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Scientific Notebook No. 170E: Total
Performance Assessment (TPA) 3.2
Development (April 3, 1996 through
September 16, 2003)

SCIENTIFIC NOTEBOOK

170-6E

SCIENTIFIC NOTEBOOK

by

Miguel Hidalgo

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INITIAL ENTRIES

Scientific Notebook: #170 E

Issued to: S. Mohanty

Issue Date: Apr. 3,1996

Account Number: 20-5708-762

Title: EXEC

Participants: Miguel Hidalgo

Jul 3, 2000 - Modifications to compile TPA4.0 code

Rename in the codes directory, the sizes.inc and sizes2.inc to upper cases.

Rename in the codes/gentpa/ directory, all *.cmn to upper cases.

Jul 10, 2000 – Added comments, indentation and headers to the following file: \codes\ebsfilt.f

Jul 11-13, 2000 – Added comments, indentation and headers to the following file: \codes\failt.f

Jul 14, 2000 – Added comments, indentation and headers to the following file: array.f, condxyzt.f, ebsfail.f

Jul 18, 2000 – Added comments, indentation and headers to the following files: fileunit.f, findelev.f, ia.f, and invent.f.

Jul 19, 2000 – Added comments, indentation and headers to the following files: mv.f,

Aug 10, 2000 – Compared outputs to baseline – Outputs consistent.

Aug 10, 2000 - Removed dead code and old comments to the following file: numrecip.f, peakfind.f, ran.f

Aug 10, 2000 – Compiled and Ran code.

Aug 10, 2000 – Compared outputs to baseline – Outputs consistent.

Aug 10, 2000 - Removed dead code and old comments to the following file: sampler.f and subarea.f

Aug 10, 2000 – Compiled and Ran code.

Aug 10, 2000 - Removed dead code, and old comments to the following file: uzflow.f and zportunx.f

Aug 11, 2000 – Compared outputs to baseline – Outputs consistent.

Aug 11, 2000 – Compiled and Ran code for uzflow.f & zportunx.f

Aug 11, 2000 – Compared outputs to baseline – Outputs consistent.

Entries into Scientific Notebook #170E for
Pages 2-5 have been made by Miguel Hidalgo
8/29/2000.
No original text entered into this Scientific
Note book has been removed.

8/29/00

Sep. 6, 2000 – Received new files from Edgar Reuben. Compiled and ran.

Sep. 7, 2000 – Compared outputs, outputs are consistent.

February 24, 2001 – Meeting with Ron Janetzke. Discussed and took requirements
                   for the testing of TPA 4.1 e/f, SCR335
February 26, 2001 – Installed and compiled TPA 4.1e.
                   Created tpabase
February 26, 2001 – Developed testing plan.

February 27, 2001 – re-compiled TPA 4.1e.

February 27, 2001 – Installed and compiled TPA 4.1f.

February 28, 2001 – Run TPA 4.1f.

February 28, 2001 – Run TPA 4.1e and created a second base line.

February 28, 2001 – Compared TPA 4.1f complete no interrupt run
                   (tpa41f3rcompletenotint) with first TPA 4.1e run results
                   (tpa41e3r_no_intfirstbaseline). Results were identical other
                   that different dates and the file name snllhs.log was only in
                   tpa41f3rcompletenotint.

February 28, 2001 – Compared TPA 4.1f complete no interrupt run
                   (tpa41f3rcompletenotint) with second TPA 4.1e run
                   (tpa41ebaseline2) results. Results were identical other that
                   different dates and some files that existed only in one of the
                   runs, see list below:

        1.   tpa.out only in tpa41f3rcompletenotint

February 28, 2001 – re-compiled and run TPA 4.1f.

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February 28, 2001 – Compared TPA 4.1f complete no interrupt run second baseline (tpa41f_3r_2nd_base_complete) with first TPA 4.1e run results (tpa41e3r_no_intfirstbaseline). Results were identical other that different dates.

March 1, 2001 – Run TPA 4.1f. and interrupted at Subarea 10 of Realization 2 (tpa41f_int_2) Restarted tpa.e. Compared TPA 4.1f results with first TPA 4.1e run results (tpa41e3r_no_intfirstbaseline). Results were identical other that different dates and the file name snllhs.log was only in tpa41f_int_2.

March 1, 2001 – Run TPA 4.1f. and interrupted at Subarea 2 of Realization 3. Restarted tpa.e. Compared TPA 4.1f results with first TPA 4.1e run results (tpa41e3r_no_intfirstbaseline). Results were identical other that different dates and the file name snllhs.log was only in tpa41f_int_3.

March 2, 2001 – Run TPA 4.1f 10 realizations. Completed successfully.

March 2, 2001 – Run TPA 4.1f and interrupted at Subarea 5 of Realization 1. "check.pnt" was not created . Restarted tpa.e.). Results were identical other that different dates and the file name snllhs.log was only in tpa41f_int_1.

March 5, 2001 – Run TPA 4.1f (3 realizations) Interrupted during the third realization, subarea 5 of 10. Changed TPA.INP from 3 to 1 realization Restarted run, displayed main startup run and then ended the realization saying that the run was successful.

March 14, 2001 – Run TPA 4.1f 10 realizations and interrupted at Subarea 4 of Realization 2. Restarted tpa.e. Interrupted at Subarea 1 of Realization 8. Restarted tpa.e.

March 15, 2001 – Run TPA 4.1f 10 realizations - interrupted at Subarea 4 of Realization 2 and Subarea 1 of Realization 8 – completed successfully.

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March 15, 2001   – Compared run TPA 4.1f 10 realizations - interrupted at
                  Subarea 4 of Realization 2 and Subarea 1 of Realization 8 –
                  (tpa41f_10r_int_2_8) with run TPA 4.1f 10 realizations, no
                  interrupts (tpa41f_10r_no_int_complete). Results were
                  identical other that different dates, except the file name
                  "snllhs.log" had some differences. See attached sheet.

March 15, 2001   – Run TPA 4.1f (3 realizations) Interrupted during the third
                  realization, subarea 2 of 10. Changed TPA.INP from 3 to 1
                  realizations. Restarted run. Displayed the main startup run and
                  then ended the realization saying that the run was successful.

March 15, 2001   – Run TPA 4.1e (10 realizations) no interrupts. Completed
                  Successfully.

March 16, 2001   – Compared run TPA 4.1f 10 realizations - interrupted at
                  Subarea 4 of Realization 2 and Subarea 1 of Realization 8 –
                  (tpa41f_10r_int_2_8) with run TPA 4.1e 10 realizations, no
                  interrupts (tpa41e_10r_no_int). Most files were identical other
                  that different dates, except the following file names:

- "ebspac.nuc" exists only in tpa41f_10r_int_2_8
- "genv.in" exists only in tpa41f_10r_int_2_8
- "gwork.buf" exists only in tpa41f_10r_int_2_8
- "nefii.rel" exists only in tpa41f_10r_int_2_8
- "nefiiuz.vel" exists only in tpa41f_10r_int_2_8
- "nefmks.log" exists only in tpa41f_10r_int_2_8
- "samplpar.abb" exists only in tpa41f_10r_int_2_8
- "samplpar.hdr" exists only in tpa41f_10r_int_2_8
- "tpa_lhs.lgd" exists only in tpa41f_10r_int_2_8
- "tpanames.dbs" exists only in tpa41f_10r_int_2_8

Because of the results of this run, I believed it was an
unsuccessful run, therefore a second run will be performed.

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March 16, 2001   - Run another 10 realizations, no interrupts (tpa41e_10r_2nd) to verify previous comparisons in March 16.

March 19, 2001   – Compared run TPA 4.1f 10 realizations - interrupted at Subarea 4 of Realization 2 and Subarea 1 of Realization 8 – (tpa41f_10r_int_2_8) with run TPA 4.1e 10 realizations, no interrupts (tpa41e_10r_2nd). Most files were identical other that different dates, except the following file names:

- "snllhs.log" exists only in tpa41f_10r_int_2_8

March 20, 2001   - All results were confirmed and the SCR335 tests passed. CD with all the test results of SCR335 was created.

March 28, 2001   - Developed SCR334 testing Plan. Started tpa.e version 4.1f, with the groundwaterprotectioncalc flag set to 0.

March 29, 2001   - Tpa.e version 4.1f, with the groundwaterprotectioncalc flag set to 0 run failed. See error below:

```
------------------------------------------------------------
    subarea  10 of  10        realization   1 of  1
------------------------------------------------------------
exec: calling uzflow
    .

    .

    .
exec: calling dcagw
can't close stderr: [1001] illegal unit number
logical unit 0, named 'stderr'
Abort (core dumped)
```

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March 29, 2001	- Started tpa.e version 4.1f (folder mytpabasescr334_flag_1), with the groundwaterprotectioncalc flag set to 1. Completed successfully.
March 29, 2001	- Compiled modified file "dcagw.f" and Started tpa.e version 4.1f (folder mytpabasescr334_flag_0), with the groundwaterprotectioncalc flag set to 0. Completed successfully.
March 30, 2001	- Compared output files from both runs with the flag set to 1 and 0. Results were identical other that different dates, except the file names "epa_eva.out", "epapktim.out and "organdf.dat" were only present in the run that groundwaterprotectioncalc flag was set to 1.
March 30, 2001	- Completed SCR334 report.
April 2, 2001	- Created CD for SCR334 and generated final report.
April 2, 2001	- Started SCR336. Compiled tpa4.1h and run with the flag AnnualInfiltrationLossMode set to 0. tpa 4.1h crashed with when the module neftran module was executed.
April 2, 2001	- Run tpa 4.1h with the flag AnnualInfiltrationLossMode set to 1. The run completed successfully.
April 3, 2001	- Run tpa 4.1h with the flag AnnualInfiltrationLossMode set to 0 (folder tpa41h_flag_set_to_0) and changed the seed value in tpa.inp. The run completed successfully. - Run tpa 4.1h with the flag AnnualInfiltrationLossMode set to 1 (folder tpa41h_flag_set_to_1). The run completed successfully. Copied both runs folders to PC for comparison.
April 4, 2001	- Compared output files with the WinDiff utility by Microsoft. The following files were different: "cumrel.res", "cumrel_c.res", "cumrelse.out",

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"diagnose.out", "ebsfilt.inp", "ebsfilt.out", "ebsflo.dat", "ebsnef.dat", "ebsnef2.dat", "echofilt.dat", "epa_ave.out", "epapktim.out", "frac_rel.out", "gwccdf.res", "gwccdf_c.res", "gwpkdos.res", "gwpkds_c.res", "gwttuzsz.res", "infilper.res", "maxrel.dat", "mv.tpa", "nefii.dis", "nefii.out", "nefii.rel", "nefii.vel", "nefiisz.dis", "nefiisz.out", "nefiisz.src", "nefiiuz.dis", "", "nefiiuz.inp", "nefiiuz.out", "nefiiuz.src", "nefiiuz.vel", "npkdoset.res", "npkdst_c.res", "pkmndose.out", "pkreltim.res", "pkrltm_c.res", "relccdf.res", "relcum.out", "releaset.out", "relfrac.out", "relgwgs.res", "rgwna.tpa", "rgwnr.tpa", ""rgwsa.tpa", "rgwsr.tpa", "rlccdf_c.res", "rlgwgs_c.res", "sotnef.dat", "totdos_c.res", "totdose.res", "trelease.out". Test was successful.

April 4, 2001   - Generated final SCR-336 report for review.

April 4, 2001   - Generated CD and report for SCR-336

Entries into Scientific Notebook #170-6E for pages ___8___ - __14__ have been made by Miguel Hidalgo 3/20/01.

No original text entered into this Scientific Notebook has been removed.

_____ 3/20/01.

I have reviewed this scientific notebook and find it in compliance with QAP-001. There is sufficient information regarding methods used for conducting tests, acquiring
and analyzing data so that another qualified individual could repeat the activity.

James Winterle

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