Senate Community Affairs Committee

ANSWERS TO ESTIMATES QUESTIONS ON NOTICE

HEALTH PORTFOLIO

Supplementary Budget Estimates 2014 - 2015, 22 October 2014

Ref No: SQ14-001469

OUTCOME: 7 - Health Infrastructure, Regulation, Safety and Quality

Topic: The National Assessment of Chemicals Associated with Coal Seam Gas Extraction

Type of Question: Written Question on Notice

Senator: Waters, Larissa

Question:

In response to Estimates Question on Notice SQ14-000627 of Budget Estimates 2014, the Department advised that published, peer reviewed information on the likely growth of fracture underground over time, as a result of CSG activity, was available to the Australian Government when the initial CSG projects were first approved. Please provide a list of all the sources of "published, peer reviewed information" to which this response refers.

Answer:

The Department of the Environment has published three reports listing published, peer reviewed information on the water related impacts of Coal Seam Gas and coal development on the Department's website http://www.environment.gov.au/water/publications. The reports cover Australian and international research from 2000-2013.
Examples of other publicly available references are listed below.

Adachi, J., Siebrits, E., Peirce, A. and Desroches. J. 2007. Computer Simulation of Hydraulic Fractures. International Journal of Rock Mechanics and Mining Sciences 44 (5) (July): 739–757. doi:10.1016/j.ijrmms.2006.11.006.

Duke Engineering & Service (Canada) Inc. 1999. The SIMFRAC System: Modelling System for the Analysis and Design of Hydraulic Fracturing Treatments, Version 6.1.

Economides, M.J., Nolte, K. 2000. Reservoir Stimulation. Third edition, John Wiley & Sons Ltd., West Sussex, England.

Jeffrey, R.G., **WU, B., BUNGER, A., ZHANG, X., CHEN, Z., KEAR, J., KASPERCZYK, D.** 2013. Hydraulic Fracturing for Coal Seam Gas: Hydraulic Fracture Growth and Well Integrity. CSIRO Report EP138313 to NICNAS, 133 p.

Jeffrey, R.G., **ZHANG, X., CHEN, Z., WU, B., KEAR, J., KASPERCZYK, D. 2014. HYDRAULIC FRACTURE GROWTH IN AUSTRALIAN COAL BASINS,** CSIRO Report EP14570 to NICNAS, 62 p.

Jeffrey, R.G., and Settari, A. 1998. An Instrumented Hydraulic Fracture Experiment in Coal. SPE 39908 presented at the *1998* Rocky Mountain Regional/Low-Permeability Reservoirs Symposium and Exhibition, Denver, April 5-8.

Jeffrey, R.G., Settari, A., and Smith, N.P. 1995. A Comparison of Hydraulic Fracture Field Experiments, Including Mineback Geometry Data, with Numerical Fracture Model Simulations. SPE 30508 presented at the 1995 Annual Technical Conference and Exhibition, Oct 22-25, Dallas.

Muskat, M. 1946. The Flow of Homogeneous Fluids through Porous Media. J. W. Edwards, Inc., Ann Arbor, Michigan.

Settari, A. and Cleary, M.P. 1984. Three-Dimensional Simulation of Hydraulic Fracturing. SPEJ, July 1984, 1177-1190.

Settari, A. and Cleary, M.P. 1986. Development and Testing of a Pseudo-Three-Dimensional Model of Hydraulic Fracture Geometry (P3DH). SPE Production Engineering, November 1986, 449-466.

Settari, A. 1988. Quantitative Analysis of Factors Influencing Vertical and Lateral Fracture Growth. SPE Production Engineering, August 1988, 310-322.

Strack, O. 1989. Groundwater Mechanics. Prentice Hall, Englewood Cliffs, New Jersey.

Taurus 2014. Website link http://www.taurusrs.com/geosim.html