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



January 2, 2007

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

Dear Steve:

Enclosed are my monthly report for November, an invoice for the time and expenses for work with the Department of Natural Resource, and a spreadsheet supporting the time. The invoice also includes DNR's share of professional liability insurance for 2006, so I included a worksheet on that plus supporting documentation. If you have any questions, please give me a call. Thank you.

Sincerely,

Richard R. Luckey Senior Hydrologist

RECEIVED

JAN 05 2007

DEPARTMENT OF NATURAL RESOURCES

Groundwater Modeling Support for the Nebraska Department of Natural Resources Status Report, December 31, 2006

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 spent about a week on this project in December. Most of the time was spent comparing the Republican River Compact Administration (RRCA) and COHYST models in the area of overlap. He spent some time testing the various interpolation techniques that GMS uses to go from one grid to another. He had originally used an inverse distance weighted technique, but that produced unrealistic aquifer parameters near boundaries where the parameters changed. He found that a linear interpolation produced better results in these areas and similar results elsewhere. As a bonus, this technique is much faster. He completed comparison of hydraulic conductivity and specific yield between the two models.

Dick received a DVD from Jim Schneider that represents the input data from the RRCA model. He spent some time browsing the DVD and it does contain the historical recharge for the model. However, the recharge is contained in numerous files, containing recharge by component by month. Dick wrote a FORTRAN program to produce a cumulate sum of each recharge component so he could work with it in a spreadsheet. He also made a separate sum of recharge in the mound area.

Dick had some discussions with Jim Cook about an information request from David Freeman at Colorado State University. Dr. Freeman is writing a history of the Three-State Agreement and wanted to know the number of irrigation wells in the Platte Basin. He wanted the information from the registered well database. The three had a conference call, where they concluded that registered well database is poor measure of the desired information and that 1997 groundwater irrigated land is a much better measure. Dick discussed this request with Rich Kern, and Rich had Rick Vollertsen work on it. Dick checked the work, wrote a couple of paragraphs documenting the method, and sent it to Jim Cook to pass on.

Dick spent some time on the phone with Doug Hallam about ZoneBudget issues. They could not resolve the problems, but will look at it when they get together in January.

Plans for next month:

Dick will continue to compare aquifer properties between the RRCA and COHYST models. He will spend more time on recharge in the mound area, and may sum it by county. Because of how the RRCA model was calibrated, this sum may provide the best insight.

Dick will meet with Doug Hallam on January 2, and with Doug, Steve Gall, Jim Schneider, and Duane Woodward on January 4 to discuss DNR participation in COHYST.

Dick will do other tasks as requested by DNR.

High Plains Hydrology LLC

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

INVOICE

INVOICE #114 DATE: JANUARY 2, 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
December, 2006, Task 1-1 (see attached spreadsheet)	4.00	\$ 65.00	\$ 260.00
December, 2006, Task 1-2 (see attached spreadsheet)	33.00	65.00	2,145.00
	·		
EXPENSES DESCRIPTION	QUANTITY	UNIT PRICE	LINE TOTAL
Professional insurance for 2006 (see attached worksheet)			\$ 263.43
TOTAL this Period			\$ 2,668.43
Previous balance			\$ 2,908.75
Payments received		ļ	\$ 2,908.75
		TOTAL	\$ 2,668.43

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

Thank you for your business!

Ins.xds:COHYST_1
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Date Start Stop 12/01/2006 10:30 AM 12:30 PM	Start 10:30 AM	Stop 12:30 PM	Start 2:30 PM	Stop 4.30 PM	Start	Stop	Hours	Task	Task 2	Task 3	DNR 1-1	DNR 1-2 Notes	Notes
12/03/2006 10:30 AM 12:00 PM	0:30 AM	12:00 PM	1:00 PM	2.30 DM			4.00	1.8		1.00	0.50	1.50	1.50 COHYST monthly report. DNR monthly report. Call from Duane on 7B issues. Call to Clint
			2				3.00			3.00			Sunday. Downloaded Clint's OA2FA stuff, unto the property of an inclusion of the property of t
12/04/2006	8:00 AM	8:00 AM 12:00 PM	1:00 PM	5:00 PM			8.00	1.25		4.25		2.50	2.50 OA2FA update to Duane. Note to Rich on needed utilities. COUVET DECA UNITIONS
12/05/2006	7:30 AM	7:30 AM 12:30 PM	2:45 PM	4:45 PM			7.00			1.00		00.9	6.00 Call to Duane about Sponsors meeting. Sy evaluation between COHYST and BRCs modes.
17	10:00 AM	1:45 PM	1:30 PM	4:30 PM			6.75						utility. Utilities documentaion update.
	8:00 AM	8:00 AM 12:30 PM	2:00 PM	5:00 PM			7.50		5.00			0.75	5.75 Review DVD from Jim Schneider. Work on Kh comparison in DNR doc. Add map and grar
12/11/2006	100 PM	5:00 PM					4.00					4.00	4.00 Wrote Fortran program to sum RRCA raw rachama flor to now file.
12/13/2006	1:15 PM	4:30 PM					3.50		100			3.50	3.50 RRCA program to sum recharge. Sum canal leakage recharge. Sum surface-water irrigatic
							3.25		3.25				Checking and correcting New Depletions PowerPoint.
- 1	8:15 AM	8:15 AM 12:45 PM	1:45 PM	4:30 PM			7.25			6		A 25	TC travel arrangements. Looked at Duane's spreadsheets for OA2FA, Made spreadsheet of
		10:30 AM	3:00 PM	3:30 PM			1.00			0,50	0.50	27.5	Call from Clint about Oa2EA (series Conference cell with the Oast, and Dayler Free
12/21/2006	2:00 PM	3:30 PM					1.50	1.50					Getting stuff together for Steve to check eastern model for noise
	2	9.00 AIV					0.75				0.75		Working on stuff for David Freeman request.
12/28/2006	3:30 PM	5:00 PM					1.50		-	0.75	0.75		ZoneBudget Issues for Doug Hallam. Checking GW acres for Cook/Freeman. Writing C/F (simulation.
12/29/2006	9:30 AM	10:30 AM	1:00 PM	4:30 PM			4.50	1.00		2.00	1.50		Call to Doug Hallum about ZoneBudget stuff. Call to Duane about how to DNR modelers an from EMU into spreadsheet. Called duane about 1997 pumpage adjustment. Completed Fr
							63.50	4.75	8.25	13.50	4.00	33.00	33.00 December total and total by task number
	1												
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January 2, 2007

2006 Insurance Cost Worksheet

Annual cost of professional insurance, obtained February 2006 = \$3,708.00. (See attached sheets).

Cost allocated to 2006 = \$3,708.00 * (11/12) = \$3,399.00.

Hours worked for COHYST in 2006 = 1,104.00

Hours worked for DNR in 2006 = 92.75

Total hours worked in 2006 = 1,196.75

2006 insurance charged to COHYST = \$3,399.00 * (1104.00/1196.75) = \$3,135.57

2005 insurance charged to DNR = \$3,399.00 * (92.75/1196.75) = \$263.43

Richard R. Luckey Senior Hydrologist



FARMERS

LUCKEY INSURANCE AGENCY 1300 BROAD ST MILLIKEN CO 80543 970-587-9260 970-744-4483 **Date:** 2/7/2006

Invoice # 253

Ship To: SAME

Sales tax rate

Total

Sales tax on purchase

Bill To:

High Plains Hydrology LLC 7956 S Shawnee St Aurora CO 80016 970-944-9621

	Description	Unit Price	Total
	Hudson Specialty Insurance	\$3,000.00	\$3,000.00
	Professional Liability/CGL		
	Inspection and Brokerage fees	\$600.00	\$600.00
	If you are Paying in full Please		
	Remit the full amount due.		
	If you are on Monthly payments:		
	You will be billed by Royal Premium.		
·			
		Subtotal	\$3,600.00
		PAID	
		Subtotal	\$3,600.00

Make all checks payable to Luckey Insurance Agency
If you have any questions concerning this invoice, please contact:
BRIAN LUCKEY 970-587-9260

Thank you for your business!

3.00%

\$108.00

\$3,708.00



7936 E. Arapahoe Ct, Suite 3000, Englewood CO 80112 Phone: (303) 804-0200 OR (800) 888-9701 Fax: (303) 804-0207

TERM MINIMUM PREMIUM:

MINIMUM PREMIUM = \$750 00

25.00 % EARNED

A KAUFMAN GROUP COMPANY

INSURANCE BINDER

Page 1 of 2

DATE: 2/7/2006

THIS BINDER IS A TEMPORARY INSURANCE CONTRACT, SUBJECT TO THE CONDITIONS SHOWN BELOW.

INSURED:

High Plains Hydrology, LLC

7956 S. Shawnee St. Aurora, CO 80016

B&W PRODUCER: Edmund J Holub

AGENT: Brian R. Luckey

1300 Broad St Milliken, CO 80543

LOCATION(S) OF RISK:

1: 7956 S. Shawnee St., Aurora, CO 80016

POLICY EFFECTIVE FROM: 02/03/06 AT 12:01 AM TO 02/03/07 AT 12:01 AM STD TIME AT RISK LOCATION.

FORM OF COVERAGE:

PROFESSIONAL LIABILITY

CLAIMS MADE Retro Date: 0:1/03/2006

Environmental Consultants

FEC6105647 **POLICY NO:**

INSURER(S):

Line Of Business

Supplier(s)

Participation

PROFESSIONAL LIABILITY

Hudson Specialty Insurance Company

100 00 %

LIMITS / DEDUCTIBLES:

\$

\$

TOTAL CHARGES:

Premium: \$ Fee: \$ 3,000.00 Professional Liability

\$ Fee:

150.00 Policy Fee (Fully Earned) 250.00 Supplier Fee (Fully Earned)

Fee:

200.00 Supplier Inspection Fee (Fully Eamed)

Tax:

108.00 Surplus Lines Tax - PROFLIAB

TOTAL: \$

3,708.00

EXCLUSIONS:

ENDORSEMENTS:

CONDITIONS:



7936 E. Arapanoe Ct, Suite 3000, Englewood, CO 80112 Phone: (303) 804-0200 OR (800) 888-9701 Fax: (303) 804-0207

A KAUFMAN GROUP COMPANY DATE: 2/7/2006

INSURANCE BINDER

Page 2 of 2

Limits of Insurance: Please note, these limits apply once for the entire policy term and not separately for each Coverage Part.

Applicable to Professional Liability Coverage Part:

\$1,000,000 Damages Limit for Each Occurrence, Wrongful Act or Claim

\$1,000,000 General Aggregate Limit

\$1,000,000 Claims Expense Limit for Each Claim

\$1,000,000 Claims Expense Aggregate Limit

Applicable to Commercial General Liability Coverage Part

\$1,000,000 General Aggregate Limit (Other than Products-Completed Operations)

\$1,000,000 Products-Completed Operations Aggregate

\$1,000,000 Personal and Advertising Injury Limit

\$1,000,000 Damages Limit for Each Occurrence or Claim

\$ 50,000 Fire Damage Limit (Any One Fire)

\$ 5,000 Medical Expense Limit (Any One Person)

Contractors Pollution Liability Coverage Part:

\$1,000,000 Damages Limit for Each Occurrence, Claim or Pollution Condition

\$1,000,000 General Aggregate Limit

\$1,000,000 Claims Expense Limit for Each Claim

\$1,000,000 Claims Expense Aggregate Limit

Deductibles:

Professional Liability: \$2,500 Per Wrongful Act

Commercial General Liability: \$2,500 Per Occurrence

Contractors Pollution Liability: \$2,500 Per Pollution Condition

Premium: Mininum and Deposit. Rate: \$50.00 per \$1,000 of Gross Receipts. The estimated Gross Revenue used to culculate the premium was: \$60,000.

Endorsements included: Blanket Additional Insured (Not available for Professional Liability); Blanket Waiver of Subrogation (Not available for Professional Liability).

Coverage was bound, subject to Hudson's receipt, review and acceptance of the following items within the next 10 days:

- The ORIGINAL completed, signed and dated Hudson Application, including the Project Description Supplemental Page
- The ORIGINAL completed, signed and dated Disclosure Statement

PLEASE REVIEW THIS BINDER CAREFULLY AS IT MAY DIFFER FROM COVERAGES AND LIMITS REQUESTED.

THIS COMPANY BINDS THE KIND(5) OF INSURANCE STIPULATED HEREIN. THE ABOVE COVERAGES ARE THE ONLY COVI:RAGES BOUN ANY COVERAGE REQUESTED IN THE APPLICATION THAT DIFFERS FROM THE ABOVE IS NOT INCLUDED. THE INSURANCI: IS SUBJECT THE TERMS, CONDITIONS, LIMITATIONS, AND FORMS OF THE POLICY(S) IN CURRENT USE BY THE COMPANY. THIS BIND ER IS CANCELLED SIXTY (60) DAYS FROM THE EFFECTIVE DATE OR WHEN REPLACED BY A POLICY, WHICHEVER COMES FIRS!

THE AGENT MUST READ THIS CERTIFICATE AND IF NOT CORRECT RETURN IT IMMEDIATELY TO BURNS & WILCOX, LTD...

BY: Donald L. Kasper, Authorized Representative