EQUIP TIPS

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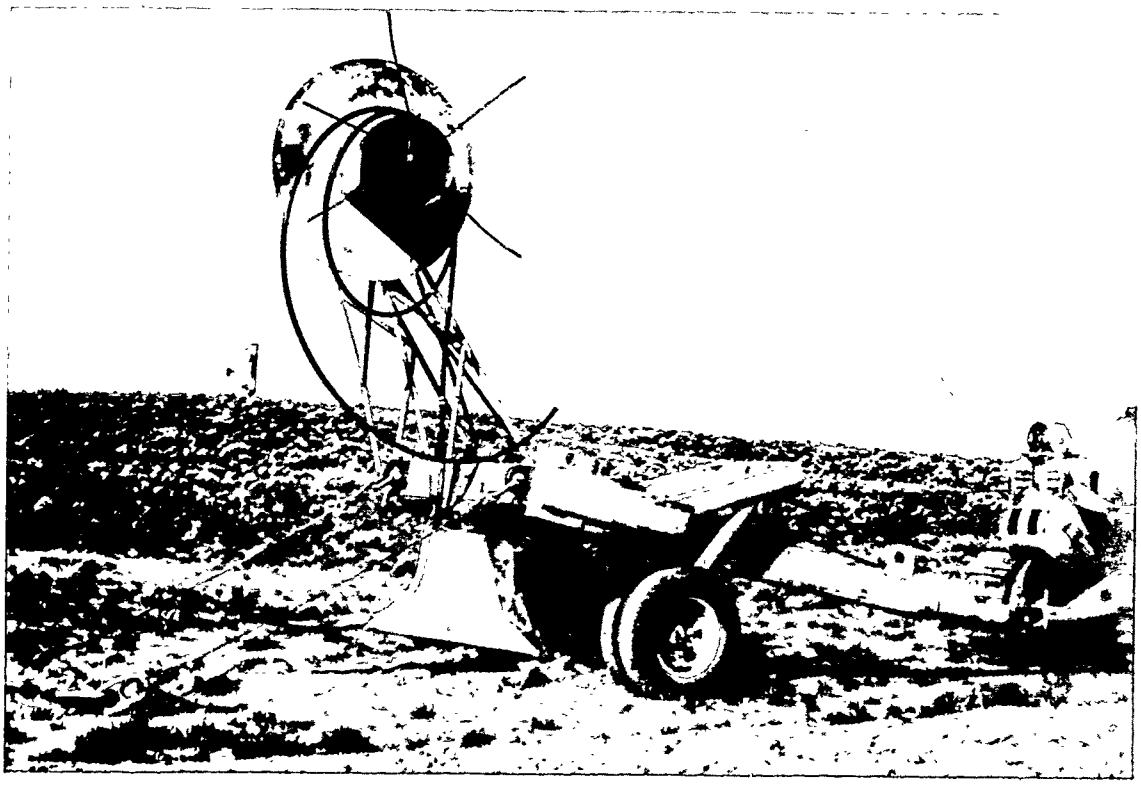
EQUIPMENT DEVELOPMENT CENTER
444 E. Bonita Avenue, San Dimas, California 91776

PLASTIC PIPE LAYING MACHINERY



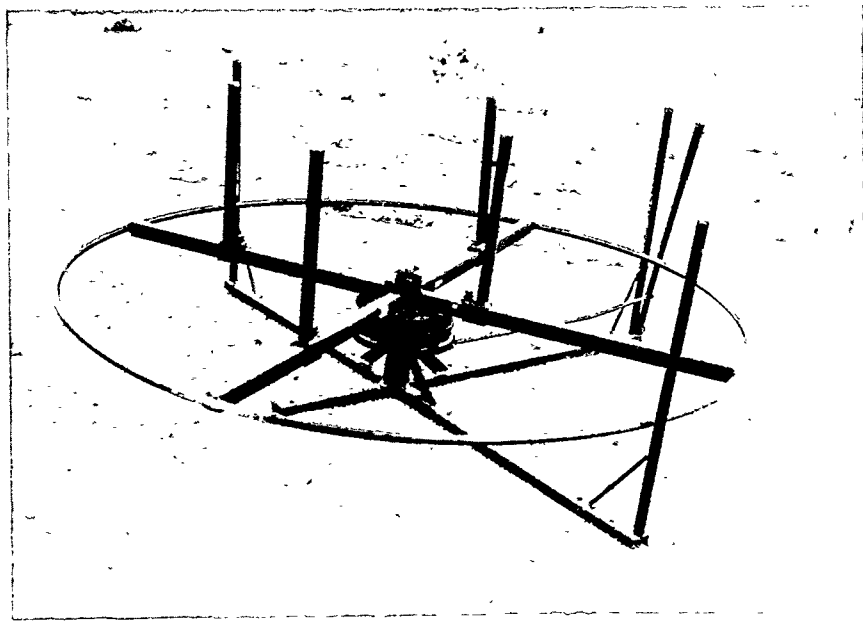
Vale Pipe Laying Unit

Flexible plastic pipe is being used increasingly for a wide variety of water service applications. It weighs less than metal pipe and can be handled in coils of much greater length. Its ability to follow an irregular trench line, curve around subsurface obstacles, and resist corrosion or frost damage, makes plastic pipe especially suited to many range management uses.

The San Dimas Equipment Development Center recently investigated two plastic pipe laying machines used by the Bureau of Land Management for distribution of water to stock watering troughs. These machines, one at Vale, Oregon and the other at Winnemucca, Nevada, were selected by the Range Seeding Equipment Committee for evaluation.

The Vale Unit, mounted on a Model H-3 Le Tourneau ripper is designed to open the trench, lay the pipe to a depth of 32 inches, and close the trench all in one pass. The flexible pipe is fed from a reel mounted above the ripper tooth and a heavy anchor chain is dragged behind to fill the trench.

The reel is designed with a conventional flange on one side, and six spokes on the other side which collapse like the ribs on an umbrella to facilitate mounting the coils of pipe. The reel structure is adaptable to most ripper frames. Vale reported that over 7000 feet of pipe per hour was laid with the unit being towed by a D-8 size tractor.



Winnemucca Reel

The Winnemucca unit has its reel bolted horizontally to the bed of a truck which follows a road grader and feeds out the pipe as the grader cuts the trench. The grader then makes a second pass and closes the trench. The reel itself is a circular framework with uprights for holding the coil in place. The framework is welded to an automobile hub assembly complete with brake shoes for applying tension on the pipe during the laying operation. The reel could be readily fabricated in any local welding shop.

Because the Winnemucca method employs a grader rather than a ripper, the depth of the lay is limited to approximately 18 inches. But the truck-and-grader combination allows for carrying a supply of coils on the truckbed.

The value of flexible plastic pipe for irrigation, campground water service, drainage systems, wildlife management, and other uses in management of forest and range land is well established. The Vale and Winnemucca units have proven effective pieces of equipment for laying the pipe. Engineering drawings of both are available from San Dimas Equipment Development Center.