SOFTWARE RELEASE NOTICE

1. SRN Number: GLGP-SRN-239

2. Project Title: Yucca Mountain Repository Program	Project No. 20-01402-471
3. SRN Title: EarthVision 5.1	
4. Originator/Requestor: Darrell Sims	Date: February 20, 2001

5. Summary of Actions

- ☐ Release of new software:
- ■ Release of modified software: update of commercial code
  - ☐ Enhancements made
  - ☐ Corrections made
- ☐ Change of access software
- ☐ Software Retirement

6. Persons Authorized Access

Name	Read Only/Read-Write	Addition/Change/Delete
Brittain Hill	RO	A/~~C/D~~
Darrell Sims	RO	A/~~C/D~~ DSW 2/27/2001
IMS staff	RO	A/~~C/D~~
CNWRA Staff	RO	A/~~C/D~~

7. Element Manager Approval: A. L. McKenzie 03/01/01 Date:

8. Remarks:

Commercial code purchased from Dynamic Graphics Inc.

SOFTWARE SUMMARY FORM

01. Summary Date: February 20, 2001	02. Summary prepared by (Name and phone) Darrell Sims (210-522-6829)	03. Summary Action: software update
04. Software Date: 27 OCT 99	05. Short Title: EarthVision, Ver. 5.1	
06. Software Title: EarthVision, Ver. 51		07. Internal Software ID: None

08. Software Type: ☐ Automated Data System ■ Computer Program ☐ Subroutine/Module	09. Processing Mode: ■ Interactive ☐ Batch ☐ Combination	10. Application Area a. General: ■ Scientific/Engineering ☐ Auxiliary Analyses ☐ Total System PA ☐ Subsystem PA ☐ Other b. Specific: Three Dimensional Visualization
11. Submitting Organization and Address: CNWRA/SwRI 6220 Culebra Road San Antonio, TX 78228		12. Technical Contact(s) and Phone: Brittain Hill (210) 522-6087 Darrell Sims (210) 522-6829
13. Software Application: Display of three-dimensional geologic data.		

14. Computer Platform SGI/UNIX	15. Computer Operating System: IRIX 6.5	16. Programming Language(s): None (executable only)	17. Number of Source Program Statements: n/a
18. Computer Memory Requirements: 190 Mb minimum	19. Tape Drives: N/A	20. Disk Units: 141Mbytes	21. Graphics: Open GL
22. Other Operational Requirements At least 400 Mb swap space			
23. Software Availability: ■ Available ☐ Limited ☐ In-House ONLY		24. Documentation Availability: ■ Available ☐ Preliminary ☐ In-House ONLY	
25. Commercial code developed by Dynamic Graphics Inc. Principal Investigator: Darrell Sims Date: 20 February 2001			

CNWRA Form TOP-4-1 (05/98)

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
DESIGN VERIFICATION REPORT FOR CNWRA SOFTWARE

ACQUIRED CODE - NOT TO BE MODIFIED[1]

Software Title/Name: EarthVision

Version: 5.1

Demonstration workstation: SGI ONYX II

Operating System: IRIX 64 Release 6.5

Developer: Silicon Graphics

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1. Output: TOP-018, Section 5.5.4

Software designed so that individual runs are uniquely identified by Date, Time, Name of software and version?

Yes: ☐ No: ☐ N/A: ☑

Date and time of run: _____

Name and version: _____

Notes: Acquired code that is not to be modified is accepted as is.

2. Medium and Header Documentation: TOP-018, Section 5.5.6

The physical labeling of software medium (tapes, disks, etc.) contain required information?

Yes: ☑ No: ☐ N/A: ☐

Program Name: EarthVision 5.1

Module/Name/Title: EarthVision 5.1

Module Revision: 5.1

File Type (ASCII, OBJ, EXE): Executable

Recording Date: 10/27/99

Operating System of Supporting Hardware: IRIX 64 ONYX6.5

Notes: Acquired code that is not to be modified may not have all above elements.

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[1] See TOP-018, Table 1 for criteria.

3. User's Manual: TOP-018, Section 5.5.5

a) Is there a Users' Manual for the software?

Yes: ☑ No: ☐ N/A: ☐

User's Manual Version and Date: Version 1 September 24, 1999

Notes:

b) Are there basic instructions for the use of the software?

Yes: ☑ No: ☐ N/A: ☐

Location of Instruction: Room A251 (DIS Lab.)

Notes:

4. Acceptance Testing: TOP-018, Section 5.6

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

Yes: ☑ **No:** ☐ N/A: ☐

Platform(s): ONYX II

Operating System(s): IRIX 64 Version 6.5

Location of Test Results: On file

Notes:

5. Configuration Control: TOP-018, Section 5.7

a) Is the Software Summary Form completed and signed?

Yes: ☑ No: ☐ N/A: ☐

Software Summary Form Approval Date: 2/20/01

Notes:

b) Is a software technical description prepared, documenting the essential mathematical and numerical basis?

Yes: ☐ No: ☐ N/A: ☑

Location Technical Description: _____

Notes:

c) 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: _____

Notes:

6. Configuration Control, continued: TOP-018, Section 5.7

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

Yes: ☐ No: ☐ N/A: ☑

Location of Script/Make Files: Executable files only.

Notes:

7. Software Release: TOP-018, Section 5.9

Upon acceptance of the software as verified above, has a Software release Notice, Form TOP-6 been issued?

Yes: ☑ No: ☐ N/A: ☐

Version number on software (1.0 for 1st issue): 5.1

Version number on SRN: 5.1

Notes:

8. Software Validation: TOP-018, Section 5.10

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

Yes: ☐ No: ☑ N/A: ☐

Version/Date of SVTP: _____

Date reviewed and approved via QAP-002: _____

Notes:

b) 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/Date of SVTR: _____

Date reviewed and approved via QAP-002: _____

Notes:

Additional Remarks:

1 Mar 01
CNWRA Software ~~Developer~~ User/Date

3/1/2001
CNWRA Software Custodian/Date

MEMORANDUM

To: Bruce Mabrito February 20, 2001

From: Darrell Sims

Subject: TOP-18 installation and acceptance testing of EarthVision 5.1 software

This memo documents methods used to demonstrate compliance with TOP-18 requirements for acceptance testing (TOP-18, 5.6), configuration control (TOP-18, 5.7), and design verification and release (TOP-18, 5.8–5.9) for commercial software not to be modified by CNWRA staff.

The EarthVision software is developed by Dynamic Graphics Inc. (DGI) for three-dimensional viewing of geologic information. EarthVision is a visualization program that is used by many government, industrial, and research agencies to display and manipulate geospatial data. Data sets are maintained in discrete files, where numerical attributes can be assigned geographic coordinates that reference common spatial coordinate systems. Data can be displayed directly as discrete points, or as interpolated surfaces or volumes.

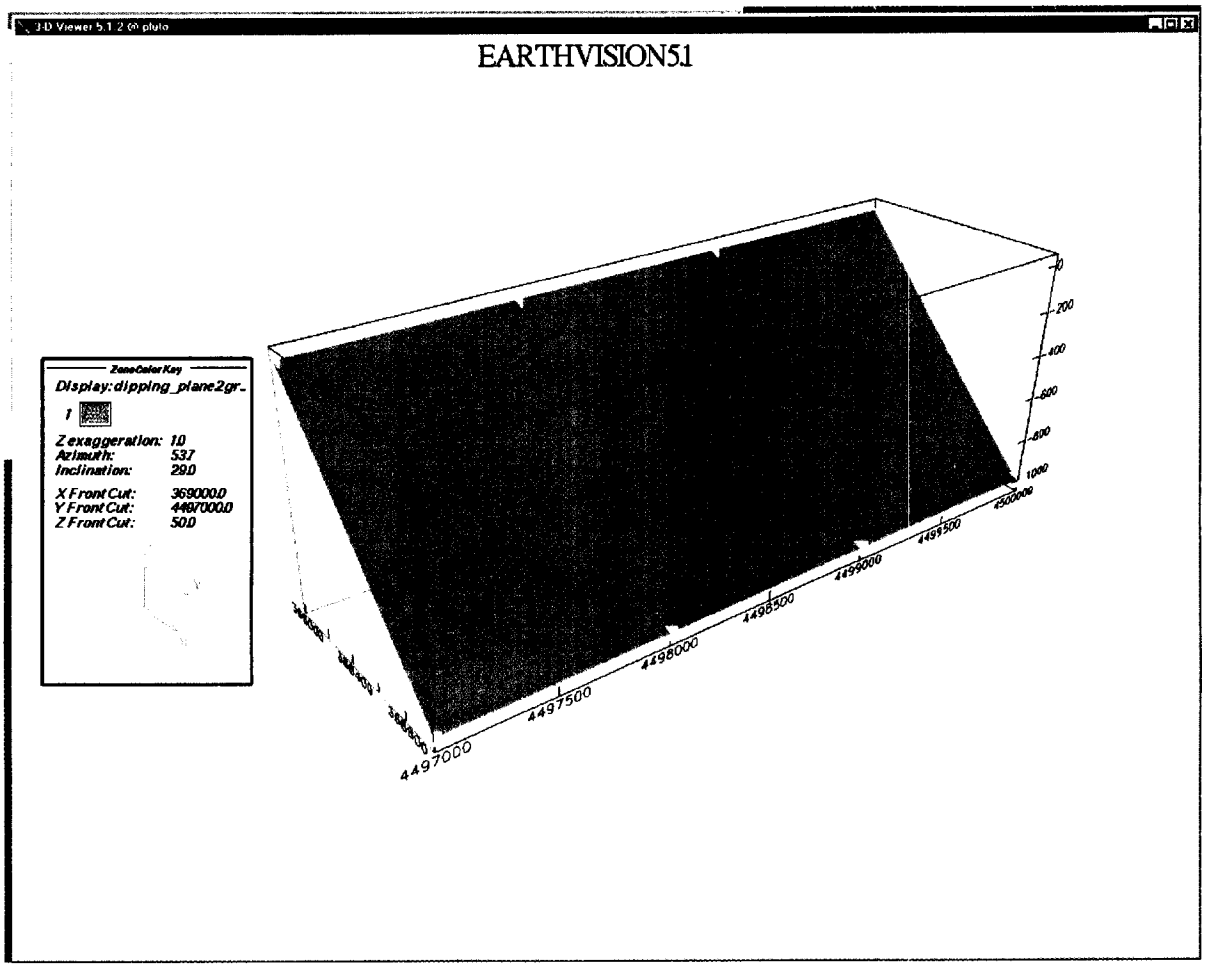
EarthVision was installed on the Silicon Graphics ONYX II server, IRIX 6.5.8, by IMS staff. They reported a normal installation.

Functionality of EarthVision was confirmed by creating a simple data file consisting of discrete points lying on a dipping plane, interpolating a surface through the points, and displaying the plane as a 3D representation.

Data file: dipping_plane.dat
Type: scattered data
Version: 5
Description: 45 degree dipping plane data (dsims, 21AUG2000)
Format: free
Field: 1 x
Field: 2 y
Field: 3 z meters
Projection: Universal Transverse Mercator
Zone: 12
Units: meters
Ellipsoid: GRS 1980
End:

368000 4500000	0
369000 4500000	-1000
368000 4499000	0
369000 4499000	-1000
368000 4498000	0
369000 4498000	-1000
368000 4497000	0
369000 4497000	-1000

The interpolated plane with data points were plotted to the screen and the view saved to an image file. The image is shown below.



In addition to these tests, routine use of EarthVision throughout the past month has confirmed that the program is installed and operating correctly. Attached are completed forms TOP-4-1 (software summary form),and TOP-6 (software release notice). Included also are copies of the EarthVision installation and program CDs for UNIX, thus meeting all requirements of TOP-18 5.6–5.9.