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July 15, 2014

Mr. James (JD) Dotchin
Nevada Division of Environmental Protection
Bureau of Corrective Actions
2030 E. Flamingo Road, Suite 230
Las Vegas, NV 89119

**RE: Second Quarter 2014 Quarterly Progress Report
Former Stauffer Chemical Company Facility
NDEP Facility ID #H-000536 Pioneer/Stauffer
Henderson, NV**

Dear Mr. Dotchin:

This Quarterly Progress Report (QPR) has been prepared on behalf of Stauffer Management Company LLC (SMC) and Pioneer Americas LLC dba Olin Chlor Alkali Products (Olin) to summarize notable activities performed during the Second Quarter of 2014 as part of the Phase II Environmental Conditions Investigation (ECI) at the former Stauffer Chemical Company facility (Site) in Henderson, Nevada. This QPR is submitted to the Nevada Division of Environmental Protection (NDEP) in accordance with the June 28, 1996 Phase II Consent Agreement entered into by the NDEP, Pioneer Chlor Alkali Company, Inc. and SMC. Notable activities performed as part of the Phase II ECI during the Second Quarter of 2014 included the following:

- On behalf of SMC and Olin, the April 11, 2013 *First Quarter 2014 Progress Report* was submitted to the NDEP.
- On April 16, 2014, the *Standardized Joint Site-Wide Annual Groundwater Monitoring Program Plan* was submitted to NDEP on behalf of Olin, SMC/Syngenta Crop Protection, LLC (Syngenta), and Montrose Chemical Corporation of California (Montrose), collectively referred to as the OSSM Companies. NDEP approved the *Standardized Joint Site-Wide Annual Groundwater Monitoring Program Plan* on June 2, 2014.
- The NDEP Bureau of Waste Management issued the April 16, 2014 letter *Resource Conservation and Recovery Act (RCRA) Hazardous Waste Compliance Inspection of April 15, 2014* related to the Henderson Groundwater Treatment System. The inspection determined that the Henderson GWTS facility is in compliance with all applicable Federal and State Hazardous Waste Regulations.
- On April 29, 2014 the OSSM Companies requested an extension of the submittal date for the OSSM Site Groundwater Remedial Alternative Study (RAS) from April 30 to May 9, 2014. The request was approved by NDEP on April 30, 2014. On behalf of the OSSM Companies, the *Draft Groundwater RAS* was submitted to NDEP on May 9, 2014. A conference call was conducted with NDEP to discuss the *Draft Groundwater RAS* on June 4, 2014. On June 16, 2014 NDEP provided comments on the *Draft Groundwater RAS* to the OSSM Companies.

- NDEP and the OSSM Companies conducted a quarterly conference call on May 20, 2014.
- On May 19, 2014 Olin and SMC/Syngenta submitted the *OSSM Companies Selected Site Assessment Areas Status Update* to NDEP.
- NDEP provided the OSSM Companies with a letter approving the *Fourth Quarter 2013 Quarterly Operations Report* for the GWTS on May 29, 2014.
- On June 19, 2014, the OSSM Companies met with NDEP for a technical discussion of groundwater to the east side of the current Site property boundary.

Should you have any questions related to the information contained herein, please contact me at (423) 336-4540, via email at dmshare@olin.com, or an alternate Company representative.

Sincerely,



David M. Share, P.E.
Director, Environmental Remediation

Enclosures:

Former Stauffer Chemical Company Facility Fact Sheet
OSSM Companies Selected Site Assessment Areas Status Update

cc: BMI Compliance Coordinator – NDEP Las Vegas, NV (paper & electronic)
NDEP c/o McGinley and Associates – Reno, NV (paper & electronic)
Jeff Gibson – American Pacific Corporation
Mark Paris – Basic Remediation Company
Lee Farris – Basic Remediation Company
Ranjit Sahu – Basic Remediation Company
Joe Kelly – Montrose Chemical Corporation of California
Paul Sundberg – Montrose Chemical Corporation of California
Jay Steinberg – Nevada Environmental Response Trust
Allan DeLorme – Environ
John Pekala – Environ
Curt Richards – Olin Corporation
David Share – Olin Corporation
Ed Modiano – de maximis, inc.
Charles Elmendorf – Stauffer Management Company LLC
Nicholas Pogoncheff – PES Environmental, Inc.
George Crouse – Syngenta Crop Protection, LLC
Dick Pfarrer – TIMET
Enoe Marcum – WAPA

ENVIRONMENTAL WORK

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 continues to 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 Olin, 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 completing a Groundwater Remedial Alternatives Study for the evaluation of possible remedial actions.

FUTURE WORK

Olin 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 James (JD) Dotchin, at 702-486-2850 x 235.

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.

OSSM Companies Selected Site Assessment Areas Status Update
Updated May 19, 2014

Description	LOU Item No.	Background Documents	Current Status
Inactive CAPD Ponds 1,3,4 and Associated Process Piping	17	5	Completed: RI SAP & CSM
Inactive CAPD Pond 2 and Associated Process Piping	18		
Inactive CAPD Pond 6	20		
Inactive CAPD Pond 8	22		
CAPD Pond 5	19	5	Projected Activity: Remedial Alternative Study
CAPD Ponds 6A and 9	Non-LOU		
CAPD Pond 7	21		
ACD Drum Burial Waste Management Area	5	1,2,5,6,7	Completed: Revised Work Plan for Vadose Zone Characterization (accepted by NDEP Feb 2013). Revised EDD and DVSR (accepted by NDEP April 2014). Vadose Zone Data Gap Analysis and Characterization Completed. Projected Activity: RI Report (CSM & DUE) Third Quarter 2014
Phosphoric Acid Pond, Three Trenches (LOU 4), Leach Beds (LOU 9) and Assoc Conveyance	4 and 9	1,2,5,6,7	Completed: Revised Work Plan for Vadose Zone Characterization (accepted by NDEP Feb 2013). Revised EDD and DVSR (accepted by NDEP April 2014). Vadose Zone Data Gap Analysis and Characterization Completed. Projected Activity: RI Report (CSM & DUE) Fourth Quarter 2014
Geophysical Anomaly South of Phosphoric Acid Pond	Non-LOU		Completed: Vadose Zone Data Gap Analysis and Characterization Completed. Projected Activity: RI Report (CSM & DUE) Fourth Quarter 2014
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 & 2 and Capped Area of Former BHC Loader Haul Route (LOU 12) and Former Vapor Incinerator Area (LOU 14)	8,10, 12 and 14	1,3,5	Completed: Revised Work Plan for Vadose Zone Characterization (accepted by NDEP Feb 2013). Revised EDD and DVSR (accepted by NDEP April 2014). Excepting for Soil Gas, Vadose Zone Characterization Completed. Projected Activity: RI Report (CSM & DUE) First Quarter 2015
Non-Capped Area of Former BHC Loader Haul Route (LOU 12) and Nearby Surface Soils	12	4	Completed: Revised Work Plan for Vadose Zone Characterization (accepted by NDEP Feb 2013). Revised EDD and DVSR (accepted by NDEP April 2014). Vadose Zone Data Gap Analysis and Characterization Completed. Projected Activity: RI Report (CSM & DUE) Fourth Quarter 2014
BHC Cake Pile 3	12	1,5,6,7	Completed: Vadose Zone Data Gap Analysis and Characterization Completed. Projected Activity: RI Report (CSM & DUE) Second Quarter 2015
Former HCL/BCME Release Area	29	1,2,5	Completed: Vadose Zone Data Gap Analysis and Characterization Completed (SRCs <BCLs). Projected Activity: RI Report (CSM & DUE) First Quarter 2015
Inactive Trithion USTs	Non-LOU	6,7	Projected Activity: Data Gap Analysis and Vadose Zone Characterization. Third Quarter 2014
Inactive ACD Ponds 1 and 2	7	1,2,5,6,7	Projected Activity: RI SAP
Former Wastewater Ponds 1 & 2 and CAPD Ponds 7 and 8	6, 21 & 22	1,5	Completed: Revised Work Plan for Vadose Zone Characterization (accepted by NDEP January 2013). Revised EDD and DVSR (accepted by NDEP November 2013).
Former Cell Renewal Building and Associated Conveyance Facilities	11	5	Completed: RI SAP (Approved by NDEP) & CSM (Approved by NDEP) Projected Activity: Remedial Alternative Study
Site-Wide Groundwater	Non-LOU	1	Projected Activity: Annual Groundwater Monitoring Program & RAS

Notes:

- 1- Hargis + Associates, Inc. (2008). Conceptual Site Model, Former Montrose and Stauffer Facilities and Downgradient Areas to Las Vegas Wash. Henderson, Clark County, Nevada. September 21.
 - 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.
 - 3- PES Environmental, Inc. (2008). Area-Specific Conceptual Site Models: Former ACD Plant (LOU No. 8); Former Lindane Plant (LOU No. 10); and Former BHC Cake Piles 1 and 2 and Former BHC Loader Haul Route (LOU No. 12). Former Stauffer Chemical Company Facility. Henderson, Nevada. June 12.
 - 4- PES Environmental, Inc. (2008). Area-Specific Conceptual Site Model for Shallow Soil. Former Stauffer Chemical Company Facility. Henderson, Nevada. July 1.
 - 5- Stauffer Management Company, Pioneer Chlor Alkali Company, Inc. (1997). Response to LOU Information Request. August 8.
 - 6- PES Environmental, Inc. (2009). Field Activities Summary Report, Subsurface Reconnaissance and Collection of Waste Characterization Samples, Former Stauffer Chemical Company Facility. Henderson, Nevada. July 1.
 - 7- PES Environmental, Inc. (2010). Waste Analysis Plan, Corrective Action Management Unit (CAMU), Former Stauffer Chemical Company Facility. Henderson, Nevada. July 19.
- ACD - Agricultural Chemical Division
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
Geosyntec - Geosyntec Consultants, Inc.
Hargis - Hargis + Associates, Inc.
HCL - Hydrochloric Acid
LOU - Letter of Understanding
MACTEC - MACTEC, Inc.
NDEP - Nevada Division of Environmental Protection
PES - PES Environmental, Inc.
RAS - Remedial Alternative Study
RI - Remedial Investigation
SAP - Sampling & Analysis Plan
USTs - Underground Storage Tanks
WP - Work Plan