ST. JOHN - MITTELHAUSER & ASSOCIATES
A Terracon COMPANY

PROGRESS REPORT

To: Mike McCann, Indiana Department of Environmental Management

CC: Peter Ramanauskas, U.S. Environment Protection Agency

From: Ron St. John, St. John – Mittelhauser & Associates, Inc.

Date: September 25, 2020

RE: Amended Remediation Work Plan Semi-Annual Progress Report #1 for the former Indiana Steel & Wire Site, Muncie, Indiana; IDEM VRP # 6960203

Introduction

On behalf of GK Technologies, Inc. (GK), St. John – Mittelhauser & Associates, Inc., a Terracon Company (SMA) submitted an Amended Remediation Work Plan (ARWP) for the former Indiana Steel & Wire (IS&W) site (Site) in Muncie, Indiana on September 28, 2018. The Indiana Department of Environmental Management (IDEM) initially approved the ARWP on February 21, 2019 and final approval by IDEM was granted in a letter dated September 30, 2019 after public comments were received and IDEM agreed that the comments had been satisfactorily resolved. This is the first progress report since the IDEM approval of the ARWP and satisfies the requirements of the consent decree between the U.S. Environmental Protection Agency (EPA) and GK/IS&W dated February 1994. Going forward, we will provide these progress reports on a semi-annual basis. The next semi-annual report will be submitted to you by March 31, 2021.

Site Activities Taking Place Over the Last Year

A chronological listing of important Site activities occurring over the last year is provided below. Each of the activities is briefly described. Afterwards, a summary of important operational activities occurring at the Site during the last year is provided.

Due to the redevelopment of the Site by Kitselman Pure Energy Park (KPEP) and their placing up to seven feet of fil over a large portion of the Site, it was necessary to install a new groundwater conveyance system to bring pumped groundwater impacted by zinc, ammonia, chlorides and sulfate (ZACS) back to the groundwater treatment system. This conveyance system installation was initiated when KPEP started their filling operations at the Site in the fall of 2017 and continued through the summer of 2019, when KPEP finished their filling and retrofitting of the GK conveyance system features at the Site. While KPEP incurred costs retrofitting many of GK's ZACS pumping wells due to their filling operation at

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the Site, GK incurred considerable expense installing the new conveyance lines back to the groundwater treatment building at the site.

Having completed all the remedial measures at the Site except those pertaining to the ZACS plume, GK decided to take a more aggressive approach to source reduction of the ZACS plume going forward in an effort to reduce the period of operation of the ZACS groundwater containment system. Planning for the performance of this more aggressive pumping at the source areas indicated that additional treatment of the ZACS groundwater within the groundwater treatment system would be necessary to meet the zinc discharge limitation to the Muncie Bureau of Water Quality (MBWQ). As a result, it was decided that during the new conveyance system installation each well would need to have individual tubing run to the treatment system. This would allow segregation of the groundwater discharges and more efficient treatment.

In the lead up to and during this time period, the following list of additional pumping wells were added to the ZACS groundwater pumping system to both contain the plume and more aggressively pump at the source areas: 93, 96, 97, 98, 99, 100, 101, 102, 103, 104 and 105. To date, the pumping of these new wells and the ZACS containment system as a whole has not necessitated the need for a supplement or change to the groundwater treatment system.

In the process of borrowing soils from locations across the Site, KPEP removed soils from an area near southeast side of Electroform Landfill to use as fill material at another area of the Site closer to Jackson Street. Based on visual observation and testing, a portion of these excavations contained wastes that contained elevated concentrations of lead. This resulted in GK stabilizing these wastes in-place and then excavating them for off-site disposal so that the IDEM approved site-wide risk-based exposure point concentration for lead in Site soils was maintained. This work was completed in the fall of 2019.

In April 2020, GK submitted a permit application to the MBWQ to increase the daily maximum discharge of the groundwater treatment system from 30,000 to 50,000 gallons-per-day. This application was approved by the MBWQ and became effective on June 24, 2020. This increased discharge capacity has largely eliminated the need to supplement the groundwater treatment system to date.

Summary of Important Operational Activities Over the Last Year

The following is a list of the important Operational Activities that have taken place at the Site over the last year.

We continue to maintain hydraulic control along the White River to prevent ammonia concentrations from exceeding 1.21 mg/l in the river mixing zone at all times.

The percentage of the total volumetric pumping by the highly impacted ZACS wells (60D, 60M 85D, 85M, 86D, 86M, 87D, 87M, 89, 91, 93, 94, 99, 100, 101, 102, 103, 104 and 105) has steadily increased from only 20% in October 2017 to a high of 73.89% in June 2020.

The bullet immediately above has been made possible because we received a Zn discharge concentration limitation increase from a monthly average maximum average of 0.40 mg/l to 1.48 mg/l in April 2016 from the MBWQ and received the increase in our total allowable daily discharge from 30,000 gallons/day to 50,000 gallons/day that was discussed above in June 2020.

We have developed drilling and pumping system operational methods to extend the life of the recovery wells that would otherwise be limited by ZACS mineralization within them (the first well 84 mineralized in place within 8 months of going into operation).

As mentioned above, GK has spent a considerable amount of money on groundwater recovery and conveyance over the last few years. The way to shorten the life of the groundwater recovery system is to remove ZACS mass via the source area wells. The plan going forward is to install even more source wells as the need for them becomes apparent. The new conveyance system has made installing and hooking up new wells cheaper and quicker.