California Regional Water Quality Control Board
Santa Ana Region

Cleanup & Abatement Order No. R8-2006-0035
for
Yellow Roadway Corporation
Former Alumax Fontana Facility
San Bernardino County

The California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. RCM Technologies, Inc. operated an aluminum recovery facility from 1957 to 1977 in the City of Fontana. The 18-acre facility was located on the northeast corner of Beech Boulevard and Santa Ana Boulevard, as shown on **Attachment 1**, which is hereby made a part of this order. In 1976, the Regional Board adopted Waste Discharge Requirements, Order No. 76-238, for aluminum recycling operations conducted at the site by RCM Technologies, Inc. and Mr. Robert Sackett. Mr. Sackett, the Board Chairman and Chief Executive Officer of RCM Technologies, Inc., owned the property and the aluminum recovery facility until July 1977 when Hillyard Aluminum Recovery Corporation (HARC), a wholly-owned subsidiary of Alumax Inc., purchased certain assets, excluding the Fontana property (hereinafter referred to as the Alumax Fontana property).

2. HARC operated the aluminum recovery facility in Fontana from 1977 to 1982, when recovery operations ceased. In August 1985, HARC purchased the Alumax Fontana property from RCM. In July of 1998, Aluminum Company of America (Alcoa) acquired all assets and facilities, including the Fontana property, from Alumax Inc. In January of 2004, USF Reddaway Inc. (USFR) acquired the Alumax Fontana property from Alcoa and began plans for site development. Prior to USFR's final acquisition of the property, Board staff approved their tentative site development plans in September 2003. In May 2005, before final construction plans were developed, Yellow Roadway Corp. (YRC, hereinafter discharger) acquired USFR and became directly involved in the property management, including development, of the Alumax Fontana site.

3. The Alumax Fontana property overlies the Chino North Groundwater Management Zone, the beneficial uses of which include:

   a. Municipal and domestic supply,
   b. Agricultural supply,
   c. Industrial service supply, and
   d. Industrial process supply.

4. On October 14, 1977, the Regional Board adopted Board Order No. 77-200, which replaced Order No. 76-238, for the storage and handling of aluminum oxide wastes at the Alumax Fontana facility. Aluminum oxide was generated as a manufacturing by-product of the aluminum recovery process. These wastes were stockpiled at the site, partly on a concrete-paved storage pad located at the southwest corner of the site, and partly on native soil. The former waste pile storage and salt-affected areas are shown on **Attachment 2**. The aluminum oxide waste contained high levels of soluble salts consisting almost entirely of sodium and potassium chloride.

5. On January 10, 1986, the Regional Board adopted Cleanup and Abatement Order (CAO) No. 86-17. This Order required Alumax Inc., Robert Sackett, and RCM Technologies, Inc. to perform a subsurface investigation, and to propose remedial measures for mitigating any water quality degradation that may have resulted from the migration of soluble salts contained in the aluminum oxide wastes. In order to facilitate investigation at the site and to eliminate a likely source of groundwater contaminants, all aluminum oxide wastes were removed from the site by March of 1992.

6. To comply with CAO No. 86-17, Alumax Inc. conducted two site investigations between 1986 and 1989 and instituted a groundwater monitoring program in April 1993. Initial groundwater monitoring indicated the presence of soluble salts in the groundwater downgradient of the site.

7. Alumax Inc. prepared to initiate a site closure in July 1993 to prevent further groundwater degradation by soluble salts known to remain in the soils beneath the former waste pile storage areas. On September 2, 1994, CAO No. 86-17 was replaced by CAO No. 94-44 to include time schedules for conducting additional groundwater investigations and for mitigating the impact of soluble salts on groundwater.

8. The additional groundwater investigation and salt load reports submitted by Alumax Inc. indicated that:

    a. The estimated quantity of salt leached to the vadose and saturated zone was 16,400 tons. This salt load is relatively minor compared to salt loads resulting from both past and present agricultural and other industrial practices existing within the Chino Basin.

b. The transport modeling results indicated that the Alumax Fontana salt plume travels in a southwesterly direction toward the Jurupa Community Services District (JCSD) production well field located in Sections 4 and 5, R6W, T2S, SBB&M (see **Attachment 1**). Due to the relatively high production rates of the JCSD wells compared to the slow rate at which the plume appeared to be migrating toward the well field, the model predicted that the impact on the quality of pumped water would be negligible. Further, the model indicated that if the salt plume reaches the JCSD well field, it would be completely captured by the JCSD wells, for as long as they remain in service.

9. On April 10, 1997, based on the findings in the salt load reports, the Executive Officer of the Regional Board determined that neither a conventional pump-and-treat system, nor a salt offset program was appropriate as a groundwater remedial alternative.

10. In July of 1998, Aluminum Company of America (Alcoa) acquired all assets and facilities, including the Fontana property, from Alumax Inc.

11. On May 21, 1999, the Regional Board adopted CAO No. 99-38, which replaced CAO No. 94-44, to require Alcoa to implement appropriate corrective measures and monitoring requirements. CAO No. 99-38 specifically required the following:

    a. Submittal and implementation of a site closure and post-closure maintenance plan for the former waste pile storage areas at the site;

    b. Installation of an offsite groundwater monitoring program, in addition to the existing on-site groundwater monitoring program, to provide early warning to JCSD regarding changes in the quality of groundwater upgradient of their well field resulting from the Alumax Fontana salt plume.

    c. Implementation of measures to remediate any adverse impacts the Alumax Fontana plume may have on the JCSD production wells.

12. As required under Item 3 of CAO No. 99-38, Alcoa installed four offsite monitoring wells, AOS #1 through #4, between 1999 and 2000, and began monitoring these wells in addition to the existing two on-site groundwater monitoring wells, MW-1 and MW-2. The locations of these monitoring wells are shown on **Attachment 1**.

13. Item 1 of CAO No. 99-38 required Alcoa to submit a site closure and post-closure maintenance plan (SCPCMP) by August 31, 1999. On August 27, 1999, Alcoa submitted a SCPCMP. After several plan revisions, the Executive Officer of the Regional Board approved the SCPCMP on March 7, 2000, conditioned upon the submittal of a revised plan incorporating three additional post-closure maintenance requirements. On June 19, 2001, Alcoa submitted a revised SCPCMP, dated April 20, 2001, which includes a copy of an unrecorded deed restriction.

14. Item 2 of CAO No. 99-38 required Alcoa to formally close the site by December 31, 1999 or an alternate date approved by the Executive Officer of the Regional Board. On May 2, 2000, Alcoa formally requested a site closure deferral from the December 31, 1999 closure date because the property was for sale, and the cap configuration would be dependent on the buyer's development of the property. On March 1, 2001, the Executive Officer of the Regional Board conditionally approved a time extension for site closure until March 1, 2006, based on the following findings:

    a. No apparent degradation of the groundwater basin due to the Alumax Fontana plume. Existing on-site and offsite water quality monitoring data indicated consistent improvement in water quality beneath and downgradient of the site;

    b. An increasing trend in water quality degradation upstream of the Alumax Fontana site; and

    c. An anticipation of the divestiture of the property for future development, and fulfillment of the capping requirement in concert with future development.

    The site closure deferral was granted conditioned upon compliance with the following water quality indices:

    a. Water Quality Index No. 1 – When a divergence, as defined in the May 2000 site closure deferral proposal, is identified in the annual moving average of chloride values between the onsite groundwater monitoring wells, MW-1 (background) and MW-2 (downgradient).

    b. Water Quality Index No. 2 – When the annual moving average of chloride in offsite Well AOS #4 exceeds the annual moving average of chloride in the onsite background well, MW-1.

    An immediate site closure could be required if any of the above water quality indices is not met.

15. In early November 2005, Alcoa notified Regional Board staff that YRC had purchased USFR, the owner of the former Alumax Fontana facility property, and had become directly involved with the property management of the Alumax Fontana site since May 2005. Prior to final acquisition by YRC, USFR intended to build a truck terminal on the Alumax Fontana property that would incorporate a closure cap for the site, and YRC supports that use. On November 11, 2005, YRC formally requested a time extension for site closure from March 1, 2006 to December 31, 2007 to allow time for a reassessment of the facility design, which may influence the design of the final closure cap. On February 24, 2006, based on the information provided and the monitoring data presented in the January 2005 Annual Groundwater Monitoring Report, the Board granted YRC the requested time extension for site closure.

16. This order is being revised to reflect the change in ownership of the Alumax Fontana property, and to require YRC to:

    a. Continue the existing on-site and offsite water quality monitoring programs;

    b. Propose and implement a site closure and post-closure maintenance plan to minimize the infiltration of water through soil, which causes mobilization of salts remaining in the vadose zone beneath the former Alumax Fontana facility;

    c. Initiate site closure without further delay if new groundwater monitoring data indicate that any of water quality indices (see Finding 13) have not been met; and

    d. Implement other necessary remedial measures to minimize the impact of the Alumax salt plume on nearby water supply wells.

17. Water Code Section 13304 allows the Regional Board to recover reasonable expenses from the responsible parties for overseeing cleanup of illegal discharges, contaminated properties, and other unregulated releases adversely affecting the state's waters. It is the Regional Board's intent to recover such costs for regulatory oversight work conducted in accordance with this order.

18. This action is being taken by a regulatory agency for the protection of the California Environmental Quality Act (Public Resources Codes, Section 21000 et seq.) in accordance with Section 15321, Division 3, Title 14, California Code of Regulations.

IT IS HEREBY ORDERED THAT, pursuant to Section 13304, Division 7 of the California Water Code, YRC (hereinafter discharger) shall implement the following monitoring and corrective measures:

1. Submit a proposed closure and postclosure maintenance plan for the former waste pile storage and salt-affected areas as indicated on Attachment 2, by **December 1, 2006,** for approval by the Executive Officer of the Regional Board. This plan shall include measures to minimize infiltration of water, which causes mobilization of waste constituents remaining in the vadose zone beneath the site. At a minimum, the closure and postclosure maintenance plan shall include the following:

    a. A description, including any construction drawings, of the site redevelopment plan;

    b. Preparation of the former waste pile storage area for closure;

    c. The design of the closure cover, including the permeability data of each component of the cover, and any drainage control structures to divert water away from the cap;

d. A construction quality assurance/quality control plan for cover installation;

e. A proposed time schedule for site closure activities and final closure report submittal;

f. A discussion of any planned postclosure land use of the capped area;

g. A postclosure cover maintenance program consisting of cap inspection and maintenance, including repair of cracks or other damage, record keeping, and submittal of annual maintenance reports; and

h. A proposed deed restriction for the capped area to declare the responsibility of the property owner and its successor(s) to maintain the capped area and to notify the Regional Board of any proposed changes to the existing cap. A notarized copy of the deed restriction with any attachments for the capped area shall be submitted to the Regional Board within thirty days after it has been recorded with the County of San Bernardino.

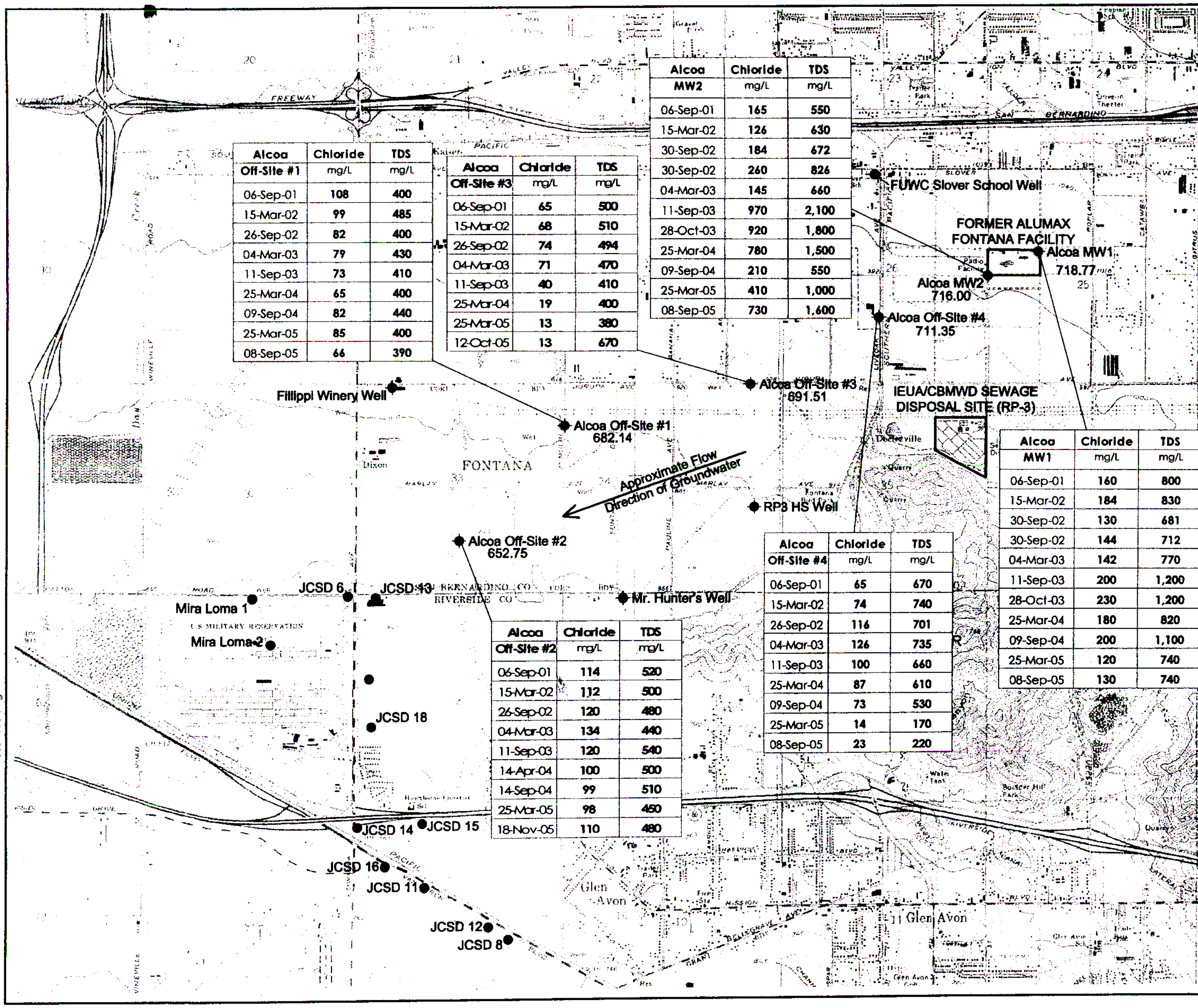
2. Complete implementation of the approved site closure plan submitted pursuant to Item 1 no later than **December 31, 2007**.

3. This order hereby rescinds Order No. 99-38.

If, in the opinion of the Executive Officer, this order is not complied with in a reasonable and timely manner, this matter will be referred to the Regional Board for the imposition of administrative civil liability or referral to the Attorney General for imposition of judicial liability, as provided by law.

Gerard J. Thibeault
Executive Officer

June 8, 2006



Alcoa Off-Site #1	Chloride mg/L	TDS mg/L
06-Sep-01	108	400
15-Mar-02	99	485
26-Sep-02	82	400
04-Mar-03	79	430
11-Sep-03	73	410
25-Mar-04	65	400
09-Sep-04	82	440
25-Mar-05	85	400
08-Sep-05	66	390

Alcoa Off-Site #3	Chloride mg/L	TDS mg/L
06-Sep-01	65	500
15-Mar-02	68	510
26-Sep-02	74	494
04-Mar-03	71	470
11-Sep-03	40	410
25-Mar-04	19	400
25-Mar-05	13	380
12-Oct-05	13	670

Alcoa MW2	Chloride mg/L	TDS mg/L
06-Sep-01	165	550
15-Mar-02	126	630
30-Sep-02	184	672
30-Sep-02	260	826
04-Mar-03	145	660
11-Sep-03	970	2,100
28-Oct-03	920	1,800
25-Mar-04	780	1,500
09-Sep-04	210	550
25-Mar-05	410	1,000
08-Sep-05	730	1,600

Alcoa MW1	Chloride mg/L	TDS mg/L
06-Sep-01	160	800
15-Mar-02	184	830
30-Sep-02	130	681
30-Sep-02	144	712
04-Mar-03	142	770
11-Sep-03	200	1,200
28-Oct-03	230	1,200
25-Mar-04	180	820
09-Sep-04	200	1,100
25-Mar-05	120	740
08-Sep-05	130	740

Alcoa Off-Site #4	Chloride mg/L	TDS mg/L
06-Sep-01	65	670
15-Mar-02	74	740
26-Sep-02	116	701
04-Mar-03	126	735
11-Sep-03	100	660
25-Mar-04	87	610
09-Sep-04	73	530
25-Mar-05	14	170
08-Sep-05	23	220

Alcoa Off-Site #2	Chloride mg/L	TDS mg/L
06-Sep-01	114	520
15-Mar-02	112	500
26-Sep-02	120	480
04-Mar-03	134	440
11-Sep-03	120	540
14-Apr-04	100	500
14-Sep-04	99	510
25-Mar-05	98	450
18-Nov-05	110	480

EXPLANATION

- ◆ Approximate Locations of Alcoa Monitoring Wells
- ◆ Approximate Locations of IEUA Monitoring Wells
- ● Approximate Locations of JCSD and FUWC Production Wells
- 721.48 Groundwater Elevations for September 2005 (Feet Mean Sea Level)
- JCSD Jurupa Community Services District
- FUWC Fontana Union Water Company

N

0 1250 2500
SCALE IN FEET

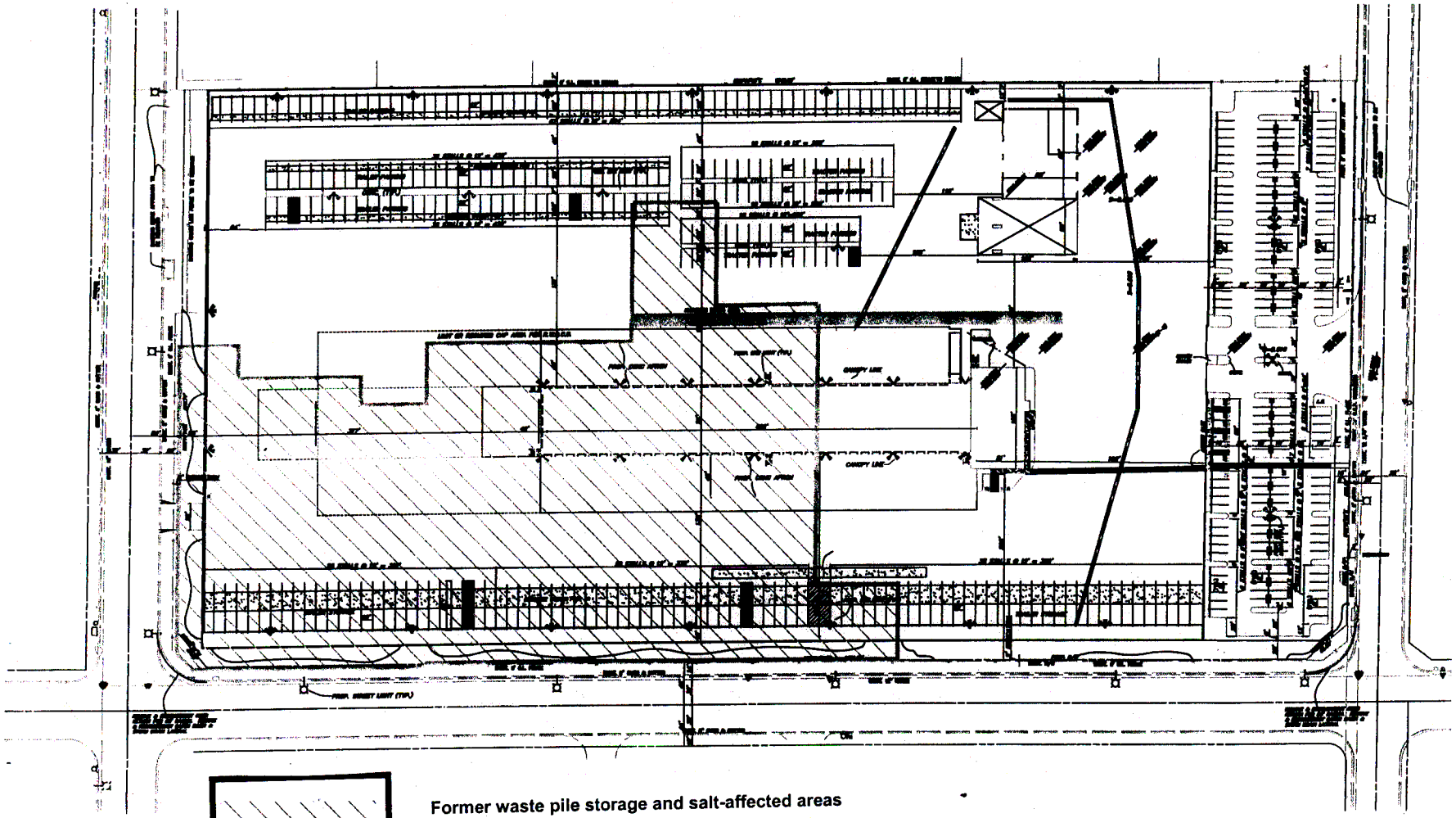
GEOSCIENCE, INC.
ENVIRONMENTAL & GEOTECHNICAL CONSULTANTS

SITE AND WELL LOCATIONS
FORMER ALUMAX RECYCLING FACILITY
BEECH AND SANTA ANA AVENUE
FONTANA, CALIFORNIA

PROJECT NO. 97-315 | FILE NO. 97-315-003.DWG | FIGURE 1

12/16/2005 7:29 AM 97-315-003.dwg

Attachment 1
CAO No. R8-2006-0035



Former waste pile storage and salt-affected areas
(Area to be capped)

Scale 1" = 50'

CITY OF FONTANA, CALIFORNIA
ENGINEERING DIVISION
HORIZONTAL CONTROL PLAN

Attachment 2
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