

To T.R. Raponi
Copies To G.B. Halverson, D. Cooper
From M.E. Goodfellow
Subject STRIPPING OF TRP PILOT PLANT CARBON

Date 23-Nov-87
Ref. CSSREP

1.0 Operations:

A total of 6 Tailings Retreatment Plant carbon batches were treated in September, October, and November. The carbon contained a great deal of woodchips and sand which created problems in the circuit. The carbon had to be washed excessively prior to stripping. Batch number six had large amounts of burlap fibres as well. During the processing of this batch, the inline screen had to be removed due to plugging. Upon completion of stripping the solution was discarded due to contamination.

2.0 Carbon Treated:

Tailings Retreatment Pilot Plant

	Total
Total Tons Treated	1.93
Feed Grade (oz/ton)	24.30
Tail Grade (oz/ton)	7.44
Gold Feed Ounces	46.893
Recovered Gold Ounces	32.357
Recovery (%)	69.39
Total Batches Treated	6
Batch No. Stripped	TRP 1 to 6

3.0 Bullion Reconciliation:

Tailings Retreatment Pilot Plant

	Total
Carbon Feed, ounces	46.893
Carbon Tail, ounces	14.356
Bullion Feed ounces	32.357
Bar Poured, ounces	42.361
Total Bullion, ounces	42.361
Losses (Gains), ounces	(9.824)

4.0 General

From the Tailings Retreatment Plant metallurgical balance, the pilot plant averaged 35.0 % recovery based on a total of 154.0 feed ounces and a total of 53.98 ounces recovered to carbon. The gold ounces recovered to carbon was calculated to be 46.893 ounces. The discrepancy in projected and actual feed ounces to the carbon strip circuit is probably due to carbon handling losses. From the carbon balance, a gold recovery of 69.39 % was calculated for the circuit. The actual recovery after the bullion pour was 90.34 % Au. A button was poured which weighed 1621 g and had a total fineness of 939.52. The gold fineness of the button was 812.82. A photograph of the poured button can be found in Figure 1. The projected bullion ounces was calculated to be 32.537 ounces Au. The actual button poured contained 42.361 ounces Au. Therefore, there was a positive bullion reconciliation with a gain of 9.824 ounces in the poured button.

M.E.G.

M.E. Goodfellow
Jr. Metallurgist



Figure 1 : TRP Gold Button

TRP CARBON BALANCE

1) TRP 5A,B,C,D,E

$$\text{Carbon Balance} = (0.33 \text{ TON}) \left(10.1 - 6.6 \frac{\text{oz}}{\text{TON}} \right) = 1.155 \text{ oz}$$

2) TRP 5F,G,H,I,J

$$\text{Carbon Balance} = (0.33 \text{ TON}) \left(10.0 - 4.7 \frac{\text{oz}}{\text{TON}} \right) = 1.749 \text{ oz}$$

3) TRP 5K,L,M,N,4A

$$\text{Carbon Balance} = (0.33 \text{ TON}) \left(22.5 - 11.5 \frac{\text{oz}}{\text{TON}} \right) = 3.630 \text{ oz}$$

4) TRP 4B,C,D,3A,B

$$\text{Carbon Balance} = (0.30 \text{ TON}) \left(25.7 - 13.1 \frac{\text{oz}}{\text{TON}} \right) = 3.780 \text{ oz}$$

5) TRP 3C,D,E,FG

$$\text{Carbon Balance} = (0.55 \text{ TON}) \left(37.9 - 4.2 \frac{\text{oz}}{\text{TON}} \right) = 18.535 \text{ oz}$$

6) TRP 6

$$\text{Carbon Balance} = (0.08 \text{ TON}) \left(53.5 - 7.4 \frac{\text{oz}}{\text{TON}} \right) = 3.688 \text{ oz}$$

$$\text{TOTAL TRP Bullion Pour} = 32.537 \text{ oz}$$

$$\text{Actual Pour} = 42.361 \text{ oz}$$



BULLION ASSAY REPORT

BAR NUMBERS TRP Button

DATE November 20-87

BAR NUMBER	TOTAL	GOLD	SILVER
TRP	939.52	812.82	126.70
		W.L. Richardson	

Fund Balance Aug 28/87.

TRP METALLURGICAL BALANCE

STOCKTANK								#1 CIL				#2 CIL				#3 CIL				#4 CIL				#5 CIL				TONS	OZ. IN	OZ. IN
								CUM				CUM				CUM				CUM				CUM				MILLED	SOLUTION	TAILS
DATE	% SOLID	SOL'N FEED	SOLID HEAD	SOL'N HEAD	ASSAY HEAD	CALC HEAD	REC %	SOLID HEAD	TAIL OZ/T	REC %	REC %	HEAD OZ/T	TAIL OZ/T	REC %	REC %	HEAD OZ/T	TAIL OZ/T	REC %	REC %	HEAD OZ/T	TAIL OZ/T	REC %	REC %	HEAD OZ/T	TAIL OZ/T	REC %	REC %			
18/7	39	0.0017	0.045	0.0062		0.0520	13.5	0.045	0.038	13.5	27.0	0.038	0.034	7.7	34.7	0.034	0.035	-1.9	32.7	0.035	0.034	1.9	34.7	0.034	0.032	3.8	38.5	11.6	0.232	0.371
19/7	37	0.0017	0.051	0.0052		0.0570	10.5	0.051	0.041	17.6	28.0	0.041	0.036	8.8	36.8	0.036	0.034	3.5	40.3	0.034	0.032	3.5	43.8	0.032	0.032	0.0	43.8	18.5	0.462	0.592
20/7	37	0.0017	0.059	0.0055		0.0656	10.1	0.059	0.044	22.9	33.0	0.044	0.038	9.1	42.1	0.038	0.038	0.0	42.1	0.038	0.035	4.6	46.7	0.035	0.034	1.5	48.2	58.5	1.851	1.989
21/7	34	0.0017	0.062	0.006		0.0703	11.9	0.062	0.046	22.7	34.6	0.046	0.044	2.8	37.5	0.044	0.042	2.8	40.3	0.042	0.041	1.4	41.7	0.041	0.040	1.4	43.1	64.9	1.970	2.596
22/7	29	0.0017	0.057	0.0046		0.0641	11.1	0.057	0.047	15.6	26.7	0.047	0.044	4.7	31.4	0.044	0.044	0.0	31.4	0.044	0.043	1.6	32.9	0.043	0.042	1.6	34.5	52.5	1.160	2.205
23/7	28	0.0017	0.056	0.006		0.0671	16.5	0.056	0.046	14.9	31.4	0.046	0.045	1.5	32.9	0.045	0.044	1.5	34.4	0.044	0.043	1.5	35.9	0.043	0.042	1.5	37.4	63.5	1.591	2.667
24/7	29	0.0017	0.047	0.0091	0.053	0.0651	27.8	0.047	0.044	4.6	32.4	0.044	0.043	1.5	34.0	0.043	0.043	0.0	34.0	0.043	0.042	1.5	35.5	0.042	0.041	1.5	37.0	59.2	1.428	2.427
25/7	26	0.0017	0.048	0.0098	0.052	0.0711	32.4	0.048	0.042	8.4	40.9	0.042	0.042	0.0	40.9	0.042	0.042	0.0	40.9	0.042	0.043	-1.4	39.5	0.043	0.043	0.0	39.5	59.0	1.655	2.537
26/7	28	0.0017	0.047	0.0096	0.055	0.0673	30.2	0.047	0.043	5.9	36.1	0.043	0.042	1.5	37.6	0.042	0.041	1.5	39.1	0.041	0.040	1.5	40.6	0.040	0.040	0.0	40.6	51.7	1.412	2.068
27/7	32	0.0017	0.044	0.0114	0.056	0.0646	31.9	0.044	0.041	4.6	36.5	0.041	0.040	1.5	38.1	0.040	0.039	1.5	39.6	0.039	0.038	1.5	41.2	0.038	0.038	0.0	41.2	79.4	2.113	3.017
28/7	32	0.0017	0.039	0.0111	0.047	0.0590	33.9	0.039	0.035	6.8	40.7	0.035	0.035	0.0	40.7	0.035	0.033	3.4	44.0	0.033	0.033	0.0	44.0	0.033	0.031	3.4	47.4	74.9	2.095	3.322
29/7	30	0.0017	0.048	0.0107	0.055	0.0690	30.4	0.048	0.045	4.3	34.8	0.045	0.045	0.0	34.8	0.045	0.043	2.9	37.7	0.043	0.042	1.4	39.1	0.042	0.043	-1.4	37.7	75.8	1.971	3.259
30/7	29	0.0017	0.056	0.0072	0.058	0.0695	19.4	0.056	0.047	13.0	32.3	0.047	0.046	1.4	33.8	0.046	0.045	1.4	35.2	0.045	0.044	1.4	36.7	0.044	0.043	1.4	38.1	79.6	2.107	3.423
31/7	27	0.0017	0.051	0.0062	0.052	0.0632	19.3	0.051	0.051	0.0	19.3	0.051	0.040	17.4	36.7	0.040	0.040	0.0	36.7	0.040	0.039	1.6	38.3	0.039	0.038	1.6	39.8	75.6	1.903	2.873
1/8	29	0.0017	0.052	0.0054	0.058	0.0611	14.8	0.052	0.041	18.0	32.9	0.041	0.041	0.0	32.9	0.041	0.040	1.6	34.5	0.040	0.040	0.0	34.5	0.040	0.040	0.0	34.5	85.6	1.803	3.424
2/8	29	0.0017	0.057	0.0056		0.0665	14.3	0.057	0.053	6.0	20.4	0.053	0.046	10.5	30.9	0.046	0.042	6.0	36.9	0.042	0.042	0.0	36.9	0.042	0.041	1.5	38.4	57.0	1.456	2.337
3/8	38	0.0017	0.062	0.007		0.0706	12.2	0.062	0.052	14.2	26.4	0.052	0.047	7.1	33.5	0.047	0.041	8.5	42.0	0.041	0.040	1.4	43.4	0.040	0.040	0.0	43.4	75.7	2.320	3.028
4/8	40	0.0017	0.061	0.0077		0.0700	12.9	0.061	0.056	7.1	20.0	0.056	0.047	12.9	32.9	0.047	0.046	1.4	34.3	0.046	0.043	4.3	38.6	0.043	0.042	1.4	40.0	73.7	2.064	3.095
5/8	41	0.0017	0.060	0.0081		0.0692	13.3	0.060	0.048	17.3	30.6	0.048	0.047	1.4	32.1	0.047	0.047	0.0	32.1	0.047	0.046	1.4	33.5	0.046	0.045	1.4	35.0	68.6	1.661	3.087
6/8	40	0.0017	0.057	0.0082		0.0668	14.6	0.057	0.050	10.5	25.1	0.050	0.046	6.0	31.1	0.046	0.044	3.0	34.1	0.044	0.044	0.0	34.1	0.044	0.044	0.0	34.1	52.4	1.192	2.306
7/8	34	0.0017	0.053	0.0064		0.0621	14.7	0.053	0.044	14.5	29.2	0.044	0.041	4.8	34.0	0.041	0.042	-1.6	32.4	0.042	0.041	1.6	34.0	0.041	0.039	3.2	37.2	86.7	2.005	3.381
8/8	25	0.0017	0.058	0.0072		0.0745	22.1	0.058	0.046	16.1	38.3	0.046	0.045	1.3	39.6	0.045	0.042	4.0	43.6	0.042	0.041	1.3	45.0	0.041	0.039	2.7	47.7	80.5	2.858	3.140
9/8	21	0.0017	0.056	0.0065		0.0741	24.4	0.056	0.046	13.5	37.9	0.046	0.045	1.4	39.2	0.045	0.046	-1.4	37.9	0.046	0.043	4.1	41.9	0.043	0.044	-1.4	40.6	57.4	1.725	2.526
10/8	24	0.0017	0.064	0.0076		0.0827	22.6	0.064	0.052	14.5	37.1	0.052	0.050	2.4	39.5	0.050	0.050	0.0	39.5	0.050	0.0	1.2	40.7	0.049	0.047	2.4	43.2	70	2.498	3.290
11/8	25	0.0017	0.063	0.0062		0.0765	17.6	0.063	0.048	19.6	37.3	0.048	0.044	5.2	42.5	0.044	0.044	0.0	42.5	0.044	0.043	1.3	43.8	0.043	0.042	1.3	45.1	50.8	1.753	2.134
12/8	26	0.0017	0.061	0.0055		0.0718	15.1	0.061	0.048	18.1	33.2	0.048	0.048	0.0	33.2	0.048	0.046	2.8	35.9	0.046	0.044	2.8	38.7	0.044	0.045	-1.4	37.3	51.5	1.381	2.318
13/8	28	0.0017	0.057	0.0053		0.0663	14.0	0.057	0.045	18.1	32.1	0.045	0.045	0.0	32.1	0.045	0.043	3.0	35.1	0.043	0.044	-1.5	33.6	0.044	0.043	1.5	35.1	58.7	1.365	2.524
14/8	27	0.0017	0.049	0.0046		0.0568	13.8	0.049	0.039	17.6	31.4	0.039	0.038	1.8	33.1	0.038	0.039	-1.8	31.4	0.039	0.039	0.0	31.4	0.039	0.038	1.8	33.1	62.8	1.183	2.386
15/8	21	0.0017	0.05	0.0034		0.0564	11.3	0.050	0.038	21.3	32.6	0.038	0.037	1.8	34.4	0.037	0.038	-1.8	32.6	0.038	0.036	3.5	36.2	0.036	0.037	-1.8	34.4	17.9	0.347	0.662
16/8	22	0.0017	0.049	0.0043		0.0582	15.8	0.049	0.040	15.5	31.3	0.040	0.039	1.7	33.0	0.039	0.038	1.7	34.7	0.038	0.038	0.0	34.7	0.038	0.037	1.7	36.4	68.3	1.449	2.527
17/8	26	0.0017	0.05	0.0043		0.0574	12.9	0.050	0.040	17.4	30.3	0.040	0.040	0.0	30.3	0.040	0.039	1.7	32.1	0.039	0.038	1.7	33.8	0.038	0.038	0.0	33.8	84	1.630	3.192
18/8	30	0.0017	0.052	0.0048		0.0592	12.2	0.052	0.039	21.9	34.2	0.039	0.037	3.4	37.5	0.037	0.036	1.7	39.2	0.036	0.036	0.0	39.2	0.036	0.035	1.7	40.9	57.6	1.396	2.016
19/8	30	0.0017	0.049	0.0043		0.0551	11.0	0.049	0.039	18.2	29.2	0.039	0.036	5.4	34.6	0.036	0.036	0.0	34.6	0.036	0.035	1.8	36.4	0.035	0.034	1.8	38.3	57.6		

TRP METALLURGICAL BALANCE

DATE	DRY TONS	Z SOL	SOL'N TONS	GRADE (oz/ton)		CALC		REAGENT CONSUMPTION				AVE.		EXTRACTION		
				HEAD	TAILS	PREG SOL'N	TAILS SOL'N	NaCN (lb)	CaO (lb)	NaCN (lb/ton)	CaO (lb/ton)	FREE CN	AVE. pH	Z DISSOLUTION	Z ABSORPTION	Z RECOVERY
18/7	11.6	39	18.1	0.052	0.032	0.0128	0.0010 *	0	0	2.01	1.23	0.8	11.1	38.5	92.2	35.5
19	18.5	37	31.5	0.057	0.032	0.0147	0.0010 *	0	0	2.01	1.23	0.8	11.2	43.8	93.2	40.8
20	58.5	37	99.6	0.066	0.034	0.0186	0.0014	220	55	2.01	1.23	1.1	11.2	48.2	92.5	44.6
21	64.9	34	126.0	0.070	0.040	0.0156	0.0005	0	55	2.01	1.23	1.0	11.0	43.1	95.8	41.8
22	52.5	29	128.5	0.064	0.042	0.0090	0.0006	0	220	2.01	1.23	0.7	10.2	34.5	93.4	32.2
23	63.5	28	163.3	0.067	0.042	0.0097	0.0008	220	55	2.01	1.23	0.9	11.1	37.4	91.8	34.3
24	59.2	29	144.9	0.065	0.041	0.0099	0.0012	220	55	2.01	1.23	1.0	10.5	37.0	87.8	32.5
25	59.0	26	167.9	0.071	0.043	0.0099	0.0010	0	110	2.01	1.23	1.0	10.4	39.5	89.9	35.5
26	51.7	28	132.9	0.067	0.040	0.0106	0.0008	220	165	2.01	1.23	1.2	10.8	40.6	92.5	37.5
27	79.4	32	168.7	0.065	0.038	0.0125	0.0007	220	165	2.01	1.23	1.1	11.1	41.2	94.4	38.9
28	74.9	32	159.2	0.059	0.031	0.0132	0.0008	0	165	2.01	1.23	1.0	11.0	47.4	93.9	44.6
29	75.8	30	176.9	0.069	0.042	0.0116	0.0013	220	55	2.01	1.23	0.8	10.5	39.1	88.8	34.7
30	79.6	29	194.9	0.069	0.043	0.0108	0.0011	220	55	2.01	1.23	0.8	10.0	38.1	89.8	34.2
31	75.6	27	204.4	0.063	0.038	0.0093	0.0013	0	55	2.01	1.23	1.1	10.2	39.8	86.0	34.3
1/8	85.6	29	209.6	0.061	0.040	0.0086	0.0014	220	110	2.01	1.23	1.0	10.1	34.5	83.7	28.9
2	57.0	29	139.6	0.067	0.041	0.0104	0.0012	0	110	2.01	1.23	1.1	10.1	38.4	88.5	34.0
3	75.7	38	123.5	0.071	0.040	0.0188	0.0004	220	55	2.01	1.23	1.1	10.0	43.4	97.9	42.5
4	73.7	40	110.6	0.070	0.042	0.0187	0.0009	220	165	2.01	1.23	1.2	10.0	40.0	95.2	38.1
5	68.6	41	98.7	0.069	0.045	0.0168	0.0008	220	0	2.01	1.23	1.2	10.1	35.0	95.2	33.3
6	52.4	40	78.6	0.067	0.044	0.0152	0.0013	0	55	2.01	1.23	1.1	10.2	34.1	91.4	31.2
7	86.7	34	168.3	0.062	0.039	0.0119	0.0013	0	55	2.01	1.23	0.9	10.3	37.2	89.1	33.2
8	80.5	25	241.5	0.075	0.039	0.0118	0.0013	440	55	2.01	1.23	1.0	10.4	47.7	89.0	42.4
9	57.4	21	215.9	0.074	0.044	0.0080	0.0011	220	110	2.01	1.23	0.7	9.6	40.6	86.2	35.0
10	70.0	24	221.7	0.083	0.047	0.0113	0.0014	220	165	2.01	1.23	0.8	9.8	43.2	87.6	37.8
11	50.8	25	152.4	0.077	0.042	0.0115	0.0014	0	55	2.01	1.23	1.1	10.3	45.1	87.8	39.6
12	51.5	26	146.6	0.072	0.045	0.0094	0.0014	0	55	2.01	1.23	1	10	37.3	85.1	31.8
13	58.7	28	150.9	0.066	0.043	0.0090	0.0016	220	110	2.01	1.23	1.1	10	35.1	82.3	28.9
14	62.8	27	169.8	0.057	0.038	0.0070	0.001	220	55	2.01	1.23	0.9	10.1	33.1	85.6	28.4
15	17.9	21	67.3	0.056	0.037	0.0052	0.001	0	110	2.01	1.23	0.9	9.9	34.4	80.6	27.7
16	68.3	22	242.2	0.058	0.037	0.0060	0.0008	440	0	2.01	1.23	0.9	10	35.4	86.6	31.6
17	84.0	26	239.1	0.057	0.038	0.0068	0.0011	220	55	2.01	1.23	1	10	33.8	83.9	28.3
18	57.6	30	134.4	0.059	0.035	0.0104	0.0012	220	110	2.01	1.23	0.7	10	40.9	88.4	35.2
19	57.6	30	134.4	0.055	0.034	0.0090	0.0007	0	55	2.01	1.23	0.5	9.7	38.3	92.2	35.3
20	55.5	31	123.5	0.056	0.035	0.0093	0.0007	0	55	2.01	1.23	0.5	9.7	37.1	92.5	34.3
21	57.2	31	127.3	0.056	0.032	0.0107	0.0008	0	55	2.01	1.23	0.5	9.6	42.6	92.5	39.5
22	62.0	26	176.5	0.058	0.034	0.0083	0.0008	220	0	2.01	1.23	0.5	9.5	41.1	90.4	37.1
23	57.0	28	146.6	0.057	0.035	0.0084	0.0006	0	55	2.01	1.23	0.6	9.6	38.3	92.9	35.6
24	58.2	28	149.7	0.050	0.035	0.0058	0.001	0	55	2.01	1.23	0.6	9.4	29.9	82.8	24.7
25	54.2	27	146.5	0.053	0.035	0.0066	0.0008	0	55	2.01	1.23	0.4	9.3	33.7	87.8	29.6
26	19.9	26	56.6	0.060	0.037	0.0081	0.0009	0	0	2.01	1.23	0.2	9	38.3	88.9	34.0

TOTAL
AVERAGE

2406
60.1

50%

15432

(.0265)

4840 2970
121.0 74.3

2.01 1.23 0.9 10.2

38.9

89.7

35.0

754 g Au

96% rec at .001
98% rec at .0005