Linda S. Adams
Secretary for Environmental Protection

State Water Resources Control Board

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Arnold Schwarzenegger
Governor

June 29, 2007

Steven L. Hoch
Attorney At Law
Hatch & Parent, A Law Corporation
11911 San Vicente Boulevard, Suite 350
Los Angeles, CA 90049

Dear Mr. Hoch:

OLIN CORPORATION, 425 TENNANT AVENUE, MORGAN HILL, SANTA CLARA COUNTY

This letter responds to your letter of May 22, 2007 and your email of June 21, 2007.

On behalf of the City of Morgan Hill (City), your May 22 letter requested that the operation of the Tennant Avenue Well be included in Olin Corporation's cleanup plan in response to CAO No. R3-2006-0112. The Central Coast Regional Water Quality Control Board (Water Board) cannot "specify the design, location, type of construction, or particular manner in which compliance may be had" with the CAO, and Olin may "comply with the order in any lawful manner." (Ca. Wat. Code § 13360.) Although an order does not violate Section 13360 merely because there is only one feasible means of compliance (*Tahoe-Sierra Preservation Council v. State Water Resources Control Bd.* (1989) 210 Cal.App.3d 1421, 1438; *Pacific Water Conditioning Ass'n, Inc. v. City Council of City of Riverside* (1977) 73 Cal.App.3d 546, 554), staff has not concluded that operating the wellhead treatment system at the Tennant Avenue Well or an equivalent action is necessary to comply with the CAO or Resolution No. 92-49, either as an interim or final measure.

If Olin chooses to propose the continued operation of the wellhead treatment system as part of its remediation strategy, Water Board staff will consider that proposal when reviewing the overall cleanup strategy. If Olin does not propose this, staff will consider what added benefits the wellhead treatment could provide (e.g., faster cleanup, improved plume containment) when considering Olin's selected groundwater cleanup remedy. If wellhead treatment at the Tennant Avenue Well is part of Olin's cleanup activities, Olin and the City will have to work out any issues related to Olin's access to the wellhead treatment system and/or arrange for payment of associated costs.

At this time, Water Board staff cannot determine whether operation of the Tennant Avenue Well provides hydrogeologic containment of the plume that would otherwise not be provided by the recently proposed Area I extraction wells. Olin's position is that the Tennant Avenue Well will not provide additional containment of the plume that the proposed Area I extraction wells will not. (*See,* Response to Comment #2 and Fig. 2-3 in Mactec's March 9, 2007 report addressing the Water Board's January 8, 2007 letter.) Water Board technical staff requires field data from the proposed extraction wells to confirm this. The City may have drawn perchlorate into the deeper aquifer(s) by running the Tennant Avenue Well; if so, continued operation of the well might help to contain the plume. As you point out, the Tennant Avenue Well has removed a large amount of perchlorate so we encourage the City to continue well operation.

Your letter suggests that the City must operate the Tennant Avenue Well to compensate for lost wells in other parts of the system. As you know, the Water Board cannot require Olin to provide replacement water for any wells with perchlorate concentrations at or below 6 µg/L. (State Water Board Order No. WQO-2005-0007.) Nor can the Water Board require Olin to replace the Tennant Avenue Well, because Olin has already done so by paying for installation of the San Pedro well.

In your June 21 email, you asked for the status of obtaining Olin's input data for groundwater modeling. Water Board staff has found a Department of Toxic Substances Control employee with experience in numerical modeling who will evaluate whether the groundwater model assumptions and output are valid and reasonable. Central Coast Water Board staff has also requested that Olin provide the electronic input files in our letter dated June 28, 2007. The electronic input files should be available to the public on August 3, 2007, in accordance with our June 28, 2007 letter.

The Water Board will provide the City with additional information as it becomes available.

Sincerely,

Lori T. Okun
Senior Staff Counsel
Office of Chief Counsel

cc: Olin IPL
Enclosures

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MACTEC

March 9, 2007

Mr. Hector Hernandez
Regional Water Quality Control Board, Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

Subject: **Olin Response to Central Coast Water Board Comments**
SLIC: 425 Tennant Ave, Morgan Hill
Second and Third Quarter 2006 Groundwater Monitoring Reports,
and East of Site Characterization Report
MACTEC Project No. 6100070002-09.07

Dear Mr. Hernandez:

On behalf of Olin Corporation (Olin), MACTEC Engineering and Consulting, Inc. (MACTEC) has prepared this letter response to comments presented in the Central Coast Regional Water Quality Control Board's (Water Board's) January 8, 2007 letter regarding the following reports:

- July 30, 2006 *Second Quarter 2006 Groundwater Monitoring Report, Olin/Standard Fusee Site, 425 Tennant Avenue, Morgan Hill, California* (2Q Monitoring Report)
- October 30, 2006 *Third Quarter 2006 Groundwater Monitoring Report, Olin/Standard Fusee Site, 425 Tennant Avenue, Morgan Hill, California* (3Q Monitoring Report)
- September 29, 2006 *East of Site Characterization, Olin/Standard Fusee Site, 425 Tennant Avenue, Morgan Hill, California* (East of Site Report).

Water Board comments pertaining to the *Third Quarter 2006 On-Site Remediation Performance Monitoring Report (GeoSyntec)* will be addressed by GeoSyntec and submitted separately. The Water Board's comments pertaining to the MACTEC reports are reproduced below, followed by MACTEC's responses.

2Q AND 3Q MONITORING REPORTS

1. Revised Monitoring and Reporting Program

No response necessary.

MACTEC Engineering and Consulting, Inc.
5341 Old Redwood Highway, Suite 300 • Petaluma, CA 94954
707-793-3800 • Fax: 707-793-3900

2. Continued Monitoring of Groundwater Elevations

Comment 1. **Provide an update on the results of the continuous groundwater elevation monitoring in well in the next quarterly monitoring report.**

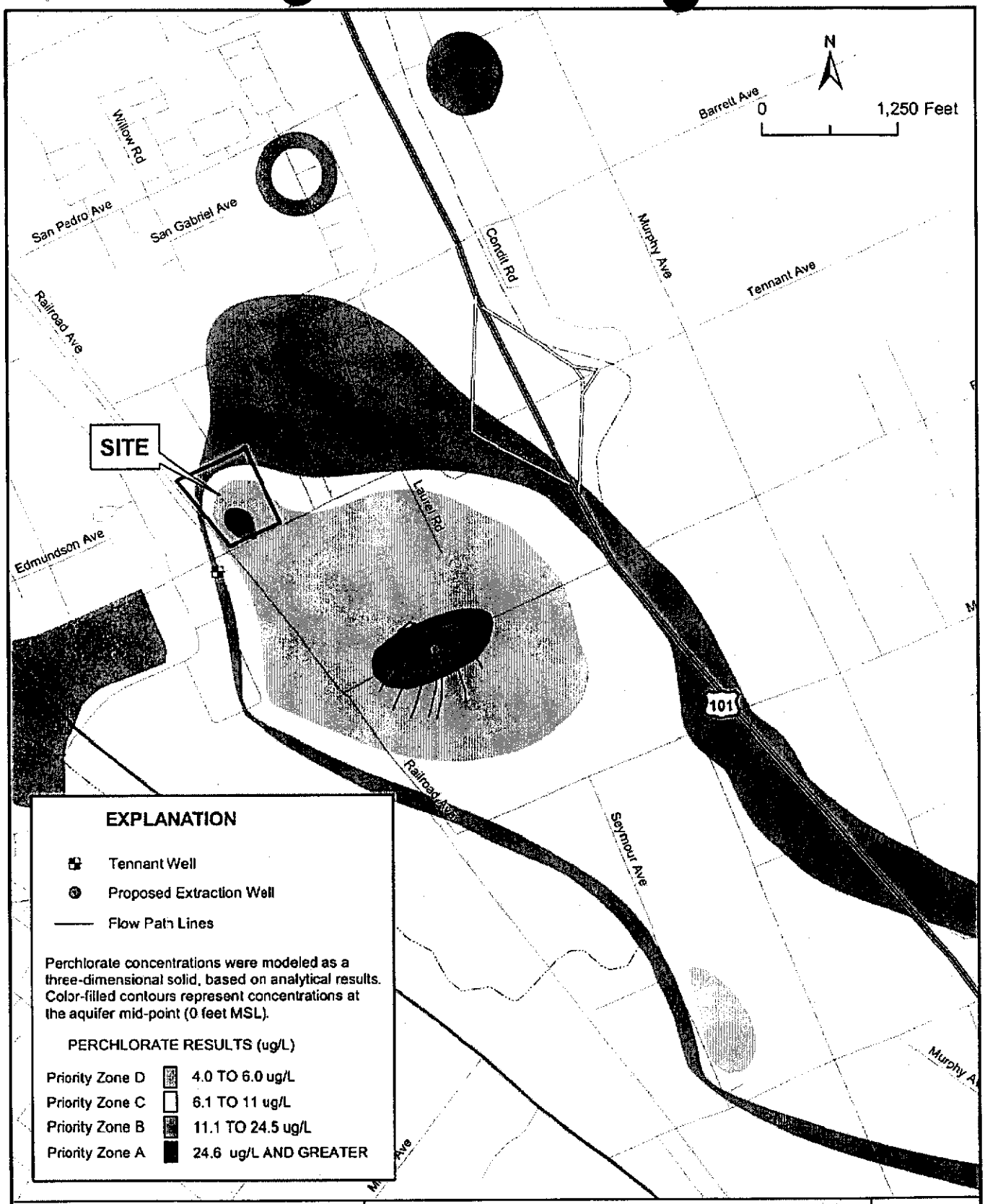
Response: Agreed.

Comment 2. **Provide an analysis of how the Tennant Well pumping affects perchlorate distribution and capture zones in the intermediate and deep aquifer zones. The analysis should evaluate if the Tennant Well is pulling the perchlorate plume downward, and to what extent the Tennant Well is providing hydraulic containment of the perchlorate plume in the intermediate and deep aquifer.**

Response: In a letter dated May 13, 2003, Olin Corporation stated that operation of the Tennant Well should not resume because of concerns regarding the potential for downward migration of perchlorate into the deep aquifer. Despite these concerns, the City of Morgan Hill elected to resume pumping and perchlorate concentrations have and continue to increase at MW-04C and MW-05C.

Time-concentration plots for deep monitoring wells MW-04, MW-05, and MW-06 prior and subsequent to the November 2004 restart of the Tennant Well are illustrated on Figure 1. These data illustrate that, while an increase in perchlorate concentrations at well MW-06C did not occur until well after the resumption of Tennant Well pumping, subsequent increases in concentration at wells MW-04C and -05C were immediate. These perchlorate concentration increases in the deep aquifer appear to have been a direct result of Tennant Well operation. Where prior to operation of the Tennant Well perchlorate concentrations were primarily less than the 6 μg/L PHG, perchlorate concentrations increased subsequent to operations and appear to have followed an increasing trend. Based on the increasing trend in concentrations at these two wells, continued operation of the Tennant Well is likely to result in concentrations higher yet in the deep aquifer beneath the Site. As a result, continued operation of the Tennant Well is likely to address perchlorate concentration that, as a result of Tennant Well operation, now exceed the PHG.

As reported in the *Area I Plume Migration Control Feasibility Study* (*GeoSyntec, 2007*), one extraction well is proposed for deep aquifer hydraulic containment of perchlorate within Assessment Area I. The numerical simulations referenced in this report include continuous operation of the Tennant Well. At the request of the Water Board, the deep aquifer capture simulation was modified to illustrate the potential capture area of the proposed extraction well without the influence of pumping from the Tennant Well. Potential capture areas from the proposed extraction well with respect to the Tennant Well operation as both on and off are illustrated on Figures 2 and 3. As these figures illustrate, that very little change occurs in the capture area of the proposed deep extraction well whether the Tennant Well is on or off.



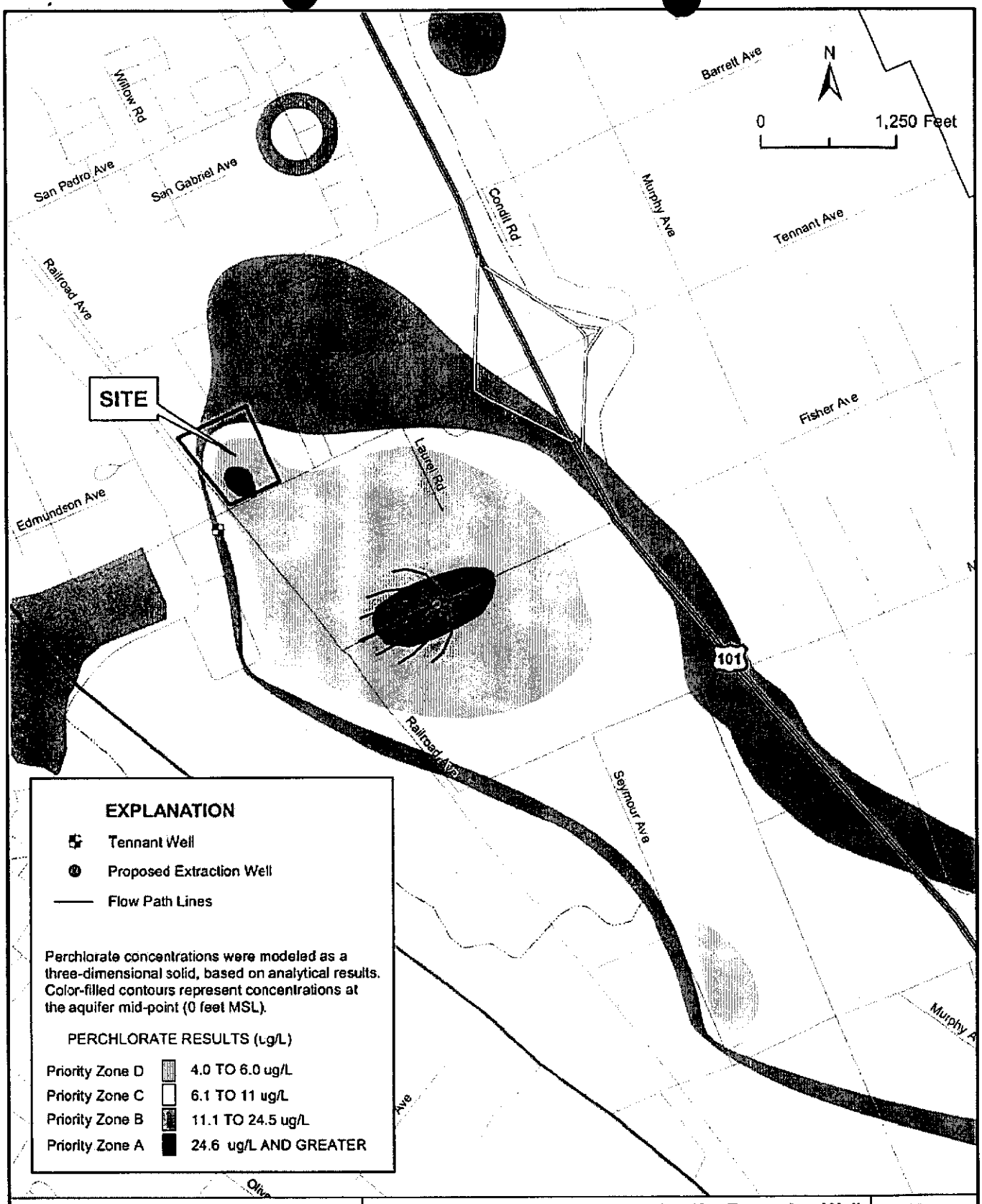
MACTEC

Capture Area of Proposed Deep Aquifer Extraction Well
Tennant Well On
Response to Central Coast Water Board Comments
Olin/Standard Fusee Site
Morgan Hill, California

FIGURE
2

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
GFA	6100070002 09.07	SKP	03/2007	MDT	3-9-07

Figure2.mxd 03-08-07



MACTEC

Capture Area of Proposed Deep Aquifer Extraction Well
Tennant Well Off
Response to Central Coast Water Board Comments
Olin/Standard Fusee Site
Morgan Hill, California

FIGURE **3**

DRAWN	JOB NUMBER	CHECKED	CHECKED DATE	APPROVED	APPROVED DATE
GFA	6100070002 09.07	JP	03/2007	MDT	3-9-07

Figure3.mxd 03-08-07