

TAYLOR & BRUNTON SAMPLING WORKS, SILVER CITY, UTAH.

Calculations based on 25 ton lot. Capacity 60 tons per hour

3 rail receiving tracks R.G.W., San Pedro and Eureka Hill Rys.

Steel ore hopper under railway tracks 14' 6" wide x 15' 0" long.

Shaking grizzly separating coarse and fines.

10" x 20" Farrel-Bacon crusher crushing to 2-1/2" cubes. 260 RPM.

Shaking tray elevator feeder 1-1/4" stroke. 250 RPM.

55' 0" vertical elevator belt 20", buckets 6" x 18". Speed 375 RPM.

No. 2 Brunton 20% Sampler 7" C-C 19 RPM.

Reject 30% 20% Sample = 10,000 lbs. = 1/3500.

Shaking tray roll feeder 3/4" stroke. 235 RPM.

16" x 36" Davis belted rolls crushing to 1" cubes. 50 RPM.

No. 3 Brunton 20% Sampler 5-3/4" C-C. 20 RPM.

Reject 16% 4% Sample = 2000 lbs. = 1/11,000.

Shaking tray roll feeder 5/8" stroke. 235 RPM.

15" x 37" Gates belted rolls crushing to 3/8" cubes. 68 RPM.

No. 4 Brunton 20% Sampler 4-1/2" C-C. 26 RPM.

Reject 3.2% 0.8% Sample = 400 lbs. = 1/42,000.

Shaking tray roll feeder 1/2" stroke. 180 RPM.

8" x 20" Davis belted rolls crushing to 1/8" cubes. 80 RPM.

No. 5 Brunton 20% Sampler 5-1/2" C-C. 33 RPM.

Reject 0.64% 0.16% Sample = 80 lbs. = 1/240,000.

Shaking tray roll feeder 1/2" stroke. 185 RPM.

8" x 12" Davis finishing rolls crushing to 14 mesh. 100 RPM.

Locked steel sample safe.

Covered steel sample buggy.

Locked cutting room with steel floor and observation windows.

T. & B. precision 3/4" div. splitter to 10-12 lbs. = 1/1,100,000.

Electric drier. Temperature 250° F.

Two Engelbach grinders to 50 mesh cone makers, 86 RPM.

1/2" division T. & B. precision splitter to 20-24 ozs. = 1/7,000,000.

Bucking board to 120 mesh.

Rubber rolling cloth five minutes.

1/4" div. T. & B. precision splitter to 4 sample sacks 5-6 ozs. each.

Loading out bins

FIG. 18.—FLOW-SHEET, TAYLOR & BRUNTON SAMPLING WORKS, SILVER CITY, UTAH.

SYNOPSIS OF MACHINERY AND METHODS.

MATT & SULPHIDE MILL, TINTIC SMELTING COMPANY.

Calculations based on 35 ton lot. Capacity 30 tons per hour.

5 rail tracks, R.G.W., San Pedro and Eureka Hill Rys.

Steel receiving hopper under railway tracks, 14' 6" wide x 15' 0" long.

Shaking grizzly separating coarse and fines.

10" x 20" Farrel-Bacon crusher, 260 RPM, crushing to 2" cubes.

Shaking tray roll feeder 1-1/4" stroke. 250 R.P.M.

15" x 40" Allis-Chalmers, Anaconda type, belted rolls, 45 RPM, crushing to 1" cubes.

Shaking tray elevator feeder 1-1/4" stroke. 250 R.P.M.

55' 9" C-C elevator belt 20", buckets 6" x 18". Speed 355' F.N.

16" x 36" Davis belted rolls, 50 RPM., crushing to 1/2" cubes.

2 revolving screens each 30" dia. 8' 0" long, 2-1/2 mesh, 1/4" openings.

Sized Product

Oversize

No. 3 Brunton 2% Sampler 15 RPM

2-5/16" C-C of cutting edges.

16" x 36" Davis finishing rolls, 50 RPM, 1/4" cubes.

Elevator

Screens

Reject 98% 2% Sample = 1000 lbs. = 1/350,000

Storage hopper

Robbins belt

Sulphide beds

Shaking tray transfer feeder 1/2" stroke. 180 RPM.

8" x 20" Davis belted sample rolls crushing to 5 mesh. 75 RPM.

No. 5 Brunton 10% Sampler, 31 RPM, 1-3/4" C-C

Reject 1.8% 0.2% Sample = 100 lbs. = 1/440,000.

Auxiliary hopper and run to

storage hopper during cleanup

Shaking tray roll feeder 1/2" stroke. 185 RPM.

8" x 12" Davis finishing rolls crushing to 14 mesh. 100 RPM.

Locked steel sample safe

Covered sample buggy.

Locked cutting room with steel floor and observation windows.

T. & B. precision splitter to 10-12 lbs. = 1/1,100,000.

Covered and locked steel bucket to grinding room in sampling mill.

FIG. 19.—FLOW-SHEET, TINTIC SMELTING CO., SILVER CITY, UTAH

SYNOPSIS OF MACHINERY & SAMPLING SYSTEM

AT THE WESTERN ORE PURCHASING CO.'S WORKS, MILLERS, NEVADA.

Computations based on 25 ton lot. Capacity 70 tons per hour.

On main line of Tonopah & Goldfield Railroad Co.

Four storage tracks. 6000 feet private track.

Receiving Hopper under railroad track.

Power 75 H.P. Westinghouse Motor. 710 R.P.M. 2200 Volts

Two No. 4 Gates crushers #1 style K, crushing to 2" 420 RPM

Elevator 71' 6" C-C. Buckets 16" x 6" x 5". Speed 420' P.M.

No. 1 Special 20% C. Snyder Sampler, delivery spout 7" x 35" 10 RPM.

Discard 80% 20% Sample = 10,000 lbs. = 1/7,000.

16" x 36" Davis belt-driven rolls, crushing to 1". 70 RPM.

Elevator 31' 3" C-C. Buckets 4" x 8" Speed 340' P.M.

No. 1 Chas. Snyder 20% Sampler, delivery spout 5" x 25". 10 RPM.

Discard 10% 4% Sample = 2000 lbs. = 1/11,000.

14" x 30" Davis belt-driven rolls, crushing to 3/8". 110 RPM.

Elevator 28' 9" C-C. Buckets 3" x 5". Speed 340' P.M.

No. 2 Chas. Snyder 20% Sampler, delivery spout 3" x 15". 10 RPM.

Discard 3.2% 0.8% Sample = 400 lbs. = 1/42,000.

12" x 20" Davis belt-driven rolls, crushing to 6 mesh. 110 RPM.

No. 3 Chas. Snyder 20% Sampler, delivery spout 2" x 10" 10 RPM.

Discard 0.64% 0.16% Sample = 80 lbs. = 1/670,000.

Sample Hopper car, bottom discharge.

Enclosed Sample Room. 10 H.P. Motor 710 R.P.M.

7" x 14" Stenma-Roger rolls, crushing to 8 mesh. 150 RPM.

3/4" div. riffle box to 50-150 lbs. = 1/1,040,000.

Regrind through closed 7" x 14" rolls, to 16 mesh.

Grinding Room.

1/2" div. riffle box to 12-15 lbs. = 1/1,600,000.

Electric drier. Temperature 240°-380° F.

Two No. 2 Englebach Grinders to 50 mesh. Speed 60-130 RPM.

Rubber rolling cloth three minutes.

1/2" div. riffle box to 20-25 ounces = 1/7,000,000.

Grinder and Bucking Board to 120 mesh.

Rubber rolling cloth 10 minutes.

1/4" div. riffle to 4 sample sacks 5.5 ounces each

R.R. Cars standing on 50' 100 ton Fairbanks reg. beam scales.

Reject Elevator

FIG. 20.—FLOW-SHEET, WESTERN ORE PURCHASING CO., MILLERS, NEV.

SYNOPSIS OF MACHINERY AND METHODS AT

THE AMERICAN S. & R. COMPANY SAMPLER No. 2, MURRAY, UTAH.

Computations based on 25 ton lot. Capacity 50 tons per hour.

Rio Grande Western & S. P. L. A. & S. L. Railways.

Stub end elevated receiving track 10' above mill floor.

Wide chute at level car floor, feeding direct to crusher.

Gates crusher #4 style D, crushing to 3".

Ninety foot elevator, buckets 6" x 8" x 12".

Vezin 20% 20" radius double spout sampler. 13 R.P.M.

Reject 80% 20% sample = 10,000 lb. = 1/2000.

Gates crusher #2 style H, crushing to 1-1/4".

Vezin 20% 20" radius sampler.

Reject 16% 4% sample = 2,000 lb. = 1/5000.

15" x 26" Gates belted rolls, crushing to 3/4"

70 foot elevator 4" x 4" x 6" buckets.

Vezin double spout 20% sampler.

Reject 3.2% 0.8% sample = 400 lb. = 1/5300.

12" x 20" high-speed Allis Chalmers rolls, crushing to 3/8"

Vezin double spout 20% sampler.

Reject 0.64% 0.16% sample = 80 lb. = 1/6500.

Steel safe in grinding room.

Entire sample carried over to #3 mill.

Run through 12" x 20" rolls, crushing to 3/16".

3/4" Rhodes splitter to 75 lb. = 1/62500.

Surface dryer in #4 mill grinding room.

Two Englebach grinders to 50 mesh.

1/4" riffle to 48-50 ounces = 1/16,000,000.

Bucking board to 100 mesh Ag. and 120 mesh Au.

Gold pan mixing five minutes.

1/4" riffle to four 8 oz. pulp samples.

Auxiliary ore bin.

FIG. 21.—FLOW-SHEET, AMERICAN SMELTING & REFINING CO., SAMPLER No. 2, MURRAY, UTAH.