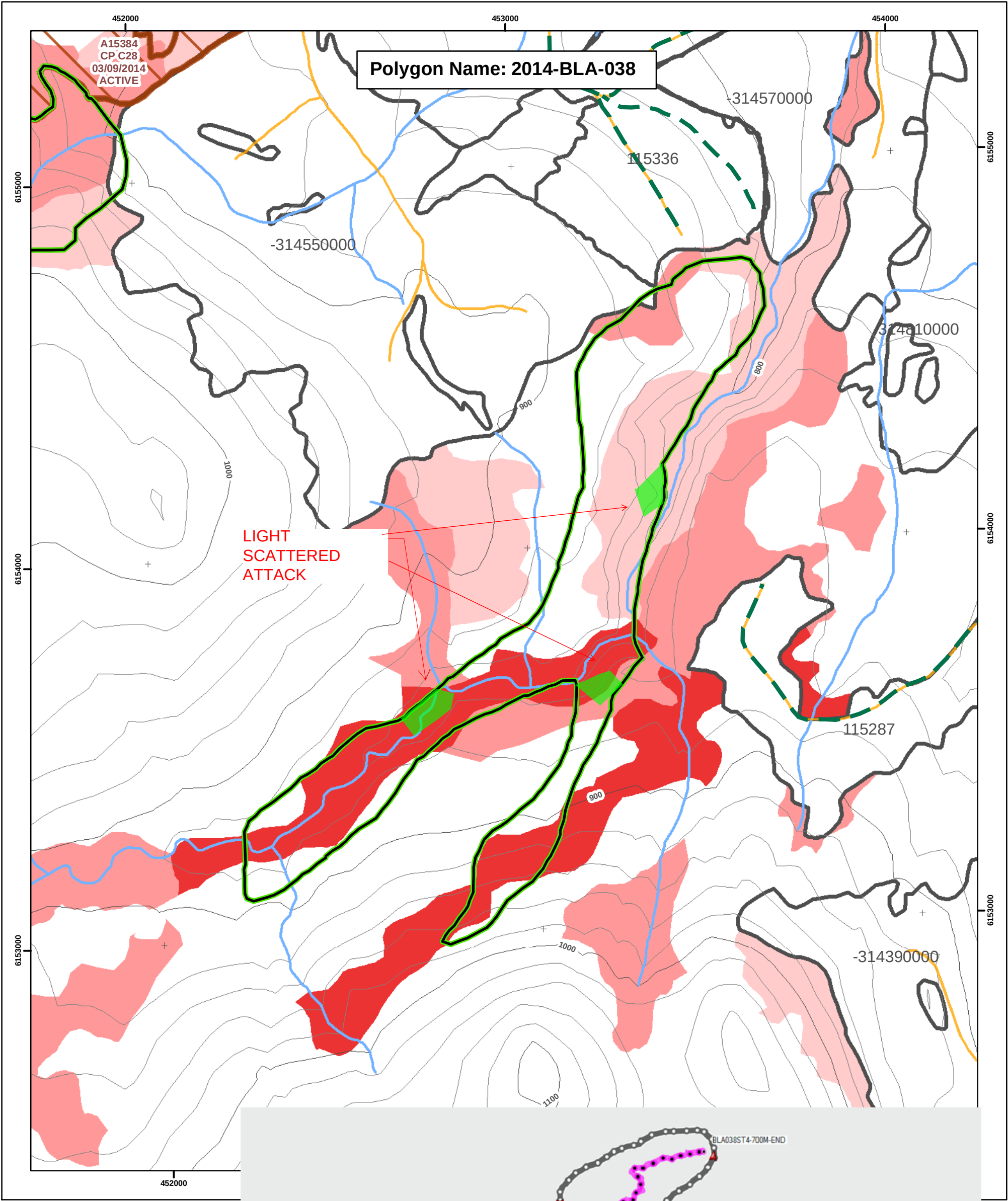
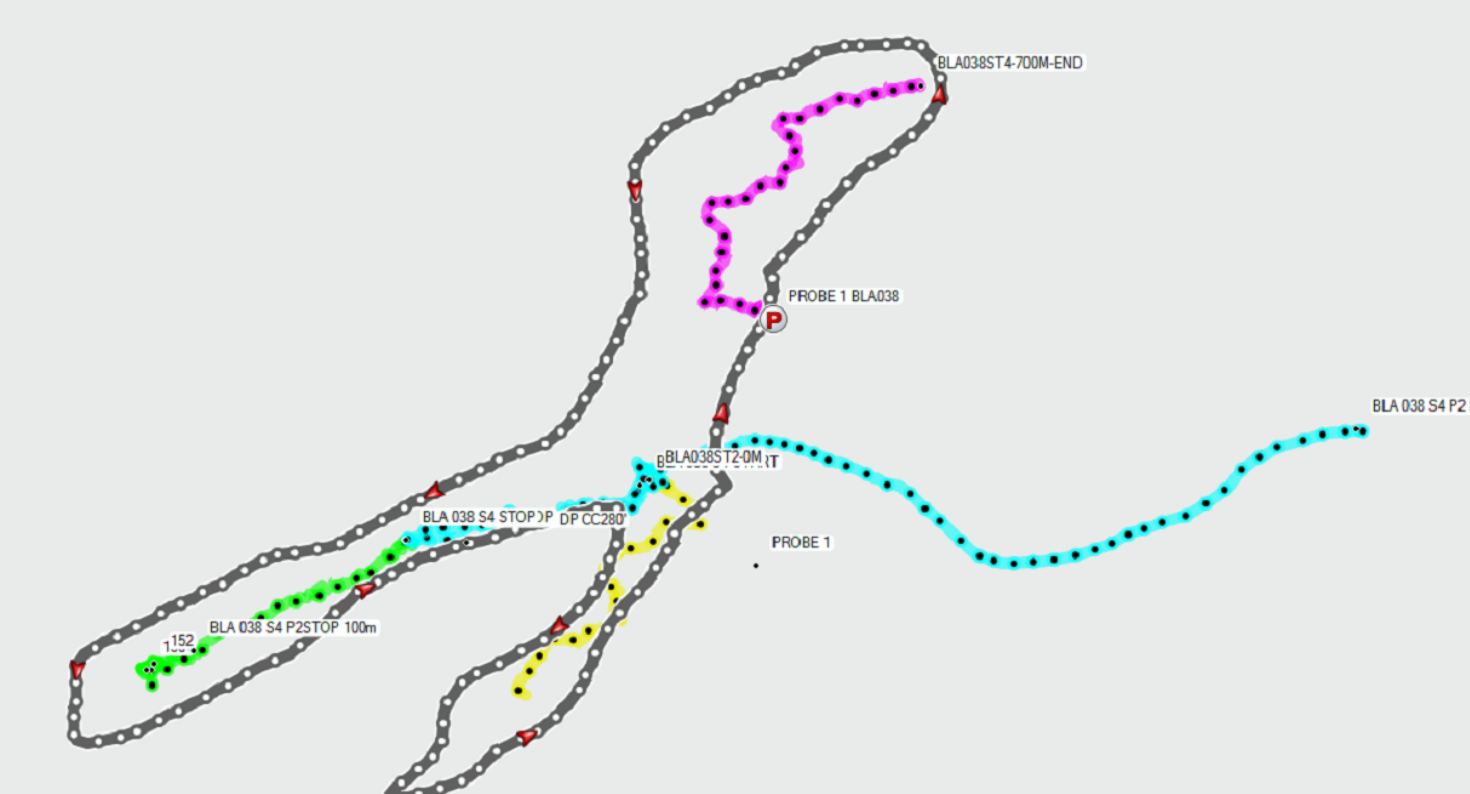






Ministry of
Forests, Lands and
Natural Resource Operations

Spruce Bark Beetle Field Map

Polygon Name: 2014-BLA-038

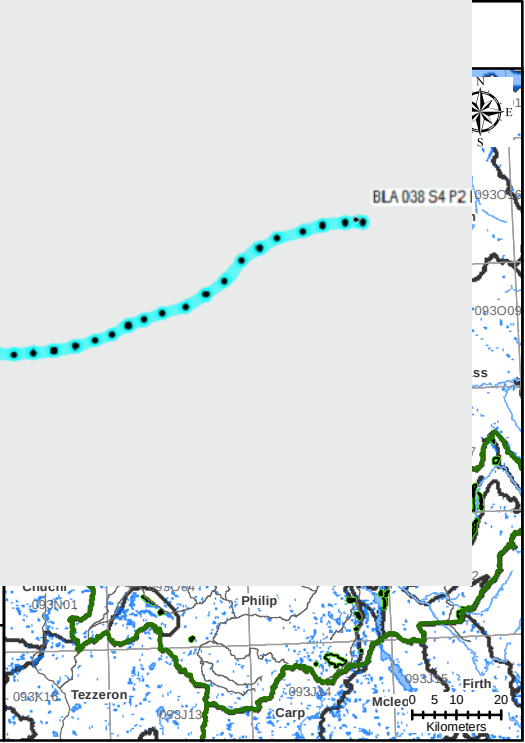
Landscape	Blackwater
Unit/BMU:	
Region:	Omineca
District:	Mackenzie
Mapsheet:	093O12
Hectares:	53.45
Scale:	1:10,000
When plotted on 11x17	
Coordinate System:	PCS Albers
Datum:	North American 1983
Date Drawn:	03/06/2015
Drawn By:	msnively



0 0.1 0.2 0.4
Kilometers

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: 2600

**SPRUCE BARK BEETLE REPORT
FH16DMK010**

POLYGON: 2014-BLA-038 HECTARES: 53.35

ESTIMATED INFESTED PIXELS FROM
WALKTHROUGH (Code 1-4) 4 15.4%**SUMMARY OF CURRENT INFESTATION**

Walkthrough estimate shows 15% of pixels has recent beetle attack. These trees are very scattered and is of light intensity and generally in flat areas around higher risk areas. There were 5 attacked trees noticed in walkthrough and spaced out throughout Polygon.

LIGHT SCATTERED ATTACK**ACCESS**

Difficult access via ATV and walk into Polygon/

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

Polygon has some steep slopes with drainages and wet areas running through entire polygon. 60% Spruce average from Walkthrough, mix with Birch and Balsam.

SIZE, BOUNDARY and PATTERN OF INFESTATION

Polygon has areas of light scattered attack throughout. Lots of code 5 Spruce throughout polygon and areas with recent attack where probe lines established. 15% infested pixels from walkthrough with single tree attack in pixels noted. (5 code ones noticed on walkthrough, 3 attacked trees sampled with 2 probe lines and one bark sample)

INCIDENCE AND SEVERITY OF ATTACK

2 probe lines and one bark sample show a moderate attack and larval density. Single trees attacked within areas of older attack (Code 5's) and mainly in flat draws around blowdown.

RISK OF BEETLE SPREAD

Polygon has pockets of attack that are scattered throughout polygon and could spread slowly through.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Access may be difficult crossing drainages to get into polygon. Some steeper slopes within flatter wet draws.

RECOMMENDATIONS**OPTION 1****MONITOR/ BAIT**

While Sanitation and Salvage rating Moderate, while there is Beetle in Polygon, it is small amounts and is moving slowly. Could set up some Baits to help contain but has some access constraints.

OPTION 2**PROBE/ FALL AND BURN**

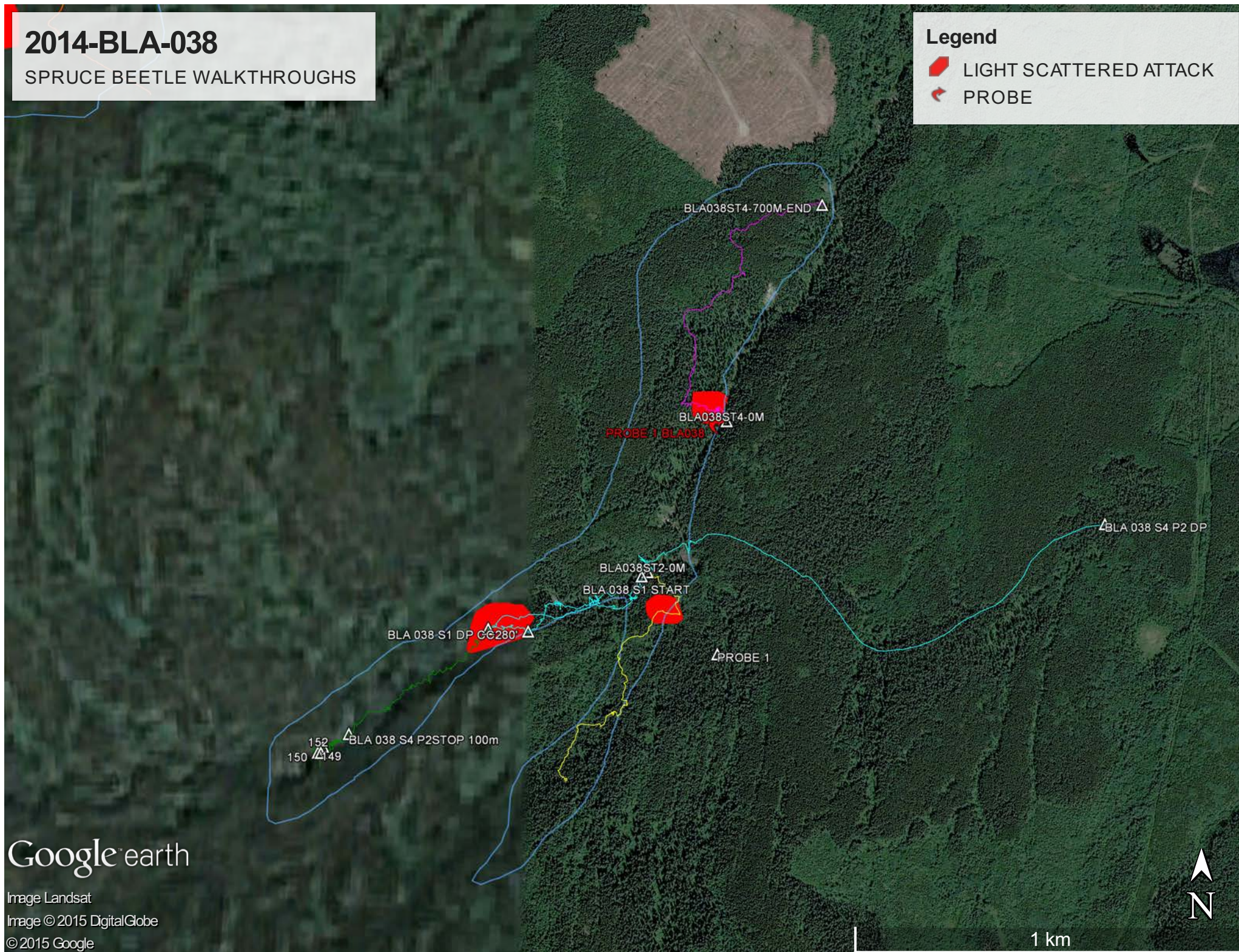
Schedule a full grid Probe to further determine extent of attack. With it being small amounts, may want to simultaneously do a fall

2014-BLA-038

SPRUCE BEETLE WALKTHROUGHS

Legend

-  LIGHT SCATTERED ATTACK
-  PROBE



Summary						
2014-BLA-038	HEC	53.35	METERS WALKED	2600	% TRAVERSED	4.9%
PIXELS COVERED BY WALKTHROUGH	26	INFESTED PIXELS	4	ESTIMATED % OF BLOCK INFESTED (From Walk through)		15.4%

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	13.2	0.0	0.0	0.0	0.0	0.0	0.0	26.4
25.1-30.0	5.3	26.5	0.0	0.0	0.0	0.0	0.0	0.0	21.2
30.1-35.0	7.1	42.6	0.0	0.0	0.0	0.0	0.0	0.0	42.6
35.1-40.0	9.4	28.2	0.0	0.0	0.0	0.0	18.8	0.0	0
40.1-45.0	11.6	58	0.0	0.0	0.0	0.0	34.8	0.0	0
45.1-50.0	13.8	0	0.0	0.0	0.0	0.0	0.0	0.0	0
50.1-55.0	16.2	81	0.0	0.0	0.0	0.0	0.0	0.0	0
55.1-60.0	18.7	37.4	18.7	0.0	0.0	0.0	0.0	0.0	0
60.1 +	25.3	25.3	0.0	0.0	0.0	0.0	25.3	0.0	0
TOTALS	409.8	312.2	18.7	0	0.0	0.0	78.9	0	90.2

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
2.00	< 3.9 SEVERE Attack Density	7.17	>24.9 EXTREME Mean Larval Density

TABLE 2- Spruce Beetle Management Options after Walkthrough

% 2015 ATTACK	4.6%	4.6	SANITATION AND SALVAGE HARVEST PRIORITY RATING			
% 2014 ATTACK	0.0%	##	LIGHT	0-599	LEAVE (Monitor, Trap Trees, Baits, etc)	768.5
% 2013 ATTACK	19.3%	##	MODERATE	600-999	PROBE (To Obtain Further Info)	
% HOST IN STAND	82.0%	##	HEAVY	1000+	RECOMMEND CRUISING/ LOGGING	

2 probe lines and 1 Bark Sampke compile data.

SUMMARY OF ALL CARDS FS1111										NUMBER OF CARDS		3
ACCESS -		Difficult access via ATV and walk into Polygon/										
POLYGON FEATURES -		Polygon has some steep slopes with drainages and wet areas running through entire polygon. 60% Spruce average from Walkthrough, mix with Birch and Balsam.										
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	4	0	0	0	0	0	0	8	0		
25.1-30.0	5.3	5	0	0	0	0	0	0	4	0		
30.1-35.0	7.1	6	0	0	0	0	0	0	6	0		
35.1-40.0	9.4	3	0	0	0	0	2	0	0	0		
40.1-45.0	11.6	5	0	0	0	0	3	0	0	0		
45.1-50.0	13.8	0	0	0	0	0	0	0	0	0		
50.1-55.0	16.2	5	0	0	0	0	0	0	0	0		
55.1-60.0	18.7	2	1	0	0	0	0	0	0	0		
60.1 +	25.3	1	0	0	0	0	1	0	0	0		
TOTALS		31	1	0	0	0	6	0	18	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		
6		12	0	43	0	5	0		0	0		
SIZE, BOUNDARY AND PATTERN OF THE INFESTATION												
Polygon hasd areas of light acattered attack throughout. Lots of code 5 Spruce throughout polygon and areas with recent attack where probe lines established. 15% infested ppxels from walkthrough with single tree attack in pixels noted. (5 code ones noticed on walkthrough, 3 attacked trees sampled with 2 probelines and one bark sample)												
INCIDENCE AND SEVERITY OF THE INFESTATION												
2 probe lines and one bark sample show a moderate attack and larval density. Single trees attacked within areas of older attack (Code 5's) and mainly in flat draws around blowdown.												
RISK OF BEETLE SPREAD												
Polygon has pockets of attack that are scattered throughout polygon and could spread slowly through.												
ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES												
Access may be difficult crossing drainages to get into polygon. Some steeper slopes within flatter wet draws.												

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BLA-038 Probe 1 SPRUCE BEETLE PROBE CARD

LOCATION 55° 31' 51.5" 123° 44' 21.0"		PAGE 1 OF 1							
BEARING 270°	DISTANCE 100m	STRIP WIDTH 10m							
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	11							111
25.1 - 30.0	5.3	1111							1
30.1 - 35.0	7.1	11							111
35.1 - 40.0	9.4								
40.1 - 45.0	11.6	11						11	
45.1 - 50.0	13.8								
50.1 - 55.0	16.2								
55.1 - 60.0	18.7	1							
60.1 +	25.3								1
TOTALS		10	1	-	-	-	4	-	7
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
N	30	0	16	0	0				
S	15	0	4	0	0				
COMMENTS SX-55 red - many entrance holes - frass - heavy woodpecker activity									
CREW NAMES Dave & Don						DATE Y M D 15/10/25			

FS 1111 RPG 2000/01 7530881048 (100/bdl)

Probe 2 SPRUCE BEETLE PROBE CARD

LOCATION BLA 038 N 55° 31.698 W 123° 43.418		PAGE 1 OF 1							
BEARING 60°	DISTANCE 100m	STRIP WIDTH 10m							
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	11							1111
25.1 - 30.0	5.3	1							111
30.1 - 35.0	7.1	111							111
35.1 - 40.0	9.4	111						11	
40.1 - 45.0	11.6	111							
45.1 - 50.0	13.8								
50.1 - 55.0	16.2	1111							
55.1 - 60.0	18.7	11							
60.1 +	25.3	1	1						
TOTALS		21	1					2	11 0
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
NORTH SAMPLE	10	1	7	1	1				
SOUTH SAMPLE	4	1	3	1	5				
COMMENTS N. 55° 31.401' W. 123.45.283. [1] = B. SAMPLE TREE									
CREW NAMES Pon & Dave						DATE Y M D 15/10/25			

FS 1111 RPG 2000/01 7530881048 (100/bdl)

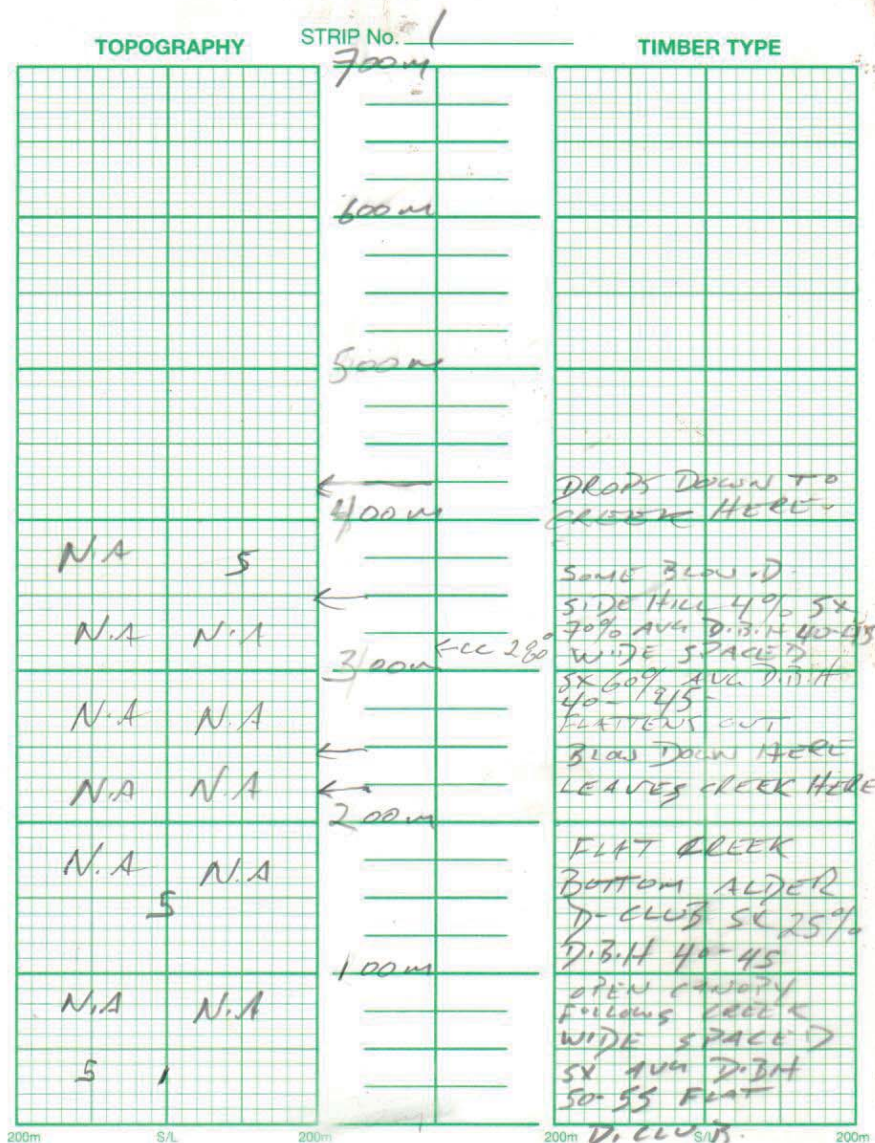
Bark Sample 1

BLA-038

Strip 2

SPRUCE BEETLE
PROBE CARD

LOCATION 329 m		PAGE 1		OF 1					
BEARING		DISTANCE		STRIP WIDTH					
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								
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		1							
BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN			
						Attacked	Unattacked		
N	20	0	8	0	0				
S	15	0	5	0	0				
COMMENTS 5X-65 red many entrance hole - frass									
CREW NAMES Don & Dave						DATE Y M D 15 10 24			



STRIP NO.: 1 DIRECTION: 230°

START STRIP: 0-M

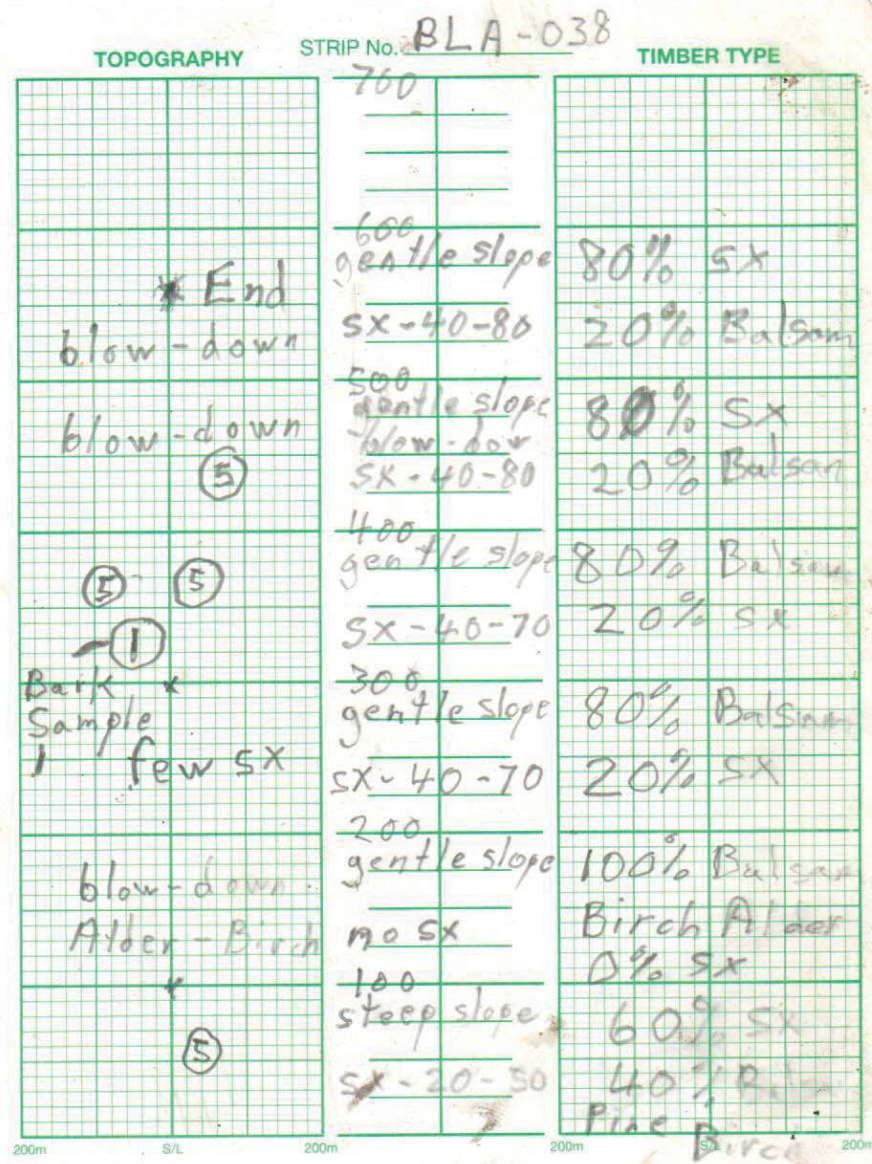
JOB NO.: BLA 038 DATE: OCT/24/15

CREW: DON & DAVE

REMARKS:



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STRIP NO.: 2 DIRECTION: 145°

START STRIP:

JOB NO.: DATE: 15/10/24

CREW: Don & Dave

REMARKS:



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TOPOGRAPHY		STRIP No. <u>BLA-038</u>	TIMBER TYPE	
* End	700	steep 12%	50% SX	
	600	gentle slope	50% Balsam Pine	
Small SX	SX-20-30		80% SX	
Birch			20% Balsam Pine	
Pine no attack			70% Balsam	
(5) (5) (5)	SX-40-70		30% SX	
(5) (5) (5)			60% SX	
* (5)	400	steep 12%	40% Balsam	
(5)	flat terrain		80% SX	
(5)	SX-20-30		20% Balsam	
* (5)	400	steep 12%	80% SX	
(5)	blow-down		20% Balsam	
(5)	SX-20-50		80% SX	
* (5)	300	steep slope 12%	20% Balsam	
(5)	blow-down		80% SX	
(5)	SX-40-86		20% Balsam	
(5) (5)	200	gentle slope	80% SX	
10° = (5) * End Probe	SX-40-70		20% Balsam	
(5) (5) (5)	100	very steep 15%	60% SX	
(5) (5) (5) (5)	SX-20-60		40% Balsam Pine	

STRIP NO.: 4 DIRECTION: 320°

START STRIP: _____

JOB NO.: _____ DATE: 15/10/25

CREW: Don & Dave

REMARKS: _____



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TOPOGRAPHY		STRIP No. <u>4</u>	TIMBER TYPE	
	700m			
	600m			
(1)	500m			
(1) 5	400m			
5 5 5	300m			
5 5 5	200m			
N.A N.A	100m			
5 5 5				
(1)				

STRIP NO.: 4 DIRECTION: 60°

START STRIP: 100-m

JOB NO.: BLA 038 DATE: 15/10/25

CREW: Don & Dave

REMARKS: 1 = 3 SAMPLE TREE



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