

Rock Strength test on cores (4464', 4464.5', 4553', 4560', and 4570') from the Phillips Petroleum Company North Cook Inlet Unit A-02 well



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Total of 4 pages in report (~~have data CD~~)

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From: Levinson, Rick A
Sent: Wednesday, October 24, 2007 10:37 AM
To: 'john_reeder@dnr.state.ak.us'
Subject: Results of Rock Strength Tests On NCIU A-02 Core Samples

John W. Reeder
Curator, Alaska Geological Materials Center

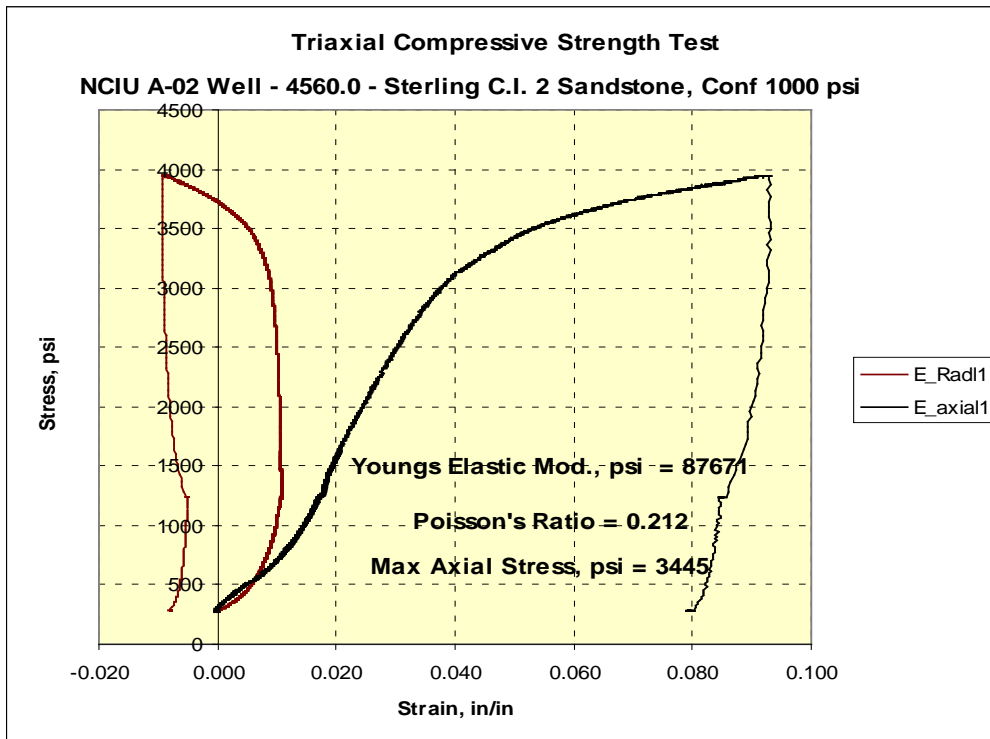
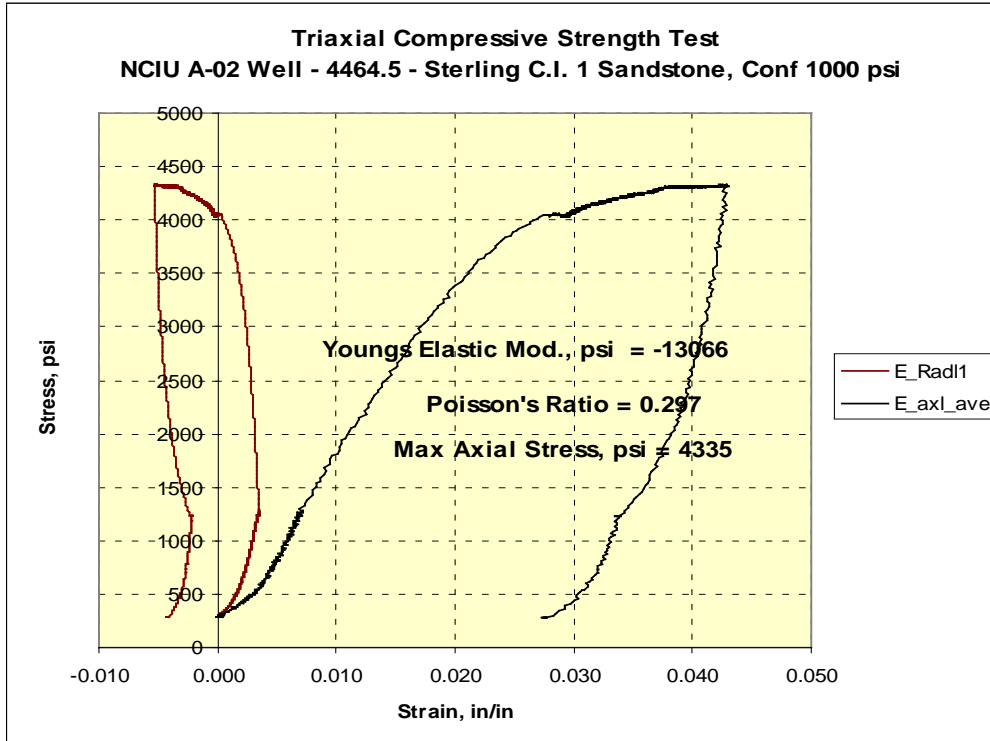
Last winter, we collected several chip samples from the NCIU A-02 core that was stored at the GMC. Per your request at the time of sampling, ConocoPhillips is providing results of analyses performed on these samples. The purpose was to perform rock strength tests on high permeability sands in order to better understand sand production problems at the North Cook Inlet Unit. Unfortunately, not all samples survived transport to our ConocoPhillips Bartlesville Laboratory without breaking into small fragments. Surviving samples underwent triaxial strength tests. If there was enough sample material, some samples were sent to TerraTek for UCS scratch tests. All results are shown below. Please call or email me if you have any questions.

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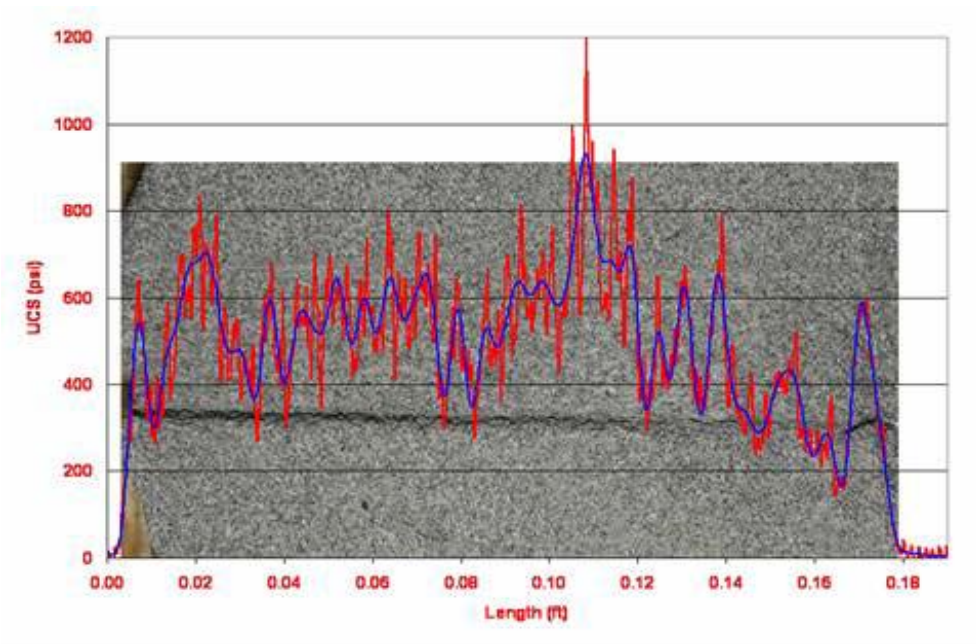
Results of Triaxial Compressive Strength, Dimpler Unconfined Stress, and Scratch Tests Performed on Core Chip Samples from NCIU A-02

Triaxial Compressive Strength Test Results

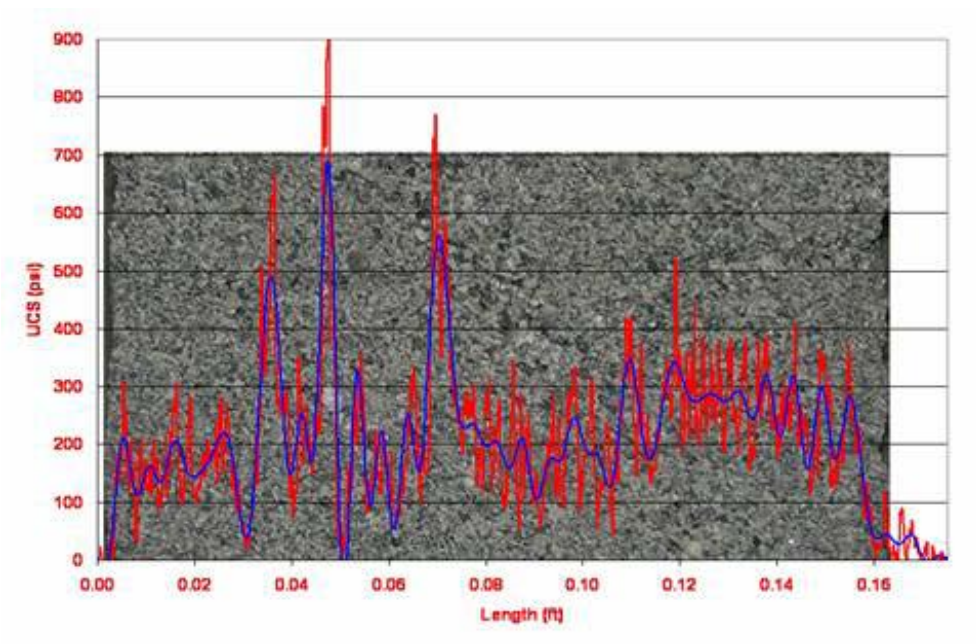
Plug No.	Well Name	Depth (ft.)	Formation	Young's EMOD MM psi	Poisson's Ratio	Confine. Pressure psi	Failure Stress psi
97-5	NCI A-02	4464.5	Sterling	13066	0.297	1000	4335
98-1	NCI A-02	4560.0	Sterling	87671	0.212	1000	3445



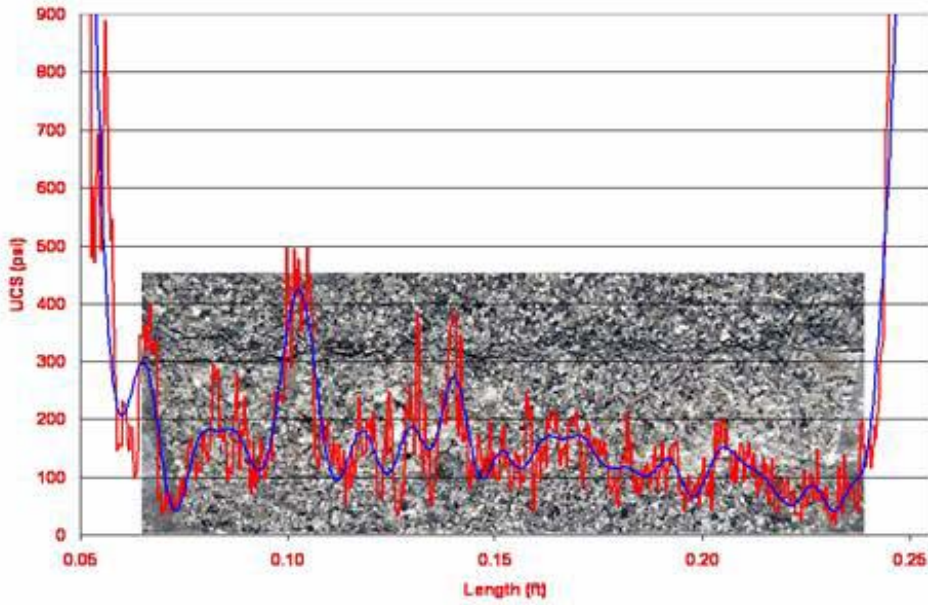
Scratch Tests conducted by TerraTek



Scratch Test Beluga River Unit Well NCI A-02 Sample ID – S (4464' 4'').



Scratch Test Beluga River Unit Well NCI A-02 Sample ID – T (4553' 0'').



Scratch Test Beluga River Unit Well NCI A-02 Sample ID – U (4570' 0").