

Docket no:
0500201; P00M-032

Draft Agenda
West Valley Citizen Task Force Meeting
Ashford Office Complex
Tuesday, September 18, 2001
7:00 p.m. - 9:30 p.m.

Welcome and Administrative Announcements **Tom Attridge**
NYSERDA
Melinda Holland
Holland and Associates

Report on Long-Term Stewardship Conference **Eric Wohlers**
CTF

Report on CTF Future Site Use Work Group **Mark Mitskovski**
CTF

Presentation on Local Geology **Paul Bembia**
NYSERDA

Presentation on Status of Erosion Modeling Work **Joe Price**
SAIC

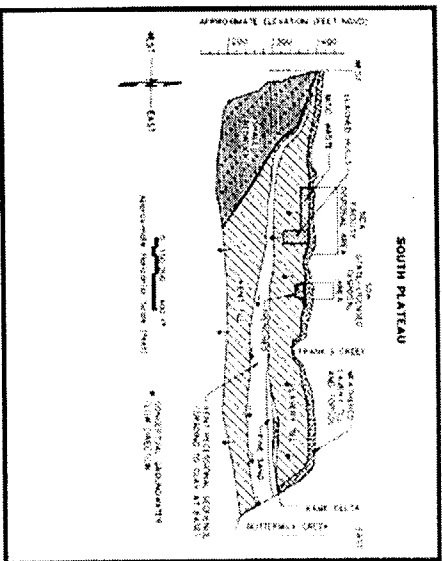
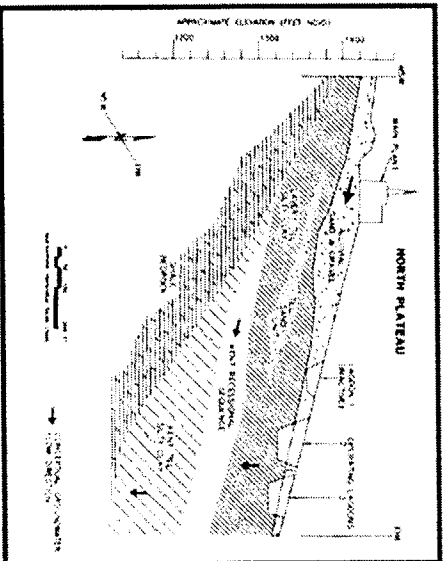
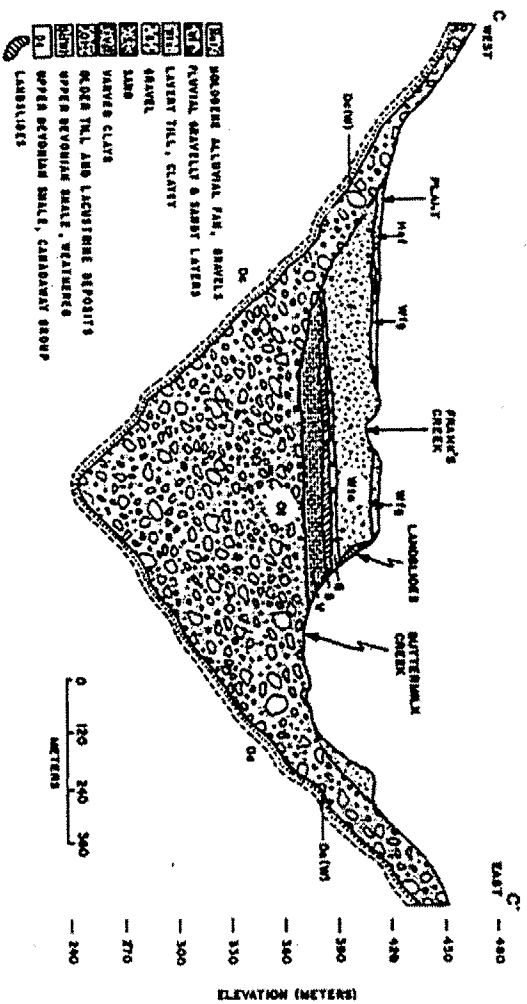
Next Steps

Observer Comments

Adjourn

Site Geology

Generalized Geologic Cross Section



Update of Analysis of Long-Term, Unmitigated Erosion for the WV EIS

Joe Price
SAIC

September 18, 2001

Post-It [®] brand fax transmittal memo 7671		# of pages ▶ 18
To Amy Snyder	From Sonya Allen	
Co. NR NRC	Co. WVRS	
Dept.	Phone # 716/942.2152	
Fax # 301/415-5398	Fax # 4199	

Summary of Content

- Part 1: Background
- Part 2: Erosion Analysis in DEIS
(CTF, April 1997)
- Part 3: Current Erosion Analysis
(Landform Evolution Modeling,
work in progress)
- Part 4: Plan for Completing Erosion
Analysis

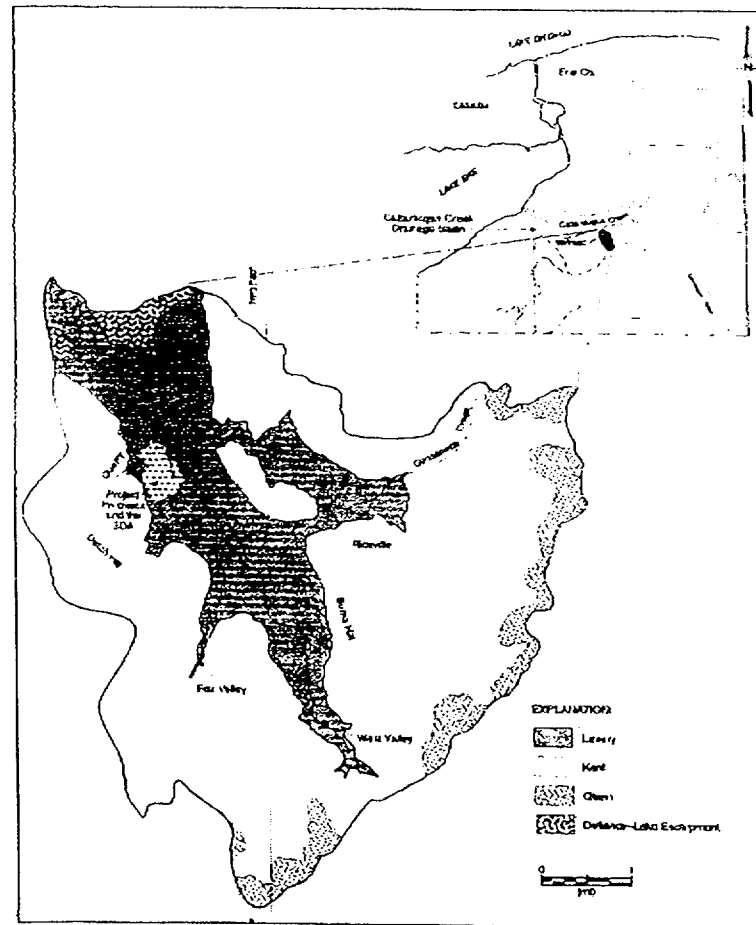
Part 1 Background

Purpose of Long-Term Erosion Analysis

- Understand role of erosion in contributing to environmental impacts of site management alternatives
- Support estimation of dose for long time periods for NRC review

Part 1 Background

Physical Setting



9/14/01

Part 1 Background

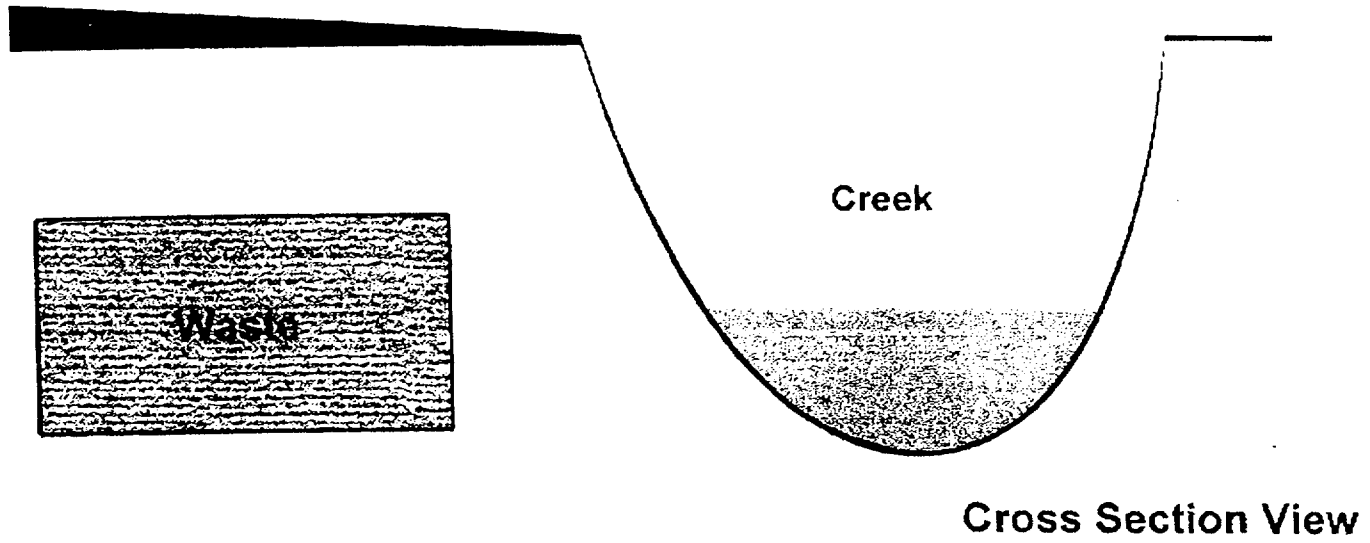
Upper Level Erosion Processes

- Sheet and rill erosion
- Stream downcutting and valley rim widening
- Gully formation and advance

Part 1 Background

Sheet and Rill Erosion

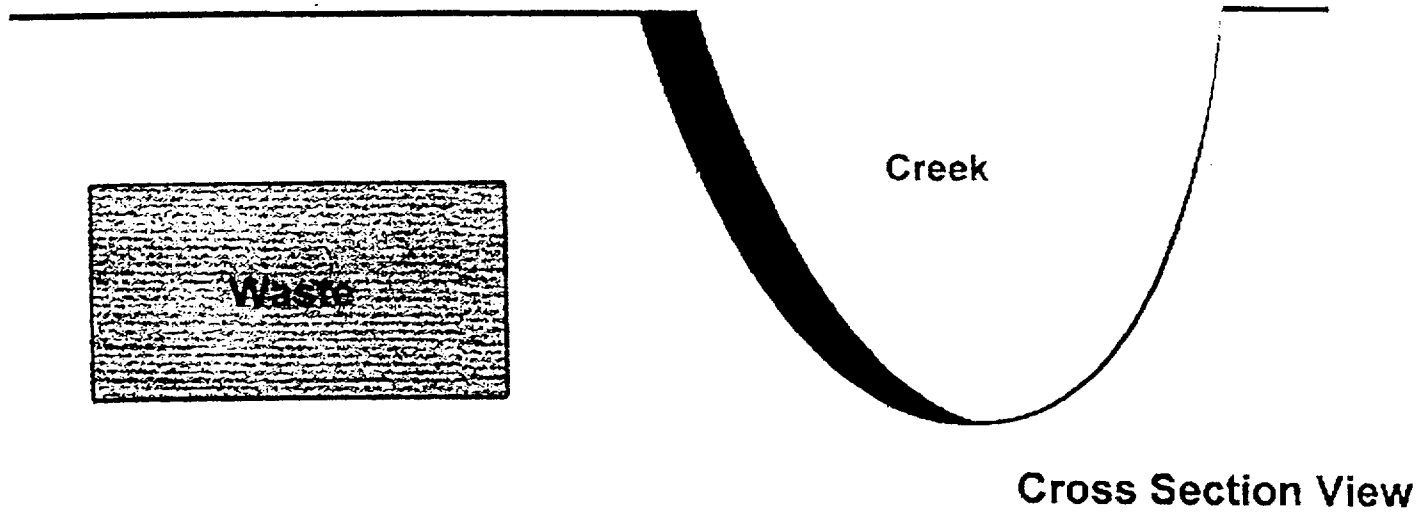
- **Sheet and Rill Erosion**
 - Top surface material is removed



Part 1 Background

Stream Downcutting and Valley Rim Widening

- **Rim Widening**
 - Creek bank material is removed

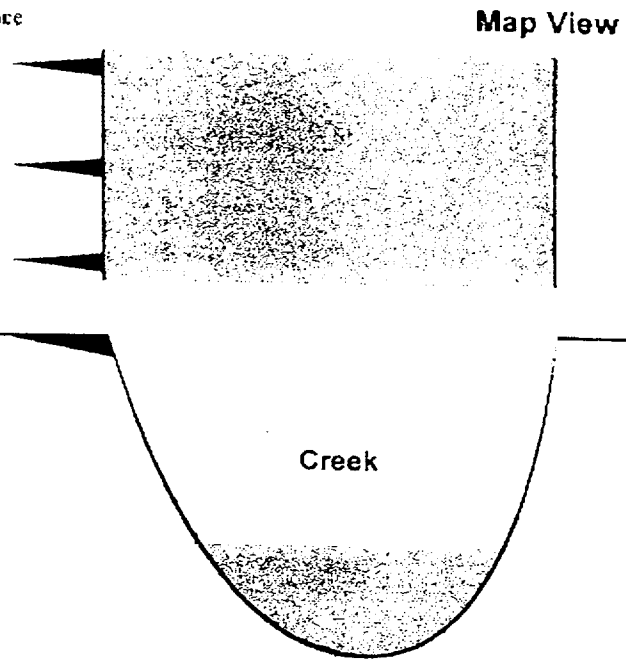


Part 1 Background

Gully Formation and Advance

- **Gully Advance**

- Narrow, shallow channels advance perpendicular to creek



Cross Section View

Part 2 Draft EIS Analysis

Technical Approach

- Use U.S. Army Corps of Engineer models to predict stream downcutting for single storms of differing magnitudes
- Combine estimates of downcutting of single storms in a probabilistic manner to estimate average downcutting for a long period of time

Part 2 Draft EIS Analysis

Results

- South Plateau facilities affected within 1,000 years
- North Plateau facilities not affected within 1,000 years

Part 2 Draft EIS Analysis

Results (Figure L-2)

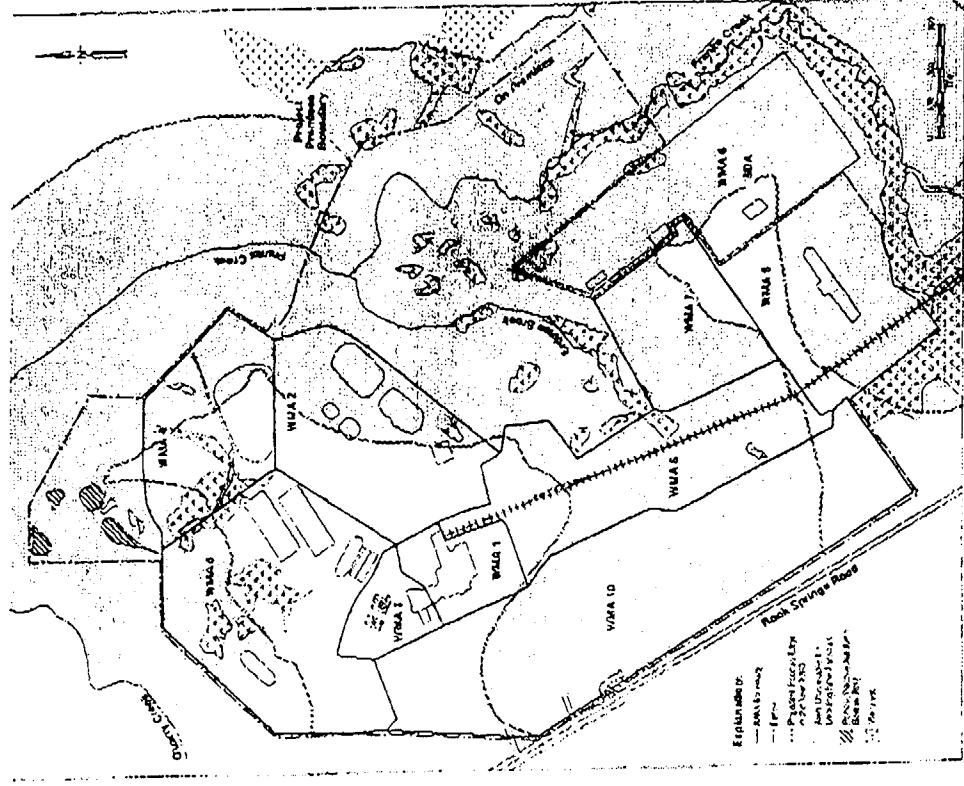


Figure L-2. Projected Uranium Front After 1,000 Years at 90 Percent Quarterly Rate.

Part 2 Draft EIS Analysis

Limitations

- Models do not consider gully growth
- Models do not explicitly address all underlying erosion processes
- Models consider only stream channels, not adjacent hillslopes
- Models intended for analysis of response to single storms were extended to analyze a sequence of storms

Part 3 Current Erosion Analysis

Landform Evolution Modeling

SIBERIA Characteristics

- Integrates hillslope and stream channel erosion processes
- Designed to simulate long periods of time
- Models gully growth
- Uses actual topography as initial condition
- Sediment transport limited model
- Uses time averaging of run-off to represent storms of all magnitudes
- Can be executed in sequential (start/stop) manner to explicitly model large storms

Part 3 Current Erosion Analysis

Landform Evolution Modeling

Technical Approach

- Use state-of-the-art integrated system model (SIBERIA) for long-term projections
- Calibrate the SIBERIA model using a short-term, physical process-based model that considers hillslopes and streams (WEPP)
- Explicitly include stochastic average of storms of differing magnitude and 100-year storms in calibration model
- Establish boundary conditions for stream downcutting using WEPP predictions of sediment loss from channels
- Analyze sensitivity to the range of potential conditions

Part 3 Current Erosion Analysis

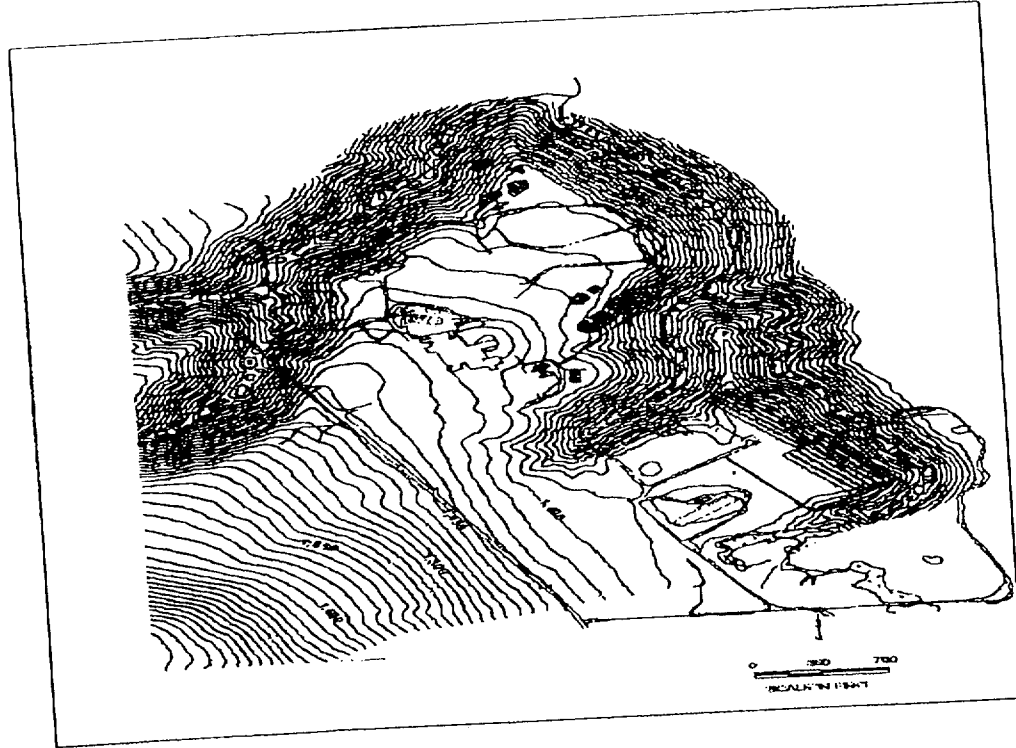
Landform Evolution Modeling

Results

- South Plateau affected within 1,000 years
- North Plateau affected within 10,000 years

Part 3 Current Erosion Analysis

Results: Illustrative Topography at 1,000 years



9/14/01

Part 3 Current Erosion Analysis

Landform Evolution Modeling

Limitations

- Model does not explicitly address all underlying erosion processes
- No model can reliably predict conditions for a 10,000 year period
- Range of possible conditions difficult to establish
- Grid size and time period of analysis impose computational constraints

Part 4 Plan for Completion of Erosion Analysis

- Completion of sensitivity analysis
- Internal review
- Integrate with dose model
- Review and discuss with NYSDEC and NRC
- Integrate into EIS