



IMCET 2019

TÜRKİYE 26. ULUSLARARASI MADENCİLİK
KONGRESİ VE SERGİSİ

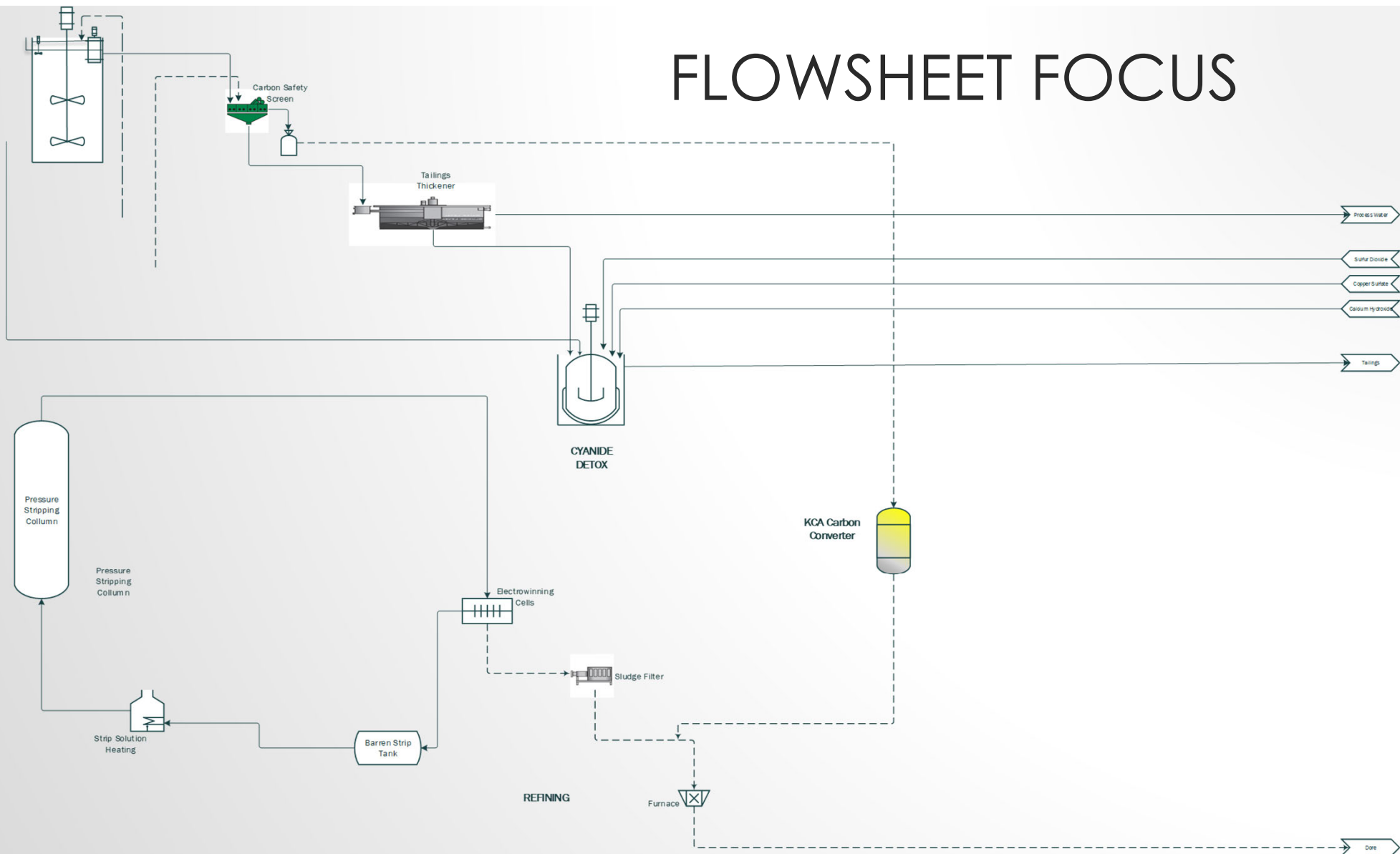
16 - 19 Nisan 2019



CARBON MANAGEMENT

Updates in Carbon Fines Capture and Gold Recovery

FLOWSHEET FOCUS







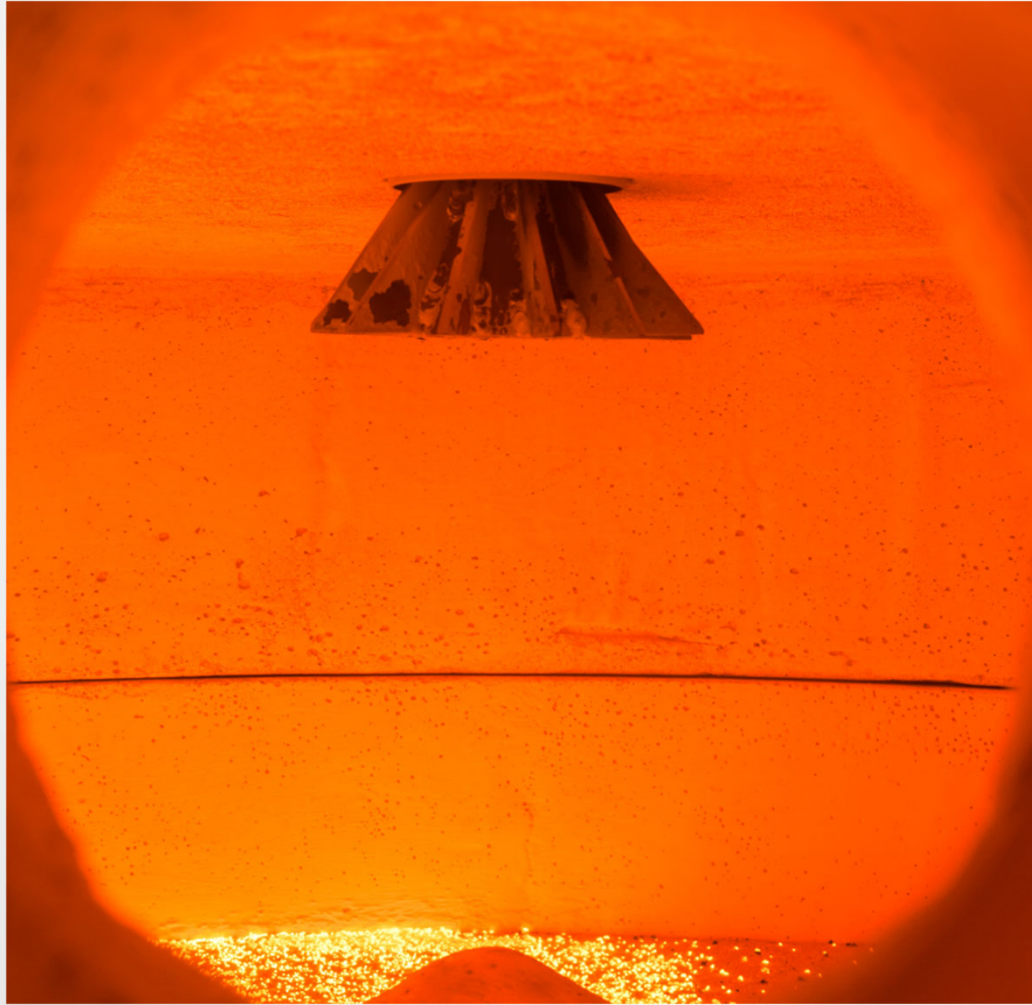


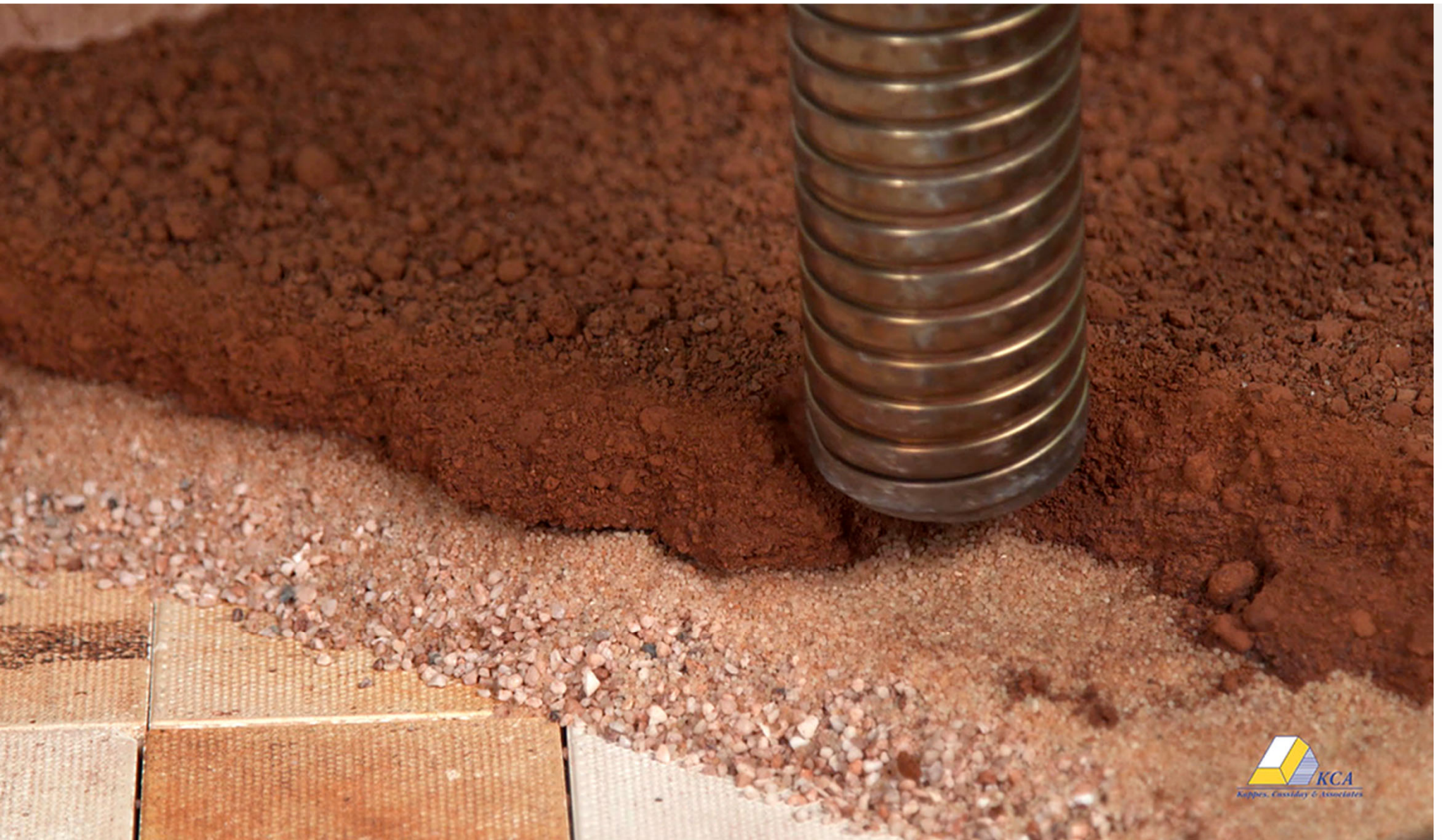
Carbon Converter

The Carbon Converter is a furnace designed for the recovery of gold from carbon fines by incineration:

- Burns fines, regardless of content (trash, Hg, etc...)
- Recovers gold
- Scrubs emissions, including Hg
- Small footprint
- Minimal operating cost









Feed & Site Characteristics

These are the important characteristics for processing carbon fines:

- Carbon (dry basis) - %
- Sand / gangue (dry basis) - %
- Gangue mineralogy – Silica? Carbonates? Sulfides?
- State of carbon – Large cemented lumps? Wet soup?
- Moisture - %
- Average gold & silver grade - troy oz/t
- Average Mercury content - ppm
- Altitude of plant installation

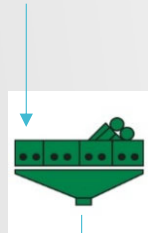
Dollarization

Safety Screen for Gold CIL/CIP

Basic Assumptions

- 500 TPH
- \$1350 / oz
- Carbon (0.5 TPD)
- 90% Au Recovery

Tailings from CIL



Tails

Carbon

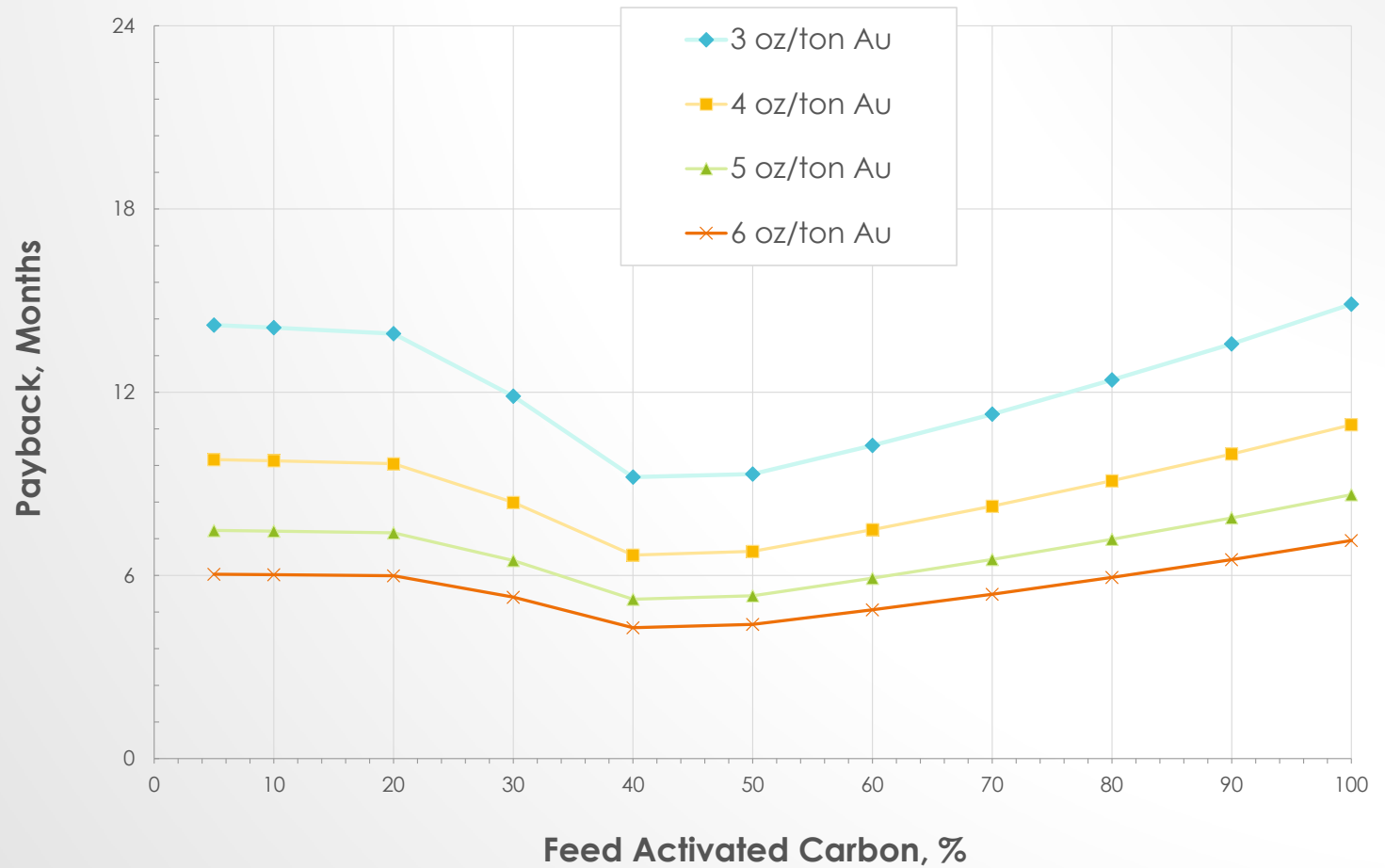


Size	% Ret C	% Ret Ore	Au ppm	Au oz	Value	Cum Value
850	2	0	400	0.13	\$158	\$158
700	3	0	350	0.17	\$207	\$365
500	10	0	300	0.48	\$583	\$948
390	25	0	250	1.01	\$1,227	\$2,175
300	25	1	50	0.20	\$243	\$2,418
250	25	3	20	0.08	\$97	\$2,515
-250	10	96	20	0.03	\$37	\$2,552



Economics

Payback vs. Grade and Feed Carbon %



PAYBACK OF EXAMPLE: (300 GRAMS GOLD/TONNE)

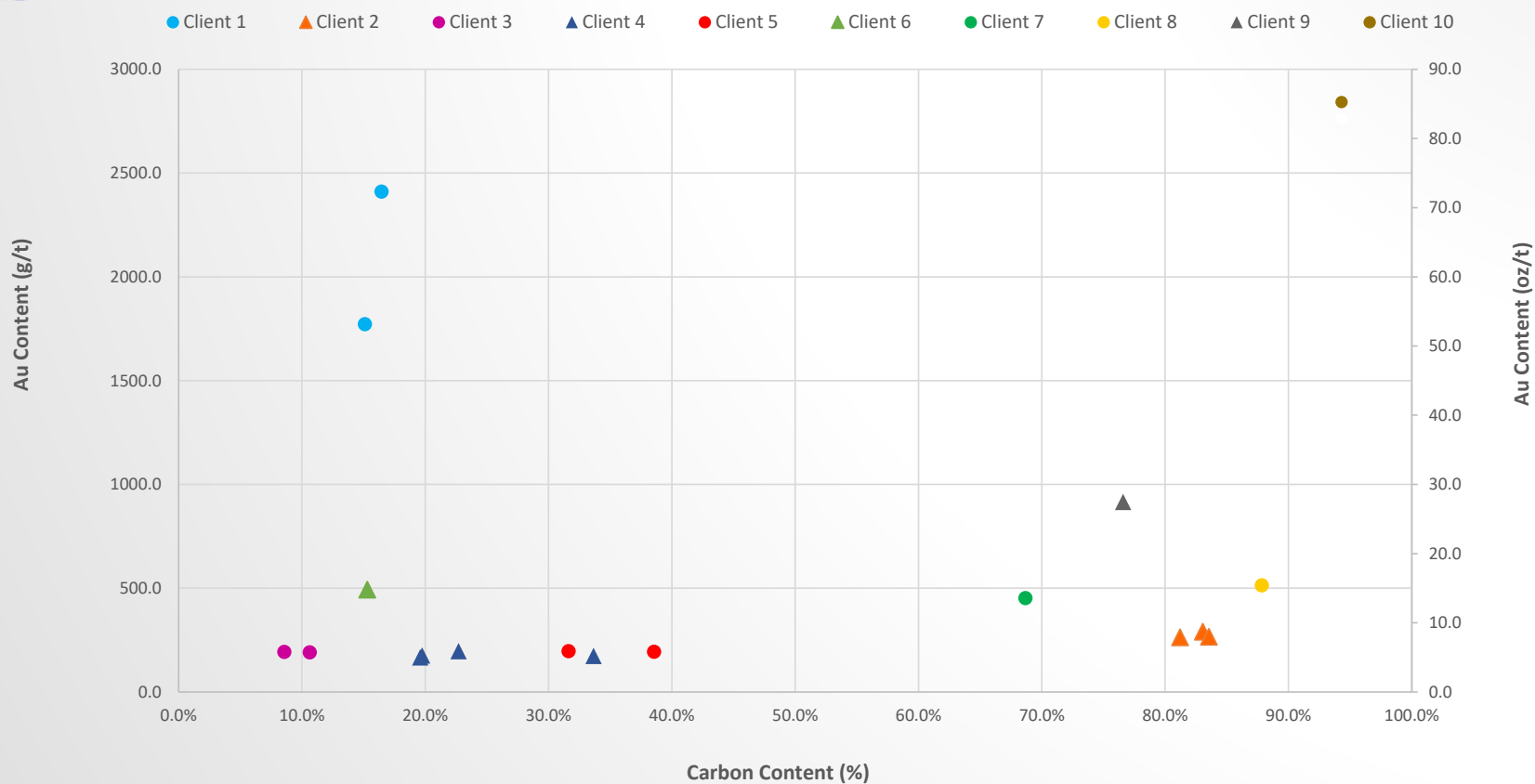
This example requires:
2 Derrick Fine Screens
1 KCA Carbon Converter

CapX: \$1,160,000
OpX (annual): \$120,000
Payback: 1.5 years
ROI 54%



GOLD IN CARBON FINES FROM ACTUAL OPERATIONS

Carbon vs Gold Content



THANK YOU!
TEŞEKÜLAR!