

High Plains Hydrology LLC  
7956 S. Shawnee St.  
Aurora, CO 80016-7206  
(303) 693-0299



June 1, 2007

Steve Gaul  
Supervisor, Planning and Assistance Division  
Nebraska Department of Natural Resources  
P.O. Box 94676  
Lincoln, NE 68509-4676

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DEPARTMENT OF  
NATURAL RESOURCES

Dear Steve:

Enclosed please find my monthly report for May, an invoice for the time and expenses for work with the Department of Natural Resource, and a spreadsheet supporting the time. If you have any questions, please give me a call. Thank you.

Sincerely,

Richard R. Luckey  
Senior Hydrologist

**Groundwater Modeling Support for the Nebraska Department of Natural Resources**

**Status Report, May 31, 2007**

- Objectives:** 1. Provide modeling support as requested; and
2. Compare COHYST and RRCA models in area of overlap, with emphasis on the groundwater mound area.

**Status:**

Dick did some work on the differences between the Cooperative Hydrology Study (COHYST) models and the Republican River Compact Administration (RRCA) model in May. He worked on comparing the RRCA and COHYST pumpage. He did a cell-by-cell comparison between the two models. He did this in both map form and graphical form. Dick also prepared a table showing average RRCA and COHYST pumpage by county for 1950-61, 1961-73, 1973-85, and 1985-98.

Dick met with Jim Schneider and Paul Koester on May 2 to show them what had been done in comparing the RRCA and COHYST models. They discussed the comparisons of aquifer parameters and recharge as that is what was done by that time. Dick showed the maps and graphs that he had prepared. The main purpose of the meeting was to see if the analyses would meet the Department's need. They concluded that what was being done is what was expected, so no mid-course correction is needed.

Dick met with Doug Hallum at the Denver airport on May 3. Dick was returning from Lincoln and Doug had a layover in Denver, so they discussed some COHYST work that Doug was supposed to look into. They also discussed the model comparisons work and what had happened at the COHYST Technical Committee meeting earlier that day.

**Plans for next month:**

Dick will complete the pumpage comparisons between the RRCA and COHYST models. He will update the draft text with those results. He will decide if he should combine the pumpage and recharge into a net stress for the RRCA and COHYST models. Because both models used recharge as a calibration tool, any differences in pumpage may be offset by an equivalent difference in recharge. As a result, net stress may be a more valuable comparison between the models.

Dick will see what other things need to be compared between the models. He has a fairly extensive list, but many things on the list are fairly trivial and won't require a lot of work.

Dick will do other tasks as requested by DNR.

# High Plains Hydrology LLC

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 Phone (303) 693-0299 Cell (303) 916-5973



# INVOICE

INVOICE #124  
 DATE: JUNE 1, 2007

**TO:**  
 Nebraska Department of Natural Resources  
 301 Centennial Mall South  
 P.O. Box 94676  
 Lincoln, NE 68509-4676

**FOR:**  
 Services of Senior Groundwater Modeler

LABOR DESCRIPTION	HOURS	RATE	AMOUNT
May, 2007, Task 1-1 (see attached spreadsheet)	6.25	\$ 70.00	\$ 437.50
May, 2007, Task 1-2 (see attached spreadsheet)	15.25	70.00	1,067.50
EXPENSES DESCRIPTION	QUANTITY	UNIT PRICE	LINE TOTAL
<b>TOTAL this Period</b>			\$ 1,505.00
<b>Previous balance</b>			\$ 7,175.00
<b>Payments received</b>			\$ 7,175.00
<b>TOTAL</b>			\$ 1,505.00

Make all checks payable to **High Plains Hydrology LLC**  
 Total due in 30 days. Overdue accounts subject to a service charge of 1% per month.

**Thank you for your business!**