

A) %'S OF METALS RECOVERED FROM MILLFEED, 1970-76, incl. (incl 5 years of op @ < 50% map copy) present

Ag in Pb Cons.	=	1,255,076.40	oz
Ag in Zn Cons.	=	875,688.73	oz.
Total Ag to Pb & Zn Cons.	=	2,130,765.13	oz.
Total Ag in m.f.	=	2,235,121.0	oz.
			→ 95.3% of Ag

Pb in Pb Cons.	=	7511.466	Tons
Pb in Zn Cons.	=	(7890.262 x 0.015) = 118.354	Tons
Total Pb in Pb & Zn Cons.	=	7629.820	Tons
Total Pb in m.f.	=	7890.262	Tons
			→ 96.7% of Pb

Zn in Pb Cons.	=	975.421	Tons
Zn in Zn Cons.	=	6467.726	Tons
Total Zn in Pb & Zn Cons.	=	7443.147	Tons
Total Zn in m.f.	=	8026.301	Tons
			→ 92.7% of Zn

801211

Note
In test, note these as a result of scale on the gross production to date.

1970-76 Ratio of wt Pb Cons. = $\frac{12,012.58}{12,125.47} = \frac{1}{1.009}$ or wt Pb Cons : Zn Cons approx 1:1.01
 Work out % of each metal in Pb Cons & Zn Cons (or approx 1:1)
 Then adjust (shift) %'s of each from Pb Cons → Zn Cons to reflect probable results of 'crowding' mill in future, but maintain same gross recoveries.

(B) %'S OF METALS RECOVERED FROM MILLFEED, 1971+1972 (for 2 years of op @ 80% 60% map copy) present

M.F., 1971+1972	Dry Tons	Ag, oz	Pb, tons	Zn, tons
	66,613 dt.	1,158,853	4097.48	4401.94
1971 - Pb Cons.	3625.54	365,563.19	2377.27	271.92
1971 - Zn Cons.	3991.68	315,382.63	37.56	2162.29
1972 - Pb Cons.	2467.00	242,629.45	1503.39	212.90
1972 - Zn Cons.	2707.00	182,370.59	23.90	1479.92
Totals 1971+1972		1,105,945.86	3,942.12	4,127.03

Ag Recoveries = $\frac{1,105,945.9}{1,158,853.00} = 95.43\%$, Take

Pb = $\frac{3942.12}{4097.48} = 96.21\%$, Take

Zn = $\frac{4127.03}{4401.94} = 93.75\%$, Take

Rept. of Operations 1972 by W.H. -
 27,430 tons @ 16.44% Ag
 5.81% Pb
 6.62% Zn
 Mill Recoveries:
 Ag, 94.26%
 Pb, 94.33%
 Zn, 93.23%

(C) %'S OF METALS RECOVERED FROM MILLFEED, 1976 (mill opening @ 40% map copy) present

Millfeed	Dry Tons	Ag, oz	Pb, tons	Zn, tons
1976	18,402	245,667	975.306	894.34
1976 Pb Cons.	1556.25	153,571	921.77	142.24
" Zn Cons.	1367.10	84,637	14.63	677.26
Totals	2923.35	238,208	936.40	819.50

Ag Recoveries, 1976, Ag = $\frac{238,208}{245,667} = 97\%$

Pb = $\frac{936.40}{975.306} = 96.0\%$

Zn = $\frac{819.50}{894.34} = 91.6\%$

Reported by Co. Feb/77
 96.5%
 96.0%
 91.0%
 For record only

Summary, Take Recoveries Ag, 96%; Pb, 96.5%; Zn, 92.0%

DISTRIBUTION OF METALS BETWEEN Pb CONC. & Zn CONC.

(A) 1970-76 incl (incl 5 years operating @ < 150% present max. capacity) Rounded
 to Pb Conc. 1,255,076.48 oz = 58.9% = 59%
 to Zn Conc. 875,688.73 oz = 41.09% = 41%
 Total Conc. 2,130,765.18 oz = 100%

Pb to Pb Conc. 7511.466 T. = 98.45% = 98.5%
 to Zn Conc. 118.354 T. = 1.55% = 1.5%
 Total Conc. 7629.820 T. = 100.0%
 Zn to Pb Conc. 975.421 T. = 13.1% = 13.0%
 to Zn Conc. 6467.726 T. = 86.9% = 87.0%
 Total Conc. 7443.147 T. = 100.0%

(B) 1971+1972 (incl 2 years operating @ > 70% capacity)

Year	Pb Conc. S.D.T.	Ag oz/ton	Ag oz.	Pb, Zn per ton	Pb TONS	Zn per ton	Zn TONS
1971	3625.54 x 100.83		365,563	6587	2377.27	1075	271.92
1972	2467.00 x 98.35		242,629	6094	1503.39	0863	212.90
total	6092.54		608,192		3880.66		484.82

Year	S.D.T. Zn CONC.	Ag oz/t.	Ag oz.	Pb, Zn per ton	Pb TONS	Zn per ton	Zn TONS
1971	3991.68 x 79.01		315,383	N/A	37.56	5417	2162.29
1972	2707.00 x 67.57		182,371	N/A	23.90	5467	1479.92
	6698.68		497,754		61.46		3642.21

(B) 1971+1972 (2 years w mill operating @ 80-60% present max capacity) ROUNDED

Ag to Pb Conc. 608,192 oz = 54.99% = 55.0% = 58%
 to Zn Conc. 497,754 oz = 45.0% = 45% = 42%
 Total = 1,105,946 oz = 100.0%

Pb to Pb Conc. 3880.66 tons = 98.4% = 98.4% = 98.5%
 to Zn Conc. 61.46 tons = 1.56% = 1.6% = 1.5%
 Total = 3942.12 tons = 100.0%

Zn to Pb Conc. 484.82 tons = 11.74% = 11.7% = 12%
 to Zn Conc. 3642.21 tons = 88.25% = 88.3% = 88%
 Total = 4127.03 tons = 100.0%

(C) 1976 only (year w mill operating @ approx 40% present max capacity) ROUNDED * TAKE FOR REPT

Ag to Pb Conc. = 153,571 = 64.47% → 64.5% → 60%
 to Zn Conc. = 84,637 = 35.53% → 35.5% → 40%
 Total = 238,208

Pb to Pb Conc. = 921.77 = 98.44% → 98.4% → 98.4%
 to Zn Conc. = 14.63 = 1.56% → 1.6% → 1.6%
 Total = 936.40

Zn to Pb Conc. = 142.24 = 17.36% → 17.4% → 12.5%
 to Zn Conc. = 677.26 = 82.64% → 82.6% → 87.5%
 Total = 819.50

VALUATION CURRENT MINE PRODUCTION & RESERVES

PRELIMINARY SUMMARY 1971 OPERATIONS - METALLURGY
 To Sept 30/71

	Ag, oz	Pb, %	Zn, %	Cd, %
Dry Tons milled: 30,442 Tons @	17.8	6.63	6.28	0.048

Metal Distribution - Weight Basis

	oz. Ag.	Lbs. Pb.	Lbs. Zn	Lbs. Cd.
Mill Heads -	541,953	4,036,331	3,822,141	29,430 <small>calc @ 100% Cd in lb Zn</small>
Lead Conc. -	291,560	3,813,498	423,054	2,295 <small>calc on room cal.</small>
Zinc Conc. -	222,480	57,829	3,057,861	24,508
Tails -	27,465	165,004	341,226	2,627 <small>calc @ 100% Cd in lb Zn</small>
Gross Recoveries	95.96	95.91	91.07	(91.07)
Take →	96.0	95.9	91.0	91.0

Metal Distribution - % Basis

	Ag	Pb	Zn	Cd
Mill Heads	100.0	100.0	100.0	100.0
Lead Conc.	55.1%	94.5%	11.0%	11.0%
Zinc Conc.	41.1%	1.5%	80.0%	80.0%
Tails	4.1%	4.0%	9.0%	9.0%
	100.0	100.0	100.0	100.0

Value of Ag in Pb Conc. = $291,560 \times 1.414 = 412,300$

Value of Pb in Zn Conc. = $423,054 \times 1.414 = 598,000$

Use above for calc. of concentrates production, net smelter returns per ton of conc. & per ton of dry ores.

- Pb in Zn Conc. =
- Zn in Pb Conc. =
- Cd in Zn Conc. =

Concentrate Grade Calculations:

W.A. Reported to work throughout from Sept 71 state made to calc. may not smelter values

3

PB. CONCENTRATE - 2,918.607 S.D.T Y.T.D. Sept. 30/71.

<u>Metal</u>	<u>Y.T.D.</u>	<u>UNITS</u>	<u>PER TON PB. CONC.</u>		
Silver	291,494 ⁽⁵⁾	oz.	100.0 oz.	-	100.0 oz/ton
Lead	3,846,588 ⁽⁶⁾	lbs.	132.0 lbs.	-	66.0% ✓
Zinc	424,556 ⁽⁵⁾	lbs	145.8*	-	7.3% ✓

} per state

Zn. CONCENTRATES - 2,941,383 S.D.T Y.T.D. Sept. 30/71

<u>Metal</u>	<u>Y.T.D.</u>	<u>UNITS</u>	<u>PER TON Zn. CONC.</u>		
Silver	234,511.62	oz.	80.0 oz	-	80.0 oz/ton ✓ per state
Lead	(60,300.0) calc.	-	20.4 lbs.	-	1.0% calc.
Zinc	3,180,774	lbs.	1084 lbs	-	54.1% ✓ per state
Cd.	24,508.41	lbs.	8.32 lbs.	-	0.4% ✓ per state

Gross Recoveries of Metals from Millfeed

Period Computed	% of Present Max. Operating Capacity	% of Silver in Millfeed Recovered	% of Lead in Millfeed Recovered	% of Zinc in Millfeed Recovered
1970-1976, incl.	2 years @ 60-80 5 " under 50	95.3	96.7	92.7
1971-1972, "	80-60	95.43	96.21	93.75
1976	under 50	97.0	96.01	91.63

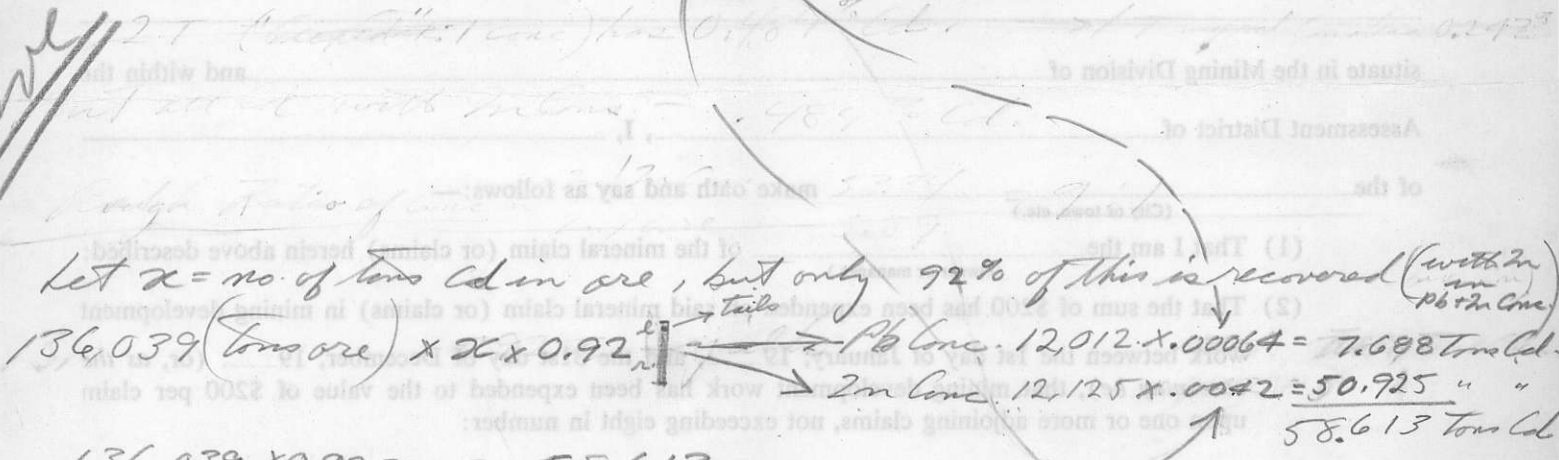
Distribution of Metals Between Pb and Zn Concentrates

Period Computed	% Silver to		% Lead to		% Zinc to		% Cd Follows Zn.
	Pb Conc.	Zn Conc.	Pb Conc.	Zn Conc.	Pb Conc.	Zn Conc.	
1970-76, incl.	58.9	41.1	98.5	1.5	13.0	87.0	"
1971-72, "	55.0	45.0	98.4	1.6	11.7	88.3	"
1976	64.5	35.5	98.4	1.6	17.4	82.6	"

Adm. T. Zn Conc @ 53.34% Zn = 0.42% Cd

Adm. T. Pb Conc @ 8.12% Zn = 0.064% Cd ← $\frac{8.12}{53.34} \times 0.42 = 0.064\%$

Sandy



$136,039 \times 0.92x = 58.613$

$x = \frac{58.613}{136,039 \times 0.92} = \frac{58.613}{125,156} = 0.00047 \text{ Tons Cd}$

1 Ton ore has 0.00047 T Cd.

or Cd = $\frac{0.00047}{1} \times 100\% = 0.047\% \text{ Cd}$

Sworn and subscribed to
at this day of 19

Justice of the Peace, Notary Public, etc. or Provincial Assessor
Mall completed affidavit to Provincial Assessor

1976 Metallurgical Performance.

Mill Feed = 18,401.6 dry tons @

Ag 13.35 g/ton = 5.30%
 Pb 106.0 g/ton = 4.86%
 Zn 97.2 g/ton = 0.037%
 Cd 13,470# = 0.732%
 91% of total Cd recover following:

Gross metal in millfeed (1976)

Ag, 18,401.6 T x 13.35 g = 245,661 g Ag - 100%
 Pb, " x 106.0 g = 1,950,570 g Pb - 100%
 Zn, " x 97.2 g = 1,788,636 g Zn - 100%
 Cd, " x 13,470# = 13,470# Cd - 100%

Total Metal in millfeed, 1976	Metal to Pb Conc. 1976	Metal to Zn Conc. 1976	Check - Total (a) + (b)
Ag - 245,661 g	153,568.02 = 62.5%	84,631 g = 34.5%	238,199.02 = 96.9%
Pb, 1,950,570 #	1,843,454# = 94.5%	29,093# = 1.5%	1,872,547
Zn, 1,788,636 #	284,607# = 15%	1,354,517# = 76.0%	1,639,124 = 91.6%
Cd, 13,470#	2,020# = 15%	10,237# = 76.0%	12,257# = 91%

For ore reserves @ Ag, -16.43 oz/ton, Pb-5.8%, Zn-5.9%, Cd-0.045%
 Estm. Cd by $\frac{5.9}{4.86} \times 0.037\% = 0.045\%$

To compute avg Cd% in ore

Zn Conc 1970 - 1345.57	x 0.43	= 578.585
71 - 3991.7	x 0.42	= 1676.514
72 - 2707.0	x 0.45	= 1218.150
73 - 1132.6	x 0.42	= 475.692
74 - 747.0	x 0.39	= 291.330
75 - 834.6	x 0.59	= 325.494
76 - 1367.1	x 0.37	= 505.827
12,125.5 dt. Zn Conc.		5071.572
		$\rightarrow \frac{5071.57}{12,125.5} = 0.418\%$

∴ Avg Cd in Zn Cons. = 0.42%

Total # Cd in Zn Cons = 12,125.5 x (0.42 x 20#) = 101,854#

As wt. Cd to Zn Cons @ 75% of wt. of Cd in source-millfeed

∴ Cd in 136,039 T mt. = $\frac{101,854}{75} = 135,805\#$

Cd = 135,805#

Total mt. = 136,039 T = $\frac{1}{20} = 0.05\%$

As +4625 high contributed to this, cut avg Cd content to 0.048%

Sworn and subscribed to
 this day of _____ 19____
 before me
 Justice of the Peace, Notary Public etc., or Provincial Assessor
 Mail completed affidavit to Provincial Assessor

Composite Concentrate from 136,039 tons @ 16.43, 5.8, 5.9 Ag, Pb, Zn May 2/77

Lead Concentrate

3431	Tons x % Ag	Tons x % Pb	Tons x % Zn
1,383.80	$107.56 = 148,841.5$	$68.10 = 94,236.8$	$7.00 = 9,686.6$
3625.40	$100.83 = 365,594.1$	$65.57 = 237,717.5$	$7.50 = 27,190.5$
2467.00	$98.35 = 242,629.5$	$60.94 = 150,339.0$	$8.63 = 21,290.2$
1172.00	$105.17 = 123,259.2$	$61.28 = 71,820.2$	$8.45 = 9,903.4$
726.00	$125.65 = 91,221.9$	$54.71 = 39,719.5$	$8.83 = 6,410.6$
1082.00	$120.14 = 129,991.5$	$60.24 = 65,179.7$	$8.22 = 8,894.0$
1556.25	$98.68 = 153,570.8$	$59.23 = 92,176.7$	$9.14 = 14,224.1$
12,012.45	1,255,108.5	751,189.4	97,599.4
	104.48 % Ag	62.5 % Pb	8.12 % Zn

Zinc Concentrate

43322	Tons x % Ag	% Zn	Tons x % Cd	Tons x % Cd
1345.47	$72.20 = 97,142.93$	$55.14 = 74,189.22$	$0.43 = 578.55$	
3991.68	$79.01 = 315,382.63$	$54.17 = 216,229.30$	$0.42 = 1,676.51$	
2707.00	$67.37 = 182,370.59$	$54.67 = 147,991.69$	$0.45 = 1,218.15$	
1132.64	$59.04 = 66,871.06$	$52.45 = 59,406.97$	$0.42 = 475.71$	
747.00	$79.00 = 59,013.00$	$51.11 = 38,179.17$	$0.39 = 291.33$	
834.58	$84.20 = 70,271.64$	$51.60 = 43,064.33$	$0.39 = 325.49$	
1367.10	$61.91 = 84,637.16$	$49.54 = 67,726.13$	$0.37 = 505.83$	
13,125.47	875,689.01	646,786.81	5,071.57	
	72.2 % Ag	53.34 % Zn	0.42 % Cd	

1 ton of above 1970-76 (avg) ore contains:

Pb Conc	Ag	Zn Conc	Ag	Zn	Cd
	104.48 g/oz/4		72.2 g/ton	0.5334 tons/ton	0.0042 tons/ton
	0.625 tons/ton				

∴ No of tons of above from 100 tons of ore of current reserve grade:

Pb Conc	Ag	Pb	Zn	Zn Conc	Ag	Zn	Cd
946	5.51	0.68	631.0	8.74	8.90	8.333	0.035
104.48	0.625	0.0812	72.2	8.81	4.75	0.5334	0.0042

For Pb Conc take 8.81 tons Pb Conc from metal in 100 tons of ore.

Pb Conc:

Ag	$\frac{946}{8.81} = 107.4$ g/ton
Pb	$\frac{5.517}{8.81} = 62.54$ % Pb
Zn	$\frac{0.68}{8.81} = 7.72$ % Zn

Zn Conc:

Ag	$\frac{631}{8.9} = 70.9$ g/ton
Zn	$\frac{4.75}{8.9} = 53.34$ % Zn
Cd	$\frac{0.035}{8.9} = 0.40$ % Cd

Metallurgical Balancing

Re Cominco/Amalgamated Agreement - Pb Concentrates

Quotations: (to nearest, and next lowest 1/2¢) U.S./Can. Exchange = + 5%
(i.e., Can \$ = 1.05 x U.S. \$)

Silver, 4.73 U.S. \$/oz = 4.966 Can \$/oz less .085 \$/oz Net = 4.88 /oz Can.
(Silver, Ag)

Lead; = 45% x 31 Can \$/lb = 1395.0

30% x 32.5 Can \$/lb = 975.0

374.5 \$/metric ton

375.0 "

380.0 "

380.5 "

4/15 10.0

377.5 \$/metric ton

(= 377.5 x 180.24 = 30.84
2204.6

25% x 30.8 Can \$/lb = 770.0

100% = 3140.0

Calculated Price = 31.4 \$/lb/Can.

Net or Pay-price = 31.4 - (4.0 + 0.25 x 11.4) = Net = 24.6 \$/lb. Can
(Lead, Pb)

Zinc, 'G. O. B. zinc producer basis'

795 U.S. \$/metric ton

795 U.S. x 1.05 = 37.86 \$/lb. Can - 15.0 \$ - Net = 22.8 \$/lb. Can
2204.6 (Zinc, Zn)

Payments

Silver, pay for 93% of the contained Ag @ 4.88/oz. Can.
(noting 7% > 1 g.)

Lead, pay for 92% of the contained Pb @ 24.6 \$/lb. Can.

Zinc, pay for 60% of the contained Zn @ 22.8 \$/lb. Can.
(incl deduction 20 lbs)

Deductions

Basic Treatment Charge = \$ 42.50/dry ton conc Can.

add, for moisture (9.5%) = 0.60

from Co financial reports

Rep. & Assaying (Independent), estimate = 4.00

Rail-car Rental, etc. income \$140/40 tons = 3.50

B.M.C. Commission, estimate = 8.00

Total Marketing Charges = \$ 55.60/dry ton Pb Conc

N.S.V. Pb Concentrates, F.O.B. Trail = \$ 11.60/dry ton Pb Conc

Truck Freight 10.50 per wet ton = 10.50/.905 = \$ 11.60/dry ton Pb Conc

Gross Marketing Charges, Pb Conc = \$ 67.20/dry ton.

Note (a) Gross Payments, (F.O.B. Trail) - Total Treatment Charge = N.S.V. Pb Conc, F.O.B., Trail

(b) N.S.V. Pb Conc, F.O.B. Trail, B.C. - Truck Freight = N.S.V. Pb Conc, F.O.B. mill/Brandon.

Zinc Concentrates

(Re. Bunker Hill Settlements on Zn Concentrates)

Quotations

Silver \$ 4.77 U.S. x 99% = \$ 4.72 U.S. x 1.05 = \$ 4.95/oz. Con.

Zinc (diverted price) 37.0¢ U.S. - 0.5¢ = 36.5¢ U.S. x 1.05 = 38.32¢/lb. Con.

Cadmium, \$ 3.00 - 0.50 = \$ 2.50 U.S. x 1.05 = \$ 2.62/lb. Con

(Lead - not paid for accord. to New Kates records)

Payments

Silver, pay for 80% of the contained Ag. @ \$ 4.95/oz. Con.

Zinc, pay for (85% of) the contained Zn; (put min deduction = 8.0 units) } - - @ \$ 0.383¢/lb. Con

Cadmium

pay for 70% (contained Cd, less (-) 3.0 lbs) - - @ \$ 2.62/lb. Con

Deductions

Basic Treatment Charge - - - \$ 91.95/ton U.S.

add 36.0 - 19.8 = 16.2 x 2.50 - - 40.50/ton U.S.

" 36.5 - 36.0 = 0.5 x 2.00 - - 1.00/ " "

Applicable Treatment Charge - - " x 1.05 = \$ 133.45/ton U.S. = \$ 140.42/dry ton Con

Iron Penalty, estimate - - - 3.85 " " "

Rep. & Assaying, estimate - - - 1.80/ " " "

B.M.C. Commission estim. - - - 5.60/ " " "

Total Marketing Charges - - - \$ 151.25/dry ton Con

N.S.V. Zn Concentrates, F.O.B. Kellogg, - - -

Less: Truck Freight, @ 22.50/wet ton - - - \$ 24.86/dry ton Con

Net Mill Value Zn Conc. @ Amworth, - - -

from Co. financial reports

(Give full details on back of this form where space is available.)

SWORN and subscribed to
at _____ this _____ day of _____ 1977
before me _____

Note (a) Gross Payments, F.O.B. Kellogg - Tot. Treat. Charges - = N.S.V. Zn Conc. F.O.B. Kellogg.

(b) N.S.V. Zn, F.O.B. Kellogg - Truck Freight - = N.S.V. Zn Conc. F.O.B. Mill/Sandor

Cominco, Trail - Pb Cons, Mr. McLaughlin Van 682-0611
 "Metal Sales"

Metal prices rel. to smelter settlements will be the average of the prices for the calendar month which follows the month of arrival of the lot. (also schedule in effect on month following the month of arrival of the lot will govern.)

- (a) U.S. quotations, where used for settlement price, will be converted into Canadian dollars (per bank of Canada quotes)
- (b) Sterling quotations, where used for settlement price, will be first converted to U.S. funds (base Fed. Reserve data on Metals Weekly), then converted to Can. dollars (Bank of Canada quotes)

Lead (Cominco)

? Official Cominco price for lead sales in Canada. - 31¢
 " " " " " " " " in U.S.A. = 31¢
 @ U.S. 1.00 = Can. 1.049

25% of the (sum of) the four London Metal Exchange quotations for lead in Sterling per metric ton

$$\begin{matrix} 391 \\ 391.5 \\ 392 \\ 393 \end{matrix} \left\{ \begin{matrix} \text{to } \$ \text{ Can.} \\ 1.8029 \end{matrix} \right.$$

$$391.875 \times 1.8029$$

Zinc (Cominco)

average quotation for G.O.B. Zinc producer basis $\frac{\$ 795}{\text{metric ton}}$ U.S.

Silver (Cominco) Handy & Harman #14 $\frac{\$ 4.73507}{\text{lb}}$ 36.06 x $\frac{37.86 \text{ Can}}{\text{lb}}$

$$391.875 \times 1.8029 \times 25\% = 8.0 \text{¢/lb.}$$

$$2204.6$$

→ Take: 25% of sum of $\frac{377.5}{\text{lb/metric ton}}$ April 26

$$\text{Sum} = \frac{1510.0}{2204.6} \times 25\% = \frac{377.5}{2204.6} \times 1.8029 = \text{Can. } 0.309 \approx 0.31$$

~~Lead 45¢ x 31¢~~
~~30¢ x 31¢~~

(1) That I am the
 (2) That the sum of \$200 has been expended on said mineral claim (or claims) in mining development
 (3) That the sum declared expended on the herein above-described mineral claim (or claims) has not
 (4) That the following is a true and correct statement, in detail, of such labour and improvements:

Sworn and subscribed to
 at _____ day _____ 19____
 before me _____

Justice of the Peace, Notary Public, etc., or Provincial Assessor