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To: Records Center

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Subject: BRAGFLO calculations for updated northern-most ROMPCS representation

Following an update to the BRAGFLO grid, in which the length of northern-most run-of-mine salt panel closure (ROMPCS) was doubled from 30.48 m to 60.96 m (Figure 1), BRAGFLO was run with all other parameters identical to replicate 1 of the CRA14-0 case (Camphouse 2013a). The BRAGFLO calculations were performed as deviations under AP-164 (Camphouse 2013b). These calculations were performed on the Sun/Solaris cluster with BRAGFLO version 6.03. A summary of the codes and input files used, as well as output files created, by the current analysis is presented in Appendix A.
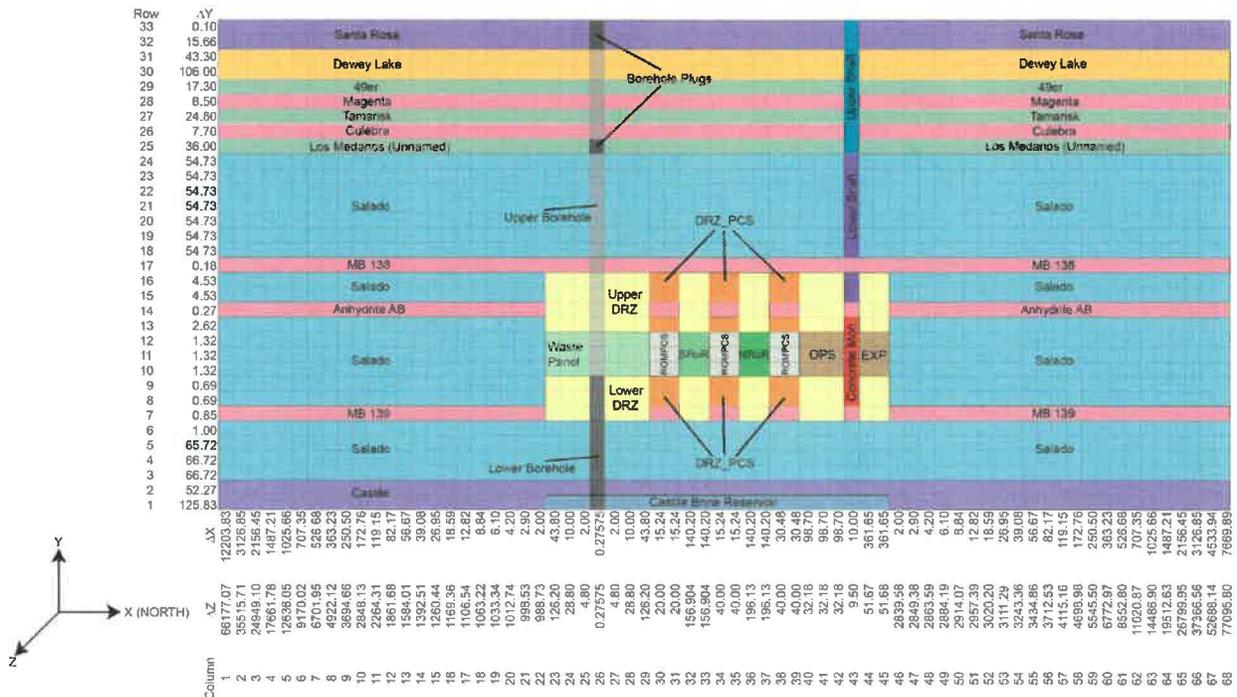

Figure 1. Computational grid used in BRAGFLO for this analysis

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References:

Camphouse, R. 2013a. *Analysis Package for Salado Flow Modeling Done in the 2014 Compliance Recertification Application Performance Assessment (CRA-2014 PA).* ERMS 559980. Carlsbad, NM: Sandia National Laboratories.

Camphouse, R.C. 2013b. *Analysis Plan for the 2014 WIPP Compliance Recertification Application Performance Assessment.* ERMS 559198. Carlsbad, NM: Sandia National Laboratories.

Appendix A:

Below are six tables with run control information for the calculations described in the main text. The calculations were initially run in the area of /home/jjlong/GD, but were later moved to $CVSLIB/WIPP_SPECIAL_ANALYSES/CRA14/Q2_23_2.

Table 1. The run script files used were:

File	Repository	Comment
RunControl/BRAGFLO.py	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Python run control script
RunControl//home/jjlong/GD/Run.py	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Main control script

Table 2. The input files used were:

File	Repository	Comment
Input/alg1_bf_CRA14.inp	/home/jjlong/GD/MyRepositories/CRA14/ALGEBRACDB	Input file
Input/alg2_bf_CRA14.inp	/home/jjlong/GD/MyRepositories/CRA14/ALGEBRACDB	Input file
Input/bf1_CRA14_sn.inp	/home/jjlong/GD/MyRepositories/CRA14/PREBRAG	Input file
Input/bf1_CRA14_sn_mod1.inp	/home/jjlong/GD/MyRepositories/CRA14/PREBRAG	Input file
Input/bf1_CRA14_sn_mod2.inp	/home/jjlong/GD/MyRepositories/CRA14/PREBRAG	Input file
Input/bf2_CRA14_closure.dat	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Input file
Input/gm_bf_CRA14.inp	/home/jjlong/GD/MyRepositories/CRA14/GENMESH	Input file
Input/ic_bf_CRA14.inp	/home/jjlong/GD/MyRepositories/CRA14/ICSET	Input file
Input/ms_bf_CRA14.inp	/home/jjlong/GD/MyRepositories/CRA14/MATSET	Input file

Where:

n is 1-6

Table 3. The CVS repositories used were:

CVS Repositories
ALGEBRACDB
BRAGFLO
GENMESH
ICSET
MATSET
POSTBRAG
POSTLHS
PREBRAG

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Table 4. The log files used were:

File	Repository	Comment
RunControl/BRAGFLO.log	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	log file
RunControl/BRAGFLO.rtf	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Formatted log file (Word file)

Table 5. The output files produced were:

File	Repository	Comment
Output/alg1_bf_CRA14_ri_vvvv.cdb		NOT SAVED:CDB transfer file
Output/alg2_bf_CRA14_ri_sn_vvvv.cdb		NOT SAVED:CDB transfer file
Output/bf2_CRA14_ri_sn_vvvv.inp	/home/jjlong/GD/MyRepositories/CRA14/PREBRAG	BRAGFLO input file
Output/bf2_CRA14_ri_sn_vvvv.log	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Logfile
Output/bf2_CRA14_ri_sn_vvvv.sum	/home/jjlong/GD/MyRepositories/CRA14/BRAGFLO	Summary file
Output/bf3_CRA14_ri_sn_vvvv.cdb		NOT SAVED:CDB transfer file
Output/gm_bf_CRA14.cdb		NOT SAVED:CDB transfer file
Output/ic_bf_CRA14_ri_vvvv.cdb		NOT SAVED:CDB transfer file
Output/lhs3_bf_CRA14_ri_vvvv.cdb		NOT SAVED:CDB transfer file
Output/ms_bf_CRA14.cdb		NOT SAVED:CDB transfer file

Where:

i is 1

n is 1-6

vvv is 001-100

Table 6. The executable files used were (all codes used for this analysis are a deviation from AP-164 (Camphouse 2013b)):

File	Repository	Comment
Build/Solaris/algebracdb (Ver:2.36)	$CODE/ALGEBRACDB	Manipulates CAMDAT data by evaluating algebraic expressions
Build/Solaris/bragflo (Ver:6.03)	$CODE/BRAGFLO	Computes brine and gas flow in the repository
Build/Solaris/genmesh (Ver:6.10)	$CODE/GENMESH	Generates the CAMDAT

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		computational grid
Build/Solaris/icset (Ver:2.23)	$CODE/ICSET	Assigns initial conditions to the CAMDAT grid elements
Build/Solaris/matset (Ver:9.21)	$CODE/MATSET	Assigns material properties to CAMDAT grid blocks
Build/Solaris/postbrag (Ver:4.02)	$CODE/POSTBRAG	Post-processes data for bragflo
Build/Solaris/postlhs (Ver:4.08)	$CODE/POSTLHS	Assigns sampled parameters to the grid blocks and elements
Build/Solaris/prebrag (Ver:8.03)	$CODE/PREBRAG	Pre-processes data for bragflo

Where:

$CODE = /nfs/data/CVSLIB/WIPP_CODES/PA_CODES