

June 24, 1908

"C" Hoist.

Length of ropes.

From drum to brace, N. Rope	1171.
" " " " S. "	1158

Brace to 11th. level	1319
----------------------	------

H.P.M.

List given Mr. W. J. Richard today

June 23, 1908

6 Turn sheaves

2 anchor bolts required
as per print, Bent to 60°

Order given to J. Tregenza
by me today

H.C.M.

for 2 South Holes, N. Side
lower girder, lower sheave.

Adams Township, MI

Cross Sections
for 'C' steam line

$$\begin{array}{r} 0 \\ \hline 584.9 \end{array}$$

$$\begin{array}{r} 0 \\ \hline 583.9 \end{array}$$

$$\begin{array}{r} 0 \\ \hline 578.4 \end{array}$$

$$\begin{array}{r} 0 \\ \hline 577.8 \end{array}$$

	$\begin{array}{r} 10 \\ \hline 573.1 \end{array}$	$\begin{array}{r} 0 \\ \hline 576.7 \end{array}$	$\begin{array}{r} 10 \\ \hline 578.1 \end{array}$	11
--	---	--	---	----

(573.5)	$\begin{array}{r} 10 \\ \hline 570.0 \end{array}$	$\begin{array}{r} 0 \\ \hline 572.2 \end{array}$	$\begin{array}{r} 10 \\ \hline 573.2 \end{array}$	(10)
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(569.7)	$\begin{array}{r} 10 \\ \hline 565.4 \end{array}$	$\begin{array}{r} 0 \\ \hline 567.6 \end{array}$	$\begin{array}{r} 10 \\ \hline 569.9 \end{array}$	(9)
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(565.5)	$\begin{array}{r} 10 \\ \hline 559.6 \end{array}$	$\begin{array}{r} 0 \\ \hline 563.6 \end{array}$	$\begin{array}{r} 10 \\ \hline 565.2 \end{array}$	(8)
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(560)	$\begin{array}{r} 10 \\ \hline 556.4 \end{array}$	$\begin{array}{r} 0 \\ \hline 557.6 \end{array}$	$\begin{array}{r} 10 \\ \hline 560.3 \end{array}$	(7)
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Adams Township, MI

CHAMPION COPPER CO.

Draughtsman _____

Sketch No. _____

DRAWING ROOM SKETCH.

Examiner 16/2/08

To be returned when Work is Finished.

Painesdale Mich., Oct. 30 1908

*Data for South Poor Rock Trestle
at "C" Rock House*

Bent.	Elevations		
	Top of Rail	Bottom of Sill	
1	637.06	612.50 606.67	West. leg East "
2	637.02	614.00 609.00	W. " E. "
3	636.95	613.50	Both legs
4	636.88	613.00	" "
5	636.81	617.67	" "

Batter 2" in 12"

See drawing # 1433

#1 & 2 are on curve, 30' Radius.

*Rock House - #1 = 10.2
 1 - 2 = 10.8
 2 - 3 = 18.0
 3 - 4 = 18.0
 4 - 5 = 18.0*

*5'
 8'
 2'
 7'*

CHAMPION COPPER CO.

Draughtsman _____

Sketch No. _____

DRAWING ROOM SKETCH.

Examiner _____

To be returned when Work is Finished.

Painesdale Mich., _____ 19__

C^o Turn Sheave Foundation.

Sub-foundation, _____ yds., finished June 10, 08

Forms finished June 17, 08

Concrete finished July 6, 1908 (6 P.M.)

yards in sub foundation	_____	70
" " main "	_____	106

Bags Cement used in sub foundation	=	287
" " " " main "	=	423

Mixture -

1 bag cement	}	about 1.4.6
2 barrels sand		
3 " " Rock		

C^o Hoist

New Hoist Engine Turned
over Aug 25, 1908

N. Skip in Commission Sep 2, 1908, at
5 P.M.

S. Skip put in commission 1908

COPPER RANGE CONSOLIDATED COMPANY.

F. W. DENTON, GENERAL MANAGER.
CHAMPION COPPER CO.
TRIMOUNTAIN MINING CO.
BAL TIC MINING CO.

C. Turn Sheaves

PAINESDALE, MICH.,

No. of Sacks Cement in footings

21
60
68
64
74

* Mixture 1-4-6-

287 total.

4287 (72 yds.
867
4

No. of Sacks Cement in foundation.

21
64
98
99
72
69

* Mixture 1-4-6

423 total

423
106

* 1 bag Cement - 2 barrows Sand

3 barrows rock

A.D.H.

TRIMOUNTAIN MINING COMPANY.

F. W. DENTON, AGENT.
B. D. NOETZEL, CLERK.

PAINESDALE, MICH.,

"B. & C" Hoists.

15576 cu. ft. in building walls & gables.
14297 " " " Basement "

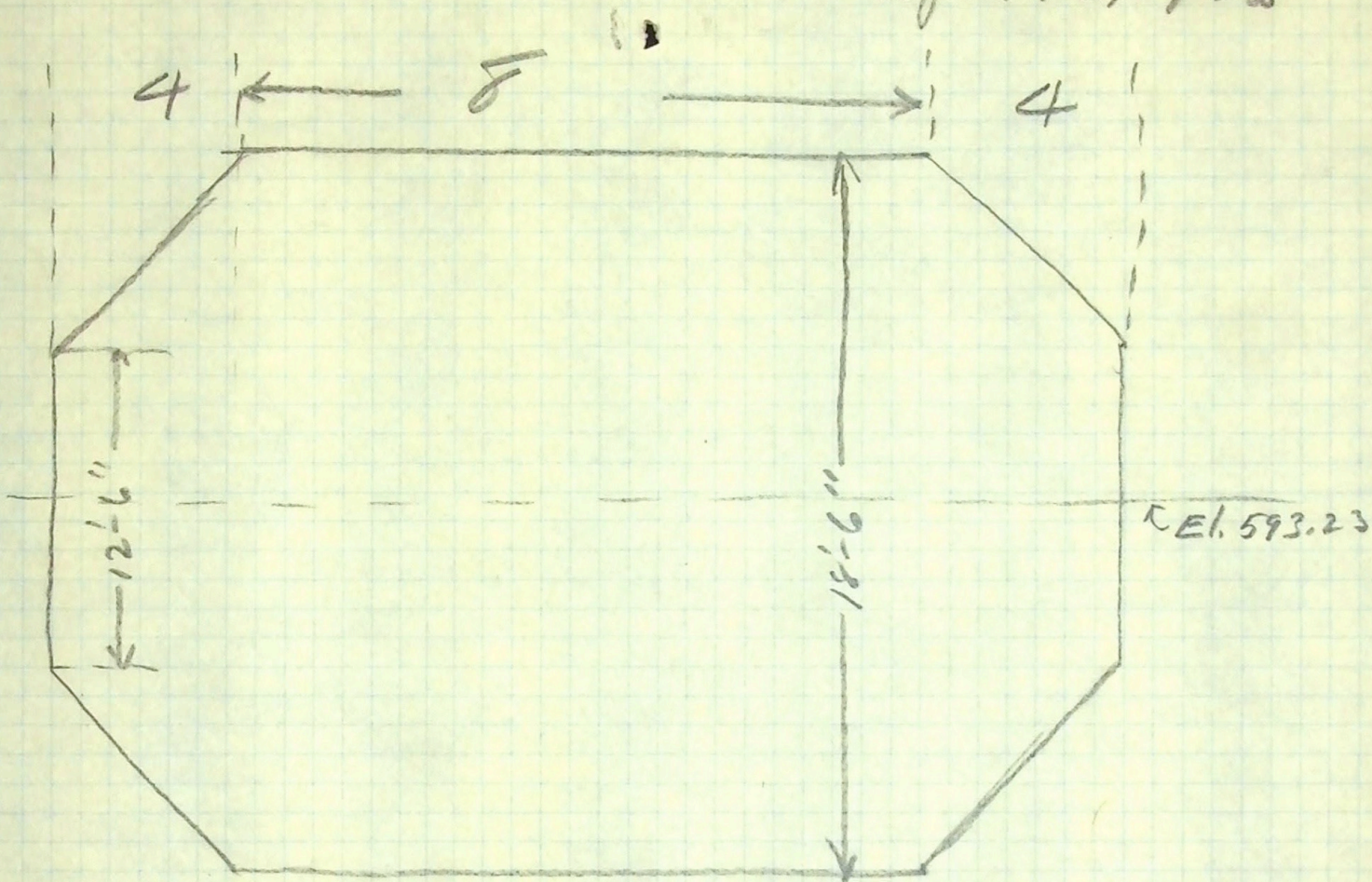
8400 sq. ft. = area of roofs.

156 cords sandstone for walls.

Following list of charred sandstone
sills. 6" X 12"

20 pieces, 7'-0" long.
4 " 10'-0" "
2 " 14'-0" "

Apr. 13, 1958



Size of drum,
32" X 72" Nordberg Kaist.

CHAMPION COPPER CO.

Draughtsman HOM

Sketch No. 133

DRAWING ROOM SKETCH.

Examiner _____

To be returned when Work is Finished.

Painesdale Mich., Apr 9 1908

Horizontal Coordinates, Top & Bottom Corners of
Under Girders, 8" TUFN Sheaves.

No.	N.	S.	E.	W.	Elev.
23		✓ 5.58		✓ 2.04	✓ 591.97
23'		✓ 5.60		✓ 2.37	✓ 590.74
24		✓ 1.34		✓ 6.15	✓ 593.00
24'		✓ 1.36		✓ 6.48	✓ 591.77
25		✓ 12.87		✓ 8.06	✓ 588.78
25'		✓ 12.87		✓ 8.38	✓ 587.55
26		✓ 8.63		✓ 12.15	✓ 589.90
26'		✓ 8.63		✓ 12.48	✓ 588.67

CHAMPION COPPER CO.

Sketch No. 132

Draughtsman _____

DRAWING ROOM SKETCH.

Examiner _____

To be returned when Work is Finished.

Painesdale Mich., Apr. 9 1908

Hor. Co-ordinates of Carrers,
"C" Turn Sheaves. Referred to Sta. 682
Distances Along Ropes

No	N.	S.	E.	W	Elev.	
1		✓ 9.70	✓ 2.93	8.01	✓ 594.40	Top of Girder
1'		✓ 9.72	✓ 2.60	8.01	✓ 593.17	Bottom " "
2		✓ 15.14	2.88		✓ 594.48	
3		✓ 17.51	✓ 0.67		✓ 595.13	
4		✓ 16.37		✓ 0.42	✓ 595.40	
5		✓ 9.79		✓ 0.42	✓ 595.29	
6		✓ 8.01	✓ 1.30		✓ 594.80	Top of Girder
6'		✓ 8.03	✓ 0.97		✓ 593.57	Bottom " "
7	✓ 2.90			✓ 9.25	✓ 597.45	Top " "
7'	✓ 2.88			✓ 9.58	✓ 596.22	Bot. " "
8	✓ 2.90			✓ 13.45	✓ 598.57	
9	✓ 0.02	6.15		✓ 16.26	✓ 599.39	
10		✓ 2.38		✓ 13.94	✓ 598.81	
11		✓ 2.38		✓ 11.11	✓ 598.04	
12	✓ 1.22			✓ 7.62	✓ 597.04	Top of Girder
12'	✓ 1.20			✓ 7.95	✓ 595.81	Bot. " "
13		✓ 17.05		✓ 3.10	✓ 591.16	Top " "
13'		✓ 17.05		✓ 3.43	✓ 589.88	Bot. " "
14		✓ 20.34		✓ 3.10	✓ 591.05	
15		✓ 22.94		✓ 5.60	✓ 591.77	
16		✓ 19.60		✓ 8.82	✓ 592.65	
17		✓ 15.36		✓ 4.73	✓ 591.55	Top " "
17'		✓ 15.36		✓ 5.06	✓ 590.37	Bot. " "
18		✓ 4.44		✓ 15.22	✓ 594.43	Top " "
18'		✓ 4.44		✓ 15.61	✓ 593.20	Bot. " "
19		✓ 4.44		✓ 18.45	✓ 595.30	
20		✓ 7.03		✓ 20.96	✓ 595.96	
21		✓ 10.36		✓ 17.74	✓ 595.08	
22		✓ 6.13		✓ 13.65	✓ 593.98	Top " "
22'		✓ 6.13		✓ 13.98	✓ 592.75	Bot. " "

Tan. 15° 03' 20" = 0.27 sin = 0.26 sin 0° 09' 37" = 0.003
 " 0-57-40 = 0.017 " = 0.017 Tan " = 0.003

CHAMPION COPPER CO.

Draughtsman H. J. ...

Sketch No. 131

DRAWING ROOM SKETCH.

Examiner _____

To be returned when Work is Finished.

Painesdale Mich., Apr. 6 1908

Data for C" Hoist.

Sta. #682 = Center of Ropes at Turn Sheaves.

Hor. Dist. #682 to Center of Drum.	642.02
" " " " " " " Head Sheaves.	424.85
" " ϕ Drum to inside of Wall of Bldg.	16.50
" " " " " " " Outside " " " "	18.00
Large Dia. Drum.	18.50
Small " "	12.50
Length of " "	16.00
" " " straight part.	8.00

Elev. ϕ of Drum.	593.23
" Sill upper Rope Hole.	598.80
" " Lower " "	583.45
" Sta. #682.	583.50
" ϕ Head Sheaves.	698.30
" N. Rope at Turn Sheaves, (Assumed)	591.75
" S. " " " " (")	588.75

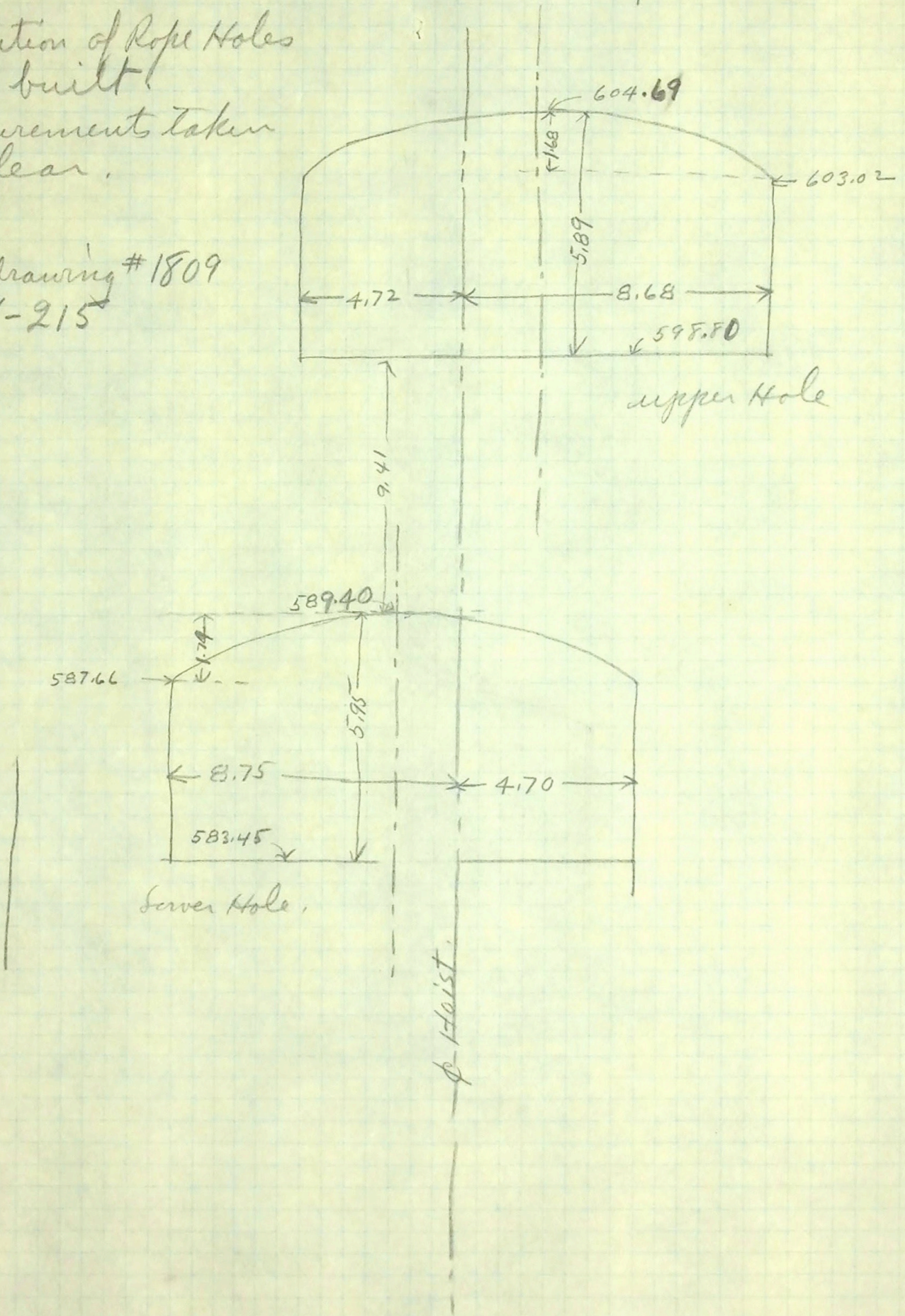
Notebook 171 pages 49 to 62.
 " " 178 " 32 " 35.

"C" Hoist.

Apr. 3, 1908

Position of Rope Holes
as built
Measurements taken
in clear.

See drawing #1809
X-215



Sec 94 21.7	602.2 3.2 30	602.4 3.1 20	602.3 3.2 10	602.4 3.1 0	602.4 3.0 10	602.3 3.2 20	602.3 3.1 30	13 20
Sec 94 21.7	599.8 3.1 30	599.6 5.9 20	599.6 5.9 10	600.2 5.3 0	601.2 4.3 10	600.7 4.8 20	600.5 5.0 30	12 15
Sec 84 21.7	585.9 4.6 30	583.6 6.9 20	579.6 10.9 10	579.8 10.7 0	580.6 9.9 10	582.0 8.5 20	584.1 6.8 30	11 18
Sec 74 26.7	586.5 4.0 30	581.7 8.8 20	578.9 11.5 10	576.2 10.4 0	575.1 15.4 10	574.9 15.6 20	574.9 15.6 30	10 16
Sec 64 21.7	578.9 1.6 30	587.3 3.2 20	581.9 8.6 10	577.5 13.0 0	575.1 15.4 10	572.5 18.0 20	571.5 19.0 30	9 15
Sec 64 26	587.3 3.2 30	584.5 6.0 20	583.9 6.6 10	581.9 8.6 0	580.5 10.0 10	578.9 11.6 20	575.0 15.6 30	8

Cross sections of sheave stands
8 to 13

8005731

580.1	581.2	582.7	583.6	584.7	585.6	587.2
11.3	10.2	8.7	7.8	6.7	5.8	4.2
30	20	10	0	10	20	30

(7)

454

564.1	564.5	565.7	568.2	569.7	573.1	575.5
12.8	12.4	11.2	8.7	7.2	3.8	1.4
30	20	10	0	10	20	30

(6)

8003776

561.4	563.1	563.9	566.7	569.1	571.2	573.5
15.5	13.8	13	10.2	7.8	5.7	3.4
30	20	10	0	10	20	30

(5)

8003706

554.6	556.1	557.7	557.8	558.4	559.5	557.7
14.1	12.6	11	10.9	10.3	9.2	11
30	20	10	0	10	20	30

(4)

8002731

551.4	559.7	557.7	555.7	554.4	554.0	553.0
7.3	9	11	13	14.3	14.7	15.7
30	20	10	0	10	20	30

(3)

800746

555.5	555.0	554.6	554.2	554.2	554.7	553.7
13.2	13.7	14.1	14.5	14.5	14.	15.
30	20	10	0	10	20	30

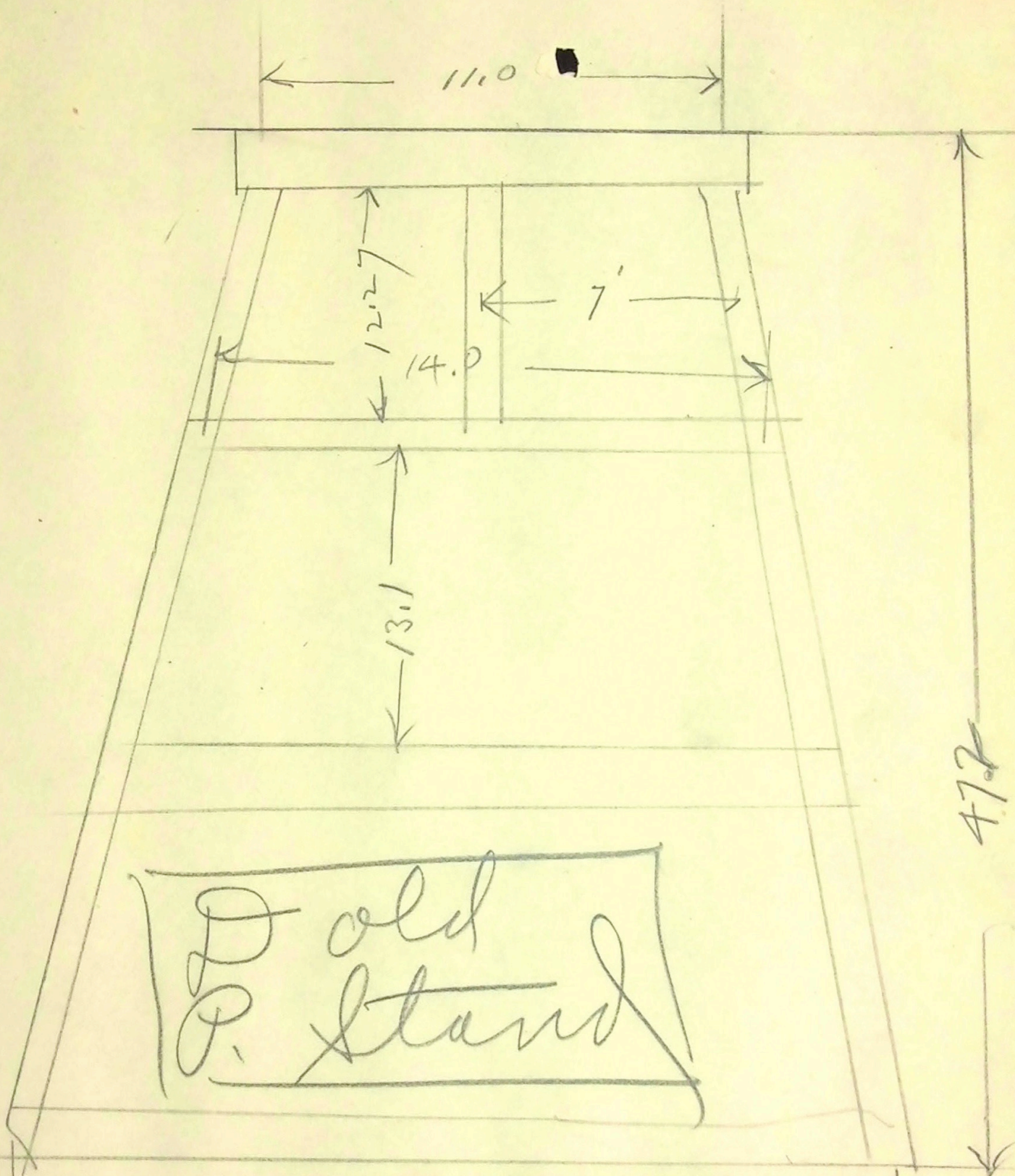
(2)

800475

574.6	579.1	579.5	578.8	578.0	576.7	577.7
11.9	7.4	7.6	7.7	8.5	9.8	8.8
30	20	10	0	10	20	30

(1)

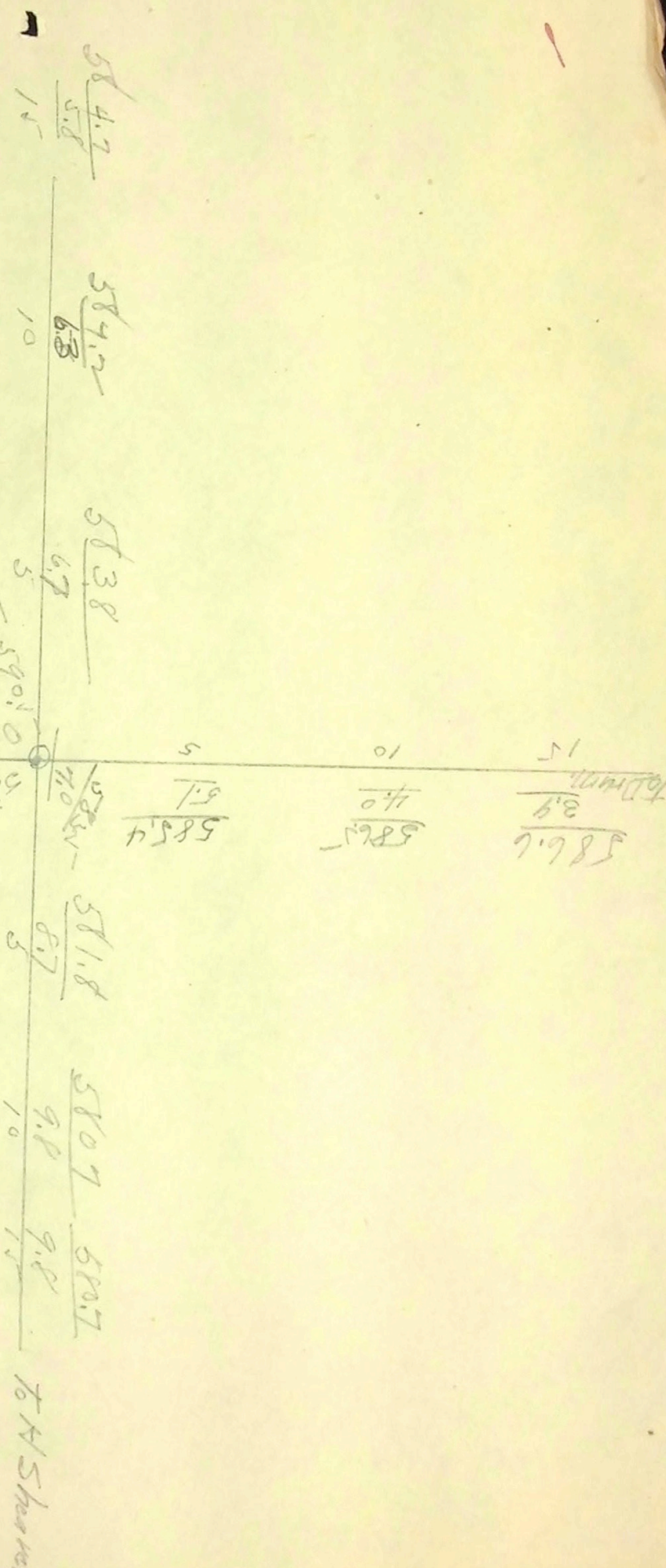
Cross sections at Sheave Stand 1 to 7



Possible at # 10 for "C"

47.2
 13.2
 33.9
 33.9

E/e
 Radius 210 ft
 around sea level
 Mts 178-32
 Mts 2103



Cross section at turn sheaves

June 19, 1908

upper sheave.

2 pc. 10'-0" sill, S. side
2 " 7'-4" " N. "
2 " 10'-0" girders, S. side
2 " 7'-4" " N. "

lower sheave.

2 pc. 10'-7" sill, S. side
2 " 4'-0" " N. "
2 " 7'-6" girders S. "
2 " 4'-0" " N. "

"C" Turn Sheaves
straps for anchorage.

A. D. M.

CHAMPION COPPER CO.

Draughtsman H. M. Mace

Sketch No. _____

DRAWING ROOM SKETCH.

Examiner _____

To be returned when Work is Finished.

Painesdale Mich., June 19 1908

"C" Turn Sheaves
Strap iron for Anchorage

4	pieces	old	strap	10'-0" long
4	"	"	"	7'-4" "
2	"	"	"	10'-7" "
2	"	"	"	7'-6" "
4	"	"	"	4'-0" "

June 12, 1908.

Mr. James Tregenza.

Please bend 12 of the
 $1\frac{1}{4}$ " anchor bolts for "C"
turn sheave foundation,
instead of 8 as called for
on blue print.

H. T. Mercer.

CHAMPION COPPER CO.

Sketch No. _____

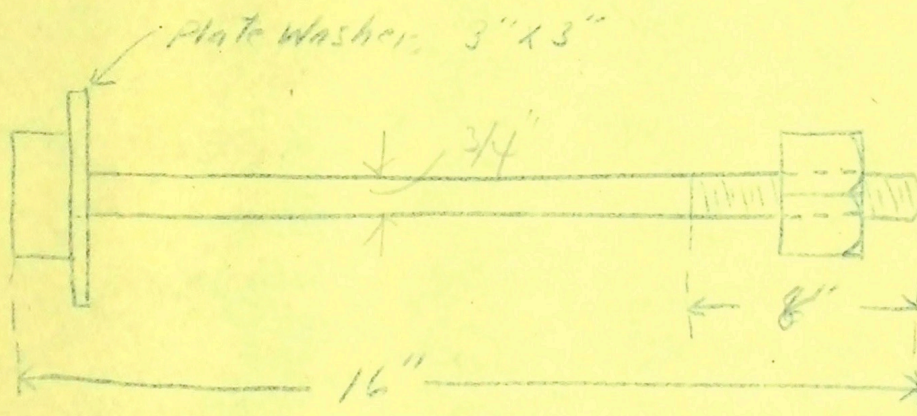
DRAWING ROOM SKETCH.

To be returned when Work is Finished.

Draughtsman H. M. M.

Examiner _____

Painesdale Mich., June 4 1908

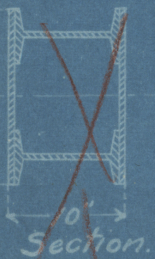
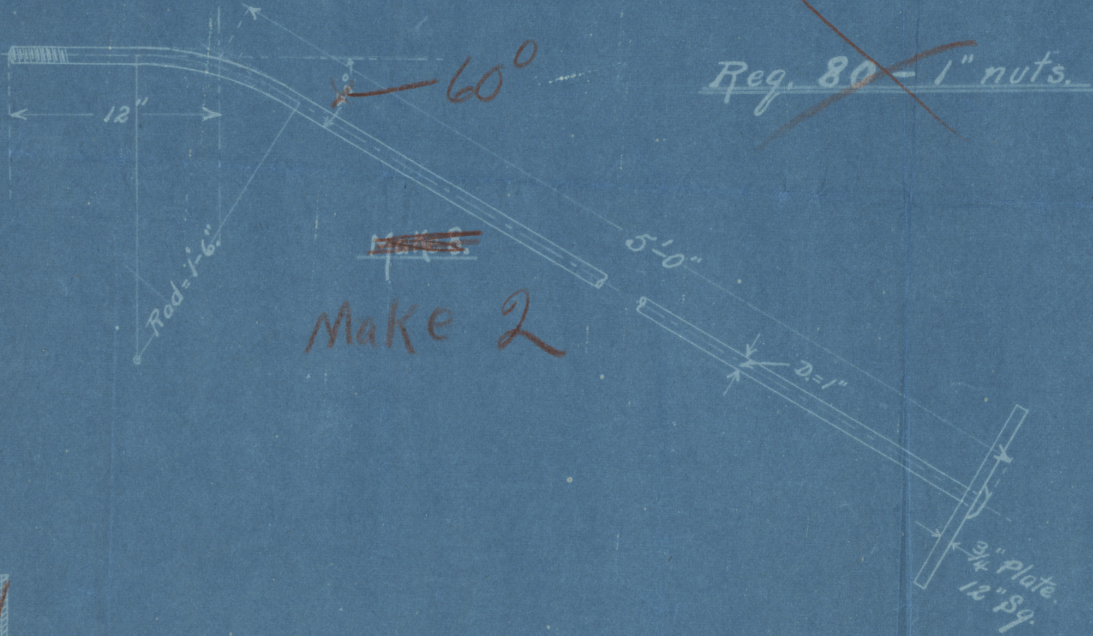
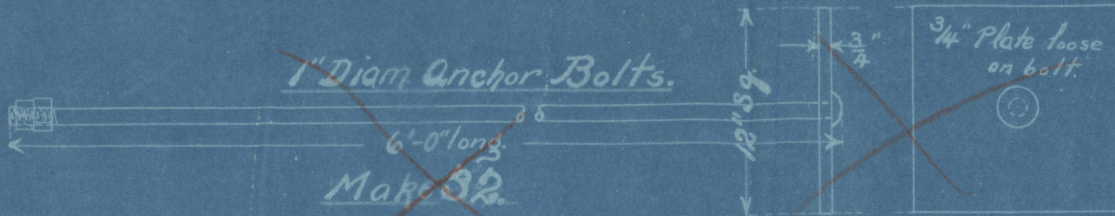


Hanger Bolts, C^o Steam Line.

To go in Concrete Cover
of Tunnel

Make 6

see Drawing #1835



DRAWING FROM ENGINEER'S OFFICE,
CHAMPION MINE
Details
Steel Work "C" Turn Sheaves.
 SCALE 1" = 1'-0"
 DRAWN BY Q.D.F. Jr. DATE 5-16-08.
 TRACED BY " " " No. 1833.
 CHECKED BY " " " INDEX PH 52B.

CHAMPION COPPER CO.

Sketch No. _____

Draughtsman H.M.

DRAWING ROOM SKETCH.

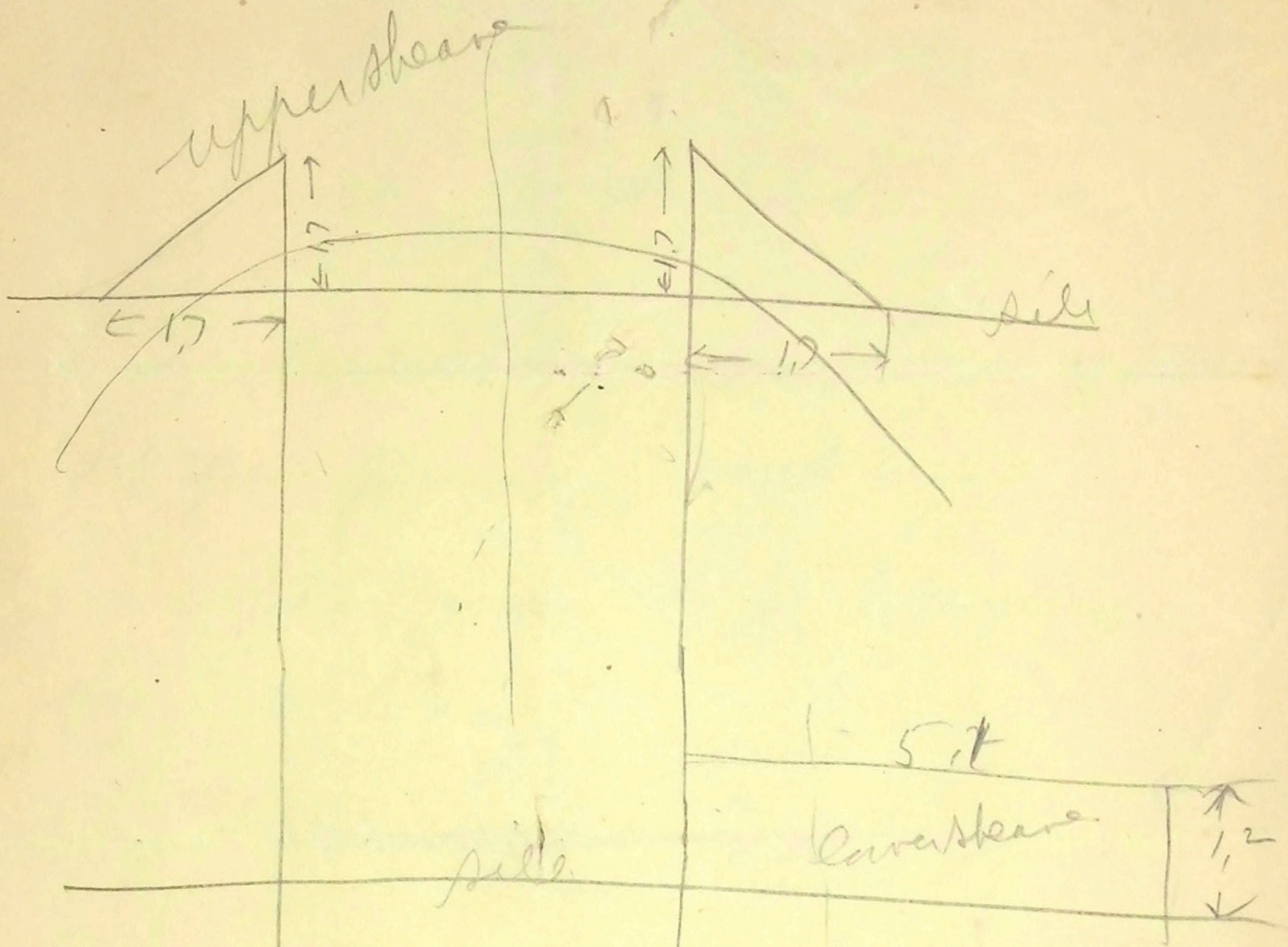
Examiner _____

To be returned when is Finished.

Painesdale Mich., May 26 1908

Co-ordinates of End Anchor Bolt Holes, Referred to C Lines of Rock House & Hoist.

Hole	N.	S.	E	W	Elev.
A		1.23		12.15	586.73
B		16.54		3.94	584.45
C	0.56			7.58	589.08
D		14.29	0.38		584.86
E	5.91			6.13	589.47
F		9.43	2.09		587.57
G	7.76			1.59	591.83
H		7.13	6.40		589.99



© Turn shears
 Pockets for rim of shears

June 18, 1905

June 23, 1908

6' Turn sheaves

2 anchor bolts required,
as per print, Bent to 60°

Order given to J. Tregenza
by me today

H.C.M.

These are for the 2 South Holes
on N. side of lower guide for
lower sheave.

DRAWING OFFICE SKETCH.

Copy Book _____ Page _____

Order No. 112

To be returned when Work is Finished.

Draughtsman H.M.

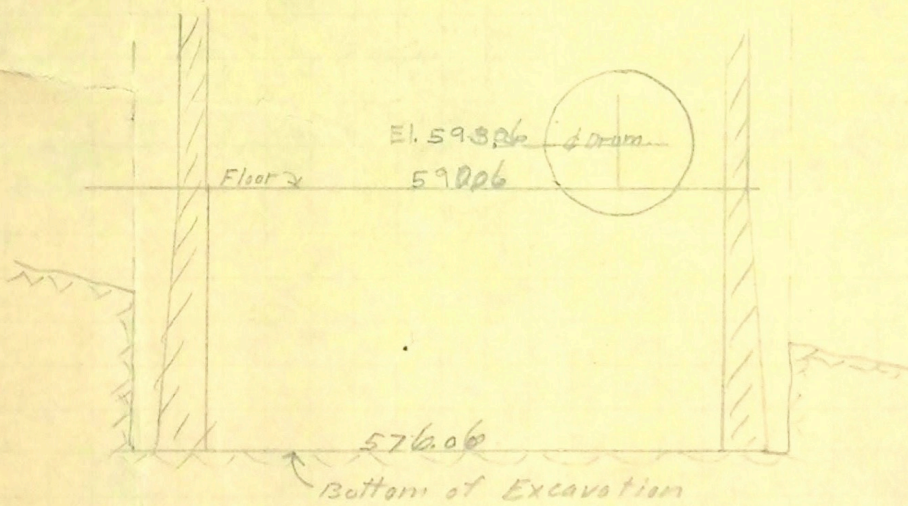
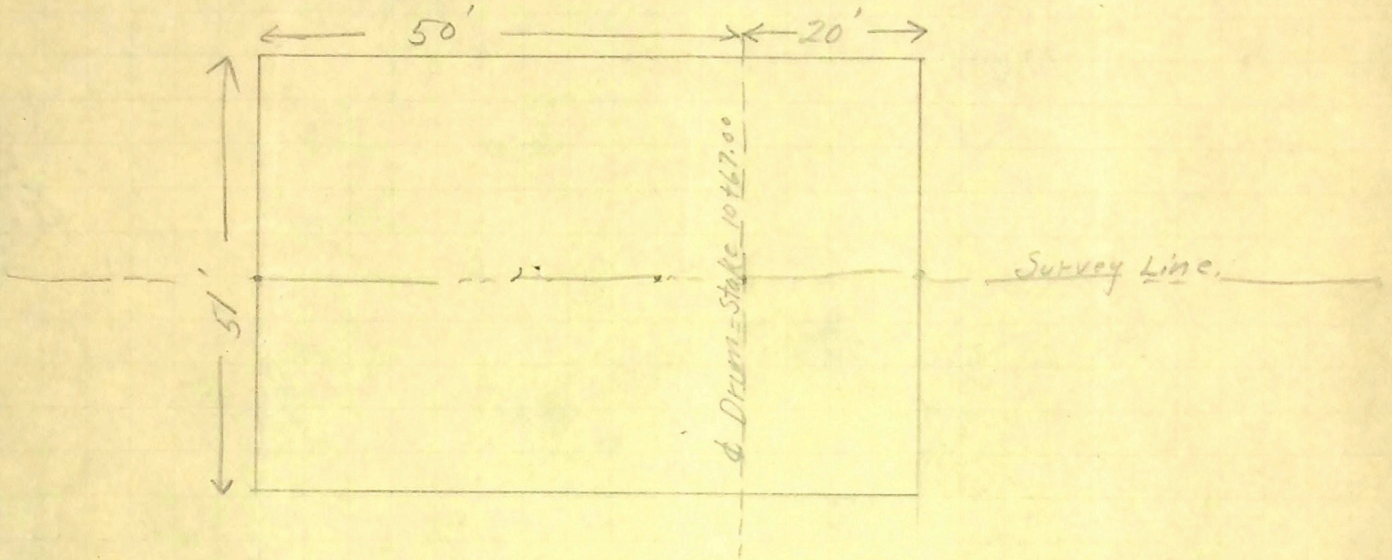
F.P. 1515-A.

CHAMPION COPPER CO.

Examiner _____

Painesdale, Mich., Aug 3 1917

Data for Staking out "C" Hoist.



Elevations.

- d Drum = 593.06
- Top of Foundation = 593.56
- " " Main Floor = 590.06
- " " Basement Floor = 576.56
- Bot. of Excavation = 576.06

corrected elev

Notes:- Book 171 page 143
for profile See Drawing "1309"
P.H. 31A.

CHAMPION COPPER CO.

Sketch No. _____

DRAWING ROOM SKETCH.

To be returned when Work is Finished.

Draughtsman _____

Examiner _____

Painesdale Mich., _____

19 _____

"C" Turn Sheave Foundation.

Sub-foundation, yds., finished June 10, '08.

Forms finished June 19, '08

Concrete finished July 6, 1908, (5 P.M.)

~~yards in sub~~

yards in sub foundation	_____	70
" " main "	_____	106

Sack Cement used in sub foundation	=	287
" " " " main "	=	423

Mixture = $\left. \begin{array}{l} 1 \text{ sack cement,} \\ 2 \text{ barrows sand} \\ 3 \text{ " " Rock} \end{array} \right\} = \text{about } 1:4:6$

Forms removed July 15. Concrete appeared in good shape.

Steel frames set July 22, and grouted in on July 23 &

Sheaves put on Aug 12 & 13.