Neil Blandford's Technical Comments on Goliad Project's Well's Pump Test

jose torres to: Philip Dellinger, Ray Leissner 07/31/2012 11:14 PM
Cc: Jose Torres

From: jose torres <jetmnn0@yahoo.com>
To: Philip Dellinger/R6/USEPA/US@EPA, Ray Leissner/R6/USEPA/US@EPA
Cc: Jose Torres/R6/USEPA/US@EPA

2 attachments

120731GoliadProjectsPA1Contours07&08_0001.pdf 120731GoliadProjectsPA1Contours07&08_0002.pdf

Hello Phil:

The attachments are excerpts from a report prepared and presented by Neil Blandford of Daniel B. Stephens & Associates, Inc. on behalf of the Goliad County Groundwater Conservation District (GCGCD). Blandford was one of the attendees to the meeting of February 28, 2011, between GCGCD officers and their expert witnesses, and members of the Region's technical staff.

As you can see, one of the maps in Blandford's presentation illustrates a piezometric surface that indicates flow in the aquifer in the SE direction. This piezometric surface was apparently in the operator's application package in 2007. The map indicates that piezometric surface data were submitted by the operator in 2008 which seems to support flow in the aquifer towards the East. I do not know if we have information justifying on a technical basis the change.

One other thing to look for in Blandford's presentation is his analysis of the discussion presented by the applicant in connection with the pump test of a well inside the perimeter of proposed PA-1. Blandford points to the characteristic of the curve recorded for a well located to the West of the pumped well. This curve, Blandford points out, supports a conclusion that contradicts the one presented in the operator's report. Blandford seems to indicate that the test actually proved communication between Sands A and B at the proposed PA-1.

Finally, Blandford refers to the characteristics of the flow inside the two sands pointing to the crossflow between sands made possible by the presence of improperly plugged exploration wells and seepage. He also discusses some modeling runs. Hope this helps.

The hard copy of Blandford's presentation is over my

workbench in my cube, along with a loose page illustrating the location of the wells in PA-1, with the pumped and observation wells highlighted in yellow, should you choose to examine them. Hope this helps.

JETorres - 6WQ-SG

P.S.: As it has happened before, my Lotus Notes refused to transmit this message, so, I am resorting to my personal e-mail, which may do the job.

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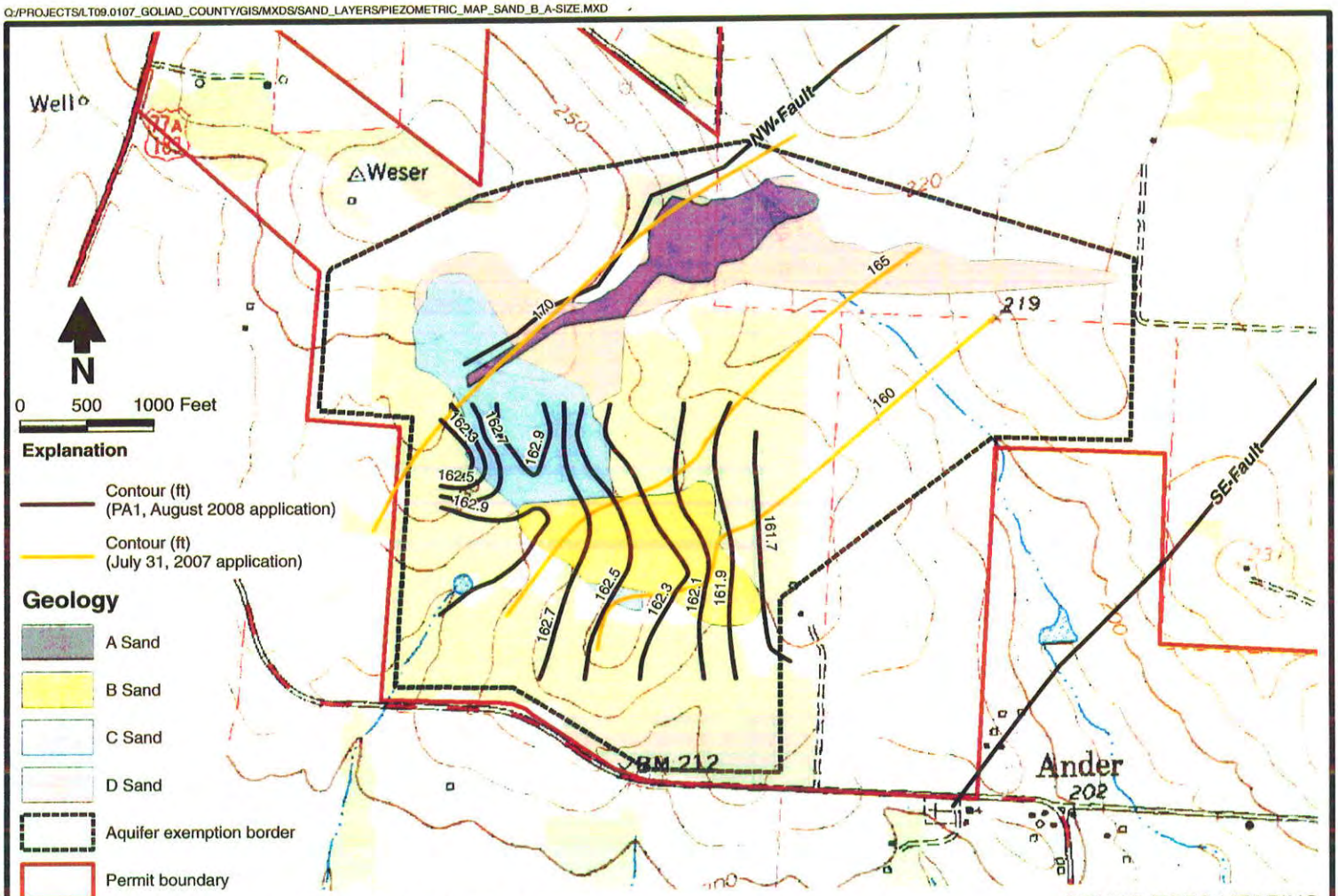


Sources: 1. Application to Conduct In Situ Uranium Recovery July 31, 2007.pdf
2. Production Area Authorization Application for Production Area-1 (PA-1) August 27, 2008.pdf

GOLIAD TCEQ HEARING

Piezometric Map (Sand B)

Daniel B. Stephens & Associates, Inc.

2/25/2011

JN LT09.0107

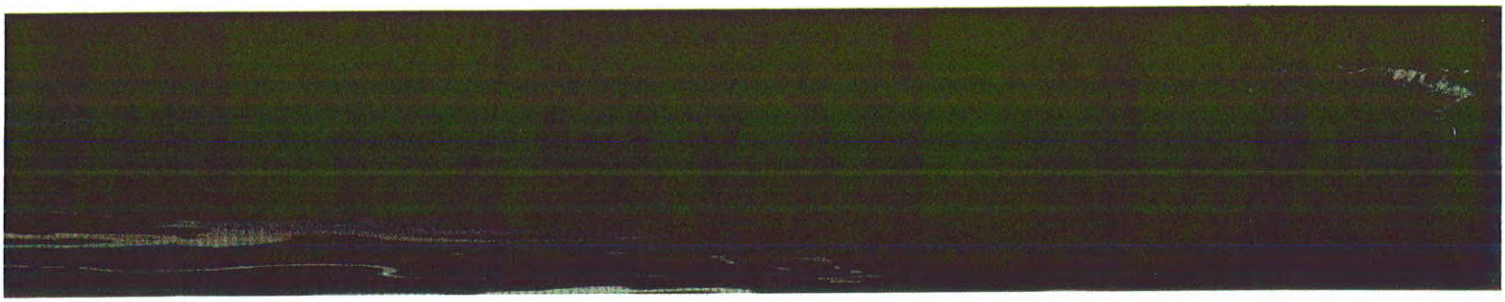
Figure 2

- Applicant apparently does not understand or misinterprets results of their own aquifer testing for PA-1 Application (Sand B)
  - p. 4-2; "it is necessary to establish that there is no communication between the fluids in the ore zone and water in overlying aquifers"
  - p. 4-22; "the pumping tests in PTW-1 and PTW-6 demonstrates that there is no communication between the overlying Sand A aquifer and B sand aquifers"

The applicant doesn't know yet whether there is or there isn't communication

The applicant already demonstrated that there is no communication

Daniel B. Stephens & Associates, Inc.



- p. 4-23; "Figure 4-10 shows that there was a very slight increase in water levels in OMW-1 during the PTW-1 test. If there were hydraulic communication between the pumped Sand B and Sand A, there would be an obvious decline in the water level of OMW-1"

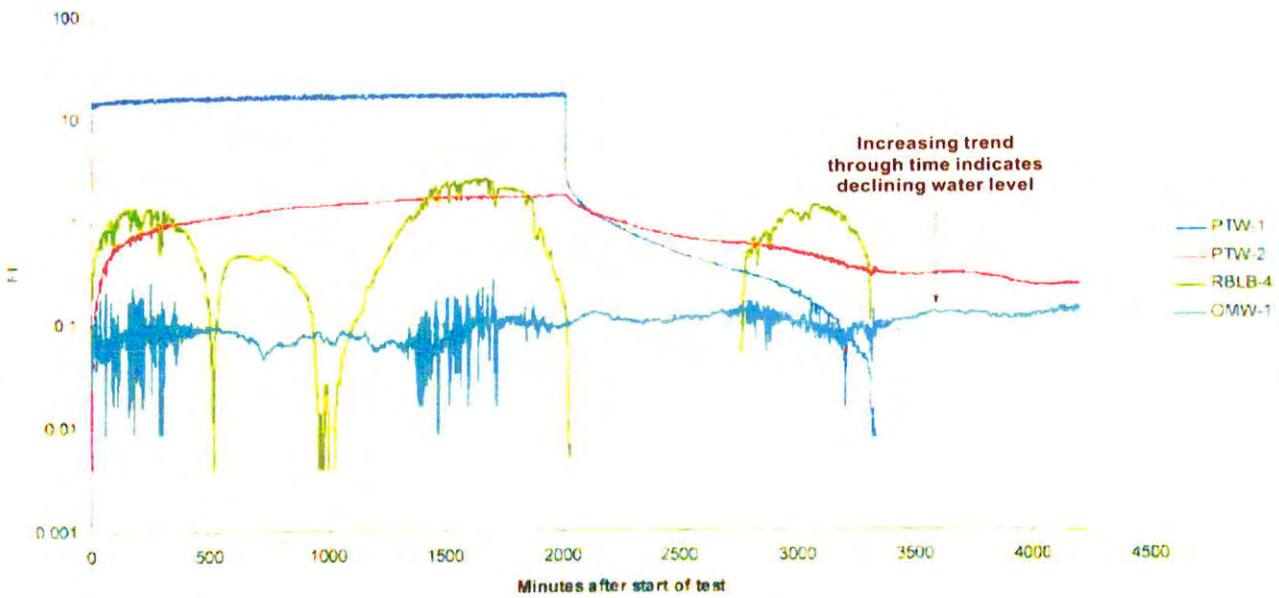


Figure 4.10. Water level drawdown and recovery from the Hermit data logger for the PTW-1 test.

GOLIAD TCEQ HEARING

Plot of Drawdown Through Time for PTW-1 Aquifer Test from UEC PA-1 Application

Daniel B. Stephens & Associates, Inc.

Exhibit GCGCD Blandford H

- Numerical simulation of the PTW-6 test indicates that expected drawdown in Sand A monitor well OMW-9 would be 0.05 ft or less due to the pumping from Sand B well PTW-6 for the test
- Claims made by applicant regarding vertical communication between Sand B and overlying Sand A are not substantiated by their aquifer testing

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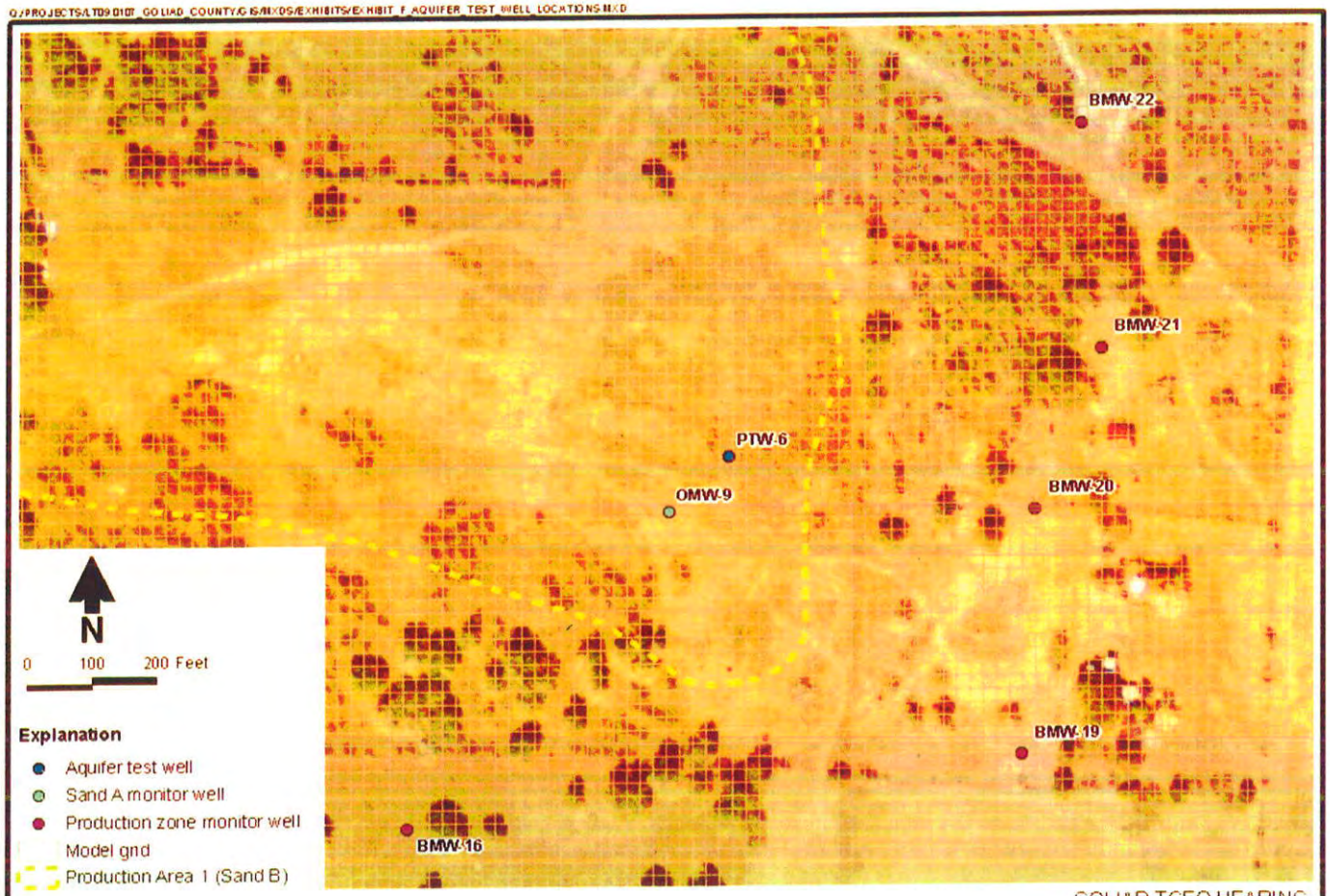

GOLIAD TCEQ HEARING

Aquifer Test Well Locations Considered in the Drawdown Modeling

Daniel B. Stephens & Associates, Inc.
2/17/2010
JN LT09 0107

Exhibit GCGCD Blandford F

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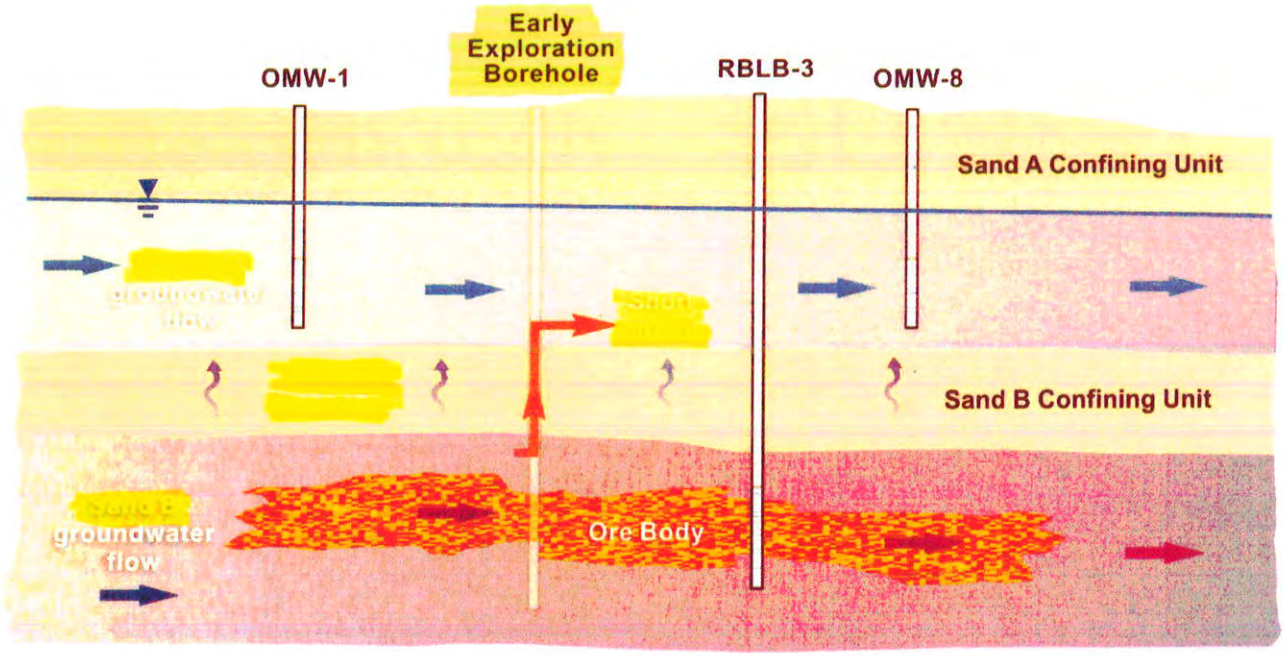


Not to Scale

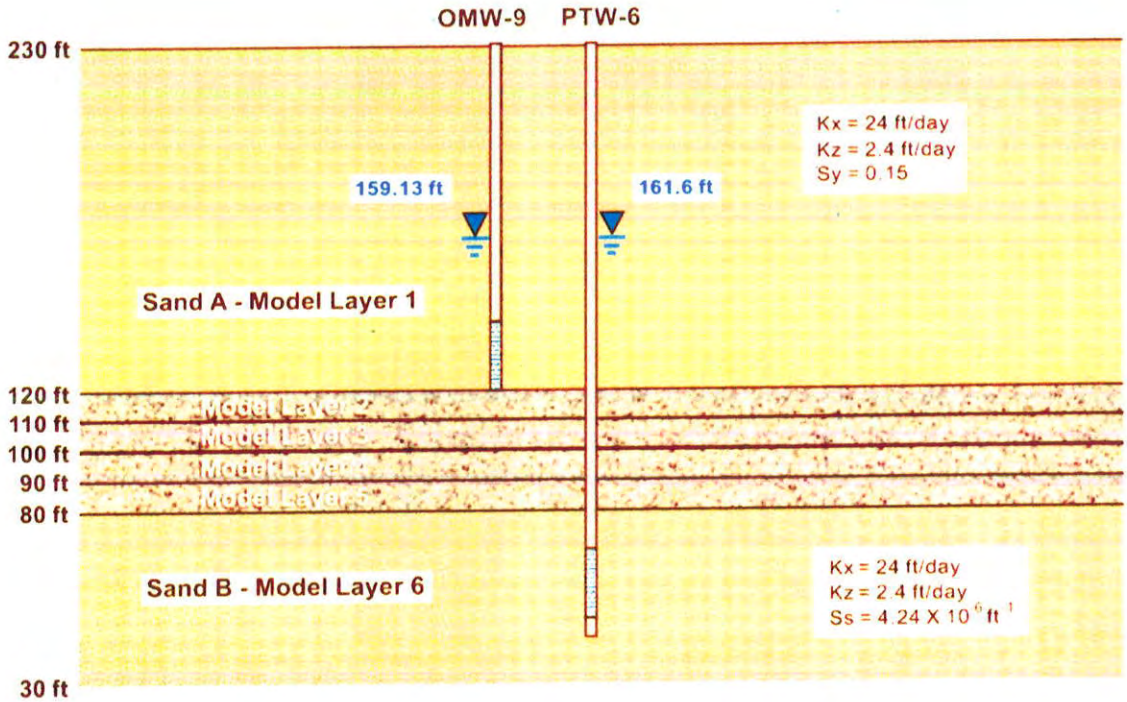
GOLIAD TCEQ HEARING

Schematic Diagram of Groundwater Flow Through Sands A and B

Daniel B. Stephens & Associates, Inc.

2-25-11

JN LT09.0107



Notes: Kx = horizontal hydraulic conductivity
Kz = vertical hydraulic conductivity
Ss = specific storage
Sy = specific yield

Not to Scale

GOLIAD TCEQ HEARING

Cross Section of Groundwater Model Used for PTW-6 Aquifer Test Analysis

Daniel B. Stephens & Associates, Inc.

Exhibit GCGCD Blandford G