CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2018-0814
CALIFORNIA WATER CODE SECTION 13267
FOR
ALPHA DYNO NOBEL dba ALPHA EXPLOSIVES
AND HERCULES, LLC

ALPHA EXPLOSIVES' LINCOLN FACILITY
PLACER COUNTY

This Order is issued to Alpha Explosives and Hercules, LLC (hereafter referred to as Discharger) pursuant to Water Code Section 13267, which authorizes the Executive Officer of the California Regional Water Quality Control Board, Central Valley Region (hereafter Central Valley Water Board) to issue a Monitoring and Reporting Order (Order).

The Executive Officer finds:

INTRODUCTION

1. Alpha Explosives currently owns and operates, and Hercules Incorporated (now Hercules, LLC) formerly operated, an explosives manufacturing and retail operation at 3400 Nader Road in Lincoln.

2. Explosives manufacturing released perchlorate, nitrate and ammonium to soil and groundwater. Groundwater seasonally and spatially varies between 10 and 45 feet below ground surface. These constituents impair the beneficial uses of groundwater resources at the site.

3. Since 2006, the Discharger has been conducting and evaluating in situ bioremediation of nitrate and perchlorate in groundwater at the two main source areas.

4. This Monitoring and Reporting Order is issued by the Central Valley Water Board, pursuant to California Water Code Section 13267 and is necessary to delineate groundwater plumes and determine the ongoing effectiveness of remediation efforts.

5. Existing data and information about the site show the presence of various constituents, including nitrate, perchlorate and ammonium resulting from the Discharger's past operation. The Discharger is responsible for the discharge because it owns and/or operated the facility when the releases occurred.

6. The Discharger shall not implement any changes to this Order unless and until a revised Order is issued by the Executive Officer. This Monitoring and Reporting Order replaces the requirements listed in Order No. R5-2005-0838, which was issued on 3 November 2005.

7. Prior to construction of any new groundwater monitoring or extraction wells, and prior to destruction of any groundwater monitoring or extraction wells, the Discharger shall

submit plans and specifications to the Regional Board for review and approval. Once installed, all new wells installed for routine groundwater monitoring shall be added to the monitoring program, and shall be sampled and analyzed according to the schedule provided under the 'Required Actions' section of this Order.

LEGAL PROVISIONS

1. CWC section 13267 states, in part:

   (b)(1) In conducting an investigation, the Regional Board may require that any person who has discharged, discharges, or is suspected of having discharged or, discharging, or who proposes to discharge waste within its region . . . shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.

   The reports required herein are necessary for the reasons described in this Order, to assure protection of waters of the state, and to protect public health and the environment.

2. CWC section 13268 states, in part:

   (a)(1) Any person failing or refusing to furnish technical or monitoring program reports as required by subdivision (b) of Section 13267 . . . or falsifying any information provided therein, is guilty of a misdemeanor and may be liable civilly in accordance with subdivision (b).

   (b)(1) Civil liability may be administratively imposed by a regional board in accordance with Article 2.5 (commencing with Section 13323) of Chapter 5 for a violation of subdivision (a) in an amount which shall not exceed one thousand dollars ($1,000) for each day in which the violation occurs.

   Failure to submit the required reports to the Central Valley Water Board according to the schedule detailed herein may result in enforcement action(s) being taken against you, which may include the imposition of administrative civil liability pursuant to CWC section 13268. Administrative civil liability of up to $1,000 per violation per day may be imposed for non-compliance with the directives contained herein.

REQUIRED ACTIONS

IT IS HEREBY ORDERED that Monitoring and Reporting Order No. R5-2005-0838 is rescinded and, pursuant to California Water Code section 13267, Alpha Explosives and Hercules LLC shall conduct monitoring and reporting in compliance with new Monitoring and Reporting Order No. R5-2018-0814 according to the following:

Monitoring Specifications

1. The Discharger shall implement monitoring according to the schedule shown in Table 1. There are 18 monitoring wells as shown on Figure 1, as well as four injection wells at the Mix Building (MB-IW1 through -IW4), and four injection wells at the former Evaporation Pond (EP-IW1 through -IW4) associated with this facility. Any new groundwater monitoring wells for plume delineation shall be sampled for four consecutive events, then may be sampled biennially. In some years, winter rain events prevent the Discharger from accessing some monitoring wells during regularly scheduled semi-annual monitoring. The Discharger may obtain wet season (1st Quarter) groundwater samples in April. Thirteen monitoring wells and all injection wells are also being monitored in relation to ongoing groundwater remediation pursuant to Waste Discharge Requirements General Order No. R5-2008-0149-003, as indicated by the symbol (r) in Table 1. 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.

Table 1. Monitoring Frequency

Wells	Depth to Groundwater	Perchlorate	Nitrate-Nitrite (as N)	Ammonium
MW-1	A	A (r)	A (r)	
MW-2	S	S (r)	S (r)	S (r)
MW-3	A	S (r)	S (r)	S (r)
MW-4	S	S (r)	S (r)	
MW-5	A	B	B	B
MW-6	S	S (r)	S (r)	S (r)
MW-7	S	S	S	S
MW-8	A	A	A	A
MW-9	S	S (r)	S (r)	
MW-10	S	S	S	
MW-11	S	S	S	
MW-12	B	B	B	
MW-13R	B	B	B	
MW-14	B	B	B	
MW-15	B (3rd)	B (3rd)	B (3rd)	
MW-16	A	A	A	
MW-18	S	S (r)	S (r)	S (r)
MW-19	S	S (r)	S (r)	S (r)
On-site Supply well	B	B	B	

Key to Abbreviations on following page.

Key to Abbreviations in Table 1.

S – Semi-annually in the 1st and 3rd quarters (Jan-Mar, and July-Sept).
A – Annually in 1st quarter (Jan-Mar).
B – Biennially in odd numbered years, 1st quarter (Jan-Mar).
B (3rd) – Biennially in odd numbered years, 3rd quarter (July-Sept).
(r) –Monitoring of these wells is only required if the well is not monitored for these constituents at least annually pursuant to a Remediation Monitoring & Reporting Order.

2. The Discharger shall analyze samples according to standard Environmental Protection Agency (EPA) protocol using the methods shown in Table 2.

Table 2. Analytical Methods

Analyte	Analytical Method[1]	Maximum Practical Quantitation Limit[2]
Depth to Groundwater	--	0.01 ft
pH, Electrical Conductivity	Field instrumentation	Various
Nitrate-Nitrite (as Nitrogen)	EPA 353.3	1 mg/L
Ammonium	SM4500	1 mg/L
Perchlorate	EPA 314.0	4 ug/L

Footnotes to Table 2.

[1] An alternate established analytical method may be used provided it meets the maximum practical quantitation limit.

[2] All concentrations detected between the Method Detection Limit and the Practical Quantitation Limit shall be reported as trace.

Reporting Specifications

3. When reporting the data, the Discharger shall arrange the information in tabular form so that the date, constituents and concentrations are easily discernible. The data shall be summarized in such a manner as to illustrate clearly compliance with this Order.

4. 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.

5. Semi-annual electronic reports shall be submitted electronically over the internet to the State Water Resources Control Board Geotracker database system **by 1 June** until such time as the Executive Officer determines that the reports are no longer necessary. Each report shall be accompanied by a cover letter and shall include the following minimum information:

   a. 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.

b. A groundwater contour map.

c. A table showing depth to groundwater and water quality results for all monitored constituents.

d. A copy of the laboratory analytical data report.

6. An Annual Report shall be submitted to the Regional Board by **1 December** of each year until such time as the Executive Officer determines that the reports are no longer necessary. The Annual Report shall contain all the information required of a Semi-Annual Report and the following:

   a. Both tabular and graphical summaries of all data obtained during the year;

   b. Discussion of long-term concentration trends in the groundwater monitoring wells;

   c. A cumulative summary of pollutant mass removed from the subsurface, including elimination of pollutant mass through in-situ remedial methods or natural attenuation

   d. Description of all remedial activities conducted during the year, an analysis of their effectiveness in removing nitrate, perchlorate and ammonia, and plans to improve remediation system effectiveness;

   e. Identification of any data gaps and potential deficiencies/redundancies in the monitoring system or reporting program;

   f. If desired, a proposal and rationale for any revisions to the groundwater sampling plan frequency and/or list of analytes;

7. Results of any monitoring done more frequently than required at the locations specified in the MRP shall also be reported to the Regional Board.

8. The Discharger shall implement the above monitoring program as of the date of the Order.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Resources Control Board to review the action in accordance with CWC section 13320 and California Code of Regulations, Title 23, Sections 2050 and following. The State Water Resources Control Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State

Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at: http://www.waterboards.ca.gov/public_notices/petitions/water_quality or will be provided upon request.

This Order is effective upon the date of signature.

Ordered by:

Original signed by

PATRICK PULUPA, Executive Officer

24 October 2017

(Date)

Figure 1. Monitoring well locations, Alpha Explosives

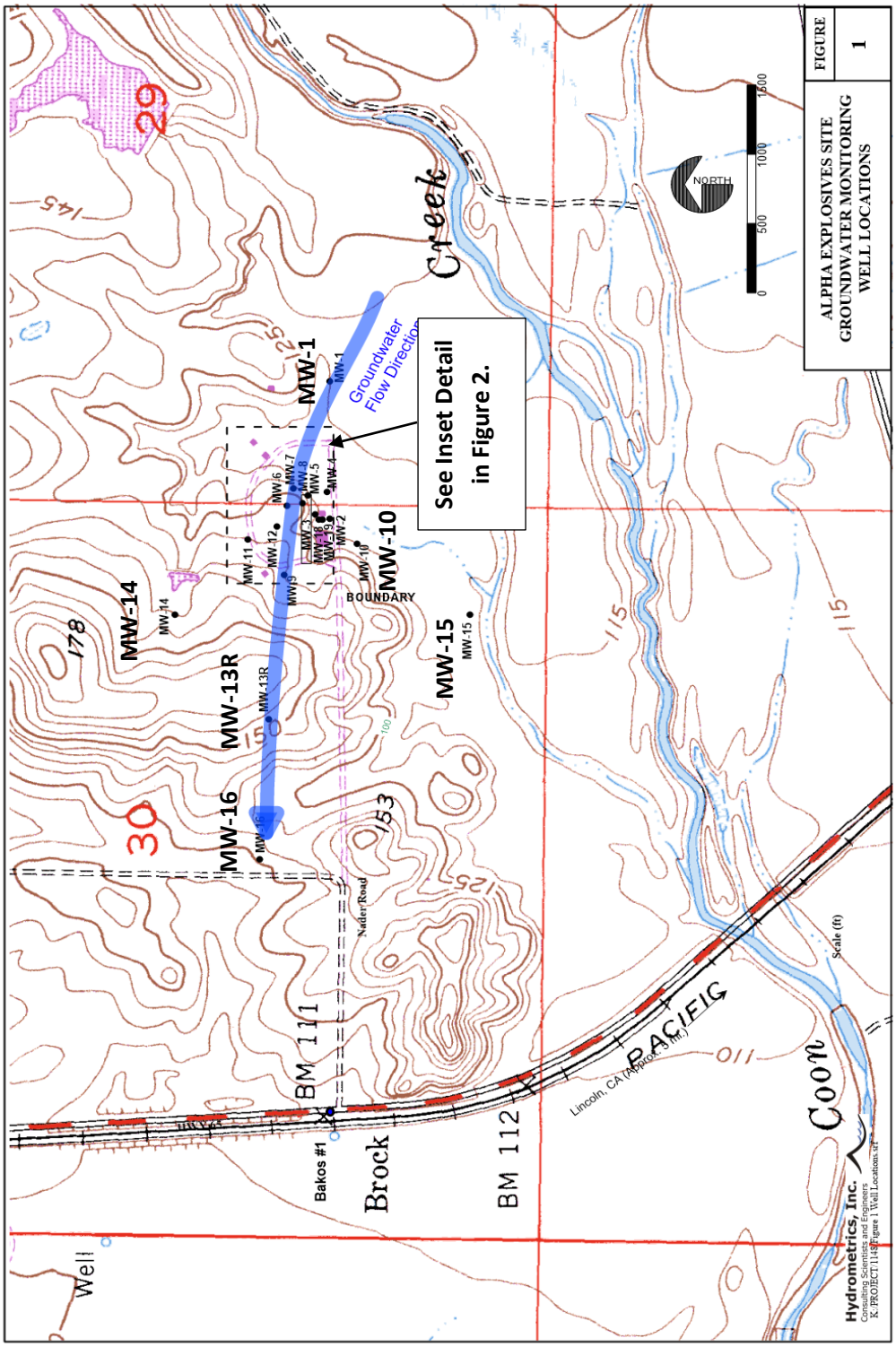

Figure 2. Inset Detail at Alpha Explosives' Facility