

020554

PAT Hrushow

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Summer - 1967

Arvid Mining Corporation Ltd.

*"Rite in the Rain"*  
WEATHERPROOF

a product of

**J. L. DARLING CORPORATION**  
TACOMA, WASHINGTON 98421 U.S.A.

July 19, 1967

Mapping Volc.

south of Faro.

Air foto 8519

+ Brushy  
+ Bushy

Overcast + cool

- ① Quartzitic phyllite - N10E 10° W.  
light grey same texture + muscovite
- ② Qtz phyl - N10E 17 W (F-2)  
strongly quartzitic - localized folding
- ③ Volc. light green <sup>med. grain pyrophyllite</sup> ~~pyrophyllite~~ with  
(F-3) hornblende glauc. - no attitude
- ④ Volc. light green <sup>pyrophyllite</sup> med. gr. ~~pyrophyllite~~ as above.  
(F-4) minor quartzite diss. no attitude
- ⑤ Volc. as above but finer grained +  
with ~~pyrophyllite~~ pyrophyllite. - no attitude
- ⑥ Volc. very fine grained - hornblende  
content increasing - no attitude
- ⑦ Sand Volc. <sup>cryst</sup> ~~cryst~~ with calcite in vugs.  
(F-7) no attitude
- ⑧ Sand Volc. grey green - (F-8) N40E 35W
- ⑨ Limy phyllite? (F-9)

July 20, 1967

Mapping SW of Fard

Bright hazy day - very cold strong wind

Airfoto - 8279

- ① Acid volc. - slight amygdaloidal - light grey with some minor pyrrhotite dics. (P-1) N 25 W parts with gte vesicles through.
- ② Acid volc. with flow lines or foliation (?) (P-2) - N 32 W 29 S
- ③ Acid volc? / a phyllite? thin foliation - light grey green. (P-3) N 50 W 50 S
- ④ Acid volc. with flow planes - med grey green (P-4)
- ⑤ Acid volc. as ①
- ⑥ Basic volc. (?) seems to be what appears to be a disconformity of an acid and basic volcanic. Pillow structures appear present in the basic volc. The basic structure could be an intrusion into acid volc.
- ⑦ same as ③ N 40 W 40 S
- ⑧ Acid volc. - chat through with gte veins
- ⑨ same as ③ N 55 W 35 S
- ⑩ cherty material - grey - fine grained. N 50 W 29 S (P-10)
- ⑪ red chert - (P-11) cherty argillite

- (12) Red chert *argyrolite*
- (13) Deep red chert N10E 45 W
- (14) chert - some red calcination but mostly grey - N15W 25 W
- (15) white chert N30W 20 S - ~~slat~~ through with quartz
- (16) Phyllite - grey black - N50W ~~45~~ 35
- (17) Phyllite - black - foliation not distinct N.30W 38S
- (18) same as (14) N50W 45 S
- (19) Small quartz outcrop
- (20) Phyllite crack - no attitude available
- (21) Quartzitic phyllite - cut by 2 to 3 ft. band of intrusive following foliation. The whole thing then cut with quartz veins N40W 26S
- (22) Folio - mixture of ~~hard~~ intrusive + phyllite - no outcrop.
- (23) Rock creek - no outcrop - phyllite
- (24) Rock creek - no outcrop - quartzite (P-24)

July 22, 1967

Mapping  
Crown

Mushy  
Buckley

Overcast & cold wind

- ① Diabase or gabbro - east west outcropping bounded on the south by fault of variety of same rock. H-1, H-2, H-3
- ② Banded quartzite? - N-30W H-5 W H-4
- ③ Phyllite - N30W - 60W H-5
- ④ Basic intrusive - disseminated pyroxene + pyrite - grades from fine gr. black to med gr. blue black. H-6 H-7
- ⑤ Phyllite - mostly fractured & broken - no real outcrop. Rusted - N10W
- ⑥ - Basic intrusive
- ⑦ - Basic intrusive similar to ① H-8
- ⑧ Phyllite - N-25W 52W
- ⑨ Basic diab. - spotted pyroxenite - pyrite disseminations - N30W
- ⑩ Phyllite weathered grey but fresh rock is black - has siliceous content N50W 12S
- ⑪ ~~Phyllite~~ - Quartzitic phyllite or banded quartzite - N10W 19E - lots of local folding

(12) Gabbro type intrusion dyke  
over phyllites (H-9)

Structure - N25W

(13) Quartzite phyllite - N20W45V

Aug 4, 1967.  
Sunny & hot.

Swain Lakes

Logging in drill holes with grid.

DDH-1	N65 W - 42.5'	L56 E / 55
DDH-2	S65 W - 25'	L60 E / 25
DDH-3	N60 W - 85'	L64 E / 38
DDH-4	N20 W - 50'	R2 0+00N / 52+00E
DDH-5	N80 E - 90'	L44 E / 1N

$$\begin{array}{r} 17 \\ 25 \\ \hline 835 \\ 34 \\ \hline 225 \\ 7 \end{array}$$

$$\begin{array}{r} 34 \\ 25 \\ \hline 130 \\ 68 \\ \hline 850 \end{array}$$

Aug 5, 1967 - Logging core at  
Swain Lake.

DDA 4 - 12-270

Foliation: - 0-40 - 25°  
40-80 - nonplanar  
80-120 - 30-40°  
120-160 - 25°  
160-200 - 10-15°  
200-240 - 10°  
240-270 - 5-10°  
~~270~~

Structure: - 12-37 - broken core.  
160-164 - quartz vein (matrix + fract)

Mineralization: pyrrhotite, pyrite + Calc  
26-37 spotted & disseminated  
37-67 - core lost or missing  
67-116 - ~~ph~~ pyrrhotite + pyrite dis.  
massive at 95

37-67 missing

DDA-4

Lithology:-

12 - phyllite - grey black in color -

end of bed -

intrusion of quartzite 160-163.

181

Charitic around 104 to 120

Quartzite content increase by mineral

DDA-3

13- 404

foliation:

0-40 ~~unstable~~ 10-12°

40-80 - 50-15°

80-120 10-15°

120-160 10-15°

160-200 10-10°

200-240 10-15°

240-280 10-15°

280-320 - 20-30°

320-360 15-20°

360-400 10-15°

Structure: 349-351 - gneiss

no other significant structures in hole.

DPH 3.

Mineralization:- 19-35- phyl + pyrite  
diss. massive in ~~pat~~  
spats.

40-85- phyl + pyrite  
diss

145-222 phyl + pyrite  
diss. massive around 225

309-320- pyro + pyrite  
diss. massive at 311-319

Lithology:-

13

quartzite phyllite

24

phyll

40

quartz phy

~~75~~

~~phy.~~

90

phyll

349

meta phy.

356

phy

chlorite in places

Mineralization ~~is~~ is accompanied  
by increase of quartzite content

A 3 Nov 37-67  
+ 13-40

QDA #1

8 + 3, 3?

foliation:-

0-10

10-20

40-80

unstable

80-200

10

120-160

20

160-200

10

200-240

20

240-280

30

280-320

30-10

320-360

10-15

360-393

10-15

structure:-

no significant structure  
in hole

mineralization

106-108

mass. pyrite

same calc + pyrite

petrology:-

8- phyl

79- mica phyl

81- chlorite sericite phyl

86- quartz

91- mica phyllite

106- phyl

325-35 mica phyl

335 393 calc

# 1

166 - 7.2 missing

175 - 226 missing

DDA # 2

30-25H

Foliation:-

0-40	unobtainable
40-80	unobtainable
80-120	unobtainable
120-160	10-20
160-200	10-15
200-240	70
240-25H	10

Structure:- 30-74 broken con.

85-120

220-222

Mineralization 68-73 - diss grading to massive phyl + pyrite & calc. 88-96 - diss & mass phyl + pyrite - pyrite + calc 100-192 - mass, banded + diss phyl + calc

Lithology:- 30- phyl  
25H end.

attention of phyl. around mineralization same as other levels.

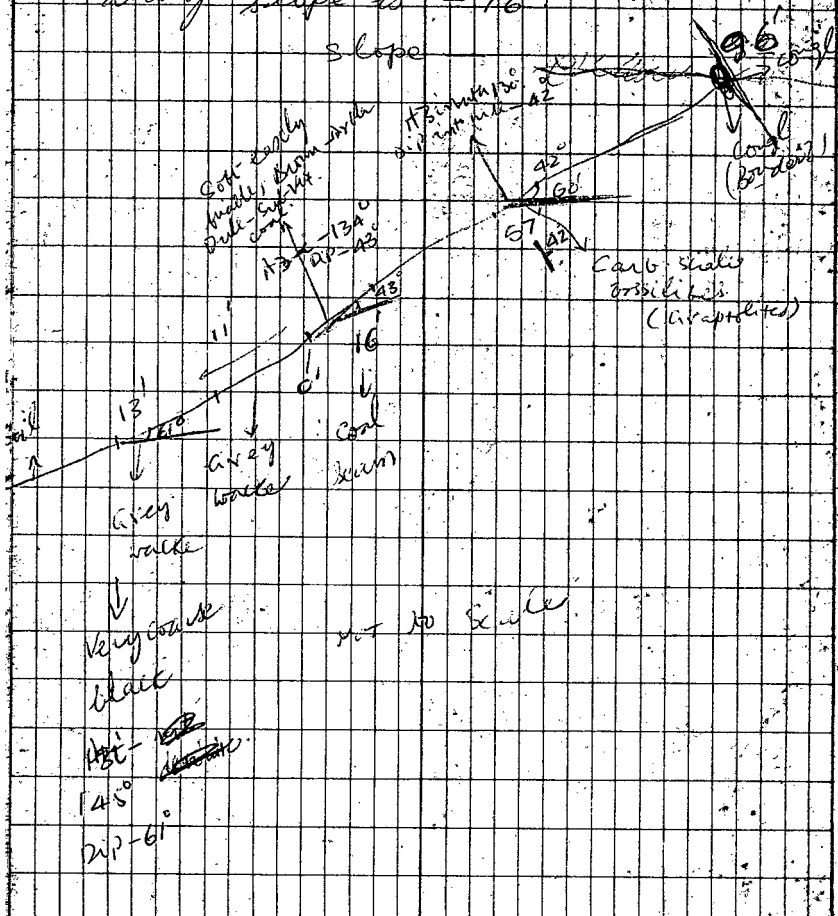
9 Feb, 1968

Trench #3

Time 4:25 P.M.

width of two coal seams measured along slope is - 16'

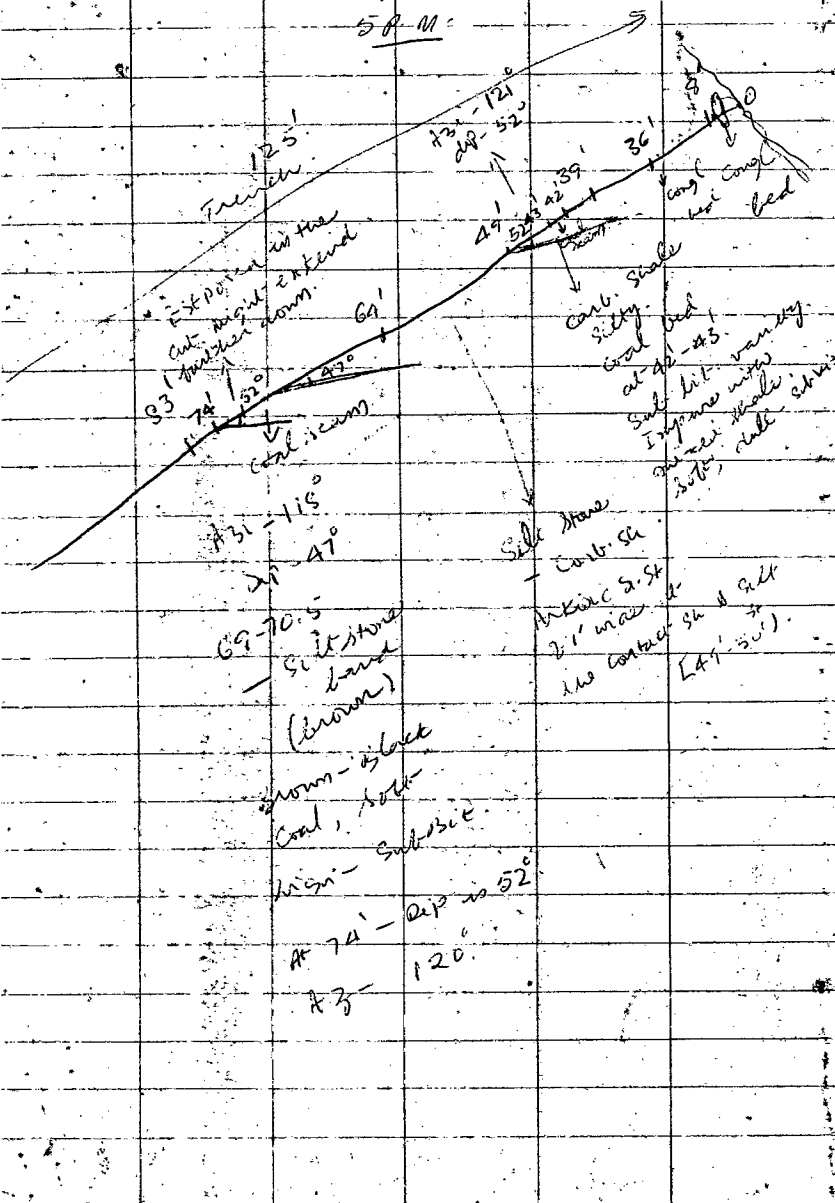
slope



Trench # 4.

9 Feb 1968

58 M



Trench 125'

Exposed in the cut might extend further down.

33

A31 - 115°  
A1 - 47°

69-70.5  
Siltstone band (brown)

brown-siliceous  
Coal, soft  
high-sulfidic

A71 - Dip is 52°  
A3 - 120°

A3 - 121°  
A4 - 52°

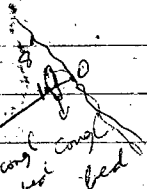
A1  
A2  
A3  
A4

carb. shale  
silty  
coal bed  
at A2 - A3

Sand bit. varying  
Impure with  
massive shales above  
sub. red above

Siltstone  
- carb. sh

Matrix S. St  
2' wide at  
the contact sh & gll  
[A1 - 50°]



Feb 13, '68.

DRILLHOLE A.T.-1

0-1.6' - G.B. 9:30 P.M.

1.6' - 20' - Congl. bed.

20 - 25 - "

25 - 30 - " ~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~

30 - 40 - "

40 - 60 - "

60 - 80 - V.C.

80 - 100 - S.S.

100 - 120 - Intw -  
Calated S.S. & Sh.

120' - ~~128'~~

129' - Carb. Shale.

The sample collected is not a true sample as it is blown off in dust + form, while heavier particles blown from up section settled.

Dust stream -

- Carb. Sh.

129' - 130' - Coal.

Sub-bit.

Carpet spread

~~around the hole~~  
around the hole.

130-135'

135-140-

140-145-

145-150-

150-158-158-160

158-165-  
- Silt  
- Stone  
161-165-Cool

~~160-165-~~

165-170-

170-175-  
- More Sha.  
- G.

175-180  
- Carb.  
- Silt + Sh.

180-185 - Silty Sh.

185-190- )) .

190' - End of  
HOLE.

4.45 A.M.

DRILL HOLE A.T. # 2

0 - 60	Consolidated
60 - 65	<del>Siltstone</del> <del>carbonaceous</del> Shale
65 - 95	Siltstone
95 - 115	Coal & silt partings
115 - 140	Silty Sandstone

Feb 14, 1968 <sup>Major</sup> <sup>1.5 m - w.c. 9c</sup>  
A.T.3 Dri 3 P.M.

- 74 - ~~64~~ - Congl
- ~~74 - 75~~ ~~(~~64~~ - ~~65~~ - Silty shale (Sample taken))~~
- 75 ~~65~~ - 122 - Congl
- 122 - 141 - — - S.S.
- 141 - 154 - Seal (141-145 - more shaly)
- 154 - 159 - Silty stone
- 159 - 165 - Silty stone + Carb. shale
- 165 - 172 - coal
- 172 - 180 - Silty shale
- 180 - End of Hole

~~180 - 185 - Silty shale~~

Feb 15/68 DAY

Drilled 2 holes 40 & 100' L

A.T. #5 area

Located coal with ~~drill~~

Drilled A.T. #5 160'

2pm to 4pm

- 55'	Congl & shale
55-64	Coal
64-67	Shale
67-82	Coal
82-104	Grey & Brown Shale
104-130	Grey Shale
131-136	Coal
136-160	Brown & dark grey carbonaceous shale?

A. T. 4

Feb 15, 1968 - Night Shift

0 - 47 - Congl.

47 - 78 - Very coarse S. St.

78 - 81 - Carb. shale

81 - 108 - Coal

108 - 111 - Coal - sh (Brown)

111 - 124 - Silty S. St.

124 - 133 - Carb. shale with thin  
coal <sup>at</sup> partings in places  
Brown silty in places

133 - 138 - Silty shale - silt stone

138 - 152 - Brown silty shale

152 - 160 - fine gr. S. St.

Silty in places.

160' - End of hole

1-05 A.M. End of Hole

A.T. - 6 16 Feb 1968

1.05 A.M. - 3 A.M.

Attempt #1

Pulling rods out.

80' from coal exposure track

Trouble with tracks like line

3 A.M. - started A.T. 6

0 - 49' - Core

49 - 100' - Coarse S.S.  
Continuing

100' - Hole stopped for  
the night shift

Day 16/17 Feb

100 = 110

Stuck Rods a 2 hrs to pull

Attempt #2 75' from coal exposure

0 - 135 ft No Coal

Stuck rods ~ 1 hr to pull

Attempt #3 50' from coal

0 - 120 ft No Coal

Stuck rods still trying to  
free them at end of shift

Foreman stayed to work

then during suspension

6 Feb, 1968

Night-shift.

A-T-6A

7.15 left Hill

7.30 - 10 P.M. - ~~Real~~ Attempting  
to get rods out

<sup>Gave up.</sup>  
Only 90' of rod left to work with.

10 P.M. - 12.30 A.M. - NO Machine  
work.

12.30 A.M. - 1.30 A.M. - moving to

A.T. 7(a)

Set up at site of location

at 1.30 A.M. of 17 Feb, '68.

45 feet from coal exposure. Vertical hole.

0 - 74 - Congl. bed

74 - 85 - Very coarse S.S.

85' - Got stuck.

40 minutes spent on pulling  
rods out

85' - Hole stopped for  
night shift.

Cleaned well & pulled  
the rods out

4.20 A.M. - rods pulled out

Feb 17/68

A.T. 7(b) 60' hole <sup>Westerly</sup> 18' from <sup>East</sup> coal exposure

0-5 O/B <sup>110° to 5° slope</sup>

5-34 Sandstone

34-61 Coal

61-75 Brown Shale

End of hole

A.T. 7(c) 90° hole on coal

0-15' Coal

15-20 1/2" brown shale

A.T. 7(d) 90° hole 3' <sup>East of coal</sup>

0-25 Shale 1/2" brown

25-30 Coal

30-40 ~~Shale~~ Sandstone

— 11 —

I.A.T. # 7(e) 50' West of 7(d)

0-3 Shale

3-5 Coal

5-15 Brown Shale

15-28 Coal

28-33 Shale

33-34 Coal

34-38 Shale

38-39 Coal

39-40 Shale

40-42.5 Coal

42.5-45 Shale

45-47.5 Coal

47.5-58 Shale

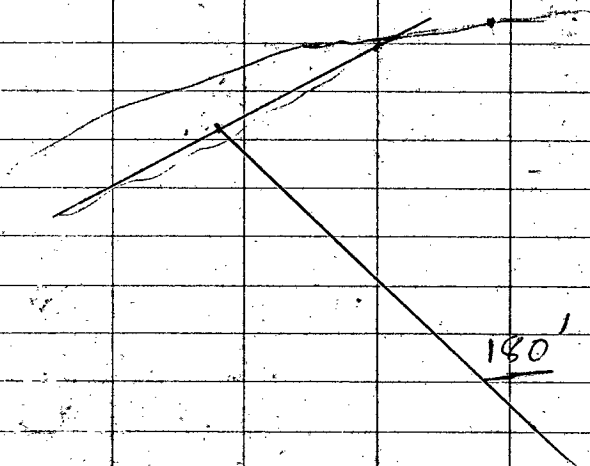
58-61 Coal

61-90 Shale

11

A.F. #7(A) 40' West of 7(e)

0-6	Fill (R)	
6-11	Coal	
11-20	Shale	Carbonaceous in part
20-23	Coal	
23-25	Shale	(Carbonaceous)
25-28	Coal	
28-30	Shale	(Carb)
30-32	Coal	
32-36	Shale	(Carb)
36-39	Coal	
39-70	Shale	with carbonaceous layers
70-75	Coal	
75-77	Shale	(Carb)
77-81	Hard Coal	
81-90	Shale	Very light gray
— " —	—	—



8-15-71

H. T. - 6B 17 Feb, 1968

Night shift

Drill located right on edge of  
cut

49' west of A.T.G.A.

0-6 - Till Sand, Silt

6-8 - Carb. Shale

8-15 - coal

15-~~22~~<sup>35</sup> - Very coarse S. St.

~~22~~ Alt. 22' - Small 5" wide  
shaly - carb. sh. Cool chert

35-70 - Fine grained S. St.

70' End of hole 9.45 P.M.

A.T. 6-C

0-15' - G.B.

15-17' - Burl

17'-20' Coal

~~(Sample taken at 17')~~

20-22 - Carb. Sh

22-42 - V.C. S. St.

(P. 56)

42-56 - Coal with thin  
shale bands.  
56-58 - Brown shale  
58-104 - Coarse s.s.  
104-108 - Brown shale with  
thin coal layers.  
108-114 - S.S.  
114-120 - Brown shale with  
thin layers of coal.

120' - Fossil hole

11 P.M. - Hole closed

no rods to drill further

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A.T. - 6 D'

50' west of A.T. - 6 C

Drilled 15' through O.B.

more layered due to wet ground.

Further drilling became  
difficult. Hence moved ~~to~~  
Easterly.

0 30 A.M.

A.T. 60' - ~~41'~~ west of A.T. 6C.

41' west of A.T. 6C

1000  
AT-60

0 - 19' - G.B.

19 - 23 - Conglomerate

23 - 120 - Sandstone  
Coarse - Med Grained

120' - End of Hole.

AT-60 - 72° Easterly.

25' west of AT-60

or 16' East of AT-60!!

0 - 21' - G.B.

21 - 35 - Coal for 3'  
Coarse - med S.St.

35 - 41 - Coal bed

41 - 59 - S.St.

59 - 61 - Coal

61 - 65 - Carb. shale  
Brownish

65 - 91 - S.St.

91 - 114 - Carb. Brown Sh  
(Sample taken)

114 - 120 - Silty shale

120' - End of hole

Feb 18/68

A.T. # 7 (g) 50ft west of 7(f)

0-5 0/B

5-30 Creamy coloured shale

30-100 Lt. gray & white shale (mudstone)

————— " —————

Trench @ A.T. #5

3 coal seams Westerly  
from Drill hole A.T. #5

40' to 46'

61' to 78'

90' to 102'

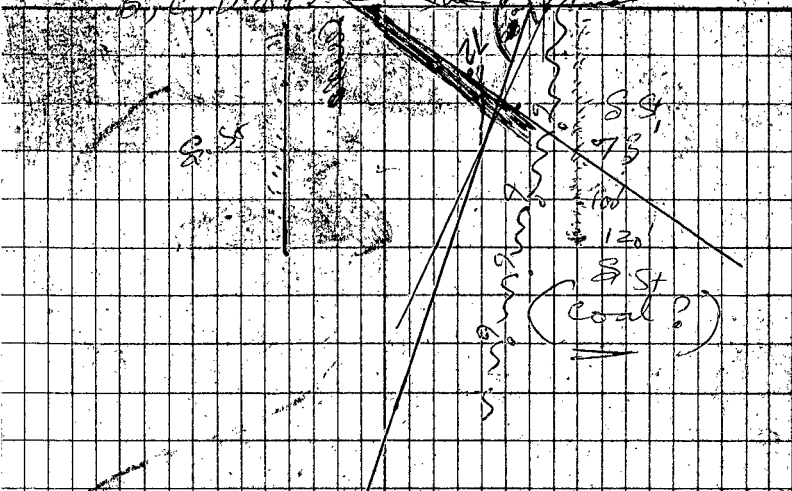
Strike ~ 140°

Dips Easterly.

A.T-6 E 50'

W.

B, C, D, E



2 → Drilled.

45' - 60' - Expected