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SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION

Ms. Addie Walker
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201

June 26, 2014

Dear Ms. Walker,

**Subject: Injection Completion Update
Auriga, Spartanburg Facility
BoW Site ID# 00225, VCC 13-5841-RP
AECOM Project No. 60280417**

The injection phase of chloroform remediation activities approved in South Carolina Department of Health and Environmental Control (DHEC) letters dated September 5th and 9th, 2013, has been completed. The activities completed to date are summarized below.

Injection activities were completed in the DMT vicinity between April 21 and May 9th. A total of 40 injection locations were completed. As described in the March 2013 recommendation, the 38 proposed injection locations were supplemented with two additional locations within the target treatment area.

Injection details are summarized on Table 1 and the surveyed injection locations are presented on Figures 1. Injection activities were completed as described in the March 25, 2013, recommendation and subsequent modifications. One drum of sodium lactate was diluted in water to approximately 500 gallons in a portable container. The mixture was then injected under pressure into a temporary injection well. Injection was initiated at approximately refusal depth. Injection was continued at intervals between the refusal depth and potentiometric surface. In some cases, injection fluid was observed returning to the surface either through the well or through the ground nearby. In each case, the daylighting was controlled by reducing injection pressure and limiting the elevation of injection. Complete injection of the 500 gallons was achieved at each location under conditions which did not produce daylighting. The injections depths, pressures and total time of injection activity are included on Table 1.

Injections were completed at 36 locations within the property at 600 Bruckner Road between May 13 and May 30th. As described in the August 2013 plan, the 32 proposed injection locations were supplemented with three additional locations within the target treatment area.

Injection details are included on Table 1 and the injection locations are presented on Figure 2. Several attempts were required to complete injection at location BR-INJ2. At several points, refusal was encountered prior to groundwater. At one location (BR-INJ2E), groundwater was encountered, but the matrix limited the rate and acceptance of injected material. The balance of material was injected at adjacent alternate location BR-INJ2F. Both BR-INJ2E and BRINJ2-F are included on Table 1. Each of the attempted BR-INJ2 locations, including dry refusals, is presented on Figure 2. Injection locations BR-INJ2E and BR-INJ2F are two separate injection points for the total count of 36 permitted injection wells. However, because the total injection was 500 gallons and these locations are immediately adjacent, they are considered to be a single injection location for remediation purposes.

The injection process completed within the 600 Bruckner Road property was the same as the process used in the DMT vicinity. The injection depths and maximum pressures are included on Table 1.

Injection at location BR-INJ33 resulted in significant daylighting and slow progress. The injection at this location was halted after 250 gallons. The additional 250 gallons was injected at location BR-INJ1 for a total of 750 gallons at this location. The target volume of 500 gallons was injected at all other locations.

A total of 40 drums were available for injection at the 600 Bruckner Road site. Five drums were reserved for future remediation activities and have been retained in storage at the site.

The annual groundwater sampling event was completed between June 9th and June 18th. All of the performance monitoring wells were included in this sampling event. Because injection was completed shortly before the monitoring event, samples collected in June are not considered to be representative of the four scheduled quarterly performance monitoring events. Quarterly sampling events will be completed in September 2014, December 2014 (semiannual DMT monitoring), March 2015, and June 2015 (annual monitoring). Progress assessments will be included in upcoming VCC progress reports, primarily the reports to be submitted in March and September 2015. Based on historic results we anticipate that capacity for effective remediation will continue for several years.

If you have questions, please contact us at 404.965.9600.

Sincerely,



Bryon Dahlgren, PE
Project Manager



Everett W. Glover, Jr., PE
Senior Program Manager

Table 1
Injection Summary
June 2014
Auriga Spartanburg Facility
AECOM Project No. 60280417

Injection Location	Date	Refusal Depth feet	Injection Depths feet	Max Injection Pressure PSI	Total Injection Volume gallons	Total Injection Time
DMT Vicinity Locations						
DMT-INJ1	4/23/2014	43	42,33,23	90	500	1 hr
DMT-INJ2	4/23/2014	52	51, 40, 30	90	500	50 min
DMT-INJ3	4/25/2014	48	47, 42	100	500	2 hrs
DMT-INJ4	4/24/2014	43	43, 33, 30	110	500	45 min
DMT-INJ5	4/22/2014	45	42, 35, 30, 25	90	500	1 hr 30 min
DMT-INJ6	4/21 - 22/2014	67	65, 57, 47, 42, 40, 30, 25	70	500	3 hr 25 min
DMT-INJ7	4/23/2014	52	51, 40, 30	100	500	45 min
DMT-INJ8	4/24/2014	47	47, 37, 30	150	500	50 min
DMT-INJ9	5/5/2014	49	49, 39, 29	120	500	55 min
DMT-INJ10	4/25/2014	55	54, 45, 35	200	500	45 min
DMT-INJ11	4/24/2014	63	62, 52, 42, 32	115	500	1 hr
DMT-INJ12	4/28/2014	48	47, 37, 30	100	500	1 hr
DMT-INJ13	4/29/2014	42	42, 32	250	500	1 hr
DMT-INJ14	5/5/2014	52	53, 42, 27	90	500	50 min
DMT-INJ15	4/25/2014	37	37, 32	100	500	1 hr
DMT-INJ16	4/24/2014	44	44, 34	110	500	1 hr
DMT-INJ17	4/28/2014	63	63, 55, 47	90	500	2 hrs
DMT-INJ18	4/29/2014	60	60, 50, 40	100	500	1.5 hrs
DMT-INJ19	4/30/2014	74	74, 63, 55	70	500	45 min
DMT-INJ20	4/30/2014	74	74, 63, 55	90	500	45 min
DMT-INJ21	5/1/2014	72	72, 62, 50	240	500	45 min
DMT-INJ22	5/2/2014	62	62, 52	100	500	1 hr
DMT-INJ23	5/2/2014	60	60, 55	90	500	45 min
DMT-INJ24	5/2/2014	78	78, 68, 55	150	500	45 min
DMT-INJ25	4/30/2014	74	74, 63, 55	220	500	1 hr
DMT-INJ26	5/1/2014	83	83, 73, 63, 55	160	500	1 hr
DMT-INJ27	5/1/2014	76	76, 66, 56	150	500	45 min
DMT-INJ28	5/6/2014	58	58, 45, 30	80	500	1 hr
DMT-INJ29	5/6/2014	48	48, 38, 28	150	500	1 hr
DMT-INJ30	5/6/2014	53	53, 40, 30, 20	120	500	1 hr 15 min
DMT-INJ31	5/5/2014	63	63, 48, 38, 28	100	500	1 hr
DMT-INJ32	5/8/2014	53	53, 43, 30	120	500	45 min
DMT-INJ33	5/7/2014	63	63, 53, 43, 33, 23	120	500	45 min
DMT-INJ34	5/8/2014	53	53, 43, 33	120	500	1 hr
DMT-INJ35	5/8/2014	55	55, 45, 35	180	500	1 hr
DMT-INJ36	5/8/2014	58	58, 48, 38, 28	120	500	1 hr
DMT-INJ37	5/7/2014	53	43, 43, 33, 23	100	500	45 min
DMT-INJ38	5/7/2014	47	47, 37	90	500	1 hr
DMT-INJ39	5/6/2014	52	52, 45, 30	90	500	1 hr
DMT-INJ40	5/9/2014	51	51, 41, 36	150	500	1 hr

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Injection Summary
June 2014
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Injection Location	Date	Refusal Depth feet	Injection Depths feet	Max Injection Pressure PSI	Total Injection Volume gallons	Total Injection Time
600 Bruckner Road Locations						
BR-INJ1	5/27/2014	34	34	180	750	1.5 hrs
BR-INJ2E	5/28/2014	32	32, 30	gravity	100	2 hrs
BR-INJ2F	5/28/2014	48	48	90	400	1 hr
BR-INJ3	5/22/2014	32	32	60	500	2.5 hrs
BR-INJ4	5/20/2014	47	47, 37	120	500	1hr 15 min
BR-INJ5	5/20/2014	61	61, 51, 41, 35	120	500	1 hr
BR-INJ6	5/20/2014	63	63, 53, 43	100	500	1 hr
BR-INJ7	5/13/2014	58	58, 48, 38	120	500	1 hr 15 min
BR-INJ8	5/19/2014	58	58, 48	180	500	1 hr
BR-INJ9	5/28/2014	26	26	120	500	0.5 hr
BR-INJ10	5/23/2014	53	53, 43, 33	120	500	1 hr
BR-INJ11	5/22/2014	44	44, 34	120	500	1 hr
BR-INJ12	5/30/2014	42	42, 32	120	500	1 hr
BR-INJ13	5/30/2014	45	45, 35	120	500	0.5 hr
BR-INJ14	5/30/2014	45	45, 35	120	500	1 hr
BR-INJ15	5/14/2014	41	41, 31	120	500	1 hr
BR-INJ16	5/13/2014	56	56, 46, 36	150	500	1 hr 15 min
BR-INJ17	5/19/2014	43	43, 33	120	500	1 hr
BR-INJ18	5/28/2014	21	21	90	500	0.5 hr
BR-INJ19	5/23/2014	23	23, 13	90	500	1 hr
BR-INJ20	5/22/2014	24	24, 14	120	500	1 hr
BR-INJ21	5/30/2014	30	30, 20	90	500	1 hr
BR-INJ22	5/29/2014	47	47, 37	150	500	0.5 hr
BR-INJ23	5/29/2014	45	45, 35	120	500	0.5 hr
BR-INJ24	5/14/2014	36	36	90	500	1 hr
BR-INJ25	5/16/2014	49	49, 39	100	500	2 hr
BR-INJ26	5/19/2014	57	57, 47, 37	150	500	1 hr
BR-INJ27	5/29/2014	24	24	90	500	1 hr
BR-INJ28	5/16/2014	38	38, 28	100	500	1 hr
BR-INJ29	5/16/2014	57	57, 47, 37	150	500	1 hr
BR-INJ30	5/29/2014	27	27, 17	150	500	1 hr
BR-INJ31	5/15/2014	28	28, 22	90	500	1hr
BR-INJ32	5/14/2014	38	38, 28	100	500	1 hr
BR-INJ33	5/27/2014	35	35	210	250	2.5 hrs
BR-INJ34	5/21/2014	53	53, 43	150	500	3.5 hrs
BR-INJ35	5/21/2014	58	58, 48	120	500	0.5 hr

