515000 516000 517000

Polygon Name: 2015-KEN-003

-293640000

2015-KEN-002
COULD NOT ACCESS

Braethen Creek

Fellbourne Creek

6101000 6100000 6099000

115109

800

LIGHTER SCATTERED ATTACK

MODERATE TO HEAVY ATTACK

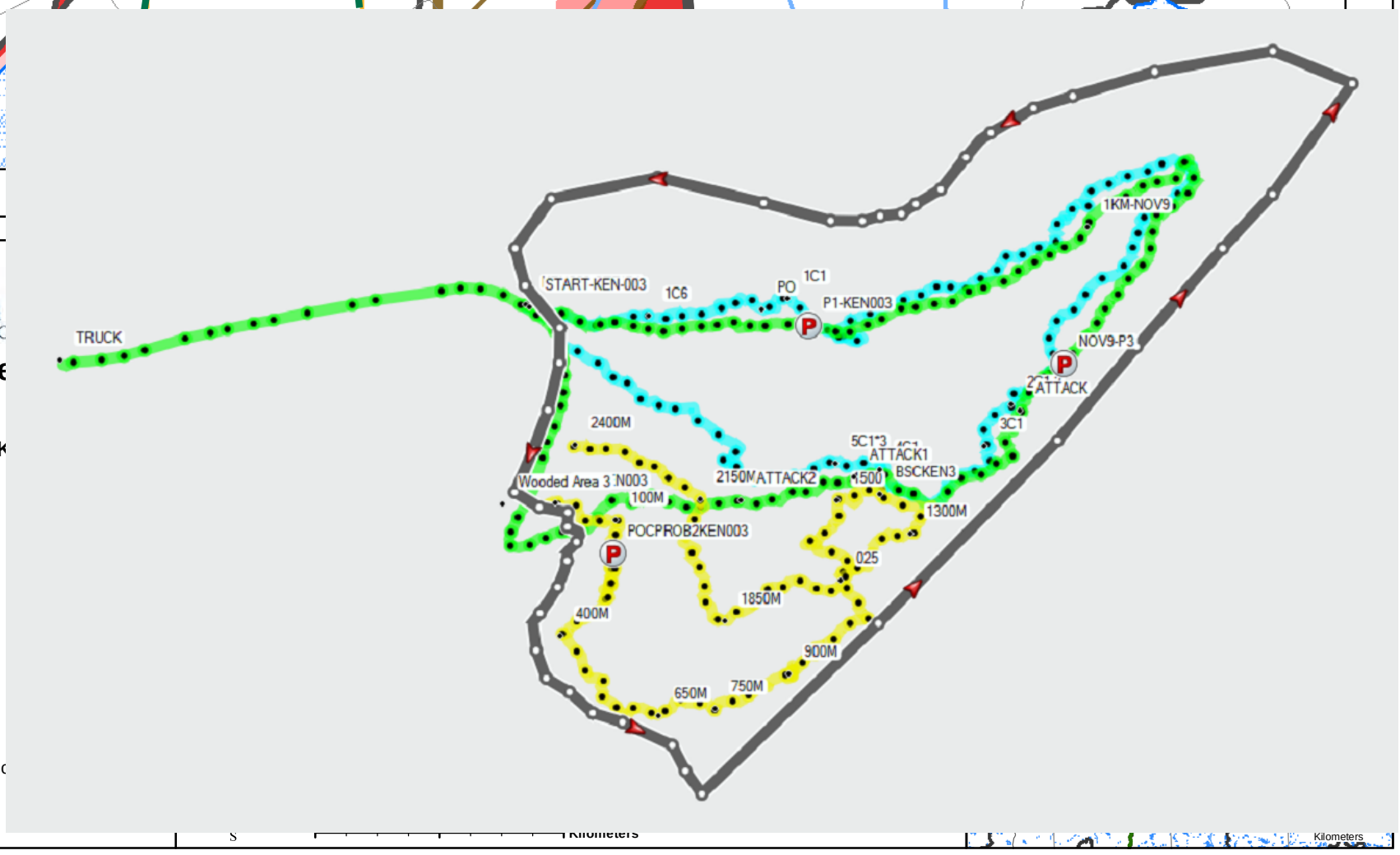
114485

114178

114177

114179

1585195



Ministry of Forests, Lands and Natural Resource C

BRITISH COLUMBIA

Spruce Bark Bee
Field Map

Polygon Name: 2015-K

Landscape Unit/BMU:	Kennedy
Region:	Omineca
District:	Mackenzie
Mapsheet:	093O02
Hectares:	124.31
Scale:	1:10,000
When plotted on 11x17	
Coordinate System:	PCS Albers
Datum:	North Americ
Date Drawn:	03/06/2015
Drawn By:	msnively

Kilometers

SENECA ENTERPRISES LTD.
PO BOX 1902, PRINCE GEORGE, BC, V2L 5E3
Phone: (250) 561-0890, Fax: (250) 564-3275

SPRUCE BARK BEETLE REPORT
FH16DMK010

POLYGON: **2015-KEN-003** HECTARES: 124.31

WALKTHROUGH DISTANCE: 8200

ESTIMATED INFFESTED PIXELS FROM WALKTHROUGH (Code 1-4) 16 **19.5%**

SUMMARY OF CURRENT INFESTATION

Walkthrough estimate shows 16 infested pixels which is 20% of polygon. The Patch in the middle of the polygon is very concentrated and moderate to heavy with more attack than the other 3 areas. Access is good to west edge of polygon and has minimal slopes.

MODERATE/HEAVY ATTACK (Middle) LIGHT SCATTERED ATTACK (surrounding main centre of attack)

ACCESS

Access to west of Polygon by Atv on old cutblock road. Road was deactivated at the start and ATV 900meters to Polygon.

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

Mainly flatwith areas of heavy blowdown. Wet swampy areas throughout as well. Looks like OLD cut trail runs through the center of Polygon where there is large diameter spruce.

SIZE, BOUNDARY and PATTERN OF INFESTATION

Infestation has moderate Code 1 attack in Center of Polygon and code 1 attack scattered around it. . Attack is quite heavy in the center with several code 1"s and code 5's. Most of the attack is on a 2 year life cycle but some attack on a year cycle (20%)

INCIDENCE AND SEVERITY OF ATTACK

Sanitation rating light but for probe lines established away from center attack of Polygon. Center area is moderate to heavy with more Larvae and much more concentrated attack on larger diameter spruce.

RISK OF BEETLE SPREAD

Moderate. Polygon has cutblocks around it but lots of open areas for infestation to spread. History of Blowdown noticed.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access via ATV on old cutblock road.to west edge of polygon.

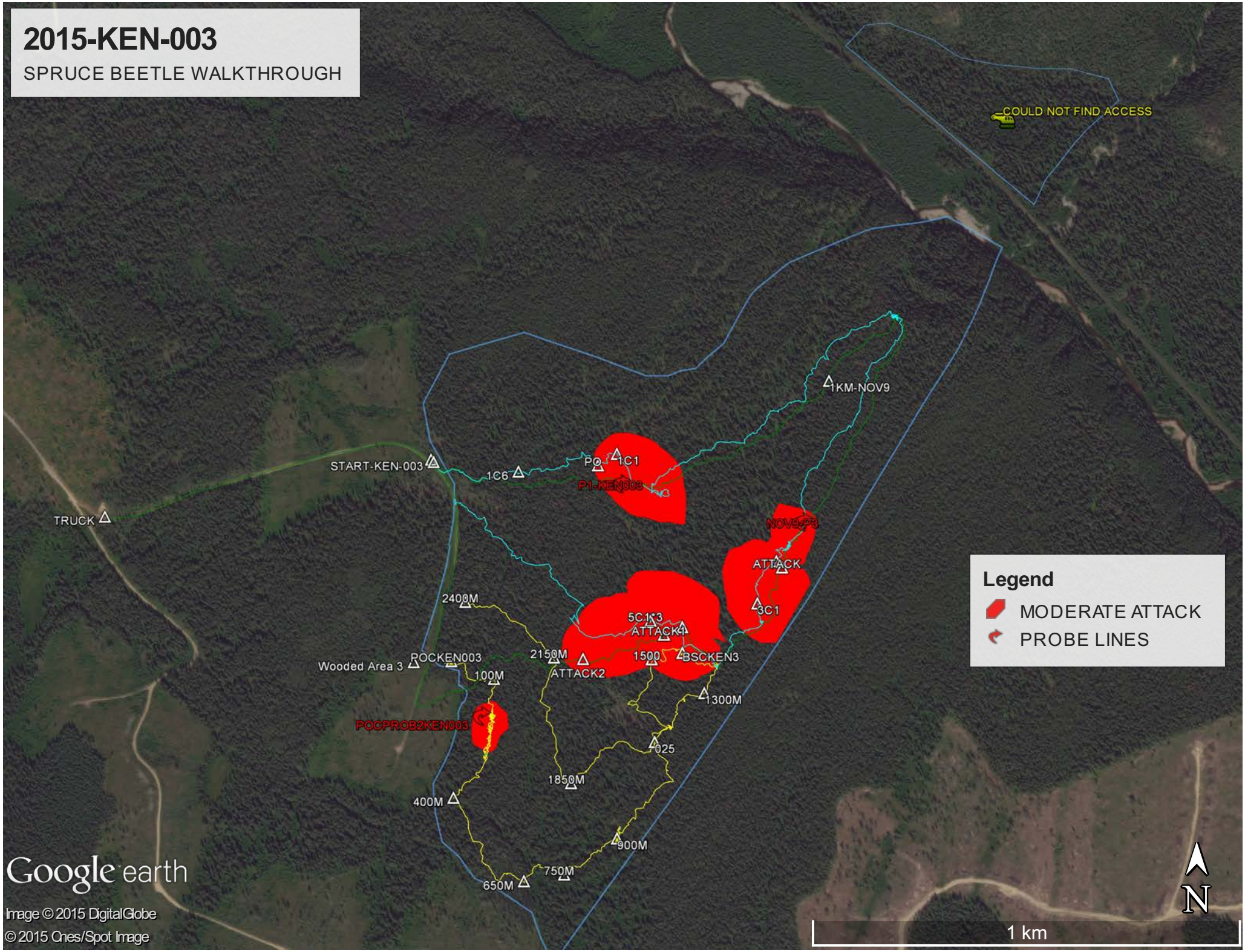
RECOMMENDATIONS

OPTION 1 **PROBE.HARVEST**

Probe to identify areas requiring harvesting to determine severity and better define area of attack. The center of Polygon has heavier attack with significant recent attack and older attack. The attacked trees are on both a 1 and 2 year life cycle . There are scattered singlle trees idetified of 2014 attack to the east and west.

OPTION 2 **TRAP TREES**

Lay trap tree trail as good access to hold infestation.


2015-KEN-003
SPRUCE BEETLE WALKTHROUGH
COULD NOT FIND ACCESS
1KM-NOV9
START-KEN-003
1C6
P0
1C1
P1-KEN003
TRUCK
NOV9-P3
ATTACK
3C1
2400M
5C1K3
ATTACK4
ROCKEN003
Wooded Area 3
100M
2150M
ATTACK2
1500
BSCKEN3
1300M
POCPROB2KEN003
025
1850M
400M
900M
750M
650M
Legend
MODERATE ATTACK
PROBE LINES
N
1 km
Google earth
Image © 2015 DigitalGlobe
© 2015 Cnes/Spot Image

Summary

2015-KEN-003	HEC	124.31	METERS WALKED	8200	% TRAVERSED	6.6%
PIXELS COVERED BY WALKTHROUGH	82	INFESTED PIXELS	16	**ESTIMATED % OF BLOCK INFESTED (From Walk through)**		**19.5%**

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	26.4	0.0	0.0	0.0	0.0	0.0	0.0	59.4
25.1-30.0	5.3	37.1	0.0	0.0	0.0	0.0	0.0	0.0	58.3
30.1-35.0	7.1	78.1	7.1	3.6	0.0	0.0	0.0	0.0	78.1
35.1-40.0	9.4	56.4	9.4	0.0	0.0	0.0	0.0	0.0	103.4
40.1-45.0	11.6	92.8	0.0	0.0	0.0	0.0	0.0	0.0	116
45.1-50.0	13.8	138	27.6	0.0	0.0	0.0	0.0	0.0	41.4
50.1-55.0	16.2	64.8	0.0	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	37.4
60.1 +	25.3	75.9	0.0	0.0	0.0	0.0	0.0	0.0	25.3
TOTALS	654.6	606.9	44.1	3.55	0.0	0.0	0.0	0	519.3

TABLE 4- Spruce Beetle Attack Density and Larval Density Rating

MEAN NO. OF ENTRANCE HOLES PER 225 cm2 PHLOEM SAMPLE		MEAN NO. OF LIVING LARVAE PER 225 cm2 PHLOEM SAMPLE	
	< 1 LOW Attack Density		< 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
1.63	< 3.9 SEVERE Attack Density	**4.88**	>24.9 EXTREME Mean Larval Density

TABLE 2- Spruce Beetle Management Options after Walkthrough

% 2015 ATTACK	7.3%	7.3	SANITATION AND SALVAGE HARVEST PRIORITY RATING			
% 2014 ATTACK	0.0%	##	LIGHT	0-599	LEAVE (Monitor, Trap Trees, Baits, etc)	405.9
% 2013 ATTACK	0.0%	##	MODERATE	600-999	PROBE (To Obtain Further Info)	
% HOST IN STAND	55.8%	##	HEAVY	1000+	RECOMMEND CRUISING/ LOGGING	

From 3 probe lines and 1 bark sample. Center attack of Polygon shows moderate attack and moderate Sanitation rating.

SUMMARY OF ALL CARDS FS1111

NUMBER OF CARDS 4

ACCESS - Access to west of Polygon by Atv on old cutblock road. Road was deactivated at the start and ATV 900meters to Polygon.

POLYGON FEATURES - Mainly flatwith areas of heavy blowdown. Wet swampy areas throughout as well. Looks like OLD cut trail runs through the center of Polygon where there is large diameter spruce.

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	8	0	0	0	0	0	0	18	0
25.1-30.0	5.3	7	0	0	0	0	0	0	8	3
30.1-35.0	7.1	11	1	1	0	0	0	0	7	4
35.1-40.0	9.4	6	1	0	0	0	0	0	5	6
40.1-45.0	11.6	8	0	0	0	0	0	0	6	4
45.1-50.0	13.8	10	2	0	0	0	0	0	3	0
50.1-55.0	16.2	4	0	0	0	0	0	0	0	0
55.1-60.0	18.7	2	0	0	0	0	0	0	2	0
60.1 +	25.3	3	0	0	0	0	0	0	1	0
TOTALS		59	4	1	0	0	0	0	50	17

BARK SAMPLES 15 cm x 15 cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE ADULTS	NO. CALLOW	FRESH (GREEN) BLOWDOWN		
						Attacked Y r	Y r ____	Unattacked
8	13	0	39	0	16	0	0	0

SIZE, BOUNDARY AND PATTERN OF THE INFESTATION

Infestation has moderate Code 1 attack in Center of Polygon and code 1 attack scattered around it. . Attack is quite heavy in the center with several code 1"s and code 5's. Most of the attack is on a 2 year life cycle but some attack on a year cycle (20%)

INCIDENCE AND SEVERITY OF THE INFESTATION

Sanitation rating light but for probe lines established away from center attack of Polygon. Center area is moderate to heavy with more Larvae and much more concentrated attack on larger diameter spruce.

RISK OF BEETLE SPREAD

Moderate. Polygon has cutblocks around it but lots of open areas for infestation to spread. History of Blowdown noticed.

ACCESS, OPERABILITY and INTEGRATED RESOURCE MANAGEMENT ISSUES

Good access via ATV on old cutblock road.to west edge of polygon.

SPRUCE BEETLE PROBE CARD

LOCATION		PAGE	OF
10 U 0515325 6099628	KEN-0.03 Probe 2		
BEARING	DISTANCE	STRIP WIDTH	
187°	100m	10m	

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK 1	2	3	4	5	6	OTHER TREE SPECIES At	Ep	Bl
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	2	1					16	1	12

BARK SAMPLES 15cm x 15cm	NO. ENTRANCE HOLES	NO. PARENT ADULTS	NO. LARVAE	NO. PUPAE	NO. CALLOW ADULTS	FRESH (GREEN) BLOWDOWN Attacked		Unattacked
North								
South								

COMMENTS ⊙ Sample tree
60% 1 year life cycle

CREW NAMES	DATE Y	M	D
Aaron Colebank	2015	11	09

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

Probe 1

BRITISH COLUMBIA BEETLE PROBE CARD

LOCATION	ELEVATION	LATITUDE	PAGE	OF
0515654 KEN003 6100165	812	/	1	2

BEARING	STRIP LINE NO	STRIP WIDTH	DISTANCE	BEETLE SPECIES
85°	1	10m	100m	☒ SB ☐ MPB ☐ DFB

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK 1	2	3	4	5	6	OTHER TREE SPECIES MAIN Bl	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		16	1						16	

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	/	6	/	1	/	/	/
S	1	/	2	/	/	/	/	/

COMMENTS ⊙ BS
- open stand. Flat

CREW NAMES	DATE Y	M	D
JAMES KELLY	15	10	09

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

PROBE 3

BRITISH COLUMBIA — BEETLE PROBE CARD

LOCATION	ELEVATION	LATITUDE	PAGE	OF
05 16091 6100094	815'		2	2

BEARING	STRIP LINE NO	STRIP WIDTH	DISTANCE	BEETLE SPECIES
270°	3	10	100	☒ SB ☐ MPB ☐ DFB

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK 1	2	3	4	5	6	OTHER TREE SPECIES 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		16	1						22	

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	1	3	/	/			
S	1	/	7	/	/			

COMMENTS ⊙
- open stand.

CREW NAMES	DATE Y	M	D
Jane & Kelly	15	10	9

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

SPRUCE BEETLE PROBE CARD

LOCATION		PAGE	OF
0515780 6099774	Strip3 BSC KEW-003		
BEARING	DISTANCE 10 m	STRIP WIDTH	

DIAMETER CLASS	SURFACE AREA FACTOR	NUMBER OF HEALTHY HOSTS	BARK BEETLE CODE BY YEAR OF ATTACK 1	2	3	4	5	6	OTHER TREE SPECIES
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
North	• •	Ø	☒ • •	Ø	Ø			
South	•	Ø	• •	Ø	Ø			

COMMENTS

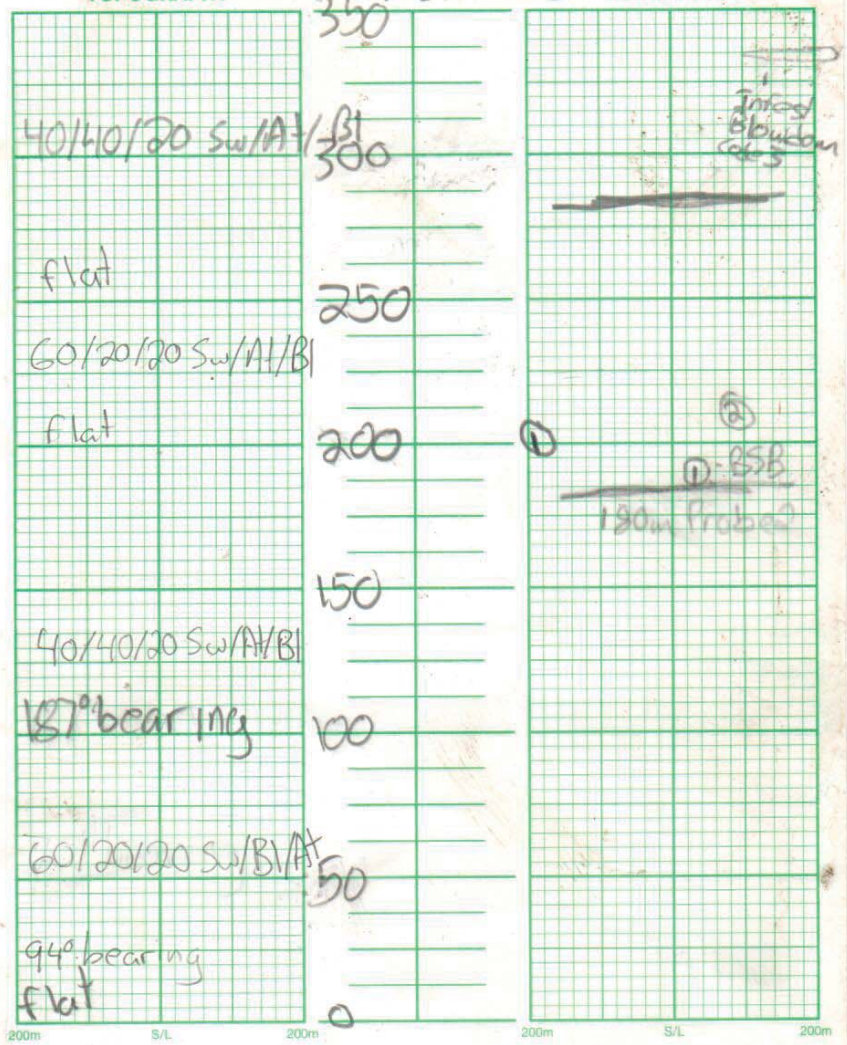
CREW NAMES	DATE Y	M	D
Aaron Colebank	2015	11	09

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

TOPOGRAPHY

STRIP No. KEN-003

TIMBER TYPE



STRIP NO.: 3 DIRECTION: 94°

START STRIP: 10 U 0515225 6099751

JOB NO.: Ken-003 DATE: Nov 9th, 2015

CREW: Aaron Colebank

REMARKS:

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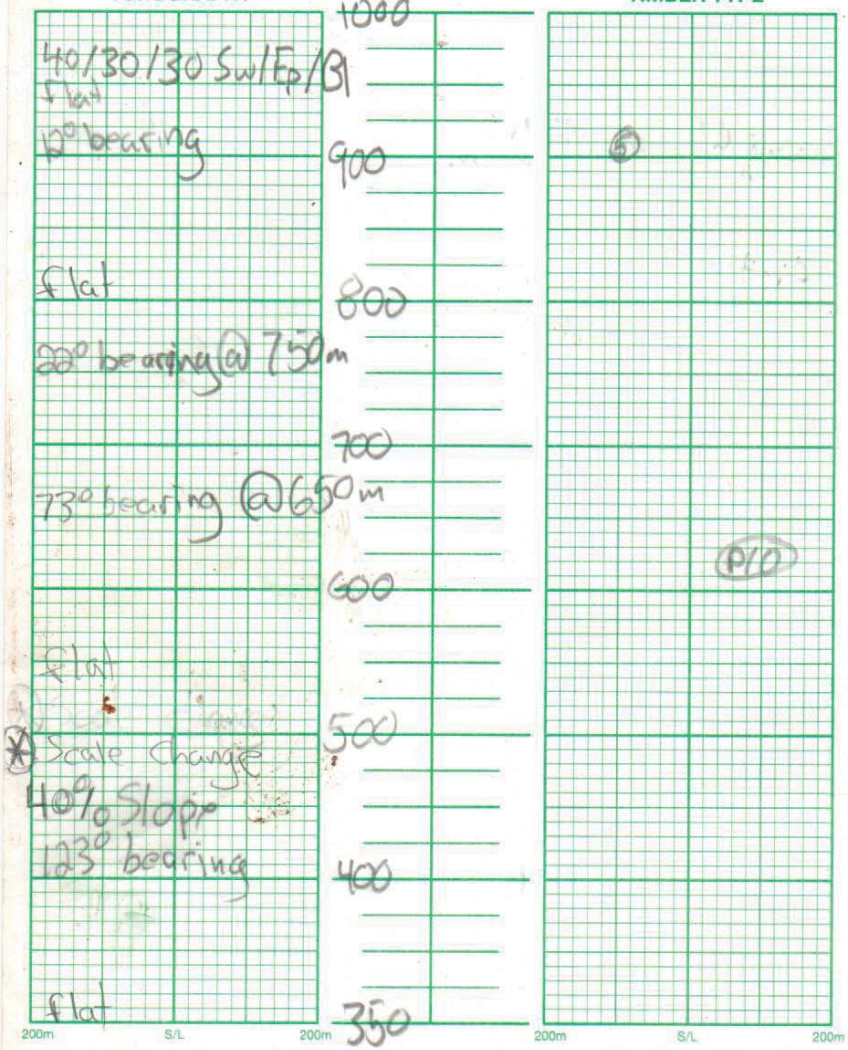
TOPOGRAPHY

STRIP No. KEN-003

TIMBER TYPE



STRIP NO.: DIRECTION:

START STRIP:

JOB NO.: DATE:

CREW:

REMARKS:

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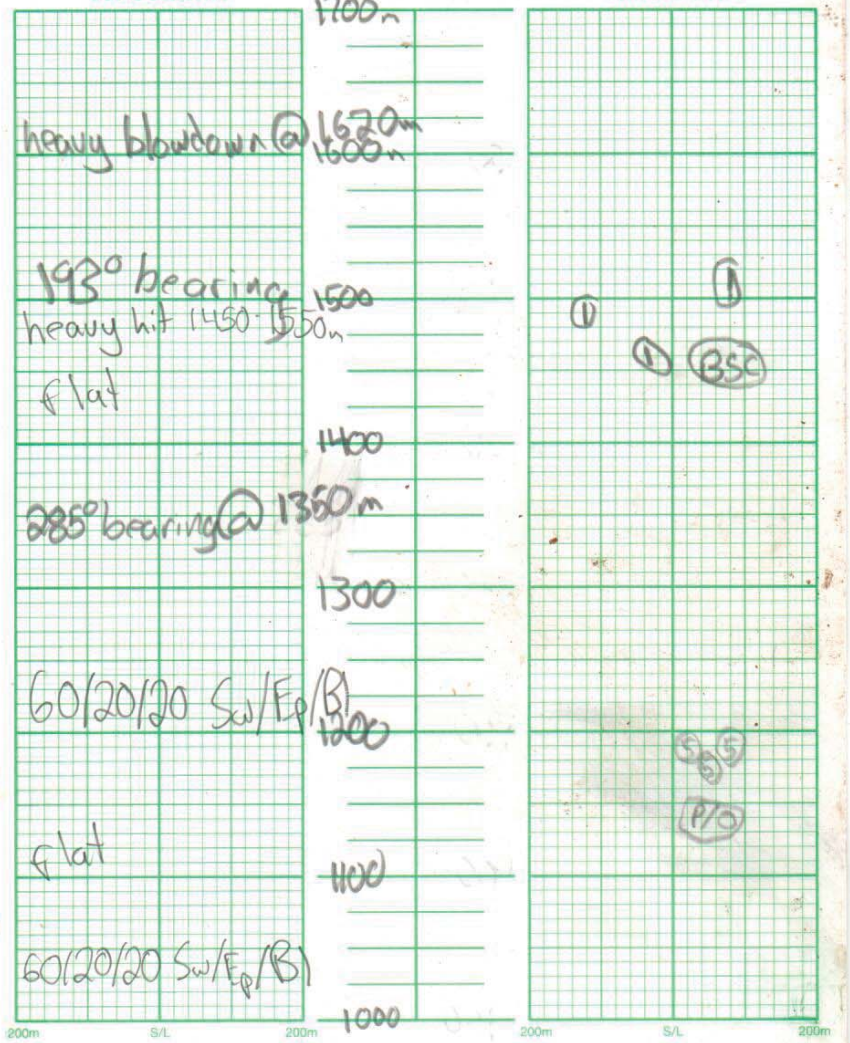
TOPOGRAPHY

STRIP No. KEN-003

TIMBER TYPE



STRIP NO.: _____ DIRECTION: _____

START STRIP: _____

JOB NO.: _____ DATE: _____

CREW: _____

REMARKS: _____

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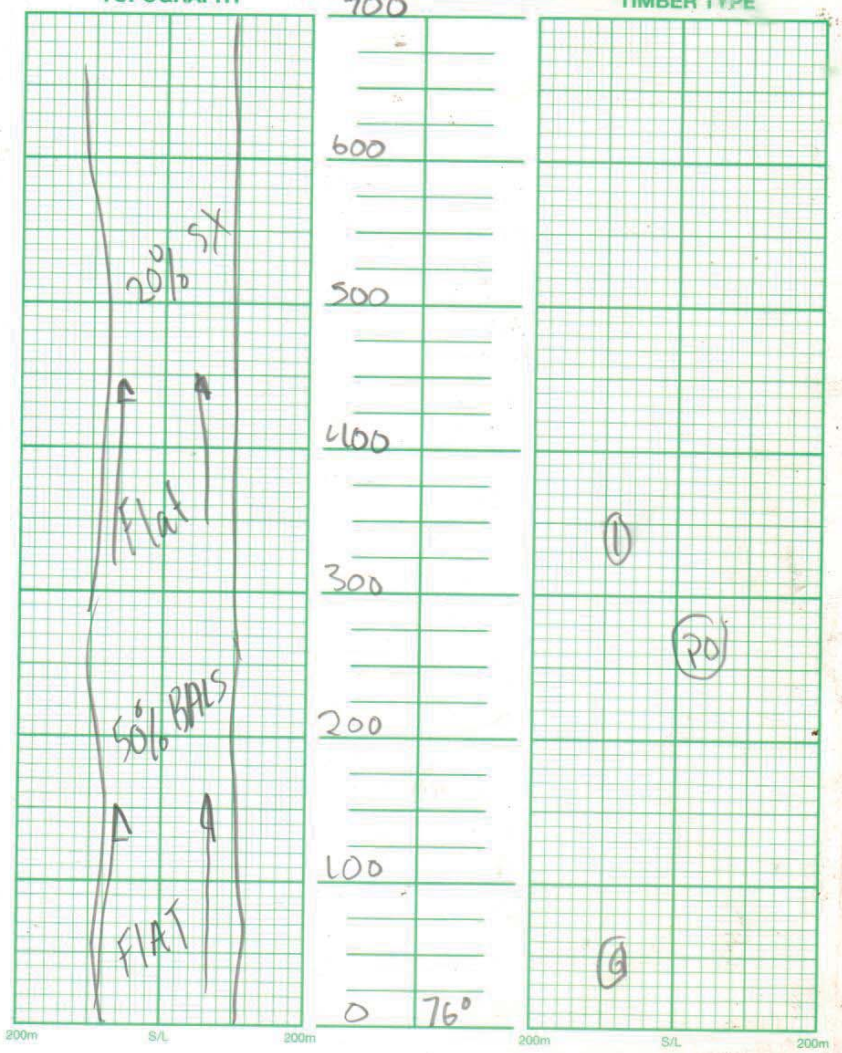
TOPOGRAPHY

STRIP No. 2

TIMBER TYPE



STRIP NO.: 1 DIRECTION: 76°

START STRIP: 0-700

JOB NO.: KEN-003 DATE: NOV 9, 15

CREW: _____

REMARKS: _____

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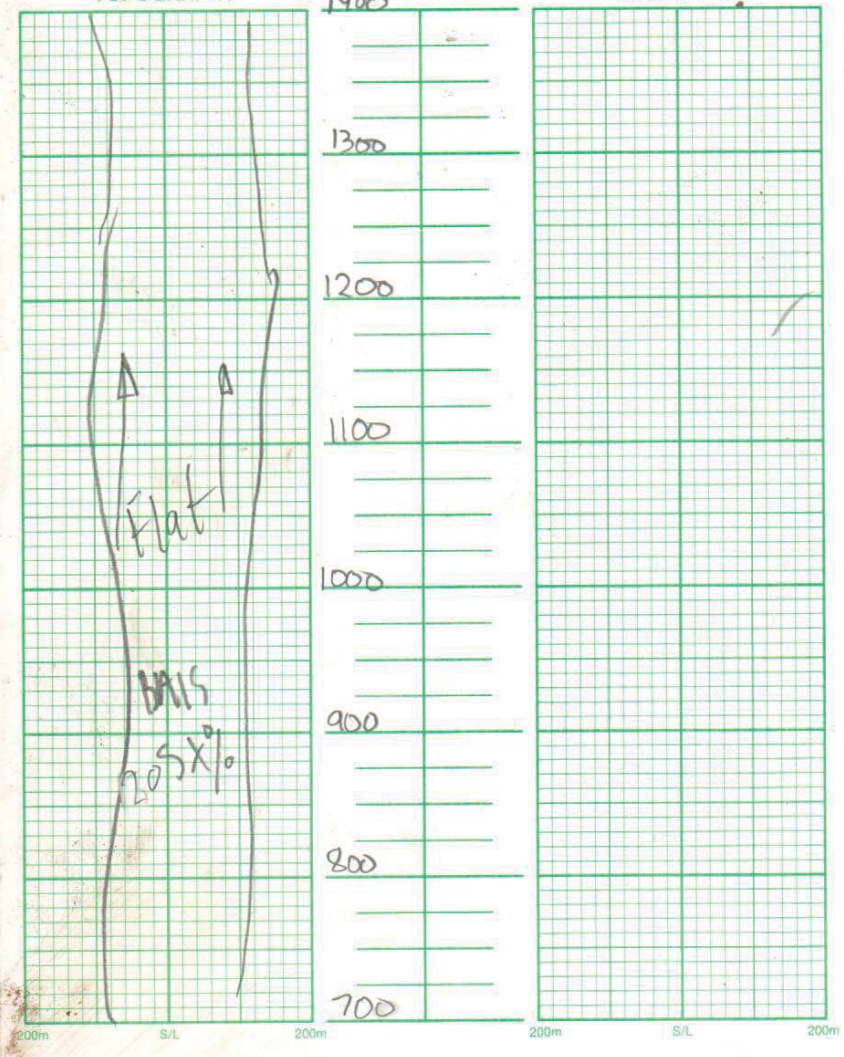
TOPOGRAPHY

STRIP No. 2

TIMBER TYPE



STRIP NO.: 1 DIRECTION:

START STRIP: 700 - 1400

JOB NO.: KEN-003 DATE: NOV 7, 15

CREW:

REMARKS:

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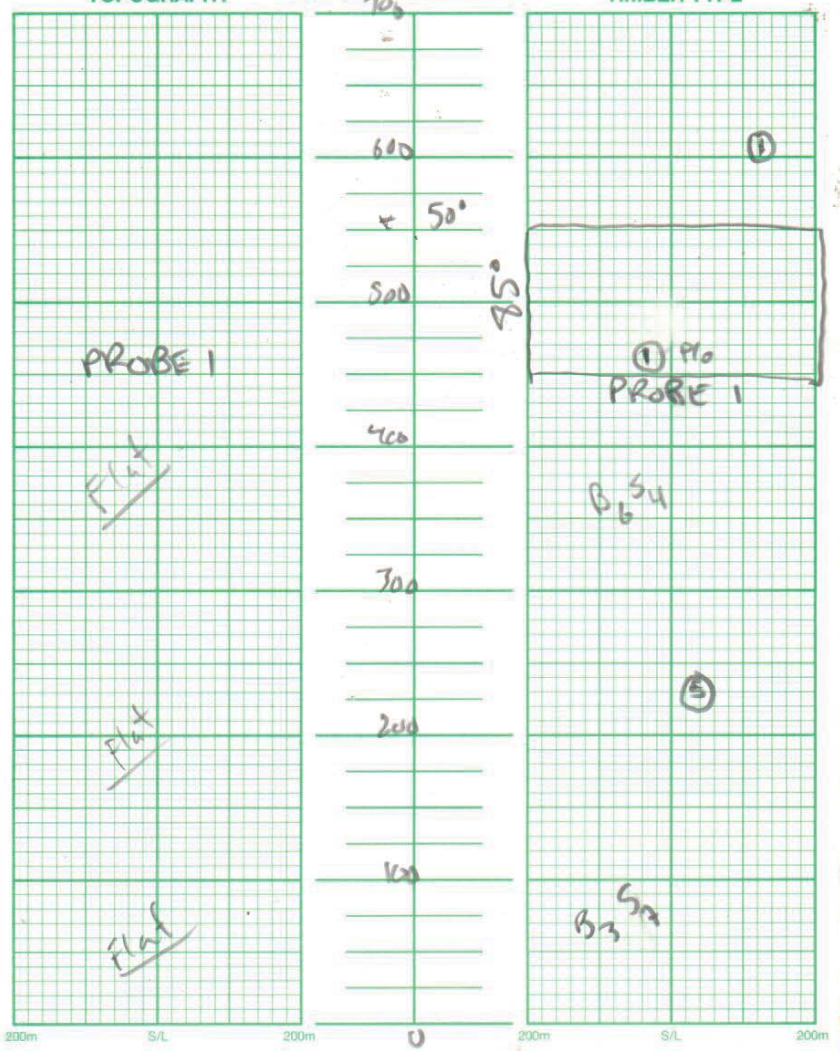
TOPOGRAPHY

STRIP No. 1

TIMBER TYPE



STRIP NO.: 1 DIRECTION: 85° - 50°

START STRIP: 0-700

JOB NO.: KEN-003 DATE: Nov 9/2015

CREW: JAMES

REMARKS:

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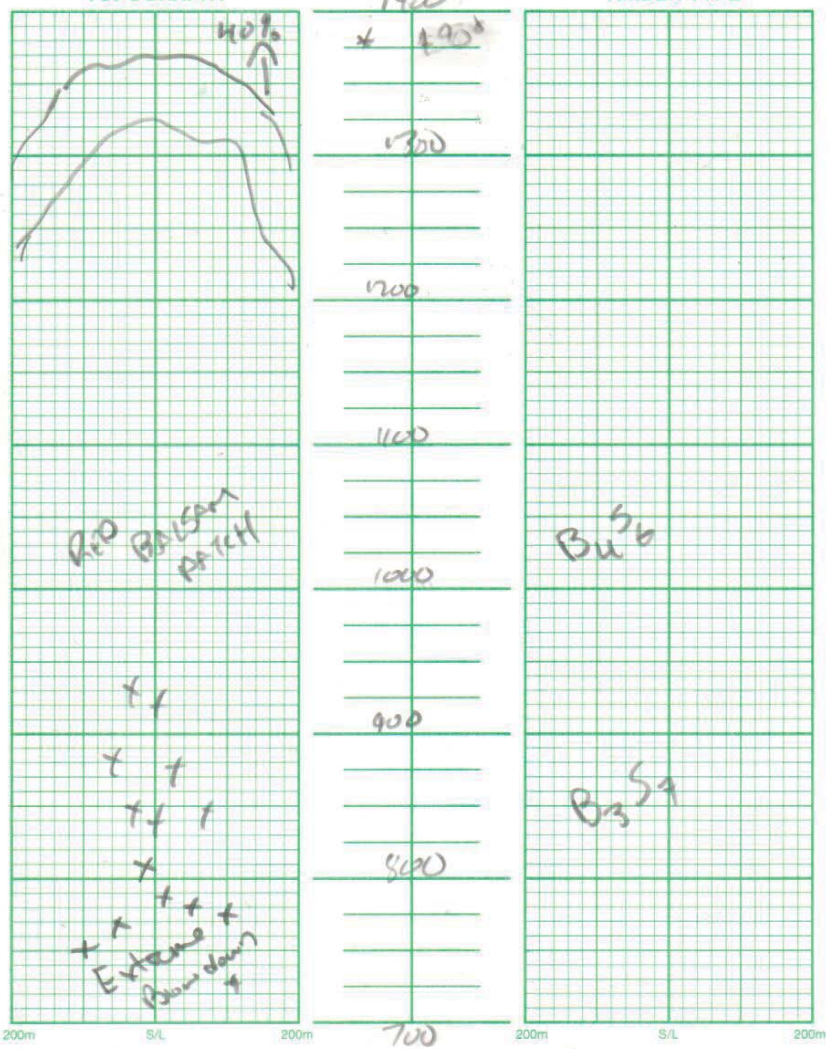
TOPOGRAPHY

STRIP No. 1

TIMBER TYPE



STRIP NO.: 1 DIRECTION: 50° - 190°

START STRIP: 700-1400

JOB NO.: KEW 003 DATE: Nov 9 / 2015

CREW: JAMES KEW

REMARKS:

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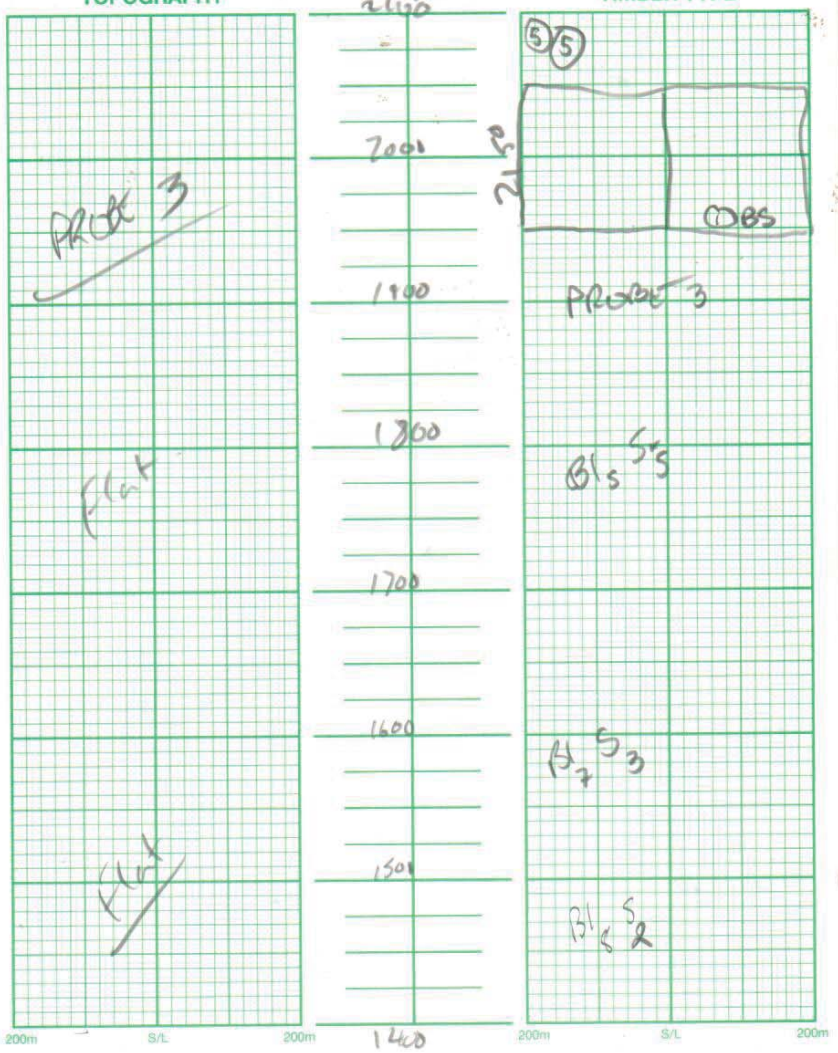
TOPOGRAPHY

STRIP No. 1

TIMBER TYPE



STRIP NO.: 1 DIRECTION: 190°

START STRIP: 1400

JOB NO.: KEW 003 DATE: Nov 9/2015

CREW: JAMES KELLY

REMARKS:

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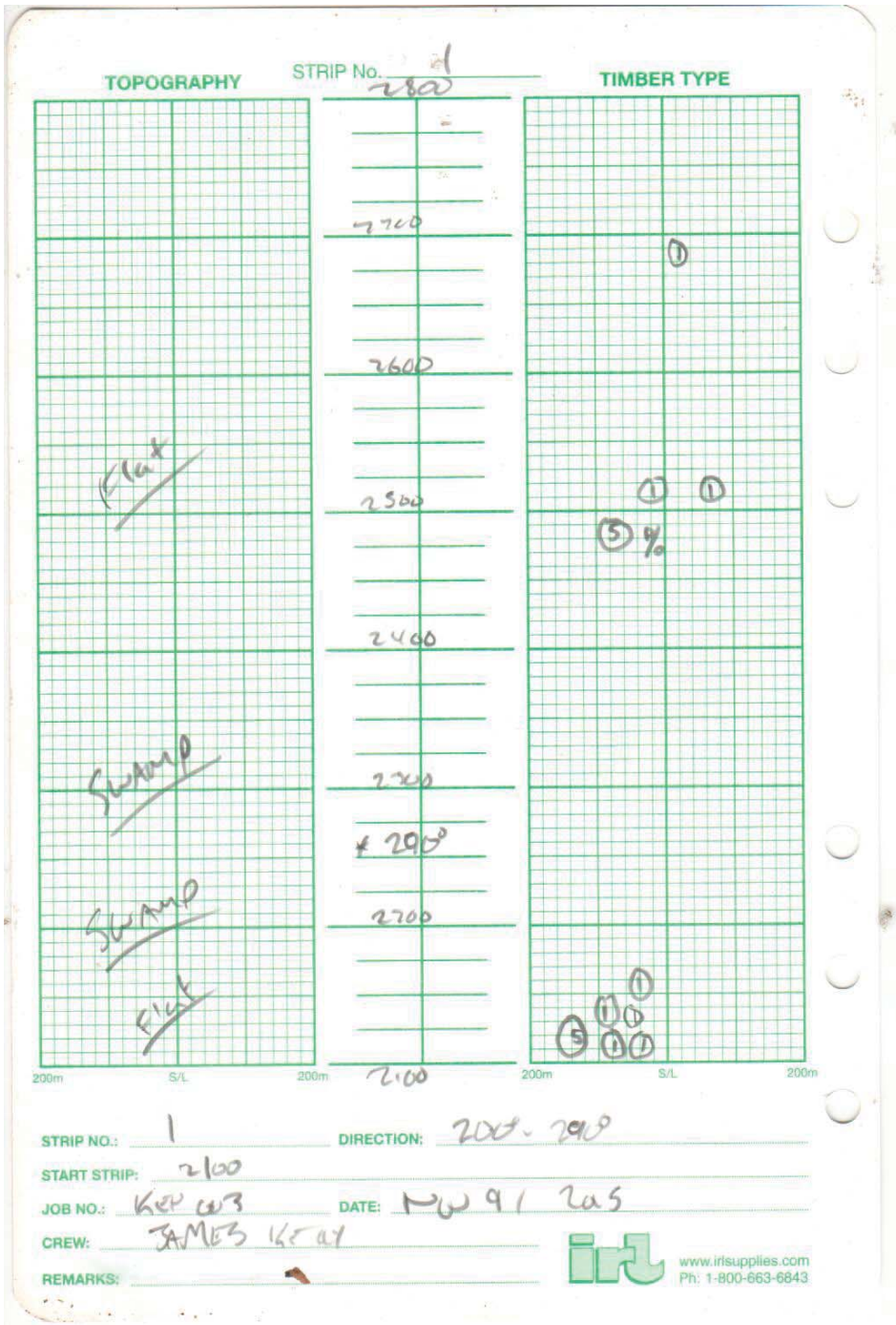

STRIP NO.: 1 DIRECTION: 200 - 290

START STRIP: 2100

JOB NO.: KEP 003 DATE: NOV 9 / 2015

CREW: JAMES KELLY

REMARKS:

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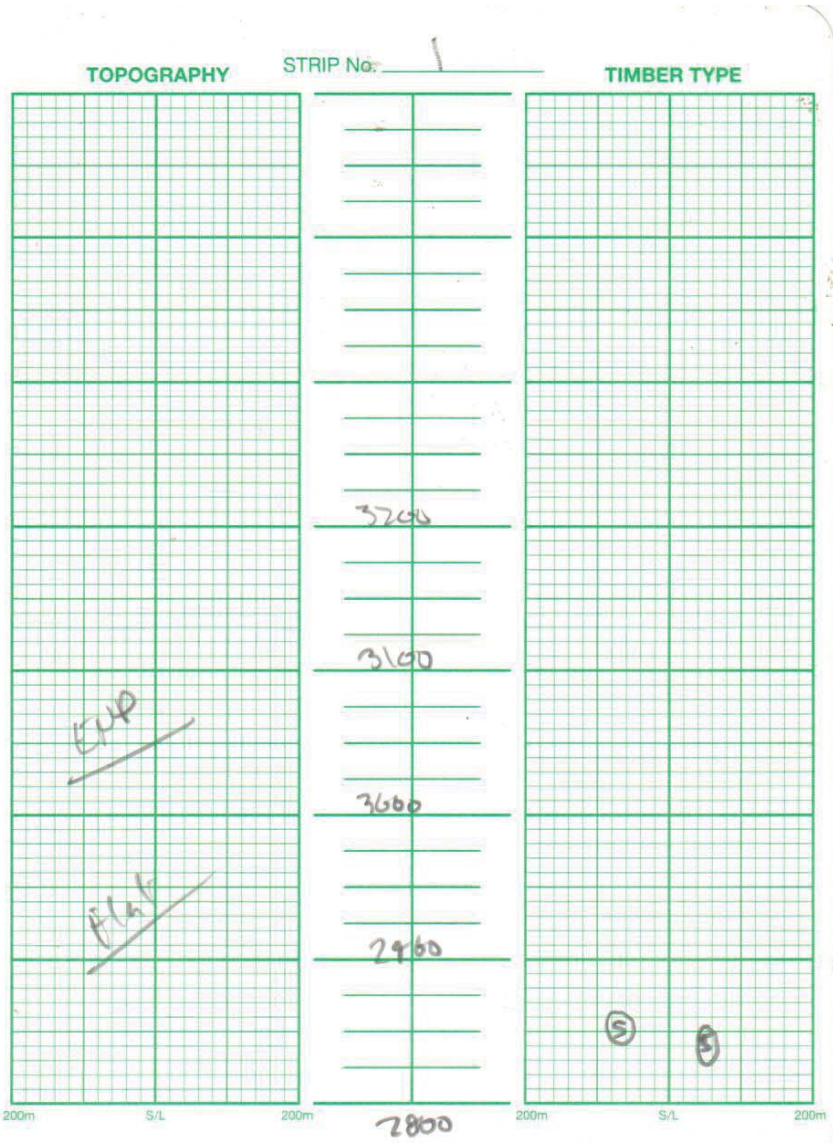

STRIP NO.: 1 DIRECTION: 290° - 0

START STRIP: 2800

JOB NO.: KEP 003 DATE: NOV 9 / 2015

CREW: JAMES KELLY

REMARKS:

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