California Regional Water Quality Control Board
Central Coast Region

Alan C. Lloyd, PhD.
Secretary for Environmental Protection

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Arnold Schwarzenegger
Governor

April 6, 2005

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 Messr's McClure and Mr. McLaughlin:

SLIC: GROUNDWATER FLOW ASSESSMENT PHASE II, MULTI-LEVEL PIEZOMETER INSTALLATION/DESTRUCTION FINAL WORK PLAN, 425 TENNANT AVENUE FACILITY, MORGAN HILL, SANTA CLARA COUNTY

Regional Board staff has reviewed the Groundwater Flow Assessment Phase II, Multi-level Piezometer Installation/Destruction Final Work Plan (Piezometer Work Plan), dated March 2, 2005. Olin Corporation (Olin) submitted its initial Piezometer Work Plan on January 7, 2005. Regional Board staff provided comments to Olin on January 7, 2005 seeking additional piezometer installation details. Olin provided a January 18, 2005 letter that outlined its plans to submit an amended Piezometer Work Plan by January 26, 2005. The amended Piezometer Work Plan was submitted on January 26, 2005, and the Regional Board, Santa Clara Valley Water District, and City of Morgan Hill provided comments to Olin. Olin subsequently addressed those comments and submitted the current Piezometer Work Plan on March 2, 2005. Regional Board staff, the Santa Clara Valley Water District, and City of Morgan Hill provided additional comments to Olin on March 11, 2005. A meeting between Regional Board staff and Olin representatives was held on March 18, 2005, to discuss the remaining comments. Olin provided a written response to Regional Board staff's March 11, 2005 comments on March 22, 2005.

Regional Board staff have considered Olin's March 22, 2005 responses. The following numbered items represent Regional Board staff's abridged comments, sent on March 11, 2005, and acceptable resolution thereof:

1. **Comment**: Where are the 19 Water District monitoring wells in relation to the piezometers? Please provide a map showing location of the 19 Water District monitoring wells and the proposed piezometer locations.

   Resolution: Olin provided an expanded Figure 2 showing the locations of Water District monitoring wells in relation to the proposed piezometers MP-1 through MP-4 and PZ-1 through PZ-3. Twelve wells are currently used by the Water District to monitor groundwater elevations.

2. **Comment**: As the Piezometer Work Plan indicates, a deep single screen piezometer will not be installed with MP-4. Please provide a rationale for not installing deeper single-screen piezometers at MP-4. Also, since MP-4 is close to the site, it may be appropriate to move the well farther east to avoid interference from the extraction system or the Tennant well. Please provide some discussion on why this tentative location was picked.

   Resolution: Olin will not be required to install deeper piezometers at MP-4. Olin plans to use the onsite C zone wells to triangulate with PZ-1 through PZ-3. Olin is concerned that MP-4 may be influenced by the Butterfield Retention Basin in the A-zone, they are unsure whether the C zone would still be influenced by the Tennant well, and they believe that the farther east they go, the triangulation of the southern ternary area between MP-1, MP-2, and MP-4 would be compromised. Olin will evaluate data that they collect from MP-4 and onsite data to determine if the Tennant Well is influencing water levels at MP-4 and onsite lower B and C zone wells.

3. **Comment**: As Regional Board staff understand, geophysical data has been collected at City of Morgan Hill wells (and possibly other offsite wells) and detailed core logs have not been collected. It may be useful to employ both sonic and mud rotary for piezometer installation in order to collect geophysical data from the deeper single C zone wells in order to correlate the piezometers lithology to wells owned by the City. The collected geophysical data may be useful for the near future southern investigation.

   Resolution: Olin believes that continuous drilling core logging is superior to geophysical logging. Olin is concerned with using mud rotary drilling methods because of potential impacts to the formations' permeability and that it would necessitate that the single completion piezometer and the multi-completion piezometer be sufficiently separated to maintain good formation communication. Olin is concerned that the increased distance between boreholes will potentially decrease the correlation between the continuous core and the geophysical logs. Olin plans to drill these wells within 20 feet of each other. In addition, Olin will be video logging the continuous core and will be storing the cores onsite for future reference. Olin will store the cores and make them available for Regional Board staff inspection. Olin may request, in writing, to dispose the cores, but may not do so until written approval is granted by the Executive Officer.

4. **Regional Board Comments**: Why is turbidity excluded from determination of well development success? Is turbidity an issue with CMT wells?

   Resolution: Olin will continue to perform piezometer well development until three turbidity measurements stabilize and are within 5 NTUs of each other. This is in addition to stabilization of electrical conductivity, pH, and temperature to less than 10% change within three subsequent measurements.

5. **Comments**: Which piezometers will get the transducers? It appears that transducers may be removed monthly to accommodate monthly water level measurements. Does MACTEC have an internal QA/QC document governing calibration and re-calibration of transducers in order to prevent errors from being introduced into the data from improperly installed or calibrated transducers?

   Resolution: Olin will be installing transducers in all intervals of multi-port piezometers, except the seventh multi-port channel[1], and in the single completion piezometers. Transducers will be installed after well development activities are completed. Olin will provide a quality assurance document governing calibration and re-calibration of transducers. In addition, Olin will down load transducer data twice during the first month to determine if the transducers are working properly. Olin will provide the data electronically in Microsoft Excel© or Access© format to Regional Board staff via email at dathey@waterboards.ca.gov.

6. **Comment**: Are the Water District's wells tied into the same datum you are going to use?

   Resolution: The datum used to survey the proposed piezometers is the same datum used to survey the Water District's wells.

Regional Board staff approves the Piezometer Work Plan, with the aforementioned changes and clarifications, in accordance with our December 8, 2004 13267 Request Letter. The piezometers shall be installed by May 27, 2005. A letter report shall be submitted, detailing piezometer installation, no more than 30 days after piezometer installation is completed and no later than June 21, 2005. The Dischargers shall provide the Regional Board a time schedule for piezometer installation via email to dathey@waterboards.ca.gov and Executive Officer vial regular mail. We look forward to the successful completion of this project.

If you have any questions, please contact **David Athey at (805) 542-4644** or Eric Gobler at (805) 549-3467.

Sincerely,

Roger W. Briggs
Executive Officer

cc via E-mail:
Olin Interested Party List

Ms. Lori Okun
Office of the Chief Counsel
State Water Resources Control Board

[1] The seventh channel is not large enough to accommodate the transducer. Groundwater elevations will be collected manually each month.

cc via U.S. Mail:

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