CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 96-046

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF SAN BERNARDINO, DISCHARGER
BIG BEAR WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
North of Baldwin Lake - San Bernardino County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. The County of San Bernardino Waste System Division, formerly known as the County of San Bernardino Solid Waste Management Department (hereinafter referred to as the discharger) 222 West Hospitality Lane, Second Floor, San Bernardino, California, 92415-0017 owns and administers a municipal solid waste disposal site, the Big Bear Waste Management Facility (hereinafter referred to as the Landfill).

2. The Landfill is located 1 1/2 miles north of Baldwin Lake, along Holcomb Valley Road in the SW 1/4 of Section 30 and NW 1/4 of Section 31, T3N, R2E, SBB&M, as shown in Attachment A and B, incorporated herein and made part of this Board Order.

3. Definition of terms used for the purpose of this Board Order

   a. Site: The parcel of land that contains the permitted area for landfilling, including the Inactive and Active portions of the Landfill, and operational facilities.

   b. Landfill: Refers to the areas that have been and are being used for disposal of refuse. These areas consist of two separate portions:

      i. Inactive (lower level)

      ii. Active (upper level)

   c. Waste Management Facility (WMF): Refers to the Landfill and ancillary areas.

4. On November 1, 1995, Norcal Waste Systems, Inc., 222 West Hospitality Lane, Second Floor, San Bernardino, California 92415-0017, assumed the operations of the County of San Bernardino landfills as a primary contractor to the County of San Bernardino Waste System Division. In a letter to the Executive Officer from Gerry Newcombe, Contract Administrator for the San Bernardino County Waste System Division, dated October 10, 1996, the County has indicated that it alone has full and complete responsibility for all activities taken place at the WMF including all activities undertaken by Norcal. The County has specified that this will be the case even if these activities violate waste discharge requirements or the conditions of Norcal's contract with the County whether or not the County has approved the activities, and whether the activities are legal or illegal. Therefore, it is appropriate to name the County as discharger solely responsible for the Landfill.

5. As San Bernardino County's subcontractor Harich Construction Co. Inc., 29898 State Highway 18, P.O. Box 1087, Running Springs, CA 93282-1087, also operates the Big Bear Landfill.

6. The two portions of the Landfill are described below and shown in Attachment C, incorporated herein and made part of this Board Order.

   a. Inactive (lower level)

      This portion covers an area of approximately 4.8 acres. In conjunction with the presently Active (upper level) portion, it began operation as a burn site in 1949. In 1987, the Regional Board issued Cease and Desist Order No. 87-018. The Inactive portion stopped receiving waste in 1987. In 1989 the Regional Board approved a Closure Plan for this portion of the Landfill. The closure construction was completed on October 30, 1989. Approximately 200,000 cubic yards (yd^3) of solid waste were placed in the Landfill prior to the closure date in October 1989.

   b. Active (upper level)

      This portion covers an area of approximately 25 acres. It has a total capacity of 1,200,000 yd^3, and presently receives an average of 91 tons-per-day (tpd) of refuse. The in-place volume of the refuse and cover material is about 329,684 yd^3, and this portion is projected to close in the year 2002.

7. The discharger submitted a Report of Waste Discharge (ROWD) on October 25, 1995, and an amended ROWD on July 15, 1996.

8. This discharge has been subject to waste discharge requirements adopted in Board Order No. 91-015, prescribing waste discharge requirements for the Landfill and Board Order No. 93-071, amending all Municipal Solid Waste Landfill Board Orders to comply with federal regulations.

9. This Board Order updates the waste discharge requirements to comply with current laws and regulations as set forth in the California Water Code and the California Code of Regulations Title 23, Division 3, Chapter 15 (hereinafter referred to as Chapter 15).

10. The discharger reports that the Landfill receives an average of 91 tpd and a maximum of 125 tpd of non-hazardous waste.

11. The waste types accepted are as follows:

    a. Residential
    b. Commercial
    c. Demolition/Construction
    d. Agricultural

12. The discharger has a load checking program for identifying and removing hazardous and prohibited wastes from the municipal waste stream coming to the Landfill. Specific components of the program include the following:

    a. Customer notification by signs, notices and verbal inquiries.

    b. Surveillance through visual inspection of waste loads and questioning of customers by entrance station personnel.

    c. Waste inspection conducted on randomly-selected loads at the working face.

13. Any hazardous materials found at the Landfill will be stored in a hazardous materials storage shed and will be removed within 90 days by a hazardous waste hauler licensed by the State of California.

14. The area-fill method is used for waste disposal operations at the Landfill. Refuse is spread upward in layers approximately 2 feet thick by a landfill compactor. The working face of the Landfill is typically 10 to 15 feet high and 150 to 200 feet wide. Refuse placed during the working day is covered with soil, which is then compacted to form a minimum 6-inch cover. The cover materials are from an on-site borrow source.

15. The site is located in a mountainous region along the northeastern flank of Nelson Ridge. Elevations range from approximately 6,900 feet above mean sea level in the southern part of the site to approximately 6,500 feet in the northern part. The site is located on the axis of a surface drainage divide. Natural drainage along the northeast flank of Nelson Ridge flows northeast towards Cactus Flat. The drainage along the southwest flank of the ridge flows south towards Baldwin Lake.

16. The site is entirely underlain at shallow depth by bedrock. The bedrock consists of highly faulted and fractured Paleozoic Saragossa Quartzite and marble; localized Mesozoic granite and quartz monozonite; and Precambrian gneiss and schist as shown on Attachments D, E, and F, incorporated herein and made part of this Board Order.

17. Although the rocks have very low hydraulic conductivity values, the existing faults and fractures appear to be hydraulically interconnected, resulting in increased hydraulic conductivity.

18. The site is located in an area that is seismically active. The discharger reports that the maximum probable seismic event at the site would be caused by a 7.5 magnitude earthquake on the San Andreas Fault, approximately 30 miles to the southwest, resulting in a maximum ground acceleration of 0.3 g.

19. Ground water depth ranges from 32 feet below ground surface (bgs) at the north end of the facility below the inactive area to 236 feet bgs just north of the active Landfill area. Although the facility straddles the boundary separating two Regional Water Quality Control Board jurisdictions, all water quality matters are administered by the Colorado River Basin Regional Board.

20. The discharger has constructed five ground water monitoring wells at the Landfill: two upgradient wells BB-3 and BB-4, and three down gradient wells BB-1, BB-2, and BB-5 as shown on Attachment C.

21. The discharger installed two perimeter gas monitoring probes BBG-1 and BBG-2, as shown on Attachment G, incorporated herein and made part of this Board Order.

22. Two surface-water monitoring locations are approximately 700 feet north of the Landfill as shown on Attachment H, incorporated herein and made a part of this Board Order. Big Bear Lake is located approximately five miles southwest of the Landfill. Baldwin Lake, usually dry in the summer, is located 1.5 miles southwest of the Landfill.

23. There is one intermittent spring below the lower level, approximately 700 feet northeast of the site. It is located along a trace of the Helendale Fault, which acts as a ground water barrier diverting the ground water to the surface.

24. The average annual rainfall in the general vicinity of the Landfill is 15 inches, while the evaporation rates average 56 inches. Most precipitation falls in the form of snow during storm events that occur during the months of December through February.

25. Land within 1,000 feet of this site is in the San Bernardino National Forest, administered by the United States Forest Service. The current land use is largely recreational. An electric power substation is located immediately south of the site.

26. The site is located in the Johnson Hydrologic Unit.

27. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan) was adopted on November 17, 1993 and designates the beneficial uses of ground and surface waters in this Region.

28. The beneficial uses of ground water in the Johnson Hydrologic Unit are:

    a. Municipal supply (MUN)
    b. Industrial supply (IND)
    c. Agricultural supply (AGR)

29. The Landfill is not lined and does not have a Leachate Collection and Removal System.

30. The discharger submitted a Solid Waste Assessment Test (SWAT) on December 1987. Analyses of water samples from the downgradient wells BB-2, BB-4, and BB-5 indicated the presence of the following compounds in the ground water:

Parameter	Result µg/L[1]	Well No
Trichlorofluoromethane	0.53	BB-2
Toluene	6.5	BB-4
1,3-Dichlorobenzene	0.6	BB-5

31. The discharger submitted an Evidence of Release Notification on July 26, 1995 stating that there was evidence of non-statistical and statistical releases in sample taken from the ground water wells BB-2 and BB-4 at the Landfill. The following is the list of compounds found in ground water samples:

Parameter	Result µg/L	Well No.
CIS-1,2 Dichloroethene	4.28	BB-2
Trichlorofluoromethane	1.55	
Dichlorodifluoromethane	3.21	
Tetrachloroethane (PCE)	2.02	
Dichlorodifluoromethane	0.67	BB-4
1,1,1-Trichloroethane (TCA)	1.67	
Trichlorofluromethane	1.32	

[1] µg/L - microgram-per-Liter

32. On October 2, 1995, the Regional Board received analytical results of Constituents of Concern (COC) for the Landfill indicating the following parameters in samples taken from ground water monitoring well BB-2:

Parameter	Result µg/L	Well No.
Phenol	27.7	BB-2
Dichlorodifluoromethane	2.6	
C-1,2 Dichloroethene	2.8	

33. Cleanup and Abatement Order No. 95-124, concerning soil and ground water pollution at the Landfill was issued to the discharger on November 22, 1995.

34. The discharger submitted an Evaluation Monitoring Program (EMP) workplan on October 25, 1995.

35. The discharger submitted a Preliminary Closure and Postclosure Maintenance Plan (PCPMP) on March 13, 1995 and a Revised PCPMP on November 15, 1995. In these Plans, the discharger proposes the following for the final cover:

    a. Foundation Layer - Two-foot thick layer of approved soil, contaminated soil, incinerator ash, or other waste materials, provided that such materials have the appropriate engineering properties.

    b. Barrier Layer - placed on top of the foundation layer and compacted to attain a hydraulic conductivity of 1×10^{-6} cm/sec or equal to the hydraulic conductivity of any bottom liner system or underlying natural geologic materials, whichever is less. This layer will be one-foot thick and will contain no waste or leachate.

    c. Final Layer - A one-foot vegetative layer will be placed on top of the barrier layer. This layer will not contain waste or leachate. Vegetation root depth used will not exceed the top soil layer thickness.

35. The Board has notified the discharger and all known interested agencies and persons of its intent to update waste discharge requirements for this discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.

37. The Board in a public meeting heard and considered all comments pertaining to this discharge.

38. The County of San Bernardino Solid Waste Management, now known as the County of San Bernardino Waste System Division, prepared a Negative Declaration and issued a Notice of Determination on October 15, 1996, with the effective date of October 26, 1996, for the Big Bear Waste Management Facility in accordance with Article 6, Section 15070 of the California Environmental Quality Act.

IT IS HEREBY ORDERED, that Board Order No. 91-015 is rescinded, and in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the discharger shall comply with the following:

A. Specifications

1. New Landfill foot print constructed on top of virgin soil (soil which does not contain solid waste) must have an adequate liner and leachate collection and removal system, in accordance with Chapter 15.

2. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Section 13050 of Division 7 of the California Water Code.

3. Waste materials shall be confined to the waste management facility as described on the attached site maps.

4. Waste material shall not be discharged on any ground surface which is less than five feet above the highest anticipated ground water level.

5. The discharge shall not cause degradation of any water supply.

6. The waste management units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods having a predicted frequency of once in 100 years.

7. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources, shall not contact or percolate through the wastes discharged at this site.

8. The exterior surfaces of the disposal area, including the intermediate and final landfill covers, shall be graded and maintained to promote lateral runoff of precipitation and to prevent ponding.

9. The discharger shall use the constituents listed in Monitoring and Reporting Program No. 96-046, and revision thereto, as Monitoring Parameters. These monitoring parameters are subject to the most appropriate statistical or non-statistical tests under Monitoring and Reporting Program No. 96-046, Part III, and any revised Monitoring and Reporting Program approved by the Regional Board's Executive Officer.

10. The discharger shall implement the attached Monitoring and Reporting Program No. 96-046 and revisions thereto in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill, or any unreasonable impairment of beneficial uses associated with (caused by) discharges of waste from the Landfill.

11. The discharge shall not cause the concentration of any Constituent of Concern or Monitoring Parameter to exceed its respective background value in any monitored medium at any Monitoring Point assigned to Detection Monitoring pursuant to Part II.B.4. of the attached Monitoring and Reporting Program No. 96-046 and revisions thereto.

12. The dischargers shall follow the water quality protection standards (WQPS) for detection monitoring established by the Regional Board in this Board Order pursuant to 23 CCR, chapter 15, Article 5, Section 2550.2. The following are five parts of WQPS as established by the Regional Board (the terms of art used in this Board Order regarding monitoring are defined in Part I of the attached Monitoring and Reporting Program No. 96-046, and revisions thereto, which is hereby incorporated by reference):

a. The discharger shall test for the monitoring parameters and the Constituents of Concern (COC) listed in the Monitoring and Reporting Program No. 96-046, and revisions thereto for:

1. Water bearing media (i.e. ground water and storm water)

b. Concentration Limit - The concentration limits for each monitoring parameter and constituents of concern, for each monitoring point (as stated in detection Monitoring Program Part II), shall be its background value as obtained during that reporting period.

c. Monitoring points and background monitoring points for detection monitoring shall be those listed in Part II.B of the attached Monitoring and Reporting Program No. 96-046, and any revised Monitoring and Reporting Program approved by the Regional Board's Executive Officer. Monitoring and background monitoring points are shown on Attachment H.

d. The points of compliance are shown on Attachment H and extends down through the zone of saturation.

e. Compliance Period - the estimated duration of the compliance period for this Landfill is 6 years. Each time the Standard is broken (i.e., release s discovered), the Landfill begins a compliance period on the date the Regional board directs the dischargers to begin an Evaluation Monitoring Program. If the dischargers' Corrective Action Program (CAP) has not achieved compliance with the Standard by the scheduled end of the Compliance Period, the Compliance Period is automatically extended until the Landfill has been in continuous compliance for at least three consecutive years.

13. The discharger shall submit a Final Closure and Postclosure Maintenance Plan to the Regional Board for approval by the Regional Board's Executive Officer one year prior to closing the Landfill.

14. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.

15. Water used for site maintenance shall be limited to amounts necessary for dust control.

16. The discharger shall maintain a hazardous waste load checking program at the Landfill. The discharger shall report the results in the quarterly monitoring reports submitted in accordance with Monitoring and Reporting Program No. 96-046 and revisions thereto.

17. The Landfill shall be protected from any washout or erosion of wastes or covering material, and from any inundation which could occur as a result of floods having a predicted frequency of once in 100 years.

18. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, or pollution to occur, as indicated by the most appropriate statistical (or non-statistical) data analysis method and retest method listed in Part III of Monitoring and Reporting Program No. 96-046 and revisions thereto.

B. Prohibitions

1. The discharge or deposit of hazardous waste (as defined in Chapter 15) at this site is prohibited.

2. The discharge or deposit of designated waste (as defined in Chapter 15) at this site is prohibited unless approved by the Regional Board's Executive Officer.

3. The co-disposal of incompatible wastes is prohibited.

4. The discharge of any waste to any surface waters or surface drainage courses is prohibited.

5. The discharge of waste to land not owned or controlled by the discharger is prohibited.

6. The discharge shall neither cause nor contribute to the contamination or pollution of ground water via the release of waste constituents in either liquid or gaseous phase.

7. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the Landfill if such waste constituents could migrate to waters of the State, in either the liquid or the gaseous phase, and cause a condition of contamination or pollution.

8. The discharge of liquid or semi-solid waste (i.e., waste containing less than 50 percent solids) to the waste management units is prohibited unless approved by the Regional Board's Executive Officer.

9. The discharge or deposit of any waste to the lower level (inactive portion) of the Landfill is prohibited.

C. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 96-046", and future revisions thereto, as specified by the Regional Board's Executive Officer.

2. Prior to any modifications in this facility which would result in material change in the quality or quantity of wastewater treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Board and obtain revised requirements before any modifications are implemented.

3. Prior to any change in ownership or management of this operation, the discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.

4. The discharger shall ensure that all site operating personnel are familiar with the contents of this Board Order, and shall maintain a copy of this Board Order at the site.

5. This Board Order does not authorize violation of any federal, state, or local laws or regulations.

6. The discharger shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

   a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of this Board Order;

b. Have access to and copy, at reasonable times, any records that shall be kept under the conditions of this Board Order;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and

d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameters at this location.

7. This Board Order 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.

8. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the United States Environmental Protection Agency.

9. All regulated disposal systems shall be readily accessible for sampling and inspection.

10. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the discharge facilities inoperable.

11. The discharger is the responsible party for the waste discharge requirements and the monitoring and reporting program for the facility. The discharger shall comply with all conditions of these waste discharge requirements. Any noncompliance with this Board Order constitutes a violation of the Porter-Cologne Water Quality Control Act and may result in enforcement actions, including Regional Board Orders or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board.

12. The discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specifications prepared by the Regional Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.

13. All containment structures and erosion and drainage control systems shall be designed and constructed under direct supervision of a California Registered Civil Engineer or Certified Engineering Geologist, and shall be certified by the individual as meeting the prescriptive standards and performance goals of Chapter 15.

14. The Regional Board considers the property owner to have a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge.

15. The discharger shall within 18 hours of a significant earthquake event, submit to the Regional Board a detailed post-earthquake report describing any physical damages to the containment features, ground water monitoring and/or leachate control facilities and a corrective action plan to be implemented at the landfill.

16. The discharger shall maintain legible records on the volume and type of each waste discharged at the site. These records shall be available for review by representatives of the Regional Board at any time during normal business hours. At the beginning of the post-closure maintenance period, copies of these records shall be sent to the Regional Board.

17. The discharger shall maintain visible monuments identifying the boundary limits of the entire waste management facility.

18. The discharger shall submit to this Regional Board and to the California Integrated Waste Management Board, evidence of Financial Assurance for Closure and Post Closure, pursuant to Section 2580(f) of Chapter 15. The post-closure period shall be at least 30 years. However, the post-closure maintenance period shall extend as long as the waste poses a threat to water quality.

19. Within 180 days of the adoption of this Board Order, the discharger shall submit to the Regional Board, in accordance with 23 CCR 2550(b), assurances of financial responsibility acceptable to the Regional Board's Executive Officer for initiating and completing corrective action for all known or reasonably foreseeable releases from the landfill.

20. This Board Order is subject to Regional Board review and updating, as necessary to comply with changing State or Federal laws, regulations, policies, or guidelines, or changes in the discharge characteristics.

I, Philip A. Gruenberg, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on November 13, 1996.

Philip A Gruenberg
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 96-046 (REVISION 1)
FOR
COUNTY OF SAN BERNARDINO, DISCHARGER
BIG BEAR WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
North of Baldwin Lake - San Bernardino County

CONSISTS OF

PART I, PART II, AND PART III

PART I

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), and 13387(b) of the California Water Code and the State Water Resources Control Board's Resolution No. 93-062. This self-monitoring program is issued in accordance with Provision No. 1 of Regional Board Order No. 96-046. The principal purposes of a self-monitoring program by a waste discharger are:

1. To document compliance with waste discharge requirements and prohibitions established by the Regional Board;

2. To facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge;

3. To prepare water quality analyses;

4. To prepare vadoze zone (unsaturated zone) gas and liquid quality analyses;

B. DEFINITION OF TERMS

1. The "Monitored Media" are those water- or gas-bearing media that are monitored pursuant to this Monitoring and Reporting Program. The Monitored Media may include: (1) ground water in the uppermost aquifer, in any other portion of the zone of saturation (Section 2601 of Chapter 15) in which it would be reasonable to anticipate that waste constituents migrating from the Landfill could be detected, and in any perched zones underlying the Landfill, (2) any bodies of surface water that could be measurably affected by a release, (3) soil-pore liquid beneath and/or adjacent to the Landfill, and (4) soil-pore gas beneath and/or adjacent to the Landfill.

2. The "Constituents of Concern (COC)" are those constituents which are likely to be in the waste in the Landfill or which are likely to be derived from waste constituents, in the event of a release of Concern.

3. The "Monitoring Parameters" consist of a short list of constituents and parameters used for the majority of monitoring activity.

4. The "Volatile Organics Composite Monitoring Parameter for Water (VOC_{water})" and the "Volatile Organics Composite Monitoring Parameter for Soil-Pore Gas (VOC_{spg}) are composite Monitoring Parameters addressing all volatile organic constituents detectable in a sample of water or soil-pore gas, respectively. (See Part III.A.2. of this Program for additional discussion of these Monitoring Parameters).

5. Standard Observations" refers to:

   a. For Receiving Waters:

      1. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;

2. Discoloration and turbidity: description of color, source, and size of affected area;

3. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

4. Evidence of beneficial use: presence of water-associated wildlife;

5. Flow Rate; and

6. Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.

b. Along the perimeter of the Landfill:

1. Evidence of liquid leaving or entering the Landfill, estimated size of affected area, and flow rate (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and

3. Evidence of erosion and/or of exposed refuse.

c. For the Landfill:

1. Evidence of ponded water at any point on the waste management facility (show affected area on map);

2. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

3. Evidence of erosion and/or of daylighted refuse; and

4. "Standard Analysis and Measurements", which refers to:

a. Turbidity (only for water samples) in NTU:

b. Water elevation to the nearest 1/100th foot above mean sea level (only for ground water monitoring); and

c. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.

6. "Matrix Effect" refers to any increase in the Method Detection Limit or Practical Quantitation Limit for a given constituent as a result of the presence of other constituents - either of natural origin or introduced through a release - that are present in the sample of water or soil-pore gas being analyzed.

7. "Facility-Specific Method Detection Limit (MDL)", for a given analytical laboratory using a given analytical method to detect a given constituent (in spite of any Matrix Effect) means the lowest concentration at which the laboratory can regularly differentiate - with 99% reliability - between a sample which contains the constituent and one which does not.

8. "Facility-Specific Practical Quantitation Limit (PQL)", for a given analytical laboratory using a given analytical method to determine the concentration of a given constituent (in spite of any Matrix Effect) means the lowest constituent concentration the laboratory can regularly quantify within specified limits of precision that are acceptable to the Regional Board's Executive Officer.

9. "Reporting period" means the duration separating the submittal of a given type of monitoring report from the time the next iteration of that report is scheduled for submittal. Therefore, the reporting period for monitoring parameters is quarterly, and the reporting period for Constituents of Concern is every five years. An annual report, which is a summary of all the monitoring during the previous years shall also be submitted to the Regional Board. The submittal dates for each reporting period shall be as follows:

   a. Quarterly Monitoring Reports

      1. First quarter (January, February, and March) - report due by April 30
      2. Second Quarter (April, May and June) - report due by July 30
      3. Third quarter (July, August and September) - report due by October 30
      4. Fourth quarter (October, November and December) - report due by January 30

   b. Annual Summary Report

      January 1 through December 31 - report due on March 15

   c. Five Year Report

      January of the first year through December of the fourth year and every five years after that, as long as the Landfill is in operation - report due by March 15 of the sixth year.

C. SAMPLING AND ANALYTICAL METHODS

1. Sampling collection, storage, and analysis shall be performed according to the most recent version of Standard USEPA methods, and in accordance with an approved sampling and analysis plan. Water and waste analysis shall be performed by a laboratory approved for these analyses by the State of California. Specific methods of analysis must be identified. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology must be submitted for review and must be approved by the Regional Board's Executive Officer prior to use. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board. All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements. In addition, the discharger is responsible for seeing that the laboratory analysis of all samples from Monitoring Points and Background Monitoring Points meets the following restrictions:

a. The methods and analysis and the detection limits used must be appropriate for the expected concentrations. For detection monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e. "trace" or "ND") in data from Background Monitoring Points for that medium, the analytical methods having the lowest "facility-specific method detection limit (MDL)", defined in Part I.B.7., shall be selected from among those methods which would provide valid results in light of any "Matrix Effects" (defined in Part I.B.6.) involved.

b. Trace" results, results falling between the MDL and the facility-specific practical quantitation limit (PQL), shall be reported as such, and shall be accompanied both by the estimated MDL and PQL values for that analytical run and by an estimate of the constituents concentration.

c. MDLs and PQLs shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. If the lab suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with an estimate of the detection limit and quantitation limit actually achieved.

d. All QA/QC data shall be reported, along with the sample results to which it applies, including the method, equipment, and analytical detection limits, the recovery rates, an explanation of any recovery rate that is less than 80%, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery.

e. Upon receiving written approval from the Regional Board's Executive Officer, an alternative statistical or non-statistical procedure can be used for determining the significance of analytical results for a constituent that is a common laboratory contaminant (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate) during any given Reporting Period in which QA/QC samples show evidence of laboratory contamination for that constituent. Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Regional Board staff.

f. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

g. In cases where contaminants are detected in QA/QC samples (i.e. field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

h. The MDL shall always be calculated such that it represents a concentration associated with a 99% reliability of a non-zero result.

D. RECORDS TO ME MAINTAINED

Written reports shall be maintained by the discharger or laboratory, and shall be retained for a minimum of five years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

2. Date and time of sampling;

3. Date and time that analyses were started and completed, and the name of the personnel performing each analysis;

4. Complete procedure used, including method of preserving the sample, and the identify and volumes of reagents used;

5. Calculations of results; and

6. Results of analyses, and the MDL and PQL for each analysis.

E. REPORTS TO BE FILED WITH THE BOARD

1. A written "Detection Monitoring Report" shall be submitted quarterly (Part II.B.2), in addition to an "Annual Summary Report" (Part I.E.3.). Every five years, the discharger shall submit a report concerning the direct analysis of all Constituents of Concern as indicated in Part II.B.3. ("COC Report"). All reports shall be submitted no later than one month following the end of their respective Reporting Period. The reports shall be comprised of at least the following:

   a. Letter of Transmittal

      A letter transmitting the essential points in each report shall accompany each report. Such a letter shall include a discussion of any requirement violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the discharger has previously submitted a detailed time schedule for correcting said requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting the monitoring reports shall be signed by a principal executive officer at the level of vice-president or above, or by his/her duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct;

b. Each Detection Monitoring Report and each COC Report shall include a compliance evaluation summary. The summary shall contain at least:

1. For each monitored ground water body, a description and graphical presentation of the velocity and direction of the ground water flow under/around the Landfill, based upon water level elevations taken during the collection of the water quality data submitted in the report;

2. Pre-Sampling Purge for Samples Obtained From Wells: For each monitoring well addressed by the report, a description of the method and time of water level measurement, of the type of pump used for purging and the placement of the pump in the well, and of the method of purging (the pumping rate, the equipment and methods used to monitor field pH, temperature, and conductivity during purging, the calibration of the field equipment, results of the pH, temperature, conductivity, and turbidity testing, the well recovery time, and the method of disposing of the purge water);

3. Sampling: For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump - or other device - used and its placement for sampling, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations);

4. Post-Sampling Purge (Section 2550(e)(12)(B)): For each monitoring well addressed by the report, a description of how the well was purged to remove all portions of the water that was in the well bore while the sample was being taken;

c. A map or aerial photograph showing the locations of observation stations, Monitoring Points, and Background Monitoring Points;

d. For each Detection Monitoring Report and each COC Report, include laboratory statements of results of all analyses demonstrating compliance with Part I.C.;

e. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities;

f. A summary and certification of completion of all Standard Observations (Part I.B.7.) for the Landfill, for the perimeter of the Landfill, and for the Receiving Waters; and

g. The quantity and types of wastes discharged and the locations in the Landfill where waste has been placed since submittal of the last such report.

2. CONTINGENCY REPORTING

a. The discharger shall report by telephone concerning any seepage from the disposal area immediately after it is discovered. A written report shall be filed with the Regional Board within fourteen days, containing at least the following information:

1. A map showing the location(s) of seepage;
2. An estimate of the flow rate;
3. A description of the nature of the discharge (e.g., all pertinent observations and analyses); and
4. Corrective measures underway or proposed.

b. Should the initial statistical comparison (Part III.A.1.) or non-statistical comparison (Part III.A.2.) indicate, for any Constituent or Concern of Monitoring Parameter, that a release is tentatively identified, the discharger shall immediately notify the Regional Board verbally as to the Monitoring Point(s) and constituents(s) or parameter(s) involved, shall provide written notification by certified mail within seven days of such determination (Section 2550.8(j)(1)), and shall carry out a discrete retest in accordance with Parts II.B.1., and III.A.3. If the retest confirms the existence of a release, the discharger shall carry out the requirements of Part I.E.2.d. In any case, the discharger shall inform the Regional Board of the outcome of the retest as soon as the results are available, following up with written results submitted by certified mail within seven days of completing the retest.

c. If either the discharger or the Regional Board determines that there is significant physical evidence of a release (Section 2550.1(3) of Article 5), the discharger shall immediately notify the Regional Board of this fact by certified mail (or acknowledge the Regional Board's determination) and shall carry out the requirements of Part I.E.2.d. for all potentially-affected monitored media.

d. If the discharger concludes that a release has been discovered:

1. If this conclusion is <u>not</u> based upon "direct monitoring" of the Constituents of Concern, pursuant to Part II.B.3., then the discharger shall, within thirty days, sample for all Constituents of Concern at all Monitoring Points and submit them for laboratory analysis. Within seven days of receiving the laboratory analytical results, the discharger shall notify the Regional Board, by certified mail, of the concentration of all Constituents of Concern at each Monitoring Point. Because this scan is not to be tested against background, only a single datum is required for each Constituent of Concern at each Monitoring Point (Section 2550.8(k)(1);

2. The discharger shall, within 90 days of discovering the release, submit a Revised Report of Waste Discharge proposing an Evaluation Monitoring Program meeting the requirements of Section 2550.8(k)(5) and Section 2550.9 of Article 5; and

3. The discharger shall, within 180 days of discovering the release, submit a preliminary engineering feasibility study meeting the requirements of Section 2550.8(k)(6) of Article 5.

e. Any time the discharger concludes - or the Regional Board Executive Officer directs the discharger to conclude - that a liquid- or gaseous-phase release from the Landfill has proceeded beyond the facility boundary, the discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

1. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the discharger's current knowledge of the nature and extent of the release; and

2. Subsequent to initial notification, the discharger shall provide updates to all Affected Persons - including any newly Affected Persons - within 14 days of concluding there has been any material change in the nature or extent of the release.

3. ANNUAL SUMMARY REPORT

a. A Graphical Presentation of Analytical Data (Section 2550.7(e)(14) of Article 5). For each Monitoring Point and Background Monitoring Point, submit in graphical format the laboratory analytical data for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents over time for a given Monitoring Point and Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. On the basis of any aberrations noted in the plotted date, the Regional Board's Executive Officer may direct the discharger to carry out a preliminary investigation (Section 2510(d)(2)), the results of which will determine whether or not a release is indicated;

b. All monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on 5.25" diskettes, either in MS-DOS/ASCII format or in another file format acceptable to the Regional Board's Executive Officer. Data sets too large to fit on a single 360 K.B. diskette may be submitted on disk in a commonly available compressed format (e.g., PK-ZIP or NORTON BACKUP). The Regional Board regards the submittal of data in hard copy and on diskette as "...the form necessary for..." statistical analysis (Section 2550.8(h)), in that this facilitates periodic review by the Regional Board's statistical consultant;

c. A comprehensive discussion of the compliance record, and the result of any correction actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements;

d. A map showing the area, if any, in which filling has been completed during the previous calendar year;

e. A written summary of the ground water and soil-pore gas analyses, indicating any changes made since the previous annual report; and

f. An evaluation of the effectiveness of the leachate monitoring/control facilities, pursuant to Section 2543 (b, c, & d).

PART II: MONITORING AND OBSERVATION SCHEDULE

A. WASTE MONITORING

Report annually, as part of the Monitoring Report on June 30.

1. Record the total volume and weight of refuse in cubic yards and tons) disposed of at the site during each month, showing locations and dimensions on a sketch or map.

2. Record a description of the waste stream, including the percentage of the waste type (i.e., residential, commercial, industrial, or construction debris).

3. Record the location and aerial extent of disposed waste.

B. WATER AND SOIL-PORE GAS SAMPLING/ANALYSIS FOR DETECTION MONITORING

Monitoring parameters report due quarterly, constituents of concern reports due every five years (details below):

1. Thirty-Day Sample Procurement Limitation. The samples taken from all Monitoring Points and Background Monitoring Points to satisfy the data analysis requirements for a given reporting period shall all be taken within a span not exceeding 30 days, and shall be taken in a manner that insures sample independence to the greatest extent feasible (Section 2550.7(e)(12)(B) of Article 5). Ground water sampling shall also include an accurate determination of the ground water surface elevation and field parameters (temperature, electrical conductivity, turbidity) for that Monitoring Point or Background Monitoring Point (Section 2550.7(e)(13)); ground water elevations taken prior to purging the well and sampling for Monitoring Parameters shall be used to fulfill the Spring and Fall ground water flow rate/direction analyses required under Part II.B.6. Statistical or non-statistical analysis shall be carried out as soon as the data is available, in accordance with Part III of this program.

2. "Indirect Monitoring" for Monitoring parameters done quarterly. All monitoring points assigned to Detection Monitoring (part II B.4 below) and all background Monitoring points shall be sampled quarterly during March, June, September and December. Monitoring for Monitoring Parameters shall be carried out in accordance with Part B.1 and III of this program.

3. "Direct Monitoring" of all Constituents of Concern Every Five Years. In the absence of a release being indicated (1) pursuant to Parts II.B.2. and III.A.3. for a Monitoring Parameter, (2) based upon physical evidence, pursuant to Part I.E.2.c., or (3) by a study required by the Regional Board's Executive Officer based upon anomalies noted during visual inspection of graphically-depicted analytical data (Part I.E.3.a.), then the discharger shall sample all Monitoring Points and Background Monitoring Points of water-bearing media, not including soil-pore gas, for all Constituents of Concern every fifth year, beginning with the year of adoption of this Board Order, with successive direct monitoring efforts being carried out alternately in the Spring of one year (Report Period ends March 31) and the Fall of the fifth year thereafter (Reporting Period ends September 30). Direct monitoring for Constituents of Concern shall be carried out in accordance with Parts II.B.1. and III of this program, and

shall encompass only those Constituents of Concern that do not also serve as a Monitoring Parameter.

4. Monitoring Points and Background Monitoring Points for Each Monitored Medium: The discharger shall sample the following Monitoring Points and Background Monitoring Points in accordance with the sampling schedules given under Parts II.B.2. and II.B.3. (immediately foregoing), taking enough samples to qualify for the most appropriate test under Part III.

   a. For ground water in the uppermost aquifer: The Monitoring Points shall be Point of Compliance wells BB-1, and BB-2, and BB-5, and BB-6; The Background Monitoring Points shall be wells BB-3, and BB-4;

5. Initial Background Determination: For the purpose of establishing an initial pool of background data for each Constituent of Concern at each Background Monitoring Point in each monitored medium (Section 2550.7(e)(6)):

   a. Whenever a new Constituent of Concern is added to the Water Quality Protection Standard, including any added by the adoption of this Board Order, the discharger shall collect at least one sample quarterly for at least one year from each Background Monitoring Point in each monitored medium and analyze for the newly-added constituent(s); and

   b. Whenever a new Background Monitoring Point is added, including any added by this Board Order, the discharger shall sample it at least quarterly for at least one year, analyzing for all Constituents of Concern and Monitoring Parameters.

6. Quarterly Determination of Ground Water Flow Rate/Direction (Section 2550.7(e)(15) of Article 5): The discharger shall measure the water level in each well and determine ground water flow rate and direction in each ground water body described in Part II.B.4. at least quarterly, including the times of expected highest and lowest elevations of the water level for the respective ground water body. This information shall be included in the twice-yearly monitoring reports required under Part II.B.2.

PART III: STATISTICAL AND NON-STATISTICAL ANALYSES OF SAMPLE DATA DURING A DETECTION MONITORING PROGRAM

A. The discharger shall use the following methods to compare the downgradient concentration of each monitored constituent or parameter with its respective background concentration to determine if there has been a release from the Landfill. For any given data set, proceed sequentially down the list of statistical analysis methods listed in Part III.A.1., followed by the non-statistical method in Part III.A.2., using the first method for which the data qualifies. If that analysis tentatively indicates the detection of a release, implement the retest procedure under Part III.A.3.

1. Statistical Methods. The discharger shall use one of the following statistical methods to analyze Constituents of Concern or Monitoring Parameters which exhibit concentrations exceeding their respective MDL in at least ten percent of the background samples taken during that Reporting Period. Each of these statistical methods is more fully described in the Statistical Methods Discussion which is attached to this Program and is hereby incorporated by reference. Except for pH, which uses a two-tailed approach, the statistical analysis for all constituents and parameters shall be one-tailed (testing only for statistically significant increase relative to background):

   a. One-Way Parametric Analysis of Variance ANOVA followed by multiple comparisons (Section 2550.7(e)(8)(A)). This method requires at least four independent samples from each Monitoring Point and Background Monitoring Point during each sampling episode. It shall be used when the background data from the parameter of constituent, obtained during a given sampling period, has not more than 15% of the data below PQL. Prior to analysis, replace all 'trace' determinations with a value halfway between the PQL and the MDL values reported for that sample run, and replace all "non-detect" determinations with a value equal to half the MDL value reported for that sample run. The ANOVA shall be carried out at the 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at a 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the discharger shall conclude that a release is tentatively indicated from that parameter or constituent;

   b. One-Way Non-Parametric ANOVA (Kruskal-Wallis Test), followed by multiple comparisons. This method requires at least nine independent samples from each Monitoring Point and Background Monitoring Point, therefore, the discharger shall anticipate the need for taking more than four samples per Monitoring Point, based upon past monitoring results. This method shall be used when the pooled background data for the parameter or constituent, obtained within a given sampling period, has not more than 50% of the data below the PQL. The ANOVA shall be carried out 95% confidence level. Following the ANOVA, the data from each downgradient Monitoring Point shall be tested at 99% confidence level against the pooled background data. If these multiple comparisons cause the Null Hypothesis (i.e., that there is no release) to be rejected at any Monitoring Point, the discharger shall conclude that a release is tentatively indicated for that parameter or constituent; or

c. Method of Proportions. This method shall be used if the "combined data set", the data from a given Monitoring Point in combination with the data from the Background Monitoring Points, has between 50% and 90% of the data below the MDL for the constituent or parameter in question. This method (1) requires at least nine downgradient data points per Monitoring Point per Reporting Period, (2) requires at least thirty data points in the combined data set, and (3) requires that $N * P > 5$ (where N is the number of data points in the combined data set and P is the proportion of the combined set that exceeds the MDL); therefore, the discharger shall anticipate the number of samples required, based upon past monitoring results. The test shall be carried out at the 99% confidence level. If the analysis results in rejection of the Null Hypothesis (i.e., that there is no release), the discharger shall conclude that a release is tentatively indicated for that constituent or parameter; or

2. Non-Statistical Method. The discharger shall use the following non-statistical method for the VOC_{water} and VOC_{spg} Composite Monitoring Parameters and for all Constituents of Concern which are not amenable to the statistical tests under Part III.A.1.; each of these groupings of constituents utilizes a separate variant of the test, as listed below. Regardless of the variant used, the method involves a two-step process: (1) from all constituents to which the variant applies, compile a list of those constituents which exceed their respective MDL in the downgradient sample, yet do so in less than ten percent of the applicable background samples; and (2) (where several independent samples have been analyzed for that constituent at a given Monitoring Point) from the sample which contains the largest number of constituents. Background shall be represented by the data from all samples taken from the appropriate Background Monitoring Points during that Reporting Period (at least one sample from each Background Monitoring Point). The method shall be implemented as follows:

a. For the Volatile Organics Composite Monitoring Parameter for Water Samples (VOC_{water}): For any given Monitoring Point, the VOC_{water} Monitoring Parameter is a composite parameter addressing all VOCs detectable using USEPA Method (NOTE: See Discussion and insert most appropriate method), including at least all 47 VOCs listed in Appendix I to 40 CFR 258, and all unidentified peaks. Compile a list of each VOC which (1) exceeds its MDL in the Monitoring Point sample (an unidentified peak is compared to its presumed (MDL), and also (2) exceeds its MDL in less than ten percent of the samples taken during that Reporting Period from that medium's Background Monitoring Points. The discharger shall conclude that a release is tentatively indicated for the VOC_{water} Composite Monitoring Parameter if the list either (1) contains two or more constituents, or (2) contains one constituent that exceeds its PQL;

b. For the Volatile Organics Composite Monitoring Parameter for Soil-Pore Gas Samples (VOC_{spg}): The VOC_{spg} Monitoring Parameter is a composite parameter for soil-pore gas addressing at least all 47 VOCs listed in Appendix I to 40 CFR 258, based upon either GC or GC/MS analysis of at least ten liter samples of soil-pore gas (e.g., collected in a vacuum canister). It involves the same scope of VOCs as does the VOC_{spg} Monitoring Parameter. Compile a list of each VOC which (1) exceeds its MDL in the Monitoring Point sample (as unidentified peak is compared to its presumed MDL), and also (2) exceeds its MDL in less than ten percent of the samples taken during that Reporting Period from the (soil-pore-gas) Background Monitoring Points. The discharger shall conclude that a release is tentatively indicated for the VOC_{spg} Composite Monitoring

Parameter if the list either (1) contains two or more constituents, or (2) contains one constituent that exceeds its PQL; or

c. For Constituents of Concern: Compile a list of constituents that exceed their respective MDL at the Monitoring Point yet do so in less than ten percent of the background samples taken during that Reporting Period. The discharger shall conclude that a release is tentatively indicated if the list either (1) contains two or more constituents, or (2) contains one constituent which exceeds its PQL.

3. Discrete Retest (Section 2550.7(e)(8)(E) of Article 5). In the event that the discharger concludes that a release has been tentatively indicated (under Parts III.A.1. or III.A.2.), the discharger shall, within 30 days of this indication, collect two new suites of samples for the indicated Constituent(s) of Concern or Monitoring Parameter(s) at each indicating Monitoring Point, collecting at least as many samples per suite as were used for the initial test. Resampling of the Background Monitoring Points is optional. As soon as the data is available, the discharger shall rerun the statistical method (or non-statistical comparison) separately upon each suite of retest data. For any indicated Monitoring Parameter or Constituent of Concern at an affected Monitoring Point, if the test results of either (or both) of the retest data suites confirms the original indication, the discharger shall conclude that a release has been discovered. All retests shall be carried out only for the Monitoring Point(s) for which a release is tentatively indicated, and only for the Constituent of Concern or Monitoring Parameter which triggered the indication there, as follows:

a. If an ANOVA method was used, the retest shall involve only a repeat of the multiple comparison procedure, carried out separately on each of the two new suites of samples taken from the indicating Monitoring Point;

b. If the Method of Proportions statistical test was used, the retest shall consist of a full repeat of the statistical test for the indicated constituent or parameter, using the new sample suites from the indicating Monitoring Point;

c. If the non-statistical method was used:

1. Because the VOC Composite Monitoring parameters (VOC_{water} or VOC_{spg}) each address, as a single parameter, an entire family of constituents which are likely to be present in any landfill release, the scope of the laboratory analysis for each retest sample shall include all VOCs detectable in that retest sample. Therefore, a confirming retest for either parameter shall have validated the original indication even if the suite of constituents in the confirming retest sample(s) differs from that in the sample which initiated the retest;

2. Because all Constituents of Concern that are jointly addressed in the non-statistical testing under Part III.A.2.c. remain as individual Constituents of Concern, the scope of the laboratory analysis for the non-statistical retest samples shall be narrowed to involve only those constituents detected in the sample which initiated the retest.

B. RESPONSE TO VOC DETECTION IN BACKGROUND

1. Except as indicated in Part III.B.2., any time the laboratory analysis of a sample from a Background Monitoring Point, sampled for VOCs under Part III.A., shows either (1) two or more VOCs above their respective MDL, or (2) one VOC above its respective PQL, then the discharger shall immediately notify the Regional Board by phone that possible background contamination has occurred, shall follow up with written notification by certified mail within seven days,, and shall obtain two new independent VOC samples from that Background Monitoring Point and send them for laboratory analysis of all detectable VOCs within thirty days. If either or both the new samples validates the presence of VOC(s) at that Background Monitoring Point, using the above procedure, the discharger shall:

   a. Immediately notify the Regional Board about the VOC(s) verified to be present at that Background Monitoring Point, and follow up with written notification submitted by certified mail within seven days of validation; and

   b. Within 180 days of validation, submit a report, acceptable to the Regional Board's Executive Officer, which examines the possibility that the detected VOC(s) originated from the Landfill and proposing appropriate changes to the Monitoring Program.

2. If the Regional Board's Executive Officer determines, after reviewing the report submitted under Part III.B.1.b., that the detected VOC(s) most likely originated from the Landfill, the discharger shall assume that a release has been detected and shall immediately begin carrying out the requirements of Part I.E.2.d.

SUMMARY OF SELF MONITORING AND REPORTING PROGRAMS

A. WASTE

	Unit	Reporting Frequency
1. Solid wastes discharged	Cubic Yards	Quarterly
2. Type of Materials discharged	---	Quarterly
3. Remaining capacity of Waste Management Facility	Cubic Yards	Quarterly
4. Any discharge of wastes other than those allowed by this Board Order	Type, Volume and Location	Immediately upon becoming aware that the waste has been discharged together with action for immediate correction and prevention of recurrence
5. Hazardous waste load checking and storage (not more than 90 days)	cubic yards	Quarterly

B. GROUND WATER MONITORING

The ground water monitoring wells shall be sampled quarterly during March, June, September and December. The samples shall be analyzed for the following:

	Parameters & Constituents	Unit	Type of Samples	Reporting Frequency
1.	pH	Number	Grab	Quarterly
2.	Total Dissolved Solids	mg/L	Grab	Quarterly
3.	Specific Conductance	micromohs/cm	Grab	Quarterly
4.	Temperature	°F	Grab	Quarterly
5.	COD	mg/L	Grab	Quarterly
6.	Calcium	mg/L	Grab	Quarterly
7.	Magnesium	mg/L	Grab	Quarterly
8.	Sulfate	mg/L	Grab	Quarterly
9.	Sodium	mg/L	Grab	Quarterly
10.	Nitrate	mg/L	Grab	Quarterly
11.	Ground Water Elevation	Feet (USGS Datum)	Measurement	Quarterly
12.	Volatile Organics (EPA Methods 524.2)	µg/L	Grab	Quarterly

The collection, preservation and holding times of all samples shall be in accordance with EPA-approved methods. All analyses shall be conducted by a laboratory certified by the State Department of Health Services to perform the required analyses.

REPORTING

1. Quarterly monitoring reports shall be submitted to the Regional Board by February 15, April 30, July 31, and October 31 of each year.

2. The discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the waste management facility is operating compliance with waste discharge requirements;

3. Each report shall contain the following statement:

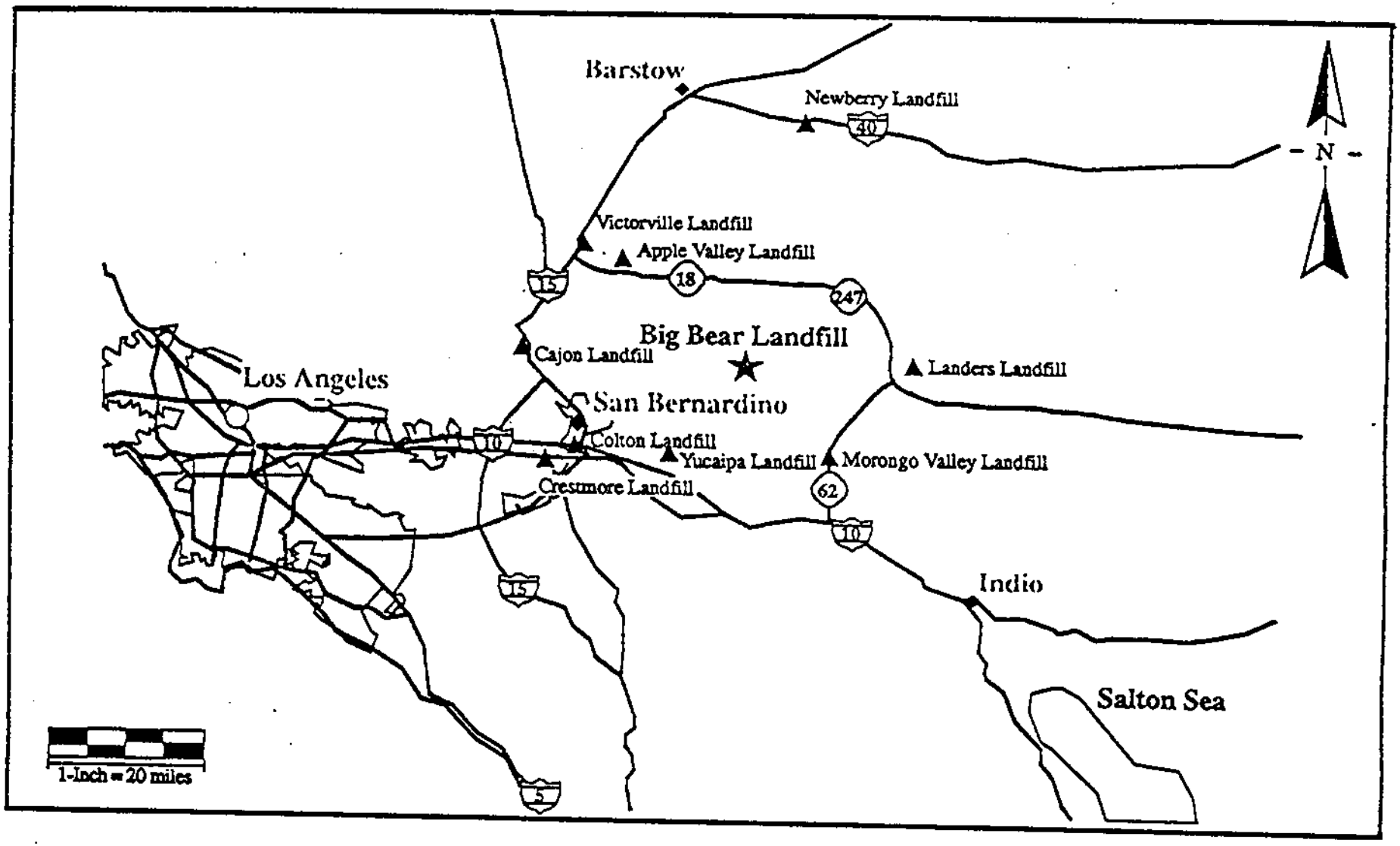
   "I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."

4. Submit monitoring reports to:

California Regional Water Quality Control Board
Colorado river Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

Ordered By: _____
Executive Officer

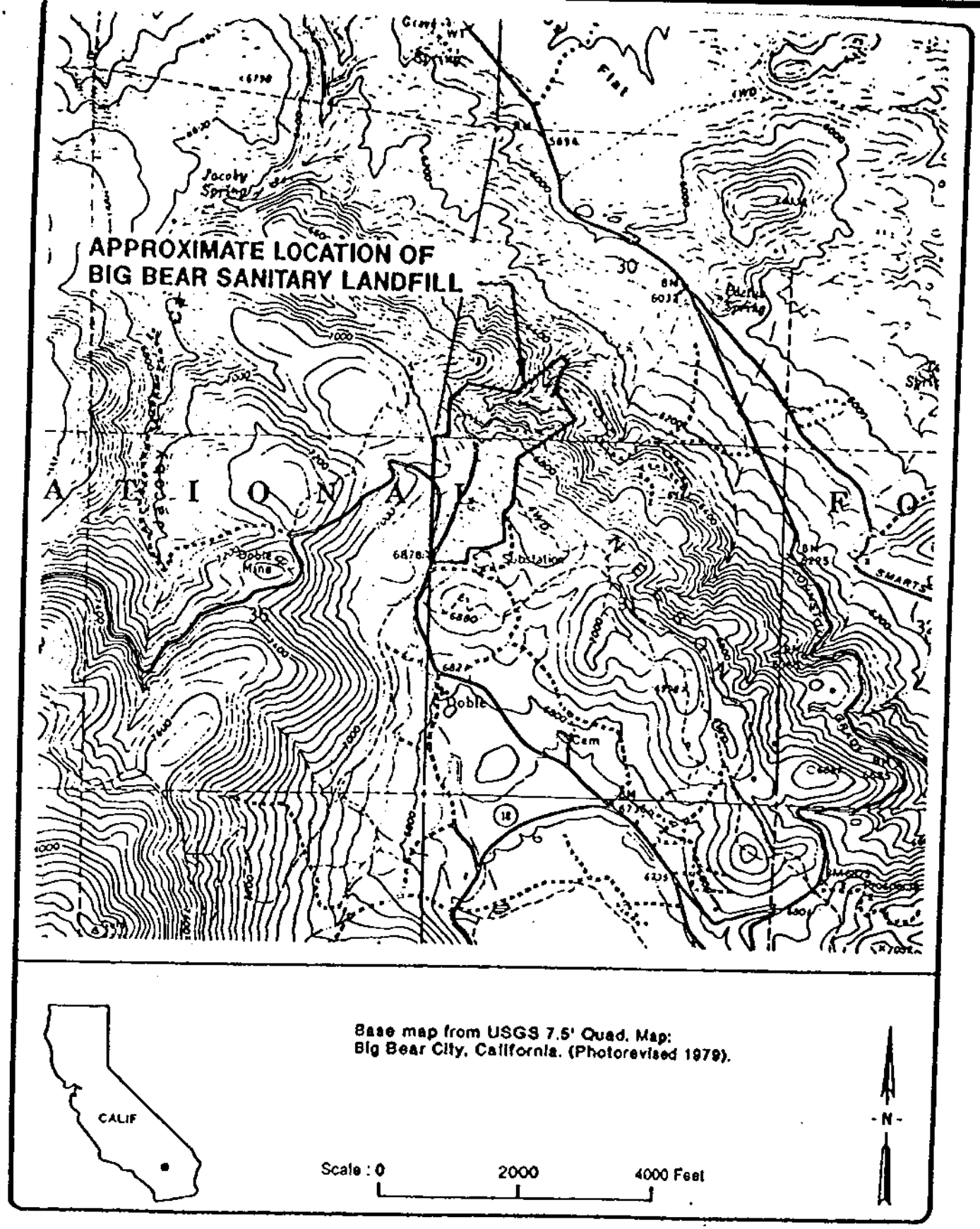
8-11-98
Date



SITE MAP

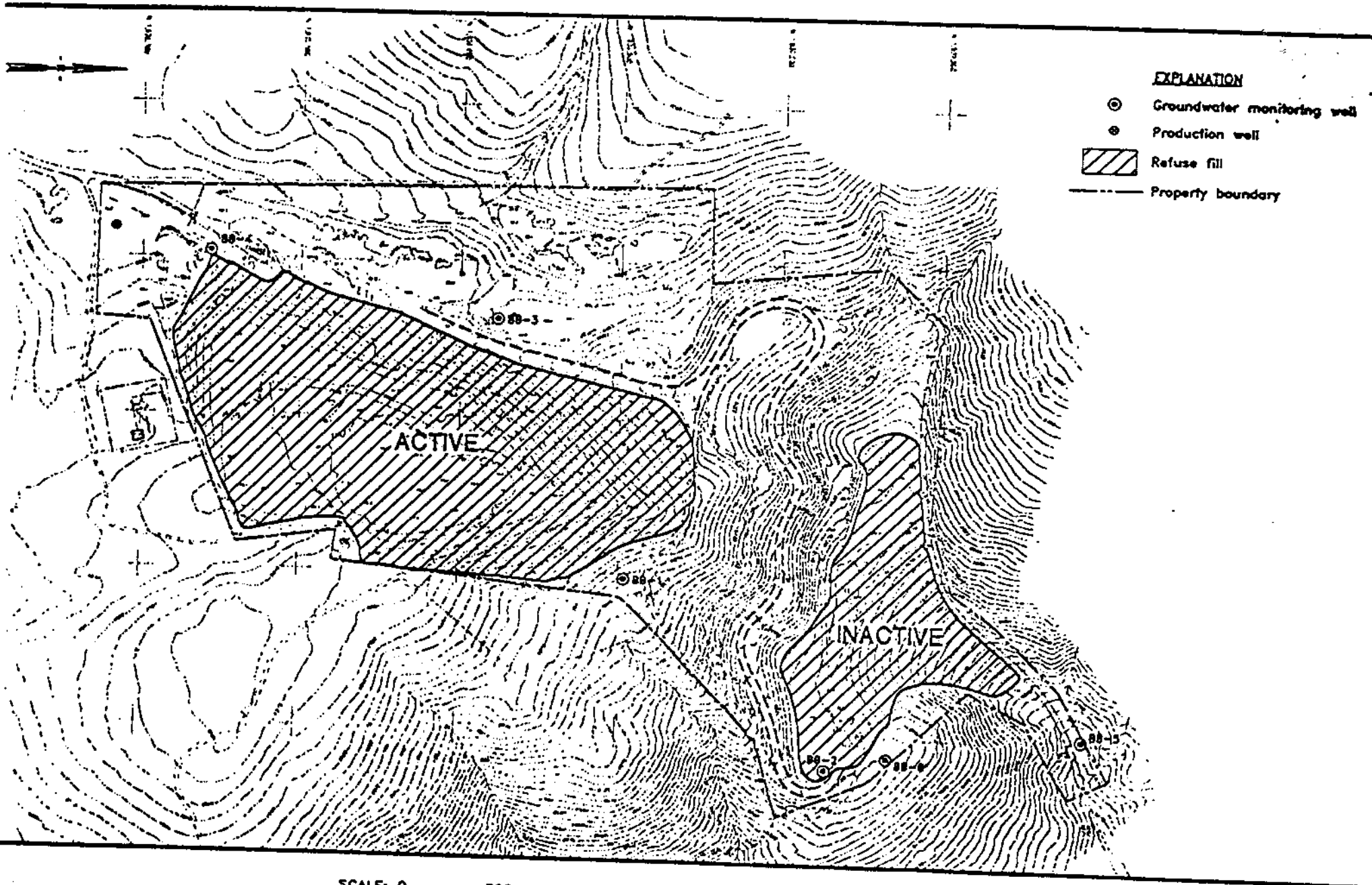
COUNTY OF SAN BERNARDINO
BIG BEAR WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
North of Baldwin Lake - San Bernardino County
SW 1/4 of Section 30 and NW 1/4 of Section 31, T3N, R2E, SBB&M

ATTACHMENT A



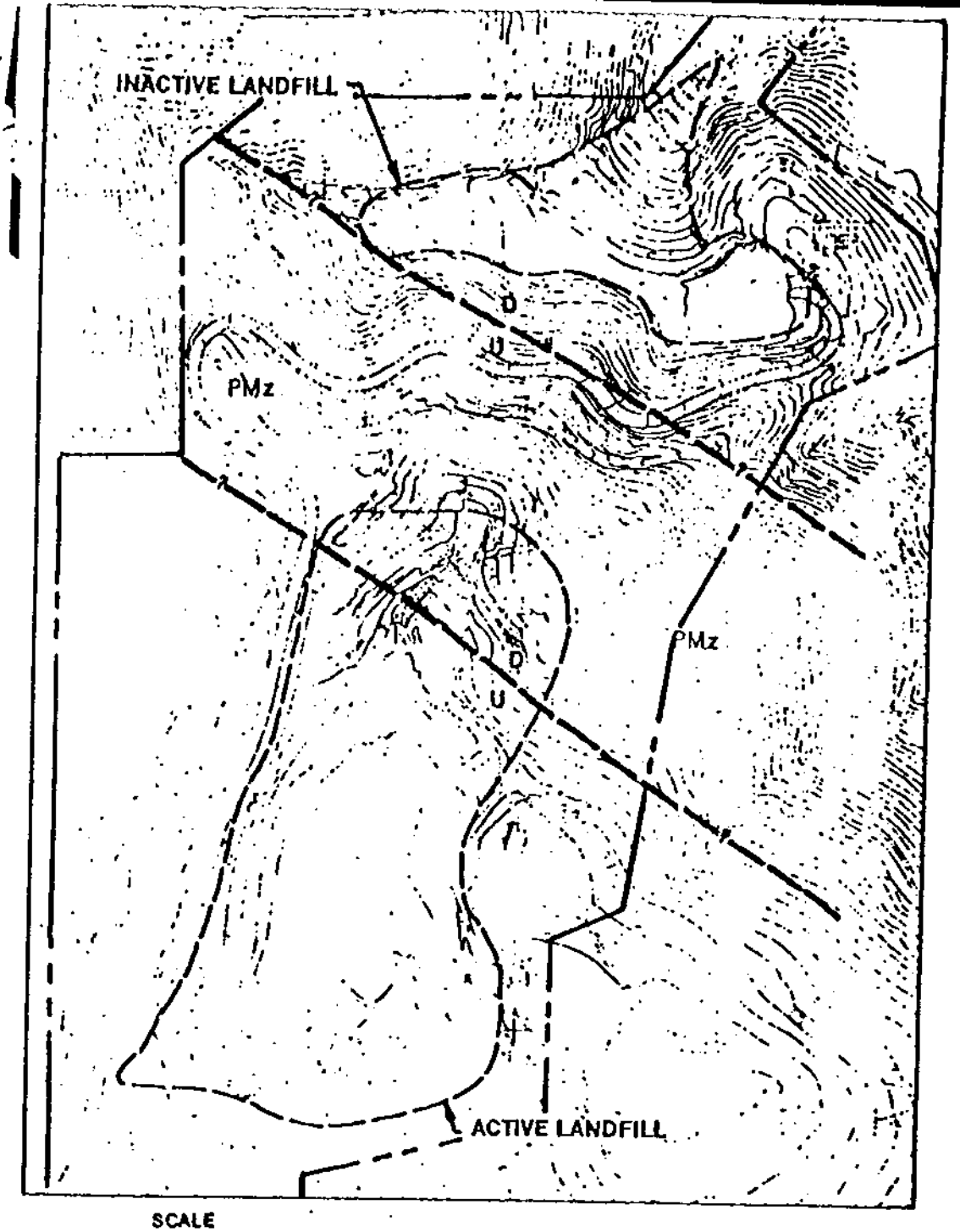
SW 1/4 OF SECTION 30
AND NW 1/4 OF SECTION 31
T3N, R2E, SBB&M

ATTACHMENT B



- ACTIVE AND INACTIVE PORTIONS OF THE LANDFILL
- EXISTING MW -1 THROUGH MW-5 AND PROPOSED MW-6

ATTACHMENT C



SCALE

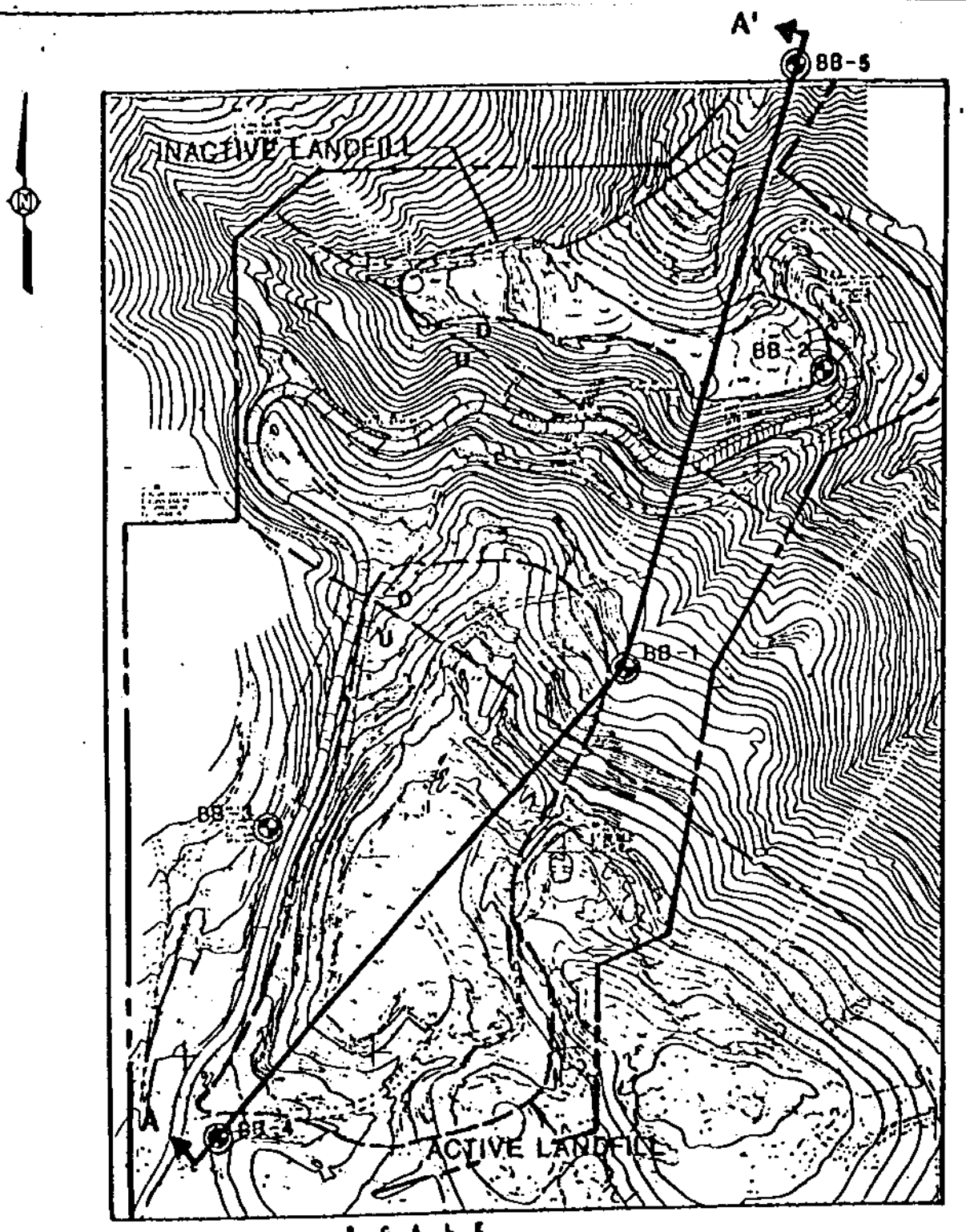
0 400 800 FEET

EXPLANATION:

SITE GEOLOGY

PMz	MESOZOIC GRANITE AND QUARTZ MONZONITE
	PALEOZOIC QUARTZITE AND MARBLE
	PRECAMBRIAN GNEISS AND SCHIST
—?—	APPROXIMATE LOCATION OF HIGH ANGLE NORMAL FAULT
D	DOWNTHROWN SIDE
U	UPTHROWN SIDE

ATTACHMENT D



EXPLANATION:

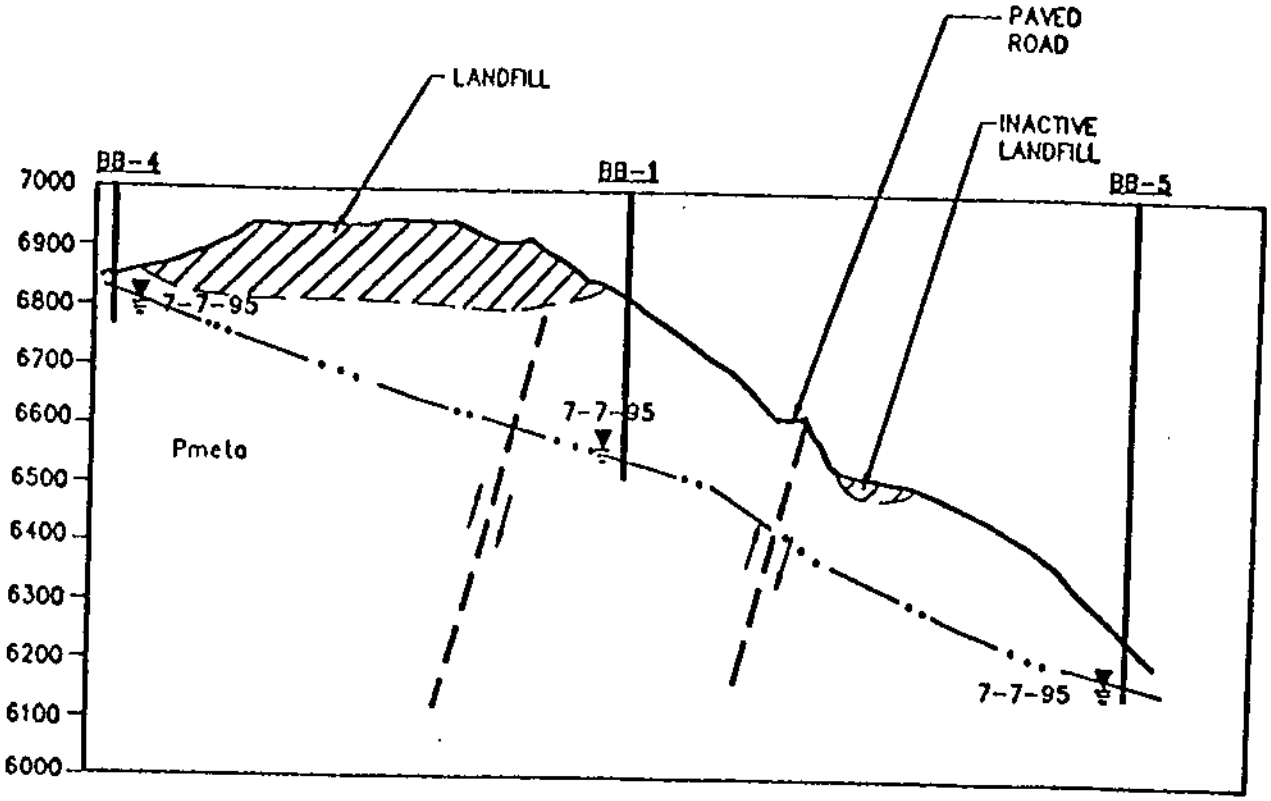
A A' CROSS-SECTION LOCATION

MONITORING WELL LOCATION AND GROUNDWATER ELEVATION (FEET ABOVE MSL)

APPROXIMATE LOCATION OF HIGH ANGLE REVERSE FAULT, D-DOWNTHROWN BLOCK U-UPTHROWN BLOCK

GEOLOGIC CROSS - SECTION LOCATION

ATTACHMENT E



GEOLOGIC
CROSS - SECTION
A - A'

HORIZONTAL SCALE:

0 300 600 1200 FEET

VERTICAL SCALE:

0 150 300 600 FEET

EXPLANATION:

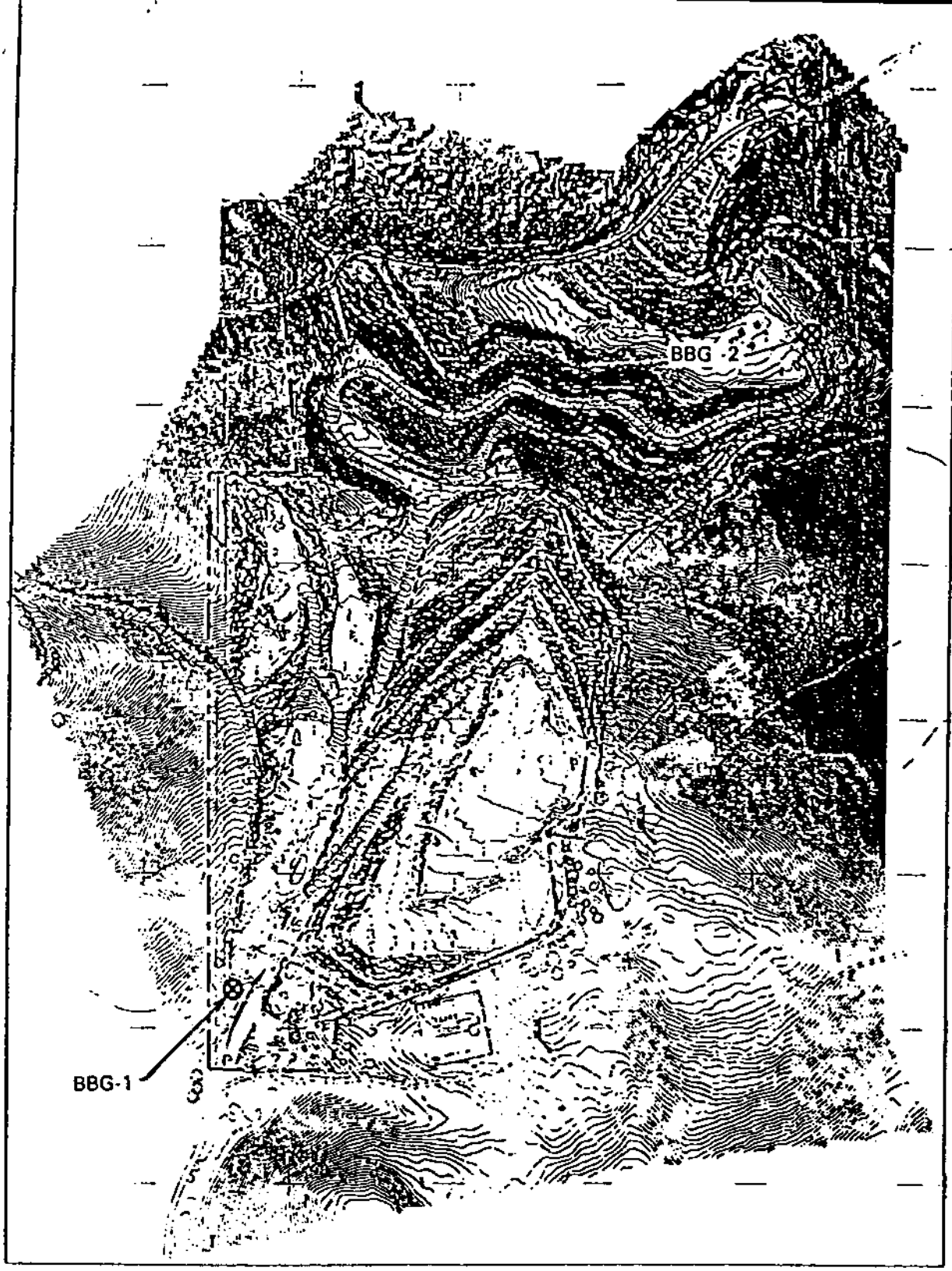
Pmeta PALEOZOIC QUARTZITE AND MARBLE WITH LOCALIZED GNEISS SCHIST, QUARTZ MONZONITE, AND GRANITE

HIGH ANGLE REVERSE FAULT, ARROWS INDICATE DIRECTION OF MOVEMENT

GROUNDWATER LEVEL AND DATE MEASURED

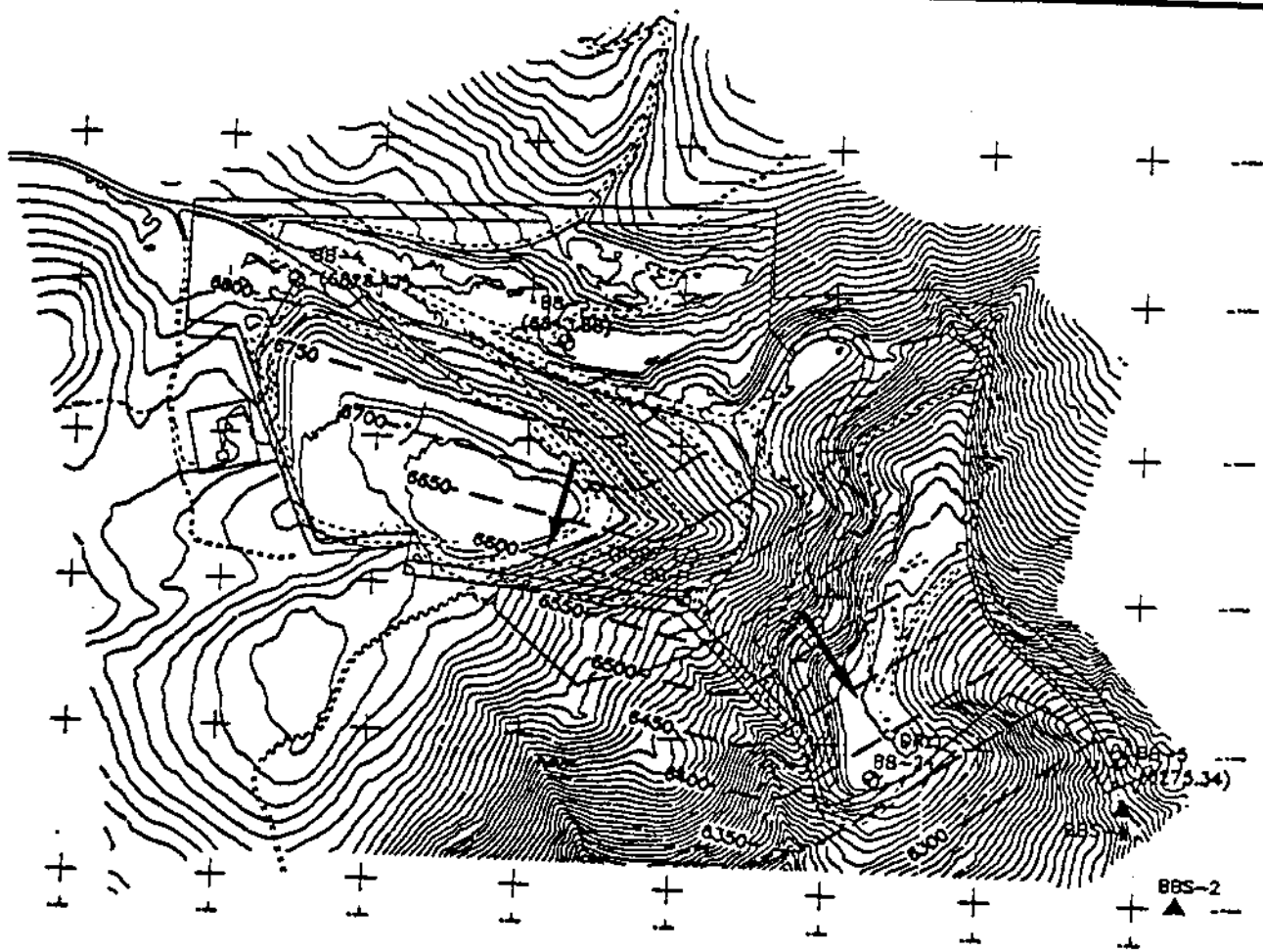
ESTIMATED POTENTIOMETRIC SURFACE

ATTACHMENT F



GAS PROBE LOCATION

ATTACHMENT G



EXPLANATION:

BB-1
(6597.27) GROUNDWATER MONITORING WELL LOCATION (GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL)

BBS-1 SURFACE-WATER SAMPLE LOCATION

6600 GROUNDWATER ELEVATION CONTOUR (CONTOUR INTERVAL = 50 FEET)

DIRECTION OF GROUNDWATER FLOW

N

GRAPHIC SCALE

400 0 200 400 800

(IN FEET)

- SURFACE WATER SAMPLE LOCATION
- GROUNDWATER CONTOURS

ATTACHMENT H