

Central Valley Regional Water Quality Control Board

FILE COPY

24 October 2012

Mr. James Stitch
Beazer Homes Sacramento Division
1731 E. Roseville Pkwy, #100
Roseville, CA 95661

NOTICE OF APPLICABILITY OF GENERAL ORDER NO. R5-2008-0149-040, NATOMAS AIR PARK, PARCEL 30, IN-SITU REMEDIATION OF PETROLEUM COMPOUNDS, SACRAMENTO COUNTY

Beazer Homes submitted a 20 April 2012 Notice of Intent, and a 10 July 2012 Revised Contingency Plan and Revised Injection Figure requesting coverage under General Order No. R5-2008-0149 for General Waste Discharge Requirements for In-situ Groundwater Remediation at Sites with Volatile Organic Compounds, Nitrogen Compounds, Perchlorate, Pesticides, Semi-Volatile Compounds and/or Petroleum Compounds. Based on information in your submittal, it is our determination that this project meets the required conditions to be approved under Order No. R5-2008-0149. All of the requirements contained in the General Order are applicable to your project. You are assigned Order No. R5-2008-0149-040.

Project Location:

The project is located at 3801 Airport Road at the former Natomas Air Park in the City of Sacramento, Sacramento County, Latitude 38.64 degrees N, Longitude 121.51 degrees W, Assessor's Parcel No. 225-2300-010 (previous APN 225-0150-030), Township and Range T9N, R4E, Section 14, Mount Diablo Baseline and Meridian.

Project Description:

A leaking underground fuel tank caused the pollution of groundwater beneath this parcel with aviation fuel. Previous remediation efforts have removed the source area and reduced the extent of the groundwater pollution. Beazer Homes is proposing to add Oxygen Releasing Compound Advanced (ORC) to groundwater one time in up to 10 injection points at two locations on Airport Road to facilitate biodegradation of the fuel.

The ORC is expected to slowly release oxygen over the course of a year, providing sufficient oxygen to enable aerobic microbiological degradation of the remaining fuel. Beazer Homes will be monitoring the groundwater within and surrounding the injection areas for evidence of biodegradation as described in the attached Monitoring and Reporting Program.

The Revised Contingency Plan will add Metal Removing Compound® (MRC) to groundwater if the oxygenated conditions produce a sustained concentration of hexavalent chromium greater than background concentrations in a compliance point well.

On 14 August 2012, Beazer Homes circulated a fact sheet describing the project and providing interested parties with 30 days to submit comments or questions. No comments were received by 17 September 2012. In order to provide more flexibility to Beazer Homes, Central Valley Water Board staff has changed the implementation of the Monitoring and Reporting Program to coincide with the addition of the ORC Advanced® amendment.

General Information:

1. The project will be operated in accordance with the requirements contained in the General Order and in accordance with the information submitted in the Notice of Intent.
2. The required annual fee (as specified in the annual billing you will receive from the State Water Resources Control Board) shall be submitted until this Notice of Applicability is officially revoked.
3. Injection of materials other than ORC Advanced® and MRC into the subsurface is prohibited.
4. Failure to abide by the conditions of the General Order could result in an enforcement action as authorized by provisions of the California Water Code.
5. The project will implement the contingency plan as described in the 10 July 2012 Revised Contingency Plan as modified in the Project Description above within 30 days of it being triggered.
6. The Discharger shall comply with the attached Monitoring and Reporting Program, Order No. R5-2008-0149-040 and any revisions thereto as ordered by the Executive Officer.

If you have any questions regarding this matter, please call Amy Terrell at (916) 464-4680 or contact her at aterrell@waterboards.ca.gov.



 PAMELA C. CREEDON
Executive Officer

Attachments

cc: Mr. Dennis Green, Sacramento Co. Environmental Health Dept., Sacramento
Ms. Della Kramer, Regional Water Quality Control Board, Sacramento
Mr. Russell Kilmer, Sacramento Aero Services, Reno NV
Mr. Matthew Taylor, Wallace-Kuhl Associates, West Sacramento

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2008-0149-040

FOR
IN-SITU GROUNDWATER REMEDIATION AT SITES WITH VOLATILE ORGANIC
COMPOUNDS, NITROGEN COMPOUNDS, PERCHLORATE, PESTICIDES,
SEMI-VOLATILE COMPOUNDS AND/OR PETROLEUM HYDROCARBONS

BEAZER HOMES
NATOMAS AIR PARK PARCEL 010 (FORMERLY PARCEL 30)
SACRAMENTO COUNTY

This Monitoring and Reporting Program (MRP) describes requirements for monitoring an insitu remediation system at Natomas Air Park, Parcel 010 (previously known as Parcel 30). This MRP is issued pursuant to Water Code Section 13267. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer. As appropriate, California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff shall approve specific sample station locations prior to implementation of sampling activities.

All samples should be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the sample chain of custody form.

GROUNDWATER MONITORING

As shown on Figure 1, there are 13 monitor wells and 5 vapor extraction wells associated with the remedial activities at this Site. Only the 6 wells per Table 1 will be included in this MRP to assess remedial progress. Currently, a separate monitoring and reporting program R5-2009-0860 requires semiannual groundwater monitoring, which will continue to be implemented in addition to the activities presented herein. If duplicative sampling is ordered between the two monitoring programs, a single sample will suffice for both reporting objectives. Duplication of monitoring efforts is not intended. The groundwater monitoring program for these 6 wells and any remediation monitoring wells installed subsequent to the issuance of this MRP shall be sampled according to the schedule in Table 1 and the samples shall be analyzed by the methods in Table 2. Sample collection and analysis shall follow standard EPA protocol.

Table 1: Sampling Frequency and Constituent Suite

Well Number ¹	Frequency ²	Constituent Suite(s) ³	Monitoring Objective
MW-9, MW-15	Pre-Injection, then quarterly for 4 quarters, then semi-annually	Suite B, Suite C, Suite D	Compliance
MW-13	Pre-Injection, then monthly for 6 months, then quarterly for 2 quarters, then semi-annually	Suite A	Treatment Zone
MW-13	Pre-Injection, then quarterly for 4 quarters, then semi-annually	Suite C	Treatment Zone
MW-14	Pre-Injection, then monthly for 6 months, then quarterly for 2 quarters, then semi-annually	Suite A	Transition Zone
MW-14	Pre-Injection, then quarterly for 4 quarters, then semi-annually	Suite C	Transition Zone
MW-4, MW-5	Pre-Injection, then quarterly for 4 quarters, then semi-annually	Suite C, Suite D	Background

¹ Well numbers as shown on Figure 1.

² one year following injection, semi-annually sampling shall occur in the 1st (Jan-Mar) and 3rd (July-Sept) quarters.

³ Constituent suite components listed in Table 2.

Table 2: Analytical Methods

Constituent	Method ¹	Maximum Practical Quantitation Limit (ug/L) ²
Suite A		
Volatile Organic Compounds	EPA 8260B	0.5
TPH as avgas	EPA 8260B	50
Alkalinity	EPA 310.1	5000
Dissolved metals (Fe, Mn, Mg, Cr, As)	EPA 200.8	various
Suite B		
TPH as avgas	EPA 8260B	50
Alkalinity	EPA 310.1	5000
Suite C		
Chromium, hexavalent	EPA 7199	0.5
Suite D		
Dissolved metals (Fe, Mn, Mg, Cr, As)	EPA 200.8	various

¹ Or an equivalent EPA Method that achieves the maximum Practical Quantitation Limit, subject to Central Valley Water Board staff concurrence.

² All concentrations between the Method Detection Limit and the Practical Quantitation Limit shall be reported as an estimated value.

FIELD SAMPLING

In addition to the above sampling and analysis, field sampling and analysis shall be conducted each time a monitor well or extraction well is sampled. The sampling and analysis of field parameters shall be as specified in Table 3.

Table 3: Field Sampling Requirements

Parameters	Units	Type of Sample
Groundwater Elevation	Feet, Mean Sea Level	Measurement
Oxidation-Reduction Potential	Millivolts	Grab
Electrical Conductivity	uhmos/cm	Grab
Dissolved Oxygen	mg/L	Grab
pH	pH Units (to 0.1 units)	Grab

Field test instruments (such as those used to test pH and dissolved oxygen) may be used provided that:

1. The operator is trained in proper use and maintenance of the instruments;
2. The instruments are calibrated prior to each monitoring event;
3. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency; and
4. Field calibration reports are submitted as described in item (b) of the "Reporting" section of this MRP.

DISCHARGE MONITORING

The Discharger shall monitor the discharge of water and amendments that are injected into the groundwater according to the requirements specified in Table 4. Each amendment addition shall be recorded individually, along with information regarding the time period over which the amendment was injected into the aquifer.

Table 4: Discharge Monitoring Requirements

Parameters	Units	Type of Sample
Injected Volume	gallons per day	Meter
Amendment(s) Added	kilograms per day	Measured
Biocide Added	kilograms per day	Measured

AMENDMENT ANALYSIS

According to the manufacturer, the amendment does not contain elements that are not identified in the Material Safety Data Sheet. An analysis of the compound is not required.

ESTABLISHMENT OF BACKGROUND CONCENTRATION VALUES

The Discharger shall develop background values for concentrations of dissolved iron, dissolved manganese, hexavalent chromium, arsenic, total dissolved solids and electrical conductivity in groundwater following the procedures found in CCR Section 20415(e) (10). The Discharger shall submit a proposal to develop the background concentrations by **1 November 2012**.

REPORTING

When reporting the data, the Discharger shall arrange the information in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner as to illustrate clearly the compliance with this Order. In addition, the Discharger shall notify the Regional Board within 48 hours of any unscheduled shutdown of any soil vapor and/or groundwater extraction system. The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall also be reported to the Regional Board.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional or their subordinate and signed by the registered professional.

The Discharger shall submit quarterly electronic data reports, which conform to the requirements of the California Code of Regulations, Title 23, Division 3, Chapter 30. The quarterly reports shall be submitted electronically over the internet to the Geotracker database system by the 1st day of the second month following the end of each calendar quarter by **1 February, 1 May, 1 August, and 1 November**, or as otherwise indicated by Central Valley Water Board staff, either until 1 year of sampling have been conducted, or until such time as the Executive Officer determines that the reports are no longer necessary. Following 1 year of sampling, if reports continue to be required, then semi-annual reporting may replace quarterly reporting.

Hard copies of quarterly reports shall be submitted to the Regional Board by the **1st day of the second month following the end of each calendar quarter (i.e., by 1 February, 1 May, 1 August, and 1 November)**, or as otherwise indicated by Central Valley Water Board staff, and if semi-annual reports are required, then these shall be submitted by **1 February and 1 November**. Each quarterly (or semi-annual) report shall include the following minimum information:

- (a) a description and discussion of the groundwater sampling event and results, including trends in the concentrations of pollutants and groundwater elevations in the wells, how and when samples were collected, and whether the pollutant plume(s) is delineated;
- (b) field logs that contain, at a minimum, water quality parameters measured before, during, and after purging, method of purging, depth of water, volume of water purged, etc.;
- (c) groundwater contour maps for all groundwater zones, if applicable;
- (d) pollutant concentration maps for all groundwater zones, if applicable;
- (e) a table showing well construction details such as well number, groundwater zone being monitored, coordinates (longitude and latitude), ground surface elevation, reference elevation, elevation of screen, elevation of bentonite, elevation of filter pack, and elevation of well bottom;
- (f) a table showing historical lateral and vertical (if applicable) flow directions and gradients;
- (g) cumulative data tables containing the water quality analytical results and depth to groundwater;
- (h) a copy of the laboratory analytical data report, which may be submitted on electronic media;
- (i) the status of any ongoing remediation, including an estimate of the cumulative mass of pollutant removed from the subsurface, system operating time, the effectiveness of the remediation system, and any field notes pertaining to the operation and maintenance of the system; and
- (j) if applicable, the reasons for and duration of all interruptions in the operation of any remediation system, and actions planned or taken to correct and prevent interruptions.

An Annual Report shall be submitted to the Central Valley Water Board by **1 February** of each year. This report shall contain an evaluation of the effectiveness and progress of the investigation and remediation, and may be substituted for the fourth quarter monitoring report. The Annual Report shall contain the following minimum information:

- (a) both tabular and graphical summaries of all data obtained during the year;
- (b) groundwater contour maps and pollutant concentration maps containing all data obtained during the previous year;
- (c) a discussion of the long-term trends in the concentrations of the pollutants in the groundwater monitoring wells;

- (d) an analysis of whether the pollutant plume is being effectively treated;
- (e) a description of all remedial activities conducted during the year, an analysis of their effectiveness in removing the pollutants, and plans to improve remediation system effectiveness;
- (f) an identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program; and
- (g) if desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes.

A letter transmitting the monitoring reports shall accompany each report. Such a letter shall include a discussion of requirement violations found during the reporting period, and actions taken or planned for correcting noted violations, such as operation or facility modifications. If the Discharger has previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. The transmittal letter shall contain the penalty of perjury statement by the Discharger, or the Discharger's authorized agent, as described in the Standard Provisions General Reporting Requirements Section B.3.

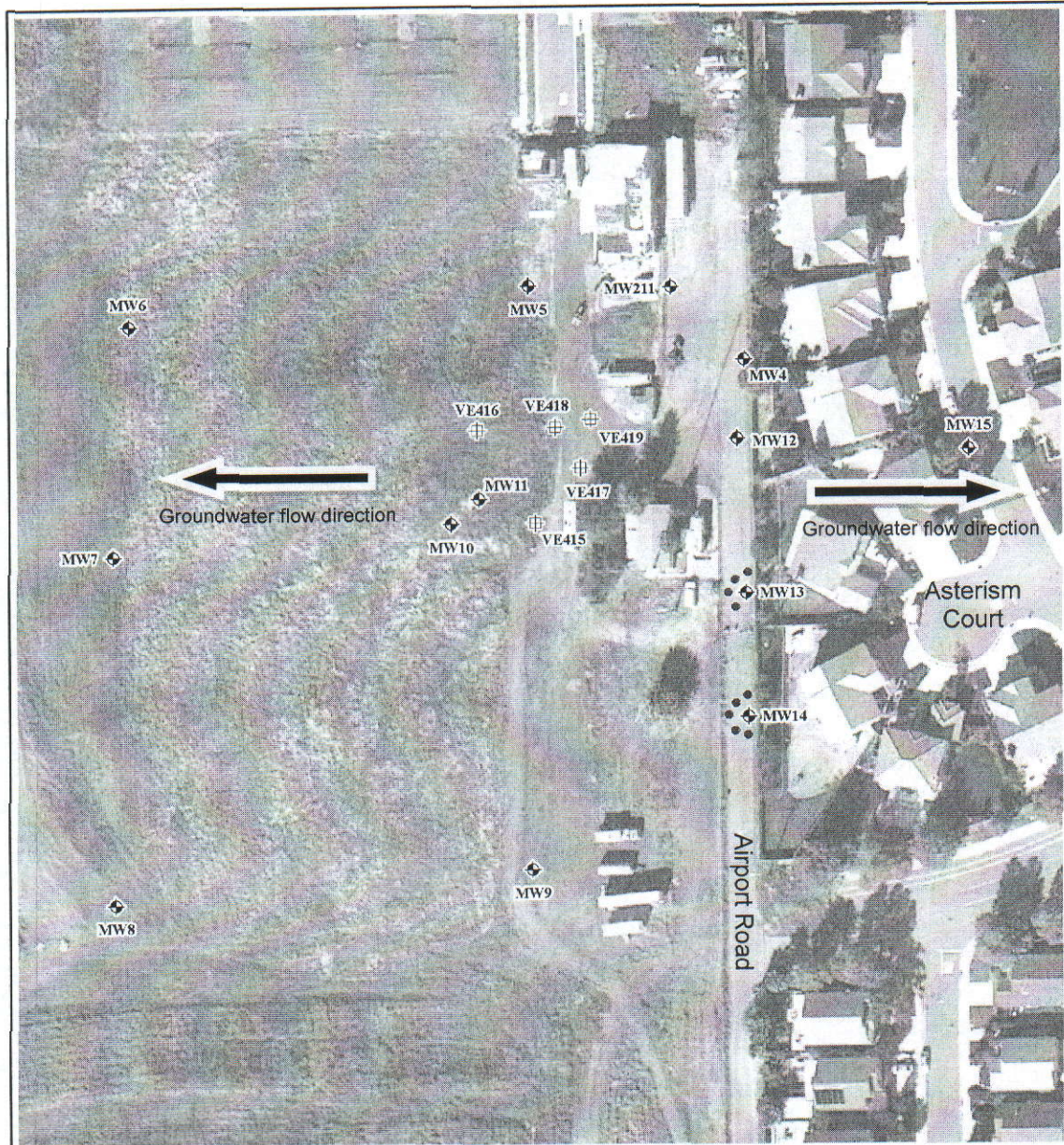
The Discharger shall implement the above monitoring program on the first day of the month following addition of the amendment to groundwater.

Ordered by:

for *Pamela C. Creedon*
PAMELA C. CREEDON Executive Officer

24 October 2012

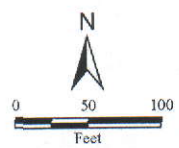
(Date)



Legend

- ◆ Monitoring well location
- ⊕ Vapor extraction well location
- Proposed ORC Injection Points

Projection: NAD 83, California State Plane, Zone II



Revised Injection Figure
 10 July 2012

Figure 1	
CHECKED BY	MAT
PROJECT MGR	MAT
DATE	6/12
WKA NO. 3848.29	