



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

Arnold Schwarzenegger
Governor

December 3, 2008

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

Mr. Harry Hescoc
c/o David Isola
Isola Law Group
405 West Pine Street
Lodi, California 95240

DIRECTIVE TO SUBMIT A WORK PLAN AND CONDUCT AN INVESTIGATION ON A 160-ACRE PARCEL BOUNDED APPROXIMATELY BY CASA GRANDE PARK AVENUE ON THE NORTH, LOCUST AVENUE ON THE EAST, THE EXTENSION OF ALDER AVENUE ON THE WEST, AND THE EXTENSION OF SUMMIT AVENUE ON THE SOUTH, IN THE CITY OF RIALTO, SAN BERNARDINO COUNTY, CALIFORNIA

Dear Mr. Hescoc:

This letter sets forth a requirement under California Water Code (CWC) Section 13267 that you conduct an investigation to define the lateral and vertical extent of perchlorate in soil and groundwater on a portion of the 160-acre parcel described above (the "160-Acre Parcel"). As required by Section 13267, this letter contains an explanation of the need for the investigation, and cites evidence supporting the requirement.

The Regional Board has identified Pyrotronics Corporation ("Pyrotronics") and Harry Hescoc, individually, as dischargers or suspected dischargers of perchlorate to the groundwater in the Rialto Groundwater Management Zone (GMZ). Evidence shows that large amounts of perchlorate were used and disposed of by Pyrotronics in its large-scale fireworks manufacturing operations that took place for approximately two decades, from approximately May 1968 until the mid-1980's, at the 160-Acre Parcel.¹ Past operations at Pyrotronics under Mr. Hescoc's direction have resulted in discharges of perchlorate to the groundwater in the Rialto GMZ. Records and testimony demonstrate that Mr. Hescoc controlled the manner of production and waste handling at

¹ Pyrotronics and its related entities also engaged in activities at the former bunker area to the west of the 160 Acre Parcel that caused the discharge of perchlorate and other chemicals to soil and groundwater; however, this investigation order is limited to operations on the 160-Acre Parcel, and does not address such other locations.

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the Pyrotronics facility, including the design, construction and operation of the so-called "McLaughlin Pit," which led to the discharge of perchlorate into the soil and groundwater. Soil and groundwater sampling data from the 160-Acre Parcel show high levels of perchlorate in the shallow soil at the "McLaughlin Pit," and that perchlorate is present in the soil from ground surface down to and in the groundwater. Perchlorate is also present in the soil and in the groundwater in other areas of Pyrotronics' former operations at the Parcel.

Background

Perchlorate contamination was first detected in groundwater in the Rialto GMZ in 1997. At that time, the California Department of Public Health (DPH) (formerly Department of Health Services) Action Level for perchlorate in drinking water was 18 parts per billion (ppb). In January 2002, the Action Level (now called Notification Level) was lowered to 4 ppb, and in 2007, DPH adopted a maximum contaminant level (MCL) of 6 ppb for perchlorate in drinking water.

Since 1997, various suspected perchlorate dischargers, including Pyrotronics and Mr. Hescox, as well as other former and current occupants of the property, have been identified. Between 2002 and the present, various other parties have conducted soil and groundwater investigations, both on and adjacent to the 160-Acre Parcel. The results of these investigations have confirmed the presence of several contaminant source areas on the 160-Acre Parcel. In addition, other areas of the 160-Acre Parcel have been identified as suspected contaminant source areas. The known and suspected source areas on the 160-Acre Parcel include the sites of former manufacturing and disposal activities that were conducted by Pyrotronics. These findings demonstrate the need for Harry Hescox and Pyrotronics to conduct additional investigation related to their activities on the 160-Acre Parcel.

Requirement for an Investigation

The Santa Ana Regional Water Quality Control Board (Regional Board) has directed staff to issue individual letters under CWC Section 13267 to suspected perchlorate dischargers in the Rialto GMZ. Several letters similar to this one have already been issued to other suspected dischargers and to the owners of properties where discharges of perchlorate are suspected of having occurred.

The Need for the Investigation

The Board is charged with the protection of water quality in this Region. We have been working actively with the water purveyors for several years to identify the extent and address the impact of perchlorate contamination on water resources in the Rialto GMZ. To this end, Board staff has been working to identify all potential sources of contamination and determine the characteristics and magnitude of the perchlorate plume.

Evidence Supporting the Need for Investigation

As described below, there is substantial evidence of Pyrotronics' use and disposal of perchlorate on the 160-Acre Parcel, which resulted in the discharge of perchlorate to groundwater. The evidence consists of: records from Pyrotronics, including operating instructions, fireworks formulas, and purchase records; government agency records, such as from the Rialto Fire Department, Air Pollution Control District and the Regional Board; testimony under oath of former Pyrotronics employees, including Mr. Hescoc; and soil and groundwater analytical data.

Pyrotronics' Tenure on the 160-Acre Parcel

Starting in or about 1968, Pyrotronics began operations on the 160-Acre Parcel. On May 1, 1968, Pyrotronics acquired the 160-Acre Parcel. (Ex. 1 [Grant Deed, May 1, 1968]); Ex. 2 [Hescoc Dep., 47:3-8].) Pyrotronics operated two divisions: Red Devil Fireworks (Red Devil) and Apollo Manufacturing Company (Apollo). Pyrotronics' Apollo division manufactured fireworks that were distributed by its Red Devil division.² (Ex. 3 [Hescoc Dep., 28:16-24; 57:16-58:13; 65:18-22]; Ex. 4 [Apel Dep., 81:20-24]; Ex. 5 [Moriarty Dep., 306:12-25; 307:15-25; 309:10-15].) Pyrotronics manufactured fireworks over the course of roughly 20 years on the 160-Acre Parcel, until the mid- to late-1980s. (Ex. 6 [Hescoc Dep., 548:4-549:11]; Ex. 7 [RWQCB, Region 8 Inspection Form, July 10, 1986].) In or about September 1988, following its bankruptcy filing in 1986, Pyrotronics' assets, including the property, were sold.

Evidence of Pyrotronics' Widespread, Significant Use of Perchlorate on the 160-Acre Parcel

Perchlorate was a key ingredient of the fireworks manufactured by Pyrotronics on the 160-Acre Parcel throughout its years of operations. Evidence demonstrates that perchlorate was handled and used by Pyrotronics from its start on the 160-Acre Parcel until the end of its operations. (Ex. 8 [October 23, 1968 letter, R. Doerr to City of Rialto Fire Department]; Ex. 9 [May 19, 1978 letter, R. Doerr to California Division of Industrial Safety]; Ex. 10 [August 1986, Inventory, Building #20]; Ex. 11 [November 8, 1985 Letter, R. Apel to Service Chemical, Inc.]; Ex. 12 [Moriarty Dep., 102:3-23; 142:22-143:21; 156:25-157:10]; Ex. 13 [Bybee Dep., 103:5-20; 296:4-22]; Ex. 14 [Hescoc Dep., 156:1-157:8; 241:20-242:13; 544:24-546:1]; Ex. 15 [Mergil Dep., 152:21-153:10]; Ex. 16 [Apel Dep., 126:17-20].)

Many of the fireworks manufactured by Pyrotronics used either potassium perchlorate or ammonium perchlorate as the primary oxidizer ingredient, as evidenced by the company's fireworks formulas and other records and testimony. (Ex. 17 [Handwritten notes]; Ex. 18 ["Silver Sunrise" fireworks content]; Ex. 19 ["Star Spangled Salute" and "King Kong" fireworks content]; Ex. 20 [Other fireworks formulas]; Ex. 21 [Apel Dep., 257:12-258:2]; Ex. 22 [Moriarty Dep., 105:18-21; 135:21-25].)

² Hereafter, any references to "Pyrotronics" in this letter includes Apollo and Red Devil.

Records and testimony further provide evidence of the vast quantity of perchlorate that was used, handled and stored throughout Pyrotronics' operations. For instance, on September 21, 1979, Pyrotronics received 21,000 pounds of potassium perchlorate in a single shipment of seventy 300 pound drums from Kerr-McGee, according to receipts and deposition testimony. (Ex. 23 [Apollo Manufacturing Shipping Report, September 21, 1979]; Ex. 24 [Bill of Lading, September 20, 1979]; Ex. 25 [Mergil Dep., 29:17-30:25]; Ex. 26 [Moriarty Dep., 116:17-119:6].) Another record reflects the purchase of 8,000 pounds of potassium perchlorate on August 27, 1980. (Ex. 27 [Purchase Records, August 27, 1980].) As late as 1985, the company reported to the City of Rialto Fire Department that it was handling some 25,000 pounds of potassium perchlorate per month. (Ex. 28 [Hazardous Materials Disclosure Form, Feb. 5, 1985]; Ex. 29 [Apel Dep., 95:8-96:24]; Ex. 30 [Hescox Dep., 145:19-146:19].)

Pyrotronics Operations on the 160-Acre Parcel

Pyrotronics had a number of events and operations that resulted in the discharge of perchlorate. There were accidental explosions and fires that occurred involving perchlorate, which would have resulted in the spreading of fireworks debris and materials containing perchlorate. Many of the resultant fires were extinguished using large quantities of water, which are believed to have mobilized the perchlorate on the surface downward towards groundwater. Pyrotronics also had operations involving cleaning and waste handling that also led to releases of perchlorate.

In 1968, there were two accidental explosions at the Pyrotronics' facility on the 160-Acre Parcel. The first explosion occurred in February 1968, destroying a press room, damaging many other buildings, and killing three people. (Ex. 31 [Rialto Fire Dept., Building Inspection Report]; Ex. 32 [Newspaper article, Feb. 15, 1968]; Ex. 33 [Hescox Dep., 35:22-24; 65:18-66:12; 323:1-325:7].) The press room involved in the explosion was located west of the main parking lot, and was used to press potassium perchlorate-containing "gerbs." (Ex. 34 [Hescox Dep., 383:6-384:25; 545:3-11].) As indicated above, the City of Rialto typically used water to extinguish the fires that were caused by explosions at Pyrotronics. Mr. Hescox recalled that he saw standing water on the ground after the February 1968 press room explosion. (Ex. 35 [Hescox Dep., 328:18-329:5].) This press room was never reconstructed; instead it was dismantled and later used as a burn area to dispose of waste material. (Ex. 36 [Hescox Dep., 386:9-25].)

A second explosion, in May 1968, occurred in a remote mixing room, known as Building 71, when the Pyrotronics mixer exploded. The City of Rialto Fire Department incident report noted there was an "[e]xplosion of powder in a metal building with total destruction of the building and critically injuring two employees . . ." (Ex. 37 [Fontana Fire Prevention Bureau, Building Inspection Report]; Ex. 38 [Rialto Fire Dept., Fire Report, May 6, 1968]; Ex. 39 [Mergil Dep., 189:20-190:3]; Ex. 40 [Moriarty Dep., 76:12-77:2; 89:11-24]; Ex. 42 [Hescox Dep., 68:1-5].) Perchlorate was one of the powders regularly used in the mixer.

On Christmas Eve in 1980, another significant incident occurred when an individual went into a storage building of the manufacturing plant and lit some unfinished

fireworks, including perchlorate-containing gerbs. As a result of the fire department putting out the fire, the building was not completely destroyed, but eventually was taken down. (Ex. 42 [State Fire Marshal, Fire Incident Report, Dec. 24, 1980]; Ex. 43 [Alarm Report, Dec. 24, 1980]; Ex. 44 [Apel Dep., 232:17-233:8]; Ex. 45 [Hescox Dep., 210:1-211:12].) Many other explosions and fires at Pyrotronics' facility are documented throughout the tenure of the company, including in 1971, 1973, 1976 (twice), 1977, 1979, 1983 (twice) and 1985. (Ex. 46 [Rialto Fire Dept. reports and Haz. Waste Generator Survey, Aug. 7, 1987].)

There is also evidence that Pyrotronics' operations (including the press and mixing processes) generated substantial waste. For instance, Pyrotronics' written "Operating Instructions" specified that press rooms were to be cleaned every two hours "using dry brush method, and thoroughly washed down with water at the end of each work shift" in order to maintain a safe work environment and to prevent explosions. (Ex. 47 [Operating Instructions].) Testimony confirms that Pyrotronics' "Operating Instructions" were followed, and that employees would "wash down the interior of the press building insuring that all residue flows into the sump basin" that would overflow onto the ground. Wash downs occurred generally once a day at the end of the work shift, in order to wash up the waste pyrotechnic material that remained after pressing operations. (Ex. 48 [Hescox Dep., 115:17-116:5; 117:11-20; 120:20-121:6]; Ex. 49 [Apel Dep., 117:8-25]; Ex. 50 [Mergil Dep., 84:12-85:7; 89:14-25; 90:20-24]; Ex. 51 [Moriarty Dep., 125:3-22].)

The chemical mixing process for the fireworks was another source of waste generation. The mixing process, described as "dirty" and "very dusty"³ by former employees, required them to wear respirators, overalls, hoods, gloves, and other protective gear, due to the constant presence of dust in the mixing area. (Ex. 55 [Hescox Dep., 301:8-303:10; 525:9-526:4]; Ex. 56 [Apel Dep., 91:3-23; 101:1-19]; Ex. 57 [Moriarty Dep., 128:3-13].) Pyrotronics' procedures for cleaning the mixing rooms and disposing of collected or washed down pyrotechnic composition were similar to those for the press rooms, as reflected in Pyrotronics' "Operating Instructions." (Ex. 58 [Pyrotechnic Chemical Hand Mixing Instructions]; Ex. 59 [Hescox Dep., 123:11-125:19]; Ex. 60 [Apel Dep., 117:17-25].) Express written instructions again directed employees to hose down the mixing rooms to "insur[e] that all residue flows into sump basin" to contain the pyrotechnic materials. (Ex. 61 [Hescox Dep., 120:20-121:6, 128:18-20].) Witnesses have confirmed that this procedure was followed, and that the floors were hosed down to wash pyrotechnic powders out of the building and prevent the accumulation of powder. (Ex. 62 [Apel Dep., 109:9-110:3]; Ex. 63 [Moriarty Dep., 133:1-15; 134:1-9]; Ex. 64 [Mergil Dep., 97:2-98:15]; Ex. 65 [Apel Dep., 110:9-16].)

Spilled pyrotechnic composition from the press and mixing rooms and brush and broom

³ Written reports reflect that employees sustained injuries when powder or fireworks composition got into their eyes, and eye irritation was a common complaint. (Ex. 52 [Shilling Dep., 102:10-23, 104:19-106:3, 108:9-16, 110:19-111:4; 251:17-25]; Ex. 53 [Employer's Report of Occupational Injury or Illness, March 3, 1986].) Because of the frequency of such incidents, a first-aid area in the buildings was designed with eye wash to clean the powder out of an employee's eye; but if the irritation was severe the injured employee was sent to the clinic. (Ex. 54 [Shilling Dep., 255:17-256:11].)

sweepings collected from the rooms, which often included perchlorate, were placed into containers, and, after a sufficient amount had accumulated, were taken to a burn pit during the early years of operation. (Ex. 66 [Hescox Dep., 113:17-114:3]; Ex. 67 [Mergil Dep., 94:12-95:2]; Ex. 68 [Moriarty Dep., 124:6-21.]) Both the press rooms and the mixing rooms were regularly swept. The sweepings were then deposited into a container labeled to indicate that "excess powder" was inside, and set on the ground in front of the building. Such containers were eventually collected and taken to a burn pit for disposal. (Ex. 69 [Mergil Dep., 354:15-357:11]; Ex. 70 [Moriarty Dep., 131:8-22; 132:23-25.]) After air quality regulators limited Pyrotechnics' ability to burn this material, these materials were placed into a water filled pond (the "McLaughlin Pit"). (Ex. 71 [Hescox Dep., 114:4-115:15; 124:17-125:5; 131:20-132:9; 488:2-6]; Ex. 72 [Mergil Dep., 82:1-14]; Ex. 73 [Apel Dep., 106:1-24.]) Even after the "McLaughlin Pit" was in use, evidence shows that waste fireworks continued to also be placed in pits for burning in various locations on the property. (Ex. 74 [Rialto Office Memorandum Sept. 13, 1983]; Ex. 75 [Open Burning Permit, Sept. 14, 1983]; Exs. 76 and 77 [Open Burning Permit, Dec. 19, 1984]; Ex. 78 [R. Apel letter to Rialto Fire Dept., Nov. 16, 1987]; Ex. 79 [Cartagena Dep., 113:10-115:1; 116:1-12]; Ex. 80 [Red Devil Waste Burn Records, 1987]; Ex. 81 [Application and Permit to Burn, Dec. 15, 1987]; Ex. 82 [Application and Permit to Burn, Jan. 14, 1988]; Ex. 83 [Application and Permit to Burn, Jul. 11, 1988]; Ex. 84 [Red Devil Hazardous Waste Burn Records, Jul. 15, 1988]; Ex. 85 [Application and Permit to Burn, Dec. 15, 1987]; Ex. 86 [Apel Dep., 140:24-141:18].)

Burn Pit Operations

Pyrotechnics initially disposed of its pyrotechnic production waste and defective or damaged fireworks in a large, unlined burn pit located on the south-southwest portion of the 160-Acre Parcel (hereafter referred to as the "Fireworks Burn Pit."). (Ex. 87 [Fire Zone Map Carlton Dep., Ex. 1351]; Ex. 88 [Apel Dep., 140:24-141:19; 143:23-144:25; 147:1-4; 148:23-149:10; 364:9-10; (Ex. 957-959)]; Ex. 89 [Hescox Dep., 113:17-114:16; 159:6-17; 364:15-367:2; 391:2-22; 487:9-18; (Ex. 187)]; Ex. 90 [Moriarty Dep., 123:2-15; 160:8-21, 165:5-166:10; (Ex. 730-732)].) Estimates of the pit's dimensions have ranged from 10 to 20 feet wide, 12 to 15 feet deep and 30 to several hundred feet long, and being large enough that "you could drive into [the pit] with a truck and just dump the product on the ground and light it." (Ex. 91 [Carlton Dep., 332:1-5]; Ex. 92 [Hescox Dep., 391:13-22].) Evidence shows that Pyrotechnics used the Fireworks Burn Pit at least once a week and as many as three to four times per week. (Ex. 93 [Moriarty Dep., 355:19-356:7]; Ex. 94 [Hescox Dep., 191:10-192:10; 364:21-365:4].) Materials were transported to the burn pit daily and then left in the pit to await the next burn. (Ex. 95 [Moriarty Dep., 356:8-16; 374:1-9].) At times, these materials were dosed with water. Pyrotechnics used water hoses to control burn pit fires. Witnesses also observed materials deposited in the pit being rained on before being burned. (Ex. 96 [Moriarty Dep., 164:6-12].) Burn permits issued by the City of Rialto Fire Department and Air Quality Management District records confirm the use of the Fireworks Burn Pit. (Ex. 97 [APCD variance hearing minutes, May 19, 1971].)

The “McLaughlin Pit” Disposal Pond

In 1971, early in the company’s operations on the 160-Acre Parcel, after air quality regulations came into place restricting open burning of any refuse material in Southern California, Harry Hescox, on behalf of Pyrotronics, commissioned the construction of a concrete-lined, rectangular shaped waste disposal pond, which has commonly come to be referred to as the “McLaughlin Pit.” (Ex. 98 [R. Doerr letter to RWQCB, Dec. 9, 1971];) Ex. 99 [Mergil Dep., 283:5-13]; Ex. 100 [Cartagena Dep., 104:8-13].) The “McLaughlin Pit” measured approximately 20 feet wide, 20 feet long and four feet deep,⁴ with a 12,000-gallon capacity, and was located in the south-west portion of the property on what is now the Ken Thompson, Inc. facility. (Ex. 103 [Apel Dep., 136:16-137:11; 170:8-16]; Ex. 104 [McLaughlin Dep., 53:21-54:19].) The “McLaughlin Pit” was subject to Waste Discharge Requirements (Regional Board Order 71-39 (superceded by Order 78-96)).

Pyrotronics commenced use of the “McLaughlin Pit” and continued to use it until mid-1983. (Ex. 105 [Inspection Report Form, Region 8, Jan. 24, 1985].) The “McLaughlin Pit” was used for “the waste disposal of the sweepings and powder that’s contaminated, to dissolve it and deactivate it.” (Ex. 106 [Hescox Dep., 359:20-24]; Ex. 107 [Mergil Dep., 103:18-25].) Material that previously had been burned in the Burn Pit – pyrotechnic composition and other material swept off the floor of the mixing and press rooms, as well as off-specification fireworks – was placed in the “mush” of liquid and solid material in the “McLaughlin Pit” because of air quality restrictions on open burning. (Ex. 108 [Hescox Dep., 159:9-17]; Ex. 109 [Mergil Dep., 82:5-10104:19-105:1; 368:1-10]; Ex. 110 [Adelson Dep., 60:21-25].) Witnesses have testified to seeing mixed pyrotechnic powders, fireworks, production waste, skyrockets, hand grenades, cardboard tubes, military flares, and other military ordnance, including grenades, in the “McLaughlin Pit.” (Ex. 111 [Apel Dep., 137:13-21; 149:12–150:11; 272:3-273:12; 381:16–383:2]; Ex. 112 [McLaughlin Dep., 99:6-102:22]; Ex. 113 [R. Apel letter to Env. Health Services, Mar. 4, 1985]; Ex. 114 [Hescox Dep., 113:17-115:15].) Because waste material in the “McLaughlin Pit” would tend to ignite spontaneously if left dry, Pyrotronics regularly added water to the “McLaughlin Pit” so that the water level was kept within “about 2 or 3 feet” of the top of the pond. (Ex. 115 [Apel Dep., 152:20-153:12]; Ex. 116 [Mergil Dep., 106:13-22; 305:18-20; 351:25-352:6]; Ex. 117 [Cartagena Dep., 105:23-106:6]; Ex. 118 [RWQCB Letter to R. Doerr, Mar. 7, 1983].)

Evidence of Discharges

Evidence shows that Pyrotronics had numerous discharges of perchlorate at many locations on the 160-Acre Parcel. Among these, the “McLaughlin Pit” has been confirmed as a source of perchlorate contamination in the Rialto GMZ. In March 2006, a soil boring was drilled through the “McLaughlin Pit” to groundwater. (Ex. 119 [Data Reports, 2006 and 2007].) Samples from this boring showed high soil concentrations of perchlorate throughout the vadose zone to groundwater, ranging from 190,000 micrograms per kilogram ($\mu\text{g}/\text{kg}$) at 20 feet to 1,800 $\mu\text{g}/\text{kg}$ at 400-440 feet. (*Id.*, at Lab

⁴ Other evidence indicates that the pond may have been 20' x 25' x 5'. (See, e.g., Ex.'s 101 and 102.)

Report No. IPD1205.) In April 2006, a groundwater sample taken from a monitoring well immediately adjacent to the "McLaughlin Pit" measured 3,800 micrograms per liter ($\mu\text{g/l}$) of perchlorate. (*Id.*, at Lab Report No. IPD1194.) Other groundwater monitoring wells and production wells further downgradient of the "McLaughlin Pit" also contain perchlorate.

Liability of Mr. Hescocx

Mr. Hescocx initially started to work at the Rialto facility in 1968. (Ex. 120 [Hescocx Dep., 65:18-66:6; 70:3-6; 109:8-16].) Mr. Hescocx became president of Pyrotronics in 1981 and was the executive vice president prior to that. (Ex.121 [Hescocx Dep., 29:12- 30:2; 31:20-24].) The evidence shows that Mr. Hescocx controlled the manner of production and waste handling at the Pyrotronics facility, including the manner in which the press rooms and mixing rooms were cleaned. The evidence shows that Mr. Hescocx conceived of and took part in the design, construction and operation of the "McLaughlin Pit." During the operation of the "McLaughlin Pit," thousands of pounds of perchlorate-containing waste were immersed in water. (Ex. 123 [Hescocx Dep., 198:22 - 199:18].) Mr. Hescocx testified under oath that the "McLaughlin Pit" was the only way he could conceive of to stabilize and deactivate the combinations of chemicals (including perchlorate), and that he "didn't know what else to do with them." (*Ibid.*) Mr. Hescocx thereafter directed the manner in which Pyrotronics employees placed waste into the "McLaughlin Pit," which resulted in the discharge of perchlorate to groundwater.

The evidence shows that Harry Hescocx and Pyrotronics have discharged perchlorate on the 160-Acre Parcel. The evidence that perchlorate is present in soil on the 160-Acre Parcel, and in groundwater underlying the parcel, is summarized in the March 30, 2007 Revised Focused Summary Report of Investigation of WCLC Use Areas, 160-Acre Site, Rialto, California, prepared by ENVIRON International Corporation (Ex. 119). The evidence demonstrates also that perchlorate at the property is continuing to migrate from the soil into groundwater and is carried downgradient in groundwater. These pollutants are therefore continuing to discharge at the 160-Acre Parcel. This evidence supports the requirement for an investigation as defined in Section 13267(b)(1) of the CWC. **Therefore, you are hereby directed to conduct a soil and groundwater investigation, in accordance with Section 13267(b)(1) of the CWC.** At a minimum, the investigation shall include installation and monitoring of at least three permanent groundwater monitoring wells downgradient of Pyrotronics' former manufacturing and disposal areas on the 160-Acre Parcel.

Deadlines

1. A work plan for a groundwater investigation for perchlorate at the 160-Acre Parcel must be submitted to Regional Board staff no later than **January 31, 2009**. Based upon experience with other related investigations, Board staff has determined that the work plan should include a description of groundwater well locations that are designed to monitor groundwater from the areas of Pyrotronics' former activities at the 160-Acre Parcel where wastes were likely to have been discharged. These well

locations include, but are not limited to, areas downgradient of: the former Pyrotronics manufacturing buildings and press rooms, the "McLaughlin Pit" and the former burn pits. In order to provide for data consistency, the wells should be designed similar to the nine wells that were previously installed at the 160-Acre parcel. You shall provide a detailed time schedule for the tasks to be conducted. The work plan, groundwater well design and time schedule will be subject to my approval.

2. The investigation must commence within 30 days of my approval of the work plan.
3. All analytical results, groundwater measurements, and field information are to be submitted by email to Board staff within 24 hours of being generated, throughout all stages of work, and during all phases of the investigation.
4. The final report for the investigation, including (at a minimum) the borehole logs, well construction details, groundwater elevation data, and soil and groundwater analytical results, must be submitted to Board staff within 30 days of completing the field work.
5. In addition, based upon the investigation's findings, Board staff may request additional work, which could involve additional groundwater investigation, as well as soils investigation. If this further work is required, Board staff will request a further work plan at a later date.

As noted above, the 160-Acre parcel has contributed significant amounts of perchlorate to the underlying groundwater. Given the evidence outlined above, Board staff believes that Mr. Hescoc, as an agent of Pyrotronics, was responsible for at least some of the perchlorate discharges. The above-required information is necessary to define the extent of Pyrotronic's contribution to the perchlorate pollution at the 160-Acre Parcel and in the underlying groundwater. In addition, the requested investigation and monitoring will assist staff in determining the adequacy and performance of any future remedy implemented at or downgradient of the site or, if no remedy has yet been implemented, the investigation will help design an effective remedy to address the contamination attributable to the 160-Acre Parcel. More detailed information is available in the Regional Board's public file on this matter.

Failing to provide the requested report by the required date or falsifying any information in the report is, pursuant to CWC Section 13268, a misdemeanor and may subject you to civil liability of up to five thousand dollars (\$5,000.00) for each day in which the violation occurs.

Any person affected by this action of the Regional Board may petition the State Water Resources Control Board (State Board) to review the action in accordance with Section 13320 of the CWC and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Board within 30 days of the date of this Order. The State Board's website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality/) contains detailed information regarding the petition process. In addition to filing a petition with

the State Board, any person affected by this Order may request the Regional Board to reconsider this Order. Such request should be made within 30 days of the date of this Order. Note that even if reconsideration by the Regional Board is sought, filing a petition with the State Board within the 30-day period is necessary to preserve the petitioner's legal rights. If you choose to appeal the Order, be advised that you must comply with the Order while your appeal is being considered.

Recovery of Regional Board Expenses

CWC Section 13365 addresses the billing process for the Board to recover reasonable expenses for overseeing investigation of illegal discharges, contaminated properties, and other unregulated releases that may adversely affect the State's waters. It is the Board's intent to recover such costs for regulatory oversight work conducted in accordance with this order. A description of the Board's procedure for cost recovery for regulatory oversight of investigations and cleanups will be sent to you under separate cover.

If you wish to meet with us to discuss these requirements, please contact our Assistant Executive Officer, Kurt Berchtold, no later than **December 12, 2008** to arrange a meeting. Mr. Berchtold can be reached at (951) 782-3286; you may also call Robert Holub, Division Manager, at (951) 782-3298.

Sincerely,



Gerard J. Thibeault
Executive Officer

Attachment: 123 Exhibits (a 37.7 MB file containing all exhibits may be downloaded at ftp://swrcb2a.swrcb.ca.gov/pub/rwqcb8/Perchlorate/Hescox_13267/Citation_Documents.zip)

cc:

Regional Board Members

Jennifer Novak, Office of the Attorney General, Los Angeles

David Rice, Office of Chief Counsel, SWRCB

Philip Wyels, Office of Chief Counsel, SWRCB

Erik Spiess, Office of Enforcement, SWRCB

Interested Parties (see mailing list)