

TRIPLE/S DYNAMICS
PROCESS EVALUATION

[REDACTED]

BY: [REDACTED]

SALES REPRESENTATIVE: [REDACTED]

LAB SAMPLE NUMBER: 80-27

SUBJECT: Separation of Coke and Gravel on a Gravity Separator
for [REDACTED], Russellville, Arkansas

BACKGROUND: Three drums of gravel and coke were received
from [REDACTED]. The object of the test was
to separate the coke from the gravel, with
clean gravel being the desired product.

SUMMARY: The results indicate that it is possible to
achieve a clean gravel product on a Stoner and
a Gravity Separator.

PROCEDURE: * A sieve analysis was run on the incoming heavy
sample. One drum of product was then screened
on the Series 500H Horizontal Inclined Screen
equipped with a 1/4" wire cloth screen. The
+1/4" fraction was then run over the V-135 Gravity
Separator equipped with a 16 mesh deck with a
full set of riffles. Light and heavy fractions
were collected, with the heavy fraction being
gravel and the light fraction a combination of
coke and gravel.

It was then decided to run the unscreened product
over the V-135 Gravity Table equipped with the
16 mesh deck with full riffles. A light and heavy
fraction was collected, and the heavy fraction was
rerun over the V-135 with the same deck as before.
Again two fractions were collected and weighed,
with the heavy being clean gravel and the light
gravel and coke.

Next an unscreened sample was run over the
S-22G Stoner equipped with a 16 mesh deck at
a feed rate of approximately 3840 lbs/hr.
The light fraction (coke and gravel) and the

heavy fraction (clean gravel) were collected and weighed.

RESULTS AND DISCUSSION:

The results of the sieve analysis performed on the incoming head sample are presented in Table 1.

Table 1 - Sieve Analysis Results on the Head Sample of Gravel and Coke

<u>Sieve Size (Tyler)</u>	<u>Percent</u>	<u>Cumm. Percent</u>
+3/8"	7.99	7.99
+5/16"	3.09	11.08
+3 mesh	8.51	19.59
+4 mesh	24.60	44.19
+6 mesh	21.46	65.65
+8 mesh	18.47	84.12
-8 mesh	15.88	100.00

A portion of the sample was then screened on a 1/4" screen giving these results:

- +1/4" - 255 lbs (45.25%)
- 1/4" - 308.5 lbs (54.75%)

The results of the gravity separation tests performed on the V-135 are presented in Table 2.

Table 2 - Percent Distribution of Unscreened and +1/4" Screened Gravel and Coke Products Run on the V-135 Gravity Separator

<u>Screened +1/4"</u>	
<u>Fraction</u>	<u>Percent</u>
Light	58.14
Heavy	41.86

(Continued...)

Table 2 - Continued

Unscreened Product

<u>Fraction</u>	<u>Percent</u>
Light	60.47
Heavy	39.53
<u>Heavy Rerun</u>	
Light	52.94
Heavy	47.06

A portion of the unscreened product was next run on the S-22G Stoner with the following results:

Light - 157 lbs (52.86%)

Heavy - 140 lbs (47.14%)

The light fraction contained coke with some gravel, and the heavy fraction contained an acceptably clean gravel product.

It was determined that the Stoner was the most efficient machine to use for this separation, and that the feed rate to the Stoner could vary from a low rate of approximately 270 lbs/hr to the test rate of approximately 3840 lbs/hr without contamination to the clean gravel.

Small samples were returned to ██████████.
██████████