
Central Valley Regional Water Quality Control Board

16 July 2021

Kevin Bertrand
Environmental Project Manager
Nutrien Ag Solutions, Inc.
5269 Harvest Lake Drive
Loveland, CO 80538

**NOTICE OF APPLICABILITY FOR WASTE DISCHARGE REQUIREMENTS
GENERAL ORDER FOR IN-SITU REMEDIATION AND DISCHARGE OF TREATED
GROUNDWATER TO LAND, R5-2015-0012, NUTRIEN AG SOLUTIONS, INC.,
(FORMERLY CROP PRODUCTION SERVICES), DOS PALOS FACILITY, 12325
NORTH DOS PALOS AVENUE, FIREBAUGH, FRESNO COUNTY (GEOTRACKER
GLOBAL ID SL205324280)**

Nutrien Ag Solutions, Inc. (hereafter Discharger) submitted a *Notice of Intent to Comply with the Terms of General Water Discharge Requirements Order No. R5-2015-0012, In-situ Groundwater Remediation and Discharge of Treated Groundwater to Land* dated 14 January 2021 and prepared by Rubik Environmental Consulting (Rubik). A pilot test is proposed to assess the feasibility of remediation of chemicals in soil and groundwater by the injection of microorganisms and food substrates. Based on information in the submittal, it is the Central Valley Regional Water Quality Control Board (Water Board) staff determination that the project meets the requirements for implementation under Order No. R5-2015-0012, subject also to the conditions specified below. All of the requirements contained in the General Order are applicable to the project. The project is assigned Order No. R5-2015-0012-067.

Project Location:

The project is to be implemented at 12325 North Dos Palos Road, Firebaugh, Fresno County (Site), Fresno County Assessor's Parcel numbers 006-030-11S, 006-030-25S and 006-030-10U. The proposed remedial activities are to be implemented in the western area of the Site (Figure 1).

Project Description:

The Site is on the south side of State Highway 33 at Hudson Road, about six miles south of Dos Palos on approximately 6.0 acres of land. The Site is an active agricultural chemical bulk distribution facility and has been in operation since at least 1953. The

facility mixes bulk liquid and dry fertilizers and stores and distributes fertilizers and pesticides, including fungicides and herbicides.

Historically, the site utilized a rinse water pond in the western area of the Site under Waste Discharge Requirements (WDRs) Order No. 73-112. Past Site activities have impacted Site soil and groundwater with nitrate, 1,2-dichloropropane (1,2-DCP), and 1,2,3-trichloropropane (1,2,3-TCP). The highest concentrations of 1,2-DCP and 1,2,3-TCP in soil and groundwater are present in the western area of the Site, while relatively higher levels of nitrate in groundwater are present in the eastern area of the Site.

In 2014, following excavation and off-site disposal of soil from the area of the highest concentration of COCs, a treatment cell composed of a 7-foot thick gravel bed with four horizontal injection wells and two vertical injections wells was installed in the western area of the Site at a depth of approximately 28 feet bgs. A bioremediation pilot study was completed in 2018 to assess the effectiveness of in-situ bioremediation. A total of 1,200 pounds of lactate (Wilclear Plus[®]) and 900 pounds of vegetable oil emulsion (Lactoil[®]) was diluted with tap water and injected into the treatment cell. The Discharger submitted a 1 July 2020 *Feasibility Study*, which summarized the results of the pilot study and proposed the subject larger-scale in-situ bioremediation pilot study which augments the original pilot study by use of direct push injection points to introduce a mixture of food substrates and microorganisms.

The Discharger has proposed the following:

- Baseline groundwater monitoring and sampling of background monitoring wells (DW-10 and DW-12), performance monitoring (treatment zone) wells (DW-11, DW-17, DW-18, DW-19, and DW-21), transition zone wells (DW-13, DW-22, and DW-23), and compliance monitoring wells (DW-14, DW-15R, and DW-24) prior to the injection event.
- Destruction of the existing damaged MW-15 groundwater monitoring well in accordance with Fresno County Environmental Health Department standards.
- Installation and development of replacement monitoring well (DW-15R) and four new monitoring wells (DW-21 through DW-24). Wells will be constructed with a 2-inch diameter schedule 40 polyvinyl chloride casing with a screened interval from 30 to 50 feet bgs.
- Completion of 15 direct-push borings to total depths of 50 feet and injection of the following in four 5-foot intervals between 30 and 50 feet below ground surface (bgs) at each boring:
 - A mixture of 3,120 gallons of water, 2,800 pounds of Regenesi's 3-D Microemulsion[®] (a fermentable carbon source comprised of lactic acid and fatty acids), and 11 liters of Regenesi's BioDechlor Inoculum (BDI) (microbial populations of Dehalobacter, Dehabium chlorocoercia, Dehalococoides, sulfate-reducing bacteria, and methanogens). After mixing, 694 gallons of the mixture will be injected into each of the 15 direct-push borings.

- Monthly groundwater sampling of all pilot study area wells for six months following the injection event, then quarterly monitoring for one year, and finally transitioning to semi-annual monitoring consistent with the eastern area of the Site.
- Submittal of a Pilot Test Implementation Report documenting the implementation of the well destruction and installation, baseline groundwater sampling, and injection activities.
- Submittal of a Pilot Test Evaluation Report within three months after completing a year of pilot test monitoring and sampling.

The Discharger submitted a Contingency Plan to address any unforeseen negative impacts as follows:

If chemical concentrations in any compliance well exceeds its Water Quality Objective in Table 1 of the *Revised Pilot Test Contingency Plan* or if a chemical concentration exceeds its background level by 20% or more:

- The Discharger will notify Water Board staff,
- Compliance wells with exceedances will be re-sampled within 30 days'
- If re-sampling confirms exceedance, wells will be sampled on a quarterly basis at a minimum for three consecutive quarters,
- Corrective measures will be identified, which may require additional well network sampling or grab groundwater sampling to establish the extent of the exceedance, and submitted for Water Board staff approval,
- Corrective measures will be implemented,
- The Discharger will conduct performance monitoring for the selected remedy.

Conditions of approval

1. The Discharger shall execute the project in accordance with the enclosed Waste Discharge Requirements General Order for In-situ Remediation and Discharge of Treated Groundwater to Land, R5-2015-0012 (Enclosure 1), the Notice of Intent (Enclosure 2), and the Standard Provisions and Reporting Requirements for Waste Discharge Requirements (Enclosure 3).
2. The Discharger shall conduct groundwater sampling and report the results in accordance with the enclosed Groundwater Monitoring and Reporting Program R5-2015-0012-067 (Enclosure 4), and any revisions thereto as ordered by the Executive Officer. If the Discharger desires to substantially modify the proposed injection project, a revised Notice of Intent must be submitted and a new Notice of Applicability received prior to proceeding with any addition or modification to the proposed injection project.

3. 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.
4. Injection of any material other than those specified above into the proposed injection points is prohibited.
5. 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.
6. When implementing the Contingency Plan (Enclosure 5) the Discharger shall submit the proposed corrective measures to Water Board staff for review and approval prior to implementation.

If you have any questions regarding this matter, please contact Chad Neptune at (559) 445-5584 or chad.neptune@waterboards.ca.gov.

Original Signed by Clay L. Rodgers for:
Patrick Pulupa
Executive Officer

Attachments: Figure 1, Site Location

Enclosures: Enclosure 1 - General Order R5-2015-0012
Enclosure 2 - Notice of Intent
Enclosure 3 - Standard Provisions and Reporting Requirements for Waste Discharge Requirements
Enclosure 4 - Monitoring and Reporting Program R5-2015-0012-067
Enclosure 5 - Contingency Plan

cc: Fresno County Environmental Health Department, Fresno
Steve Meninger, Rubik Environmental, Inc., Reno, NV