

Case Studies

Case Study Collection Process

The ITRC Mine Waste Team collected case studies from mine sites throughout the United States and one from New Brunswick, Canada using an online survey tool. The survey contained a total of 23 questions to learn the following:

- contact name
- site location
- affected media
- regulatory drivers
- all technologies used
- performance
- cost
- cleanup goals or performance criteria
- contaminated media treated
- scale of each technology; experimental, pilot, or full-scale application
- any public issues
- regulatory barriers encountered with the application(s)

After the initial submittal, team members conducted follow-up as much as possible. Even so, there are some sections of particular case studies that contain limited or no information. This reflects what was received in the initial survey and follow-up by team members. Some case studies are more detailed than others, which again, is a reflection of what was obtained. We highly recommend that users of this web-based selection tool contact people listed in the case studies to receive up-to-date information on the application. Regardless of the follow-up completed, a case study is still a snapshot and is dated at the time of publication. The objective of the survey was stated as follows:

The ITRC Mining Waste Team is collecting case studies of tests and full-scale operation of technologies used to treat contaminants of concern in mining-related material. We hope to obtain, at a minimum, a description of the technology, a brief background of the site, and a way to contact someone familiar with the technology to obtain follow-up information. These case studies will provide the ITRC Mining Waste Team a snapshot of information on emerging, innovative, or new applications of conventional technologies being used or tested to treat mine-related solid waste and mine-impacted water. The ITRC team will use these case studies as a part of its process to evaluate what technologies are being tested and how they are performing.

The survey request was sent to the ITRC Points of Contact, DOE, DOD, EPA, IAP (Industry Affiliates Program) of ITRC, and ITRC Mining Waste Team Members. Team members also forwarded the Case Study Survey request to colleagues. The initial survey period was from March 21, 2008 to May 2, 2008 but was extended upon request and as necessary. Throughout the project, the team identified applicable case examples and obtained further case study write-ups.



THIS TABLE CONTAINS A LIST OF ALL CASE STUDIES IN THE MINING WASTE TECHNOLOGY SELECTION WEBSITE. EACH CASE STUDY IS LISTED ACCORDING TO THE STATE (ALPHABETICALLY). EACH STATE ON THE MAP IS HYPERLINKED TO THE FOLLOWING TABLE.

Case Study	Technology	Map #
Alabama		
Abandoned TVA Site	Microbial Mats; Anoxic Limestone Drain; Administrative and Engineering Controls	1
Arizona		
Boston Mill Site	Phytotechnologies	10
California		
Alpine County - Confidential Mine Site	Biochemical Reactor	2
Alpine County - Confidential Mine Site	Chemical Precipitation	3
Golinsky Mine	Biochemical Reactor	21
Iron Mountain Mine	Capping, Covers and Grading; Chemical Precipitation	29
Keystone Mine	Constructed Treatment Wetlands	32
Lava Cap Mine	Capping, Covers and Grading; Microbial Mats; Excavation and Disposal	34
Leviathan Mine	Aeration; Administrative and Engineering Controls	35
Rising Star Mine	Constructed Treatment Wetlands	45
Stowell Mine	Biochemical Reactor	48

Colorado		
American Tunnel Mine	Chemical Precipitation	4
Argo Tunnel Site	Anoxic Limestone Drain	6
Cement Creek Mine	Chemical Precipitation	11
Central City/Clear Creek Superfund Site	Capping, Covers and Grading; Biochemical Reactor; Excavation and Disposal	12
Golf Tunnel Mine	Microbial Mat	22
Wellington-Oro Water Treatment Plant	Chemical Precipitation	57
Idaho		
Idaho Site - Confidential	Chemical Precipitation	28
Stull Yard Mine	Excavation and Disposal; Capping, Covers and Grading	50
Sunshine Mine	Chemical Precipitation	51
Indiana		
Tecumseh-AML Site	Constructed Treatment Wetlands; Anoxic Limestone Drains; Capping, Covers and Grading	53
Maine		
Kerramerican Mine	Capping, Covers and Grading; Administrative and Engineering Controls	31
Michigan		
Gribbons Basin Site	Capping, Covers and Grading; Administrative and Engineering Controls	23
Minnesota		
Soudan State Park	Ion Exchange	49
Dunka Mine	Capping Covers and Grading; Constructed Treatment Wetland; Diversionary Structures	59
Missouri		
Annapolis Mine	Chemical Stabilization; Excavation and Disposal; Administrative and Engineering Controls	5
Big River Mine Tailings	Capping, Covers and Grading	8
Cottonwood Creek Site	Capping, Covers and Grading; Backfilling & Disposal	15
Hume Mine	Capping, Covers and Grading; Backfilling & Subaqueous Disposal	26
Magmont Mine	Capping	36
Oronogo-Duenweg Mine	Capping, Covers and Grading; Chemical Stabilization; Excavation and Disposal; Administrative and Engineering Controls	41
Potosi Site	Capping, Covers and Grading; Reuse and Reprocess: Excavation and Disposal	43
Montana		
Golden Sunlight Mine	Passivation	20

Zortman Landusky-Swift Gulch Site	Chemical Precipitation	58
New Brunswick		
Fire Road Mine	Chemical Precipitation	18
New Hampshire		
Ore Hill Mine	Chemical Stabilization; Administrative and Engineering Controls	40
New Mexico		
Nacimiento Mine	Biochemical Reactor	38
Ohio		
Southeast Ohio Coal Mine Sites	Multiple Technologies; Administrative and Engineering Controls	39
Oklahoma		
Commerce/Mayer Ranch	Constructed Treatment Wetlands; Administrative and Engineering Controls; Biochemical Reactor; Aeration	13
Hartshorne/Whitlock-Jones	Constructed Treatment Wetlands; Anoxic Limestone Drain	24
McNeely Green Reclamation Tar Creek Superfund Site	Excavation and Disposal; Capping, Covers and Grading; Backfilling & Subaqueous Disposal	37
Red Oaks	In-Situ Treatment	44
Tar Creek Superfund Site	Re-Use and Reprocess; Backfilling & Subaqueous Disposal; Administrative and Engineering Controls	52
Oregon		
Black Butte Mercury Mine	Capping, Covers and Grading; Administrative and Engineering Controls	9
Horse Heaven Mine	Excavation and Disposal; Capping, Covers and Grading; Administrative and Engineering Controls	25
Shiny Rock Mine	Excavation and Disposal	47
Pennsylvania		
Bark Camp	Excavation and Disposal; Constructed Treatment Wetlands; Capping, Covers and Grading	7
Friendship Hill National Historic Site	Anoxic Limestone Drain; Chemical Precipitation	19
I-99 Remediation Site	Capping, Covers and Grading; Excavation & Disposal	27
Penn State Bench Laboratory Bench Study	Biochemical Reactor	33
Pennsylvania Coal Mine	Pressure-Driven Membrane Separation	42
Toby Creek Mine	Chemical Precipitation	54
Tennessee		

Copper Basin Mine	Multiple Technologies; Administrative and Engineering Controls	14
Sequatchie Valley Coal Mine	In Situ Biological Treatment	46
Texas		
Fort Hood Site	Microbial Mats	17
Utah		
Bingham Canyon Water Treatment Plant, Kennecott South Zone	Pressure-Driven Membrane Separation;	30
Vermont		
Ely Copper Mine	Capping, Covers and Grading; In-situ Biological Treatment; Administrative and Engineering Controls	16
Vermont – Confidential Site	Chemical Precipitation	56
Virginia		
Valzinco Mine	Excavation and Disposal; Constructed Treatment Wetlands; Anoxic Limestone Drain; Capping, Covers and Grading	55