

## SOFTWARE RELEASE NOTICE

1. SRN Number: <b>325</b>		
2. Project Title: Igneous Activity Technical Assistance Structural Deformation and Seismicity Technical Assistance Unsaturated and Saturated Flow Under Isothermal Conditions		Project No.06002.01.051 No.06.002.01.061 No.06.002.01.131
3. SRN Title: Oasis Montaj Version 5.1.8		
4. Originator/Requestor: Brandi L. Winfrey		Date: November 25, 2003
5. Summary of Actions  <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Release of new software   <input type="checkbox"/> Release of modified software:  <div style="margin-left: 20px;"> <input type="checkbox"/> Enhancements made  <input type="checkbox"/> Corrections made </div> </div> <div> <input type="checkbox"/> Change of access software   <input type="checkbox"/> Software Retirement </div> </div>		
6. Validation Status  <input checked="" type="checkbox"/> Validated  <input type="checkbox"/> Limited Validation  <input type="checkbox"/> Not Validated      Explain: _____		
7. Persons Authorized Access		
Name	Read Only/Read-Write	Addition/Change/Delete
ALL	YES	NO
8. Element Manager Approval: <i>H. Lawrence III - Keyser</i> Date: <i>8/24/04</i>		
9. Remarks: Software is licensed, commercial, acquired software not to be modified.		

# SOFTWARE SUMMARY FORM

01. Summary Date: November 25, 2003	02. Summary prepared by: Brandi L. Winfrey (210)522-5083	03. Summary Action: NEW	
04. Software Date: July 21, 2003	05. Short Title: Oasis Montaj		
06. Software Title: Oasis Montaj version 5.1.8			07. Internal Software ID: None
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 type="checkbox"/> Scientific/Engineering <input checked="" type="checkbox"/> Auxiliary Analyses <input type="checkbox"/> Total System PA <input type="checkbox"/> Subsystem PA <input type="checkbox"/> Other  b. Specific: Igneous Activity, SDS, and USFIC	
11. Submitting Organization and Address:  CNWRA/SwRI 6220 Culebra Road San Antonio, TX 78228		12. Technical Contact(s) and Phone: 8th Floor, 85 Richmond Street West Toronto, ON M5H 2C9 Tel: +1 (416) 369-0111 or Toll-free: 1-800-363-MAPS Fax: +1 (416) 369-9599 Sales & General Information: info@geosoft.com Technical Support: tech@geosoft.com	
<p>13. Software Application: The Oasis montaj environment provides direct access to data contained in Oasis databases through a spreadsheet window and an integrated profile display window. The Oasis database is a high-performance database that provides efficient storage and access for very large spatial data sets. The platform enables you to edit maps interactively, apply dynamic linking to maps and track the map creation processes. Visual data links are provided to dynamically connect data in the spreadsheet, profile and map views. Data processing is achieved through the application of Geosoft eXecutable functions (GXs), which can be used to control all aspects of the data processing sequence and environment. DAT Technology (for Accessing Grids and Images) enables the platform to use a variety of grid and image formats in Oasis montaj.</p> <p>This version has the ability to: Create, import, and export: maps, databases, grids, and profiles, use CAD tools to draw interpretation features on maps, Automate tasks using scripts, Create GXs.</p>			
14. Computer Platform Microsoft	15. Computer Operating System: Windows 2000 recommended, Windows XP Pro, Windows NT 4.0, 95 or 98 minimum.	16. Programming Language(s): N/A	17. Number of Source Program Statements: N/A, only have executable code
18. Computer Memory Requirements: 512 Mb or more recommended, 128 Mb minimum	19. Tape Drives: N/A	20. Disk Units: Installation Disk Space: 20 Mb – 200 Mb (depending upon software config) Data Disk Space: 1 - 4 Gb recommended	21. Graphics: 24-bit graphics card with 3-D acceleration is recommended and required for full colour imaging. Recommend 64Mb Ram on card.
22. Other Operational Requirements: A Pentium CPU required.			
23. Software Availability: <input type="checkbox"/> Available <input checked="" 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: Geosoft Inc.		Date: July 21, 2003	

# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES

## QA VERIFICATION REPORT

FOR

→ ACQUIRED SOFTWARE NOT TO BE MODIFIED ←

Software Title/Name: DASIS Montaj  
 Version: 5.1.8  
 Demonstration workstation: PC  
 Operating System: Windows : 2000, XP 6.0, NT 4.0, 95, 98 min.  
 User: Brandi Winfrey

*NOTE: Acquired software may or may not meet all requirements and will be evaluated on a case-by-case basis.*

### Installation Testing [TOP-018, Section 5.6]

Has installation testing been conducted for each intended computer platform and operating system?

Yes: ☒ No: ☐ N/A: ☐

Computer Platforms: PC Operating Systems: Win2000

Location of Acceptance Test Results: SVTR dated 8/16/2004

Comments: 7/3/02

### Software Output [TOP-018, Section 5.5.4]

Is software designed so that individual runs are uniquely identified by date, time, name of software and version?

Yes: ☐ No: ☐ N/A: ☒

Date and Time Displayed: \_\_\_\_\_

Name/Version Displayed: \_\_\_\_\_

Comments: Interactive

*NOTE: Output identification content and format is typically taken as is.*

### Medium Documentation [TOP-018, Section 5.5.6]

The physical labeling of software medium (tapes, disks, etc.) contains: Program Name, Module/Name/Title, Module Revision, File type (ASCII, OBJ, EXE), Recording Date, and Operating System(s)?

Yes: ☐ No: ☐ N/A: ☒

Comments:

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### User Documentation [TOP-018, Section 5.5.7]

Is there a Users' Manual for the software and is it up-to-date?

Yes: ☒ No: ☐ N/A: ☐

*Help pages on Geosoft website*  
User's Manual Version and Date:

Comments:

Are there basic instructions for the *installation* and *use* of the software?

Yes: ☒ No: ☐ N/A: ☐

Location of Instructions: website

Comments:

### Configuration Control [TOP-018, Section 5.7, 5.9.3]

Is the Software Summary Form (Form TOP-4-1) completed and signed?

Yes: ☒ No: ☐ N/A: ☐

Date of Approval: 7/21/2003

Is the list of files attached to the Software Summary Form complete and accurate?

Yes: ☐ No: ☐ N/A: ☒

Comments:

Is the source code available or, is the executable code available in the case of (acquired/commercial codes)?

Yes: ☐ No: ☒ N/A: ☐

Location of Source Code: \_\_\_\_\_

Comments:

*Due to copyright restrictions, the only available copy of the code is on the installed machine*

Have all the script/make files and executable files been submitted to the Software Custodian?

Only the executable files are being submitted.

Yes: ☐ No: ☒ N/A: ☐

Location of executable files: \_\_\_\_\_

Comments:

*See above*

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QA VERIFICATION REPORT

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Software Release [TOP-018, Section 5.9]

Upon acceptance of the software as verified above, has a Software Release Notice (SRN), Form TOP-6 been issued and does the version number of the software match the documentation?

Yes: ☒ No: ☐ N/A: ☐

SRN Number: 325

Comments:

Software Validation [TOP-018, Section 5.10]

Has a Software Validation Test Plan (SVTP) been prepared for the *range of application* of the software?

Yes: ☒ No: ☐ N/A: ☐

Version and Date of SVTP: for v. 5.18

Date Reviewed and Approved via QAP-002: 8/16/2004

Comments:

Has a Software Validation Test Report (SVTR) been prepared that documents the results of the validation cases, interpretation of the results, and determination if the software has been validated?

Yes: ☒ No: ☐ N/A: ☐

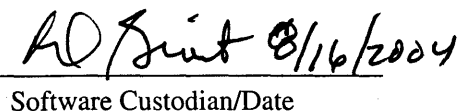
Version and Date of SVTR: for v. 5.18

Date Reviewed and Approved via QAP-002: 8/16/2004

Comments.: Combine SVTP/SVTR

Additional Comments:

  
Software Evaluator/User Date

  
Software Custodian/Date

# SOFTWARE VALIDATION TEST PLAN AND REPORT

## Oasis montaj™, Version 5.1.8

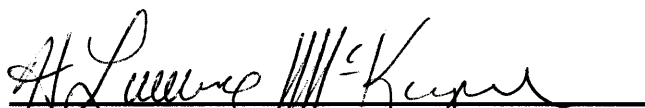
*Prepared by*

**B. Winfrey**

**Center for Nuclear Waste Regulatory Analyses  
San Antonio, Texas**

**November 2003**

**Approved by:**

  
H. Lawrence McKague, Element Manager  
Geology and Geophysics

08/13/04  
Date

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## 1 SCOPE OF VALIDATION

Oasis montaj™, developed by Geosoft, Inc., is a software platform and Internet Data Appliance for working with spatial data. There are two configurations:

- The **Interface**, distributed free, is an Internet-enabled software application that enables you to access, convert and share earth science data, grids and images in a variety of standard formats.
- The Core **Software Platform, Interface and Processing Engine**, the licensed version, contains a cross-section of built-in data import, processing, analysis, visualization, mapping, and integration capabilities that work in conjunction with Geosoft's software Applications and Tools.

Software validation of Oasis montaj™ should confirm that the software can import, process, map, and display original geospatial data, maintaining geospatial relationships and coordinates.

## 2 REFERENCES

Oasis montaj 5.1.4 Quick Start™ Tutorials, 23 May 2002.

Blakely, R.J., V.E. Langenheim, D.A. Ponce, and G.L. Dixon. "Aeromagnetic Survey of the Amargosa Desert, Nevada and California: A Tool for Understanding Near-Surface Geology and Hydrology." U.S. Geological Survey Open-File Report 00-188. Online Ver. 1.0. <http://www.geopubs.wr.usgs.gov/open-file/of00-188/>. 2000.

## 3 ENVIRONMENT

### 3.1 Software

- Microsoft® Windows XP®
- To use the Internet capabilities in Oasis montaj™, Microsoft® Internet Explorer 6.0, Service Pac 1.

### 3.2 Hardware

- A Pentium CPU is required. Dual Zeon 3.02 GHz Processor, 2GB RAM, 400 GB HD space, SCSI ultra 320
- RAM memory: 512 MB or more recommended, 128 MB minimum
- A 32-bit graphics card

## 4 PREREQUISITES

Not applicable.



## 5 ASSUMPTIONS AND CONSTRAINTS

None

## 6 TEST CASES

### 6.1 Display Geospatial Data

#### 6.1.1 Objective

Demonstrate that Oasis montaj™ can correctly import, process, map, and display original geospatial data in correct geographic coordinates.

#### 6.1.2 Test Input

Benchmark data were provided from the U.S. Geological Survey Open-File Report “Aeromagnetic Survey of the Amargosa Desert, Nevada and California: A Tool for Understanding Near-Surface Geology and Hydrology” (Blakely, et al.) A digital image of this file (Figure 5 in the Open-File Report 00-188) is attached in this report as Figure 2. The raw data is located in an ASCII data file *amargosa.xyz*. The coordinates are in a UTM NAD27 coordinate system. Copy this file to the test directory.

#### 6.1.3 Test Procedure

1. Start Oasis montaj™.
2. Create a new workspace in the test directory. Name it *amargosa.gws*.
3. Go to the Data menu and select Import ASCII. A dialog box will appear prompting you to select the file to import. Select *amargosa.xyz* from the test directory and click on the “Wizard” button.
4. A series of dialog boxes will appear prompting you for information. In the first window, check the Delimited checkbox and then the Next button. In the second window, check the White Space Delimited checkbox and then the Next button. In the third window, check the Data button and highlight the first column. Give the first column a Channel name and Label. Use the same name for both: LineID. Do the same for each of the columns using the following data:
  - column 2 is longitude,
  - column 3 is latitude,
  - column 4 is radar height,
  - column 5 is barometric height,
  - column 6 is uncorrected magnetic field,
  - column 7 is total field anomaly, and
  - column 8 is levelled anomaly.
5. Click on the Finish button to create the database. Save the template. Use the default name: *amargosa.i3*. Give the database a name: *amargosa.gdb* and keep the default values in the other fields. Click on the OK button. A table showing the data should appear.
6. Define the X and Y channels. Go to the Coordinates menu and set projection. The X channel should be longitude and the Y channel should be latitude. Click on the Projection button. A new dialog should appear. Click on the “Modify” button to set the coordinate

system to geographic (long, lat) with a datum of NAD27. Accept all other defaults and click on OK. Now go back to the Coordinates menu and click on change X, Y coordinates. Set the X coordinate to longitude and the Y coordinate to latitude.

7. Grid the data by clicking on the Grid menu, then Gridding, Minimum Curvature, and Dialog Controls. This will bring up a dialog window. Set the channel to grid to Leveled anomaly, and give the new output grid file a name, *levelled.grd*. Leave the grid cell size empty.
8. Click on Mapping, new map, new map from lat, long. This will bring up a dialog box that prompts you for a data range to map. Click on Scan grid to obtain the min/max ranges. Select Next and then Finish.
9. Go to the Mapping menu and select Base map, then Draw Base map. Keep the default settings, select Next, change the "Add longitude, latitude annotations" field to add long, lat ticks along the edge of the map, click on Next, and define the title of the map: "Aeromagnetic Anomalies, Software Validation Testing, November 2003." Click on Finish to add the title, and coordinates to the map.
10. Click on Mapping, Image display, Color-shaded grid. A dialog box will appear allowing you to select the grid to add to the map. Select *levelled.grd* and keep the default values. Click on "Current Map" to add the image to the current map.
11. Compare final map, as seen in Figure 1, with Figure 2. (Figure 5 in the Open-File Report 00-188). Verify the coordinates are correct and that anomalies appear in the same locations and are of the same magnitudes (based on their respective color tables). Verify the map and color scales are the same and the area of data plotted on the Oasis montaj™ map corresponds to the area of data surveyed in Figure 2 (within the red dashed lines).

Notes:

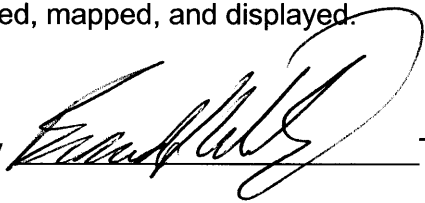
- The map scale on Figure 2 is in kilometers and the map scale on the Oasis montaj™ map is in meters, but the distances should be equivalent.
- The color scale on Figure 2 is set at a constant -200 to 150 nT range while the Oasis montaj™ scale is set to the min and max of the data range, but the magnitudes shown on both maps should still be equivalent.

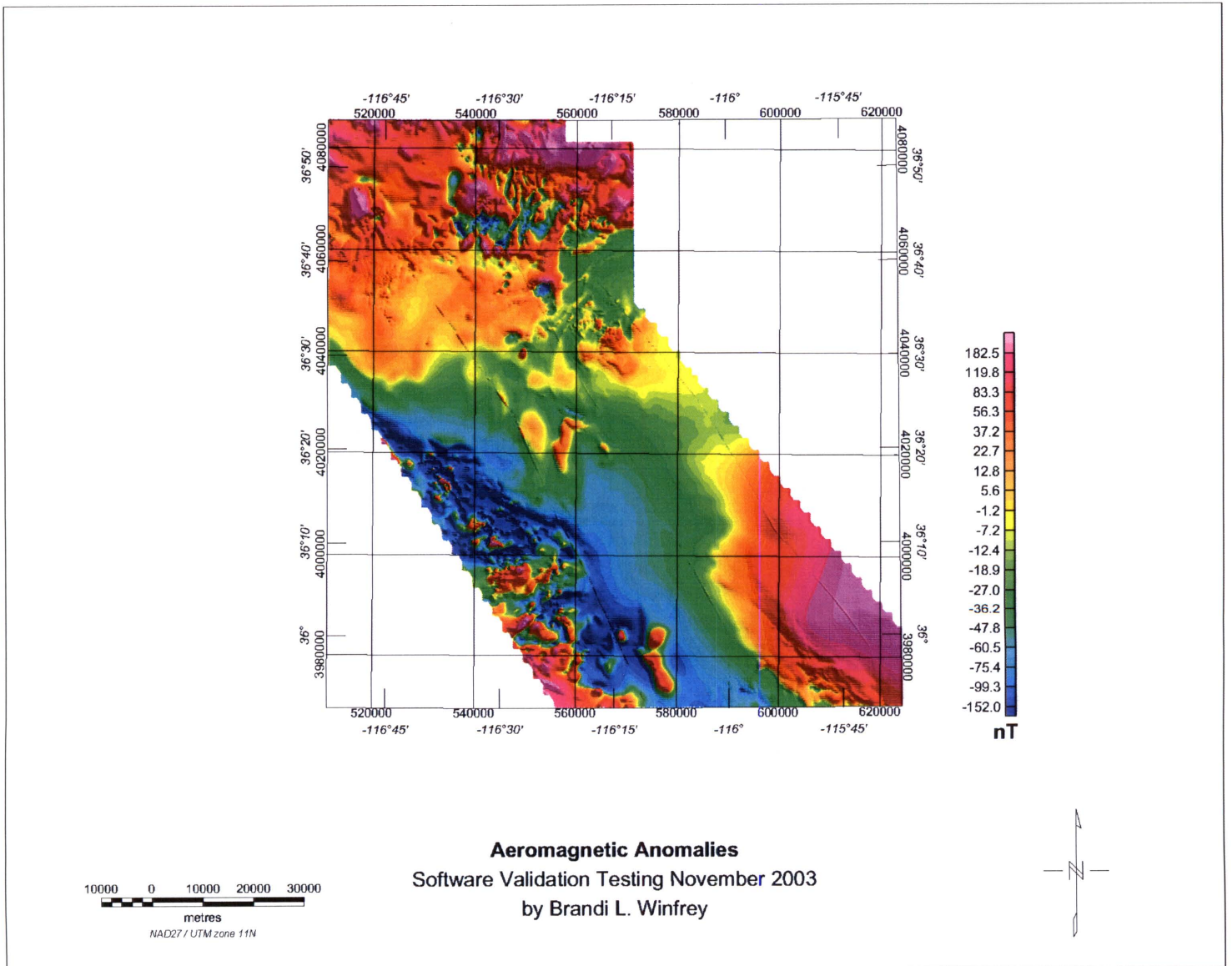
#### 6.1.4 Test Results

**PASS/FAIL:** The test is successful if all required results are obtained in Section 6.1.3, Test Procedure.

- Steps 3–5:      Verify that data can be imported.  
Steps 6 and 7:    Verify that data can be processed.  
Steps 8 and 9:    Verify that data can be mapped.  
Step 10:        Verifies that data can be displayed.  
Step 11:        Verifies that geographic coordinates are correct and data was correctly processed, mapped, and displayed.

This test **PASSED**

Tester: Brandi L. Winfrey  Test Date: 11/13/03



**Figure 1. Final Aeromagnetic Anomaly Map Prepared During Software Validation Testing**

# Aeromagnetic Anomalies

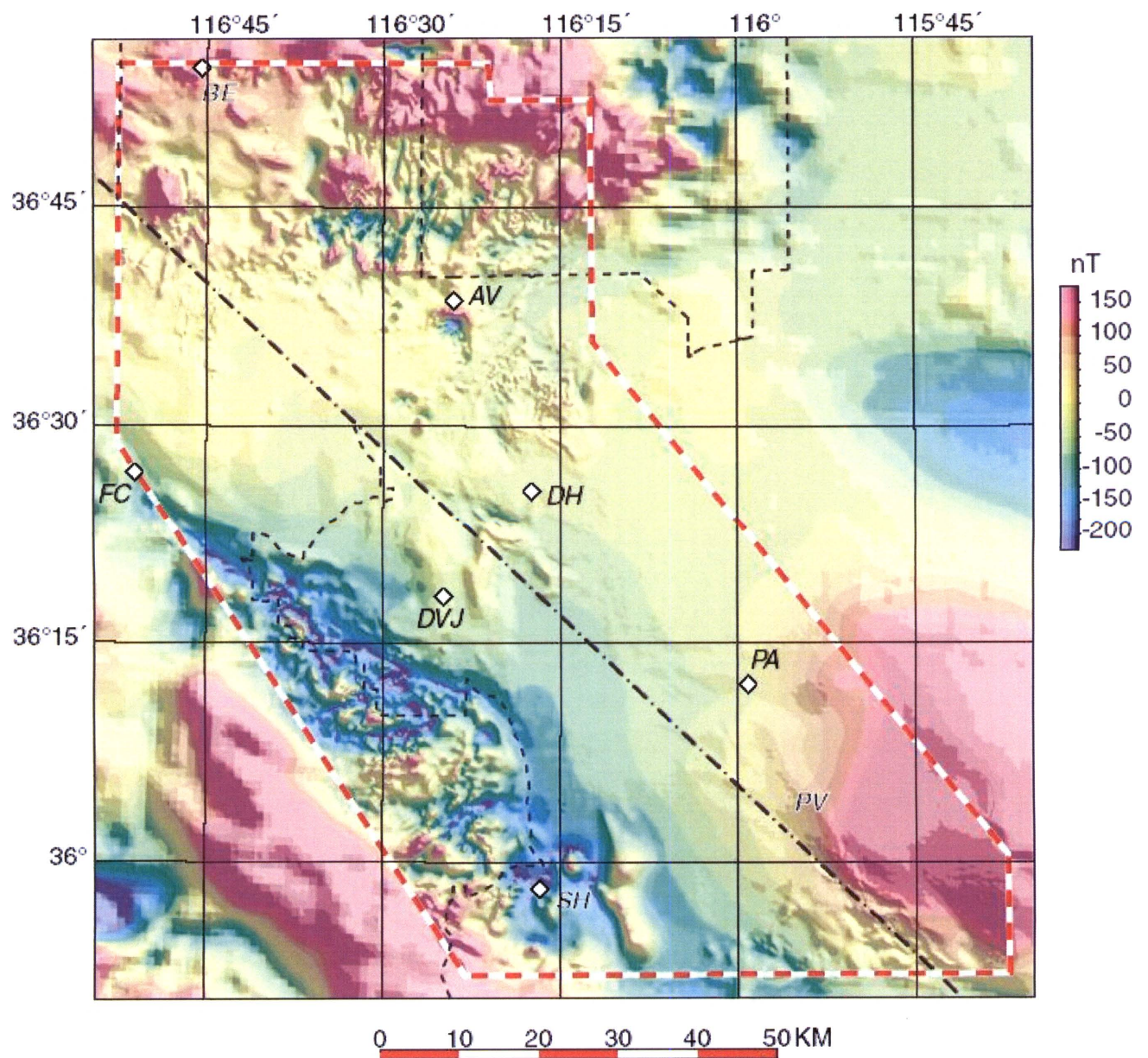


Figure 2. Aeromagnetic Anomaly Map from Open-File Report 00-188