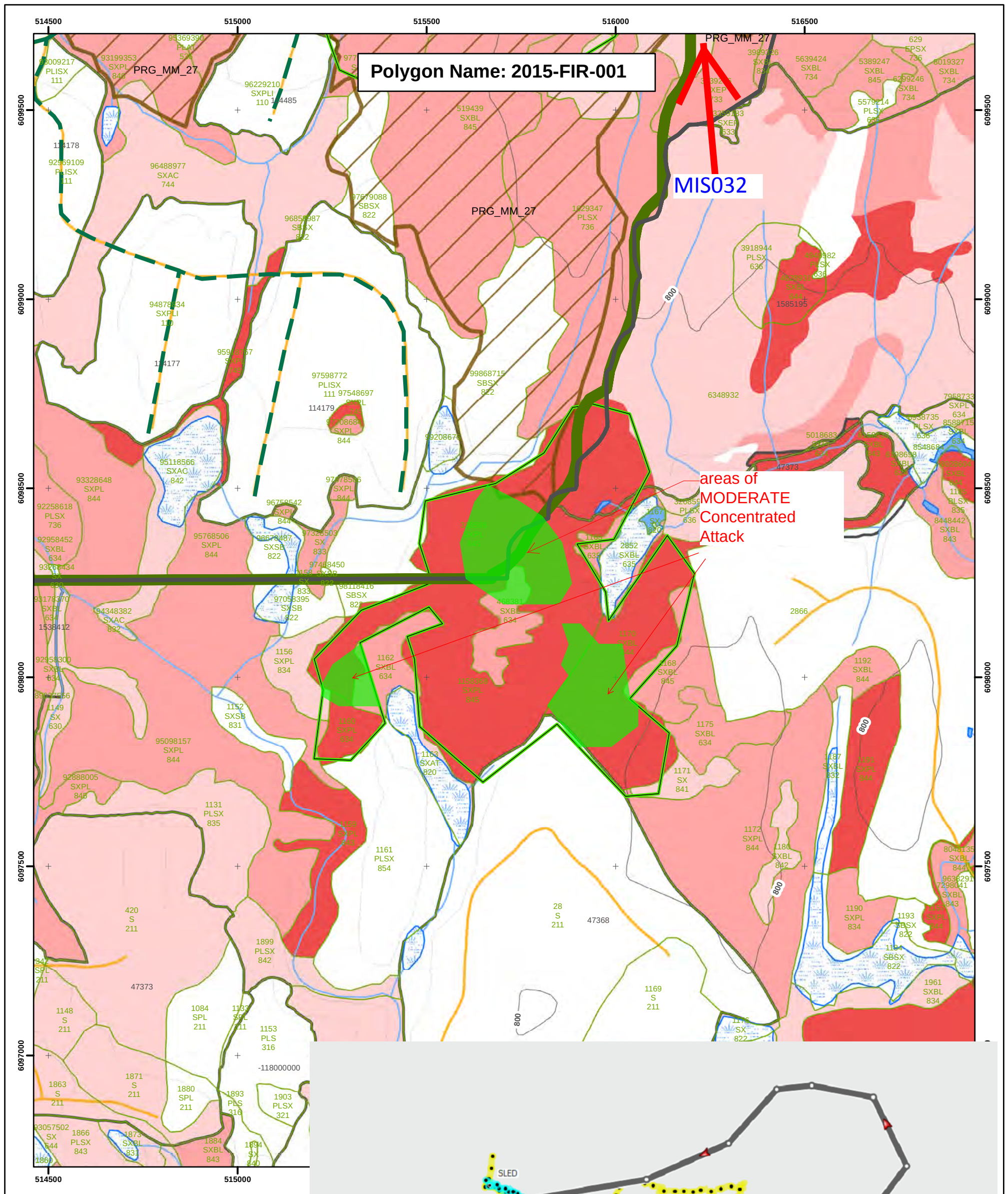
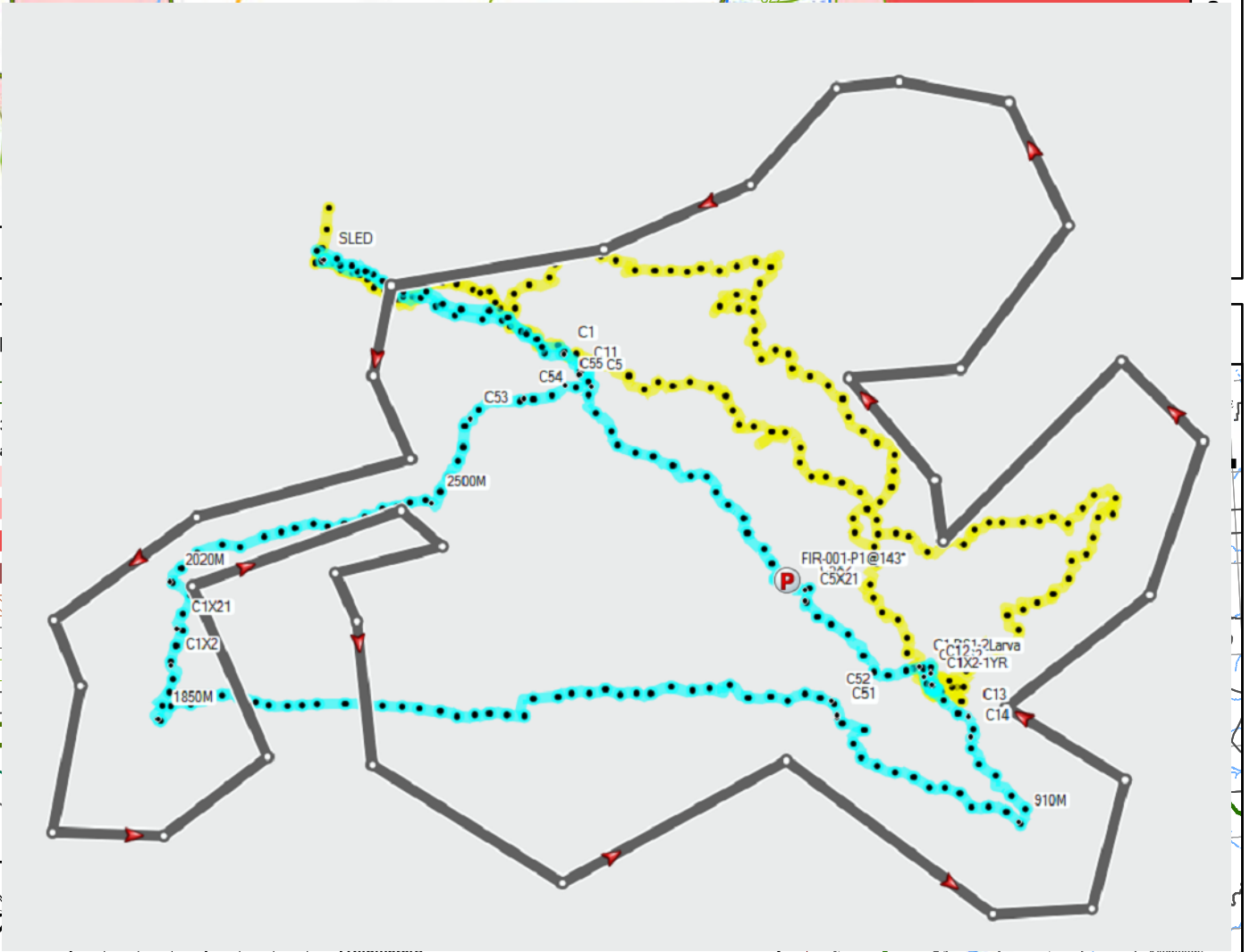




**SENECA ENTERPRISES LTD.**

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**SPRUCE BARK BEETLE REPORT
FH16DMK016,017**

POLYGON: 2015-FIR-001

HECTARES:

54.98

WALKTHROUGH DISTANCE:

4900

ESTIMATED INFESTED PIXELS FROM
WALKTHROUGH (Code 1-4)

10 20.4%

SUMMARY OF CURRENT INFESTATION

Walkthrough shows >20% infested pixels and although low sanitation rating, needs to be actioned as this rating came from 1 probe line. There are three pockets of attack with most trees on a 2 year life cycle (1 on a 1 year) and can potentially wait on this one. Polygon flat and is to the south of another heavier hit polygon MIS032.

MODERATE ATTACK NORTH OF ROAD (20 Hec), LIGHT SCATTERED ATTACK IN SOUTHWEST

ACCESS

Access to the north of the polygon via sled along road from mainline (12km+) Good road if plowed. Walk into NE portion 100m.

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

No major slopes, 0-5%. Some areas of open Aspen/ balsam within polygon. Overall 60% spruce within stand.. Polygon located to the south of MIS032

SIZE, BOUNDARY and PATTERN OF INFESTATION

Three areas of concentrated attack where in total 1-Code 2 and 17 Code 1's were found within 10 pixels. Scattered Code 5's outside of the attack centers.

INCIDENCE AND SEVERITY OF ATTACK

One probe line and 2 bark samples show a low larvae density and moderate attack density.. Probe line only represented one code 2 attacked tree, more code 1's in other areas.

RISK OF BEETLE SPREAD

Polygon has pockets of moderate attack and can continue to spread within polygon. Cutblocks boundary the south and east of polygon.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes. South of MIS032.

RECOMMENDATIONS

SCHEDULE PLANS WITH MIS031 and FIR001 as in immediate area.

OPTION 1**PROBE.HARVEST**

Probe or Cruise to identify areas requiring harvesting to determine severity and better define area of attack. There are three separate areas of attack with most on the first year of a two year life cycle. There are scattered code 5 attacked trees as well. Work in conjunction with MIS032 but could potentially wait on this one as most are in a two year life cycle.

OPTION 2**TRAP TREES/ MONITOR**

Schedule Cruising and lay trap tree trails down

2015-FIR-001

SPRUCE BEETLE WALKTHROUGH

Legend

- MODERATE ATTACK
- PROBE LINES
- Path
- Path
- Path
- Path
- Path
- Path
- Path
- Path



Google earth

Image © 2016 DigitalGlobe
© 2016 Cnes/Spot Image



400 m

Good access, minimal slopes. South of MIS032.



Probe 1 - (BS) on BACK

BEETLE PROBE CARD

LOCATION	515844, FIR-001 6098081	ELEVATION	800	LATITUDE	/	PAGE	OF				
BEARING	140°	STRIP LINE NO	1	STRIP WIDTH	10m	DISTANCE	100m				
				BEETLE SPECIES ☒ SB ☐ MPB ☐ DFB							
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	MAIN	OTHER	
12.5 - 17.4	2.0										
17.5 - 25.0	3.3	••									
25.1 - 30.0	5.3										
30.1 - 35.0	7.1	••									
35.1 - 40.0	9.4	••									
40.1 - 45.0	11.6	••									
45.1 - 50.0	13.8	••									
50.1 - 55.0	16.2	••									
55.1 - 60.0	18.7	••									
60.1 -	25.3										
TOTALS		21	1			4			27		
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN					
						Attacked	Unattacked				
N	2	/	/	/	/	/	/				
S	2	/	/	/	/	/	/				
COMMENTS: ○ = BS. - pink flag represents pixel - attack on 2 year life cycle.											
CREW NAMES						DATE					
James Kelly / Darryl D.						16 / 01 / 25					

FS 1111A RPG 00/02 7530881049 (100/bdl)



BRITISH COLUMBIA



BARK SAMPLE

BEETLE PROBE CARD

LOCATION	51,5976 FIR-001 6097980	ELEVATION	800	LATITUDE	/	PAGE	OF				
BEARING	/	STRIP LINE NO	/	STRIP WIDTH	/	DISTANCE	/				
				BEETLE SPECIES ☒ SB ☐ MPB ☐ DFB							
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	MAIN	OTHER	
12.5 - 17.4	2.0										
17.5 - 25.0	3.3										
25.1 - 30.0	5.3										
30.1 - 35.0	7.1	○									
35.1 - 40.0	9.4										
40.1 - 45.0	11.6										
45.1 - 50.0	13.8										
50.1 - 55.0	16.2										
55.1 - 60.0	18.7										
60.1 -	25.3										
TOTALS											
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN					
						Attacked	Unattacked				
N	1	/	2	/	/	/	/				
S	1	/	2	/	/	/	/				
COMMENTS											
CREW NAMES						DATE					
James Kelly						16 / 01 / 25					

FS 1111A RPG 00/02 7530881049 (100/bdl)

BARK SAMPLE 2



BRITISH
COLUMBIA



BEETLE PROBE CARD

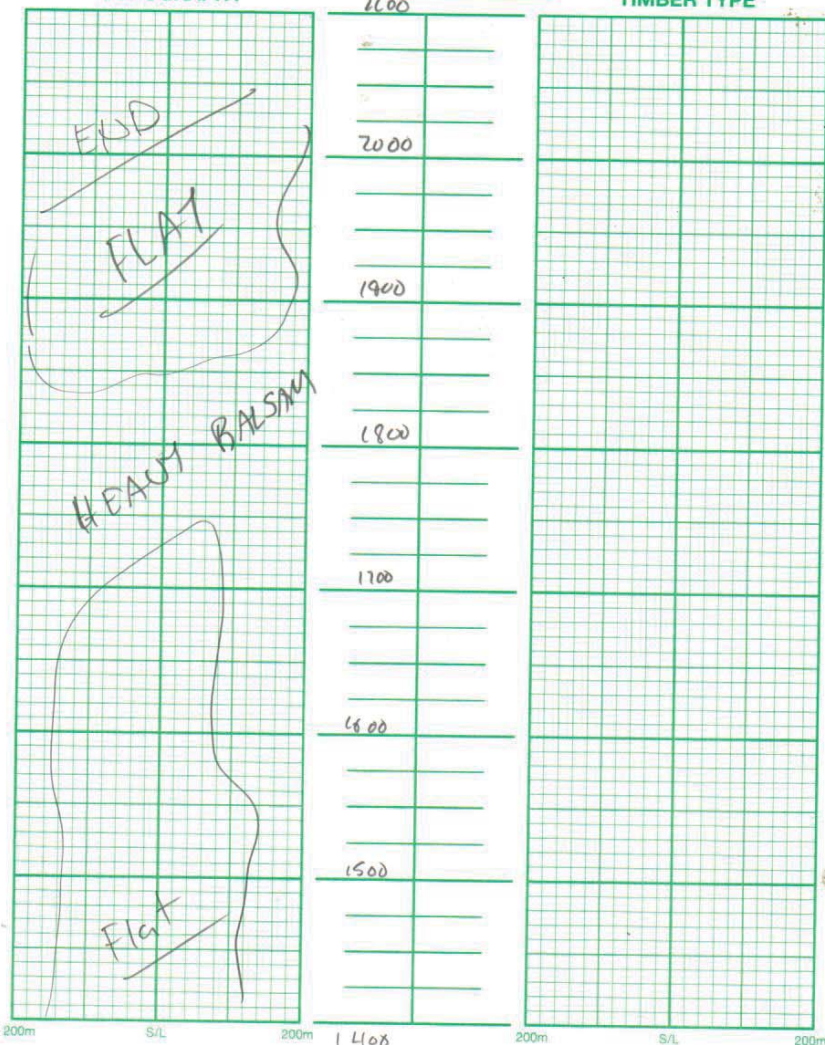
LOCATION		515453		ELEVATION	800		LATITUDE	PAGE	OF	
F12001		6097981								
BEARING	STRIP LINE NO	STRIP WIDTH	DISTANCE	BEETLE SPECIES						
/	/	/	/	☒ SB ☐ MPB ☐ DFB						
DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK						OTHER TREE SPECIES	
			1	2	3	4	5	6	MAIN	OTHER
12.5 - 17.4	2.0									
17.5 - 25.0	3.3									
25.1 - 30.0	5.3									
30.1 - 35.0	7.1									
35.1 - 40.0	9.4									
40.1 - 45.0	11.6									
45.1 - 50.0	13.8									
50.1 - 55.0	16.2									
55.1 - 60.0	18.7									
60.1 -	25.3	1								
TOTALS										
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN				
						Attacked	Unattacked			
N	2	/	2	/	/					
S	3	/	/	/	1					
COMMENTS										
- Large mature tree. - represent some of attack seen.										
CREW NAMES						DATE				
James Kelly						Y	M	D		
						16	01	25		

TOPOGRAPHY

STRIP No. 2

2600

TIMBER TYPE

STRIP NO.: 2DIRECTION: 30S,START STRIP: 1400JOB NO.: FIR-001DATE: Jan 25, 2016CREW: James / Barry

REMARKS:



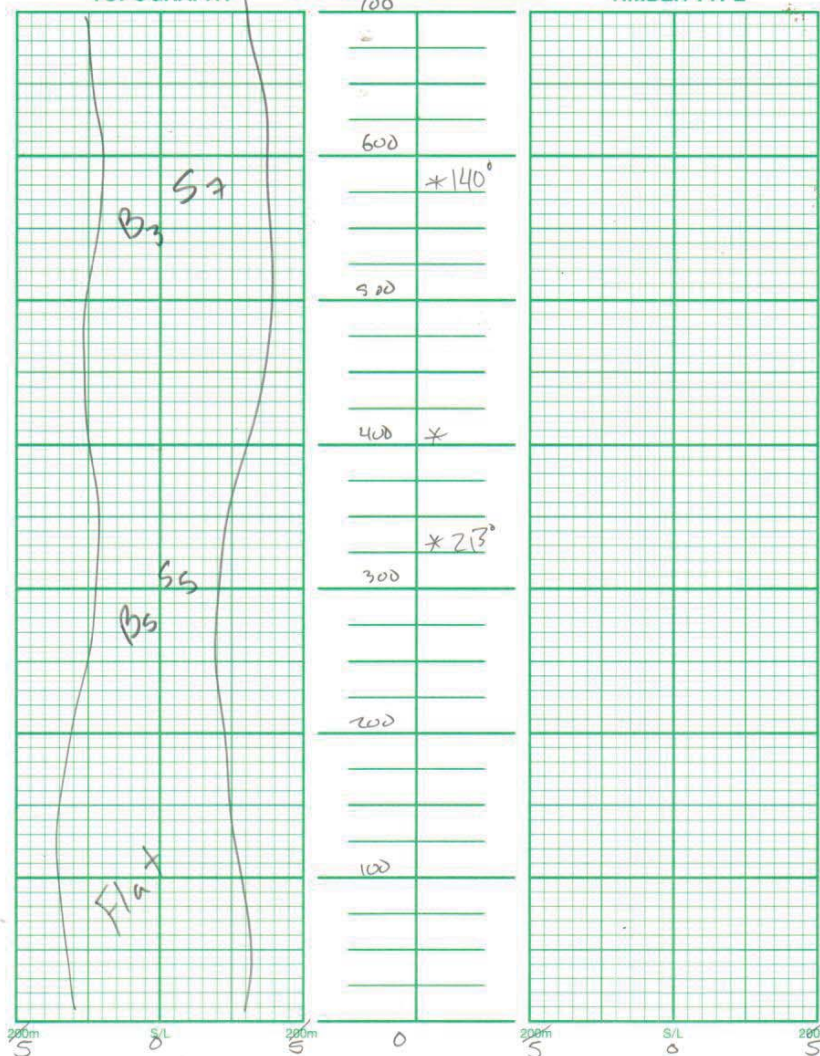
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TOPOGRAPHY

STRIP No. 2

700

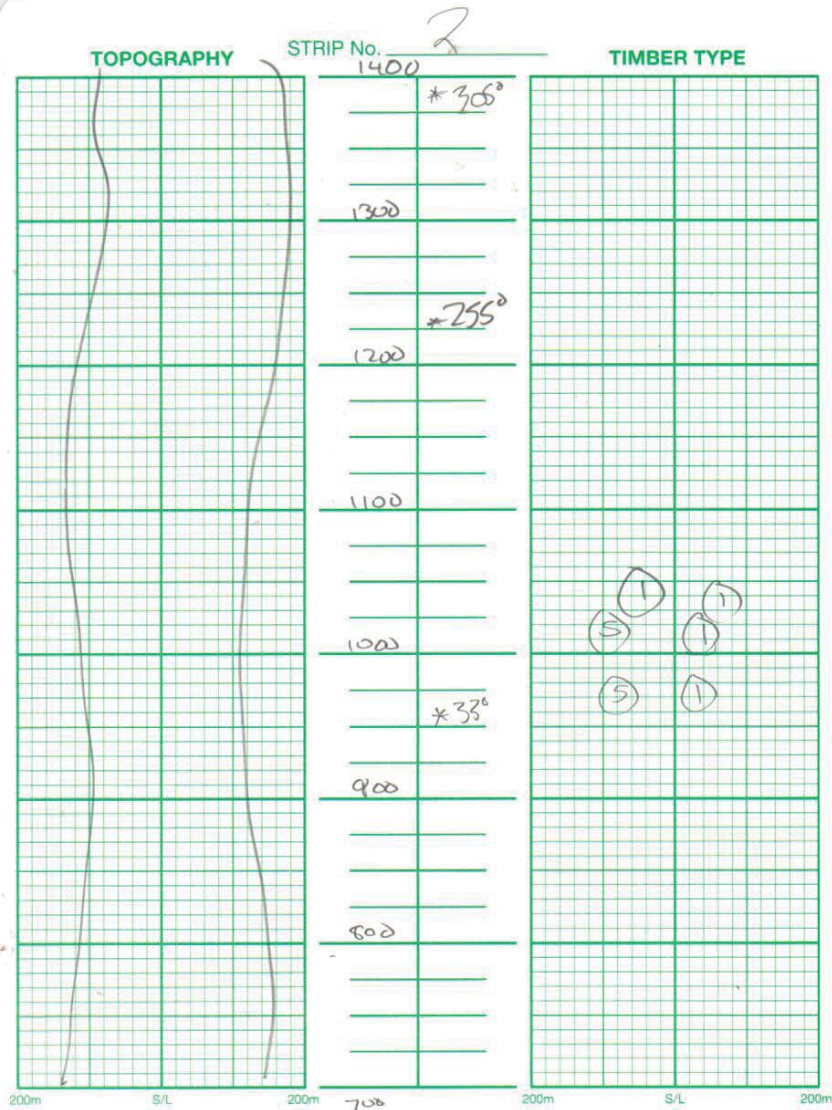
TIMBER TYPE

STRIP NO.: 2DIRECTION: 85°, 213°, 140°, 170°START STRIP: 0JOB NO.: DATE: Jan 25 / 2016CREW: Barry / James

REMARKS:



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STRIP NO.: 2 DIRECTION: 170°, 33°, 255°, 305°

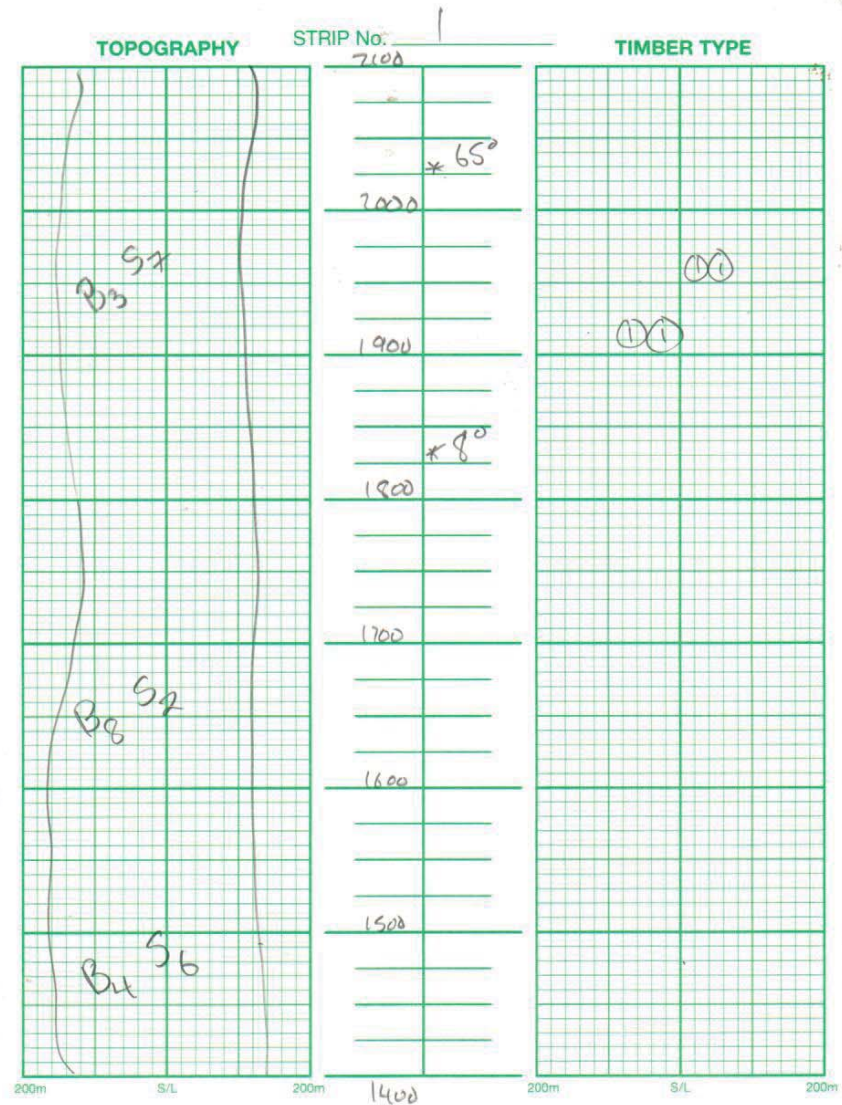
START STRIP: 700

JOB NO.: FIR-001 DATE: Jan 25 / 2016

CREW: Parry / James

REMARKS: Attack Large Sx

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STRIP NO.: 1 DIRECTION: 270°, 8°, 65°

START STRIP: 1400

JOB NO.: FIR 001 DATE: Jan 25, 2016

CREW: James / Parry

REMARKS: _____

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TOPOGRAPHY	STRIP No. <u>1</u>	TIMBER TYPE
	2800	
	2700	(1)
		(5) (5)
	2600 X	(5)
	2500 X 20°	
	2400	
	2300	
	2200	

STRIP NO.: 1 DIRECTION: 65°, 20°, 65°
 START STRIP: 2100m
 JOB NO.: FIR 001 DATE: Jan 25, 2016
 CREW: James (Darryl)
 REMARKS: _____



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