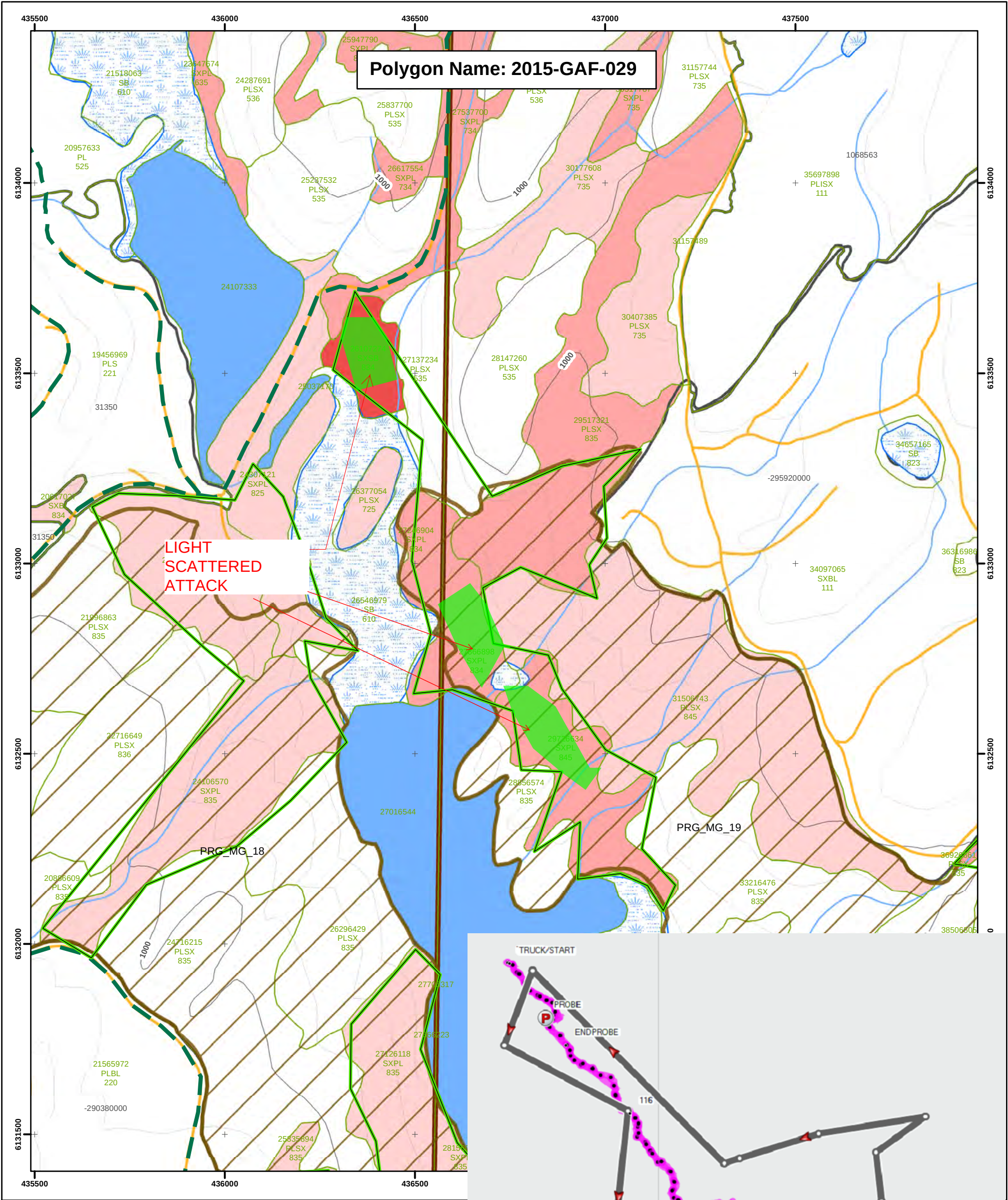
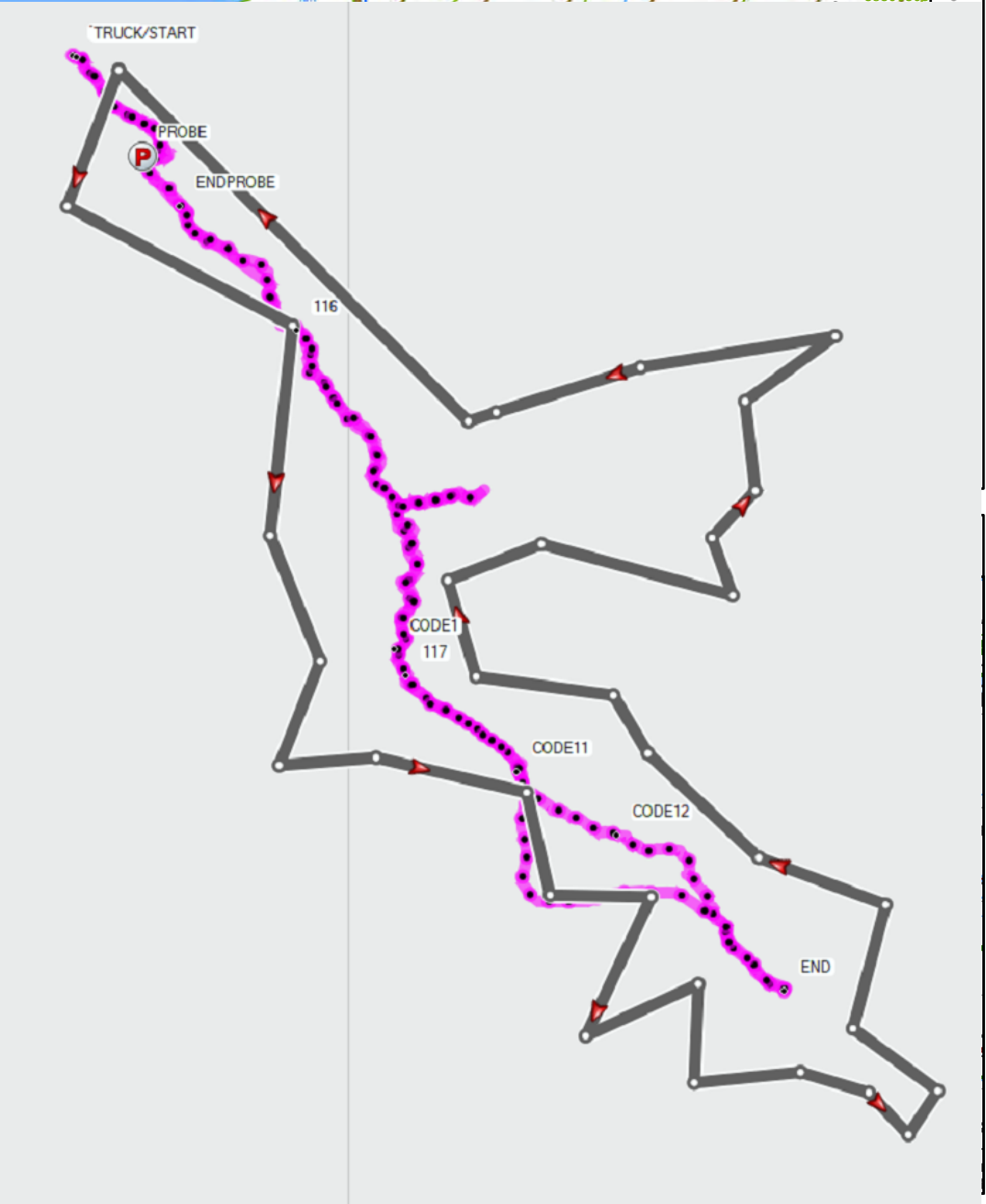






Ministry of
Forests, Lands and
Natural Resource Operations

Spruce Bark Beetle Field Map

Polygon Name: 2015-GAF-029

Landscape Unit/BMU:	Gaffney
Region:	Omineca
District:	Mackenzie
Mapsheet:	093O05
Hectares:	38.19
Scale:	1:10,000
When plotted on 11x17	
Coordinate System:	NAD 1983 UTM Zone 10N
Datum:	North American 1983
Date Drawn:	02/12/2015
Drawn By:	msnively

Map Features

- Susceptible Spruce Bark Beetle Polygon
- 2013 SB Hazard Rating (20% increment)
- Hazard Classes
 - Low/Med (21-40)
 - Med (41-60)
 - High (61-80)
 - Very High (81-100)
- Cutting Permit
- RESULTS Opening
- VRI Polygon
- Beetle Management Unit
- Natural Resource District
- Road Permit Active
- Road Permit Pending
- Km Markers



00.10.20

**SENECA ENTERPRISES LTD.**

PO BOX 1902, PRINCE GEORGE, BC, V2L 5E3

Phone: (250) 561-0890, Fax: (250) 564-3275

**SPRUCE BARK BEETLE REPORT
FH16DMK016,017**

POLYGON: 2015-GAF-029

HECTARES:

38.19

WALKTHROUGH DISTANCE:

2100

ESTIMATED INFESTED PIXELS FROM
WALKTHROUGH (Code 1-4)

6 28.6%

SUMMARY OF CURRENT INFESTATION

Walkthrough shows 28% infested pixels however these were often one attacked tree per pixel. There were also code 5 attacked trees throughout and some 2014 attack. Some of the recent attack on a 1 and 2 year cycle. Stans has patches of spruce and large areas of straight Balsam and dead pine as well.

LIGHT SCATTERED ATTACK THROUGHOUT

ACCESS

Access good truck access 4 km off mainline to Fishroe lake to north of polygon.

POLYGON FEATURES (Topography, Terrain, Timber Types, Age)

Sloped ground 0-20% raising in the east and upwards to the west. Drainage located in the south. Areas of dense Balsam throughout.

SIZE, BOUNDARY and PATTERN OF INFESTATION

Lightly scattered attack concentrated where spruce was located. Mix of Code 1 and 3 attacked trees and some code ones on a one and two year cycle.

INCIDENCE AND SEVERITY OF ATTACK

One probe line shows sanitation rating as moderate with also moderate attack and larval densities. Scattered code 1's on a 1 and 2 yr cycle, also evidence of code 3's/

RISK OF BEETLE SPREAD

Polygon has scattered attack that could further spread through polygon in areas of spruce. Lots of pockets of Dead pine and Balsam and swamp boundaries entire west side.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes.

RECOMMENDATIONS

GAF032 JUST SOUTH OF ACCESS TO GAF029

OPTION 1**TRAP TREES**

Sanitation and salvage rating Moderate from the one probe line taken where one code 1 and code 3 found. This area is adjacent to mainline and had some other code 1;s further south. These trees are on a 1 and 2 year cycle and trap tree trail is likely easiest given the good access. Further south from this polygon is access to GAF032.

OPTION 2**MONITOR/ BAIT**

Set Baits to capture part of 2016 flight if trap trees not an option. Monitor as light Spruce stand.

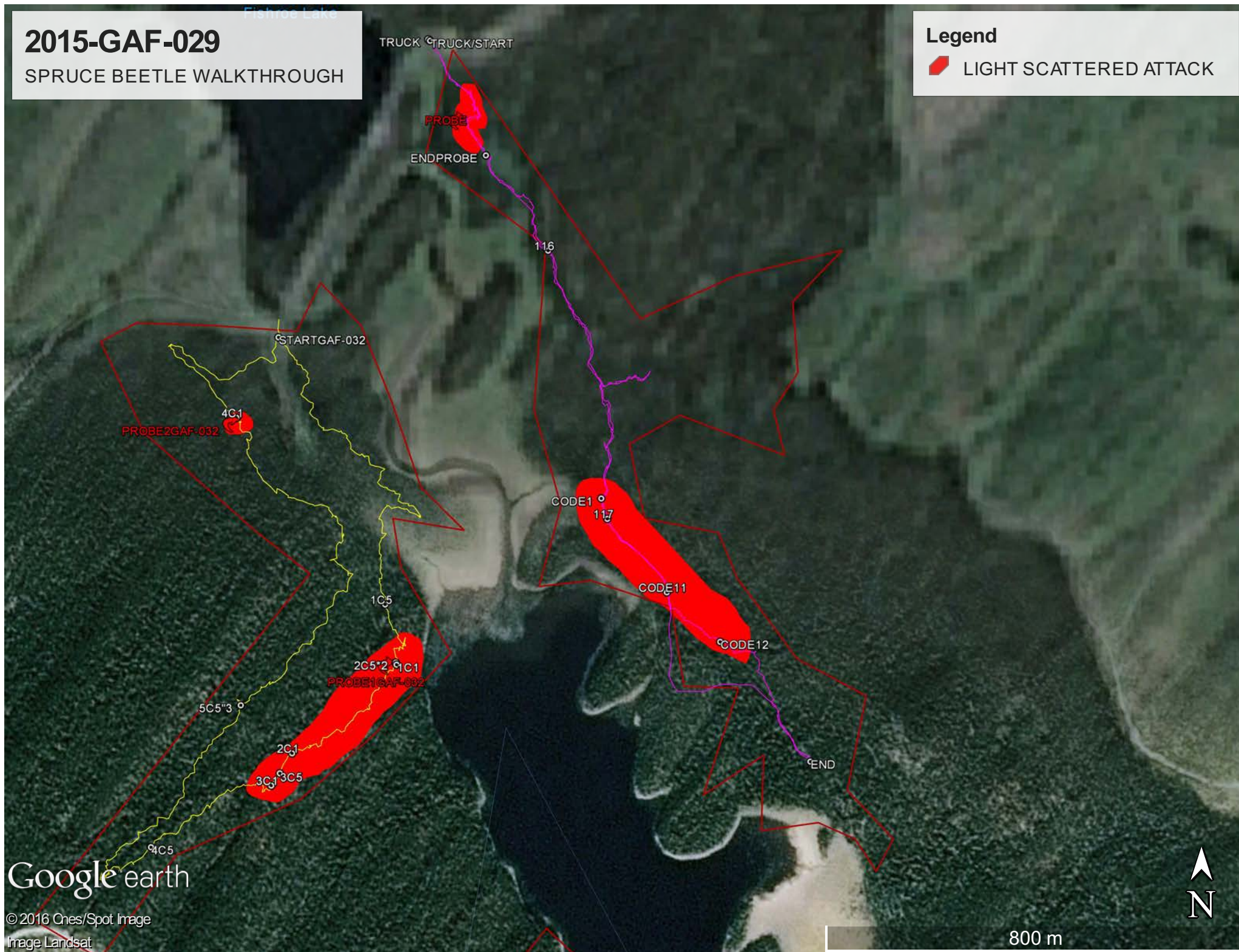
2015-GAF-029

SPRUCE BEETLE WALKTHROUGH

Fishroe Lake

Legend

 LIGHT SCATTERED ATTACK



Summary						
2015-GAF-029	HEC	38.19	METERS WALKED	2100	% TRAVERSED	5.5%
PIXELS COVERED BY WALKTHROUGH	21	INFESTED PIXELS	6	ESTIMATED % OF BLOCK INFESTED (From Walk through)		28.6%

TABLE 5- Spruce Beetle Infestation Summary Sheet

OF NOTE- Results taken from a 100m Probe Line established at 1 per 50 hectares to represent

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES
			2015		2014		2013		
			1	2	3	4	5	6	
17.5-25.0	3.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0
25.1-30.0	5.3	5.3	0.0	0.0	5.3	0.0	0.0	0.0	31.8
30.1-35.0	7.1	42.6	0.0	0.0	0.0	0.0	0.0	0.0	85.2
35.1-40.0	9.4	47	0.0	0.0	0.0	0.0	0.0	0.0	28.2
40.1-45.0	11.6	58	0.0	0.0	0.0	0.0	0.0	0.0	46.4
45.1-50.0	13.8	41.4	0.0	0.0	0.0	0.0	0.0	0.0	0
50.1-55.0	16.2	0	0.0	0.0	0.0	0.0	0.0	0.0	0
55.1-60.0	18.7	0	0.0	0.0	0.0	0.0	0.0	0.0	0
60.1 +	25.3	0	25.3	0.0	0.0	0.0	0.0	0.0	0
TOTALS	224.9	194.3	25.3	0	5.3	0.0	0.0	0	191.6

TABLE 4- Spruce Beetle Attack Density and Larval Density Rating

MEAN NO. OF ENTRANCE HOLES PER 225 cm2 PHLOEM SAMPLE	< 1 LOW Attack Density	MEAN NO. OF LIVING LARVAE PER 225 cm2 PHLOEM SAMPLE	< 4.9 LOW Mean Larval Density
	1.0- 1.9 MOD Attack Density		5.0 - 14.9 MOD Mean Larval Density
	2.0 - 3.9 HIGH Attack Density		15-24.9 HIGH Mean Larval Density
1.50	< 3.9 SEVERE Attack Density	5.00	>24.9 EXTREME Mean Larval Density

TABLE 2- Spruce Beetle Management Options after Walkthrough

% 2015 ATTACK	11.2%	##	SANITATION AND SALVAGE HARVEST PRIORITY RATING			
% 2014 ATTACK	2.4%	##	LIGHT	0-599	LEAVE (Monitor, Trap Trees, Baits, etc)	692.3
% 2013 ATTACK	0.0%	##	MODERATE	600-999	PROBE (To Obtain Further Info)	
% HOST IN STAND	54.0%	##	HEAVY	1000+	RECOMMEND CRUISING/ LOGGING	

DATA COLLECTED FROM 1 PROBE LINE.

SUMMARY OF ALL CARDS
FS1111

NUMBER OF CARDS

1

ACCESS -

Access good truck access 4 km off mainline to Fishroe lake to north of polygon.

POLYGON FEATURES -

Sloped ground 0-20% raising in the east and upwards to the west. Drainage located in the south. Areas of dense Balsam throughout.

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES	
			2015		2014		2013			
			1	2	3	4	5	6	BL	AT
17.5-25.0	3.3	0	0	0	0	0	0	0	0	0
25.1-30.0	5.3	1	0	0	1	0	0	0	6	0
30.1-35.0	7.1	6	0	0	0	0	0	0	12	0
35.1-40.0	9.4	5	0	0	0	0	0	0	3	0
40.1-45.0	11.6	5	0	0	0	0	0	0	4	0
45.1-50.0	13.8	3	0	0	0	0	0	0	0	0
50.1-55.0	16.2	0	0	0	0	0	0	0	0	0
55.1-60.0	18.7	0	0	0	0	0	0	0	0	0
60.1 +	25.3	0	1	0	0	0	0	0	0	0
TOTALS		20	1	0	1	0	0	0	25	0
BARK SAMPLES 15 cm x 15 cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE ADULTS	NO. CALLOW	FRESH (GREEN) BLOWDOWN				
						Attacked Yr	Yr	Unattacked		
2	3	0	10	0	2	0	0	0		

SIZE, BOUNDARY AND PATTERN OF THE INFESTATION

Lightly scattered attack concentrated where spruce was located. Mix of Code 1 and 3 attacked trees and some code ones on a one and two year cycle.

INCIDENCE AND SEVERITY OF THE INFESTATION

One probe line shows sanitation rating as moderate with also moderate attack and larval densities. Scattered code 1's on a 1 and 2 yr cycle, also evidence of code 3's/

RISK OF BEETLE SPREAD

Polygon has scattered attack that could further spread through polygon in areas of spruce. Lots of pockets of Dead pine and Balsam and swamp boundaries entire west side.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes.

SPRUCE BEETLE PROBE CARD

LOCATION 0436365 6133583		PAGE 1 OF 1	
BEARING 150°		DISTANCE 100	
		STRIP WIDTH 10	

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES	
			1	2	3	4	5	6		
17.5 - 25.0	3.3									B1
25.1 - 30.0	5.3									12
30.1 - 35.0	7.1									12
35.1 - 40.0	9.4									12
40.1 - 45.0	11.6									12
45.1 - 50.0	13.8									12
50.1 - 55.0	16.2									
55.1 - 60.0	18.7									
60.1 +	25.3									
TOTALS		20	1	1						25

BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN	
						Attacked	Unattacked
1a	3	1	6	1	2	1	1
1b	5	1	4	1	1	1	1

COMMENTS

CREW NAMES
Dailen.V / Blake.B

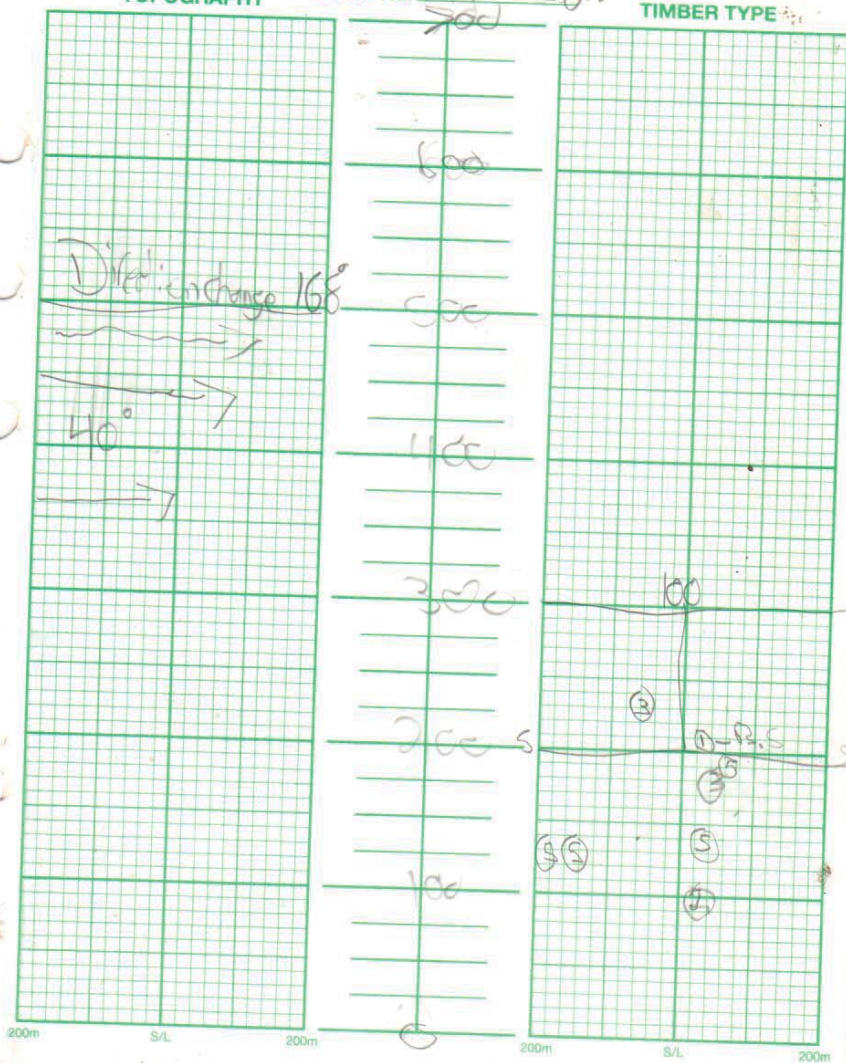
DATE
16 / 1 / 21

TOPOGRAPHY

STRIP No.

GAF-029

TIMBER TYPE



STRIP NO.:

GAF-029

DIRECTION:

K50

START STRIP:

0-700

JOB NO.:

Seneca walk thru

DATE:

Jan. 21/16

CREW:

Dailen V Blake B

REMARKS:



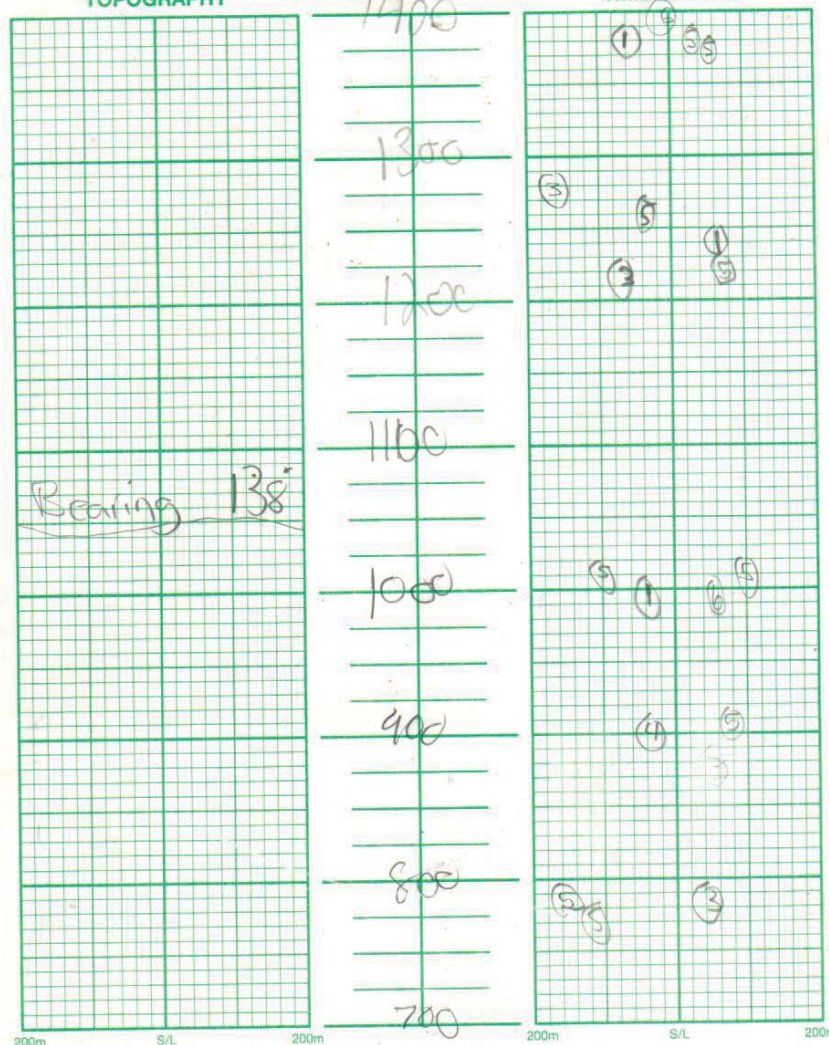
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TOPOGRAPHY

STRIP No.

GAF-029(2)

TIMBER TYPE



STRIP NO.:

GAF-029(2)

DIRECTION:

168°(SSon)

START STRIP:

700m-1400m

JOB NO.:

Seneca walk thru

DATE:

Jan. 21/16

CREW:

Dailen V Blake B

REMARKS:



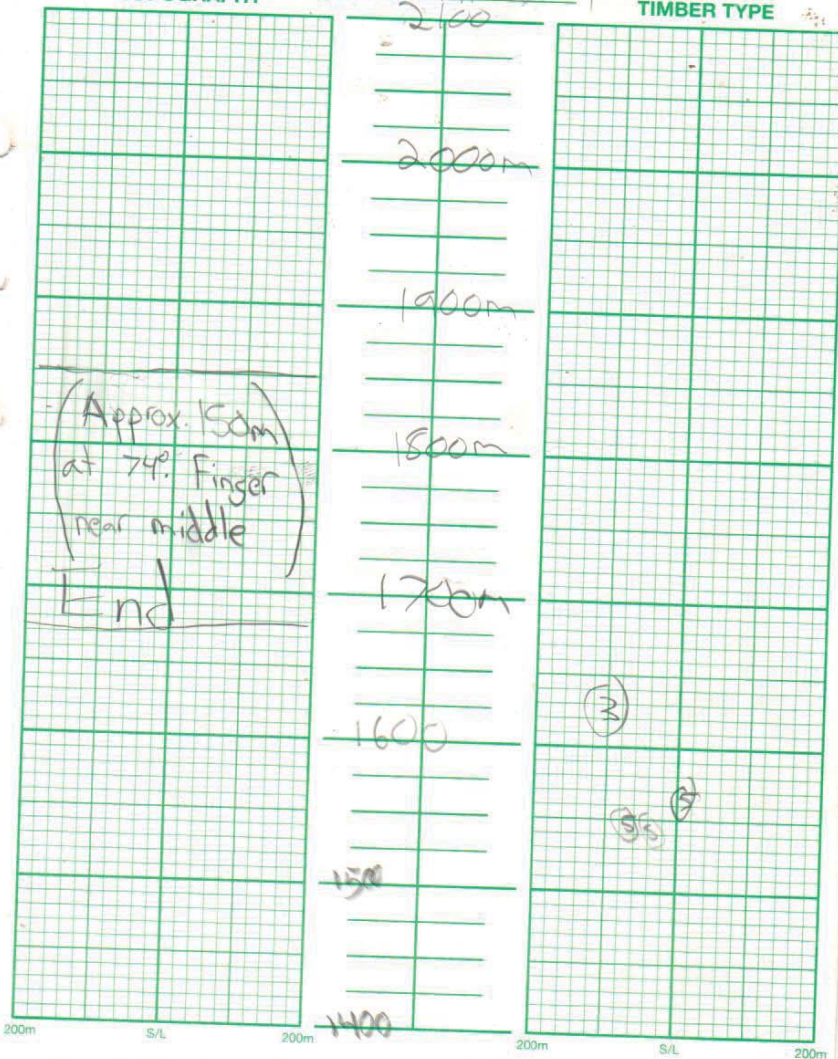
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Ph: 1-800-663-6843

TOPOGRAPHY

STRIP No.

GAF-029(3)

TIMBER TYPE



STRIP NO.:

GAF-029(3)

DIRECTION:

138° (Approx. 62m)

START STRIP:

1400m-2100m

JOB NO.:

General walk-in

DATE:

Jan. 2/16

CREW:

Dallen, V Blake, B

REMARKS:



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