153

MINING
TRANSIT BOOK
363

Return to
County Surveyor
Coos County
Wather, Mi.

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Sec. 3 — 144-31

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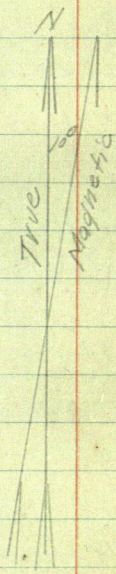
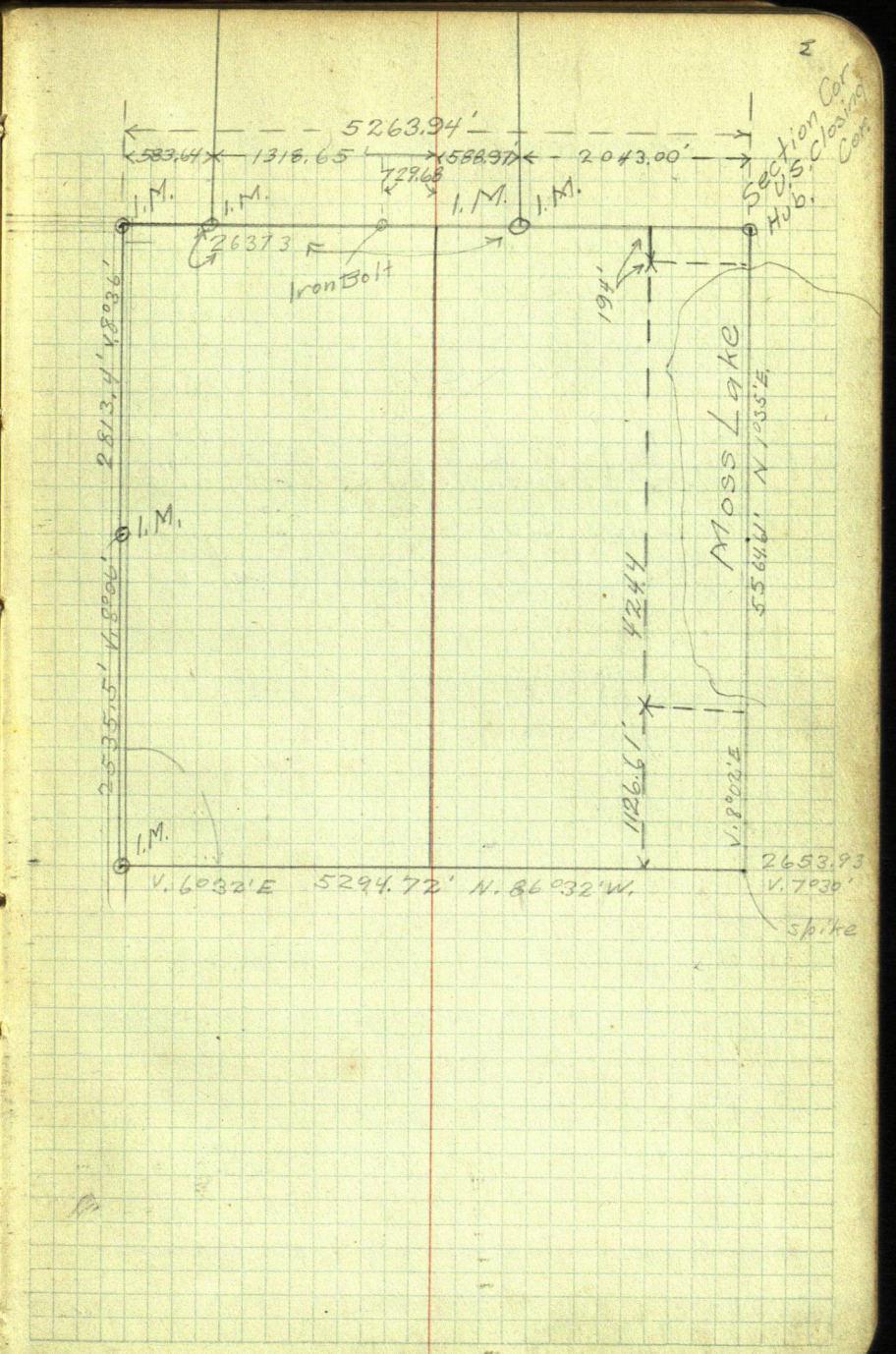
" 611

B " 312



Notes by Land


5263.94'
583.64
1316.65
729.68
588.97
2043.00'
Section Cor.
U.S. Closing Cor.
Hub.
I.M.
I.M.
I.M.
I.M.
26373
Iron Bolt
194'
Moss Lake
2813.4' V. 8°36'
2535.5' V. 8°00'
I.M.
I.M.
I.M.
4244
1126.6'
V. 8°03'E.
N. 1°33'E.
5564.6'
2653.93
V. 7°30'
Spike
V. 6°32'E 5294.72' N. 86°32'W.

140-26.

390

Thursday. August. 2nd. 1917.

E.B. Horst. Working for Wabedo Twp. A.M. in office getting Notes and plats

P.M. I drive to L.C. Richardsons farm Sec 19-140-28. with 12 I.M.s. Leaving 7. a.t. Longville for Cass Co.

E.B. Horst.

Friday. August. 3rd 1917

E.B. Horst and Raymond Richardson setting I.M.s for Wabedo Twp. at following corners at Wit Cor. to M.C. No. 44. being 9. Ft. N. of M.C. Set a 2"x48" I.M. at the S.W. Cor. of Sec 19. I find that another Surveyor from Pine River. has set 2x48 I.M.s at all Corners on S. line of sec 19. W 1/16, 1/4, + M.C. I find them all O.K.
at 1/4 Cor. between Secs 19+24 on Range line I find that the correcting the Range line the chainmen made a 50 Ft. error in setting Hub on random line from which to set 1/4 Cor they set Hub at 5100.7 N instead of at 5050.7 N. I correct this error and set an I.M. at true 1/4 cor at Center of Sec. 19. true center goes S. 26.53 Ft to correct error Set 2'x48" I.M.
at N.W. Cor of Sec. 19. Set I.M.
at S 1/16 Cor. bet. Secs. 19+20 Set I.M.

E.B. Horst.

140-28

390

Saturday, August 4th 1917.
I receeive a letter from Emil
Mork instructing me to finish
setting I.M.s in sec. 19. and that
the people were too busy haying
to do any more work at present
I set the 1/4 Cor between sec.s
18 + 19 being a 2"X48" I.M.
at center of S 1/2 sec. 19.
Correct error by chaining S.
on 1/4 line 13.26 Ft. Set I.M.
at 1/4 cor between Sec's 19+20
set I.M. and one at U.S. M.C.
Between Sec's 19+20
Being M.C. No. 46.

143 – 31.

Leech Lake Cemetary

389

Thursday August 9th. 1917.

E.B. Horst. and Earl Crow working for Leech Lake Twp. 143-31.

We drive to Leech Lake store and walk to Harry Burdick's Ed. Holm Who Was put in Charge to look after survey of Cemetary is in Walker We return to Walker to see Holm and make arrangements to begin in the morning.

E.B. Horst.

Friday August 18. 1917.

E.B. Horst transit and chain.
Earl Crow flag + chain.
Ed, Holm, Tim Preston and
Victor Anderson axemen
begin at a stake at cor. of secs
17-18-19-20—143-31 previously set
by M.A. Kemp I attemt to check
same and find I have no N.S.
Notes of this cor.
We run S. at 8°45' Var. (mag)
at 352.0 Ft.S. set Hub.
1248.4 " " "
2145.3 " " "
2980.0 " old road E+W.
4683.0 " set Hub.
E.B. Horst.

143-31

389

Saturday, Aug. 11-1917.

Horst, Crow, Holm and Preston

Continue S. bet. secs 19+20 at 5234.4 a steel angle bar set by J.W. Cure. from U.S. B.T.s for cor. to sec's 19-20-29-30 sets E 19.5 Ft.

Popple S.E. still green

Stump of W.P. N.W. still there

We return to cor of sec's 17-18-19-20 sight S. on random and turn S.E. angle 89°01' and run random line E bet secs 17+20.

E.B. Horst.

Monday. Aug. 13. 1917.

Horst, Crow, and Preston continue E. on random bet. 17 & 20.

at 292.6 E set Hub
" 1970.0 " enter marsh
" 2150.0 " leave "
" 2640.0 " a post set by some one for 1/4 cor sets N. 7.4 Ft. U.S. B.T.'s gone. Continue E.
3900.0 E. set Hub.
5344.2 " " " in cent. of G.N. Ry
Cor to Sec's 16-17-20-21 sets N 43° 20' W 43.1 Ft.
at sta 5314.6 E Cor. sets N 31.3 Ft.

E.R. Horst.

143-31,

389

Tuesday Aug 14-1917
Horst, Crow, Preston and
Joe Deal.
at cor. to sec's. 16-17-20-21
U.S. Notes call for.
Birch 3 N 71° E 42.
Aspen 4 N 28° W 49.
" 3 S 32° W —
Oak 3 S 13° E 49.
the pop stump N.W. sets loose
in ground with part of B.T. still
visible and cheeks with post
at cor all other trees gone
I take New bearings
N.P. 10 N 24° 30' E 68.0 Ft.
N.P. stump 10 N 88° 30' W 27.3 Ft.
Random line intersects G.N. track
at sta 3730+9.8 Ft.
Mark on rail = 3730.
I start Preston cutting a line
N. from cor of 17-18-19-20
and Crow + I chain W from same
corner
at 2640 look for 1/4 cor. gone
at 4446.4 center of S.R.H. 82 and
cor to secs 18-19-13+24-143-31+32
E 13 Horst.

Wednesday Aug. 15-1917.

I receive U.S. Transcript Notes for Cor. of secs. 17-18-19-20 — 143-31. and find stake set by Curo to. be correct. the stumps of the 4 U.S. B.T.s still remain the N.W. Oak is rotted to the ground the N.E. Oak is cut and a small piece Bearing the B.T. is still there I set a 2"X48" I.M. and take new B.T.s
Fence Post 9 in N 33 Ft.
Oak 10 N 37° W 12.6 Ft.
N.E. Cor. of School House S 20° 20' W 142. Ft
at Cor to sec's 16-17-20-21 we set. a 2"X48" I.M.
From Cor. of 17-18-19-20 I run E on true line 242.0 Ft turn S.W. angle 90°52' at 33 Ft set 2"X48" IM = N.E. Cor of Cemetary. at 242 Ft set Post S.E. Cor of Cem. turn N.W. angle 89°08' run W. 209 Ft set a 2x48 IM. at 242 set Hub on true Sec line turn N.E. angle 90°52' run N 242 Ft to Pt of beginning.
I set transit over Cor of 17-18-19-20

E. L. Wood

13

143-31.

389

Sight E on true line turns. 44°34' and chain S.E. 47.02 Ft and set N.W. Cor. of Cemetary being a 3x3 wood stake The Cemetary being a quadrilateral 209.0 Ft on each side containing 1 Acre +.

E.B. Hurst.

Reference { Paid J.F. Reid $2.80 For Board. Ford traveled 115 Miles Used 4 - 2x4s I.M.s }

389

143-31

Acorrection of cemetary 14 survey. Sec. Cor. S. 4°30' E. 10.2 ft.

Cor. 16-17-20-21

N.P. 10" N. 25° E. 103. 1 ks.

" 12" S. 17° W. 208 1 ks.

" 12" N 70°15' W. 141. 1 ks.

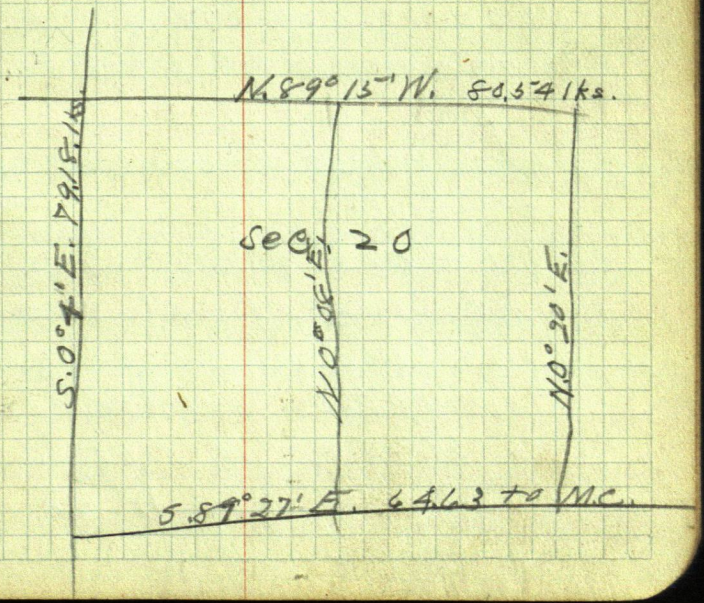
R. Oak. 8" S. 26°30' E. 173 1 ks.

Taken Aug. 18, 1919. By. Hal. D. Craig, U.S. Transitman and E.B. Horst. ex U.S. Transitman.

Cor. 17-18-19-20

Oak 16 N. 34°15' W. 185 1 ks.

N.E. cor. Sch. House foundation bears S. 22°15' W. 201 1 ks. House burned.



15

133-29.

400 : Twp Road

Wed. April. 24-1918

A survey for a Twp road beginning at the N 1/16 cor. between sec's 7+8; thence E. to 1/4 line; thence N. on 1/4 line to Twp line.

E.B. Horst leaves Walker at 9.28 for Sylvan fare $1.58

Dinner at Brainerd 25.¢

P.M. E.B. Horst with Berger transit, 100 ft steel tape, and Geo. H. Ramsey, (Chairman) Chas. Ramsey, and Chas. Satter, assisting.

We begin at N 1/16 corner between 7-8. I eight S. to 1/4 M. at 1/4 corner and turn S.E. angle 88°30' and run E.

at 600.0 ft set hub.

" 1340.0 . cross a road

" 1400.0 . set stake enterfield

" 2640.0 " hub.

I backsight W. on line

and turn N.W. angle 88°30'
and run N.
at 1311.2 set hub N of road.
A post (which Canfield set
from an Oak tree standing S.W.
and which may have been the
U.S. B.T.) sets S 57°50' E. 35.2 ft.
at Sta. 1292.5 N. the post sets
E. 29.8 ft.
With transit over the Temporary ¼ Cor. I sight to hub
1311.2 N. and turn Right 58°30'
and run N. in sec. 5. on random
¼ line
at 25 ft. N. interseet N & S road
at 1300.0 " leave road
at 1359.3 " set hub.
E B Horst

at Chas Sellers for supper
and overnight. E.B.H.

133-29
400

Thurs. April. 25- 1918.

E.B. Horst. Chas Satterand Geo. Ramsey
Brower Peterson - Continue
N. on random ¼ line thru
Sec. 5.
at 2697.5 Ft. N. cross fence
" 3020.0 " " set hub.
" 3332.8 " " " "
" 3878.3 " " " "
" 4551.0 " " " "
" 5173.0 " " " "
" 5182.0 " " " " on
Curo's Random Twp. line run
in 1912. as I have no notes
of Curo's survey with me
I chain W. from our line on
Twp. line to one of Curo's
hubs N. of Caper's School.
distance = 376.0 ft. S.W.
angle = 88°42' to random lines.
I leave this line until I get
Curo's notes of his survey.
E.B. Horst.

Friday April-26-1918.

Horst & same crew. go to random N 1/16 line of Sec. 8 to hub 2640. ft E and produce same E.

at 2810.0 set hub A. of triangle turn 90° angle and run N. 292.2 ft. and set hub. B. Peterson goes across Gull River and flowage with a boat and sets a hub E. of flowage on ridge on line being hub C.

Angle at A. = 90°
" " B. = 80°44'
" " C. = 9°16'
distance A. to C. = 1790.9 ft.
hub C. = Station 4600.9 E.
continue E. at sta. 5200.0 E. set hub.

We walk S. to an I.M. 1/2" X 18" Bolt at 1/4 corner set by P.P. Boese from U.S. B.T.s between Secs 8 & 9. and chain N. at 1755.0 N. set hub I set transit on hub and work into line between 1/4 cor.

133-29

and corner of Sections 4-5-8-9. Which is a fence post set by Whitely from U.S.B.T.s one of which is still there and was found by Boese.

at hub 1755.0 N. I turn 90° L and run W. 249.3 ft. set hub B. Cor. = pt. C.

angle A = 90° angle B = 73°22'

distance A to C = 834.5 ft.

total of N½ bet 8-9 = 2589.5

We run N. ¼ line E. and set P.I. hub on see. line.

at Sta. 5260.9 Ft. E. we intersect see. line 1238.1 ft. N. of ¼ cor.

N.W. angle = 87°30'.

N¼ between 8-9 sets at 1294.75 ft N.

P.I. at 1238.1 N. diff. = 56.65 ft.

RM. I return to Walker for more Notes. R.R. fare $1.58

Sat. April 27- 1918

E.B. Horst all day in office looking up Notes of previous Surveys in Sylvan Twp and platting same in Twp Road Record book.

E B Horst.

133-29.

400

Tuesday April 30. 1918.

I drive from Walker to Sylvan and Chas. Satters place with car = 83 miles.

P.M. Geo. Ramsey. Chas Satter and Brower Peterson assisting we take an armful of Cur'o's Notes and 2-2"x48" I.M.S. and drive to Twp. line on N. side of sec. 5 and set 1/4 cor. between sec's 5 & 32 as follows

at Cur'o's hub 5654.08 we chain E on random Twp line 167.6 ft to sta. 5821.7 & Set hub. turn 90° L and run S. 38.87 ft. and drive a 2"x48" I.M. at true 1/4 cor. 5-32 we go W 1/2 mile and chain out from Cur'o's B.T.S and find Cur'o's wood sec. cor. 5-6-31-32 and set a 2"x48" I.M. in its place. We return to 1/4 cor. bet. 5-8 and set a 2"x48" I.M. in place of an old post. which checks up with old Oak B.T. still standing - E.B. Hoxit.

133-29.

400

92

Wed. May-1-1918.

E.B. Horst. & camp crew.

go to 1/4 cor between sec's 7+8 to get angle in sec. line at that point if any but find it to be a straight line. S 1/2 = 2641.15 ft N 1/2 ditto. by computing the known boundaries of Sec. 8. I find that at Hub 2640.0 ft. E. on N 1/16. random line the true center of the N 1/2 of sec. 8 goes 20.75 ft. E. and 3.2 ft. N. at which point I set a 2" x 48" I.M. Note at 1/4 cor between secs 8-9 I pull up 30" bolt set by Boese and set a 2 x 48" I.M. Inside angle at 1/4 cor = 180° 18'

at N 1/16 cor bet. sec's 8-9. I set 1/2" x 20" bolt

Correcting back and setting road centers on N+S 1/4 line thru Sec. 5. Correction W. per ft. = .04055 tan. of 2° 19'

at hub 1359.3 off-set W. 55. ft and run true 1/4 line. which completes survey of this road

E.B. Horst.

133-29.
400

Thursday May. 2. 1918.
E.B. Horst. transit & chain
with Peter Staub and Wm.
Dade assisting
drive to 1/4 cor. bet. sec's
16-21 Where U.S. Notes call
for B. Pine 12 N 34°30' W 47 lks
" " 10 S 37°00' E 65 lks
N.W. stump there & marked
S.E. " Marks burned off
both perfect for course & dist.
I set 2"x48" I.M. at true cor.
at corner of sec's 15-16-21-22
the corner has been established
by Croswell of Crowing Co.
and a 2" I.M. set.
N.E. N.W. & S.W. B.T. stumps
still there and check with cor.
Near the E. 1/16 cor. bet. 16-21
I set transit on line where
I can see 1/4 cor and S.E. cor.
distance = 2634.6 ft.
at 1317.3 I set 2"x48" I.M.
for true E 1/16
New Bearings to cor. of
15-16-21-22 are

Fence post N.W. 49 ft.
Telephone " S.W. 36.7 "
Oak Stake 3 N.E. 46.7 "
" " " S.E. 46.7 "

beginning at 1/4 Cor. between
16-21 we run N. on random 1/4 line
Var. 7°07'
at 376.0 ft N set hub.
" 1444.3 " " " "
" 2065.6 " " " "
" 2805.7 " " " "
" 3425.0 " " " "
" 3753.0 " " " S. of
wet marsh. hub A
turn 90° ∠ run E 303.2 ft. and
set hub B. set hub C. across
marsh on line.
angle at hub B = 63°46'
angle at " C = 26°14'
distance A. to C. = 615.3 Ft =
station 45 68.3 N.
at 4952 set hub
" 5280 " " - and look for 1/4
Cor. + B.T.s which are all obliterated
at P. Staubs. overnight. - C.B. Horst -

25

400

Friday, May. 3. 1918.
Horst and same crew
establish 1/4 cor. bet. 9-16
I set transit on I.M. at cor. of
8. 9. 16. 17 backsight N 1/2
mile to 1/4 cor. thence run
S. 5° E 211.2 ft to cent of N.P.R.R.
Thence N. 79°36' E on track. 2860'
" S 85°44' E 1321.9'
" S 80° 27' E 1160.0'
" S 1°59' W 226.0' to the
sec. cor. of 9-10-15-16 Where
I find the NE. NW. & SE.
stamps of the old Govt B.T.s
which check for course & dist.
I set a 2½ x 4" I.M. for cor.
at M.C. No. 33. I find Govt B.T.
& cor. Where I set a 5/8" x 14"
I.M. dist. S. to sec. cor. = 653.5'
Sec. Cor. sets 226.0' S. of N. Rail.
on track.
By Latitudes & Departures
the cor. of 9-10-15-16
at sta. 5285.7 sets S. 210.8'
therefor the 1/4 cor at
sta. 2642.85 sets S. 105.4'

to locate this point, on line
N 79°36'E. I chain back to sta.
2668.5 set 10" bolt and run S.
(Course turned from line)
376.7 ft to pt. for 1/4 corner
between 9-16 where I set
a 2"x48" I.M.
from random 1/4 line thru. 16
at hub 52 80.N the 1/4 cor sets
S 88°07' W 173.7 Ft.
at sta. 52 74.4 cor sets N. 173.7
Correction for 1/4 line = .033
set road centers on 1/4 line &
return to Geo Ramsey's at
Sylvan for supper
Return to Walker arrive at
10-40 P.M. E.B. Stone.

Subdivision of Sec. 18, 142-31. W. 5th R.M.

Under Contract of Dec. 2, 1919.
Elmer B. Horst, Engineer.
Berdick Anderson 1st. assistant.
Heller and Brightly Transit.
100 foot steel tape.
All bearings given in this survey are from the true Meridian obtained by direct observation of the Sun. and true azimuth computed therefrom. (Mag. brgs. not used)

Monday Dec. 8, 1919.

E.B. Horst, & B. Anderson Work on Field Notes of previous surveys made in the vicinity of sec. 18, 142-31. which will be found in Field Book No. 92, survey of a part of sec. 19 by J.W. Carmen,
Record No. 327, Geo. W. Millers survey of sec. 20 and Record No. 381, E.B. Horst's survey of sec. 7. also Notes of a part of sec. 7. as executed by J.W. Curo & Deputies.

E.B. Horst.

Dec. 9, 1919.
(Snow 1 foot deep. Thermometer at 30° below)
Ice in lakes about 16" thick.
Horst and Anderson take Survey outfit and walk to East side of sec. 18, Where We look for line cut by J.W. Carmen find same and follow same South to the established cor. of sec's 17, 18, 19, 20, T. 142 N., Rge. 31 W. as set from the Original U.S. Bearing Trees by County Surveyor John W. Curo, and marked by a 2½"X4' Capped Iron Mon. We walk N. on Carmens line to P.I. of line and State Road No. 1, cross same and set transit 10 ft. West of Carmens line and about 300 ft. N. of State Road. I try to sight to stake at sec. Cor. ½ mile S. but am unable to see it.

E.B. Horst.

18-142-31.

Dec. 10, 1919. Snowing.
Dec. 11, 1919, "
Dec. 12, 1919. High wind & snow.
Dec. 13, 1919. High wind. cold.

Sunday. Dec. 14, 1919.
Cold & clear.
Horst and Anderson Walk to sec. 18, erect 25 foot pole at cor. to 17, 18, 19, 20 walk N. ½ mile to transit and begin cutting line S. to cor, thru heavy cedar and Tamck. swamp.

E. B. Horst.

Dec. 15, 1919.

Continue cutting E. line of sec. 18, S. to sec. Cor.
Horst + Anderson Chain E. line.
Sec. Cor. to 17, 18, 19, 20. = Sta. 0,00
thence N. 0°42' E. on Random line
at 630.0 ft. enter spruce + Tamck swp.
" 890.0 " Old logging Road. NW-SE.
" 1300.0 " Set stake mkd. 1300 N.
" 1520.0 " leave swamp. int. pop. ridge
" 1600.0 " top of Ridge.
" 1700.0 " ent. swamp ced. + Tamck.
" 2300.0 " lv. swp. W. side of grade of State Road No. 1.
" 2319.0 " Cent. of State Road No. 1.
" 2600.0 " Set stake mkd. 2600-N.
" 2623.0 " point under transit on S. slope of high Ridge

I take following data to find true brg. of line. Sta. 2623. Lat. = 47°09' N.
Time 2 P.M. Decl. cor'td for refrac.
= 23°13'25" S.
alt. of Sun = 14°02'
brg. of sun from line = 29°00'. From Mer. = 29°42'
True brg. of line = N. 0°42' E.

E. B. Horst.

18-142-31.

Dec. 16, 1919.

Continue E. line of sec. 18; N. 0°42' E. from sta. 2623.

at 2640.0 ft. look for 1/4 S. Cor. " between secs. 17-18.

U.S. Notes call for:

yel. Pine 5" S. 16° W. 15 lks.

Birch 4" N. 82° E. 7 lks.

which we are unable to find after a thoro search for same.

Continue N. on same line.

at 3007.3 ft. set Hub.

" 3100.0 " End work for today.

E.B. Hovit.

Dec: 17, 1919.
No field work on account of high
Wind and snow.
I work in office on Notes & plat.
E.B. Horst.

Dec. 18, 1919.

No work.
Attending Commissioners
Meeting.
E.B. Horst.

35

18- 142- 31.

Dec. 19, 1919.
Horst and Anderson
continue E. line of sec. 18.
N. to Sec. Cor. of secs.
7-8-17-18. Without chaining

Dec. 20, 1919.
Chain balance of E. line
from Sta. 31, N. to sec. Cor.
at. 3267.5 ft. Hub. Top of hill.
" 3604.0 " " " " "
" 3900.0 " Set stake mkd. 3900.
" 4211.8 " Jack in Birch stump.
" 4934.0 " pt. on 8" Log.
" 5160.0 " I.M. at cor. to secs.
7-8-17-18 sets West 5 feet.
I set transit over Sta. 5160
and cause flag to be placed
on the I.M. marking the E.¼ S.
Cor. between secs. 7-18.
I then read S.W. angle from our
line to sec. line bet. 7-18.
Angle = 81°36'.
Mag. var. from true Mer. = 8°45' E.
N.½ of line bet. 17-18 very Rolling.
E.B. Horst.

18-142-31.

35

Dec. 20, 1919.

Horst-Anderson Carry outfit to Cor. of secs. 17-18-19-20 and turn N.W. Angle 92°48' from random line and cut line N. on N. side of Chase's wire fence cut 1/2 mile without chaining.

E.B. Horst.

Dec. 22, 1919.

Motor Inn car drives us out. $1.00.

U.S. Notes call for:

Y. Pine 10" N.52°E. 14 lks.

Poplar 6" S. 8°W. 53 lks. at the 1/4 S. cor. bet. 18+19.

We look all day for this cor. and trees but are unable to find them.

I find out from Frank Breece that Mickey Jude has in the past run Cruiser's lines from this cor. Breece also thinks he could find it. but is not sure until he looks the ground over.

E.B. Horst.

18-142-31.

Dec. 23, 1919.

Horstand Anderson ride out in Motor Inn Car.

Begin at the Cor. Secs. 17-18 19-20 and chain line W.

at. 740.5 ft. W. Hub.
" 863.0 " " Chase fence Cor. 20 ft. S.
" 900.0 " " ent. SWp. (small round.)
" 980.0 " " lv. swp.
" 1303.0 " " Farm ditch. 3 ft deep,
" 1400.0 " " set stake.
" 1480.0 " " S. end of small pond.
" 1927.0 " " Hub on high hill.
" 2435.0 " " ent. open marsh.
" 2575.0 " " lv. " "
" 2640.0 " " set stake.
" 2784.0 " " set Hub. A.P.

Turn Left. 9°30'

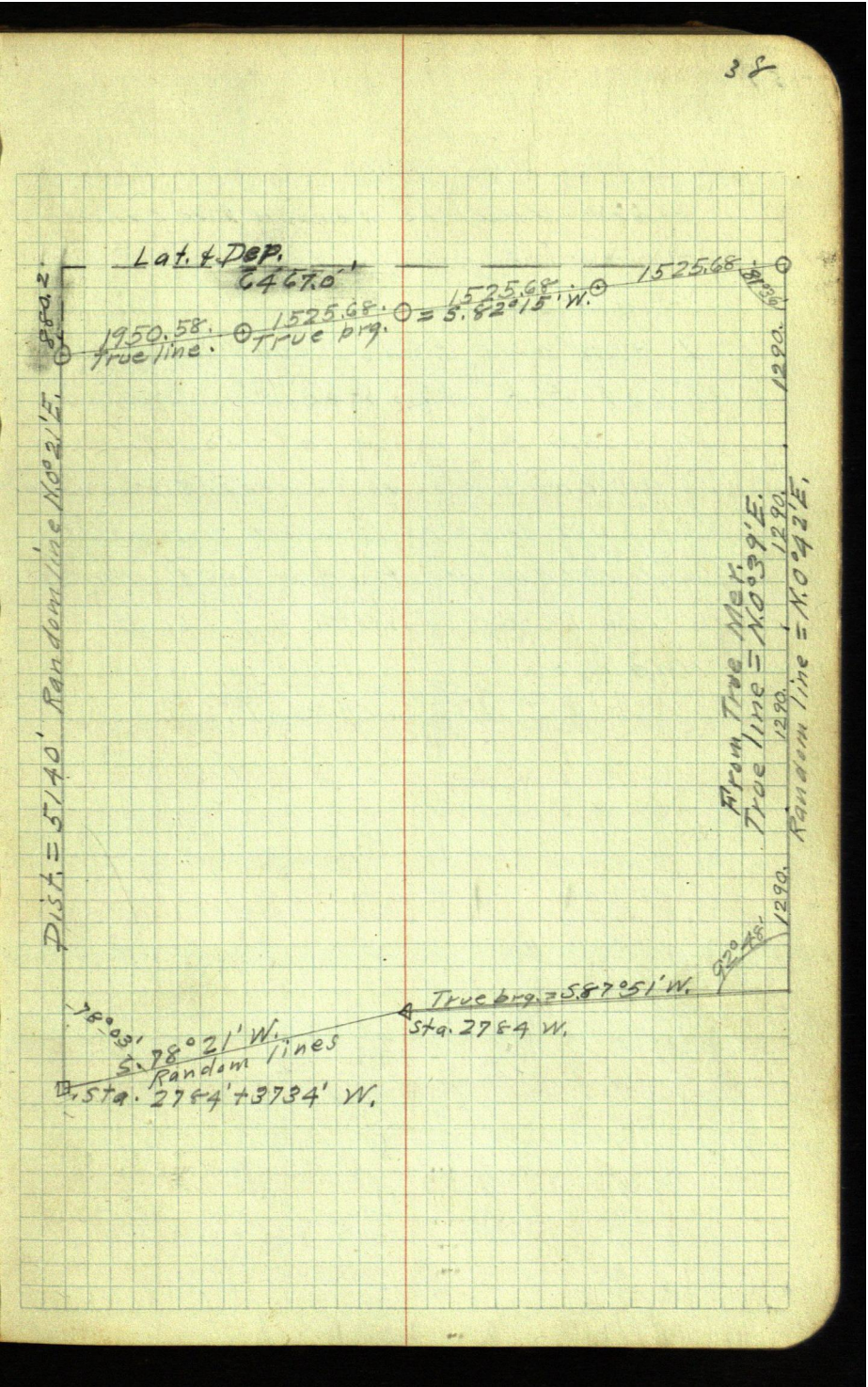
Sta. 2784 = sta. 0.00

at. 860.0 ft. W. set Hub.

E.B. Horst.

Breece goes out to show us where the corner used to be but can not find any place that looks familiar.

E.B. Horst.


Lat. & Dep.
C467.0'
1525.68
1525.68
1950.58
True line.
1525.68
True brg.
= S. 82°15' W.
Dist. = 5'140' Random line No°2'15"
From True Mer.
True line = N.0°39'E.
1290.
1290.
1290.
Random line = N.0°42'E.
True brg. = S.87°51' W.
Sta. 2764 W.
S. 78°21' W.
Random lines
Sta. 2764'+3734' W.

18-142-31.

Dec. 24, 1919.

I am unable to get anyone to assist me in field so I work in office.

I find out from Frank Breece That A.K. Mc. Pherson saw the 1/4 S. Cor. between secs. 18-19. so I interview him in regard to same. he says that it is gone now but did stand West of a small marsh. which I crossed with my random line.

E.B. Horst.

Dec. 1919. Time Sheet. Sec. 18, 142-31.

Dec.	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
E.B. Horst.	1	1	0	0	0	0	1	1	1	1	0	1	1	0	1	1	1	0	1	1
Bert. Anderson	1	1	0	0	0	0	1	1	1	0	0	1	1	0	1	1	0	0	1	0
Karl Rau.																	0	0	1	1
George Dickinson																	0	0	0	1
Motor Inn Trips: Car:															1	1	0	0	1	2

Dec. 1919.	28	29	30	31	Jan. 1920	1	2	3	4	5.
E.B. Horst.	0	1	1	1		0	0	0	0	0
Berdick Anderson	0	1	1	1		0	0			
Carl Rau.	0	1	1	1		0	1			
George Dickenson	0	1	1	1		0	0			
Earl MC. Doogall.	0	0	1	1		0	1			
Motor Inn Trips Car.	0	2	2	1		0	1			

40

18-142-31

Dec. 26, 1919.

Horst, Anderson and Carl Rau

Continue random sec. line W.

at. 1100.0 ft. W. Cross ravine. (swp. S.)
" 1300.0 " " E. side of Tam. swp.
" 1551.7 " " Hub in swp.
" 1800.0 " " Lv. swamp.
" 2344.2 " " Hub on hill.
" 2910.0 " " E. side of lake (ent. N. 150')
" 3190.0 " " Lv. Lake. (pt. of low land.)
" 3340.0 " " ent. swp. (open)
" 3665.0 " " lv. swp. high bank
" 3734.0 " " set square post.

Turn N.E. angle 78°03' & run N. about 700 ft.

E.B. Horst.

We looked for corner and original bearing trees at 3734 ft. W. but could not find anything. I think we are too far North. E.B. Horst.

Dec. 27. 1919.

Horst, Rau, and George Dickenson cut W. random sec. line N. about 4000 ft. without chaining.

E. B. Horst.

18-142-31.

Dec. 29, 1919.

Horst, Anderson, Rau, and Dickenson continue W. line and chain Same N. from Hub. 3734. W.

at.	300.0	ft. N.	ent. open swp. (brs. NW SE.)
"	600.0	" "	lv. " " (E + W.)
"	1056.5	" "	pt. on line.
"	1110.0	" "	ent Alder swp.
			line runs along S. edge.
"	1500.0		swp. extends E. into sec. 18
"	1770.0		lv. swamp W. + N.E. 200 ft.
"	1900.0	ft. N.	N. end of swp. 30 ft. E.
"	2121.6	" "	stake mkd. do.
"	2300.0	" "	ent. swp.
"	2530.0	" "	lv. " .
"	2817.1	" "	set Hub.
"	3300.0	" "	swp. Round
"	3400.0	" "	lv. "
"	3825.3	" "	stake mkd. do.
"	3933.3	" "	Hub.
"	5037.0	" "	Hub.
"	5140.0	" "	sec. Cor. (L.M.) sets.

7-12-13-18 sets W. 8.4 feet.

Dec. 29, Cont.

We go to the Iron Mon. at the E. 1/16 Cor. bet. Secs. 7-18 I sight E. to Sec. Cor. and turn S.E. angle 96°01' and run S. about 1/4 mile without chaining.

E.B. Horst.

Dec. 30, 1919.

Horst + same crew + Earl McDougall continue E. 1/16 random S. to random sec. line and intersect same at sta. 1311.2 ft. W.

We walk W. and set a temp. 1/4 S. Cor. from the Norway Pine stub. described by A.K. McPherson. I set transit at sta. 2600 W. on rand. sec. line turn angle to 1/4 S. which sets 28.8' N. at sta. 2598.5' W. N. being considered in this case 90° To Random line.

With transit at same pt, turn N.W. angle 88°05' and run N. on Rand. 1/4 line at 29 ft. 1/4 S. sets E. 2.5 ft. Run N. about 1/2 mile. E.B. Horst.

18-142-311

Dec. 31, 1919

Horst + same crew continue ¼ rand. line N. to ¼ cor. bet secs. 7-18. and intersect sec. line 33 ft. E. of ¼ cor. (I.M.).

E.B. Horst.

I see Mickey Jude in Walker and ask him about the ¼ S. Cor. between secs. 18 and 19 and his story is that the corner stood in the swamp and the bearing tree (N.P.) stood East of the swamp.

This would be impossible as the cor was only 14 links S.W. of the Norway tree and the Popple tree stood only 5-3 links West of the corner, the swamp is open and always was and is 140 feet wide.

I accept Mcphersons information and decide to use the Norway stub as all evidence on the ground indicates it as the U.S.B.T. also very old lines run to and from this Point.

E.B. Horst.

47

18-142-31

Jan. 1, 1920.

I fall down a flight of stairs in the Court House and severly injure my knee which incapacitates me to continue the survey of sec. 18 for some time E.B. Horst.

Clumsy? Not very.

Wonder why the big rush

Jan. 2, 1920

I send Carl Rau and Earl McDougall out to sec. 18 to cut a line South from sta 3734 W. on Random S. boundary of sec. 18 which they do by setting pickets in line with the random W. boundary line. Cutting 1500 ft. S. to a small marsh and chain S. to sta. 1300 & set stake mkd. do.

E. B. Horst.

See p. 65 this book for completion of this survey which was discontinued on account of deep snow.

49

139-29

Survey for

Sam Drake, Mason City, Ia.

Nov. 1921.

Bet. Secs. 29-32.

M.C. #30 Running East

0+76.5 Hub

Hub to 1/16 Cor 1341.58

to 1/4 Cor 1577.68

1341.58

236.10

66.76

23.63 | 1577.68

14178

15988

14178

18100

16541

1559

66.76

20

1335.20

67.079

20 | 1341.58

M.C. #30

12.8 — 76.5 — 159.6 — 1341.58' to 1/4 Cor

B.Ts to 1/4 Cor.

N.P. Stb. 16" S-W. 50.75'

J. Pine tree 4" South and a little west.

B.Ts to M.C. #30

J.P. 4" N. 51° 44' E. 58.93

J.P. 8" S. 80° 30' E. 39.50

N.P. 4" S. 5° 19' E. 65.05

Hub 2651.88 goes W.
31.51
2683.39 and S. 8.75'

Hub 3977.72 goes W.
47.26
4024.98 and S. 13.12'
2683.51
1341.47 1/4 Cor to 1/16 Cor.

67.079
3.63
201 237
402474
201237
243.48677

M.C # 30

□ 13.27 West = ± 0 West

+ 62°53' Left	100.14'	S. 27°07' W
+ 9°30' R.	100'	S. 36°37' W
+ 18°10' R.	100'	S. 54°47' W.
+ 13°37' R	100'	S. 68°24' W.
+ 11°56' R	100'	S. 80°20' W.
+ 25°16' R	100'	N. 74°24' W.
- 33°05' L	100	S. 72°31' W
+ 14°16' R	100'	S. 86°47' W.
+ 22°05' R	100'	N. 71°08' W.
- 4°32' L	100'	N. 75°40' W.
- 39°45' L	50'	S. 64°35' W.
- 21°59' 22°02' L	100'	S. 42°36' W.
- 9°30' L	131.62'	S. 33°06' W.
-32°37' L	74.3' to M.C.	S. 0°29' W
S. 0°29' W.	24.6' to Hub	
	35.3 to Hub.	
	186.0 to Hub in Road	
	320.2	
- 112°40' L	347.5'	N. 67°49' E.
0°00' L	169.4	N. 67°49' E
+ 29°12' R	191.0'	S. 82°59' E
- 12°47' L	115.4	N. 84°14' E
+ 14°36' R	258.0'	S. 81°10' E.

74.3
24.6
35.3
1050
239.2
74.3
164.9

320.2
80.95
239.25

53

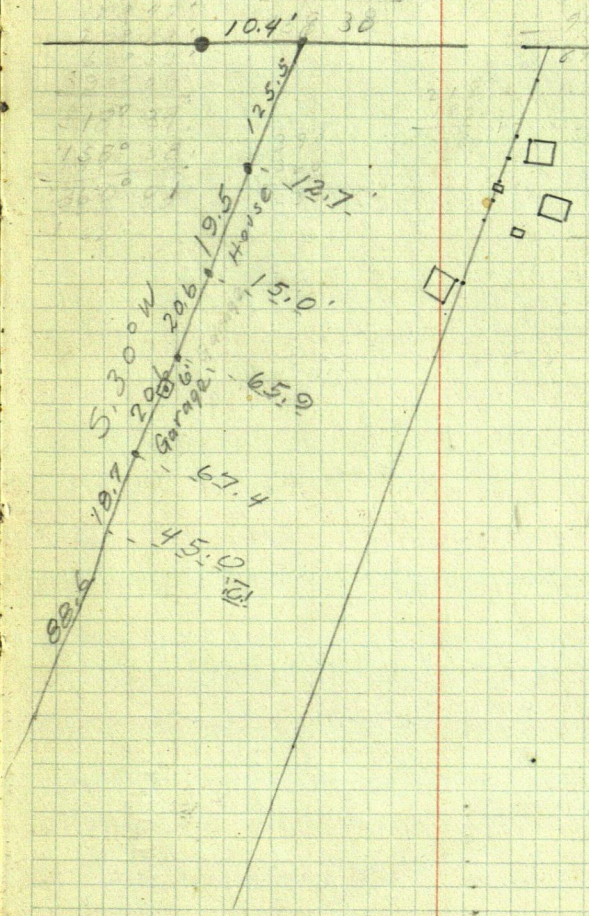
- 29°12' L. N. 69°38' E 234'
- 69°38' L N. 0°00' W 201' + 333' = 534'
- 90°00 L S. 0°00' W. to M.C. #30 = 208.46

S. 30° W. from o on road

to Hub on Sec. Line in graded road.

= 120.3' + 37.94' + 36.95' + 13.27 to Hub
(to Hub) (to Hub) (to M.C. #30)

120.3
37.94
36.95
13.27
208.46



55

Cancel

∠	27°07' R	421.7	S. 27°07' W.
∠	53° 13' R	414.3	S. 80°20' W
∠	7°20' R	504.0	S. 87°40' W.
∠	47°12" L	235.15	S. 40°28' W
∠	140°00' R	239.2 ~~80.95~~	S. 0°28' W.

106' Lot
125.55
231.55
82.03
313.58
89.05
402.63 ✓

330.73
313.58
17.17

1 ... 106
125.55
2 231.55
99.2
3 330.75
91.0
4 421.75
402.63
19.12

S. 27° 07' W.
S. 80° 20' W
S. 87° 40' W
47° 12'
S 40° 28 W
40°
S 0° 28' W.

100.14	S. 27°07' W.	100.14
	S 36°37' W	100
	S 54°47' W	100
	S 68°24' W	100
	S 80°20' W	100
	N. 74°24' W.	100
	S. 72°31' W	100
	S. 86°47' W	100
	N. 71°08' W	100
	N. 75°40' W	100
	S. 64°35' W	50
	S. 42°36' W	100
	S. 33°06' W	131.62
	S. 0°29' W.	239.2
	N. 40°28' E	235.1
	N. 87°40' E	504.0
	N. 80°20' E.	414.3
	N. 27°07' E	421.7
	North	33.0

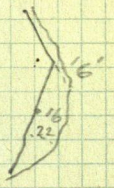
58

E	W	N	S	X	Y
	45.64		89.1	00.0	208.46
	59.65		80.3	89.1	254.1
	81.70		57.7	169.4	313.8
	92.97		36.8	227.1	395.5
	98.58		16.8	263.9	488.4
	96.31	26.9		280.7	587.0
	95.38		30.0	253.8	683.3
	99.84		5.6	283.8	778.7
	94.62	32.3		289.4	878.5
	96.89	24.9		257.1	973.2
	45.16		21.5	232.4	1070.0
	67.69		73.6	253.9	1115.2
	71.87		110.3	327.5	1182.9
	2.00		239.20	437.8	1254.8
152.58		178.8		677.0	1256.8
503.58		20.5		498.2	1104.2
408.42		69.5		477.7	600.6
192.21		375.3		408.2	192.2
0.00		33.0		33.0	0.0
				0.0	0.0
1256.79	1048.30	761.28	961.04		
	208.46		9		
	1256.76				
	P.T.	=		265.8	504.7

59

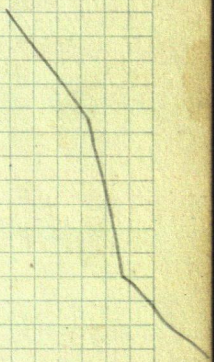
N. 33°06' E	61.9		
	67.9		
	1.8	131.6	
N. 42°36' E	61.7		
	38.3	100	
N. 64°35' E	20.4		
	29.6 2'	50 + 16'	
N. 75°40' E	23.6 4'	20° - 15	
	54.7 3'	Rushes	27 - 22'
	21.7	100	
N. 71°08' E	34.4		
	56.9		
	8.8 in 10'	100 Rushes	
N. 86°47' E	42.6		
	5' Gravel 50.3		
	7.1	100 10' + point 12' waters	
N. 72°31' E	43.4		
	50.4		
	6.2	100	
S 74°24' E	48.6	waters edge	
	51.4	+ 25 5 100 in water	
N. 80°20' E	3.5		
	50.0		
	30.1	P.T	
	16.4	100	N. 78°44' E
	16.4		

N. 78°49' E	16.4
73°06	50.0
65 02	50.
56 58	50
48°54	50
40°01'	60
N. 31°09 E	50
N 27°07 E	50
N. 27°07' E	37.07



68.1
115.7
183.8

S. 40° 28' W.	68.1	
	115.7	
	51.3	235.1
N. 0° 29' E	239.2	
N. 33°06' E	61.9'	etc.



edge

Tan = 100.8
Δ = 47°12'

Tan = 91.8'
Δ = 53°13

0 = 0
25 = 2
50 = 6'
75 = 14'
100 = 24
34 = 12'
68.1 = 2.5'

30'	3'
60	10'
90'	20'
30	12'
30	3'

18-142-31.

Friday Dec. 2-1921

B.M. Beach, chairman goes to Sec. 18 with 20 I.M.S. and looks for boarding place. No one living near enough for us to board.

Walker Auto Co. 1 trip livery $1.50

18-142-31.

Subdivision of sec. 18, 142-31 continued from p. 48 this book.

1921 Dec. 3, Saturday.

I get data to complete this survey. Allday in office.
I send B.M. Beach, (chainman) to Cedar lake in sec. 18 to find a boarding place or a shack to camp in.
He makes arrangements with Wm. Conrad to use his shack at 25¢ per day. E.B. Horst.

18-142-31 Time Sheet

1921 – Decemb.	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	24	26	31	
E. B. Horst, eng.	1	0	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	= 16 — $11.21
B. M. Beach, chn.	1	0	1	1	1	1	1	1		1	1	1	1	1	1				
C. D. Beach, "	0	0	1	1	1	1	1	1		1	1	1	1	1	1				
Grindall Livery Trips $	1 1.50	0	1 2.00	2 2.50	0					1 1.50					1 2.00				

J. P. Bilben, Grocer.

$23.41
14.21
$37.62

1

67 18—142—31.

Mond. Dec. 5, 1921

E.B. Horst, engineer,
B.M. & C.D. Beach, Chainmen load
camping outfit and groceries into
Grindalls car and go to sec. 18.
to Conrads shack in SW¼, NE¼,
where we will board during this survey.
I compute Latitudes & Dep.
while the boys arrange the camp.

E.B. Horst.

Tues. Dec. 6-1921.
We look all day for the S.W. Cor. of Sec. 18, 142-31 but all evidence of the original Cor. is obliterated.
We find a line tree blazed E+W. which was blazed about 20 years ago but it does not give us any clue to the Cor.
I decide to continue the random line S. 0° 21' W. bet. secs. 19-24 to the ¼ S. Cor.
Since Jan. 2, 1920 a heavy fire has burned the tops off all our hubs and we put in new ones at necessary points.
On our way to camp. E B Hazel.

69 18,-142-31.

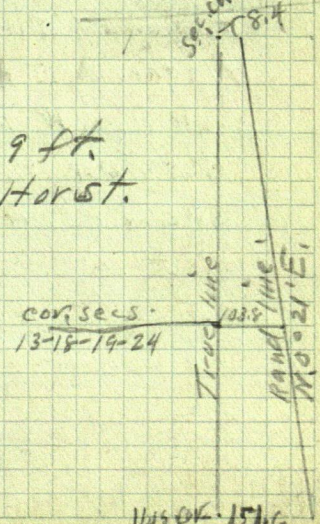
Wed. Dec. 7, 1921.
E.B. Horst + same crew
begin at F.I. Hub near S.W.
cor. sec. 18 and run S. 0°21' W.
at 565.0 △
" 1360.0 ent. swp. (Tam)
" 1575.0 lv. " "
" 1841.0 △
" 2227.0 △.
" 2343.0 △
I see the stump of a 30" W. pine
across a tam. swamp and go to
see if it is the U.S.B.T.
U.S. Notes call for:
W. P. 30 S. 4° W. 135 = 89.10 ft.
Tam. 5 S. 3° E. 52 = 34.32 ft.
I find stump of 30" W.P.
burned out on the blazed side
but a part of the blaze bearing
some scribe marks is broken off
and is standing inside the stump.
From this tree I set the 1/4 S. Cor.
on the 4th. Guide Mer. between
Cass and Hubbard counties,
between Rges 31-32, secs. 19-24.

The tamck B.T.'s gone.
I return to Hub 2343-S The true 1/4 S
Cor. bears S. 36°00' W. 265.0 ft.

At sta. 2551.8 - S. 0°21' W. the 1/4 S. cor. sets
W. 151.6 ft.

Therefore the S.W. Cor. Sec. 18 Location
is as follows:
5140 + 2551.8 = 7691.8 ÷ 3 = 2563.9 x 2
= 5127.8. 5140.0 - 5127.8 = 12.2 ft
Temp. pt goes N. 12.2 ft.

Easterly falling at 1/4 S. Cor 151.6 ft.
" " " Cor. Secs. 7-18 8.4 ft.
-2/3 of 151.6 = 101.1 ft.
1/3 of 8.4 = 2.8
Total correct W. = 103.9 ft.
Temp pt. goes. W. 103.9 ft.
C.B. Horst.



18-142-31.

Thur. Dec. 8, 1921.

E.B.H.[illegible] Same crew. Go to the random line S. 78°21' W. on S. side sec. 18. and chain Wstly. to sta. 18 29.6 & N. 16.6 to the point for the W 1/16 S. Cor. (pulled up.) We drive a 2"x48" I.M. and run thence N. 1°04' E. thru sec. 18. on W. 1/16 line. Halt.

At about 3000 ft I discover that I figured the W 1/16 on S. boundary of sec. 18 equidistant from 1/4 S. & sec. Cor. We return to the S. boundary and go E. to sta. 157 4.6 (Ch. W. 22.97 from Δ.) and chain N. 14.5 ft. and set a 2"x48" I.M. for the true W 1/16 S. 18/19. in a spruce & Tamck swamp.

distance E to 1/4 S = 1755.3 ft.
" W. " S. Cor. = 2265.1 ft.

We run thence N. 1°48' W. thru sec. 18 on W. 1/16 line.

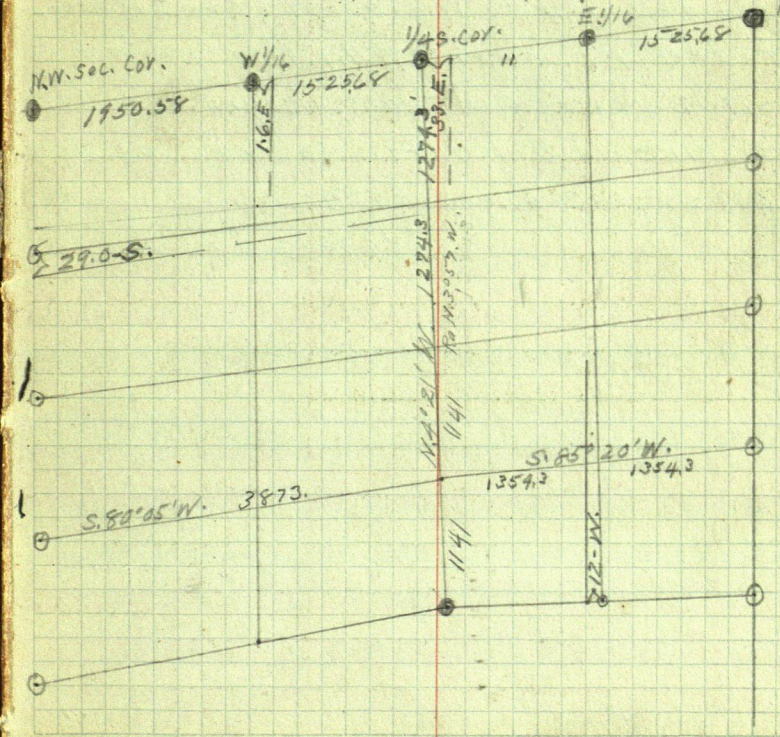
Cut N. about 1/2 mile thru medium heavy Brush.

E.B. Hoxt.

Fri. Dec. 9. 1921.

We complete the W 1/16 line at 1.30 PM. and fall 1.6 ft. E. of I.M. at the W.1/16 bet. 7-18. We walk to the N. 1/16 S. Cor. between secs. 17-18 where we chain S. 70.2 ft. from stake mkd. 3900 N. thence W. 3.75 ft. and set a wood stake for the true N.1/16 S. Cor. (18#17) (in a hardwood hollow) from which we run S. 82°07' W. about 300 ft.

E.B. Horst



D3

18-142-31.

Sat. Dec. 10, 1921.

E. B. Horst, & Same Crews

Continue N. 1/16 S. line S. 82°07' W.

to the W. 1/16 line thru heavy brush

and Spruce, Tamck, and Cedar.

at the E. 1/16 S. line set a P.I. △

From P.I. △ W. to Cedar Lake = 460-ft.

At the P.I. on the N 45 ℄ we set a

20 ft. Tamck Pole (big end up) in

the lake (water 9 ft. deep). (soft bottom.)

from this P.I. to W. side of lake = 160-ft.

at the P.I. on the W. 1/16, line we set

a Hub and quit for night.

We hire J. E. Kraft to take us to

Walker. Charges $1.50

E. B. Horst.

Sunday Dec. 11, 1921.

E. B. Horst and crew at Home all day.

E B Horst.

75 18-142-31.

Mond. Dec. 12, 1921

E.B. Horst and same crew return to Conrads cabin with more groceries in Grindalls Car. We complete the N.¼ line and set a R.I. △ on random sec. line. We chain S. 75.3 ft from Hub 39333 ft N. then W. 32.25 ft. and set a 3x3x 48" Wood post for the true N.¼ Sec. Cor. bet. Secs. 18-142-31 and 13 142-32 on the 4th. Guide Mer. and county line between Cass and Hubbard Counties. We continue the N.¼ line W. to N¼ Cor. and fall 26.0 ft. S.

E.B. Horst.

Tues. Dec. 13, 1921.
E.B. Horst, &
Same crew setting Iron Monuments
in sec. 18 in a blinding snow
storm. Snowing all day.
We set 2" X 48" I.M.s at the
N. 1/16 S. cor. bet. secs. 17-18.
N.E. 1/16 S. Cor.
S.M.C. on N. side Cedar lake on N. & S.
1/4 sec. line 617.0 ft. N. of Pt. for
the C.N. 1/16 sec. cor.
At the C.N. 1/16 Cor. We set a 20 ft.
tamck. Pole in cedar Lake.
(Water 8 ft. deep)
From this point we chain W. on N. 1/16
line 142.2 ft. and N. to true line and
set a 2" X 48" I.M. for S.M.C. on 1/16 line.
at the N.W. 1/16 Cor. set I.M.
E.B. Horst

Tues. 11th A.M. Mrs. Horst arrives to
Cook for us.

18-142-31.

Wed. Dec. 14, 1921.
E. B. Horst, and same crew
walk to the N. 1/16 S. cor. on W.
side of sec. 18-142-31
and pull up wood post and
set in its place a 2" x 48" I.M.

We walk S. to △ "2817.1 ft. S.
and chain S. 233.8 ft. and set
a hub on random sec. line
We then chain S. 82° 27' W. 56.6 ft.
and set a 2" x 48" I.M. for the
true 1/4 sec. Cor. bet. secs.
18-142-31 and 13-142-32.
From this pt. we run N. 82° 27' E.
on random 1/4 sec. line to the
random 1/4 ℄ (N+S)
E. B. Horst.

Thur. Dec. 15, 1921

We continue E. & W. ℄. E. and set P.I. △ on E. 1/16 line.
Cut about 500 ft. E. into cedar Swp. then go to a point on high hill near the 1/4 S. Cor. to set transit on our random ℄ but we cannot see across the swamp on account of a snow storm which began about ½ hour ago.
We go to dinner.
P.M. We set I.Ms.
at the 1/4 S. cor. bet. Secs. 17-18.
At the S.M.C. on N. 1/16 S. line on E. side of cedar lake 1062.2 ft. E. of the C.N. 1/16 S. Cor..
At the S.M.C. on N. & S. 1/4 line on S. side of Cedar Lake we set a Wood post 475.0 ft. N. of P.I. of Random Cont. lines
Snow turns to half rain.
E.B. Hurst.

4 P.M. the Cook leaves.

18-142-31

Friday Dec. 16, 1921.

Horst & same crew.
Complete the E. & W. ℄.
Intersect the sec. line bet. secs.
17-18 at 150 ft. N. of the 1/4 sec. cor.

We go to stake Mkd. 1308 N.
on random sec. line bet. secs.
17-18 and chain S. 10.0 ft.
and W. 1.25 ft and set a 2"x48"
I.M. for the true S. 1/16 S. cor (in swp)
from which we run S. 85°20' W.
and set P.I. Δ on E. 1/16 line.

E.B. Horst.

Sat. Dec. 17, 1921.

Horst + same crew.
Continue S. 1/16 line S. 85°20' W. to the
N. + S. ℄. and set a P.I. Δ
Then chain distance from the 1/4 S.
Cor. between Secs. 18-19 N. to the
C. 1/4 S. cor. dist. = 2282
P.T. for C.S. 1/16 = 1141.0 - N.
P.I. Δ is at 1133.0 - N. fall 8.0 ft. S. of C.S. 1/16.
From the true C.S. 1/16 S. cor. we ran
about S. 80°05' W. (℄ is grown over and
we can not get any accurate sight.)
on S. 1/16 line set P.I. Δ on W. 1/16 line and
Continue W. to sec. line
We go to sta. 1056.5 N. and chain N. on
random sec. line 237.6 ft. and W. 80.0
ft. and set a 2"x48" I.M. for S. 1/16 S. Cor.
Continue S. 1/16 line to S. 1/16 S. cor. and
fall N. 24.0 ft.
We set 2"x48" I.Ms. at following pts.
S.W. Cor. Sec. 18.
S.W. 1/16 S. cor.
C.S. 1/16 S. cor.
1/4 S. bet. Secs. 18-19.
E. 1/16. " " 18-19.

18-142-31.

Dec. 17th. Continued.

S.E.1/16 S.18.

C.E1/16 S.18.

a 5/8" x 8ft. Iron rod for the SMC. on the N.+S. ℄ on S. side of Cedar Lake being 4830 ft. N. of the C.1/4 S. cor.

This completes survey of sec. 18.

We call Grindalls Garage and have car come with trailer. to move camping equipment to Walker. Charges. 2.00

E.B. Horst.

Dec. 24-26-31-1921
E.B. Horst in office on Plat
of sec. 18-142-31.
E.B. Horst.

85 Sylvan Twp. Roads.

518

Mon. June 12, 1922, P.M.

E. B. Horst, leaves Leader to make a survey of a twp road in Sylvan Twp. 133-29-Sec. 4. At Pillager I call Earnest Whipple and drive to his place & get him and we drive to Peter Staube's for overnight.

E. B. Horst.

June 13,

E. B. Horst, Peter Staub, Ernest Whipple, Matt. Lynch and Anderson.

Begin at the I.M. (Alford housing) at the N.W. sec cor of section 4 and run S. thru field

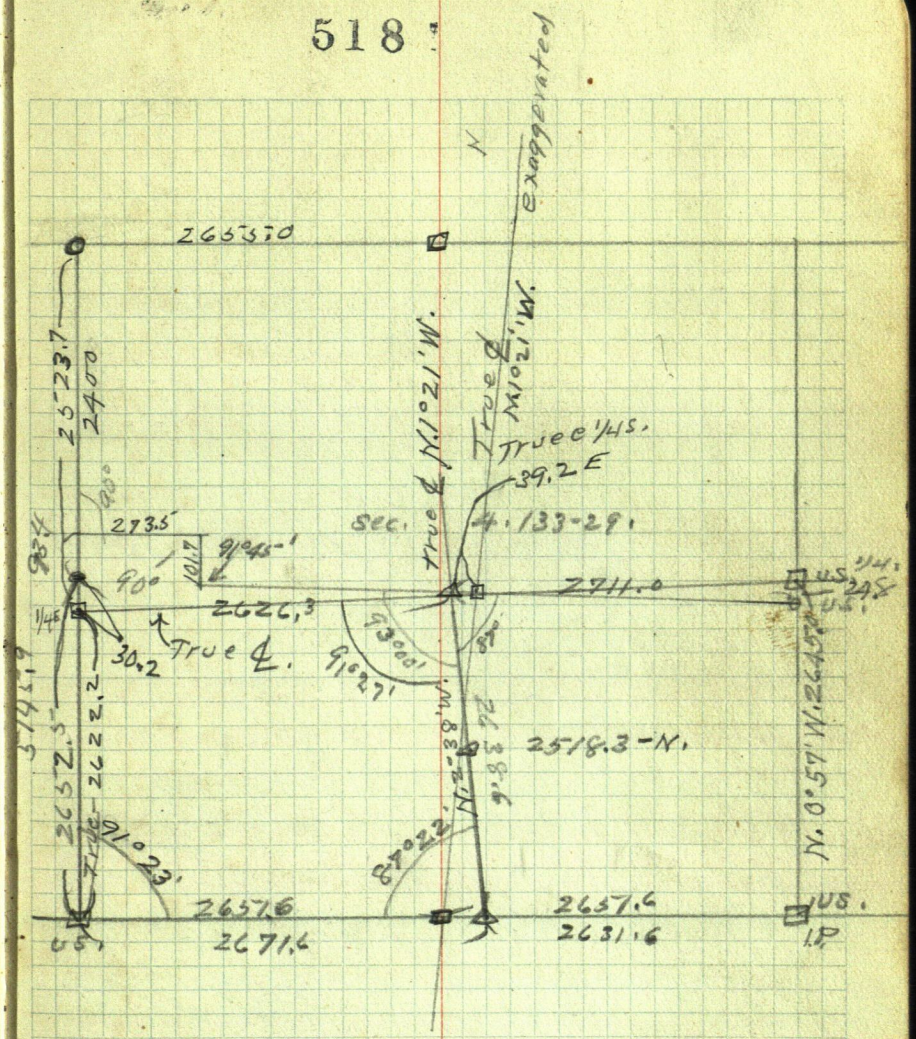
at 1169.5 set Hub
" 1773.0 " "
" 2255.8 " "
" 2400 set Hub and turn L. 90° 273.5 ft. Thence R. 90° 101.7 ft, Thence L. 88°15' and run E. on random ℄ of sec. 4. at 350.7 set hub.
459.0 E set Hub
499.0 " " " also Triangle Mt. 550 Quill river.
Set point E of river Cross open backsight W. turn 90° and run N. 1587 ft. ∠ = 77°30'
distance = 699.8 + 499 = 1198.8 E.
at 1632.3 hub
1934.3 "
2344.8 "
4946.4 the U.S. 1/4 S. cor. bet sec

87 518 133-29

3 and 4 - 133-29 bears L. 11°53'
120 ft.
at 5337.3 E of the N.4S. random
sec line. The 1/4S. sets N. 24.8 ft.

We go to the wood post at
the Govt sec cor. at the S.W.
cor. of sec 4. (where the N.E.
B.T. & large green Norway still
stands plainly marked)
We run W. on cut out line
at 2651.6 I set a 3/4 inch X 24"
iron pipe for the true 1/4 S. cor
between secs 4-9
Total length of S. line of S. 4
= 5303.2 (by P. Boese)
We go to Peter Stabbs over
night.

E. B. Worst.


N
exaggerated
2663.0
2523.7
2400
273.5
90°
9°45'
101.7
1/4S.
2626.3
30.2
True ℄.
2657.6
2671.6
True ℄ N 10° 21' W.
True ℄ N 10° 21' W.
True 1/4S.
39.2 E
Sec. 4. 133-29.
2711.0
U.S. 1/4.
U.S.
N. 0° 57' W. 2254.5
2518.3 - N.
N 42° 38' W.
9.83
87° 22'
93° 00'
91° 27'
91° 23'
2657.6
2631.6
U.S.
L.P.

93

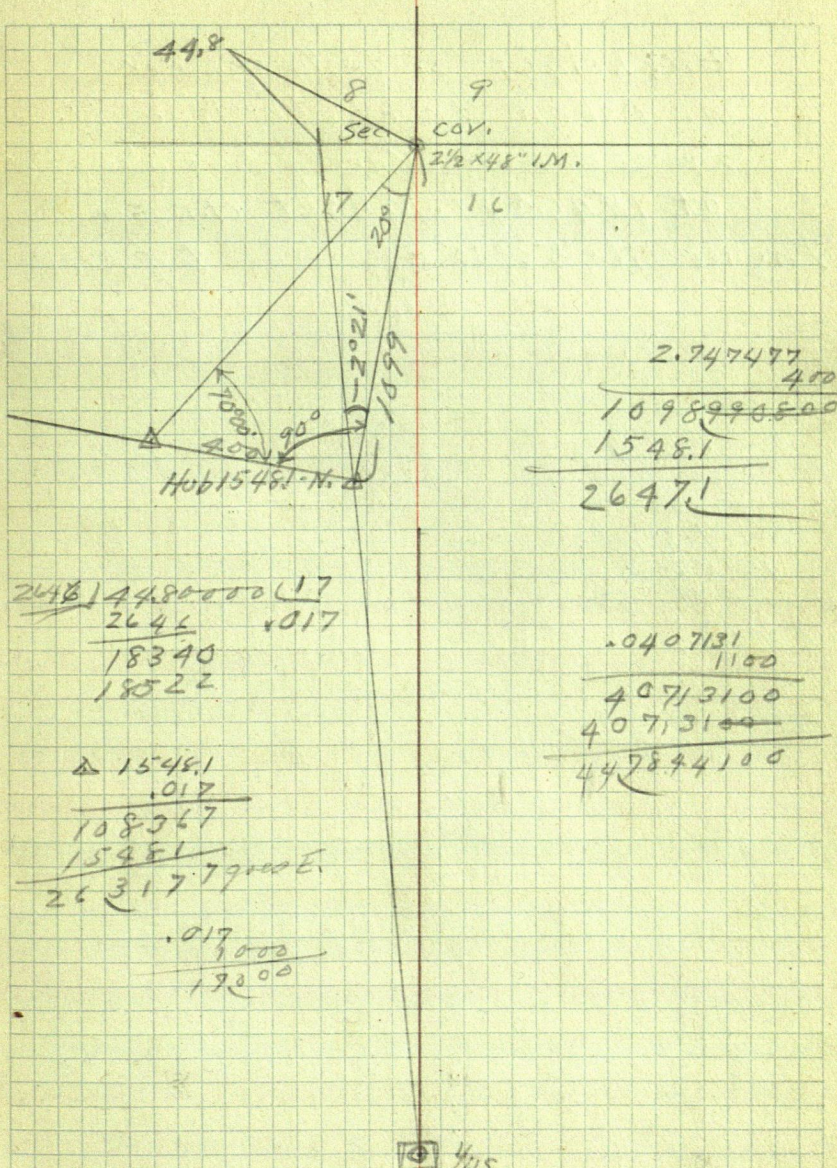
519 133 - 30

A Twp. Road in Sylvan Twp.
between secs. 16-17 and 8-9
beginning at State Road and run
ning N. 1½ miles to cor 4-5-8-9

E.B. Horst, Ernest Whipple,
Bruce Cameron, and Parley Sorg
Begin at an iron mon set in concrete
at the U.S. ¼S. cor. bet secs 16-17 -
133-30
Thence N. at 10°15' var. thru field.
at 1001.5 Set Hub
" 1548.1 " "
" 1660. ent. swamp.
" about 1750 Lake.

From 1548.1 turn R. 2°21' and
sight on IM (2½"x48") at cor. to
secs. 8-9-16-17.
Sighting on sec. Cor. I turn L.
95° and chain base line W. 400'
& set hub. angle at hub = 70°00'
Distance to sec. cor. = 1099.0'
Total dist. = 2647.1'
E set hub 1001.5 N. East 17.0 ft.
Set transit over corrected hub

5197



2.747477
400
1098990.800
1548.1
2647.1

2646 | 44800000 | 17
2641 .017
18340
18522

.0407131
1100
4071.3100
4071.3100
44784100

Δ 1548.1
.017
10837
1548.1
26317 ft. E.

.017
1000
17000

1/45.

95-

5300+74'

519

backsight S. to 1/4 sec cor
and run true sec. line N.
~~to sec. cor~~ var. of true line = 9°15'
at 1546.0 ft. N. set A.P. #1.
thence N. 56°30' E. ℄ of Road

15°20'
.2644
74
9576
18508
19456

15°20'
.9644
74
38576
67508
71456

133-30

96

5194

June 23.1922 Twp Road.

E.B.Horst. Emry Whipple,
Bruce Cannon Party Surg. H.O.B.
Gardner.

Begin at cor. to sec 8-9-16-17-133-30
thence N. on a random line bet.
sec 8-9 thru meadow.

at 633.3 ft. N. △
" 790.0 highland extends S.
" 1175.2 △ at 1320-N. Stake
" 1449.5 △
" 1801.0 △
" 2089.0 △
" 2377.4 △
" 2640.0-N. set stake
" 2918.3 △
" 3084.1 △ at 3960-N. Stake
" 4000.0 out highland
" 4284.0 △
" 4591.3 △
" 4918.0 △
" 5300.0 - N. Hub.

Cor. of 4-5-8-9 With SE & NE. BT.
stumps standing sets R. 15° 20'
74.0 ft.
at 5371.5 N. cor. 4-5-8-9 sets E. 19.6'

97

519

3960-N. 90es. E. 14.7 + N. 68.7

2640-N. " " 9.8 " " 45.8

1320-N " " 4.9 " " 22.9

53715 | 19.5000 | 365

16145

34855-0

32229 0

2.26600

2.58575

.00365

3084

365

15420

18504

9252

11.25660

2089

.00365

10445

12534

1254

7.62485

4591.

.00365

22955

27546

13773

16.75715

Time Sheet. Twp. Roads. 133-30

1922 June 12 13 14 15 16 ~~19~~ 22-23-24-25-26-27

E. B. Horst. 0 1 1 1 0 0 1 1 1 1

7 days at $7.00 = $49.00

Mileage	
Leader to Motley	14
Motley to Pillager	9
Pillager to P. Staubs & return	20
43 at 10¢ per m. =	$4.30
	$53.30

C 1913

86

133 - 30

519

June 24, 1922 (Sat.)

A survey for a Twp. Road bet. secs 10-11 - 133-30.

E.B. Horst, Whipple, Gardner, Sorg, & Cameron. begin at a 3"x - Iron Mon. at the cor. secs. 10-11-14-15 offset W. 8 ft. thence N bet. secs. 10-11 on partly graded. Road

at 1320 set stake.

" 1796.2 △

" 2514.0 △

" 2640.0 Lake

" 3312.5 △

" 3941.0 Triangle Hub W. of swp. sight over Lake set pt. B. on line crossover and run base line W. 400' set pt. C.

angle at pt. C. = 72° 12'

distance bet. A + B = 12457.4

B. = 5187.0 - N.

at 5474.6 - N. a pole near sec. cor. sets. S. 64° 20' E. 166.0 ft.

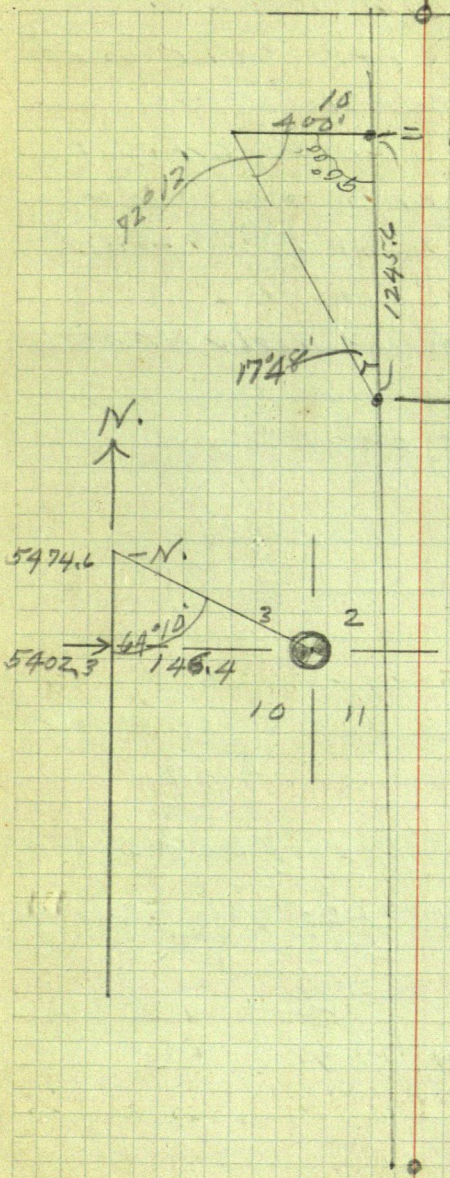
We find true cor. to be 3.0 ft. W. of pole.

at 5402.3 N. true cor. 2-3-10-11

100

3 | 2

519



3.114
400
1245.600

1245.6
5187.0
288.4
5474.6

435.975
166.
2614530
2614530
435975
72339330

5474.6
72.3
5402.3

166
.9
149.4

6-24-1922. cont.

519

Sets. E, 146.4 ft.
We set a ¾" x 8 ft Iron Pipe at true cor. 2-3-10-11-133-30
We find the stumps of all the US BTs. and the N.E + S.E. stumps bear B.T. marks Plainly
R.E. Krueger + Joe Webber of Pillager are also witnesses to this cor. Joe Brenning witness to setting of cor.

E.B. Hurt.

2674
2562
5028
15084
12570
5028
44
8
72.46

519

corrections bet. 10-11-133-30.

3941. goes. E. 108.96
3312.5 " " 92.85

N 45.4 E 2701.1 N. goes. E. 77.2 ft.
2574 goes E. 72.40

1796.2 goes. E. 54.01
1360.5 " E. 42.6 ft. = 5.1/16 S. cor.

5402 | 138.4000 | 2562
10804
30360
27010
33500
32412
10880
10804
76

.02562 = Tan.

146.4
8
1384
69.2
8
77.2

34.6
8
42.6

3941.
.02562
7882
23646
19205
2882
100.84842
8
108.96

2562
3312.
5124
2562
7686
7686
8485344
8
92.85

2562
2701
25562
17934
5124
59.19962
8
77.199
1796
2562
35992
10776
8980
2592
46.01352
8
54.01

133-30

519

Sunday June 25, 1922.

E.B. Horst, E. Whipple, Ben Gardner,

From Iron cor. 10-11-14-15, 133-30 runs S., var. 8° 30' along a 30 year old fence at 1027.0 S. & trunk Highway #2.

" 1251.6 S Hub N. of N.P. track.

" 1259.0 S & N.P. track.

" 2648.0 1/4 S. cor. a wood stake sets. E. 5.0 ft.

Correct. line back from Sta 1022 to sec. cor.

E.B. Horst.

100 133-30—

bet. secs. 9-10.

519

June 24, 1922

From 1/4 sec. cor. (where I set a 1"x36" I.M.) we run N. 0° 45' W. 450 ft. on graded road thence as follows along road around the W. side of a large mountainous hill.

N. 68° W. 222.5 ft.
N. 45° 30' W. 689.0 "
N. 16° 30' W. 154.6 "
N. 25° 15' E. 600.0 "
N. 47° 30' E. 250.0 "
N. 87° 15' E. 305.6 "
N. 0° 30' W. 796.0 " to the sec. cor. 3-4-9-10 a wood stake. from which Fence Posts bear as follows.

N. 57° 30' W. 36.0 ft.
N. 82° 30' E. 36.0 ft

May Twp. 134-31
Cemetery survey

June 22-1922.

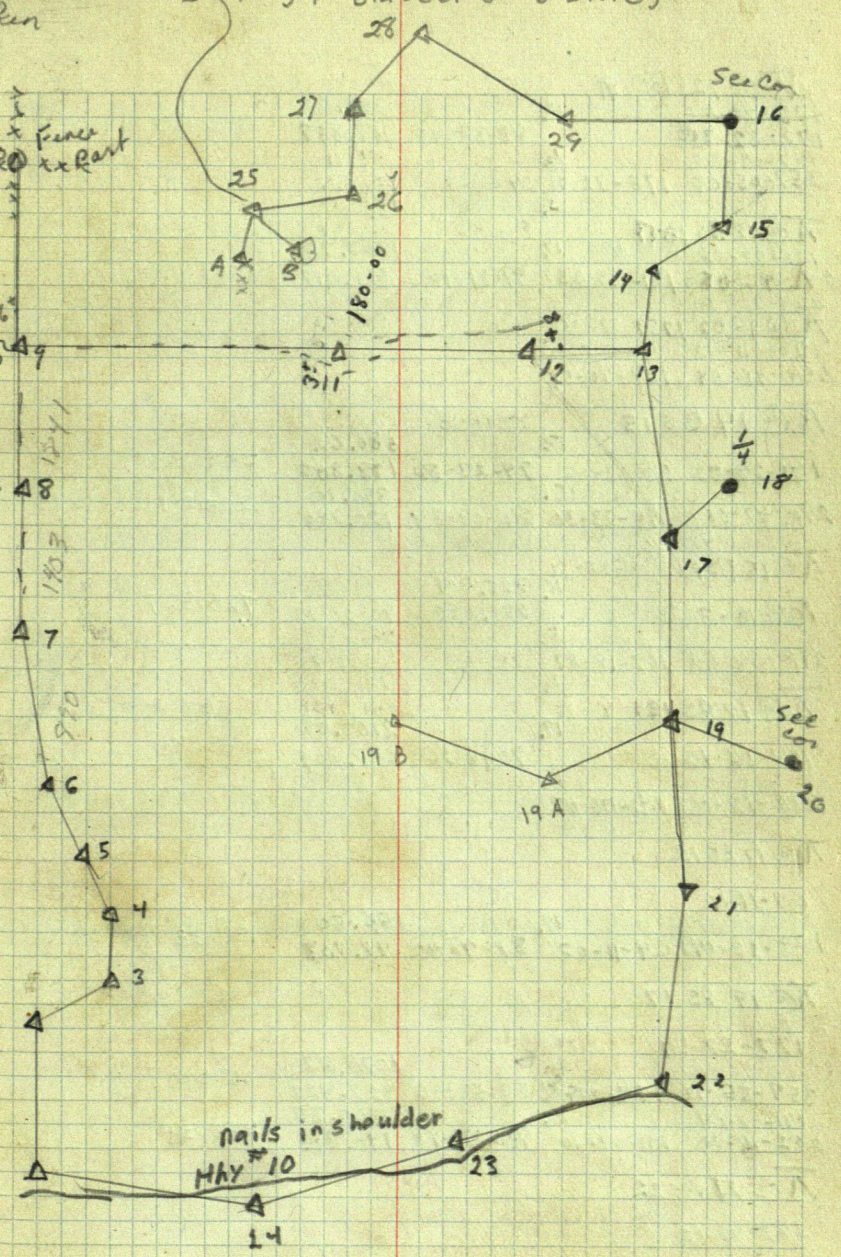
Asurvey to Locate a cemetery in the cent. of sec. 34 T. 134-31.

From stone cor. at N E cor. S. 34 W erun N. 89° 30' W. at 2641.8 & of a cem. road brushed South. at 5300.8 the N. W. cor. of. sec. 34 (a stone Mon) sets N. 2.5 ft.

Cole Pillager 1941

T@2 BS 3					
		1.		1570.36	1570.36
128-44-14			90-10-28	478.651	
		3.		376.23	376.22
257-28-20	128-44-10		90-19-16	114.674	
T@3BS2					
152-10-46					
304-21-24	152-10-42				
T@4BS3					
		3		269.39	
140-38-12			89-52-20	82.109	269.39
		5.		249.81	
291-16-04	140-38-02		89-54-36	76.138	249.81
T@5DS4					
167-05-30					
334-10-44	167-05-22				
T@6BS7					
		5.		335.10	
162-26-18			89-53-06	102.114	335.10
		7.		890.70	
324-52-30	162-26-15		89-53-32	271.488	890.70
T@7BS8					
169-11-18					
338-22-36	169-11-18				
T@8BS9					
		7.		1403.69	
179-45-06			90-10-30	427.845	1403.69
		9.		1841.72	
359-29-46	179-~~45~~-53	44	89-55-54	561.351	1841.72
T@9BS12					
91-46-00		44			
183-29-58	91-~~45~~-59				
T@9BS10					
		12	4228.75		
88-25-08			1288.920	89-27-18	4228.559
		10.	1344.43		
176-50-12	88-25-06		409.780	87-34-34	1343.227
		11.		1198.03	
			90-03-26	365.160	1198.03

A=Fence line
B= 7" JP Blazed on 3 sides



T@12 BS 9					
~~178-32-54~~		13.		386.60	
178-32-30			88-37-48	117.838	386.489
357-04-48		39			
357-05-06	178-32-~~54~~				
T@12 BS 13 17					
121-53-08		53 12		1807.78	
243-~~46~~-06	121-~~47~~-03		91-31-18	551.017	1807.14
T@13 BS 12					
129-41-12					
259-21-54	129-40-57				
T@14 BS 15					
		13.		586.62	
145-23-32			94-23-30	178.802	584.898
		15.		396.10	
290-47-06	145-23-30		86-09-34	120.733	395.21
T@15 BS 14					
		16.	725.34		
109-18-30			221.082	90-20-12	725.327
218-36-54	109-18-27				
T@17 BS 19					
		19.		2163.09	
141-06-10			90-18-20	659.309	2163.059
282-12-06	141-06-07				
T@17 BS 12					
64-11-12					
		18.		156.50	
128-22-14	64-11-07		87-46-02	47.703	156.38
T@19 BS 17					
177-27-~~54~~					
		21.		1075.87	
354-55-12	177-27-36		89-53-06	327.927	1075.87
141-07-04		24.		460.35	
282-14-20	141-07-10		90-24-18	140.915	460.34
T@21 BS 22					
182-48-12					
365-36-12	182-48-06				

T@ 22 BS 23

90-23-54

180-47-42 90-23-51

T@ 23 BS 22

161-13-10

322-26-12 161-13-06

T@ 24 BS 1

158-28-36

316-56-56 158-28-28

T@ 1 BS 2

92-04-36

184-09-08 92-04-34

21. 1522.01
463.912 89-41-34 1521.99

23. 89-53-12 2328.97
709.873 2328.97

23. 90-09-48 1813.00
552.599 1813.0

1. 90-09-26 941.81
282.079 941.81

T@ 25 BS 2C

			49.94	
			15.233	
	A		~~51.1~~	
85-23-15		97-50	~~15.581~~	49.47
	B		51.11	
66-46-50		96-23	15.581	50.79
	26		181.30	
		88-57	55.262	181.269

T@ 26 BS 25

134-23-18

268-46-09 134-23-05

T@ 27 BS 26

	26		323.27	
215-00-06		94-11-45	98.534	322.40
	28		855.97	
69-59-36 214-59-48		89-31-15	260.885	855.94

T@ 28 BS 29

103-38-45

207-17-12 103-38-36

T@ 29 BS 28

14	28		422145	
141-48-20		90-18	128.757	422.44
	36		1367.96	
283-36-36 141-48-18		89-46	416.950	1367.947

T@ 16 BS 15

102-55-48

205-51-24 102-55-42

T@ 19A BS 19B

133-09-23				1033.69 E	
266-18-27 133-09-14	(19B)	89-51		315.074 m	1033.69
				1476.37 E	
	(19)	89-57		450.001 m	1476.37

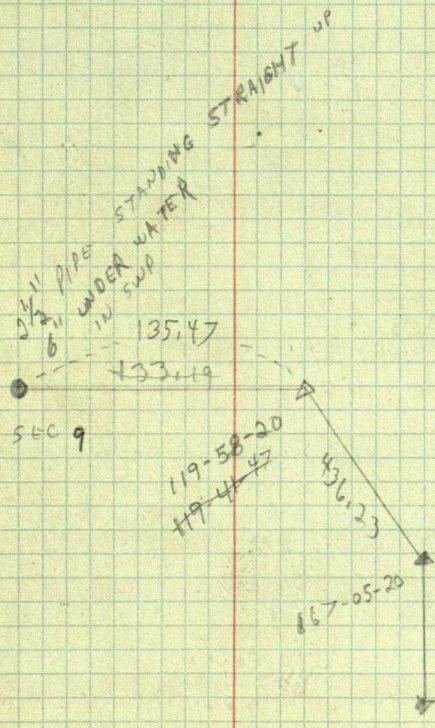
T@ 19 BS 19A

135-48-12

271-36-46 135-48-23

119-58-24

239-56-48

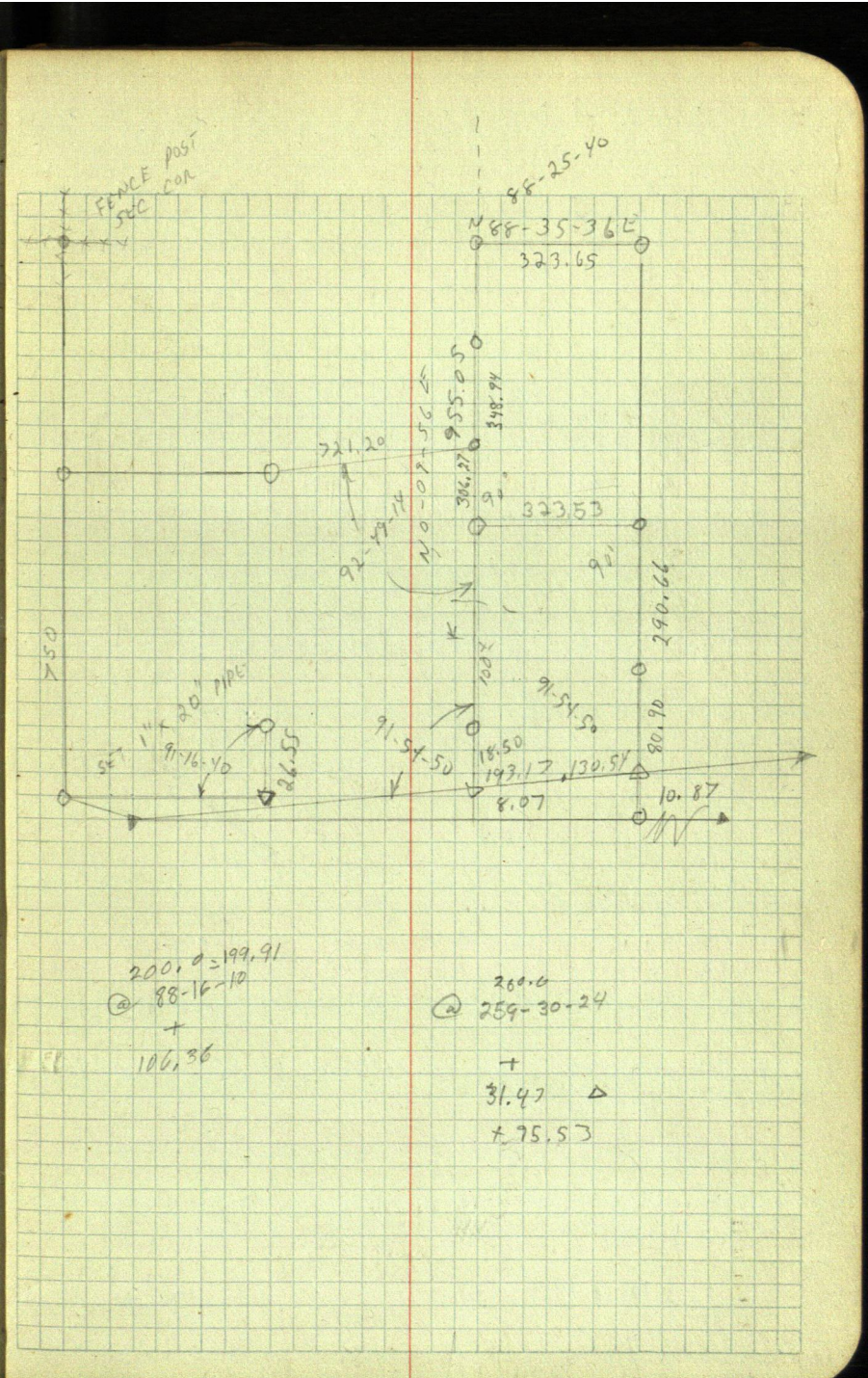

2½" PIPE STANDING STRAIGHT UP
2½" UNDER WATER
IN SUP
6
135.47
N33.19
SW COR SEC 9
133-30
N19-58-20
N19-44-45
N36.23
5
N67-05-20
4

306.27
348.94
655.21

955,05
655.21
299.84

88-35-36
0 · 9 · 56
88-25-40

269-80
259-30
10-30



200.0 = 199.91
@ 88-16-10
+
106.36

200.0
@ 259-30-24
+
31.47 △
= 75.53

.2065
120
41380
2065
247.800

.97845
120
1956900
97845
11746400

291
320
611
0305

98325
200
196.65000
31.47
228.12

323,65
228.12
95,53
323 65

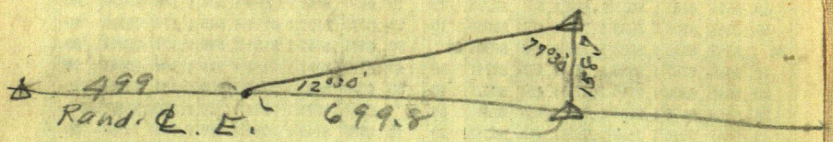
359, 60
268. 37
91 23

88° 13'

87° 22'
93° 0 0'
88° 13'
268. 37

158.7

N.



4.5107085
158.7

31 57495 7
200 8 5 6 64
22 5 5 35 40
45 1 0 7 0 8

6998,493 5 96

499

1198 8

4946.4
118.4
273.5

5337.3

2645.9
2641.5
2 5300.8
2650.4
2642

50-ft. chain
21+19,5 chs. to road
35+23.0 ± △
43+5.8 = △
4800 = △ offset E. 2735

thence S. 10 1/2 W.

Thence S. 88°15' E.

at 350.7 E. △, + 293.5
" 459.0 E. △, + "
" 499.6 E. △ + "

" 1198.8 △ triangulation sta.
" 1632.3 △.
" 1934.3 △.
" 2544.8 △. — C 1/4 in line.
" 4946.4 △.

The 1/4 sec. bet. Secs. 3-4-133-29 sets
L. 11°55' 120.0 ft.

at 5337.3 E. from N+S. line
the 1/4 S. cor sets N. 24.8 ft.

Rand ℄ = N. 3°57' W. 1262 2657.6
2564 5302.2

50.5
3.2
53.7

80
54
324
324
396.74
5280
5316.74

3921.3
3846.0
75.3

194
435
237.5

24.2
1160
1184.2
122.0
1062.2

54
6

2654.5
2944.2

1355

1311.2810.0
1211 810
72.8910

38
8966
8722
238

1282
2

N. 2534.4 1/4S
12
2372

4512810
1282

238
121
1-1702
1
272
272
3432

3938.9
3846.0
87.3

2817.1
2732.0
241.1
7.2
2332.0

2817.1
2732.0
85.1

39339
121
39213
873
3834.0

5140
5128
12
12
2
2
2133.63
134.70
1998.03

3841
3834
12

SW ⅄ 13°

1332.73
1198.03
134.70

130.54-E
188.90-W
59.36
184.74

2638.6

25-44.8
273.5
2818.3 1100
192.0 1100
2622.3 2200

1221
1320
2541

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Southeast 13th Street
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Phone (218) 828-1256 Mike Smude, Owner

NE¼ · SE¼ 21

140-31

2626.3
2711.0

DISTANCES FROM CENTER OF ROADWAY FOR CROSS-SECTIONING.

ROADWAY 14 FEET WIDE. SIDE SLOPES 1½ TO 1.

FOR SINGLE TRACK EMBANKMENT.

	0	.1	.2	.3	.4	.5	.6	.7	.8	.9	
0	7.0	7.2	7.3	7.5	7.6	7.8	7.9	8.1	8.2	8.4	0
1	8.5	8.7	8.8	9.0	9.1	9.3	9.4	9.6	9.7	9.9	1
2	10.0	10.2	10.3	10.5	10.6	10.8	10.9	11.1	11.2	11.4	2
3	11.5	11.7	11.8	12.0	12.1	12.3	12.4	12.6	12.7	12.9	3
4	13.0	13.2	13.3	13.5	13.6	13.8	13.9	14.1	14.2	14.4	4
5	14.5	14.7	14.8	15.0	15.1	15.3	15.4	15.6	15.7	15.9	5
6	16.0	16.2	16.3	16.5	16.6	16.8	16.9	17.1	17.2	17.4	6
7	17.5	17.7	17.8	18.0	18.1	18.3	18.4	18.6	18.7	18.9	7
8	19.0	19.2	19.3	19.5	19.6	19.8	19.9	20.1	20.2	20.4	8
9	20.5	20.7	20.8	21.0	21.1	21.3	21.4	21.6	21.7	21.9	9
10	22.0	22.2	22.3	22.5	22.6	22.8	22.9	23.1	23.2	23.4	10
11	23.5	23.7	23.8	24.0	24.1	24.3	24.4	24.6	24.7	24.9	11
12	25.0	25.2	25.3	25.5	25.6	25.8	25.9	26.1	26.2	26.4	12
13	26.5	26.7	26.8	27.0	27.1	27.3	27.4	27.6	27.7	27.9	13
14	28.0	28.2	28.3	28.5	28.6	28.8	28.9	29.1	29.2	29.4	14
15	29.5	29.7	29.8	30.0	30.1	30.3	30.4	30.6	30.7	30.9	15
16	31.0	31.2	31.3	31.5	31.6	31.8	31.9	32.1	32.2	32.4	16
17	32.5	32.7	32.8	33.0	33.1	33.3	33.4	33.6	33.7	33.9	17
18	34.0	34.2	34.3	34.5	34.6	34.8	34.9	35.1	35.2	35.4	18
19	35.5	35.7	35.8	36.0	36.1	36.3	36.4	36.6	36.7	36.9	19
20	37.0	37.2	37.3	37.5	37.6	37.8	37.9	38.1	38.2	38.4	20
21	38.5	38.7	38.8	39.0	39.1	39.3	39.4	39.6	39.7	39.9	21
22	40.0	40.2	40.3	40.5	40.6	40.8	40.9	41.1	41.2	41.4	22
23	41.5	41.7	41.8	42.0	42.1	42.3	42.4	42.6	42.7	42.9	23
24	43.0	43.2	43.3	43.5	43.6	43.8	43.9	44.1	44.2	44.4	24
25	44.5	44.7	44.8	45.0	45.1	45.3	45.4	45.6	45.7	45.9	25
26	46.0	46.2	46.3	46.5	46.6	46.8	46.9	47.1	47.2	47.4	26
27	47.5	47.7	47.8	48.0	48.1	48.3	48.4	48.6	48.7	48.9	27
28	49.0	49.2	49.3	49.5	49.6	49.8	49.9	50.1	50.2	50.4	28
29	50.5	50.7	50.8	51.0	51.1	51.3	51.4	51.6	51.7	51.9	29
30	52.0	52.2	52.3	52.5	52.6	52.8	52.9	53.1	53.2	53.4	30
31	53.5	53.7	53.8	54.0	54.1	54.3	54.4	54.6	54.7	54.9	31
32	55.0	55.2	55.3	55.5	55.6	55.8	55.9	56.1	56.2	56.4	32
33	56.5	56.7	56.8	57.0	57.1	57.3	57.4	57.6	57.7	57.9	33
34	58.0	58.2	58.3	58.5	58.6	58.8	58.9	59.1	59.2	59.4	34
35	59.5	59.7	59.8	60.0	60.1	60.3	60.4	60.6	60.7	60.9	35
36	61.0	61.2	61.3	61.5	61.6	61.8	61.9	62.1	62.2	62.4	36

Calculated by Julien A. Hall, M. Am. Soc. C. E.