

COMPARE SURVEY TYPES



Survey Type	Applications	Typical Sensitivity	Typical Accuracy	Advantages	Limitations
SHALLOW WATER SURVEY	Bottom of impoundments, sumps	0.001 square inch	1 inch	Most sensitive, tests under load, can be for in-service testing	Geomembrane must be flooded with water
DEEP WATER SURVEY	Impoundments with deep water or side slopes	0.001 square inch	24 inches	Deep or foul water surveys, can be for in-service testing	Accuracy of leak position, geomembrane must be flooded with water
SIDE SLOPE SURVEY	Side slopes of impoundments	0.001 square inch	2 inches	More accurate than towed survey	May require second mobilization
SOIL SURVEY	Landfills, landfill caps, and heap leach pads	0.05 square inch	Half of thickness of soil cover, leaks are uncovered and exactly located	Detects leaks under soil, detects construction damage after high potential for damage is gone	Soil must have some moisture
BARE LINER SURVEY	Bare liners	0.001 square inch	Leaks are exactly located	Does not require flooding liner with water, can be done as construction progresses	Not as reliable for patches or tortuous leak paths, or for geomembranes with wrinkles, bridging, or desiccated subgrade
ELECTRICAL LEAK IMAGING AND MONITORING SYSTEM (ELIM)	Pre-installed monitoring system	0.1 to 1 percent of electrode spacing	10 percent of electrode spacing	Detects leaks under waste, continuous monitoring	Must be installed during liner installation, higher cost



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