January 15, 2021

Mr. Chad R. Schoop, P.E.
Professional Engineer
Bureau of Industrial Site Cleanup (BISC)
Nevada Division of Environmental Protection (NDEP)
375 East Warm Springs Road, Suite 200,
Las Vegas, NV 89119

RE:  Fourth Quarter 2020 Quarterly Progress Report
     Former Stauffer Chemical Company Facility (“Site”)
     NDEP Facility ID #H-000536 Pioneer/Stauffer
     Henderson, NV

Dear Mr. Schoop:

This Quarterly Progress Report (QPR), prepared on behalf of Stauffer Management Company LLC (SMC) and Pioneer Americas LLC [dba] Olin Chlor Alkali Products (Pioneer), summarizes Phase II Environmental Conditions Investigation (ECI) activities performed at the Site during the Fourth Quarter of 2020. This QPR is submitted to NDEP in accordance with the June 28, 1996 Phase II Consent Agreement, entered into by NDEP, Pioneer, and SMC. Notable activities performed during the reporting period include:

- On behalf of Pioneer and SMC, the Third Quarter 2020 QPR was submitted to NDEP on October 15, 2020.
- NDEP issued a letter, dated November 3, for Administrative Closure of BHC Cake Pile 3 (LOU No. 12), and conditional acceptance of the Site Management Plan for BHC Cake Pile 3.
- On December 8, Pioneer submitted a revised multi-milestone report (MMR) for the Historical Caustic Storage Area (HCSA). The revised MMR incorporates responses to NDEP comments dated November 3.
- On behalf of SMC/ Syngenta Crop Protection, LLC [Syngenta], the December 22, 2020 Annual Inspection of the BHC Cake Pile 3 Cover System Upgrade was performed. No deficiencies were observed to affect the design-performance of the Cover System Upgrade.
The OSSM Companies (Pioneer, SMC/Syngenta, and Montrose Chemical Corporation of California) performed the following notable activities during the reporting period:

- On October 13, the Companies participated in a technical call with NERT and NDEP to discuss NERT’s comments on the Companies’ Demonstration of the Fate and Transport of Trespass Site Related Chemicals report, submitted on May 8.
  - As a follow-up to the October 13 call, the Companies participated on a debrief call with NDEP on December 8.
- On October 21, the OSSM Companies participated in a routine quarterly status call with NDEP regarding the status and progress of the ongoing Site activities.
- Routine semi-annual transect well monitoring and water level measurements were completed in early October.
- Relevant and necessary maintenance and repairs (e.g., surface pad repairs) were carried out at three annual monitoring well locations in November.
- During the reporting period, the Companies performed routine system maintenance including a pressure cleaning of the Equalization Tank and semiannual well jetting of the GWTS extraction wells.
- On December 7, the Clark County Department of Environment and Sustainability, Division of Air Quality (DAQ) conducted a routine biennial inspection of the Henderson Groundwater Treatment System for compliance with DAQ Rules and Regulations, site-specific permit requirements and reporting. No issues or follow up actions were identified during the inspection.
- The GWTS continues to operate appropriately and effectively captures and contains impacted groundwater leaving the Site.
- The Companies are continuing efforts to characterize/investigate Site LOU areas to achieve NDEP administrative closure, or no further action determinations.

Should you have any questions related to the information contained herein, please contact me [(423) 336-4675; email: cesakkiperumal@olin.com], or an appropriate alternate Company representative.

Sincerely,

Chinny Esakkiperumal, PG, CEM (EM2409; Expires October 12, 2021)
Olin Corporation

Enclosures:
Former Stauffer Chemical Company Facility Fact Sheet
Selected Site Assessment Areas Status Update
cc: James (JD) Dotchin, Chief, BISC, NDEP, Las Vegas, NV
    J. Carlton Parker, Supervisor, BISC, NDEP, Las Vegas, NV
    BMI Compliance Coordinator – NDEP Las Vegas, NV
    NDEP c/o Broadbent & Associates [2]
    Jeff Gibson – American Pacific Corporation
    Mark Paris; Lee Farris; Ranajit Sahu – Basic Remediation Company
    Joe Kelly; Ed Modiano – Montrose Chemical Corporation of California
    Jay Steinberg; Andrew Steinberg; Steve Clough – Nevada Environmental Response Trust
    Dave Share – Olin Corporation
    Charles Elmendorf; John-Paul Rossi – Stauffer Management Company LLC
    Darren Croteau – Terraphase Engineering, Inc.
    Peter Jacobson – Syngenta Crop Protection, LLC
    Nicholas Pogoncheff – PES Environmental, Inc.
    Dick Pfarrer – TIMET
Stauffer Chemical Company formerly operated a chemical manufacturing facility at the property (i.e., “the Site”) which is now occupied by Olin Chlor Alkali Products at the western end of the Black Mountain Industrial Complex (formerly known as the BMI Complex), in an unincorporated area of Clark County, near Henderson, Nevada. Stauffer ceased operations at the property in 1988 when the property was purchased by Pioneer Chlor Alkali, Inc. (Pioneer). Olin Corporation (Olin) purchased the property from Pioneer Americas LLC (Pioneer) in 2007. Pioneer, Stauffer Management Company LLC (SMC), and Syngenta Crop Protection, Inc. (Syngenta) are working in cooperation with the Nevada Division of Environmental Protection (NDEP) on continuing environmental investigation and cleanup activities at the Site. This Fact Sheet, prepared on behalf of Pioneer and SMC/Syngenta, is intended to keep community members informed about the status of the environmental investigation and cleanup. Other companies at neighboring properties within the BMI Complex are also performing environmental work. These companies include: Nevada Environmental Response Trust (previously known as Tronox LLC; formerly Kerr-McGee Chemical Company), Titanium Metals Corporation and Basic Remediation Company. Montrose Chemical Corporation of California (Montrose) is also performing environmental work at the Site in areas associated with their former operations. All of these companies have developed separate Fact Sheets related to their environmental work.

HISTORY

In 1941, approximately 5,000 acres of desert in the southwest portion of the Las Vegas Valley was deeded by the United States for use as what was to become the world’s largest magnesium plant (BMI Complex), a plant constructed for the U.S. Government that would play a critical role in World War II. The location was selected in part based on its proximity to magnesite ore and an adequate power supply (then recently completed Hoover Dam).

The western end of the original BMI Complex included a chlorine-caustic plant which was necessary to support the U.S. Government’s production of magnesium. In 1945, Stauffer Chemical Company leased the chlorine-caustic plant from the U.S. government, and later purchased the property in 1952.

The property was ultimately sold to Pioneer in 1988. During Stauffer Chemical Company occupancy, the manufactured products included chlorine and caustic, and later, agricultural chemicals. Additionally, portions of the property were leased to Montrose for their manufacture of chemicals.

Today, the Site is operated by Olin Chlor Alkali Products for the production of bleach, as well as handling of chlorine, caustic soda, and hydrochloric acid; non-chlor alkali chemical productions ceased prior to 1988.
As part of the 1983 Consent Order entered into between the NDEP, Stauffer and Montrose, a groundwater pump and treatment system was installed to address impacted groundwater identified at the Site. The groundwater pump and treatment system at the Site continues to effectively operate, as do other groundwater pump and treatment systems being operated by other nearby companies to address impacted groundwater.

In 1991, Pioneer and SMC entered into a Consent Agreement with the NDEP to jointly conduct a Phase I Environmental Conditions Assessment (ECA) of the Site. The purpose of the ECA was to identify areas of potential environmental concern. Pioneer and SMC submitted their ECA report to the NDEP in 1993 and thereafter agreed to the terms of the 1994 Phase II Letter of Understanding (LOU) with the NDEP. The LOU identified issues of potential environmental concern (Study Items) to be addressed in the next phase of investigation. In 1996, Pioneer and SMC entered into a subsequent Consent Agreement with NDEP requiring them to jointly conduct a Phase II Environmental Conditions Investigation (ECI) and to prepare Remedial Alternative Study (RAS) work plans for those Study Items, as necessary. Since 1996, several phases of environmental characterization and a series of reports have been completed by Pioneer and SMC to assess soil and groundwater conditions, and RAS work plans have been prepared and remedial actions implemented, including the construction of asphalt caps (in 2003 and 2004) over the former agricultural chemical manufacturing plant areas.

The focus of recent environmental work activities has been developed based upon the review of historical Site operations, submittal of additional work plans, preparation of reports and correspondence with the NDEP, and development of a list of Site related chemicals (SRCs) to assist in additional sampling activities. Additionally, annual groundwater monitoring is performed to assess the occurrence of chemicals in groundwater at the Site and areas downgradient of the existing groundwater pump and treatment system, and to demonstrate compliance for operation of the groundwater pump and treatment system in accordance with the terms of the 1983 Consent Order. The information and data from previous reports and investigations have been integrated into a comprehensive Conceptual Site Model (CSM) that was prepared by Pioneer, SMC/Syngenta and Montrose in July 2008. The CSM presents the current understanding of Site conditions, describes potential exposure pathways related to soil and groundwater conditions, and identifies areas where future environmental characterization may be appropriate. The companies are currently in the process of finalizing a Groundwater Remedial Alternatives Study for the evaluation of possible remedial actions.

**Future Work**

Pioneer and SMC/Syngenta will continue to perform environmental investigations as described above in cooperation with the NDEP. Additional environmental cleanup work will be conducted as appropriate based on the results of these investigations and the CSM. The groundwater pump and treatment system will continue to be operated and monitored to maintain its effectiveness.

**Additional Information and Community Involvement**

The NDEP oversees all aspects of the environmental work at the Site. Additional information from the NDEP can be obtained by contacting Chad R. Schoop, at 702-486-2850 x 248 or cschoop@ndep.nv.gov.

The companies welcome community input for this project and recognize the need to respond to community concerns. Previous reports related to the environmental work at the Site can be obtained from NDEP’s offices in Las Vegas or Carson City.
## Selected Site Assessment Areas Status Update

**Updated January 2021**

<table>
<thead>
<tr>
<th>Area Description</th>
<th>LOU Item No.</th>
<th>Background Documents</th>
<th>Current Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive CAPD Pond 6</td>
<td>20</td>
<td></td>
<td>NDEP approved the final design work plan for LOUs 17 and 20 on July 14, 2020. Projected Activity: Remedy implementation.</td>
</tr>
<tr>
<td>Inactive CAPD Pond 2 and Associated Process Piping</td>
<td>18</td>
<td>5</td>
<td>Projected Activity: RI SAP &amp; CSM</td>
</tr>
<tr>
<td>CAPD Pond 5</td>
<td>19</td>
<td>5</td>
<td>Projected Activity: RI SAP &amp; CSM Note: Active ponds; Subject to NPDES Permit</td>
</tr>
<tr>
<td>CAPD Ponds 6A and 9</td>
<td>Non-LOU</td>
<td>5</td>
<td></td>
</tr>
</tbody>
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<tbody>
<tr>
<td>ACD Drum Burial Waste Management Area</td>
<td>5</td>
<td>1,2,5,6,7</td>
<td><strong>Completed:</strong> On May 1, 2019, NDEP issued Letter of Acceptance, in response to February 1, 2017 Remedial Alternatives Study, for the ACD Drum Burial Waste Management Area (DBWMA) LOU No. 5. Design Report DBWMA Cover System Upgrade submitted October 31, 2019. NDEP provided comments on April 28, 2020. Addendum to Design Report DBWMA Cover System Upgrade submitted June 19, 2020. NDEP issued November 17, 2020 acceptance letter for Addendum to Design Report DBWMA. <strong>Projected Activity:</strong> Bid Documents have been issued for Addendum to Design Report DBWMA and expected for receipt January 20, 2021.</td>
</tr>
<tr>
<td>Former ACD Plant Area (Asphalt-Concrete Cap Covered Area) Including: Former ACD Plant Site (LOU 8), Former Lindane Plant Area (LOU 10), Former BHC Cake Piles 1 &amp; 2 and Capped Area of Former BHC Loader Haul Route (LOU 12) and Former Vapor Incinerator Area (LOU 14)</td>
<td>8,10, 12 and 14</td>
<td>1,3,5</td>
<td><strong>Completed:</strong> DVSR &amp; EDD Vadose Zone Data Gap Analysis and Characterization approved by NDEP (April 2014). Comprehensive CSM/DUE submitted to NDEP March 31, 2016. NDEP issued March 12, 2020 conditional acceptance letter for CSM/DUE LOUs 8, 10, and 12. <strong>Projected Activity:</strong> Updated DUE and Remedial Alternatives Study LOUs 8, 10, and 12.</td>
</tr>
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</tr>
<tr>
<td><strong>BHC Cake Pile 3 and Non-Capped Area Former BHC Haul Route (LOU 12)</strong></td>
<td>12</td>
<td>1,4,5,6</td>
<td><strong>Completed</strong>: Design Report, BHC Cake Pile 3 Cover System (April 7, 2016) accepted by NDEP (May 24, 2016). BHC Cake Pile 3 Cover System Upgrade completed First Quarter 2017. RAS (Revision 1, August 10, 2018) accepted by NDEP (October 21, 2018). Revised Draft Environmental Covenant (EC), and Site Management Plan (SMP) submitted to NDEP March 28, 2019. EC was signed by all relevant parties on October 17, 2019. Fully executed Environmental Covenant recorded on December 23, 2019. NDEP issued November 3, 2020 letter for Administrative Closure of BHC Cake Pile 3 (LOU 12), and conditional acceptance of SMP for BHC Cake Pile 3.</td>
</tr>
<tr>
<td><strong>Former HCL/BCME Release Area (LOU 29)</strong></td>
<td>29</td>
<td>1,2,5</td>
<td><strong>Completed</strong>: Closure Report (January 16, 2018). <strong>Closed LOU No. 29</strong>: NDEP issued No Further Action Determination May 9, 2018.</td>
</tr>
<tr>
<td><strong>Inactive Trithion USTs</strong></td>
<td>Non-LOU</td>
<td>6,7</td>
<td><strong>Completed</strong>: Data Transmittal Report, Assessment of Underground Trithion Waste Treatment Tanks (June 6, 2017). <strong>Closed Non-LOU Area</strong>: NDEP issued No Further Investigation Letter October 13, 2017</td>
</tr>
<tr>
<td><strong>Inactive ACD Ponds 1 and 2</strong></td>
<td>7</td>
<td>1,2,5,6,7</td>
<td><strong>Projected Activity</strong>: RI SAP</td>
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| CAPD Pond 8 | 22 | 1,5 | Completed: Administrative Closure for former wastewater pond (see 22 above).  
Projected Activity: RI SAP & CSM for active pond  
Note: Active pond; Subject to NPDES Permit |
| Former Cell Renewal Building and Associated Conveyance Facilities | 11 | 5 | Projected Activity: RI SAP & CSM |
| Site-Wide Groundwater | Non-LOU | 1 | Completed: The Companies submitted a revised draft RAS, incorporating NDEP comments, on June 28, 2019. As requested by NDEP on January 7, 2020, the Companies submitted a “Demonstration of the Fate and Transport of Trespass Site-Related Chemicals (SRCs)” report, on May 8, 2020. Received draft NDEP and NERT comments on the Companies May 2020 report.  
Projected Activities: Respond to NDEP and NERT comments. |
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### Notes:
2. PES Environmental, Inc. (2008). Area-Specific Conceptual Site Models: BHC Cake Pile 2 (Component of LOU No. 12); ACD Drum Burial Waste Management Area (LOU No. 5); Former Leach Beds and Phosphoric Acid Pond (LOU No. 4) and Trenches (LOU NO. 9); Inactive ACD Ponds 1 & 2 (LOU No. 7); and Former HCL/BCME Release Area (LOU No. 29). Former Stauffer Chemical Company Facility. Henderson, Nevada. April 11.

### Acronyms:
- ACD - Agricultural Chemical Division
- AMEC FW - AMEC Foster Wheeler
- BCME - Bischloromethylether
- BHC - Benzene Hexachloride
- CAPD - Chlor Alkali Products Division
- Companies - Pioneer Americas, LLC, Stauffer Management Company, LLC/Syngenta Crop Protection, Inc., and Montrose Chemical Corporation of California
- CSM - Conceptual Site Model
- DUE - Data Usability Evaluation
- Geosyntec - Geosyntec Consultants, Inc.
- HCL - Hydrochloric Acid
- HCSA - Historic Caustic Storage Area
- LOU - Letter of Understanding
- NDEP - Nevada Division of Environmental Protection
- NFA - No Further Action
- PES - PES Environmental, Inc.
- RAS - Remedial Alternative Study
- RI - Remedial Investigation
- SAP - Sampling & Analysis Plan
- USTs - Underground Storage Tanks
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WP - Work Plan