Amungwafor, Binyoti - DNR

From: Welch, Timothy [timothy.welch@shawgrp.com]
Sent: Wednesday, May 26, 2010 9:06 AM
To: Amungwafor, Binyoti - DNR
Cc: Welch, Timothy
Subject: Redi-Quick Dry Cleaner: Chnage Order #1 #02-41-000676
Attachments: 133480-05 FIG 5 INJ PT VOL (A) 5-18-10.pdf; Post Injection Summary Tables 5-24-10.xls

Good Morning
Pursuant to your request to evaluate work proposed in the Shaw March 31, 2010 change order request relative to the work completed during the May 10-13, 2010 chemical injection of Newman's Zone at the Red-Quick Site, attached please find a map of injection locations and a spreadsheet summarizing injection depth-specific volumes, concentrations, and pressures at each location for your review. A total of approximately 2,315 gallons of 10-20% Newman's Zone treatment chemistry was injected into the 27 injection locations. The actual injected volume of Newman's Zone matched the proposed volume.

As we discussed, 34 injection points were initially proposed to be advanced, and we actually installed 27 points. The number of injection points within the building was decreased due to the lack of ceiling height relative to Geoprobe rig clearance. I contacted ORIN Remediation Technologies (ORIN), and they will not make any concessions to their base bid, as they subcontracted the Geoprobe contractor on a daily basis, not on a per foot basis. Please note that ORIN installed two soil borings within the building, and collected soil samples continuously for VOC laboratory analysis- this item was not included in their base bid. The tight, silty-clay made direct push sampling difficult, and it took approximately 1.5 hours per hole to complete.

As discussed, we did not perform the nano- scale iron injection in the hotspot area surrounding MW-1O because of Newman Zone highlighting through the well on May 10, 2010.

Based on the work performed, Shaw request approval of $24, 066 as presented in the March 31, 2010 Change order request. This request is based on the $8,950 removal of the nano-scale iron line item.
Please confirm that you received this request, and feel free to contact me with any questions. We look forward to your response.

Respectfully, Tim

Timothy P. Welch, PG
Program Manager
Shaw Environmental & Infrastructure, Inc.
111 West Pleasant Street, Suite 105
Milwaukee, Wisconsin 53212

414-291-2359 direct
414-291-2385 fax

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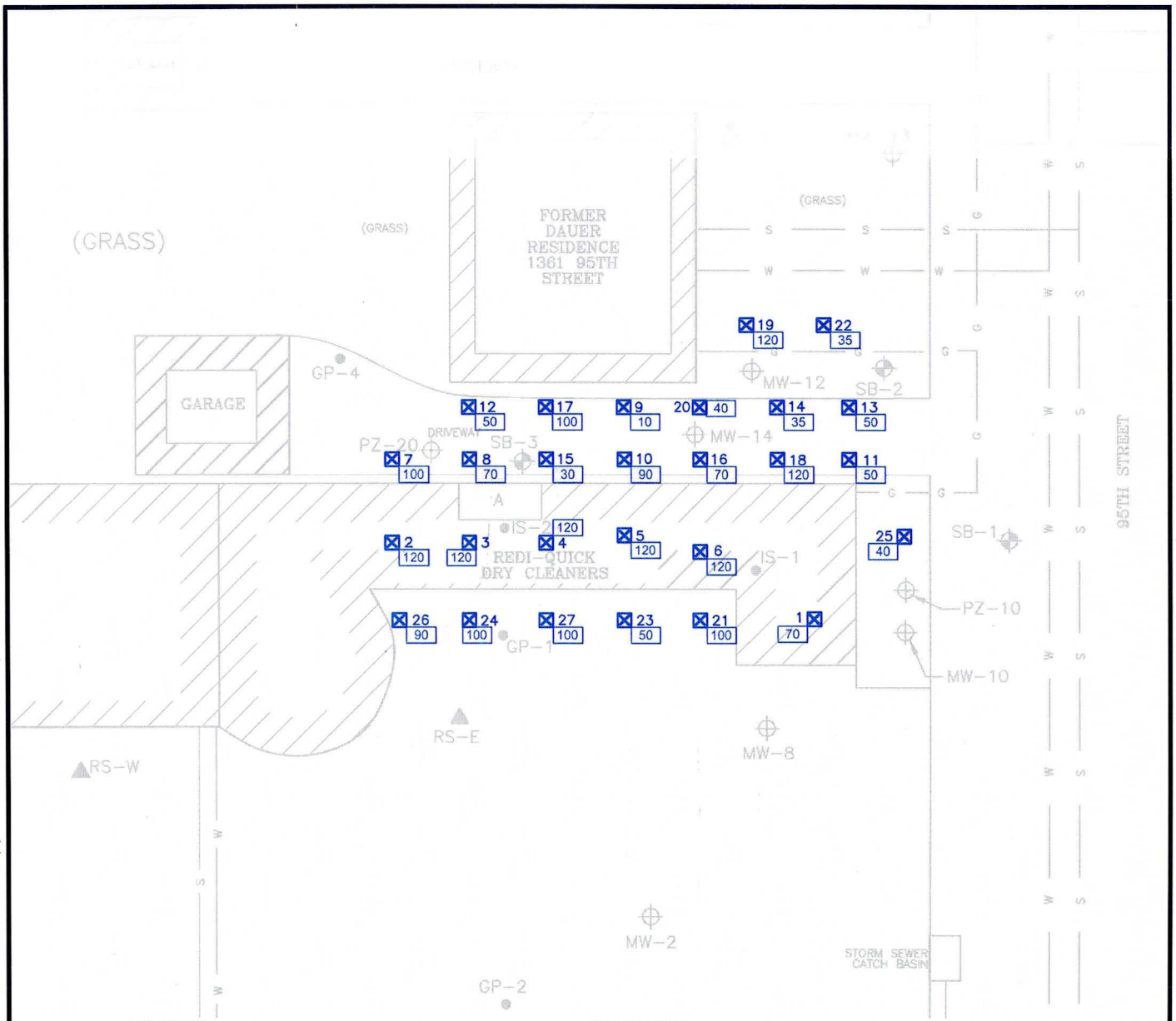

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- FORMER UNDERGROUND STORAGE TANK (UST)
- MONITORING WELL
- TEST BORING, DRILLED 5/19/99 BY JJS & ASSOCIATES
- PIEZOMETER
- RECOVERY SUMP
- GEOPROBE BORING
- PROBE
- WATER LINE
- SEWER LINE
- GAS LINE
- INJECTION POINT
- 100 INJECTION VOLUME IN GALLONS

TANK KEY

A 1,000-GALLON DRY CLEANER SOLVENT UST (NO LONGER IN USE)

APPROXIMATE SCALE IN FEET

0 20 40 60

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Shaw® The Shaw Group, Inc.®

Shaw Environmental, Inc.
111 W. Pleasant St. Suite 105
Milwaukee, Wisconsin 53212-3939
(414) 291-2350

CLIENT: **Redi-Quick Dry Cleaners**

LOCATION: **Redi-Quick Dry Cleaners Site**
9508 West Greenfield Avenue
West Allis, Wisconsin

TITLE: **INJECTION POINT VOLUMES**

DRWN	CHKD	REVD BY	APPRVD BY	PROJECT NO.	FIGURE NO.
BEB	CJZ	-	-	133480	5
		REVISION DATE	-	DATE 05-18-10	

File: Q:\Projects\100000\133480 (Redi-Quick)\CAD\133480-05.dwg Layout: FIG 5 INJ PT VOL (A) User: bruce.benoit May 18, 2010 - 9:50am

Redi-Quick Cleaners
Shaw
Newman Zone Post Injection Sumn

Table 1

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-1	5/10/10	9:00		16	10%	50
				14	10%	20
				12	10%	10
			9:40			
IP-2	5/10/10	11:30		16	20%	50
				14	20%	40
				12	20%	40
				10	20%	40
				6-8	20%	40
			12:50			
IP-3	5/10/10	13:05		16	20%	60
				14	20%	60
				12	20%	50
				10	20%	50
				4	20%	50
			14:35			

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-4	5/10/10	15:00		18	20%	60
				14	20%	50
				12	20%	50
				10	20%	50
				6	20%	40
			16:10			
IP-5	5/10/10	16:30		18	20%	60
				14	20%	50
				12	20%	50
				10	20%	50
				8	20%	50
			17:40			

IP-6	5/10/10	8:05		16-17	20%	55
				14	20%	50
				12	20%	50
				10	20%	50
				8-4	20%	50
			9:25			

Table 1 Continued

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-7	5/11/10	10:45		18	20%	40
				16	20%	40
				14	20%	40
				12	20%	40
				10	20%	40
				8	20%	40
			13:00			
IP-8	5/11/10	13:20		14-18	20%	55
				12	20%	50
				10	20%	40
				8	20%	40
				6	20%	40
			14:20			
IP-9	5/11/10	13:55	14:10	14-16	20%	35
IP-10	5/11/10	14:40		16	20%	55
				14	20%	50
				12	20%	50
				10	20%	40
				8	20%	40
				6	20%	40
			15:20			

Table 1 Continued

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-10	5/11/10	15:30		16	20%	55
				14	20%	50

				12	20%	50
				10	20%	40
				8	20%	40
				6	20%	40
			16:30			
IP-11	5/11/10	15:30		16	20%	40
				14	20%	40
				12	20%	35
				10	20%	35
				8	20%	35
				6	20%	35
			16:30			
IP-12	5/11/10	15:10		16	20%	40
				14	20%	40
				12	20%	35
				10	20%	35
				8	20%	35
				6	20%	35
			16:35			

Table 1 Continued

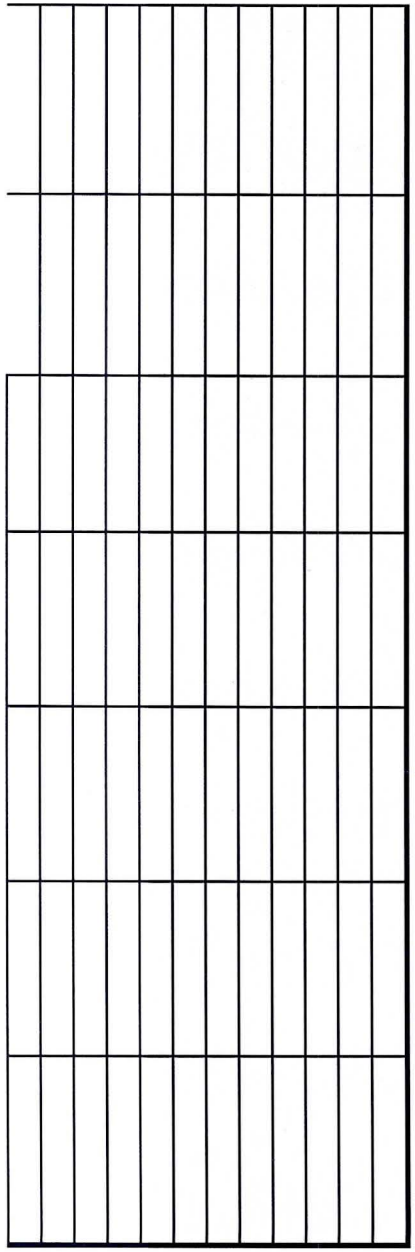
Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-13	5/11/10	15:20		16	20%	40
				14	20%	40
				12	20%	35
				10	20%	35
				8	20%	35
				6	20%	35
			16:45			
IP-14	05/13/2010	8:03	8:12	18-12	20%	35
IP-15	05/13/2010	8:15	8:35	16-12	20%	30
IP-16	05/13/2010	8:30	9:15	18-12	20%	50
IP-17	05/13/2010	9:20	10:10	18-12	20%	30
IP-18	05/13/2010	9:50		18	20%	30
				16	20%	30
				12	20%	30
			10:50			

Table 1 Continued

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-19	05/13/2010	10:30		16	20%	40
				14	20%	40
				12	20%	40
			11:30			
IP-20	05/13/2010	11:00		16	20%	40
				12	20%	40
			11:30			
IP-21	05/13/2010	12:00		15	10%	30
				12	10%	30
			12:30			
IP-22	05/13/2010	12:10		15	10%	30
				12	10%	30
			12:30			
IP-23	05/13/2010	12:45		15	10%	30
				12	10%	30
			13:15			

Table 1 Continued

Injection Point	Date	Time On	Time Off	Injection Depth (feet)	Newman Zone Concentration	Injection Pressure (psi)
IP-24	05/13/2010	13:30		18	10%	60
				16	10%	40
				12	10%	40
			14:40			
IP-25	05/13/2010	14:30	14:50	16	10%	60
IP-26	05/13/2010	14:40	15:20	16	10%	40
IP-27	05/13/2010	15:30		16	10%	30
			16:05	12	10%	30



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Flow Rate (gpm)	Gallons Injected	Comments
4	40	
4	40	Short Circuit (S.C.) up MW-10
4	5	
	85	
1.5	25	
1.5	25	
1.5	25	
1.5	25	
1.5	20	
	120	
2	25	
2	25	
2	25	
2	25	
2	20	
	120	

Flow Rate (gpm)	Gallons Injected	Comments
2	25	
2	25	
2	25	
2	25	
2	20	
	120	
2	25	
2	25	
2	25	
2	25	
2	20	
	120	

2	25	
2	25	
2	25	
2	25	
2	20	
	120	

Flow Rate (gpm)	Gallons Injected	Comments
1	20	
1	16	
1	16	
1	16	
1	16	
1	16	S.C. up borehole
	100	
3	15	No flow until 14'
3	15	
3	15	
3	15	
3	10	S.C.
	70	
1	**10**	S.C. up crack
1	20	Shut down @ 14:50 due to
1	20	vapors in basement
1	20	
1	20	
1	10	
1	10	
	100	

Flow Rate (gpm)	Gallons Injected	Comments
1	10	
1	10	

1	10	
1	10	
1	5	
1	5	
	50	
1	10	
1	10	
1	10	
1	10	
1	5	
1	5	S.C.
	50	
3	10	
3	10	
3	10	
3	10	
3	5	
3	5	
	50	

Flow Rate (gpm)	Gallons Injected	Comments
2	10	
2	10	
2	10	
2	10	
2	5	
2	5	
	50	
2	**40**	S.C. up MW-12
1.5	**30**	S.C. up cracks in pavement
2	**70**	S.C up MW-12
2	**100**	
2	60	
2	40	
2	20	
	120	

Flow Rate (gpm)	Gallons Injected	Comments
2	40	
2	40	
2	40	
	120	
2	20	
2	20	S.C.
	40	
2.5	50	Refusal @ 15'
2.5	50	
	100	
2.5	20	
2.5	15	
	35	
2.5	20	S.C. in pavement
2.5	20	
	10	
	50	

Flow Rate (gpm)	Gallons Injected	Comments
2	0	No flow until 16'
3	50	
3	50	
	100	
1	**40**	S.C.
2.5	**90**	S.C.
3	50	
3	50	
	100	

	2315	Total Volume Injected