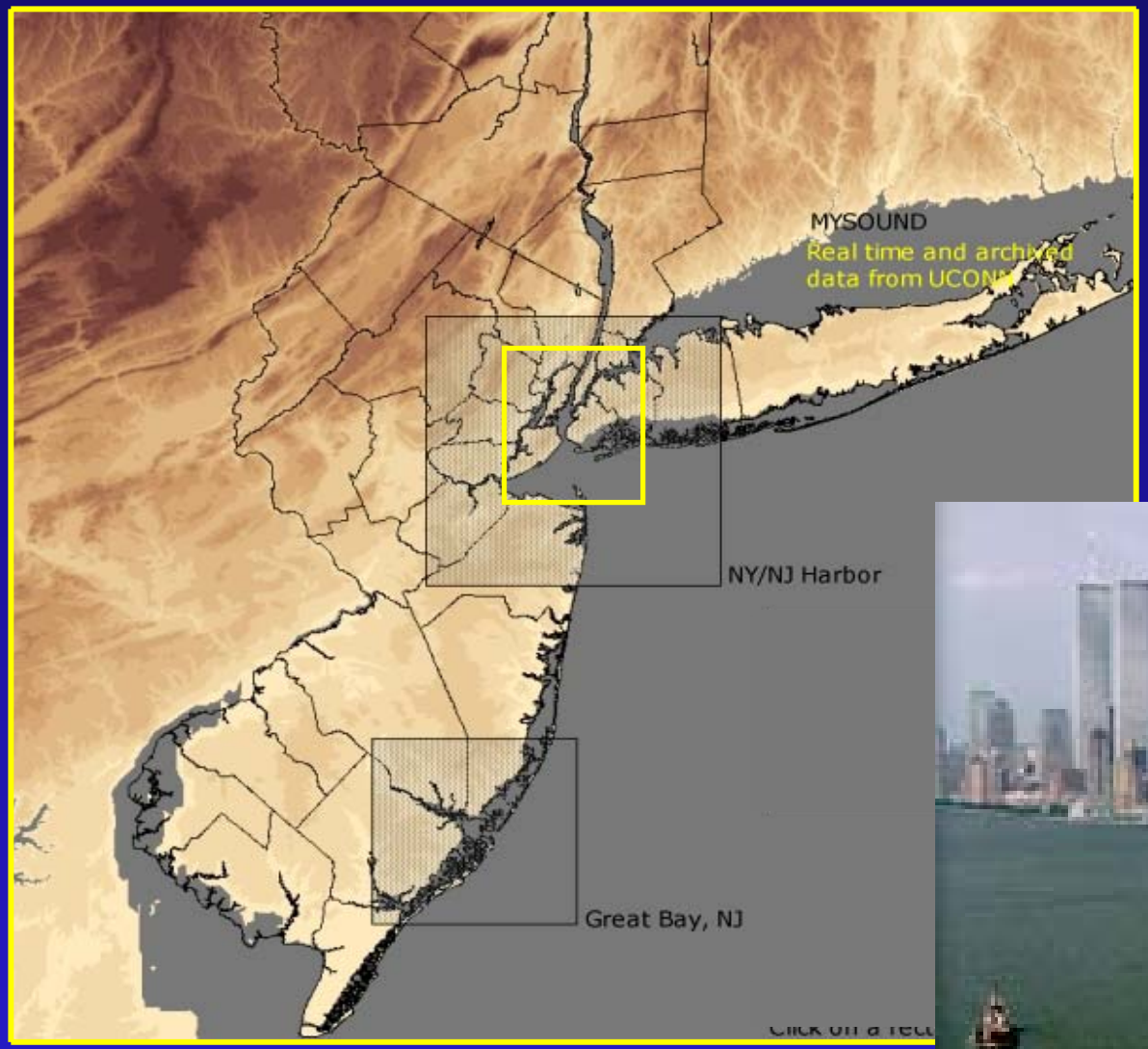
Mine Reclamation Using Dredged Materials and Coal Ash

State of New York / State of New Jersey
Clean Ocean and Shore Trust

Commonwealth of Pennsylvania
Department of Environmental Protection

Consolidated Technologies, Inc. USA



$20 Billion into economy/year

167,000 jobs.

PORT OF NY/NJ

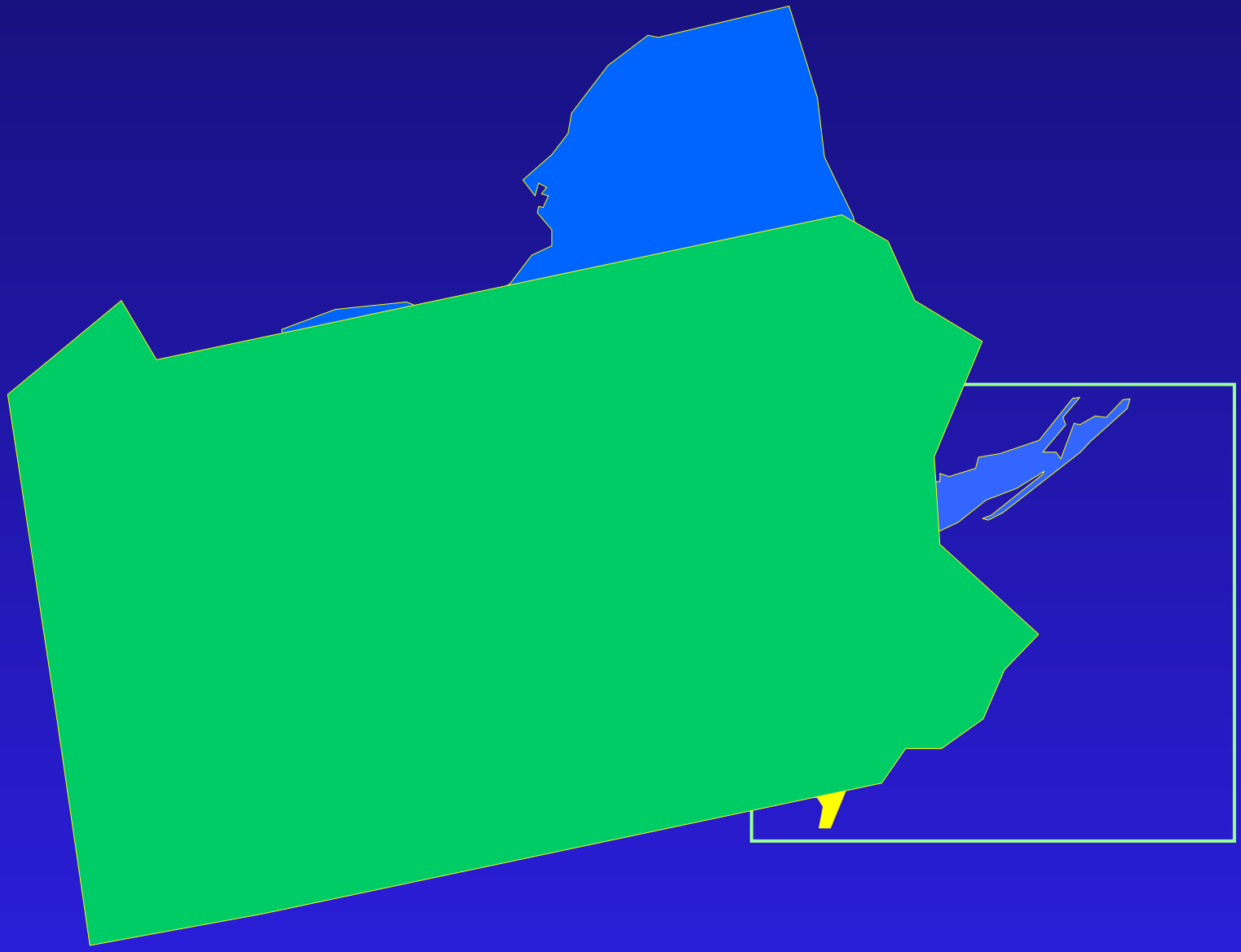
Natural Depth: 6m.

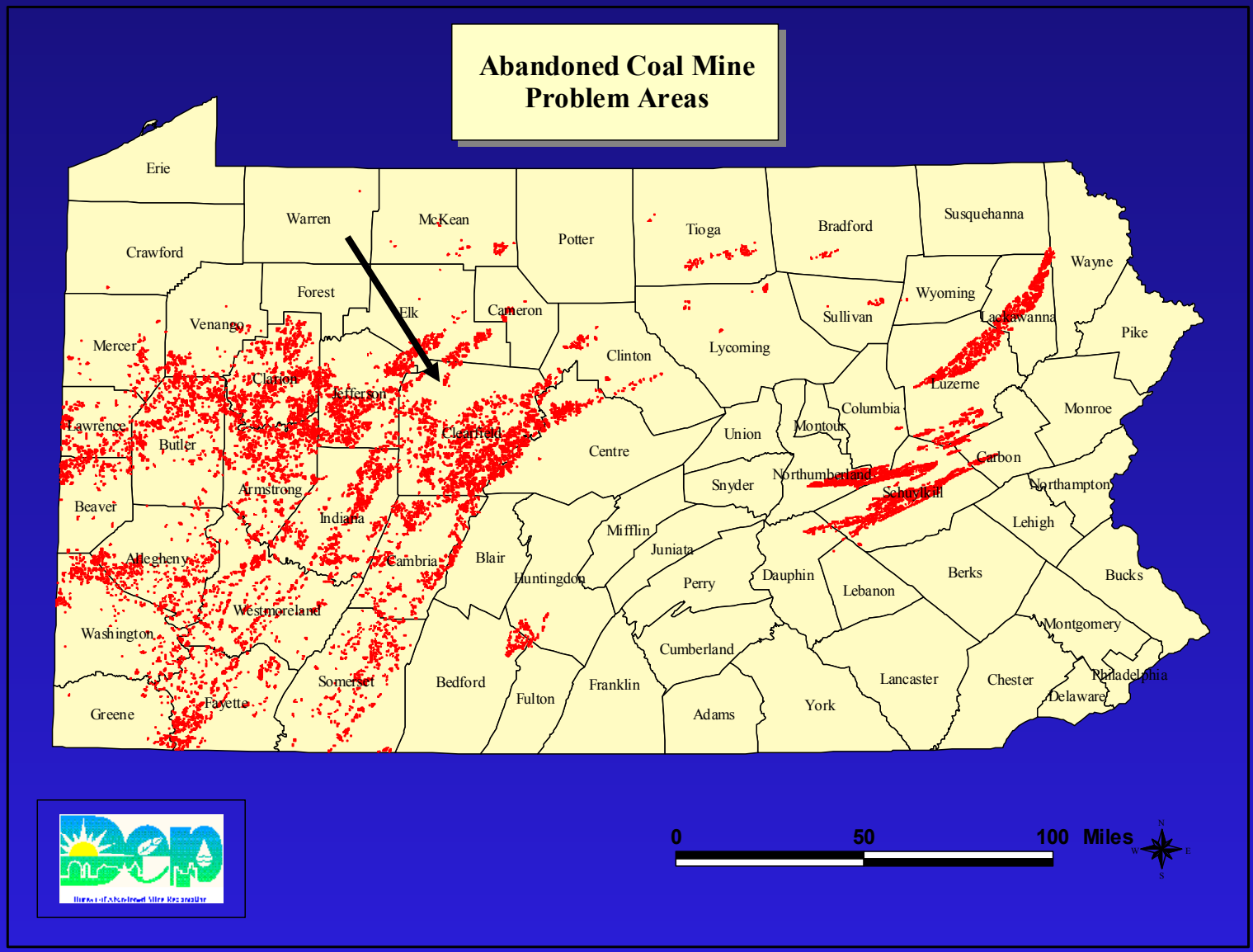
5 Million cubic meters / year O&M dredging.

16m water required by 2009;

@ 100 million cubic meters;

$ 3.2 Billion Dollars in next 10 years.





Port-Side Processing Facility

Processing Facility

Processing Facility

Pre-Amended Dredged Material

Mine Reclamation

Dredged material being unloaded after arriving by rail at Bark Camp

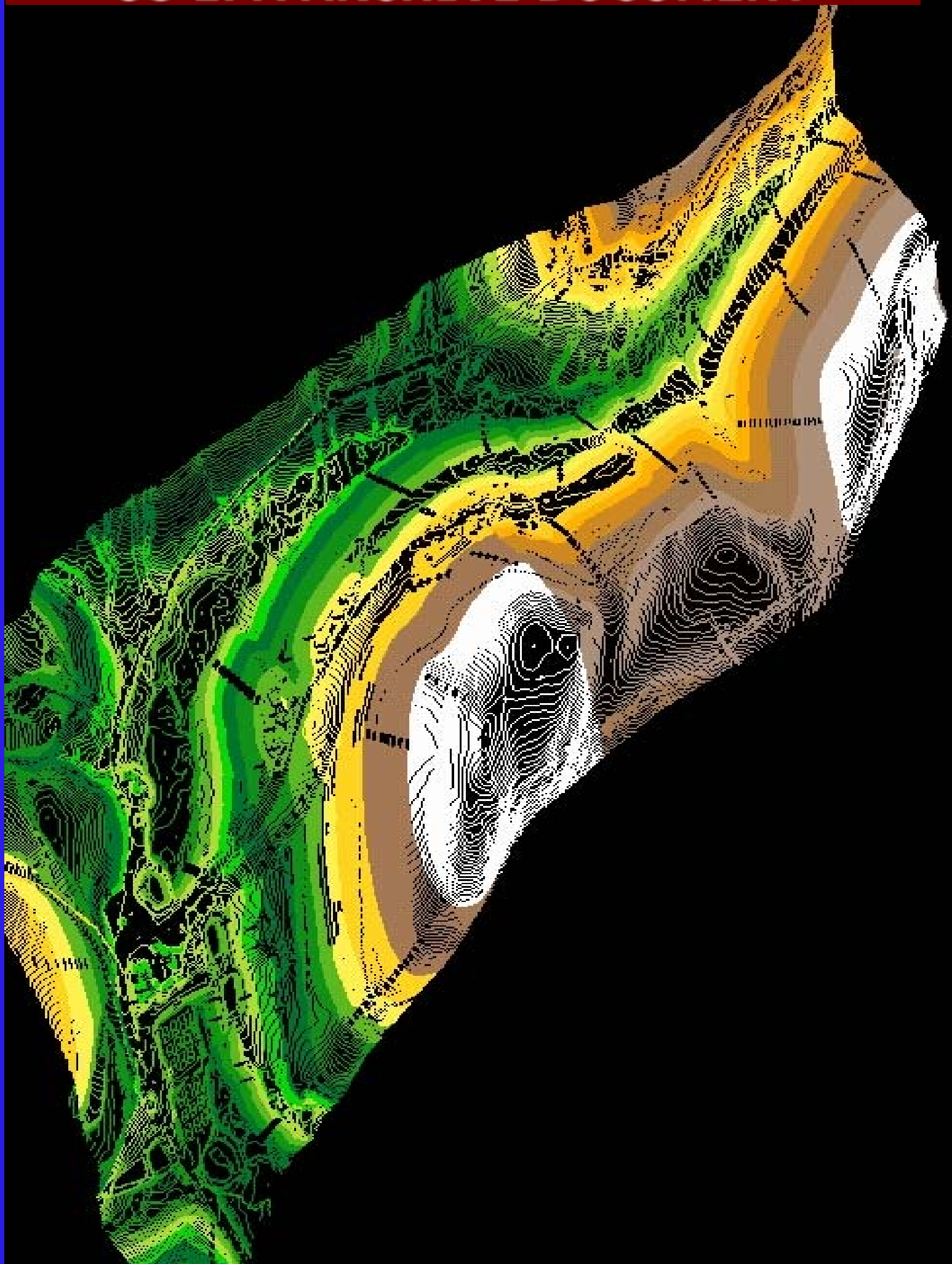
Mine Reclamation

Bark Camp Processing Facility

Mine Reclamation

Material Placement Process

Mixed product is allowed to air dry for 2-3 days before it is spread and compacted as shown on lower bench (right side)



Mine Reclamation

Material Placement Process

Material in place after spreading and roller compacting

Material Placement Process

Bark Camp Site - 2001

Monitoring - Dredged Material

- In-Place in Harbor
- Arriving By Rail
- Final Pugmill Blend

General Categories of Analysis

- Inorganics
- Pesticides
- PCBs
- Volatile Organic Compounds
- Semi-Volatile Organic Compounds
- Dioxins / Furans

Monitoring - Water Quality Impact

- Historical Monitoring Data
- Surface Water
  - Streams
  - Springs
  - Pond Discharge
- Ground Water
  - 6 Monitoring Wells - Downgradient of Placement Area
  - 12 Domestic Wells

Analytical Results for Water - Inorganic

	# of Samples	# of Individual Tests	# of Analysis Testing Positive
Surface Water Points	**343**	**12,191**	
Monitoring Wells	**108**	**3,871**	
Domestic Wells	**69**	**2,491**	
TOTAL	**520**	**18,553**	

Analytical Results for Water - Pesticides

	# of Samples	# of Individual Tests	# of Analysis Testing Positive
Surface Water Points	**100**	**2,022**	**0**
Monitoring Wells	**63**	**1,265**	**0**
Domestic Wells	**64**	**1,222**	**0**
TOTAL	**227**	**4,509**	**0**

Analytical Results for Water - PCBs

	# of Samples	# of Individual Tests	# of Analysis Testing Positive
Surface Water Points	**92**	**552**	**0**
Monitoring Wells	**59**	**354**	**0**
Domestic Wells	**46**	**276**	**0**
TOTAL	**197**	**1,182**	**0**

Analytical Results for Water - Volatile Organic Compounds

	# of Samples	# of Individual Tests	# of Analysis Testing Positive
Surface Water Points	**35**	**2,249**	**0**
Monitoring Wells	**71**	**4,553**	**0**
Domestic Wells	**59**	**3,791**	**0**
TOTAL	**165**	**10,593**	**0**

Analytical Results for Water - Semi-Volatile Organic Compounds

	# of Samples	# of Individual Tests	# of Analysis Testing Positive
Surface Water Points	**109**	**12,561**	**0**
Monitoring Wells	**72**	**7,933**	**0**
Domestic Wells	**59**	**5,954**	**0**
TOTAL	**230**	**26,448**	**0**

The Future

- Dredge Sediment Material has proven suitable for use in reclamation at Bark Camp Run
- No harmful components have been found in the material
- Monitoring will continue beyond the reclamation
- PADEP may issue a statewide **GENERAL PERMIT** for use of processed dredged material for mine reclamation.
- Provides a needed source of **NO COST** material that could reclaim **THOUSANDS** of acres of abandoned mine lands.
- Other technologies & applications for dredged material will be investigated and demonstrated.

Abandoned Mines