

SOFTWARE RELEASE NOTICE

1. SRN Number: <b>GLGP-SRN-199</b>		
2. Project Title: <b>Structural Deformation and Seismicity KTI</b>		Project No. <b>20-1402-471</b>
3. SRN Title: <b>GM-SYS Version 4.04.08C</b>		
4. Originator/Requestor: <b>Peter C. La Femina</b>		Date: <b>08/04/99</b>
5. Summary of Actions		
<input checked="" type="checkbox"/> Release of new software <input type="checkbox"/> Release of modified software: <ul style="list-style-type: none"> <li><input type="checkbox"/> Enhancements made</li> <li><input type="checkbox"/> Corrections made</li> <li><input type="checkbox"/> Change of access software</li> <li><input type="checkbox"/> Software Retirement</li> </ul>		
6. Persons Authorized Access		
Name	Read Only/Read-Write	Addition/Change/Delete
<b>Peter C. La Femina</b>	<b>RO</b>	<b>A</b>
<b>John Stamatakos</b>	<b>RO</b>	<b>A</b>
<b>Chuck Connor</b>	<b>RO</b>	<b>A</b>
<b>David Farrell</b>	<b>RO</b>	<b>A</b>
7. Element Manager Approval: <b>Larry McKague</b> <i>Larry McKague</i> Date: <b>8/6/99</b>		
8. Remarks:		

**SOFTWARE SUMMARY FORM**

01. Summary Date: 8/04/99		02. Summary prepared by (Name and phone) Peter C. La Femina (210) 522-6837		03. Summary Action: NEW	
04. Software Date: 11/9/98		05. Short Title: GM-SYS			
06. Software Title: GM-SYS Version 4.04.08C - Gravity and Magnetic Modeling for Windows and X-Windows				07. Internal Software ID: N/A	
08. Software Type: <input type="checkbox"/> Automated Data System <input checked="" type="checkbox"/> Computer Program <input type="checkbox"/> Subroutine/Module		09. Processing Mode: <input checked="" type="checkbox"/> Interactive <input type="checkbox"/> Batch <input type="checkbox"/> Combination		10. Application Area a. General: <input checked="" type="checkbox"/> Scientific/Engineering <input type="checkbox"/> Auxiliary Analyses <input type="checkbox"/> Total System PA <input type="checkbox"/> Subsystem PA <input type="checkbox"/> Other b. Specific:	
11. Submitting Organization and Address:  CNWRA/SwRI 6220 Culebra Road San Antonio, TX 78228			12. Technical Contact(s) and Phone:  Northwest Geophysical Associates, Inc. <u>Support@nga.com</u> (541) 757-7231		
13. Software Application: Modeling of gravity and magnetic data.					
14. Computer Platform PC		15. Computer Operating System: Windows & X-Windows		16. Programming Language(s): N/A	
17. Number of Source Program Statements: N/A		18. Computer Memory Requirements: N/A		19. Tape Drives: N/A	
20. Disk Units: N/A		21. Graphics: N/A			
22. Other Operational Requirements:					
23. Software Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Limited <input type="checkbox"/> In-House ONLY			24. Documentation Availability: <input checked="" type="checkbox"/> Available <input type="checkbox"/> Preliminary <input type="checkbox"/> In-House ONLY		
25. Software Developer: Northwest Geophysical Associates, Inc.    Date: Copyright 1998					

*Peter C. La Femina*

TO: Bruce Mabrito  
FROM: Peter C. La Femina  
SUBJECT: GM-SYS™  
DATE: July 23, 1999

GM-SYS™ is a widely distributed, off-the-shelf program for geophysical potential field data modeling. It is an interactive, geophysical modeling software package that allows for the importation of well log and other geologic data, which may be used to constrain the geophysical models.

GM-SYS™, version 4.04, is the current version of this software package released by Northwest Geophysical Associates, Inc. The current version was released on November 9, 1998 and runs under the Microsoft Windows 95™ and Windows NT™ operating systems.

The installation of the software was successful and has now been installed on several personal computers. To test the gravity modeling computations of GM-SYS™, a model of a thin faulted slab was constructed and calculated using GM-SYS™. The resulting model was compared to the analytical solution for a thin faulted slab following Dobrin and Savit (1988). The results of this test are attached and demonstrate the validation of this software for modeling gravity data.

#### Reference

Dobrin, M.B. and Savit, C.H., 1988. Introduction to Geophysical Prospecting (Fourth Edition), McGraw-Hill Book Company, New York, p. 867.

The following documents are provided in the TOP-018 folder:

The front cover and table of contents of the GM-SYS™ User's Manual. The complete and original manual is kept by Peter C. La Femina in office A263.

1 GM-SYS™ gravity profile and model image output of a thin faulted slab.

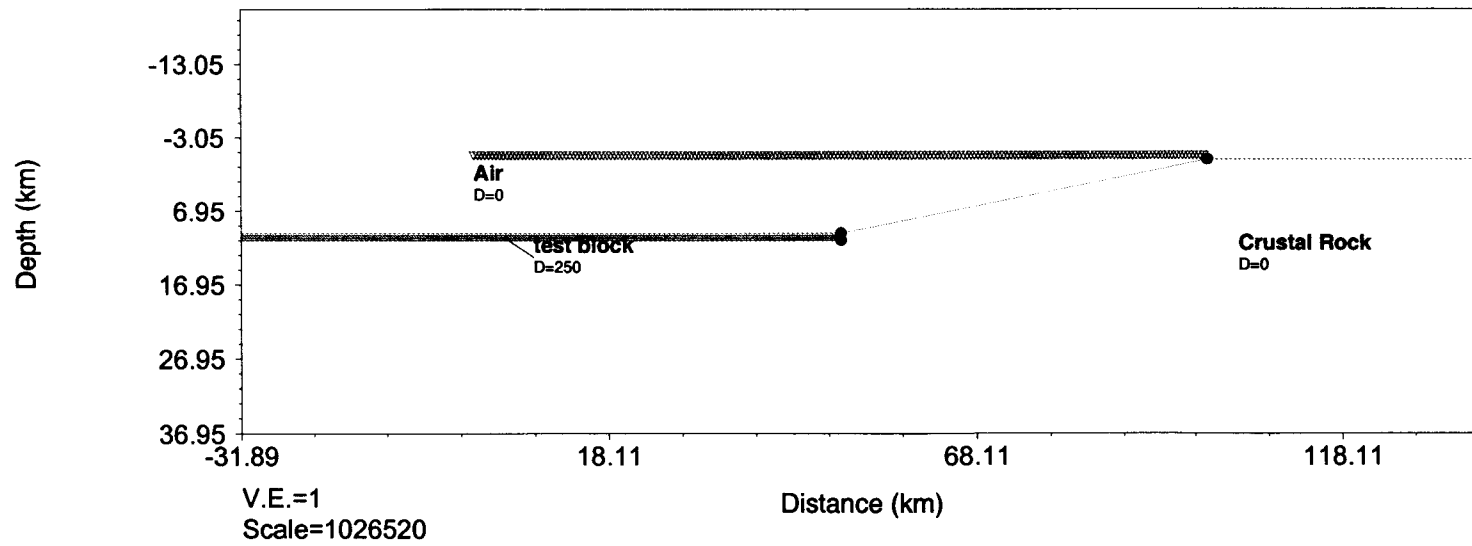
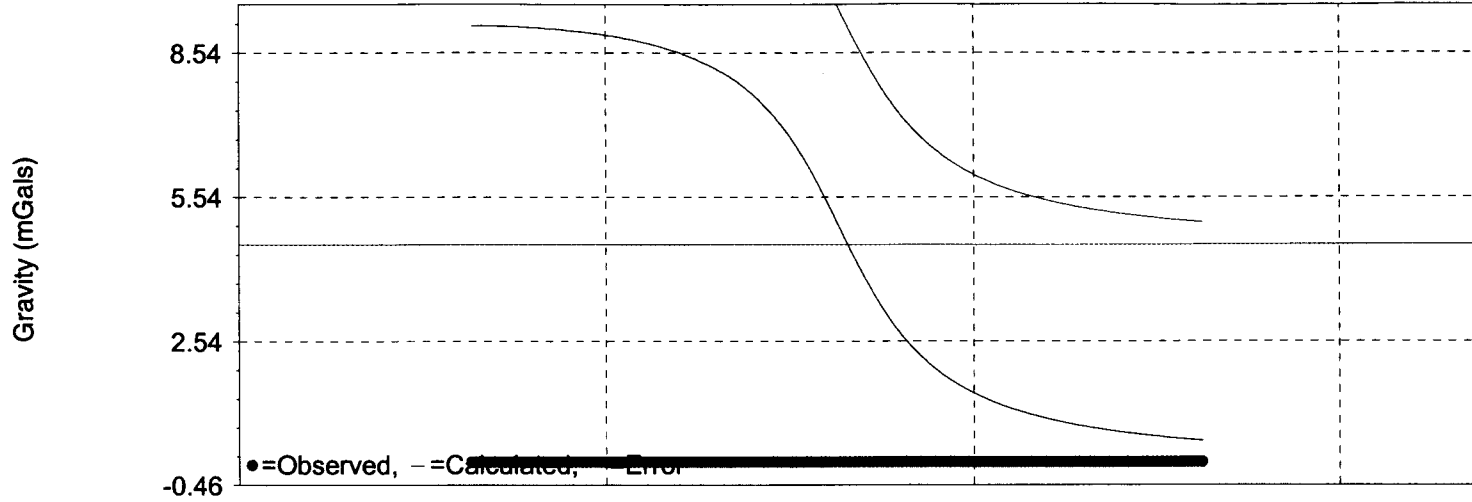
1 Graph of the analytical solution for a thin faulted slab following Dobrin and Savit (1988) and the data used to create the graph.

1 3.5 Floppy disc of the GM-SYS™ installation program and ancillary information.

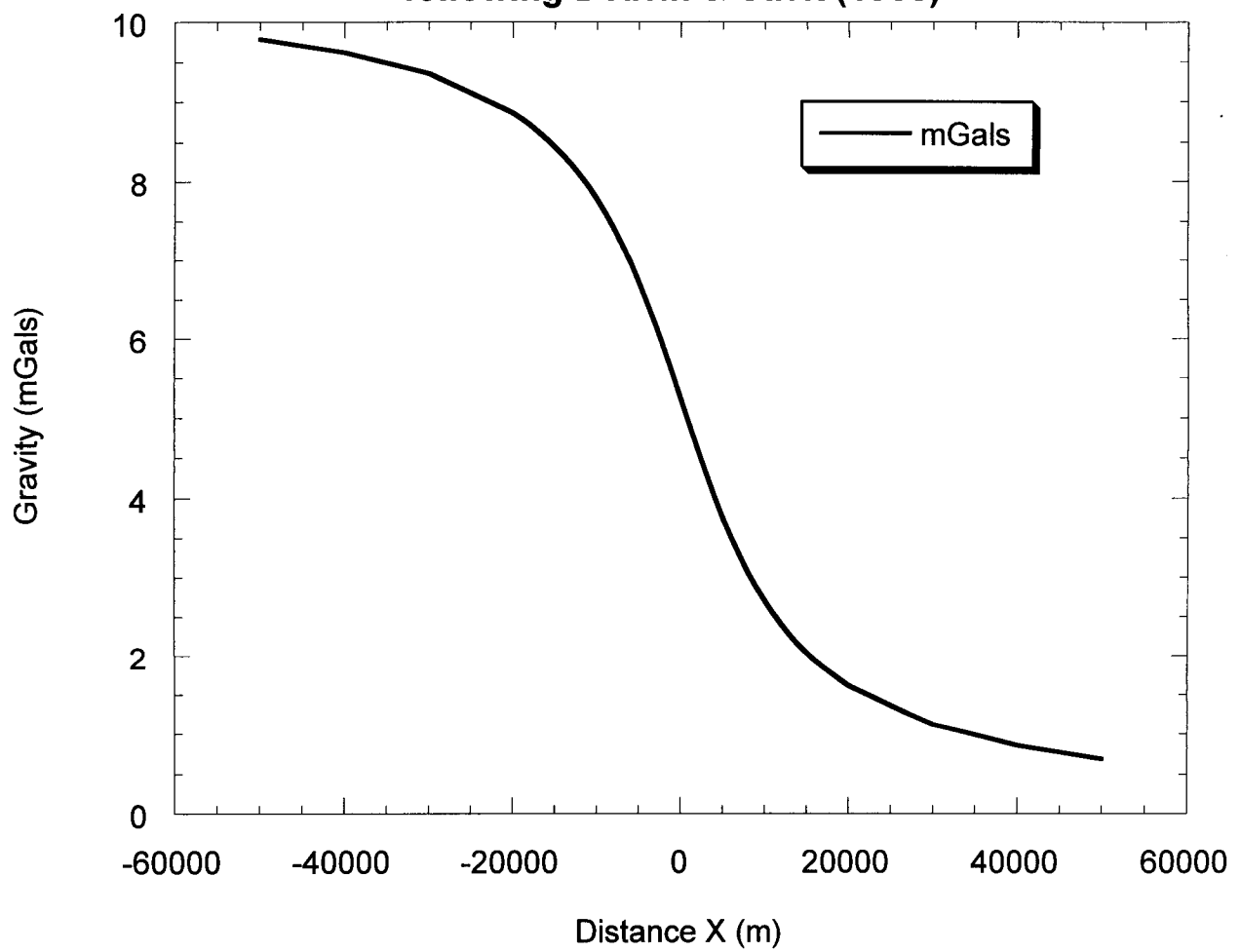
# D:\Data\bigpine\gravity\_test2

Generated with GM-SYS

Wed Aug 04 09:24:41 1999



**Gravity Profile Over Thin Faulted Slab -  
following Dobrin & Savit (1988)**



	X	X/Z	Gz (m/s <sup>2</sup> )	Gz (mGals)	E	F	G
0	50000	4.7619	6.9032e-06	0.69032			
1	40000	3.8095	8.5612e-06	0.85612			
2	30000	2.8571	1.1228e-05	1.1228			
3	20000	1.9048	1.6123e-05	1.6123			
4	19000	1.8095	1.6837e-05	1.6837			
5	18000	1.7143	1.7611e-05	1.7611			
6	17000	1.6190	1.8452e-05	1.8452			
7	16000	1.5238	1.9368e-05	1.9368			
8	15000	1.4286	2.0368e-05	2.0368			
9	14000	1.3333	2.1461e-05	2.1461			
10	13000	1.2381	2.2658e-05	2.2658			
11	12000	1.1429	2.3973e-05	2.3973			
12	11000	1.0476	2.5418e-05	2.5418			
13	10000	0.95238	2.7006e-05	2.7006			
14	9000.0	0.85714	2.8753e-05	2.8753			
15	8000.0	0.76190	3.0673e-05	3.0673			
16	7000.0	0.66667	3.2776e-05	3.2776			
17	6000.0	0.57143	3.5073e-05	3.5073			
18	5000.0	0.47619	3.7565e-05	3.7565			
19	4000.0	0.38095	4.0247e-05	4.0247			
20	3000.0	0.28571	4.3105e-05	4.3105			
21	2000.0	0.19048	4.6109e-05	4.6109			
22	1000.0	0.095238	4.9219e-05	4.9219			
23	0.0000	0.0000	5.2386e-05	5.2386			
24	-1000.0	-0.095238	5.5553e-05	5.5553			
25	-2000.0	-0.19048	5.8663e-05	5.8663			
26	-3000.0	-0.28571	6.1667e-05	6.1667			
27	-4000.0	-0.38095	6.4525e-05	6.4525			
28	-5000.0	-0.47619	6.7207e-05	6.7207			
29	-6000.0	-0.57143	6.9700e-05	6.9700			
30	-7000.0	-0.66667	7.1996e-05	7.1996			
31	-8000.0	-0.76190	7.4099e-05	7.4099			
32	-9000.0	-0.85714	7.6019e-05	7.6019			
33	-10000	-0.95238	7.7766e-05	7.7766			
34	-11000	-1.0476	7.9355e-05	7.9355			
35	-12000	-1.1429	8.0799e-05	8.0799			
36	-13000	-1.2381	8.2114e-05	8.2114			
37	-14000	-1.3333	8.3311e-05	8.3311			
38	-15000	-1.4286	8.4404e-05	8.4404			
39	-16000	-1.5238	8.5404e-05	8.5404			
40	-17000	-1.6190	8.6320e-05	8.6320			
41	-18000	-1.7143	8.7161e-05	8.7161			
42	-19000	-1.8095	8.7935e-05	8.7935			
43	-20000	-1.9048	8.8649e-05	8.8649			
44	-30000	-2.8571	9.3544e-05	9.3544			
45	-40000	-3.8095	9.6211e-05	9.6211			
46	-50000	-4.7619	9.7869e-05	9.7869			