Tuesday, July 16, 1985

The Nebraskan

Grad student drills for data

Story and Photo By Deb Pederson

The morning sun was just starting to warm the dirt road between the cornfield and the Blue River about five miles northwest of Beatrice. Sunlight bounced off the tower of the drill rig. Clear sky and dry - perfect weather for drilling wells.

Water wells, that is. UNL geology graduate student Ali Tabidian is doing a groundwater study of the area, 75 square miles in all, for the Blue River Compact Commission as his doctoral dissertation project.

The commission granted the UNL geology department almost \$50,000 to conduct the study, currently going into its third and final year, UNL geology professor Darryll Pederson said.

The purpose of the study is to find out how a buried paleovalley aquifer, or done on the relation between aquifers

moves from west to east, directly under new areas of geology. the Blue River which flows northwest to southeast, he said.

A compact was ratified by Congress in the early 1970s between Kansas and Nebraska requiring a minimum amount of water flow in the Blue River across the state line, he said. Since water for irrigation is pumped from the aquifer and the aquifer interacts with the Blue water flow in the river, he said.

irrigation on the aquifer and river."

He said the study was unusual beand because a model wasn't used first.

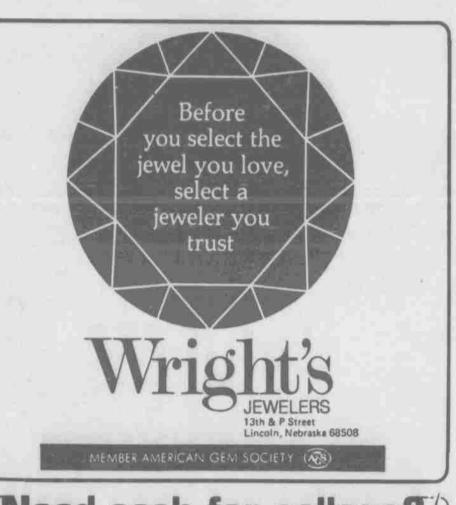
"Not too many studies have been Blue River, Tabidian said. The aquifer Pederson said. "This study is exploring done on the river and aquifer.

"Most studies develop a model first and then go out into the field," he said. "But then you don't get a good handle on the geology of the area. This way, without the model first, we have a good handle on the geology of the area.'

The study consists of recording the water levels at existing wells and drilling new wells in areas where informa-River, the commission is concerned tion is lacking to gather data on the that the irrigation use is effecting the geology and water levels, Tabidian said. By comparing the water levels at "The feeling is that the aquifer is the different points periodically and undersource of base flow into the river and so standing the geology, the groundwater sustains the river," Pederson said. movement can be determined along "We're trying to quantify the effects of with its interaction with the river, he said.

The compact requires periodic study cause of its type, detail and large scope of the river and aquifer, Tabidian said. The first study was done by the United States Geological Survey, he said.

Pederson said geology is studied in ancient river system, interacts with the and rivers, especially on this scale," stages and follow-up studies would be



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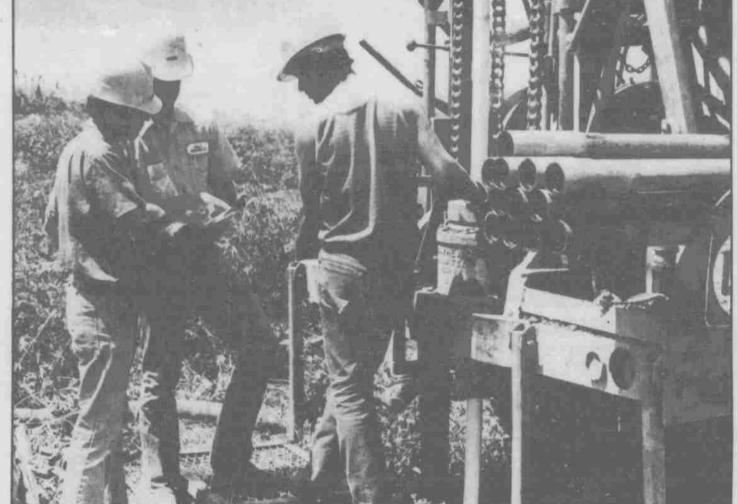
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logy professor Darryll Pederson and Joe and David Holly study data taken from the newly-dug well.



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