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Revision 0

Vadose Zone Characterization of Hanford Site Tank Farms

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CH2MHILL Hanford Group, Inc.

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Contractor for the U.S. Department of Energy
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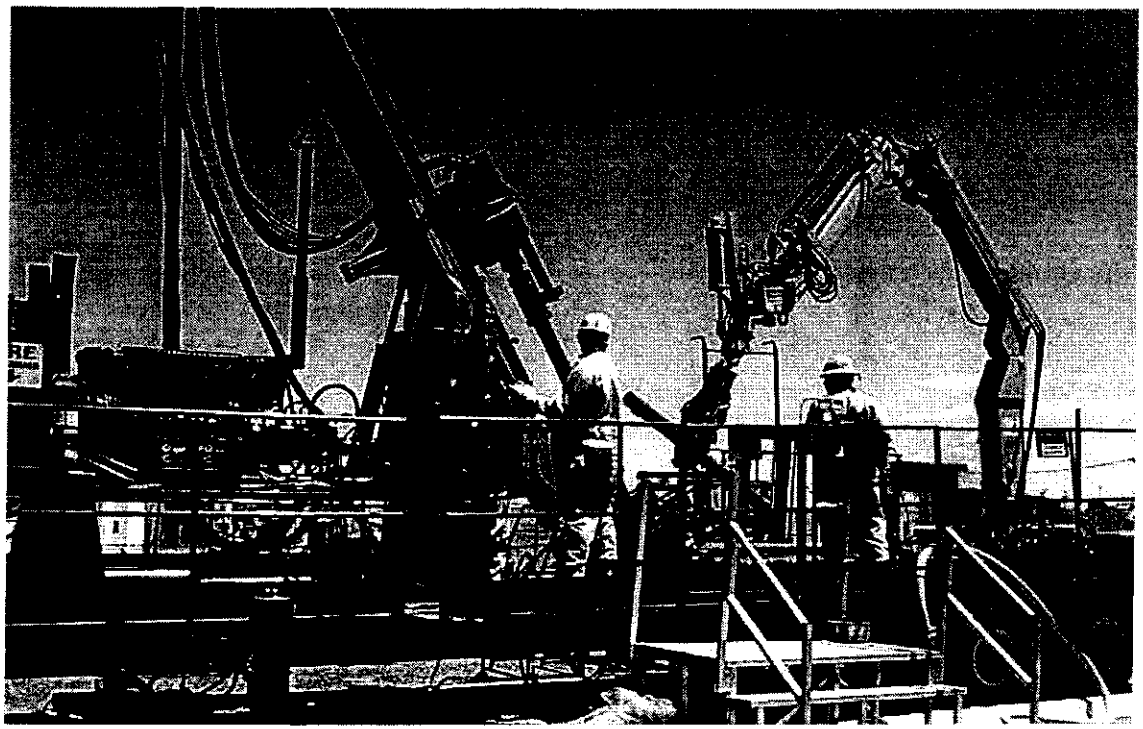
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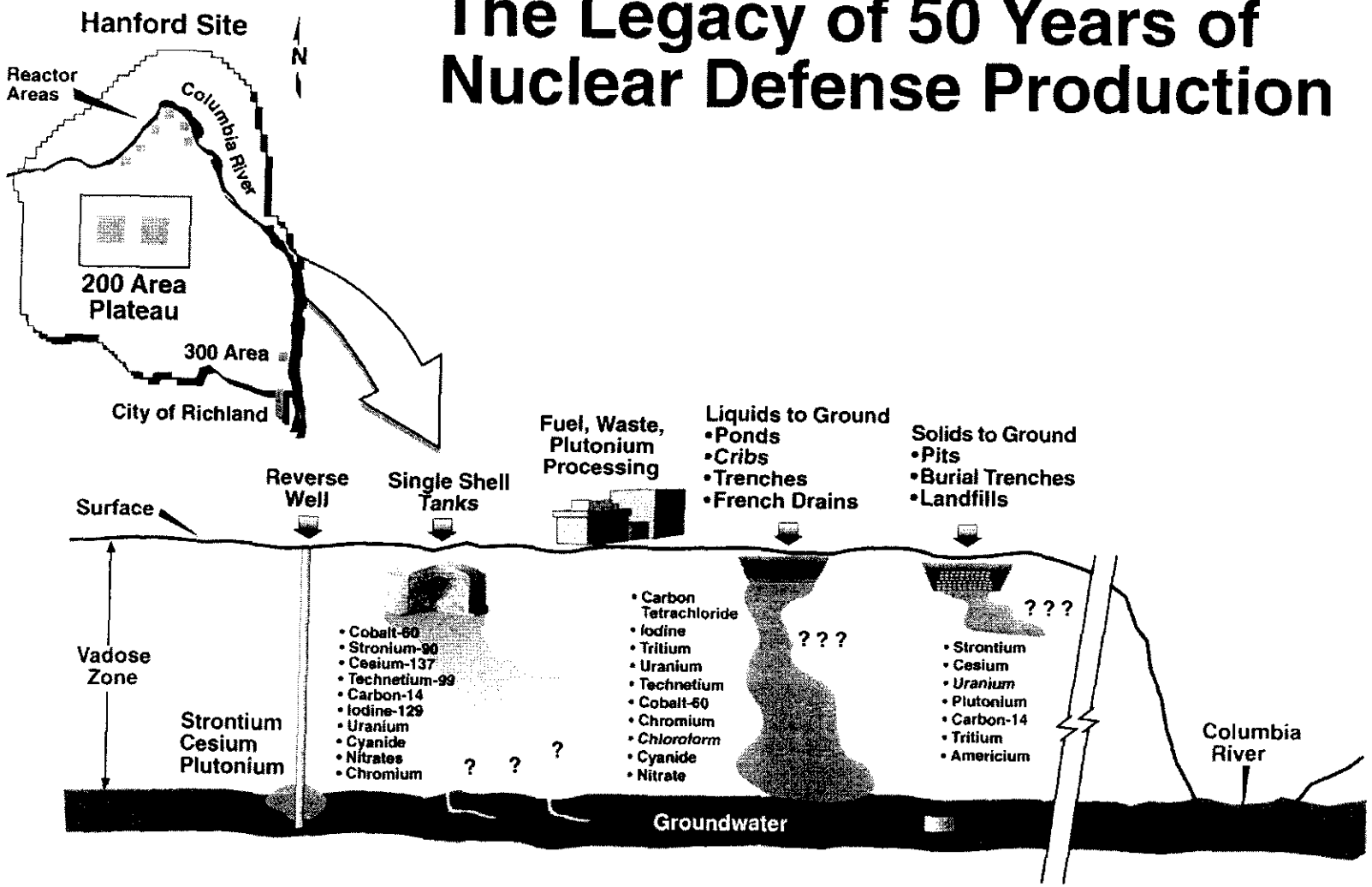
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Anthony Knepp

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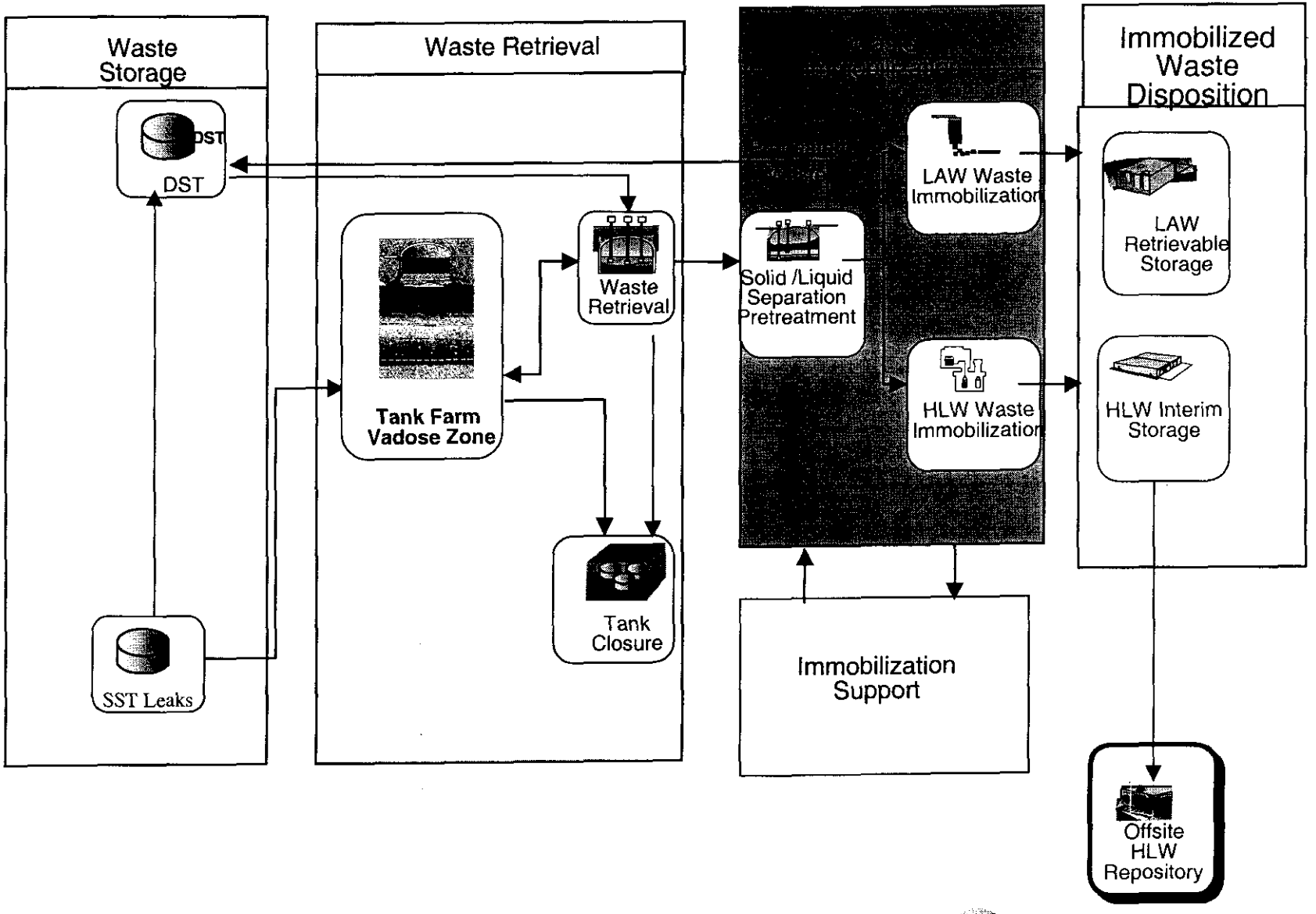
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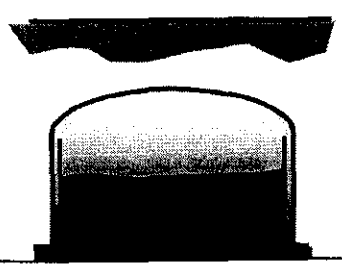
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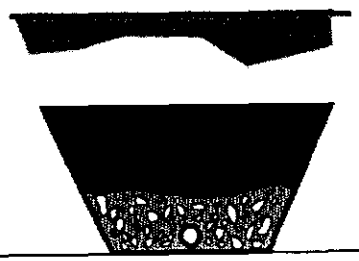


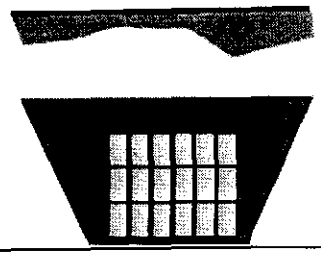
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200 Area Inventories





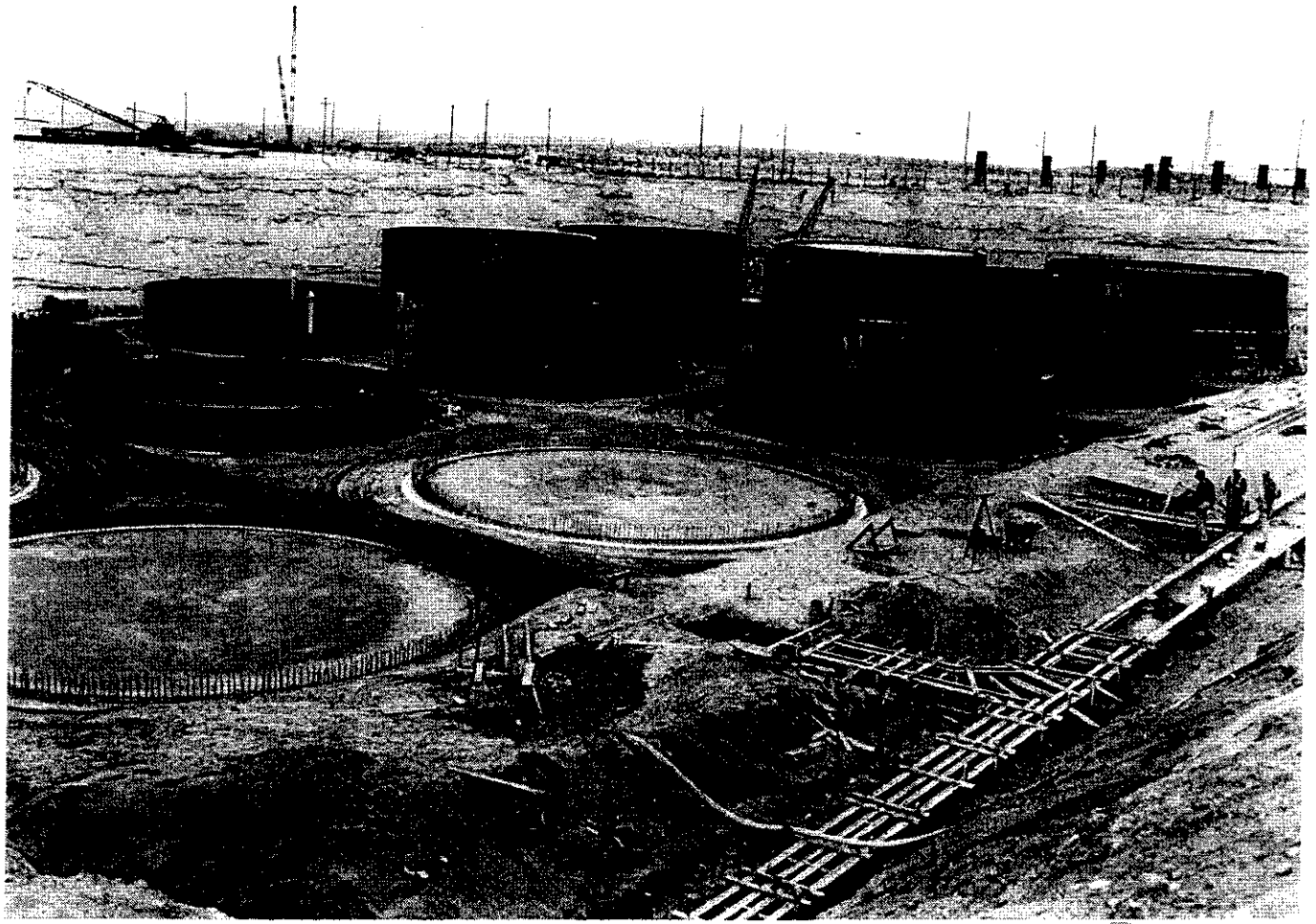


	Tank Waste		Liquids to Ground	Solids to Ground
	In Tank	To Ground		
Volume (m^3)	210,000 (0.053 billion gallons)	2,500 (0.0006 billion gal)	1,310,000,000 (326 billion gallons)	380,000
^{99}Tc (Ci)	32,200	200	1,000	15
^{137}Cs (Ci)	69,000,000	400,000	400,000	2,5000,000

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Tank Farm Under Construction



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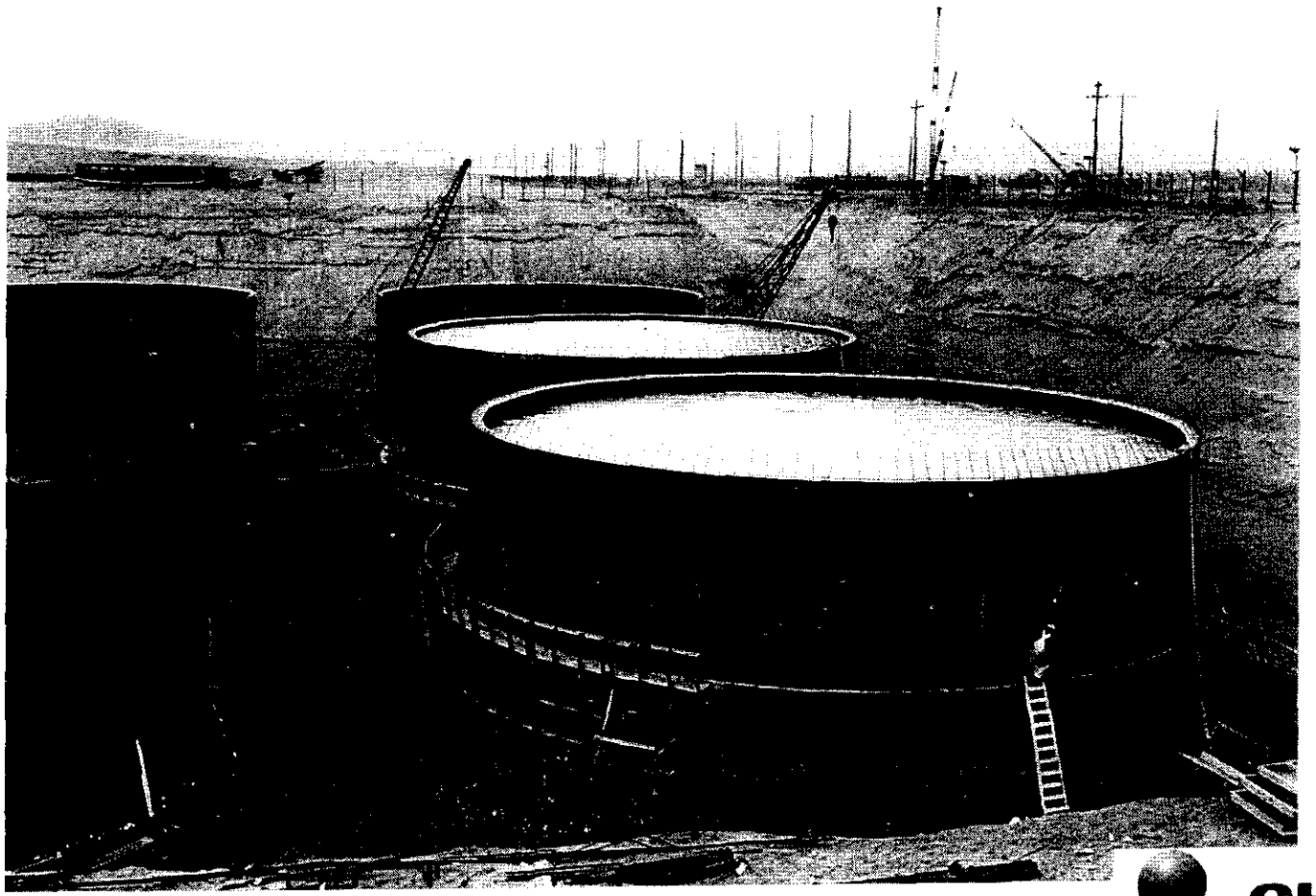
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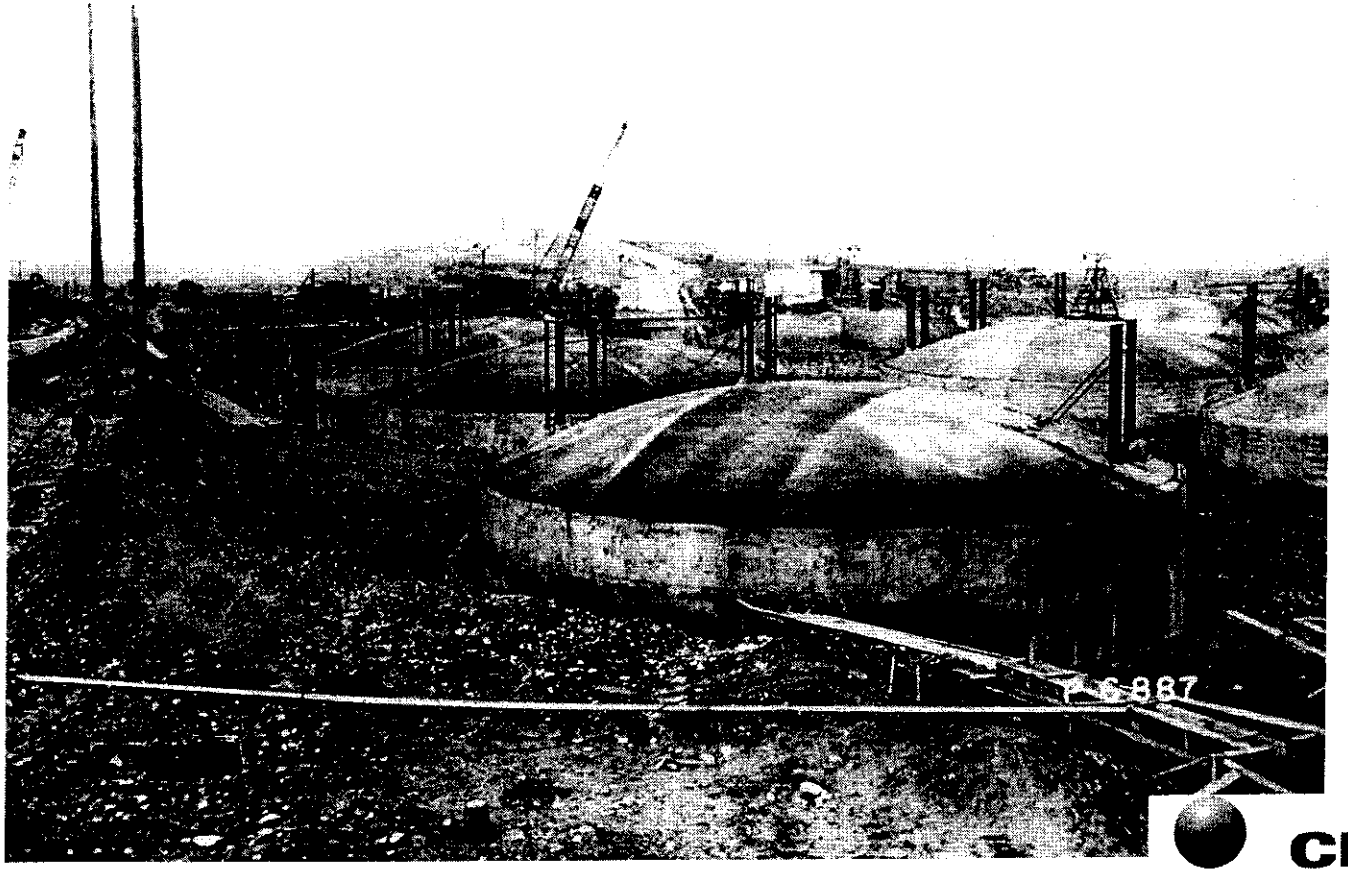
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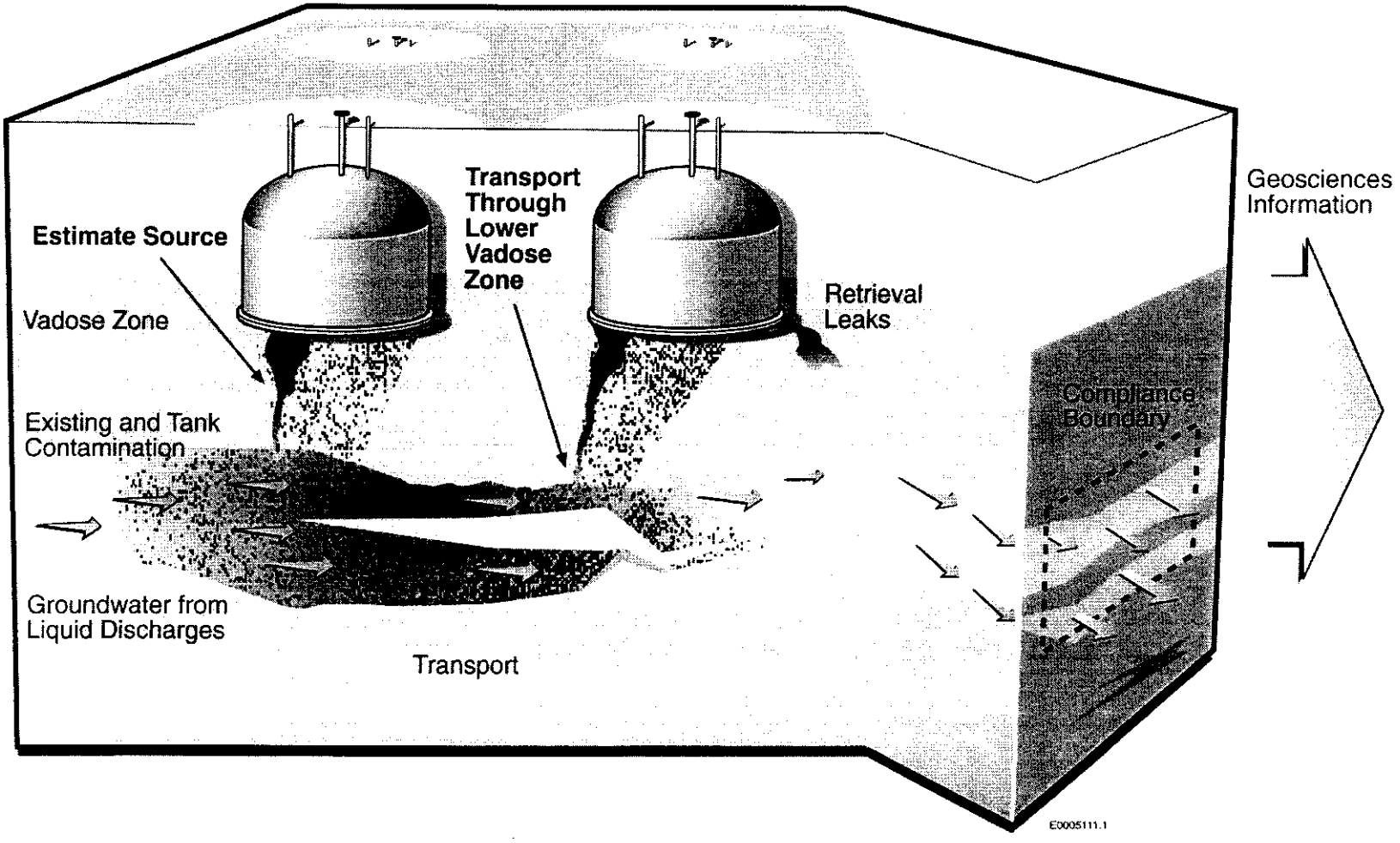
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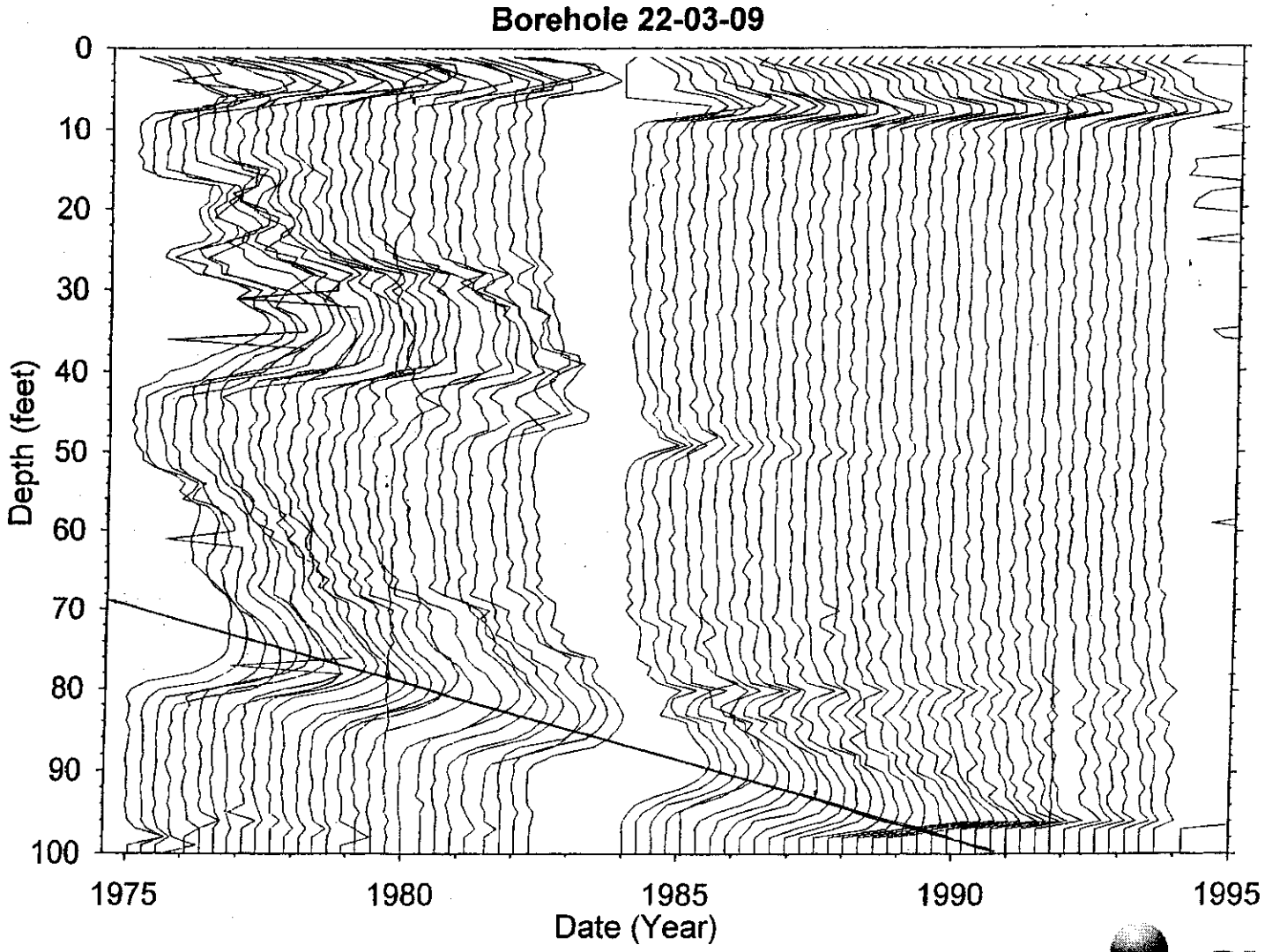
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Vadose Zone Approach to Remediation



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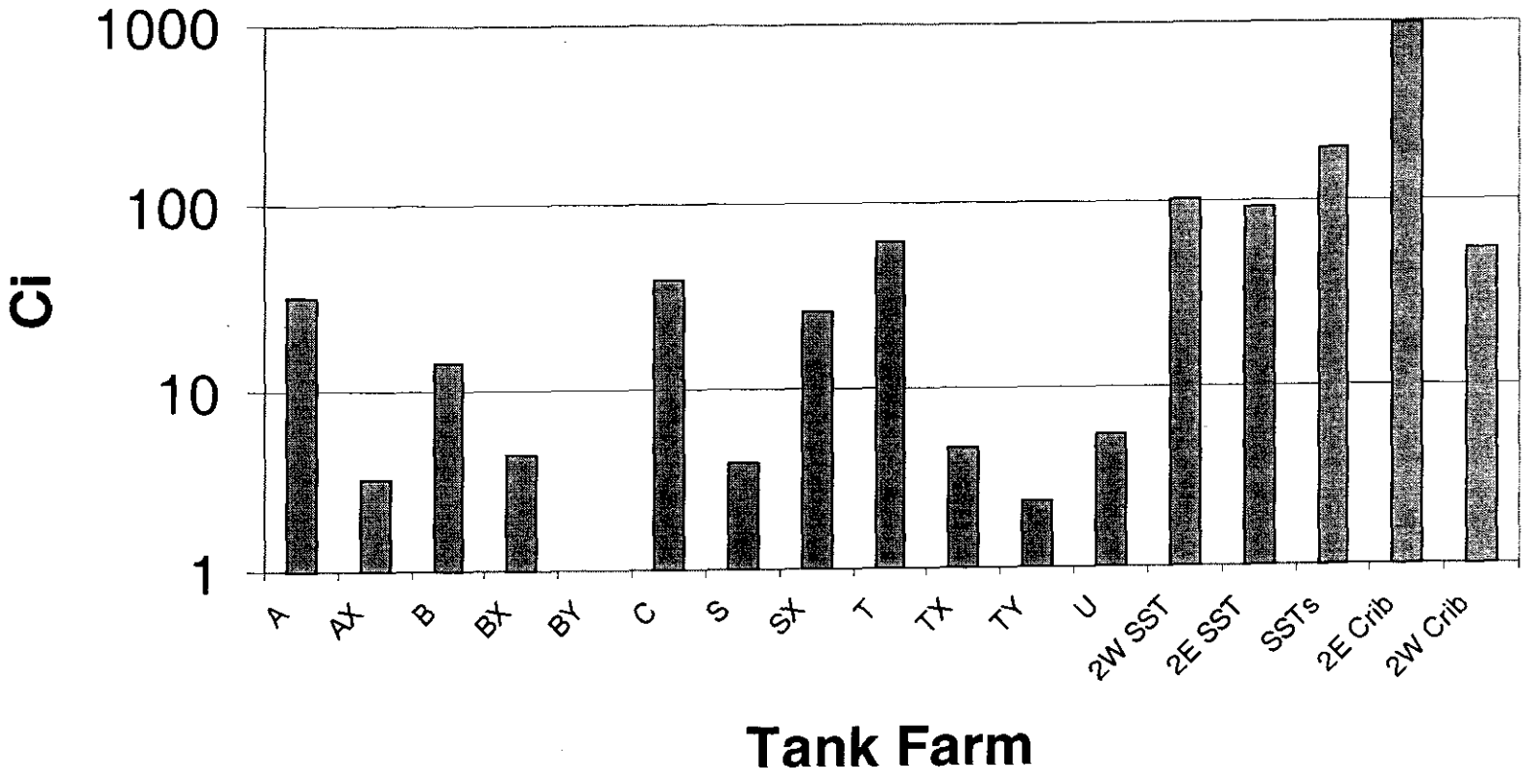
Historic Gamma-Ray Analysis



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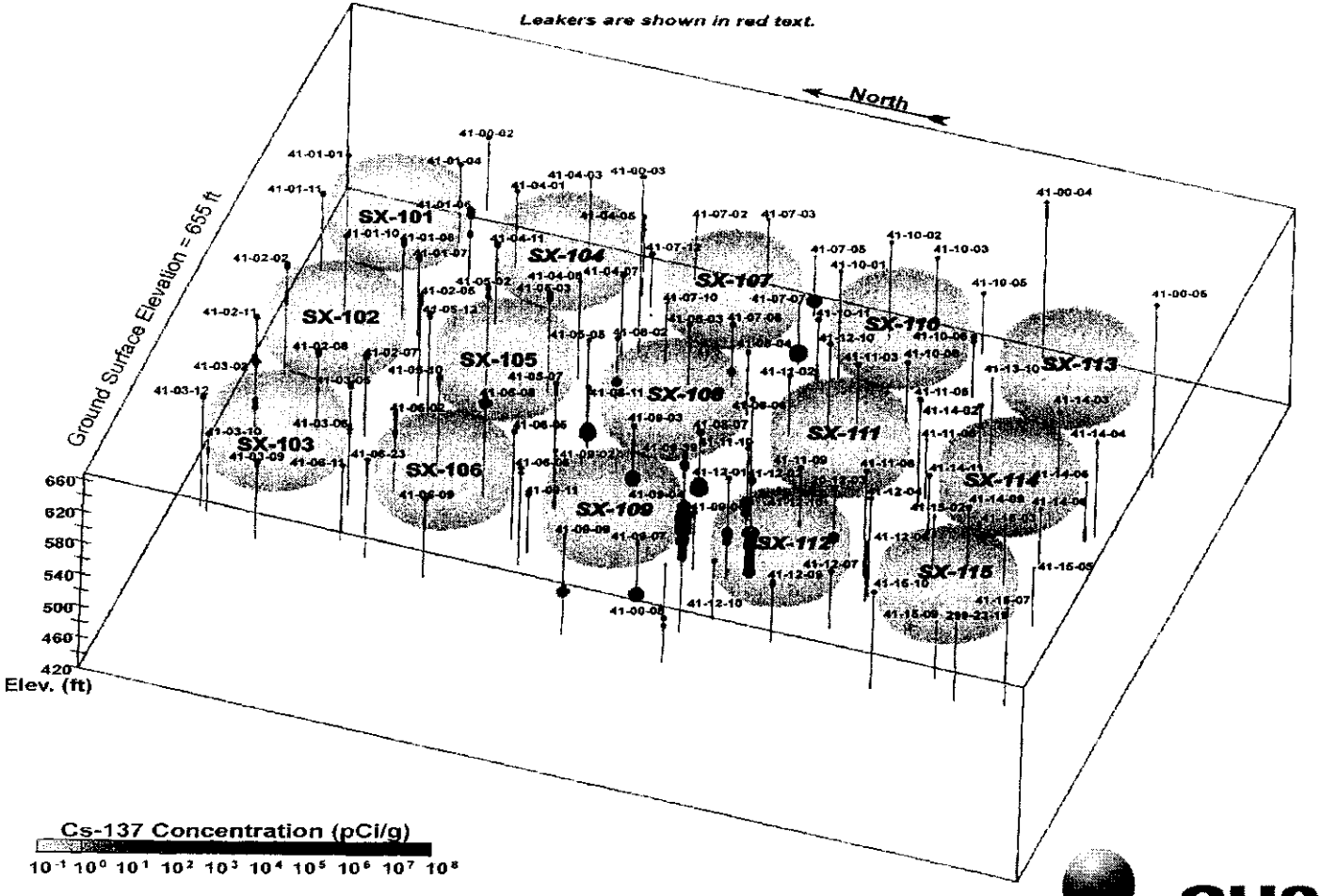
Tc-99 in Ground
SSTs = 200 Ci, Cribs = 1000 Ci



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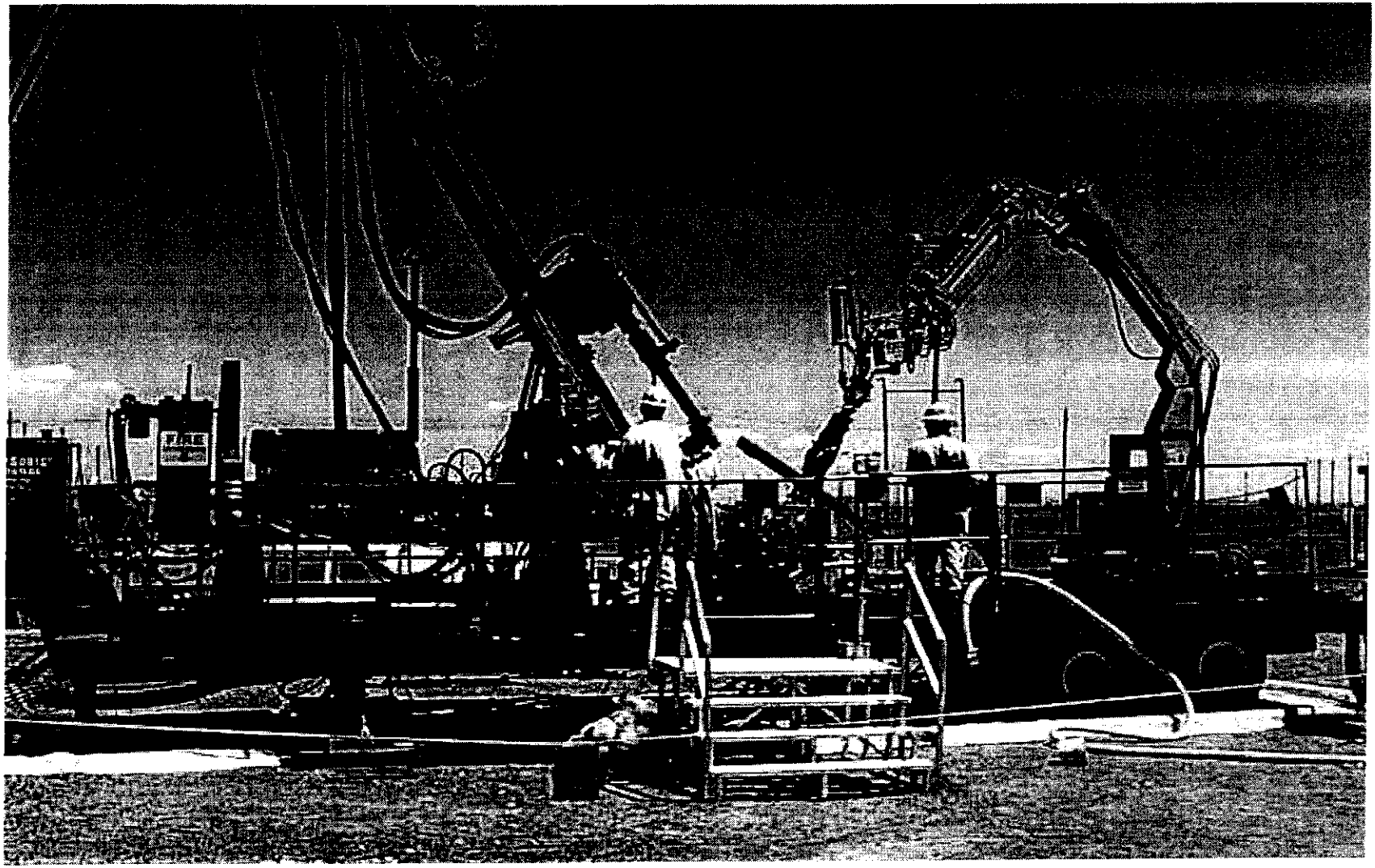
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Gamma Logging Results for SX Tank Farm



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Field Program



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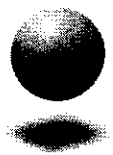
- Development of Hanford Tank Leak Inventory Estimates(Jones, TE)
- Moisture Distribution in Hanford's SX Tank Farm (Myers, DA))
- Results and Interpretation from Hanford's SX Tank Farm Vadose Sediment Sampling (Serne, R)
- Drilling and Sampling in Hanford's Highly Radioactive Environment (Syndor, HA et al.)
- Vadose Zone Impact Assessment for the 241S-SX Tank Farms: Conceptual Models and Approach (Roger, PM et al)
- Preliminary Results of Flow and Transport Modeling at 241-S-SX tank Farms, Hanford Site (Khaleel, R et al)
- Interim Measures to Limit the Migration of Radioactive Contaminants Through the Vadose Zone at Hanford's Single Shell Tank Farms (Anderson, FJ)

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- Hanford Groundwater / Vadose Zone Integration Project : Science and Technology (Carroll, Marshall, Preuss, Steefel)
- DOE EM-50 Supported Activities (Wan, Cooper, Freeman, Flury)
- Subsurface Interpretation of the SX Tank Farm, Hanford Site, Washington, Based on Gamma Ray Logging (Sobczyk, SM et al)



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