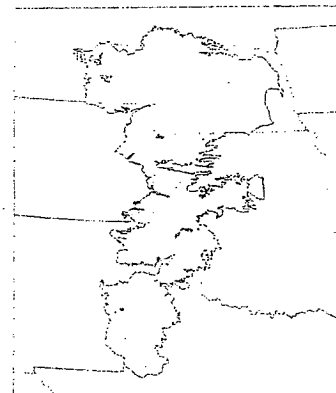


High Plains Hydrology LLC  
7956 S. Shawnee St.  
Aurora, CO 80016-7206  
(303) 693-0299



September 4, 2007

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

RECEIVED

SEP 06 2007

DEPARTMENT OF  
NATURAL RESOURCES

Dear Steve:

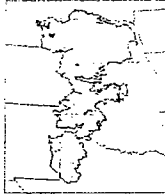
Enclosed please find my monthly report for August, an invoice for the time and expenses for work with the Department of Natural Resource, and a spreadsheet supporting the time. If you have any questions, please give me a call. Thank you.

Sincerely,

Richard R. Luckey  
Senior Hydrologist

# High Plains Hydrology LLC

7956 S. Shawnee St.  
 Aurora, CO 80016-7206  
 Phone (303) 693-0299 Cell (303) 916-5973



# INVOICE

INVOICE #130  
 DATE: SEPTEMBER 4, 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
June, 2007, Task 1-1 (see attached spreadsheet)	2.75	\$ 70.00	\$ 192.50
EXPENSES DESCRIPTION	QUANTITY	UNIT PRICE	LINE TOTAL
<b>TOTAL this Period</b>			\$ 192.50
<b>Previous balance</b>			\$ 157.50
<b>Payments received</b>			\$ 157.50
<b>TOTAL</b>			\$ 192.50

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!**

Status Report

High Plains Hydrology LLC, Aurora, CO

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

**Status Report, August 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 almost no work for the Department in July. He needed to spend his time looking at new depletions after 1997 by Natural Resources Districts. He spent a minor amount of time helping Doug Hallum in doing the new depletions analysis with changing recharge due to changing land use. He also provided two reviews of the PowerPoint presentation that Doug gave at the modelers meeting on August 30.

**Plans for next month:**

Dick will continue to work on new depletions by Natural Resources Districts for COHYST in September. If there is available time, he will work on comparison of COHYST and Republican models.

Dick will do other tasks as requested by DNR.

Date	Start	Stop	Start	Stop	Start	Stop	Hours	Task 1	Task 2	Task 3	Task 4	DNR 1-1	DNR 1-2	Notes
06/01/2007	10:00 AM	12:15 PM	1:00 PM	4:15 PM			5:50	0.50			5.00			Monthly reports. Datasets for No. Pump, xxNRD. Building and running No. Pump, xxNRD.gpp. Checking New Depletions by NRD (NDbyNRD) water budgets. Updated OA2FA doc, but no Adobe Distiller installed. Install Acrobat and it worked. Helping new modelers. Installed other software.
08/02/2007	8:15 AM	12:15 PM	1:00 PM	4:00 PM			7:00	2.00		0.25	4.75			Built WMU baseline stuff for Julie. Built and tested new zone file with composite zone. Discussion with Doug about stream elevations. Discussion with Steve about pumpage and recharge. Built one stress period new depletions model for Julie. Installed Adobe. Created and indexed Adobe PDF for OA2FA documentation.
08/03/2007	8:00 AM	1:00 PM	2:45 PM	4:45 PM			7:00	5.50		1.50				Converting CMU model to MODFLOW-2000. Was already done, so don't understand. Call into Clint. Converting CMU baseline model to 50 years. Checking CMU baseline model. Building datasets for WMU OA simulations. Getting CMU project set up.
08/06/2007	8:15 AM	8:15 AM	1:30 PM	6:00 PM			5:50				5.50			Checking WMU-OA data sets. Running WMU-OA by NRD only. Trying to figure out why streams NPNRD_Only < All_NRD. Call from Clint. He did update ND model to GMS 6.0. Comparing lots of data sets to work on EW and NPNRD issue.
08/07/2007	7:15 AM	12:15 PM	5:00 PM	6:30 PM			6:50				6.50			Worked on problem between All_pump_EW and Only_Pump_NPNRD. Found flag conflict in various 2D data sets. Meant recharge sometimes zero on boundary cells. Caused real problems with north flow boundary. Rebuilt recharge data sets. Reran NPNRD, SPNRD, TPNRD, and Other_NRD. Process all yesterday's work to spreadsheets. Discovered All_Pump_EW bad. Fixed it and NRD results by NRD make sense. Built recharge data sets for OA by NRD. Processed OA to spreadsheets. Makes sense. Built map coverages OA and NRD for CMU.
08/09/2007	7:30 AM	12:15 PM	3:00 PM	6:15 PM		6:15 PM	8:00				8.00			Review backlog of email. Call to Doug to catch up on things. CMU land-use recharge. CMU well points.
08/21/2007	12:30 PM	4:15 PM					3:75				3.75			Building data recharge data sets for CMU. Made vel2dat transformations. Finding development period observation points for Duane. Have recharge built for All_Pump_EW simulation. Review PowerPoint for Doug.
08/22/2007	8:45 AM	12:30 PM	2:30 PM	5:00 PM			8:25	0.50			6.75	1.00		Pumpage zones for CMU. New Depletions PowerPoint to Doug. CMU All_Pump_EW recharge and run. No_Pump_EW recharge and run. Process all to spreadsheets. Pumpage by NRD.
08/23/2007	7:30 AM	9:45 AM	10:30 AM	12:30 PM	1:15 PM	5:00 PM	8:50				8.25	0.25		Build and run Only_Pump_CPNRD. Build and run Only_Pump_TPNRAD and _TBNRD. Build and run Only_Pump_OtherNRD. Processed Only_xxNRD to spreadsheets. Looking at problems in TPNRD. Looks like numerical problems.
08/24/2007	7:30 AM	10:45 AM	2:00 PM	6:00 PM			7:25				7.25			Reran OtherNRD with 0.005 closure. Helping Doug with spreadsheet issues. Reran TPNRD and reprocessed. Looks okay. Reran OtherNRD and processed. Look at all CMU results together. doesn't make sense.
08/27/2007	8:00 AM	10:45 AM	1:30 PM	5:30 PM			6:75				6.25	0.50		Checking NDbyNRD results for WMU. Updating WMU spreadsheets. Updating CMU spreadsheets. Looking for common SIP parameters to make CMU model work. Running everything with 102.7, and 0.005.
08/28/2007	6:30 AM	11:45 AM	1:15 PM	3:00 PM			7:00				7.00			Reviewing Doug's presentation (1 hr). Processed yesterday's CMU stuff to spreadsheets. Helping Doug. Helping Kevin.
08/29/2007	10:45 AM	12:45 PM	1:15 PM	5:00 PM			5:75	1.00			3.75	1.00		Looking for error in CMU NDbyNRD. Running CMU models without recharge adjustment.
08/30/2007	8:45 AM	12:30 PM	1:30 PM	4:15 PM			6:50				6.50			Process CMU no recharge adjustment to spreadsheets and make plots. Looks good. Check CMU simulations move. Found pumpage all in layer 1. Fixed well files. Built new simulations. Ran them and processed to spreadsheets. Things look good. Make notes.
08/31/2007	7:15 AM	9:00 AM	12:45 PM	6:00 PM			7:00				7.00			
							108.75	9.50		1.75	94.75	2.75		August total and total by task number