



October 12, 2010

Mr. Richard W. Hull
Remedial Project Manager
NH/RI Superfund Section
US Environmental Protection Agency (US EPA)
5 Post Office Square, Suite 100
Boston, MA 02109-3912

Re: Summary of Monitoring Well Replacement Activities
Savage Well Superfund Site, Operable Unit-2 (OU-2)

Dear Mr. Hull:

On behalf of Hitchiner Manufacturing Company, Inc. and Thomas & Betts Corporation (Settling Parties), Gradient is submitting this report summarizing the recent well replacement activities performed at the OU-2 portion of the Savage Well Superfund Site located in Milford, New Hampshire ("Site").

A total of seven monitoring wells had previously been identified as either having been damaged (MW-115A/B, MW-120B, MW-14R) or destroyed (MW-10C and MW-118A/B). However, after further evaluation MW-118A/B and MW-10C¹ were located in the field and determined to still be functional. Therefore, four monitoring wells were repaired or replaced between August 16 to 18, 2010, using the process described below.

Summary of Well Replacement/Repair Activities

Bedrock Well: MW-14R

Monitoring well MW-14R was repaired to address a leak in the steel casing at a depth of approximately 50 feet below ground surface (ft bgs), which was potentially allowing groundwater from the overburden portion of the aquifer to flow into this bedrock well. The following actions were taken to repair this well and a well completion log is attached to this letter:

- The well was redeveloped using pump and surge techniques to loosen and remove debris and grout fragments from the bottom of the well. Monitoring for pH will take place during the Fall 2010 monitoring round.
- A 1.5-inch diameter schedule 40 poly-vinyl chloride (PVC) monitoring point was constructed within the existing open hole bedrock well and grouted in-place to ensure that the leaking section of steel casing is no longer hydrologically connected to the bedrock portion of the well.
- The PVC well was installed with 40 feet (110 to 70 ft-bgs) of slotted PVC set in a uniformly-graded silica sand filter pack from 110 to 68 ft bgs. Approximately 68 feet of PVC riser was added to the slotted section, extending to the ground surface. A bentonite seal was installed from 68 to 65 ft bgs. The remaining annulus between

¹ Note, monitoring well MW-10C was located after a replacement well, with identical construction details, had been installed. The replacement well was completed (*i.e.*, not abandoned) and could be used in the future, if the original well were to be accidentally damaged or destroyed.

the PVC and the steel casing, above the bentonite seal (*i.e.*, 65 ft-bgs to ground surface) was grouted using a cement-bentonite mixture.

- After the PVC well was constructed and the grout had set, the well was over pumped, to remove silt and sediment that may have gotten into the well during construction.

Overburden Monitoring Wells

Monitoring wells MW-115A/B and MW-120B were replaced or repaired using the following approach:

- Monitoring well MW-115A/B had been damaged approximately 2 ft bgs and appeared to have been struck by a vehicle. The PVC riser pipe was bent, making the well unusable. The stand pipes and concrete collars for MW-115A and B were removed and the PVC casing was cut below the damaged portion of the well. Using only a pressure coupling, a new piece of PVC casing was attached to the top of the remaining portion of the casing and the stand pipe was replaced. In addition, two concrete filled steel bollards were installed adjacent to these wells in order to protect them from future damage.
- The roadbox for MW-120B had been damaged and the well had filled with several feet of sediment and debris. In order to clear the debris, MW-120B was redeveloped using 1-inch diameter threaded PVC pipe and an air compressor to remove sediment and debris from the well. Following the successful redevelopment of this well a new road box and concrete collar were installed. Steel bollards were not installed near this well because it is located on the edge of a residential front lawn.

An elevation survey will be performed during the Fall 2010 monitoring round to tie the repaired and newly installed wells back into the existing groundwater elevation monitoring datum. Please let me know if you have any questions or feedback on this proposed work plan, or if you need any additional information.

Yours truly,

GRADIENT



Manu Sharma, P.E.
Principal

CC: R. Mongeon
B. Rand
G. Smith
J. Peltonen
T. Sullivan
O. Chopra



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SOIL BORING/ WELL COMPLETION LOG

Project: Savage Well Monitoring Well Repairs
 Location: Milford, New Hampshire
 Boring No.: N/A
 Sheet: 1
 Well ID: MW-14R-A
 Of: 1
 Project Number: 4215-001
 Chkd By: MFD

Drilling Co.: Technical Drilling Services
 Foreman: Chris
 Geolinsight Geol: Jonathan Meunier
 Boring Location: Refer to Site Plan
 Well Elevation: NA
 Date Started: 8/16/2010
 Date Completed: 8/17/2010
 Datum: NA

DRILLING METHOD	SAMPLER	GROUND WATER READINGS			
Vehicle: Truck Mounted	Type: 2 foot split-spoon	DATE	DEPTH	REFERENCE	STABILIZATION
Model: Custom	Hammer(lb): 140			Top of Casing	
Method: Drive and Wash	Fall (in): 30"			Top of Casing	

DEPTH (ft)	SAMPLE				WELL COMPLETION DETAIL	SAMPLE DESCRIPTION	STRATUM DESCRIPTION	FIELD SCREENING (ppm)	NOTE
	NO.	REC/PEN (in)	DEPTH (ft)	BLOWS/6"					
0									
30									
60									
90									
120									

Refer to MW-14R Well Completion Log for Sample Descriptions.

GRANULAR SOILS		COHESIVE SOILS		WELL CONSTRUCTION		INTERVAL	LEGEND
BLOWS/ft.	DENSITY	BLOWS/ft.	CONSISTENCY	MATERIAL	TYPE	FEET BGS	
0-4	V. LOOSE	<2	V. SOFT	Concrete		NA	
4-10	LOOSE	2-4	SOFT	Backfill		NA	
10-30	M. DENSE	4-8	M. STIFF	Grout		0-65	
30-50	DENSE	8-15	STIFF	Bentonite		65-68	
>50	V. DENSE	15-30	V. STIFF	Sandpack		68-110	
		>30	HARD	Riser (1.5-inch PVC)		0-70	
				Screen (1.5-inch PVC 0.01-inch slotted)		70-110	

- NOTES:**
- 1) A 1.5-inch diameter polyvinyl chloride (PVC) monitoring well was installed within the existing 3-inch steel cased open borehole.
 - 2) The bentonite-cement grout mixture was placed using 1-inch tremi-pipe.
 - 3) Measurements were taken from ground surface.