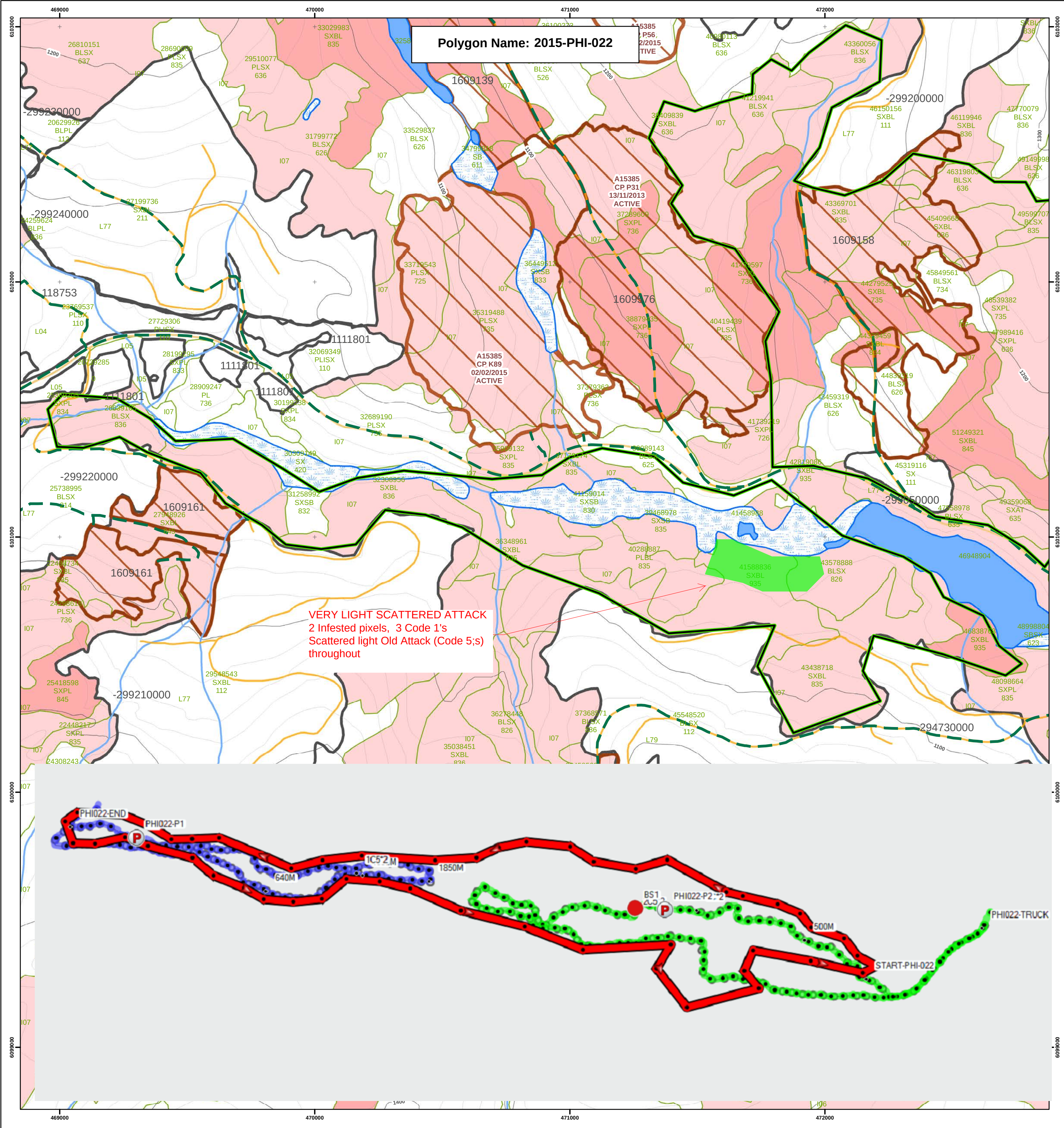




Spruce Bark Beetle Field Map

Polygon Name: 2015-PHI-022

Landscape Unit/BMU: Philip

Region: Omineca

District: Mackenzie

Mapsheet: 093003

Hectares: 136.15

Scale: 1:10,000

When plotted on ANSIC

Coordinate System: NAD 1983 UTM Zone 10N

Datum: North American 1983

Date Drawn: 01/11/2015

Drawn By: msnively

Map Features

Susceptible Spruce Bark Beetle Polygon

2013 SB Hazard Rating (20% increments)

Hazard Classes

- Low/Med (21-40)
- Med (41-60)
- High (61-80)
- Very High (81-100)

VRP Polygon

Cutting Permit

RESULTS Opening

Landscape Unit

Road Permit Active

Road Permit Pending

Km_Marker_Points

Communities

First Nations Reserves

Mackenzie District

OGMA Legal Current

Ungulate Winter Range

Wildlife Habitat Area

Protected Lands Designation

- Ecological Reserve
- Protected Area
- Provincial Park

Contour - Index

Contour - Intermediate

Lakes and Rivers

Wetlands

Streams

Key Map

Disclaimer

The accuracy and completeness of the information on this map is not guaranteed.

**SENECA ENTERPRISES LTD.**

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

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

WALKTHROUGH DISTANCE:

9100**SPRUCE BARK BEETLE REPORT
FH16DMK010**POLYGON: **2015-PHI-022**

HECTARES:

136.15

ESTIMATED INFESTED PIXELS FROM

WALKTHROUGH (Code 1-4)

2 2.2%**SUMMARY OF CURRENT INFESTATION**

Walkthrough estimate shows 2% of polygon has Code 1 2015 attack. These were found towards the center of the polygon and only 3 trees identified in walkthrough. There are patches of older Code 5 attack lightly scattered through the rest of Polygon. Polygon surrounded by cutblocks to the south, swamps and mainline to the north. Light scattered attack.

LIGHT SCATTERED ATTACK**ACCESS**

Polygon has mainline road run along entire north boundary. Parked 600m east from Polygon as no room to safely park along road.

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

Drainage runs through length of Polygon with Large swamp located in the center of the Polygon. Boundaried by old cutblocks to the south and mainline to the north. Just off mainline to the North is polygon 2015-PHI-023. Heavy Balsam component throughout.

SIZE, BOUNDARY and PATTERN OF INFESTATION

Scattered Code 5's throughout Polygon and found 3 code 1s in small area off of the swamp in the center of the polygon..

INCIDENCE AND SEVERITY OF ATTACK

From 2 probe lines, and 1 Bark sample, sampled 2 of the 3 attacked trees and showing low attack density and low mean larval density. Heavy areas of Balsam gives a light Sanitation Rating.

RISK OF BEETLE SPREAD

Polygon has light scattered recent and light scattered old attack. Surrounded by cutblocks mainly to the south, road and swamps boundary much of the north. Polygon 2015-PHI-023 located just north of the polygon as well. Beetle infestation will move slowly through polygon with little risk of spread.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes as off of mainline. Quite wet with swamps covering most of the north of the polygon.

RECOMMENDATIONS**OPTION 1****MONITOR**

Sanitation and Salvage Rating is **LIGHT** and attack and larval densities low. Walkthrough found three current attacked trees on a 2 year life cycle. May be other attacked trees as very light in intensity. Schedule another walkthrough 2016 as good access.

OPTION 2**BAIT/ MONITOR**

May want to setup baits 2017 in the small area where recent attack found and monitor.

2015-PHI-022

SPRUCE BEETLE WALKTHROUGH

Legend

- 2015-PHI-023 (NorthEast)
- Light Scattered Attack
- Probe Lines

PHI022-END

2C5

1C5*2

1300M

1850M

640M

BS1

2C5*2

1C1*2

1C*2

500M

START-PHI-022

Google earth

© 2015 Google

Image © 2015 Province of British Columbia



1 km

Summary						
2015-PHI-022	HEC	136.15	METERS WALKED	9100	% TRAVERSED	6.7%
PIXELS COVERED BY WALKTHROUGH	91	INFESTED PIXELS	2	ESTIMATED % OF BLOCK INFESTED (From Walk through)		2.2%

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	52.8	0.0	0.0	0.0	0.0	0.0	0.0	112.2
25.1-30.0	5.3	53	0.0	0.0	0.0	0.0	0.0	0.0	111.3
30.1-35.0	7.1	63.9	0.0	0.0	0.0	0.0	0.0	0.0	149.1
35.1-40.0	9.4	47	9.4	0.0	0.0	0.0	0.0	0.0	47
40.1-45.0	11.6	46.4	0.0	0.0	0.0	0.0	0.0	0.0	11.6
45.1-50.0	13.8	13.8	0.0	0.0	0.0	0.0	13.8	0.0	0
50.1-55.0	16.2	0	16.2	0.0	0.0	0.0	0.0	0.0	0
55.1-60.0	18.7	37.4	0.0	0.0	0.0	0.0	0.0	0.0	0
60.1 +	25.3	0	0.0	0.0	0.0	0.0	0.0	0.0	0
TOTALS	353.7	314.3	25.6	0	0.0	0.0	13.8	0	431.2

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
0.50	< 3.9 SEVERE Attack Density	1.83	>24.9 EXTREME Mean Larval Density

TABLE 2- Spruce Beetle Management Options after Walkthrough

% 2015 ATTACK	7.2%	7.2	SANITATION AND SALVAGE HARVEST PRIORITY RATING			
% 2014 ATTACK	0.0%	##	LIGHT	0-599	LEAVE (Monitor, Trap Trees, Baits, etc)	370.1
% 2013 ATTACK	3.9%	##	MODERATE	600-999	PROBE (To Obtain Further Info)	
% HOST IN STAND	45.1%	##	HEAVY	1000+	RECOMMEND CRUISING/ LOGGING	

FROM 2 PROBE LINES AND 1 BARK SAMPLE/

SUMMARY OF ALL CARDS FS1111						NUMBER OF CARDS		3		
ACCESS -		Polygon has mainline road run along entire north boundary. Parked 600m east from Polygon as no room to safely park along road.								
POLYGON FEATURES -		Drainage runs through length of Polygon with Large swamp located in the center of the Polygon. Boundaried by old cutblocks to the south and mainline to the north. Just off mainline to the North is polygon 2015-PHI-023. Heavy Balsam component 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	16	0	0	0	0	0	0	30	4
25.1-30.0	5.3	10	0	0	0	0	0	0	12	9
30.1-35.0	7.1	9	0	0	0	0	0	0	17	4
35.1-40.0	9.4	5	1	0	0	0	0	0	4	1
40.1-45.0	11.6	4	0	0	0	0	0	0	1	0
45.1-50.0	13.8	1	0	0	0	0	1	0	0	0
50.1-55.0	16.2	0	1	0	0	0	0	0	0	0
55.1-60.0	18.7	2	0	0	0	0	0	0	0	0
60.1 +	25.3	0	0	0	0	0	0	0	0	0
TOTALS		47	2	0	0	0	1	0	64	18
BARK SAMPLES 15 cm x 15 cm		NO. ENTRAN CE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE ADULTS	NO. CALLOW	FRESH (GREEN) BLOWDOWN			
							Attacked			
							Y r		Y r	Unattacked
6		3	0	11	0	0	0		0	0

SIZE, BOUNDARY AND PATTERN OF THE INFESTATION

Scattered Code 5's throughout Polygon and found 3 code 1s in small area off of the swamp in the center of the polygon..

INCIDENCE AND SEVERITY OF THE INFESTATION

From 2 probe lines, and 1 Bark sample, sampled 2 of the 3 attacked trees and showing low attack density and low mean larval density. Heavy areas of Balsam gives a light Sanitation Rating.

RISK OF BEETLE SPREAD

Polygon has light scattered recent and light scattered old attack. Surrounded by cutblocks mainly to the south, road and swamps boundary much of the north. Polygon 2015-PHI-023 located just north of the polygon as well. Beetle infestation wil move slowly through polygon with little risk of spread.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes as off of mainline. Quite wet with swamps covering most of the north of the polygon.

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ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access, minimal slopes as off of mainline. Quite wet with swamps covering most of the north of the polygon.



P-1
BEETLE PROBE CARD

LOCATION PH1022		ELEVATION 1034		LATITUDE /		PAGE OF 1 2					
BEARING 308°	STRIP LINE NO 1	STRIP WIDTH 10m	DISTANCE 10m	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									B1	P1
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		27					1	25	18		
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN					
						Attacked	Unattacked				
/											
/											
COMMENTS - lots of dead pine. - NO SIGNS OF CURRENT ATTACK - NO BARK SAMPLE.											
CREW NAMES JAMES / PAT						DATE Y M D 15 11 30					

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



P2
BEETLE PROBE CARD

LOCATION 0471777 PH1-022 6100887		ELEVATION 1034		LATITUDE		PAGE OF					
BEARING 280	STRIP LINE NO 2	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									B1	
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		20	2					30			
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN					
						Attacked	Unattacked				
4	1	/	5	/	/	/	/				
5	2	/	3	/	/	/	/				
COMMENTS - open stand. Heavy balsam ☉ = BS.											
CREW NAMES JAMES / PAT						DATE Y M D 15 11 30					

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



BRITISH
COLUMBIA



BEETLE PROBE CARD

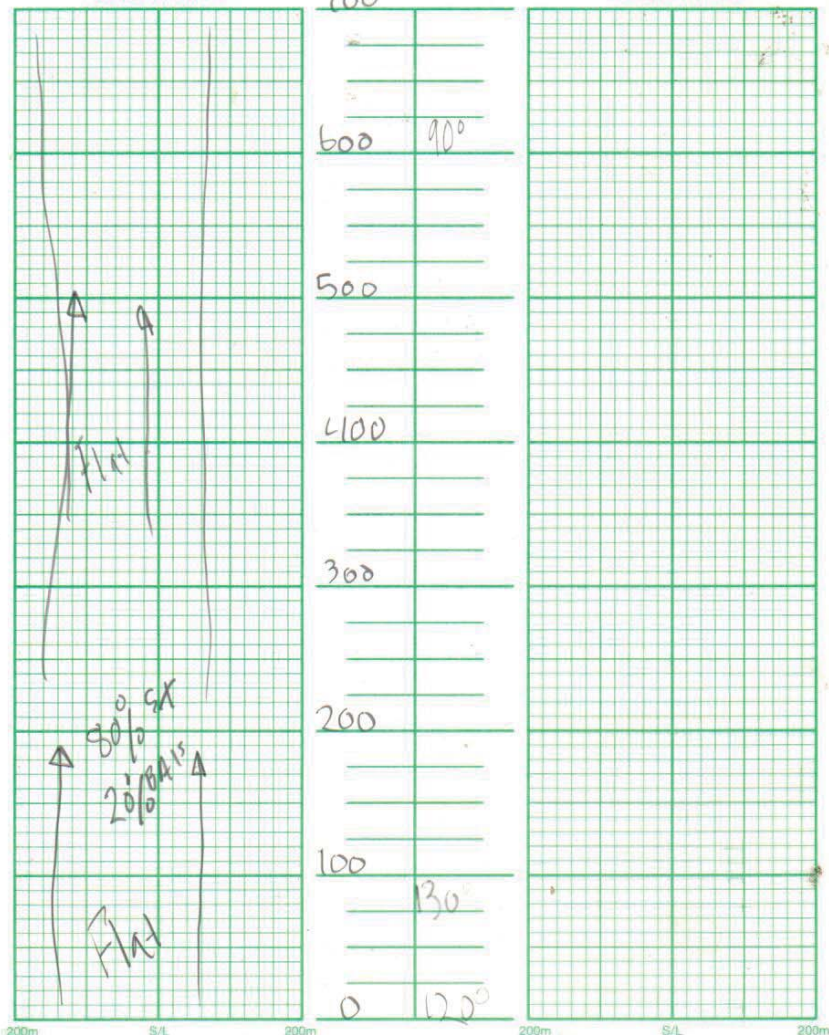
BARK SAMPLE 1

LOCATION PHI-022 6100897		ELEVATION 1040		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	
									MAIN	OTHER
12.5 - 17.4	2.0		1	2	3	4	5	6		
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	
10				2						
5				1						
COMMENTS										
CREW NAMES S. AMOS / PAT.							DATE Y M D 15 12 01			

TOPOGRAPHY

STRIP No. 1

TIMBER TYPE

STRIP NO.: 1DIRECTION: 120°, 130°, 90°START STRIP: 0-700JOB NO.: PHI-022DATE: NOV 30, 15

CREW: _____

REMARKS: _____

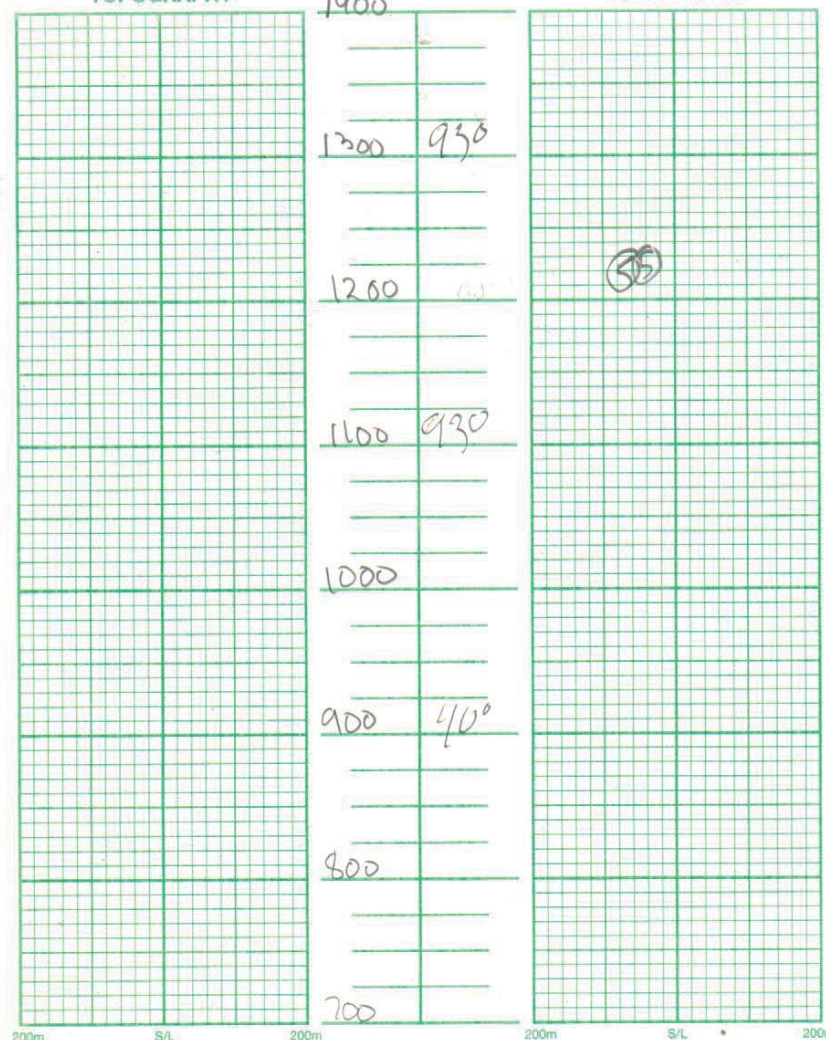


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TOPOGRAPHY

STRIP No. 1

TIMBER TYPE

STRIP NO.: 1DIRECTION: 90°, 40°, 93°START STRIP: 700-1400JOB NO.: PHI-022DATE: NOV 30, 15

CREW: _____

REMARKS: _____



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TOPOGRAPHY	STRIP No. 1	TIMBER TYPE
	2100	
	2000	
	1900 290°	
	1800 350°	
	1700	
	1600	
	1500	
	1400	

STRIP NO.: 1 DIRECTION: 130 350 290
 START STRIP: 1400 - 2100
 JOB NO.: PHI-022 DATE: NOV 30, 15
 CREW: James / Pat
 REMARKS:



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TOPOGRAPHY	STRIP No. 1	TIMBER TYPE
	2900	
	2700	
	2600 300°	
	2500	
	2400	
	2300	
	2200	
	2100 290°	

STRIP NO.: 1 DIRECTION: 290°, 300°
 START STRIP: 2100 - 2900
 JOB NO.: PHI-022 DATE: NOV 30, 15
 CREW:
 REMARKS:



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TOPOGRAPHY

STRIP NO. 1

TIMBER TYPE

200m	S/L	200m	200m	S/L	200m
3500					
3400					
3300					
3200					
3100					
3000					
2900					
2800					

STRIP NO.: _____ DIRECTION: _____
 START STRIP: _____
 JOB NO.: _____ DATE: _____
 CREW: _____
 REMARKS: _____



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TOPOGRAPHY

STRIP NO. 1

TIMBER TYPE

200m	S/L	200m	200m	S/L	200m
4200					
4100					
4000 2590					
3900					
3800					
PROBETIA					
3700					
3600					
3500					

100m
 5m on 5m

STRIP NO.: 1 DIRECTION: 300°, 2590
 START STRIP: 3500 - 4200
 JOB NO.: PHU-022 DATE: NOV 30, 15
 CREW: NAT/Tamers
 REMARKS: _____

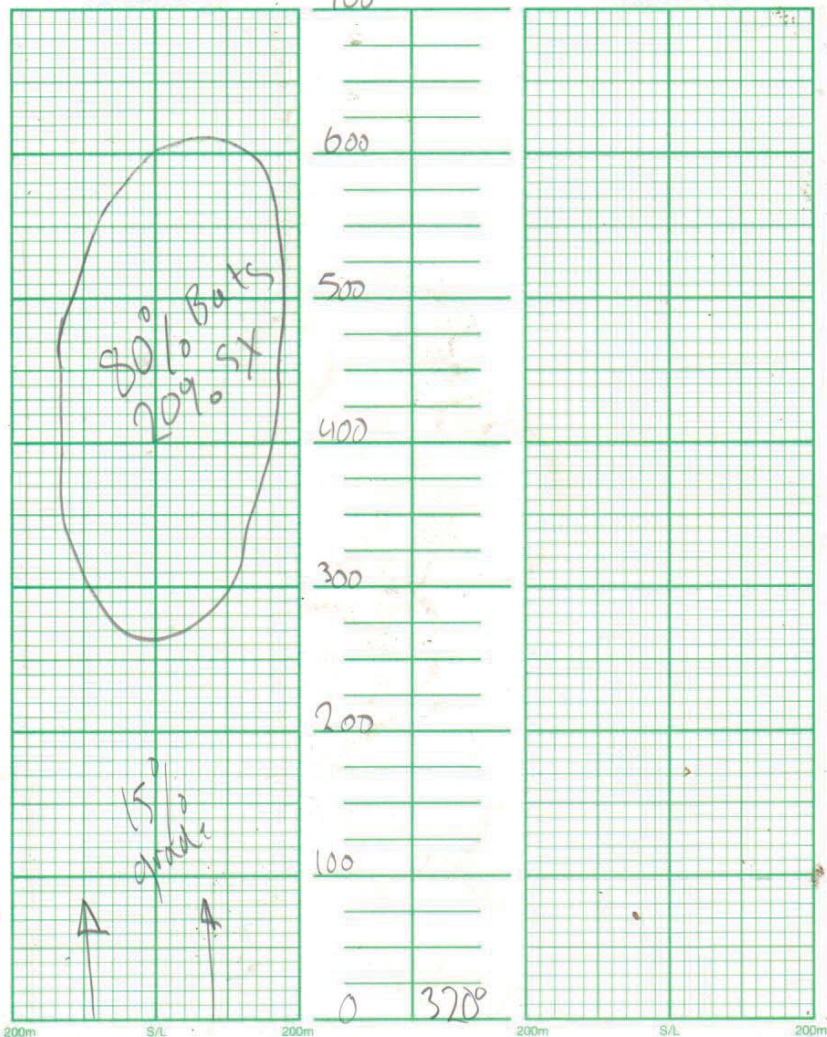


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TOPOGRAPHY

STRIP No. 2
700

TIMBER TYPE



STRIP NO.:

2

DIRECTION:

320°

START STRIP:

0-700

JOB NO.:

PHI-022

DATE:

Dec 1, 15

CREW:

Pat / James

REMARKS:

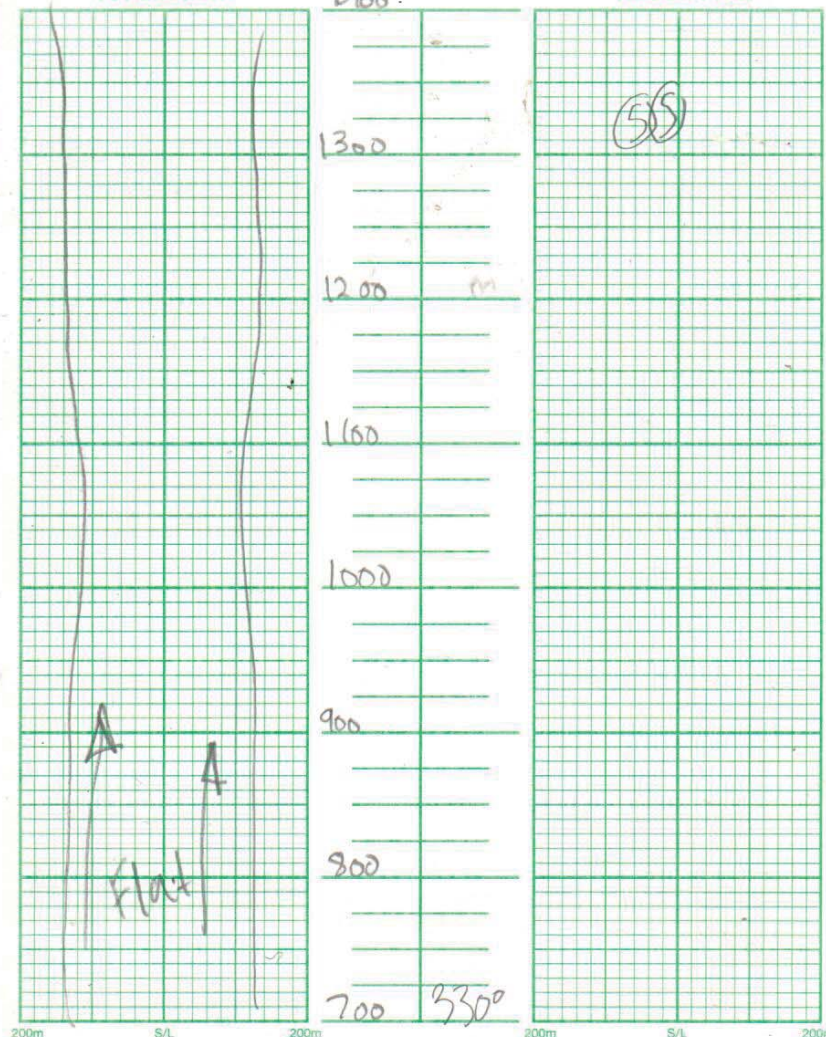


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Ph: 1-800-663-6843

TOPOGRAPHY

STRIP No. 2
1400

TIMBER TYPE



STRIP NO.:

2

DIRECTION:

330°

START STRIP:

700-1400

JOB NO.:

PHI-022

DATE:

Dec 1, 15

CREW:

Pat / James

REMARKS:

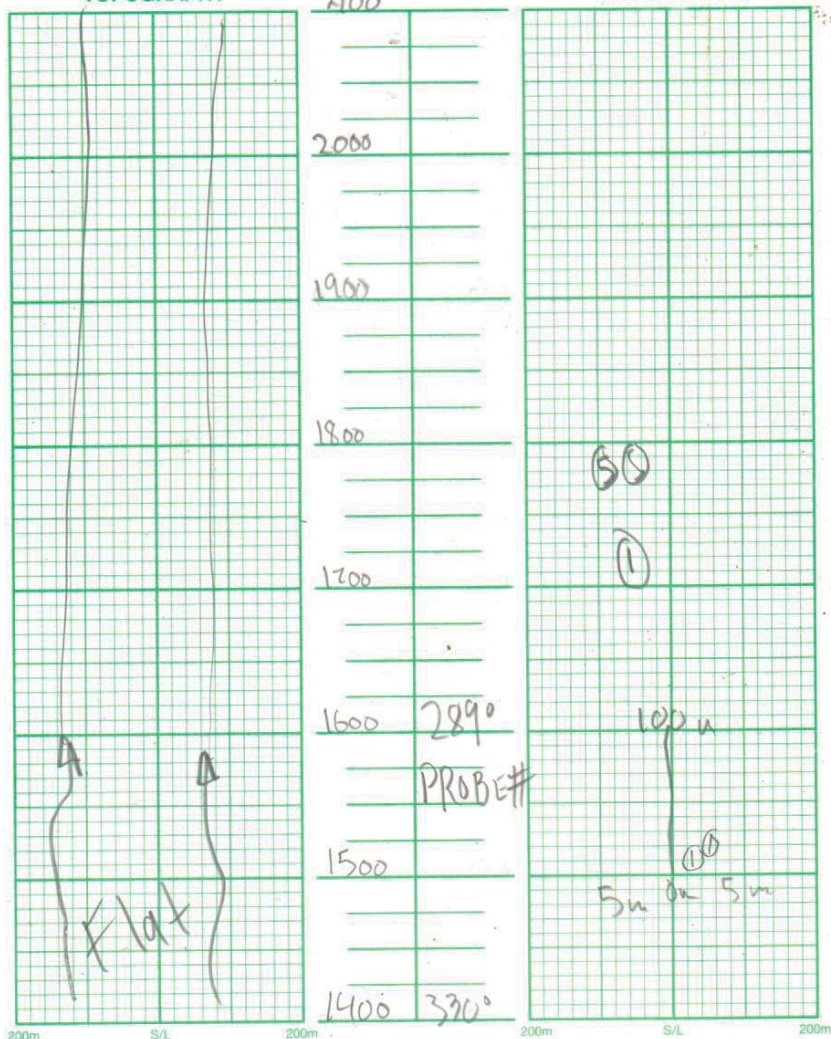


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Ph: 1-800-663-6843

TOPOGRAPHY

STRIP No. 2

TIMBER TYPE



STRIP NO.: 2

DIRECTION: 330°, 289°

START STRIP: 1400-2100

JOB NO.: PH1-022

DATE: Dec 1, 15

CREW: Pat/James

REMARKS:

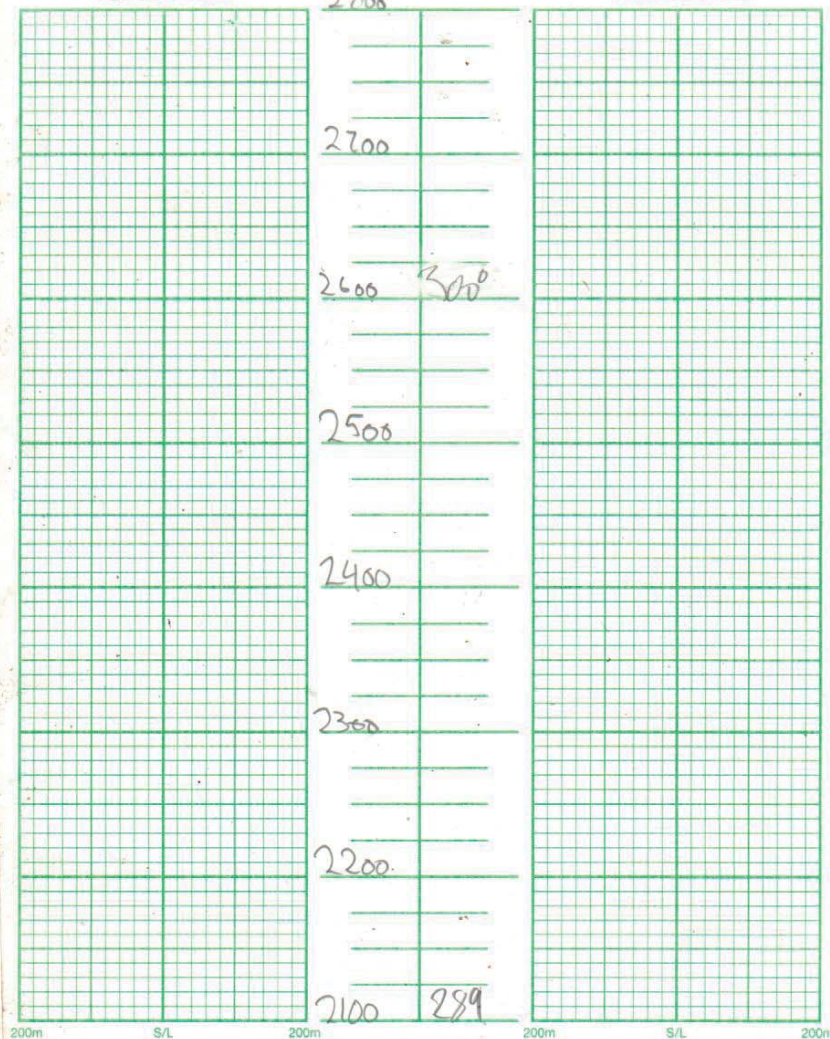


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TOPOGRAPHY

STRIP No. 2

TIMBER TYPE



STRIP NO.: 2

DIRECTION:

START STRIP: 2100-2800

JOB NO.: PH1-022

DATE: Dec 1, 15

CREW: Pat/James

REMARKS:

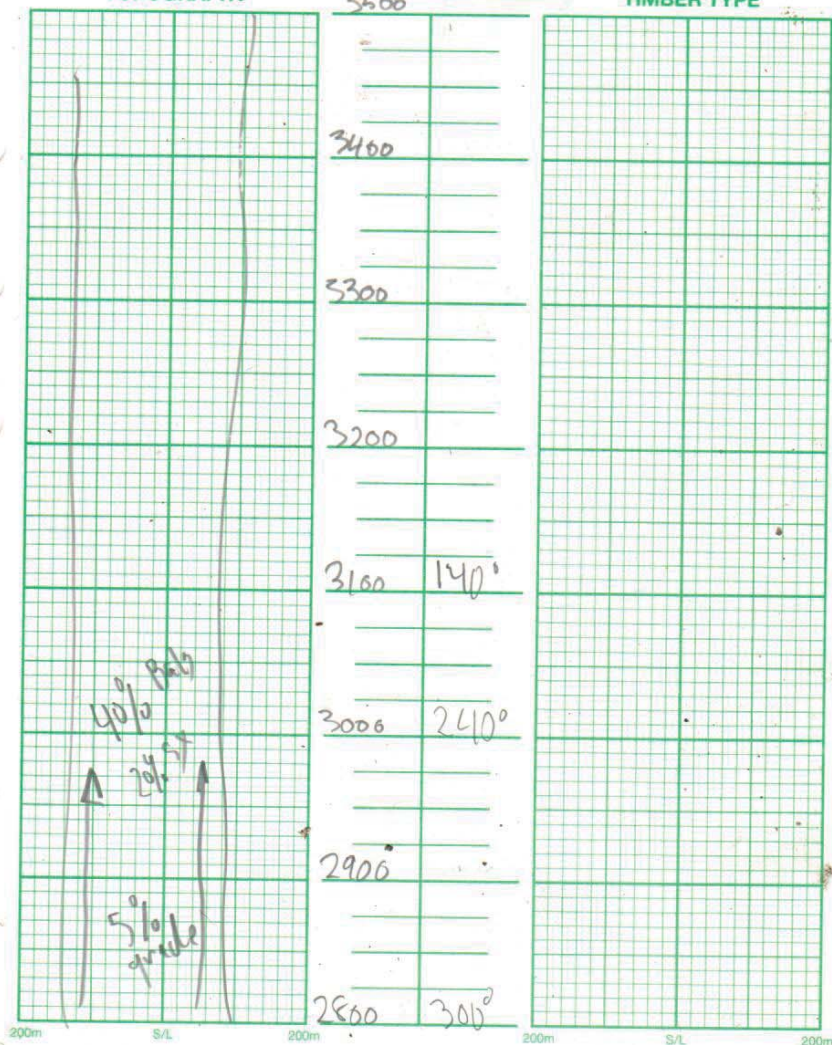


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TOPOGRAPHY

STRIP No. 2
3500

TIMBER TYPE



STRIP NO.: 2

DIRECTION:

300, 240°, 140°

START STRIP:

2800-3500

JOB NO.:

PHI-022

DATE:

Dec 1, 15

CREW:

Pat/James

REMARKS:

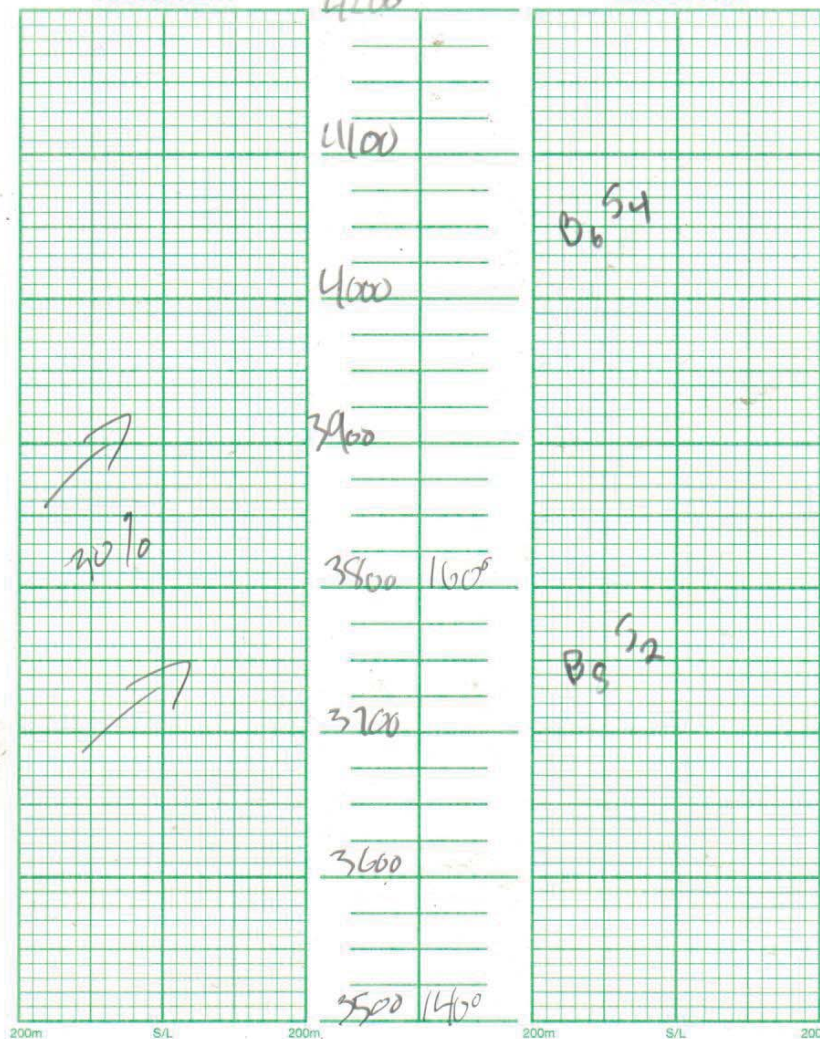


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TOPOGRAPHY

STRIP No. 2
4100

TIMBER TYPE



STRIP NO.: 2

DIRECTION:

140°, 160°

START STRIP:

3500

JOB NO.:

PHI-22

DATE:

Dec 1, 2015

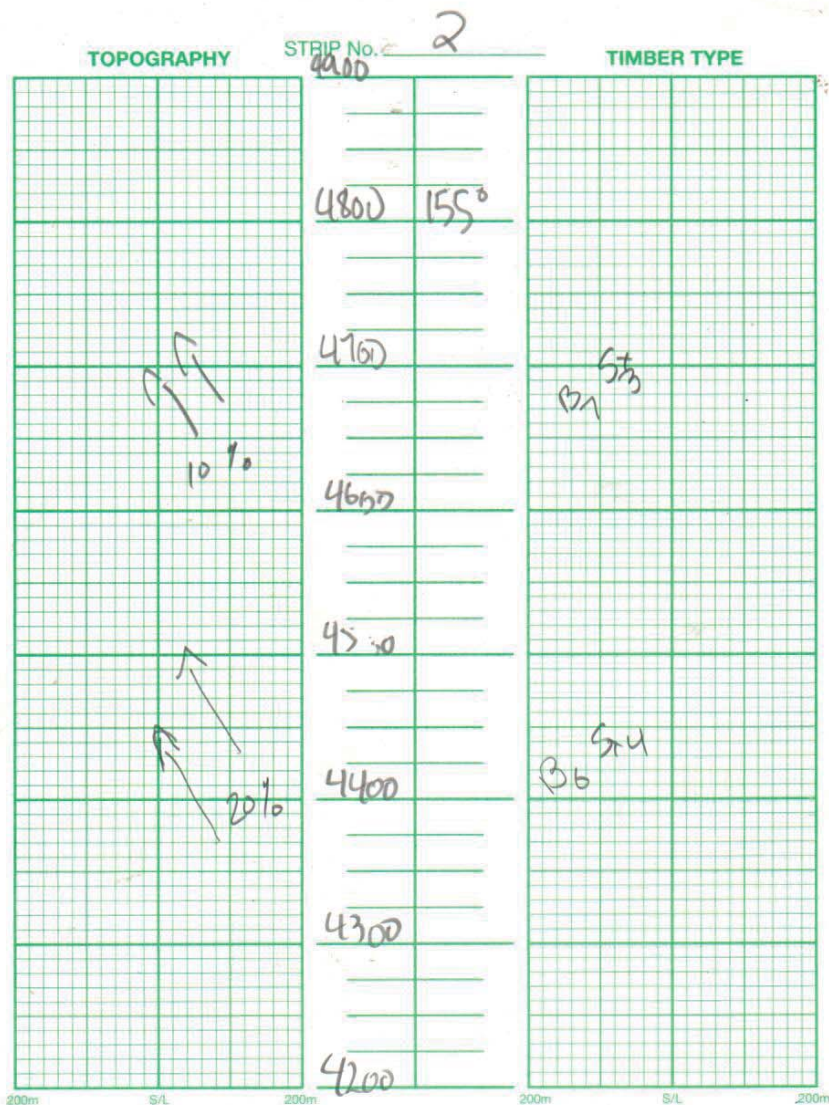
CREW:

PAT/JAMES

REMARKS:



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STRIP NO.: 2 DIRECTION: 160°, 155°

START STRIP: 4200

JOB NO.: AME-042 DATE: DEC 1, 2015

CREW: JAMES / RAT

REMARKS: _____



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