1700 0061

WP COUNTING

1. LIMESTONE RUBBLE GRADES UPWARD INTO MASSIVE CLAY AT LIMESTONE-UPPER JASPEROID CONTACT ALONG BARREN FEEDER.

2. GOOD SECTION ACROSS LOWER CHAINMAN.

3. VARIOUS HYDROFRACTURE, TECTONIC AND KARST BRECCIAS ALONG CHAINMAN-JOANA CONTACT.
   DANGER STAY OUT OF CAVES!

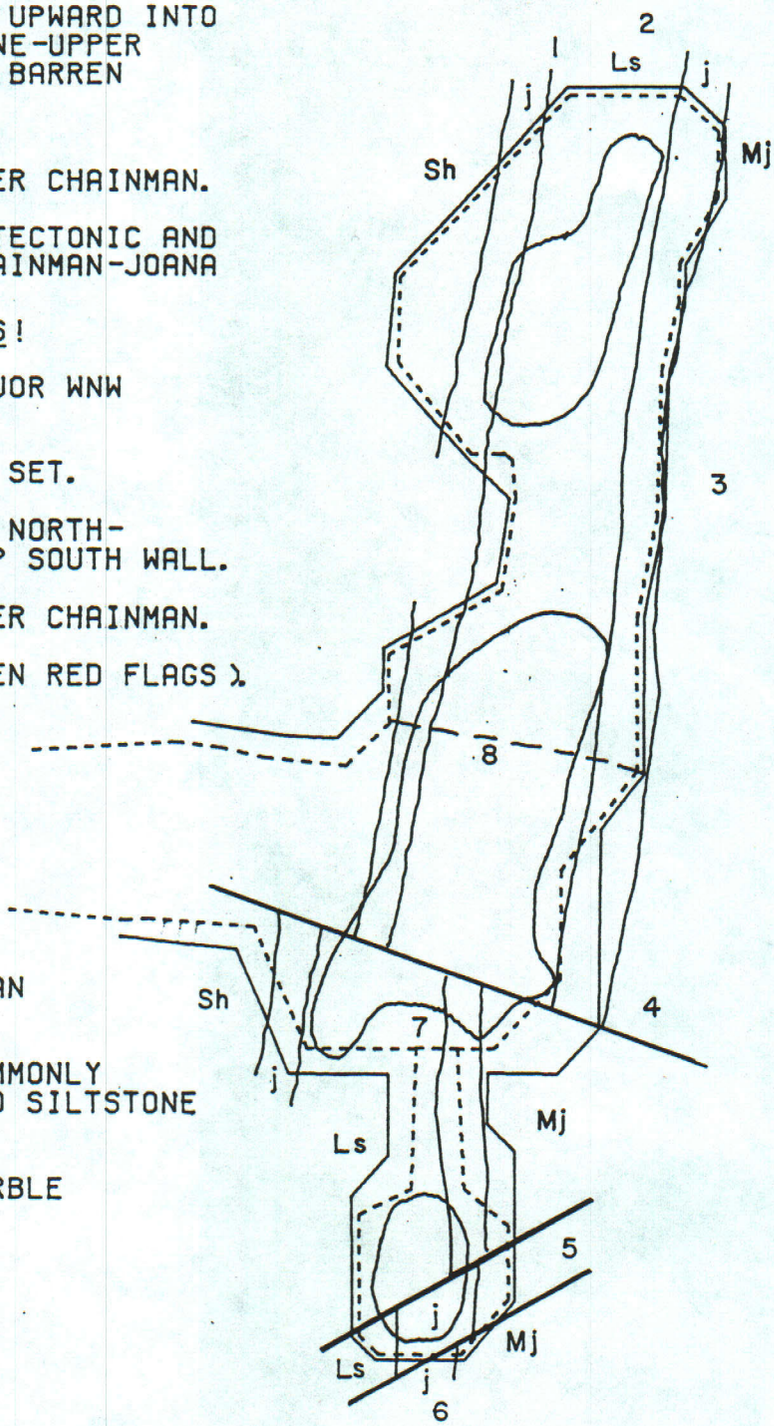
4. CU-MN OXIDE CLAYS IN MAJOR WNW PRE-ORE CROSS FAULT.

5. MAJOR NE POST-ORE FAULT SET.

6. 15 FT. WIDE ORE ZONE IN NORTH-TRENDING FEEDER, RUNS UP SOUTH WALL.

7. GOOD SECTION ACROSS LOWER CHAINMAN.

8. ORE IN LIMESTONE (BETWEEN RED FLAGS).



Sh CHAINMAN SHALE

j UPPER AND LOWER CHAINMAN JASPEROIDS

Ls CHAINMAN LIMESTONE. COMMONLY ARGILLIZED, DECALCIFIED SILTSTONE AT JASPEROID CONTACTS.

Mj JOANA JASPEROID AND MARBLE

N

OUTLINE OF +.02 OZ/TON ORE

6455 BENCH - SOLID LINE
6440 BENCH - DOTTED LINE

USMX GREEN SPRINGS
C-PIT
SCALE. 1 IN. = 200 FT.

USMX - Green Springs Process Plant

The USMX Process Plant is a classic heap leach, carbon adsorption-desorption, electrowinning process.

Ore is crushed to minus 1" size, agglomerated with cement and stacked on 600' x 300' plastic lined pads in 20' lifts. Cyanide solution is applied to the top of the heaps via drip-emitter irrigation tubing. Total barren solution flow to the heaps is 450 gpm with a typical leach cycle of 50 days at an 80% gold recovery.

Gold bearing pregnant solution is diverted from the leach heaps into a three million gallon plastic lined pregnant liquor pond. Pregnant liquor is pumped to the process plant where it is cascaded through a five-stage series of 5' diameter carbon columns, each holding one ton of activated carbon. Gold adsorbs onto the carbon from the pregnant solution, which then exits the plant as gold poor barren solution. After having cyanide made-up, barren solution is pumped back upon the heaps to begin the leach cycle anew.

As the carbon becomes loaded with gold it is advanced counter-current to the solution flow from column to column and loaded into the carbon stripping vessel. The carbon stripping method utilized at Green Springs is an Anglo American Research Laboratories (AARL) system, in which the carbon is acid washed, and the gold desorbed off the carbon via a high cyanide solution soak followed by a high temperature water rinse.

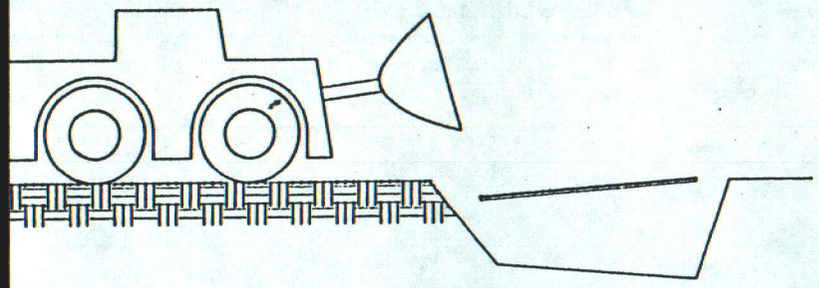
Gold is subsequentially removed from the solution exiting the AARL column via an electrowinning and replating circuit, the final product of which is smelted in a tilting furnace and poured into bullion buttons assaying 98% precious metals by weight.

At the end of the strip cycle, stripped carbon now carrying 0.5 ounces gold per ton carbon is reactivated in a rotary kiln at 1200°F, quenched in water, and then advanced to the last carbon column in the train to begin the adsorption cycle over again.

Property production averages 2,000 ounces gold per month.

GREEN SPRINGS PROJECT

CRUSHING AND AGGLOMERATION FLOWSHEET



OPERATING BASIS

DRY TONNAGE: 15,000 STPW or 400-500 STPH

CRUSHED PRODUCT: 100% Minus 3 Inch

AGGLOMERATES: 5 lb Cement/Ton Ore at 12% Moisture

JAW

+ 3 " Fraction

SHORTHEAD CONE

CEMENT

SCREEN

-1" Fraction

1" to 3" Fraction

PUG MILL

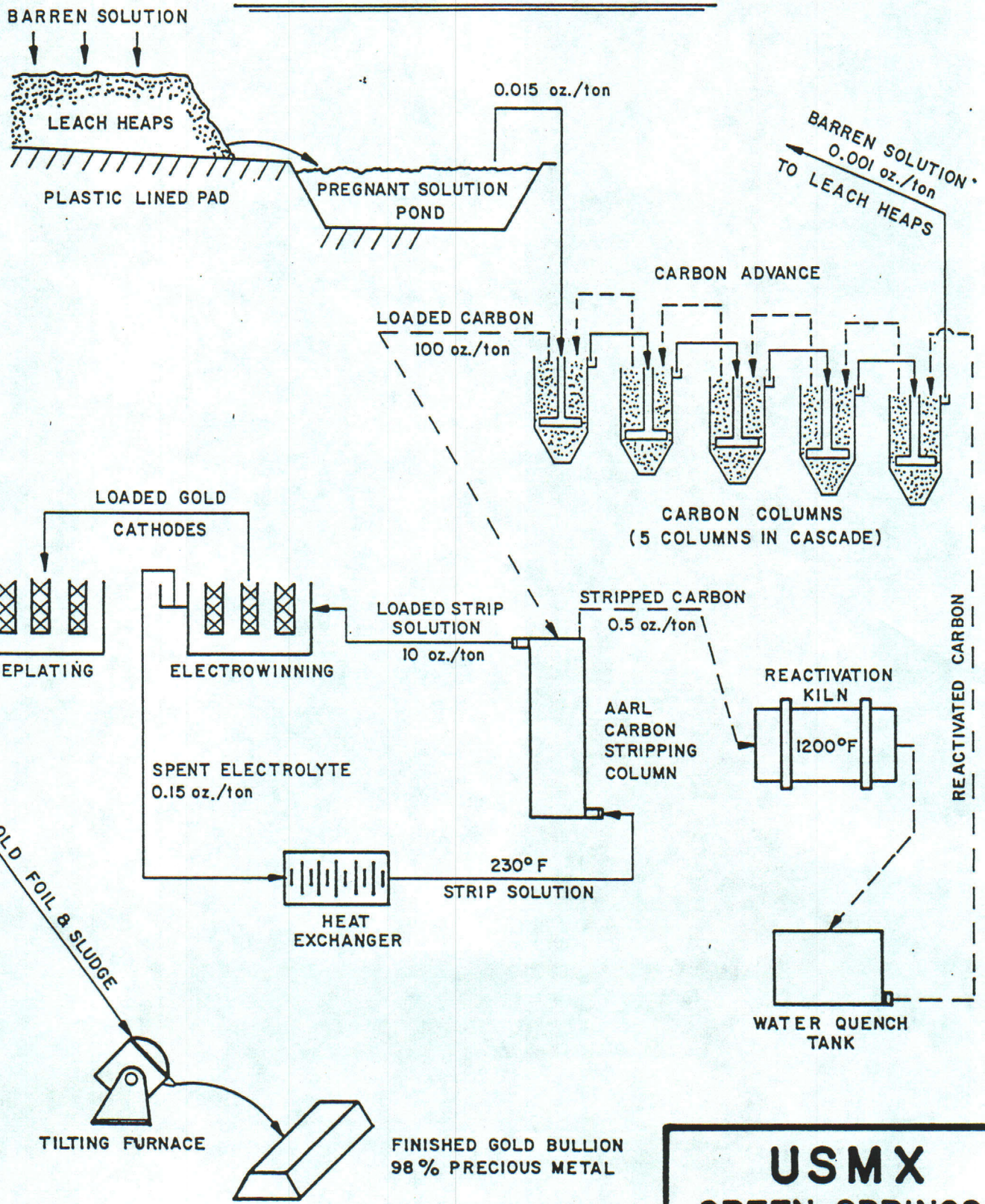
STACKER

HEAP

DRAWN BY: JK

DATE: JAN 1988

PROCESS PLANT FLOW SHEET



USMX
GREEN SPRINGS MINE