Terry Tamminen
Secretary for
Environmental
Protection

California Regional Water Quality Control Board

Central Coast Region

Arnold Schwarzenegger
Governor

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December 8, 2003

Mr. Richard W. McClure
Olin Corporation
Environmental Remediation Group
PO Box 248
Charleston, TN 37310-0248

Mr. Jay McLaughlin
President and CEO
Standard Fusee Corporation
PO Box 1047
Easton, MD 21601

Dear Messrs. McClure and McLaughlin:

SLIC: 425 TENNANT AVENUE, MORGAN HILL; WAIVER OF WASTE DISCHARGE REQUIREMENTS FOR THE DISCHARGE OF PERCHLORATE-TREATED WATER TO THE CITY OF MORGAN HILL BUTTERFIELD RETENTION POND

Regional Board staff reviewed Olin Corporation's November 11, 2003, Report of Waste Discharge (ROWD) for the proposed discharge of perchlorate-treated water to the City of Morgan Hill's Butterfield Retention Pond. The ROWD presents information on the groundwater perchlorate removal treatment system, the projected effluent quality of the discharge, and the proposed disposal location. We evaluated the ROWD and have determined that your proposed discharge meets conditions for enrollment in the General Waiver for Specific Types of Discharges (Treated Groundwater), Resolution R3-2002-0115. The four applicable Treated Groundwater conditions and how Olin complies with them are discussed below.

1. *The treatment system design must be reviewed by Regional Board staff prior to discharge.*

   Regional Board has reviewed the Groundwater Perchlorate Treatment System design presented in the ROWD and Olin's 90% Design report. Onsite perchlorate-contaminated groundwater will be extracted, up to 250 gallons per minute, in extraction wells and pumped through an ion-exchange treatment system for the removal of perchlorate. The effluent from the ion-exchange treatment system will be discharged to the City of Morgan Hill Butterfield Retention Pond. Regional Board staff has approved the use of the proposed ion-exchange perchlorate removal system.

2. *The discharge area shall not be within 200 feet of a water supply well, or within 100 feet of a stream, body of water, or wetland, unless waived by the Executive Officer.*

   Olin has verified and confirmed that the Butterfield Retention Pond is not within 200 feet of a water supply well or within 100 feet of a stream, body of water or wetland.

3. ***With the report of waste discharge, the discharger shall submit data completely characterizing the nature of contaminants that might be discharged. Samples shall be analyzed for some or all compounds (as specified by the Executive Officer) for which maximum contaminant levels or public health goals have been established or which are***

found on either federal or California Unregulated Contaminant Monitoring Requirements lists. Regional Board staff will notify any potentially affected water management agency prior to enrolling the discharge.

The ROWD contains influent and effluent water characterization and characterizes the concentrations that might be discharged. Perchlorate was not detected (<4 µg/l) in the effluent stream even though the influent concentration was 28.4 µg/l. Olin's 90% Design report contains pre-design groundwater chemistry data showing heavy metals were below their drinking water maximum contaminant levels. Toxic organic compounds were not detected and nitrate was detected to a maximum concentration of 41 mg/l. Olin has complied with the complete characterization data submittal requirement. The Regional Board has also notified two potentially impacted water management agencies (City of Morgan Hill and Santa Clara Valley Water District) of the Regional Board's intent to enroll Olin in the General Waiver for Specific Types of Discharges (Treated Groundwater).

4. *The discharger shall comply with a monitoring and reporting program, unless waived by the Executive Officer.*

   The Executive Officer has issued the enclosed Monitoring and Reporting Program No. R3-2003-0168 that must be implemented by Olin as one of the conditions of enrollment in the General Waiver. The monitoring and reporting program will monitor the operation of the treatment system and the quality of the effluent to be discharged to the Butterfield Retention Pond.

In accordance with Central Coast Regional Board Resolution No. R3-2002-0115, General Waiver for Specific Types of Discharges, your proposed project is hereby enrolled in the waiver of Waste Discharge Requirements for the discharge of Treated Groundwater. The waiver is subject to the following conditions:

1. Compliance with General Waiver Conditions (Attachment A1, Section A), and discharge-specific conditions contained in Waivers of Waste Discharge Requirements, Treated Groundwater, Attachment A1, Section B, Item 5 is required.

2. Compliance with the enclosed Monitoring and Reporting Program No. R3-2003-0168.

3. Compliance with the discharge limits contained in the enclosed Monitoring and Reporting Program No. R3-2003-0168.

4. Identify, notify, and solicit comments from residents and business owners within 300 feet of the Butterfield Retention Pond of Olin's proposed discharge of treated water to the pond. Comments regarding the discharge shall be directed to the Regional Board and Olin. Olin shall confirm in writing by December 30, 2003, compliance with this public notification requirement. The confirmation letter shall include the list of residents and business owners notified and any comments received from them.

5. **This waiver expires on December 31, 2008.**

Authority for this waiver of Waste Discharge Requirements is based on California Water Code Section 13269. 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 California Water Code Section 13320, and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Board, Office of Chief Counsel, within 30 days of the date of this action. Copies of the law and regulations applicable to filing petitions will be provided upon request.

If you have questions, please contact **David Athey at (805) 542-4644** or email at dathey@rb3.swrcb.ca.gov or Eric Gobler at (805) 549-3467 or email at egobler@rb3.swrcb.ca.gov.

Sincerely,

Roger W. Briggs
Executive Officer

ajm/rick mcclure waiver of wdrs enrollment ltr 2dec03

Enclosures:

1. Resolution R3-2002-0115 (including Attachment A1)
2. Monitoring and Reporting Program No. R3-2003-0168

cc:

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
895 AEROVISTA PLACE, SUITE 101
SAN LUIS OBISPO, CALIFORNIA

RESOLUTION R3-2002-0115
December 13, 2002

General Waiver
For
Specific Types of Discharges

The California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board) finds:

1. California Water Code Section 13269 authorizes the Regional Board to waive reports of waste discharge, waste discharge requirements, and permission to discharge (Sections 13260(a) and (b), 13263(a), and 13264(a), summarized below) for a specific discharge or specific types of discharges where such a waiver is not against the public interest.

    a. Sections 13260(a) and (b) require a report of waste discharge from any person or agency proposing to discharge waste or construct an injection well.

    b. Section 13263(a) provides Regional Boards with authority to issue waste discharge requirements for any proposed or existing discharge that could affect water quality.

    c. Section 13264(a) prohibits waste discharge without discharger submittal of a report of waste discharge and Regional Board adoption of waste discharge requirements or Regional Board issuance of a waiver.

2. California Water Code Section 13269 stipulates that waivers shall be conditional and may be terminated at any time by the Regional Board. Waivers may be granted for discharges to land and may not be granted for discharges to surface waters or conveyances thereto.

3. On October 10, 1999, Senate Bill 390 amended California Water Code Sections 13269 and 13350. The amendments:

    a. Extend all waivers in effect on January 1, 2000, for three years to January 1, 2003, unless terminated earlier.

    b. Require all existing waivers to expire on January 1, 2003, unless renewed.

    c. Require Regional Boards to conduct a public hearing before renewing any waiver for a specific type of discharge to determine whether the discharge should be subject to general or individual waste discharge requirements.

    d. Direct the Regional Boards and State Board to enforce waiver conditions.

e. Expand Regional Boards' authority to take enforcement action for violations of waiver conditions.

f. Require Regional Boards to review and renew or terminate all waivers (issued after January 1, 2003) every five years.

4. On September 27, 2002, Governor Davis signed AB 2481. AB 2481 extends the existing waiver for onsite wastewater disposal (septic systems) from January 1, 2003 to June 30, 2004. As a result, the Regional Board intends to review its related waiver policy at a public hearing prior to June 30, 2004.

5. Waivers granted for discharges that do not pose a significant threat to water quality, where such waivers are not against the public interest, enable staff resources to be used effectively and avoid unnecessary expenditures of limited resources.

6. Attachment A1, Sections B and C identify the types and conditions of discharges for which waivers are granted by this Resolution. These discharges will not have a significant effect on the quality of waters of the State provided the corresponding criteria and conditions are met.

7. Regional Board staff will develop and implement a waiver tracking and compliance program.

8. Issuance of a waiver will not override other more stringent local, state, or federal regulations prescribed by other agencies or departments.

9. Although a discharge may qualify for waiver enrollment, the Regional Board reserves the right to regulate that discharge through other programs or Regional Board actions (such as enforcement Orders, individual waste discharge requirements, general Orders, etc.).

10. Regional Board staff followed appropriate procedures to satisfy the environmental documentation requirements of the California Environmental Quality Act of 1977.

11. The Regional Board has reviewed the Initial Study concerning this Resolution prepared in accordance with the California Environmental Quality Act and concurs that a Negative Declaration should be adopted.

12. On December 13, 2002, the Regional Board held a public hearing and considered all the evidence concerning this matter. Notice of this hearing was given to all interested parties in accordance with the California Code of Regulations, Title 14, Section 15072.

THEREFORE, BE IT RESOLVED:

1. The Regional Board, in compliance with California Water Code Section 13269, has reviewed the previous waiver policy (Resolution 89-04) and will allow that policy to expire on January 1, 2003. Discharges for which provisions of California Water Code Sections 13260, 13263, or 13264 were waived under the previous waiver policy may be issued individual waste discharge requirements, enrolled in general waste discharge requirements, regulated through other programs, granted a waiver by this Resolution, or granted a waiver through other actions of the Regional Board.

2. The Regional Board's Executive Officer is authorized to enroll and terminate enrollment in the waivers granted by this resolution.

3. Waste discharge requirements (California Water Code Section 13263(a)) are waived for discharges listed in "Attachment A1, Section B." Applicants seeking enrollment in these waivers are required to submit a report of waste discharge or other documentation that provides sufficient information to demonstrate that compliance with waiver conditions can be achieved. The application shall include a one-time fee equal to the minimum annual fee identified in the fee schedule. These applicants are not permitted to discharge pursuant to this Resolution until the Regional Board Executive Officer notifies the applicants that they have been enrolled. All waiver enrollment notifications granted by the Executive Officer shall include an expiration date.

4. Reports of waste discharge submittal, waste discharge requirements issuance, and enrollment notification (California Water Code Sections 13260(a) and (b), 13263(a), and 13264(a)) are waived for discharges listed in "Attachment A1, Section C." Provided all conditions are met, these dischargers need not apply to the Regional Board, pay fees, or receive waiver enrollment notification.

5. The Executive Officer may tentatively enroll proposed discharges not listed in "Attachment A1," provided the discharge meets all general conditions listed in "Attachment A1, Section A" and any additional site-specific or discharge-specific conditions prescribed by the Executive Officer. These discharges require a report of waste discharge including a one-time fee equal to the minimum annual fee identified in the fee schedule. Tentative enrollments will be brought before the Regional Board at regularly scheduled meetings for formal approval. All waiver enrollment notifications shall include an expiration date.

6. The Regional Board hereby adopts the Initial Study and Negative Declaration regarding waivers of reports of waste discharge, waste discharge requirements, and permission to discharge (as presented in Attachment A1 of this Resolution). The Executive Officer will file a Notice of Determination with the State Clearinghouse as required by the California Code of Regulations.

I, Roger W. Briggs, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on December 13, 2002.

Executive Officer

12-17-02

Date

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Task: 401-01
File: General Waiver

ATTACHMENT A1

RESOLUTION NO. R3-2002-0115
WAIVER CONDITIONS

December 13, 2002

A. GENERAL WAIVER CONDITIONS

These general conditions apply to all discharges granted waivers in accordance with Resolution R3-2002-0115:

1. The discharge quality must ensure that beneficial uses of the receiving groundwater will not be impaired.

2. Discharge of wastes classified as "hazardous," as defined in California Code of Regulations, Title 23, Section 2521, or "designated," as defined in California Water Code Section 13173, is prohibited.

3. Discharge (including overflow, bypass, seepage, and over spray) to surface waters or surface water drainage courses is prohibited.

4. Discharge, either directly or indirectly, to areas not identified in the report of waste discharge or equivalent document is prohibited except Section C discharges.

5. If the report of waste discharge or equivalent document describes a treatment facility, bypass of the treatment facility and discharge of untreated or partially treated wastes to the disposal area are prohibited except Section C discharges.

6. Discharges not specifically described in the report of waste discharge or equivalent document are prohibited except Section C discharges.

7. Creation of a condition of pollution, contamination, or nuisance, as defined by California Water Code Section 13050 is prohibited.

8. Discharge of radioactive substances, and chemical and biological warfare agents is prohibited. Discharge of wastes containing substances in concentrations toxic to human, plant, animal, or aquatic life is prohibited.

9. Waivers may include discharger-specific expiration dates, after which discharge is prohibited unless an extension is granted or a new waiver is issued.

10. Compliance with a monitoring and reporting program may be required on a case-by-case basis.

11. Regional Board staff shall be allowed entry onto discharge generation and disposal sites to determine compliance with waiver conditions.

Failure to comply with general and discharge-specific waiver conditions terminates enrollment in the waiver, reinstates all California Water Code sections previously waived, and may result in enforcement action. Although a discharge may qualify for waiver enrollment, the Regional Board retains the right to terminate waiver enrollment at any time and regulate the discharge under other programs and/or orders (such as other waivers, general waste discharge requirements, individual waste discharge requirements, enforcement orders, etc.).

B. WAIVERS OF WASTE DISCHARGE REQUIREMENTS

This section includes a list of discharges for which Resolution R3-2002-0115 grants waivers of waste discharge requirements. A discharge may be enrolled in one of these waivers if it fits the specified category and complies with the specified conditions. Consideration for enrollment in one of these waivers requires submittal of a report of waste discharge to the Regional Board, including a one-time fee equal to the minimum annual fee identified in the fee

schedule. (Waiver of California Water Code Section 13263(a).)

1. Directional Drilling Muds

This section applies to drilling muds from horizontal drilling, and specifically excludes muds from monitoring wells at cleanup sites and oil wells. Horizontal drilling muds consist of a clay slurry. Clay and water are added to the borehole to provide lubrication in the drilling process and to aid in the removal of material from the bore. The mud used in directional, onshore drilling projects for cable placement is typically composed of water and fine clay (usually bentonite) and typically does not contain appreciable levels of hazardous materials or soluble pollutants. The threat to water quality of such materials depends primarily on the additives used. Additives are selected based on soil conditions. Typically, bentonite is used in coarse soils (sands and gravels), polymers are used in fine soils (clays and shales), and surfactants are used in sticky clays. Most often, however, two or more additives are used in combination. With bentonite providing a filter cake, and polymer providing inhibition, the mud usually achieves the properties required to drill successfully in most soil formations. If the slurry material to be spread is free of appreciable additives (additive quantities in conformance with industry standards, the used slurry may be spread on pastures or fields, provided that contact with surface water is avoided and runoff is prevented). Conditions for Directional Drilling Mud Disposal:

a. The discharge shall be spread over an undisturbed, vegetated area capable of absorbing the top-hole water and filtering solids in the discharge, and spread in a manner that prevents a direct discharge to surface waters.

b. The pH of the discharge shall be between 6.5 and 8.3.

c. The discharge shall not contain oil or grease.

d. The discharge area shall not be within 100 feet of a stream, body of water or wetland, nor within streamside riparian corridors.

2. Highway Grinding Slurry

Grinding is generally performed to improve the riding quality of new or existing cement concrete or asphalt concrete pavement. Existing pavements are ground as a rehabilitation strategy, and new pavements may be ground to meet smoothness requirements. Typically, concrete grinding activities involve use of water to cool grinding blades and surfaces. That water mixes with ground particles, and may create high-pH slurry. These activities may produce large volumes of slurry. Water conservation may involve allowing slurry solids to settle out, then decanting water for reuse in grinding. Conditions for Highway Grinding Slurry Disposal:

a. The discharger shall implement appropriate management practices to capture and contain grinding slurry.

b. The discharge shall have a pH between 6.5 and 8.3.

c. Each temporary or permanent highway grinding slurry reuse or disposal site shall be approved by the Executive Officer prior to use.

d. Slurry shall be stored or disposed only during the dry season (May through October).

e. The discharge area shall not be within 200 feet from a water supply well, nor within 100 feet of a stream, body of water, or wetland, nor outside streamside riparian corridors.

3. Highway Grooving Residues

Grooving is generally performed on roads to increase friction on new or existing cement concrete or asphalt concrete pavement. Conditions for Highway Grooving Residue Disposal:

a. Each temporary or permanent highway grooving residue reuse or disposal site shall be approved by the Executive Officer prior to use.

b. The discharger shall implement appropriate management practices to confine grooving residues to lined trenches without overflow.

c. Trenches shall not intercept groundwater.

d. Disposal activities shall not occur during the rainy season (November through April).

e. The discharge area shall not be within 200 feet of a water supply well, or within 100 feet of a stream, body of water, or wetland, nor within streamside riparian corridors.

4. Sediment Removal

This category includes sediment removed from streams as part of a minor dredging operation, flood control project, construction project, or stream alteration project. This activity was historically regulated by the Clean Water Act Section 401 Water Quality Certification. The Army Corps of Engineers no longer regulates sediment removal or "incidental fallback" activities. Therefore, a project involving only sediment removal is no longer required to obtain a Clean Water Act Section 404 permit or 401 water quality certification. Projects removing less than 100 cubic yards of sediment are typically considered minor. Sediment removed from streams is usually temporarily stored in the channel (if flow is diverted around the work area), or near the channel to allow the excavated material to drain and dry out before transport to the final disposal site. Leachate (water draining out of the excavated material) may be high in suspended solids and could cause turbidity if allowed back into surface waters. Excavated sediment stockpiled near streams may discharge into surface water, especially during rain events. Some sites may divert stream flow around the work area, which may involve dewatering the work area. Dewatering water is typically muddy and could increase turbidity if discharged to surface water. Conditions for Excavated Material and Leachate/Dewatering Water Disposal:

a. Applicants shall seek review of their project by National Marine Fisheries Service if the project is proposed in streams where listed species reside or if dewatering is proposed in fish-bearing streams. Applicants shall comply with all National Marine Fisheries Service 'take'-avoidance standards and formal consultation requirements as applicable.

b. Discharges shall be adequately confined to prevent discharge to surface water.

c. Excavated material shall not be placed where it can be discharged into surface waters.

d. The project must include appropriate compensatory mitigation for wetland impacts.

e. Temporary and final disposal sites must be described in the report of waste discharge. No spoils shall be located in areas with connectivity to any watercourse.

f. When final disposal of solids to any site other than a landfill is proposed, the discharger must sample sediment for pesticides, pH, polynuclear aromatic compounds, soluble metals, total extractable petroleum hydrocarbons, total metals, and total organic carbon.

Final disposal to other than a landfill requires Executive Officer approval.

g. Sediment removal activities are limited to the dry season (May through October).

5. Treated Groundwater

Cleanup of groundwater contaminated by spills or leaks of hazardous substances often involves drawing groundwater from an aquifer that is used, or could be used, as a source of drinking water. The withdrawn groundwater is then typically treated and discharged. Highly treated groundwater is typically low threat if the treatment system is designed and operated to remove substantially all contaminants with a factor of safety before discharge. For organic compounds, treatment usually includes three in-series carbon vessels, each capable of treating the entire waste stream. Removal of organic compounds to the detection limit is preferred. Conditions for Treated Groundwater Disposal:

a. The treatment system design must be reviewed by Regional Board staff prior to discharge.

b. The discharge area shall not be within 200 feet of a water supply well, or within 100 feet of a stream, body of water, or wetland, unless waived by the Executive Officer.

c. With the report of waste discharge, the discharger shall submit data completely characterizing the nature of the contaminants that might be discharged. Samples shall be analyzed for some or all compounds (as specified by the Executive Officer) for which maximum contaminant levels or public health goals have been established or which are found on either federal or California Unregulated Contaminant Monitoring Requirements lists. Regional Board staff will notify any potentially affected water management agency prior to enrolling the discharge.

d. The discharger shall comply with a monitoring and reporting program, unless waived by the Executive Officer.

6. Monitoring Well Development and Aquifer and Well Pumping Test Water

"Well development" repairs damage to the well formation caused by drilling, and increases the porosity and permeability of the materials surrounding the well's intake zone. Aquifer and well pumping tests are used to determine the hydraulic characteristics (the ability to yield water) of an aquifer or well. These activities can produce high flows. Such flows could cause erosion if appropriate practices are not implemented. "Well development" clears fine-grained-soils from the well and the formation surrounding the well's intake zone. The fine-grained soils could migrate to surface waters and cause siltation. If the aquifer being pumped has poorer water quality than the receiving groundwater, then either activity could potentially degrade receiving water quality. However, since well development and aquifer and well pumping tests are temporary in nature and involve a finite discharge volume, they may be considered low threat. Conditions for Monitoring Well Development and Aquifer and Well Pump Test Water Disposal:

a. For wells in areas of known or suspected contamination or wells associated with groundwater cleanup projects prior to discharge, the applicant shall submit data completely characterizing the nature of the contaminants that might be discharged. At a minimum, samples shall be analyzed for the inorganic chemicals listed in California Code of Regulations Title 22, Table 64431-A, and all compounds for which maximum contaminant levels or public health goals have been established or which are found on either federal or California

Unregulated Contaminant Monitoring Requirements lists.

b. The discharger shall implement appropriate management practices to dissipate energy and prevent erosion.

c. The discharger shall implement appropriate management practices to preclude discharge to surface waters and surface water drainage courses.

d. The discharge area shall not be within 100 feet of a stream, body of water, or wetland.

e. The discharge area shall not be within 200 feet of a water supply well.

C. WAIVERS OF REPORT OF WASTE DISCHARGE AND WASTE DISCHARGE REQUIREMENTS

The following describes the types of discharges for which Resolution No. R3-2002-0115 grants waivers of report of waste discharge and waste discharge requirements. A discharge may be enrolled in one of these waivers only if it complies with the specified conditions. Dischargers in these categories are automatically enrolled if they meet and comply with specified conditions; enrollment in one of these waivers does not require an application to the Regional Board (a Report of Waste Discharge is not required), fee payment, or enrollment notification from the Regional Board. (Waiver of California Water Code Sections 13260(a), 13260(b), 13263(a), and 13264(a).)

1. Fire Sprinkler Water

Fire sprinklers in buildings are periodically pressure-tested and drained to meet fire code requirements. Testing requires a short-duration pressurized discharge. The lines are drained approximately quarterly for maintenance. Typically, the pipe contents of whole buildings are drained, usually from 4-inch, 2-inch, and 1-inch pipes. The discharge may contain an oily sheen, and is often stagnant (odiferous). Sometimes direct connection to a sanitary sewer is possible, and is the preferred method of disposal. However, in some areas, where plumbing code restrictions do not allow such discharges, or where no sanitary sewer system exists, fire sprinkler water may be discharged to land. Conditions for discharge of Fire Sprinkler Water:

a. The discharger shall implement appropriate management practices to dissipate energy and prevent erosion.

b. The discharge area shall not be within 100 feet of a stream, body of water, or wetland.

c. Discharge shall not flow directly to a surface water, storm drain, or storm water conveyance system.

2. Inert Wastes

California Code of Regulations, Title 27, Division 2 Solid Waste, Section 20230(a) defines inert waste as "that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste." For water quality purposes a waste must be substantially chemically and physically inert to be considered an inert waste. However, even the most inert of wastes can cause substantial water quality problems if disposed of improperly (e.g., solid concrete dumped directly into a creek could lead to flow diversions and stream bank erosion). Conditions for Inert Wastes Disposal:

a. The discharger shall implement appropriate management practices to secure the disposal site and prevent unauthorized disposal by the public.

b. Inert waste shall be disposed of in a manner that reasonably maintains its chemical and physical stability.

c. Without project review by Regional Board staff prior to discharge, the discharge area shall not be within 100 feet of a stream, body of water, or wetland, nor within streamside riparian corridors.

3. Residential Swimming Pool Water

Residential swimming pool waste is occasionally drained for pool maintenance. In the Central Coast, private swimming pools are not frequently drained due to high cost of water and low chance that weather conditions would cause pool water to freeze. Possible water quality issues associated with swimming pool discharges include erosion potential, high bromine or chlorine concentrations, and high or low pH. Conditions for swimming pool water disposal:

a. The discharger shall implement appropriate management practices to dissipate energy and prevent erosion.

b. The discharge shall not have chlorine, bromine, or total dissolved solids concentrations that could impact groundwater quality.

c. The discharge shall have a pH between 6.5 and 8.3.

d. The discharge area shall not be within 200 feet of a water supply well, or within 100 feet of a stream, body of water, or wetland.

e. Discharge shall not flow to a surface water, storm drain, or storm water conveyance system.

4. Water Supply Discharges

Water supply discharges covered in this section include water discharges from supply pipelines and tanks, supply well pump testing, and supply well development. These discharges often have high flow rates; large production wells pump in the range of 1,000 gallons per minute. Erosion may result if best management practices are not implemented. Discharges from water supply pipelines and tanks may be chlorinated as a result of disinfection events. Aquifer and well pumping tests are used to determine the hydraulic characteristics (the ability to yield water) of an aquifer or well. These activities can produce high flows. Such flows could cause erosion if appropriate practices are not implemented. "Well development" repairs damage to the well formation caused by drilling, and increases the porosity and permeability of the materials surrounding the well's intake zone. "Well development" clears fine-grained-soils from the well and the formation surrounding the well's intake zone. The fine-grained soils could migrate to surface waters and cause siltation. If the aquifer being pumped has poorer water quality than the receiving groundwater, then either activity could potentially degrade receiving water quality. However, since these discharges are temporary in nature and involve a finite discharge volume, they may be considered low threat. Conditions for Water Supply Discharges:

a. The discharger shall implement appropriate management practices to dissipate energy and prevent erosion.

b. The discharger shall implement appropriate management practices to preclude discharge to surface waters and surface water drainage courses. The discharger shall immediately notify Regional Board staff of any discharge to surface waters or surface water drainage courses.

c. The discharge shall not have chlorine or bromine concentrations that could impact groundwater quality.

d. The discharge area shall not be within 100 feet of a stream, body of water, or wetland.

5. Water Supply Well Drilling Muds

This section applies to drilling muds from water supply well drilling, and specifically excludes muds from monitoring wells at cleanup sites and oil wells. Drilling muds consist of a clay slurry. Clay and water are added to the borehole to provide lubrication in the drilling process and to aid in the removal of material from the bore. The mud used typically does not contain appreciable levels of hazardous materials or soluble pollutants. The threat to water quality of such materials depends primarily on the additives used. Additives are selected based on soil conditions. Typically, bentonite is used in coarse soils (sands and gravels), polymers are used in fine soils (clays and shales), and surfactants are used in sticky clays. Often, two or more additives are used in combination. With bentonite providing a filter cake, and polymer providing inhibition, the mud usually achieves the properties required to drill successfully in most soil formations. If the slurry material to be spread is free of appreciable additives (additive quantities in conformance with industry standards, the used slurry may be spread on pastures or fields, provided that contact with surface water is avoided and runoff is prevented). Conditions for Water Supply Well Drilling Mud Disposal:

a. The discharge shall be spread over an undisturbed, vegetated area capable of absorbing the top-hole water and filtering solids in the discharge, and spread in a manner that prevents a direct discharge to surface waters.

b. The pH of the discharge shall be between 6.5 and 8.3.

c. The discharge shall not contain oil or grease.

d. The discharge area shall not be within 100 feet of a stream, body of water, or wetland, nor within streamside riparian corridors.

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Task: 401-01
File: General Waiver

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

MONITORING AND REPORTING PROGRAM NO. R3-2003-0168
FOR
TREATED GROUNDWATER DISCHARGE
OLIN CORPORATION AND STANDARD FUSEE CORPORATION
425 TENNANT AVENUE, MORGAN HILL
SANTA CLARA COUNTY

GROUNDWATER TREATMENT SYSTEM DESCRIPTION

Containment and treatment of the onsite perchlorate-contaminated groundwater will be achieved through the operation of a groundwater extraction and an ion-exchange treatment system. Onsite perchlorate-contaminated groundwater will be extracted in extraction wells and pumped to a 10,000-gallon equalization tank. The water from the tank will be pumped through a bag filter and then through two ion exchange vessels in series. The effluent will be discharged into a 10,000-gallon storage tank and then by gravity to a storm drain inlet adjacent to the site on Tennant Avenue. A process flow diagram of the groundwater treatment system is shown on **Attachment 1.** The effluent will then flow east-northeast along Tennant Avenue to the Butterfield Retention Pond as shown on **Attachment 2**. The pond serves as an infiltration/evaporation basin for storm water generated by this part of the City of Morgan Hill.

TREATMENT SYSTEM MONITORING

The volume and flow rate of water extracted from the extraction wells and the treatment system effluent discharged to the storm drain inlet shall be measured continuously. A treatment system operational log shall be maintained documenting periods of system operation, shutdown and maintenance.

Representative samples shall be collected and analyzed from the following points:

- Discharge from the equalization tank for the combined influent shall be analyzed for perchlorate, pH, temperature, conductivity, total dissolved solids (TDS) dissolved oxygen (DO), oxidation-reduction potential (ORP), chlorate, chloride, nitrate, nitrite, phosphate, and sulfate weekly for the first month after startup or until parameters stabilize and monthly thereafter.
- Discharge from the lead ion-exchange vessel shall be analyzed for perchlorate, pH, temperature, conductivity, TDS, DO, ORP, chlorate, chloride, nitrate, nitrite, phosphate, and sulfate weekly for the first month after startup or until parameters stabilize and monthly thereafter.
- Discharge from the effluent storage tank discharge to the storm drain shall be analyzed for perchlorate, pH, temperature, conductivity, TDS, DO, ORP, chlorate, chloride, nitrate, nitrite, phosphate, and sulfate weekly for the first month after startup or until parameters stabilize and monthly thereafter. In addition, lead, total chromium, manganese, organochlorine pesticides and halogenated volatile organic compounds shall be analyzed every six months during the first year of operation and annually thereafter.

DISCHARGE LIMITS

The discharge shall not contain perchlorate in excess of the Department of Health Services current action level of 4 µg/l or any revised or newly adopted state or federal drinking water regulatory standards. In addition, the discharge shall not contain concentrations of organochlorine pesticides, halogenated volatile organic compounds, and heavy metals in excess of current federal and state drinking water regulatory standards.

REPORTING

Monitoring reports shall be submitted **quarterly** on the **30th day of January, April, July, and October** and shall contain information collected during the previous quarter (October-December, January-March, April-June, July-September). The reports shall include the following:

1. Analytical results arranged in a tabular format showing current and historical data. The table at a minimum shall include: sampling date, sample location, analytical results with appropriate units, reporting limits, analytical method used, and current state and/or federal drinking water action levels and regulatory standards;
2. In addition to the paper report, numeric data shall be submitted in spreadsheet format using Excel or equivalent program or in a relational database format using Access or equivalent program. Electronic data maybe submitted using floppy disks, CDs or by e-mail;
3. Copy of the treatment system operational log;
4. Daily and monthly volume and flow rate data for the extraction wells and storm drain effluent discharge;
5. Copies of certified analytical reports and chain of custody forms for all analyses; and
6. An evaluation and interpretation of all available data.

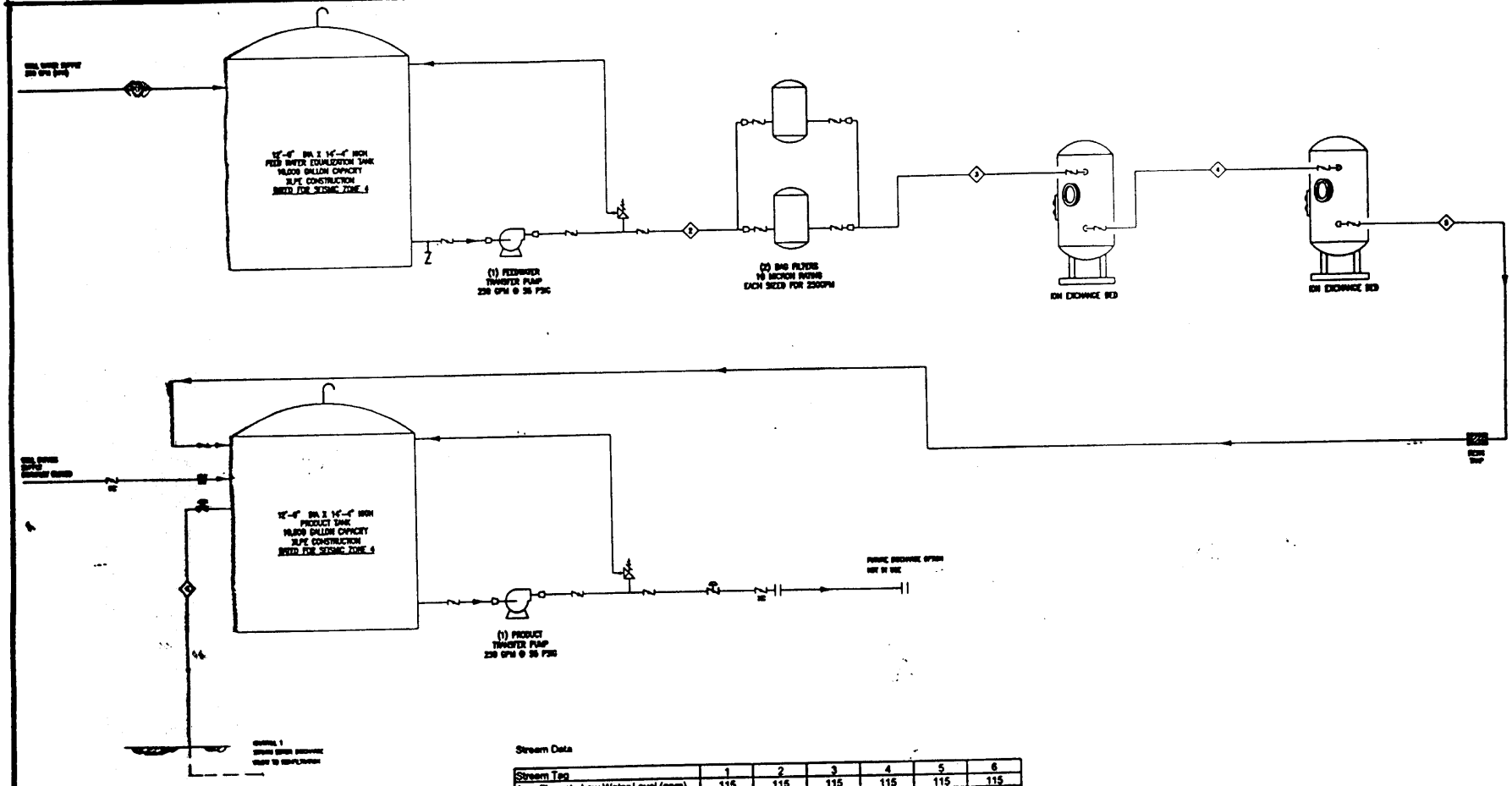
The monitoring reports shall be signed by a principal executive officer of the company of at least the level of a vice president or their "duly authorized representative." In addition, the report shall be signed and stamped by a registered professional attesting, under penalty of perjury, that the report is true and accurate.

The Regional Board requires Olin Corporation and Standard Fusee Corporation to submit the monitoring reports in accordance with Section 13267 of the Water Code to determine if the discharge complies with the General Waiver conditions for Treated Groundwater contained in the Regional Board Resolution R3-2002-0115. More detailed information is available in the Regional Board's public file on this matter.

ORDERED BY _____

Roger W. Briggs
Executive Officer

12-8-03
Date



Stream Data

Stream Tag	1	2	3	4	5	6
Avg. Flowrate Low Water Level (gpm)	115	115	115	115	115	115
Avg. Flowrate High Water Level (gpm)	215	215	215	215	215	215
Max. Flowrate (gpm)	250	250	250	250	250	250
Max. Perchlorate Conc. (ug/l)	30	30	30	ND - 30*	ND	ND
Pressure (psig)	19.7	69.7	39.7	29.7	19.7	19.7
Daily Throughput (mmgpd)	0.36	0.36	0.36	0.36	0.36	0.36

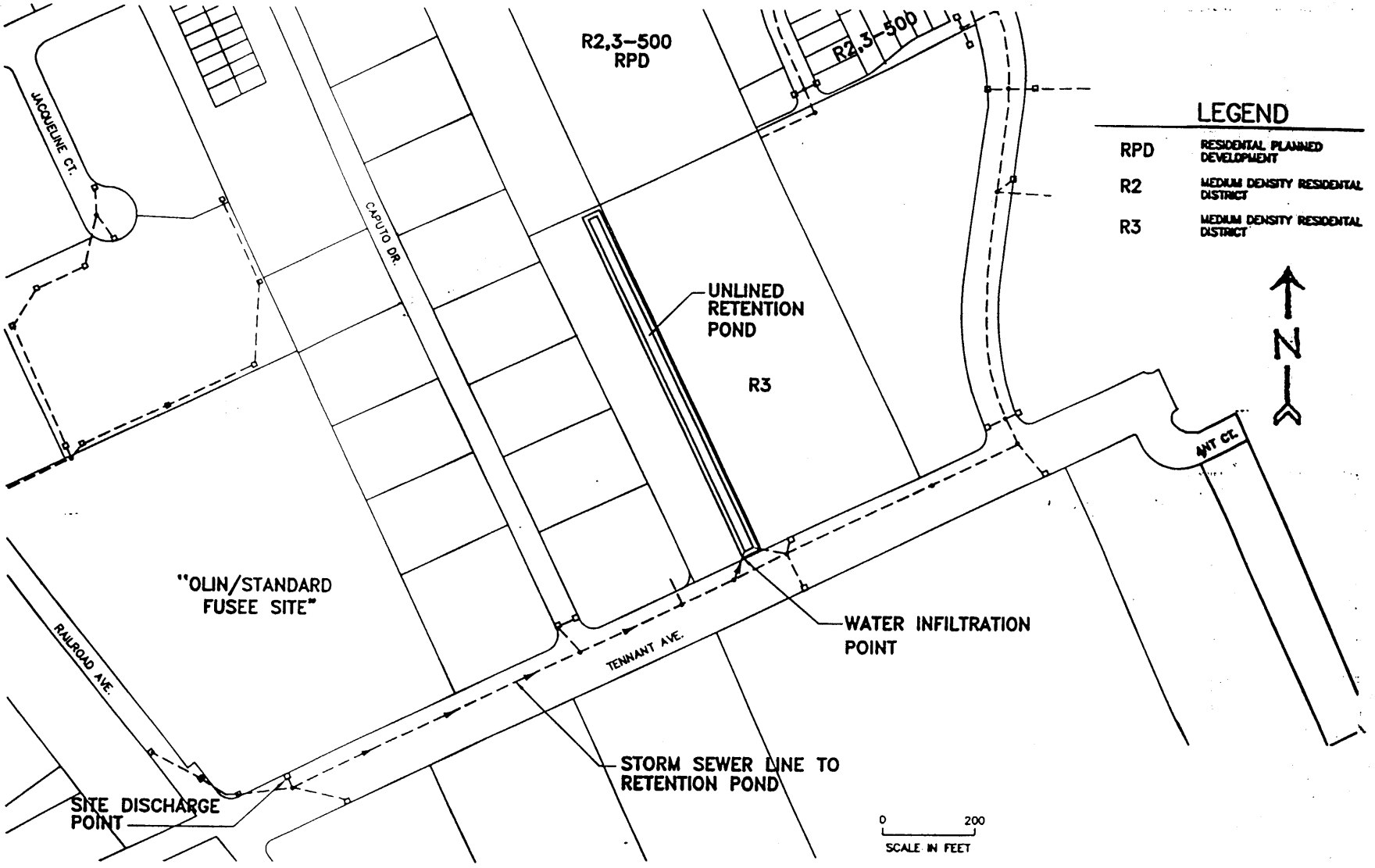
* concentration depends on perchlorate breakthrough in lead vessel

Notes:
1. Daily throughput based on maximum flowrates.
2. Max Perchlorate Concentration = (200 ppm)(8 ppb) ÷ (15 gpm)(110 ppb)/(215 gpm) = 15 ppb * 2 (factor of safety) = 30 ppb
3. ND for Tags 4 through 5 based on a PQL of 2 ppb

Olin/Standard Fusee Site
425 Tennant Ave., Morgan Hill

Perchlorate Treatment System
Process Flow Diagram

Attachment 1



Olin/Standard Fusee Site
425 Tennant Ave., Morgan Hill

Site Area Map

Attachment 2