

Table C-1.--Advantages and Disadvantages of Reclamation Equipment

Excavators

Wheel Loaders:

1. Can give high production.
2. Larger sizes can handle all types of material, including large blocky material.
3. Where haul distance is less than 800 feet can operate independently.
4. Have high mobility.
5. Production decreases in poor underfoot conditions.

Hydraulic Front Shovels:

1. Can give high production.
2. Can handle all types of material, including large blocky material.
3. Usually require supporting equipment.
4. Have a limited mobility.

Hydraulic Backhoes:

1. Have the ability to dig well below and above grade (i.e., to trim an unstable highwall).
2. Can function in less rigid operating conditions than shovels.
3. May or may not require supporting equipment.
4. Are normally used for handling softer material, but larger units can perform mass excavation of rock.
5. Have a limited mobility.

Scrapers:

1. Have excellent mobility.
2. Are limited to fairly soft and easily broken material for good production, although material up to a 2-foot diameter can be handled.
3. Usually require either pusher tractors or a push-pull team mate for loading assistance.
4. Usually operated without supporting disposal equipment where the distance to the dump area is less than 1 mile.

Bulldozers:

1. Are economically limited to an operating radius of 500 feet.
2. Do not require roads.
3. Production decreases rapidly as grade increases.
4. Can operate in poor underfoot conditions.

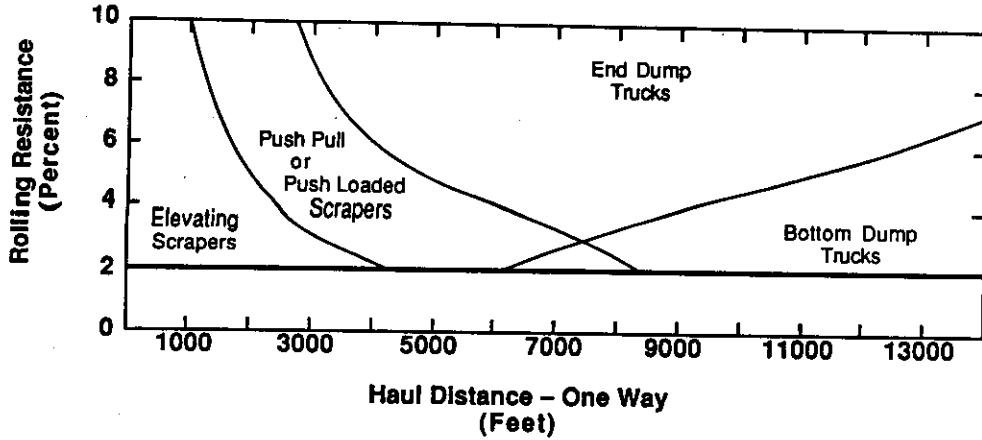
Haulers

Rear Dump Trucks:

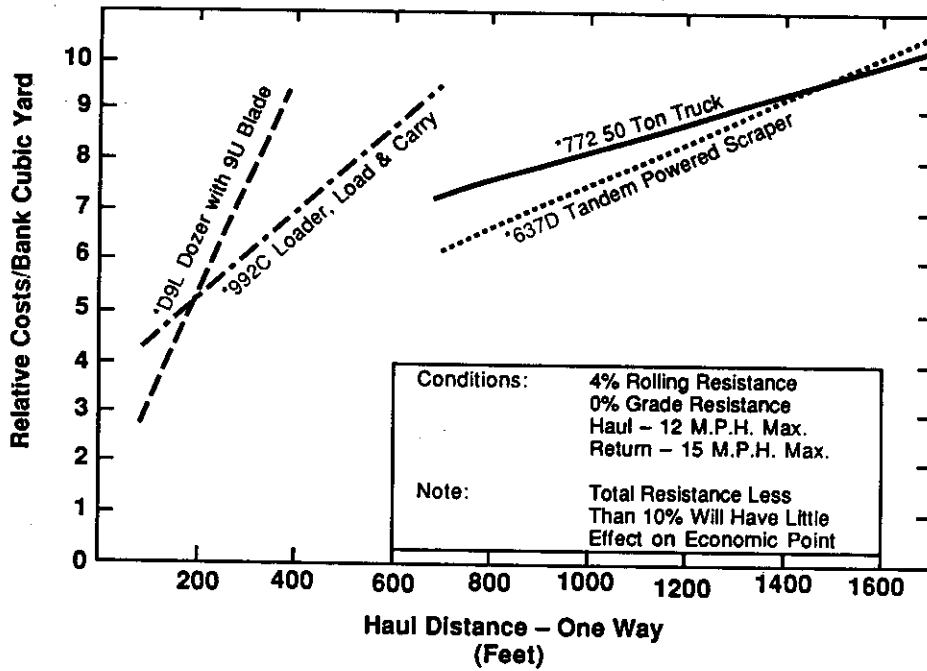
1. Require good roads to minimize tire costs.
2. Can negotiate steep ramps.
3. Usually economically limited to an operating radius of 3 miles.
4. Are very flexible.
5. Can handle coarse, blocky material.

Bottom Dump Trucks:

1. Require good roads to minimize tire costs.
 2. Are fast and have a greater economic hauling radius than rear dump trucks.
 3. Are better suited for long, level hauls.
 4. Requires free-flowing materials.
 5. Can spread dumped material into furrows reducing disposal grading requirements.
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Adapted From
International Harvester, 1975



* Caterpillar Tractor Co., used to illustrate equipment class and does not imply endorsement by the Office of Surface Mining Reclamation and Enforcement

Adapted From
Haley, 1974

Figure C-1.--Application Zones for Representative Reclamation Equipment

Table C-2.--Reclamation Equipment Rating--Regrading and Backfilling

<u>LEGEND</u>		<u>EQUIPMENT</u>				
1	Should be considered					
2	May be considered					
3	May be considered under certain conditions					
4	May be considered--special situations					
-	Should not be considered					
		Dozers	Graders	Scrapers	Front-End Loader	Front-End Loader & Trucks
	High Peaks	1	-	2	3	3
Spill Configuration	Moderate Peaks	1	3	1	1	2
	Low Peaks	1	1	1	1	1
	50'-150'	1	2	1	1	1
	150'-300'	1	-	1	1	-
Transport Distance	300'-500'	2	-	1	2	4
	500'-1000'	-	-	1	3	1
	1000'	-	-	1	-	1
	Flat & Smooth	1	1	1	3	-
	Flat & Rough	1	2	1	2	-
Final Surface Contour	Steep & Smooth	1	-	-	3	-
	Steep & Rough	1	-	-	2	-

Source: Modified from Skelly and Loy, 1975.

Table C-3.--Reclamation Equipment Rating--Topsoil Removal and Replacement

		<u>LEGEND</u>						
		1	2	3	4	-		
		Dozers		Scrapers				
		Front-End Loaders	Elevating	Full-Power	With Push Tractor	Shovel & Truck	Front-End Loader & Truck	
Topsoil Thickness (Removal)	0'-2'	1	1	1	1	1	-	1
	2'-5'	1	1	1	1	1	4	1
Haul Distance	0-300'	1	1	2	2	1	-	-
	300'-500'	2	2	1	1	1	-	-
	500'-1000'	-	-	1	1	1	4	3
	1000'-1500'	-	-	1	1	1	4	2
	1500'-5000'	-	-	2	2	2	4	1

Source: Modified from Skelly and Loy, 1975.