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Battelle Number(s):

12161-E

Patent(s) Issued

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Automated Sampling Instrument for Low Yield Wells

SUMMARY

Low-Yield Sampling Instruments (LYSI) are combinations of groundwater sampling pumps and inert reservoirs combined with self-regulating process control systems. These instruments are complete sampling systems which can be used to purge the well prior to sampling, recover and store the water necessary for sampling, and provide a reservoir and constant head sampling nipple from which to fill sample bottles. The LYSIs would be used to purge and then periodically pump low-yield aquifers or perched groundwater zones and store the recovered groundwater in an inert and/or zero head-space reservoir for later sampling. These sampling instruments eliminate the problems associated with low-yield groundwater wells, which are difficult to purge and often won't produce enough water to meeting sampling needs. This often means that the wells must be purged, then sampled, and then often re-sampled on successive days, essentially doubling or tripling the labor costs for purging and sampling a given well. With the LYSI, the samples can be collected all at once from the LYSI's reservoir, thus eliminating the need for resampling the well, and reducing labor costs.

ADVANTAGES

- * Because the sampling is automated, it reduces the costs associated with labor.
- * Allows for purging the well prior to sampling making it possible to retrieve all samples concurrently.
- * The device is suitable for groundwater monitoring and reliably collects and stores samples without contamination from external sources.



U.S. DEPARTMENT OF
ENERGY

Patents & Intellectual Property

- » Patent # 6,547,004

Technology Portfolio(s)

- » Monitoring

Potential Industry Applications

- » Agriculture & Mining
- » Oil & Gas
- » Recycling & Waste Management

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