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January 22, 2008

Via Certified U.S. Mail

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President
Reilly Industries, Inc.
300 North Meridian Street, Suite 1500
Indianapolis, Indiana 46204-1763

Subject: United States of America, et al. vs. Reilly Tar and Chemical Corporation, et al.
File No. Civ. 4-80-469; CD-RAP Section 7.4
Prairie du Chien – Jordan aquifer Gradient Control Plan

Gentlemen:

This letter responds to the November 15, 2007 letter from the Minnesota Pollution Control Agency and the U.S. Environmental Protection Agency (the Agencies) requesting a schedule that identifies steps to be taken to address the Agencies' concerns regarding gradient control in the Prairie du Chien – Jordan (PCJ) Aquifer. The City of St. Louis Park (City) met with the Agencies on November 1st and 29th, 2007 to discuss the Agencies' concerns as expressed in the Five-Year Review dated September 28, 2006.

The Agencies' concerns about the PCJ gradient control are based on groundwater modeling performed by STS for the Agencies. Part of the November 29, 2007 meeting was a discussion of the water levels in the PCJ Aquifer, which have always been difficult to measure using steel or electric water level tapes, and are highly influenced by local pumping stresses from industrial and municipal wells. The City and the Agencies agree that the modeling can be improved with better water level data. Another area of uncertainty is assessing the influence of buried bedrock valleys on groundwater flow and contaminant transport. The scope of work identified below is designed to address these two issues.

Scope of Work and Schedule

The overall strategy for ensuring the integrity of the PCJ gradient control system consists of three steps:

1. Assess current conditions,
2. Monitor groundwater to determine plume location and movement, and
3. Provide additional pumping (e.g., at wells SLP6, W119, or W48) if needed.

Table 1 presents a step by step summary of the work scope and schedule. Current conditions will be assessed with the aid of new data collection and groundwater modeling. The new data to be collected includes six months of continuous water level measurements in all available PCJ wells. These water level measurements during pumping and static conditions will be analyzed to determine aquifer parameters for the groundwater model, and a better record of local groundwater flow directions.

The six months of water level data will be shared with the Agencies and STS and will be used to map heads over time, calculate aquifer parameters, and update the model. The City understands that additional modeling will be done by STS using the updated information to evaluate the effectiveness of PCJ gradient control on the Reilly plume. As such, it will be a collaborative effort to evaluate the existing conditions and determine the need for system modification. The City anticipates submitting a report (Task 11) that either describes a specific plan for gradient control modifications, or a description of current conditions that indicates modifications are not needed, within 60 days of a report by STS containing the final modeling results.

As indicated in Table 1, Task 12, the model may also be used to evaluate the potential need for additional PCJ monitoring well(s). If necessary, monitoring well locations that would provide an early warning of PAH migration to Edina will be assessed. The City will install one or more additional monitoring wells within 60 days of the Agencies' approval of the Task 11 report. If the groundwater monitoring data indicate a PAH problem for Edina, then the most immediate action would be to start pumping at well SLP6, with discharge to Minnehaha Creek. Further modifications could then be considered, such as, treating the SLP6 discharge, or pumping at W48 or W119.

A number of tasks described in Table 1 are designed to evaluate the role of the buried bedrock valley(s) in influencing groundwater flow and contaminant transport. This has been especially important in evaluating the migration of shallow aquifer VOCs in St. Louis Park as possible sources to the vinyl chlorice found in Edina well E7. Therefore, this plan includes using more transducers to collect continuous water level data in the St. Peter, Platteville, and Drift Aquifers. Table 2 lists the PCJ Aquifer wells that are being considered for transducer installations. Table 3 lists the St. Peter, Platteville, and Drift Aquifer wells that are being considered for transducer installations. The City may request the Agencies' assistance obtaining cooperation from the well owners.

A key element in evaluating the buried bedrock valleys involves knowing what the static conditions are in the St. Peter, Platteville, and Drift Aquifers and being able to monitor water level changes in those aquifers due to pumping stresses in the PCJ Aquifer. Therefore, this plan includes a temporary cessation in the pumping at well W410 (St. Peter Aquifer) for six months, and at wells W421 (Platteville Aquifer), W420, and W439 (both Drift Aquifer) for one year. As described for tasks 8 and 12 in Table 1, water level data will continue to be collected after the pumping wells resume pumping to complete a long term aquifer test at those locations. Water level data collected during well pumping and recovery will be used to better determine local aquifer parameters for model input, and assess water level changes due to PCJ Aquifer pumping. The data will also be useful in determining the capture areas and efficiencies of the pumping wells in meeting the CD - RAP goals.

Table 4 presents a candidate list of St. Peter, Platteville, and Drift Aquifer wells proposed for monitoring twice during the period that wells W41, W421, W420, and W439 are shut down. This monitoring will allow a comparison of the overall extent of PAH in groundwater during non-pumping conditions to the water quality data collected over the past years under pumping conditions.

Other than the wells identified in the 2008 Sampling Plan, no additional PCJ Aquifer monitoring wells are known to be available in appropriate locations for sampling to assist in this investigation. However, one potential well was identified on the County well index that may provide useful water quality and water level information. That well has Minnesota unique number 227132 and appears to be located in the vicinity of the Thermo-Tec facility in Hopkins. The City requests assistance from the agencies in determining if this is a viable PCJ Aquifer monitoring well.

The City is prepared to move ahead with this program at the schedule indicated in Table 1, and looks forward to working with the Agencies to resolve this issue prior to the next Reilly Site Five-Year Review. Please contact this office if you have any questions regarding this submittal.

Sincerely,

ENSR Corporation

William M. Gregg

William M. Gregg
Project Leader for the
City of St. Louis Park

Enclosures

cc: Scott Anderson, City of St. Louis Park

Table 1 Summary of Prairie du Chien - Jordan Aquifer Gradient Control Plan

Task	Task Description	Schedule	Task Lead	Projected Dates*
1	Equip PCJ wells with transducers	Within two months of Plan approval	City	22-Apr-08
2	Equip select St. Peter and shallower aquifer wells with transducers	Within one month of Plan approval	City	22-Mar-08
3	Temporarily cease pumping from wells W410, W420, W421, and W439	Within one week of transducer installations	City	29-Mar-08
4	Expand groundwater monitoring network in shallow aquifers	Sample expanded list of wells during the time W410, W420, W421, and W439 are not pumping	City	First and second half groundwater monitoring in 2008
5	Collect continuous water level data (Opportunities for PCJ aquifer tests)	For a duration of six months after pumping cessation	City	22-Apr-08 to 22-Oct-08
6	Utilize water level data to determine aquifer parameters, new model input, and PCJ impacts on shallower aquifers	One to two months after Task 5	City and Agencies	22-Nov-08
7	Conduct additional modeling runs and report	Two to four months after Task 5	Agencies	22-Jan-08 09
8	Re-start pumping in St. Peter well W410 (aquifer test)	Six months after cessation (Task 3)	City	29-Sep-08
9	Continue St. Peter and shallower aquifer water level data collection	For a duration of 12 months after W410 resumes pumping	City	29-Sep-08 to 29-Sep-09
10	Re-start pumping at W420, W421, and W439 (aquifer test)	Six months after W410 resumes pumping	City	29-Mar-09
11	Assess modeling results and prepare recommendations for changing PCJ gradient control system, if needed	Within two months of the Task 7 modeling report	City	22-Mar-09
12	If modeling indicates that gradient control is not effective, design and install additional monitoring wells	Within two months of deciding to install wells (and Agencies' approval)	City	Spring - Summer 2009
13	If groundwater monitoring indicates a potential PAH problem in Edina, institute groundwater pumping at SLP6	Within one month. Other pumping scenarios could be considered, but SLP6 can be started up the quickest	City	Within one month of the receipt of the data

* Assumes Agencies approve this plan one month after its submittal (i.e., February 22, 2008).

Table 2
Candidate PCJ Wells for Water Level Transducers

Aquifer	Well ID*	Description	Priority Wells**
PCJ	SLP4	Municipal well	Yes
PCJ	**SLP5**	Municipal well	
PCJ	SLP6	Municipal well	Yes
PCJ	**SLP7**	Municipal well	
PCJ	SLP8	Municipal well	
PCJ	SLP9	Municipal well	
PCJ	SLP10	Municipal well	
PCJ	**SLP14**	Municipal well	
PCJ	SLP15	Municipal well	Yes
PCJ	**SLP16**	Municipal well	
PCJ	E2	Municipal well	Yes
PCJ	E3	Municipal well	
PCJ	E4	Municipal well	
PCJ	E5	Municipal well	
PCJ	E6	Municipal well	
PCJ	**E7**	Municipal well	
PCJ	E8	Municipal well	
PCJ	E11	Municipal well	
PCJ	E13	Municipal well	Yes
PCJ	E14	Municipal well	
PCJ	E15	Municipal well	Yes
PCJ	E16	Municipal well	
PCJ	E17	Municipal well	
PCJ	E18	Municipal well	
PCJ	H1	Municipal well	
PCJ	H4	Municipal well	
PCJ	H5	Municipal well	
PCJ	H6	Municipal well	Yes
PCJ	MTKA6	Municipal well	Yes
PCJ	MTKA9	Municipal well	
PCJ	W23	Reilly well	Yes
PCJ	W29	Flame Industries	Yes
PCJ	W32	Texatonka Mall	
PCJ	W48	Methodist Hospital	Yes
PCJ	**W119**	Meadowbrook GC	
PCJ	W401	Interlachen CC	Yes
PCJ	W402	Reilly well	Yes
PCJ	W403	Reilly well	Yes
PCJ	W406	Minnekahda Club	Yes
PCJ	227132	Thermo-Tec??	Yes
PCJ	**748656**	STS/Edina Test Well	

Notes:

*Wells highlighted in **Bold** are currently equipped with transducers.

**Priority wells are considered to be in the best locations to provide water level data. The City will enlist Agency assistance to equip these wells with transducers - if necessary.

The remaining wells represent all PCJ wells identified in the study area.

Table 3
Candidate Drift, Platteville, and St. Peter Wells for Transducers

Aquifer	Well ID	Description
St. Peter	SLP3	Municipal well
St. Peter	W14	Reilly well
St. Peter	W24	Reilly well
St. Peter	W33R	Reilly well
Basal Osp	W122	Near BBV
St. Peter	W129	Reilly well
St. Peter	W133	Near BBV
St. Peter	W408	Reilly well
St. Peter	W409	Near W439
St. Peter	W410	Pumper
St. Peter	W411	Near BBV
St. Peter	W412	Near BBV
Platteville	W1	Closest to SLP3
Platteville	W18	Near W420
Platteville	W101	Near BBV
Platteville	W120	Near BBV
Platteville	W130	Near W411
Platteville	W132	Near W411
Platteville	W143	Near W410
Platteville	W426	Near W439
Platteville	W421	Pumper
Drift	P312	Near BBV
Drift	P112	Near W411
Drift	W9	Near W420
Drift	W117	Near BBV
Drift	W422	Near W410
Drift	W425	Near W439
Drift	W420	Pumper
Drift	W439	Pumper

Table 4
Candidate Wells for Expanded Drift, Platteville, and St. Peter Aquifer Monitoring

Drift Wells	Platteville Wells	St Peter Wells
W12	W1	W14
P311	W18	W408
P313	W100	W129
W9	W132	
W425	W432	
W423	W130	
W10	W22	
W2	W435	
W15	W424	
W8	W121	
	W124	
	W19	

Notes:
This list includes wells that have not been sampled recently.
The wells will be sampled if they are able to be located and are undamaged.