


### Test Summary

The data summarized in the table documents the results of a testing protocol developed to determine the separation efficiency of hydrocyclones. In this protocol, a representative sample of feldspar sand is introduced into the inlet of a hydrocyclone being operated at controlled conditions of flow rate and pressure. The sand recovered from the separator is collected, dried, and weighed. The sand discharged downstream from the separator through the outlet is also collected, dried, and weighed. A sand recovery balance is made and the separator efficiency is calculated. Pretest hydraulic studies are conducted to determine the relationship between flow rate and headloss.

The table summarizes the efficiency studies on a Lakos model HTX-0450-V (serial no. 35494-001) 6-in. separator. For this test, a sand sample weight of 150.000 grams was used. For a series of 4 runs, the average sample recovery was 98.0%. The average recovery of sand from the separator was 92.8% of this amount. This then translates into an average separator efficiency of 92.8%. The sand recovered downstream of the separator averaged 7.2% of the total recovered. Separator efficiency tends to be directly related to flow rate as shown by comparing the results for each of the runs.

  
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**Serial No.** 35494-001

**Model:** HTX-0450-V

**Size:** 6-in.

<b>Run</b>	<b>Headloss</b>	<b>Flow Rate</b>	<b>Up-Stream Pressure</b>	<b>Sand Sample Weight (1)</b>	<b>Final Sand Sample Weight (2)</b>	<b>Total Recovering (3)</b>	<b>Recovered From Separator (4)</b>		<b>Recovered From Downstream (5)</b>	
<b>(#)</b>	<b>(psi)</b>	<b>(gpm)</b>	<b>(psi)</b>	<b>(grams)</b>	<b>(grams)</b>	<b>(%)</b>	<b>(grams)</b>	<b>(%)</b>	<b>(grams)</b>	<b>(%)</b>
1	3	395	50	150.000	142.814	95.2	125.625	88.0	17.189	12.0
2	8	637	50	150.000	149.318	99.5	137.713	92.2	11.605	7.8
3	12	777	50	150.000	146.484	97.7	138.392	94.5	8.092	5.5
4	15	866	50	150.000	149.511	99.7	144.223	96.5	5.288	3.5
					<b>Average</b>	<b>98.0</b>		<b>92.8</b>		<b>7.2</b>

(1) Initial weight of Feldspar 120 introduced into the pipeline upstream of the separator.

(2) Total weight of sand recovered.

(3) Total percentage of sand recovered.

(4) Sand sample purged and washed from separator. Note: Separator was not operated with a continuous purge.

(5) Sand sample collected and washed from 200 mesh downstream Arkal filters.

**Note:** Unit supplied by Claude Laval Corporation

File: 1107 (LAK/05)

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