DEPARTMENT OF THE INTERIOR

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## TECHNICAL NOTE

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Bureau of Land Management U.S. DEPARTMENT OF THE INTERIOR

Subject: Reclamation of Mined-Lands

The following State Highway Departments, usually with financial assistance from the Bureau of Public Roads (Department of Transportation), are sponsoring experimental projects by state universities. Some of this work would be applicable to the problems of mined-land reclamation.

California Division of Highways P. O. Box 1499 Sacramento, California 95809

Work is currently under way at the University of California, Davis, seeking methods of establishing drought-tolerant perennial plants by direct seeding.

Montana Highway Commission Helena, Montana 59601

Revegetation research work is being done at the Agricultural Experiment Station, Montana State University, Bozeman, Montana; the project is to be completed by December 1969.

Nevada State Highway Department Carson City, Nevada 89701

Studies have been made over the past three years by the Plant Service Department, University of Nevada, Reno, Nevada to determine adaptability of exotic and native plants to disturbed sites (cuts, fills, median strips). Another revegetation study project is being proposed with the Soil Conservation Service, U. S. Department of Agriculture.

New Mexico State Highway Department Santa Fe, New Mexico 87501

Cooperative experiments on revegetation methods are underway with the Plant Experimental Station, New Mexico State University, Los Lunas, New Mexico and the Soil Conservation Service, U. S. Department of Agriculture.

## RECLAMATION RESEARCH PROJECTS - WESTERN U. S.

	Location	Mineral	Company	Description
Arize A-1	MIAMI REF: Util. & Stabil. of Solid Mineral Wastes. Dean, Havens and Valdez, U. S. Bureau of Mines, 1969, p. 9.	Copper	Miami Copper Company	Vegetative stabilization of tailings. Research by U. S. Bureau of Mines.
-2	TUBA CITY REF: Personal communication-Karl Dean, U. S. Bureau of Mines.	Uranium	El Paso Natural Gas	Chemical stabilization of tailings.
-3	TUCSON (20 miles SW) REF: Arizona Republic, November 18, 1968.	Copper	Anaconda Company	Vegetative stabilization of tailings pond dikes. Twin Buttes Mine.
Color B-1	CLIMAX  REF: Personal communication-Dr. Berg, Colorado State University, Master's Thesis, Hayes F. Grubb, 1965.	Molybdenum	American Metal Climax	Vegetative stabilization of tailings. Studies on-site by Dr. Berg.
-2	COLORADO SPRINGS (20 miles N) REF: Personal communication-Dr. Berg, Colorado State University.	Limestone	Castle Concrete	Revegetation of affected area. Studies on-site by Dr. Berg.

	Location	Mineral	Company	Description
B-3	CRIPPLE CREEK REF: Personal communication-Dr. Berg, Colorado State University.	Gold	?	Revegetation of old placer tailing. Studies on-site by Dr. Berg.
· <u>-</u> 4	DURANGO REF: Personal communication-Dr. Berg, Colorado	Uranium	Vanadium Corp. of America	Revegetation of old tailings.
<b>-</b> 5	State University.  GRAND JUNCTION			
	REF: Personal communication-Dr. Berg, Colorado State University.	Uranium	American Metal Climax	Revegetation of old tailings.
<b>-</b> 6	HAYDEN-OAK CREEK REF: Coal Age, October	Coal	Energy Coal Co.;	Revegetation of spoils and
	1966, pp. 100-107; personal communication-Dr. Berg, Colorado State University;		Pittsburgh and Midway; Peabody Coal Company	affected areas. Edna, Osage, Seneca and Energy Mines.
_ 7	USGS Memo of July 18, 1966.  MAYBELLE	Phosphate	Noneante, Chemical	
Part I	REF: Personal communication-Dr. Berg, Colorado State University.	Uranium	Union Carbide	Revegetation of spoils and affected areas.
-8	RIFLE	Phosphere		Description of old and our
0	REF: Personal observation.	Uranium	Union Carbide	Revegetation of old and cur- rent tailings.
<b>-</b> 9	TELLURIDE REF: Personal observation.	Gold	Idarado Mining Company	Revegetation of tailings.

	Location	Mineral	Company	Description
Idah	o The Revenue And Parket Williams			
C-1	KILGORE			
	REF: BLM FilesMemo-	Phosphate	Simplot Company	Revegetation of spoils.
	Ed Barnes, Idaho State			Gay Mine, Conda Mine.
	Office, June 9, 1965.			Working with USFS.
-2	SODA SPRINGS			
	REF: See above.	Phosphate	Monsanto	Revegetation of spoils.
			Chemical	Ballard Mine. Working with
				USFS.
Mont	and the top-init belower			
	COLSTRIP			
D=1	REF: Personal communica-	Coal	Western Energy	Converted to wildlife habi-
	tion-Richard Hodder,	ooai	Company	tats, ponds. Research car-
	Montana State University;		Company	ried out by Montana State
	Progress Report, 1968.			University.
	REFI Fersonal communica-			Reve goencion of old tallings
-2	ANACONDA			
	REF: Util. and Stabil. of	Copper	Anaconda Company	Physical stabilization of
	Solid Mineral Wastes. Dean,			wastes. Research by USBM.
	Havens and Valdez, U. S.			
	Bureau of Mines, 1969, p. 6.		Validation Corp. '.	

	Location	Mineral	Company	Description
Neva	do			
	MCGILL			
	REF: U. S. Bureau of MinesRI-7261.	Copper	Kennecott Copper Corporation	Chemical and vegetative stabilization of tailings.
				Research by U. S. Bureau of Mines.
	Mexico GALLUP			
	REF: Personal communication-Alten Grandt, Peabody Coal Company.	Coal	Pittsburgh and Midway	Revegetation of spoils.
0	OLIDOMA			
-2	QUESTA REF: Pay Dirt, June 23, 1969, p. 21.	Molybdenum	Molybdenum Corp. of America	Trout planted in tailings impoundment runoff (Turquoise Lake).
-3	SILVER CITY (TYRONE)  REF: Pay Dirt, June 23, 1969, p. 21.	Copper	Phelps Dodge	Trout planted in reservoir (Mangas Lake).
Nort	h Dakota			Owner District Local
G-1	BEULAH REF: Company Progress Reports, January 1, 1965	Coal	Knife River Coal Company	Leveling and revegetation spoils.
A-T	and July 15, 1966.		Drah Confermen	Sruted spalls with wheat-
-2	STANTON REF: Personal communication-Thomas A. Gwynn, Knife River Mining Company.	Coal	Consolidated Coal Company	Revegetation of spoils, using bucket-wheels in mining.

	Location	Mineral	Company	Description
Utah				
H-1	CEDAR CITY REF: Personal communication-Dan Jones, Mineral Specialist, Utah State Office.	Iron	Utah Construc- tion Company	Seeded spoils with wheat- grasses, 1968. Working with BLM, Cedar City District Office.
-2	MONTICELLO REF: U. S. Atomic Energy CommissionRMO-3005.	Uranium	U. S. Atomic Energy Commis- sion	Revegetation of old tail- ings. AEC project.
-3	SALT LAKE CITY REF: Personal communication-Karl Dean, U. S. Bureau of Mines.	Uranium	Vitro	Chemical stabilization of tailings.
Wyom: I-1	ing ATLANTIC CITY REF: Riverton Ranger June 19, 1969, p. 8-B, 11-D and 5-C.	Iron	U. S. Steel Corporation	Seeding test on spoils dumps.
-2	GAS HILLS REF: Riverton Ranger June 19, 1969, p. 17; personal observation. See also Util. and Stabil. of Solid Mineral Wastes, U. S. Bureau of Mines, 1969, p. 12.	Uranium	Union Carbide	Stockpiling topsoil, testing seeds.
	- The state of the			

	Location	Mineral	Company	Description
I-3	GLENROCK REF: USGS Memo of July 18, 1966.	Coal	Pacific Power and Light	Spoils leveled and seeded. Wyoming Lease 0385974 and 038602.
-4 Jdo 93	HANNA REF: Riverton Ranger June 19, 1969, p. 6-B and 12-B.	Coal	Big Horn Coal Company	Leveling and seeding spoils.
<b>-</b> 5	KEMMERER REF: University of Wyoming Master's Thesis, Lujan, 1966; Jacoby, 1968; Thompson, 1969.	Coal	Kemmerer Coal Company	Revegetation of spoils. Trees, shrubs, grasses. Working with the University Wyoming, Dr. May.
<b>-</b> 6	SHERIDAN REF: Riverton Ranger June 19, 1969, p. 6-B and 12-B.	Coal	Big Horn Coal Company	Spoils revegetated, ponds stocked with fish. Working with the Wyoming Fish and Game Commission.
	ington  CENTRALIA  REF: Personal communication-Gerald Thorsen, Geologist, State Department of Natural Resources (Washington).		Washington Irri- gation and De- velopment Co.	Problem with erosion, mon- soon rains!

Utah State Department of Highways State Office Building Salt Lake City, Utah 84114

Experimental work is being done statewide on revegetation of cuts, fills, median strips and borrowpits by the Agricultural Experiment Station, Utah State University, Logan, Utah.

Prepared by Tom H. W. Loomis, Mineral Specialist, Denver Service Center.

Please send any additional references on this subject or other minerals subjects to DSC (D-310). If the complete article or publication is needed, DSC (D-310) will attempt to obtain a copy or a loan for you.