 210 °C (410 °F). NG explodes at 222 °C (431.6 °F)
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition.
Incompatible materials:	Avoid oxidizable materials, metal powder, bronze & copper alloys, fuels (e.g. lubricants, machine oils), fluorocarbon lubricants, acids, corrosive liquids, chlorate, sulphur, sodium nitrite, charcoal, coke and other finely divided combustibles. Strong oxidizing and reducing agents.
Hazardous decomposition products:	The following toxic decomposition products may be released. At temperatures above 210 °C, decomposition may be explosive, especially if confined. Nitrogen oxides (NOx). Carbon oxide Hydrocarbons
Hazardous Polymerization:	None under normal processing Hazardous polymerization does not occur. Explosive material under shock conditions

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information: Irritating to eyes May cause skin irritation Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium Nitrate	2217 mg/kg Rat	3000 mg/kg Rabbit	88.8 mg/L Rat 4 h
Sodium Nitrate	1267-4300 mg/kg Rat		
Ethylene glycol, Dinitrate	460 mg/ kg Rat 540 mg/ kg Mouse		
Nitroglycerin	105 mg/ kg Rat 115 mg/ kg Mouse	280 mg/ kg Rabbit	
Nitrocellulose	5 g/ kg Mouse 5 g/ kg Rat		

Subchronic Toxicity (28 Days): Sodium Nitrate; Ammonium Nitrate: Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.

Chronic Toxicity:	May cause methemoglobinemia.
Carcinogenicity:	The ingredients of this product are not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by TNTP (National Toxicology Program)
Mutagenic effects:	There is no evidence of mutagenic potential.
Irritation:	Irritating to eyes. May cause irritation of respiratory tract. May cause skin irritation in susceptible persons.
Reproductive effects:	No information is available and no adverse reproductive effects are anticipated
Developmental effects:	No information is available and no adverse developmental effects are anticipated
Target Organ:	Eyes, skin, respiratory system, blood, liver urinary tract, & gastrointestinal tract (GI).
Other Adverse Effects:	Prolonged or repeated exposure to organic nitrates may develop a tolerance due to chronic dilation of the blood vessels. This tolerance disappears rapidly after a few days away from exposure and withdrawal symptoms consisting of angina and heart attack have been reported in chronically exposed workers Another type of tolerance loss is the "Monday morning disease", where workers experience headaches, dizziness, postural weakness and other symptoms.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity effects: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Chemical Name	Freshwater Algae Data	Freshwater Fish Species Data	Microtox Data	Water Flea Data	log Pow
Sodium Nitrate					-3.8

Persistence/Degradability:	Nitroglycerin is water-insoluble and remains explosive.
Mobility in Environmental media:	Dissolves slowly in water.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Burn under supervision of an expert at an explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an Orica Technical Representative.
US EPA Waste Number:	No data available on product.

Chemical Name	RCRA	RCRA- Basis for listing	RCRA- D Series Wastes	RCRA- U Series Wastes
Nitroglycerin –55-63-0	Waste number P081			

SECTION 14 – TRANSPORT INFORMATION

DOT Proper Shipping Name:	Explosive Blasting Type A
Hazard Class:	1.1D
UN-No:	UN0081
Packing group:	II
TDG Proper Shipping Name:	Explosive Blasting Type A
Hazard Class:	1.1D
UN-No:	UN0081
Packing group:	II

Transportation Emergency Telephone Number: 1-877-561-3636 or CHEMTREC: 1-800-424-9300

SECTION 15 – REGULATORY INFORMATION

CANADIAN CLASSIFICATION: This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR

WHMIS hazard class: This product is an explosive and is not regulated by WHMIS.

USA CLASSIFICATION:

SARA Regulations Sections 313 and 40 CFR 372: This product contains the following toxic chemical(s) subject to reporting requirements, Ammonium Nitrate (6484-52-2), Sodium Nitrate (7631-99-4), Nitroglycerin (55-63-0), Nitrocellulose (9004-70-0), Sulphur (7704-34-9), & Ethylene Glycol, Dinitrate (628-96-6)

SARA 311/312 Hazardous Categorization

Acute Heath Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Reactive Hazard:	Yes
Sudden Release of Pressure Hazard:	No

Ozone Protection and 40 CFR 42: No reportable quantities of ozone depleting agents

Other Regulations/Legislations which apply to this product: New Jersey Right-to-Know, Pennsylvania Right to Know, Massachusetts Right-to-Know, Rhode Island Right-to-Know, Florida, New Jersey Special Health Hazard Substance List, Minnesota Hazardous Substance List, California Director's List of Hazardous Substances, California Proposition 65.

TSCA: Complies **DSL:** Complies **NDSL:** Complies

The components in the product are on the following international inventory lists:

Chemical Name	TSCA	DSL	NDSL	ENCS	EINECS	ELINCS	CHINA	KECL	PICCS	AICS
Ammonium Nitrate	X	X	-	X	X	-	X	X	X	X
Sodium Nitrate	X	X	-	X	X	X	X	X	X	X
Ethylene Glycol, Dinitrate	X	X	-	-	X	-	-	X	-	X
Sulphur	X	X	-	X	X	X	X	X	X	X
Nitroglycerin	X	X	-	X	X	-	-	X	X	X
Nitrocellulose	X	X	-	X	-	-	X	X	X	X

Legend: X – Listed

SECTION 16 – OTHER INFORMATION

Prepared by: Safety Health & Environment
303-268-5000

Preparation Date: 22-Mar-2006
Revision Date: 28-Oct-2008

The information contained herein is offered only as guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Orica will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.

End of MSDS

Material Safety Data Sheet

Preparation Date: 25-Mar-2006 **Revision Date:** 18-Jul-2008 **Revision Number:** 1

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Supplier(s):

Orica Canada Inc.	Orica USA Inc.
Maple Street	33101 E. Quincy Avenue
Brownsburg, QC	Watkins, CO 80137-9406
For MSDS Requests: 1-450-533-4201	For MSDS Requests: 1-303-268-5000

Product Name:	**Fortel™ Extra**
Product Code:	102
Alternate Name(s):	Apex ™ Extra
UN-No:	UN0332
Recommended Use:	A booster sensitive emulsion explosive.

Emergency Telephone Number: FOR CHEMICAL EMERGENCIES (24 HOUR) INVOLVING TRANSPORTATION, SPILL, LEAK, RELEASE, FIRE OR ACCIDENTS: **IN CANADA CALL:** THE ORICA TRANSPORTATION EMERGENCY RESPONSE SYSTEM AT **1-877-561-3636. IN THE U.S. CALL: CHEMTREC 1-800-424-9300. IN THE U.S.:** FOR LOST, STOLEN, OR MISPLACED EXPLOSIVES CALL: BATF **1-800-800-3855.** FORM ATF F 5400.0 MUST BE COMPLETED AND LOCAL AUTHORITIES (STATE/MUNICIPAL POLICE, ETC.) MUST BE ADVISED.

SECTION 2 – HAZARD IDENTIFICATION

Emergency Overview:
Risk of explosion by shock, fire of other sources of ignition. May cause skin irritation and/or dermatitis. Irritating to eyes. Harmful if swallowed. Oxidizing agent. May cause methemoglobinemia. May cause liver damage. May cause kidney damage.

Appearance:	**Physical State:**	**Odor:**
Off white, viscous putty-like	Viscous, putty-like	Odorless to slight diesel

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Ammonium Nitrate	6484-52-2	60-100
Aluminum	7429-90-5	1-5
Mineral Oil	64742-53-6	1-6

SECTION 4 – FIRST AID MEASURES

General Advice:	In case of accident or if you feel unwell, seek medical advice IMMEDIATELY (show the product label where possible).
Eye Contact:	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin Contact:	Wash off immediately with soap and plenty of water, removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation:	Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is not breathing AND no pulse. Obtain medical advice IMMEDIATELY.
Ingestion:	Immediate medical attention is required. Do no induce vomiting. Clean mouth with water and afterwards drink plenty of water. If spontaneous vomiting occurs, have victim lean forward with head positioned to avoid breathing in of vomitus, rinse mouth and administer more water. Never give anything by mouth to and unconscious person.
Notes to physician:	Symptomatic. Administer oxygen if there are signs of cyanosis. If clinical condition deteriorates, administer 10cc Methylene Blue intravenously. It is unlikely for this to be required with methemoglobin level of less than 40%.

SECTION 5 – FIRE-FIGHTING MEASURES

Flammable properties: Not itself combustible but assists fire in burning materials. The product does not flash. Rate of burning: does not sustain burning at atmospheric pressure.

Suitable extinguishing media: DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Evacuate surrounding areas. When controlling fire before involvement of explosives, fire-fighters should wear positive pressure self-containing breathing apparatus (SCBA) and full turnout gear. Water may be applied through fixed extinguishing system (sprinklers) as long as people need not be present for the system to operate.

Unsuitable extinguishing media: DO NOT FIGHT FIRES INVOLVING EXPLOSIVES. Attempts to smother a fire involving this product will be ineffective as it is its own oxygen source. Smother this product could lead to decomposition and explosion. This product is more sensitive to detonation if contaminated with organic or oxidisable material or if heated while confined. Unless the mass of product on fire is flooded with water, re-ignition is possible.

Specific hazards arising from the chemical: This product is a high explosive with mass detonation hazard. DO NOT FIGHT FIRES INVOLVING EXPLOSIVE MATERIALS. Immediately evacuate all personnel from the area to a safe distance. Guard against re-entry. Thermal decomposition can lead to release of irritating gases and vapors.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure demand, NIOSH approved (or equivalent) and full protective gear.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Methods for containment: Avoid dust formation. Do not breathe dust. Contain or absorb leaking putty with sand or earth or other suitable substance.

Methods for cleaning up: Avoid the use of metal tools containing iron and/or copper. Be careful to avoid shock, friction, and contact with grit. Collect product for recovery or disposal. For release to land, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Collect contaminated soil and water, and absorbent for proper disposal. Notify applicable government authority if release is reportable or could adversely affect the environment.

Other information: Deactivating chemicals: Detergents will break up emulsions if mixed in.

SECTION 7 – HANDLING AND STORAGE

Handling: This product is an explosive and should only be used under the supervision of trained personnel. The use of coveralls is recommended. Use good industrial hygiene and housekeeping practices. Keep away from open flames, hot surfaces and sources of ignition.

Storage: Store under moderate temperatures recommended by a technical services representative. Store under dry conditions in a well ventilated magazine that has been approved for either detonator storage or explosive storage. Do NOT store explosives in a detonator magazine or detonators in an explosive magazine. Keep away from heat, spark and flames. Keep containers closed. Explosives should be kept well away from initiating explosives; protected from physical damage; separated from oxidizing materials; combustibles, and sources of heat. Keep away from incompatibles. Ideal storage temperature is 10-27°C (50-80°F). Do not expose sealed containers to temperatures above 40°C (104°F).

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum	TWA: 10 mg/m³ TWA: 5 mg/m³	TWA: 15 mg/ m³ TWA: 5 mg/ m³	
Mineral Oil	5 mg/m³	5 mg/ m³	

Other exposure guidelines: Ammonium Nitrate: ORICA Guideline 5 mg/m^3 (internal TWA)

Engineering Measures: No information available.

Personal Protective Equipment

Eye/Face Protection: Tightly fitting safety goggles.

Skin Protection: User should verify impermeability under normal conditions of use prior to general use. Impervious butyl rubber gloves.

Respiratory Protection:	In case of insufficient ventilation wear suitable respiratory equipment. A NIOSH-approved respirator, if required.
Hygiene Measures:	Handle in accordance with good industrial hygiene and safety practice. Recommendations listed in this section indicate the type of equipment, which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white, viscous putty-like	Odor:	Odorless to slight diesel
Physical State:	Viscous, putty-like	Viscosity:	No information available
pH:	Not available	Flash Point:	Not applicable
Autoignition Temperature:	230-265 °C/ 446-509 °F	Boiling Point/Range:	100 °C/ 212 °F
Melting Point/Range:	(Ammonium Nitrate) 0-167 °C/ 32-333 °F	Flammable Limits (Upper):	Not applicable
Flammable Limits (Lower):	Not Applicable	Explosion Power:	No data available
Specific Gravity:	1.25 g/cc	Water Solubility:	Insoluble in water
Other Solubility:	Slightly soluble in organic solvents	Vapor Pressure:	0 mmHg @ 20 °C
Oxidizing Properties:	Oxidizer	Partition Coefficient (n-octanol/water):	No data available

SECTION 10 – STABILITY AND REACTIVITY

Stability:	Stable under normal conditions. Decomposition Temperature: Ammonium Nitrate will spontaneously decompose at 210 °C (410 °F).
Conditions to avoid:	Keep away from open flames, hot surfaces and sources of ignition. Not expected to be sensitive to static discharge. Not expected to be sensitive to mechanical impact.
Incompatible materials:	Avoid oxidizable materials, metal powder, bronze & copper alloys, fuels (e.g. lubricants, machine oils), fluorocarbon lubricants, acids, corrosive liquids, chlorate, sulphur, sodium nitrite, charcoal, coke and other finely divided combustibles. Strong oxidizing and reducing agents.
Hazardous decomposition products:	The following toxic decomposition products may be released. At temperatures above 210 °C, decomposition may be explosive, especially if confined. Nitrogen oxides (NOx). Carbon oxide. Hydrocarbons.
Hazardous Polymerization:	None under normal processing. Hazardous polymerization does not occur. Explosive material under shock conditions.

SECTION 11 – TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information: Irritating to eyes. May cause skin irritation. Harmful if swallowed.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ammonium Nitrate	2217 mg/kg Rat	3000 mg/kg Rabbit	88.8 mg/L Rat 4 h
Mineral Oil	4300 mg/kg Rat		

Subchronic Toxicity (28 Days):	Ammonium Nitrate: Ingestion may cause methemoglobinemia. Initial manifestation of methemoglobinemia is cyanosis, characterized by navy lips, tongue and mucous membranes, with skin color being slate grey. Further manifestation is characterized by headache, weakness, dyspnea, dizziness, stupor, respiratory distress and death due to anoxia. If ingested, nitrates may be reduced to nitrites by bacteria in the digestive tract. Signs and symptoms of nitrite poisoning include methemoglobinemia, nausea, dizziness, increased heart rate, hypotension, fainting and, possibly shock.
Chronic Toxicity:	May cause methemoglobinemia.
Carcinogenicity:	The ingredients of this product are not classified as carcinogenic by ACGIH (American Conference of Governmental Industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by TNTP (National Toxicology Program).
Mutagenic effects:	There is no evidence of mutagenic potential.
Irritation:	Irritating to eyes. May cause irritation of respiratory tract. May cause skin irritation in susceptible persons.
Reproductive effects:	No information is available and no adverse reproductive effects are anticipated.

Developmental effects:	No information is available and no adverse developmental effects are anticipated.
Target Organ:	Eyes, skin, respiratory system, blood, liver urinary tract. & gastrointestinal tract (GI).

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity effects:	Dissolves slowly in water Harmful to aquatic life at low concentrations. Environmental Effects: Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.
Persistence/Degradability:	Some water resistance but soluble with extended time periods
Mobility in Environmental media:	Dissolves slowly in water.

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Burn under supervision of an expert at an explosive burning ground or destroy by detonation in boreholes, in accordance with applicable local, provincial and federal regulations. Call upon the services of an Orica Technical Representative.

SECTION 14 – TRANSPORT INFORMATION

DOT Proper Shipping Name:	Explosive, blasting type E
Hazard Class:	1 5D
UN-No:	UN0332
Packing group:	II
TDG Proper Shipping Name:	Explosive, blasting type E
Hazard Class:	1 5D
UN-No:	UN0332
Packing group:	II

Transportation Emergency Telephone Number: 1-877-561-3636 or CHEMTREC: 1-800-424-9300

SECTION 15 – REGULATORY INFORMATION

CANADIAN CLASSIFICATION: This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS contains all the information required by the CPR

WHMIS hazard class: This product is an explosive and is not regulated by WHMIS.

USA CLASSIFICATION:

SARA Regulations Sections 313 and 40 CFR 372: This product contains the following toxic chemical(s) subject to reporting requirements, Ammonium Nitrate (6484-52-2), Aluminum (7429 90-5) & Mineral Oil (64742-53-6).

SARA 311/312 Hazardous Categorization

Acute Heath Hazard:	Yes
Chronic Health Hazard:	Yes
Fire Hazard:	Yes
Reactive Hazard:	No
Sudden Release of Pressure Hazard:	Yes

Ozone Protection and 40 CFR 42: No reportable quantities of ozone depleting agents

Other Regulations/Legislations which apply to this product: New Jersey Right-to Know, Pennsylvania Right to Know, Massachusetts Right-to-Know, Rhode Island Right-to-Know, Florida, New Jersey Special Health Hazard Substance List, Minnesota Hazardous Substance List, California Director's List of Hazardous Substances, California Proposition 65.

TSCA: Complies **DSL:** Complies **NDSL:** Complies

The components in the product are on the following international inventory lists:

Chemical Name	TSCA	DSL	NDSL	ENCS	EINECS	ELINCS	CHINA	KECL	PICCS	AICS
Ammonium Nitrate	X	X	-	X	X	-	X	X	X	X
Aluminum	X	X	-	-	X	-	X	X	X	X
Mineral Oil	X	X	-	-	X	-	X	X	X	X

Legend: X – Listed

SECTION 16 – OTHER INFORMATION

Prepared by:	Safety Health & Environment 303-268-5000
Preparation Date:	25-Mar-2006
Revision Date:	18-Jul-2008

The information contained herein is offered only as guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Orica will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein.

End of MSDS

TRANSPORTATION and
LAND MANAGEMENT AGENCY
DEPARTMENT OF BUILDING AND SAFETY

Environmental Compliance Division

NPDES Inspection for Industrial/Commercial Facilities

Type of Inspection: ☒ Initial ☐ Routine ☐ Follow-up ☐ Special ☐ Complaint

BIC 091191
Business License Number 022725
Site Contact Signature:

Date of Inspection: 05/17/2010

Inspector: Phil C. Broesamle

A. CONTACT INFORMATION:

Facility Name: Rivrside Mining Limited, Pyrite Quarry
Address: 3500 Pyrite ST, B
City: Riverside, Ca 92519
Contact Party: Nanu Patel
Telephone Number: __(714) 337-9000
Mailing Address (if different from above): __Patel, Nanu
__P O Box 3529
__Riverside, Ca 92519

E-Mail Address: _____

B. FACILITY INSPECTION INFORMATION:

Description of Site Activity(ies): __Surface Mining

SIC Code: _12210 Revised SIC Code: ___1442

Facility Priority Classification: ☐ Low ☐ Medium ☒ High Revised Priority: ☐ Low ☐ Medium ☐ High ☐ N/A

Does this facility have a current County Business License? ☒ Yes ☐ No Number: ___022725____

Is facility subject to CA Statewide General Industrial Permit? ☒ Yes ☐ No WDID#: ___ _____

If "Yes", is facility "Mandatory" or "Conditional" (circle one)

If "No", does facility have a No Exposure Certification? ☐ Yes ☒ No

Does facility maintain a SWPPP? ☐ Yes ☒ No

Are all BMPs implemented per SWPPP? ☐ Yes ☒ No

Does facility maintain a Stormwater Monitoring Plan? ☐ Yes ☒ No

Were storm water samples collected last storm season? ☐ Yes ☒ No

List surface flow path(s) from facility to US Waters: Down to highway 60, SANTA ANA RIVER

County of Riverside
Building and Safety Department- Environmental Compliance Division

BIC 091191 Date Inspection: ___05/17/2010 Inspector: Phil C. Broesamle
Business License Number: 022725

C. BEST MANAGEMENT PRACTICES (BMP) ASSESSMENT:

1. Are BMPs implemented in outdoor storage area(s) to prevent storm water contamination? ☐ Yes ☒ No ☐ N/A
If "No", list materials stored outdoors and provide corrective actions needed.

Comments:	Actions Needed:
Tires stored on the ground and out in the open, grease containers stored without secondary containment.	Store all tires on pallets and cover. All barrels are to be st under cover

2. Are BMPs implemented in outdoor activity process areas? ☐ Yes ☒ No ☐ N/A
If "No", explain types of activities and provide actions needed.

Comments:	Actions Needed:
At time of inspection, observed open air maintenance on machinery	All work to be done under cover or indoors

3. Are facility vehicle and equipment operation (washing, maintenance, etc.) BMPs implemented to eliminate exposure of these activities to storm water? ☐ Yes ☒ No ☐ N/A
If "No", list those activities with concerns and provide actions needed.

Comments:	Actions Needed:
At time of inspection observed oil staining leaving concrete floor at garage area out onto soil.	clean up all contaminated soils on property

4. Are the contents of waste receptacles protected from storm water contact? ☒ Yes ☐ No ☐ N/A
If "No", list location(s), concern(s) and actions needed.

Comments:	Actions Needed:
All trash bin lids closed at time of inspection	N/A

Comments:	Actions Needed:
Observed 3 retention basins on site to catch all sediments from leaving property	N/A

County of Riverside

Building and Safety Department- Environmental Compliance Division

BIC 091191 Date Inspection: 05/17/2010 Inspector: Phil C. Broesamle

Business License Number: 022725

6. Are spill prevention BMPs provided and control measures implemented on site? ☐ Yes ☒ No ☐ N/A
If "No", comment on containment level, location(s) and actions needed.

Comments:	Actions Needed:
No spill kits at garage area	Clean up all spill areas

7. Are adequate erosion prevention BMPs being implemented on site? ☐ Yes ☐ No ☒ N/A
If "No", comment on location(s) and actions needed.

Comments:	Actions Needed:
No SWPPP'S plan on site	Need SWPPP'S plan. (WDWD#)

D. ADDITIONAL CONCERNS/CORRECTIVE ACTIONS REQUIRED:

a) clean up and store all tires,

b) all maintenance to be done under cover or indoors.

c) Must file with the State for a Industrial Activities Storm Water General Permit

d) Will re-inspect for permit coverage within 60 days

E. ACTIONS TAKEN:

☐ No Violations Observed ☐ Verbal Warning ☒ Written Warning ☐ Citation Issued ☐ RWQCB Notified: ____ _
(Date)

ESB

ABCOCK&Sons,Inc.
Environmental Laboratories est 1906

6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

nt: Stone Valley Materials
Contact: Stephen Vander Hart Fax No. 951-361-3370
ne No. 707-773-6048
email: Stephen@stonevalleymaterials.com
ect Name: Storm Water
Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush
ect Location:
*Lab TAT Approval: By: *Additional Charges Apply

Additional Reporting Requests
Include QC Data Package: ☐ Yes ☐ No
FAX Results: ☐ Yes ☐ No
Email Results: ☐ Yes ☐ No
State EDT: ☐ Yes ☐ No
(Include Source Number in Notes)

Sampler Information
ame: Stephen Vander Hart
mployer: [illegible]
gnature: [illegible]

Sample ID	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NaOH/Zn Acetate	NH_4Cl	MCAA	Total # of Containers	Routine	Resample	Special	pH	TSS	[illegible]	[illegible]	[illegible]	Matrix	Notes
[illegible]	[illegible]	[illegible]	1	3								4										
[illegible]	[illegible]	[illegible]	1	3								4										

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Source; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[illegible]		12/23/10 1000	[illegible]	[illegible]

b Use Only) Sample Integrity Upon Receipt/Acceptance Criteria

(s) Submitted on Ice? Yes No
/ Seal(s) Intact? Yes No NA
(s) Intact? Yes No
ature: 10 °C ☐ Cooler Blank

Sample meets laboratory acceptance criteria? Yes No
Permission to continue: Yes No
Deviation/Notes:
Signature/Date:

Lab No.
Logged in By/Date:
Page of

Rev. 3/09

BABCOCK&Sons,Inc.
Environmental Laboratories
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662
www.babcocklabs.com

Chain of Custody & Sample Information Record

ient: Contact: Fax No.
one No. email:
oject Name: Turn Around Time: Routine *72 Hour Rush *48 Hour Rush *24 Hour Rush
oject Location: *Lab TAT Approval: By: *Additional Charges Apply

Additional Reporting Requests
Include QC Data Package: ☐ Yes ☐ No
FAX Results: ☐ Yes ☐ No
Email Results: ☐ Yes ☐ No
State EDT: ☐ Yes ☐ No
(Include Source Number in Notes)

Sampler Information
Name:
Employer:
Signature:

Sample ID	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NaOH/Zn Acetate	NH_4Cl	MCAA	Total # of Containers	Routine	Resample	Special	Analysis Requested								Matrix	Notes

Sample # of Containers & Preservatives

Matrix:
DW = Drinking Water
WW = Waste Water
GW = Ground Water
S = Source
SG = Sludge
L = Liquid
M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company

r Lab Use Only) Sample Integrity Upon Receipt/Acceptance Criteria

nple(s) Submitted on Ice? Yes No
stody Seal(s) Intact? Yes No NA
nple(s) Intact? Yes No
perature: °C ☐ Cooler Blank

Sample meets laboratory acceptance criteria? Yes No
Permission to continue: Yes No
Deviation/Notes:
Signature/Date:

Lab No.
Logged in By/Date:
Page of

Rev 3/09

EXHIBIT J (#19)

WINTER 2005 SURFACE WATER MONITORING REPORT

STRINGFELLOW HAZARDOUS WASTE SITE

APRIL 2005

Surface Water Monitoring Report #19

SUBMITTED TO:

California Department of Toxic Substances Control
Stringfellow Branch, HQ27
8810 Cal Center Drive, Second Floor
Sacramento, California 95826

PREPARED BY:

GeoLogic Associates
1831 Commercenter East
San Bernardino, California 92408
(909) 383-8728

In Association with:
Bryan A. Stirrat & Associates
1360 Valley Vista Drive
Diamond Bar, California 91765

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PREFACE

GeoLogic Associates is a contractor for the Groundwater Monitoring Program at Stringfellow Hazardous Waste Site, Riverside County, California. This work was performed for the State of California, Department of Toxic Substances Control, contract number 00-T2122.

This document provides results obtained for surface water samples that were collected along Pyrite Creek and its tributaries during and after periods of moderate to heavy rains in the Winter of 2005.

GeoLogic Associates personnel involved in the program include Mr. Michael Reason, PG, CHg, who serves as the Project Manager, and Mr. Eric White, who serves as staff geologist. Mr. Allen Winans is the DTSC Project Manager.

Approved:

Michael D. Reason, PG, CHg
Senior Hydrogeologist

FOR Eric White
Staff Geologist

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1.0 INTRODUCTION

This report presents a summary of surface water monitoring that was performed along Pyrite Creek and its tributaries during and after periods of moderate to heavy rains between January and March 2005. As requested by the State of California Department of Toxic Substances Control (DTSC), surface water samples were collected from numerous stations in Zones 1 through 4 of the Stringfellow Hazardous Waste Site on January 11, February 12, February 18, February 21, and March 16, 2005. The results of the January 11 sampling event were initially reported in the Non-Routine Surface Water Monitoring Report [GeoLogic Associates (GLA), 2005]. All field activities were conducted in general accordance with the Groundwater Monitoring Program Work Plan (GLA, 2001). Laboratory analyses were completed in accordance with the quality assurance plan that is detailed within the Work Plan.

Section 1.0 of this report provides a brief background of the Stringfellow Hazardous Waste Site and an overview of the site monitoring program.

Section 2.0 summarizes field data collection activities, including the surface water monitoring points sampled, field sampling methods, and quality assurance/quality control (QA/QC) procedures.

Section 3.0 presents a summary of laboratory data quality objectives, analytical QA/QC procedures, anomalies encountered, and corrective actions taken.

Section 4.0 summarizes the monitoring results that were generated during the Winter 2005 non-routine surface water monitoring events. The final summary table of this chapter presents the field water quality data.

Section 5.0 provides a summary of the sampling and laboratory analytical dates from this monitoring period. Included in the tables is elapsed time, in days, for each sample and analytical test method.

Section 6.0 provides a list of references used in this report.

1.1 BACKGROUND

The Stringfellow Hazardous Waste Site is a former Class I industrial waste disposal facility located approximately 50 miles east of the City of Los Angeles in southern California (Figure 1-1). The site is located at the northern edge of Riverside County near the community of Glen Avon (Figure 1-2). During its operation from 1956 to 1972, the site contained as many as 20 surface impoundments to contain and evaporate liquid chemical wastes. About 34 million gallons of liquid industrial process wastes containing spent acids and caustics, solvents, pesticide by-products, metals, and other inorganic and organic constituents were discharged into the site's evaporation ponds during the site's operating life.

After operation for 16 years as an industrial waste disposal facility, the site stopped accepting wastes in November 1972. From the time that heavy rains in March 1969 first caused impacted surface overflow downstream into Glen Avon, the site operators had faced a growing number of indications that the facility was not in compliance with waste discharge requirements that had been established by Riverside County and the California Regional Water Quality Control Board, Santa Ana Region (RWQCB). By 1975, all efforts by the site operator to re-open the facility were exhausted and, after the operator was unable to undertake site closure, the RWQCB declared the site a nuisance. An interim abatement effort was initiated in 1980 after completion of a series of engineering assessments of closure options. The interim abatement included removal of all surface ponds, construction of a subsurface barrier wall on the downgradient side of the site, installation of a surface cover and other drainage control features, and installation of several on-site and downgradient groundwater monitoring wells. The period just prior to initiation of the interim abatement (1977-1980) was marked by three years of heavy rainfall, which resulted in an overflow into the Glen Avon community.

The Stringfellow Hazardous Waste Site was placed on the Superfund National Priority List (NPL) in 1982 and was, at the same time, declared California's highest priority toxic waste site. In October 1983, the California Department of Health Services declared the site an "imminent or substantial endangerment to the public health and the environment," reinforcing a May 1983 finding by the U.S. Environmental Protection Agency (EPA) in its lawsuit filed against the Responsible Parties.

At the present time, an active groundwater pump-and-treat system is in place to collect impacted groundwater. The groundwater is treated on-site at a pretreatment plant located in the mid-canyon area, where metals and organics are extracted. The treated effluent from this process is transferred to the Santa Ana Regional Interceptor (SARI) line where it is discharged under a permit from the Santa Ana Water Project Authority (SAWPA). The SARI line presently transports municipal and industrial wastewater to Orange County, California, where after primary treatment it is discharged directly into the Pacific Ocean.

Figure 1-3 illustrates the overall work area and site zones.

1.2 MONITORING PROGRAM OBJECTIVES

In coordination with the EPA, DTSC developed a structured groundwater monitoring program to evaluate the Stringfellow site. A routine groundwater monitoring program that includes sampling and laboratory protocols has been performed at the Stringfellow site since August 1984. The purpose of the program is to collect groundwater quality data to identify of Stringfellow-related groundwater impacts, and to evaluate waste migration, changes in constituent concentrations, and the effectiveness of the groundwater pump-and-treat system.

Following heavy rains in late December 2004 and early January 2005, DTSC requested sampling of stormwater runoff at 5 locations along Pyrite Creek (SW1GLA through SW5GLA on Figures 1-4 through 1-6) on January 11, 2005 (GLA, 2005). The samples

were submitted to a California certified laboratory and tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), perchlorate, heavy metals, sulfate, nitrate, chloride, and para-chlorobenzene sulfonic acid (pCBSA). The only VOC detected in the samples was methylene chloride, and since this compound is commonly used in a laboratory setting, the VOC results were attributed to laboratory contamination. No SVOCs or pCBSA were detected in the samples. Metals, nitrate, sulfate, and chloride results indicated generally higher concentrations in Zone 3 and 4 samples than reported for the Zone 2 sample. Perchlorate was detected in each sample, with the highest concentration [42 micrograms per liter (µg/L)] reported for the sample collected in Zone 3.

Based on these results, DTSC expanded the surface water monitoring program to include locations in Zones 1/1B, additional locations along Pyrite Creek, and additional locations in tributaries to Pyrite Creek (Figures 1-4 through 1-6). The analytical program for all post-January surface water monitoring events was reduced to include field parameters, sulfate, total dissolved solids (TDS), and perchlorate. Nitrate (as nitrogen) was also tested when the samples could be submitted to the laboratory and tested within the prescribed holding time. Field data sheets and analytical results for samples collected by GLA are provided in Appendices A and B, respectively. Samples collected in Zone 4 on February 18 were collected by Kleinfelder Associates (KA); field notes and analytical results for these samples are included in Appendix C.

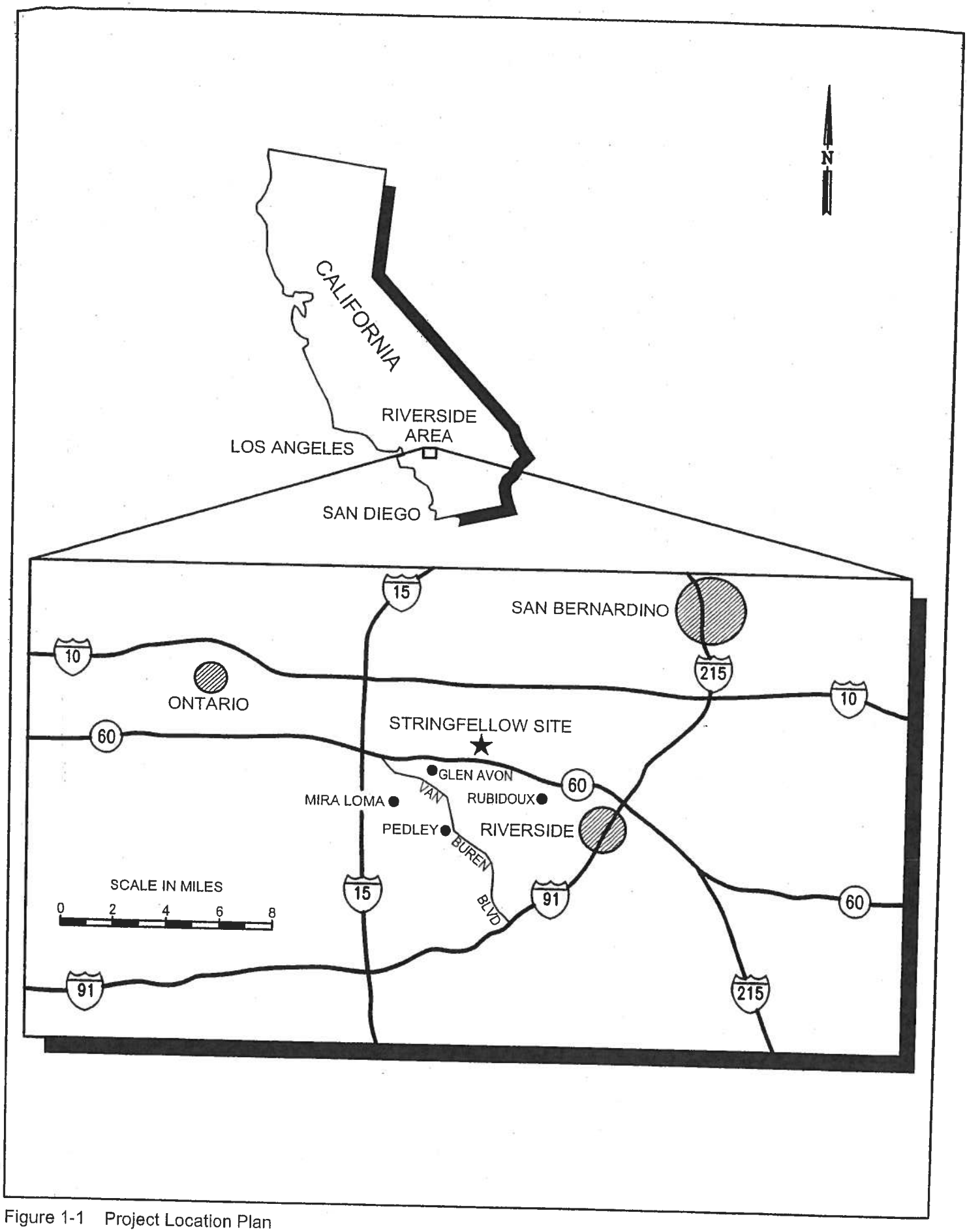


Figure 1-1 Project Location Plan

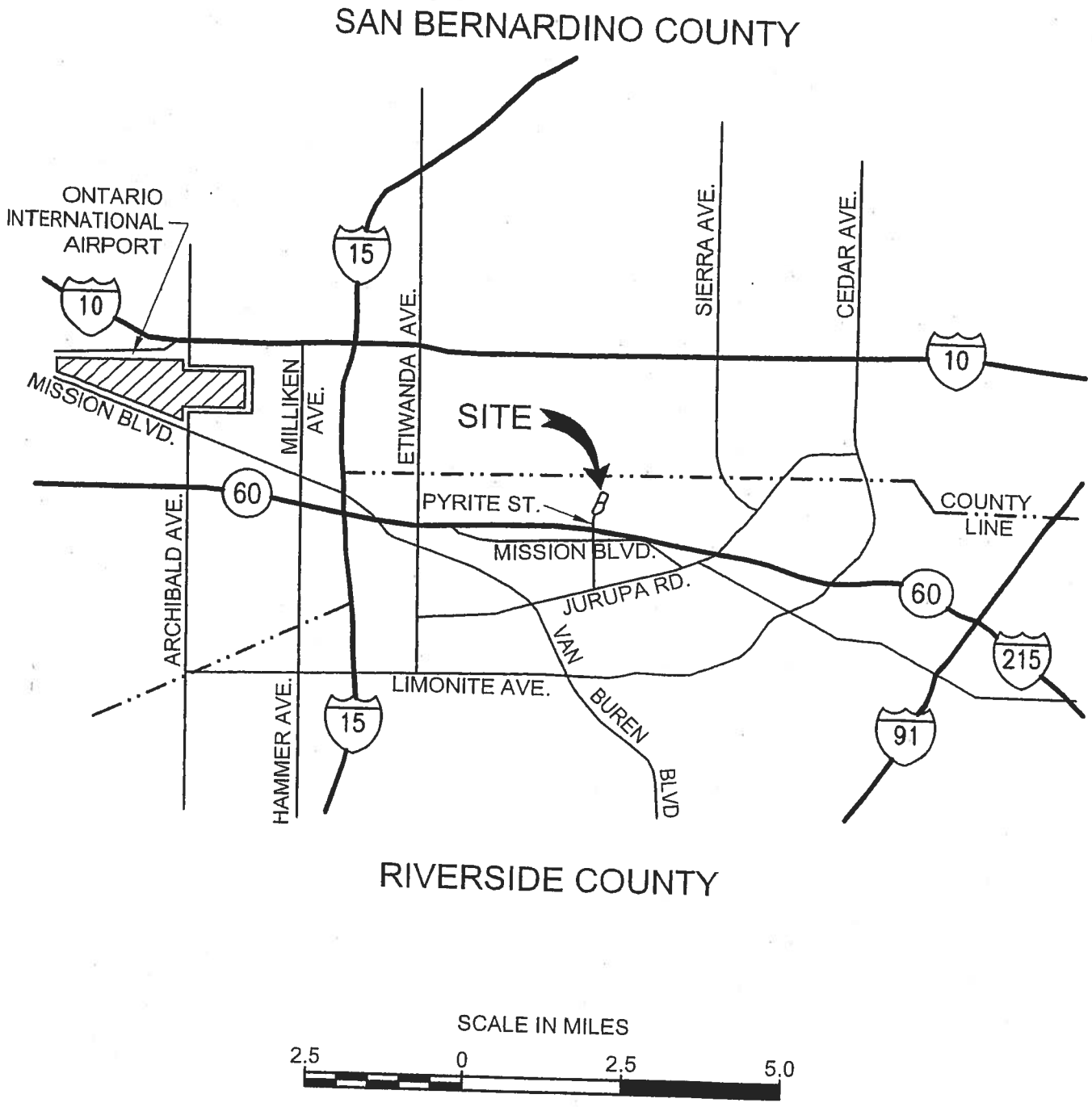


Figure 1-2 Site Vicinity

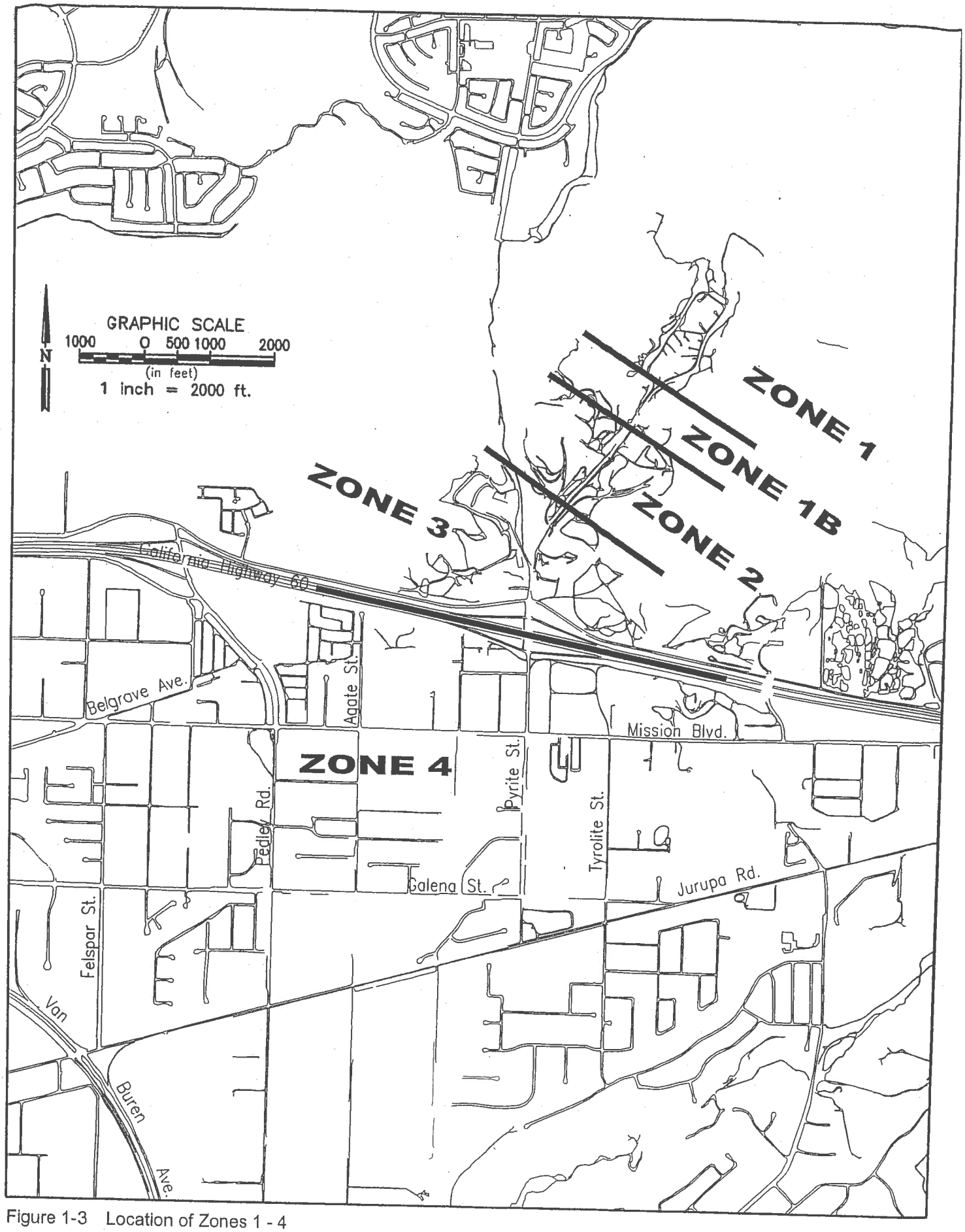


Figure 1-3 Location of Zones 1 - 4

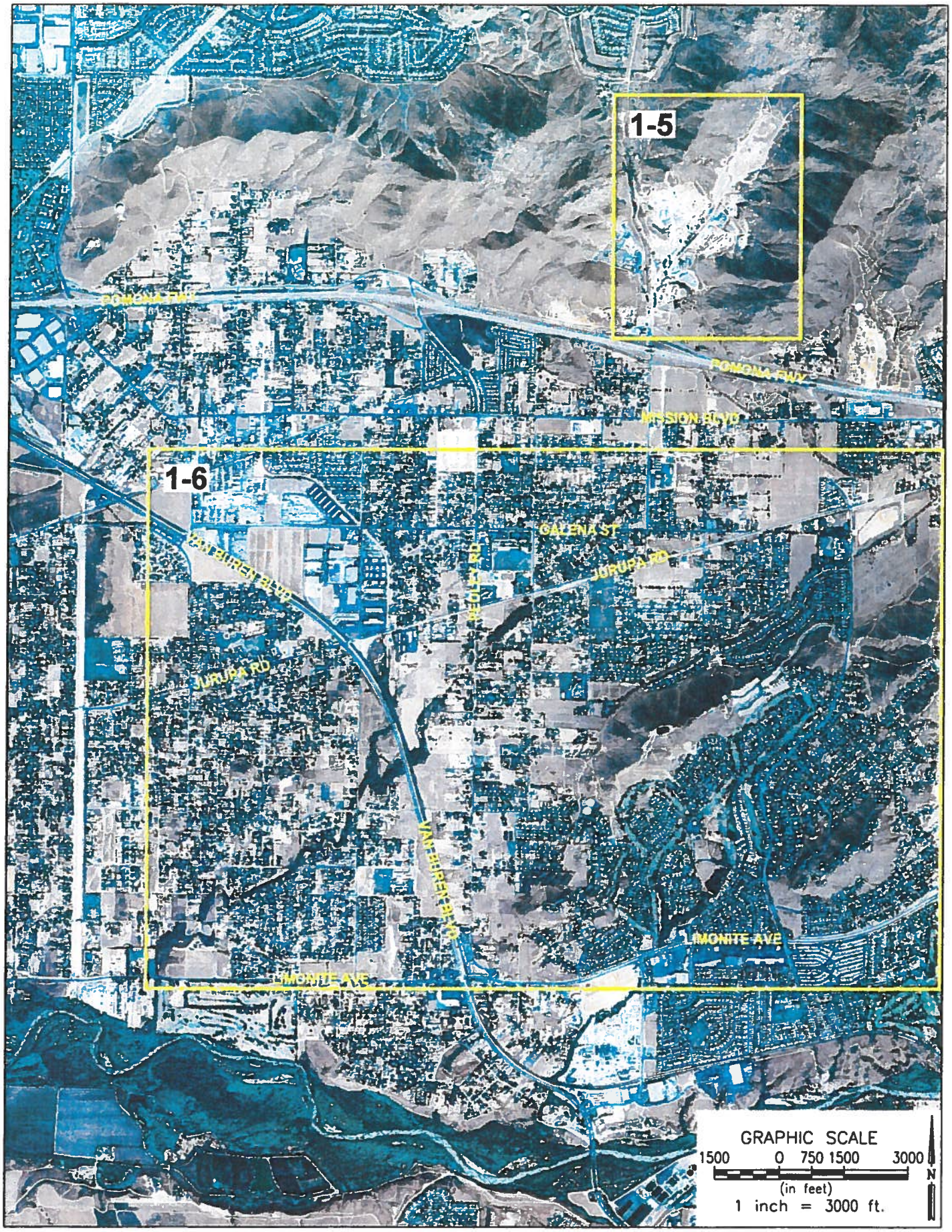


Figure 1-4 Index Map - January-March 2005 Non-Routine Sampling Events

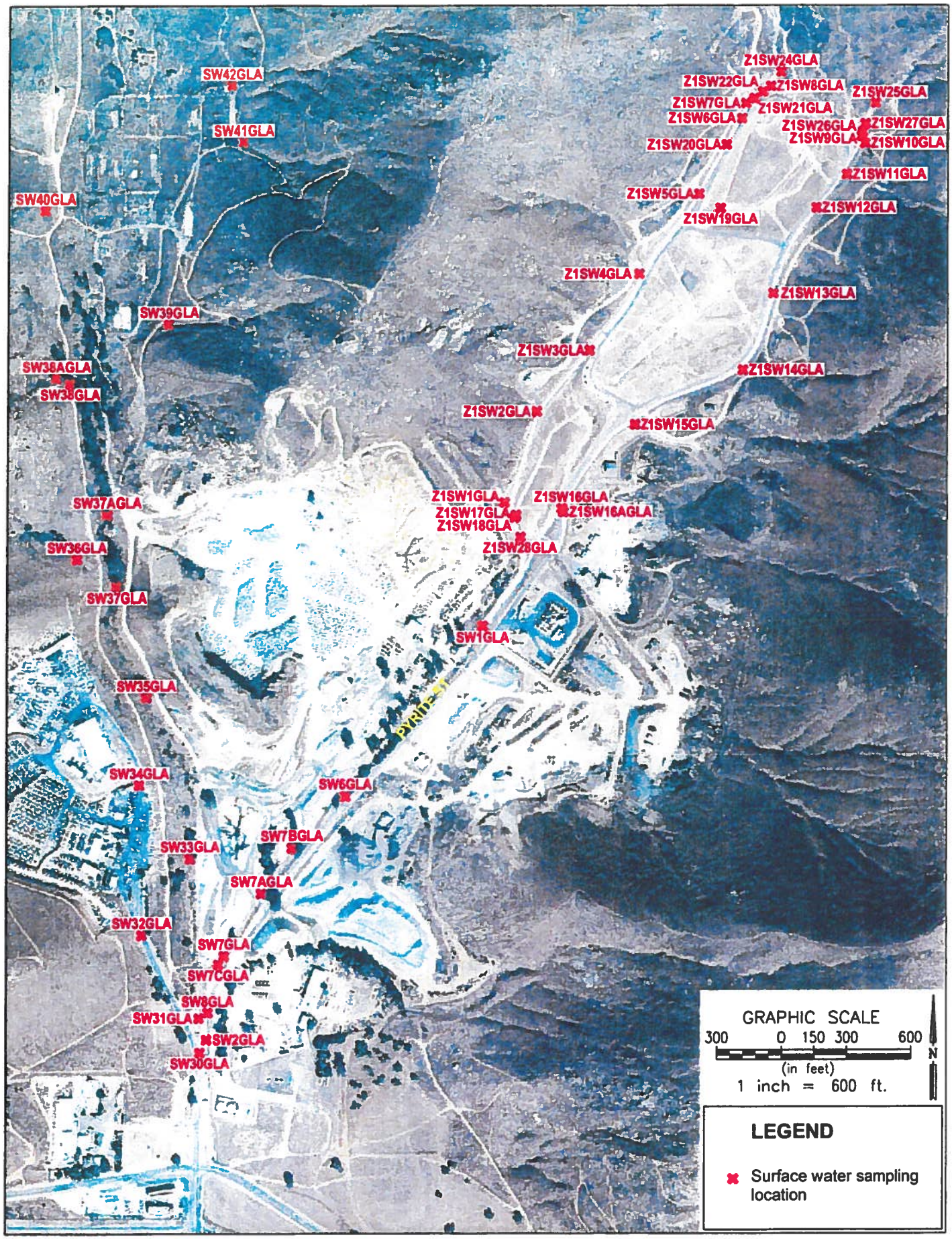


Figure 1-5 Surface Water Sampling Location Map, Zones 1-3 - January-March 2005 Non-Routine Sampling Events

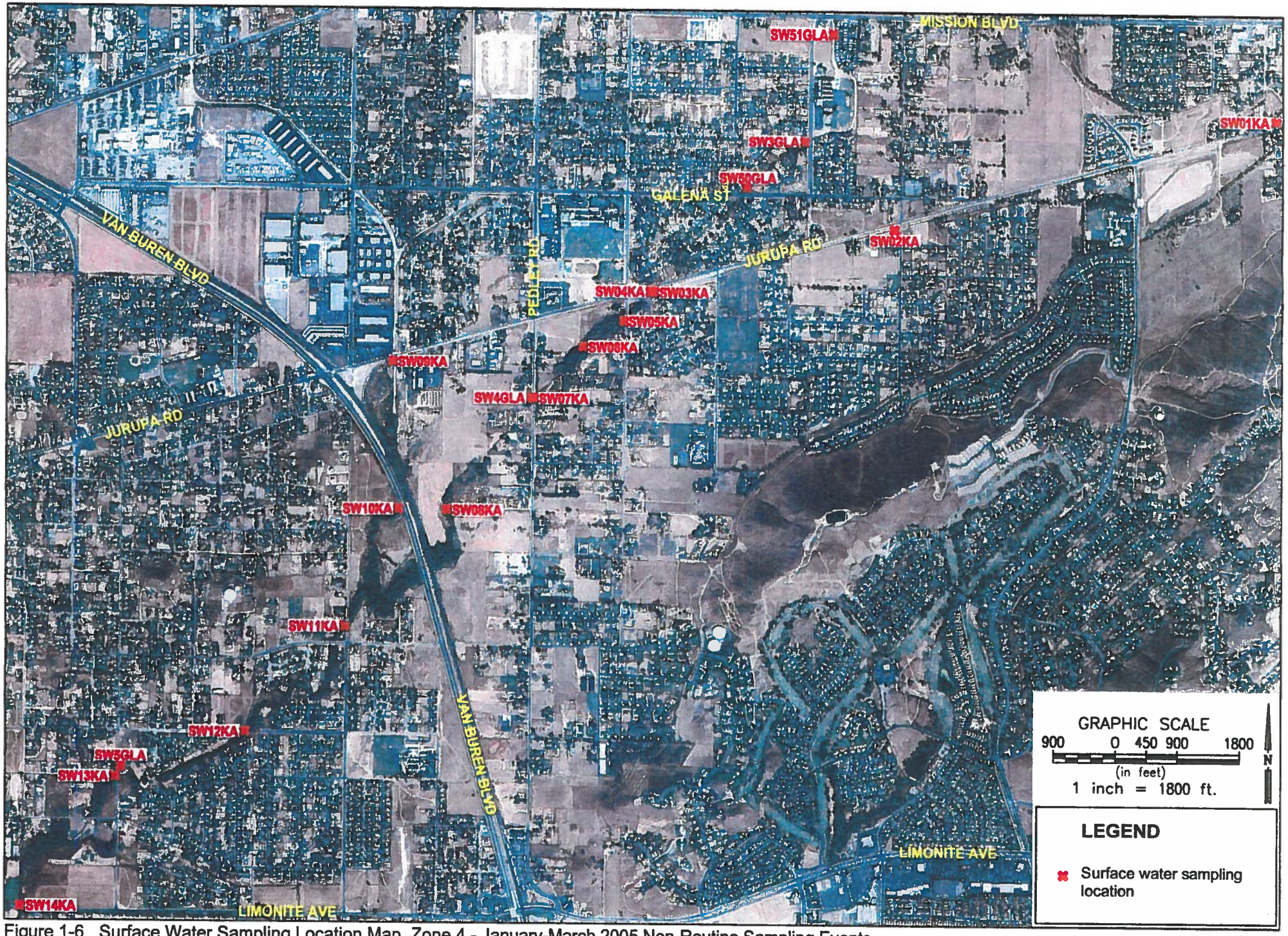


Figure 1-6 Surface Water Sampling Location Map, Zone 4 - January-March 2005 Non-Routine Sampling Events

2.0 SAMPLING PROCEDURES

The Winter 2005 non-routine surface water sampling events were conducted on January 11 (GLA, 2005), February 12, February 18, February 21, and March 16, 2005. The number of samples collected during each sampling event was dependent on DTSC's request, whether flow was occurring at a given location, or as in the case of February 18, whether available daylight provided safe conditions for sampling.

2.1 SAMPLE LOCATIONS

Samples were collected where surface runoff occurred during and following rainfall events. As shown on Figures 1-4 through 1-6, these locations included:

- The channels surrounding Zone 1 and associated subsurface drains;
- Along Pyrite Creek from its headwaters in Zone 1 to near the Santa Ana River in Zone 4;
- Along tributaries to Pyrite Creek; and
- Stormwater runoff in minor drainages, prior to the confluence of these minor drainages with Pyrite Creek.

2.2 SAMPLING PROCEDURES

The sampling procedures listed below were followed during surface water sampling operations:

- Surface water sampling was preformed by submerging laboratory supplied containers, or a decontaminated dipper, in a slow moving portion of the surface water channel at the designated station.
- All samples were collected in approved sample containers, and each container was filled completely and immediately capped, labeled, and placed in a cooler with ice.
- Samples were immediately placed in an ice-filled cooler for transport to E.S. Babcock & Sons Laboratory, a California-certified laboratory located in Riverside, California. Samples were kept chilled (at about 4°C) until delivery.
- A completed Chain-of-Custody form, detailing the sample identification numbers, date and time collected, analyses requested, and other project information accompanied each sample to the laboratory. The Chain-of-Custody forms were signed and dated by all personnel retaining custody of the samples.

2.3 QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

The Quality Assurance/Quality Control (QA/QC) program included collection and analyses of duplicate samples. The duplicate samples were collected, handled, and tested in the same manner as the primary samples.

3.0 QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

3.1 OVERVIEW

The QA/QC summary described below presents the relevant QA/QC information associated with data collected during the February and March 2005 non-routine surface water sampling events. A QA/QC summary of the January 11, 2005 data is presented in the Non-Routine Monitoring Report (GLA, 2005).

The QA/QC program for each of the surface water monitoring events was modified depending on the testing program that was implemented on a given day. For example, trip blanks, which are used to test for VOC contamination, were only collected when the surface water samples were tested for VOCs. This QA/QC summary contains the following subjects for the Stringfellow groundwater monitoring program, which are addressed in detail:

- Data validation concepts, rationale, and practices;
- Data quality objectives, evaluation, and compliance; and
- Laboratory QA/QC: analysis methodologies, method compliance, and corrective actions.

QC criteria were established to objectively determine the validity of the data results. Instrument QC and Method QC are two types of QC criteria that operate in tandem to help assure valid data results.

Instrument QC monitors the instrument's ability to perform proper qualitative and quantitative determinations on the analytes of interest. Examples of Instrument QC include method blanks, laboratory control samples, and calibration analysis. These analyses determine if the laboratory has the appropriate control over the analytical process in order to produce quality data.

Method QC monitors the environmental samples' ability to allow the analytical process to produce quality data with the samples' matrix interacting with the analysis. Examples of Method QC include matrix spike, matrix spike duplicate, surrogate spike, and replicate sample analysis. These analyses determine if the matrix of the sample is having a negative effect on the instrument's ability to analyze the sample correctly.

3.2 DEFINITIONS AND CRITERIA

3.2.1 HOLDING TIMES

The EPA has established maximum time intervals (holding times) between sample collection, preparation, and analysis. All compliant results must be obtained within holding times or the results are considered deficient. Samples analyzed outside of holding times must be qualified.

3.2.2 LABORATORY, FIELD, AND TRIP BLANKS

Laboratory, field, and trip blank samples are analyzed to determine if environmental sample results need to be qualified because of laboratory or field contamination. Laboratory blank results indicate exposure to contaminants during laboratory processes only. Field blank results could indicate contamination during sample collection, while trip blank results could indicate exposure to contaminants either within the laboratory or during transit to/from the field. Since laboratory, field, and trip blanks are used to determine VOC contamination, and no VOC testing was performed for the February and March sampling events, no laboratory, field, or trip blank testing was performed.

3.2.3 MATRIX SPIKE/MATRIX SPIKE DUPLICATES (MS/MSD)

Matrix spike samples are environmental samples that are spiked with known concentrations of target analytes. The recovery of the target analytes are used to evaluate the effects of the sample matrix. Five percent of environmental samples are subject to MS/MSD analyses. The matrix spike duplicate results are used to determine laboratory precision. Analytical data are qualified if the calculated relative percent difference (RPD) is outside control limits.

3.2.4 LABORATORY CONTROL SAMPLE (LCS)

The laboratory control sample consists of reagent grade (analyte free) water spiked with known concentrations of target analytes and determines if the analytical system is in control. Data are qualified if analyte recoveries are outside control limits.

3.2.5 SURROGATES

Surrogate compounds are added to every sample at the beginning of sample preparation for VOC analysis. Recoveries are used to monitor the analytical process and yield information concerning matrix effects. Surrogates are chemically similar to target analytes and their recovery within control limits indicates the analytical process is in control.

3.2.6 SECOND COLUMN/DETECTOR ANALYTE CONFIRMATION

Organic analyses that produce discrete analyte detection should be confirmed in order to have confidence in the result. When performing gas chromatography/mass spectrometry (GC/MS) analyses, the laboratory uses mass spectra to confirm analyte peaks and retention times. For GC or High Performance Liquid Chromatography (HPLC) analyses, a second analytical column and/or a second detector is used for analyte confirmation.

3.2.7 SAMPLE TEMPERATURE

To maintain the integrity of surface water samples, the temperature of most samples must be controlled. Samples must be chilled from the field to the laboratory and held at

between two and six degrees centigrade. The surface water samples collected for this project were placed in ice chests with frozen Blue Ice™ immediately after collection.

Samples were transported to E.S. Babcock & Sons Laboratory in Riverside, California. Upon receipt at the laboratory, lab personnel determined and documented whether the samples arrived in a chilled state. During storage at the laboratory, walk-in coolers are monitored routinely to verify that samples are held at the proper temperature. Sample data are qualified if the proper temperature is not maintained.

3.2.8 SAMPLE DELIVERY GROUP

The sample delivery group (SDG) is a laboratory-defined collection of sample results together with the corresponding QC results. These data are organized under a unique group heading. The laboratory determines the method of grouping sample results under an SDG and each SDG may contain samples collected at various times and with different matrix types.

3.2.9 CORRECTIVE ACTIONS

Corrective actions are performed in response to data or conditions that are not in analytical control. Corrective actions are performed in an attempt to bring the error condition back under control. Corrective actions are documented by a corrective action report (CAR) which is included in the SDG data package.

3.3 DATA VALIDATION RATIONALE AND GUIDELINES

Laboratory analyses of surface water samples from the Stringfellow monitoring program were conducted using approved EPA test methods. The data generated from these analyses were evaluated using EPA-approved validation methods [USEPA Contract Laboratory Program [CLP] National Functional Guidelines for organic data review (Publication 9240.1-05, EPA-540/R-94/012, February 1994) and inorganic data review (Publication 9240.1-05-01, EPA-540/R-94/013, February 1994)].

The National Functional Guidelines were written for use with the CLP methods as outlined in the CLP statement of work (SOW). The SOW contains methods for volatile GC/MS analysis and inductively coupled plasma (ICP) metal analysis (and other methods). These methods do not differ significantly in the application of the basic quality control parameters from those found in the corresponding SW-846 methods of SW8260A and SW6010A.

Since the CLP methods and the SW-846 methods have similar QC instructions, the National Functional Guidelines are useable for the SW8260A and SW6010A methods. In order to validate analytical methods that have no corresponding CLP method validation guidance, logical extrapolations are determined by modeling the pertinent CLP rationale.

Data validation guidelines are presented below.

Data Validation Guidelines

Validation Qualifiers	Explanation
B	The sample result is less than 5 times (10 times for common laboratory contaminants) the blank concentration. The result qualified for blank contamination is considered not to have originated in the environmental sample since cross-contamination is suspected.
J	The analyte was positively identified, but the analyte concentration is an estimated value [between the method detection limit (MDL) and reporting limit (RL)].
N	The non-target analyte was positively identified; however, the result was not validated.
N_RLm	Due to sample matrix, the reporting limit for this analyte has been raised.
R	The presence or absence of the analyte cannot be verified, and the sample result is rejected and not usable for any purpose.
U	The analyte was analyzed for, but was not detected above the MDL or instrument detection limit (IDL).
UJ	The analyte was not detected above the MDL or IDL. However, the MDL or IDL may be elevated above the reported detection limit.
Y	Confirmation column results indicate a non-detect for the target analyte.

Qualifier Descriptors	Explanation
a	The analyte was found in the method blank.
b	The surrogate spike recovery was outside control limits.
c	The MS and/or MSD recoveries were outside control limits.
d	The LCS recovery was outside control limits.
e	A holding time violation occurred.

e*	The sample was originally analyzed within the EPA recommended holding time. However, the sample was re-analyzed outside the EPA recommended holding time.
f	The duplicate sample's RPD was outside control limits.
g	The datum met prescribed method criteria.
h	The required second column confirmation analysis was not performed.
l	The second column confirmation result indicates the presence of the analyte was not confirmed.
n	The laboratory case narrative indicated a QC problem.
p	The result was qualified based on professional judgement.
q	The result was below the RL.
r	The result was above the instrument's normal calibration range.
t	The sample temperature was outside acceptance criteria.
x	The sample's chromatographic pattern does not resemble established standards.

Sample Preservation

As a rule, all samples are preserved at a temperature of 4°C, plus or minus 2 degrees. Additional preservation criteria are method specific. Samples placed in a cooler and transported directly to the laboratory with short transit times (less than four hours) do not allow for temperature equilibration. The temperature of samples with a short transit time must be below ambient temperature with evidence of cooling in progress (eg., ice or Blue Ice™ present). If temperature requirements are not met, the analytical data are qualified with the following:

- Samples with temperatures in excess of six degrees centigrade but less than or equal to 12 degrees centigrade are qualified **J** for detected analytes and **UJ** for non-detects.
- Samples in gross excess (greater than 12 degrees centigrade) of the temperature criteria are qualified **J** for detected analytes and non-detects are qualified **R**.
- The descriptor **t** is used to indicate that the temperature was outside acceptance criteria.

Holding Times

Holding times are measured from the sampling date. Holding times for inorganic analytical methods vary from 24 hours for analyses such as hexavalent chromium and pH to six months for ICP metals. The following qualifiers are used to describe holding time violations:

- Results produced from analyses performed beyond the holding time are qualified **J** for detected compounds and **UJ** for non-detects.
- If holding times are grossly exceeded (more than twice the normal holding time), positive results are qualified **J** and non-detects are qualified **R**.
- The descriptor **e** is used to denote a holding time violation.

Blanks

Field blanks and laboratory blanks are evaluated for contaminants, and the following flags are used to qualify the results:

- Analytes found in associated environmental samples at or below 5 times the blank analyte contamination are qualified **B**.
- If a dilution was performed on the environmental sample, the associated method blank results are multiplied by the sample dilution factor. Analytes found in the associated diluted environmental samples at or below 5 times the adjusted values are qualified **B**.
- The descriptor **a** is used to indicate method blank contamination.
- The descriptor **k** is used to indicate field blank contamination.

Laboratory Control Sample (LCS)

Each specific LCS spiking analyte that fails recovery criteria produces qualification of the matching analyte in the batch-associated environmental samples. For all methods requiring LCS recoveries, the descriptor **d** is used to indicate LCS qualification, and the LCS qualification can be produced by two cases:

- Case 1 – If LCS recoveries are above the upper limit, then detected analytes are qualified with **J**. Non-detects are not qualified.
- Case 2 – If LCS recoveries are below the lower limit, the positive results are qualified with **J** and non-detects are qualified with **R**.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Each specific MS or MSD spiking analyte that fails recovery criteria produces qualification of the matching analyte in the site associated environmental samples. Where both the MS and MSD fail criteria, the least-compliant recovery is qualified according to the following:

- MS/MSD recovery results are not used for qualification if the analyte concentration in the environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.
- If the MS and/or MSD recovery exceeds the upper control limit, the detected compounds are qualified with **J**, and non-detected compounds are not qualified.
- If the MS and/or MSD recovery falls between the lower limit and 10 percent, detected compounds are qualified **J** and non-detects are qualified **UJ**.
- If the MS/MSD recovery is less than 10 percent, the detected analytes are qualified **J** and non-detected analytes are qualified **R**.
- The descriptor **c** is used to indicate MS/MSD qualification based on the percent recovery of spiked analytes.

MS/MSD RPDs are calculated from the analyte concentrations of the MS and MSD. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised.

- MS/MSD RPD results are not used for qualification if the analyte concentration in the environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.
- If the RPD is outside the control limit, then the related sample results are qualified with **J** for detected compounds and **UJ** for non-detected compounds.
- The descriptor **f** is used to indicate RPD failure.

3.4 SUMMARY OF DATA QUALITY OBJECTIVES AND COMPLIANCE

Data Quality Objectives (DQOs) are qualitative and quantitative statements developed by data users to specify the quality of data collected from field and laboratory activities to support specific decisions or regulatory actions. The DQOs describe which data are needed, why the data are needed, and how the data will be used to address the problem being investigated. DQOs also established numeric limits for the data to allow the user (or reviewers) to determine whether the data collected are of sufficient quality for use in their intended application. The DQOs for this program were established by the DTSC.

The usability of the data collected during this investigation depends on its quality. A number of factors relate to the quality of data, and sample collection methods are as important to consider as methods used for sample analysis. Sampling and analytical error are generally reduced for both sample collection and analyses through the use of standard operating procedures. Sample integrity is maintained through the use of Chain-of-Custody documentation and adherence to sample preservation techniques, holding times, and proper shipment methods. Obtaining valid and comparable data also requires adequate QA/QC procedures and documentation, as well as established detection and control limits.

Quantitation limits are based on the extent to which the equipment, laboratory or field, or analytical process can provide accurate measurements of a reliable quality for specific

constituents in field samples. The quantitation limit for a given analysis will vary depending on instrument sensitivity and matrix effects.

The effectiveness of a QA program is measured by the quality of data generated by the laboratory. Data quality is judged in terms of its precision, accuracy, completeness, and comparability. The following sections present discussions of any errors (and the cause of the errors) that may have impacted the DQO.

3.4.1 ACCURACY

Accuracy is the degree of agreement of a measurement, or average of measurements, with an accepted reference or "true" value, and is a measure of bias in a system. The DQO for accuracy is 90 percent. The accuracy of a measurement system is impacted by any factor that breeches the integrity of the samples (sampling protocol errors) or degrades the analytical process (instrument or method QC errors).

For this project, laboratory accuracy of the measurement data is evaluated through the use of blanks, laboratory spikes (LCS), and surrogates. Results from the blank, spike, and surrogate analyses are used to control accuracy by requiring that they meet specified criteria. As spiked samples are analyzed, recoveries are calculated and compared to pre-established acceptance limits.

Acceptance limits are based upon previously established laboratory performance for similar samples. In this approach, the control limits reflect the minimum and maximum recoveries expected for individual measurements for an in-control system. Recoveries outside the established limits indicate some assignable cause, other than normal measurement error, and possible need for corrective action. This includes recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For contaminated samples, recovery of matrix spikes may depend on sample homogeneity, matrix interference, and dilution requirements for quantification.

Compliance with Accuracy DQO – Qualified data results impact the DQO by virtue of a QC error. No results were qualified or rejected on the basis of accuracy.

Net Effect – The DQO for accuracy was met.

3.4.2 PRECISION

Precision is a measure of agreement among individual measurements of the same property under prescribed similar conditions. When control limits are established for accuracy, it automatically defines the precision of the method. In the analysis of samples in a preparation batch, if the recoveries of analytes in the LCS are within the control limits, then the precision is also within limits.

Precision is also determined from duplicate field sample analyses and MS/MSD analysis. The precision is quantified by the RPD value calculated from the duplicate results. The RPD control limit is 30 percent.

Primary and duplicate sample analytical results are compared on Table 3-1. Generally good agreement (within 30 percent) is shown between the primary and duplicate samples except for a February 21 TDS concentration (SW6GLA was 240 mg/L and SW-DUP-2 was 160 mg/L) and a February 21 perchlorate concentration (Z1SW9GLA was 6.7 µg/L and no perchlorate was detected in SW-DUP-4). Wide variation in surface water samples could be the result of changing conditions during periods of high flow, and therefore the variations noted herein are not considered to have a significant impact on the data quality. The results are therefore considered usable for their intended purposes.

Compliance with Precision DQO – None of the data were qualified or rejected on the basis of precision.

Net Effect – The DQO for precision was met.

3.4.3 COMPLETENESS

Completeness is a measure of the amount of the valid data obtained from a measurement system compared to the amount expected to be obtained under correct, normal conditions. The DQO for completeness is at least 90 percent complete.

Successful analyses are defined as those where the sample arrived at the laboratory intact, properly preserved, in sufficient quantity to perform the requested analyses, and accompanied by a completed Chain of Custody. Furthermore, the sample must be analyzed within the specified holding time and in such a manner that analytical QC described in this document are met.

Compliance with Completeness DQO – Listed below are the results of the data evaluation (by method) that impact the completeness DQO.

Method/Total Analytes	Analytes Qualified/Cause	Percent Qualified
SM 2540C/98	1/Holding Time Violation	1.0%

For the nitrate as nitrogen testing, 16 of the 73 tests required dilution due to high concentrations. The samples were initially analyzed within the prescribed holding time, but the diluted sample was tested outside the prescribed holding time. The results are considered usable for their intended purposes.

Testing for pH is normally completed in the field. However, on February 18 and 21, the field meter failed the calibration procedure. As a result, pH was added to the laboratory request for analysis, and the pH of all samples was measured upon delivery to the laboratory.

No other data were qualified or rejected on the basis of completeness.

Net Effect – The DQO for completeness was met.

3.4.4 COMPARABILITY

Comparability expresses the confidence with which one data set can be compared to another data set measuring the same property. Comparability is ensured through the use of established and approved sample collection techniques and analytical methods, consistency in the basis of analysis (detection limits and volume, for example), consistency in the reporting units, and analysis of standard reference materials.

Compliance with Comparability DQO – Comparability usually cannot be quantified. However, the samples were analyzed according to lab-specific Standard Operating Procedures (SOPs) that are a reflection of federally established guidelines.

Net Effect – By analyzing the samples in accordance with established guidelines, the comparability objective was met.

3.5 LABORATORY QA/QC: ANALYSIS METHODOLOGIES, METHOD COMPLIANCE, AND CORRECTIVE ACTIONS

Oversight of laboratory QA/QC should be as proactive as possible in order to assure valid data are produced during the sampling round. The systematic use of SOPs that detail QA/QC guidelines usually indicates the level of laboratory QA/QC one can expect to see in the final analysis of the data. However, no system is fail safe, and a few QA/QC anomalies generally expose themselves and give evidence of their existence once all the data are examined. For the February and March 2005 surface water sampling events, there were data qualified due to method blank contamination as outlined below. Results qualified for blank contamination are denoted by the "B" qualifier.

Method/Total Analytes	Analytes Qualified/Cause	Percent Qualified
SW 2540C/98	4/Method Blank	4.1%

No other results were qualified for blank contamination. The TDS results that were qualified for method blank contamination were qualified because the concentrations reported in the sample were less than 10-times the method blank concentration. Since TDS would be expected in any water sample, the results are considered usable for their intended purposes.

3.5.1 ANALYSIS METHODOLOGIES

The target analytes and corresponding analytical method for samples collected during the February and March 2005 surface water monitoring events are summarized below.

Target Analytes	Analytical Method
Sulfate, Nitrate-N	EPA Method 300.0
TDS	SM 2540C
pH	SM4500 H+ B
Perchlorate	EPA Method 314.0

3.5.2 METHOD COMPLIANCE

The laboratory was in compliance with all analytical methods employed.

3.5.3 CORRECTIVE ACTION

When necessary, the laboratory performed the appropriate corrective action as required by the quality assurance project plan.

TABLE 3-1
PRIMARY AND DUPLICATE SAMPLE ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE

Analyte	Units	February 12, 2005		February 12, 2005		February 2, 2005	
		Primary SW2GLA	Duplicate DUP-1	Primary Z1SW16GLA	Duplicate DUP-2	Primary Z1SW13GLA	Duplicate DUP-3
Sulfate	mg/L	72	74	68	68	76	75
Nitrate	mg/L	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	420	380	420	510	450	470
Perchlorate	ug/L	8.1	9.0	1.4	1.4	1.4	.4
pH	units	NA	NA	NA	NA	NA	NA

Analyte	Units	February 18, 2005		February 21, 2005		February 21, 2005	
		Primary SW1GLA	Duplicate DUP-1	Primary SW35GLA	Duplicate SW-DUP-1	Primary SW6GLA	Duplicate SW-DUP-2
Sulfate	mg/L	78	76	34	36	24	23
Nitrate	mg/L	13	13	5.4	5.6	4.8	4.7
Total Dissolved Solids	mg/L	370	400	330	350	240	160
Perchlorate	ug/L	1.4	1.4	**3.2**	**3.6**	1.4	**1.6**
pH	units	9.7	9.7	7.8	7.8	7.9	8.0

Analyte	Units	February 21, 2005		February 21, 005		February 21, 200	
		Primary Z1SW19GLA	Duplicate SW-DUP-3	Primary Z1SW9GLA	Duplicate SW-DUP-4	Primary Z1 W15GLA	Duplicate SW-DUP-5
Sulfate	mg/L	28	28	46	44	7.5	8.2
Nitrate	mg/L	**0.14**	**0.14**	14	13	2.1	2.3
Total Dissolved Solids	mg/L	160	190	340	370	150	150
Perchlorate	ug/L	8.4	11	6.7	1.4	1.4	1.4
pH	units	7.8	7.8	8.1	8.1	7.6	7.7

Analyte	Units	March 16, 2005	
		Primary SW2GLA	Duplicate DUP1GLA
Sulfate	mg/L	62	62
Nitrate	mg/L	70	70
Total Dissolved Solids	mg/L	380	370
Perchlorate	ug/L	1.4	**1.4**
pH	units	NA	NA

Notes: mg/L - milligrams per liter
ug/L - micrograms per liter

NA Not Analyzed; for pH, the parameter was measured in the field.

Indicates not detected above Practical Quantitation Limit (PQL). Value listed is Method Detection Limit (MDL) (shaded and left-justified) or estimated trace concentration (bolded and right-justified).

Reported concentration (right-justified).

4.0 SURFACE WATER MONITORING RESULTS

This section includes tabulated summaries of the analytical results from the January, February, and March 2005 surface water monitoring events.

A complete analytical summary is shown in Table 4-1. It should be noted that, for nitrate, the laboratory reported nitrate as nitrogen values for the first three monitoring events, and for March 16, the laboratory reported nitrate values.

Table 4-2 provides a summary of the field water quality measurements. No field measurements are available for the February 18 and 21 sampling dates because the field instrument failed the calibration process. As a result, measurement of pH values for samples collected on these dates was performed by the laboratory.

Figures 4-1 through 4-5 show the measured concentration of perchlorate during the 5 surface water monitoring events. On these figures, the size of the symbol at each location is proportional to the magnitude of the measured concentration.

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW1GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	70		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	400		g
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	13		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	78		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	5.3		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.4	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	26		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	230		g
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	75		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.8	J	q
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	64		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	400		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW1GLA (SW-DUPGLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	13		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	76		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	400		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW2GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	8.1		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	72		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	420		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.7		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	17		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	19		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	350		g
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	70		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	62		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	380		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW2GLA (DUP-1GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	9.0		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	74		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	380		g
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	70		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.4	J	q
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	62		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW3GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	59		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	2.2	J	q
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	66		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW6GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	70		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	12		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.0	J	q
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	71		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.8		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	24		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	240		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW6GLA (SW-DUP-2GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.7		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.6	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	23		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	160	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW7AGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	31		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	28		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	200		g
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	5.3		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	76		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	59		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	360		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.9		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	77		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	54		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	320		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW7BGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	70		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	56		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	250		g
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	10		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	2.8	8.0	370		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	92		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	410		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.8		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	66		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	26		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	22	40	360		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW7CGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	1.4		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	19		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	19		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	260		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.45		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	4.5		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW8GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	8.1		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	71		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	11		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	160		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	80		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	320		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.9		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	19		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	20		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	360		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW30GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.32		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.2	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	3.7		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	170	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW31GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.8	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	28		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW32GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.59		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	10		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	87		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.59		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	5.0		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	160	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW33GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	5.3		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.6	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	33		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW34GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	ND	U	e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	9.4		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	110		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.23		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	3.4		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	140	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW35GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	5.4		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.2	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	34		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	330		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW35GLA (SW-DUP-1GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	5.6		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.6	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	36		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	350		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW36GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	8.2		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	29		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	49		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	16		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	180		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW37GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	46		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	260		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	1100	J	e
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.54	1.0	31		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	39		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	230		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	1000		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	8.5		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	9.5		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	60		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW37AGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.54	1.0	34		e*
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	52		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	270		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	1200		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	6.8		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	9.5		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	45		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	290		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW38AGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	14		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	170	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW39GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/18/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	17		g
2/18/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	14		g
2/18/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	27		g
2/18/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	11		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	16		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	240		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW40GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	3.2		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	12		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	260		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW42GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.18	J	q
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	4.0		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	68		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW50GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	62		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	3.9	J	q
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	65		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: SW51GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	70		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.7	J	q
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	64		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	390		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW1GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.43		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	3.8		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	76	B	a

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW2GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	33		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	310		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	6.1		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	11		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	170		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW3GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	77		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	380		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	3.0		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	18		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	150		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW4GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	21		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	240		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	1.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	4.4		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	120		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW5GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	71		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	3.8		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	21		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	180		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW6GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	33		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	11		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	28		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	190		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW7GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	9.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	1.6	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	19		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	230		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW8GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	61		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	330		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	3.5		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	20		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	160		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW9GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	70		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	430		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	14		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	6.7		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	46		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	340		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW9GLA (SW-DUP-4GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	13		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	44		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	370		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW10GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	56		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	380		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	4.0		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	33		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	200		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW11GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	57		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	390		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	7.6		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	25		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	230		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW12GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	7.4		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	4.4		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	140		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	400		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW13GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	76		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	450		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	13		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	47		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	360		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW13GLA (DUP-3GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	75		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	470		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW14GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.29		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	4.7		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	120		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW15GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.1		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	7.5		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	150		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW15GLA (SW-DUP-5GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	2.3		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	8.2		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	150		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW16GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	68		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	420		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	7.3		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	24		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	190		g
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	88		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND		g
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	72		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	450		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW16GLA (DUP-2GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	68		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	510		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW16AGLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	1.2		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	2.8	J	q
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	24		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	160		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW17GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.34		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	8.2		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	100		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW18GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	2.7	J	q
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	240		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	830		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	ND	U	g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	14		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	98		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW19GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	7.0	20	68		g
2/12/2005	Sulfate	14808-79-8	mg/L	0.34	1.0	390		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	1100		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.14	J	q
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	8.4		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	28		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	5.5	10	160		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW19GLA (SW-DUP-3GLA)

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	0.14	J	q,e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	11		g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	28		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	190		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW20GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	36		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	300		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	14		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	32		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	310		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW21GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	2.8	8.0	ND	UJ	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	94		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	480		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	19		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	90		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	470		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW22GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/12/2005	Perchlorate	14797-73-0	ug/L	2.8	8.0	ND	UJ	g
2/12/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	140		g
2/12/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	620		g
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.54	1.0	30		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	130		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	590		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW23GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.54	1.0	24		e*
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	160		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	710		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW25GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	19		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	110		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	540		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW26GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	13		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	65		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	480		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

Station ID: Z1SW27GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
2/21/2005	Nitrate as N	ENV-910-0	mg/L	0.11	0.20	17		g
2/21/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
2/21/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	100		g
2/21/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	580		g

TABLE 4-1
SURFACE WATER ANALYTICAL RESULTS
STRINGFELLOW HAZARDOUS WASTE SITE
WINTER 2005 SURFACE WATER SAMPLING

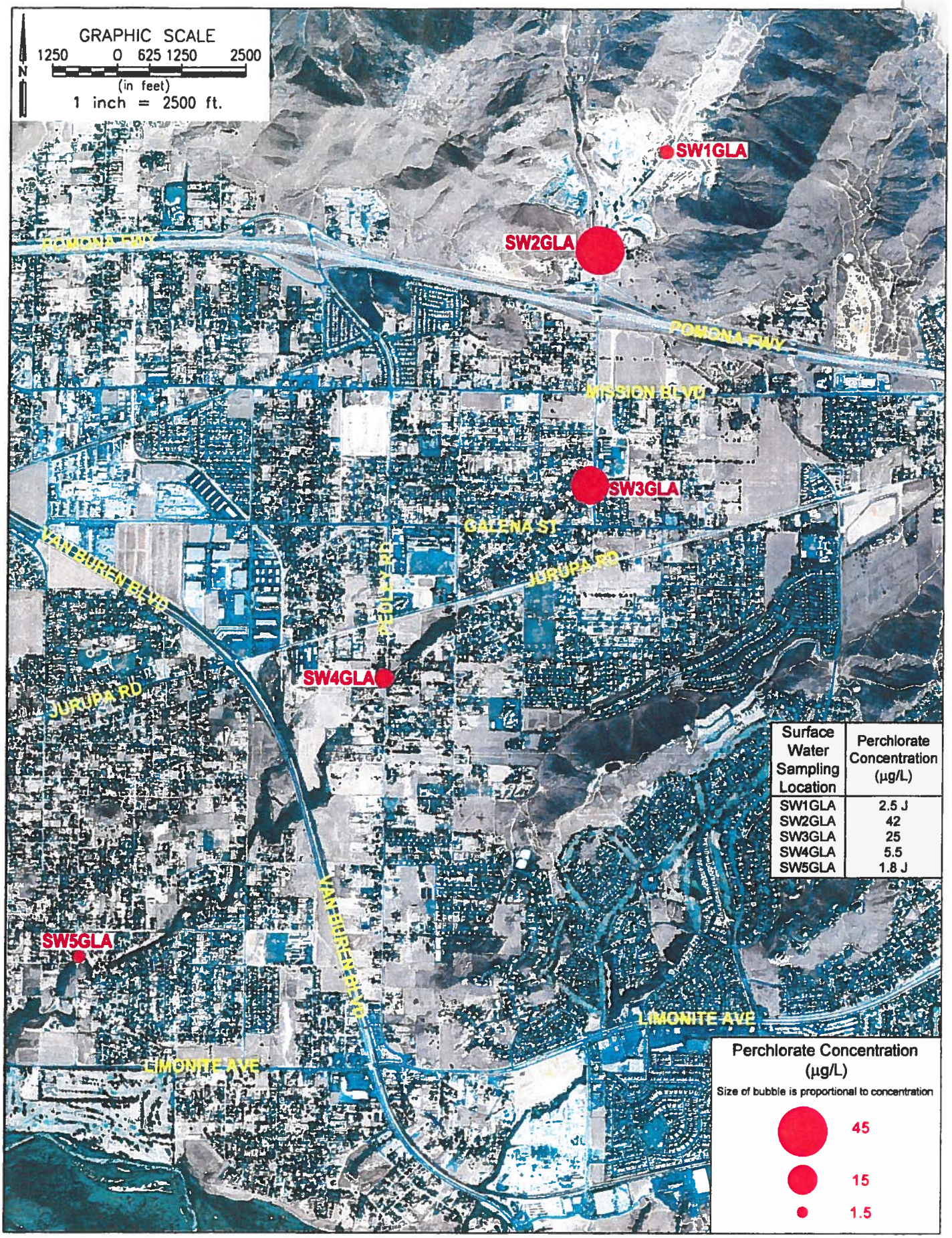
Station ID: Z1SW28GLA

Sample Date	Constituent	CAS Number	Units	MDL	RL	Result	Validity	Notes
3/16/2005	Nitrate	14797-55-8	mg/L	0.47	1.0	65		g
3/16/2005	Perchlorate	14797-73-0	ug/L	1.4	4.0	ND	U	g
3/16/2005	Sulfate	14808-79-8	mg/L	0.17	0.50	66		g
3/16/2005	Total Dissolved Solids	ENV-710-0	mg/L	11	20	410		g

TABLE 4-2
FIELD WATER QUALITY MEASUREMENTS
WINTER 2005

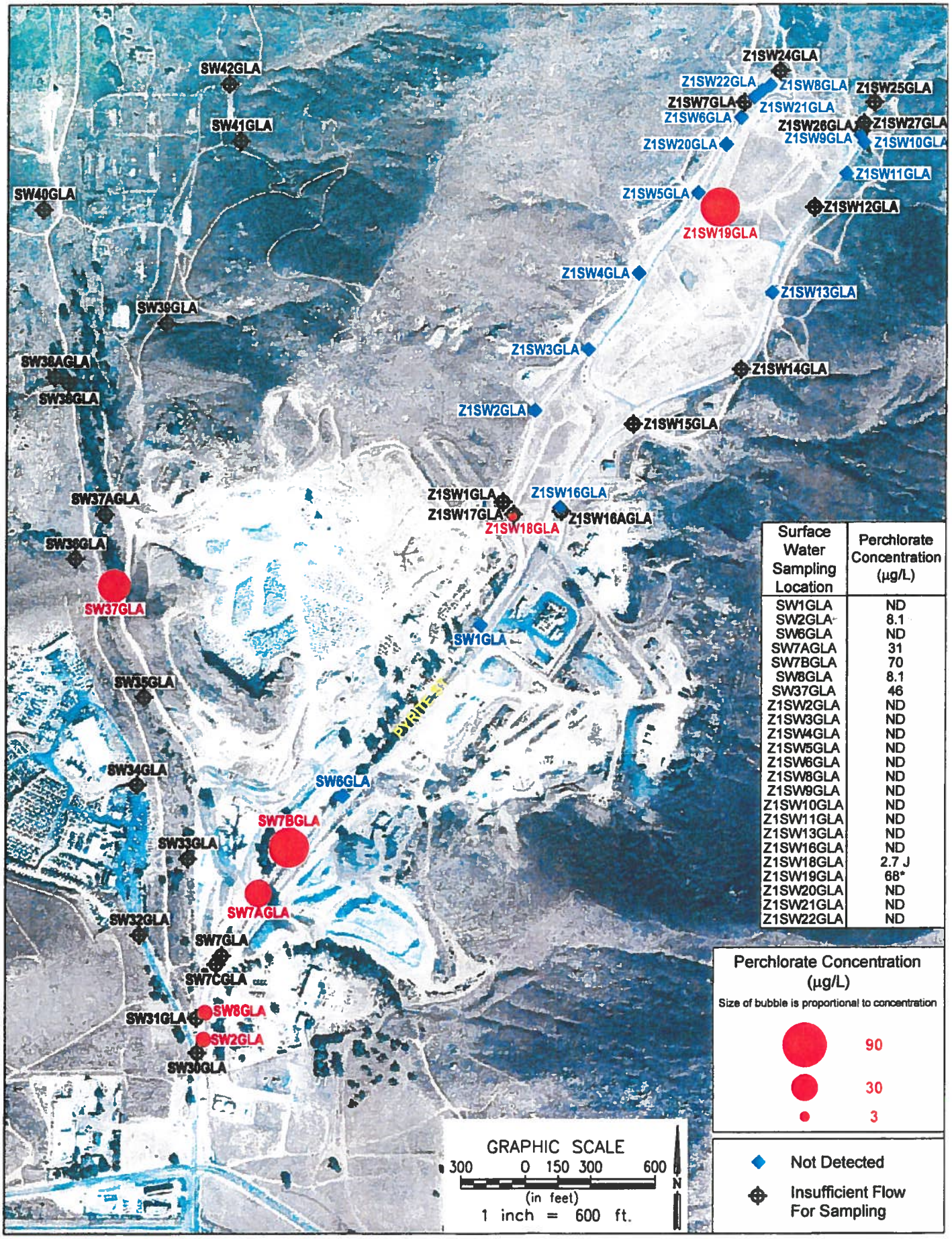
Zone	Sample Id.	Sample Date	pH	EC (µmhos/cm)	Turbidity	Temp (deg. F)
2	SW1GLA	1/11/2005	(a)	267	(a)	63.7
3	SW2GLA	1/11/2005	(a)	287	(a)	61.7
4	SW3GLA	1/11/2005	(a)	276	(a)	61.4
4	SW4GLA	1/11/2005	(a)	258	(a)	58.1
4	SW5GLA	1/11/2005	(a)	378	(a)	59.6
1	Z1SW2GLA	2/12/2005	8.5	370	24	57.6
1	Z1SW3GLA	2/12/2005	9.3	430	21	56.1
1	Z1SW4GLA	2/12/2005	8.2	290	(b)	56.3
1	Z1SW5GLA	2/12/2005	8.8	440	10	58.3
1	Z1SW6GLA	2/12/2005	7.8	370	5	66.7
1	Z1SW8GLA	2/12/2005	8.5	410	27	59.2
1	Z1SW9GLA	2/12/2005	8.2	560	34	60.6
1	Z1SW10GLA	2/12/2005	10.1	350	18	58.5
1	Z1SW11GLA	2/12/2005	9.3	420	11	59.7
1	Z1SW13GLA	2/12/2005	9.2	510	37	61.7
1	Z1SW16GLA	2/12/2005	8.9	490	(b)	56.1
1	Z1SW18GLA	2/12/2005	8.4	930	11	55.0
1	Z1SW19GLA	2/12/2005	8.2	1800	29	55.4
1	Z1SW20GLA	2/12/2005	7.8	410	4	63.5
1	Z1SW21GLA	2/12/2005	7.0	610	7	68.0
1	Z1SW22GLA	2/12/2005	7.4	720	5	66.7
2	SW1GLA	2/12/2005	7.5	490	10	54.7
2	SW6GLA	2/12/2005	7.6	480	15	54.3
3	SW2GLA	2/12/2005	7.4	470	63	54.1
3	SW8GLA	2/12/2005	7.1	470	66	54.3
3	SW7AGLA	2/12/2005	7.7	170	(b)	53.2
3	SW7BGLA	2/12/2005	7.6	230	610	53.4
-	SW37GLA	2/12/2005	7.9	1600	19	60.8
-	all samples	2/18/2005	(a)	(a)	(a)	(a)
-	all samples	2/21/2005	(a)	(a)	(a)	(a)
1	Z1SW16GLA	3/16/2005	9.0	520	5	22
1	Z1SW28GLA	3/16/2005	9.1	480	16	22
2	SW1GLA	3/16/2005	9.2	480	13	25
3	SW2GLA	3/16/2005	9.2	460	13	25
4	SW3GLA	3/16/2005	9.9	430	30	25
4	SW51GLA	3/16/2005	9.4	470	170	23
4	SW50GLA	3/16/2005	9.6	420	20	24

deg.F - degrees Farenheit
µmhos/cm - micromhos per centimeter
(a) - Field meter failed calibration; no field measurement available. The pH value is reported with the lab data.
(b) - Measured value outside range of meter.



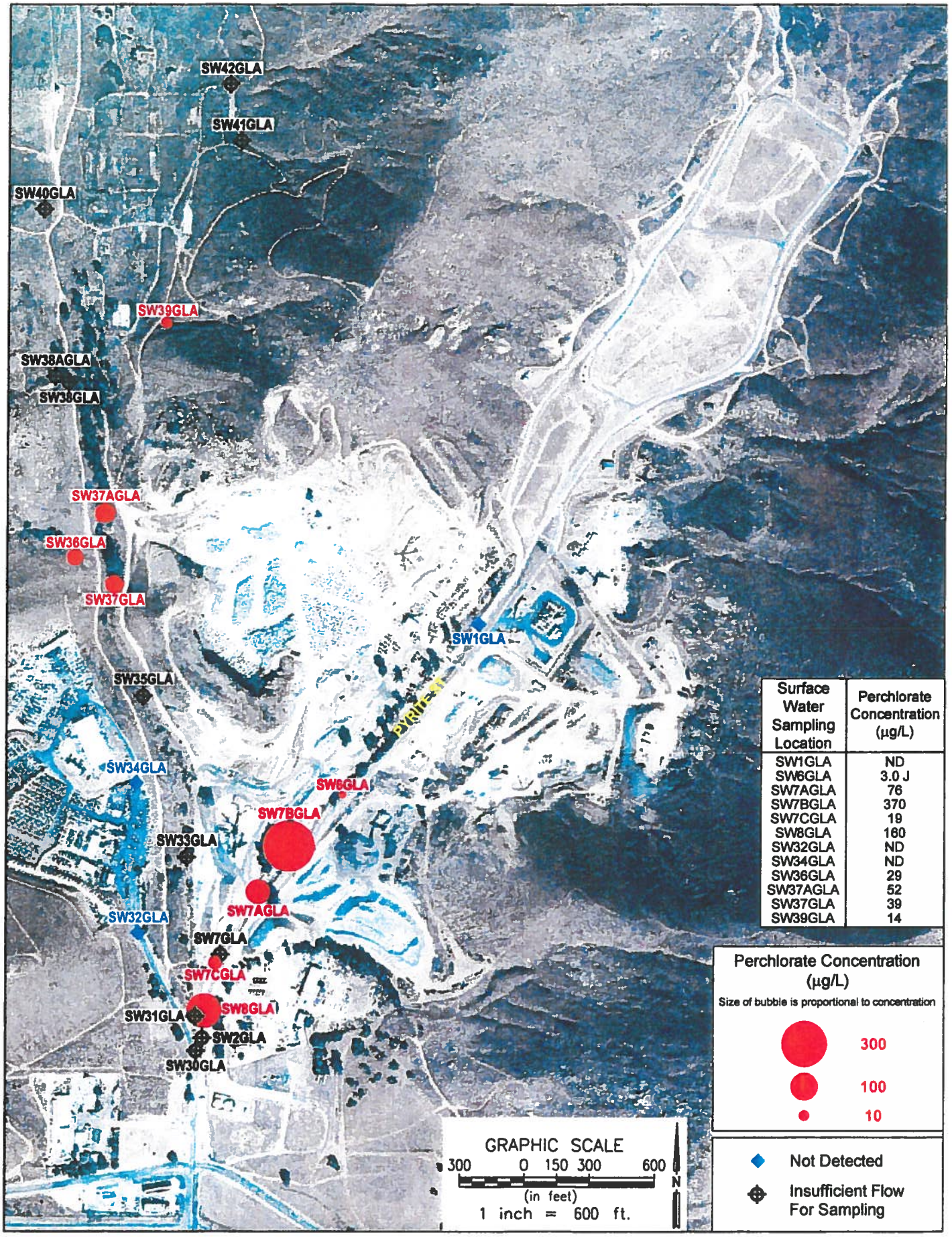
Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW1GLA	2.5 J
SW2GLA	42
SW3GLA	25
SW4GLA	5.5
SW5GLA	1.8 J

Figure 4-1 Perchlorate Concentrations on January 11, 2005 - January-March 2005 Non-Routine Sampling Events



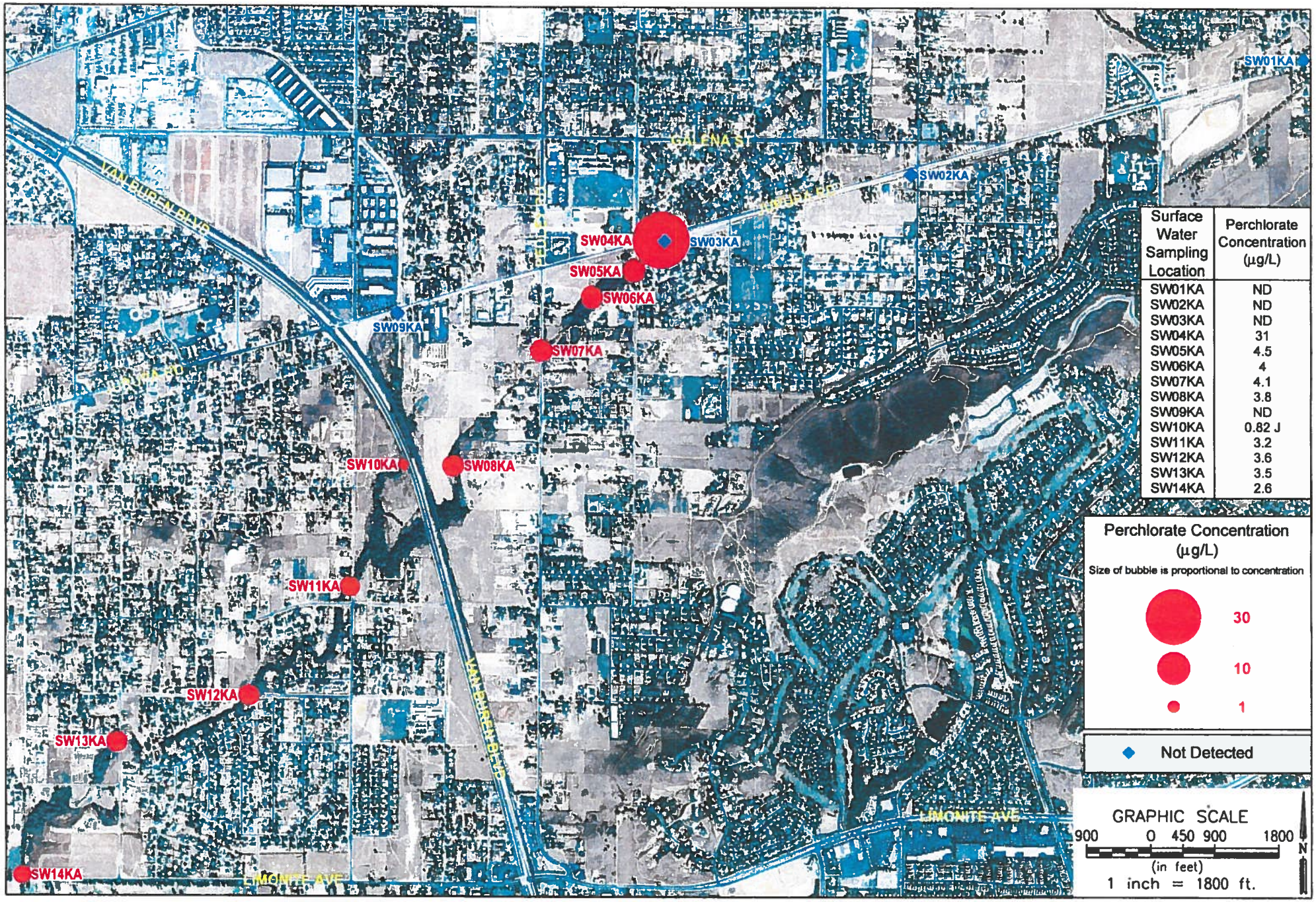
Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW1GLA	ND
SW2GLA	8.1
SW6GLA	ND
SW7AGLA	31
SW7BGLA	70
SW8GLA	8.1
SW37GLA	46
Z1SW2GLA	ND
Z1SW3GLA	ND
Z1SW4GLA	ND
Z1SW5GLA	ND
Z1SW6GLA	ND
Z1SW8GLA	ND
Z1SW9GLA	ND
Z1SW10GLA	ND
Z1SW11GLA	ND
Z1SW13GLA	ND
Z1SW16GLA	ND
Z1SW18GLA	2.7 J
Z1SW19GLA	68*
Z1SW20GLA	ND
Z1SW21GLA	ND
Z1SW22GLA	ND

Figure 4-2 Perchlorate Concentrations on February 12, 2005 - January-March 2005 Non-Routine Sampling Events



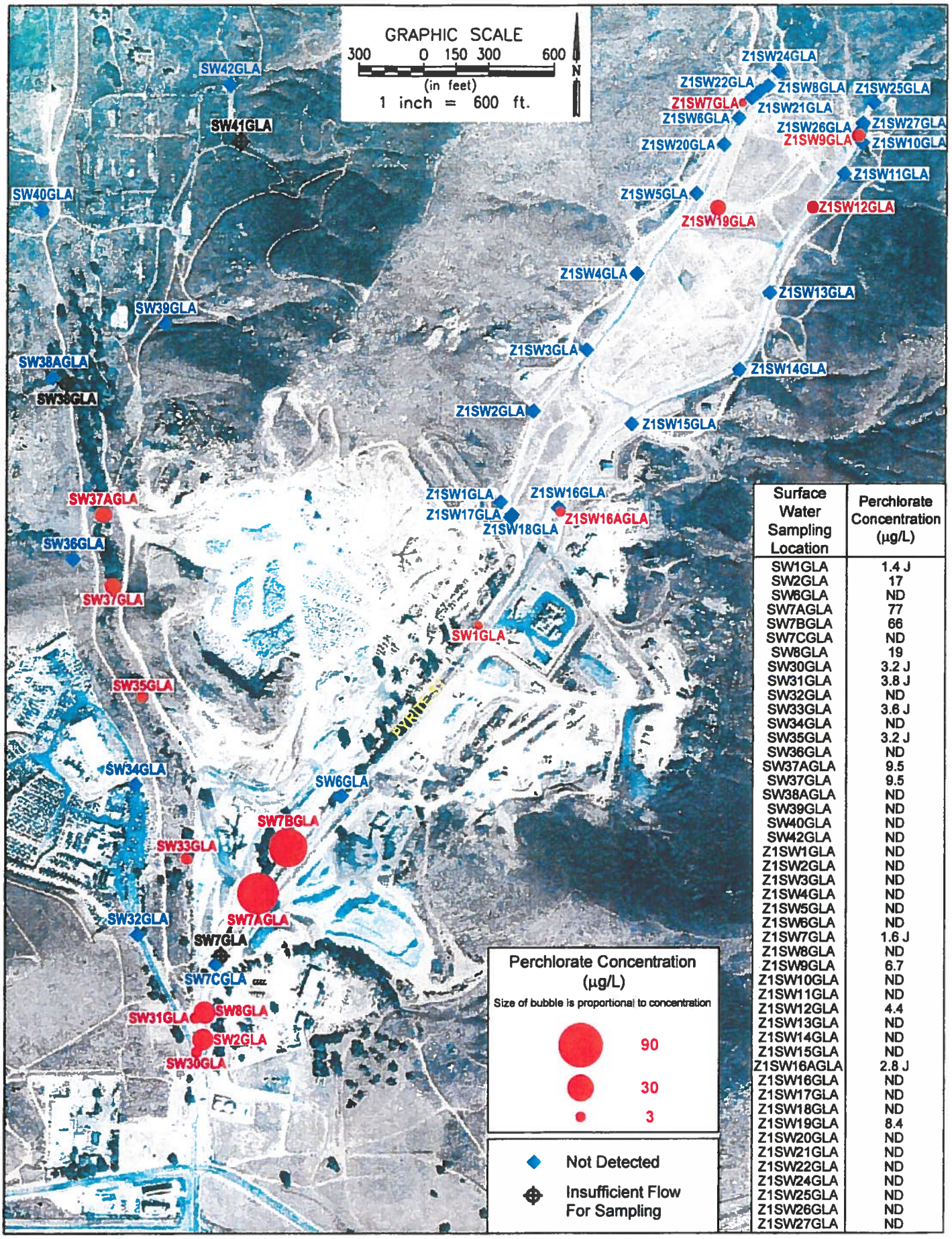
Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW1GLA	ND
SW6GLA	3.0 J
SW7AGLA	76
SW7BGLA	370
SW7CGLA	19
SW8GLA	160
SW32GLA	ND
SW34GLA	ND
SW36GLA	29
SW37AGLA	52
SW37GLA	39
SW39GLA	14

Figure 4-3a Perchlorate Concentrations on February 18, 2005 - January-March 2005 Non-Routine Sampling Events



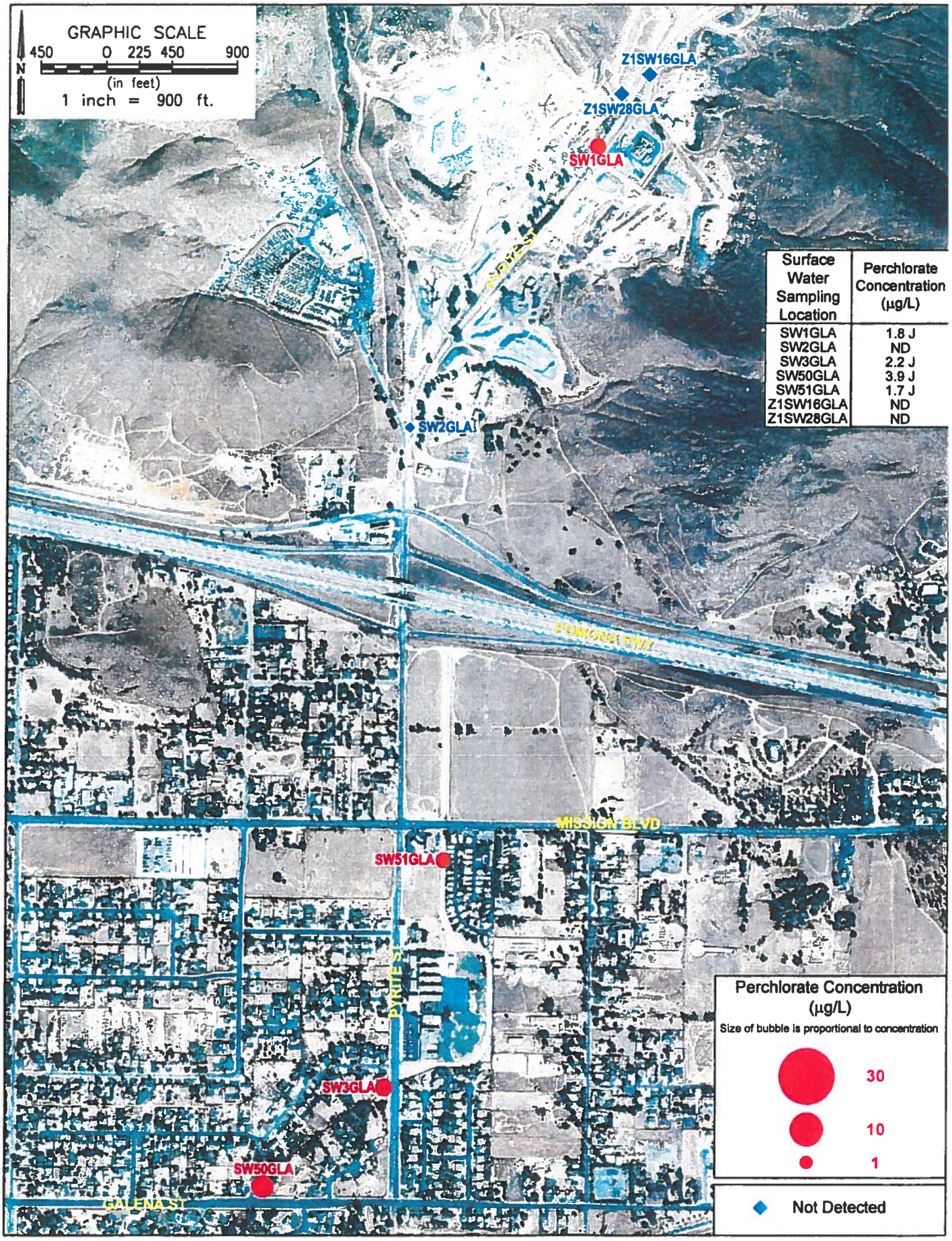
Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW01KA	ND
SW02KA	ND
SW03KA	ND
SW04KA	31
SW05KA	4.5
SW06KA	4
SW07KA	4.1
SW08KA	3.8
SW09KA	ND
SW10KA	0.82 J
SW11KA	3.2
SW12KA	3.6
SW13KA	3.5
SW14KA	2.6

Figure 4-3b Perchlorate Concentrations on February 18, 2005 - January-March 2005 Non-Routine Sampling Events



Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW1GLA	1.4 J
SW2GLA	17
SW6GLA	ND
SW7AGLA	77
SW7BGLA	66
SW7CGLA	ND
SW8GLA	19
SW30GLA	3.2 J
SW31GLA	3.8 J
SW32GLA	ND
SW33GLA	3.6 J
SW34GLA	ND
SW35GLA	3.2 J
SW36GLA	ND
SW37AGLA	9.5
SW37GLA	9.5
SW38AGLA	ND
SW39GLA	ND
SW40GLA	ND
SW42GLA	ND
Z1SW1GLA	ND
Z1SW2GLA	ND
Z1SW3GLA	ND
Z1SW4GLA	ND
Z1SW5GLA	ND
Z1SW6GLA	ND
Z1SW7GLA	1.6 J
Z1SW8GLA	ND
Z1SW9GLA	6.7
Z1SW10GLA	ND
Z1SW11GLA	ND
Z1SW12GLA	4.4
Z1SW13GLA	ND
Z1SW14GLA	ND
Z1SW15GLA	ND
Z1SW16AGLA	2.8 J
Z1SW16GLA	ND
Z1SW17GLA	ND
Z1SW18GLA	ND
Z1SW19GLA	8.4
Z1SW20GLA	ND
Z1SW21GLA	ND
Z1SW22GLA	ND
Z1SW24GLA	ND
Z1SW25GLA	ND
Z1SW26GLA	ND
Z1SW27GLA	ND

Figure 4-4 Perchlorate Concentrations on February 21, 2005 - January-March 2005 Non-Routine Sampling Events



Surface Water Sampling Location	Perchlorate Concentration (µg/L)
SW1GLA	1.8 J
SW2GLA	ND
SW3GLA	2.2 J
SW50GLA	3.9 J
SW51GLA	1.7 J
Z1SW16GLA	ND
Z1SW28GLA	ND

Figure 4-5 Perchlorate Concentrations on March 16, 2005 - January-March 2005 Non-Routine Sampling Events

5.0 SAMPLING AND ANALYSIS DATES

The tables in this section provide a summary of the surface water points sampled by GLA during the February and March 2005 monitoring events, the sample collection date, the analysis date for each of the appropriate analytical tests, and the elapsed time between sample collection and analysis, as follows:

Table 5-1: February 12, 2005
Table 5-2: February 18, 2005
Table 5-3: February 21, 2005
Table 5-4: March 16, 2005

A summary of the sampling and analysis dates for the January 2005 data is presented in the Non-Routine Monitoring Report (GLA, 2005).

TABLE 5-1
SUMMARY OF EXTRACTION AND ANALYSIS DATES FOR SAMPLES COLLECTED FEBRUARY 12, 2005
STRINGFELLOW HAZARDOUS WASTE SITE

Analytical Test Method and Maximum Holding Time			EPA 300.0 Sulfate 28 days		EPA 300.0 Nitrate 2 days		EPA 314.0 Perchlorate 28 days		SM 2540C Total Dissolved Solids 7 days	
Location Id.	Babcock Sample ID	Sample Collection Date	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)
SW1GLA	A5B1153-06	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW2GLA	A5B1153-01	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW6GLA	A5B1153-05	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW7AGLA	A5B1153-03	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW7BGLA	A5B1153-04	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW8GLA	A5B1153-02	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/18/2005	6
SW37GLA	A5B1153-23	2/12/2005	02/15/2005	3	NA	NA	02/18/2005	6	02/22/2005	10
Z1SW2GLA	A5B1153-10	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW3GLA	A5B1153-09	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW4GLA	A5B1153-11	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW5GLA	A5B1153-12	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW6GLA	A5B1153-15	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW8GLA	A5B1153-18	2/12/2005	02/15/2005	3	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW9GLA	A5B1153-19	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/19/2005	7
Z1SW10GLA	A5B1153-20	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/19/2005	7
Z1SW11GLA	A5B1153-21	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/19/2005	7
Z1SW13GLA	A5B1153-22	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/19/2005	7
Z1SW16GLA	A5B1153-07	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW18GLA	A5B1153-08	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW19GLA	A5B1153-13	2/12/2005	02/15/2005	3	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW20GLA	A5B1153-14	2/12/2005	02/14/2005	2	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW21GLA	A5B1153-16	2/12/2005	02/15/2005	3	NA	NA	02/18/2005	6	02/19/2005	7
Z1SW22GLA	A5B1153-17	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/19/2005	7
DUP-1	A5B1153-24	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/18/2005	6
DUP-2	A5B1153-25	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/18/2005	6
DUP-3	A5B1153-26	2/12/2005	02/15/2005	3	NA	NA	02/23/2005	11	02/18/2005	6

TABLE 5-2
SUMMARY OF EXTRACTION AND ANALYSIS DATES FOR SAMPLES COLLECTED FEBRUARY 18, 2005
STRINGFELLOW HAZARDOUS WASTE SITE

Analytical Test Method and Maximum Holding Time			SM 4500H+B pH 0 days		EPA 300.0 Sulfate 28 days		EPA 300.0 Nitrate 2 days		EPA 314.0 Perchlorate 28 days		SM 2540C Total Dissolved Solids 7 days	
Location Id.	Babcock Sample ID	Sample Collection Date	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	alysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)
SW1GLA	A5B1770-08	2/18/2005	2/18/2005	0	02/19/2005	1	02/19/2005	1	03/02/2005	12	02/25/2005	7
SW6GLA	A5B1770-03	2/18/2005	2/18/2005	0	02/23/2005	5	02/23/2005	5	03/02/2005	12	02 25/2005	7
SW7AGLA	A5B1770-09	2/18/2005	2/18/2005	0	02/19/2005	1	02/19/2005	1	03/02/2005	12	02/25/2005	7
SW7BGLA	A5B1770-02	2/18/2005	2/18/2005	0	02/23/2005	5	02/23/2005	5	03/02/2005	12	02/25/2005	7
SW7CGLA	A5B1770-12	2/18/2005	2/18/2005	0	02/19/2005	1	02/19/2005	1	03 02 2005	12	02 25 2005	7
SW8GLA	A5B1770-04	2/18/2005	2/18/2005	0	02/23/2005	5	02/23/2005	5	03 02/2005	12	02 25 2005	7
SW32GLA	A5B1770-07	2/18/2005	2/18/2005	0	02/19/2005	1	02/23/2005	5	03 02 2005	12	02 25 2005	7
SW34GLA	A5B1770-01	2/18/2005	2/18/2005	0	02/23/2005	5	02/23/2005	5	03/04 2005	14	02 25 2005	7
SW36GLA	A5B1770-11	2/18/2005	2/18/2005	0	02/19/2005	1	02/19/2005	1	03/02 2005	12	02/25 2005	7
SW37AGLA	A5B1770-05	2/18/2005	2/18/2005	0	02 19 2005	1	02/23/2005	5	03/02 2005	12	02 25 2005	7
SW37GLA	A5B1770-06	2/18/2005	2/18/2005	0	02 19 2005	1	03/04/2005	14	03 02 2005	12	02 25 2005	7
SW39GLA	A5B1770-10	2/18/2005	2/18/2005	0	02 19 2005	1	02/19/2005	1	03/02/2005	12	02/25/2005	7
SW-DUP	A5B1770-13	2/18/2005	2/18/2005	0	02/19/2005	1	02/19/2005	1	03/02 2005	12	02 24 2005	6

TABLE 5-3
SUMMARY OF EXTRACTION AND ANALYSIS DATES FOR SAMPLES COLLECTED FEBRUARY 21, 2005
STRINGFELLOW HAZARDOUS WASTE SITE

Analytical Test Method and Maximum Holding Time			SM 4500H+ B pH 0 days		EPA 300.0 Sulfate 28 days		EPA 300.0 Nitrate 2 days		EPA 314.0 Perchlorate 28 days		SM 2540C Total Dissolved Solids 7 days	
Location Id.	Babcock Sample ID	Sample Collection Date	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)
SW1GLA	A5B1817-20	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 25/2005	4
SW2GLA	A5B1817-03	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02 25/2005	4
SW6GLA	A5B1817-19	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW7AGLA	A5B1817-17	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 25 2005	4
SW7BGLA	A5B1817-18	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW7CGLA	A5B1817-01	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/04/2005	11	02/25 2005	4
SW8GLA	A5B1817-02	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02 25/2005	4
SW30GLA	A5B1817-05	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02 25 2005	4
SW31GLA	A5B1817-04	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02 25 2005	4
SW32GLA	A5B1817-07	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02 25 2005	4
SW33GLA	A5B1817-08	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02/25 2005	4
SW34GLA	A5B1817-06	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02/25 2005	4
SW35GLA	A5B1817-09	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02/25/2005	4
SW36GLA	A5B1817-11	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 25 2005	4
SW37GLA	A5B1817-10	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/02/2005	9	02/25/2005	4
SW37AGLA	A5B1817-12	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW38AGLA	A5B1817-13	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 25 2005	4
SW39GLA	A5B1817-15	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW40GLA	A5B1817-14	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 25 2005	4
SW42GLA	A5B1817-16	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
Z1SW1GLA	A5B1817-25	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW2GLA	A5B1817-26	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW3GLA	A5B1817-27	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW4GLA	A5B1817-28	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 26 2005	5
Z1SW5GLA	A5B1817-29	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 26 2005	5
Z1SW6GLA	A5B1817-32	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 26 2005	5
Z1SW7GLA	A5B1817-33	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW8GLA	A5B1817-36	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW9GLA	A5B1817-40	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW10GLA	A5B1817-42	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW11GLA	A5B1817-43	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02 26/2005	5
Z1SW12GLA	A5B1817-44	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	0 26 2005	5

TABLE 5-3
SUMMARY OF EXTRACTION AND ANALYSIS DATES FOR SAMPLES COLLECTED FEBRUARY 21, 2005
STRINGFELLOW HAZARDOUS WASTE SITE

Analytical Test Method and Maximum Holding Time			SM 4500H+ B pH 0 days		EPA 300.0 Sulfate 28 days		EPA 300.0 Nitrate 2 days		EPA 314.0 Perchlorate 28 days		SM 2540C Total Dissolved Solids 7 days	
Location Id.	Babcock Sample ID	Sample Collection Date	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)
Z1SW13GLA	A5B1817-45	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/28/2005	7
Z1SW14GLA	A5B1817-46	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/28 2005	7
Z1SW15GLA	A5B1817-47	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/28 2005	7
Z1SW16GLA	A5B1817-22	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
Z1SW16AGLA	A5B1817-21	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/04/2005	11	02/25 2005	4
Z1SW17GLA	A5B1817-23	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
Z1SW18GLA	A5B1817-24	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
Z1SW19GLA	A5B1817-30	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW20GLA	A5B1817-31	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW21GLA	A5B1817-34	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW22GLA	A5B1817-35	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
Z1SW23GLA	A5B1817-37	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26/2005	5
Z1SW25GLA	A5B1817-38	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26/2005	5
Z1SW26GLA	A5B1817-39	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26/2005	5
Z1SW27GLA	A5B1817-41	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/26 2005	5
SW-DUP-1	A5B1817-48	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW-DUP-2	A5B1817-49	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW-DUP-3	A5B1817-50	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4
SW-DUP-4	A5B1817-51	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/08/2005	15	02/25 2005	4
SW-DUP-5	A5B1817-52	2/21/2005	2/22/2005	1	02/23/2005	2	02/23/2005	2	03/03/2005	10	02/25 2005	4

TABLE 5-4
SUMMARY OF EXTRACTION AND ANALYSIS DATES FOR SAMPLES COLLECTED MARCH 16, 2005
STRINGFELLOW HAZARDOUS WASTE SITE

Analytical Test Method and Maximum Holding Time				EPA 300.0 Sulfate 28 days		EPA 300.0 Nitrate 2 days		EPA 314.0 Perchlorate 28 days		SM 2540C Total Dissolved Solids 7 days	
Location Id.	Babcock Sample IDs		Sample Collection Date	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)	Analysis Date	Elapsed Time (Days)
Z1SW16GLA	A5C1412-01	A5C1423-01	3/16/2005	03/17/2005	1	03/17/2005	1	03/17/2005	1	03/21/2005	5
Z1SW28GLA	A5C1412-02	A5C1423-02	3/16/2005	03/17/2005	1	03/17/2005	1	03 17/2005	1	03/21/2005	5
SW1GLA	A5C1412-03	A5C1423-03	3/16/2005	03/17/2005	1	03/17/2005	1	03/17/2005	1	03/21/2005	5
SW2GLA	A5C1412-04	A5C1423-04	3/16/2005	03/17/2005	1	03/17/2005	1	03/17 2005	1	03/21/2005	5
SW3GLA	A5C1412-05	A5C1423-05	3/16/2005	03/17/2005	1	03/17/2005	1	03 17 2005	1	03/19/2005	3
SW50GLA	A5C1412-06	A5C1423-06	3/16/2005	03/17/2005	1	03/17/2005	1	03 17 2005	1	03/21/2005	5
SW51GLA	A5C1412-07	A5C1423-07	3/16/2005	03/17/2005	1	03/17/2005	1	03 17 2005	1	03/21/2005	5
DUP1GLA	A5C1412-08	A5C1423-08	3/16/2005	03/17/2005	1	03/17/2005	1	03 17 2005	1	03/19/2005	3

6.0 REFERENCES

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APPENDIX A

FIELD DATA SHEETS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.: SW-30
Collected by: AF, MR, RR
Sampling Date: 2/12/05
Sampling Time:
pH:
Conductivity:
Turbidity:
Temperature:
Color:
Odor:
Duplicate Sample Collected? YES (NO)

Sample Id.
SW30GLA

Sampling Information (include estimated flow rate and stream dimensions): Dry

Additional Information / Comments: Cloudy/overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.: SW-31

Collected by:

Sampling Date: 2/12/05

Sampling Time:

pH:

Conductivity:

Turbidity:

Temperature:

Color:

Odor:

Duplicate Sample Collected? YES NO

Sample Id
SW31GLA

Sampling Information (include estimated flow rate and stream dimensions): Dry

Additional Information / Comments: Cloudy/overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1SW-2	Sample Id
Collected by:	AF, MR, RR	Z1SW2GLA
Sampling Date:	2/12/05	
Sampling Time:	0838	
pH:	8.5	
Conductivity:	0.37	
Turbidity:	24	
Temperature:	14.2	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions): Some algae in water

Additional Information / Comments: Cloudy/overcast, cool.

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

		Sample Id.
Station No.:	21SW-3	21SW3GLA
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	
Sampling Time:	0835	
pH:	9.3	
Conductivity:	0.43	
Turbidity:	21	
Temperature:	13.4	
Color:	clear, slightly yellow	
Odor:	None	
Duplicate Sample Collected?	YES (NO)	

Sampling Information (include estimated flow rate and stream dimensions): water has slight bubbles, some algae in water

Additional Information / Comments: overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

		Sample Id
Station No.:	Z1SW-4	Z1SW4GLA
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	
Sampling Time:	0845	
pH:	8.2	
Conductivity:	0.29	
Turbidity:	OR	
Temperature:	13.5	
Color:	Brown / silty	
Odor:	none	
Duplicate Sample Collected?	YES (NO)	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: cloudy / overcast

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21SW-5
Collected by:	AF, MR, RR
Sampling Date:	2/12/05
Sampling Time:	0855
pH:	8.8
Conductivity:	0.44
Turbidity:	10
Temperature:	14.6
Color:	clear
Odor:	None
Duplicate Sample Collected?	YES (NO)

Sample Id
21SW5 GLA

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21SW-6	Sample Id
Collected by:	AF, MR, RR	21SW6 GLA
Sampling Date:	2/12/05	
Sampling Time:	0908	
pH:	7.8	
Conductivity:	0.37	
Turbidity:	5	
Temperature:	19.3	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.: 21SW-7

Collected by: AF, MR, RR

Sampling Date: 2/12/05

Sampling Time:

pH:

Conductivity:

Turbidity:

Temperature:

Color:

Odor:

Duplicate Sample Collected? YES NO

Sample Id
21SW7GLA

Sampling Information (include estimated flow rate and stream dimensions): Dry

Additional Information / Comments: Cloudy / overcast

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1SW-8	Sample Id
Collected by:	AF, MR, RR	Z1SW8GLA
Sampling Date:	2/12/05	
Sampling Time:	0920	
pH:	8.5	
Conductivity:	0.41	
Turbidity:	27	
Temperature:	15.1	
Color:	clear, slightly yellowish	
Odor:	None	
Duplicate Sample Collected?	YES NO	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1SW-9	Sample Id
Collected by:	AF, MR, RR	Z1SW9GLA
Sampling Date:	2/12/05	
Sampling Time:	0930	
pH:	8.2	
Conductivity:	0.56	
Turbidity:	34	
Temperature:	15.9	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES (NO)	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1SW-10	Sample Id.
Collected by:	AFMR, RR	Z1SW10GLA
Sampling Date:	2/12/05	
Sampling Time:	0935	
pH:	10.1	
Conductivity:	0.35	
Turbidity:	18	
Temperature:	14.7	
Color:	Clear, sl. yellowish	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions): Some algae in water, slight foam

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1SW-11	Sample Id
Collected by:	AF, MR, RR	Z1GW11GLA
Sampling Date:	2/12/05	
Sampling Time:	0940	
pH:	9.3	
Conductivity:	0.42	
Turbidity:	11	
Temperature:	15.4	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy, cool
* Z1SW-12 location is Dry

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21SW-13	Sample Id
Collected by:	AF, MR, RR	21SW13GLA
Sampling Date:	2/12/05	
Sampling Time:	0950	
pH:	9.2	
Conductivity:	0.51	
Turbidity:	37	
Temperature:	16.5	
Color:	clear	
Odor:	None	
Duplicate Sample Collected?	(YES) NO	

DUP-3

Sampling Information (include estimated flow rate and stream dimensions): Some algae

Additional Information / Comments: cloudy, cool

* 21 SW-14 location Dry
* 21 SW-15 location Dry

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21-SW-16	Sample Id
Collected by:	AF, MR, RR	21SW16GLA
Sampling Date:	2/12/05	
Sampling Time:	0810	
pH:	8.9	
Conductivity:	0.49	
Turbidity:	9	
Temperature:	13.4	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	(YES) NO	
	DUP-2	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy Overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

		Sample Id
Station No.:	Z1SW-18	Z1SW18GLA
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	
Sampling Time:	0820	
pH:	8.4	
Conductivity:	0.93	
Turbidity:	11	
Temperature:	12.8	
Color:	clear	
Odor:	None	
Duplicate Sample Collected?	YES NO	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: String fellow

		Sample Id
Station No.:	Z1SW-19	Z1SW19GLA
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	
Sampling Time:	0858	
pH:	8.2	
Conductivity:	1.8	
Turbidity:	29	
Temperature:	13.0	
Color:	yellowish clear	
Odor:	None	
Duplicate Sample Collected?	YES NO	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: cloudy / overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21SW-20
Collected by:	AF, MR, RR
Sampling Date:	2/12/05
Sampling Time:	0903
pH:	7.8
Conductivity:	0.41
Turbidity:	4
Temperature:	17.5
Color:	Clear
Odor:	None
Duplicate Sample Collected?	YES NO

Sample Id
21SW20GLA

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	21 SW-21	Sample Id
Collected by:	AF, MR, RR	21SW21GLA
Sampling Date:	2/12/05	
Sampling Time:	A.F. ~~[illegible]~~ 0912	
pH:	7.0	
Conductivity:	0.61	
Turbidity:	7	
Temperature:	20.0	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	Z1 SW-22	Sample Id
Collected by:	AF, MR, RR	Z1SW22GLA
Sampling Date:	2/12/05	
Sampling Time:	0918	
pH:	7.4	
Conductivity:	0.72	
Turbidity:	5	
Temperature:	19.3	
Color:	clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 1

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: String fellow

Station No.:	SW-1	Sample Id
Collected by:	AF, MR, RR	SW1 GLA
Sampling Date:	2/12/05	
Sampling Time:	0800	
pH:	7.5	
Conductivity:	0.49	
Turbidity:	10 (visually clear)	
Temperature:	12.6	
Color:	clear, slightly yellowish	
Odor:	None	
Duplicate Sample Collected?	YES (NO)	

Sampling Information (include estimated flow rate and stream dimensions): Sampling point has foamy buildup.

Additional Information / Comments: Cloudy/overcast, cool

Zone 2

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.: SW-6
Collected by: AF, MR, RR
Sampling Date: 2/12/05
Sampling Time: 0755
pH: 7.6
Conductivity: 0.48
Turbidity: 15 (visually clear)
Temperature: 12.4
Color: Clear; slightly yellowish
Odor: None
Duplicate Sample Collected? YES (NO)

Sample Id
SW6GLA

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy, overcast, cool

Zone 2

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

		Sample Id.
Station No.:	SW-2	
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	SW2GLA
Sampling Time:	0720	
pH:	7.4	
Conductivity:	0.47	
Turbidity:	63	
Temperature:	12.3	
Color:	Clear, slightly yellowish	
Odor:	None	
Duplicate Sample Collected?	YES ~~NO~~ DUP-1	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy / overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	SW-8	Sample Id
Collected by:	AF, MR, RR	SW8GLA
Sampling Date:	2/12/05	
Sampling Time:	0725	
pH:	7.1	
Conductivity:	0.47	
Turbidity:	Clo	
Temperature:	12.4	
Color:	clear, slightly yellowish	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy/overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.: SW-7
Collected by: AF, MR, RR
Sampling Date: 2/11/05
Sampling Time:
pH:
Conductivity:
Turbidity:
Temperature:
Color:
Odor:
Duplicate Sample Collected? YES (NO)

SAMPLE Id
SW7 GLA

Sampling Information (include estimated flow rate and stream dimensions):

Dry

Additional Information / Comments: Cloudy/overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	SW-7A	Sample Id
Collected by:	AF, MR, RR	SW7AGLA
Sampling Date:	2/12/05	
Sampling Time:	0740	
pH:	7.7	
Conductivity:	0.17	
Turbidity:	OR	
Temperature:	11.8	
Color:	Cloudy-brown	
Odor:	None	
Duplicate Sample Collected?	YES (NO)	

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: cloudy/overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	SW-713
Collected by:	AA, MR, RR
Sampling Date:	2/12/05
Sampling Time:	0750
pH:	7.6
Conductivity:	0.23
Turbidity:	610
Temperature:	11.9
Color:	cloudy, brownish
Odor:	None
Duplicate Sample Collected?	YES (NO)

Sample Id.
SW7BGLA

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: Cloudy, overcast, cool

Zone 3

BAS

SURFACE WATER SAMPLING STATION DATA SHEET
SAN BERNARDINO COUNTY
GROUNDWATER MONITORING PROGRAM

LANDFILL: Stringfellow

Station No.:	~~Oh~~ A.F. SW-37	Sample Id SW37GLA
Collected by:	AF, MR, RR	
Sampling Date:	2/12/05	
Sampling Time:	1025	
pH:	7.9	
Conductivity:	1.6	
Turbidity:	19	
Temperature:	16.0	
Color:	Clear	
Odor:	None	
Duplicate Sample Collected?	YES	NO

Sampling Information (include estimated flow rate and stream dimensions):

Additional Information / Comments: cloudy/overcast, cool

BAS

GEOLOGIC ASSOCIATES
Daily Field Report

2/18/05

Project: Stringfellow stormwater	Date: 2/18/05 M T W T (F) S S	Job No.: 2001.0009	Phase: 003
Client: California DTSC	Contractor:	Weather: light rain	
Equipment Working:	Technician: Jason Supp, Mike Reason	Travel Time:	Job Hours: Reg. / O.T
Location of Work: Stringfellow / Pyrite Creek / "Teledyne" drainage		Safety Meeting: Yes	No

Observations:

1315 Arrived on-site; met with Ziggy Kostecki (DTSC) and Daphne Iverson (MWD) Inspected lower reaches of unnamed drainage to Pyrite Creek; no flow.
1345 Collected sample SW37GLA. pH meter failed calibration; will add pH to request for analysis.
1400 Collected SW36GLA.
1415 Collected SW37AGLA.
1435 Collected SW39GLA. Other locations in upper reaches: no flow.
1510 Collected SW34GLA.
1515 Collected SW32GLA.
1520 Collected SW8GLA. No road runoff from Pick-A-Part.
1527 Collected SW7CGLA. No flow in drainage for SW-7.
1530 Collected SW7BGLA.
1535 Collected SW7AGLA.
1540 Collected SW6GLA.
1545 Collected SW1GLA. SWDUPGLA also collected here.
1600 Departed site to deliver samples to lab.
1655 Arrived at lab and delivered samples.

The professional engineer/geologist is represented on-site solely to observe operations of the Contractor identified, form opinions about the adequacy of those operations, and report those opinions to the client. The presence and activities of the engineer's field representative does no relieve the Contractor of obligation to meet contractual requirements. The Contractor retains sole responsibility for site safety and the methods and sequences of construction.

Items Covered:	General Soil Comments:	Todays Yardage:	Test	No.	Status
Work Activities & Status		Yardage to Date:	S.V.		
Sampling & Status	Clay Liner/Cover Comments:	Today's Yardage:	Drive Cyl.		
Variance from Standards		Yardage to Date:	Nuclear		
Unusual Events	Flexible Membrane Liner Comments:		Retests		
General Job Status (who, what, when, where)			Other:		

Signature: Mike Reason

GEOLOGIC ASSOCIATES
Daily Field Report

page 1 of 2
2/21/05

Project: Stringfellow Stormwater	Date: 2/21/05 (M) T W T F S S	Job No.: 2001.0009	Phase: 003
Client: California DTSC	Contractor:	Weather: rainy - heavy at times	
Equipment Working:	Technician: Eric White, Mike Reason	Travel Time:	Job Hours: Reg. / O.T.
Location of Work: Stringfellow / Pyrite Creek / "Teledyne" drainage		Safety Meeting: Yes	No

Observations:

1000 Arrived on-site. Checked out keys to Zone 1. Prepared for sampling event. See summary sheet for location descrip
1015 Collected SW7C GLA. Drainage for SW-7 was dry. pH meter failed calibration; will add pH to COC.
1020 Collected SW8 GLA.
1025 Collected SW2GLA.
1030 Collected SW31 GLA.
1035 Collected SW30 GLA.
1038 Collected SW34 GLA.
1040 Collected SW32 GLA.
1045 Collected SW33 GLA.
1055 Collected SW35 GLA. SWDUP1GLA represents duplicate for this sample.
1100 Collected SW37 GLA.
1108 Collected SW36 GLA.
1110 Collected SW37A GLA.
1118 Collected SW38A GLA. Note: drainage area for SW-38 was "dry". Water from the 38A area was diverted to road, and it did not reach the SW-38 location.
1125 Collected SW40 GLA.
1140 Collected SW39 GLA.
1148 Collected SW42 GLA. The drainage for SW-41 contained no flow.
1200-1230 Lunch break.
1230- Mob'd back to site; prepared to resume sampling
1244 Collected SW7A GLA.
1246 Collected SW7B GLA.
1250 Collected SW6GLA and duplicate sample SWDUP2GLA.
1254 Collected SW1GLA.
1303 Collected Z1SW16AGLA.
1305 Collected Z1SW16GLA.
1308 Collected Z1SW17GLA.
1309 Collected Z1SW18GLA, pipe outlet.
1310 Collected Z1SW1GLA.
1320 Collected Z1SW2GLA.

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Items Covered:	General Soil Comments:	Todays Yardage:	Test	No.	Status
Work Activities & Status		Yardage to Date:	S.V.		
Sampling & Status	Clay Liner/Cover Comments:	Today's Yardage:	Drive Cyl.		
Variance from Standards		Yardage to Date:	Nuclear		
Unusual Events	Flexible Membrane Liner Comments:		Retests		
General Job Status (who, what, when, where)			Other:		

Signature: [signature]

GEOLOGIC ASSOCIATES
Daily Field Report

2/21/05

Project: Stringfellow Stormwater	Date: 2/21/05 (M) T W T F S S	Job No.: 2001-0009	Phase: 003
Client: California DTSC	Contractor:	Weather: rainy - heavy at times	
Equipment Working:	Technician: Eric White, Mike Reason	Travel Time:	Job Hours: Reg. / O.T
Location of Work: Stringfellow / Pyrite Creek / "Teledyne" drainage		Safety Meeting: Yes	No

Observations:

1331 Collected 21SW3GLA.
1335 Collected 21SW4GLA.
1340 Collected 21SW5GLA, 21SW19GLA. Also collected SWDUP3GLA, a duplicate for SW-19.
1345 Collected 21SW20GLA.
1349 Collected 21SW6GLA, T-1 outlet.
1355 Collected 21SW7GLA.
1358 Collected 21SW21GLA, UW-6 outlet.
1359 Collected 21SW22GLA, UW-1 outlet.
1402 Collected 21SW8GLA.
1406 Collected 21SW23GLA, UW-2 outlet.
1415 T-3: no flow.
1427 Collected 21SW25GLA, spring box outlet.
1430 Collected 21SW26GLA, T-4 outlet. No flow from UW-3, UW-4, or UW-5.
1435 Collected 21SW9GLA and duplicate sample SWDUP4GLA.
1440 Collected 21SW27GLA, unlabeled pipe ~10' north of T-4
1445 Collected 21SW10GLA, and 21SW11GLA.
1450 Collected 21SW12GLA, east drain outlet.
1453 Collected 21SW13GLA.
1505 Collected 21SW14GLA.
1510 Collected 21SW15GLA, and duplicate sample SWDUP5GLA.
1530 Turned keys in at guard shack; departed site. Eric will deliver samples to lab on Tuesday morning (lab closed today because of holiday).

The professional engineer/geologist is represented on-site solely to observe operations of the Contractor identified, form opinions about the adequacy of those operations, and report those opinions to the client. The presence and activities of the engineer's field representative does no relieve the Contractor of obligation to meet contractual requirements. The Contractor retains sole responsibility for site safety and the methods and sequences of construction.

Items Covered:	General Soil Comments:	Todays Yardage:	Test	No.	Status
Work Activities & Status		Yardage to Date:	S.V.		
Sampling & Status	Clay Liner/Cover Comments:	Today's Yardage:	Drive Cyl.		
Variance from Standards		Yardage to Date:	Nuclear		
Unusual Events	Flexible Membrane Liner Comments:		Retests		
General Job Status (who, what, when, where)			Other:		

Signature: Mike O. Reason

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	21SW286LA	Sampling Date:	3-16-05
Collected By:	BS	Purge Start Time:	/
Casing Diameter (inches):	/	Purge Stop Time:	/
Bubbler Reading:	/	Sampling Time:	1505
Starting Water Level (feet):	/	Ending Water Level (feet):	/
Total Depth (feet):	/	Total Purged (gallons):	/
Water Column (feet):	/	Counter - Cycles to Fresh H_2O:	/
Screen Length (feet):	/	Horiba Model S/N:	U-28B8029
3 Well Volumes (gallons):	/	Control Box #:	/
		Duplicate Sample:	Yes No

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.1	.48	16	9.8	22	108

Purging Sampling Rates Collect a grab sample @ concrete drain channel. Flowing water, looks clear & odorless.

Well Condition:

Additional Information/Comments: Sunny, light winds, warm

Zone-1

(L:\esd\Forms\Well Data.xls)

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Springfield

Well No.:	15W166LA	Sampling Date:	3-16-09
Collected By:	RJS	Purge Start Time:	/
Casing Diameter (inches):	/	Purge Stop Time:	/
Bubbler Reading:	/	Sampling Time:	1455
Starting Water Level (feet):	/	Ending Water Level (feet):	/
Total Depth (feet):	/	Total Purged (gallons):	/
Water Column (feet):	/	Counter - Cycles to Fresh H_2O:	/
Screen Length (feet):	/	Horiba Model S/N:	U-22 / 203029
3 Well Volumes (gallons):	/	Control Box #:	/
		Duplicate Sample:	Yes (No)

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.0	.52	5	9.7	22	117

Purging Sampling Rates Collect a grab sample @ concrete drain channel Zone-1

~~Well Condition:~~ Water appeared clear & odorless.

Additional Information/Comments: Sunny, warm

(L:\esd\Forms\Well Data.xls)

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	SWMGLA	Sampling Date:	3-16-05
Collected By:	RAS	Purge Start Time:	/
Casing Diameter (inches):	/	Purge Stop Time:	/
Bubbler Reading:	/	Sampling Time:	1435
Starting Water Level (feet):	/	Ending Water Level (feet):	/
Total Depth (feet):	/	Total Purged (gallons):	/
Water Column (feet):	/	Counter - Cycles to Fresh H_2O:	/
Screen Length (feet):	/	Horiba Model S/N:	U-20 B3029
3 Well Volumes (gallons):	/	Control Box #:	
		Duplicate Sample:	Yes (No)

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.2	.48	13	9.4	25	81

Purging Sampling Rates: collect a grab sample downstream from Guard Shack after concrete drain.

Well Condition: Water clear & odorless, stream approx 3 ft. wide 6-12" deep.

Additional Information/Comments: Sunny, warm

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BAS

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	SW2GLA	Sampling Date:	3-16-05
Collected By:	RS	Purge Start Time:	
Casing Diameter (inches):		Purge Stop Time:	
Bubbler Reading:		Sampling Time:	1415
Starting Water Level (feet):		Ending Water Level (feet):	
Total Depth (feet):		Total Purged (gallons):	
Water Column (feet):		Counter - Cycles to Fresh H_2O:	
Screen Length (feet):		Horiba Model S/N:	U-20 / 358029
3 Well Volumes (gallons):		Control Box #:	
		Duplicate Sample:	(Yes) No

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.2	.46	13	10.5	25	61 n

Purging Sampling Rates: collect a grab sample approx. 50 ft. downstream of confluence of pyrite & ~~[illegible]~~ unnamed stream.

Well Condition: Water appeared clear & odorless.

Additional Information/Comments: Sunny, warm

X Dup. Sample taken and labeled as (DUP1GLA).

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BAS

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	SW51GLA	Sampling Date:	3-16-05
Collected By:	BS	Purge Start Time:	/
Casing Diameter (inches):	/	Purge Stop Time:	/
Bubbler Reading:	/	Sampling Time:	1355
Starting Water Level (feet):	/	Ending Water Level (feet):	/
Total Depth (feet):	/	Total Purged (gallons):	/
Water Column (feet):	/	Counter - Cycles to Fresh H_2O:	/
Screen Length (feet):	/	Horiba Model S/N:	U-2013B029
3 Well Volumes (gallons):	/	Control Box #:	—
		Duplicate Sample:	Yes (No)

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.4	.47	170	11.5	23	61

Purging Sampling Rates: Collect a grab sample up stream from Elementary. East of well clusters FC211 South of (concrete drain channel)

~~Well Condition~~: Mission Blvd. East of SVE @ circle K Store. Water clear stream Aprox. 10' wide 2" deep.

Additional Information/Comments: Sunny, warm

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BAS

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	SW50GLA	Sampling Date:	3-16-05
Collected By:	BS	Purge Start Time:	/
Casing Diameter (inches):	/	Purge Stop Time:	/
Bubbler Reading:	/	Sampling Time:	1320
Starting Water Level (feet):	/	Ending Water Level (feet):	/
Total Depth (feet):	/	Total Purged (gallons):	/
Water Column (feet):	/	Counter - Cycles to Fresh H_2O:	/
Screen Length (feet):	/	Horiba Model S/N:	U-20/303029
3 Well Volumes (gallons):	/	Control Box #:	—
		Duplicate Sample:	Yes (No)

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.6	.42	20	9.8	24	47

Purging Sampling Rates: Collect a grab sample @ creek located @ corner of Galena & Lone Trail near to well GS-OW6.

Well Condition: had to jump fence to gain access. water looked clear, lite odor, yellowish.

Additional Information/Comments: Sunny, warm
Stream approx 3' wide 6" deep (flowing), Heavy vegetation surrounds surface water location.

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BAS

BRYAN A. STIRRAT & ASSOCIATES

GROUNDWATER MONITORING PROGRAM
WELL DATA SHEET

SITE: Stringfellow

Well No.:	SW3GLA	Sampling Date:	3-16-05
Collected By:	BAS	Purge Start Time:	
Casing Diameter (inches):		Purge Stop Time:	
Bubbler Reading:		Sampling Time:	1300
Starting Water Level (feet):		Ending Water Level (feet):	
Total Depth (feet):		Total Purged (gallons):	
Water Column (feet):		Counter - Cycles to Fresh H_2O:	
Screen Length (feet):		Horiba Model S/N:	U20-303029
3 Well Volumes (gallons):		Control Box #:	
		Duplicate Sample:	Yes No

Gallons Purged	Water Level	pH	Conductivity ms/cm	Turbidity NTU	D.O. mg/L	Temperature °C	ORP
Grab	—	9.9	.43	30	9.6	25	34

Purging Sampling Rates: Collect a grab sample in creek jumped over the wall to get access.

Well Condition: Flowing creek, clear, like yellowish with some odor.

Additional Information/Comments: Sunny, warm

(L:\esd\Forms\Well Data.xls)

APPENDIX B

LABORATORY ANALYTICAL REPORTS

E.S. BABCOCK & SONS, INC.
Established 1906

NELAP #02101CA ELAP#1156
6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

RECEIVED
MAR 09 2005
GLA-San Bernardino

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Analytical Report: Page 1 of 36
Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1153-01	SW2GLA	Liquid	02/12/05 07:20	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-02	SW8GLA	Liquid	02/12/05 07:25	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-03	SW7AGLA	Liquid	02/12/05 07:40	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-04	SW7BGLA	Liquid	02/12/05 07:50	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-05	SW6GLA	Liquid	02/12/05 07:55	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-06	SW1GLA	Liquid	02/12/05 08:00	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-07	Z1SW16GLA	Liquid	02/12/05 08:10	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-08	Z1SW18GLA	Liquid	02/12/05 08:20	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-09	Z1SW3GLA	Liquid	02/12/05 08:35	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-10	Z1SW2GLA	Liquid	02/12/05 08:38	RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-11	Z1SW4GLA	Liquid	02/12/05 08:45	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-12	Z1SW5GLA	Liquid	02/12/05 08:55	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-13	Z1SW19GLA	Liquid	02/12/05 08:58	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-14	Z1SW20GLA	Liquid	02/12/05 09:03	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-15	Z1SW6GLA	Liquid	02/12/05 09:08	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-16	Z1SW21GLA	Liquid	02/12/05 09:12	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-17	Z1SW22GLA	Liquid	02/12/05 09:18	MR/RR/AF	02/12/05 11:40	Mike Reasor
A5B1153-18	Z1SW8GLA	Liquid	02/12/05 09:20	MR/RR/AF	02/12/05 11:40	Mike Reasor

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

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Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1153-19	Z1SW9GLA	Liquid	02/12/05 09:30	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-20	Z1SW10GLA	Liquid	02/12/05 09:35	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-21	Z1SW11GLA	Liquid	02/12/05 09:40	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-22	Z1SW13GLA	Liquid	02/12/05 09:50	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-23	SW37GLA	Liquid	02/12/05 10:25	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-24	Dup-1	Liquid	02/12/05 00:00	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-25	Dup-2	Liquid	02/12/05 00:00	MR/RR/AF	02/12/05 11:40	Mike Reaso
A5B1153-26	Dup-3	Liquid	02/12/05 00:00	MR/RR/AF	02/12/05 11:40	Mike Reaso

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW2GLA	Liquid	02/12/05 07:20	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	72	0.50	0.17	mg/L	EPA 300.0	02/14/05 20:52	AA	
olids								
Total Dissolved Solids	420	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	8.1	4.0	1.4	ug/L	EPA 314.0	02/18/05 04:31	kos	

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Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW8GLA	Liquid	02/12/05 07:25	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	71	0.50	0.17	mg/L	EPA 300.0	02/14/05 21:00	AA	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	8.1	4.0	1.4	ug/L	EPA 314.0	02/18/05 04:46	kos	

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Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7AGLA	Liquid	02/12/05 07:40	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	28	0.50	0.17	mg/L	EPA 300.0	02/14/05 21:31	AA	
lids								
otal Dissolved Solids	200	10	5.5	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	31	4.0	1.4	ug/L	EPA 314.0	02/18/05 05:00	kos	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number

A5B1153-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7BGLA	Liquid	02/12/05 07:50	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	56	0.50	0.17	mg/L	EPA 300.0	02/14/05 21:38	AA	
Solids								
Total Dissolved Solids	250	10	5.5	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	70	4.0	1.4	ug/L	EPA 314.0	02/18/05 05:15	kos	

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Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW6GLA	Liquid	02/12/05 07:55	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	70	0.50	0.17	mg/L	EPA 300.0	02/14/05 21:46	AA	
lids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 05:29	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW1GLA	Liquid	02/12/05 08:00	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	70	0.50	0.17	mg/L	EPA 300.0	02/14/05 21:54	AA	
Solids								
Total Dissolved Solids	400	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 05:44	kos	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW16GLA	Liquid	02/12/05 08:10	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	68	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:01	AA	
lids								
otal Dissolved Solids	420	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 05:59	kos	

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Contact: Mike Reason
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San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW18GLA	Liquid	02/12/05 08:20	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	240	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:09	AA	
Solids								
Total Dissolved Solids	830	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	2.7	4.0	1.4	ug/L	EPA 314.0	02/18/05 06:13	kos	J

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-09

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW3GLA	Liquid	02/12/05 08:35	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	77	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:17	AA	
lids								
otal Dissolved Solids	380	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 06:57	kos	

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Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-10

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW2GLA	Liquid	02/12/05 08:38	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	33	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:24	AA	
Solids								
Total Dissolved Solids	310	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 07:12	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-11

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW4GLA	Liquid	02/12/05 08:45	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	21	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:32	AA	
lids								
Total Dissolved Solids	240	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 07:26	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-12

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW5GLA	Liquid	02/12/05 08:55	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	71	0.50	0.17	mg/L	EPA 300.0	02/14/05 22:40	AA	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 07:41	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-13

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW19GLA	Liquid	02/12/05 08:58	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	390	1.0	0.34	mg/L	EPA 300.0	02/15/05 20:33	cth	
olids								
otal Dissolved Solids	1100	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	68	20	7.0	ug/L	EPA 314.0	02/18/05 18:02	kos	N_RLm

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Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-14

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW20GLA	Liquid	02/12/05 09:03	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	36	0.50	0.17	mg/L	EPA 300.0	02/14/05 23:48	AA	
Solids								
Total Dissolved Solids	300	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 08:10	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-15

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW6GLA	Liquid	02/12/05 09:08	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	33	0.50	0.17	mg/L	EPA 300.0	02/14/05 23:56	AA	
lids								
otal Dissolved Solids	300	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 08:24	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number

A5B1153-16

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW21GLA	Liquid	02/12/05 09:12	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	94	0.50	0.17	mg/L	EPA 300.0	02/15/05 00:04	AA	
Solids								
Total Dissolved Solids	480	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	8.0	2.8	ug/L	EPA 314.0	02/18/05 18:19	kos	N_RLm

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-17

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW22GLA	Liquid	02/12/05 09:18	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	140	0.50	0.17	mg/L	EPA 300.0	02/15/05 00:11	AA	
olids								
Total Dissolved Solids	620	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	8.0	2.8	ug/L	EPA 314.0	02/23/05 16:29	kos	N_RLm

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San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-18

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW8GLA	Liquid	02/12/05 09:20	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	61	0.50	0.17	mg/L	EPA 300.0	02/15/05 00:19	AA	
Solids								
Total Dissolved Solids	330	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/18/05 09:08	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-19

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW9GLA	Liquid	02/12/05 09:30	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	70	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:20	AA	
lids								
Total Dissolved Solids	430	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 18:25	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-20

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW10GLA	Liquid	02/12/05 09:35	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	56	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:28	AA	
Solids								
Total Dissolved Solids	380	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 19:15	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-21

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW11GLA	Liquid	02/12/05 09:40	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	57	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:36	AA	
lids								
Total Dissolved Solids	390	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 19:32	kos	

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www.babcocklabs.com

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Address: 1831 Commercenter East
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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-22

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW13GLA	Liquid	02/12/05 09:50	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	76	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:43	AA	
Solids								
Total Dissolved Solids	450	20	11	mg/L	SM 2540C	02/19/05 21:22	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 19:48	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-23

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW37GLA	Liquid	02/12/05 10:25	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	260	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:51	AA	
›lids								
Total Dissolved Solids	1100	20	11	mg/L	SM 2540C	02/22/05 14:34	aa	N_HTa
General Inorganics								
Perchlorate	46	4.0	1.4	ug/L	EPA 314.0	02/18/05 11:13	kos	

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Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number

A5B1153-24

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Dup-1	Liquid	02/12/05 00:00	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	74	0.50	0.17	mg/L	EPA 300.0	02/15/05 01:59	AA	
Solids								
Total Dissolved Solids	380	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	9.0	4.0	1.4	ug/L	EPA 314.0	02/23/05 20:09	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

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San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-25

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Dup-2	Liquid	02/12/05 00:00	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	68	0.50	0.17	mg/L	EPA 300.0	02/15/05 02:29	AA	
ɔlids								
ſotal Dissolved Solids	510	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 20:26	kos	

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PH (951) 653-3351 FAX (951) 653-1662
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San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1153-26

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Dup-3	Liquid	02/12/05 00:00	02/12/05 11:40

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	75	0.50	0.17	mg/L	EPA 300.0	02/15/05 02:37	AA	
Solids								
Total Dissolved Solids	470	20	11	mg/L	SM 2540C	02/18/05 23:33	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	02/23/05 20:43	kos	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B14047 - Analyzed as received										
Blank (5B14047-BLK1)				Prepared & Analyzed: 02/14/05						
Sulfate	ND	0.50	mg/L							
Blank (5B14047-BLK2)				Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	ND	0.50	mg/L							
Blank (5B14047-BLK3)				Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	ND	0.50	mg/L							
LCS (5B14047-BS1)				Prepared & Analyzed: 02/14/05						
Sulfate	100	0.50	mg/L	100		100	90-110			
LCS (5B14047-BS2)				Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	102	0.50	mg/L	100		102	90-110			
LCS (5B14047-BS3)				Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	103	0.50	mg/L	100		103	90-110			
Matrix Spike (5B14047-MS1)		**Source: A5B1153-14**		Prepared & Analyzed: 02/14/05						
Sulfate	141	0.50	mg/L	100	36	105	85-137			
Matrix Spike (5B14047-MS2)		**Source: A5B1138-02**		Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	179	0.50	mg/L	100	74	105	85-137			
Matrix Spike (5B14047-MS3)		**Source: A5B1265-01**		Prepared: 02/14/05 Analyzed: 02/15/05						
Sulfate	103	0.50	mg/L	100	0.60	102	85-137			
Matrix Spike Dup (5B14047-MSD1)		**Source: A5B1153-14**		Prepared & Analyzed: 02/14/05						
Sulfate	142	0.50	mg/L	100	36	106	85-137	0.707	20	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B14047 - Analyzed as received										
Matrix Spike Dup (5B14047-MSD2)		**Source: A5B1138-02**		Prepared: 02/14/05		Analyzed: 02/15/05				
Sulfate	180	0.50	mg/L	100	74	106	85-137	0.557	20	
Matrix Spike Dup (5B14047-MSD3)		**Source: A5B1265-01**		Prepared: 02/14/05		Analyzed: 02/15/05				
Sulfate	102	0.50	mg/L	100	0.60	101	85-137	0.976	20	
Batch 5B15061 - Analyzed as received										
Blank (5B15061-BLK1)				Prepared & Analyzed: 02/15/05						
Sulfate	ND	0.50	mg/L							
Blank (5B15061-BLK2)				Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	ND	0.50	mg/L							
LCS (5B15061-BS1)				Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	100	0.50	mg/L	100		100	90-110			
LCS (5B15061-BS2)				Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	103	0.50	mg/L	100		103	90-110			
Matrix Spike (5B15061-MS1)		**Source: A5B1319-02**		Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	168	0.50	mg/L	100	62	106	85-137			
Matrix Spike (5B15061-MS2)		**Source: A5B1407-01**		Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	6220	0.50	mg/L	100	5100	NR	85-137			QM-4X
Matrix Spike Dup (5B15061-MSD1)		**Source: A5B1319-02**		Prepared: 02/15/05		Analyzed: 02/16/05				
Sulfate	164	0.50	mg/L	100	62	102	85-137	2.41	20	

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B15061 - Analyzed as received										
Matrix Spike Dup (5B15061-MSD2)		**Source: A5B1407-01**		Prepared: 02/15/05	Analyzed: 02/16/05					
Sulfate	6460	0.50	mg/L	100	5100	NR	85-137	3.79	20	QM-4X

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Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18038 - Analyzed as received										
Blank (5B18038-BLK1)				Prepared & Analyzed: 02/18/05						
Total Dissolved Solids	ND	10	mg/L							
LCS (5B18038-BS1)				Prepared & Analyzed: 02/18/05						
Total Dissolved Solids	747	20	mg/L	746		100	90-110			
Duplicate (5B18038-DUP1)		Source: A5B1153-01		Prepared & Analyzed: 02/18/05						
Total Dissolved Solids	392	20	mg/L		420			6.90	20	
Duplicate (5B18038-DUP2)		Source: A5B1249-02		Prepared & Analyzed: 02/18/05						
Total Dissolved Solids	375	20	mg/L		390			3.92	20	
Batch 5B19002 - Analyzed as received										
Blank (5B19002-BLK1)				Prepared & Analyzed: 02/19/05						
Total Dissolved Solids	9.00	10	mg/L							J
LCS (5B19002-BS1)				Prepared & Analyzed: 02/19/05						
Total Dissolved Solids	753	20	mg/L	746		101	90-110			
Duplicate (5B19002-DUP1)		Source: A5B1153-16		Prepared & Analyzed: 02/19/05						
Total Dissolved Solids	481	20	mg/L		480			0.208	20	
Duplicate (5B19002-DUP2)		Source: A5B1262-03		Prepared & Analyzed: 02/19/05						
Total Dissolved Solids	358	20	mg/L		360			0.557	20	
Batch 5B22032 - Analyzed as received										
Blank (5B22032-BLK1)				Prepared & Analyzed: 02/22/05						
Total Dissolved Solids	8.00	10	mg/L							J

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PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22032 - Analyzed as received										
LCS (5B22032-BS1)				Prepared & Analyzed: 02/22/05						
Total Dissolved Solids	748	20	mg/L	746		100	90-110			
Duplicate (5B22032-DUP1)			**Source: A5B1383-03**	Prepared & Analyzed: 02/22/05						
Total Dissolved Solids	1050	20	mg/L		1100			4.65	20	
Duplicate (5B22032-DUP2)			**Source: A5B1396-03**	Prepared & Analyzed: 02/22/05						
Total Dissolved Solids	1080	20	mg/L		1100			1.83	20	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153

Received on Ice (Y/N): Yes Temp: 12 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B15066 - Analyzed as received										
Blank (5B15066-BLK1)				Prepared: 02/15/05		Analyzed: 02/18/05				
Perchlorate	ND	4.0	ug/L							
LCS (5B15066-BS1)				Prepared: 02/15/05		Analyzed: 02/18/05				
Perchlorate	26.6	4.0	ug/L	25.0		106	85-115			
Duplicate (5B15066-DUP1)		Source: A5B1153-17		Prepared: 02/15/05		Analyzed: 02/18/05				
Perchlorate	6.70	4.0	ug/L		ND				15	
Matrix Spike (5B15066-MS1)		Source: A5B1153-17		Prepared: 02/15/05		Analyzed: 02/18/05				
Perchlorate	9.10	4.0	ug/L	12.5	ND	72.8	80-120			QFpar QMou
Matrix Spike Dup (5B15066-MSD1)		Source: A5B1153-17		Prepared: 02/15/05		Analyzed: 02/18/05				
Perchlorate	9.10	4.0	ug/L	12.5	ND	72.8	80-120	0.00	15	QFpas, QMout
Batch 5B21002 - Analyzed as received										
Blank (5B21002-BLK1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	ND	4.0	ug/L							
LCS (5B21002-BS1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	24.7	4.0	ug/L	25.0		98.8	85-115			
Duplicate (5B21002-DUP1)		Source: A5B1153-17RE		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	ND	8.0	ug/L		ND				15	
Matrix Spike (5B21002-MS1)		Source: A5B1153-17RE		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	20.8	8.0	ug/L	25.0	ND	83.2	80-120			

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B21002 - Analyzed as received										
Matrix Spike Dup (5B21002-MSD1)		**Source: A5B1153-17RE**		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	20.0	8.0	ug/L	25.0	ND	80.0	80-120	3.92	15	
Batch 5B21003 - Analyzed as received										
Blank (5B21003-BLK1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	ND	4.0	ug/L							
LCS (5B21003-BS1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	23.9	4.0	ug/L	25.0		95.6	85-115			
Duplicate (5B21003-DUP1)		**Source: A5B1262-04**		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	34.8	4.0	ug/L		35			0.573	15	
Matrix Spike (5B21003-MS1)		**Source: A5B1262-04**		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	43.4	4.0	ug/L	12.5	35	67.2	80-120			QFpas, QMout
Matrix Spike Dup (5B21003-MSD1)		**Source: A5B1262-04**		Prepared: 02/22/05		Analyzed: 02/23/05				
Perchlorate	43.2	4.0	ug/L	12.5	35	65.6	80-120	0.462	15	QFpas, QMout

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 07-Mar-2005

Project Name: Stringfellow - Total
Project Number: 3264-SF-T

Work Order Number: A5B1153
Received on Ice (Y/N): Yes Temp: 12 °C

Notes and Definitions

J	Estimated value
N_HTa	Sample analyzed outside of the EPA recommended holding time.
N_RLm	Due to sample matrix, the reporting limit for this analyte has been raised.
QFpas	Follow-up result within laboratory acceptance criteria.
QM-4X	Due to analyte concentration greater than or equal to 4 times the spike concentration, recoveries for the MS and/ or MSD did not meet laboratory acceptance criteria.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
ND	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reporting Limit (RL)
NR	Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock, President ☐ Allison Mackenzie, General Manager ☐ Lawrence J. Chrystal, Laboratory Director

cc:

ESB_mdl_5_9 Report

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Chain of Custody & Sample Information Record

Client: ~~California DTSC~~ GeoLogic Associates
Contact: Mike Reason
Phone No. 909-383-8728

Project Name: Stringfellow - Stormwater
Project Location: Stringfellow

Turn Around Time: Routine (circled) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information

Name: Rick Rodriguez, Alex Fernandez, Mike Reason
Employer: GLA/BAS
Signature: [signature]

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: * see attached list for revised sample IDs. IR 02/24/05

ESB#	Sample ID *	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	TDS	Sulfate	~~Nitrate~~ perchlorate MR 2/12/05	Matrix	Notes
	SW-2	2/12/05	0720	X							1				X	X	X	Surface water	
	SW-8	↓	0725	X							1				X	X	X	↓	
	SW-7A		0740	X							1				X	X	X		
	SW-7B		0750	X							1				X	X	X		
	SW-6		0755	X							1				X	X	X		
	SW-1		0800	X							1				X	X	X		
	Z1SW-16		0810	X							1				X	X	X		
	Z1SW-18		0820	X							1				X	X	X		
	Z1SW-3		0835	X							1				X	X	X		
	Z1SW-2	↓	0838	X							1				X	X	X	↓	

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Mike Reason / GLA	2/12/05/1140	[signature]	Thinosen Ogbeide / E&B

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes (circled) No
Custody Seal(s) Intact? Yes No NA (circled)
Sample(s) Intact? Yes (circled) No

Temperature 12 ºC

Lab Notes

Lab No. A5B1153AB

Page 1 of 3

E.S. Babcock & Sons, Inc.
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Chain of Custody & Sample Information Record

Client: Geologic Associates
Contact: Mike Reason
Phone No. 909- 383-8728

Project Name: Stringfellow Stormwater
Project Location: Stringfellow

Turn Around Time: Routine 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason, Rick Ramirez, Alex Fernandez
Employer: GLA/BAS
Signature: [signature]

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: * see attached list for revised sample IDs. 12/02/05

ESB#	Sample ID*	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NH_4Cl	Total # of Containers	Routine	Resample	Special	TDS	Sulfate	Perchlorate	Matrix	Notes
	Z1SW-4	2/12/05	0845	X							1				X	X	X	Water	
	Z1SW-5		0855	X							1				X	X	X		
	Z1SW-19		0858	X							1				X	X	X		
	Z1SW-20		0903	X							1				X	X	X		
	Z1SW-6		0908	X							1				X	X	X		
	Z1SW-21		0912	X							1				X	X	X		
	Z1SW-22		0918	X							2				X	X	X		
	Z1SW-8		0920	X							2				X	X	X		
	Z1SW-9		0930	X							1				X	X	X		
	Z1SW-10		0935	X							1				X	X	X		

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Mike Reason / GLA	2/12/05 / 1140	[signature]	Thunosen Ogbaide / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Sample(s) Intact? Yes No

Temperature 13 °C

Lab Notes

Lab No. A5B1153

Page 2 of 3

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Chain of Custody & Sample Information Record

Client: ~~[illegible]~~ GeoLogic Associates
Contact: Mike Reason
Phone No. 909-383-8728

Project Name: Stringfellow - Stormwater
Project Location: Stringfellow

Turn Around Time: Routine (circled) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Rick Rodriguez, Alex Fernandez, Mike Reason
Employer: GLA/BAS
Signature: [signature]

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: * see attached list for revised sample IDs. 12 02/24/05

ESB#	Sample ID*	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	TDS	~~[illegible]~~ Sulfate	perchlorate
	21SW-11	2/12/05	0940	X							1				X	X	X
	21SW-13	↓	0950	X							1				X	X	X
	SW-37	↓	1025	X							1				X	X	X
	DUP-1	↓	–	X							1				X	X	X
	DUP-2	↓	–	X							1				X	X	X
	DUP-3	↓	–	X							1				X	X	X
				X											X	X	X
				X											X	X	X
				X											X	X	X
				X											X	X	X

MR 2/12/05

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Mike Reason / GLA	2/12/05/1140	[signature]	Thunosen Ogbaide / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Sample(s) Intact? Yes No
Temperature 13 ºC

Lab Notes

Lab No. A5B1153AB

Page 3 of 3

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MAR 1 5 2005
GLA-San Bernardino

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1770-01	SW34GLA	Liquid	02/18/05 15:10	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-02	SW7BGLA	Liquid	02/18/05 15:30	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-03	SW6GLA	Liquid	02/18/05 15:40	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-04	SW8GLA	Liquid	02/18/05 15:20	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-05	SW37AGLA	Liquid	02/18/05 14:15	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-06	SW37GLA	Liquid	02/18/05 13:45	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-07	SW32GLA	Liquid	02/18/05 15:15	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-08	SW1GLA	Liquid	02/18/05 15:45	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-09	SW7AGLA	Liquid	02/18/05 15:35	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-10	SW39GLA	Liquid	02/18/05 14:35	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-11	SW36GLA	Liquid	02/18/05 14:00	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-12	SW7CGLA	Liquid	02/18/05 15:17	MR/JS	02/18/05 16:55	Mike Reasor
A5B1770-13	SW-Dup	Liquid	02/18/05 00:00	MR/JS	02/18/05 16:55	Mike Reasor

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW34GLA	Liquid	02/18/05 15:10	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	9.4	0.50	0.17	mg/L	EPA 300.0	02/23/05 01:20	cth	
Nitrate as N	ND	0.20	0.11	mg/L	EPA 300.0	02/23/05 01:20	cth	N_H⁻
Aggregate Properties								
pH	7.1	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	110	10	5.5	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/04/05 13:51	hga	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7BGLA	Liquid	02/18/05 15:30	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	92	0.50	0.17	mg/L	EPA 300.0	02/23/05 01:27	cth	
Nitrate as N	10	0.20	0.11	mg/L	EPA 300.0	02/23/05 01:27	cth	N_HTz
Aggregate Properties								
pH	8.0	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	410	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	370	8.0	2.8	ug/L	EPA 314.0	03/02/05 21:19	kos	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW6GLA	Liquid	02/18/05 15:40	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	71	0.50	0.17	mg/L	EPA 300.0	02/23/05 01:35	cth	
Nitrate as N	12	0.20	0.11	mg/L	EPA 300.0	02/23/05 01:35	cth	N_H⁻
Aggregate Properties								
pH	9.2	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	3.0	4.0	1.4	ug/L	EPA 314.0	03/02/05 09:24	kos	J

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW8GLA	Liquid	02/18/05 15:20	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	80	0.50	0.17	mg/L	EPA 300.0	02/23/05 01:43	cth	
Nitrate as N	11	0.20	0.11	mg/L	EPA 300.0	02/23/05 01:43	cth	N_HTz
Aggregate Properties								
pH	8.8	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	320	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	160	4.0	1.4	ug/L	EPA 314.0	03/02/05 09:40	kos	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW37AGLA	Liquid	02/18/05 14:15	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	270	0.50	0.17	mg/L	EPA 300.0	02/19/05 02:31	AA	
Nitrate as N	34	1.0	0.54	mg/L	EPA 300.0	02/23/05 02:14	cth	N_H⁻
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	1200	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	52	4.0	1.4	ug/L	EPA 314.0	03/02/05 09:57	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW37GLA	Liquid	02/18/05 13:45	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	230	0.50	0.17	mg/L	EPA 300.0	02/19/05 02:40	AA	
Nitrate as N	31	1.0	0.54	mg/L	EPA 300.0	03/04/05 18:11	AA	N_HTh
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	1000	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	39	4.0	1.4	ug/L	EPA 314.0	03/02/05 10:13	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW32GLA	Liquid	02/18/05 15:15	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	10	0.50	0.17	mg/L	EPA 300.0	02/19/05 02:49	AA	
Nitrate as N	0.59	0.20	0.11	mg/L	EPA 300.0	02/23/05 02:30	cth	N_H⁻
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	87	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/02/05 10:30	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW1GLA	Liquid	02/18/05 15:45	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	78	0.50	0.17	mg/L	EPA 300.0	02/19/05 02:57	AA	
Nitrate as N	13	0.20	0.11	mg/L	EPA 300.0	02/19/05 02:57	AA	
Aggregate Properties								
pH	9.7	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/02/05 10:47	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-09

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7AGLA	Liquid	02/18/05 15:35	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	59	0.50	0.17	mg/L	EPA 300.0	02/19/05 04:07	AA	
Nitrate as N	5.3	0.20	0.11	mg/L	EPA 300.0	02/19/05 04:07	AA	
Aggregate Properties								
pH	8.2	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	360	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	76	4.0	1.4	ug/L	EPA 314.0	03/02/05 11:03	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-10

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW39GLA	Liquid	02/18/05 14:35	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	27	0.50	0.17	mg/L	EPA 300.0	02/19/05 04:16	AA	
Nitrate as N	17	0.20	0.11	mg/L	EPA 300.0	02/19/05 04:16	AA	
Aggregate Properties								
pH	8.4	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	300	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	14	4.0	1.4	ug/L	EPA 314.0	03/02/05 13:32	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-11

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW36GLA	Liquid	02/18/05 14:00	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	49	0.50	0.17	mg/L	EPA 300.0	02/19/05 04:24	AA	
Nitrate as N	8.2	0.20	0.11	mg/L	EPA 300.0	02/19/05 04:24	AA	
Aggregate Properties								
pH	7.2	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	300	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	29	4.0	1.4	ug/L	EPA 314.0	03/02/05 13:49	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-12

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7CGLA	Liquid	02/18/05 15:17	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	19	0.50	0.17	mg/L	EPA 300.0	02/19/05 04:33	AA	
Nitrate as N	1.4	0.20	0.11	mg/L	EPA 300.0	02/19/05 04:33	AA	
Aggregate Properties								
pH	8.0	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	260	20	11	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	19	4.0	1.4	ug/L	EPA 314.0	03/02/05 14:05	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Laboratory Reference Number
A5B1770-13

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup	Liquid	02/18/05 00:00	02/18/05 16:55

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	76	0.50	0.17	mg/L	EPA 300.0	02/19/05 04:42	AA	
Nitrate as N	13	0.20	0.11	mg/L	EPA 300.0	02/19/05 04:42	AA	
Aggregate Properties								
pH	9.7	1.0	1.0	pH Units	SM 4500H+ B	02/18/05 21:30	jmk	
Solids								
Total Dissolved Solids	400	20	11	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/02/05 14:22	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18065 - Analyzed as received										
Blank (5B18065-BLK1)				Prepared: 02/18/05	Analyzed: 02/19/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
LCS (5B18065-BS1)				Prepared: 02/18/05	Analyzed: 02/19/05					
Sulfate	105	0.50	mg/L	100		105	90-110			
Nitrate as N	11.5	0.20	mg/L	11.3		102	90-110			
Matrix Spike (5B18065-MS1)		Source: A5B1780-01		Prepared: 02/18/05	Analyzed: 02/19/05					
Sulfate	408	0.50	mg/L	100	300	108	85-137			
Nitrate as N	8.34	0.20	mg/L	4.52	3.6	105	80-114			
Matrix Spike Dup (5B18065-MSD1)		Source: A5B1780-01		Prepared: 02/18/05	Analyzed: 02/19/05					
Sulfate	409	0.50	mg/L	100	300	109	85-137	0.245	20	
Nitrate as N	8.18	0.20	mg/L	4.52	3.6	101	80-114	1.94	20	
Batch 5B22056 - Analyzed as received										
Blank (5B22056-BLK1)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B22056-BLK2)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B22056-BLK3)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	0.200	0.50	mg/L							J
Nitrate as N	ND	0.20	mg/L							

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
Blank (5B22056-BLK4)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
LCS (5B22056-BS1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	98.3	0.50	mg/L	100		98.3	90-110			
Nitrate as N	11.2	0.20	mg/L	11.3		99.1	90-110			
LCS (5B22056-BS2)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.4	0.20	mg/L	11.3		101	90-110			
LCS (5B22056-BS3)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	99.9	0.50	mg/L	100		99.9	90-110			
Nitrate as N	11.5	0.20	mg/L	11.3		102	90-110			
LCS (5B22056-BS4)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.4	0.20	mg/L	11.3		101	90-110			
Matrix Spike (5B22056-MS1)		Source: A5B1764-03		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	530	0.50	mg/L	100	410	120	85-137			
Nitrate as N	5.19	0.20	mg/L	4.52	0.36	107	80-114			
Matrix Spike (5B22056-MS2)		Source: A5B1817-06		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	109	0.50	mg/L	100	3.4	106	85-137			
Nitrate as N	5.14	0.20	mg/L	4.52	0.23	109	80-114			
Matrix Spike (5B22056-MS3)		Source: A5B1817-22		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137			
Nitrate as N	12.1	0.20	mg/L	4.52	7.3	106	80-114			

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
Matrix Spike (5B22056-MS4)		**Source: A5B1817-38**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	213	0.50	mg/L	100	110	103	85-137			
Nitrate as N	25.2	0.20	mg/L	4.52	19	137	80-114			QM-4X
Matrix Spike Dup (5B22056-MSD1)		**Source: A5B1764-03**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	546	0.50	mg/L	100	410	136	85-137	2.97	20	
Nitrate as N	5.09	0.20	mg/L	4.52	0.36	105	80-114	1.95	20	
Matrix Spike Dup (5B22056-MSD2)		**Source: A5B1817-06**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	105	0.50	mg/L	100	3.4	102	85-137	3.74	20	
Nitrate as N	4.84	0.20	mg/L	4.52	0.23	102	80-114	6.01	20	
Matrix Spike Dup (5B22056-MSD3)		**Source: A5B1817-22**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137	0.00	20	
Nitrate as N	11.8	0.20	mg/L	4.52	7.3	99.6	80-114	2.51	20	
Matrix Spike Dup (5B22056-MSD4)		**Source: A5B1817-38**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	210	0.50	mg/L	100	110	100	85-137	1.42	20	
Nitrate as N	25.0	0.20	mg/L	4.52	19	133	80-114	0.797	20	QM-4X
Batch 5C04063 - Analyzed as received										
Blank (5C04063-BLK1)				Prepared & Analyzed: 03/04/05						
Nitrate as N	ND	0.20	mg/L							
Blank (5C04063-BLK2)				Prepared & Analyzed: 03/04/05						
Nitrate as N	ND	0.20	mg/L							

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C04063 - Analyzed as received										
LCS (5C04063-BS1)				Prepared & Analyzed: 03/04/05						
Nitrate as N	11.2	0.20	mg/L	11.3		99.1	90-110			
LCS (5C04063-BS2)				Prepared & Analyzed: 03/04/05						
Nitrate as N	11.3	0.20	mg/L	11.3		100	90-110			
Matrix Spike (5C04063-MS1)		Source: A5C0400-02		Prepared & Analyzed: 03/04/05						
Nitrate as N	11.8	0.20	mg/L	4.52	7.4	97.3	80-114			
Matrix Spike (5C04063-MS2)		Source: A5C0445-02		Prepared & Analyzed: 03/04/05						
Nitrate as N	265	0.20	mg/L	4.52	230	774	80-114			QM-4X
Matrix Spike Dup (5C04063-MSD1)		Source: A5C0400-02		Prepared & Analyzed: 03/04/05						
Nitrate as N	12.2	0.20	mg/L	4.52	7.4	106	80-114	3.33	20	
Matrix Spike Dup (5C04063-MSD2)		Source: A5C0445-02		Prepared & Analyzed: 03/04/05						
Nitrate as N	291	0.20	mg/L	4.52	230	NR	80-114	9.35	20	QM-4X

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Aggregate Properties - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18057 - Analyzed as received										
LCS (5B18057-BS1)				Prepared & Analyzed: 02/18/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B18057-BS2)				Prepared & Analyzed: 02/18/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B18057-BS3)				Prepared & Analyzed: 02/18/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
Duplicate (5B18057-DUP1)		Source: A5B1762-01		Prepared & Analyzed: 02/18/05						
pH	6.8	1.0	pH Units		6.9			1.46	5	
Duplicate (5B18057-DUP2)		Source: A5B1763-01		Prepared & Analyzed: 02/18/05						
pH	5.6	1.0	pH Units		5.6			0.00	5	
Duplicate (5B18057-DUP3)		Source: A5B1764-05		Prepared & Analyzed: 02/18/05						
pH	8.2	1.0	pH Units		8.2			0.00	5	
Duplicate (5B18057-DUP4)		Source: A5B1769-02		Prepared & Analyzed: 02/18/05						
pH	7.5	1.0	pH Units		7.5			0.00	5	
Duplicate (5B18057-DUP5)		Source: A5B1777-01		Prepared & Analyzed: 02/18/05						
pH	7.4	1.0	pH Units		7.4			0.00	5	
Duplicate (5B18057-DUP6)		Source: A5B1779-04		Prepared & Analyzed: 02/18/05						
pH	7.4	1.0	pH Units		7.4			0.00	5	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B24075 - Analyzed as received										
Blank (5B24075-BLK1)				Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	10.0	10	mg/L							
LCS (5B24075-BS1)				Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	743	20	mg/L	746		99.6	90-110			
Duplicate (5B24075-DUP1)		Source: A5B1679-01		Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	843	20	mg/L		860			2.00	20	
Duplicate (5B24075-DUP2)		Source: A5B1770-13		Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	380	20	mg/L		400			5.13	20	
Batch 5B25023 - Analyzed as received										
Blank (5B25023-BLK1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	ND	10	mg/L							
LCS (5B25023-BS1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	712	20	mg/L	746		95.4	90-110			
Duplicate (5B25023-DUP1)		Source: A5B1770-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	110	10	mg/L		110			0.00	20	
Duplicate (5B25023-DUP2)		Source: A5B1780-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	852	20	mg/L		830			2.62	20	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770
Received on Ice (Y/N): Yes Temp: 12 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C01060 - Analyzed as received										
Blank (5C01060-BLK1)				Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	ND	4.0	ug/L							
Blank (5C01060-BLK2)				Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	ND	4.0	ug/L							
LCS (5C01060-BS1)				Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	25.2	4.0	ug/L	25.0		101	85-115			
LCS (5C01060-BS2)				Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	24.8	4.0	ug/L	25.0		99.2	85-115			
Duplicate (5C01060-DUP1)		Source: A5B1770-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	ND	4.0	ug/L		ND				15	
Duplicate (5C01060-DUP2)		Source: A5B1817-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	ND	4.0	ug/L		1.5				15	
Matrix Spike (5C01060-MS1)		Source: A5B1770-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	9.90	4.0	ug/L	12.5	ND	79.2	80-120			QFpas, QMout
Matrix Spike (5C01060-MS2)		Source: A5B1817-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	8.10	4.0	ug/L	12.5	1.5	52.8	80-120			QFpas, QMout
Matrix Spike Dup (5C01060-MSD1)		Source: A5B1770-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	8.90	4.0	ug/L	12.5	ND	71.2	80-120	10.6	15	QFpas, QMout
Matrix Spike Dup (5C01060-MSD2)		Source: A5B1817-01		Prepared: 03/01/05	Analyzed: 03/02/05					
Perchlorate	9.80	4.0	ug/L	12.5	1.5	66.4	80-120	19.0	15	QFpas, QMout

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C03002 - Analyzed as received										
Blank (5C03002-BLK1)				Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	ND	4.0	ug/L							
LCS (5C03002-BS1)				Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	25.0	4.0	ug/L	25.0		100	85-115			
Matrix Spike (5C03002-MS1)		Source: A5B1770-01RE		Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	10.0	4.0	ug/L	12.5	ND	80.0	80-120			
Matrix Spike (5C03002-MS2)		Source: A5B1817-01RE		Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	13.6	4.0	ug/L	12.5	ND	109	80-120			
Matrix Spike Dup (5C03002-MSD1)		Source: A5B1770-01RE		Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	10.8	4.0	ug/L	12.5	ND	86.4	80-120	7.69	15	
Matrix Spike Dup (5C03002-MSD2)		Source: A5B1817-01RE		Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	13.8	4.0	ug/L	12.5	ND	110	80-120	1.46	15	

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1770

Received on Ice (Y/N): Yes Temp: 12 °C

Notes and Definitions

J	Estimated value
N_HTh	Original sample was run within holding time. Due to a high original result, the sample was diluted and reanalyzed outside of EPA recommended holding time .
N_HTz	Original sample was run within holding time. Results were unavailable from the original extraction/analysis due to extraction/instrument error. Sample re-extracted and reanalyzed outside sample holding time.
QFpas	Follow-up result within laboratory acceptance criteria.
QM-4X	Due to analyte concentration greater than or equal to 4 times the spike concentration, recoveries for the MS and/ or MSD did not meet laboratory acceptance criteria.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
ID	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reporting Limit (RL)
NR	Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock, President
☐ Allison Mackenzie, General Manager
☐ Lawrence J. Chrystal, Laboratory Director

cc:

ESB_mdl_5_9 Report

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E.S. Babcock & Sons, Inc.
6100 Quail Valley Court Riverside, CA 92507
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Chain of Custody & Sample Information Record

Client: Geologic Associates
Contact: Mike Reason
Phone No. 909-383-8728

Project Name: Stringfellow
Project Location:

Turn Around Time: (Routine) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Jason Sapp
Employer: GLA
Signature: Mike D. Reason

ESB#	Sample ID*	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NH_4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Nitrate	Sulfate	TDS	pH				Matrix	Notes
	SW-34	2/18/05	15:10												↓	↓	↓	↓	↓				water	* see attached list for revised sample IDs. 12 02/24/05
	SW-7B	↓	15:30												↓	↓	↓	↓	↓				↓	
	SW-6	↓	15:40												↓	↓	↓	↓	↓				↓	
	SW-8	↓	15:20												↓	↓	↓	↓	↓				↓	
	SW-37A	↓	14:15												↓	↓	↓	↓	↓				↓	
	SW-37	↓	13:45												↓	↓	↓	↓	↓				↓	
	SW-32	↓	15:15												↓	↓	↓	↓	↓				↓	
	SW-1	↓	15:45												↓	↓	↓	↓	↓				↓	
	SW-7A	↓	15:35												↓	↓	↓	↓	↓				↓	
	SW-39	↓	14:35												↓	↓	↓	↓	↓				↓	

Matrix: DW = Drinking Water, WW = Waste Water, GW = Ground Water, S = Soil, SG = Sludge, L = Liquid, M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
Mike D. Reason	Mike Reason / GLA	2/18/05 1655	AMac	AMackenzie / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? (Yes) No
Custody Seal(s) Intact? Yes No (NA)
Sample(s) Intact? (Yes) No
Temperature 12°

Lab Notes

Lab No. ASB1770
Page 2 2/18/05

E.S. Babcock & Sons, Inc.
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(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client: GGLA Associates
Contact: Mike Reason
Phone No. 909 383-9878

Project Name: St Gayfrey Fellow
Project Location:

Turn Around Time: Routine 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Jason Sapp
Employer: GGLA
Signature: [signature]

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: * see attached list for revised sample IDs 1/2 02/24/05

ESB#	Sample ID*	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Nitrate	Sulfate	TDS	pH	Matrix	Notes
	SLV-36	2/28/05	14:00																	water	
	SLV-7B		15:30																		
	SLV-DMP		15:40																		
	SLV-8		15:20																		
	SLV-37A		14:15																		
	SLV-37		15:45																		
	SLV-32		15:15																		
	SLV-1		15:45																		
	SLV-7A		15:35																		
	SLV-39		14:35																		

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Mike Reason / GLA	2/18/05/1655	[signature]	A Mackenzie / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Temperature 12 °C

Lab Notes

Lab No. ASB1770
Page 1 of 2
2/18/05

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1817-01	SW7CGLA	Liquid	02/21/05 10:15	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-02	SW8GLA	Liquid	02/21/05 10:20	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-03	SW2GLA	Liquid	02/21/05 10:25	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-04	SW31GLA	Liquid	02/21/05 10:30	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-05	SW30GLA	Liquid	02/21/05 10:35	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-06	SW34GLA	Liquid	02/21/05 10:38	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-07	SW32GLA	Liquid	02/21/05 10:40	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-08	SW33GLA	Liquid	02/21/05 10:45	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-09	SW35GLA	Liquid	02/21/05 10:55	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-10	SW37GLA	Liquid	02/21/05 11:00	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-11	SW36GLA	Liquid	02/21/05 11:08	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-12	SW37AGLA	Liquid	02/21/05 11:10	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-13	SW38AGLA	Liquid	02/21/05 11:18	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-14	SW40GLA	Liquid	02/21/05 11:25	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-15	SW39GLA	Liquid	02/21/05 11:40	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-16	SW42GLA	Liquid	02/21/05 11:48	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-17	SW7AGLA	Liquid	02/21/05 12:44	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-18	SW7BGLA	Liquid	02/21/05 12:46	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-19	SW6GLA	Liquid	02/21/05 12:50	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-20	SW1GLA	Liquid	02/21/05 12:54	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-21	Z1SW16AGLA	Liquid	02/21/05 13:03	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-22	Z1SW16GLA	Liquid	02/21/05 13:05	MR/EW	02/22/05 08:25	Eric P. Whit

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

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Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1817-23	Z1SW17GLA	Liquid	02/21/05 13:08	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-24	Z1SW18GLA	Liquid	02/21/05 13:09	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-25	Z1SW1GLA	Liquid	02/21/05 13:10	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-26	Z1SW2GLA	Liquid	02/21/05 13:20	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-27	Z1SW3GLA	Liquid	02/21/05 13:31	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-28	Z1SW4GLA	Liquid	02/21/05 13:35	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-29	Z1SW5GLA	Liquid	02/21/05 13:40	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-30	Z1SW19GLA	Liquid	02/21/05 13:40	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-31	Z1SW20GLA	Liquid	02/21/05 13:45	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-32	Z1SW6GLA	Liquid	02/21/05 13:49	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-33	Z1SW7GLA	Liquid	02/21/05 13:55	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-34	Z1SW21GLA	Liquid	02/21/05 13:58	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-35	Z1SW22GLA	Liquid	02/21/05 13:59	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-36	Z1SW8GLA	Liquid	02/21/05 14:02	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-37	Z1SW23GLA	Liquid	02/21/05 14:06	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-38	Z1SW25GLA	Liquid	02/21/05 14:27	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-39	Z1SW26GLA	Liquid	02/21/05 14:30	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-40	Z1SW9GLA	Liquid	02/21/05 14:35	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-41	Z1SW27GLA	Liquid	02/21/05 14:40	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-42	Z1SW10GLA	Liquid	02/21/05 14:45	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-43	Z1SW11GLA	Liquid	02/21/05 14:45	MR/EW	02/22/05 08:25	Eric P. Wh
A5B1817-44	Z1SW12GLA	Liquid	02/21/05 14:50	MR/EW	02/22/05 08:25	Eric P. Wh

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

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Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1817-45	Z1SW13GLA	Liquid	02/21/05 14:53	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-46	Z1SW14GLA	Liquid	02/21/05 15:05	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-47	Z1SW15GLA	Liquid	02/21/05 15:10	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-48	SW-Dup-1	Liquid	02/21/05 00:00	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-49	SW-Dup-2	Liquid	02/21/05 00:00	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-50	SW-Dup-3	Liquid	02/21/05 00:00	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-51	SW-Dup-4	Liquid	02/21/05 00:00	MR/EW	02/22/05 08:25	Eric P. Whit
A5B1817-52	SW-Dup-5	Liquid	02/21/05 00:00	MR/EW	02/22/05 08:25	Eric P. Whit

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7CGLA	Liquid	02/21/05 10:15	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	4.5	0.50	0.17	mg/L	EPA 300.0	02/23/05 02:45	cth	
Nitrate as N	0.45	0.20	0.11	mg/L	EPA 300.0	02/23/05 02:45	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	300	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/04/05 14:08	hga	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW8GLA	Liquid	02/21/05 10:20	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	20	0.50	0.17	mg/L	EPA 300.0	02/23/05 02:53	cth	
Nitrate as N	2.9	0.20	0.11	mg/L	EPA 300.0	02/23/05 02:53	cth	
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	360	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	19	4.0	1.4	ug/L	EPA 314.0	03/02/05 15:46	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW2GLA	Liquid	02/21/05 10:25	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	19	0.50	0.17	mg/L	EPA 300.0	02/23/05 03:01	cth	
Nitrate as N	2.7	0.20	0.11	mg/L	EPA 300.0	02/23/05 03:01	cth	
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	350	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	17	4.0	1.4	ug/L	EPA 314.0	03/02/05 16:03	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW31GLA	Liquid	02/21/05 10:30	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	28	0.50	0.17	mg/L	EPA 300.0	02/23/05 03:09	cth	
Nitrate as N	4.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 03:09	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	300	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	3.8	4.0	1.4	ug/L	EPA 314.0	03/02/05 16:19	kos	J

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW30GLA	Liquid	02/21/05 10:35	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	3.7	0.50	0.17	mg/L	EPA 300.0	02/23/05 03:16	cth	
Nitrate as N	0.32	0.20	0.11	mg/L	EPA 300.0	02/23/05 03:16	cth	
Aggregate Properties								
pH	7.3	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	170	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	PblkJ
General Inorganics								
Perchlorate	3.2	4.0	1.4	ug/L	EPA 314.0	03/02/05 16:36	kos	J

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW34GLA	Liquid	02/21/05 10:38	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	3.4	0.50	0.17	mg/L	EPA 300.0	02/23/05 03:24	cth	
Nitrate as N	0.23	0.20	0.11	mg/L	EPA 300.0	02/23/05 03:24	cth	
Aggregate Properties								
pH	7.3	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	140	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	PblkJ
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/02/05 16:52	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW32GLA	Liquid	02/21/05 10:40	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	5.0	0.50	0.17	mg/L	EPA 300.0	02/23/05 04:26	cth	
Nitrate as N	0.59	0.20	0.11	mg/L	EPA 300.0	02/23/05 04:26	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	160	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	PblkJ
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/02/05 17:09	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW33GLA	Liquid	02/21/05 10:45	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	33	0.50	0.17	mg/L	EPA 300.0	02/23/05 04:34	cth	
Nitrate as N	5.3	0.20	0.11	mg/L	EPA 300.0	02/23/05 04:34	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	3.6	4.0	1.4	ug/L	EPA 314.0	03/02/05 17:26	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-09

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW35GLA	Liquid	02/21/05 10:55	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	34	0.50	0.17	mg/L	EPA 300.0	02/23/05 04:42	cth	
Nitrate as N	5.4	0.20	0.11	mg/L	EPA 300.0	02/23/05 04:42	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	330	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	3.2	4.0	1.4	ug/L	EPA 314.0	03/02/05 17:42	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-10

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW37GLA	Liquid	02/21/05 11:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	60	0.50	0.17	mg/L	EPA 300.0	02/23/05 04:50	cth	
Nitrate as N	8.5	0.20	0.11	mg/L	EPA 300.0	02/23/05 04:50	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	9.5	4.0	1.4	ug/L	EPA 314.0	03/02/05 17:59	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-11

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW36GLA	Liquid	02/21/05 11:08	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	16	0.50	0.17	mg/L	EPA 300.0	02/23/05 04:57	cth	
Nitrate as N	4.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 04:57	cth	
Aggregate Properties								
pH	7.4	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	180	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 03:08	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-12

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW37AGLA	Liquid	02/21/05 11:10	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	45	0.50	0.17	mg/L	EPA 300.0	02/23/05 05:05	cth	
Nitrate as N	6.8	0.20	0.11	mg/L	EPA 300.0	02/23/05 05:05	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	290	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	9.5	4.0	1.4	ug/L	EPA 314.0	03/03/05 03:25	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-13

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW38AGLA	Liquid	02/21/05 11:18	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	14	0.50	0.17	mg/L	EPA 300.0	02/23/05 05:36	cth	
Nitrate as N	2.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 05:36	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	170	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	PblkJ
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 03:41	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-14

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW40GLA	Liquid	02/21/05 11:25	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	12	0.50	0.17	mg/L	EPA 300.0	02/23/05 05:44	cth	
Nitrate as N	3.2	0.20	0.11	mg/L	EPA 300.0	02/23/05 05:44	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	260	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 03:58	kos	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-15

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW39GLA	Liquid	02/21/05 11:40	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	16	0.50	0.17	mg/L	EPA 300.0	02/23/05 05:52	cth	
Nitrate as N	11	0.20	0.11	mg/L	EPA 300.0	02/23/05 05:52	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	240	20	11	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 04:15	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-16

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW42GLA	Liquid	02/21/05 11:48	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	4.0	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:00	cth	
Nitrate as N	0.18	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:00	cth	J
Aggregate Properties								
pH	7.4	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	68	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 04:31	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-17

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7AGLA	Liquid	02/21/05 12:44	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	54	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:07	cth	
Nitrate as N	4.9	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:07	cth	
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	320	20	11	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	77	4.0	1.4	ug/L	EPA 314.0	03/03/05 04:48	kos	Nconf

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-18

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW7BGLA	Liquid	02/21/05 12:46	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	26	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:15	cth	
Nitrate as N	2.8	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:15	cth	
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	360	40	22	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	66	4.0	1.4	ug/L	EPA 314.0	03/03/05 05:04	kos	Nconf

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-19

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW6GLA	Liquid	02/21/05 12:50	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	24	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:23	cth	
Nitrate as N	4.8	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:23	cth	
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	240	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 05:54	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-20

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW1GLA	Liquid	02/21/05 12:54	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	26	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:31	cth	
Nitrate as N	5.3	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:31	cth	
Aggregate Properties								
pH	8.0	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	230	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	1.4	4.0	1.4	ug/L	EPA 314.0	03/03/05 06:11	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-21

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW16AGLA	Liquid	02/21/05 13:03	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	24	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:38	cth	
Nitrate as N	1.2	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:38	cth	
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	160	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	2.8	4.0	1.4	ug/L	EPA 314.0	03/04/05 17:12	hga	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-22

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW16GLA	Liquid	02/21/05 13:05	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	24	0.50	0.17	mg/L	EPA 300.0	02/23/05 06:46	cth	
Nitrate as N	7.3	0.20	0.11	mg/L	EPA 300.0	02/23/05 06:46	cth	
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	190	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 06:44	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-23

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW17GLA	Liquid	02/21/05 13:08	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	8.2	0.50	0.17	mg/L	EPA 300.0	02/23/05 07:48	cth	
Nitrate as N	0.34	0.20	0.11	mg/L	EPA 300.0	02/23/05 07:48	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	100	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 07:01	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-24

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW18GLA	Liquid	02/21/05 13:09	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	14	0.50	0.17	mg/L	EPA 300.0	02/23/05 07:56	cth	
Nitrate as N	ND	0.20	0.11	mg/L	EPA 300.0	02/23/05 07:56	cth	
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	98	10	5.5	mg/L	SM 2540C	02/25/05 15:00	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 07:17	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-25

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW1GLA	Liquid	02/21/05 13:10	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	3.8	0.50	0.17	mg/L	EPA 300.0	02/23/05 08:07	cth	
Nitrate as N	0.43	0.20	0.11	mg/L	EPA 300.0	02/23/05 08:07	cth	
Aggregate Properties								
pH	7.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	76	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	PblkJ
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 07:34	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-26

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW2GLA	Liquid	02/21/05 13:20	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	11	0.50	0.17	mg/L	EPA 300.0	02/23/05 08:14	cth	
Nitrate as N	6.1	0.20	0.11	mg/L	EPA 300.0	02/23/05 08:14	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	170	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 07:51	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-27

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW3GLA	Liquid	02/21/05 13:31	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	18	0.50	0.17	mg/L	EPA 300.0	02/23/05 08:22	cth	
Nitrate as N	3.0	0.20	0.11	mg/L	EPA 300.0	02/23/05 08:22	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	150	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 08:07	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-28

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW4GLA	Liquid	02/21/05 13:35	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	4.4	0.50	0.17	mg/L	EPA 300.0	02/23/05 08:30	cth	
Nitrate as N	1.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 08:30	cth	
Aggregate Properties								
pH	7.3	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	120	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 08:24	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-29

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW5GLA	Liquid	02/21/05 13:40	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Fla
Anions								
Sulfate	21	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:01	cth	
Nitrate as N	3.8	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:01	cth	
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	180	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 10:37	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-30

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW19GLA	Liquid	02/21/05 13:40	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	28	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:09	cth	
Nitrate as N	0.14	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:09	cth	J
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	160	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	8.4	4.0	1.4	ug/L	EPA 314.0	03/03/05 10:53	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-31

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW20GLA	Liquid	02/21/05 13:45	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	32	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:16	cth	
Nitrate as N	14	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:16	cth	
Aggregate Properties								
pH	7.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	310	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 11:10	kos	Nconf

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-32

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW6GLA	Liquid	02/21/05 13:49	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	28	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:24	cth	
Nitrate as N	11	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:24	cth	
Aggregate Properties								
pH	7.2	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	190	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 11:27	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-33

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW7GLA	Liquid	02/21/05 13:55	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	19	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:32	cth	
Nitrate as N	9.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:32	cth	
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	230	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	1.6	4.0	1.4	ug/L	EPA 314.0	03/03/05 11:43	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-34

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW21GLA	Liquid	02/21/05 13:58	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	90	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:39	cth	
Nitrate as N	19	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:39	cth	
Aggregate Properties								
pH	7.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	470	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 12:33	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-35

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW22GLA	Liquid	02/21/05 13:59	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	130	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:47	cth	
Nitrate as N	30	1.0	0.54	mg/L	EPA 300.0	02/23/05 19:43	cth	N_H
Aggregate Properties								
pH	7.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	590	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 12:49	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-36

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW8GLA	Liquid	02/21/05 14:02	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	20	0.50	0.17	mg/L	EPA 300.0	02/23/05 09:55	cth	
Nitrate as N	3.5	0.20	0.11	mg/L	EPA 300.0	02/23/05 09:55	cth	
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	160	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 13:06	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-37

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW23GLA	Liquid	02/21/05 14:06	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	160	0.50	0.17	mg/L	EPA 300.0	02/23/05 10:02	cth	
Nitrate as N	24	1.0	0.54	mg/L	EPA 300.0	02/23/05 19:50	cth	N_H
Aggregate Properties								
pH	6.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	710	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 13:23	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-38

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW25GLA	Liquid	02/21/05 14:27	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	110	0.50	0.17	mg/L	EPA 300.0	02/23/05 10:10	cth	
Nitrate as N	19	0.20	0.11	mg/L	EPA 300.0	02/23/05 10:10	cth	
Aggregate Properties								
pH	6.9	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	540	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 13:39	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-39

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW26GLA	Liquid	02/21/05 14:30	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	65	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:12	cth	
Nitrate as N	13	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:12	cth	
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	480	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 13:56	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-40

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW9GLA	Liquid	02/21/05 14:35	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	46	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:20	cth	
Nitrate as N	14	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:20	cth	
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	6.7	4.0	1.4	ug/L	EPA 314.0	03/03/05 14:13	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-41

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW27GLA	Liquid	02/21/05 14:40	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	100	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:28	cth	
Nitrate as N	17	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:28	cth	
Aggregate Properties								
pH	7.3	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	580	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 14:29	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-42

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW10GLA	Liquid	02/21/05 14:45	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	33	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:35	cth	
Nitrate as N	4.0	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:35	cth	
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	200	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 14:46	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-43

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW11GLA	Liquid	02/21/05 14:45	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	25	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:43	cth	
Nitrate as N	7.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:43	cth	
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	230	10	5.5	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 15:03	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-44

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW12GLA	Liquid	02/21/05 14:50	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	140	0.50	0.17	mg/L	EPA 300.0	02/23/05 11:51	cth	
Nitrate as N	7.4	0.20	0.11	mg/L	EPA 300.0	02/23/05 11:51	cth	
Aggregate Properties								
pH	7.4	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	400	20	11	mg/L	SM 2540C	02/26/05 18:49	jmk	
General Inorganics								
Perchlorate	4.4	4.0	1.4	ug/L	EPA 314.0	03/03/05 17:15	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number

A5B1817-45

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW13GLA	Liquid	02/21/05 14:53	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	47	0.50	0.17	mg/L	EPA 300.0	02/23/05 19:56	cth	
Nitrate as N	13	0.20	0.11	mg/L	EPA 300.0	02/23/05 19:56	cth	N_P
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	360	20	11	mg/L	SM 2540C	02/28/05 13:57	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 17:47	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-46

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW14GLA	Liquid	02/21/05 15:05	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	4.7	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:03	cth	
Nitrate as N	0.29	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:03	cth	N_HTz
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	120	10	5.5	mg/L	SM 2540C	02/28/05 13:57	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 18:03	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-47

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW15GLA	Liquid	02/21/05 15:10	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	7.5	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:10	cth	
Nitrate as N	2.1	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:10	cth	N_H
Aggregate Properties								
pH	7.6	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	150	10	5.5	mg/L	SM 2540C	02/28/05 13:57	aa	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 18:20	kos	

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-48

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup-1	Liquid	02/21/05 00:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	36	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:16	cth	
Nitrate as N	5.6	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:16	cth	N_HTz
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	350	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	3.6	4.0	1.4	ug/L	EPA 314.0	03/03/05 18:37	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-49

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup-2	Liquid	02/21/05 00:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	23	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:23	cth	
Nitrate as N	4.7	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:23	cth	N_H'
Aggregate Properties								
pH	8.0	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								PblkJ
Total Dissolved Solids	160	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	1.6	4.0	1.4	ug/L	EPA 314.0	03/03/05 19:26	kos	J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-50

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup-3	Liquid	02/21/05 00:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	28	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:30	cth	
Nitrate as N	0.14	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:30	cth	N_HTz, J
Aggregate Properties								
pH	7.8	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	190	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	11	4.0	1.4	ug/L	EPA 314.0	03/03/05 19:43	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
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San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-51

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup-4	Liquid	02/21/05 00:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	44	0.50	0.17	mg/L	EPA 300.0	02/23/05 20:56	cth	
Nitrate as N	13	0.20	0.11	mg/L	EPA 300.0	02/23/05 20:56	cth	N_P
Aggregate Properties								
pH	8.1	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	02/25/05 20:44	jmk	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/08/05 04:02	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Laboratory Reference Number
A5B1817-52

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW-Dup-5	Liquid	02/21/05 00:00	02/22/05 8:25

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	8.2	0.50	0.17	mg/L	EPA 300.0	02/23/05 21:03	cth	
Nitrate as N	2.3	0.20	0.11	mg/L	EPA 300.0	02/23/05 21:03	cth	N_HTz
Aggregate Properties								
pH	7.7	1.0	1.0	pH Units	SM 4500H+ B	02/22/05 18:50	aa	
Solids								
Total Dissolved Solids	150	10	5.5	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/03/05 20:16	kos	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
Blank (5B22056-BLK1)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B22056-BLK2)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B22056-BLK3)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	0.200	0.50	mg/L							J
Nitrate as N	ND	0.20	mg/L							
Blank (5B22056-BLK4)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
LCS (5B22056-BS1)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	98.3	0.50	mg/L	100		98.3	90-110			
Nitrate as N	11.2	0.20	mg/L	11.3		99.1	90-110			
LCS (5B22056-BS2)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.4	0.20	mg/L	11.3		101	90-110			
LCS (5B22056-BS3)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	99.9	0.50	mg/L	100		99.9	90-110			
Nitrate as N	11.5	0.20	mg/L	11.3		102	90-110			
LCS (5B22056-BS4)				Prepared: 02/22/05	Analyzed: 02/23/05					
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.4	0.20	mg/L	11.3		101	90-110			

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
Matrix Spike (5B22056-MS1)		**Source: A5B1764-03**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	530	0.50	mg/L	100	410	120	85-137			
Nitrate as N	5.19	0.20	mg/L	4.52	0.36	107	80-114			
Matrix Spike (5B22056-MS2)		**Source: A5B1817-06**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	109	0.50	mg/L	100	3.4	106	85-137			
Nitrate as N	5.14	0.20	mg/L	4.52	0.23	109	80-114			
Matrix Spike (5B22056-MS3)		**Source: A5B1817-22**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137			
Nitrate as N	12.1	0.20	mg/L	4.52	7.3	106	80-114			
Matrix Spike (5B22056-MS4)		**Source: A5B1817-38**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	213	0.50	mg/L	100	110	103	85-137			
Nitrate as N	25.2	0.20	mg/L	4.52	19	137	80-114			QM-4X
Matrix Spike Dup (5B22056-MSD1)		**Source: A5B1764-03**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	546	0.50	mg/L	100	410	136	85-137	2.97	20	
Nitrate as N	5.09	0.20	mg/L	4.52	0.36	105	80-114	1.95	20	
Matrix Spike Dup (5B22056-MSD2)		**Source: A5B1817-06**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	105	0.50	mg/L	100	3.4	102	85-137	3.74	20	
Nitrate as N	4.84	0.20	mg/L	4.52	0.23	102	80-114	6.01	20	
Matrix Spike Dup (5B22056-MSD3)		**Source: A5B1817-22**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137	0.00	20	
Nitrate as N	11.8	0.20	mg/L	4.52	7.3	99.6	80-114	2.51	20	
Matrix Spike Dup (5B22056-MSD4)		**Source: A5B1817-38**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	210	0.50	mg/L	100	110	100	85-137	1.42	20	
Nitrate as N	25.0	0.20	mg/L	4.52	19	133	80-114	0.797	20	QM-4X

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Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B23059 - Analyzed as received										
Blank (5B23059-BLK1)				Prepared & Analyzed: 02/23/05						
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B23059-BLK2)				Prepared: 02/23/05 Analyzed: 02/24/05						
Sulfate	ND	0.50	mg/L							
Nitrate as N	ND	0.20	mg/L							
Blank (5B23059-BLK3)				Prepared: 02/23/05 Analyzed: 02/24/05						
Sulfate	0.900	0.50	mg/L							QBLK
Nitrate as N	ND	0.20	mg/L							
LCS (5B23059-BS1)				Prepared & Analyzed: 02/23/05						
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.6	0.20	mg/L	11.3		103	90-110			
LCS (5B23059-BS2)				Prepared: 02/23/05 Analyzed: 02/24/05						
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate as N	11.2	0.20	mg/L	11.3		99.1	90-110			
LCS (5B23059-BS3)				Prepared: 02/23/05 Analyzed: 02/24/05						
Sulfate	100	0.50	mg/L	100		100	90-110			
Nitrate as N	11.6	0.20	mg/L	11.3		103	90-110			
Duplicate (5B23059-DUP1)		Source: A5B1249-10RE		Prepared: 02/23/05 Analyzed: 02/24/05						
Nitrate as N	28.0	0.40	mg/L		28			0.00	20	
Matrix Spike (5B23059-MS1)		Source: A5B1823-03		Prepared & Analyzed: 02/23/05						
Sulfate	135	0.50	mg/L	100	29	106	85-137			
Nitrate as N	6.71	0.20	mg/L	4.52	1.9	106	80-114			

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B23059 - Analyzed as received										
Matrix Spike (5B23059-MS2)		**Source: A5B2032-01**		Prepared: 02/23/05		Analyzed: 02/24/05				
Sulfate	175	0.50	mg/L	100	69	106	85-137			
Nitrate as N	11.4	0.20	mg/L	4.52	6.8	102	80-114			
Matrix Spike (5B23059-MS3)		**Source: A5B2081-02**		Prepared: 02/23/05		Analyzed: 02/24/05				
Sulfate	230	0.50	mg/L	100	130	100	85-137			
Nitrate as N	9.58	0.20	mg/L	4.52	4.7	108	80-114			
Matrix Spike Dup (5B23059-MSD1)		**Source: A5B1823-03**		Prepared & Analyzed: 02/23/05						
Sulfate	135	0.50	mg/L	100	29	106	85-137	0.00	20	
Nitrate as N	6.64	0.20	mg/L	4.52	1.9	105	80-114	1.05	20	
Matrix Spike Dup (5B23059-MSD2)		**Source: A5B2032-01**		Prepared: 02/23/05		Analyzed: 02/24/05				
Sulfate	176	0.50	mg/L	100	69	107	85-137	0.570	20	
Nitrate as N	11.4	0.20	mg/L	4.52	6.8	102	80-114	0.00	20	
Matrix Spike Dup (5B23059-MSD3)		**Source: A5B2081-02**		Prepared: 02/23/05		Analyzed: 02/24/05				
Sulfate	235	0.50	mg/L	100	130	105	85-137	2.15	20	
Nitrate as N	9.63	0.20	mg/L	4.52	4.7	109	80-114	0.521	20	

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

Aggregate Properties - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22035 - Analyzed as received										
LCS (5B22035-BS1)				Prepared & Analyzed: 02/22/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B22035-BS2)				Prepared & Analyzed: 02/22/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B22035-BS3)				Prepared & Analyzed: 02/22/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B22035-BS4)				Prepared & Analyzed: 02/22/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
LCS (5B22035-BS5)				Prepared & Analyzed: 02/22/05						
pH	4.0	1.0	pH Units	4.00		100	97.5-102.5			
Duplicate (5B22035-DUP1)		**Source: A5B1807-01**		Prepared & Analyzed: 02/22/05						
pH	6.9	1.0	pH Units		6.9			0.00	5	
Duplicate (5B22035-DUP2)		**Source: A5B1807-02**		Prepared & Analyzed: 02/22/05						
pH	7.5	1.0	pH Units		7.5			0.00	5	
Duplicate (5B22035-DUP3)		**Source: A5B1848-02**		Prepared & Analyzed: 02/22/05						
pH	7.6	1.0	pH Units		7.7			1.31	5	
Duplicate (5B22035-DUP4)		**Source: A5B1850-01**		Prepared & Analyzed: 02/22/05						
pH	7.3	1.0	pH Units		7.3			0.00	5	
Duplicate (5B22035-DUP5)		**Source: A5B1850-02**		Prepared & Analyzed: 02/22/05						
pH	7.6	1.0	pH Units		7.6			0.00	5	

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Aggregate Properties - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22035 - Analyzed as received										
Duplicate (5B22035-DUP6)			**Source: A5B1853-01**	Prepared & Analyzed: 02/22/05						
pH	7.4	1.0	pH Units		7.4			0.00	5	
Duplicate (5B22035-DUP7)			**Source: A5B1854-02**	Prepared & Analyzed: 02/22/05						
pH	7.4	1.0	pH Units		7.4			0.00	5	
Duplicate (5B22035-DUP8)			**Source: A5B1863-01**	Prepared & Analyzed: 02/22/05						
pH	7.4	1.0	pH Units		7.4			0.00	5	
Duplicate (5B22035-DUP9)			**Source: A5B1848-01**	Prepared & Analyzed: 02/22/05						
H	6.9	1.0	pH Units		6.9			0.00	5	

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B25022 - Analyzed as received										
Blank (5B25022-BLK1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	9.00	10	mg/L							J
LCS (5B25022-BS1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	750	20	mg/L	746		101	90-110			
Duplicate (5B25022-DUP1)		Source: A5B1817-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	247	20	mg/L		300			19.4	20	
Duplicate (5B25022-DUP2)		Source: A5B1817-11		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	187	20	mg/L		180			3.81	20	
Batch 5B25023 - Analyzed as received										
Blank (5B25023-BLK1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	ND	10	mg/L							
LCS (5B25023-BS1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	712	20	mg/L	746		95.4	90-110			
Duplicate (5B25023-DUP1)		Source: A5B1770-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	110	10	mg/L		110			0.00	20	
Duplicate (5B25023-DUP2)		Source: A5B1780-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	852	20	mg/L		830			2.62	20	
Batch 5B25037 - Analyzed as received										
Blank (5B25037-BLK1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	5.50	10	mg/L							J

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B25037 - Analyzed as received										
LCS (5B25037-BS1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	736	20	mg/L	746		98.7	90-110			
Duplicate (5B25037-DUP1)		Source: A5B1817-15		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	233	20	mg/L		240			2.96	20	
Duplicate (5B25037-DUP2)		Source: A5B1817-21		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	158	10	mg/L		160			1.26	20	
Batch 5B26008 - Analyzed as received										
Blank (5B26008-BLK1)				Prepared & Analyzed: 02/26/05						
Total Dissolved Solids	9.50	10	mg/L							J
LCS (5B26008-BS1)				Prepared & Analyzed: 02/26/05						
Total Dissolved Solids	728	20	mg/L	746		97.6	90-110			
Duplicate (5B26008-DUP1)		Source: A5B1817-31		Prepared & Analyzed: 02/26/05						
Total Dissolved Solids	294	20	mg/L		310			5.30	20	
Duplicate (5B26008-DUP2)		Source: A5B1817-41		Prepared & Analyzed: 02/26/05						
Total Dissolved Solids	567	20	mg/L		580			2.27	20	
Batch 5B28041 - Analyzed as received										
Blank (5B28041-BLK1)				Prepared & Analyzed: 02/28/05						
Total Dissolved Solids	8.00	10	mg/L							J

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B28041 - Analyzed as received										
LCS (5B28041-BS1)				Prepared & Analyzed: 02/28/05						
Total Dissolved Solids	722	20	mg/L	746		96.8	90-110			
Duplicate (5B28041-DUP1)			**Source: A5B1945-01**	Prepared & Analyzed: 02/28/05						
Total Dissolved Solids	885	20	mg/L		840			5.22	20	
Duplicate (5B28041-DUP2)			**Source: A5B2029-01**	Prepared & Analyzed: 02/28/05						
Total Dissolved Solids	611	20	mg/L		750			20.4	20	QFpas, QRPDo

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C01060 - Analyzed as received										
Blank (5C01060-BLK1)				Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	ND	4.0	ug/L							
Blank (5C01060-BLK2)				Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	ND	4.0	ug/L							
LCS (5C01060-BS1)				Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	25.2	4.0	ug/L	25.0		101	85-115			
LCS (5C01060-BS2)				Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	24.8	4.0	ug/L	25.0		99.2	85-115			
Duplicate (5C01060-DUP1)		Source: A5B1770-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	ND	4.0	ug/L		ND				15	
Duplicate (5C01060-DUP2)		Source: A5B1817-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	ND	4.0	ug/L		1.5				15	
Matrix Spike (5C01060-MS1)		Source: A5B1770-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	9.90	4.0	ug/L	12.5	ND	79.2	80-120			QFpas, QMout
Matrix Spike (5C01060-MS2)		Source: A5B1817-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	8.10	4.0	ug/L	12.5	1.5	52.8	80-120			QFpas, QMout
Matrix Spike Dup (5C01060-MSD1)		Source: A5B1770-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	8.90	4.0	ug/L	12.5	ND	71.2	80-120	10.6	15	QFpas, QMout
Matrix Spike Dup (5C01060-MSD2)		Source: A5B1817-01		Prepared: 03/01/05		Analyzed: 03/02/05				
Perchlorate	9.80	4.0	ug/L	12.5	1.5	66.4	80-120	19.0	15	QFpas, QMout

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C02073 - Analyzed as received										
Blank (5C02073-BLK1)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	ND	4.0	ug/L							
Blank (5C02073-BLK2)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	ND	4.0	ug/L							
Blank (5C02073-BLK3)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	ND	4.0	ug/L							
LCS (5C02073-BS1)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	26.3	4.0	ug/L	25.0		105	85-115			
LCS (5C02073-BS2)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	25.2	4.0	ug/L	25.0		101	85-115			
LCS (5C02073-BS3)				Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	25.4	4.0	ug/L	25.0		102	85-115			
Duplicate (5C02073-DUP1)		**Source: A5B1817-11**		Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	ND	4.0	ug/L		ND				15	
Duplicate (5C02073-DUP2)		**Source: A5B1817-21**		Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	3.00	4.0	ug/L		2.4			22.2	15	QRPDI, J
Duplicate (5C02073-DUP3)		**Source: A5B1817-31**		Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	ND	4.0	ug/L		ND				15	
Duplicate (5C02073-DUP4)		**Source: A5B1817-41**		Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	1.60	4.0	ug/L		ND				15	J

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C02073 - Analyzed as received										
Matrix Spike (5C02073-MS1)			**Source: A5B1817-11**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	11.8	4.0	ug/L	12.5	ND	94.4	80-120			
Matrix Spike (5C02073-MS2)			**Source: A5B1817-21**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	14.7	4.0	ug/L	12.5	2.4	98.4	80-120			
Matrix Spike (5C02073-MS3)			**Source: A5B1817-31**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	13.4	4.0	ug/L	12.5	ND	107	80-120			
Matrix Spike (5C02073-MS4)			**Source: A5B1817-41**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	14.9	4.0	ug/L	12.5	ND	119	80-120			
Matrix Spike Dup (5C02073-MSD1)			**Source: A5B1817-11**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	10.4	4.0	ug/L	12.5	ND	83.2	80-120	12.6	15	
Matrix Spike Dup (5C02073-MSD2)			**Source: A5B1817-21**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	12.3	4.0	ug/L	12.5	2.4	79.2	80-120	17.8	15	QFpas, QMoRo
Matrix Spike Dup (5C02073-MSD3)			**Source: A5B1817-31**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	11.2	4.0	ug/L	12.5	ND	89.6	80-120	17.9	15	QRPDa
Matrix Spike Dup (5C02073-MSD4)			**Source: A5B1817-41**	Prepared: 03/02/05		Analyzed: 03/03/05				
Perchlorate	12.4	4.0	ug/L	12.5	ND	99.2	80-120	18.3	15	QRPDa
Batch 5C03002 - Analyzed as received										
Blank (5C03002-BLK1)				Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	ND	4.0	ug/L							

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C03002 - Analyzed as received										
LCS (5C03002-BS1)				Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	25.0	4.0	ug/L	25.0		100	85-115			
Matrix Spike (5C03002-MS1)			Source: A5B1770-01RE	Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	10.0	4.0	ug/L	12.5	ND	80.0	80-120			
Matrix Spike (5C03002-MS2)			Source: A5B1817-01RE	Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	13.6	4.0	ug/L	12.5	ND	109	80-120			
Matrix Spike Dup (5C03002-MSD1)			Source: A5B1770-01RE	Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	10.8	4.0	ug/L	12.5	ND	86.4	80-120	7.69	15	
Matrix Spike Dup (5C03002-MSD2)			Source: A5B1817-01RE	Prepared: 03/03/05		Analyzed: 03/04/05				
Perchlorate	13.8	4.0	ug/L	12.5	ND	110	80-120	1.46	15	
Batch 5C04002 - Analyzed as received										
Blank (5C04002-BLK1)				Prepared & Analyzed: 03/04/05						
Perchlorate	ND	4.0	ug/L							
LCS (5C04002-BS1)				Prepared & Analyzed: 03/04/05						
Perchlorate	25.5	4.0	ug/L	25.0		102	85-115			
Matrix Spike (5C04002-MS1)			Source: A5B1817-21RE	Prepared & Analyzed: 03/04/05						
Perchlorate	15.3	4.0	ug/L	12.5	2.8	100	80-120			
Matrix Spike (5C04002-MS2)			Source: A5B1817-31RE	Prepared & Analyzed: 03/04/05						
Perchlorate	13.0	4.0	ug/L	12.5	ND	104	80-120			

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817
Received on Ice (Y/N): Yes Temp: 1 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C04002 - Analyzed as received										
Matrix Spike Dup (5C04002-MSD1)		**Source: A5B1817-21RE**		Prepared & Analyzed: 03/04/05						
Perchlorate	15.2	4.0	ug/L	12.5	2.8	99.2	80-120	0.656	15	
Matrix Spike Dup (5C04002-MSD2)		**Source: A5B1817-31RE**		Prepared & Analyzed: 03/04/05						
Perchlorate	12.4	4.0	ug/L	12.5	ND	99.2	80-120	4.72	15	
Batch 5C07066 - Analyzed as received										
Blank (5C07066-BLK1)				Prepared: 03/07/05	Analyzed: 03/08/05					
Perchlorate	ND	4.0	ug/L							
CS (5C07066-BS1)				Prepared: 03/07/05	Analyzed: 03/08/05					
Perchlorate	23.4	4.0	ug/L	25.0		93.6	85-115			
Duplicate (5C07066-DUP1)		**Source: A5C0242-02**		Prepared: 03/07/05	Analyzed: 03/08/05					
Perchlorate	2.10	4.0	ug/L		2.3			9.09	15	J
Matrix Spike (5C07066-MS1)		**Source: A5C0242-02**		Prepared: 03/07/05	Analyzed: 03/08/05					
Perchlorate	12.8	4.0	ug/L	12.5	2.3	84.0	80-120			
Matrix Spike Dup (5C07066-MSD1)		**Source: A5C0242-02**		Prepared: 03/07/05	Analyzed: 03/08/05					
Perchlorate	14.8	4.0	ug/L	12.5	2.3	100	80-120	14.5	15	

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Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Notes and Definitions

J	Estimated value
N_HTz	Original sample was run within holding time. Results were unavailable from the original extraction/analysis due to extraction/instrument error. Sample re-extracted and reanalyzed outside sample holding time.
Nconf	Result(s) confirmed by re-analysis.
PblkJ	The analyte was detected in the Method Blank at a concentration between the MDL and the MRL.
QBLK	The method blank did not meet laboratory acceptance criteria.
QFpas	Follow-up result within laboratory acceptance criteria.
QFre	The samples (if any) that were associated with this QC sample were reanalyzed in another batch.
QM-4X	Due to analyte concentration greater than or equal to 4 times the spike concentration, recoveries for the MS and or MSD did not meet laboratory acceptance criteria.
QMoRo	MS and/or MSD recovery and the MS/MSD RPD value did not meet laboratory acceptance criteria.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
QRPDa	Both percent recoveries were acceptable, however, the RPD result was above laboratory acceptance criteria.
QRPDl	Analyte concentration was below range for valid RPD determination.
QRPDo	The RPD value for the sample duplicate or MS/MSD did not meet laboratory acceptance criteria.
ND	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reporting Limit (RL)
NR	Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

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Report Date: 14-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5B1817

Received on Ice (Y/N): Yes Temp: 1 °C

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock
President

☐ Allison Mackenzie
General Manager

☐ Lawrence J. Chrystal
Laboratory Director

cc:

ESB_mdl_5_9 Report

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E.S. Babcock & Sons, Inc.
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client: Geologic Associates
Contact: Mike Reason
Phone No. 909 383-8728

Project Name: Stringfellow
Project Location: Stormwater

Turn Around Time: (Routine) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Eric White
Employer: GLA
Signature:

ESB#	Sample ID *	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NH_4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Nitrate	Sulfate	TDS	pH	Matrix	Notes
	SW-7C	2/21/05	1015												X	X	X	X	X	Water	* see attached list for revised sample IDs. 12 02/24/05
	SW-8	2/21/05	1020																		
	SW-2	2/21/05	1025																		
	SW-31	2/21/05	10:30																		
	SW-30	2/21/05	10:35																		
	SW-34	2/21/05	10:38																		
MR	~~Stormwater~~ SW-32	2/21/05	10:40																		
	SW-33	2/21/05	10:45																		
	SW-35	2/21/05	10:55																		
	SW-37	2/21/05	11:00																		

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Eric R. White / GLA	2/22/05 - 8:25	[signature]	[signature] / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? (Yes) No
Custody Seal(s) Intact? Yes No (NA)
Sample(s) Intact? (Yes) No

Temperature 1°

Lab Notes

Lab No. ASB 1817

Page 1 of 1 2/22

E.S. Babcock & Sons, Inc.
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client: GLA
Contact: Mike Reason
Phone No. 909 383-8728

Project Name: Stringfellow
Project Location: Stormwater

Turn Around Time: Routine | 3-5 Days | 48 Hours | 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Eric White
Employer: GLA
Signature:

ESB#	Sample ID*	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Nitrate	Sulfate	TDS	pH	Matrix	Notes
	SW-36	2/21/05	11:08												X	X	X	X	X	Water	
	SW-37A	2/21/05	11:10																	Water	
	~~SW-40A~~ SW-38A	2/21/05	11:18																	Water	
	SW-40	2/21/05	1125																	Water	
	SW-39	2/21/05	1140																	Water	
	SW-42	2/21/05	1148																	Water	
	SW-7A	2-21-05	12:44																	Water	
	SW-7B	2-21-05	1246																	Water	
	SW-6	2-21-05	1250																	Water	
	SW-1	2-21-05	1254																	Water	

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: * see attached list for revised sample IDs. 12 02/24/05

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
Eric P. White	Eric P. White / GLA	2/22/05 / 825	Cindy Waddell	Cindy Waddell / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes No
Custody Seal(s) Intact? Yes No NA
Sample(s) Intact? Yes No
Temperature ºC

Lab Notes

Lab No. ASB 1817

Page 2 of 6 2/22

Rev. 4/04

E.S. Babcock & Sons, Inc.
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client: GLA
Contact: Mike Reason
Phone No. 909-383-8728

Project Name: Stringfellow
Project Location: Stormwater

Turn Around Time: (Routine) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Eric White
Employer: GLA
Signature:

ESB#	Sample ID*	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NH_4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Nitrate	Sulfate	TDS	pH	Matrix	Notes
	~~SW-16A~~ Z1-SW-16A	2/21/05	1303												X	X	X	X	X	Water	* see attached list for revised sample IDs. 12 02/24/05
	~~SW-16~~ Z1-SW-16	2/21/05	1305																	Water	
	Z1-SW-17	2/21/05	1308																	Water	
	Z1-SW-18	2/21/05	1309																	Water	
	Z1-SW-1	2/21/05	1310																	Water	
	Z1-SW-2	2/21/05	1320																	Water	
	Z1-SW-3	2/21/05	1331																	Water	
	Z1-SW-4	2/21/05	1335																	Water	
	Z1-SW-5	2/21/05	1340																	Water	
	Z1-SW-19	2/21/05	1340																	Water	

DW = Drinking Water
WW = Waste Water
GW = Ground Water
S = Soil
SG = Sludge
L = Liquid
M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Eric R White / GLA	2/22/05 - 825	[signature]	Cindy Waddell / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? (Yes) No
Custody Seal(s) Intact? Yes No (NA)
Sample(s) Intact? (Yes) No
Temperature

Lab Notes

Lab No. ASB 1817

Page 3 of 6 2/22

E.S. Babcock & Sons, Inc.
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(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client: Geologic Associates
Contact: Mike Reason
Phone No. 909-383-8728

Project Name: Stringfellow
Project Location: stormwater

Turn Around Time: (Routine) 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

Sampler Information
Name: Mike Reason / Eric White
Employer: GLA
Signature:

ESB#	Sample ID*	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	Perchlorate	Sulfate	Nitrate	TDS	pH	Matrix	Notes
	SW-DUP-4	2/21/05	—												X	X	X	X	X	water	*see attached list for revised sample IDs. 12/02/24/05
	SW-DUP-5	2/21/05	—												X	X	X	X	X	↓	

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
[signature]	Eric P White - GLA	2/22/05 - 825	[signature]	Cindy Waddell / ESB

Lab Use Only

Sample Integrity Upon Receipt
Sample(s) Submitted on Ice? (Yes) No
Custody Seal(s) Intact? Yes No (NA)
Sample(s) Intact? (Yes) No
Temperature ºC

Lab Notes

Lab No. ASB 1817

Page 6 of 6 7/22

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

RECEIVED
MAR 1 8 2005
GLA-San Bernardino

Project Name: Stringfellow Project
Project Number: Stringfellow
Work Order Number: A5C1412
Received on Ice (Y/N): Yes Temp: 2 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5C1412-01	Z1SW16GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:55	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-02	Z1SW28GLA Zone 1, 2, 3, 4	Liquid	03/16/05 15:05	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-03	SW1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:35	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-04	SW2GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:15	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-05	SW3GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:00	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-06	SW50GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:20	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-07	SW51GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:55	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1412-08	Dup1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 00:00	Burt Salinas	03/16/05 15:45	Armando Lan

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW16GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:55	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/17/05 02:45	kos	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW28GLA Zone 1, 2, 3, 4	Liquid	03/16/05 15:05	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/17/05 03:01	kos	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:35	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	1.8	4.0	1.4	ug/L	EPA 314.0	03/17/05 03:16	kos	J

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW2GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:15	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	ND	4.0	1.4	ug/L	EPA 314.0	03/17/05 03:32	kos	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW3GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:00	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	2.2	4.0	1.4	ug/L	EPA 314.0	03/17/05 03:48	kos	J

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW50GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:20	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	3.9	4.0	1.4	ug/L	EPA 314.0	03/17/05 04:03	kos	J

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number

A5C1412-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW51GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:55	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	1.7	4.0	1.4	ug/L	EPA 314.0	03/17/05 04:19	kos	J

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1412-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Dup1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 00:00	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
General Inorganics								
Perchlorate	1.4	4.0	1.4	ug/L	EPA 314.0	03/17/05 04:34	kos	J

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412
Received on Ice (Y/N): Yes Temp: 2 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C16032 - Analyzed as received										
Blank (5C16032-BLK1)				Prepared & Analyzed: 03/16/05						
Perchlorate	ND	4.0	ug/L							
LCS (5C16032-BS1)				Prepared & Analyzed: 03/16/05						
Perchlorate	26.0	4.0	ug/L	25.0		104	85-115			
Duplicate (5C16032-DUP1)		Source: A5C1057-01		Prepared & Analyzed: 03/16/05						
Perchlorate	21.7	4.0	ug/L		24			10.1	15	
Matrix Spike (5C16032-MS1)		Source: A5C1057-01		Prepared: 03/16/05 Analyzed: 03/17/05						
Perchlorate	30.3	4.0	ug/L	12.5	24	50.4	80-120			QFinF QMou
Matrix Spike Dup (5C16032-MSD1)		Source: A5C1057-01		Prepared: 03/16/05 Analyzed: 03/17/05						
Perchlorate	32.9	4.0	ug/L	12.5	24	71.2	80-120	8.23	15	QFinP, QMout

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 17-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1412

Received on Ice (Y/N): Yes Temp: 2 °C

Notes and Definitions

J	Estimated value
QFinP	Follow-up in progress.
QMout	MS and/or MSD recovery did not meet laboratory acceptance criteria.
ND	Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reporting Limit (RL)
NR	Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock, President
☐ Allison Mackenzie, General Manager
☐ Lawrence J. Chrystal, Laboratory Director

cc:

ESB_mdl_5_9 Report

ACCREDITED IN ACCORDANCE WIT nelac

E.S. Babcock & Sons, Inc.
6100 Quail Valley Court Riverside, CA 92507
(951) 653-3351 • FAX (951) 653-1662

Chain of Custody & Sample Information Record

Client:

Contact: Mike Reason

Phone No. 909-383-8728

Project Name: Sotringfellow (surface water sampl)

Project Location: Zone 1, 2, 3, 3U

Turn Around Time: Routine 3-5 Days 48 Hours 24 Hours (Rushes Require Approval, Additional Charges May Apply)

OK per LZR

Sampler Information

Name: Bert Salinas

Employer: BAS

Signature: Bert Salinas

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Notes: Any Questions Call Mike Reason

ESB#	Sample ID	Date	Time	Unpreserved	H2SO4	HCl	HNO3	Na2S2O3	NaOH	NH4Cl	Total # of Containers	Routine	Resample	Special	TDS	Sulfate	Nitrate	perchlorate (3140)	Matrix	Notes
1	21SW16GLA	3/16/05	1455	X							1				X	X	X	X	SW	
2	21SW28GLA		1505								1				X	X	X	X		
3	SW1GLA		1435								1				X	X	X	X		
4	SW2GLA		1415								1				X	X	X	X		
5	SW3GLA		1300								1				X	X	X	X		
6	SW50GLA		1320								1				X	X	X	X		
7	SW51GLA		1355								1				X	X	X	X		
8	Dup1GLA		—								1				X	X	X	X		

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
Bert Salinas	Bert Salinas / BAS	3/16/05	[signature]	[signature]
[signature]	A Landau ESB	3/16/05 1545	C. Waddell	Cindy Waddell / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes No

Custody Seal(s) Intact? Yes No NA

Sample(s) Intact? Yes No

Temperature 2°

Lab Notes

MAR 16 2005

Lab No. A5C1412

Page 1 of 1

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RECEIVED
MAR 2 5 2005
GLA-San Bernardino

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5C1423-01	Z1SW16GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:55	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-02	Z1SW28GLA Zone 1, 2, 3, 4	Liquid	03/16/05 15:05	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-03	SW1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:35	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-04	SW2GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:15	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-05	SW3GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:00	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-06	SW50GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:20	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-07	SW51GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:55	Burt Salinas	03/16/05 15:45	Armando Lan
A5C1423-08	Dup1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 00:00	Burt Salinas	03/16/05 15:45	Armando Lan

CREDITED IN ACCORDANCE WI
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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW16GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:55	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	72	0.50	0.17	mg/L	EPA 300.0	03/17/05 00:43	kos	
Nitrate	88	1.0	0.47	mg/L	EPA 300.0	03/17/05 00:43	kos	
Solids								
Total Dissolved Solids	450	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number

A5C1423-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Z1SW28GLA Zone 1, 2, 3, 4	Liquid	03/16/05 15:05	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	66	0.50	0.17	mg/L	EPA 300.0	03/17/05 00:53	kos	
Nitrate	65	1.0	0.47	mg/L	EPA 300.0	03/17/05 00:53	kos	
Solids								
Total Dissolved Solids	410	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:35	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	64	0.50	0.17	mg/L	EPA 300.0	03/17/05 01:03	kos	
Nitrate	75	1.0	0.47	mg/L	EPA 300.0	03/17/05 01:03	kos	
Solids								
Total Dissolved Solids	400	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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P.O. Box 432 Riverside, CA 92502-0432
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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW2GLA Zone 1, 2, 3, 4	Liquid	03/16/05 14:15	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	62	0.50	0.17	mg/L	EPA 300.0	03/17/05 01:13	kos	
Nitrate	70	1.0	0.47	mg/L	EPA 300.0	03/17/05 01:13	kos	
Solids								
Total Dissolved Solids	380	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW3GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:00	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	66	0.50	0.17	mg/L	EPA 300.0	03/17/05 01:23	kos	
Nitrate	59	1.0	0.47	mg/L	EPA 300.0	03/17/05 01:23	kos	
Solids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	03/19/05 17:00	jmk	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW50GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:20	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	65	0.50	0.17	mg/L	EPA 300.0	03/17/05 01:33	kos	
Nitrate	62	1.0	0.47	mg/L	EPA 300.0	03/17/05 01:33	kos	
Solids								
Total Dissolved Solids	340	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number
A5C1423-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW51GLA Zone 1, 2, 3, 4	Liquid	03/16/05 13:55	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	64	0.50	0.17	mg/L	EPA 300.0	03/17/05 02:55	kos	
Nitrate	70	1.0	0.47	mg/L	EPA 300.0	03/17/05 02:55	kos	
Solids								
Total Dissolved Solids	390	20	11	mg/L	SM 2540C	03/21/05 14:01	aa	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423

Received on Ice (Y/N): Yes Temp: 2 °C

Laboratory Reference Number

A5C1423-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
Dup1GLA Zone 1, 2, 3, 4	Liquid	03/16/05 00:00	03/16/05 15:45

Analyte(s)	Result	RDL	MDL	Units	Method	Analysis Date	Analyst	Flag
Anions								
Sulfate	62	0.50	0.17	mg/L	EPA 300.0	03/17/05 03:05	kos	
Nitrate	70	1.0	0.47	mg/L	EPA 300.0	03/17/05 03:05	kos	
Solids								
Total Dissolved Solids	370	20	11	mg/L	SM 2540C	03/19/05 17:00	jmk	

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P.O. Box 432 Riverside, CA 92502-0432
PH (951) 653-3351 FAX (951) 653-1662
www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C16055 - Analyzed as received										
Blank (5C16055-BLK1)				Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5C16055-BLK2)				Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
LCS (5C16055-BS1)				Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	98.3	0.50	mg/L	100		98.3	90-110			
Nitrate	50.4	1.0	mg/L	50.0		101	90-110			
LCS (5C16055-BS2)				Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	95.4	0.50	mg/L	100		95.4	90-110			
Nitrate	49.7	1.0	mg/L	50.0		99.4	90-110			
Matrix Spike (5C16055-MS1)		Source: A5C1423-06		Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	170	0.50	mg/L	100	65	105	85-137			
Nitrate	80.1	1.0	mg/L	20.0	62	90.5	80-114			
Matrix Spike (5C16055-MS2)		Source: A5C1460-01		Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	236	0.50	mg/L	100	130	106	85-137			
Nitrate	18.5	1.0	mg/L	20.0	ND	92.5	80-114			
Matrix Spike Dup (5C16055-MSD1)		Source: A5C1423-06		Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	174	0.50	mg/L	100	65	109	85-137	2.33	20	
Nitrate	81.5	1.0	mg/L	20.0	62	97.5	80-114	1.73	20	
Matrix Spike Dup (5C16055-MSD2)		Source: A5C1460-01		Prepared: 03/16/05		Analyzed: 03/17/05				
Sulfate	239	0.50	mg/L	100	130	109	85-137	1.26	20	
Nitrate	18.7	1.0	mg/L	20.0	ND	93.5	80-114	1.08	20	

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www.babcocklabs.com

Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5C18038 - Analyzed as received										
Blank (5C18038-BLK1)				Prepared: 03/18/05	Analyzed: 03/19/05					
Total Dissolved Solids	ND	10	mg/L							
LCS (5C18038-BS1)				Prepared: 03/18/05	Analyzed: 03/19/05					
Total Dissolved Solids	743	20	mg/L	746		99.6	90-110			
Duplicate (5C18038-DUP1)		Source: A5C1322-02		Prepared: 03/18/05	Analyzed: 03/19/05					
Total Dissolved Solids	319	20	mg/L		280			13.0	20	
Batch 5C21036 - Analyzed as received										
Blank (5C21036-BLK1)				Prepared & Analyzed: 03/21/05						
Total Dissolved Solids	ND	10	mg/L							
LCS (5C21036-BS1)				Prepared & Analyzed: 03/21/05						
Total Dissolved Solids	750	20	mg/L	746		101	90-110			
Duplicate (5C21036-DUP1)		Source: A5C1559-01		Prepared & Analyzed: 03/21/05						
Total Dissolved Solids	342	20	mg/L		320			6.65	20	
Duplicate (5C21036-DUP2)		Source: A5C1583-06		Prepared & Analyzed: 03/21/05						
Total Dissolved Solids	969	20	mg/L		970			0.103	20	

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Client Name: GeoLogic Associates-SB
Contact: Mike Reason
Address: 1831 Commercenter East
San Bernardino, CA 92408

Report Date: 23-Mar-2005

Project Name: Stringfellow Project
Project Number: Stringfellow

Work Order Number: A5C1423
Received on Ice (Y/N): Yes Temp: 2 °C

Notes and Definitions

ND Analyte NOT DETECTED at or above the Method Detection Limit **(if MDL is reported)**, otherwise at or above the Reporting Limit (RL)

NR Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☒ James K. Babcock, President
☐ Allison Mackenzie, General Manager
☐ Lawrence J. Chrystal, Laboratory Director

cc:

ESB_mdl_5_9 Report

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Chain of Custody & Sample Information Record

Client:

Contact: Mike Reason

Phone No. 909-383-8728

Project Name: Stringfellow (surface water sampling)

Project Location: Zone 1, 2, 3, 4

Turn Around Time: Routine | 3-5 Days | 48 Hours | 24 Hours (circled) — (Rushes Require Approval, Additional Charges May Apply)

Sampler Information

Name: Bart Salinas

Employer: BAS

Signature: Bart Salinas

ESB#	Sample ID	Date	Time	Unpreserved	H_2SO_4	HCl	HNO_3	$Na_2S_2O_3$	NaOH	NH_4Cl	Total # of Containers	Routine	Resample	Special	TDS	Sulfate	Nitrate perchlorate (314.0)	Matrix	Notes
1	21SW16GLA	3/16/05	1455	X							1				X	X	X X	SW	Any Questions Call Mike Reason
2	21SW28GLA	↓	1505	↓							1				X	X	X X	↓	
3	SW1GLA		1435								1				X	X	X X		
4	SW2GLA		1415								1				X	X	X X		
5	SW3GLA		1300								1				X	X	X X		
6	SW50GLA		1320								1				X	X	X X		
7	SW51GLA		1355								1				X	X	X X		
8	Dup1GLA	↓	—	↓							1				X	X	X X	↓	
9																			
10																			

Matrix: DW = Drinking Water; WW = Waste Water; GW = Ground Water; S = Soil; SG = Sludge; L = Liquid; M = Miscellaneous

Relinquished By (sign)	Print Name / Company	Date / Time	Received By (sign)	Print Name / Company
Bart Salinas	Bart Salinas / BAS	3/16/05	[signature]	A. Lander ESB
[signature]	A Lander ESB	3/16/05 1545	C. Waddell	Cindy Waddell / ESB

(For Lab Use Only) Sample Integrity Upon Receipt

Sample(s) Submitted on Ice? Yes (circled) No

Custody Seal(s) Intact? Yes No NA (circled)

Sample(s) Intact? Yes (circled) No

Temperature 2 ºC

Lab Notes

MAR 16 2005

Lab No. A5C1423

Page 1 of 1

APPENDIX C

FIELD DATA SHEETS AND LABORATORY ANALYTICAL REPORTS FOR SAMPLES COLLECTED BY KLEINFELDER ASSOCIATES

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW01

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~µmhos~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
08:05	13.6	7.64	0.095	578	10.7	flowing, turbid

Comments:

SAMPLE COLLECTED @ 08:10

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW02

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C ~~(°F)~~	pH	Conductivity (~~umhos~~ mSeimens/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
08:30	13.1	7.43	0.084	81	11.44	flowing, 2-4" deep

Comments:

Turbidity reading may not be representative - not read directly in flow - flow is too rapid

Sample collected @ 08:40

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW03

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~umhos~~ µ Siemens/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
08:45	13.1	7.30	0.094	>999	10.95	flowing, 1.5' deep
						red-brown color

Comments:

SAMPLE collected at 09:05
location is updradient of confluence with Pyrite Creek.

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW04

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~umhos~~ mSeimens/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
08:50	12.9	7.04	0.137	>999	10.41	flowing, tan color

Comments:

Sample collected at 09:10 from Pyrite Creek just upgradient of confluence with storm channel.

Duplicate and split samples collected.

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW05

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~umhos~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
10:25	13.6	7.61	0.113	934	10.63	flowing

Comments:

Sample collected at 10:29

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW06

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C ~~(°F)~~	pH	Conductivity (~~umhos~~ mS/cm/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
10:40	13.6	7.36	0.133	989	10.32	flowing

Comments:

Sample collected at 10:43

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW07

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~µmhos~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
11:00	13.5	7.34	0.22	946	10.49	flowing

Comments:

Sampled @ 11:02

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW08

Sampler: B, BONDY Sample Collection Method: GRAB

Time	Temp ~~(°F)~~ °C	pH	Conductivity ~~(umhos~~ mSeiners/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
11:10	13.6	7.43	0.148	991	10.45	flowing

Comments:

Location is ~ 20-30 feet NE of FC-1033
sampled @ 11:15

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW09

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~umhos~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
11:33	15.2	8.43	0.270	169	10.60	flowing

Comments:

Sampled @ 11:40

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW10

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C (~~°F~~)	pH	Conductivity (~~umhos~~ µSiemens/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
12:10	14.5	7.58	0.330	114	8.89	flowing slowly

Comments:

Sampled @ 12:15

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW11

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C ~~(°F)~~	pH	Conductivity ~~(umhos~~ mSeconds/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
12:20	14.0	7.40	0.292	634	8.71	flowing

Comments:

Sampled @ 12:25

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW12

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C ~~(°F)~~	pH	Conductivity ~~(µmhos~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
12:45	13.8	7.43	0.274	770	9.11	flowing

Comments:

Sampled @ 12:48

~ 200ft W of 58th Street dead end

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW13

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp (°C ~~°F~~)	pH	Conductivity (~~umhos~~ microMhos/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
13:10	13.9	7.39	0.280	848	9.05	flowing

Comments:

Sampled @ 13:13

@ Pyrite Creek and Beach St.

KLEINFELDER, INC.
SURFACE WATER SAMPLING DATA SHEET

Date: 2/18/05 Sample Location: SW14

Sampler: B. BONDY Sample Collection Method: GRAB

Time	Temp °C ~~(°F)~~	pH	Conductivity ~~(umhos/~~ mS/cm)	Turbidity (NTU)	Dissolved Oxygen (ppm)	Remarks (color, odor, sediment)
13:25	13.9	7.29	0.223	759	7.90	flowing slowly

Comments:

sampled @ 13:29 @ North side of Limonite from creek.

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6100 Quail Valley Court Riverside, CA 92507-0704
P.O. Box 432 Riverside, CA 92502-0432
PH (909) 653-3351 FAX (909) 653-1662
e-mail: esbsales@aol.com
www.babcocklabs.com

Client Name: Kleinfelder - Sacramento
Contact: Joe Samoy
Address: 3077 Fite Circle
Sacramento, CA 95827

Report Date: 19-Apr-2005

Analytical Report: Page 1 of 25
Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Attached is the analytical report for the sample(s) received for your project. Below is a list of the individual sample descriptions with the corresponding laboratory number(s). Also, enclosed is a copy of the Chain of Custody document (if received with your sample(s)). Please note any unused portion of the sample(s) may be responsibly discarded after 30 days from the above report date, unless you have requested otherwise.

Thank you for the opportunity to serve your analytical needs. If you have any questions or concerns regarding this report please contact our client service department at the phone number above.

Sample Identification

Lab Sample #	Client Sample ID	Matrix	Date Sampled	By	Date Submitted	By
A5B1759-01	SW01KA	Liquid	02/18/05 08:10	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-02	SW02KA	Liquid	02/18/05 08:40	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-03	SW03KA	Liquid	02/18/05 09:05	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-04	SW04KA	Liquid	02/18/05 09:10	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-05	SW05KA	Liquid	02/18/05 10:29	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-06	SW06KA	Liquid	02/18/05 10:43	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-07	SW07KA	Liquid	02/18/05 11:02	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-08	SW08KA	Liquid	02/18/05 11:15	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-09	SW09KA	Liquid	02/18/05 11:40	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-10	SW10KA	Liquid	02/18/05 12:15	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-11	SW11KA	Liquid	02/18/05 12:25	Bryan Bondy	02/18/05 16:30	Bryan Bondy

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

A5B1759-12	SW12KA	Liquid	02/18/05 12:48	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-13	SW13KA	Liquid	02/18/05 13:13	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-14	SW14KA	Liquid	02/18/05 13:29	Bryan Bondy	02/18/05 16:30	Bryan Bondy
A5B1759-15	SWDKA	Liquid	02/18/05 09:15	Bryan Bondy	02/18/05 16:30	Bryan Bondy

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-01

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW01KA	Liquid	02/18/05 08:10	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	4.0	0.50	mg/L	EPA 300.0	02/22/05 23:25	cth	
Nitrate	7.1	1.0	mg/L	EPA 300.0	02/22/05 23:25	cth	N_HTa
Solids							
Total Dissolved Solids	160	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	ND	0.50	ug/L	IC-MS/MS	02/24/05 18:32	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-02

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW02KA	Liquid	02/18/05 08:40	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	4.5	0.50	mg/L	EPA 300.0	02/22/05 23:32	cth	
Nitrate	4.0	1.0	mg/L	EPA 300.0	02/22/05 23:32	cth	N_HT
Solids							
Total Dissolved Solids	290	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	ND	0.50	ug/L	IC-MS/MS	02/24/05 18:49	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-03

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW03KA	Liquid	02/18/05 09:05	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	5.4	0.50	mg/L	EPA 300.0	02/19/05 10:02	AA	
Nitrate	4.3	1.0	mg/L	EPA 300.0	02/19/05 10:02	AA	
Solids							
Total Dissolved Solids	190	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	ND	0.50	ug/L	IC-MS/MS	02/24/05 19:06	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-04

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW04KA	Liquid	02/18/05 09:10	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	19	0.50	mg/L	EPA 300.0	02/19/05 10:17	AA	
Nitrate	11	1.0	mg/L	EPA 300.0	02/19/05 10:17	AA	
Solids							
Total Dissolved Solids	260	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	31	0.50	ug/L	IC-MS/MS	02/24/05 19:57	kos	

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P.O. Box 432 Riverside, CA 92502-0432
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www.babcocklabs.com

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Contact: Joe Samoy
Address: 3077 Fite Circle
Sacramento, CA 95827

Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-05

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW05KA	Liquid	02/18/05 10:29	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	7.1	0.50	mg/L	EPA 300.0	02/19/05 10:33	AA	
Nitrate	5.5	1.0	mg/L	EPA 300.0	02/19/05 10:33	AA	
Solids							
Total Dissolved Solids	210	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	4.5	0.50	ug/L	IC-MS/MS	02/24/05 20:14	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-06

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW06KA	Liquid	02/18/05 10:43	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	7.7	0.50	mg/L	EPA 300.0	02/19/05 10:48	AA	
Nitrate	6.0	1.0	mg/L	EPA 300.0	02/19/05 10:48	AA	
Solids							
Total Dissolved Solids	200	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	4.0	0.50	ug/L	IC-MS/MS	02/24/05 20:31	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-07

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW07KA	Liquid	02/18/05 11:02	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	10	0.50	mg/L	EPA 300.0	02/19/05 11:57	AA	
Nitrate	7.2	1.0	mg/L	EPA 300.0	02/19/05 11:57	AA	
Solids							
Total Dissolved Solids	200	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	4.1	0.50	ug/L	IC-MS/MS	02/24/05 20:48	kos	

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Address: 3077 Fite Circle
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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-08

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW08KA	Liquid	02/18/05 11:15	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	10	0.50	mg/L	EPA 300.0	02/19/05 12:12	AA	
Nitrate	7.5	1.0	mg/L	EPA 300.0	02/19/05 12:12	AA	
Solids							
Total Dissolved Solids	230	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	3.8	0.50	ug/L	IC-MS/MS	02/24/05 21:05	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-09

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW09KA	Liquid	02/18/05 11:40	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	30	0.50	mg/L	EPA 300.0	02/19/05 12:27	AA	
Nitrate	12	1.0	mg/L	EPA 300.0	02/19/05 12:27	AA	
Solids							
Total Dissolved Solids	380	20	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	ND	0.50	ug/L	IC-MS/MS	02/24/05 21:23	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-10

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW10KA	Liquid	02/18/05 12:15	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	30	0.50	mg/L	EPA 300.0	02/19/05 13:05	AA	
Nitrate	13	1.0	mg/L	EPA 300.0	02/19/05 13:05	AA	
Solids							
Total Dissolved Solids	320	20	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	0.82	0.50	ug/L	IC-MS/MS	02/24/05 21:40	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-11

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW11KA	Liquid	02/18/05 12:25	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	28	0.50	mg/L	EPA 300.0	02/19/05 13:21	AA	
Nitrate	9.6	1.0	mg/L	EPA 300.0	02/19/05 13:21	AA	
Solids							
Total Dissolved Solids	310	20	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics							
Perchlorate	3.2	0.50	ug/L	IC-MS/MS	02/24/05 21:57	kos	

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Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-12

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW12KA	Liquid	02/18/05 12:48	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	27	0.50	mg/L	EPA 300.0	02/19/05 13:36	AA	
Nitrate	9.9	1.0	mg/L	EPA 300.0	02/19/05 13:36	AA	
Solids							
Total Dissolved Solids	300	20	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics							
Perchlorate	3.6	0.50	ug/L	IC-MS/MS	02/24/05 22:14	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-13

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW13KA	Liquid	02/18/05 13:13	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	26	0.50	mg/L	EPA 300.0	02/19/05 13:51	AA	
Nitrate	9.8	1.0	mg/L	EPA 300.0	02/19/05 13:51	AA	
Solids							
Total Dissolved Solids	280	20	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics							
Perchlorate	3.5	0.50	ug/L	IC-MS/MS	02/24/05 22:31	kos	

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Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-14

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SW14KA	Liquid	02/18/05 13:29	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	19	0.50	mg/L	EPA 300.0	02/19/05 14:07	AA	
Nitrate	8.1	1.0	mg/L	EPA 300.0	02/19/05 14:07	AA	
Solids							
Total Dissolved Solids	230	20	mg/L	SM 2540C	02/25/05 14:44	jng	
General Inorganics							
Perchlorate	2.6	0.50	ug/L	IC-MS/MS	02/25/05 00:48	kos	

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www.babcocklabs.com

Client Name: Kleinfelder - Sacramento
Contact: Joe Samoy
Address: 3077 Fite Circle
Sacramento, CA 95827

Report Date: 19-Apr-2005

Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Laboratory Reference Number
A5B1759-15

Sample Description	Matrix	Sampled Date/Time	Received Date/Time
SWDKA	Liquid	02/18/05 09:15	02/18/05 16:30

Analyte(s)	Result	RDL	Units	Method	Analysis Date	Analyst	Flag
Anions							
Sulfate	21	0.50	mg/L	EPA 300.0	02/22/05 23:40	cth	
Nitrate	11	1.0	mg/L	EPA 300.0	02/22/05 23:40	cth	N_HTa
Solids							
Total Dissolved Solids	290	10	mg/L	SM 2540C	02/24/05 22:18	jmk	
General Inorganics							
Perchlorate	36	0.50	ug/L	IC-MS/MS	02/25/05 01:05	kos	

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Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18051 - Analyzed as received										
Blank (5B18051-BLK1)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B18051-BLK2)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B18051-BLK3)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B18051-BLK4)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
LCS (5B18051-BS1)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	104	0.50	mg/L	100		104	90-110			
Nitrate	51.1	1.0	mg/L	50.0		102	90-110			
LCS (5B18051-BS2)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	105	0.50	mg/L	100		105	90-110			
Nitrate	51.4	1.0	mg/L	50.0		103	90-110			
LCS (5B18051-BS3)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	104	0.50	mg/L	100		104	90-110			
Nitrate	50.4	1.0	mg/L	50.0		101	90-110			
LCS (5B18051-BS4)				Prepared: 02/18/05 Analyzed: 02/19/05						
Sulfate	104	0.50	mg/L	100		104	90-110			
Nitrate	49.0	1.0	mg/L	50.0		98.0	90-110			

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Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18051 - Analyzed as received										
Duplicate (5B18051-DUP1)				Source: A5B1249-10	Prepared & Analyzed: 02/18/05					
Sulfate	0.200	0.50	mg/L		0.20			0.00	20	
Nitrate	146	1.0	mg/L		150			2.70	20	
Matrix Spike (5B18051-MS1)				Source: A5B1649-02	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	183	0.50	mg/L	100	76	107	85-137			
Nitrate	40.0	1.0	mg/L	20.0	19	105	80-114			
Matrix Spike (5B18051-MS2)				Source: A5B1718-03	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	107	0.50	mg/L	100	2.0	105	85-137			
Nitrate	21.9	1.0	mg/L	20.0	1.1	104	80-114			
Matrix Spike (5B18051-MS3)				Source: A5B1751-01	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	108	0.50	mg/L	100	1.8	106	85-137			
Nitrate	20.9	1.0	mg/L	20.0	ND	104	80-114			
Matrix Spike (5B18051-MS4)				Source: A5B1759-13	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	525	2.6	mg/L	500	26	99.8	85-137			
Nitrate	112	5.2	mg/L	99.9	9.8	102	80-114			
Matrix Spike Dup (5B18051-MSD1)				Source: A5B1649-02	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	183	0.50	mg/L	100	76	107	85-137	0.00	20	
Nitrate	40.0	1.0	mg/L	20.0	19	105	80-114	0.00	20	
Matrix Spike Dup (5B18051-MSD2)				Source: A5B1718-03	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	109	0.50	mg/L	100	2.0	107	85-137	1.85	20	
Nitrate	21.5	1.0	mg/L	20.0	1.1	102	80-114	1.84	20	
Matrix Spike Dup (5B18051-MSD3)				Source: A5B1751-01	Prepared: 02/18/05	Analyzed: 02/19/05				
Sulfate	110	0.50	mg/L	100	1.8	108	85-137	1.83	20	
Nitrate	21.0	1.0	mg/L	20.0	ND	105	80-114	0.477	20	

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Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B18051 - Analyzed as received										
Matrix Spike Dup (5B18051-MSD4)		**Source: A5B1759-13**		Prepared: 02/18/05		Analyzed: 02/19/05				
Sulfate	532	2.6	mg/L	500	26	101	85-137	1.32	20	
Nitrate	112	5.2	mg/L	99.9	9.8	102	80-114	0.00	20	
Batch 5B22056 - Analyzed as received										
Blank (5B22056-BLK1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B22056-BLK2)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B22056-BLK3)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
Blank (5B22056-BLK4)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	ND	0.50	mg/L							
Nitrate	ND	1.0	mg/L							
LCS (5B22056-BS1)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	98.3	0.50	mg/L	100		98.3	90-110			
Nitrate	49.7	1.0	mg/L	50.0		99.4	90-110			
LCS (5B22056-BS2)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate	50.5	1.0	mg/L	50.0		101	90-110			

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Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
LCS (5B22056-BS3)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	99.9	0.50	mg/L	100		99.9	90-110			
Nitrate	50.9	1.0	mg/L	50.0		102	90-110			
LCS (5B22056-BS4)				Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	101	0.50	mg/L	100		101	90-110			
Nitrate	50.7	1.0	mg/L	50.0		101	90-110			
Matrix Spike (5B22056-MS1)		Source: A5B1764-03		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	530	0.50	mg/L	100	410	120	85-137			
Nitrate	23.0	1.0	mg/L	20.0	1.6	107	80-114			
Matrix Spike (5B22056-MS2)		Source: A5B1817-06		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	109	0.50	mg/L	100	3.4	106	85-137			
Nitrate	22.8	1.0	mg/L	20.0	1.0	109	80-114			
Matrix Spike (5B22056-MS3)		Source: A5B1817-22		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137			
Nitrate	53.4	1.0	mg/L	20.0	32	107	80-114			
Matrix Spike (5B22056-MS4)		Source: A5B1817-38		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	213	0.50	mg/L	100	110	103	85-137			
Nitrate	112	1.0	mg/L	20.0	83	145	80-114			QM-4X
Matrix Spike Dup (5B22056-MSD1)		Source: A5B1764-03		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	546	0.50	mg/L	100	410	136	85-137	2.97	20	
Nitrate	22.6	1.0	mg/L	20.0	1.6	105	80-114	1.75	20	
Matrix Spike Dup (5B22056-MSD2)		Source: A5B1817-06		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	105	0.50	mg/L	100	3.4	102	85-137	3.74	20	
Nitrate	21.4	1.0	mg/L	20.0	1.0	102	80-114	6.33	20	

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Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Anions - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B22056 - Analyzed as received										
Matrix Spike Dup (5B22056-MSD3)		**Source: A5B1817-22**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	134	0.50	mg/L	100	24	110	85-137	0.00	20	
Nitrate	52.5	1.0	mg/L	20.0	32	102	80-114	1.70	20	
Matrix Spike Dup (5B22056-MSD4)		**Source: A5B1817-38**		Prepared: 02/22/05		Analyzed: 02/23/05				
Sulfate	210	0.50	mg/L	100	110	100	85-137	1.42	20	
Nitrate	111	1.0	mg/L	20.0	83	140	80-114	0.897	20	QM-4X

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Project Name: Kleinfelder Stringfellow Project
Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Solids - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B24075 - Analyzed as received										
Blank (5B24075-BLK1)				Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	10.0	10	mg/L							
LCS (5B24075-BS1)				Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	743	20	mg/L	746		99.6	90-110			
Duplicate (5B24075-DUP1)		Source: A5B1679-01		Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	843	20	mg/L		860			2.00	20	
Duplicate (5B24075-DUP2)		Source: A5B1770-13		Prepared & Analyzed: 02/24/05						
Total Dissolved Solids	380	20	mg/L		400			5.13	20	
Batch 5B25023 - Analyzed as received										
Blank (5B25023-BLK1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	ND	10	mg/L							
LCS (5B25023-BS1)				Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	712	20	mg/L	746		95.4	90-110			
Duplicate (5B25023-DUP1)		Source: A5B1770-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	110	10	mg/L		110			0.00	20	
Duplicate (5B25023-DUP2)		Source: A5B1780-01		Prepared & Analyzed: 02/25/05						
Total Dissolved Solids	852	20	mg/L		830			2.62	20	

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Project Number: KL4526-SF

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Received on Ice (Y/N): Yes Temp: 3 °C

General Inorganics - Batch Quality Control

Analyte(s)	Result	RDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Flag
Batch 5B23072 - Analyzed as received										
Blank (5B23072-BLK1)				Prepared: 02/23/05 Analyzed: 02/24/05						
Perchlorate	ND	0.10	ug/L							
LCS (5B23072-BS1)				Prepared: 02/23/05 Analyzed: 02/24/05						
Perchlorate	9.80	0.10	ug/L	10.0		98.0	80-120			
Duplicate (5B23072-DUP1)			Source: A5B1759-13	Prepared: 02/23/05 Analyzed: 02/24/05						
Perchlorate	3.30	0.50	ug/L		3.5			5.88	40	
Matrix Spike (5B23072-MS1)			Source: A5B1759-13	Prepared: 02/23/05 Analyzed: 02/25/05						
Perchlorate	52.0	0.50	ug/L	50.0	3.5	97.0	75-125			
Matrix Spike Dup (5B23072-MSD1)			Source: A5B1759-13	Prepared: 02/23/05 Analyzed: 02/25/05						
Perchlorate	51.7	0.50	ug/L	50.0	3.5	96.4	75-125	0.579	40	

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Project Number: KL4526-SF

Work Order Number: A5B1759

Received on Ice (Y/N): Yes Temp: 3 °C

Notes and Definitions

N_HTa Sample analyzed outside of the EPA recommended holding time.

QM-4X Due to analyte concentration greater than or equal to 4 times the spike concentration, recoveries for the MS and /or MSD did not meet laboratory acceptance criteria.

ND Analyte NOT DETECTED at or above the reporting limit (RDL)

NR Not Reported

RDL = Reportable Detection Limit MDL = Method Detection Limit

E.S. BABCOCK & SONS, INC.
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Approval

Enclosed are the analytical results for the submitted sample(s). Babcock Laboratories certify the data presented as part of this report meet the minimum quality standards in the referenced analytical methods. Any exceptions have been noted. Babcock Laboratories and its officers and employees assume no responsibility and make no warranty, express or implied, for uses or interpretations made by any recipients, intended or unintended, of this report.

☐ James K. Babcock
President

☐ Allison Mackenzie
General Manager

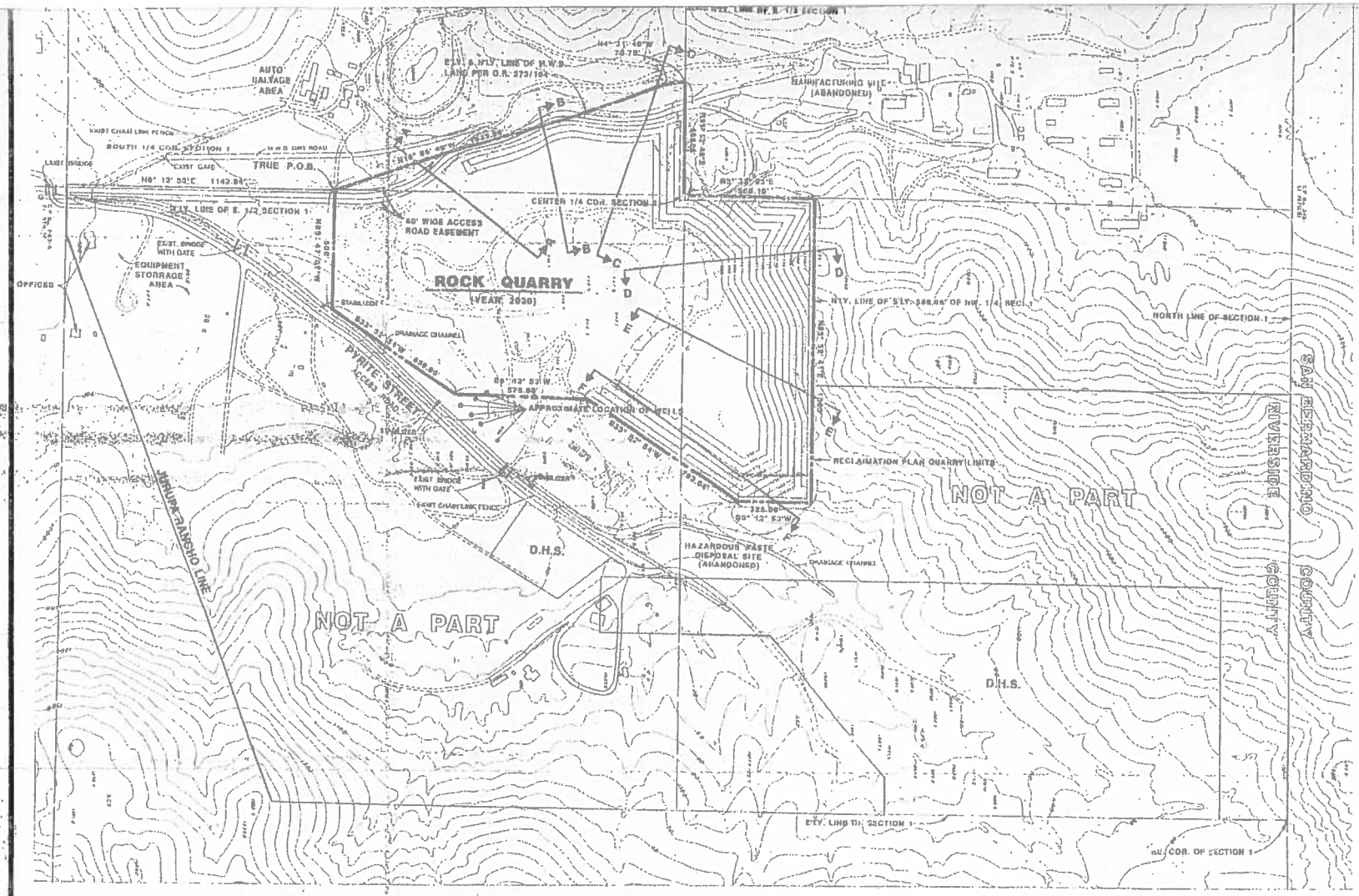
☐ Lawrence J. Chrystal
Laboratory Director

cc: Dr. E. Nuttall (EDD)

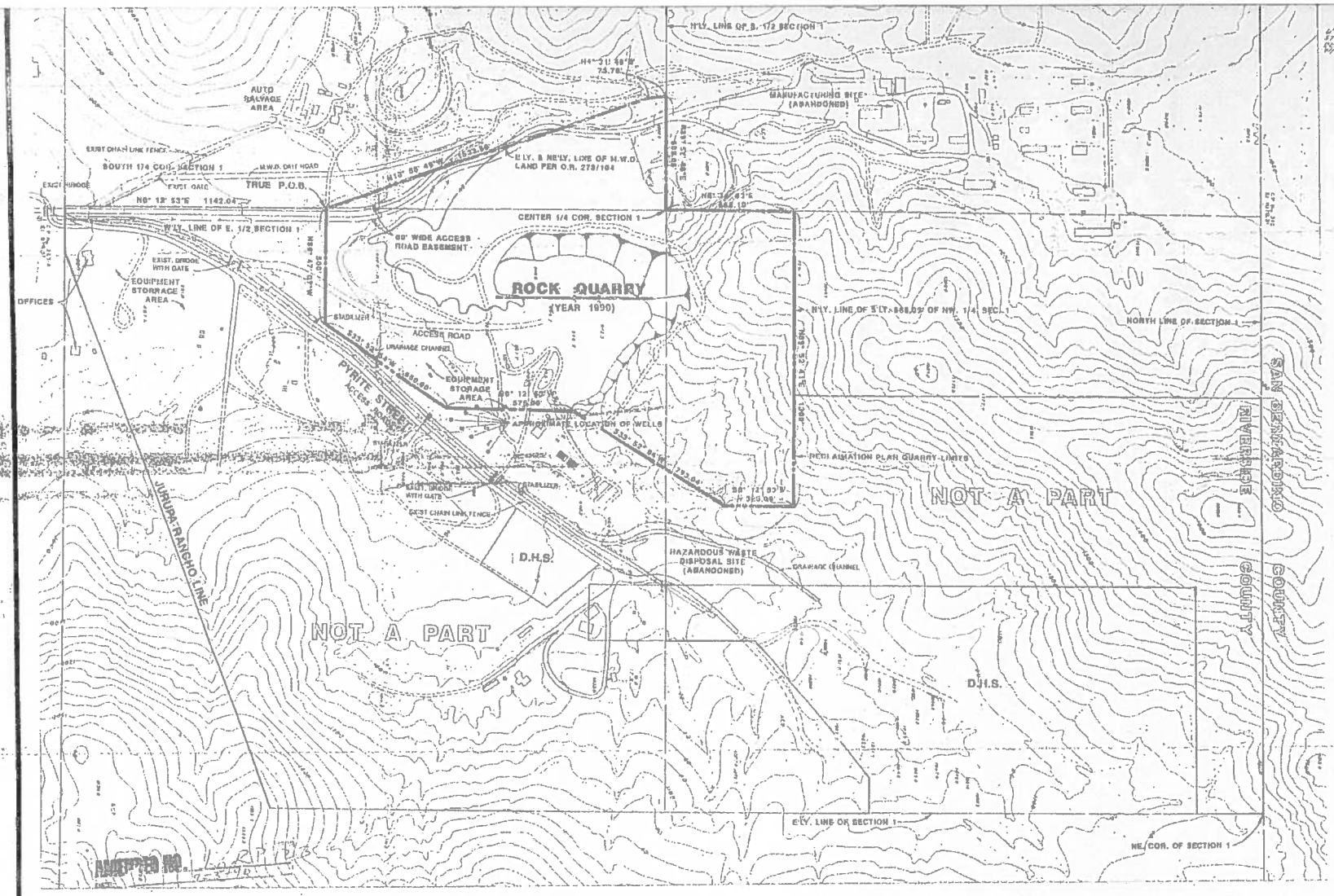
Standard ESB Report

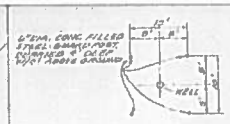
ACCREDITED IN ACCORDANCE WITH nelac

EXHIBIT K (#21)



revisions	RECLAMATION PLAN PYRITE QUARRY PORTION OF THE EAST 1/2 OF SECTION 1, T2S, R6W, S.B.M.	brown & mullins, inc. engineering · planning · surveying 2150 north arrowhead avenue san bernardino california 92405	(714) 886-4768	prepared under the supervision of:	prepared for: PAUL J. & LUCILE HUBBS 140 WEST VALLEY BLVD RIALTO, CALIF. 92376 (714) 877-2726	date MAY, 1990 sheet 2 of 5 DWG. NO. E-1124





GUARD POST PLACEMENT DETAIL
FOR THE PROTECTION OF
EXTRACTION &OBSERVATION WELLS

LEGAL DESCRIPTION

That certain real property in the County of Riverside, State of California described as,

That portion of Section 1, Township 2 South, Range 6 West, San Bernardino Meridian, described as follows:

Commencing at the South one-quarter corner of said Section 1;

Thence North 0°12'53" East, along the Westerly line of the East one-half of said Section, a distance of 1142.04 feet to its intersection with the Northeasterly line of the land described in deed to the Metropolitan Water District of Southern California, recorded March 27, 1936 in book 273 of Official Records, page 104, said point being the True Point Of Beginning;

Thence North 38°55'48" West, along said Northeasterly line, a distance of 1333.64 feet to an angle point therein;

Thence continuing along the Easterly line of said Water District land; North 4°31'40" West, a distance of 73.78 feet to Northerly line of the South one-half of said Section;

Thence North 89°53'41" East along said Northerly line a distance of 508.00 feet to the center one-quarter corner of said section;

Thence North 0°12'53" East, along said Westerly line of the East one-half of said Section, a distance of 868.10 feet to the Northerly line of the Southerly 868.09 feet of the Northwest one-quarter of said Section;

Thence North 89°53'41" East along the last described Northerly line, a distance of 1300.00 feet;

Thence South 0°12'53" West, parallel with said Westerly line of the East one-half of Section 1, a distance of 325.00 feet;

Thence South 33°52'34" West, a distance of 793.04 feet;

Thence South 0°12'53" West, a distance of 878.00 feet;

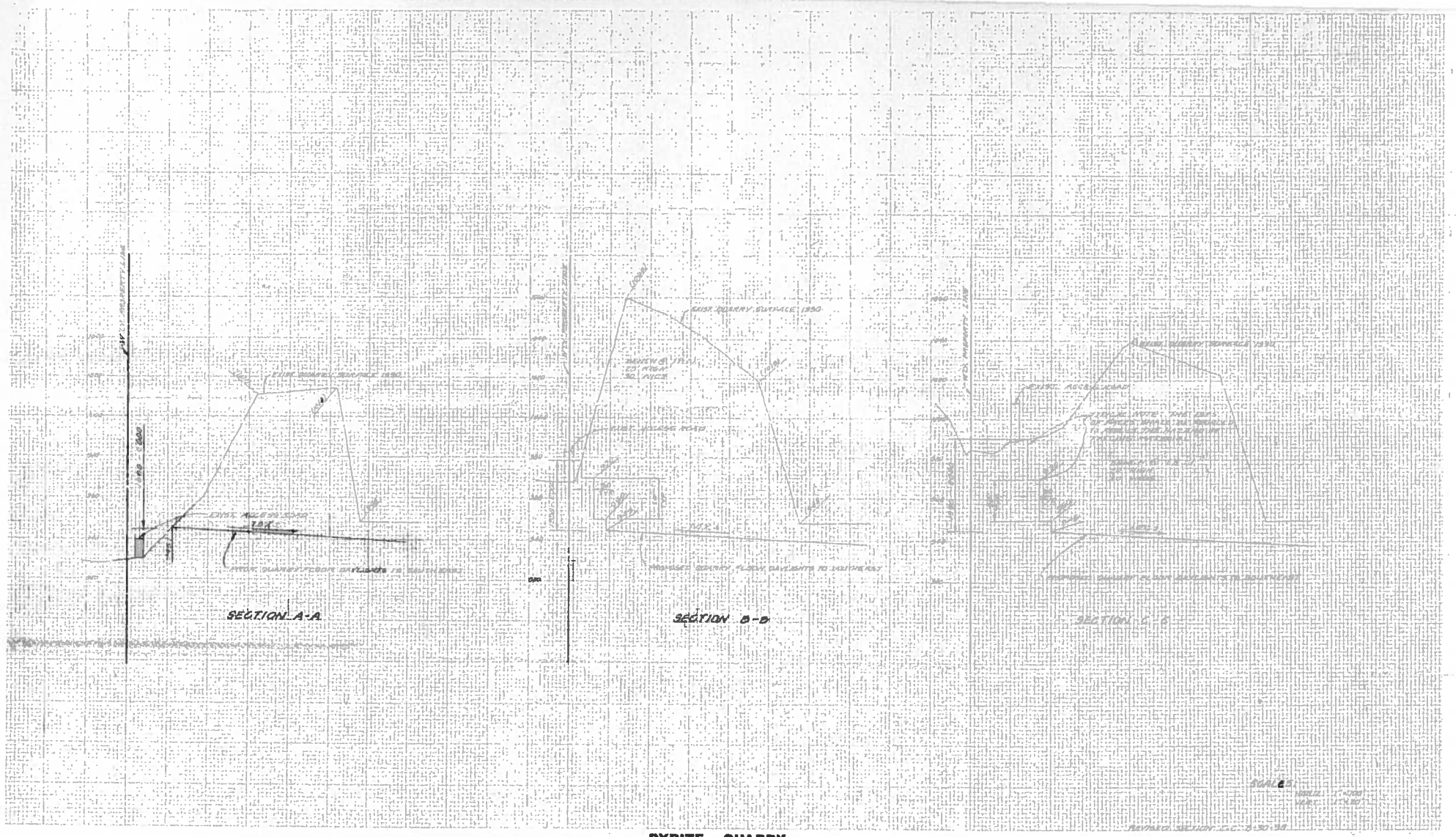
Thence South 29°52'44" West, a distance of 450.00 feet to a point that bears South 89°47'07" East, 500.00 feet from the True Point Of Beginning;

Thence North 89°47'07" West, 500.00 feet to the True Point Of Beginning.

Containing approximately 54.8 acres.

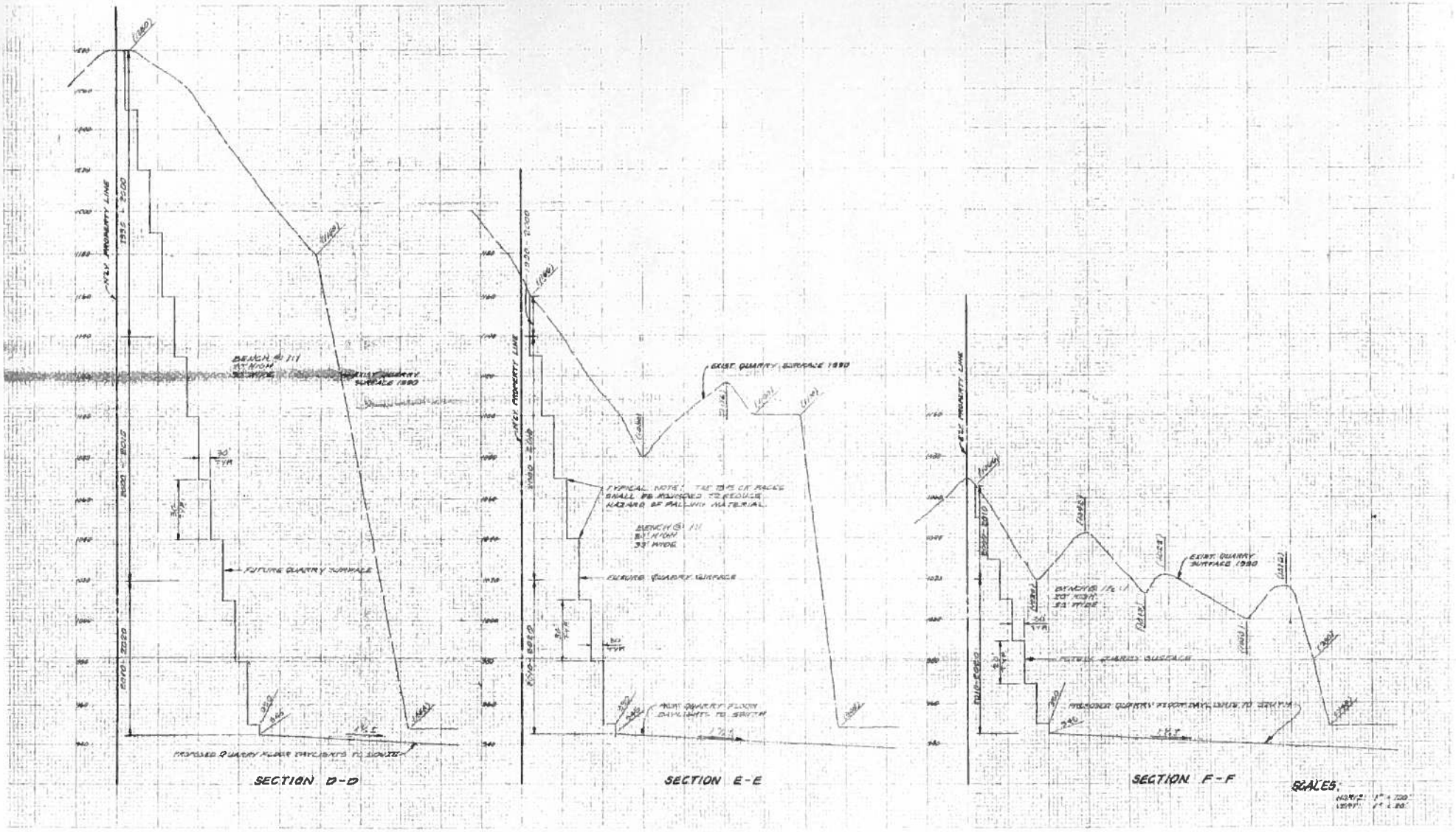
SCALE 1"=200'

revisions	TOPOGRAPHIC SURVEY PYRITE QUARRY PORTION OF THE EAST 1/2 OF SECTION 1, T2S, R6W, S.B.M.	brown & mullins, inc. engineering · planning · surveying 2150 north arrowhead avenue san bernardino, california 92405 (714) 886-4768	prepared for: PAUL J. & LUCILE HUBBS 140 WEST VALLEY BLVD RIALTO, CALIF. 92376 (714) 877-2726	date MAY, 1990 j.o. no. 89-5-6	sheet 1 of 5 DWG. NO. E-1724



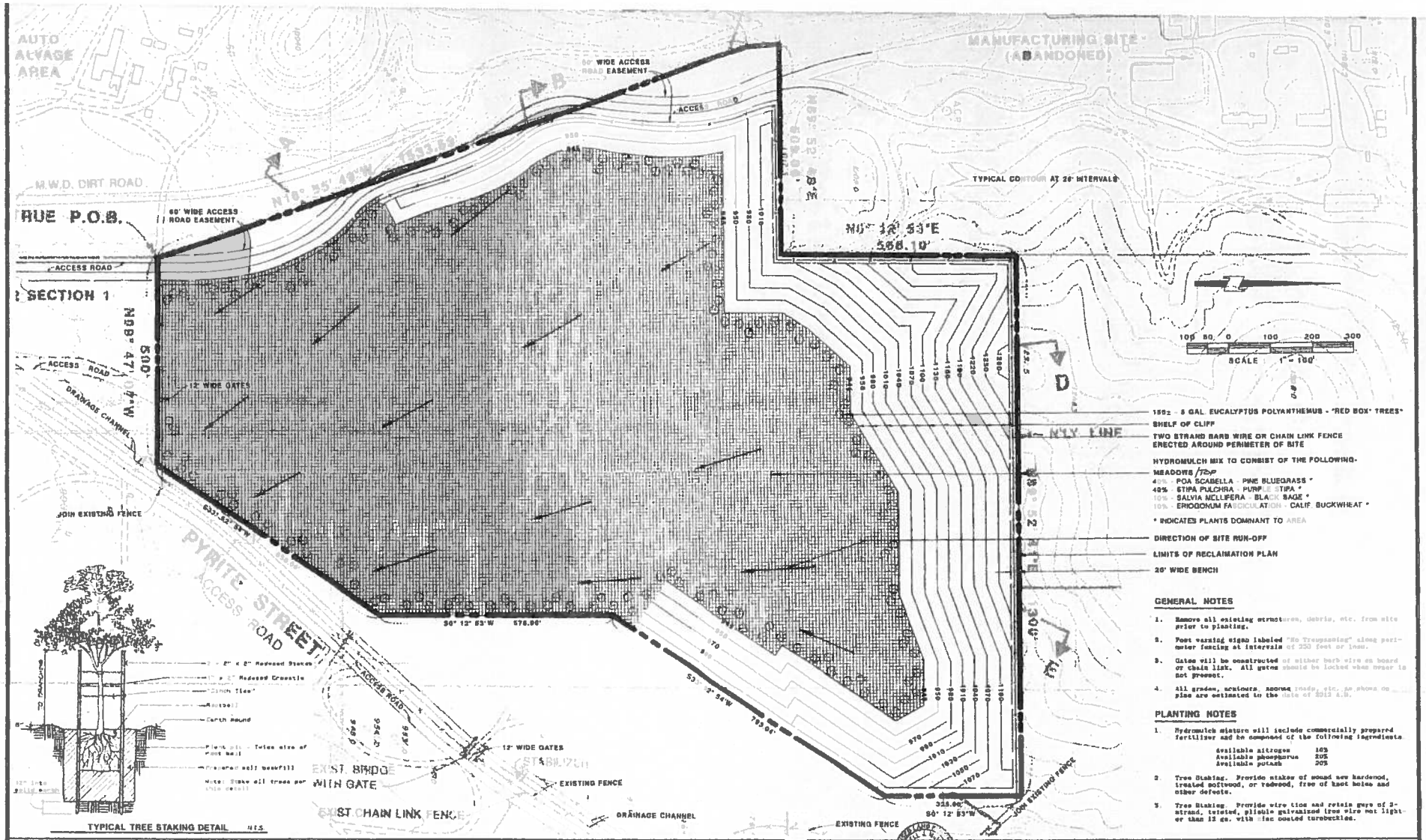
PYRITE QUARRY

MAY 1990
SHT. 3
E 1724



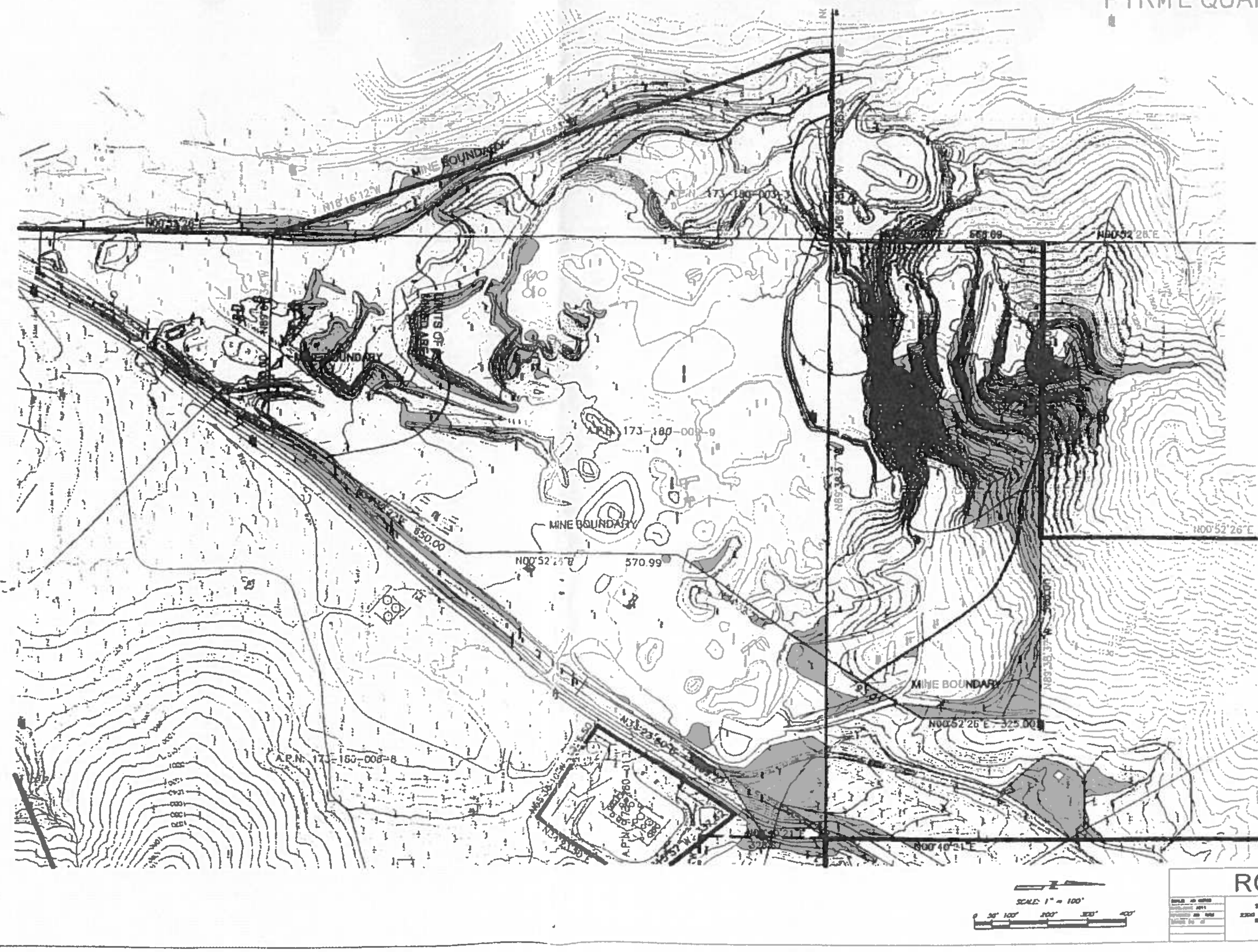
PYRITE QUARRY

MAY, 1990
SHT. 4



revisions	RECLAMATION PLAN - PYRITE QUARRY PLANTING & FENCING GRADING CONTOURS, ACCESS ROADS & CLIFFS INDICATED ARE ESTIMATED TO THE DATE OF RECLAIMATION, CIRCA 2020 AD	brown & mullins, inc. engineering • planning • surveying 2150 north arrowhead avenue san bernardino, california 92405 (714) 886-4768	brmi	prepared for: PAUL J. & LUCILE HUBBS 140 WEST VALLEY BLVD RIALTO, CALIF. 92376 (714) 877-2726	date MAY, 1990 j.o.no. 89-5-8 dwg. no. E-1724	sheet 5 of 5

2010 CALENDAR YEAR
PYRITE QUARRY



RCL 123