



Engineer Report

CP 10

Cutblocks: 1 and 2

Prepared By: Chris Law, RFT

Date: June 30, 2016

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Cutblock: 1

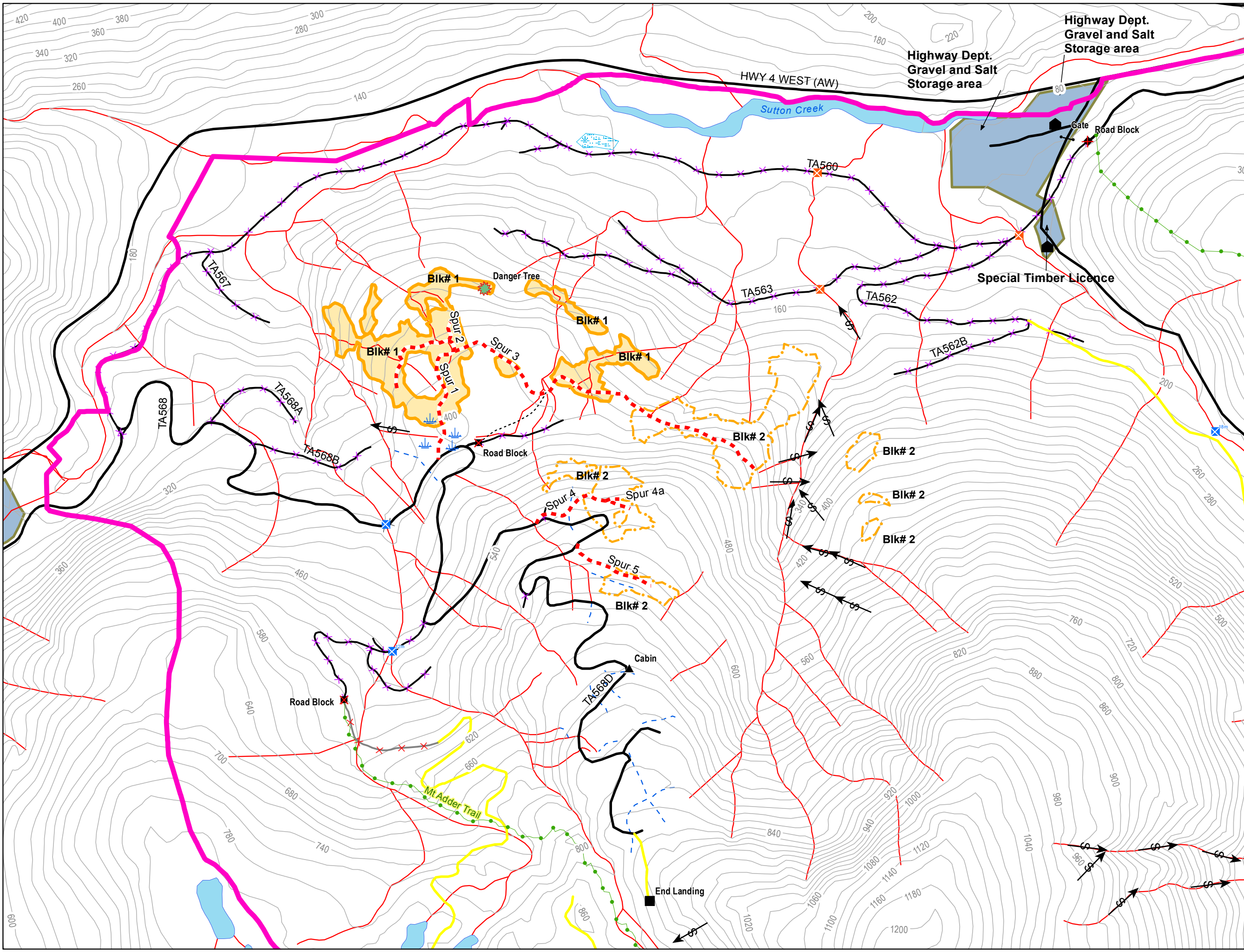
Forest Region: Coast
Forest District: South Island
Land District: Barclay
Cascades: West C
Tenure: K2D
Geographic Coordinates:
Lat: 49° 17' 6"
Long: 125° 19' 52"
Author: D. Brown
Map Date: September-29-15

Scale:
1:10,000
Mapsheet: 92F024
Datum: NAD83

MAP LEGEND

- Boundary Features:**
- Falling Boundary
 - Heli Splitline
 - Adjacent Engineered Block
 - Adjacent Proposed Block
 - Legal Boundary
 - Pruning
 - Feathering
- Road Features:**
- Built Road
 - Permanent Deactivated Rd
 - Semi-Perm Deactivated Rd
 - Rece Road
 - Proposed Road
 - Backspar Trail
 - Safety Trail
 - Bridge Existing / New / Out
 - Road Station
 - Existing Culvert
 - New Culvert
 - Culvert Out
- Natural Features:**
- Windthrow
 - Snag
 - Swamp
 - Slide
 - Rock Bluff
 - Karst Feature
 - Landslide Initiation Feature
- Resource Features:**
- Hazard
 - Single Tree Retention
 - Monumental Cedar
 - Archaeological Feature/CMT
 - Government Archaeological Site
 - Quarry/Gravel Pit
 - Bear Den/Bird Nest
 - Helipad/Service Landing
 - Index Contour
 - Intermediate Contour
- Riparian Features:**
- Fish Streams (S1-S4)
 - Non Fish streams (S5, S6)
 - Unclassified Creek
 - Non Classified Drainage
 - Gully
 - Fish Habitat Area
 - Reach Break/Fish Barrier
 - Stream ID
- Lakes/Wetlands:**
- Lakes Class 1, 2, 3, 4
 - Wetlands Class 1, 2, 3, 4, 5
- Sensitive and Designated Areas:**
- Wildlife Tree Patch
 - Timber Leave Area
 - Adjacent WTP
 - Adjacent TLA

- Hiking Trail
- Alberni Valley Community Forest
- Excluded Areas



Road Permit:

Cutting Permit:

MAP 1 of 1

Alberni Valley Community Forest

LOCATION MAP

Cutblock: 2

Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates:
 Lat: 49° 16' 54"
 Long: 125° 19' 20"
 Author: D. Brown
 Map Date: September-29-15

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MAP LEGEND

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- Legal Boundary
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- Feathering

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- Slide
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- Wetlands Class 1, 2, 3, 4, 5

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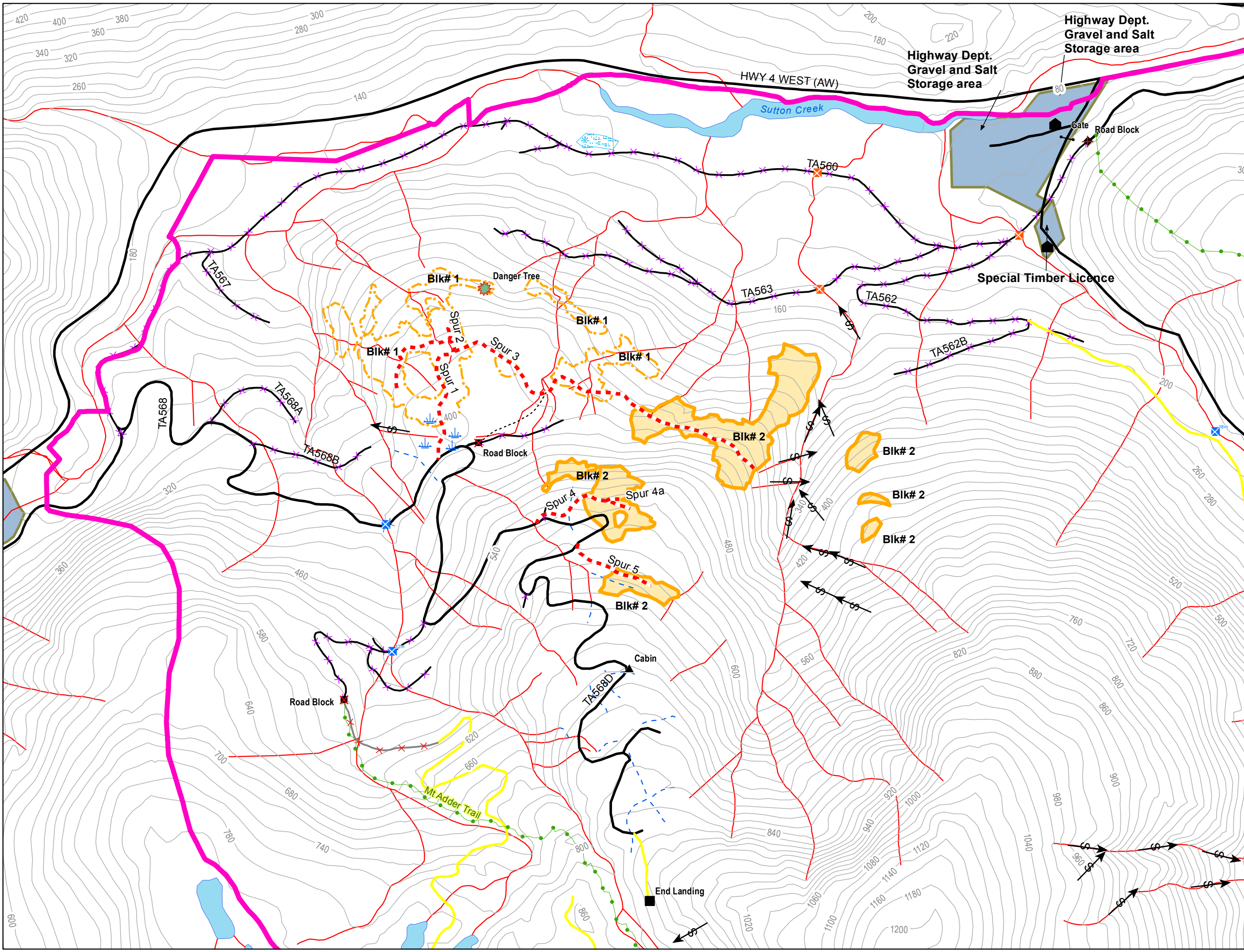
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Cutting Permit:

MAP 1 of 1



###

HAZARD ALERT

1) A rock fall hazard has been identified and workers must be made aware of this.

Falling Type			HARVEST METHODS		VOLUME BY TIMBERMARK				PROFESSIONAL SEAL AND SIGNATURE	
Handfalling	Ha	Volume	System	Ha	Volume	Timbermark	Type	Ha	Vol	I certify that I have reviewed this document, and while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.
Mechanical	0	0	R/W	1.9	988				0	
TOTAL	11.2	5668	Snorkel						0	
CRUISE VOL/HA (m3)			Hoe Chuck		1.9	988			0	
FOPS VOL/HA (m3)			Grapple		3.2	1664			0	
HAUL DISTANCE			High Lead				TOTAL	0	0	
Shoemaker - off highway			Helicopter		3.9	2028	Field Work:			
Shoemaker - highway			Harvest Area		10.9	5668	Checked By:			
			R/W Removed				CONTRACTOR	PHASE	DATE	
			WTP		0.8		CONTRACTOR	PHASE	DATE	
			TLA		4.1		CONTRACT SUPERVISOR	DATE		
			Gross Area		15.8	5668				
			External R/W		1.2	350				

Alberni Valley Community Forest

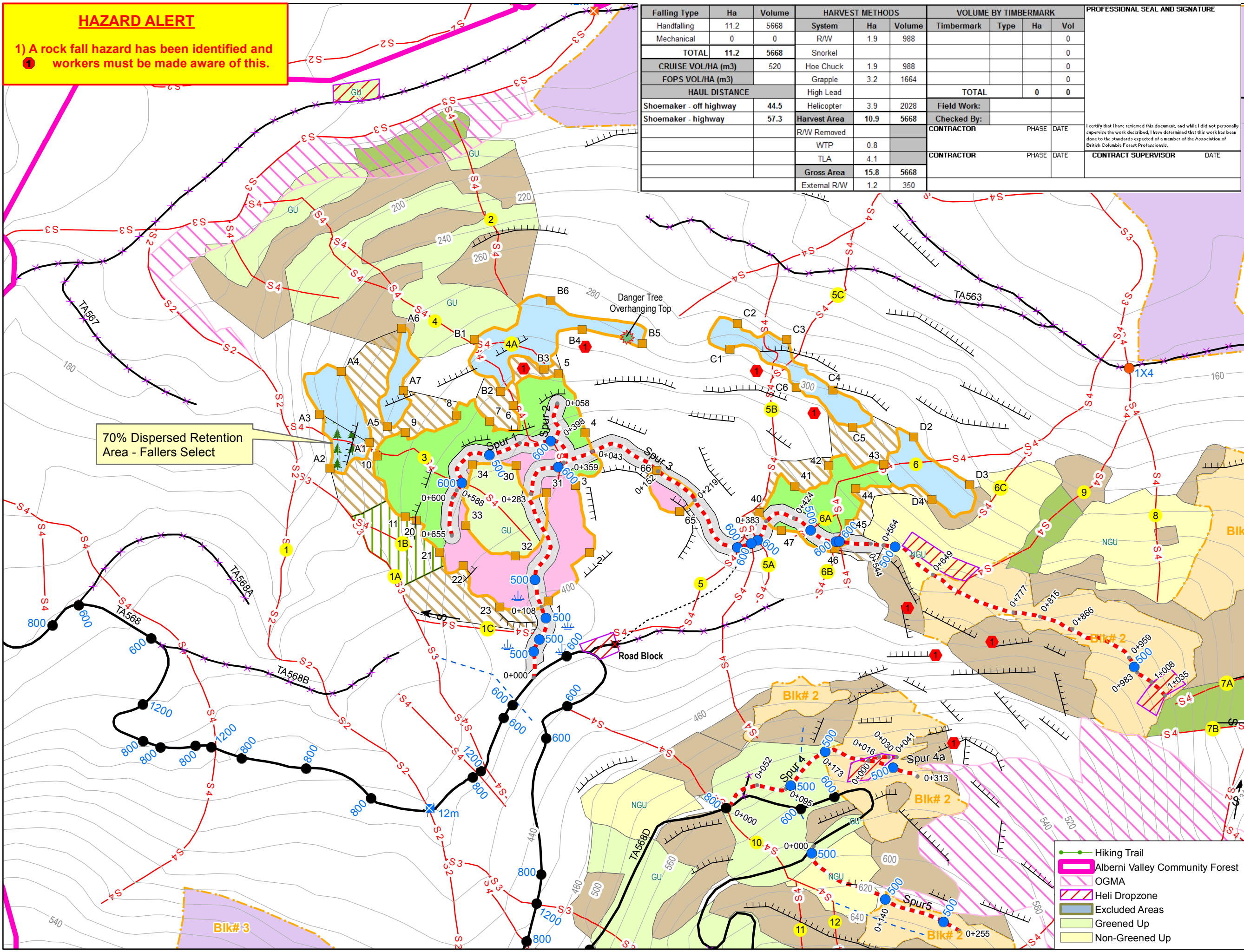
HARVEST INSTRUCTIONS MAP

Cutblock: 1
 Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates: Mapsheet: 92F024
 Lat: 49° 17' 6" Long: 125° 19' 52" Datum: NAD83
 Author: D. Brown
 Map Date: April-28-16

Scale:
 1:5,000
 Mapsheet: 92F024
 Datum: NAD83

MAP LEGEND

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- Sensitive and Designated Areas:**
 - Wildlife Tree Patch
 - Timber Leave Area
 - Adjacent WTP
 - Adjacent TLA
- Harvest Methods:**
 - Grapple
 - Hoe Forward
 - Hoechuck
 - Helicopter
 - Highlead
 - Right-of-Way
 - Snorkel
- Yarding Features:**
 - Backspar Tree
 - Sensitive Soils
 - Heli Drop Zone
 - Steep Grade



Road Permit:

Cutting Permit:

MAP 1 of 1

HARVEST INSTRUCTIONS CUTBLOCK: Block 1

Alberni Valley Community Forest K2D Taylor FDU ACCESS ROAD: TA568 CUTTING PERMIT: TIMBERMARK:

RAINFALL SHUTDOWN CRITERIA – WET and VERY WET ZONE: Follow AVCF Rainfall Shutdown Standard. Activities must shut down if: The total rainfall reaches 100mm in 24 hours or less, 75mm of rain has fallen since the start of the shift and rain is continuing, or the water balance is equal to or greater than 100mm, whichever occurs first.

RAINFALL START-UP CRITERIA – WET and VERY WET ZONE: - Activities may start-up when: The total rainfall is equal to or less than 50mm in 48 hours, or the water balance falls below 100mm. Soil drainage rate is 50mm in 24 hours.

STREAM STANDARDS (SOP)				
<ul style="list-style-type: none"> •PRIMARY OBJECTIVE: TO PROTECT WATER QUALITY - MAINTAIN STREAM BANKS AND THEIR NATURAL WATERCOURSE •High stump non merchantable and smaller diameter stems along all in-block streams to provide visual reference for subsequent yarding phases. •Avoid machine travel within 5m of stream banks except at crossings. •Minimize number of machine crossings, only cross streams where stream banks can be protected, use bridging material for all crossings and remove after use. •No landing or decking logs on any stream. 				
STREAM PRESCRIPTIONS				
Stream ID	Stream Class	Reserve Zone Width Slope Distance (m)	Management Zone Width Slope Distance (m)	Riparian Management Strategies.
1	S2	30m	20m	FA, YA, Outside of harvest area, Gully
1A	S3	20m	20m	FA, YA, Outside of harvest area
1B	S4	0m	30m	FA, YA, Outside of harvest area
1C	S4	0m	30m	FA, YA, Outside of harvest area
2	S4	0m	30m	FA, YA, Outside of harvest area
3	S4	0m	30m	FX, YX, NC
4	S4	0m	30m	FX, YX, NC
4A	S4	0m	30m	FX, YX, NC
5	S4	0m	30m	FA, YA, Outside of harvest area
5A	S4	0m	30m	FA, YA, Outside of harvest area
5B	S4	0m	30m	FX, YX, NC
5C	S4	0m	30m	FX, YX, NC
6	S4	0m	30m	FX, YX, NC
6A	S4	0m	30m	FX, YX, NC
6B	S4	0m	30m	FX, YX, NC
6C	S4	0m	30m	FA, YA, Outside of harvest area

STRATEGY DEFINITIONS			
	FALLING		CABLE YARDING
FX	Fall across acceptable	YX	Yard across acceptable. Full suspension where possible.
FA	Fall away only	YA	Yard away only
FA(X)	Fall away where possible	YV	Yard vertically
FA/BL	Fall Away. Leaners and danger trees that cannot be safely felled away may be bridged to span		
RS	Retain saplings and non-merch		
	GROUND BASED YARDING AND STREAM CROSSINGS		STREAM CLEANING
YX	Stream crossings acceptable provided stream standards (SOP) followed	NC	No cleaning anticipated
DX	Approximate location(s) of designated machine crossings have been identified – see map	HC	Hand clean transportable debris
NX	No machine crossings	MC	Machine clean transportable debris
MFZ	Machine Free Zone	AC	Cleaning to be assessed post-yarding prior to block completion

GENERAL INSTRUCTIONS

All employees, supervisors and contractors associated with these Harvest Instructions shall be fully advised of their content requirements and be aware and knowledgeable of Alberni Valley Community Forests (AVCF) environmental management systems (EMS) and appropriate standard operating procedures (SOPs).

ADDITIONAL INSTRUCTIONS

- [1] **Ground Based Operations / Backspar Trails:** Ensure sufficient brush matting and puncheon is utilized in order to minimize soil disturbances. If excessive soil disturbance occurs, cease operations until soil moisture conditions improve or move to an area where drier conditions exist.
- [2] **Fuelling:** Equipment must not be fuelled or serviced within the riparian management area (RMA) of a stream, lake or wetland.
- [3] **RMA distances:** STREAMS: S1 - 70 m, S2 - 50 m, S3 - 40 m, S4 - 30 m LAKES: L1 - 10 m, L3 - 30 m, WETLANDS: W1, W5 - 50 m, W3 - 30 m.
- [4] **Cultural Resources:** If an unidentified cultural heritage resource is encountered within the cutblock during any harvesting phase, operations will cease in the immediate vicinity of the feature and the AVCF representative shall be notified immediately.
- [5] **Wildlife Resources:** In the event any unidentified bear dens or raptor nest trees are encountered during falling, but before the tree has been cut, the faller will go elsewhere for the day and report this potential wildlife tree to the AVCF representative. Fallers are not to return to the vicinity of the wildlife tree until notification from the AVCF has been given. If the discovery of a bear den or potential nest tree occurs while the tree is being felled, the decision to proceed is at the faller's discretion in regards to safety and WorkSafe BC requirements. If it is unsafe to leave the tree partially cut, the faller will complete falling the tree and report the incident to AVCF.
- [6] **Seasonal Deactivation:** Ensure ditches and culverts are clean prior to completion of block and/or winter shutdown. Back up culverts with waterbars or x-ditches. Particular attention should be given to segments of road that have steep grades, steep terrain and roads within a Fisheries sensitive watershed. Maintain pickup access.
- [7] **Fish Streams:** Due to the close proximity of fish streams immediately downstream of the cutblock, ensure a high level of diligence is maintained regarding stream bank protection, in-stream woody debris disturbance, and protection of stream banks at designated crossings.
- [8] **Retention:** Internal retention not specified on the map requires review with the AVCF prior to implementing and necessitates a 'change in plan'. Individual trees along boundary edges may be left standing due to safety or operability issues and do not require documentation unless they pose hazard to subsequent phases. Groups of trees left along boundary edges for safety and/or operability issues need approval from the AVCF

CHANGE OF PLAN

Any substantial 'change of plan' will require prior approval from the AVCF. Examples of a substantial 'change of plan' are: a change in harvest system necessitated in the prework, a change in location of back spar trails, a change in approved timber to be felled or yarded and any other variation from AVCF SOPs.

FALLING of SNAGS and DANGER TREES

In accordance with the Cutting Permit Authority and WorkSafe BC Regulations, all snags and danger trees that endanger workers within a distance of 50m outside the cutblock boundaries, or within one and a half tree lengths, (whichever is greater), are approved for falling under these harvest instructions. All danger trees and related trees felled from outside of the approved boundaries must be reported to the supervisor daily and their stumps should be marked with an "X". AVCF will be notified immediately if danger trees and/or snags are identified in groups and removal will result in the cutblock boundary being substantially impacted. Felled snags and danger trees up to 50m outside of the falling boundary meeting utilization specifications will be recovered.

EXCEPTION- Wildlife Tree Patch (WTP) and Riparian reserve areas (RRZ)- Snags or danger trees can be felled within a WTP or RRZ for safety reasons although only the portion of the felled snag or danger tree that falls outside the WTP or RRZ can be recovered.

CUTBLOCK BOUNDARY TREATMENTS

All marked boundary trees except snags and danger trees must remain standing during and after the completion of harvesting. Trees located along and adjacent to the cutblock edges (i.e. within the harvest boundary) that must be felled outside the harvest area must be recovered unless a physical, safety or environmental issue exists (e.g. deep gullies, steep breaks, fish creek, etc.). Trees that cannot be recovered may be left standing, if they are safe to leave, as wildlife trees. These trees must be recorded on a map and provided to the AVCF once falling is complete. If you are unsure how to proceed, contact the AVCF.

SAFETY

There is an identified danger tree with a overhanging top near FC-B5. There is no other identified road or in-block safety hazards associated with Block 1. Roads required for hauling must be inspected by a qualified supervisor and any deficiencies must be reported to the AVCF 10 days prior to hauling commencement. In the event any additional in-block safety hazards (temporary or permanent) are encountered or develop during harvesting phases, a plan must be developed to address the hazard. Any identified permanent hazards must be reported back to the AVCF (using Hazard/Issue Report Form).

TERRAIN

Block 1 has a Very Low to Low potential for post-harvest landslides other than a portion of a helicopter polygon near FC-A1 to FC-A3 which has a moderate to high potential for a small to moderate sized post-harvest landslides. Workers should be made aware of the potential for rock fall from upslope of helicopter polygons from FC-B2 to FC-B5 and FC-C1 to FC-C5.

STEEP GRADES

No new Roads have designed sections >18% but the built TA568 does contain sections of >18% grades. All other haul routes (pre-existing roads) to Sort have no sections of > 18%.

HAULING ON STEEP ROADS

Before Hauling commences on any road section >18%, a steep grade assessment must be conducted by a qualified supervisor (i.e.: prime contractor supervisor or AVCF). If any road sections have been built with critical pitch grades greater than those identified in the table below then hauling cannot commence until a new assessment has been completed by the AVCF or the road has been reconstructed to (or less than) the original designed grade. Any new steep grades >18% not identified in the table below must also be assessed by the AVCF prior to hauling

Monitor conditions continually and adjust hauling activities to suit the traction conditions. (E.g. suspend hauling activities--See Table below). If assumptions concerning truck configurations are altered, contact AVCF for additional instructions.

Falling Type			Volume			HARVEST METHODS				VOLUME BY TIMBERMARK				PROFESSIONAL SEAL AND SIGNATURE	
Handfalling	11.4	9314	System	Ha	Volume	Timbermark	Type	Ha	Vol						
Mechanical	0	0	R/W	1.6	1307				0						
TOTAL	11.4	9314	Snorkel						0						
CRUISE VOL/HA (m3)	817		Hoe Chuck	1.1	899				0						
FOPS VOL/HA (m3)			Grapple	4.5	3840				0						
HAUL DISTANCE			High Lead						0						
Shoemaker - off highway	56.2		Helicopter	4.0	3268										
Shoemaker - highway	59.0		Harvest Area	11.2	9314										
			R/W Removed	0.2											
			WTP	0.9											
			TLA	8.2											
			Gross Area	20.5	9314										
			External R/W	0.7											

HAZARD ALERT

1) A rock fall hazard has been identified and workers must be made aware of this.

2) Lower Rainfall Shutdown Criteria Zone, 75mm in 24 hours or rain balance of 75mm or 50mm of rain since the start of shift and is continuing.

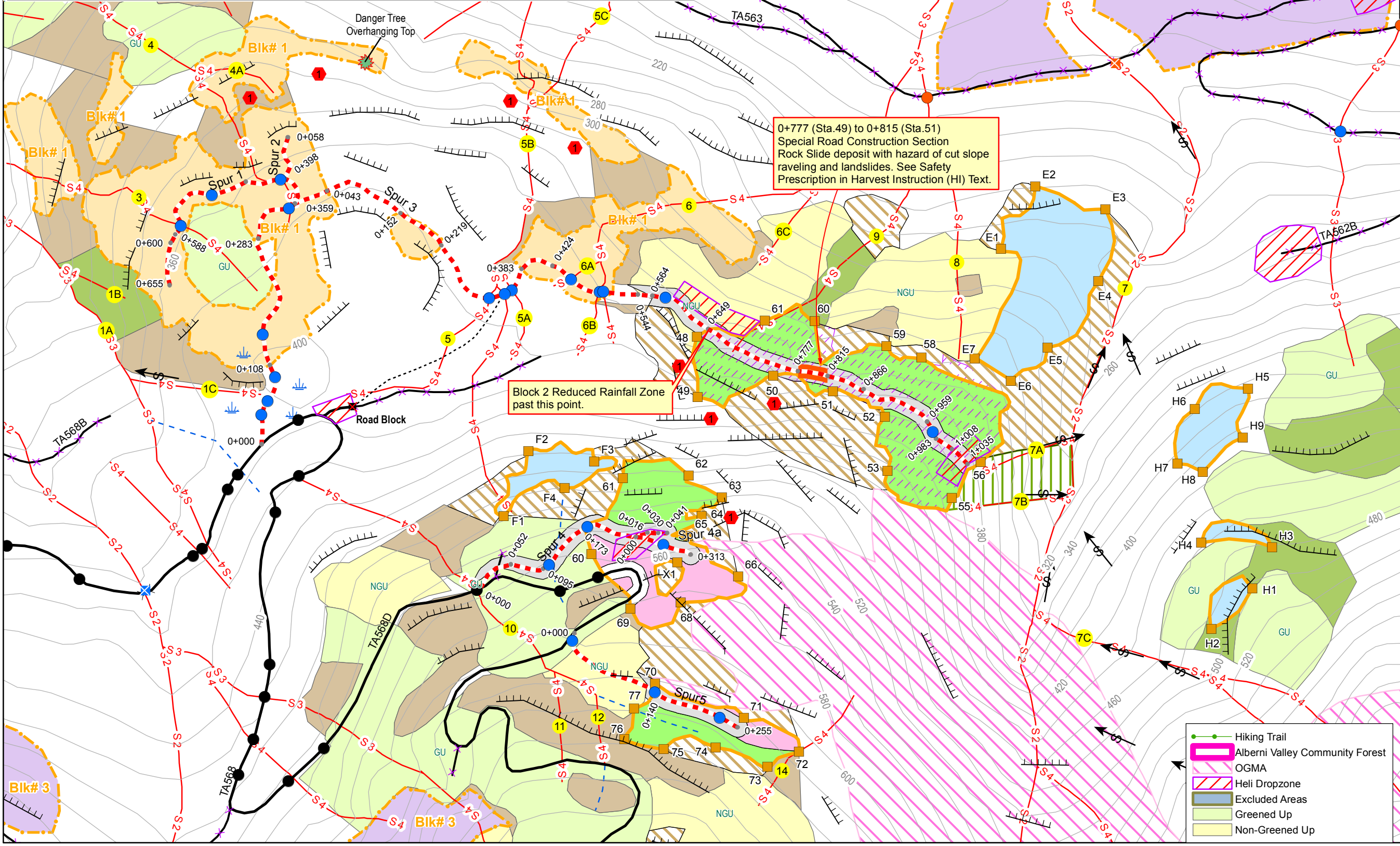
Alberni Valley Community Forest

HARVEST INSTRUCTIONS MAP

Cutblock: 2

Forest Region: Coast
Forest District: South Island
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Geographic Coordinates: Mapsheet: 92F024
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- Wildlife Tree Patch
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- Adjacent TLA

Harvest Methods:

- Grapple
- Hoe Forward
- HoeChuck
- Helicopter
- Highlead
- Right-of-Way
- Snorkel

Yarding Features:

- Backspar Tree
- Sensitive Soils
- Heli Drop Zone
- Steep Grade

Other Features:

- Hiking Trail
- Alberni Valley Community Forest
- OGMA
- Heli Dropzone
- Excluded Areas
- Greened Up
- Non-Greened Up

HARVEST INSTRUCTIONS CUTBLOCK: Block 2

Alberni Valley Community Forest K2D Taylor FDU ACCESS ROAD: TA568 CUTTING PERMIT: TIMBERMARK:

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STREAM PRESCRIPTIONS				
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7A	S4	0m	30m	FA, YA, Outside of Block
7B	S4	0m	30m	FA, YA, Outside of Block
7C	S4	0m	30m	FA, YA, Outside of Block
8	S4	0m	30m	FA, YA, Outside of Block
9	S4	0m	30m	FX, YX, NC
10	S4	0m	30m	FA, YA, Outside of Block
11	S4	0m	30m	FA, YA, Outside of Block
12	S4	0m	30m	FA, YA, Outside of Block
14	S4	0m	30m	FA, YA, Outside of Block

STRATEGY DEFINITIONS			
FALLING		CABLE YARDING	
FX	Fall across acceptable	YX	Yard across acceptable. Full suspension where possible.
FA	Fall away only	YA	Yard away only
FA(X)	Fall away where possible	YV	Yard vertically
FA/BL	Fall Away. Leaners and danger trees that cannot be safely felled away may be bridged to span		
RS	Retain saplings and non-merch		
GROUND BASED YARDING AND STREAM CROSSINGS		STREAM CLEANING	
YX	Stream crossings acceptable provided stream standards (SOP) followed	NC	No cleaning anticipated
DX	Approximate location(s) of designated machine crossings have been identified – see map	HC	Hand clean transportable debris
NX	No machine crossings	MC	Machine clean transportable debris
MFZ	Machine Free Zone	AC	Cleaning to be assessed post-yarding prior to block completion

GENERAL INSTRUCTIONS

All employees, supervisors and contractors associated with these Harvest Instructions shall be fully advised of their content requirements and be aware and knowledgeable of Alberni Valley Community Forests (AVCF) environmental management systems (EMS) and appropriate standard operating procedures (SOPs).

ADDITIONAL INSTRUCTIONS

[1] **Ground Based Operations / Backspar Trails:** Ensure sufficient brush matting and puncheon is utilized in order to minimize soil disturbances. If excessive soil disturbance occurs, cease operations until soil moisture conditions improve or move to an area where drier conditions exist.

[2] **Fuelling:** Equipment must not be fuelled or serviced within the riparian management area (RMA) of a stream, lake or wetland.

[3] **RMA distances:** STREAMS: S1 - 70 m, S2 - 50 m, S3 - 40 m, S4 - 30 m LAKES: L1 - 10 m, L3 - 30 m, WETLANDS: W1, W5 - 50 m, W3 - 30 m.

[4] **Cultural Resources:** If an unidentified cultural heritage resource is encountered within the cutblock during any harvesting phase, operations will cease in the immediate vicinity of the feature and the AVCF representative shall be notified immediately.

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[6] **Seasonal Deactivation:** Ensure ditches and culverts are clean prior to completion of block and/or winter shutdown. Back up culverts with waterbars or x-ditches. Particular attention should be given to segments of road that have steep grades, steep terrain and roads within a Fisheries sensitive watershed. Maintain pickup access.

[7] **Fish Streams:** Due to the close proximity of fish streams immediately downstream of the cutblock, ensure a high level of diligence is maintained regarding stream bank protection, in-stream woody debris disturbance, and protection of stream banks at designated crossings.

[8] **Retention:** Internal retention not specified on the map requires review with the AVCF prior to implementing and necessitates a 'change in plan'. Individual trees along boundary edges may be left standing due to safety or operability issues and do not require documentation unless they pose hazard to subsequent phases. Groups of trees left along boundary edges for safety and/or operability issues need approval from the AVCF

CHANGE OF PLAN

Any substantial 'change of plan' will require prior approval from the AVCF. Examples of a substantial 'change of plan' are: a change in harvest system necessitated in the prework, a change in location of back spar trails, a change in approved timber to be felled or yarded and any other variation from AVCF SOPs.

FALLING of SNAGS and DANGER TREES

In accordance with the Cutting Permit Authority and WorkSafe BC Regulations, all snags and danger trees that endanger workers within a distance of 50m outside the cutblock boundaries, or within one and a half tree lengths, (whichever is greater), are approved for falling under these harvest instructions. All danger trees and related trees felled from outside of the approved boundaries must be reported to the supervisor daily and their stumps should be marked with an "X". AVCF will be notified immediately if danger trees and/or snags are identified in groups and removal will result in the cutblock boundary being substantially impacted. Felled snags and danger trees up to 50m outside of the falling boundary meeting utilization specifications will be recovered.

EXCEPTION- Wildlife Tree Patch (WTP) and Riparian reserve areas (RRZ)- Snags or danger trees can be felled within a WTP or RRZ for safety reasons although only the portion of the felled snag or danger tree that falls outside the WTP or RRZ can be recovered.

CUTBLOCK BOUNDARY TREATMENTS

All marked boundary trees except snags and danger trees must remain standing during and after the completion of harvesting. Trees located along and adjacent to the cutblock edges (i.e. within the harvest boundary) that must be felled outside the harvest area must be recovered unless a physical, safety or environmental issue exists (e.g. deep gullies, steep breaks, fish creek, etc.). Trees that cannot be recovered may be left standing, if they are safe to leave, as wildlife trees. These trees must be recorded on a map and provided to the AVCF once falling is complete. If you are unsure how to proceed, contact the AVCF.

SAFETY

There is no other identified road or in-block safety hazards associated with Block 2. Roads required for hauling must be inspected by a qualified supervisor and any deficiencies must be reported to the AVCF 10 days prior to hauling commencement. In the event any additional in-block safety hazards (temporary or permanent) are encountered or develop during harvesting phases, a plan must be developed to address the hazard. Any identified permanent hazards must be reported back to the AVCF (using Hazard/Issue Report Form).

TERRAIN

Block 2 has a Very Low to Low potential for post-harvest landslides other than a portion of a helicopter polygon near FC-A2 which has a moderate potential for post-harvest landslides and a high potential for rock fall. Workers should be made aware of the potential for rock fall from upslope from FC48 to FC51, FC63 to FC65 and FC-F1 to FC-F3. Workers should be aware of deep bedrock fractures outside of harvest areas near FC59 and FC61.

STEEP GRADES

No new Roads have designed sections >18% but the built TA568 does contain sections of >18% grades. All other haul routes (pre-existing roads) to Sort have no sections of > 18%.

HAULING ON STEEP ROADS

Before Hauling commences on any road section >18%, a steep grade assessment must be conducted by a qualified supervisor (i.e.: prime contractor supervisor or AVCF). If any road sections have been built with critical pitch grades greater than those identified in the table below then hauling cannot commence until a new assessment has been completed by the AVCF or the road has been reconstructed to (or less than) the original designed grade. Any new steep grades >18% not identified in the table below must also be assessed by the AVCF prior to hauling

Monitor conditions continually and adjust hauling activities to suit the traction conditions. (E.g. suspend hauling activities--See Table below). If assumptions concerning truck configurations are altered, contact AVCF for additional instructions.

Alberni Valley Community Forest

ROAD INSTRUCTIONS MAP

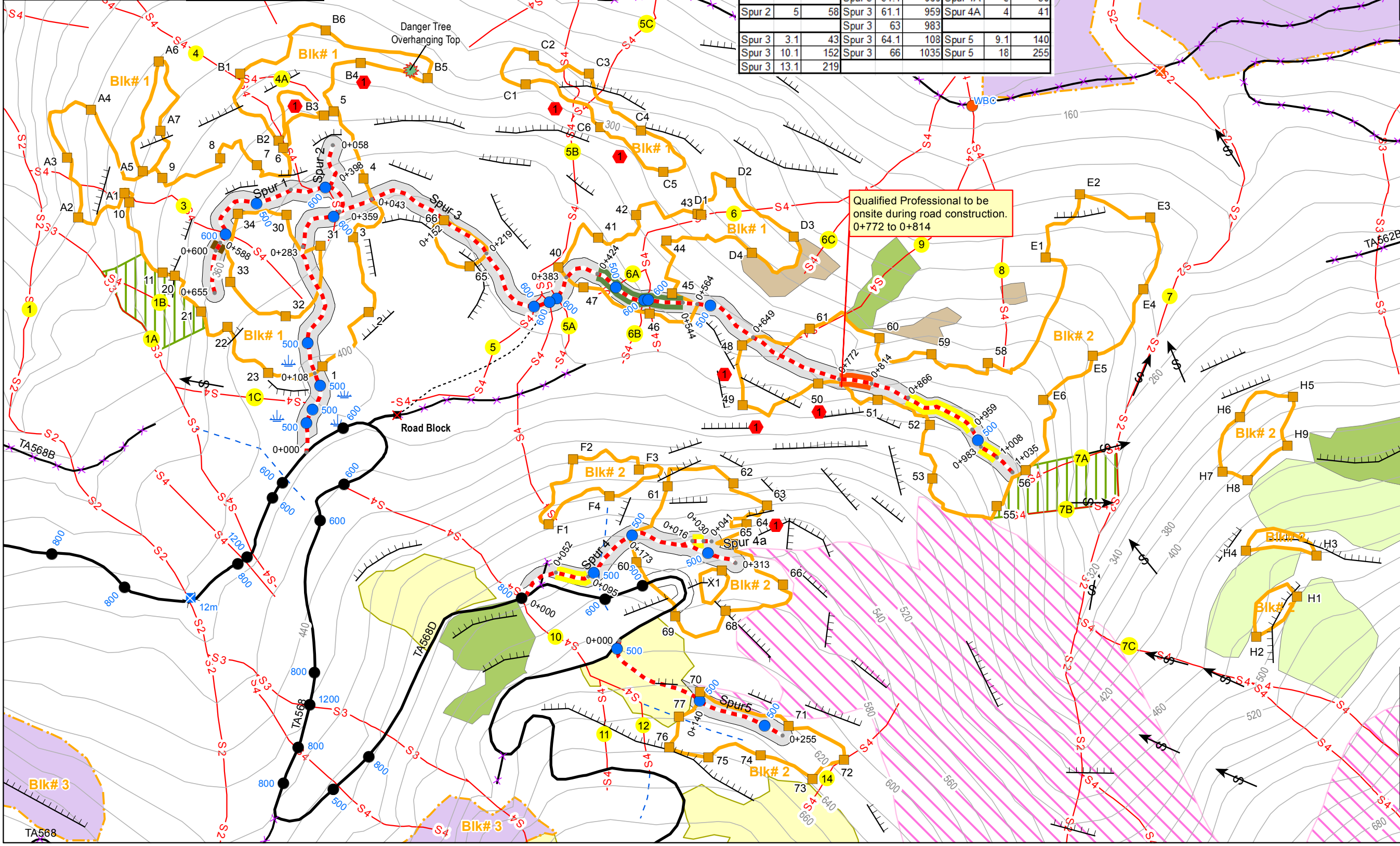
Cutblock: 1&2
 Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates: Mapsheet: 92F024
 Blk 1: Datum: NAD83
 Lat: 49° 17' 6"
 Long: 125° 19' 52"
 Blk 2:
 Lat: 49° 16' 54"
 Long: 125° 19' 20"
 Author: D. Brown
 Map Date: September-29-15

Scale:
 1:5,000

HAZARD ALERT
 1) A rock fall hazard has been identified and workers must be made aware of this.

Road	Hub	Station	Road	Hub	Station	Road	Hub	Station
Spur 1	8.1	108	Spur 3	26.1	383	Spur 4	4	52
Spur 1	22.1	283	Spur 3	29	424	Spur 4	8	95
Spur 1	29	359	Spur 3	36	544	Spur 4	14.1	173
Spur 1	33	398	Spur 3	37	564	Spur 4	20.1	239
Spur 1	47	588	Spur 3	42	649	Spur 4	26	313
Spur 1	48	600	Spur 3	49	772			
Spur 1	51	655	Spur 3	51.1	814	Spur 4A	2	16
			Spur 3	54.1	866	Spur 4A	3	30
Spur 2	5	58	Spur 3	61.1	959	Spur 4A	4	41
			Spur 3	63	983			
Spur 3	3.1	43	Spur 3	64.1	108	Spur 5	9.1	140
Spur 3	10.1	152	Spur 3	66	1035	Spur 5	18	255
Spur 3	13.1	219						

TIMBERMARK	Ha of R/W	VOLUME	CULVERTS			ROAD NAME	START	END	TOTAL	PROFESSIONAL SEAL AND SIGNATURE I certify that I have reviewed this document, and while I did not personally supervise the work described, I have determined that this work has
	3.6	2437	SIZE	TYPE	NUMBER	Spur 1	0	655	655	
	1.8	350	500	CMP	14	Spur 2	0	58	58	
TOTAL	5.4	2787	600	CMP	8	Spur 3	0	1035	1035	
CRUISE VOL/HA (m3)	520 / 817					Spur 4	0	313	313	
FOPS VOL/HA (m3)						Spur 4a	0	41	41	
HAUL DISTANCE						Spur 5	0	255	255	
Block 1 Distances						TOTAL NEW ROAD		2357		
Shoemaker - off highway	44.5					Field Work:				
Shoemaker - highway	57.3					Checked By:				



Qualified Professional to be onsite during road construction. 0+772 to 0+814

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splitline
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Recce Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area
- Adjacent WTP
- Adjacent TLA

Road Construction:

- Step Grade
- Full Bench EndHaul
- Full Bench Partial EndHaul
- No Sidecast
- RMA Infringement

Road Reactivation:

- Case 1
- Case 2
- Case 3
- Case 4
- Additional Works. See Comments.

ROAD INSTRUCTIONS CUTBLOCK: Block 1 & Block 2

Alberni Valley Community Forest

K2D

Taylor FDU

ACCESS ROAD: TA568 & TA568D

CUTTING PERMIT:

TIMBERMARK:

RAINFALL SHUTDOWN CRITERIA – WET and VERY WET ZONE: Follow AVCF's Rainfall Shutdown Standard. Activities must shut down if: The total rainfall reaches 100mm in 24 hours or less, 75mm of rain has fallen since the start of the shift and rain is continuing, or the water balance is equal to or greater than 100mm, whichever occurs first.

RAINFALL START-UP CRITERIA – WET and VERY WET ZONE: - Activities may start-up when: The total rainfall is equal to or less than 50mm in 48 hours, or the water balance falls below 100mm. Soil drainage rate is 50mm in 24 hours.

ROAD CONSTRUCTION SUMMARY

Road Name	Start Station	End Station	Type of Works/Comments
Spur 1	0+000	Sta.51 – 0+655	New Road Construction, Stream crossings listed below.
Spur 2	0+000	Sta.5 – 0+058	New Road Construction, no Stream crossings.
Spur 3	0+000	Sta.66 – 1+035	New Road Construction, Stream crossings listed below.
Spur 4	0+000	Sta.26 – 0+313	New Road Construction, No Stream Crossings
Spur 4A	0+000	Sta.4 – 0+041	New Road Construction, No Stream Crossings
Spur 5	0+000	Sta.18 – 0+255	New Road Construction, No Stream Crossings.

SPECIAL CONSTRUCTION / ENDHAUL SUMMARY

Road Name	Start Station	End Station	Prescriptions
Spur 1	Sta.47 – 0+588	Sta.48 – 0+600	Conventional Road Construction with no side casting over steep bedrock outcrop.
Spur 3	Sta.29 – 0+424	Sta.36 – 0+544	Partial End-haul (PEH)
Spur 3	Sta.49 – 0+772	Sta.51 (+5m) – 0+814	Section of coarse colluvium or bedrock fractures. Have a Qualified Professional Engineer on-site during road building.
Spur 3	Sta.55 (-10m) – 0+866	Sta.62 (-5m) – 0+959	Full Bench End-haul
Spur 3	Sta.63 – 0+983	Sta.64 (+5m) – 1+008	Full Bench End-haul
Spur 4	Sta.4 – 0+052	Sta.8 – 0+095	Full Bench End-haul
Spur 4A	0+016 – Sta.2	0+030 – Sta.4	Full Bench End-haul

Road Name	Station	Riparian ID	Riparian Class	Debris Transport Potential	Culvert/Bridge Size	Designed Peak Flow	Special instructions for operations within or adjacent to RMA
Spur 1	Sta.28 - 0+348	4	S4	Low	600	Q100	None
Spur 1	Sta.33.1 - 0+404	4	S4	Low	600	Q100	None
Spur 1	Sta.45.1 - 0+575	3	S4	Low	600	Q100	None
Spur 3	Sta. 21 - 0+317	5	S4	Low	600	Q100	None
Spur 3	Sta.23.1 - 0+337	5B	S4	Low	600	Q100	None
Spur 3	Sta.24.1 - 0+348	5A	S4	Low	600	Q100	None
Spur 3	Sta.30.2 - 0+453	6A	S4	Low	500	Q100	None
Spur 3	Sta.33.2 - 0+494	6B	S4	Low-Mod	600	Q100	None
Spur 3	Sta.34 - 0+499	6	S4	Low-Mod	600	Q100	None

GENERAL INSTRUCTIONS

All employees, supervisors and contractors associated with these Road Instructions shall be fully advised of their content requirements and be aware and knowledgeable of Alberni Valley Community Forest (AVCF) environmental management systems (EMS) and appropriate standard operating procedures (SOPs).

ADDITIONAL INSTRUCTIONS

[1] **R/W Widths:** R/W clearing widths to be 25 meters unless a larger width is required for safety or otherwise prescribed. See table on front of map.

[2] **Pit or Spoil Sites:** Prior approval must be obtained from AVCF if falling beyond right-of-way clearing is required for spoil sites or quarries.

[3] **Culverts:** Proposed cross-drain culvert locations are approximate. Site specific installation to within ±25m is acceptable. Installation beyond this distance constitutes a 'change of plan' and requires prior approval from the AVCF Representative.

[4] **Fuelling:** Equipment must not be fuelled or serviced within the riparian management area (RMA) of a stream, lake or wetland.

RMA distances: STREAMS: S1 - 70 m, S2 – 50 m, S3 – 40 m, S4 – 30 m, LAKES: L1 – 10 m, L3 – 30 m, WETLANDS: W1, W5 – 50 m, W3 – 30 m.

[5] **Quarries:** Avoid quarry locations within the RMA of any stream; where avoidance is not practical, quarries may be located within the RMA of a S6 stream if no impacts (i.e. increased sedimentation) will occur to the stream. All other streams (i.e. S1 to S5) require prior approval from AVCF before a quarry may be located within its RMA.

[6] **Cultural Resources:** If an unidentified cultural heritage resource is encountered within the cutblock during any harvesting phase, operations will cease in the immediate vicinity of the feature and TFN's engineering department shall be notified immediately.

[7] **Wildlife Resources:** In the event any unidentified bear dens or raptor nest trees are encountered during falling, but before the tree has been cut, the faller will go elsewhere for the day and report this potential wildlife tree to an AVCF Representative. Fallers are not to return to the vicinity of the wildlife tree until notification from the AVCF has been given. If the discovery of a bear den or potential nest tree occurs while the tree is being felled, the decision to proceed is at the faller's discretion in regards to safety and WorkSafe BC requirements. If it is unsafe to leave the tree partially cut, the faller will complete falling the tree and report the incident to the AVCF.

[8] **Fish Streams:** Due to the close proximity of fish streams immediately downstream of the cutblock, ensure a high level of diligence is maintained regarding stream bank protection, in-stream woody debris disturbance, and protection of stream banks at designated crossings.

CHANGE OF PLAN

Any substantial 'change of plan' will require prior approval from the AVCF. Examples of a substantial 'change of plan' are: a wood culvert to a metal culvert, a large metal culvert to two smaller metal culverts, a different spoil site location, and any variation from the AVCF SOPs.

FALLING of SNAGS and DANGER TREES

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SAFETY

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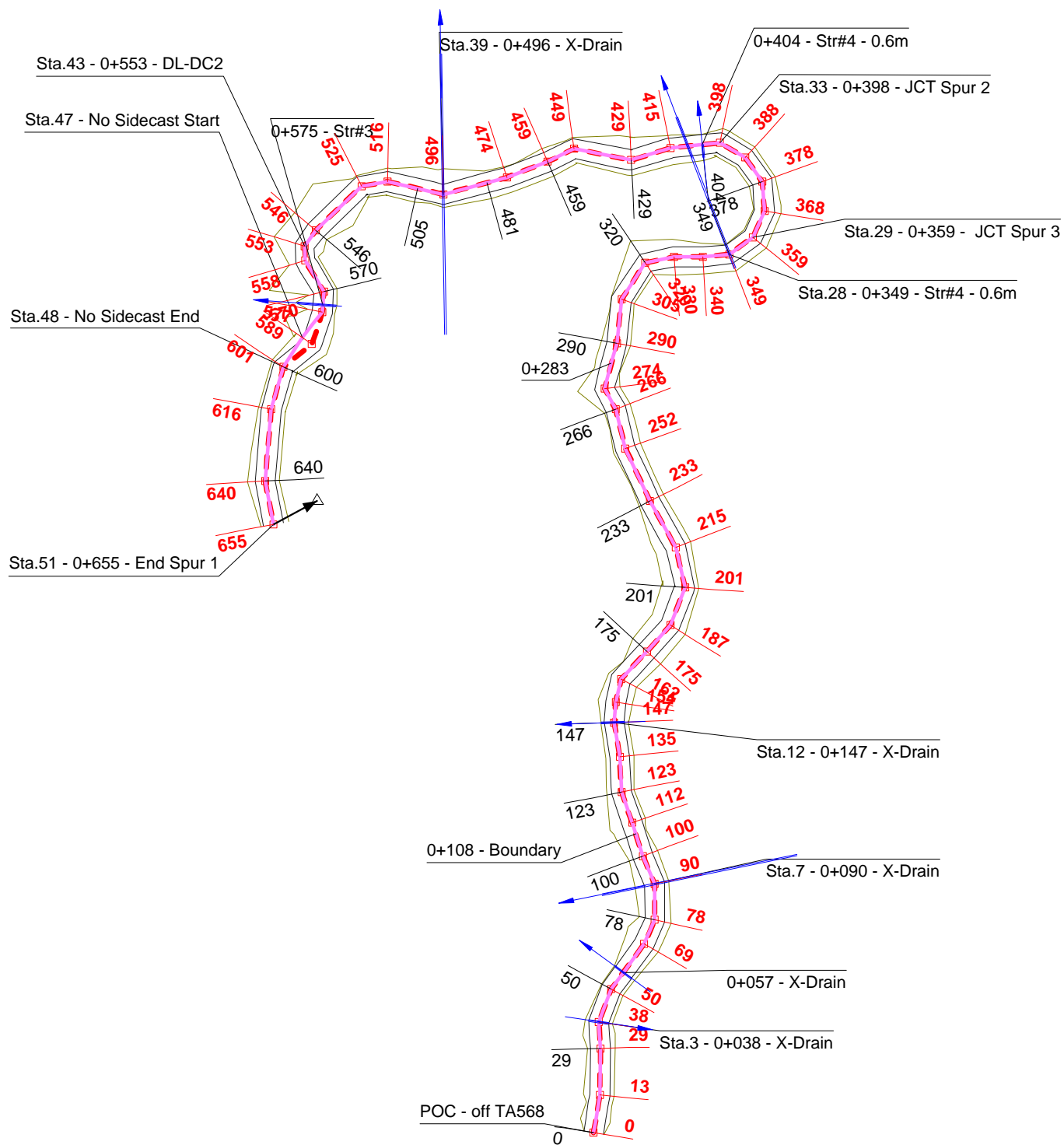
STEEP GRADES

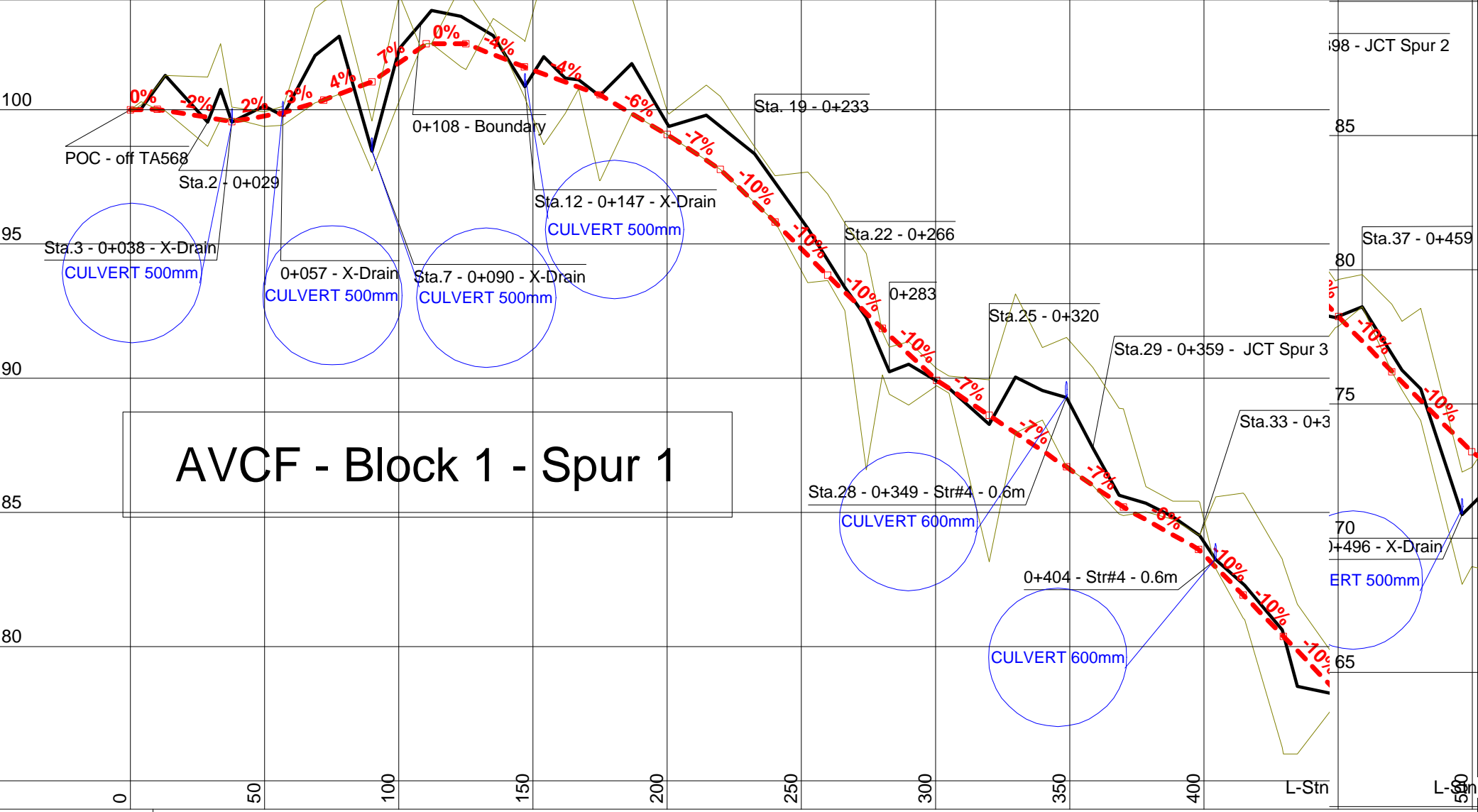
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HAULING ON STEEP ROADS

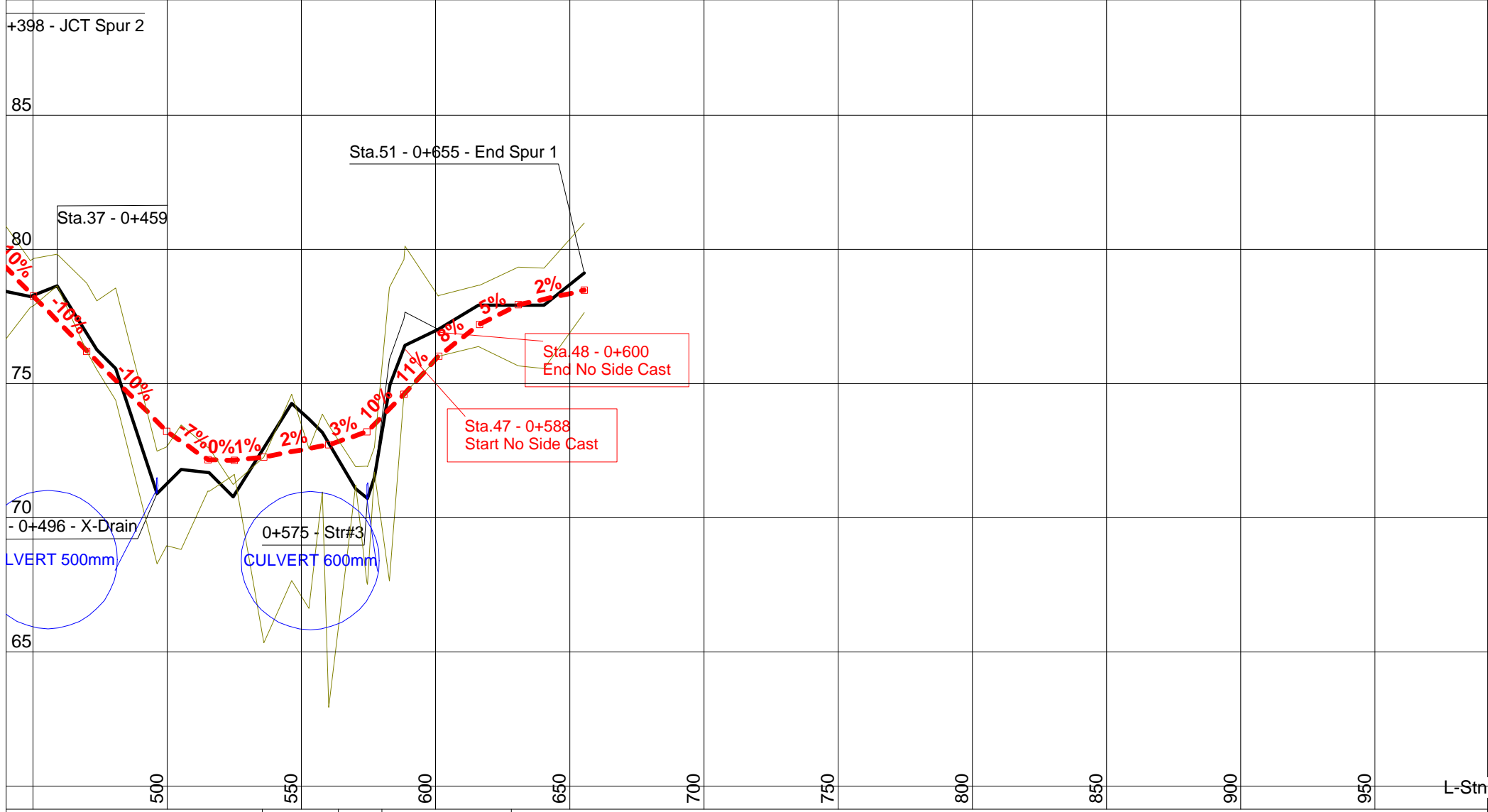
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Monitor conditions continually and adjust hauling activities to suit the traction conditions. (E.g. suspend hauling activities--See Table below). If assumptions concerning truck configurations are altered, contact AVCF for additional instructions.



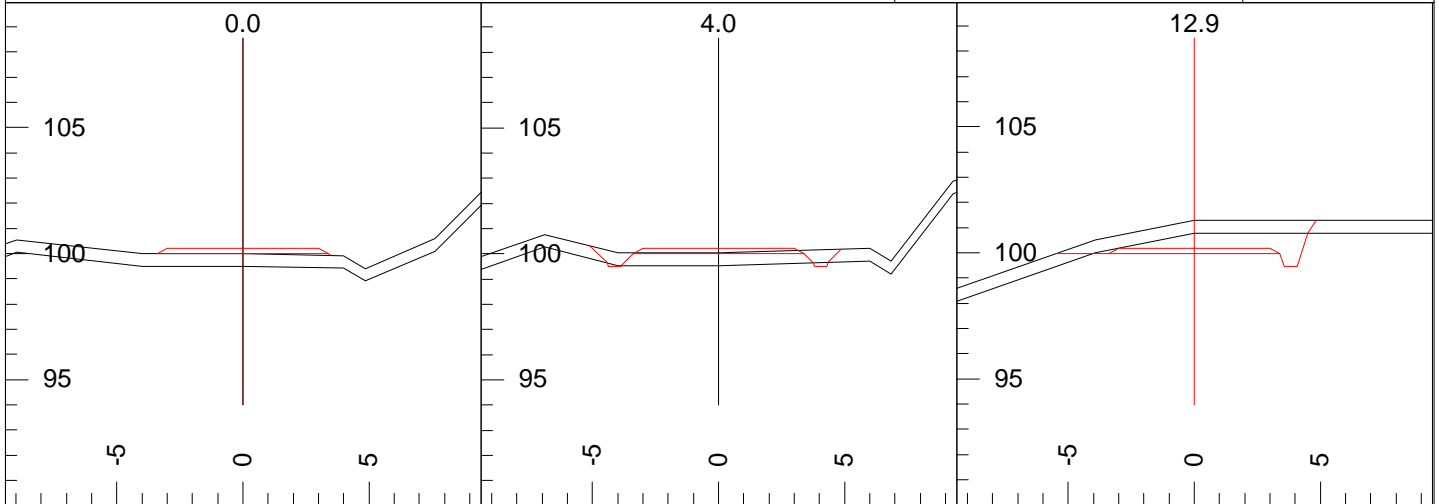


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Lyr2 Gnd: _____	MR
Lyr3 Gnd: _____	n/a
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-0.0	
0.4	
1.8	
2.2	
-2.6	
0.5	
0.9	
1.0	
0.7	
-0.7	
0.1	
-0.0	
1.9	
0.4	
1.7	
1.8	
1.5	
1.0	
0.2	
-1.0	
-0.4	
-0.0	
-0.3	
2.1	
2.2	
2.6	
1.4	
0.3	
0.6	
0.7	
0.5	
0.4	
0.2	
-0.1	
1.3	
0.7	



Lyr1 Gnd:	OB	MR	MR	OB
Lyr2 Gnd:	MR	n/a	n/a	MR
Lyr3 Gnd:	n/a			
	-0.1	1.3	0.7	0.4
	-2.7	-1.1	-0.5	-1.4
	0.3	1.8	0.5	-2.0
	1.8	1.0	0.7	-0.0
	-0.2	-0.2	0.6	

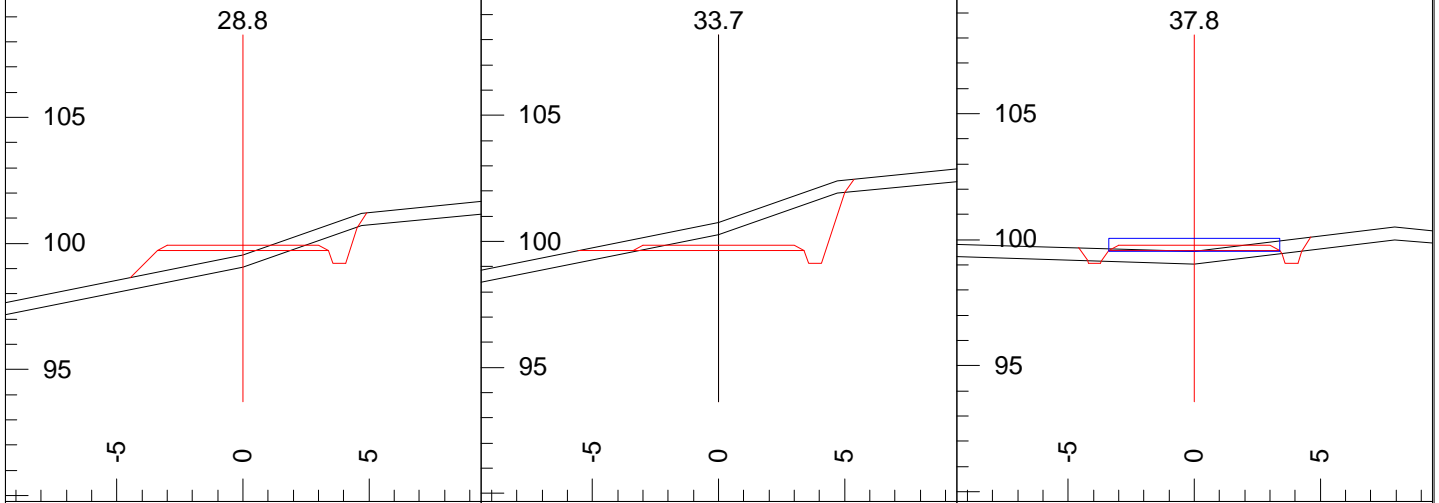
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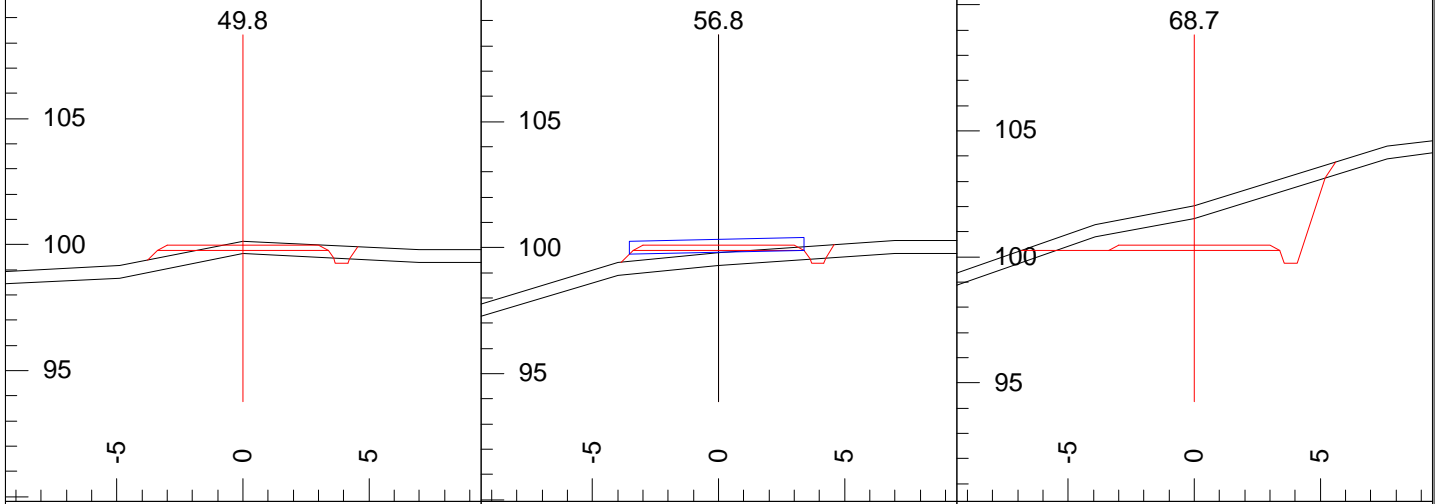
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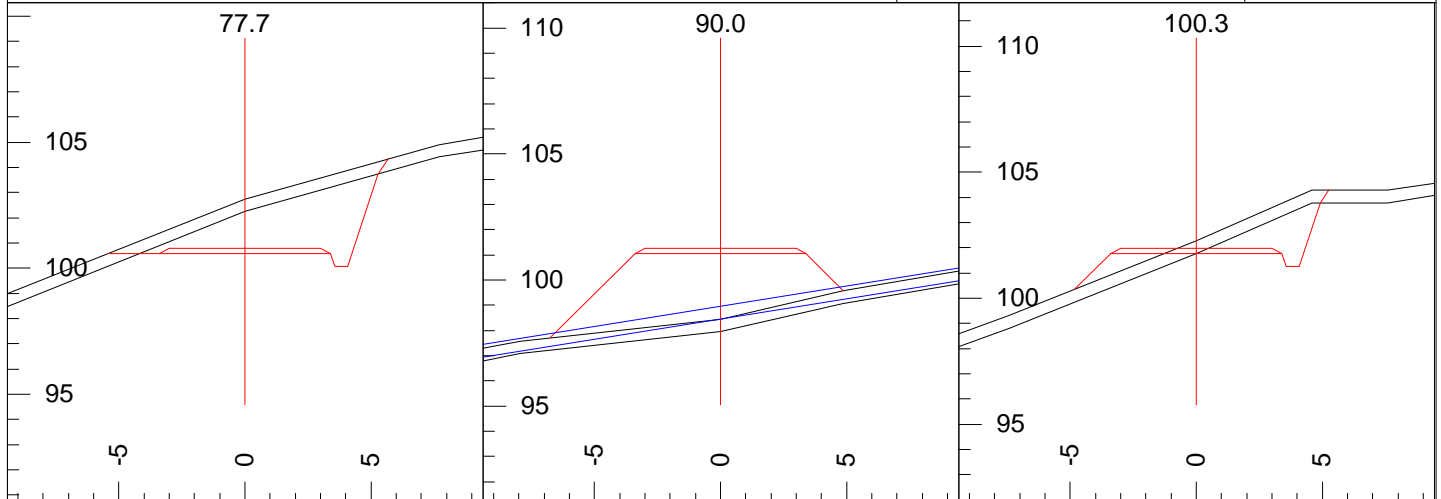
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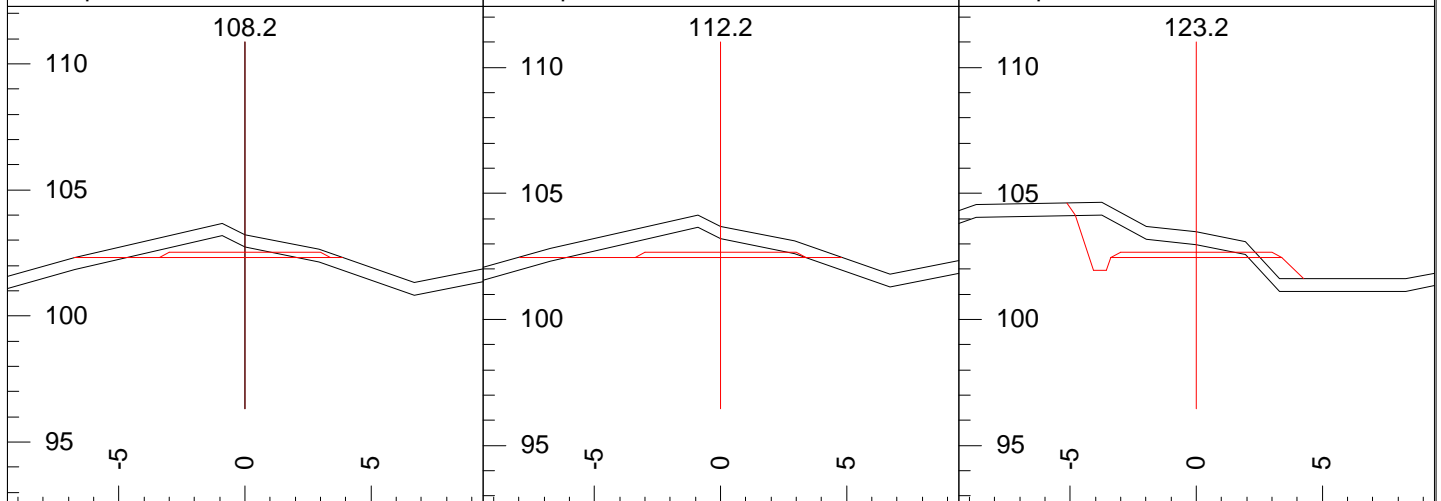
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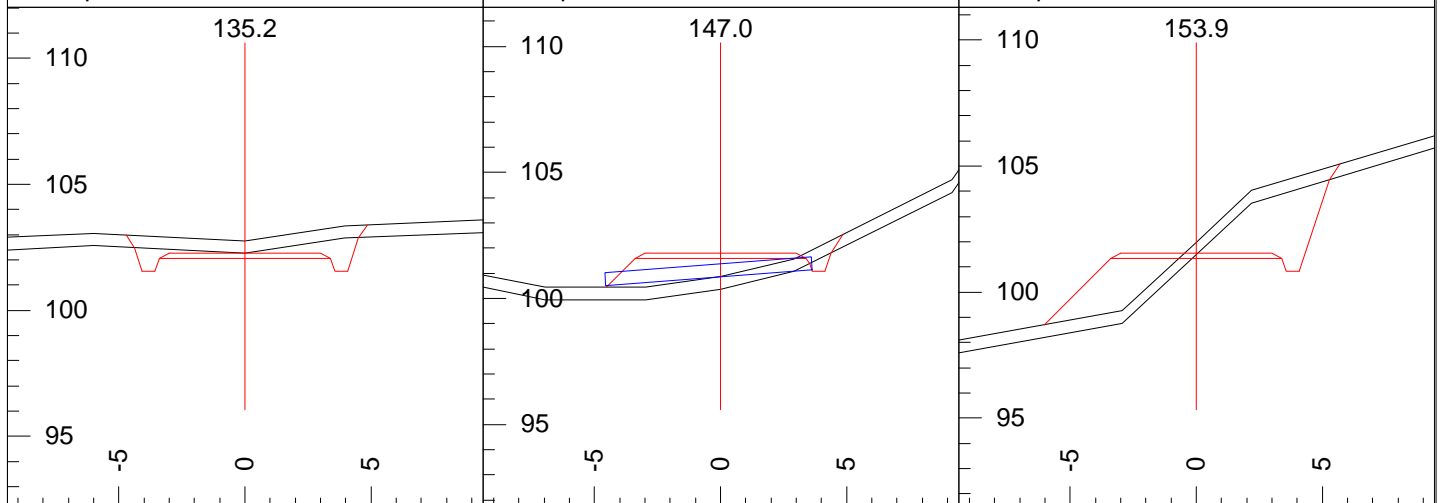
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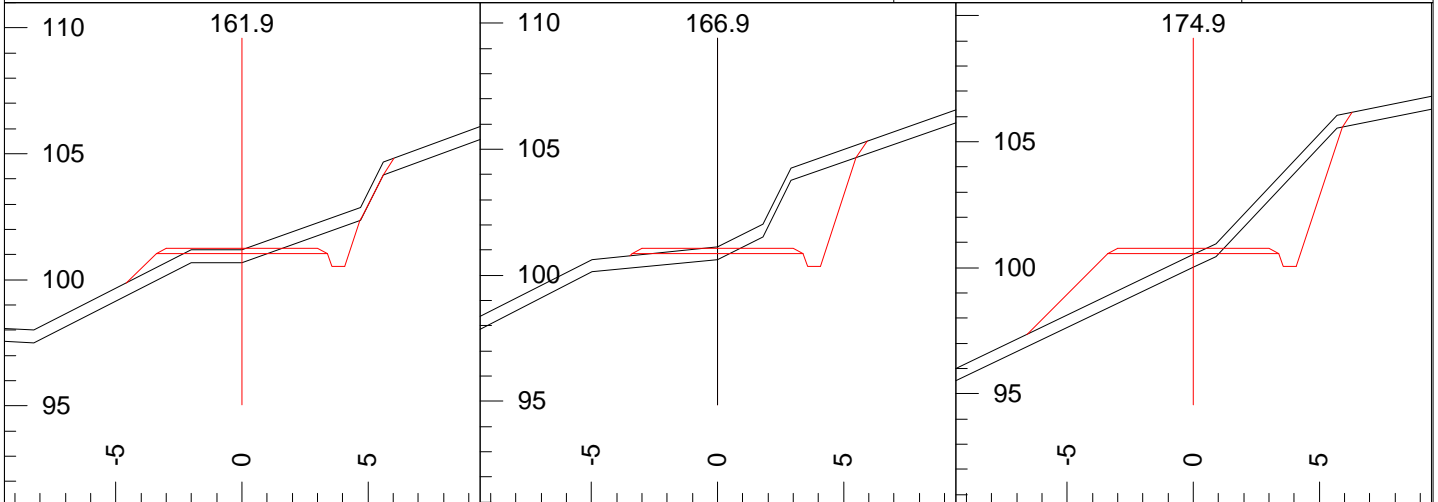
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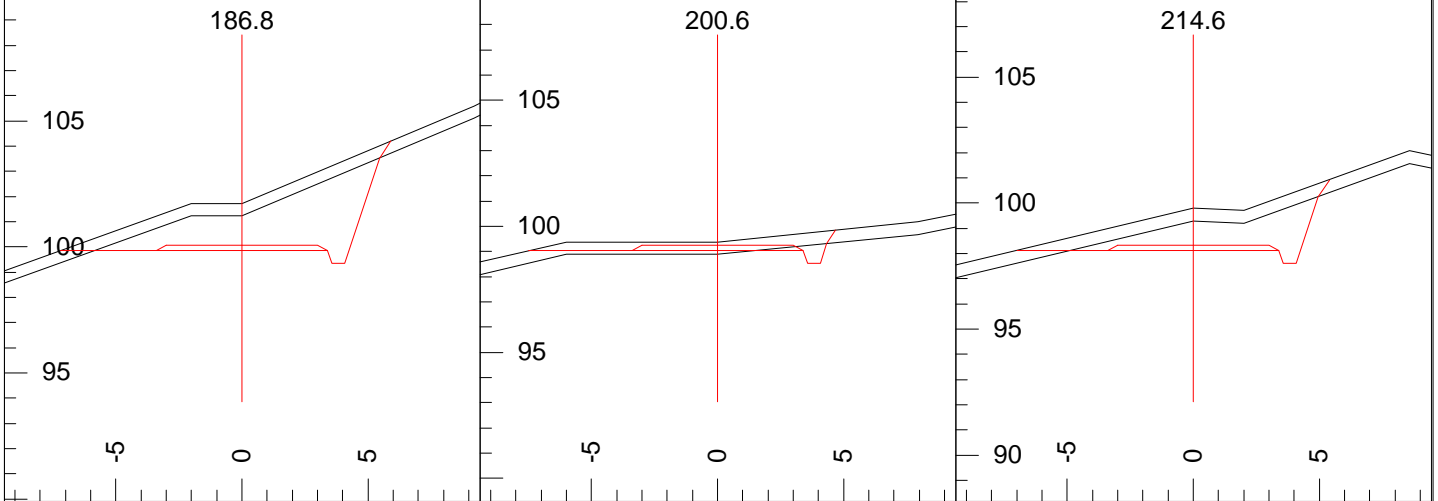
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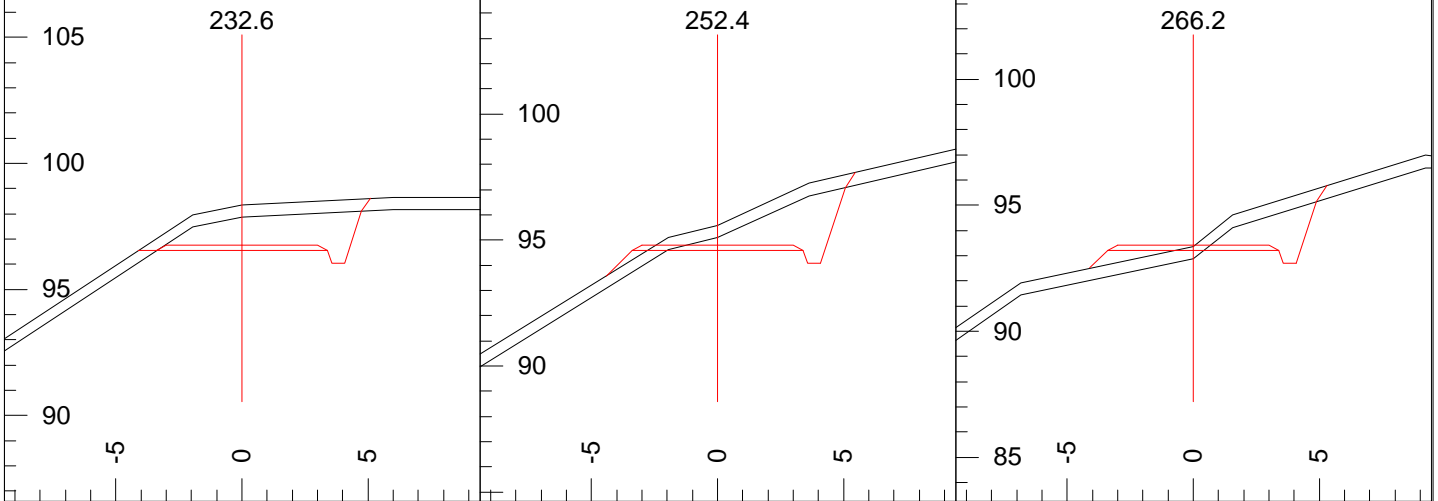
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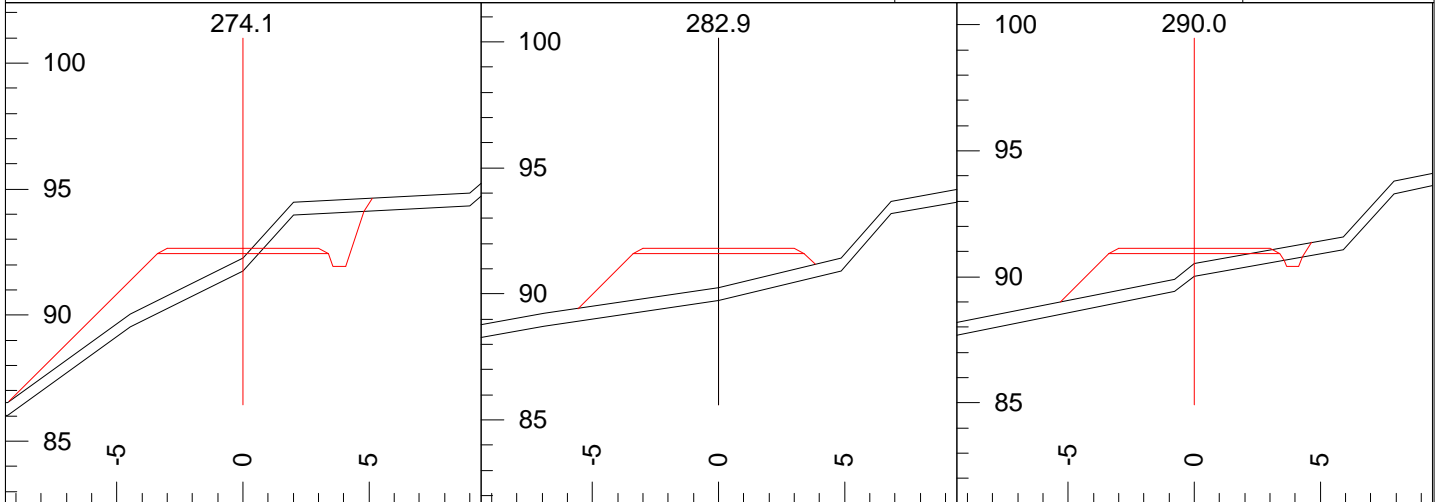
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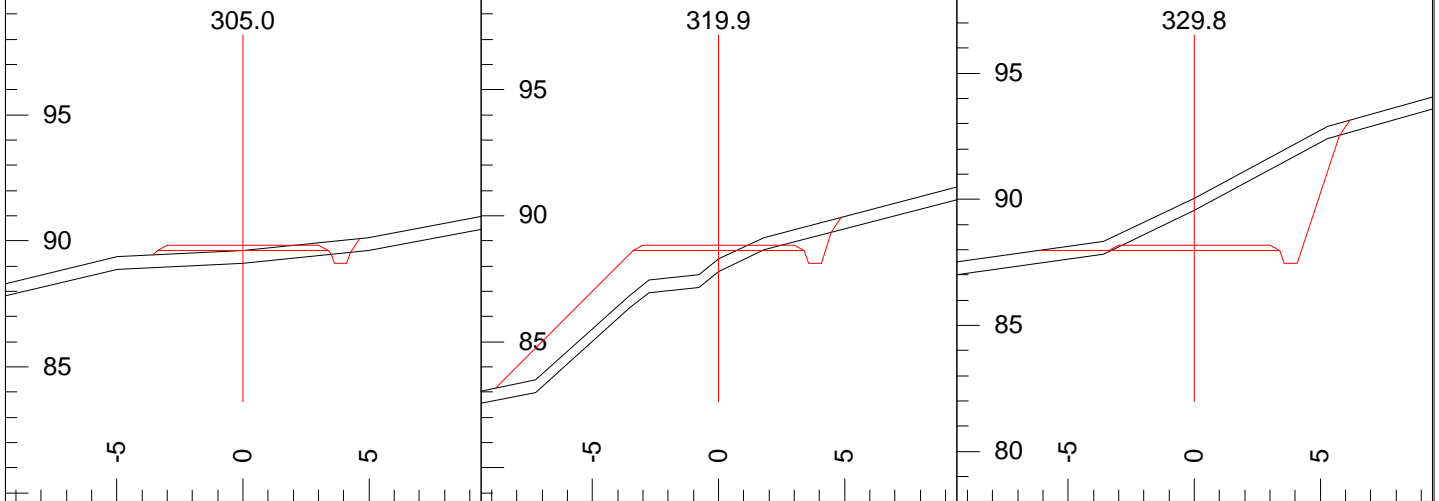
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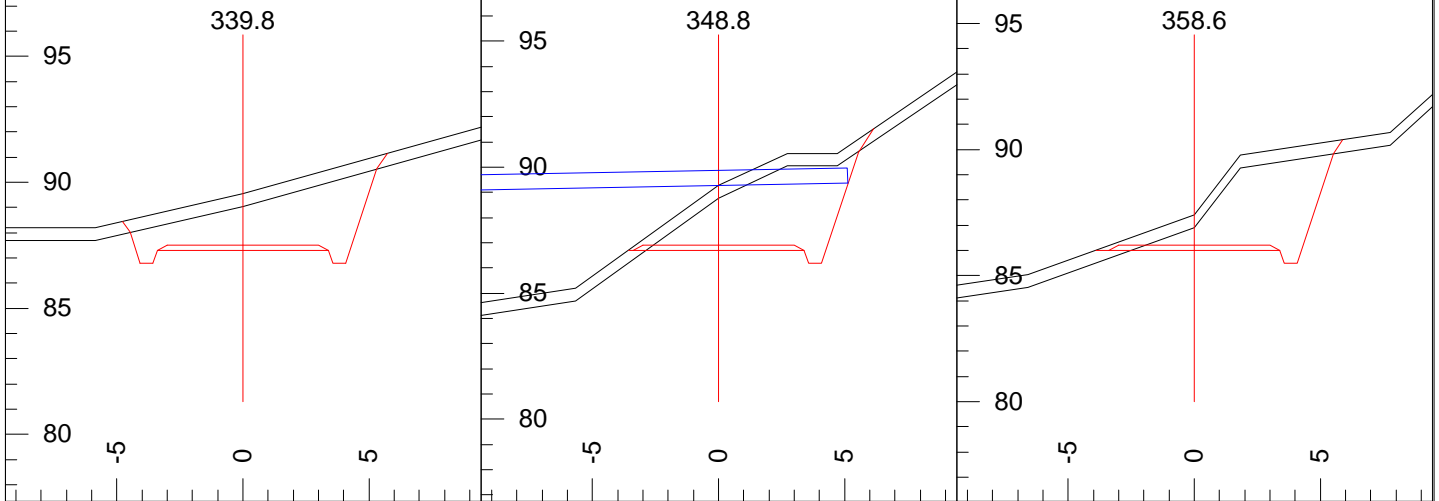
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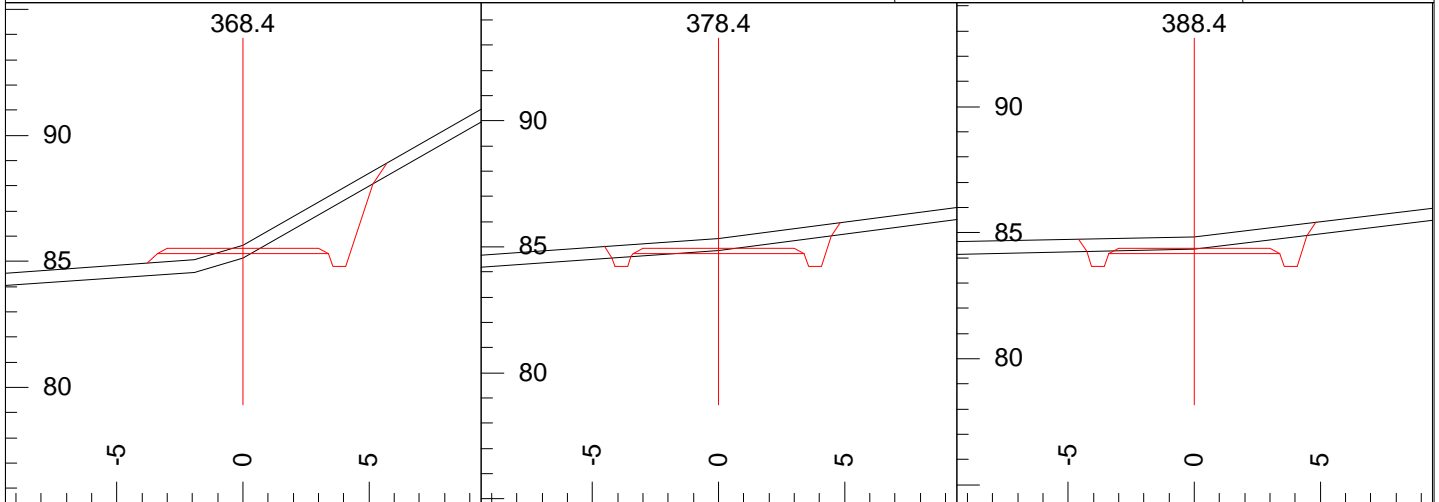
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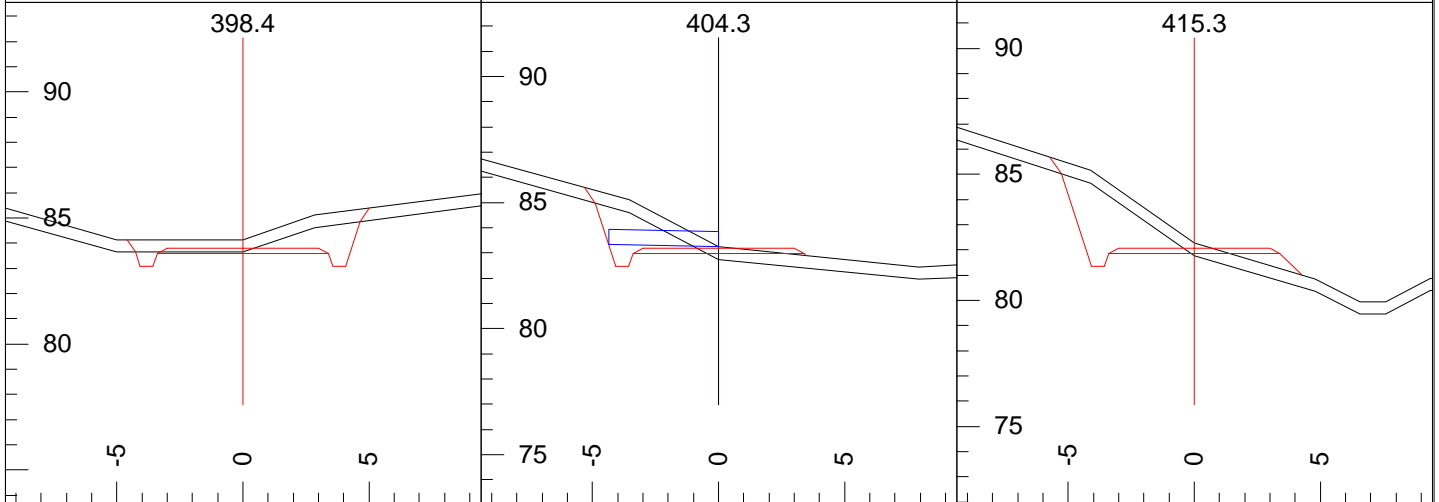
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 Stk L: 4.5
 Cut Dp: 0.6

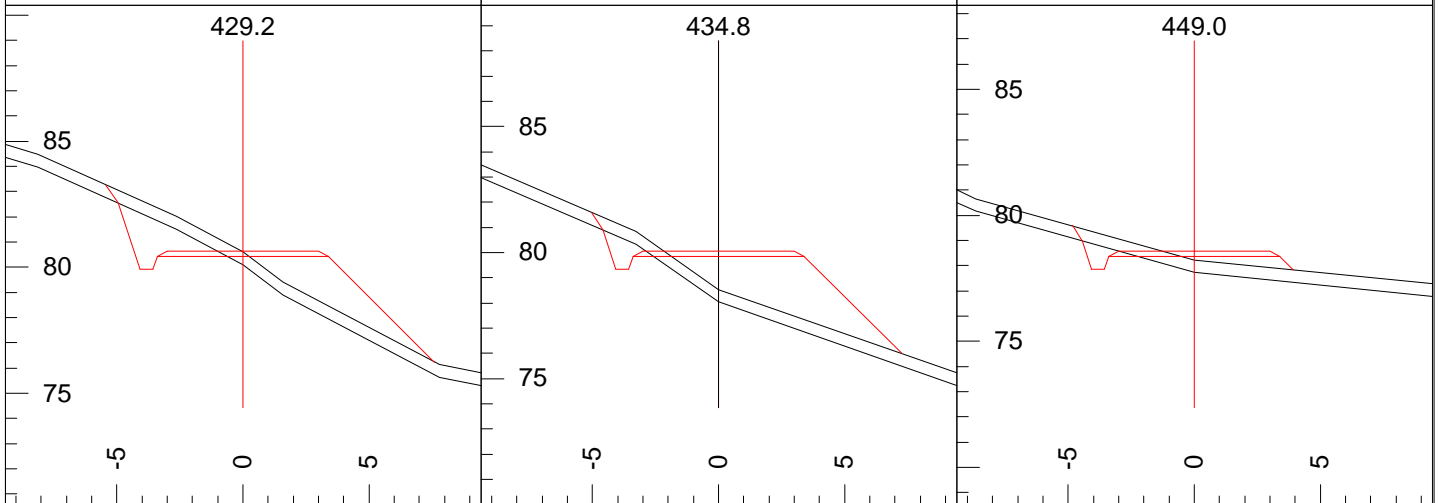
Index: 32
 P-Stn: 388.4
 H. Offset: 0.0
 Stk L: 4.6
 Cut Dp: 0.7



Index: 33
 P-Stn: 398.4
 H. Offset: 0.0
 Stk L: 4.6
 Cut Dp: 0.6

Index: 33:1
 P-Stn: 404.3
 H. Offset: 0.0
 Stk L: 5.8
 Cut Dp: 0.3

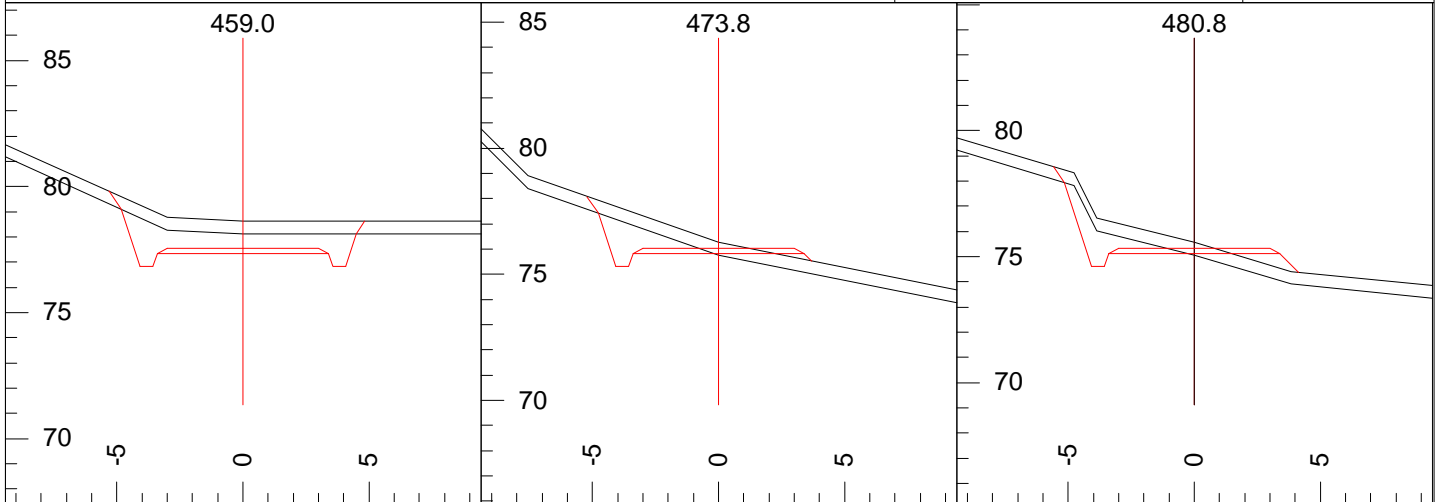
Index: 34
 P-Stn: 415.3
 H. Offset: 0.0
 Stk L: 6.6
 Cut Dp: 0.4



Index: 35
 P-Stn: 429.2
 H. Offset: 0.0
 Stk L: 6.0
 Cut Dp: 0.2

Index: 35:1
 P-Stn: 434.8
 H. Offset: 0.0
 Stk L: 5.9
 Cut Dp: -1.3

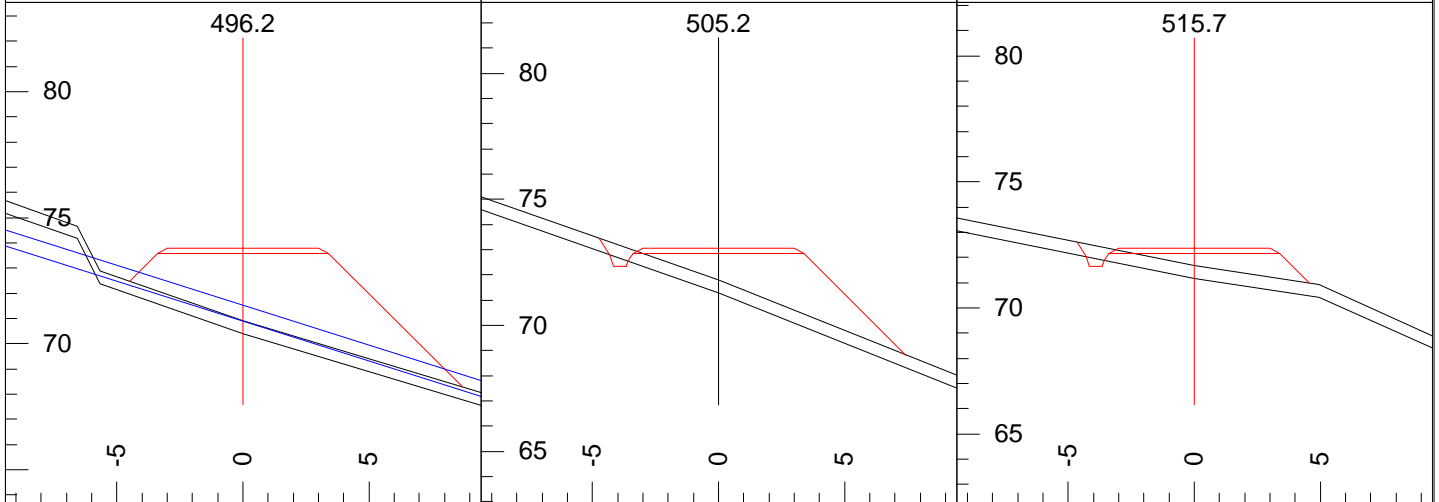
Index: 36
 P-Stn: 449.0
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: -0.1



Index: 37
 P-Stn: 459.0
 H. Offset: 0.0
 Stk L: 5.4
 Cut Dp: 1.3

Index: 38
 P-Stn: 473.8
 H. Offset: 0.0
 Stk L: 5.5
 Cut Dp: 0.4

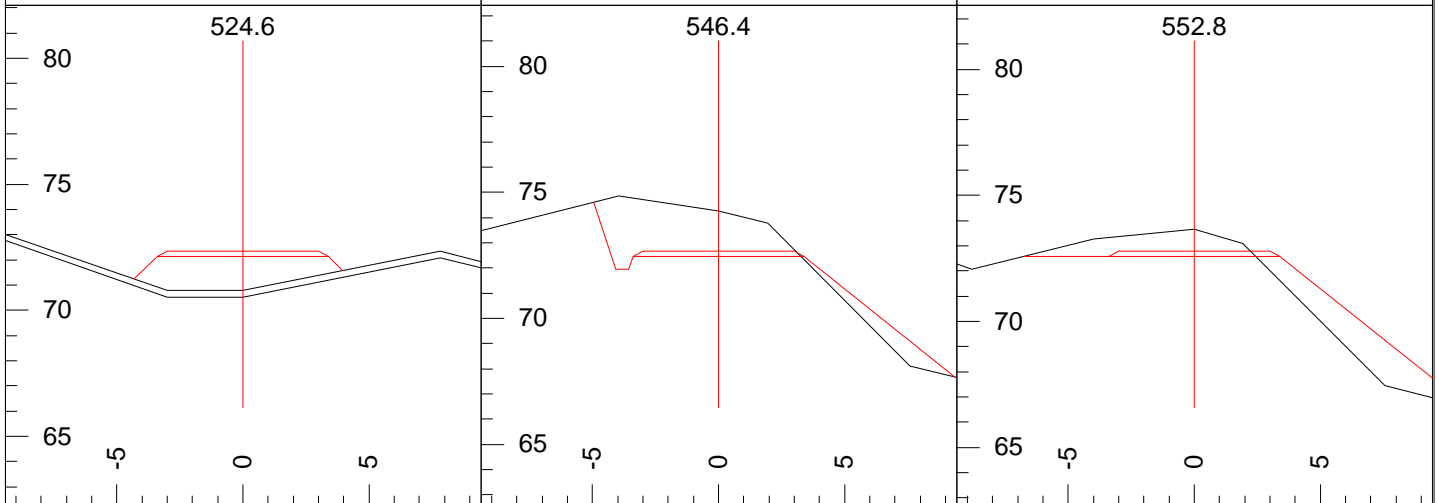
Index: 38:1
 P-Stn: 480.8
 H. Offset: 0.0
 Stk L: 6.3
 Cut Dp: 0.4



Index: 39
 P-Stn: 496.2
 H. Offset: 0.0
 Stk L: 4.8
 Cut Dp: -2.7

Index: 39:1
 P-Stn: 505.2
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: -1.1

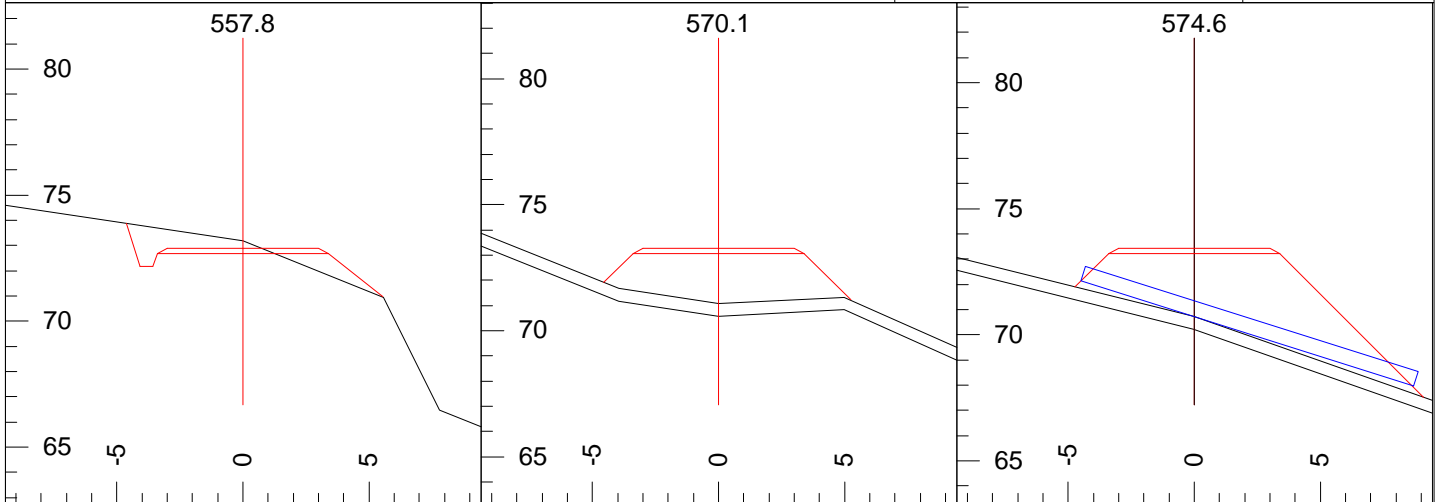
Index: 40
 P-Stn: 515.7
 H. Offset: 0.0
 Stk L: 4.8
 Cut Dp: -0.5



Index: 41
 P-Stn: 524.6
 H. Offset: 0.0
 Stk L: 4.3
 Cut Dp: -1.4

Index: 42
 P-Stn: 546.4
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: 1.8

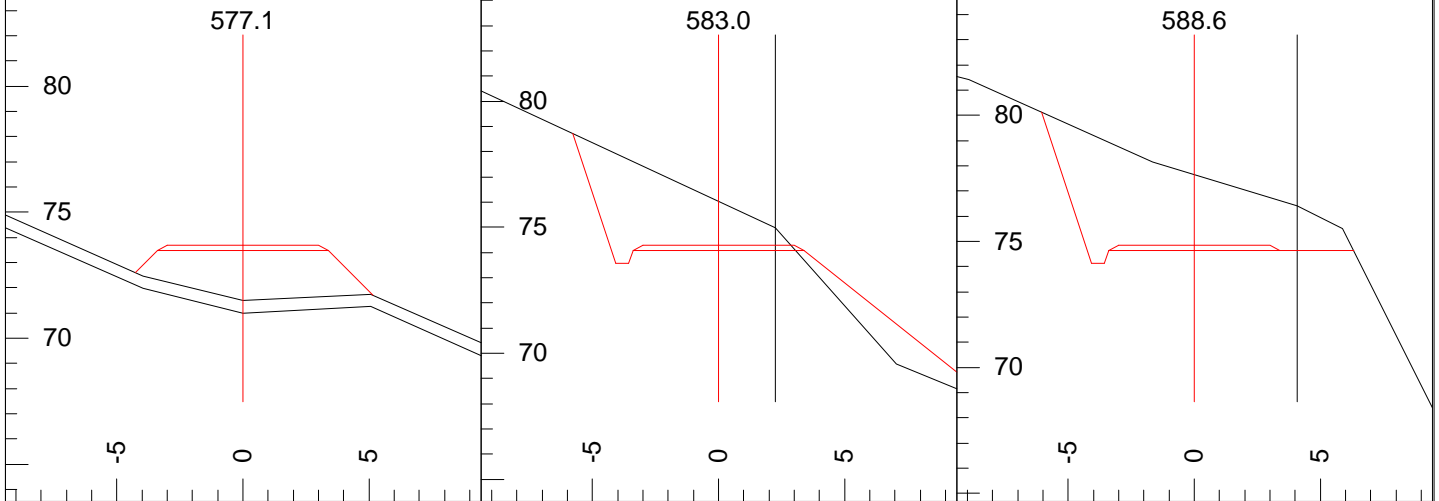
Index: 43
 P-Stn: 552.8
 H. Offset: 0.0
 Stk L: 6.8
 Cut Dp: 1.1



Index: 44
 P-Stn: 557.8
 H. Offset: 0.0
 Stk L: 4.7
 Cut Dp: 0.5

Index: 45
 P-Stn: 570.1
 H. Offset: 0.0
 Stk L: 4.6
 Cut Dp: -2.0

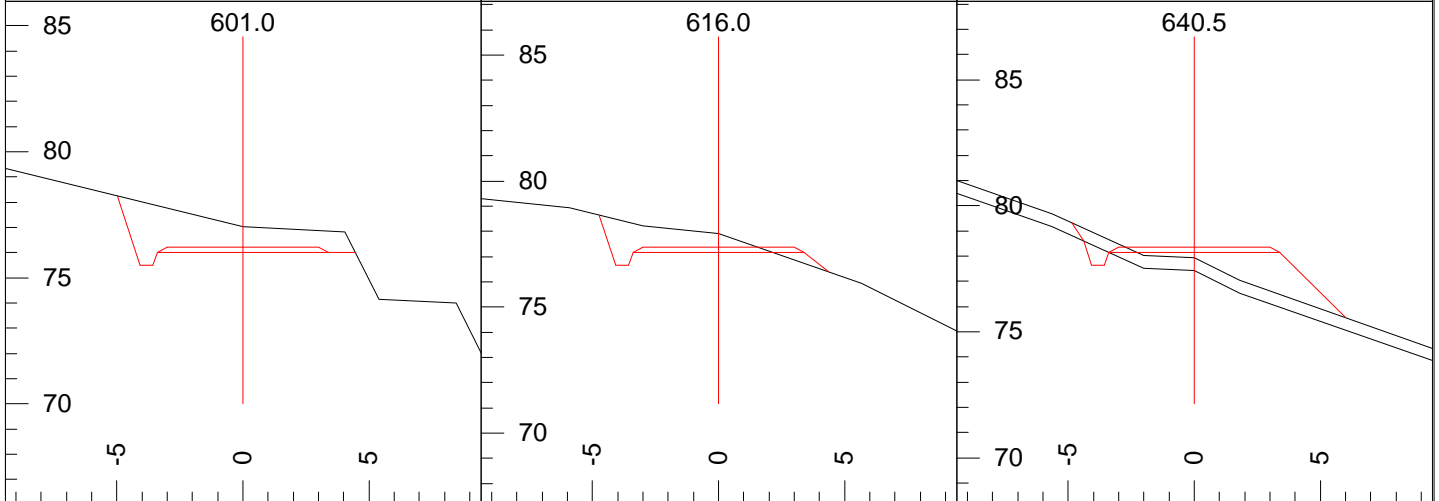
Index: 45:1
 P-Stn: 574.6
 H. Offset: 0.0
 Stk L: 4.9
 Cut Dp: -2.5



Index: 46
 P-Stn: 577.1
 H. Offset: 0.0
 Stk L: 4.4
 Cut Dp: -2.0

Index: 46:1
 P-Stn: 582.6
 H. Offset: -2.1
 Stk L: 6.4
 Cut Dp: 1.9

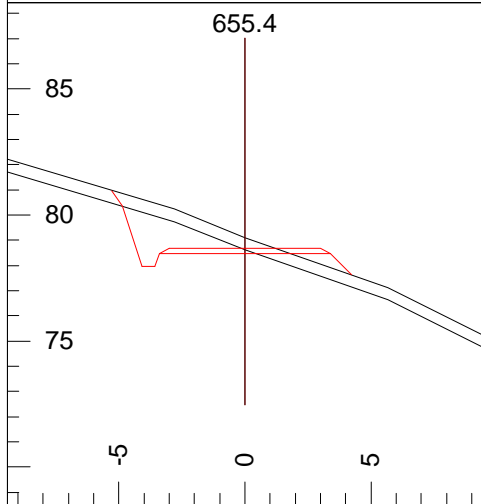
Index: 47
 P-Stn: 588.1
 H. Offset: -4.1
 Stk L: 6.5
 Cut Dp: 3.0



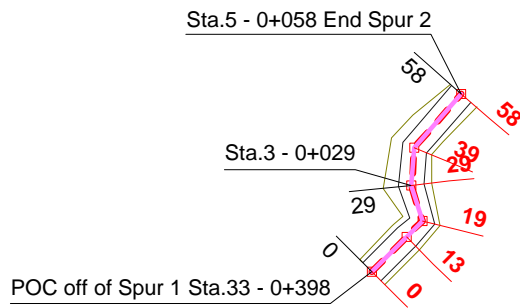
Index: 48
 P-Stn: 600.1
 H. Offset: 0.0
 Stk L: 5.1
 Cut Dp: 1.0

Index: 49
 P-Stn: 615.0
 H. Offset: 0.0
 Stk L: 4.8
 Cut Dp: 0.7

Index: 50
 P-Stn: 639.5
 H. Offset: 0.0
 Stk L: 5.1
 Cut Dp: -0.2



Index:	51
P-Stn:	654.5
H. Offset:	0.0
Stk L:	5.6
Cut Dp:	0.6



115

110

105

AVCF - Block 1 - Spur 2

100

95

90

85

80

75

POC off of Spur 1 Sta.33 - 0+398

Sta.3 - 0+029

Sta.5 - 0+058 End Spur 2

0

50

100

150

200

250

300

L-Stn

Lyr1 Gnd: _____ OB _____

Lyr2 Gnd: _____ MR _____

Lyr3 Gnd: _____ n/a _____

0.0

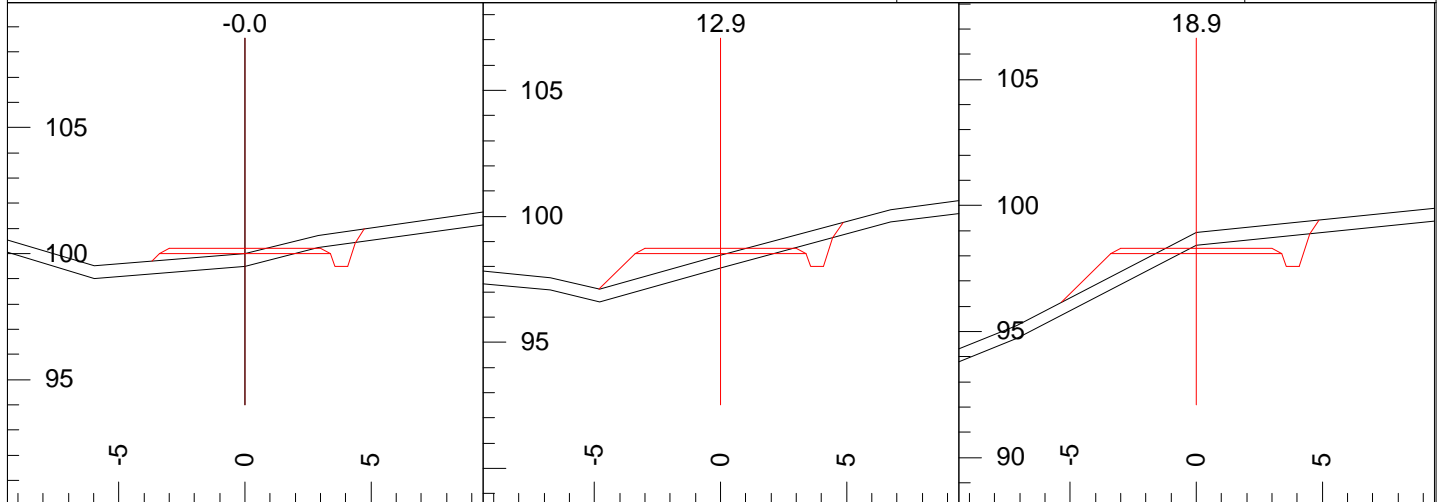
-0.0

0.2

1.2

-0.5

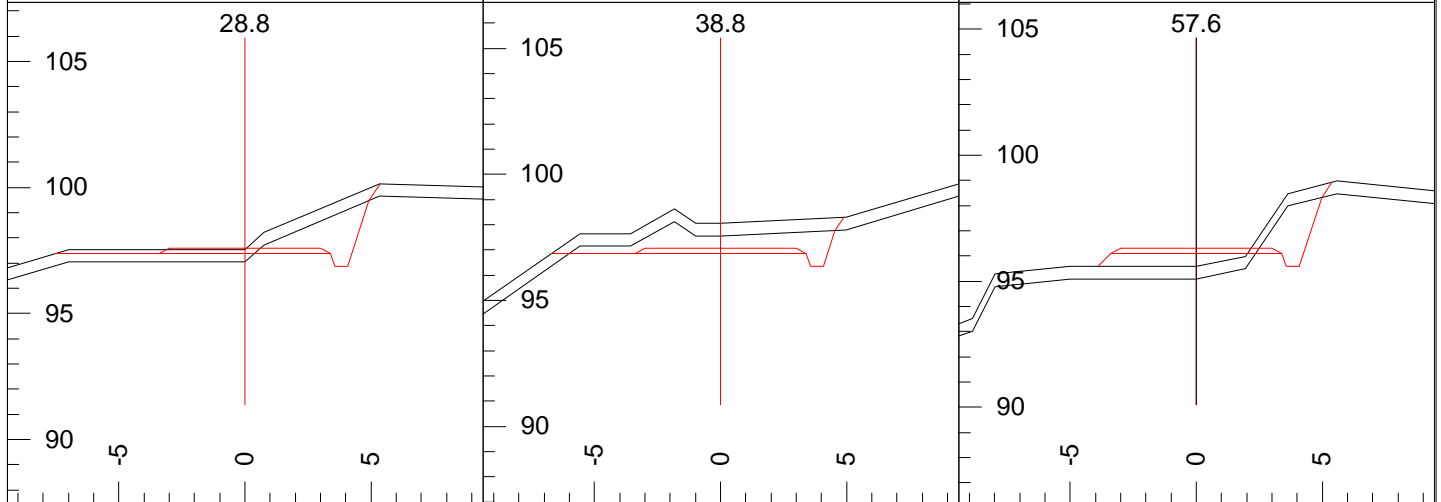
Cut/Fill



Index: 0
 P-Stn: 0.0
 H. Offset: 0.0
 Stk L: 3.7
 Cut Dp: 0.0

Index: 1
 P-Stn: 12.9
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: -0.1

Index: 2
 P-Stn: 18.9
 H. Offset: 0.0
 Stk L: 6.0
 Cut Dp: 0.8



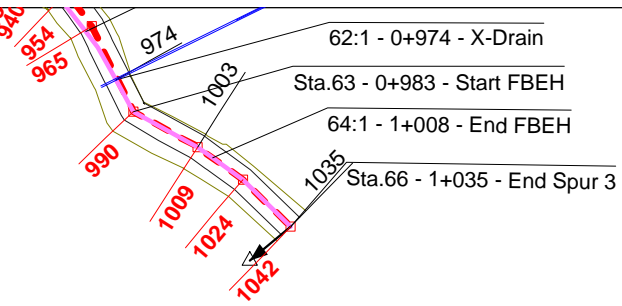
Index: 3
 P-Stn: 28.8
 H. Offset: 0.0
 Stk L: 7.5
 Cut Dp: 0.2

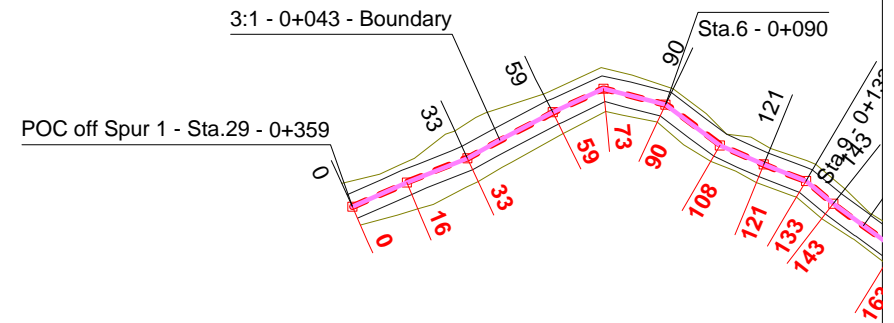
Index: 4
 P-Stn: 38.8
 H. Offset: 0.0
 Stk L: 6.8
 Cut Dp: 1.2

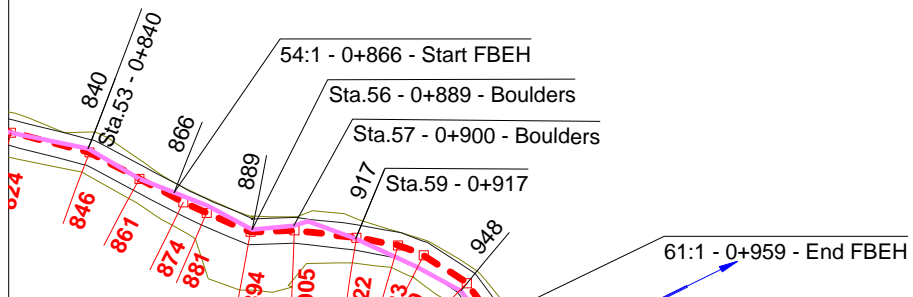
Index: 5
 P-Stn: 57.6
 H. Offset: 0.0
 Stk L: 3.9
 Cut Dp: -0.5

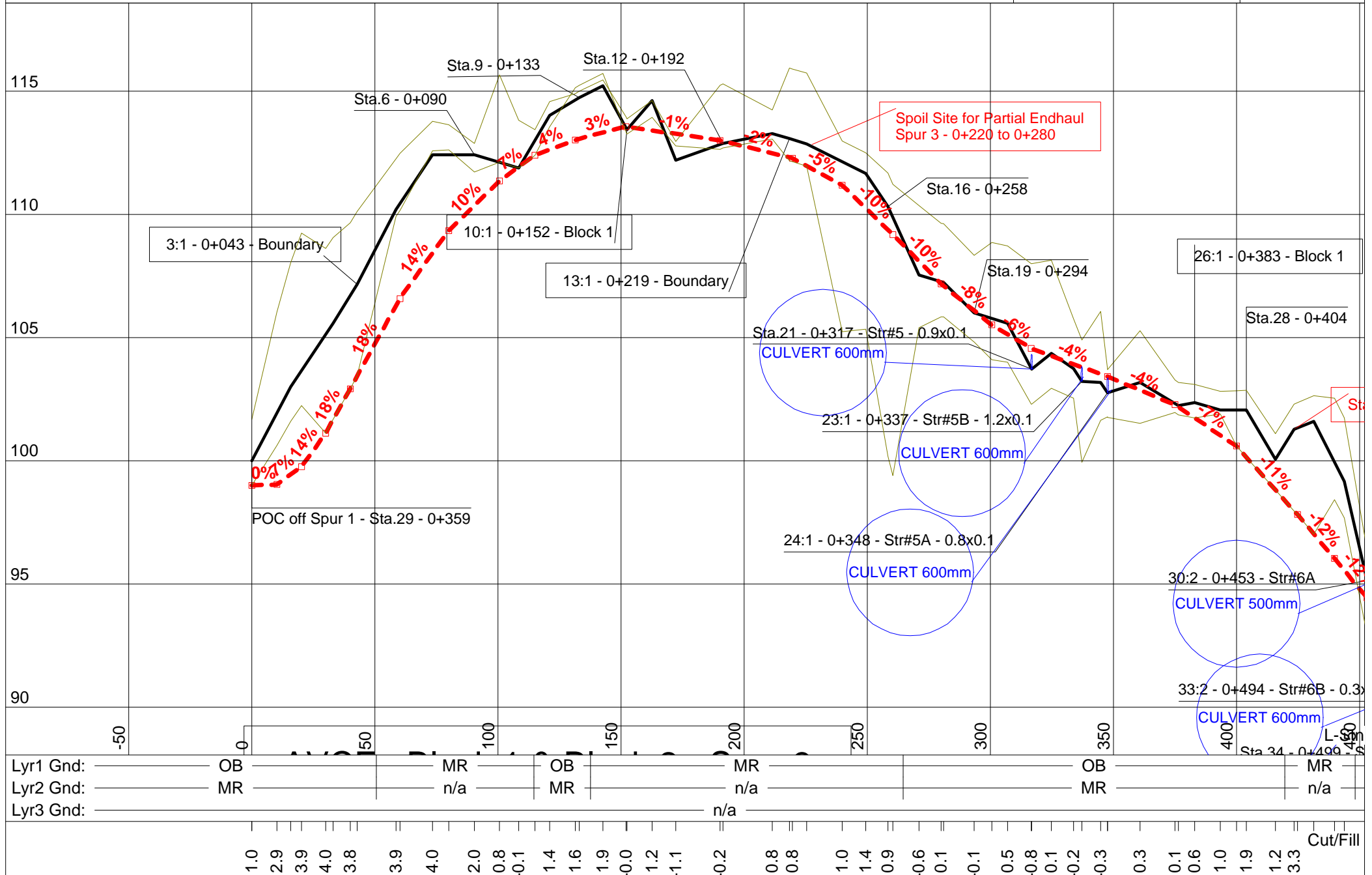
1 - 0+814 - Engineer Section End

ineer Section Start









ROADENG Profile

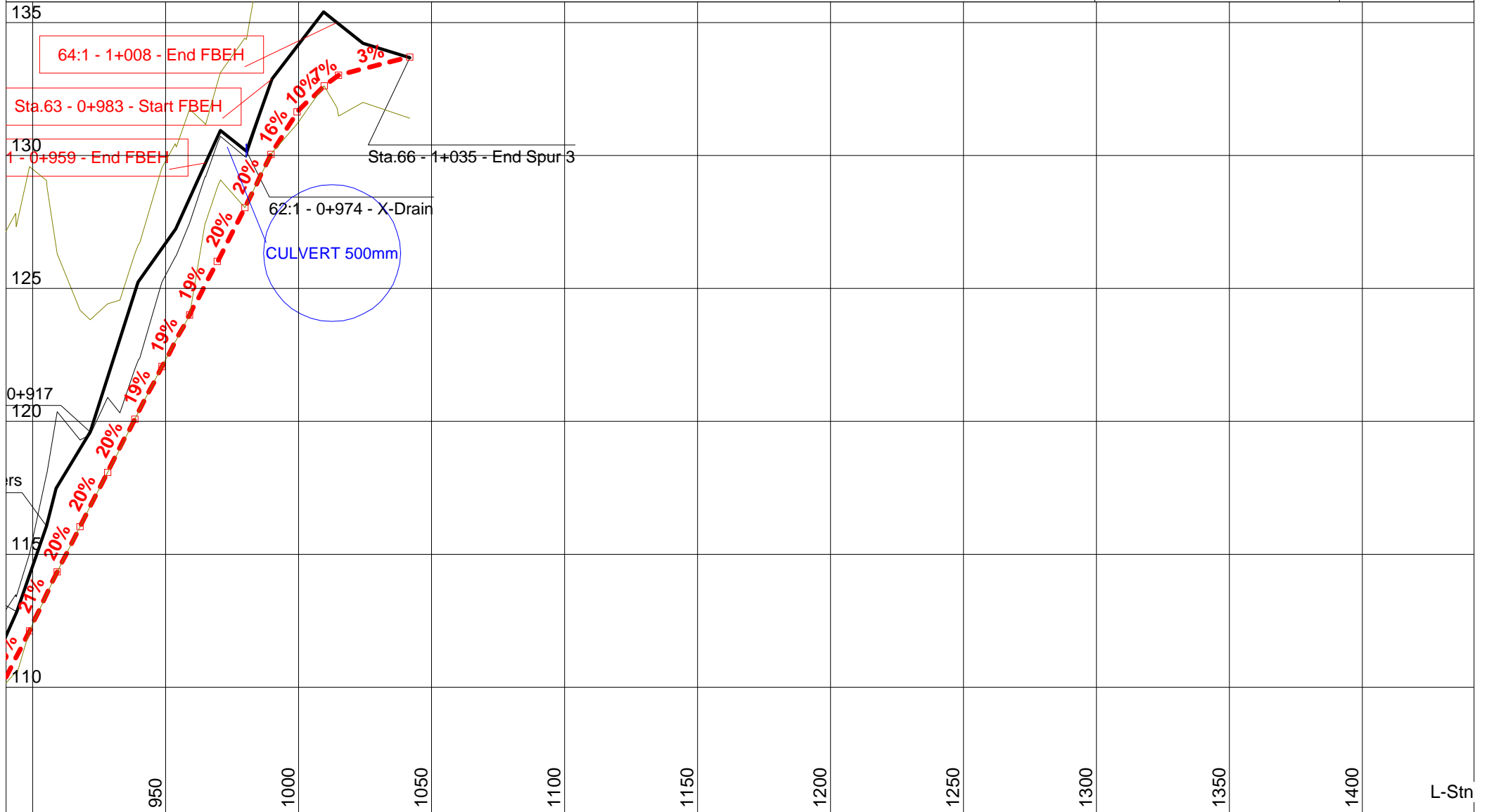
Horz Scale 1:2000

P. 3

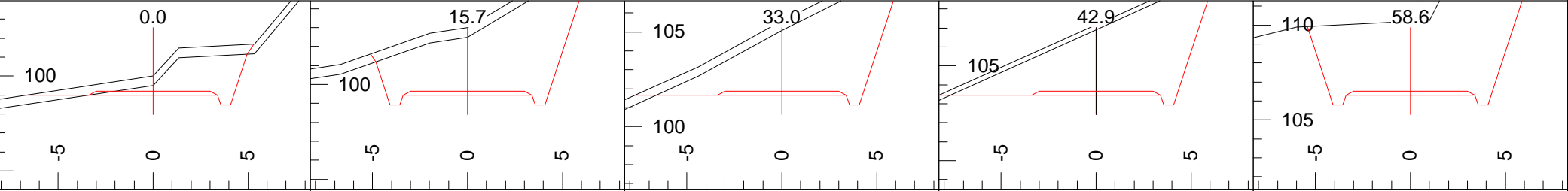
C:\A_NovaFor Clients\Community Forest\Engineering Blocks\Design\AVCF Block 1 Spur 3

Vert Scale 1:200

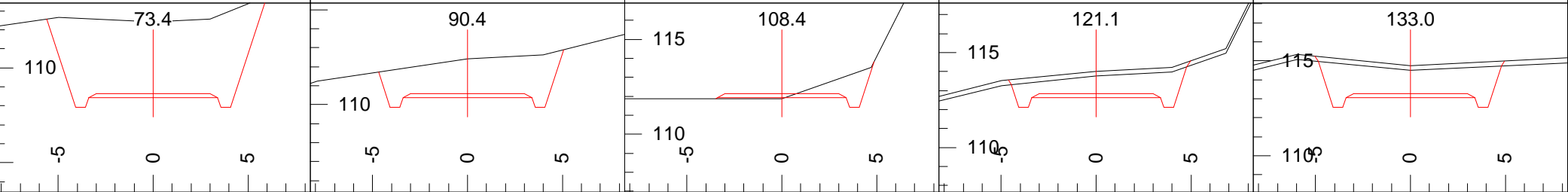
15/09/30



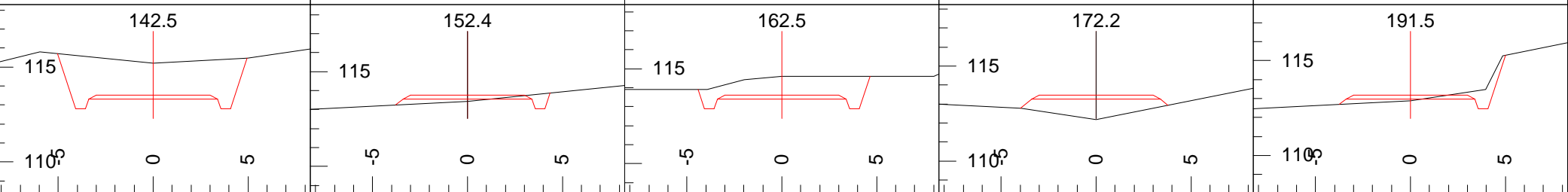
Lyr1 Gnd:	OB
Lyr2 Gnd:	MR
Lyr3 Gnd:	n/a
	Cut/Fill



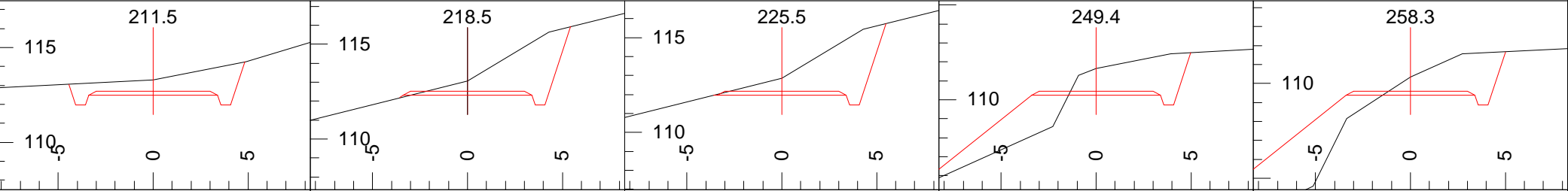
Index:	1	Index:	2	Index:	3	Index:	3:1	Index:	4
P-Stn:	0.0	P-Stn:	15.7	P-Stn:	33.0	P-Stn:	42.9	P-Stn:	58.6
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.0	Cut Dp:	3.6	Cut Dp:	3.9	Cut Dp:	3.7	Cut Dp:	3.9
Ssl:	-15	Ssl:	-15	Ssl:	-55	Ssl:	-45	Ssl:	-5
Ssr:	110	Ssr:	60	Ssr:	50	Ssr:	45	Ssr:	5



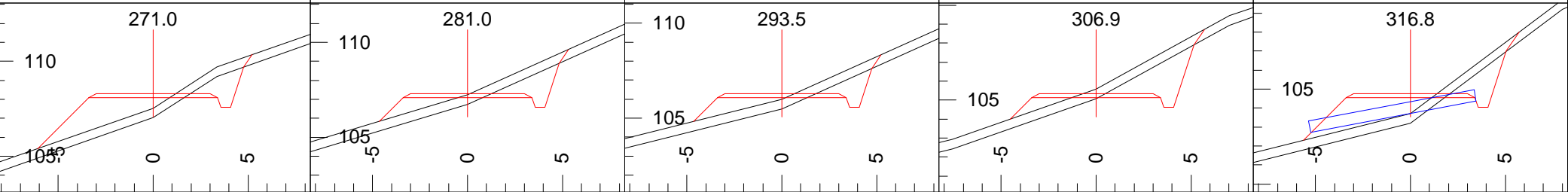
Index:	5	Index:	6	Index:	7	Index:	8	Index:	9
P-Stn:	73.4	P-Stn:	90.4	P-Stn:	108.4	P-Stn:	121.1	P-Stn:	133.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	4.0	Cut Dp:	2.0	Cut Dp:	-0.1	Cut Dp:	1.4	Cut Dp:	1.7
Ssl:	5	Ssl:	-15	Ssl:	0	Ssl:	-10	Ssl:	10
Ssr:	5	Ssr:	5	Ssr:	35	Ssr:	5	Ssr:	5



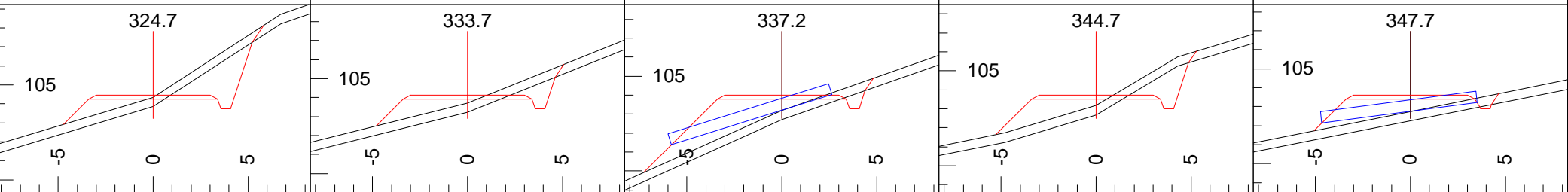
Index:	10	Index:	10:1	Index:	11	Index:	11:1	Index:	12
P-Stn:	142.5	P-Stn:	152.4	P-Stn:	162.5	P-Stn:	172.2	P-Stn:	191.5
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.9	Cut Dp:	-0.1	Cut Dp:	1.2	Cut Dp:	-1.1	Cut Dp:	-0.1
Ssl:	10	Ssl:	-5	Ssl:	-10	Ssl:	15	Ssl:	-5
Ssr:	5	Ssr:	10	Ssr:	0	Ssr:	20	Ssr:	15



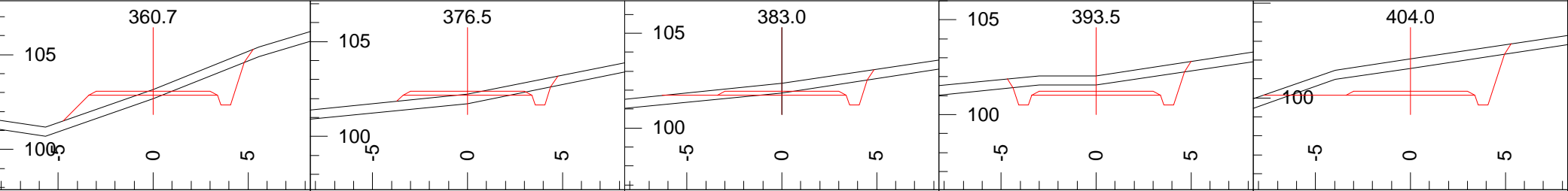
Index:	13	Index:	13:1	Index:	14	Index:	15	Index:	16
P-Stn:	211.5	P-Stn:	218.5	P-Stn:	225.5	P-Stn:	249.4	P-Stn:	258.3
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.8	Cut Dp:	0.8	Cut Dp:	0.9	Cut Dp:	1.4	Cut Dp:	0.9
Ssl:	-5	Ssl:	-25	Ssl:	-25	Ssl:	-40	Ssl:	-65
Ssr:	20	Ssr:	60	Ssr:	60	Ssr:	20	Ssr:	45



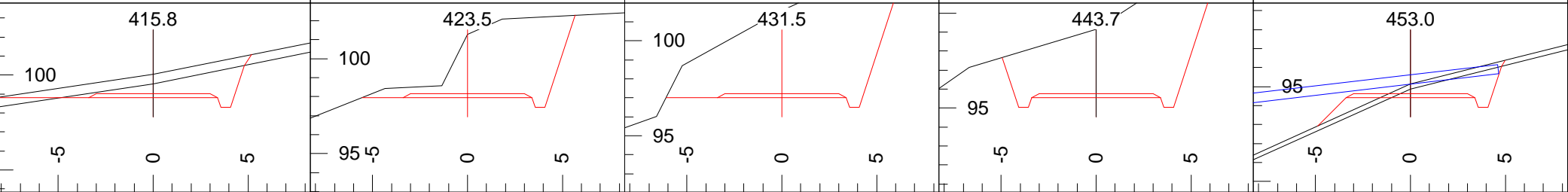
Index:	17	Index:	18	Index:	19	Index:	20	Index:	21
P-Stn:	271.0	P-Stn:	281.0	P-Stn:	293.5	P-Stn:	306.9	P-Stn:	316.8
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-0.6	Cut Dp:	0.1	Cut Dp:	-0.1	Cut Dp:	0.5	Cut Dp:	-0.8
Ssl:	-35	Ssl:	-30	Ssl:	-25	Ssl:	-35	Ssl:	-25
Ssr:	65	Ssr:	45	Ssr:	45	Ssr:	55	Ssr:	75



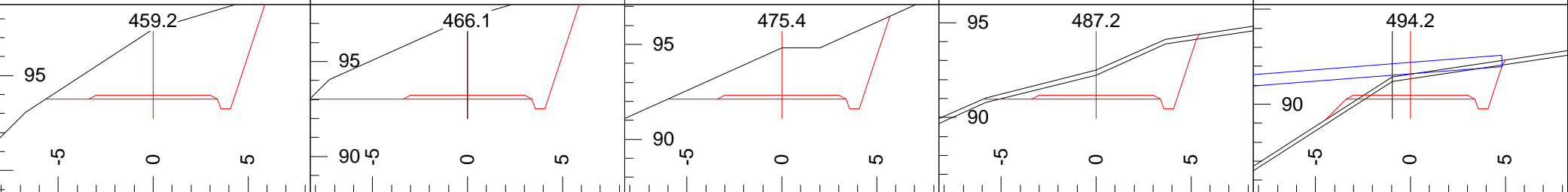
Index:	22	Index:	23	Index:	23:1	Index:	24	Index:	24:1
P-Stn:	324.7	P-Stn:	333.7	P-Stn:	337.2	P-Stn:	344.7	P-Stn:	347.7
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.1	Cut Dp:	-0.2	Cut Dp:	-0.6	Cut Dp:	-0.3	Cut Dp:	-0.6
Ssl:	-30	Ssl:	-25	Ssl:	-45	Ssl:	-30	Ssl:	-20
Ssr:	65	Ssr:	40	Ssr:	35	Ssr:	60	Ssr:	20



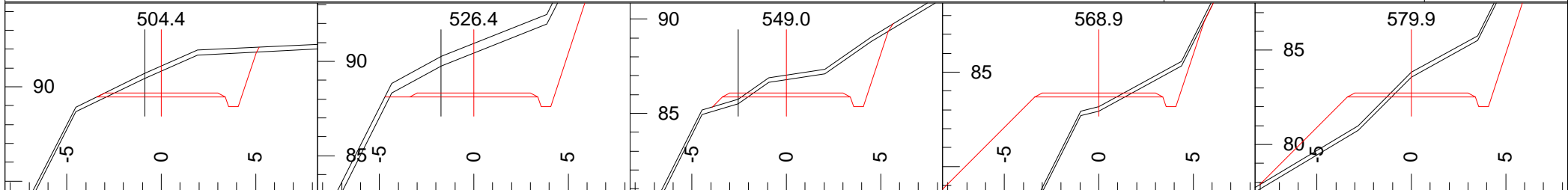
Index:	25	Index:	26	Index:	26:1	Index:	27	Index:	28
P-Stn:	360.7	P-Stn:	376.5	P-Stn:	383.0	P-Stn:	393.5	P-Stn:	404.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.3	Cut Dp:	0.1	Cut Dp:	0.6	Cut Dp:	1.0	Cut Dp:	1.9
Ssl:	-35	Ssl:	-10	Ssl:	-10	Ssl:	0	Ssl:	-15
Ssr:	40	Ssr:	20	Ssr:	15	Ssr:	15	Ssr:	15



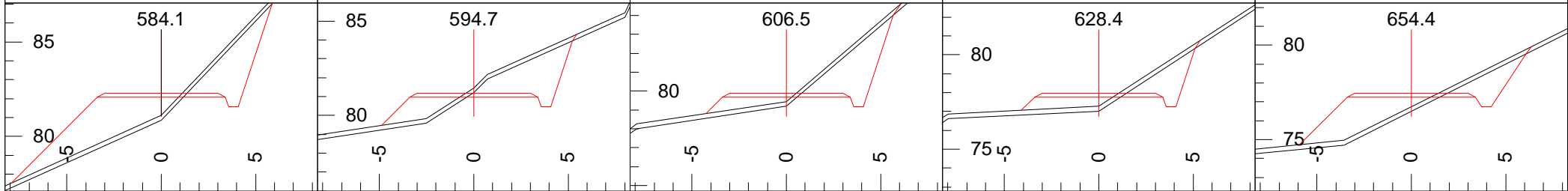
Index:	28:1	Index:	29	Index:	30	Index:	30:1	Index:	30:2
P-Stn:	415.8	P-Stn:	423.5	P-Stn:	431.5	P-Stn:	443.7	P-Stn:	453.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.2	Cut Dp:	3.3	Cut Dp:	4.6	Cut Dp:	3.6	Cut Dp:	0.7
Ssl:	-15	Ssl:	-200	Ssl:	-55	Ssl:	-30	Ssl:	-45
Ssr:	20	Ssr:	45	Ssr:	45	Ssr:	65	Ssr:	25



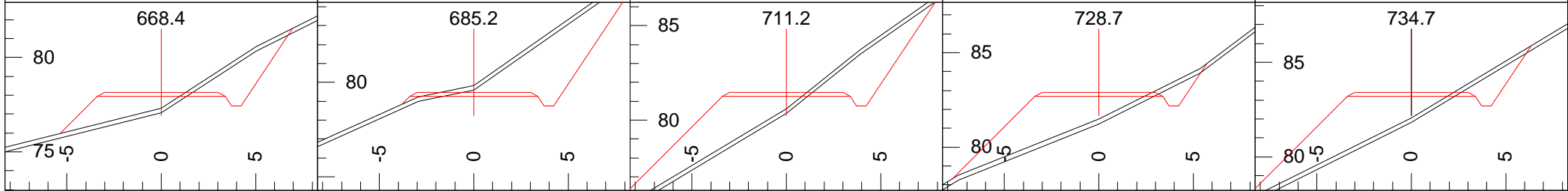
Index:	31	Index:	31:1	Index:	32	Index:	33	Index:	33:2
P-Stn:	459.2	P-Stn:	466.1	P-Stn:	475.4	P-Stn:	487.2	P-Stn:	494.1
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	1.0
Cut Dp:	3.7	Cut Dp:	4.3	Cut Dp:	2.7	Cut Dp:	1.5	Cut Dp:	1.3
Ssl:	-65	Ssl:	-45	Ssl:	-45	Ssl:	-25	Ssl:	-65
Ssr:	30	Ssr:	30	Ssr:	0	Ssr:	45	Ssr:	15



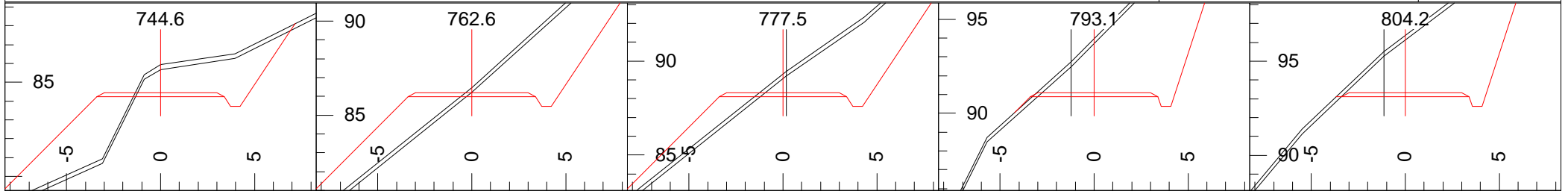
Index:	34	Index:	35	Index:	36	Index:	37	Index:	38
P-Stn:	499.1	P-Stn:	521.1	P-Stn:	543.6	P-Stn:	563.5	P-Stn:	574.4
H. Offset:	0.9	H. Offset:	1.7	H. Offset:	2.6	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.6	Cut Dp:	2.8	Cut Dp:	1.2	Cut Dp:	-0.5	Cut Dp:	1.3
Ssl:	-50	Ssl:	-55	Ssl:	-30	Ssl:	-25	Ssl:	-100
Ssr:	45	Ssr:	40	Ssr:	70	Ssr:	55	Ssr:	55



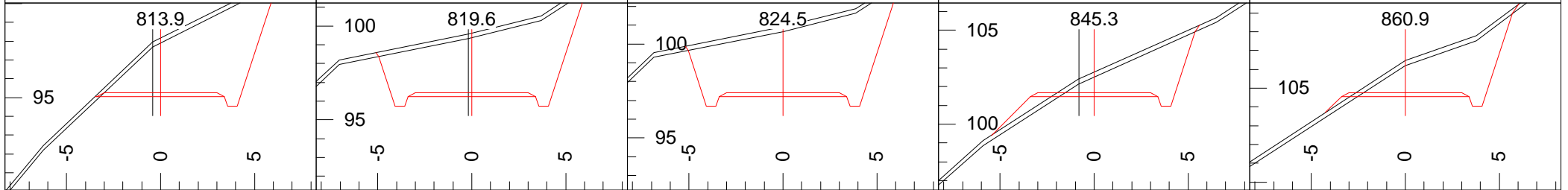
Index:	38:1	Index:	39	Index:	40	Index:	41	Index:	42
P-Stn:	578.6	P-Stn:	589.3	P-Stn:	601.1	P-Stn:	623.0	P-Stn:	649.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-1.0	Cut Dp:	0.5	Cut Dp:	-0.2	Cut Dp:	-0.5	Cut Dp:	-0.5
Ssl:	-45	Ssl:	-65	Ssl:	-15	Ssl:	-5	Ssl:	-50
Ssr:	105	Ssr:	100	Ssr:	85	Ssr:	65	Ssr:	50



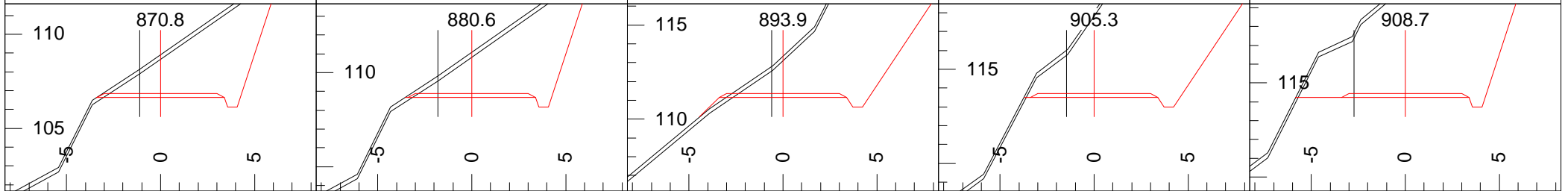
Index:	43	Index:	44	Index:	45	Index:	46	Index:	46:1
P-Stn:	663.0	P-Stn:	679.8	P-Stn:	705.8	P-Stn:	723.2	P-Stn:	729.2
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-0.6	Cut Dp:	0.6	Cut Dp:	-0.7	Cut Dp:	-1.2	Cut Dp:	-1.1
Ssl:	-25	Ssl:	-20	Ssl:	-60	Ssl:	-40	Ssl:	-50
Ssr:	65	Ssr:	70	Ssr:	80	Ssr:	50	Ssr:	60



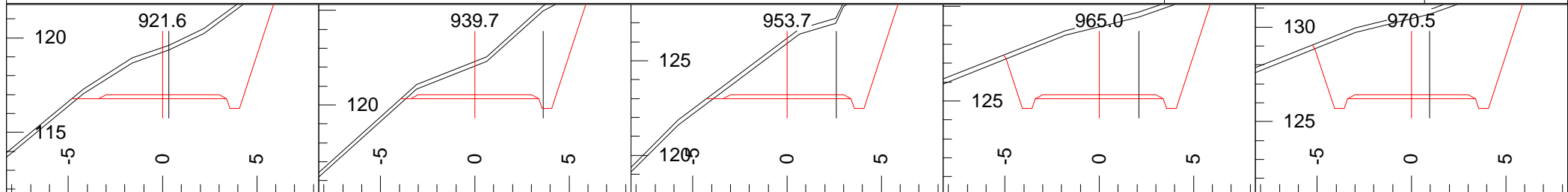
Index:	47	Index:	48	Index:	49	Index:	50	Index:	50:1
P-Stn:	739.1	P-Stn:	757.1	P-Stn:	772.0	P-Stn:	787.7	P-Stn:	798.8
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	-0.2	H. Offset:	1.2	H. Offset:	1.1
Cut Dp:	1.7	Cut Dp:	0.5	Cut Dp:	1.2	Cut Dp:	3.1	Cut Dp:	3.3
Ssl:	-60	Ssl:	-80	Ssl:	-80	Ssl:	-90	Ssl:	-95
Ssr:	15	Ssr:	90	Ssr:	70	Ssr:	100	Ssr:	75



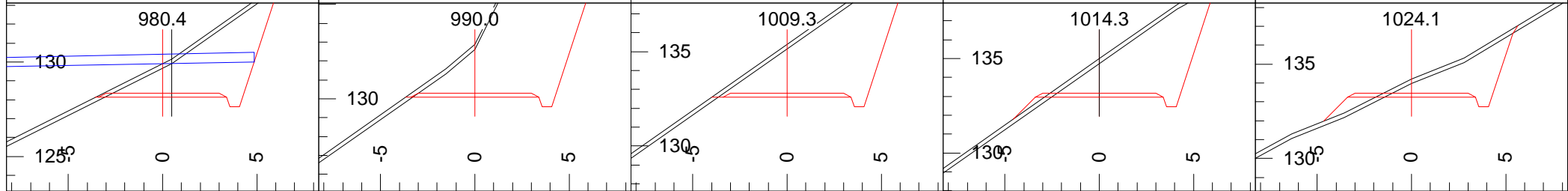
Index:	51	Index:	51:1	Index:	52	Index:	53	Index:	54
P-Stn:	808.5	P-Stn:	814.3	P-Stn:	819.1	P-Stn:	840.1	P-Stn:	855.8
H. Offset:	0.4	H. Offset:	0.2	H. Offset:	0.0	H. Offset:	0.8	H. Offset:	0.0
Cut Dp:	3.1	Cut Dp:	3.4	Cut Dp:	3.7	Cut Dp:	1.3	Cut Dp:	1.9
Ssl:	-95	Ssl:	-20	Ssl:	-20	Ssl:	-65	Ssl:	-65
Ssr:	50	Ssr:	25	Ssr:	25	Ssr:	45	Ssr:	35



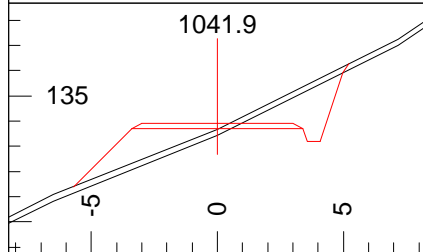
Index:	54:1	Index:	55	Index:	56	Index:	57	Index:	58
P-Stn:	865.6	P-Stn:	875.5	P-Stn:	888.6	P-Stn:	899.7	P-Stn:	903.6
H. Offset:	1.1	H. Offset:	1.8	H. Offset:	0.5	H. Offset:	1.4	H. Offset:	2.8
Cut Dp:	2.3	Cut Dp:	2.4	Cut Dp:	2.2	Cut Dp:	4.6	Cut Dp:	6.1
Ssl:	-65	Ssl:	-65	Ssl:	-70	Ssl:	-80	Ssl:	-45
Ssr:	70	Ssr:	70	Ssr:	95	Ssr:	150	Ssr:	200



Index:	59	Index:	60	Index:	61	Index:	61:1	Index:	62
P-Stn:	917.0	P-Stn:	934.6	P-Stn:	947.9	P-Stn:	958.6	P-Stn:	964.0
H. Offset:	-0.3	H. Offset:	-3.6	H. Offset:	-2.6	H. Offset:	-2.1	H. Offset:	-0.9
Cut Dp:	2.7	Cut Dp:	2.0	Cut Dp:	3.2	Cut Dp:	4.1	Cut Dp:	4.5
Ssl:	-35	Ssl:	-90	Ssl:	-30	Ssl:	-25	Ssl:	-25
Ssr:	50	Ssr:	50	Ssr:	200	Ssr:	35	Ssr:	35

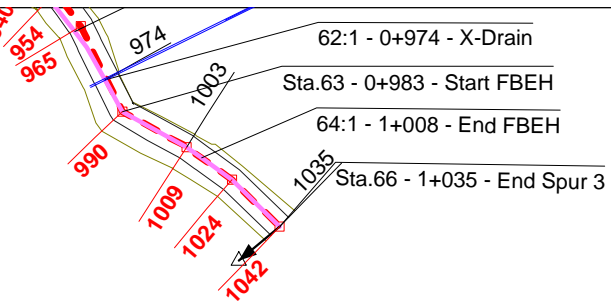


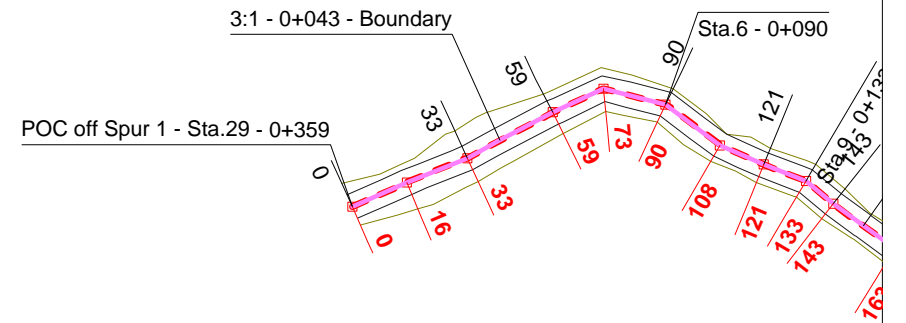
Index:	62:1	Index:	63	Index:	64	Index:	64:1	Index:	65
P-Stn:	973.8	P-Stn:	983.4	P-Stn:	1002.7	P-Stn:	1007.7	P-Stn:	1017.5
H. Offset:	-0.5	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.8	Cut Dp:	2.8	Cut Dp:	2.8	Cut Dp:	2.0	Cut Dp:	1.0
Ssl:	-50	Ssl:	-85	Ssl:	-70	Ssl:	-70	Ssl:	-50
Ssr:	70	Ssr:	200	Ssr:	70	Ssr:	70	Ssr:	40

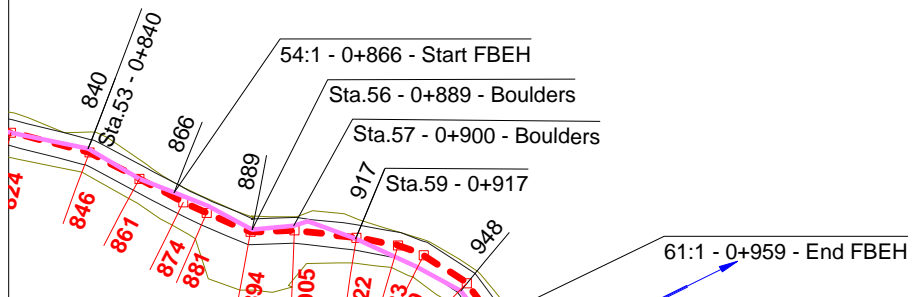


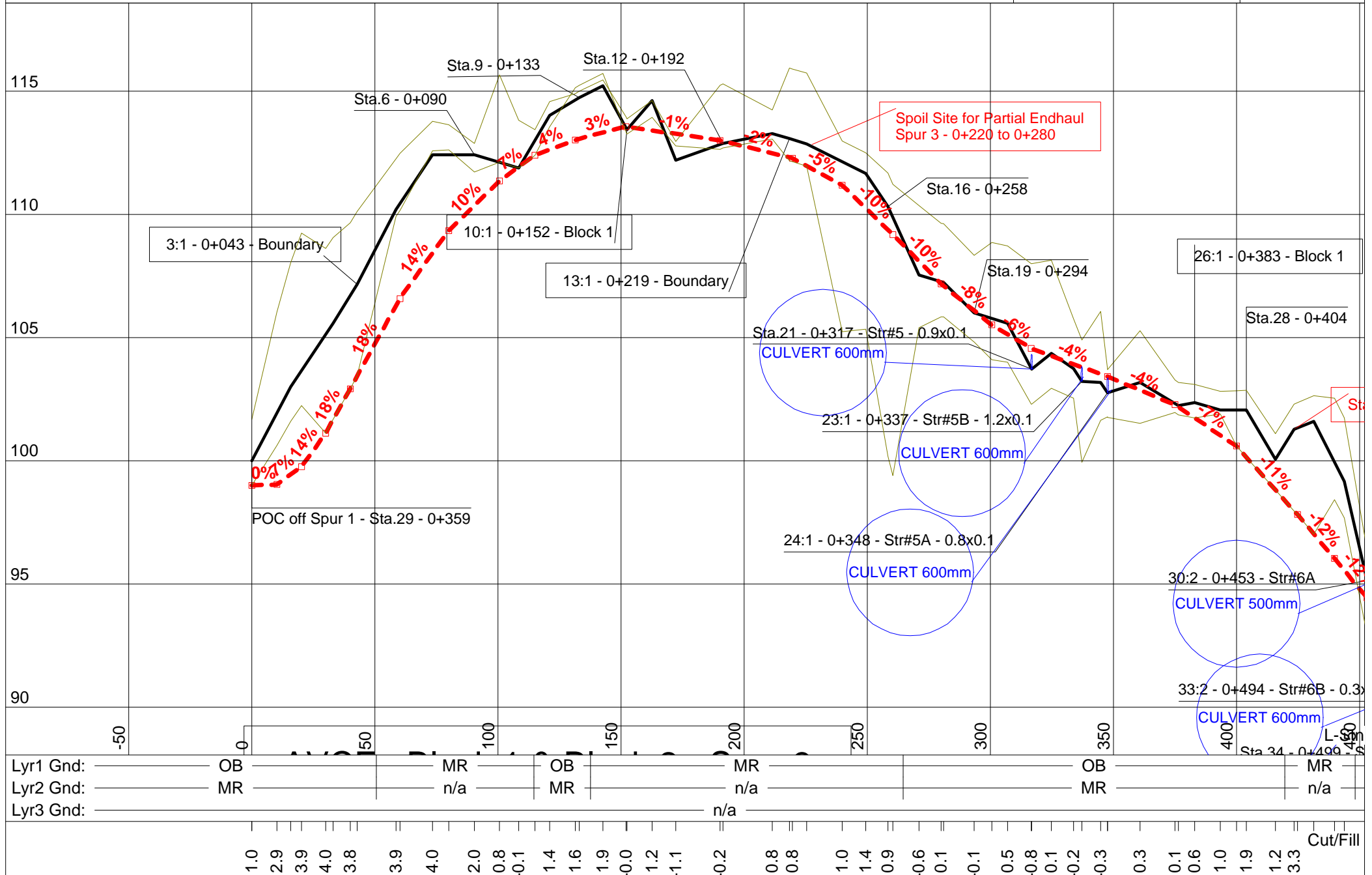
Index:	66
P-Stn:	1035.3
H. Offset:	0.0
Cut Dp:	-0.0
Ssl:	-40
Ssr:	50

1 - 0+814 - Engineer Section End
ineer Section Start









ROADENG Profile

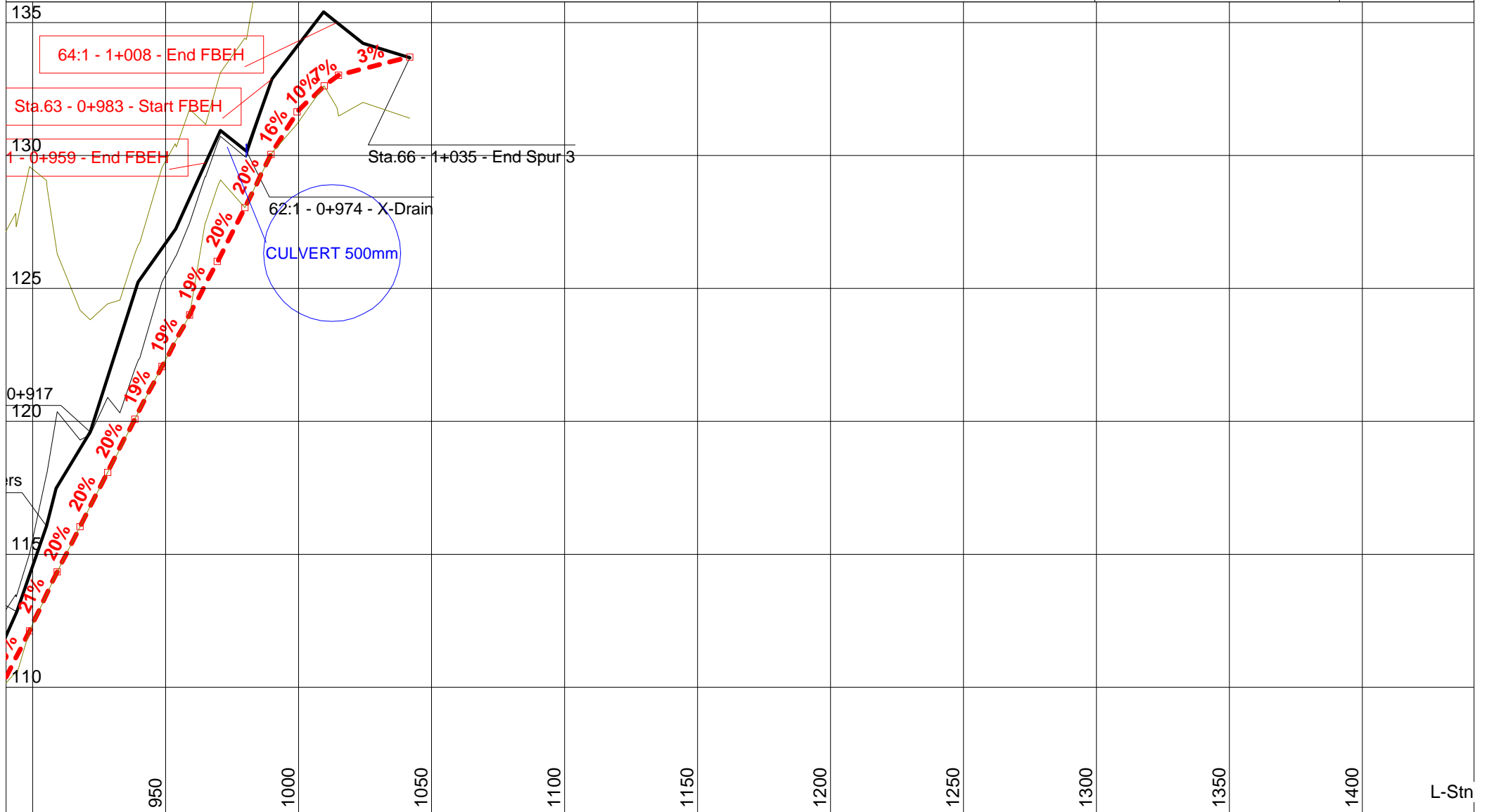
Horz Scale 1:2000

P. 3

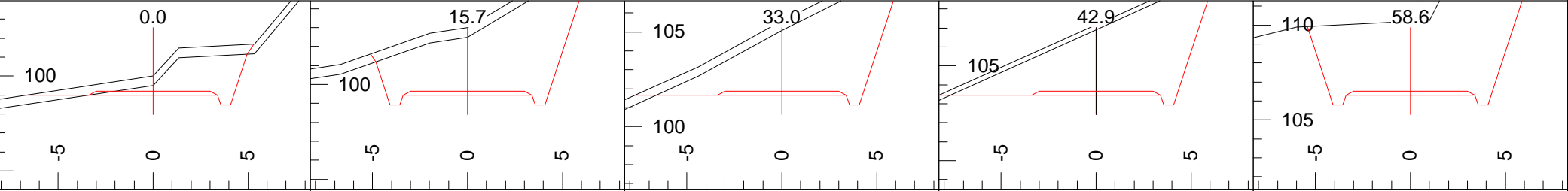
C:\A_NovaFor Clients\Community Forest\Engineering Blocks\Design\AVCF Block 1 Spur 3

Vert Scale 1:200

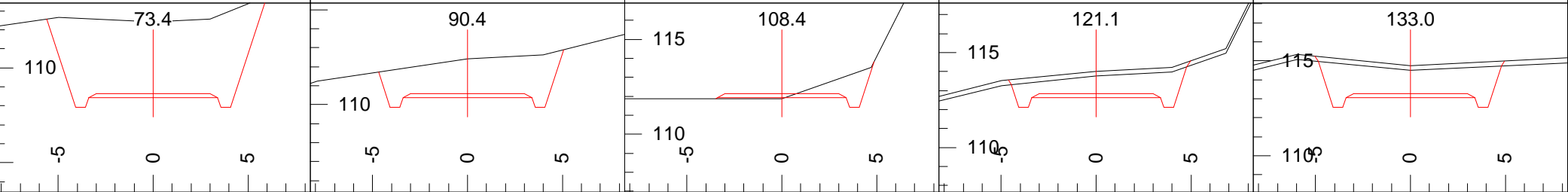
15/09/30



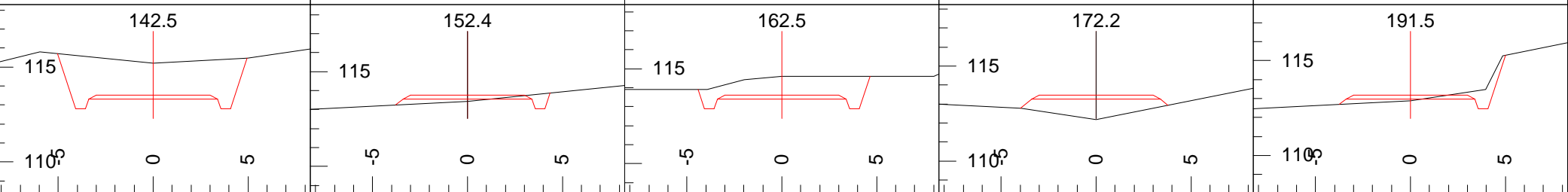
Lyr1 Gnd:	OB													
Lyr2 Gnd:	MR													
Lyr3 Gnd:	n/a													
2.3	4.6	3.3	2.8	1.9	3.2	3.5	4.4	1.9	2.7	2.5	2.8	1.0	-0.0	Cut/Fill



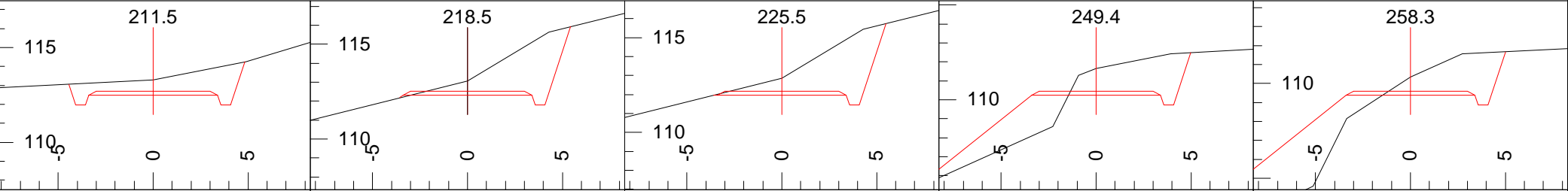
Index:	1	Index:	2	Index:	3	Index:	3:1	Index:	4
P-Stn:	0.0	P-Stn:	15.7	P-Stn:	33.0	P-Stn:	42.9	P-Stn:	58.6
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.0	Cut Dp:	3.6	Cut Dp:	3.9	Cut Dp:	3.7	Cut Dp:	3.9
Ssl:	-15	Ssl:	-15	Ssl:	-55	Ssl:	-45	Ssl:	-5
Ssr:	110	Ssr:	60	Ssr:	50	Ssr:	45	Ssr:	5



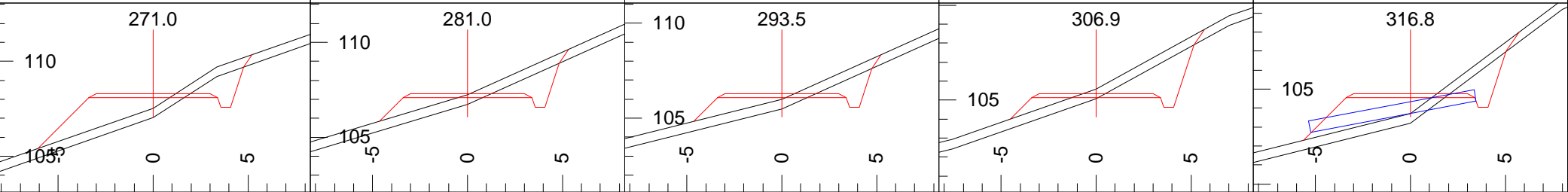
Index:	5	Index:	6	Index:	7	Index:	8	Index:	9
P-Stn:	73.4	P-Stn:	90.4	P-Stn:	108.4	P-Stn:	121.1	P-Stn:	133.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	4.0	Cut Dp:	2.0	Cut Dp:	-0.1	Cut Dp:	1.4	Cut Dp:	1.7
Ssl:	5	Ssl:	-15	Ssl:	0	Ssl:	-10	Ssl:	10
Ssr:	5	Ssr:	5	Ssr:	35	Ssr:	5	Ssr:	5



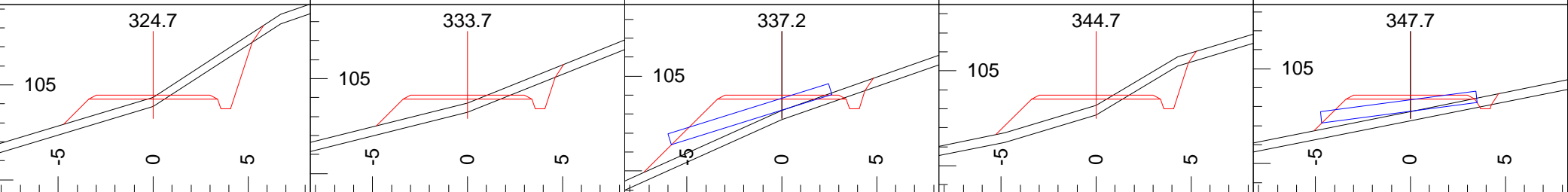
Index:	10	Index:	10:1	Index:	11	Index:	11:1	Index:	12
P-Stn:	142.5	P-Stn:	152.4	P-Stn:	162.5	P-Stn:	172.2	P-Stn:	191.5
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.9	Cut Dp:	-0.1	Cut Dp:	1.2	Cut Dp:	-1.1	Cut Dp:	-0.1
Ssl:	10	Ssl:	-5	Ssl:	-10	Ssl:	15	Ssl:	-5
Ssr:	5	Ssr:	10	Ssr:	0	Ssr:	20	Ssr:	15



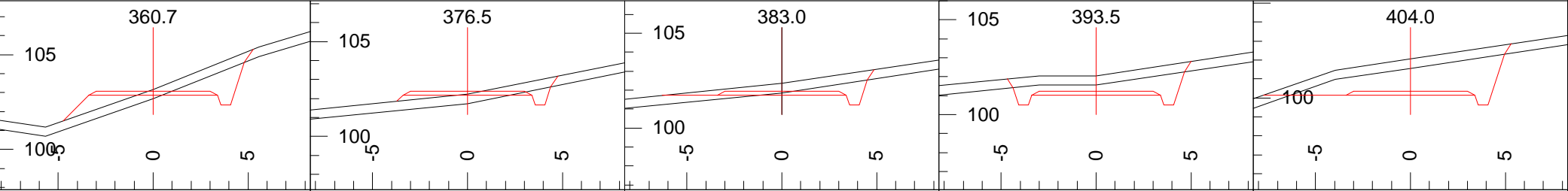
Index:	13	Index:	13:1	Index:	14	Index:	15	Index:	16
P-Stn:	211.5	P-Stn:	218.5	P-Stn:	225.5	P-Stn:	249.4	P-Stn:	258.3
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.8	Cut Dp:	0.8	Cut Dp:	0.9	Cut Dp:	1.4	Cut Dp:	0.9
Ssl:	-5	Ssl:	-25	Ssl:	-25	Ssl:	-40	Ssl:	-65
Ssr:	20	Ssr:	60	Ssr:	60	Ssr:	20	Ssr:	45



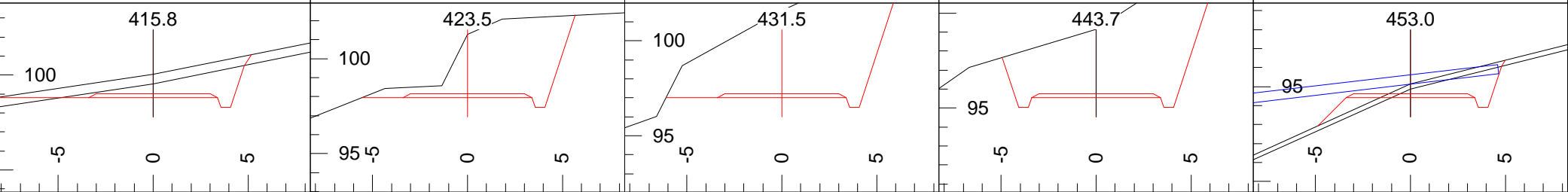
Index:	17	Index:	18	Index:	19	Index:	20	Index:	21
P-Stn:	271.0	P-Stn:	281.0	P-Stn:	293.5	P-Stn:	306.9	P-Stn:	316.8
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-0.6	Cut Dp:	0.1	Cut Dp:	-0.1	Cut Dp:	0.5	Cut Dp:	-0.8
Ssl:	-35	Ssl:	-30	Ssl:	-25	Ssl:	-35	Ssl:	-25
Ssr:	65	Ssr:	45	Ssr:	45	Ssr:	55	Ssr:	75



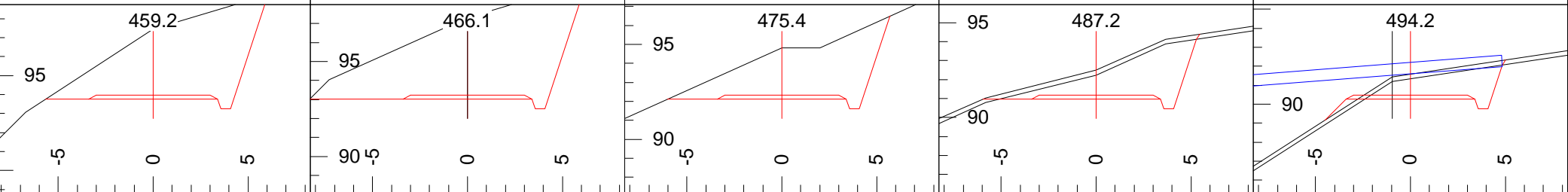
Index:	22	Index:	23	Index:	23:1	Index:	24	Index:	24:1
P-Stn:	324.7	P-Stn:	333.7	P-Stn:	337.2	P-Stn:	344.7	P-Stn:	347.7
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.1	Cut Dp:	-0.2	Cut Dp:	-0.6	Cut Dp:	-0.3	Cut Dp:	-0.6
Ssl:	-30	Ssl:	-25	Ssl:	-45	Ssl:	-30	Ssl:	-20
Ssr:	65	Ssr:	40	Ssr:	35	Ssr:	60	Ssr:	20



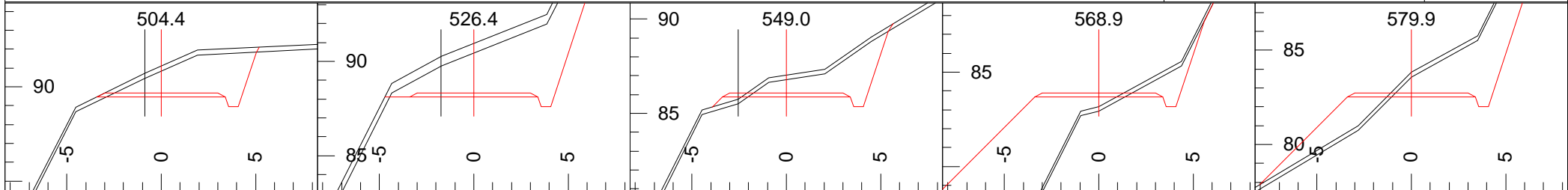
Index:	25	Index:	26	Index:	26:1	Index:	27	Index:	28
P-Stn:	360.7	P-Stn:	376.5	P-Stn:	383.0	P-Stn:	393.5	P-Stn:	404.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	0.3	Cut Dp:	0.1	Cut Dp:	0.6	Cut Dp:	1.0	Cut Dp:	1.9
Ssl:	-35	Ssl:	-10	Ssl:	-10	Ssl:	0	Ssl:	-15
Ssr:	40	Ssr:	20	Ssr:	15	Ssr:	15	Ssr:	15



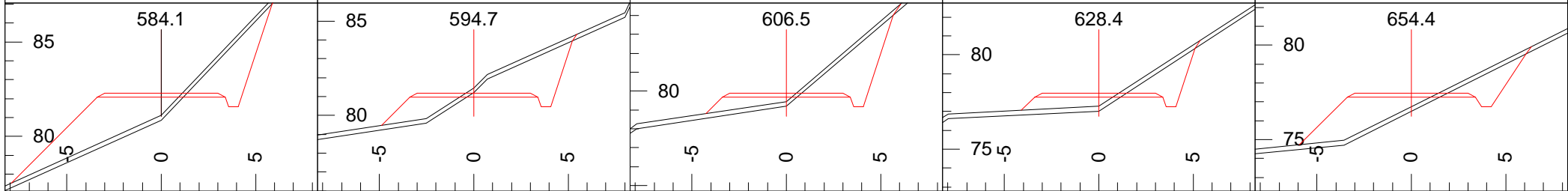
Index:	28:1	Index:	29	Index:	30	Index:	30:1	Index:	30:2
P-Stn:	415.8	P-Stn:	423.5	P-Stn:	431.5	P-Stn:	443.7	P-Stn:	453.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.2	Cut Dp:	3.3	Cut Dp:	4.6	Cut Dp:	3.6	Cut Dp:	0.7
Ssl:	-15	Ssl:	-200	Ssl:	-55	Ssl:	-30	Ssl:	-45
Ssr:	20	Ssr:	45	Ssr:	45	Ssr:	65	Ssr:	25



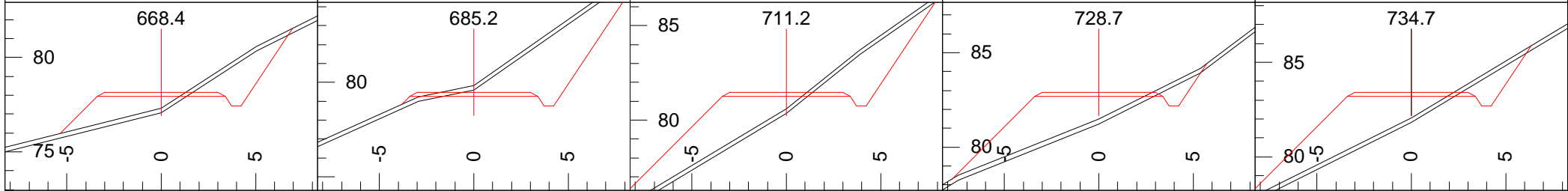
Index:	31	Index:	31:1	Index:	32	Index:	33	Index:	33:2
P-Stn:	459.2	P-Stn:	466.1	P-Stn:	475.4	P-Stn:	487.2	P-Stn:	494.1
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	1.0
Cut Dp:	3.7	Cut Dp:	4.3	Cut Dp:	2.7	Cut Dp:	1.5	Cut Dp:	1.3
Ssl:	-65	Ssl:	-45	Ssl:	-45	Ssl:	-25	Ssl:	-65
Ssr:	30	Ssr:	30	Ssr:	0	Ssr:	45	Ssr:	15



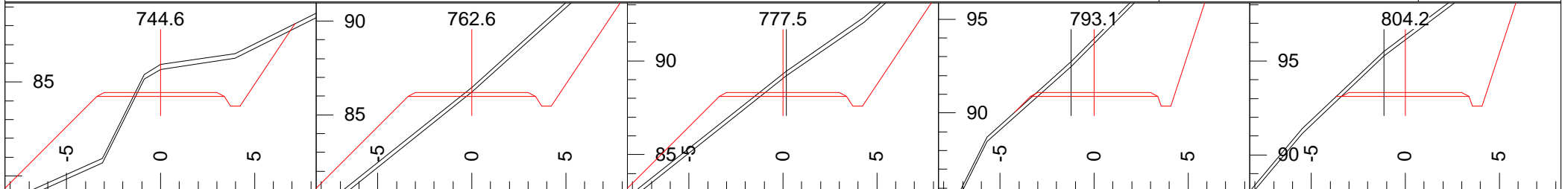
Index:	34	Index:	35	Index:	36	Index:	37	Index:	38
P-Stn:	499.1	P-Stn:	521.1	P-Stn:	543.6	P-Stn:	563.5	P-Stn:	574.4
H. Offset:	0.9	H. Offset:	1.7	H. Offset:	2.6	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.6	Cut Dp:	2.8	Cut Dp:	1.2	Cut Dp:	-0.5	Cut Dp:	1.3
Ssl:	-50	Ssl:	-55	Ssl:	-30	Ssl:	-25	Ssl:	-100
Ssr:	45	Ssr:	40	Ssr:	70	Ssr:	55	Ssr:	55



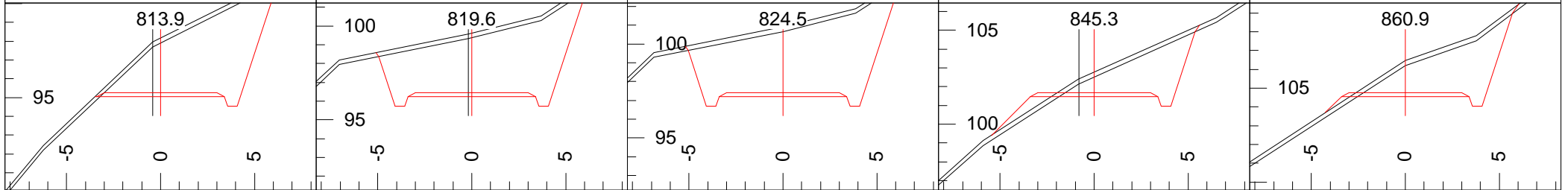
Index:	38:1	Index:	39	Index:	40	Index:	41	Index:	42
P-Stn:	578.6	P-Stn:	589.3	P-Stn:	601.1	P-Stn:	623.0	P-Stn:	649.0
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-1.0	Cut Dp:	0.5	Cut Dp:	-0.2	Cut Dp:	-0.5	Cut Dp:	-0.5
Ssl:	-45	Ssl:	-65	Ssl:	-15	Ssl:	-5	Ssl:	-50
Ssr:	105	Ssr:	100	Ssr:	85	Ssr:	65	Ssr:	50



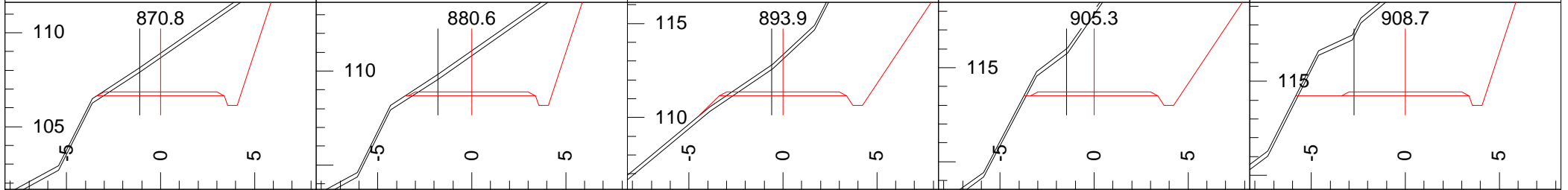
Index:	43	Index:	44	Index:	45	Index:	46	Index:	46:1
P-Stn:	663.0	P-Stn:	679.8	P-Stn:	705.8	P-Stn:	723.2	P-Stn:	729.2
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	-0.6	Cut Dp:	0.6	Cut Dp:	-0.7	Cut Dp:	-1.2	Cut Dp:	-1.1
Ssl:	-25	Ssl:	-20	Ssl:	-60	Ssl:	-40	Ssl:	-50
Ssr:	65	Ssr:	70	Ssr:	80	Ssr:	50	Ssr:	60



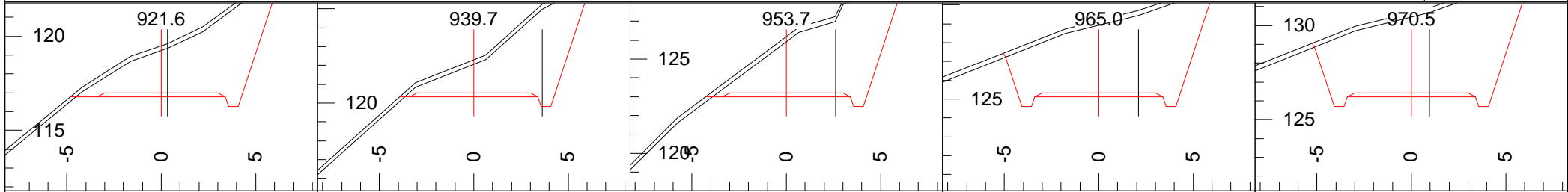
Index:	47	Index:	48	Index:	49	Index:	50	Index:	50:1
P-Stn:	739.1	P-Stn:	757.1	P-Stn:	772.0	P-Stn:	787.7	P-Stn:	798.8
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	-0.2	H. Offset:	1.2	H. Offset:	1.1
Cut Dp:	1.7	Cut Dp:	0.5	Cut Dp:	1.2	Cut Dp:	3.1	Cut Dp:	3.3
Ssl:	-60	Ssl:	-80	Ssl:	-80	Ssl:	-90	Ssl:	-95
Ssr:	15	Ssr:	90	Ssr:	70	Ssr:	100	Ssr:	75



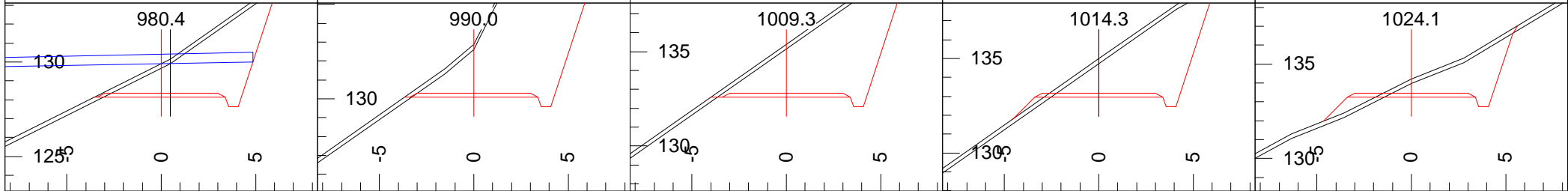
Index:	51	Index:	51:1	Index:	52	Index:	53	Index:	54
P-Stn:	808.5	P-Stn:	814.3	P-Stn:	819.1	P-Stn:	840.1	P-Stn:	855.8
H. Offset:	0.4	H. Offset:	0.2	H. Offset:	0.0	H. Offset:	0.8	H. Offset:	0.0
Cut Dp:	3.1	Cut Dp:	3.4	Cut Dp:	3.7	Cut Dp:	1.3	Cut Dp:	1.9
Ssl:	-95	Ssl:	-20	Ssl:	-20	Ssl:	-65	Ssl:	-65
Ssr:	50	Ssr:	25	Ssr:	25	Ssr:	45	Ssr:	35



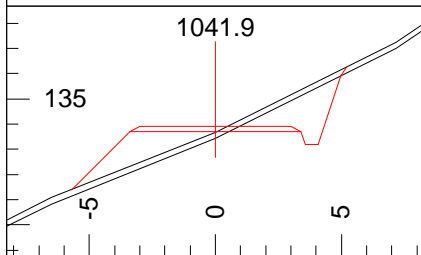
Index:	54:1	Index:	55	Index:	56	Index:	57	Index:	58
P-Stn:	865.6	P-Stn:	875.5	P-Stn:	888.6	P-Stn:	899.7	P-Stn:	903.6
H. Offset:	1.1	H. Offset:	1.8	H. Offset:	0.5	H. Offset:	1.4	H. Offset:	2.8
Cut Dp:	2.3	Cut Dp:	2.4	Cut Dp:	2.2	Cut Dp:	4.6	Cut Dp:	6.1
Ssl:	-65	Ssl:	-65	Ssl:	-70	Ssl:	-80	Ssl:	-45
Ssr:	70	Ssr:	70	Ssr:	95	Ssr:	150	Ssr:	200



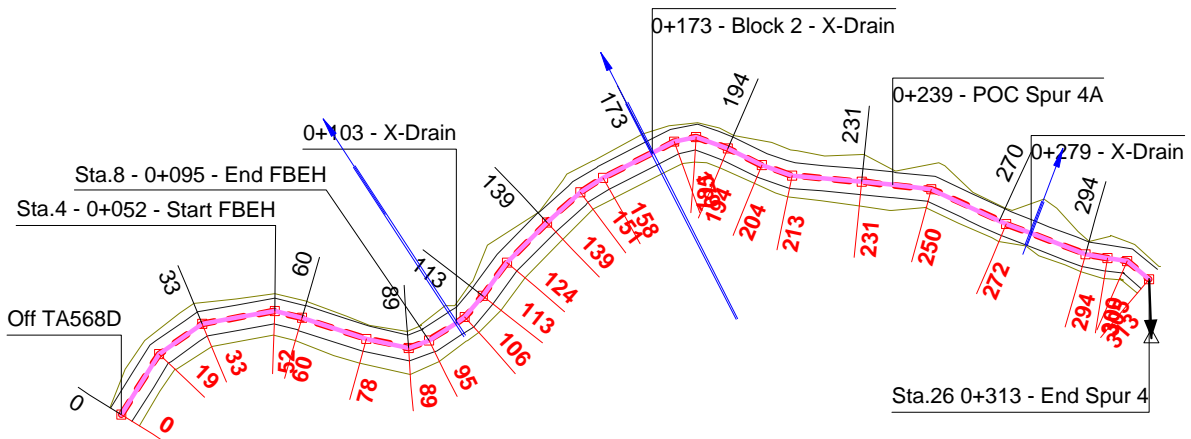
Index:	59	Index:	60	Index:	61	Index:	61:1	Index:	62
P-Stn:	917.0	P-Stn:	934.6	P-Stn:	947.9	P-Stn:	958.6	P-Stn:	964.0
H. Offset:	-0.3	H. Offset:	-3.6	H. Offset:	-2.6	H. Offset:	-2.1	H. Offset:	-0.9
Cut Dp:	2.7	Cut Dp:	2.0	Cut Dp:	3.2	Cut Dp:	4.1	Cut Dp:	4.5
Ssl:	-35	Ssl:	-90	Ssl:	-30	Ssl:	-25	Ssl:	-25
Ssr:	50	Ssr:	50	Ssr:	200	Ssr:	35	Ssr:	35

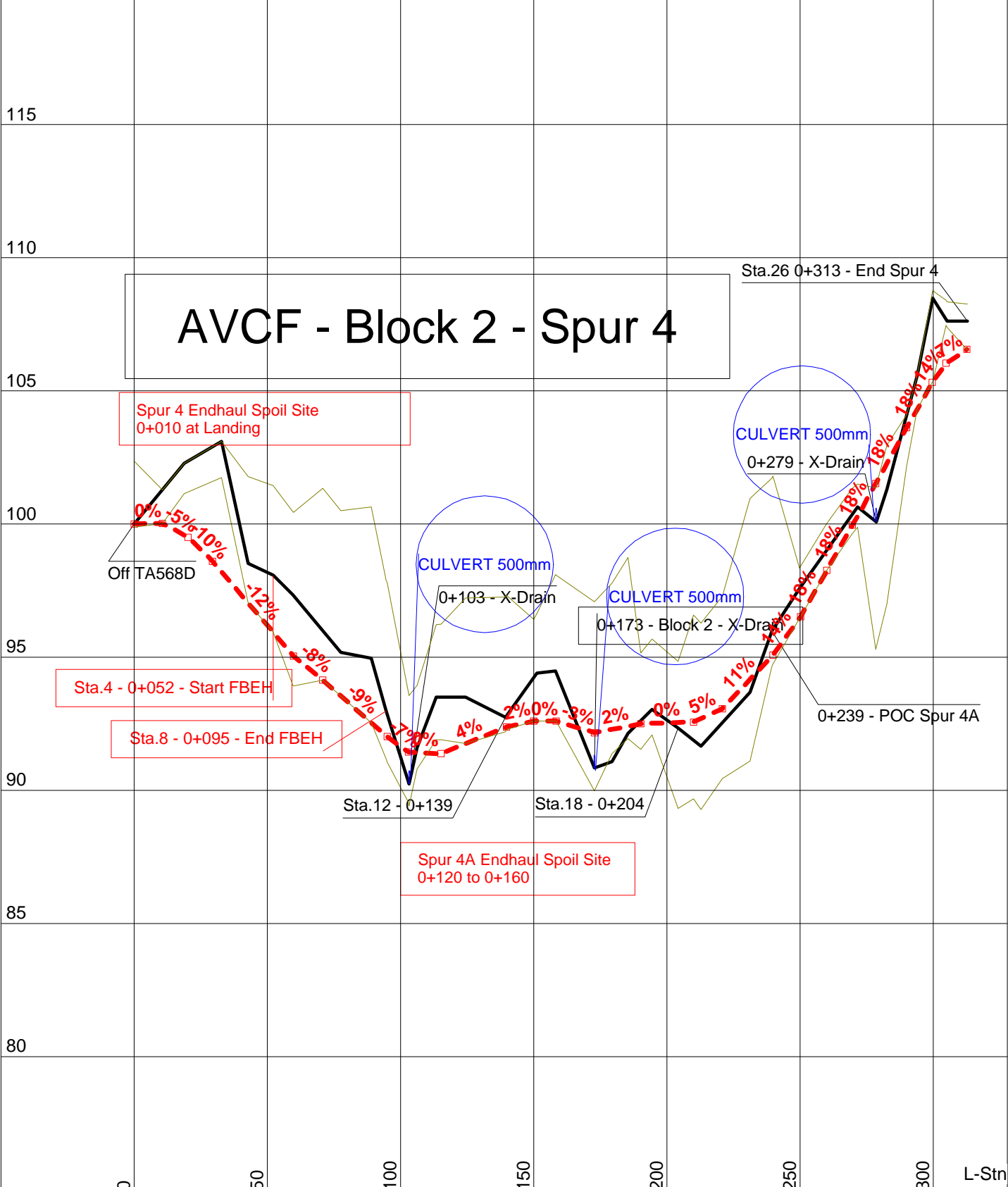


Index:	62:1	Index:	63	Index:	64	Index:	64:1	Index:	65
P-Stn:	973.8	P-Stn:	983.4	P-Stn:	1002.7	P-Stn:	1007.7	P-Stn:	1017.5
H. Offset:	-0.5	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Cut Dp:	1.8	Cut Dp:	2.8	Cut Dp:	2.8	Cut Dp:	2.0	Cut Dp:	1.0
Ssl:	-50	Ssl:	-85	Ssl:	-70	Ssl:	-70	Ssl:	-50
Ssr:	70	Ssr:	200	Ssr:	70	Ssr:	70	Ssr:	40

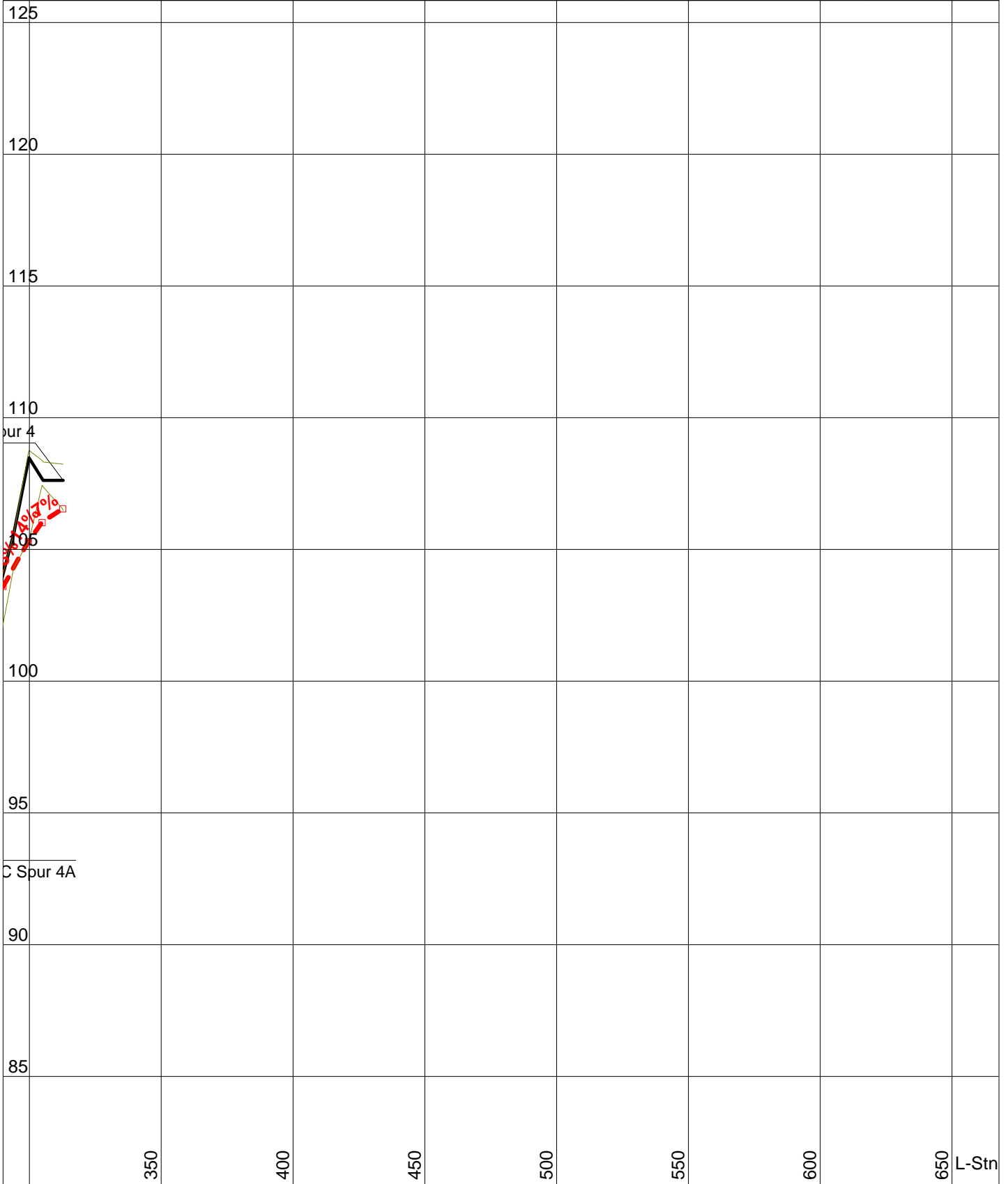


Index:	66
P-Stn:	1035.3
H. Offset:	0.0
Cut Dp:	-0.0
Ssl:	-40
Ssr:	50





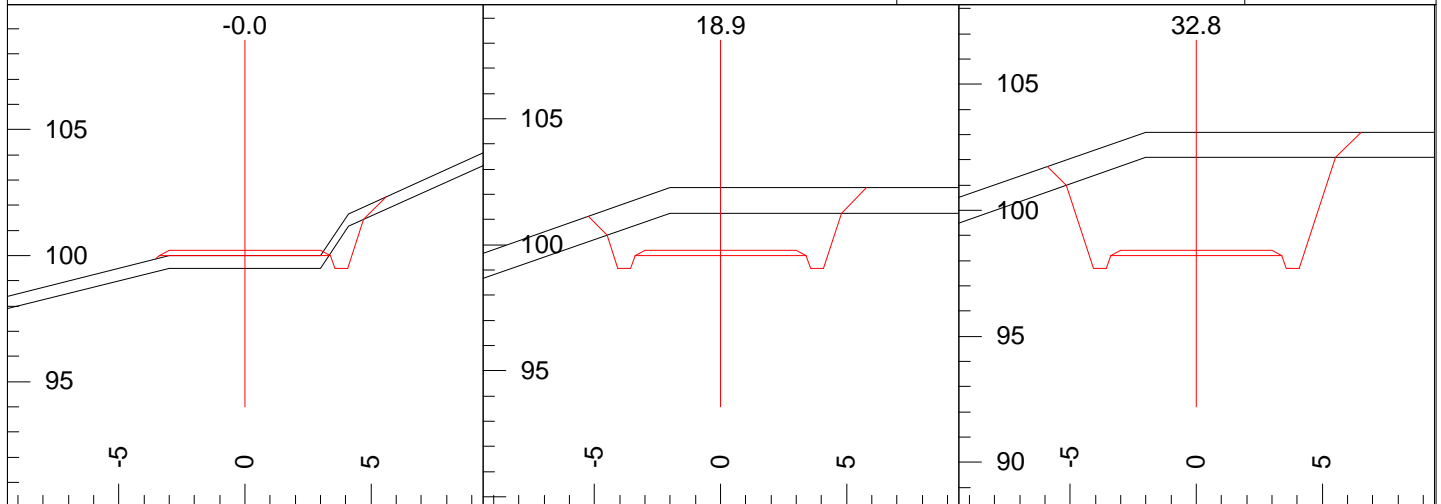
Lyr1 Gnd:	BR	OB	OB	MR	OB	OB																								
Lyr2 Gnd:	MR		MR	n/a	MR	MR																								
Lyr3 Gnd:				n/a																										
	0.0	1.3	2.7	4.3	1.5	2.1	2.3	1.9	2.4	-1.1	2.1	1.7	0.4	1.6	1.9	-1.3	-0.3	0.5	-0.2	-1.0	-0.5	-0.5	0.9	1.1	0.8	0.4	-1.4	0.5	3.1	Cut/Fill



Lyr1 Gnd: _____ OB _____
 Lyr2 Gnd: _____ MR _____
 Lyr3 Gnd: _____ n/a _____

1.3
 1.6
 1.1

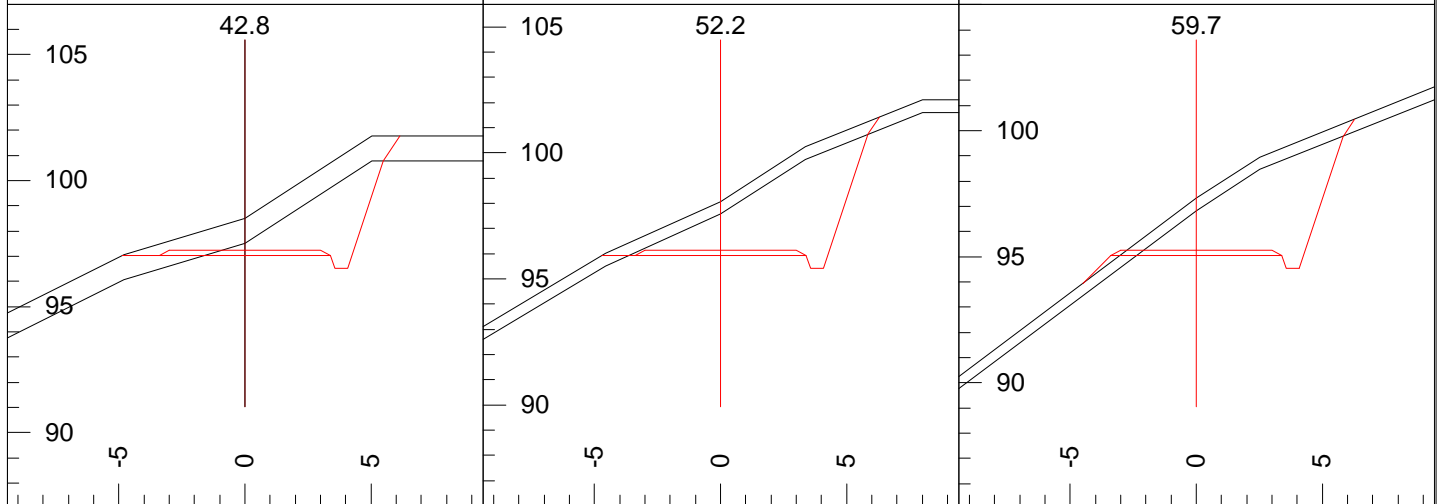
Cut/Fill



Index: 1
 P-Stn: 0.0
 H. Offset: 0.0
 Stk L: 3.5
 Cut Dp: 0.0

Index: 2
 P-Stn: 18.9
 H. Offset: 0.0
 Stk L: 5.4
 Cut Dp: 2.7

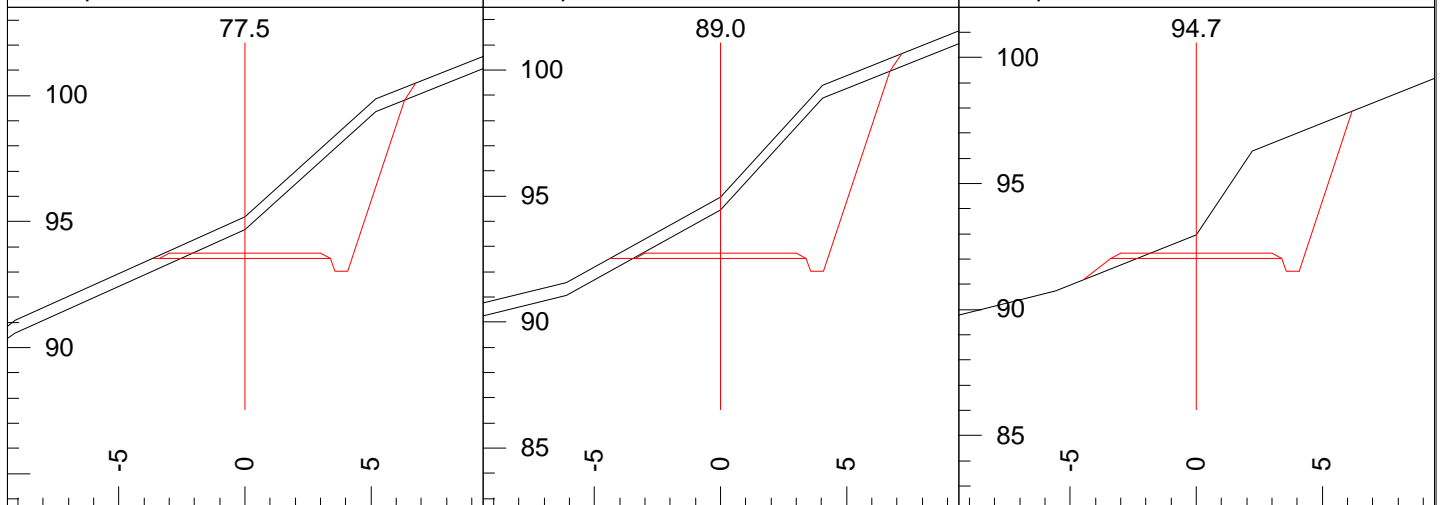
Index: 3
 P-Stn: 32.8
 H. Offset: 0.0
 Stk L: 6.1
 Cut Dp: 4.9



Index: 3:1
 P-Stn: 42.8
 H. Offset: 0.0
 Stk L: 5.1
 Cut Dp: 1.5

Index: 4
 P-Stn: 52.2
 H. Offset: 0.0
 Stk L: 5.2
 Cut Dp: 2.1

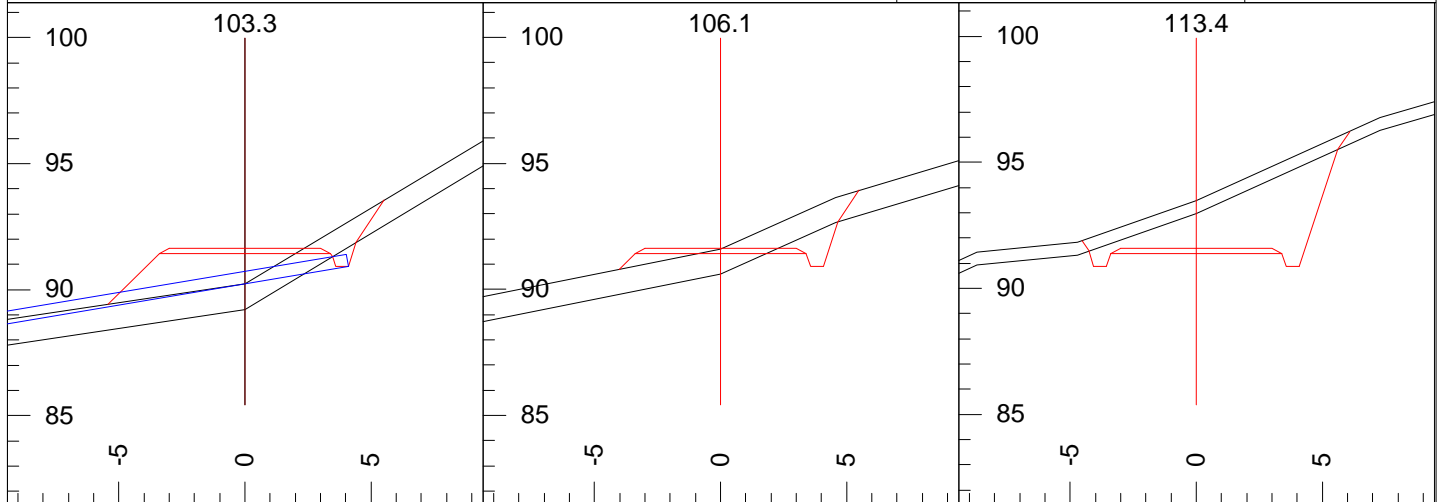
Index: 5
 P-Stn: 59.7
 H. Offset: 0.0
 Stk L: 5.6
 Cut Dp: 2.3



Index: 6
 P-Stn: 77.5
 H. Offset: 0.0
 Stk L: 4.0
 Cut Dp: 1.6

Index: 7
 P-Stn: 89.0
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: 2.4

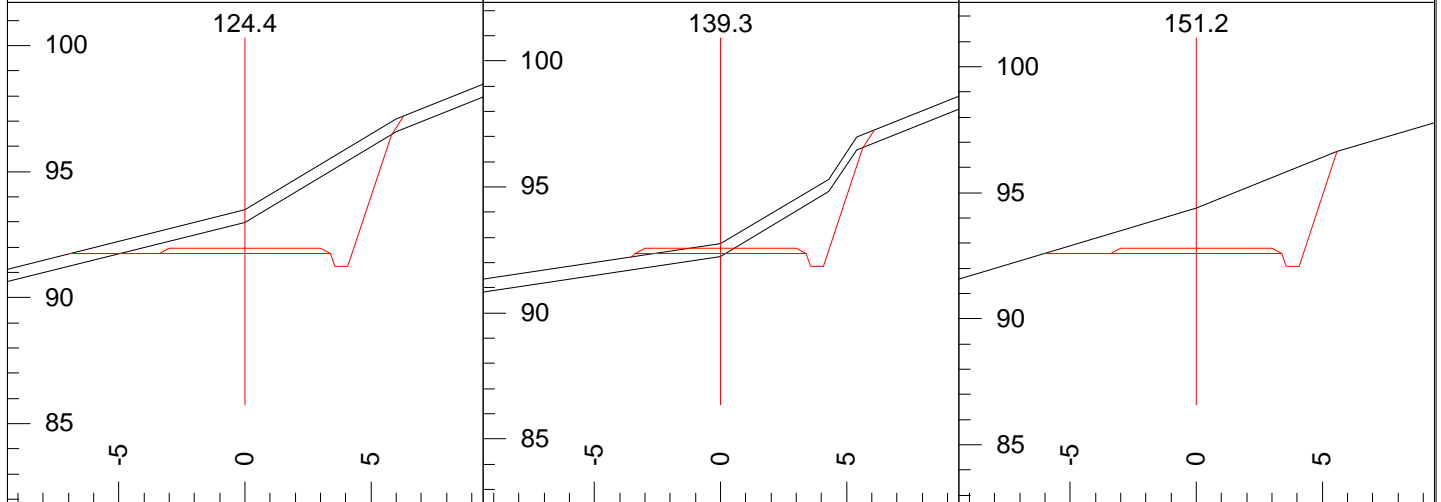
Index: 8
 P-Stn: 94.7
 H. Offset: 0.0
 Stk L: 4.8
 Cut Dp: 0.9



Index: 8:1
P-Stn: 103.3
H. Offset: 0.0
Stk L: 5.5
Cut Dp: -1.2

Index: 9
P-Stn: 106.1
H. Offset: 0.0
Stk L: 4.1
Cut Dp: 0.2

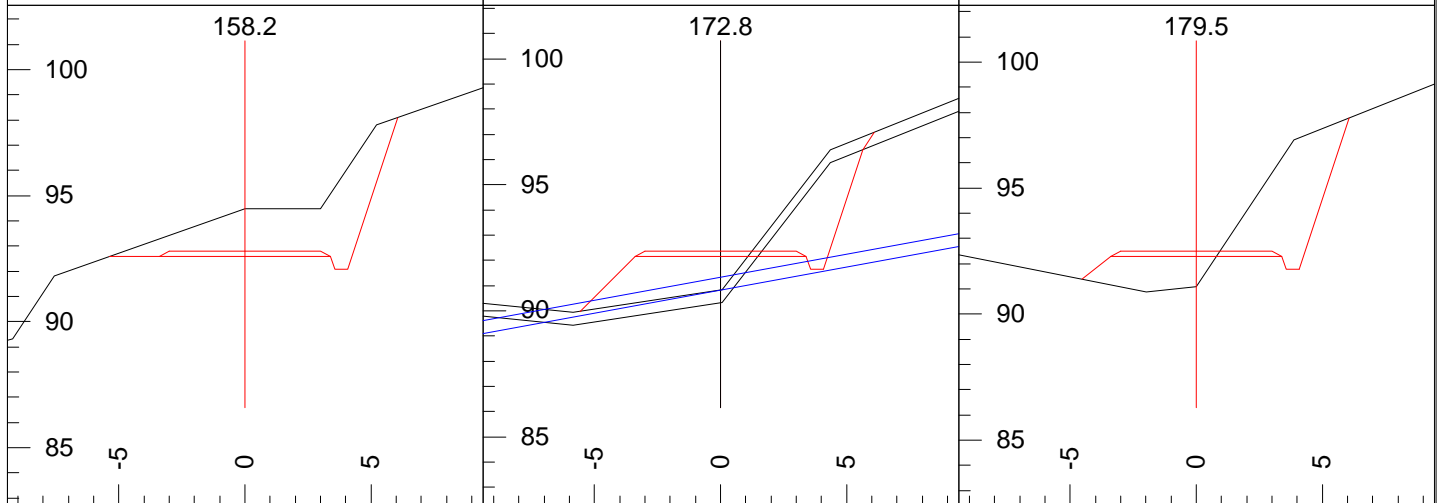
Index: 10
P-Stn: 113.4
H. Offset: 0.0
Stk L: 4.8
Cut Dp: 2.1



Index: 11
P-Stn: 124.4
H. Offset: 0.0
Stk L: 7.2
Cut Dp: 1.7

Index: 12
P-Stn: 139.3
H. Offset: 0.0
Stk L: 3.6
Cut Dp: 0.4

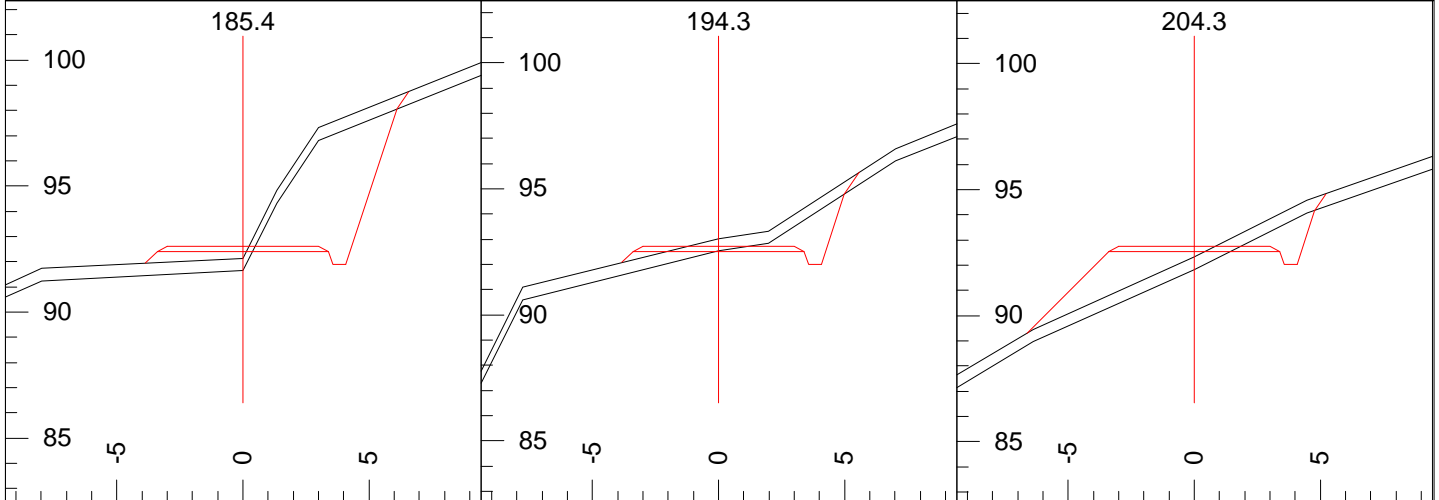
Index: 13
P-Stn: 151.2
H. Offset: 0.0
Stk L: 6.3
Cut Dp: 1.8



Index: 14
P-Stn: 158.2
H. Offset: 0.0
Stk L: 5.7
Cut Dp: 1.9

Index: 14:1
P-Stn: 172.8
H. Offset: -0.1
Stk L: 5.6
Cut Dp: -1.3

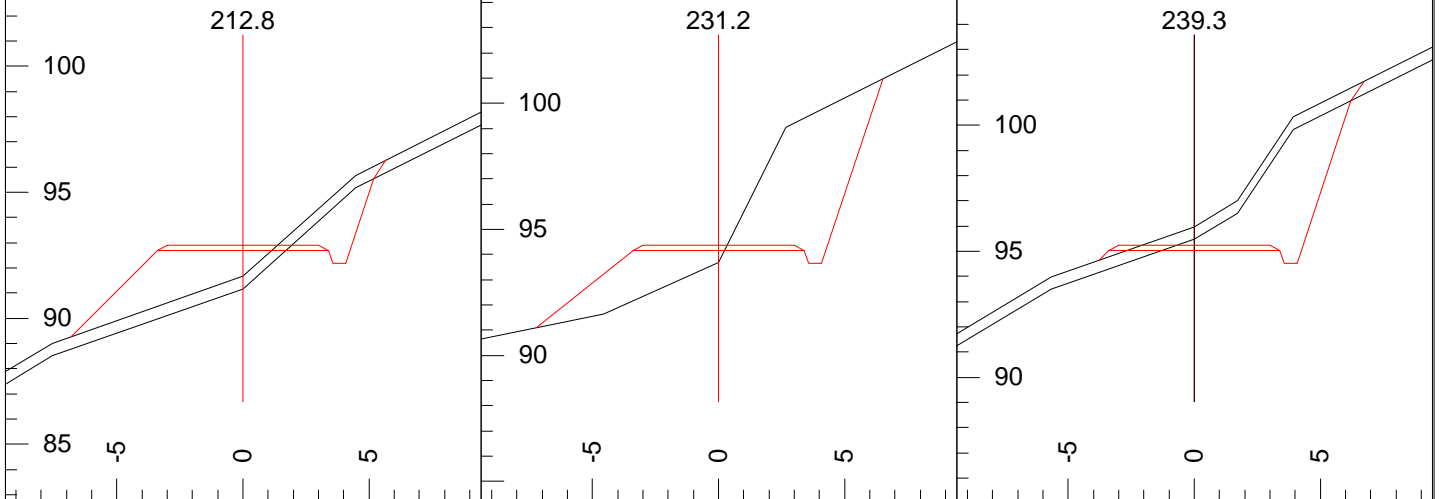
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P-Stn: 179.5
H. Offset: 0.0
Stk L: 4.5
Cut Dp: -1.2



Index: 16
 P-Stn: 185.4
 H. Offset: 0.0
 Stk L: 3.9
 Cut Dp: -0.3

Index: 17
 P-Stn: 194.3
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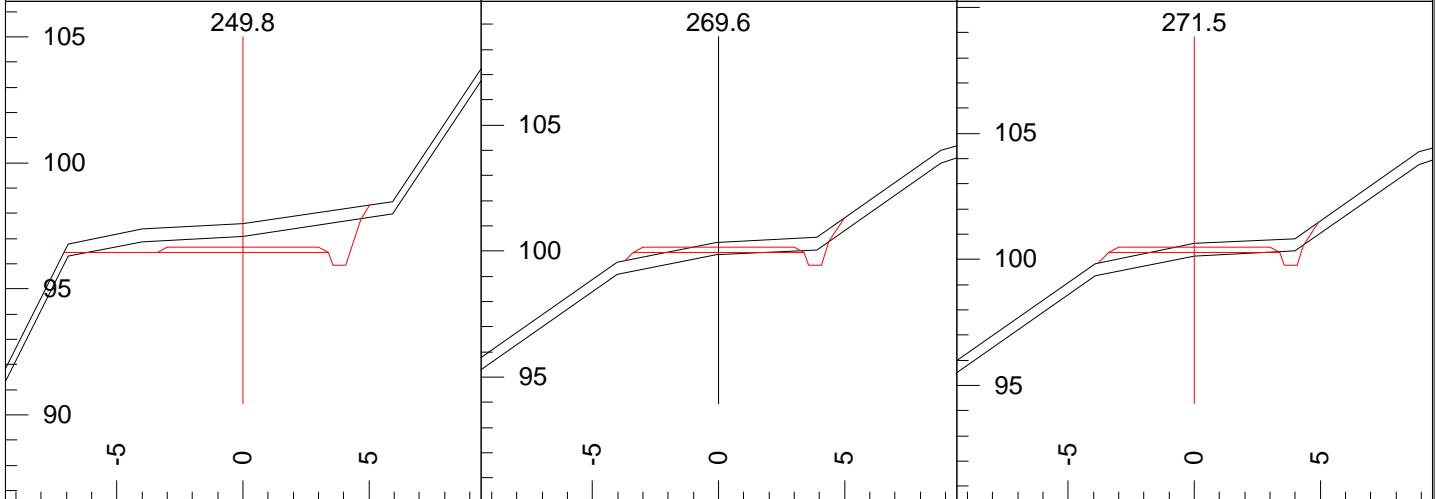
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 Stk L: 7.3
 Cut Dp: -0.2



Index: 19
 P-Stn: 212.8
 H. Offset: 0.0
 Stk L: 7.2
 Cut Dp: -1.0

Index: 20
 P-Stn: 231.2
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 Stk L: 7.7
 Cut Dp: -0.5

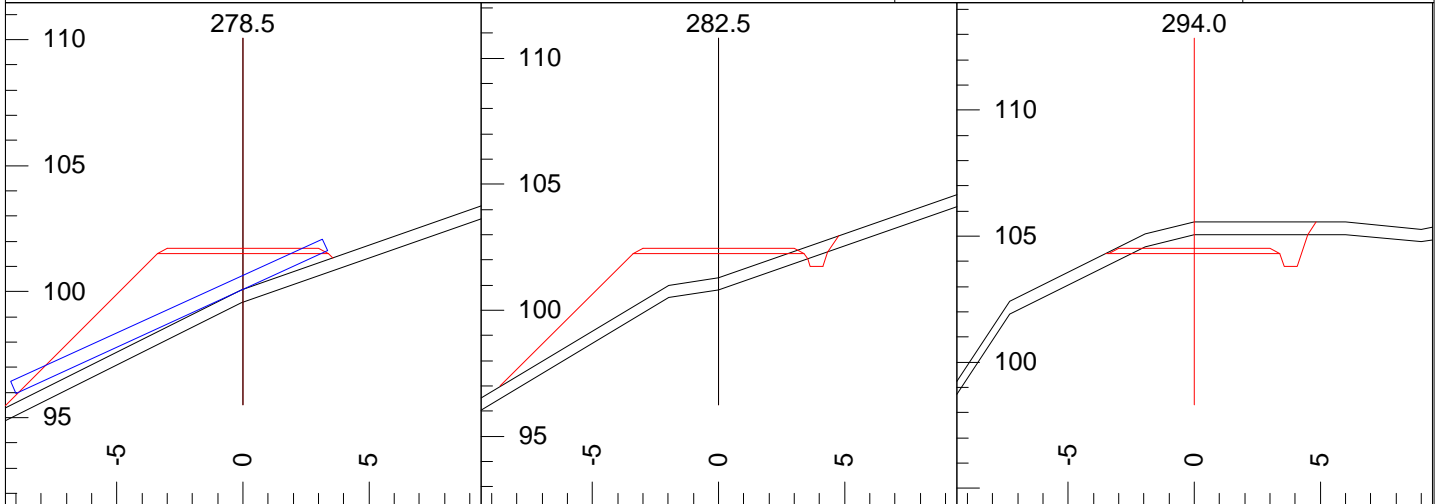
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 Cut Dp: 0.9



Index: 21
 P-Stn: 249.8
 H. Offset: 0.0
 Stk L: 7.2
 Cut Dp: 1.1

Index: 21:1
 P-Stn: 269.6
 H. Offset: 0.1
 Stk L: 3.8
 Cut Dp: 0.4

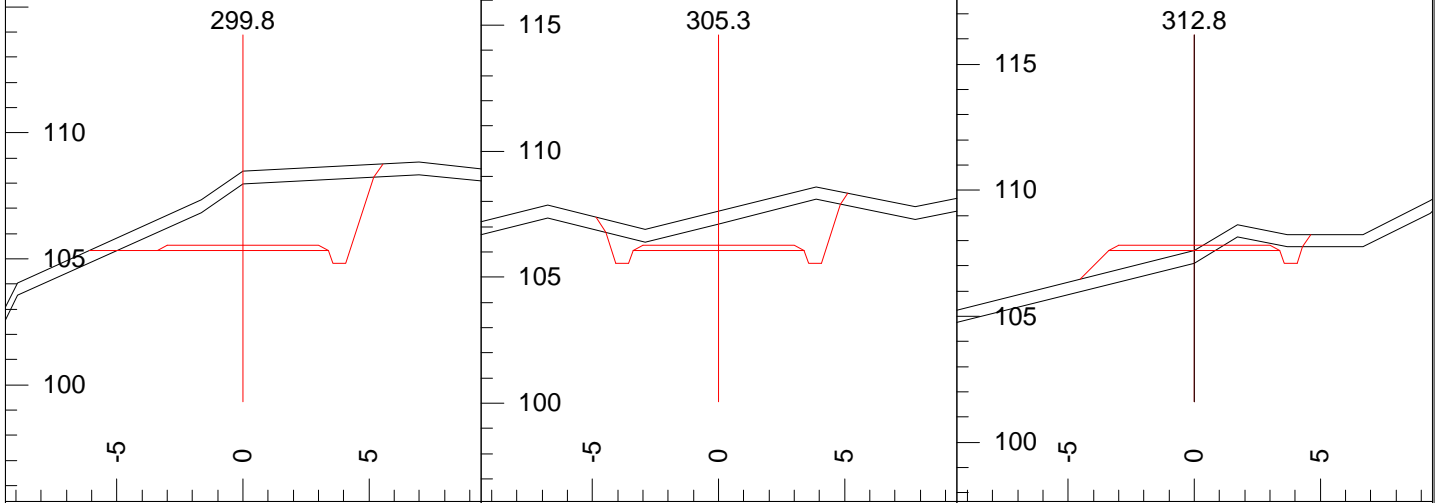
Index: 22
 P-Stn: 271.5
 H. Offset: 0.0
 Stk L: 3.9
 Cut Dp: 0.3



Index: 22:1
 P-Stn: 278.5
 H. Offset: 0.1
 Stk L: 10.7
 Cut Dp: -1.4

Index: 22:2
 P-Stn: 282.5
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 Cut Dp: -1.0

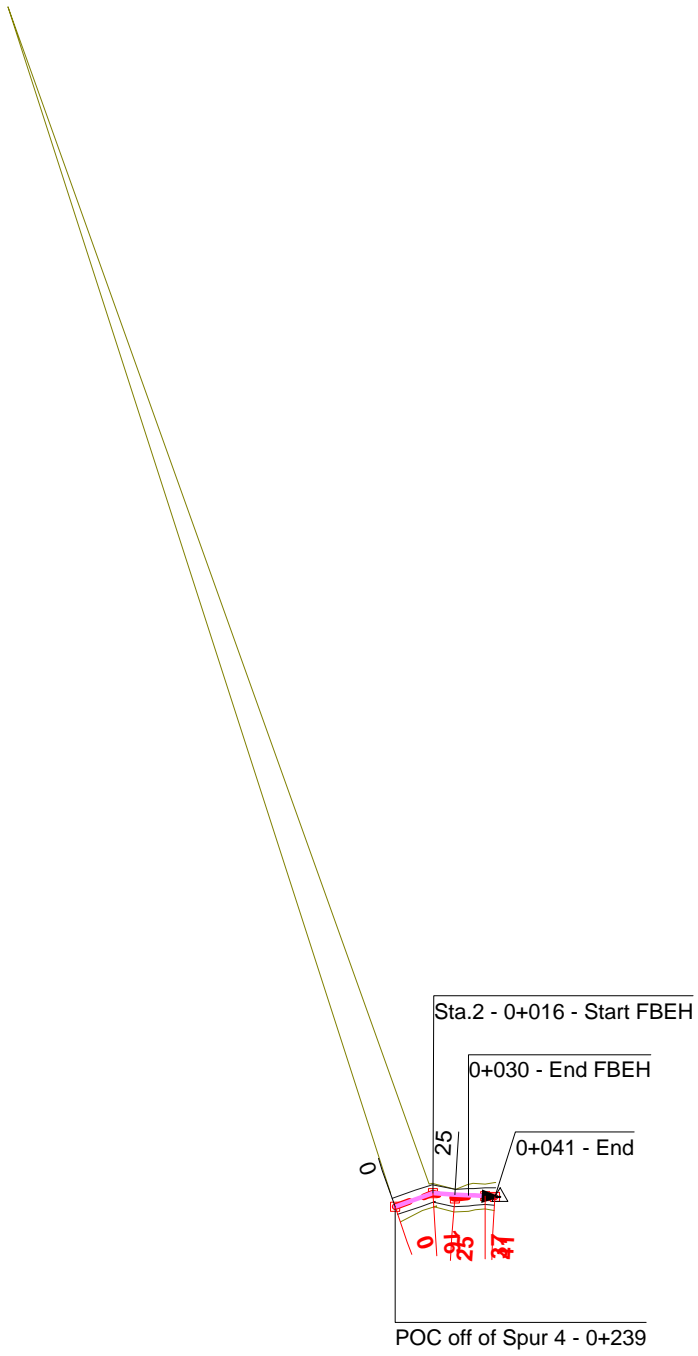
Index: 23
 P-Stn: 294.0
 H. Offset: 0.0
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 Cut Dp: 1.3



Index: 24
 P-Stn: 299.8
 H. Offset: 0.0
 Stk L: 6.9
 Cut Dp: 3.1

Index: 25
 P-Stn: 305.3
 H. Offset: 0.0
 Stk L: 4.9
 Cut Dp: 1.6

Index: 26
 P-Stn: 312.8
 H. Offset: 0.0
 Stk L: 4.7
 Cut Dp: 0.0



115

110

AVCF - Block 2 - Spur 4A

105

100

Sta.2 - 0+016 - Start FBEH

0+030 - End FBEH

POC off of Spur 4 - 0+239

0+041 - End

95

90

85

80

75

-50

0

50

100

150

200

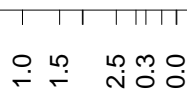
250

L-Stn

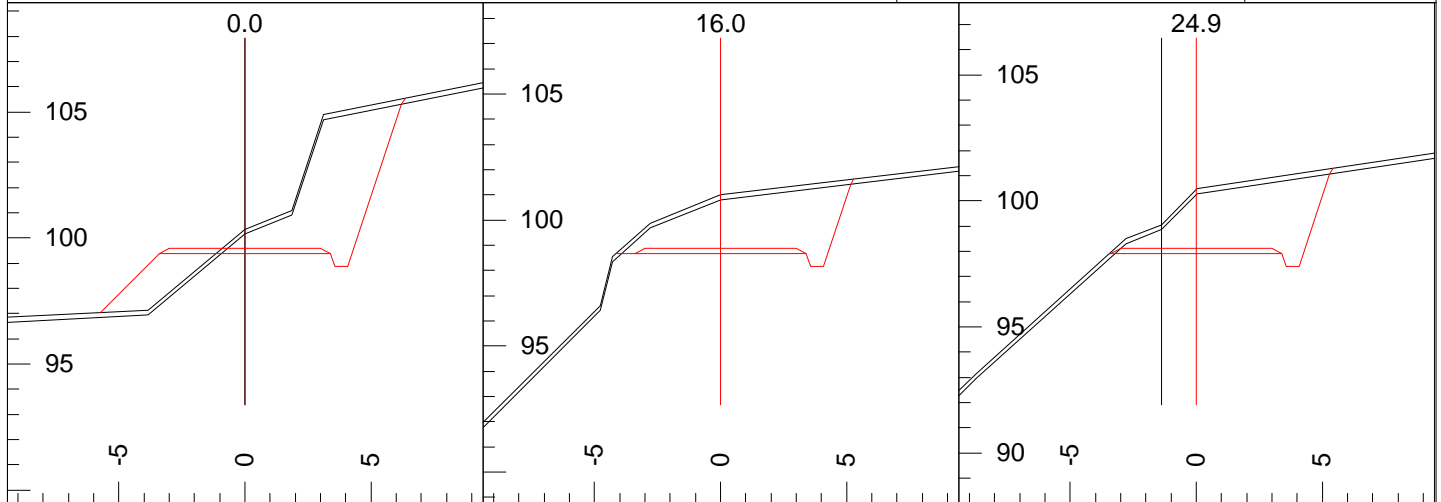
Lyr1 Gnd: _____ OB _____

Lyr2 Gnd: _____ R1 _____

Lyr3 Gnd: _____ n/a _____



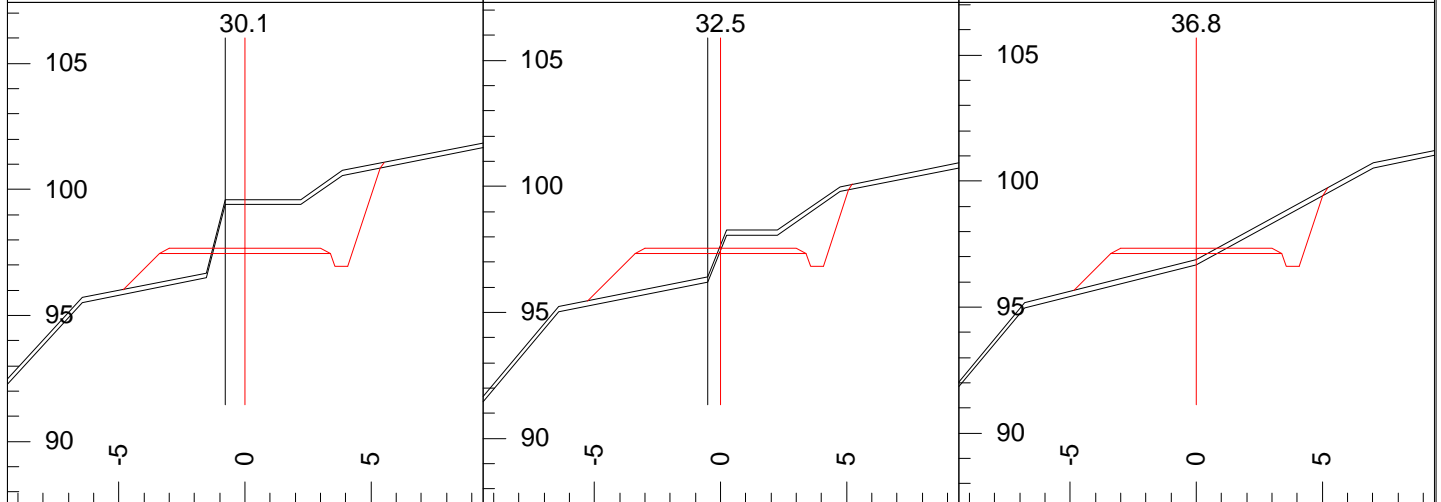
Cut/Fill



Index: 1
 P-Stn: 0.0
 H. Offset: 0.0
 Stk L: 6.6
 Cut Dp: 1.0

Index: 2
 P-Stn: 16.0
 H. Offset: 0.0
 Stk L: 4.8
 Cut Dp: 2.3

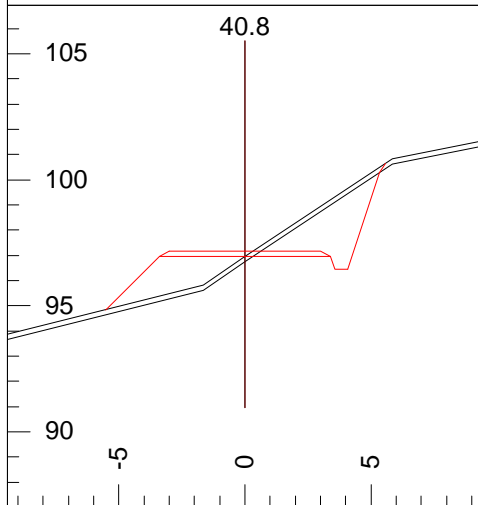
Index: 2:1
 P-Stn: 24.8
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 Cut Dp: 2.5



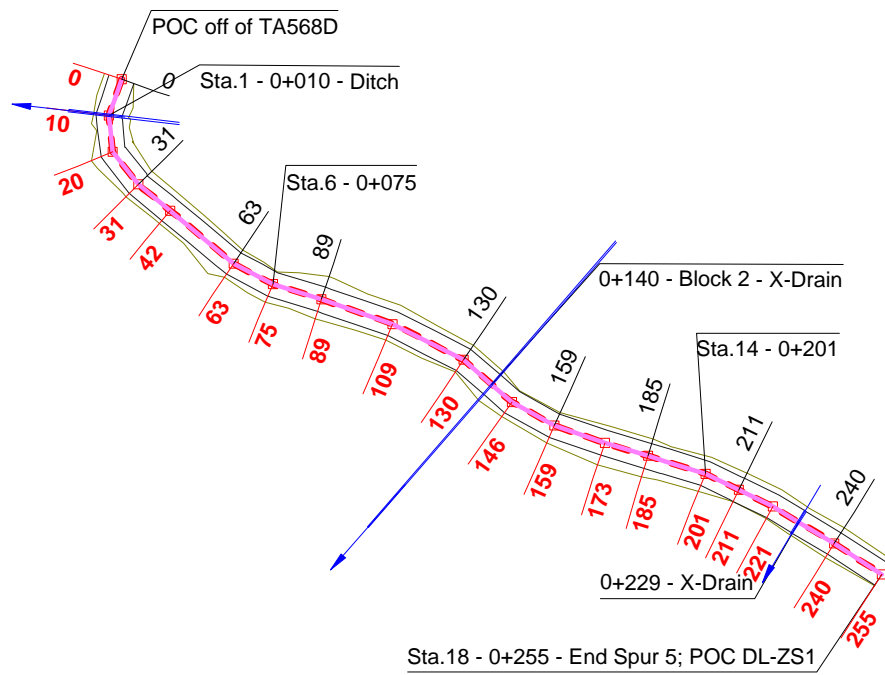
Index: 2:2
 P-Stn: 29.9
 H. Offset: 0.8
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 Cut Dp: 2.1

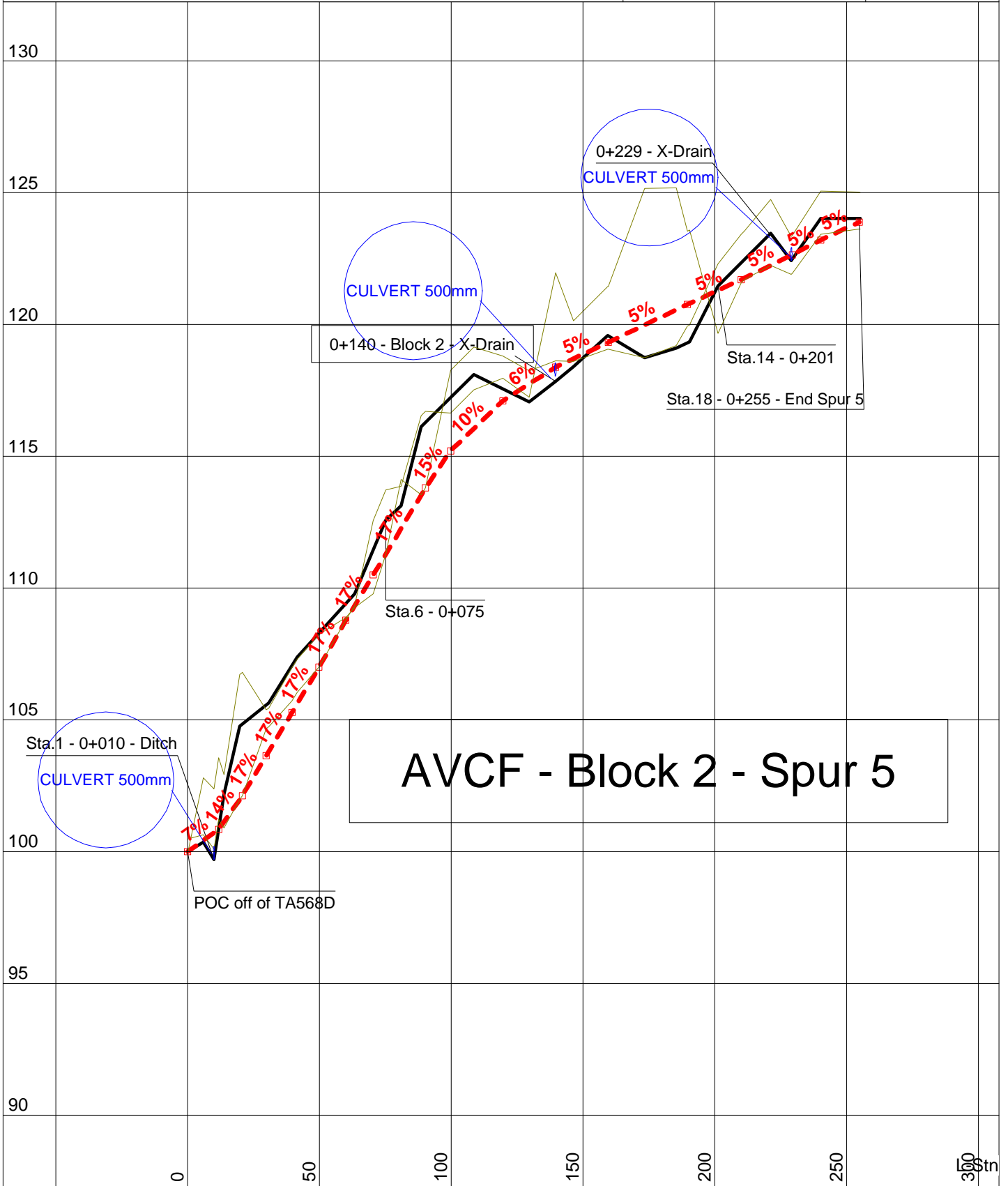
Index: 2:3
 P-Stn: 32.4
 H. Offset: 0.5
 Stk L: 5.7
 Cut Dp: 0.3

Index: 3
 P-Stn: 36.6
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: -0.3



Index: 4
 P-Stn: 40.6
 H. Offset: 0.0
 Stk L: 5.9
 Cut Dp: 0.0



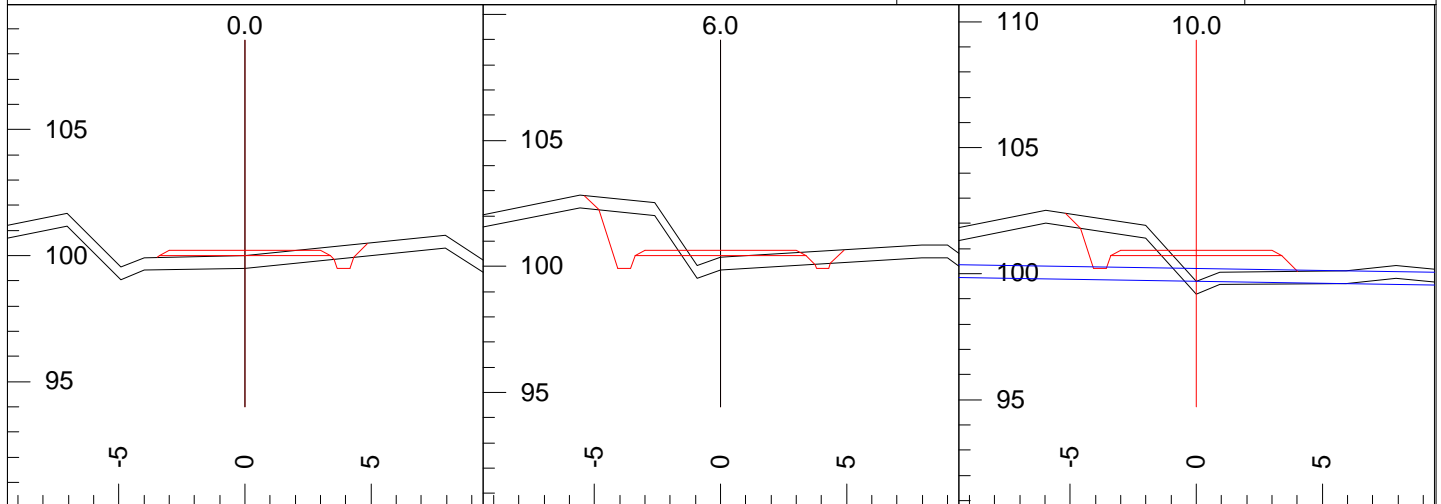


AVCF - Block 2 - Spur 5

Lyr1 Gnd:	BR	OB	
Lyr2 Gnd:		R1	
Lyr3 Gnd:		n/a	

0.0	-1.0	2.8	1.9	1.8	1.3	0.6	1.0	0.9	2.6	2.0	2.1	0.5	-0.7	-0.5	0.3	-1.2	-1.5	0.2	0.6	1.2	-0.2	0.8	0.2
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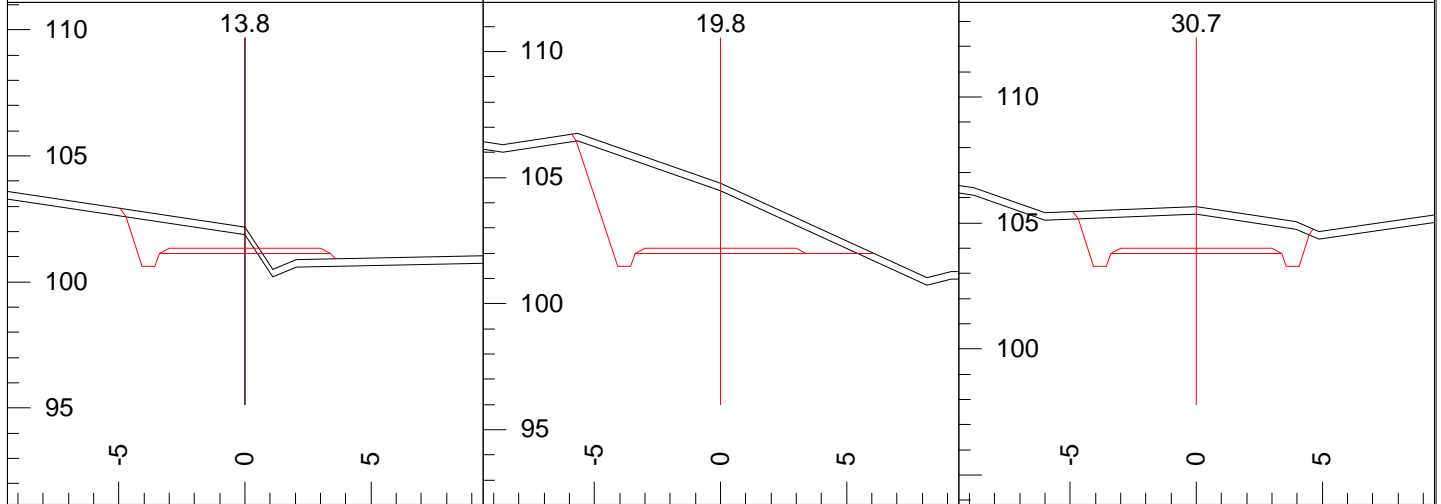
Cut/Fill



Index: 0
 P-Stn: 0.0
 H. Offset: 0.0
 Stk L: 3.5
 Cut Dp: 0.0

Index: 0:1
 P-Stn: 6.0
 H. Offset: 0.0
 Stk L: 5.9
 Cut Dp: -0.1

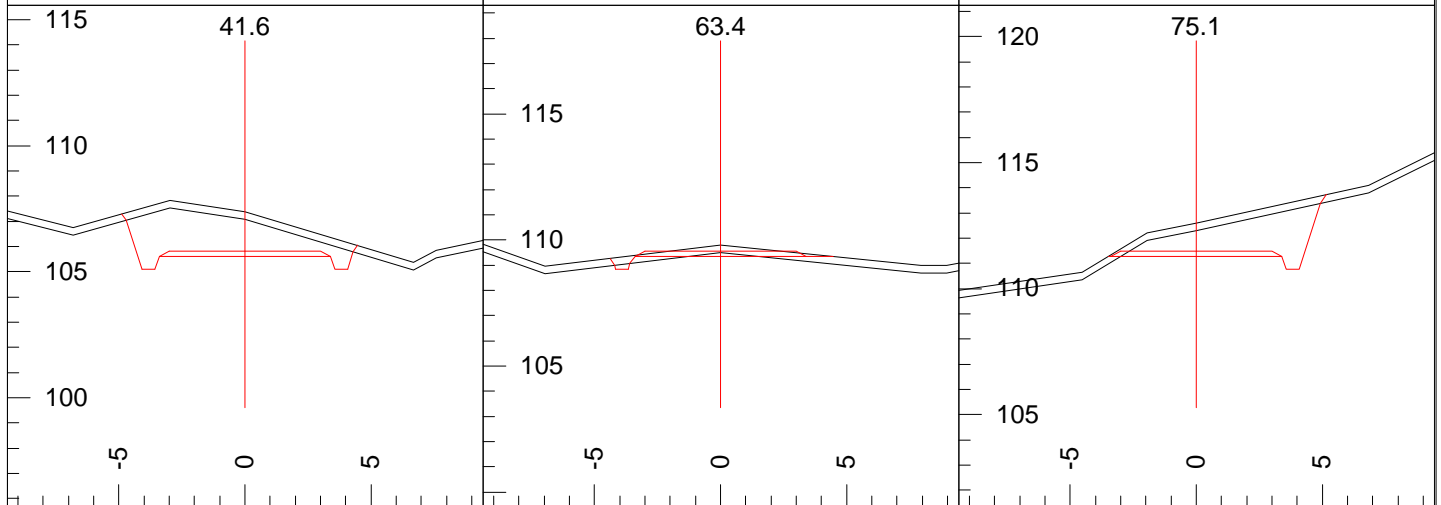
Index: 1
 P-Stn: 10.0
 H. Offset: 0.0
 Stk L: 5.8
 Cut Dp: -1.0



Index: 1:1
 P-Stn: 13.8
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: 1.0

Index: 2
 P-Stn: 19.8
 H. Offset: 0.0
 Stk L: 6.2
 Cut Dp: 2.8

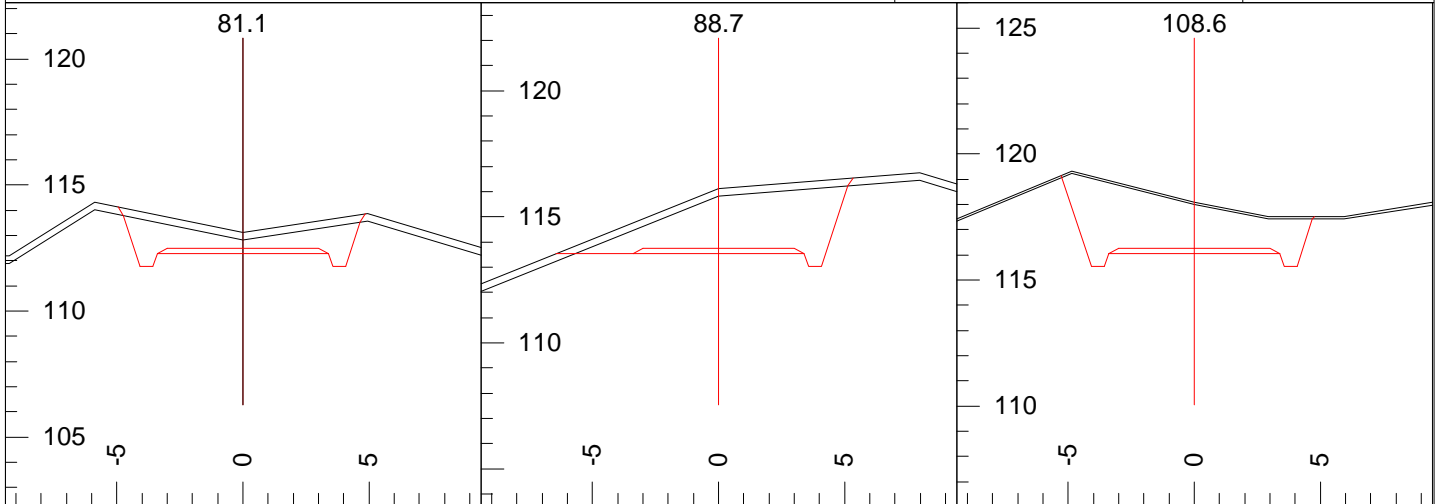
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 P-Stn: 30.7
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 Stk L: 4.9
 Cut Dp: 1.9



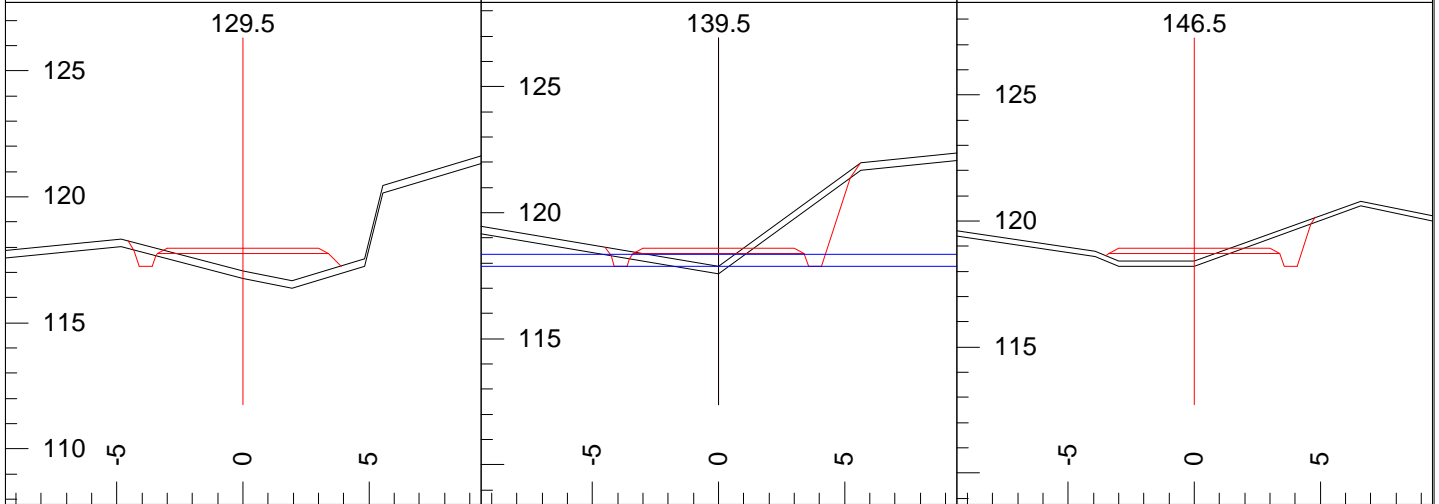
Index: 4
 P-Stn: 41.6
 H. Offset: 0.0
 Stk L: 4.9
 Cut Dp: 1.8

Index: 5
 P-Stn: 63.4
 H. Offset: 0.0
 Stk L: 4.4
 Cut Dp: 0.4

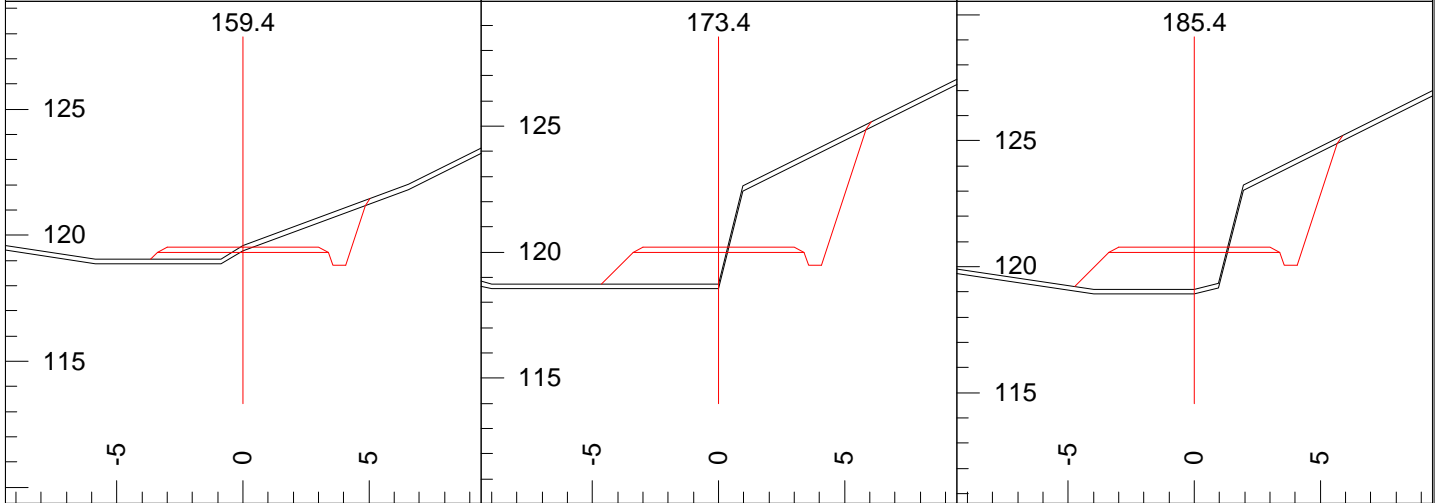
Index: 6
 P-Stn: 75.1
 H. Offset: 0.0
 Stk L: 3.7
 Cut Dp: 1.3



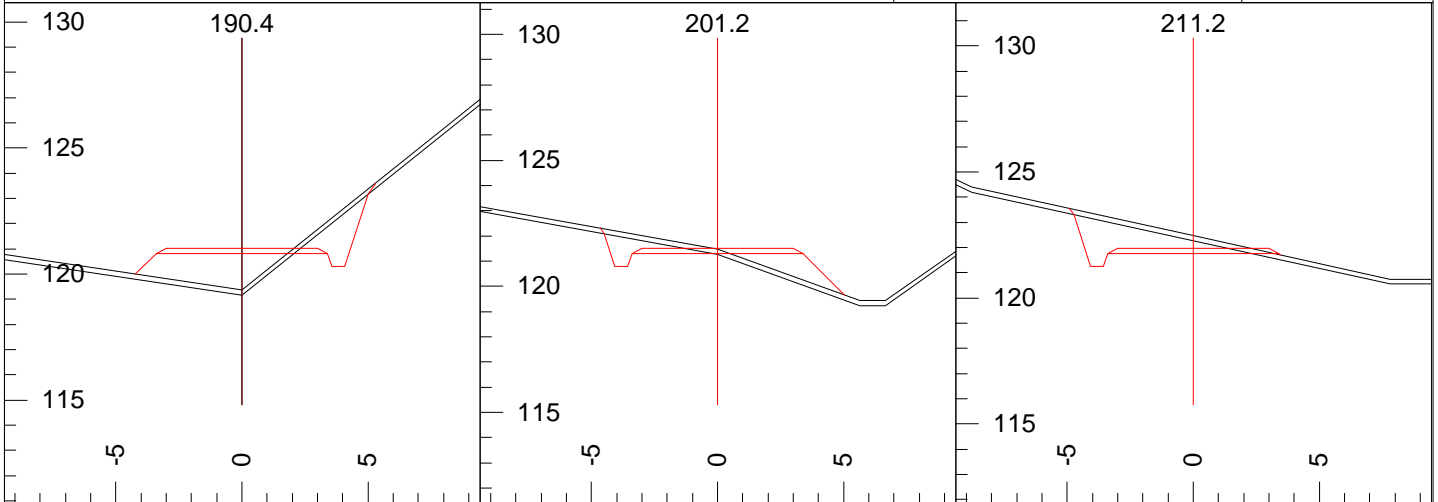
Index:	6:1	Index:	7	Index:	8
P-Stn:	81.1	P-Stn:	88.7	P-Stn:	108.6
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Stk L:	5.1	Stk L:	6.9	Stk L:	5.4
Cut Dp:	0.9	Cut Dp:	2.6	Cut Dp:	2.1



Index:	9	Index:	9:1	Index:	10
P-Stn:	129.5	P-Stn:	139.5	P-Stn:	146.5
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Stk L:	4.7	Stk L:	4.6	Stk L:	3.5
Cut Dp:	-0.7	Cut Dp:	-0.5	Cut Dp:	-0.3



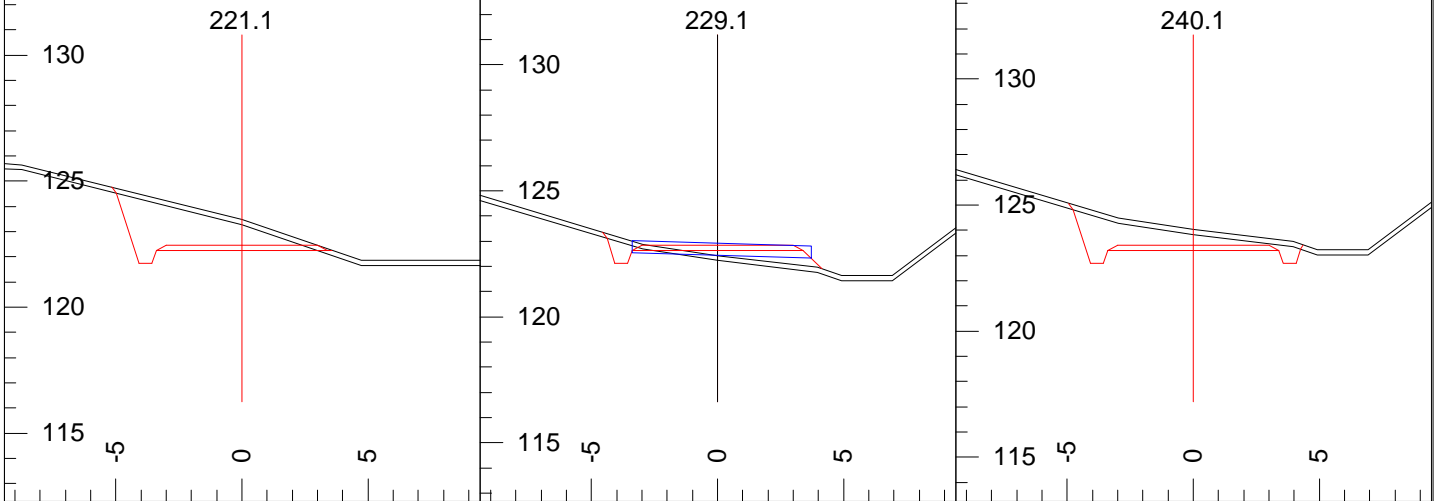
Index:	11	Index:	12	Index:	13
P-Stn:	159.4	P-Stn:	173.4	P-Stn:	185.4
H. Offset:	0.0	H. Offset:	0.0	H. Offset:	0.0
Stk L:	3.7	Stk L:	4.6	Stk L:	4.8
Cut Dp:	0.3	Cut Dp:	-1.2	Cut Dp:	-1.5



Index: 13:1
 P-Stn: 190.4
 H. Offset: 0.0
 Stk L: 4.3
 Cut Dp: -1.5

Index: 14
 P-Stn: 201.2
 H. Offset: 0.0
 Stk L: 4.7
 Cut Dp: 0.2

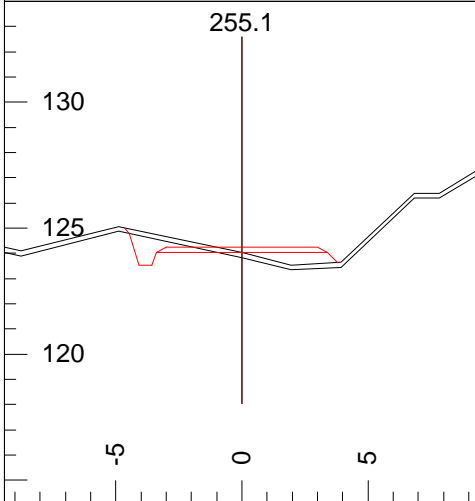
Index: 15
 P-Stn: 211.2
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: 0.7



Index: 16
 P-Stn: 221.1
 H. Offset: 0.0
 Stk L: 5.3
 Cut Dp: 1.2

Index: 16:1
 P-Stn: 229.1
 H. Offset: 0.0
 Stk L: 4.7
 Cut Dp: -0.2

Index: 17
 P-Stn: 240.1
 H. Offset: 0.0
 Stk L: 5.0
 Cut Dp: 0.8



Index: 18
 P-Stn: 255.1
 H. Offset: 0.0
 Stk L: 4.7
 Cut Dp: 0.0

Alberni Valley Community Forest K2D

Region: West Coast Natural Resource Region / South Island Natural Resource District SITE PLAN SUPPORT DOCUMENT

A. TENURE IDENTIFICATION

LICENCE NO.: K2D	LICENSEE NAME: Alberni Valley Community Forest	LOCATION: Taylor River	Opening Number: Block 1	Harvested (ha): 11.1
TOTAL AREA UNDER PRESCRIPTION (ha): 12.0		CUTTING PERMIT:	MAPSHEET: 092F024	<input checked="" type="checkbox"/> CROWN <input type="checkbox"/> PRIVATE
OPERATING AREA: South Island Natural Resource District	ORIGINAL ECOLOGICAL FIELD WORK and REVIEW (DATE): Ben Durkan RPF Aug & Sept, 2015		ENGINEERED BY: NovaFor Forest Services Ltd.	

B. AREA SUMMARY AND ECOLOGICAL INFORMATION

AREA OF NO PLANNED REFORESTATION (ha) (NPR)									
PERMANENT ACCESS	ROCK	WATER	SWAMP	OTHER NP	NC>4 ha	RESERVES WITH NO MODIFICATIONS:	IMMATURE	OTHER (WTP)	TOTAL NPR AREA
0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	1.7
NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha)									
SU	SU AREA DESCRIPTION								NET AREA TO BE REFORESTED:
A	<p>BEC: CWHmm2 01 (60%) 05 (40%) 3-4 / C-D - Eco Unit #1</p> <p>SU A occurs along the mid to lower slope position, the SU is comprised of the dominant 01 site series and large areas of the 05 site series. The forest consists of old growth Douglas-fir, Red Cedar, Hemlock as well as some scattered Cypress and Yew. Soils are Silty Loam texture over till, 50-70cm in depth with +60% coarse fragment content. Majority of area is moderately well drained. Vegetation cover consists of salal, vaccinium, bunchberry, vanilla leaf, foam flower and pipe-cleaner moss. A MOR humus form of 3-5cm overlies the soils. Elevation ranges from 220-660m. There are moderate 40% DMH levels. The aspect is of the block is to the North. The terrain has a post-harvest landslide potential of Very Low to Low. Manage SU A for Douglas-Fir as the leading species with a component of Red Cedar in the wetter / richer sites, especially in low lying areas.</p>								7.3
B	<p>BEC: CWHmm2 03(90%) 02(10%) 1-2 / B-C – Eco Unit #2</p> <p>SU B occurs along the mid to lower slope position, the SU is comprised of the dominant 03 site series with small pockets of the 02 site series. The forest consists of old growth Douglas-fir, Red Cedar, Hemlock as well as some scattered Cypress and Yew. Soils are Silty Loam texture over till, 50-70cm in depth with +60% coarse fragment content. Majority of area is moderately well drained. Vegetation cover consists of salal, vaccinium, bunchberry and some sword fern. A MOR humus form of 3-5cm overlies the soils. Elevation ranges from 220-660m. There are moderate 40% DMH levels. The aspect is of the block is to the North. The terrain has a post-harvest landslide potential of Very Low to Low. Manage SU B for Douglas-Fir as the species</p>								3.0
TOTAL NET AREA TO BE REFORESTED:								10.3	
TOTAL AREA UNDER PRESCRIPTION:								12.0	

C. OBJECTIVES

<p>C.1. LONG TERM MANAGEMENT OBJECTIVES</p> <p>5.1.1a - Old Growth Management Areas - Maintenance or recruitment of old growth forests. The AVCFC will not carry out road construction or timber harvesting within Old growth management areas delineated as part of the Sproat Lake Landscape Unit Plan established July 18, 2005 except under the following circumstances:</p> <ol style="list-style-type: none"> to accommodate operational requirements for timber harvesting and road or bridge construction, boundaries of OGMA's that area 10 ha or greater in size may be adjusted provided that: <ol style="list-style-type: none"> the boundary adjustment does not affect more than 10% of the area of the OGMA road or bridge construction is required to access resource values beyond or adjacent to the OGMA and no other practicable option exists, and Suitable replacement OGMA is identified. Timber harvesting to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's Salvage provided that it is done in a manner that retains as many old growth forest attributes as practicable. Removal of danger trees, or brushing and clearing within the right-of-way on existing roads for safety purposes, Felling of trees for guy-line clearance, tail-hold anchor trees, or danger trees. Construction of rock quarries and gravel pits Intrusions that affect an OGMA by less than 0.5ha in total <p>The development of block 1 will not infringe on any Old Growth Management Areas.</p>
<p>5.1.1b - Wildlife Tree Retention - Maintain stand-level structural diversity, by retaining wildlife tree patches (WTPs) Wildlife Tree Retention by BEC Subzone in the Sproat Lake Landscape Unit</p> <ol style="list-style-type: none"> WTPs will be distributed across the BEC subzone WTPs are located within or immediately adjacent to a cutblock when designated at the operational site plan level No timber harvesting, is allowed to occur within a WTP except <ol style="list-style-type: none"> Salvage of wind-thrown timber within WTP's where wind throw impacts 25-50% of dominant or co-dominant stems Salvage of wind-thrown timber and harvesting or remaining stems within WTPs where wind throw exceeds 50% of the dominant or co-dominant stems. Where forest health issues pose a significant threat to areas outside the WTP Where salvage harvesting is planned, suitable replacement WTP of at least equivalent quality will be identified concurrently to achieve the retention target. WTPs include, if present, remnant old growth patches and live or dead veteran trees (except danger trees) WTPs include representative larger trees (DBH > average operational cruise) for the stand and any moderate to high value wildlife trees if available (except danger trees) BEC subzones and variants will be determined by operational site plan information WTPs with a high likelihood of wind throw may be pruned or topped to maintain the integrity of the WTP. <p>Block 1 is in CWHmm2 (Coastal Western Hemlock, moist maritime) which the Sproat Lake Landscape Unit Plan has a 7% WTP Requirement.</p>
<p>5.1.1c - Special Management Zone 17 - Sustain forest ecosystem structure and function within the portion of Special Management Zone 17 located in the Sproat Lake Landscape Unit. Retaining mature and old forests (i.e. >80 years of age) on an area covering at least 25 per cent of the total forested area of the SMZ portion located within the landscape unit. The Alberni Valley Community Forest has >25% of the mature and old forests retained.</p>
<p>5.1.2a - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Creating or maintaining stand structures and forest attributes associated with mature and old forests. The target for mature seral forest should range from 25% to 33% of the forested area of each SMZ. The Alberni Valley Community Forest has >25% of the mature seral forests retained.</p>
<p>5.1.2b - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Retaining within cut blocks structural forest attributes and elements with important biodiversity functions Design cut-blocks in a manner that is consistent with retaining structural forest attributes and elements with important biodiversity functions that exist in: wildlife tree patches, no-work zones, riparian management areas, other potential leave areas Structural forest attributes with important biodiversity functions includes but is not limited to snags, wildlife trees and downed logs. Block 1 is designed under the retention silviculture system to retained timber surrounding riparian features, treed rock bluffs.</p>
<p>5.1.2c - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Applying a variety of silvicultural systems, patch size and patch shapes across the zone subject to maximum cutblock sizes. Design cutblocks in a manner that is consistent with:</p> <ol style="list-style-type: none"> Establishing a variety of silvicultural systems and patch sizes and shapes across the SMZ, and For shelter-wood, selection, or retention silviculture systems <ol style="list-style-type: none"> Maintaining varying levels of retention within the cutblock based on a consideration of the site-specific site conditions and forest values, and Limiting the Net Area to be Reforested (NAR) to 40 hectares For clear-cut, clear-cut with reserves or seed tree silvicultural systems, limiting the NAR to 5 hectares. <p>Carry out forest practices only if the forest practices are consistent with the design for the cutblock. Block 1 has been designed to meet retention requirements, retention silviculture system requirements and is less than 40 hectares of Net area to be Reforested.</p>
<p>5.2.1d - VILUP HLP Objective 2 - Damaged timber If, within areas designated as SMZ 17, timber harvesting is to be carried out in a cutblock to recover timber damaged by fire, insects, wind or other similar events, the AVCFC may design the cutblock to have a NAR that exceeds</p> <ol style="list-style-type: none"> 40 hectares for shelter-wood, selection, or retention silviculture systems 5 hectares for clearcut, clearcut with reserves or seed tree silviculture systems <p>Provided that the design incorporates structural characteristics of natural disturbances into the cutblock where safe and practicable. Block 1 is designed to incorporate mature timber and does not include significant damaged timber areas.</p>
<p>5.2.1 – FPPR s.5 - Objectives set by government – Soils Without unduly reducing the supply of timber from British Columbia forests, to conserve the productivity and the hydrologic function of soils. The AVCFC will comply with soil disturbance limits and permanent access structure limits. The limit for permanent access structures (built or used by the agreement holder) of 7% of the cutblock will not be exceeded. Helicopter Drop Zones will be rehabilitated and logging debris will be piled and burned.</p>

5.2.2 – FPPR s.7 - Objectives set by government – Wildlife

Without unduly reducing the supply of timber from British Columbia forests, to conserve sufficient wildlife habitat in terms of the amount of area, distribution of areas and attributes of those areas, for the survival of species at risk, the survival of regionally important wildlife, and the winter survival of specified ungulate species.

Identified species at risk include the Marble Murrelet, Queen Charlotte Goshawk and Scoulers Courtydalis. The AVCFC will carry out or authorize timber harvesting or road construction in a manner that retains the habitat specified in the Marbled Murrelet notice (December 2004).

Block 1 is a Douglas-Fir Western Hemlock old growth stand and does not intersect any Marbled Murrelet Habitat identified in the 'Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the South Island Forest District for Marbled Murrelet (December 21, 2004)'. Marbled Murrelet class 1, 2 & 3 habitat is maintained within the non-contributing landbase / legal old growth management areas.

5.2.3 – FPPR s.8 - Objectives set by government - Water, fish, wildlife and biodiversity within riparian areas.

Without unduly reducing the supply of timber from British Columbia forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

All streams within block 1 are classified as S4 due to being less than 1.5m width and are located within the Sproat Lake Community Watershed and are defaulted to fish. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.

5.2.4 – FPPR s.8.2 - Objectives set by government - Community Watersheds

To prevent the cumulative hydrological effects of primary forest activities within the community watershed resulting in a material adverse impact on the quantity of waters or the timing of the flow of waters, or the water having a material adverse impact on human health.

The AVCFC will design cutblocks and roads in a manner that is consistent with a cumulative low to moderate risk threshold for material adverse hydrological effects, in accordance with the resulting CWAP indicator scores. With regards to roads and harvesting:

- 1) Plan to minimize road requirements
- 2) Plan for temporary rather than permanent roads where there is a high likelihood of erosion into streams
- 3) Carry out frequent road inspections and minimize delays in road repairs.
- 4) Minimize soil disturbance during harvesting
- 5) Install adequate culverts to ensure natural water drainage is maintained
- 6) Revegetate right-of-ways, cut slopes, road surfaces, and landing where revegetation will reduce soil erosion into watercourses
- 7) Implement only those silvicultural practices that have negligible impacts on water quality
- 8) Plan partial cut or retention silviculture systems to focus retention in riparian areas
- 9) Adopt Western Forest Product's terrain management code of practice. (no longer in effect)
- 10) Consult and cooperate with local groups promoting water quality.

Block 1 is within the Sproat Lake Community Watershed and all internal streams are less than 1.5m width and are classified as S4 or NCD. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.

Road Requirements are minimized and as the roads do not access future harvest areas the roads can all be treated as temporary roads.

5.2.5 – FPPR s.9 - Objectives set by government - Wildlife and Biodiversity – landscape level.

Without unduly reducing the supply of timber from British Columbia forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

The AVCFC will adopt FPPR Sections 64 (Cutblock size) and 65 (Cutblock adjacency). Cutblocks in Special Management Zone 17 will have a net area to be reforested in accordance with the VILUP HLP Order Objective 1 (c) or HLP Order Objective 2.

All blocks adjacent to block 1 have reached 3m green up and block 1 does not exceed cutblock size restriction.

5.2.6 – FPPR s.9.1 - Objectives set by government - Wildlife and Biodiversity – stand level.

Without unduly reducing the supply of timber from British Columbia forests, to retain wildlife trees.

The AVCFC adopts, Sections 66 (wildlife tree retention) and 67 (restriction on harvesting) of the FPPR. Where wildlife tree retention targets are specified in an approved landscape unit plan, wildlife tree retention will meet or exceed targets specified in approved landscape unit plans. Buffer and protect active or recently used bear dens where they are located during cutblock layouts.

Block 1 is in CWHmm2 in the Sproat Lake Landscape Unit Plan which requires 7% Wildlife Tree Patches associated with the block.

5.2.7 – FPPR s.10 - Objectives set by government - Cultural Heritage Resources

Conserve, or, if necessary, protect cultural heritage resources that are: the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and not regulated under the Heritage Conservations Act.

The AVCFC, when designing a cutblock or road will, prior to harvest or construction, identify

- The portion of the area occupied by a special cultural heritage resource.
- The nature of the special cultural heritage resource
- Whether the special cultural heritage resource is to be protected or conserved
- What constraints, if any, are to apply to the forest practices carried out on the area.

For each special cultural heritage resource that has been identified for protection, the AVCFC will carry a forest practice only to the extent that the forest practice does not damage or render ineffective the special cultural heritage resource. The forest practice will be done to be consistent with the constraints, if any, specified in the design for the cutblock or road.

If, within a cutblock or road where the AVCFC is carrying out harvesting or road construction, a previously unidentified special cultural heritage resource is encountered, operations within the cutblock or road area to cease or be modified to the extent necessary to protect the special cultural heritage resource.

The AVCFC recognizes that mature western red cedar and cypress located within the identified FDU are special cultural heritage resources to the Hupacasath and Tseshah First Nations. These first nations will be provided with a copy of the most recent western red cedar inventory for the applicable area completed by the South Island Forest District as well as any update's to the inventory.

Western red cedar and cypress, where ecologically suited, will be planted on areas referred to in Section 29 (1) of the Heritage Conservation Act in accordance with the stocking standards specified in the FSP.

Where a strategy for monumental western red cedar or cypress has been developed and agreed upon by the AVCFC, the applicable First Nation and the Ministry of Natural Resource Operations, the AVCFC will assist in implementation of the strategy.

The AVCFC recognizes that deciduous species such as bitter cherry, yew and arbutus located within the identified FDU may be special cultural heritage resources to the Hupacasath and Tseshah First Nations. The AVCFC will ensure that, where one or more of these species is identified to the AVCFC as a special cultural heritage resource by a first nation, and where it is present in an area referred to in section 29 (1) of the Heritage Conservation Act, a component of these species will be maintained within the section 29 (1) area, provided that it can be done in accordance with the stocking standards specified in the FSP.

No "potentially affected cultural heritage resource" has been identified in or adjacent to this cutblock. The block does contain old growth cedar and cypress as well as some western yew.

5.3.1 - Objectives Established under the GAR - Visual Quality Objectives

Ensure that each cutblock or road within the FDU is designed in a manner such that the altered forest landscape for the applicable scenic area will be consistent with the applicable visual quality objective, and carry out forest practices only if the forest practices area consistent with the design for the cutblock or road referred.

The AVCFC will ensure that each cutblock or road within the FDU is designed in a manner such that the altered forest landscape for the applicable scenic area will be consistent with the applicable visual quality objective, and carry out forest practices only if the forest practices are consistent with the design for the cutblock or road.

Block 1 is located within a Partial Retention VQO polygon and is designed to meet the VQO through the use of buffers, retention patches and wildlife tree patches. Block 1 is within VQO polygons 2300 and 2298 as per GAR order Visual Quality Objectives for the South Island Forest District from District Manger December 2005.

7.0 - Measures to Prevent the Introduction and spread of Invasive Plants - Invasive Plants

AVCFC will confirm known locations of priority invasive plants within the plan area using the most current recognized provincial database. The AVCFC will distribute information to staff and contractors on priority invasive plants that exist or threaten to establish within the plan area and direct staff to monitor and report new incidences of priority invasive plants and enter them into most current recognized provincial database.

Persons carrying out timber harvesting and / or road building activities area to inspect logging and road building equipment for invasive shrug vegetation, and remove from equipment prior to transporting equipment from an area of a known occurrence of the invasive plant to a remote location or site where the invasive plant is currently present

C.2. WILDLIFE and BIOLOGICAL DIVERSITY

No evidence of Roosevelt elk, bear dens or raptor nests was identified during the SP field review. There is no Ungulate Winter Ranges (UWR), legal or draft Wildlife Habitat Areas or legal or draft Old Growth Management areas associated with Block 1.

Prescribed site conditions:

Forest canopy removal is expected to cause a temporary increase in the availability of forage species during early seral stages, thereby benefiting local wildlife populations. Adjacent stands with mature coniferous timber provide cover and travel corridors for wildlife.

Block 1 is in CWHmm2 (Coastal Western Hemlock, moist maritime) which the Sproat Lake Landscape Unit Plan has a 7% WTP Requirement.

Wildlife trees may provide habitat for nest cavities, nest platforms, dens, roosts, hunting perches, foraging sites, and display stations during breeding. It may improve the viewscape, become a future source of coarse woody debris, and provide structural diversity. In addition, this patch contains a component of live and dead wildlife trees and is representative of the forest structure, density, and species composition of the area to be harvested.

Characteristics and Species of the Wildlife Tree Patch:

The wildlife tree patch represents the forest structure, density, and species composition of the proposed cutblock. The WTP is designed to provide the best wildlife habitat and long-term forest cover for a diverse range of species. The existing stand within the area appears to be both wind-firm and of good wildlife value due to its proximity to adjacent leave areas.

ROOSEVELT ELK

Elk Management

Roosevelt elk (*Cervus elaphus roosevelti*) is a 'blue-listed' species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District.

Preferred habitat

The preferred habitat for Roosevelt elk includes wetlands, riparian areas, rock outcrops, vegetated slides and natural forage areas. Natural forage areas may include open grown stands and stands dominated by deciduous species. Elk are particularly subject to harassment in these areas because of their tendency to congregate in them. Cutblock design was influenced by the elk's requirement for visual screens; this was done by utilizing existing forest cover, topography and the placement of the TLA's.

Forage

Silviculture systems such as clear-cutting, seed tree, and shelter-wood are the most effective means of establishing forage areas. This must be tempered by the need to maintain such values as visual landscape quality, garner public acceptance of BCTS harvesting activities, and meet the objectives of the strategic plan for the BCTS.

BCTS will address the need to create elk forage by considering the following aspects during the development of Silviculture Prescriptions:

- Where visual landscape quality and habitat requirements can be met, a Silviculture system targeting greater than 60% Basal Area removal will be selected. Shelter-wood, seed tree and retention systems will be favoured
- Disturbed roadsides within cut-blocks will be re-vegetated using clover and grass mixes in an attempt to enhance forage production.
- Manual brushing will be the primary means of controlling competing vegetation in plantations. Herbicides will only be used where there is demonstrated evidence that manual treatments are not effective.
- Heavy slash accumulations will be piled or redistributed to increase travel through the cutblock by elk.

Cover

Elk require cover to meet their requirements for shelter and security. Forest vegetation and topographic features can be used to provide protection from predation or harassment, conserve energy during inclement weather conditions and as winter forage areas when heavy snowfall restricts travel. When formulating Silviculture Prescriptions, the following guidelines will be considered.

- Harvesting, using silviculture systems other than selection systems or commercial thinning, will not be carried out adjacent to an existing cut-over until 75% the regenerated stand has the capability of hiding 90% of a standing adult elk at a distance of 61 meters. Where required, MoE Habitat and MoF regional staff may be asked to assist in determining if stands have met this criterion.
- Leave areas to be effective for security cover must be greater than 61 meters in width.
- The design for cutblocks should ensure that no point within the cutblock is greater than 200 meters from security cover. When a cutblock is adjacent to a public right-of-way, the area associated with the right-of-way shall be considered in determining security cover requirements. This would apply to hydro, pipeline, and public highway rights-of-way, but not industrial roads unless a specific need has been identified.
- Harvested cutblocks will promptly be regenerated to a minimum of 500 crop trees per hectare. Shade tolerant species will be encouraged as a component of the new stand.

Black Bears

Black bear (*Ursus americanus vancouveri*) is a "yellow-listed" species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District.

Preferred habitat

Black bear dens are most often found in the hollow bases of cedar trees. They may also be found in downed hollow logs and holes under root wads. Bear dens can be identified by the presence of black bear hair, bite and claw marks on the tree log or stump and possibly the marking on adjacent trees. Evidence of vegetation inside the structure (used as bedding) and a lack of scats also indicate denning activity. Very small holes can be used to gain access to a den. Some bears use den holes well up the side of a tree, as they are extremely able climbers. Those dens found well up the side of a tree are safest for the bear and will be given highest consideration for protection. It appears that females den earlier and emerge later than males, pregnant females remaining in their den the longest.

Measures to Protect:

Measures to protect bear dens include ensuring engineering field crews are aware of bear denning requirements. In second growth areas particular attention will be given to old growth stumps, vets, wind-throw and downed logs. Where bear dens are identified during the planning phase of cutblock development, the objective will be to retain the den within a wind-firm wildlife tree patch or other retention area in consultation with MoE Habitat staff.

Protection of Bear Denning Sites

Unless agreement is reached with MoE Habitat Protection staff to the contrary or there is a need to address a public or worker safety issue, the following measures will be taken to protect denning sites.

- The objective will be to defer trees containing bear dens from harvest and to retain a wind-firm buffer around them. The objective will be to leave a 20 metre radius buffer around the den. In the event that a 20 metre buffer cannot be left or a tree containing a bear den must be felled (i.e. it is located at a critical control point on a road location or a danger tree), MoE Habitat staff will first be consulted;
- Material identified in previously harvested areas contributing to the structure of a bear den will not be disturbed in the course of salvage operations;
- Where den trees cannot be protected, the tree will be required to be high stumped and if necessary, a roof constructed over the stump.
- Where bear den trees are encountered during falling, prior to the tree being cut, the tree and its surrounding area will be left and MoE Habitat will be consulted so that an appropriate prescription can be formulated. It will be left to the faller's and licensee's judgement on how to deal with a bear den tree that is partially felled. Under no circumstances will a hazardous or unstable tree be allowed to remain standing;
- The objective will be to retain a 30 metre buffer around active bear dens until after the bear is out of the den, usually between November 1st and May 1st or until the bear leaves on its own;
- Locations of dens will be shown on 1:5,000 maps and forwarded to MoE Habitat. In areas where old growth is limited, more scrutiny will be used for areas where bear dens may be prevalent.

In some areas, the lack of large-diameter trees can limit bear denning opportunities. The following strategy will be implemented within the riparian management zones of joint-approval areas and SMZs under this FDGP:

1. Where blowdown trees are harvested within RMZs, the following retention measures shall apply to Douglas fir and cedar stems greater than 75 cm in diameter. Where safe to do so, a portion of the stem shall be retained between the root wad and the first cut, measuring a minimum of five (5) metres in length.
2. Where there are dead and down pieces of Douglas fir or cedar within the RMZ, all pieces equal to or greater than one (1) metre in diameter and equal to or greater than five (5) metres in length shall be reserved from harvest. The entire downed log within the RMZ is to be retained where it is five (5) metres or more in length.

<p>Cougar</p> <p>Cougar (<i>Puma concolor</i>) is a "yellow-listed" species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District. Home ranges for cougar varies from 1,300 to 5,200 ha's. The cougar has the most extensive range of any terrestrial mammal in the western hemisphere. Cougars utilize the same habitat as black-tailed deer, their primary food source. Cougars take cover in the form of vegetation, and irregular landscape is more important to cougar, than the particular vegetation type. The negative influences of logging on deer habitat and deer populations will affect cougar populations. Cougar dens are found primarily in old growth forests. This cut block is located within a rural / forest transition area and management strategies for cougar vary greatly by land owners.</p>	
<p>Black tailed deer</p> <p>Black tailed deer (<i>Odocoileus hemionos columbianus</i>) are not listed with the species or ecosystems at risk on the MoE Conservation Data Centre's tracking list for the South Island Forest District.</p> <p>There are no grand parented Ungulate Winter Ranges (UWR) or UWR proposed for confirmation in the vicinity of this cutblock. The harvesting of this cutblock will therefore not significantly impact deer with regard to winter range habitat. The harvested block will provide significant spring forage opportunities to the ungulates until the plantation reaches crown closure.</p>	
<p>C.3. SENSITIVE AREAS</p> <p>Prescribed site conditions: This block has been engineered to preserve sensitive sites and exposed rocks and shallow soil/rocky sites. Care must be taken when operating machinery to ensure adverse impacts to the soil do not occur.</p>	
<p>C.4. FISHERIES and STREAMS</p> <p>Prescribed site conditions: All in block streams are non-fish bearing. Care is to be taken when operating in areas adjacent to all stream and NCD's. Operations must adhere to the riparian management strategies outlined in Appendix 1.</p> <p>Block 1 is within the Sproat Lake Community Watershed and all internal streams are less than 1.5m width and are classified as S4 or NCD. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.</p>	
<p>C. 5. WATERSHEDS</p> <p>The proposed cutblock is in the Sproat Lake Community Watershed but not in any Fisheries Sensitive Watersheds.</p> <p>Prescribed site conditions: Care must be taken during harvesting activities to ensure that surface water is not adversely impacted by the proposed operations.</p>	
<p>C.6. RECREATION</p> <p>The current recreational use is estimated as moderate and consists of hunting, mushroom picking, hiking and wildlife viewing.</p> <p>Prescribed site conditions: Harvesting activities will not preclude future recreational opportunities, as visual, riparian and wildlife values will be maintained due to the high level of retention.</p> <p>Block 1 is in classified as 'Roaded Modified' for Recreation Opportunity and Moderate for Recreation Feature Inventory and Significance. The active roads TA560 and TA568 are the roads which will be used to haul Block 1 timber, they are also the access to the trail head of the Mount Adder Trail, during harvesting actions will be required to protect users of this recreational trail.</p>	
<p>C.7. VISUAL LANDSCAPE</p> <p>The proposed cutblocks Block 1 & Block 2 are within a scenic area with a Visual Quality Objective (VQO) of Partial Retention (PR), associated with the Pacific Rim Highway (Highway 4).</p> <p>The cutblocks were reviewed during the pre-harvest stage and the layout was engineered to ensure that the setting met the VQO requirements. A Visual Impact Assessment was completed for the Alberni Valley Community Forest by Silvacre Inc. in September 2015. The assessment used 4 separate View points and found the block to meet the Partial Retention VQO.</p> <p>Prescribed site conditions: The four viewpoints used are from points along the Pacific Rim Highway.</p>	
<p>C.8. CULTURAL HERITAGE</p> <p>This cutblock is located within the Hupacasath First Nation asserted traditional territory. No CMTs were identified during the field review or layout of this old growth stand.</p> <p>Prescribed site conditions: If any cultural heritage objects and/or CMT's are discovered during the CMT field review, an AIA should be conducted and the prescriptions should be reviewed prior to harvest or road construction. Should resources be identified during the active harvesting or road building, all activities must cease and Hupacasath First Nation must be informed of the type and location of suspected archaeological resources. Approval from Hupacasath First Nation is required prior to resuming operations.</p>	
<p>C. 9. OTHER RESOURCES</p> <p>The cutblock Block 1 is in a mineral tenure 1035101 – Snow 6 Pass - 295.03ha – held by Thomas Robert Paterson #248861</p> <p>This cutblock is in trap line tenure (#TR0107T407).</p> <p>This block is in Guide Outfitter Area AR84650000.</p>	

D. CRITICAL SITE CONDITIONS

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
SU All	To avoid rutting and understory disturbance, do not operate tracked machinery within 5 m of water channels. Cease road-building and yarding activities during and immediately following periods of heavy rainfall. Restrict the use of ground based operations to dry soils as to avoid adverse affects to the soils. Use sufficient puncheon where necessary.

SU All	Rainfall shutdown procedures will be in compliance with the "Rainfall Shutdown Criteria". Specifically, the calculated rainfall shutdown threshold is 100 mm in a 24 hour period.
SU All	No ground-based machinery is permitted within 5 m of any or NCD without written permission from a Tseshaht First Nation Engineer or at an authorized NCD.
SU All	Ground based operating procedures should be conducted as to avoid negative impacts to the soil. To avoid disturbance to sensitive soils, ground-based harvesting and forwarding should only occur in drier conditions.

E.1 Riparian Management Strategies - refer to Appendix 1.

E.2 Gully Management Strategies (Coast)

E.3 FOREST HEALTH MANAGEMENT STRATEGIES
MANAGEMENT STRATEGIES TO REDUCE FOREST HEALTH RISKS
<p>Biotic No incidences of hemlock dwarf mistletoe infection were identified during the SP fieldwork and no treatment is required.</p> <p>Abiotic – Wind Novafor Forest Services Ltd. has completed a Windthrow Report. The block does not require pruning. Moderate sized crowns with a species composition should allow the stand to withstand winds.</p>
E.4 COARSE WOODY DEBRIS MANAGEMENT STRATEGIES
Sound and rotting logs and stumps that provide habitat for plants, animals, and insects and are a source of organic matter for future soil development will be maintained through the retention of trees in the wildlife tree patch and timbered leave areas, and the distribution of logging residue across the cutblock. The current allowable limit for post harvest residue that qualifies as harvestable is 10m ³ /ha in second growth.
E.5 MANAGEMENT STRATEGIES TO MANAGE AND CONSERVE ARCHAEOLOGICAL SITES
In the event archaeological resources are encountered, suspend all harvest activities in the immediate vicinity and inform the engineer as soon as possible, of the location(s) and type of the archaeological resources and the nature of the disturbance.

F. SOIL CONSERVATION

F.1 SITE DISTURBANCE						
	HAZARD RATINGS <i>(if logging methods other than cable or aerial are proposed)</i>			SOIL CHARACTERISTICS <i>(if temporary access structures are proposed)</i>		
SU	SOIL COMPACTION	SOIL DISPLACEMENT	SOIL SURFACE EROSION	DEPTH TO UNFAVOURABLE SUBSOIL (cm)		TYPE OF UNFAVOURABLE SUBSOIL
				MIN	MAX	
A	Moderate	Moderate	Moderate	60	>60	Hardpan / Bedrock
B	Moderate	Moderate	High	50	>60	Hardpan / Bedrock
GROUND BASED OPERATING LIMITATIONS: Soil hazard ratings of moderate to high soil compaction, low to moderate soil displacement and low to moderate surface erosion necessitate specific operating procedures with regard to ground based machinery use, to avoid negative impacts to soil.						
SLOPE INSTABILITY INDICATORS: N/A						
SOIL DISTURBANCE LIMITS						
MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)				MAXIMUM EXTENT SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)		
25.0%				5.0%		
Maximum allowable soil disturbance within NAR for roadside work area.						
MAXIMUM PROPORTION OF TOTAL AREA UNDER PRESCRIPTION ALLOWED FOR PERMANENT ACCESS: 5.4%						
F.2 REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURES						
Maximum Allowable Time To Complete Rehabilitation (Measured From Completion of Harvest): The timing to rehabilitate the road will be concurrent with harvesting operations.						
F.3 MANAGEMENT STRATEGIES FOR TEMPORARY ACCESS STRUCTURES						
			FOR EXCAVATED AND BLADED TRAILS			
SU	GENERAL LOCATION:	SEDIMENT DELIVERY RISK <i>(in community watershed only)</i>	MAX ALLOWABLE HEIGHT OF CUTBANKS (m)	AVERAGE HEIGHT OF CUTBANKS (m)	EQUIPMENT TO BE USED (IF OTHER THAN EXCAVATOR)	
All	(list spur name & stations to be rehabilitated)	N/A	N/A	N/A	N/A	



G. SILVICULTURAL SYSTEMS

G.1 SILVICULTURAL SYSTEMS
Clear cut with Reserves.
WTP TREE SPECIES AND FUNCTION: The WTP provides wildlife values, and is designated as long-term reserve. The wildlife tree patch will also contribute to the overall retention. For a description of the wildlife tree patch refer to section C.2. Wildlife and Biological Diversity. Where feasible and safe to do so, snags have been included. The function of the leave area is to maintain lifeboats and enriching reestablished stands with structural features that would otherwise be absent, as well as contribute to the forest influence and add to the stand level biodiversity.
DESCRIPTION OF POST HARVEST STAND STRUCTURE and SITE CONDITION The post harvest stand structure will consist of a forest stand opening buffered and interspersed by timber leave areas. The TLAs and WTP will facilitate the retention of high biodiversity values with high levels of forest influence while maintaining the wildlife properties of the area.

H. STOCKING REQUIREMENTS

Free Growing Stocking Standards									
SU	Area (ha)	Regen Delay (yrs)	Preferred Species (P); Height (m)		Acceptable Species (A); Height (m)	Target WS P&A #/ha	Min. WS P&A (#/ha)	Min. WS P (#/ha)	Min. Interree Dist. (m)
A	7.3	6	Hw 1.25, Hm1.0, Cw 1.0, Fd 2.25, Yc 1.0		Ba 1.75	900	500	400	2.0
B	3.0	3	Fd 1.5, Hw 1.0, Cw 0.75		Hm 0.75, Yc 0.75	800	400	400	2.0
SS #	Site Series No.	Early FTG	Late FTG (yrs)	Max. Coniferous @ FTG (#/ha)	Post Spacing Density (max/min) (#/ha)	Height vs. Comp. (%)			
1028545	01(60) 05(40)	8	11	10,000	1,500/500	150			
1028547	03(90) 02(10)	8	11	10,000	1,400/400	150			
A MITD of 1.5m will be accepted throughout the rest of the NAR to accommodate poor plantability areas (e.g. minor slash accumulations, wet or rocky sections, etc) or to utilize the most suitable planting microsities.									
SU A: Plant Fdc (70%) and Cw (30%) SU B: Plant Fdc (100%)									

I. ADMINISTRATION

PRESCRIPTION PREPARED BY (RPF SIGNATURE AND SEAL):	
	
RPF Name (Printed) _____	
Date: _____ September 29, 2015 _____ RPF No: _3767_	
Original Prescription Date (if Amended): _____	
RPF Signature and Seal _____	

PRESCRIPTION REFERENCES:	
<p>LEGEND</p> <p><input checked="" type="checkbox"/> SP ATTACHMENT</p> <p><input checked="" type="checkbox"/> ON FILE</p> <p><input type="checkbox"/> NOT APPLICABLE</p> <p><input checked="" type="checkbox"/> 1:5,000 SP MAP</p> <p><input type="checkbox"/> First Nation Letter</p> <p><input type="checkbox"/> SP FIELD DATA CARDS (e.g.: site and soil classification, forest health evaluations, soil hazard assessment, treatment recommendations, slope instability indicators)</p> <p><input checked="" type="checkbox"/> ADDITIONAL SP COMMENTS</p> <p><input type="checkbox"/> COMMENTS FROM REFERRALS</p>	
<p>ASSESSMENTS REQUIRED PURSUANT TO THE FPC REGS:</p> <p><input checked="" type="checkbox"/> VISUAL IMPACT ASSESSMENT (Silvacare Inc.)</p> <p><input checked="" type="checkbox"/> RIPARIAN ASSESSMENT: FISH ASSESSMENT (Novafor)</p> <p><input checked="" type="checkbox"/> TERRAIN STABILITY ASSESSMENT (Geoforestry)</p> <p><input type="checkbox"/> GULLY ASSESSMENT (N/A)</p> <p><input type="checkbox"/> ARCHAEOLOGICAL IMPACT ASSESSMENT (N/A)</p> <p><input type="checkbox"/> PEST INCIDENCE SURVEY (N/A)</p> <p><input checked="" type="checkbox"/> BLOWDOWN HAZARD ASSESSMENT (Novafor)</p> <p><input type="checkbox"/> CULTURALLY MODIFIED TREE SURVEY (N/A)</p> <p><input type="checkbox"/> HABITAT DIVERSITY ASSESSMENT (N/A)</p> <p><input type="checkbox"/> GREEN UP INFORMATION (N/A)</p> <p><input checked="" type="checkbox"/> PERMANENT ACCESS CALCULATION SHEET (Novafor)</p>	<p>The procedures required by regulation have been followed for any assessment that is required under section 36.1 of the <i>Operational and Site Planning Regulation</i>. This Site Plan is consistent with the results and recommendations of any assessment required under section 36.1 of the <i>Operational and Site Planning Regulation</i>. While the assessments are not part of the prescription, the prescription is consistent with their results and recommendations.</p> <p>While I did not personally supervise the work (engineering, layout, traversing or assessments, all work has been tendered by the MoF to well qualified contractors. The work appears to fulfill the standards acceptable of a seal by a Registered Professional Forester.</p>

APPENDIX 1

E.1 RIPARIAN MANAGEMENT STRATEGIES													
Stream, Wetland or Lake	Riparian Class	Gully (Y/N)	Debris Movement Potential*	Average Residual BA (m ² /ha)	MANAGEMENT STRATEGIES FOR RIPARIAN OR LAKESHORE MANAGEMENT ZONES (RMZ)								
					Stream Class	RRZ (m)	RMZ (m)	Wetlands	RRZ (m)	RMZ (m)	Lakes	RRZ (m)	RMZ (m)
Fine	Twigs, needles, leaves				S1	50	20	W1	10	40	L1	10	0
V. Small	< 3' x 6"				S2	30	20	W2	10	20	L2	10	20
Small	< 12' x 6"				S3	20	20	W3	0	30	L3	0	30
Large	>12' x 6"				S4	0	30	W4	0	30	L4	0	30
					S5	0	30	W5	10	40			
					S6	0	20						
Definitions	NAR	Net Area To Be Reforested.											
	NCD	Non-classified drainage.											
	NCW	Non-classified wetland.											
	FA/BL	Fall Away. Timber is to be felled away. Leaners and danger trees that cannot be safely felled away shall be felled and left bridging the stream.											
	FA	Fall Away. Timber is to be felled away.											
	YA	Yard Away. Timber is to be yarded away. In order to improve deflection, cables are allowed to be suspended above the stream. Non-fish streams: merchantable leaners and danger trees which have been felled across the stream will, by necessity, be yarded across the stream. Fish streams: leaners and danger trees which have been felled across the stream will be left unless detrimental to the stream.											
	HH	100% Harvested (no retention of saplings).											
	RS	Retain Saplings within 5m of the stream channel (non-merchantable).											
	FE	Feathered Edge.											
	BPT	Blue Painted Trees (selected for removal). Faller's choice of alternate tree if unable to fall painted tree safely.											
	NHZ	No Harvest Zone. Trees are to be felled away from the zone. Safe trees that cannot be felled away are to be left as part of the NHZ. Danger trees must be felled and will be left for future LWD or removed if detrimental to the stream.											
	FX	Fall Across.											
	YX	Yard Across. Stream bank protection measure: Maximize deflection to minimize stream bank disturbance.											
	YV	Yard Vertically.											
	CCL	Clean any introduced debris concurrent with logging.											
	MFZ	Machine Free Zone.											
	MC	Machine Clean transportable introduced large woody debris (LWD) and accumulations concurrent with yarding.											
	HC	Hand Clean introduced transportable debris.											
	AHC	Assess for Hand Cleaning, post-harvest, based on stream transport capability. Stream cleaning will be done if necessary.											
	NC	No stream cleaning required.											
<p>Where prescribed, streams will be cleaned when a safe working distance has been established. Fine material will not be removed as part of any debris management strategy unless otherwise specified.</p> <p>Do not remove stable natural material that is in a stream or that is embedded in a stream bank, or a root system that contributes to stream bank stability and fish habitat during harvesting or stream cleaning (except when constructing or modifying an authorized stream crossing).</p> <p>Temporary stream crossing areas may be designated and must be identified on the SP Map. Within this designated area, no more than three crossings of the stream may be made at any one location.</p> <p>Reserve zone and management zone widths are provided as slope distances.</p> <p>Note: The stream (riparian) prescriptions pertain to the portion of the stream within the harvest area. Where the stream lies outside the harvest area and a portion of the RMA is within the harvest area the prescription will be HH, FA, YA, by necessity. **The basal area retention values provided (0) pertain to the portion of the RMZ that is within the harvest area. In these areas, all merchantable stems will be harvested leaving a residual basal area of 0m²/ha. Where the RMZ falls within retention areas (e.g. TLA, WTP), or is completely outside the harvest area, no harvesting will occur; therefore, 100% of the pre-harvest basal area will be retained. Where partial cutting (e.g. feathering) is prescribed within the RMZ the actual range of residual basal area for that section will be provided. When this document is signed, the signing forester is certifying that the RMP is consistent with the approved FDP and the riparian management strategies contained within.</p>													
E.2 GULLY MANAGEMENT STRATEGIES (COAST)													
Stream/Gully No.	Downstream Impact Potential	Upstream Debris Flow Potential	Water Transport Potential	Debris Flow Initiation Potential	Management Strategy Options								
STREAM 1 IS A GULLY LOCATED OUTSIDE OF THE HARVEST AREA OF BLOCK 1.													
RIPARIAN MANAGEMENT ADMINISTRATION													
RIPARIAN MANAGEMENT STRATEGIES PREPARED BY: Novafor Forest Services						RIPARIAN MANAGEMENT STRATEGIES REVIEWED BY: 							

**Alberni Valley Community Forest
K2D
Region: West Coast Natural Resource Region / South Island Natural Resource District
STREAM DATA FOR CUTBLOCK 164211**

Streams Data Sheet									
Water Course #	Riparian Class	Gully (Y/N)	Ave. Gradient (%)	Ave. Width (m)	Streambed Material	L.W.D. Dependency (L/M/H)	Debris Transport Potential (L/M/H)	Stream Sidewall Gradient (%)	Bank Full height (m)
1	S2	Y	40%	10.0	RBCG	M	M-H	50%	1.5
1A	S3	N	50%	4.5	CG	L	M	30%	0.8
1B	S4	N	40%	0.3	CG	L	L	30%	0.05
1C	S4	N	35%	0.3	CG	L	L-M	30%	0.05
2	S4	N	50%	0.3	CGO	L	L-M	25%	0.05
3	S4	N	50%	0.5	CGO	L	L-M	25%	0.05
4	S4	N	50%	0.5	CGO	L	L-M	25%	0.05
4A	S4	N	40%	0.3	CGO	L	L	20%	0.05
5	S4	N	15%	1.0	CGO	L	L	20%	0.1
5A	S4	N	35%	0.5	CGO	L	L-M	20%	0.05
5B	S4	N	50%	1.4	RBCG	L	M	30%	0.15
5C	S4	N	45%	1.5	CG	L	M	30%	0.15
6	S4	N	45%	1.4	RBCG	L	M	30%	0.15
6A	S4	N	50%	0.8	CGO	L	L-M	25%	0.1
6B	S4	N	35%	0.4	CGO	L	L-M	25%	0.05
6C	S4	N	50%	0.5	CGO	L	L-M	30%	0.05

*LWD Dependency is a function of the number of working pieces per 20m of stream length. Low: <=1, Moderate: 2-4, High:> =5.
Streambed material: O=organics (decomposed plant and woody material); F=finnes (<2.0mm); G=gravel (2.0mm to 65.0mm); C=cobble (65mm to 25cm); B=boulder (>25cm); R=Bedrock
Stream sidewall gradient: The representative change in elevation from the top of the stream bank to a topographic break perpendicular to a stream.
Bank: The rising ground bordering a stream channel. Banks are called right or left as viewed facing in the direction of the flow.
Bankfull height: The height at which a stream first overflows its natural banks ("Scour depth" on Stream Assessment Cards)

SU	Stocking Standards	BEC Zone	Subzone	Variant	Site Series		Area (ha)
					Dominant (SS)	Related (SS-%)	
A	1028545	CWH	mm	2	01(60)	05(40)	7.3
B	1028547	CWH	mm	2	03(90)	02(10)	3.1
Net Area to be Reforested							10.4
Timbered Leave Areas							
Wildlife Tree Patch							0.8
Permanent Access Structures (Roads)							0.8

Total Area Under Prescription: **12.0**

HAZARD ALERT

1) A rock fall hazard has been identified and workers must be made aware of this.

- Hiking Trail
- Alberni Valley Community Forest
- OGMA
- Recent Harvest
- Heli Dropzone
- Excluded Areas

Alberni Valley Community Forest

SILVICULTURE INSTRUCTIONS MAP

Cutblock: 1

Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates: Lat: 49° 17' 6"
 Long: 125° 19' 52"
 Author: D. Brown
 Map Date: September-29-15

Scale: N
 1:5,000

Mapsheet: 92F024
 Datum: NAD83

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splittine
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Recce Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

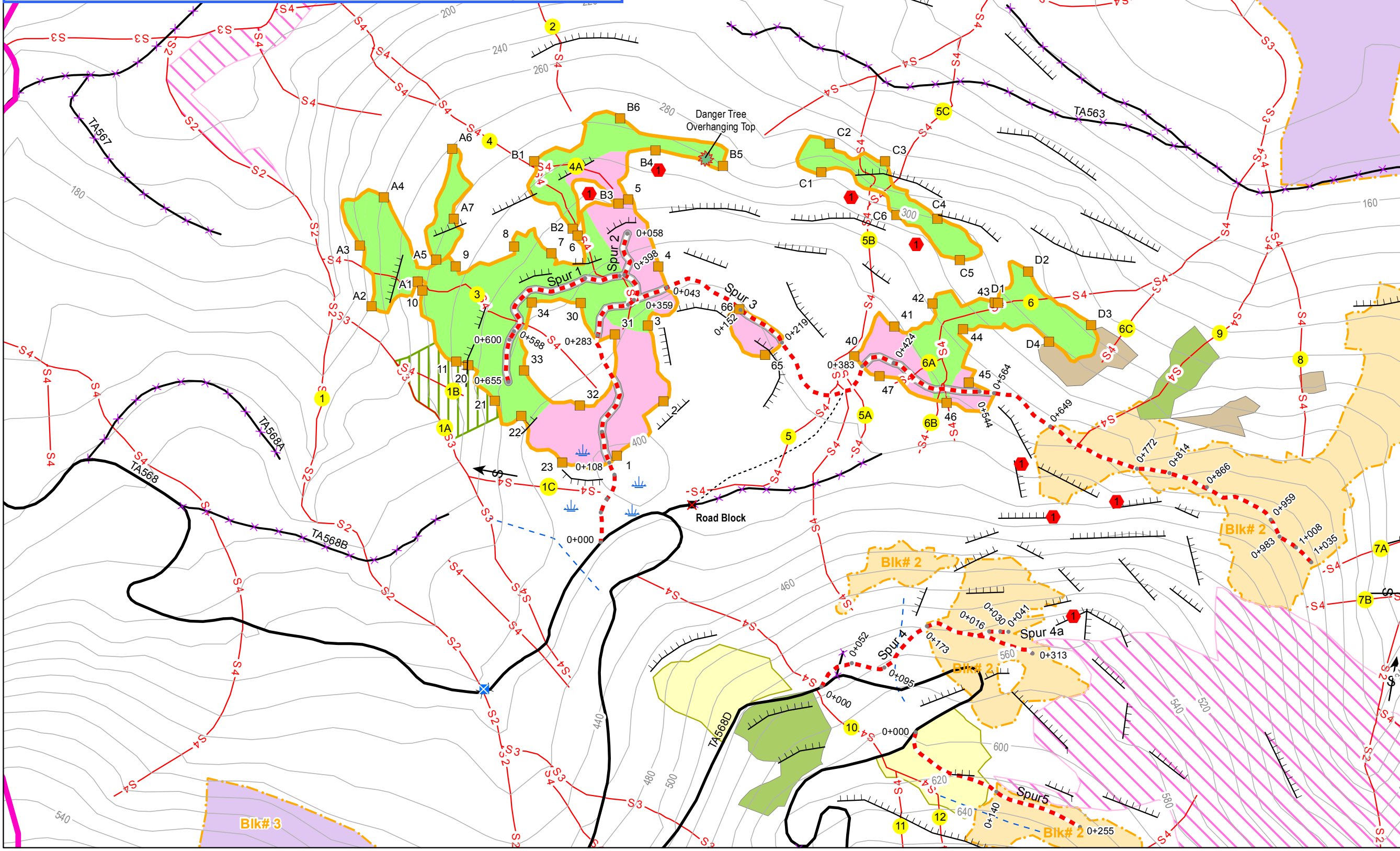
- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area
- Adjacent WTP
- Adjacent TLA

Silviculture Instructions

- SU A
- SU B
- SU C
- SU D
- SU E
- SU F
- SU G
- Sensitive Soils



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Road Permit:

Cutting Permit:

MAP 1 of 1

Alberni Valley Community Forest K2D

Region: West Coast Natural Resource Region / South Island Natural Resource District SITE PLAN SUPPORT DOCUMENT

A. TENURE IDENTIFICATION

LICENCE NO.: K2D	LICENSEE NAME: Alberni Valley Community Forest	LOCATION: Taylor River	Opening Number: Block 2	Harvested (ha): 11.6
TOTAL AREA UNDER PRESCRIPTION (ha): 12.5		CUTTING PERMIT:	MAPSHEET: 092F024	<input checked="" type="checkbox"/> CROWN <input type="checkbox"/> PRIVATE
OPERATING AREA: South Island Natural Resource District	ORIGINAL ECOLOGICAL FIELD WORK and REVIEW (DATE): NovaFor Forest Services Ltd.		ENGINEERED BY: NovaFor Forest Services Ltd.	

B. AREA SUMMARY AND ECOLOGICAL INFORMATION

AREA OF NO PLANNED REFORESTATION (ha) (NPR)									
PERMANENT ACCESS	ROCK	WATER	SWAMP	OTHER NP	NC>4 ha	RESERVES WITH NO MODIFICATIONS:	IMMATURE	OTHER (WTP)	TOTAL NPR AREA
0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.6
NET AREA TO BE REFORESTED INCLUDING RESERVES WITH MODIFICATIONS (ha)									
SU	SU AREA DESCRIPTION								NET AREA TO BE REFORESTED:
A	<p>BEC: CWHmm2 01 (60%) 05 (40%) 3-4 / C-D - Eco Unit #1</p> <p>SU A occurs along the mid to lower slope position, the SU is comprised of the dominant 01 site series and large areas of the 05 site series. The forest consists of old growth Douglas-fir, Red Cedar, Hemlock as well as some scattered Cypress and Yew. Soils are Silty Loam texture over till, 50-70cm in depth with +60% coarse fragment content. Majority of area is moderately well drained. Vegetation cover consists of salal, vaccinium, bunchberry, vanilla leaf, foamflower and pipe-cleaner moss. A MOR humus form of 3-5cm overlies the soils. Elevation ranges from 220-660m. There are moderate 40% DMH levels. The aspect is of the block is to the North. The terrain has a post-harvest landslide potential of Very Low to Low.</p> <p>Manage SU A for Douglas-Fir as the leading species with a component of Red Cedar in the wetter / richer sites, especially in low lying areas.</p>								9.7
B	<p>BEC: CWHmm2 03(90%) 02(10%) 1-2 / B-C – Eco Unit #2</p> <p>SU B occurs along the mid to lower slope position, the SU is comprised of the dominant 03 site series with small pockets of the 02 site series. The forest consists of old growth Douglas-fir, Red Cedar, Hemlock as well as some scattered Cypress and Yew. Soils are Silty Loam texture over till, 50-70cm in depth with +60% coarse fragment content. Majority of area is moderately well drained. Vegetation cover consists of salal, vaccinium, bunchberry and some sword fern. A MOR humus form of 3-5cm overlies the soils. Elevation ranges from 220-660m. There are moderate 40% DMH levels. The aspect is of the block is to the North. The terrain has a post-harvest landslide potential of Very Low to Low.</p> <p>Manage SU B for Douglas-Fir as the species</p>								1.2
TOTAL NET AREA TO BE REFORESTED:								10.9	
TOTAL AREA UNDER PRESCRIPTION:								12.5	

C. OBJECTIVES

<p>C.1. LONG TERM MANAGEMENT OBJECTIVES</p> <p>5.1.1a - Old Growth Management Areas - Maintenance or recruitment of old growth forests. The AVCFC will not carry out road construction or timber harvesting within Old growth management areas delineated as part of the Sproat Lake Landscape Unit Plan established July 18, 2005 except under the following circumstances:</p> <ol style="list-style-type: none"> to accommodate operational requirements for timber harvesting and road or bridge construction, boundaries of OGMA's that area 10 ha or greater in size may be adjusted provided that: <ol style="list-style-type: none"> the boundary adjustment does not affect more than 10% of the area of the OGMA road or bridge construction is required to access resource values beyond or adjacent to the OGMA and no other practicable option exists, and Suitable replacement OGMA is identified. Timber harvesting to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's Salvage provided that it is done in a manner that retains as many old growth forest attributes as practicable. Removal of danger trees, or brushing and clearing within the right-of-way on existing roads for safety purposes, Felling of trees for guy-line clearance, tail-hold anchor trees, or danger trees. Construction of rock quarries and gravel pits Intrusions that affect an OGMA by less than 0.5ha in total <p>The development of block 2 will not infringe on any Old Growth Management Areas.</p>
<p>5.1.1b - Wildlife Tree Retention - Maintain stand-level structural diversity, by retaining wildlife tree patches (WTPs) Wildlife Tree Retention by BEC Subzone in the Sproat Lake Landscape Unit</p> <ol style="list-style-type: none"> WTPs will be distributed across the BEC subzone WTPs are located within or immediately adjacent to a cutblock when designated at the operational site plan level No timber harvesting, is allowed to occur within a WTP except <ol style="list-style-type: none"> Salvage of wind-thrown timber within WTP's where wind throw impacts 25-50% of dominant or co-dominant stems Salvage of wind-thrown timber and harvesting or remaining stems within WTPs where wind throw exceeds 50% of the dominant or co-dominant stems. Where forest health issues pose a significant threat to areas outside the WTP Where salvage harvesting is planned, suitable replacement WTP of at least equivalent quality will be identified concurrently to achieve the retention target. WTPs include, if present, remnant old growth patches and live or dead veteran trees (except danger trees) WTPs include representative larger trees (DBH > average operational cruise) for the stand and any moderate to high value wildlife trees if available (except danger trees) BEC subzones and variants will be determined by operational site plan information WTPs with a high likelihood of wind throw may be pruned or topped to maintain the integrity of the WTP. <p>Block 2 is in CWHmm2 (Coastal Western Hemlock, moist maritime) which the Sproat Lake Landscape Unit Plan has a 7% WTP Requirement.</p>
<p>5.1.1c - Special Management Zone 17 - Sustain forest ecosystem structure and function within the portion of Special Management Zone 17 located in the Sproat Lake Landscape Unit. Retaining mature and old forests (i.e. >80 years of age) on an area covering at least 25 per cent of the total forested area of the SMZ portion located within the landscape unit. The Alberni Valley Community Forest has >25% of the mature and old forests retained. Portions of Block 2 are located adjacent to Old Growth Management Area (OGMA) NAN_splk_54.</p>
<p>5.1.2a - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Creating or maintaining stand structures and forest attributes associated with mature and old forests. The target for mature seral forest should range from 25% to 33% of the forested area of each SMZ. The Alberni Valley Community Forest has >25% of the mature seral forests retained. Portions of Block 2 are located adjacent to Old Growth Management Area (OGMA) NAN_splk_54.</p>
<p>5.1.2b - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Retaining within cut blocks structural forest attributes and elements with important biodiversity functions Design cut-blocks in a manner that is consistent with retaining structural forest attributes and elements with important biodiversity functions that exist in: wildlife tree patches, no-work zones, riparian management areas, other potential leave areas Structural forest attributes with important biodiversity functions includes but is not limited to snags, wildlife trees and downed logs. Block 2 is designed under the retention silviculture system to retained timber surrounding riparian features, treed rock bluffs.</p>
<p>5.1.2c - VILUP HLP Objective 1 – Sustain forest ecosystem structure and function in SMZ 17 - Applying a variety of silvicultural systems, patch size and patch shapes across the zone subject to maximum cutblock sizes. Design cutblocks in a manner that is consistent with:</p> <ol style="list-style-type: none"> Establishing a variety of silvicultural systems and patch sizes and shapes across the SMZ, and For shelter-wood, selection, or retention silviculture systems <ol style="list-style-type: none"> Maintaining varying levels of retention within the cutblock based on a consideration of the site-specific site conditions and forest values, and Limiting the Net Area to be Reforested (NAR) to 40 hectares For clear-cut, clear-cut with reserves or seed tree silvicultural systems, limiting the NAR to 5 hectares. <p>Carry out forest practices only if the forest practices are consistent with the design for the cutblock. Block 2 has been designed to meet retention requirements, retention silviculture system requirements and is less than 40 hectares of Net area to be Reforested.</p>
<p>5.2.1d - VILUP HLP Objective 2 - Damaged timber If, within areas designated as SMZ 17, timber harvesting is to be carried out in a cutblock to recover timber damaged by fire, insects, wind or other similar events, the AVCFC may design the cutblock to have a NAR that exceeds</p> <ol style="list-style-type: none"> 40 hectares for shelter-wood, selection, or retention silviculture systems 5 hectares for clearcut, clearcut with reserves or seed tree silviculture systems <p>Provided that the design incorporates structural characteristics of natural disturbances into the cutblock where safe and practicable. Block 2 is designed to incorporate mature timber and does not include significant damaged timber areas.</p>
<p>5.2.1 – FPPR s.5 - Objectives set by government – Soils Without unduly reducing the supply of timber from British Columbia forests, to conserve the productivity and the hydrologic function of soils. The AVCFC will comply with soil disturbance limits and permanent access structure limits. The limit for permanent access structures (built or used by the agreement holder) of 7% of the cutblock will not be exceeded. Helicopter Drop Zones will be rehabilitated and logging debris will be piled and burned.</p>

5.2.2 – FPPR s.7 - Objectives set by government – Wildlife

Without unduly reducing the supply of timber from British Columbia forests, to conserve sufficient wildlife habitat in terms of the amount of area, distribution of areas and attributes of those areas, for the survival of species at risk, the survival of regionally important wildlife, and the winter survival of specified ungulate species.

Identified species at risk include the Marble Murrelet, Queen Charlotte Goshawk and Scoulers Courtydalis. The AVCFC will carry out or authorize timber harvesting or road construction in a manner that retains the habitat specified in the Marbled Murrelet notice (December 2004).

Block 2 is a Douglas-Fir Western Hemlock old growth stand and does not intersect any Marbled Murrelet Habitat identified in the 'Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the South Island Forest District for Marbled Murrelet (December 21, 2004)'. Marbled Murrelet class 1, 2 & 3 habitat is maintained within the non-contributing landbase / legal old growth management areas.

5.2.3 – FPPR s.8 - Objectives set by government - Water, fish, wildlife and biodiversity within riparian areas.

Without unduly reducing the supply of timber from British Columbia forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

All streams within block 2 are classified as S4 due to being less than 1.5m width and are located within the Sproat Lake Community Watershed and are defaulted to fish. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.

5.2.4 – FPPR s.8.2 - Objectives set by government - Community Watersheds

To prevent the cumulative hydrological effects of primary forest activities within the community watershed resulting in a material adverse impact on the quantity of waters or the timing of the flow of waters, or the water having a material adverse impact on human health.

The AVCFC will design cutblocks and roads in a manner that is consistent with a cumulative low to moderate risk threshold for material adverse hydrological effects, in accordance with the resulting CWAP indicator scores. With regards to roads and harvesting:

- 1) Plan to minimize road requirements
- 2) Plan for temporary rather than permanent roads where there is a high likelihood of erosion into streams
- 3) Carry out frequent road inspections and minimize delays in road repairs.
- 4) Minimize soil disturbance during harvesting
- 5) Install adequate culverts to ensure natural water drainage is maintained
- 6) Revegetate right-of-ways, cut slopes, road surfaces, and landing where revegetation will reduce soil erosion into watercourses
- 7) Implement only those silvicultural practices that have negligible impacts on water quality
- 8) Plan partial cut or retention silviculture systems to focus retention in riparian areas
- 9) Adopt Western Forest Product's terrain management code of practice. (no longer in effect)
- 10) Consult and cooperate with local groups promoting water quality.

Block 2 is within the Sproat Lake Community Watershed and all internal streams are less than 1.5m width and are classified as S4 or NCD. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.

Road Requirements are minimized and as the roads do not access future harvest areas the roads can all be treated as temporary roads.

5.2.5 – FPPR s.9 - Objectives set by government - Wildlife and Biodiversity – landscape level.

Without unduly reducing the supply of timber from British Columbia forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.

The AVCFC will adopt FPPR Sections 64 (Cutblock size) and 65 (Cutblock adjacency). Cutblocks in Special Management Zone 17 will have a net area to be reforested in accordance with the VILUP HLP Order Objective 1 (c) or HLP Order Objective 2.

All blocks adjacent to block 2 have reached 3m green up and block 1 does not exceed cutblock size restriction.

5.2.6 – FPPR s.9.1 - Objectives set by government - Wildlife and Biodiversity – stand level.

Without unduly reducing the supply of timber from British Columbia forests, to retain wildlife trees.

The AVCFC adopts, Sections 66 (wildlife tree retention) and 67 (restriction on harvesting) of the FPPR. Where wildlife tree retention targets are specified in an approved landscape unit plan, wildlife tree retention will meet or exceed targets specified in approved landscape unit plans. Buffer and protect active or recently used bear dens where they are located during cutblock layouts.

Block 2 is in CWHmm2 in the Sproat Lake Landscape Unit Plan which requires 7% Wildlife Tree Patches associated with the block.

5.2.7 – FPPR s.10 - Objectives set by government - Cultural Heritage Resources

Conserve, or, if necessary, protect cultural heritage resources that are: the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and not regulated under the Heritage Conservations Act.

The AVCFC, when designing a cutblock or road will, prior to harvest or construction, identify

- a) The portion of the area occupied by a special cultural heritage resource.
- b) The nature of the special cultural heritage resource
- c) Whether the special cultural heritage resource is to be protected or conserved
- d) What constraints, if any, are to apply to the forest practices carried out on the area.

For each special cultural heritage resource that has been identified for protection, the AVCFC will carry a forest practice only to the extent that the forest practice does not damage or render ineffective the special cultural heritage resource. The forest practice will be done to be consistent with the constraints, if any, specified in the design for the cutblock or road.

If, within a cutblock or road where the AVCFC is carrying out harvesting or road construction, a previously unidentified special cultural heritage resource is encountered, operations within the cutblock or road area to cease or be modified to the extent necessary to protect the special cultural heritage resource.

The AVCFC recognizes that mature western red cedar and cypress located within the identified FDU are special cultural heritage resources to the Hupacasath and Tseshaht First Nations. These first nations will be provided with a copy of the most recent western red cedar inventory for the applicable area completed by the South Island Forest District as well as any update's to the inventory.

Western red cedar and cypress, where ecologically suited, will be planted on areas referred to in Section 29 (1) of the Heritage Conservation Act in accordance with the stocking standards specified in the FSP.

Where a strategy for monumental western red cedar or cypress has been developed and agreed upon by the AVCFC, the applicable First Nation and the Ministry of Natural Resource Operations, the AVCFC will assist in implementation of the strategy.

The AVCFC recognizes that deciduous species such as bitter cherry, yew and arbutus located within the identified FDU may be special cultural heritage resources to the Hupacasath and Tseshaht First Nations. The AVCFC will ensure that, where one or more of these species is identified to the AVCFC as a special cultural heritage resource by a first nation, and where it is present in an area referred to in section 29 (1) of the Heritage Conservation Act, a component of these species will be maintained within the section 29 (1) area, provided that it can be done in accordance with the stocking standards specified in the FSP.

No "potentially affected cultural heritage resource" has been identified in or adjacent to this cutblock. The block does contain old growth cedar and cypress as well as some western yew.

5.3.1 - Objectives Established under the GAR - Visual Quality Objectives

Ensure that each cutblock or road within the FDU is designed in a manner such that the altered forest landscape for the applicable scenic area will be consistent with the applicable visual quality objective, and carry out forest practices only if the forest practices area consistent with the design for the cutblock or road referred.

The AVCFC will ensure that each cutblock or road within the FDU is designed in a manner such that the altered forest landscape for the applicable scenic area will be consistent with the applicable visual quality objective, and carry out forest practices only if the forest practices are consistent with the design for the cutblock or road.

Block 2 is located within a Partial Retention VQO polygon and is designed to meet the VQO through the use of buffers, retention patches and wildlife tree patches. Block 2 is within VQO polygon 2298 as per GAR order Visual Quality Objectives for the South Island Forest District from District Manger December 2005.

7.0 - Measures to Prevent the Introduction and spread of Invasive Plants - Invasive Plants

AVCFC will confirm known locations of priority invasive plants within the plan area using the most current recognized provincial database. The AVCFC will distribute information to staff and contractors on priority invasive plants that exist or threaten to establish within the plan area and direct staff to monitor and report new incidences of priority invasive plants and enter them into most current recognized provincial database.

Persons carrying out timber harvesting and / or road building activities area to inspect logging and road building equipment for invasive shrug vegetation, and remove from equipment prior to transporting equipment from an area of a known occurrence of the invasive plant to a remote location or site where the invasive plant is currently present

C.2. WILDLIFE and BIOLOGICAL DIVERSITY

No evidence of Roosevelt elk, bear dens or raptor nests was identified during the SP field review. There is no Ungulate Winter Ranges (UWR), legal or draft Wildlife Habitat Areas or legal or draft Old Growth Management areas associated with Block 1.

Prescribed site conditions:

Forest canopy removal is expected to cause a temporary increase in the availability of forage species during early seral stages, thereby benefiting local wildlife populations. Adjacent stands with mature coniferous timber provide cover and travel corridors for wildlife.

Block 2 is in CWHmm2 (Coastal Western Hemlock, moist maritime) which the Sproat Lake Landscape Unit Plan has a 7% WTP Requirement.

Wildlife trees may provide habitat for nest cavities, nest platforms, dens, roosts, hunting perches, foraging sites, and display stations during breeding. It may improve the viewscape, become a future source of coarse woody debris, and provide structural diversity. In addition, this patch contains a component of live and dead wildlife trees and is representative of the forest structure, density, and species composition of the area to be harvested.

Characteristics and Species of the Wildlife Tree Patch:

The wildlife tree patch represents the forest structure, density, and species composition of the proposed cutblock. The WTP is designed to provide the best wildlife habitat and long-term forest cover for a diverse range of species. The existing stand within the area appears to be both windfirm and of good wildlife value due to its proximity to adjacent leave areas.

ROOSEVELT ELK

Elk Management

Roosevelt elk (*Cervus elaphus roosevelti*) is a 'blue-listed' species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District.

Preferred habitat

The preferred habitat for Roosevelt elk includes wetlands, riparian areas, rock outcrops, vegetated slides and natural forage areas. Natural forage areas may include open grown stands and stands dominated by deciduous species. Elk are particularly subject to harassment in these areas because of their tendency to congregate in them. Cutblock design was influenced by the elk's requirement for visual screens; this was done by utilizing existing forest cover, topography and the placement of the TLA's.

Forage

Silviculture systems such as clear-cutting, seed tree, and shelterwood are the most effective means of establishing forage areas. This must be tempered by the need to maintain such values as visual landscape quality, garner public acceptance of BCTS harvesting activities, and meet the objectives of the strategic plan for the BCTS. BCTS will address the need to create elk forage by considering the following aspects during the development of Silviculture Prescriptions:

- Where visual landscape quality and habitat requirements can be met, a Silviculture system targeting greater than 60% Basal Area removal will be selected. Shelterwood, seed tree and retention systems will be favoured
- Disturbed roadsides within cut-blocks will be re-vegetated using clover and grass mixes in an attempt to enhance forage production.
- Manual brushing will be the primary means of controlling competing vegetation in plantations. Herbicides will only be used where there is demonstrated evidence that manual treatments are not effective.
- Heavy slash accumulations will be piled or redistributed to increase travel through the cutblock by elk.

Cover

Elk require cover to meet their requirements for shelter and security. Forest vegetation and topographic features can be used to provide protection from predation or harassment, conserve energy during inclement weather conditions and as winter forage areas when heavy snowfall restricts travel. When formulating Silviculture Prescriptions, the following guidelines will be considered.

- Harvesting, using silviculture systems other than selection systems or commercial thinning, will not be carried out adjacent to an existing cut-over until 75% the regenerated stand has the capability of hiding 90% of a standing adult elk at a distance of 61 meters. Where required, MoE Habitat and MoF regional staff may be asked to assist in determining if stands have met this criterion.
- Leave areas to be effective for security cover must be greater than 61 meters in width.
- The design for cutblocks should ensure that no point within the cutblock is greater than 200 meters from security cover. When a cutblock is adjacent to a public right-of-way, the area associated with the right-of-way shall be considered in determining security cover requirements. This would apply to hydro, pipeline, and public highway rights-of-way, but not industrial roads unless a specific need has been identified.
- Harvested cutblocks will promptly be regenerated to a minimum of 500 crop trees per hectare. Shade tolerant species will be encouraged as a component of the new stand.

Black Bears

Black bear (*Ursus americanus vancouveri*) is a "yellow-listed" species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District.

Preferred habitat

Black bear dens are most often found in the hollow bases of cedar trees. They may also be found in downed hollow logs and holes under root wads. Bear dens can be identified by the presence of black bear hair, bite and claw marks on the tree log or stump and possibly the marking on adjacent trees. Evidence of vegetation inside the structure (used as bedding) and a lack of scats also indicate denning activity. Very small holes can be used to gain access to a den. Some bears use den holes well up the side of a tree, as they are extremely able climbers. Those dens found well up the side of a tree are safest for the bear and will be given highest consideration for protection. It appears that females den earlier and emerge later than males, pregnant females remaining in their den the longest.

Measures to Protect:

Measures to protect bear dens include ensuring engineering field crews are aware of bear denning requirements. In second growth areas particular attention will be given to old growth stumps, vets, windthrow and downed logs. Where bear dens are identified during the planning phase of cutblock development, the objective will be to retain the den within a windfirm wildlife tree patch or other retention area in consultation with MoE Habitat staff.

Protection of Bear Denning Sites

Unless agreement is reached with MoE Habitat Protection staff to the contrary or there is a need to address a public or worker safety issue, the following measures will be taken to protect denning sites.

- The objective will be to defer trees containing bear dens from harvest and to retain a windfirm buffer around them. The objective will be to leave a 20 metre radius buffer around the den. In the event that a 20 metre buffer cannot be left or a tree containing a bear den must be felled (i.e. it is located at a critical control point on a road location or a danger tree), MoE Habitat staff will first be consulted;
- Material identified in previously harvested areas contributing to the structure of a bear den will not be disturbed in the course of salvage operations;
- Where den trees cannot be protected, the tree will be required to be high stumped and if necessary, a roof constructed over the stump.
- Where bear den trees are encountered during falling, prior to the tree being cut, the tree and its surrounding area will be left and MoE Habitat will be consulted so that an appropriate prescription can be formulated. It will be left to the faller's and licensee's judgement on how to deal with a bear den tree that is partially felled. Under no circumstances will a hazardous or unstable tree be allowed to remain standing;
- The objective will be to retain a 30 metre buffer around active bear dens until after the bear is out of the den, usually between November 1st and May 1st or until the bear leaves on its own;
- Locations of dens will be shown on 1:5,000 maps and forwarded to MoE Habitat. In areas where old growth is limited, more scrutiny will be used for areas where bear dens may be prevalent.

In some areas, the lack of large-diameter trees can limit bear denning opportunities. The following strategy will be implemented within the riparian management zones of joint-approval areas and SMZs under this FDGP:

1. Where blowdown trees are harvested within RMZs, the following retention measures shall apply to Douglas fir and cedar stems greater than 75 cm in diameter. Where safe to do so, a portion of the stem shall be retained between the root wad and the first cut, measuring a minimum of five (5) metres in length.
2. Where there are dead and down pieces of Douglas fir or cedar within the RMZ, all pieces equal to or greater than one (1) metre in diameter and equal to or greater than five (5) metres in length shall be reserved from harvest. The entire downed log within the RMZ is to be retained where it is five (5) metres or more in length.

<p>Cougar</p> <p>Cougar (<i>Puma concolor</i>) is a "yellow-listed" species according to the MoE Conservation Data Centre's tracking list for the South Island Forest District. Home ranges for cougar varies from 1,300 to 5,200 ha's. The cougar has the most extensive range of any terrestrial mammal in the western hemisphere. Cougars utilize the same habitat as black-tailed deer, their primary food source. Cougars take cover in the form of vegetation, and irregular landscape is more important to cougar, than the particular vegetation type. The negative influences of logging on deer habitat and deer populations will affect cougar populations. Cougar dens are found primarily in old growth forests. This cut block is located within a rural / forest transition area and management strategies for cougar vary greatly by land owners.</p>	
<p>Black tailed deer</p> <p>Black tailed deer (<i>Odocoileus hemionos columbianus</i>) are not listed with the species or ecosystems at risk on the MoE Conservation Data Centre's tracking list for the South Island Forest District.</p> <p>There are no grandparented Ungulate Winter Ranges (UWR) or UWR proposed for confirmation in the vicinity of this cutblock. The harvesting of this cutblock will therefore not significantly impact deer with regard to winter range habitat. The harvested block will provide significant spring forage opportunities to the ungulates until the plantation reaches crown closure.</p>	
<p>C.3. SENSITIVE AREAS</p> <p>Prescribed site conditions: This block has been engineered to preserve sensitive sites and exposed rocks and shallow soil/rocky sites. Care must be taken when operating machinery to ensure adverse impacts to the soil do not occur.</p>	
<p>C.4. FISHERIES and STREAMS</p> <p>Prescribed site conditions: All in block streams are non-fish bearing. Care is to be taken when operating in areas adjacent to all stream and NCD's. Operations must adhere to the riparian management strategies outlined in Appendix 1.</p> <p>Block 2 is within the Sproat Lake Community Watershed and all internal streams are less than 1.5m width and are classified as S4 or NCD. All streams 1.5m and larger are defaulted to S3 and have a 20m Riparian Reserve Zone and are located outside of block boundaries.</p>	
<p>C.5. WATERSHEDS</p> <p>The proposed cutblock is in the Sproat Lake Community Watershed but not in any Fisheries Sensitive Watersheds.</p> <p>Prescribed site conditions: Care must be taken during harvesting activities to ensure that surface water is not adversely impacted by the proposed operations.</p>	
<p>C.6. RECREATION</p> <p>The current recreational use is estimated as moderate and consists of hunting, mushroom picking, hiking and wildlife viewing.</p> <p>Prescribed site conditions: Harvesting activities will not preclude future recreational opportunities, as visual, riparian and wildlife values will be maintained due to the high level of retention.</p> <p>Block 2 is in classified as 'Roaded Modified' for Recreation Opportunity and Moderate for Recreation Feature Inventory and Significance. The active roads TA560, TA568 and TA568D are the roads which will be used to haul Block 2 timber, they are also the access to the trail head of the Mount Adder Trail, during harvesting actions will be required to protect users of this recreational trail.</p>	
<p>C.7. VISUAL LANDSCAPE</p> <p>The proposed cutblocks Block 1 & Block 2 are within a scenic area with a Visual Quality Objective (VQO) of Partial Retention (PR), associated with the Pacific Rim Highway (Highway 4).</p> <p>The cutblocks were reviewed during the pre-harvest stage and the layout was engineered to ensure that the setting met the VQO requirements. A Visual Impact Assessment was completed for the Alberni Valley Community Forest by Silvacre Inc. in September 2015. The assessment used 4 separate View points and found the block to meet the Partial Retention VQO.</p> <p>Prescribed site conditions: The four viewpoints used are from points along the Pacific Rim Highway.</p>	
<p>C.8. CULTURAL HERITAGE</p> <p>This cutblock is located within the Hupacasath First Nation asserted traditional territory. No CMTs were identified during the field review or layout of this old growth stand.</p> <p>Prescribed site conditions: If any cultural heritage objects and/or CMT's are discovered during the CMT field review, an AIA should be conducted and the prescriptions should be reviewed prior to harvest or road construction. Should resources be identified during the active harvesting or road building, all activities must cease and Hupacasath First Nation must be informed of the type and location of suspected archaeological resources. Approval from Hupacasath First Nation is required prior to resuming operations.</p>	
<p>C.9. OTHER RESOURCES</p> <p>This cutblock is in trap line tenure (#TR0107T407).</p> <p>This block is in Guide Outfitter Area AR84650000.</p> <p>Block 2 is located in the former Timber Licence T0028-13.</p>	

D. CRITICAL SITE CONDITIONS

SU	CRITICAL SITE CONDITIONS THAT AFFECT THE TIMING OF OPERATIONS, AND HOW THEY AFFECT THE TIMING
SU All	To avoid rutting and understory disturbance, do not operate tracked machinery within 5 m of water channels. Cease road-building and yarding activities during and immediately following periods of heavy rainfall. Restrict the use of ground based operations to dry soils as to avoid adverse affects to the soils. Use sufficient puncheon where necessary.

SU All	Rainfall shutdown procedures will be in compliance with the "Rainfall Shutdown Criteria". Specifically, the calculated rainfall shutdown threshold is 100 mm in a 24 hour period.
SU All	No ground-based machinery is permitted within 5 m of any or NCD without written permission from a Tseshaht First Nation Engineer or at an authorized NCD.
SU All	Ground based operating procedures should be conducted as to avoid negative impacts to the soil. To avoid disturbance to sensitive soils, ground-based harvesting and forwarding should only occur in drier conditions.

E.1 Riparian Management Strategies - refer to Appendix 1.

E.2 Gully Management Strategies (Coast)

E.3 FOREST HEALTH MANAGEMENT STRATEGIES
MANAGEMENT STRATEGIES TO REDUCE FOREST HEALTH RISKS
<p>Biotic</p> <p>No incidences of hemlock dwarf mistletoe infection were identified during the SP fieldwork and no treatment is required.</p> <p>Abiotic – Wind</p> <p>Novafor Forest Services Ltd. has completed a Windthrow Report. The block does not require pruning. Moderate sized crowns with a species composition should allow the stand to withstand winds.</p>
E.4 COARSE WOODY DEBRIS MANAGEMENT STRATEGIES
Sound and rotting logs and stumps that provide habitat for plants, animals, and insects and are a source of organic matter for future soil development will be maintained through the retention of trees in the wildlife tree patch and timbered leave areas, and the distribution of logging residue across the cutblock. The current allowable limit for post harvest residue that qualifies as harvestable is 10m ³ /ha in second growth.
E.5 MANAGEMENT STRATEGIES TO MANAGE AND CONSERVE ARCHAEOLOGICAL SITES
In the event archaeological resources are encountered, suspend all harvest activities in the immediate vicinity and inform the engineer as soon as possible, of the location(s) and type of the archaeological resources and the nature of the disturbance.

F. SOIL CONSERVATION

F.1 SITE DISTURBANCE						
	HAZARD RATINGS <i>(if logging methods other than cable or aerial are proposed)</i>			SOIL CHARACTERISTICS <i>(if temporary access structures are proposed)</i>		
SU	SOIL COMPACTION	SOIL DISPLACEMENT	SOIL SURFACE EROSION	DEPTH TO UNFAVOURABLE SUBSOIL (cm)		TYPE OF UNFAVOURABLE SUBSOIL
				MIN	MAX	
A	Moderate	Moderate	Moderate	60	>60	Hardpan / Bedrock
B	Moderate	Moderate	High	50	>60	Hardpan / Bedrock
GROUND BASED OPERATING LIMITATIONS: Soil hazard ratings of moderate to high soil compaction, low to moderate soil displacement and low to moderate surface erosion necessitate specific operating procedures with regard to ground based machinery use, to avoid negative impacts to soil.						
SLOPE INSTABILITY INDICATORS: N/A						
SOIL DISTURBANCE LIMITS						
MAXIMUM ALLOWABLE SOIL DISTURBANCE WITHIN THE NET AREA TO REFOREST (%)				MAXIMUM EXTENT SOIL DISTURBANCE LIMITS MAY BE TEMPORARILY EXCEEDED TO CONSTRUCT TEMPORARY ACCESS STRUCTURES (%)		
25.0%				5.0%		
Maximum allowable soil disturbance within NAR for roadside work area.						
MAXIMUM PROPORTION OF TOTAL AREA UNDER PRESCRIPTION ALLOWED FOR PERMANENT ACCESS: 5.4%						
F.2 REHABILITATION TIME FOR TEMPORARY ACCESS STRUCTURES						
Maximum Allowable Time To Complete Rehabilitation (Measured From Completion of Harvest): The timing to rehabilitate the road will be concurrent with harvesting operations.						
F.3 MANAGEMENT STRATEGIES FOR TEMPORARY ACCESS STRUCTURES						
	FOR EXCAVATED AND BLADED TRAILS					
SU	GENERAL LOCATION:	SEDIMENT DELIVERY RISK <i>(in community watershed only)</i>	MAX ALLOWABLE HEIGHT OF CUTBANKS (m)	AVERAGE HEIGHT OF CUTBANKS (m)	EQUIPMENT TO BE USED (IF OTHER THAN EXCAVATOR)	
All	(list spur name & stations to be rehabilitated)	N/A	N/A	N/A	N/A	



G. SILVICULTURAL SYSTEMS

G.1 SILVICULTURAL SYSTEMS
Clear cut with Reserves.
WTP TREE SPECIES AND FUNCTION: The WTP provides wildlife values, and is designated as long-term reserve. The wildlife tree patch will also contribute to the overall retention. For a description of the wildlife tree patch refer to section C.2. Wildlife and Biological Diversity. Where feasible and safe to do so, snags have been included. The function of the leave area is to maintain lifeboats and enriching reestablished stands with structural features that would otherwise be absent, as well as contribute to the forest influence and add to the stand level biodiversity.
DESCRIPTION OF POST HARVEST STAND STRUCTURE and SITE CONDITION The post harvest stand structure will consist of a forest stand opening buffered and interspersed by timber leave areas. The TLAs and WTP will facilitate the retention of high biodiversity values with high levels of forest influence while maintaining the wildlife properties of the area.

H. STOCKING REQUIREMENTS

Free Growing Stocking Standards									
SU	Area (ha)	Regen Delay (yrs)	Preferred Species (P); Height (m)		Acceptable Species (A); Height (m)	Target WS P&A (#/ha)	Min. WS P&A (#/ha)	Min. WS P (#/ha)	Min. Intertree Dist. (m)
A	9.7	6	Hw 1.25, Hm1.0, Cw 1.0, Fd 2.25, Yc 1.0		Ba 1.75	900	500	400	2.0
B	1.2	3	Fd 1.5, Hw 1.0, Cw 0.75		Hm 0.75, Yc 0.75	800	400	400	2.0
SS #	Site Series No.	Early FTG	Late FTG (yrs)	Max. Coniferous @ FTG (#/ha)	Post Spacing Density (max/min) (#/ha)	Height vs. Comp. (%)			
1028545	01(60) 05(40)	8	11	10,000	1,500/500	150			
1028547	03(90) 02(10)	8	11	10,000	1,400/400	150			
A MITD of 1.5m will be accepted throughout the rest of the NAR to accommodate poor plantability areas (e.g. minor slash accumulations, wet or rocky sections, etc) or to utilize the most suitable planting microsites.									
SU A: Plant Fdc (70%) and Cw (30%) SU B: Plant Fdc (100%)									

I. ADMINISTRATION

PRESCRIPTION PREPARED BY (RPF SIGNATURE AND SEAL):	
	
	RPF Name (Printed) _____ Date: _____ September 25, 2015 _____ RPF No: 3767 _____ Original Prescription Date (if Amended): _____
RPF Signature and Seal _____	

PRESCRIPTION REFERENCES:	SIGNING AUTHORITY:
<p>LEGEND</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> SP ATTACHMENT <input checked="" type="checkbox"/> ON FILE <input type="checkbox"/> NOT APPLICABLE <ul style="list-style-type: none"> <input checked="" type="checkbox"/> 1:5,000 SP MAP <input type="checkbox"/> First Nation Letter <input type="checkbox"/> SP FIELD DATA CARDS (e.g.: site and soil classification, forest health evaluations, soil hazard assessment, treatment recommendations, slope instability indicators) <input type="checkbox"/> ADDITIONAL SP COMMENTS <input type="checkbox"/> COMMENTS FROM REFERRALS 	
<p>ASSESSMENTS REQUIRED PURSUANT TO THE FPC REGS:</p> <ul style="list-style-type: none"> <input checked="" type="checkbox"/> VISUAL IMPACT ASSESSMENT (Silvacare Inc.) <input type="checkbox"/> RIPARIAN ASSESSMENT: ENGINEERING STREAM CARDS <input checked="" type="checkbox"/> RIPARIAN ASSESSMENT: FISH ASSESSMENT (Novafor) <input checked="" type="checkbox"/> TERRAIN STABILITY ASSESSMENT (Geoforestry) <input type="checkbox"/> GULLY ASSESSMENT (N/A) <input type="checkbox"/> ARCHAEOLOGICAL IMPACT ASSESSMENT <input type="checkbox"/> PEST INCIDENCE SURVEY <input checked="" type="checkbox"/> BLOWDOWN HAZARD ASSESSMENT (Novafor) <input type="checkbox"/> CULTURALLY MODIFIED TREE SURVEY (N/A) <input type="checkbox"/> HABITAT DIVERSITY ASSESSMENT (N/A) <input type="checkbox"/> GREEN UP INFORMATION (N/A) <input checked="" type="checkbox"/> PERMANENT ACCESS CALCULATION SHEET (Novafor) 	<p>The procedures required by regulation have been followed for any assessment that is required under section 36.1 of the <i>Operational and Site Planning Regulation</i>. This Site Plan is consistent with the results and recommendations of any assessment required under section 36.1 of the <i>Operational and Site Planning Regulation</i>. While the assessments are not part of the prescription, the prescription is consistent with their results and recommendations.</p> <p>While I did not personally supervise the work (engineering, layout, traversing or assessments, all work has been tendered by the MoF to well qualified contractors. The work appears to fulfill the standards acceptable of a seal by a Registered Professional Forester.</p>

APPENDIX 1

E.1 RIPARIAN MANAGEMENT STRATEGIES													
Stream, Wetland or Lake	Riparian Class	Gully (Y/N)	Debris Movement Potential*	Average Residual BA (m ² /ha)	MANAGEMENT STRATEGIES FOR RIPARIAN OR LAKESHORE MANAGEMENT ZONES (RMZ)								
					Stream Class	RRZ (m)	RMZ (m)	Wetlands	RRZ (m)	RMZ (m)	Lakes	RRZ (m)	RMZ (m)
Fine	Twigs, needles, leaves				S1	50	20	W1	10	40	L1	10	0
V. Small	< 3' x 6"				S2	30	20	W2	10	20	L2	10	20
Small	< 12' x 6"				S3	20	20	W3	0	30	L3	0	30
Large	>12' x 6"				S4	0	30	W4	0	30	L4	0	30
					S5	0	30	W5	10	40			
					S6	0	20						
Definitions	NAR	Net Area To Be Reforested.											
	NCD	Non-classified drainage.											
	NCW	Non-classified wetland.											
	FA/BL	Fall Away. Timber is to be felled away. Leaners and danger trees that cannot be safely felled away shall be felled and left bridging the stream.											
	FA	Fall Away. Timber is to be felled away.											
	YA	Yard Away. Timber is to be yarded away. In order to improve deflection, cables are allowed to be suspended above the stream. Non-fish streams: merchantable leaners and danger trees which have been felled across the stream will, by necessity, be yarded across the stream. Fish streams: leaners and danger trees which have been felled across the stream will be left unless detrimental to the stream.											
	HH	100% Harvested (no retention of saplings).											
	RS	Retain Saplings within 5m of the stream channel (non-merchantable).											
	FE	Feathered Edge.											
	BPT	Blue Painted Trees (selected for removal). Faller's choice of alternate tree if unable to fall painted tree safely.											
	NHZ	No Harvest Zone. Trees are to be felled away from the zone. Safe trees that cannot be felled away are to be left as part of the NHZ. Danger trees must be felled and will be left for future LWD or removed if detrimental to the stream.											
	FX	Fall Across.											
	YX	Yard Across. Stream bank protection measure: Maximize deflection to minimize stream bank disturbance.											
	YV	Yard Vertically.											
	CCL	Clean any introduced debris concurrent with logging.											
	MFZ	Machine Free Zone.											
	MC	Machine Clean transportable introduced large woody debris (LWD) and accumulations concurrent with yarding.											
	HC	Hand Clean introduced transportable debris.											
	AHC	Assess for Hand Cleaning, post-harvest, based on stream transport capability. Stream cleaning will be done if necessary.											
	NC	No stream cleaning required.											
<p>Where prescribed, streams will be cleaned when a safe working distance has been established. Fine material will not be removed as part of any debris management strategy unless otherwise specified.</p> <p>Do not remove stable natural material that is in a stream or that is embedded in a stream bank, or a root system that contributes to stream bank stability and fish habitat during harvesting or stream cleaning (except when constructing or modifying an authorized stream crossing).</p> <p>Temporary stream crossing areas may be designated and must be identified on the SP Map. Within this designated area, no more than three crossings of the stream may be made at any one location.</p> <p>Reserve zone and management zone widths are provided as slope distances.</p> <p>Note: The stream (riparian) prescriptions pertain to the portion of the stream within the harvest area. Where the stream lies outside the harvest area and a portion of the RMA is within the harvest area the prescription will be HH, FA, YA, by necessity. **The basal area retention values provided (0) pertain to the portion of the RMZ that is within the harvest area. In these areas, all merchantable stems will be harvested leaving a residual basal area of 0m²/ha. Where the RMZ falls within retention areas (e.g. TLA, WTP), or is completely outside the harvest area, no harvesting will occur; therefore, 100% of the pre-harvest basal area will be retained. Where partial cutting (e.g. feathering) is prescribed within the RMZ the actual range of residual basal area for that section will be provided. When this document is signed, the signing forester is certifying that the RMP is consistent with the approved FDP and the riparian management strategies contained within.</p>													
E.2 GULLY MANAGEMENT STRATEGIES (COAST)													
Stream/Gully No.	Downstream Impact Potential	Upstream Debris Flow Potential	Water Transport Potential	Debris Flow Initiation Potential	Management Strategy Options								
STREAM 7 IS A GULLY LOCATED OUTSIDE OF THE HARVEST AREA OF BLOCK 2.													
RIPARIAN MANAGEMENT ADMINISTRATION													
RIPARIAN MANAGEMENT STRATEGIES PREPARED BY: Novafor Forest Services						RIPARIAN MANAGEMENT STRATEGIES REVIEWED BY:							

Alberni Valley Community Forest
K2D
Region: West Coast Natural Resource Region / South Island Natural Resource District
STREAM DATA FOR CUTBLOCK 164211

Streams Data Sheet									
Water Course #	Riparian Class	Gully (Y/N)	Ave. Gradient (%)	Ave. Width (m)	Streambed Material	L.W.D. Dependency (L/M/H)	Debris Transport Potential (L/M/H)	Stream Sidewall Gradient (%)	Bank Full height (m)
5B	S4	N	50%	1.4	RBCG	L	M	30%	0.15
7	S2	Y	40%	10.0	RBCG	M	M-H	50%	1.5
7A	S4	N	50%	0.3	CGO	L	M	50%	0.05
7B	S4	N	50%	0.3	CGO	L	M	50%	0.05
7C	S4	N	50%	0.3	CGO	L	L-M	30%	0.05
8	S4	N	50%	0.3	CGO	L	L-M	30%	0.05
9	S4	N	50%	0.4	CGO	L	L-M	30%	0.05

*LWD Dependency is a function of the number of working pieces per 20m of stream length. Low: <=1, Moderate: 2-4, High:> =5.
Streambed material: O=organics (decomposed plant and woody material); F=finnes (<2.0mm); G=gravel (2.0mm to 65.0mm); C=cobble (65mm to 25cm); B=boulder (>25cm); R=Bedrock
Stream sidewall gradient: The representative change in elevation from the top of the stream bank to a topographic break perpendicular to a stream.
Bank: The rising ground bordering a stream channel. Banks are called right or left as viewed facing in the direction of the flow.
Bank-full height: The height at which a stream first overflows its natural banks ("Scour depth" on Stream Assessment Cards)

SU	Stocking Standards	BEC Zone	Subzone	Variant	Site Series		Area (ha)
					Dominant (SS)	Related (SS-%)	
A	1028545	CWH	mm	2	01(60)	05(40)	9.7
B	1028547	CWH	mm	2	03(90)	02(10)	1.2
Net Area to be Reforested							10.9
Timbered Leave Areas							
Wildlife Tree Patch							0.9
Permanent Access Structures (Roads)							0.7
Total Area Under Prescription:							12.5

HAZARD ALERT

1) A rock fall hazard has been identified and workers must be made aware of this.

**Alberni Valley
Community Forest**

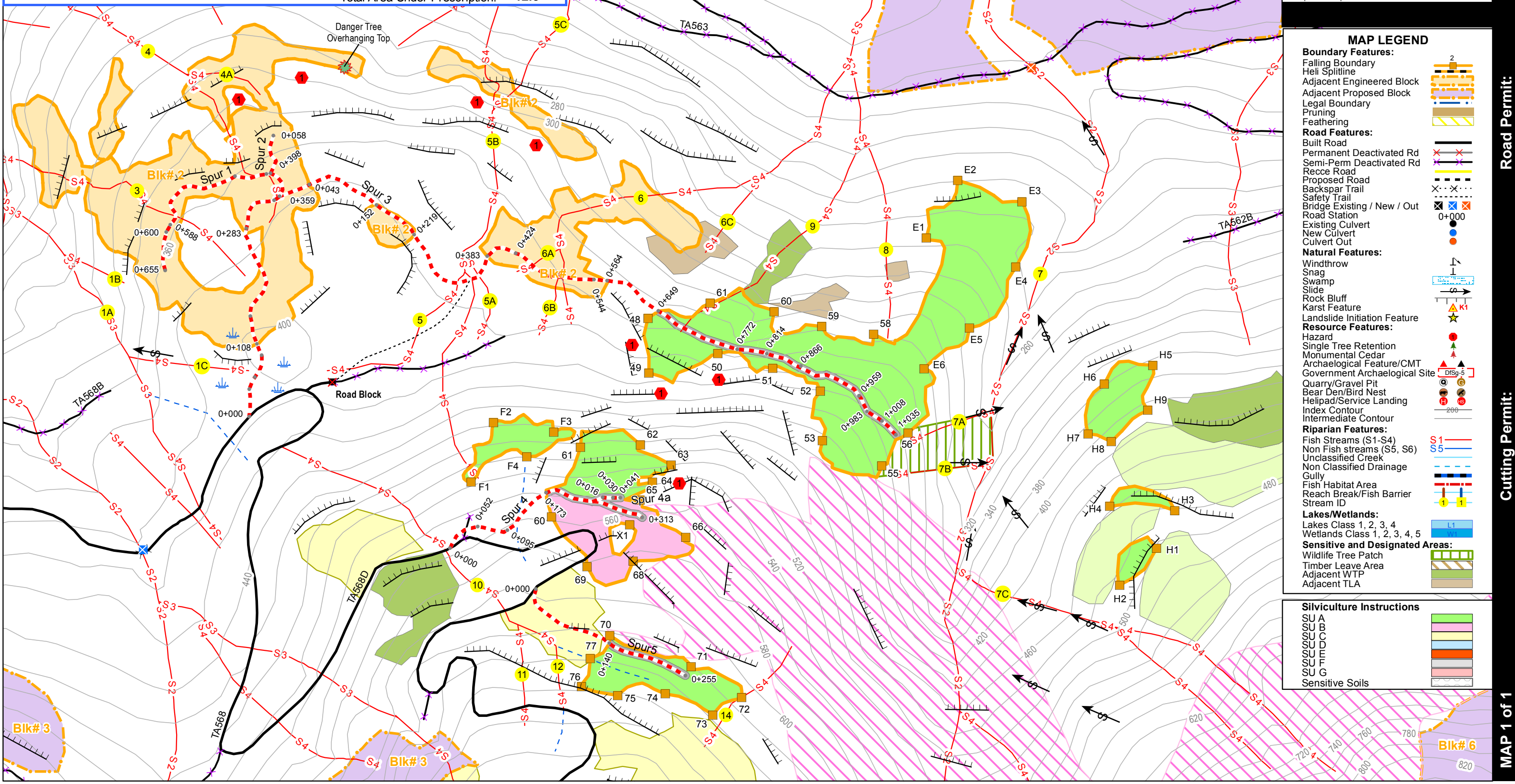
SILVICULTURE INSTRUCTIONS MAP

Cutblock: 2

Forest Region: Coast
Forest District: South Island
Land District: Barclay
Cascades: West C
Tenure: K2D
Geographic Coordinates: Lat: 49° 16' 54"
Long: 125° 19' 20"
Author: D. Brown
Map Date: September-29-15

Scale:

Mapsheets: 92F024
Datum: NAD83



MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splitline
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Recce Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area
- Adjacent WTP
- Adjacent TLA

Silviculture Instructions

- SU A
- SU B
- SU C
- SU D
- SU E
- SU F
- SU G
- Sensitive Soils

Road Permit:

Cutting Permit:

MAP 1 of 1

Alberni Valley Community Forest

DEFLECTION MAP

Cutblock: 1

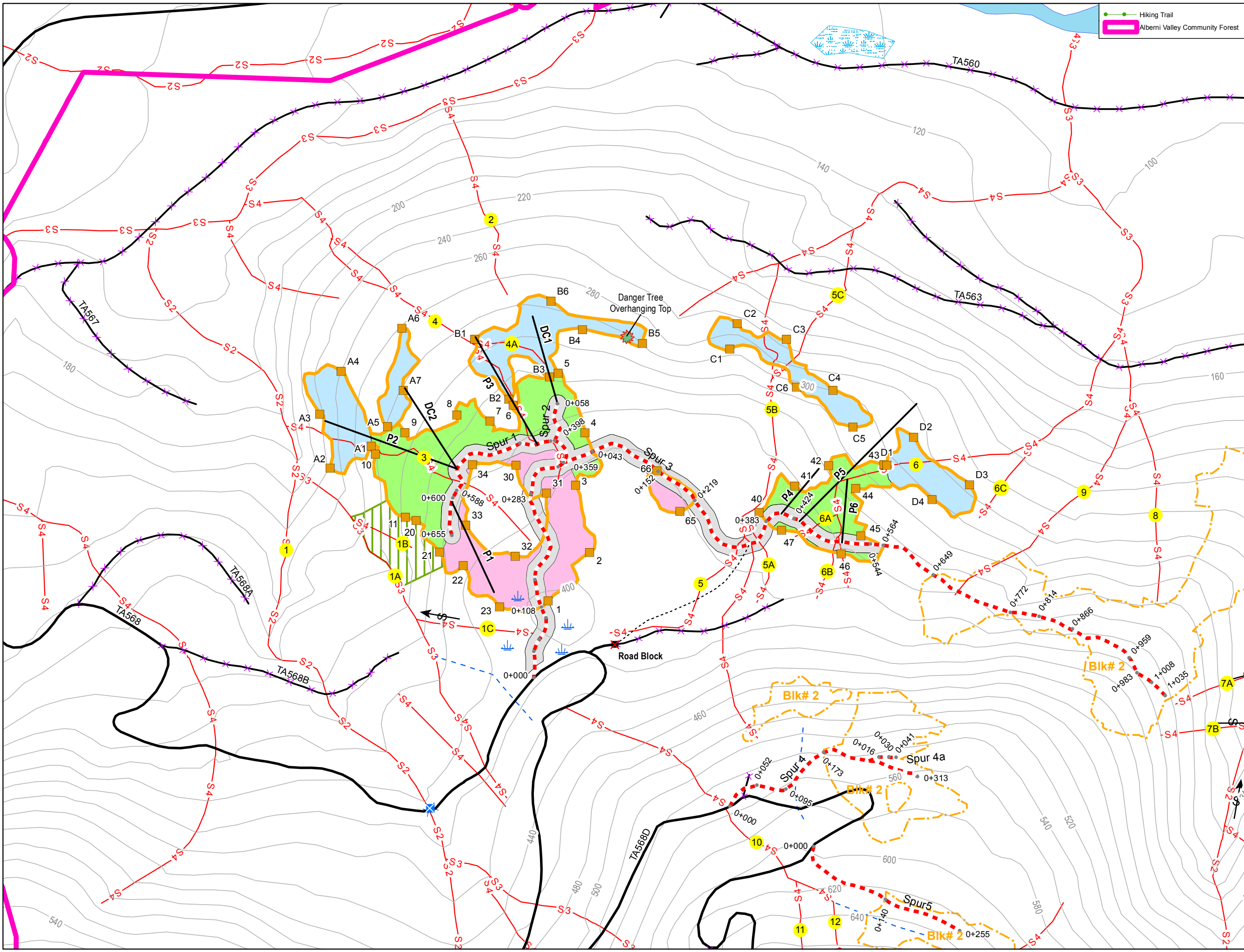
Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates:
 Lat: 49° 17' 6"
 Long: 125° 19' 52"
 Author: D. Brown
 Map Date: September-29-15

Scale: 
 1:5,000

Mapsheet: 92F024
 Datum: NAD83

MAP LEGEND

Boundary Features:	
Falling Boundary	
Heli Splittine	
Adjacent Engineered Block	
Adjacent Proposed Block	
Legal Boundary	
Pruning	
Feathering	
Road Features:	
Built Road	
Permanent Deactivated Rd	
Semi-Perm Deactivated Rd	
Rece Road	
Proposed Road	
Backspar Trail	
Safety Trail	
Bridge Existing / New / Out	
Road Station	
Existing Culvert	
New Culvert	
Culvert Out	
Natural Features:	
Windthrow	
Snag	
Swamp	
Slide	
Rock Bluff	
Karst Feature	
Landslide Initiation Feature	
Resource Features:	
Hazard	
Single Tree Retention	
Monumental Cedar	
Archaeological Feature/CMT	
Government Archaeological Site	
Quarry/Gravel Pit	
Bear Den/Bird Nest	
Helipad/Service Landing	
Index Contour	
Intermediate Contour	
Riparian Features:	
Fish Streams (S1-S4)	
Non Fish streams (S5, S6)	
Unclassified Creek	
Non Classified Drainage	
Gully	
Fish Habitat Area	
Reach Break/Fish Barrier	
Stream ID	
Lakes/Wetlands:	
Lakes Class 1, 2, 3, 4	
Wetlands Class 1, 2, 3, 4, 5	
Sensitive and Designated Areas:	
Wildlife Tree Patch	
Timber Leave Area	
Adjacent WTP	
Adjacent TLA	
Harvest Methods:	
Grapple	
Hoe Forward	
Hoechuck	
Helicopter	
Highlead	
Right-of-Way	
Snorkel	
Yarding Features:	
Backspar Tree	
Sensitive Soils	
Heli Drop Zone	
Steep Grade	

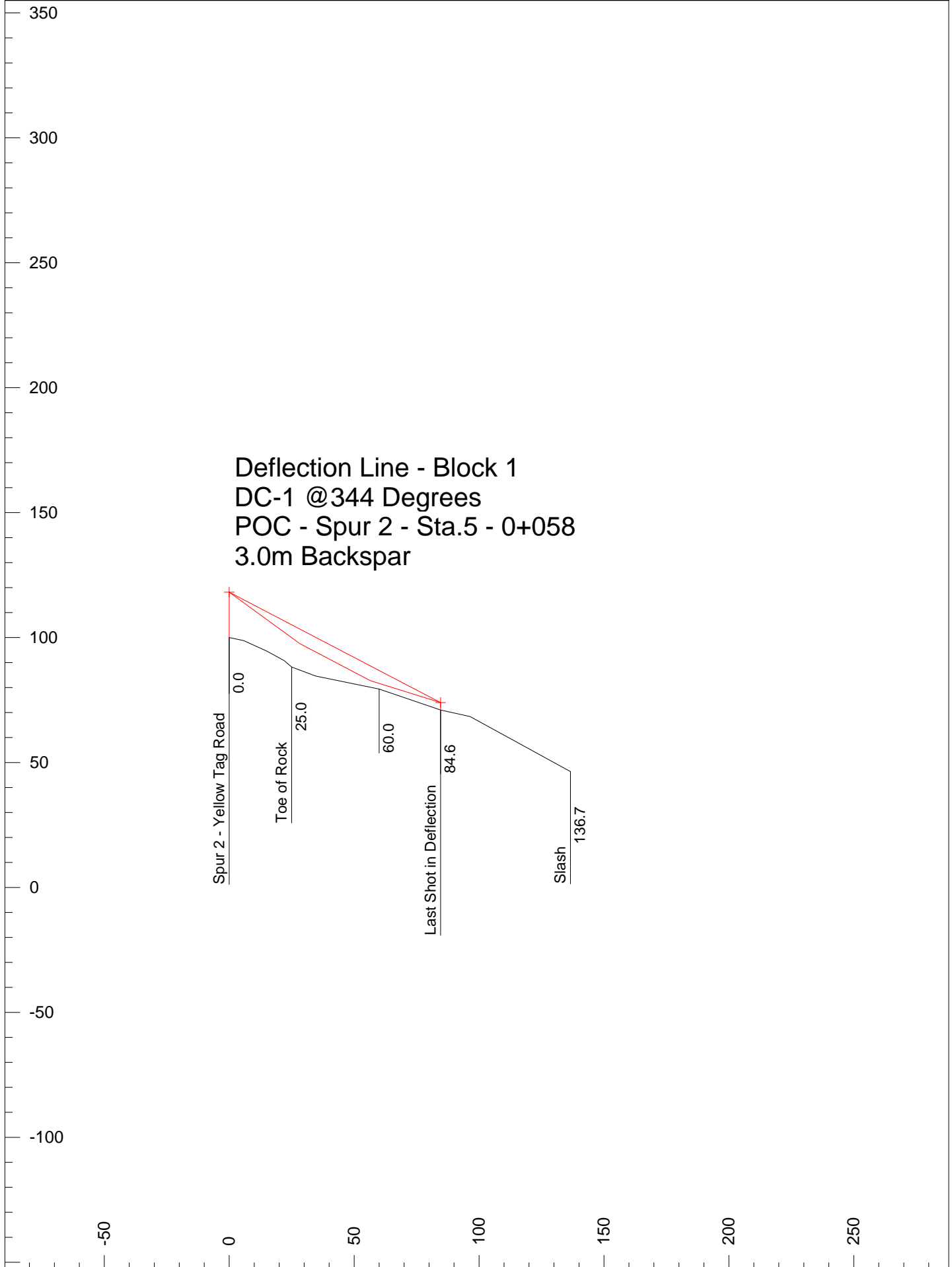


Road Permit:

Cutting Permit:

MAP 1 of 1

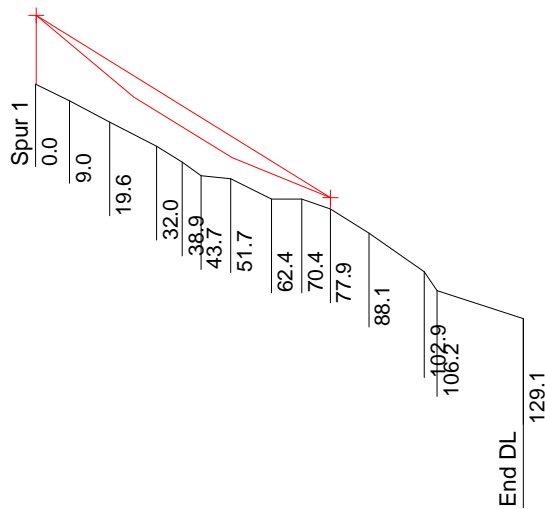
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Deflection Line - Block 1
DC-1 @344 Degrees
POC - Spur 2 - Sta.5 - 0+058
3.0m Backspar

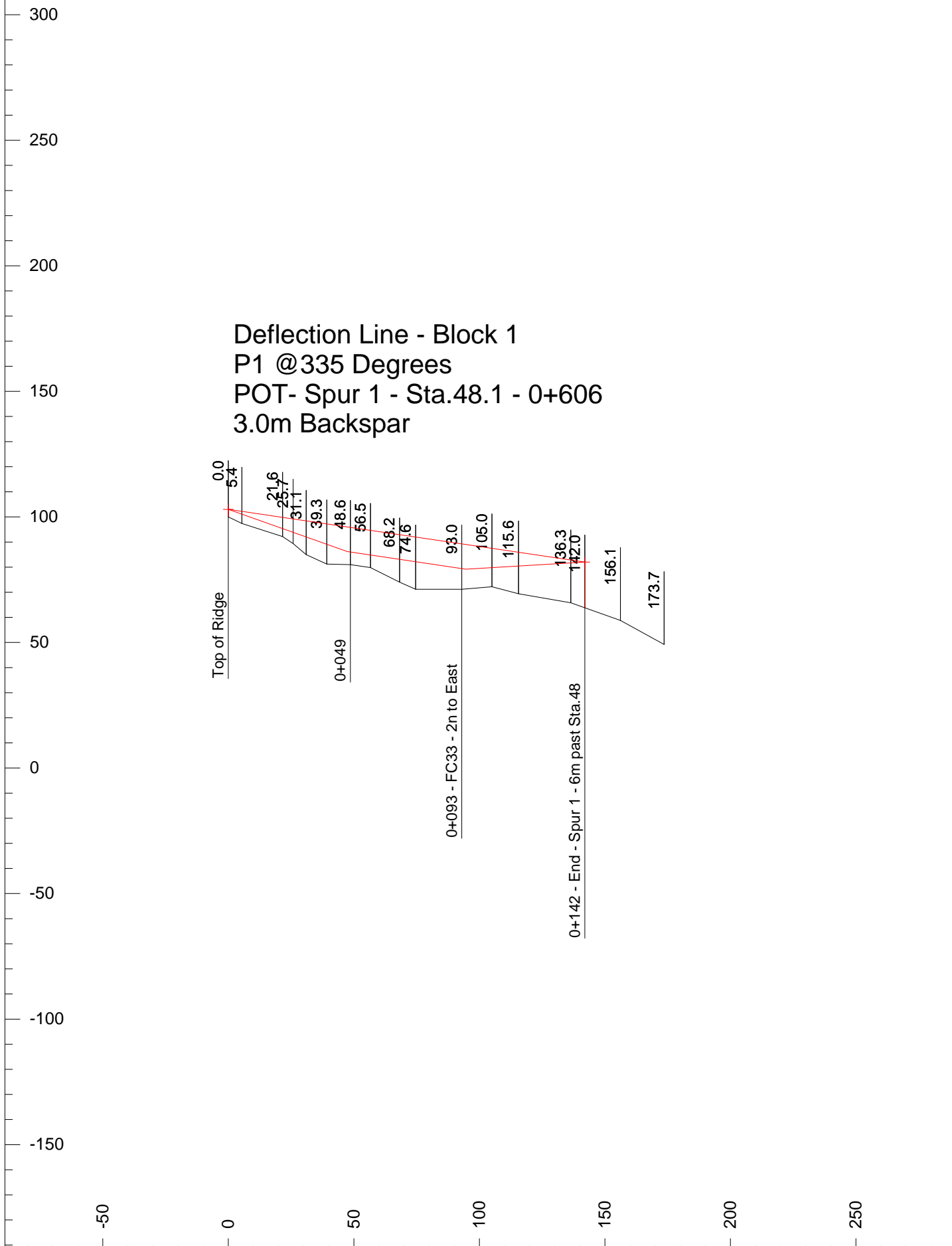
Simple third point deflection: 7.0%

Deflection Line - Block 1
DC-2 @327 Degrees
POC - Spur 1 - Sta.43 - 0+553
3.0m Backspar



Simple third point deflection: 7.0%

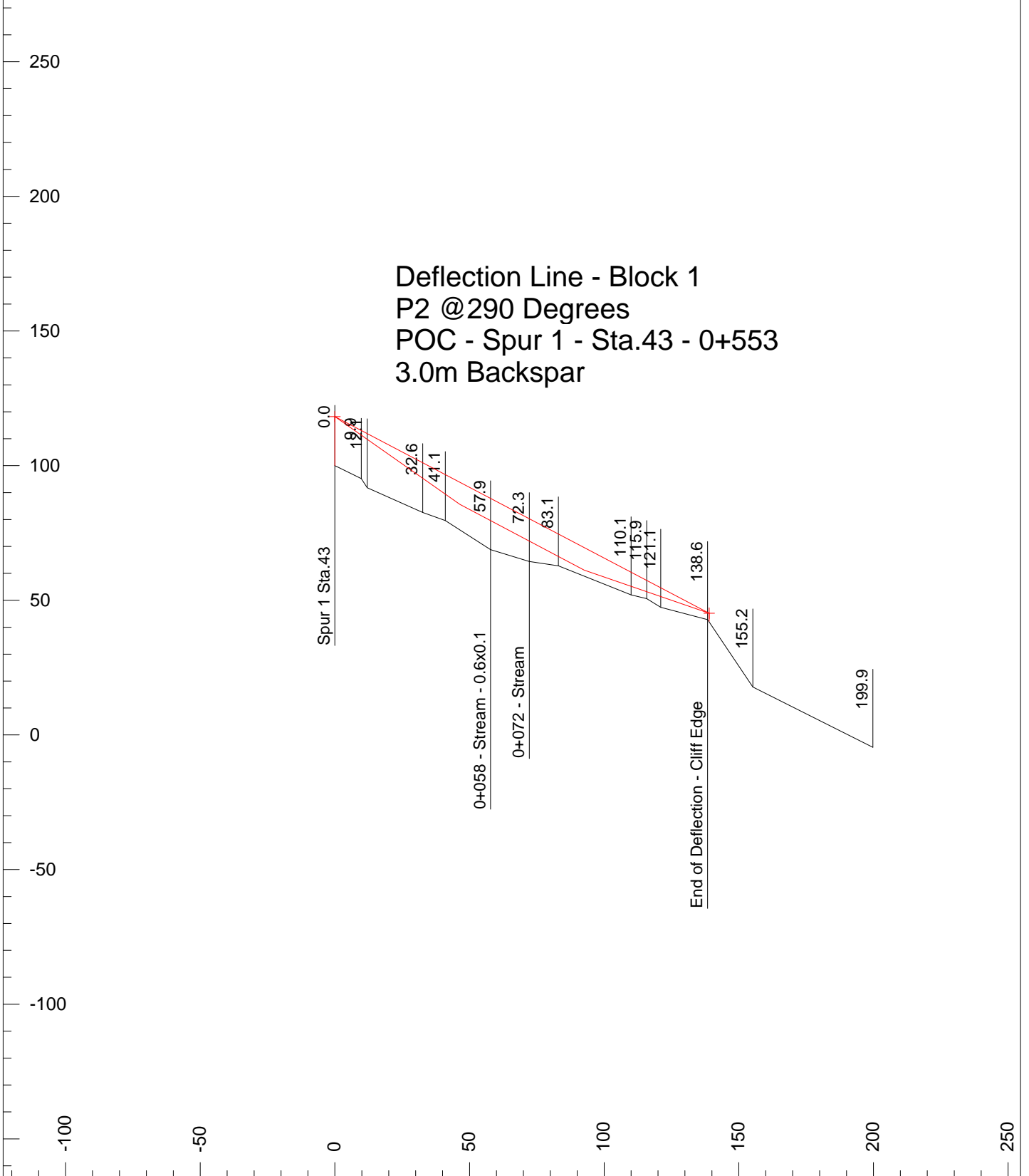
Deflection Line - Block 1
P1 @335 Degrees
POT- Spur 1 - Sta.48.1 - 0+606
3.0m Backspar



Simple third point deflection: 7.0%

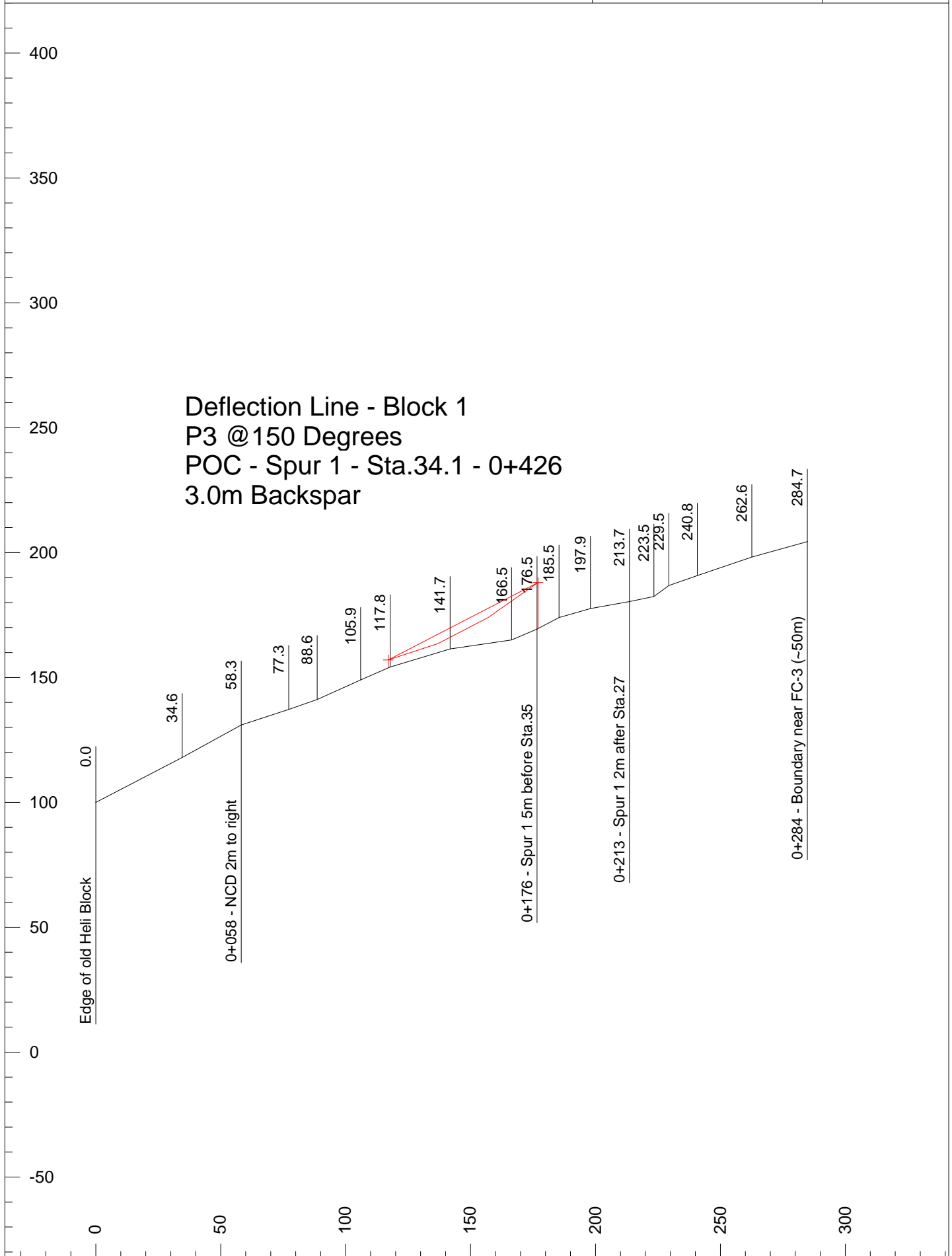
Grapple, ML, HB, Grapple, Car Wt.=4000lbs

Deflection Line - Block 1
 P2 @290 Degrees
 POC - Spur 1 - Sta.43 - 0+553
 3.0m Backspar



Simple third point deflection: 6.0%

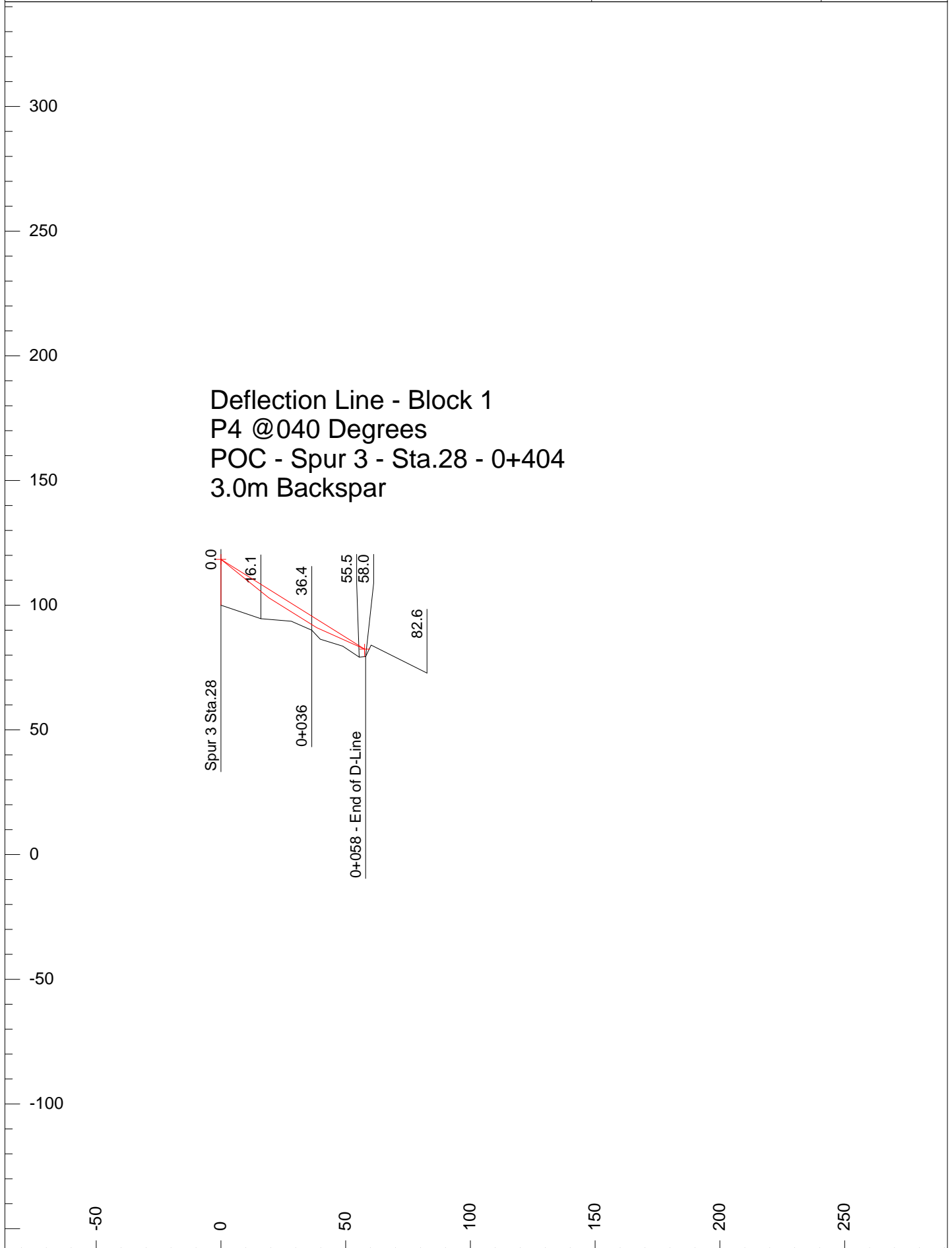
Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Simple third point deflection: 6.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs

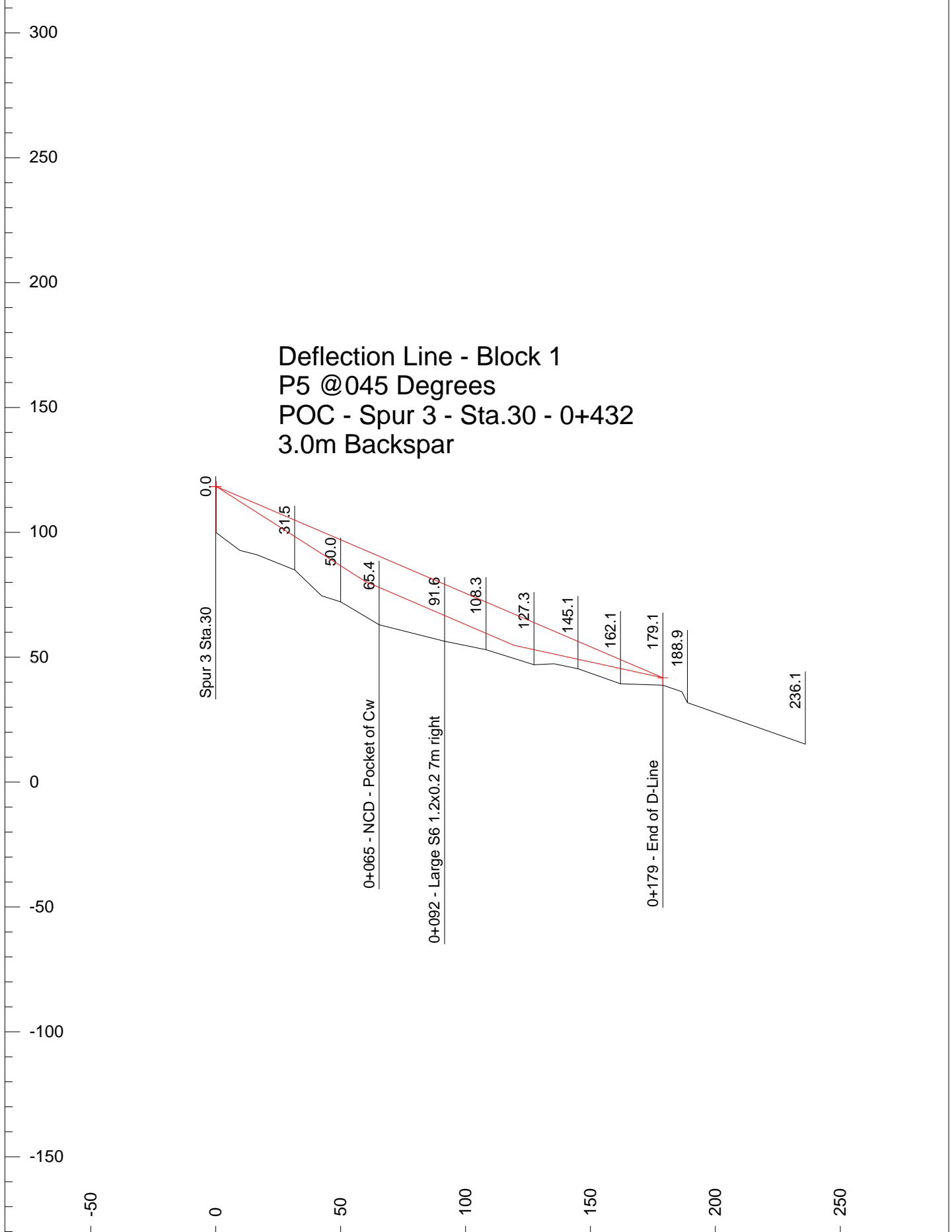
Deflection Line - Block 1
P4 @040 Degrees
POC - Spur 3 - Sta.28 - 0+404
3.0m Backspar



Simple third point deflection: 6.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs

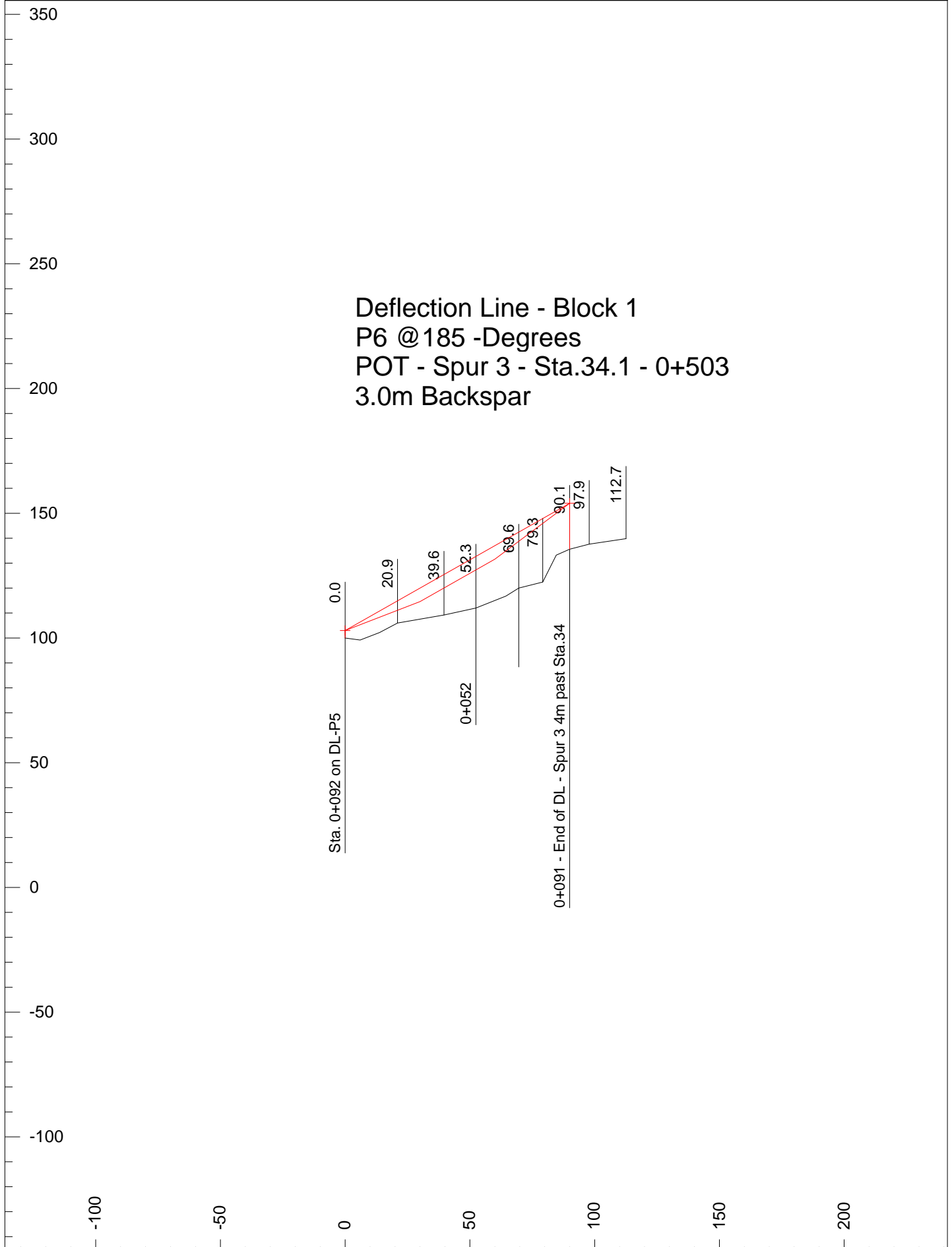
Deflection Line - Block 1
P5 @045 Degrees
POC - Spur 3 - Sta.30 - 0+432
3.0m Backspar



Simple third point deflection: 7.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs

Deflection Line - Block 1
P6 @185 -Degrees
POT - Spur 3 - Sta.34.1 - 0+503
3.0m Backspar



Simple third point deflection: 6.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs

Alberni Valley Community Forest

DEFLECTION MAP

Cutblock: 2

Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure: K2D
 Geographic Coordinates:
 Lat: 49° 16' 54"
 Long: 125° 19' 20"
 Author: D. Brown
 Map Date: September-29-15

Scale:
 1:5,000
 Mapsheet: 92F024
 Datum: NAD83

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splitline
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Rece Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area
- Adjacent WTP
- Adjacent TLA

Harvest Methods:

- Grapple
- Hoe Forward
- Hoechuck
- Helicopter
- Highlead
- Right-of-Way
- Snorkel

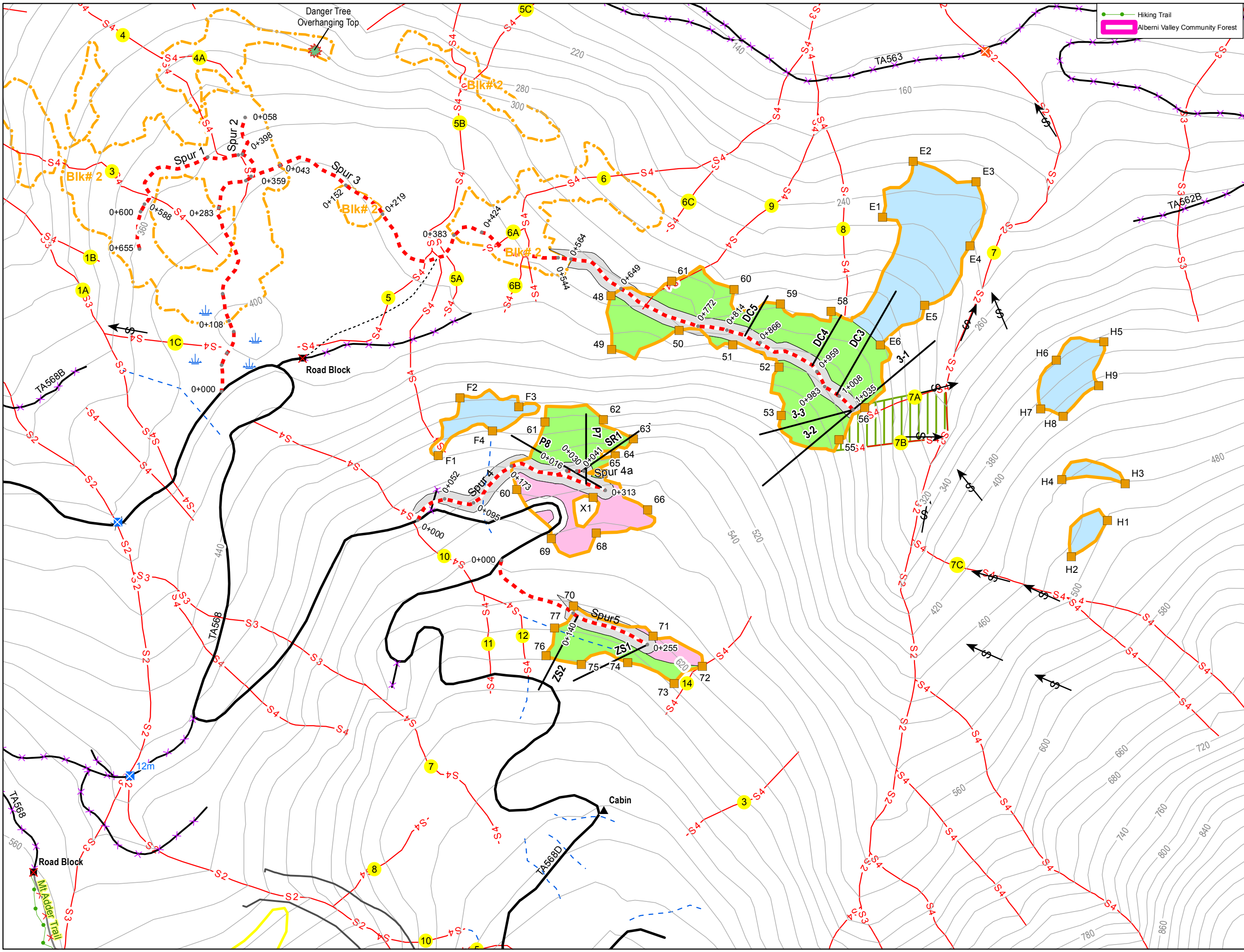
Yarding Features:

- Backspar Tree
- Sensitive Soils
- Heli Drop Zone
- Steep Grade

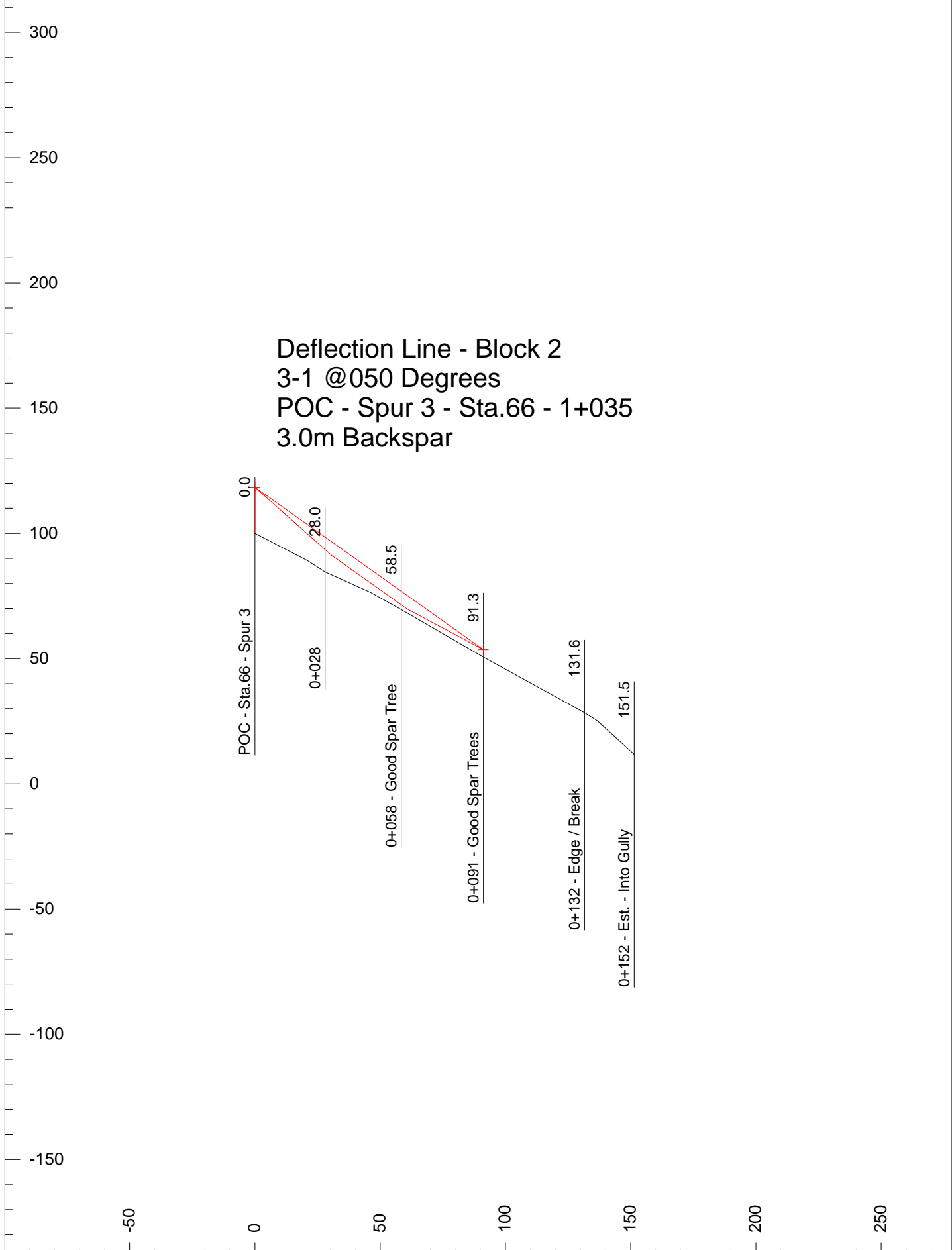
Road Permit:

Cutting Permit:

MAP 1 of 1

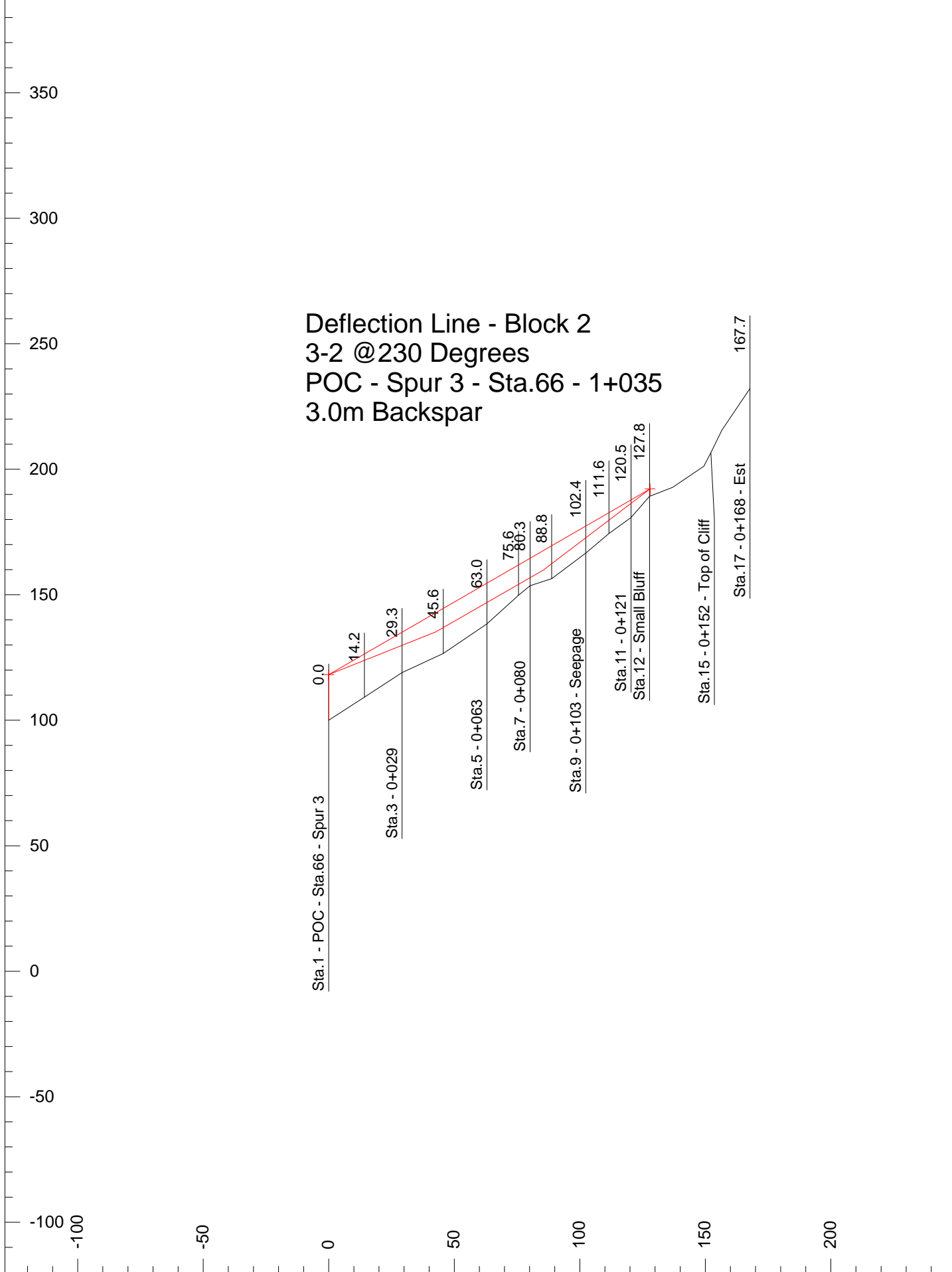


Deflection Line - Block 2
3-1 @050 Degrees
POC - Spur 3 - Sta.66 - 1+035
3.0m Backspar



Simple third point deflection: 6.0%

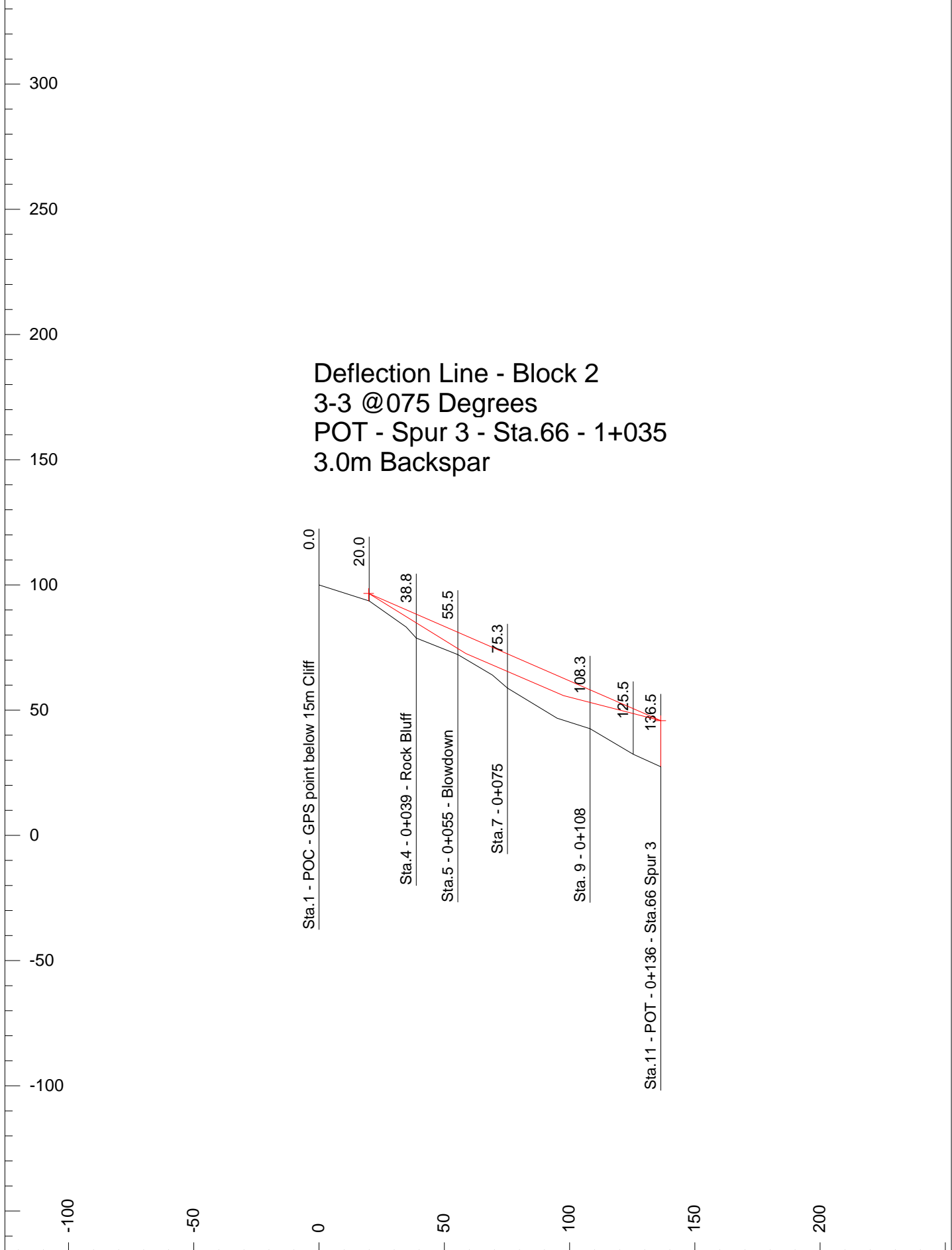
Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Deflection Line - Block 2
3-2 @230 Degrees
POC - Spur 3 - Sta.66 - 1+035
3.0m Backspar

Simple third point deflection: 6.0%
Grapple, ML, HB, Grapple, Car Wt.=4000lbs

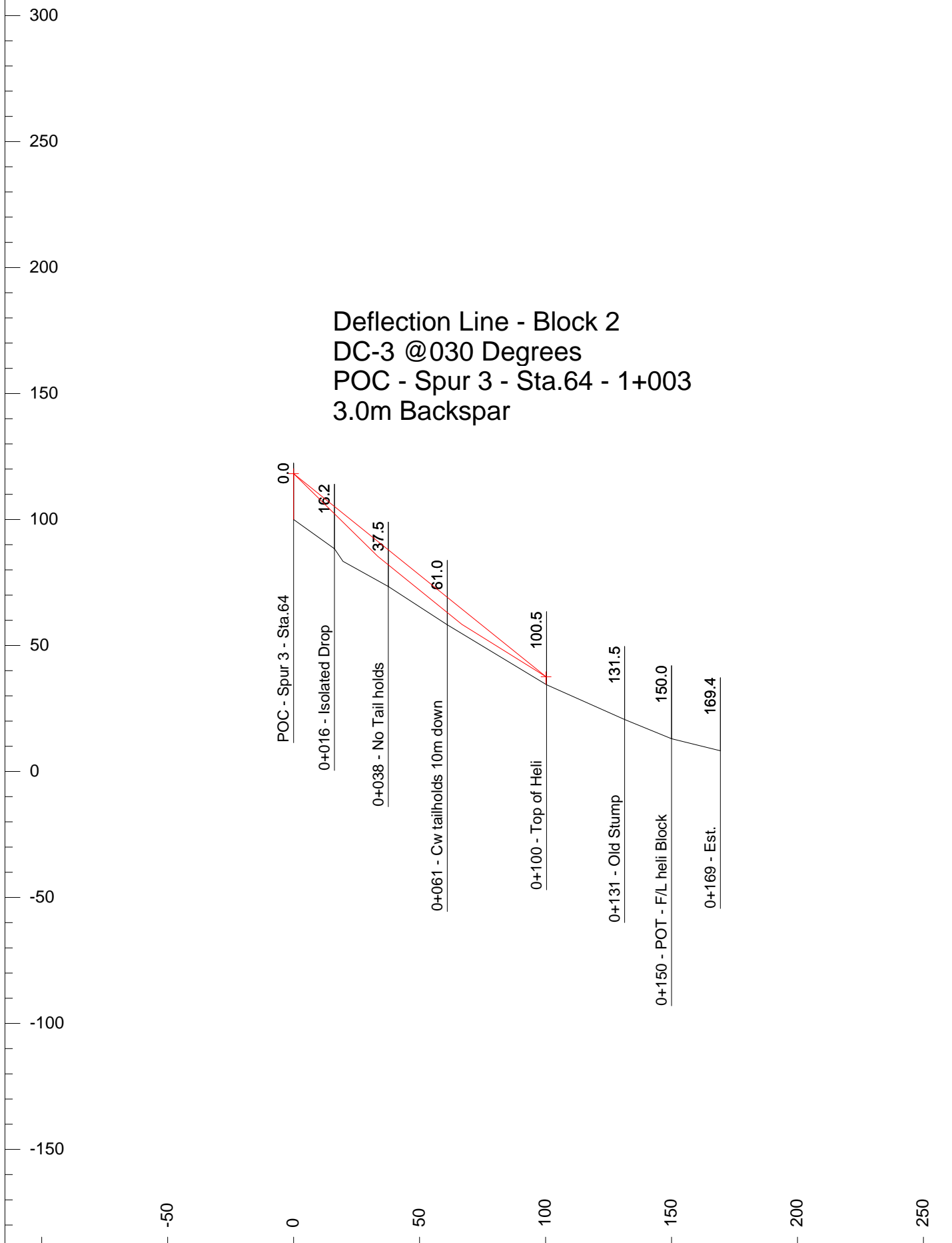
Deflection Line - Block 2
3-3 @075 Degrees
POT - Spur 3 - Sta.66 - 1+035
3.0m Backspar



Simple third point deflection: 6.0%

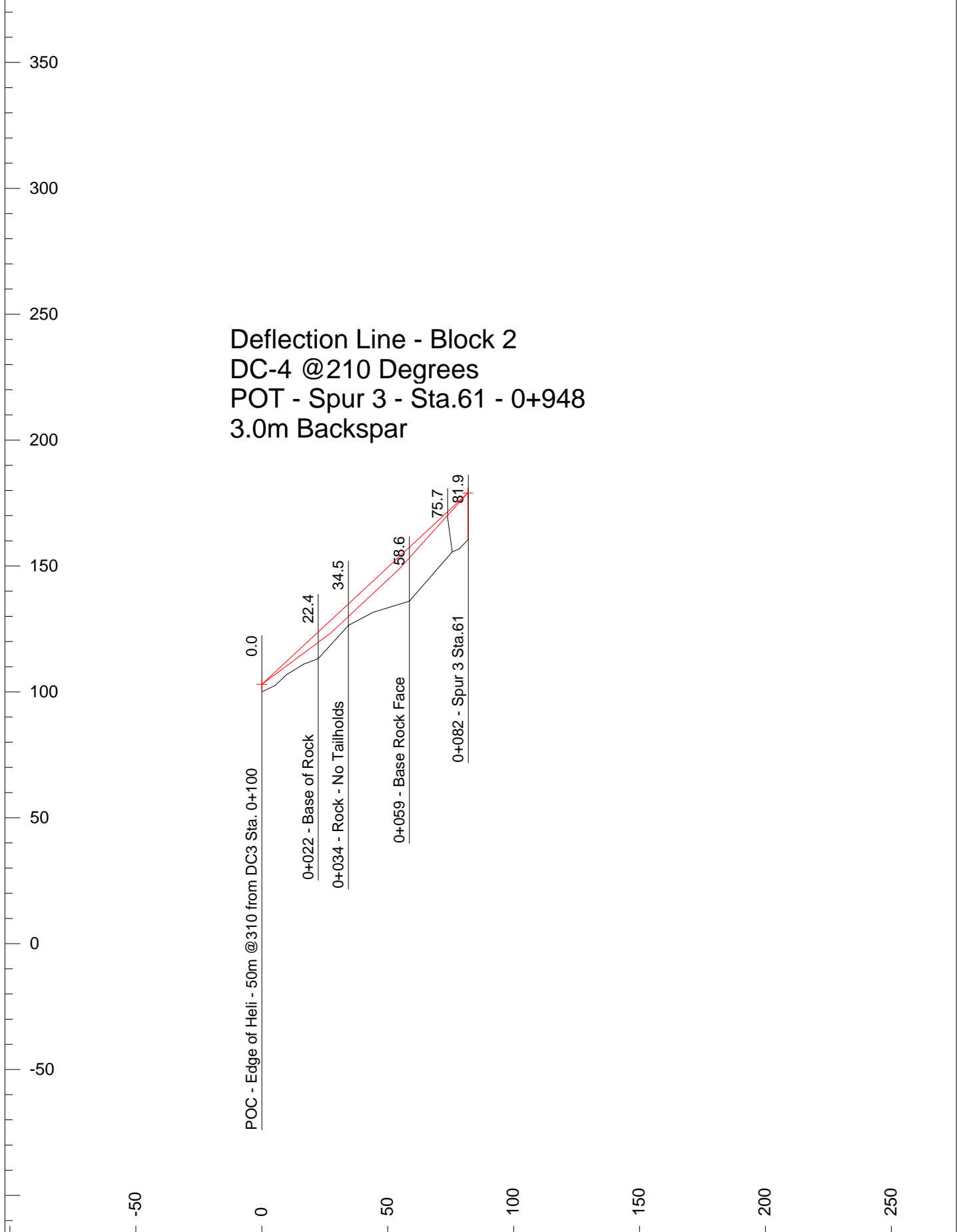
Grapple, ML, HB, Grapple, Car Wt.=4000lbs

Deflection Line - Block 2
DC-3 @030 Degrees
POC - Spur 3 - Sta.64 - 1+003
3.0m Backspar



Simple third point deflection: 6.0%
Grapple, ML, HB, Grapple, Car Wt.=4000lbs

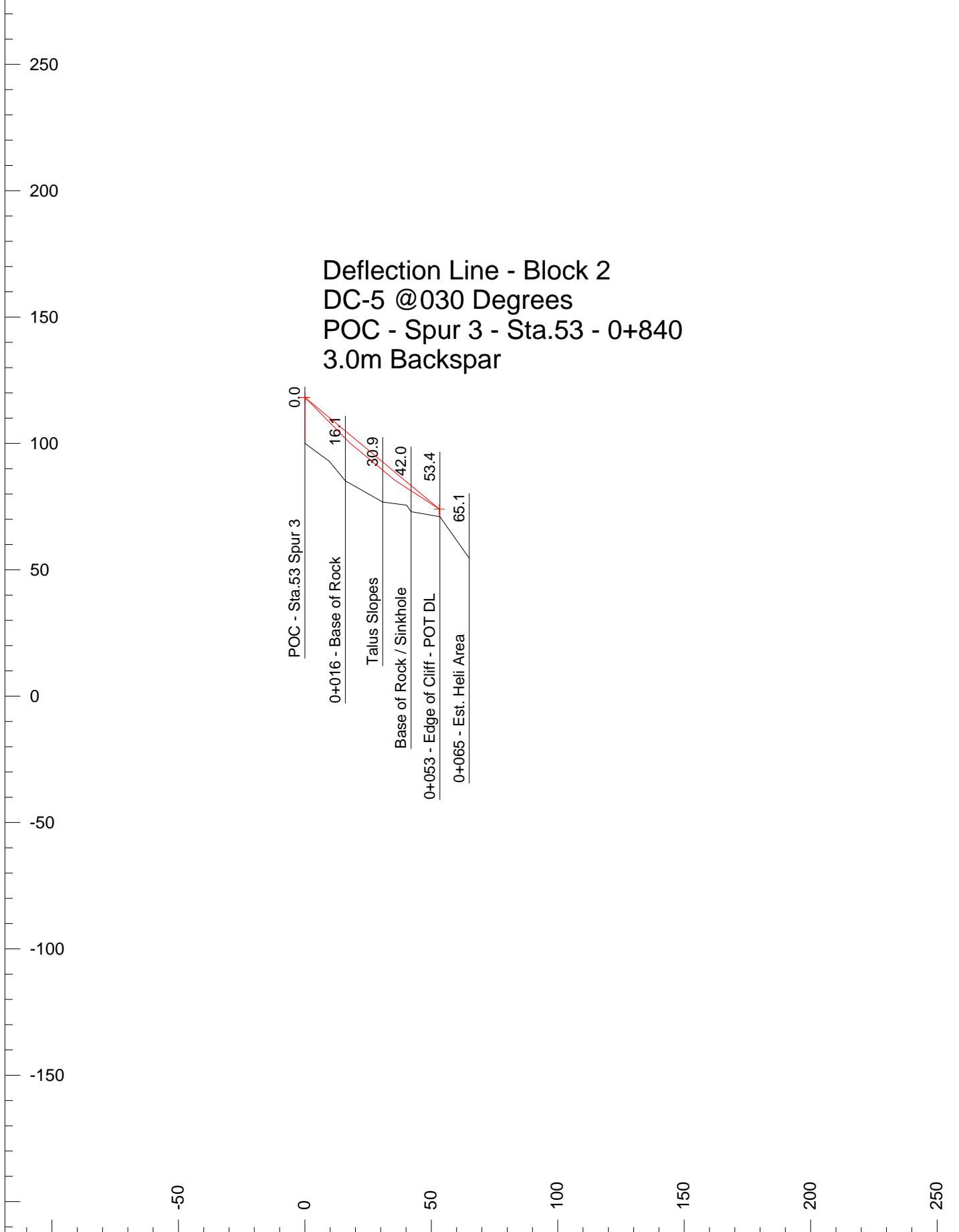
Deflection Line - Block 2
DC-4 @210 Degrees
POT - Spur 3 - Sta.61 - 0+948
3.0m Backspar



Simple third point deflection: 6.0%

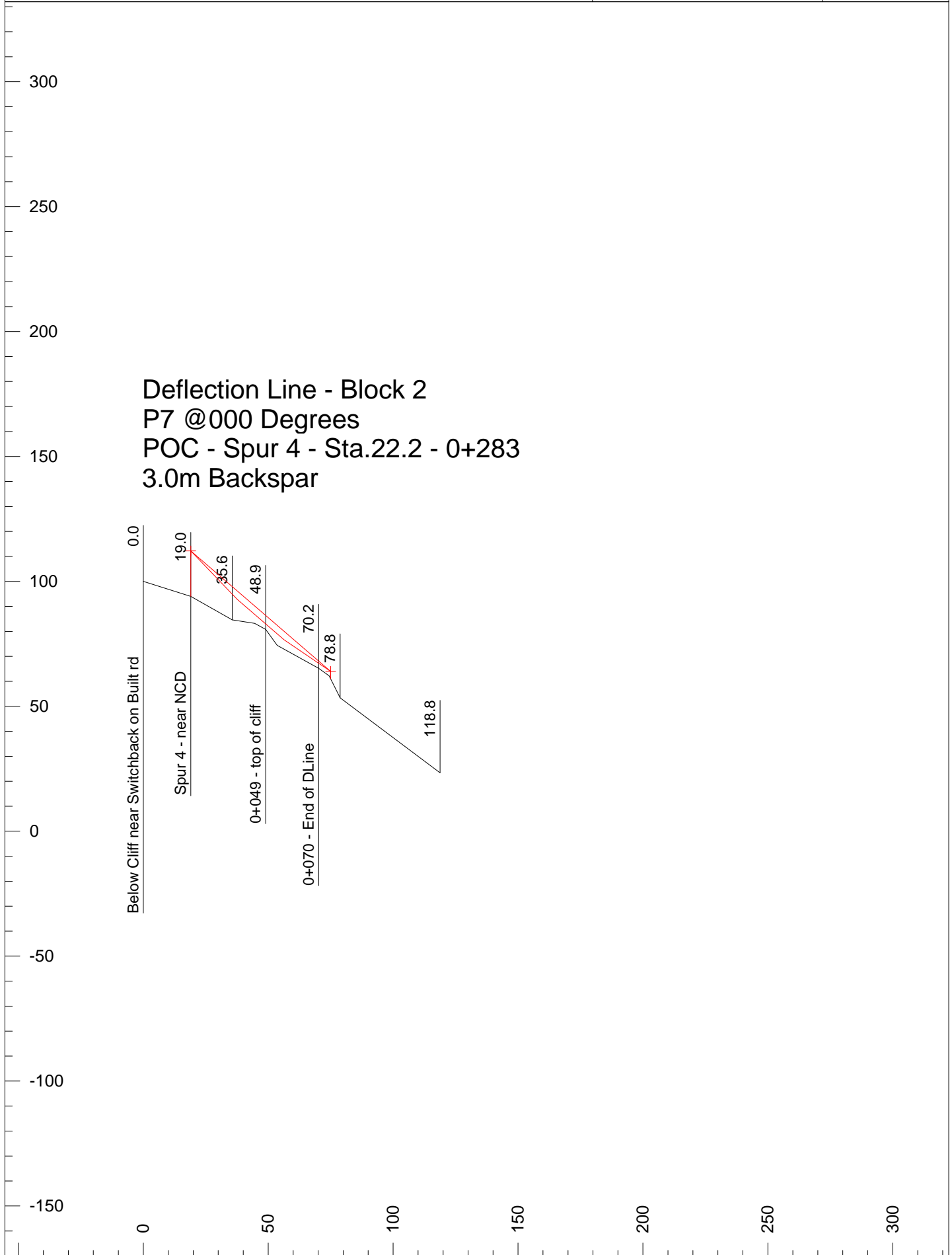
Grapple, ML, HB, Grapple, Car Wt.=4000lbs

Deflection Line - Block 2
DC-5 @030 Degrees
POC - Spur 3 - Sta.53 - 0+840
3.0m Backspar



Simple third point deflection: 6.0%

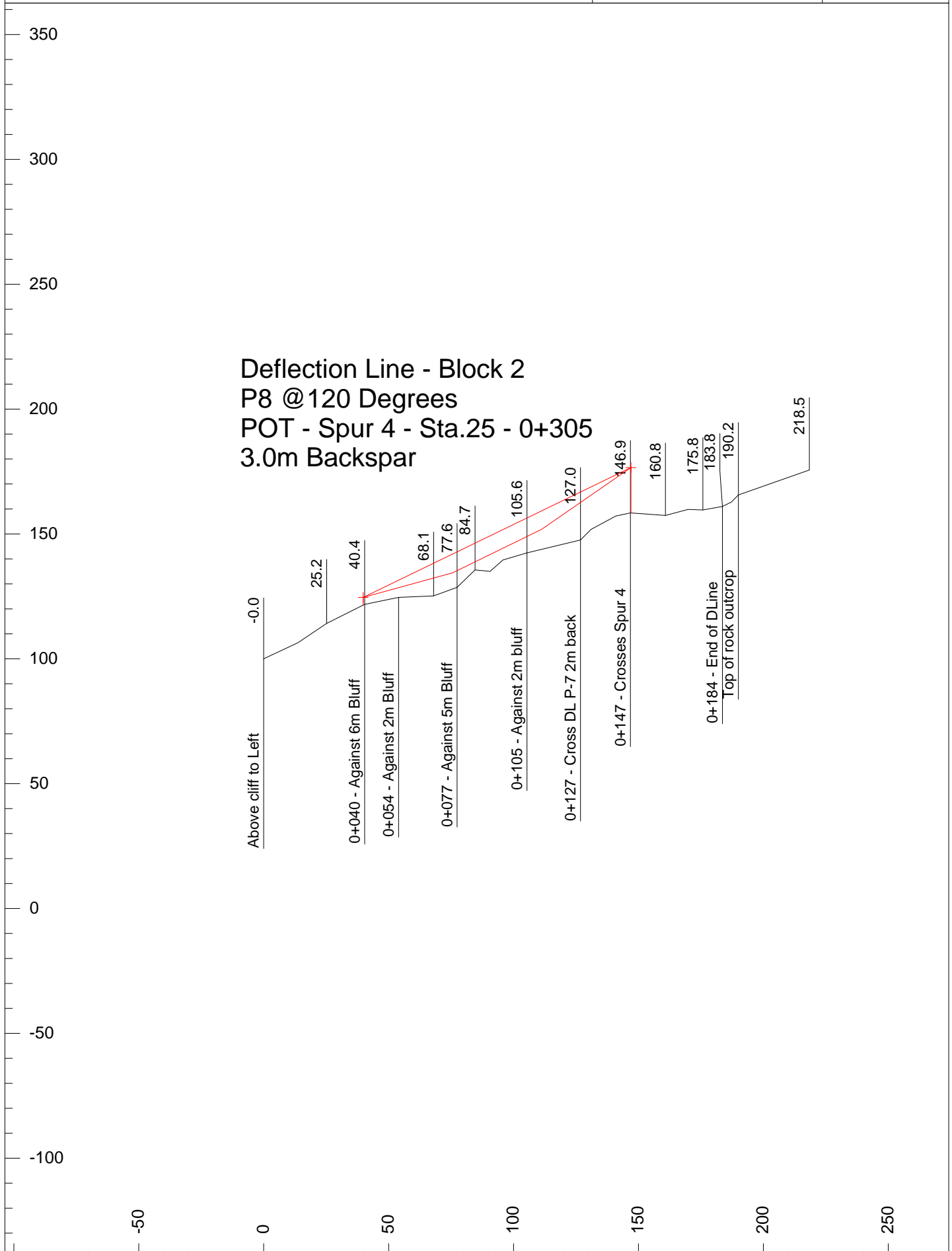
Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Deflection Line - Block 2
P7 @000 Degrees
POC - Spur 4 - Sta.22.2 - 0+283
3.0m Backspar

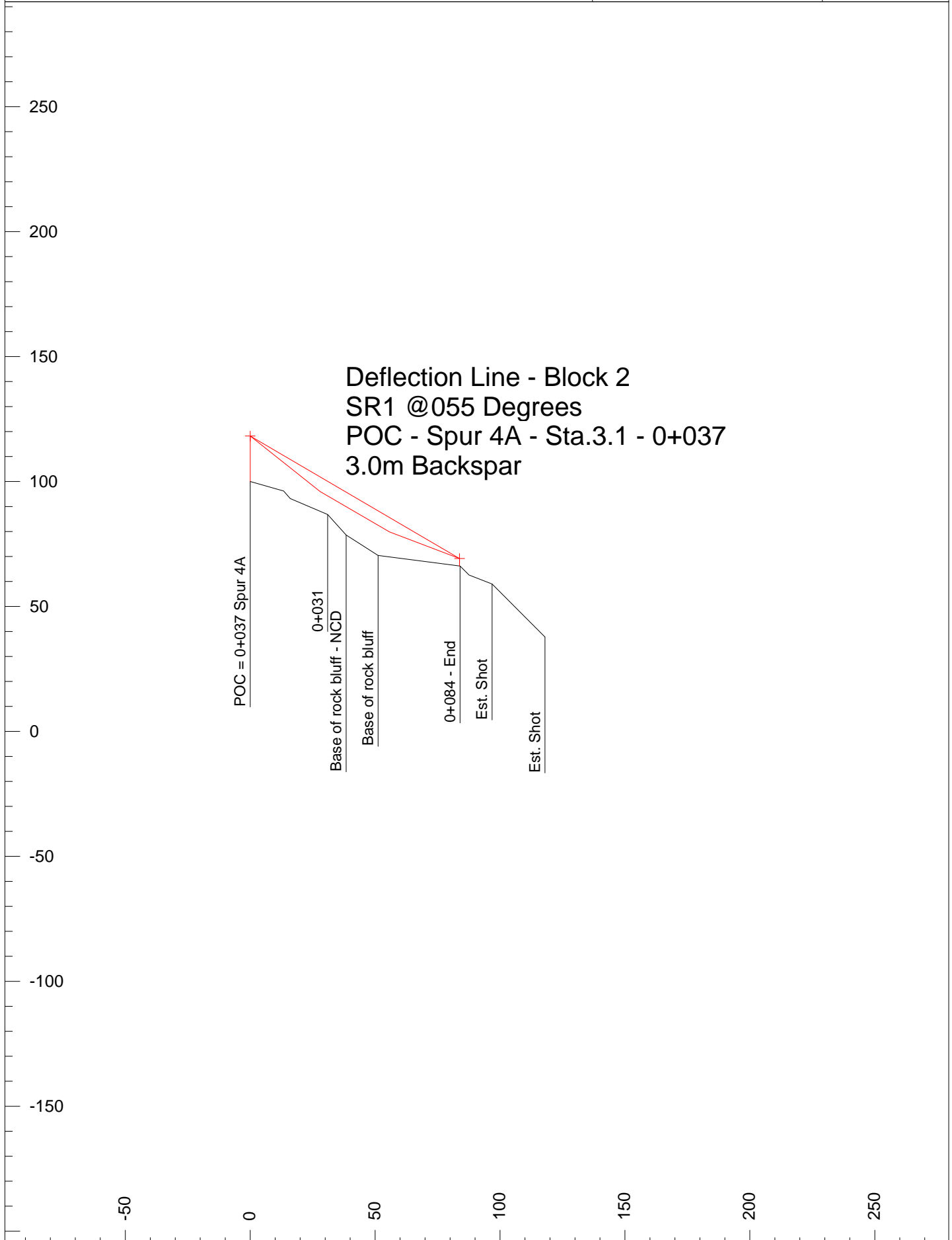
Simple third point deflection: 6.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs



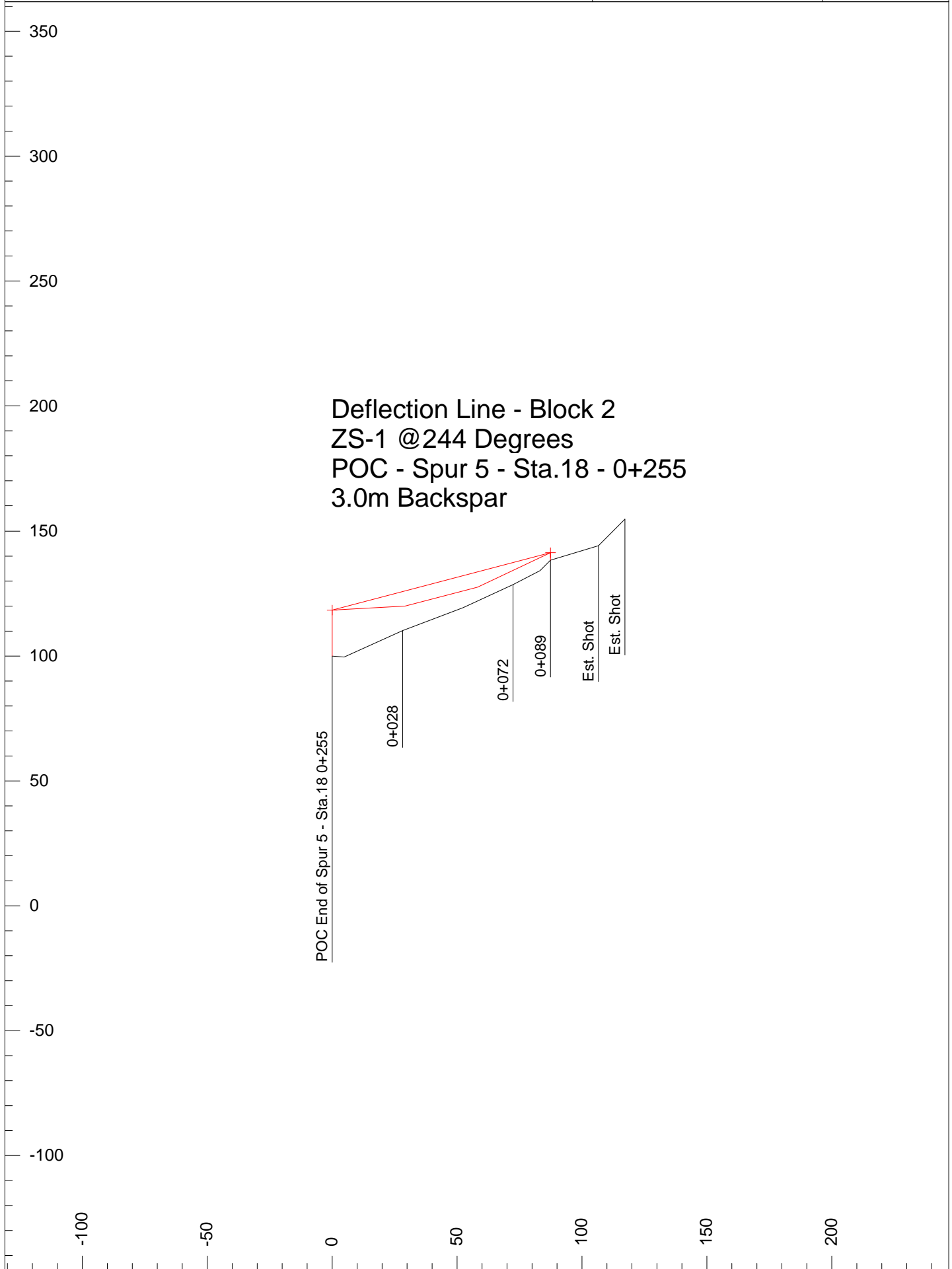
Simple third point deflection: 7.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs



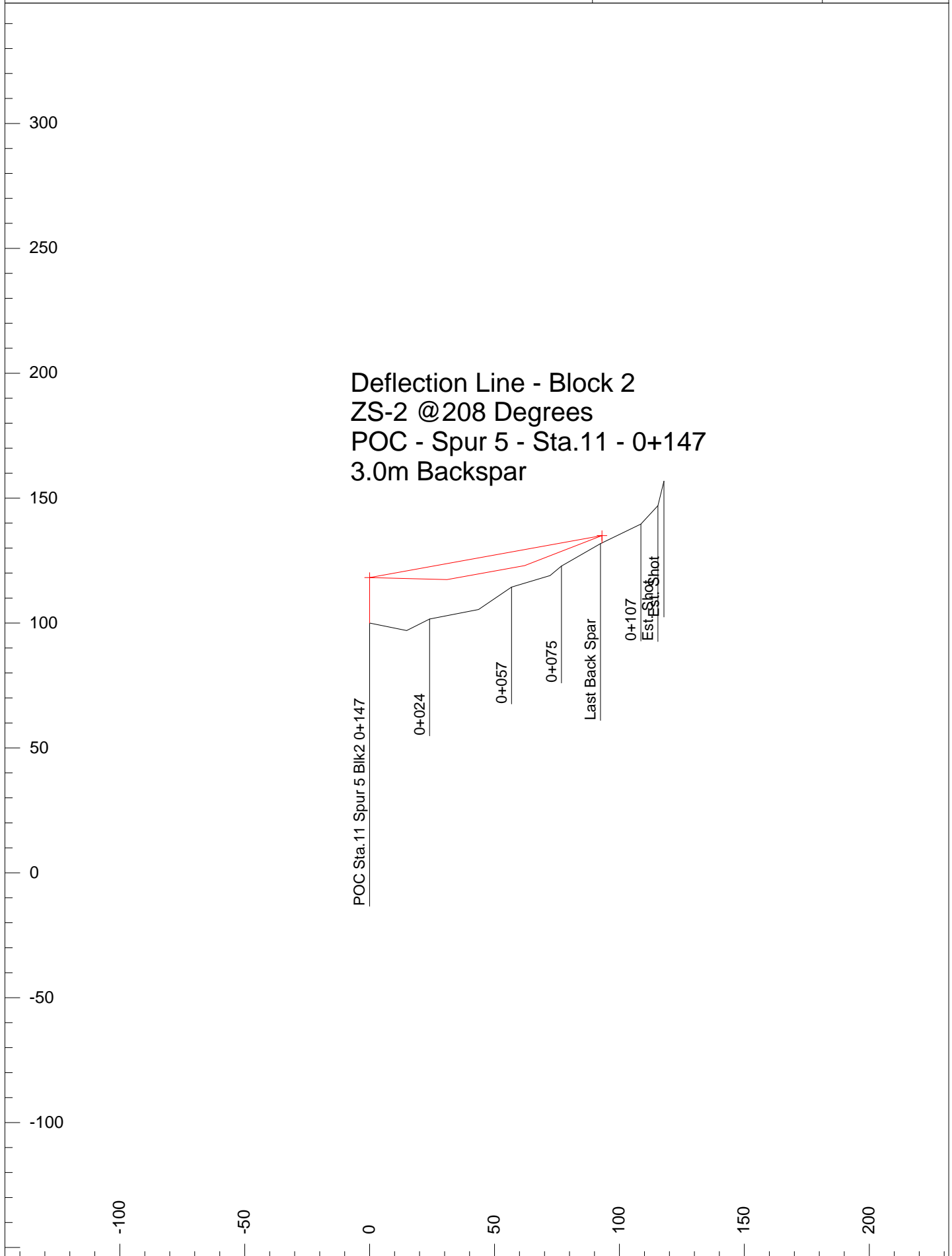
Simple third point deflection: 7.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Deflection Line - Block 2
ZS-1 @244 Degrees
POC - Spur 5 - Sta.18 - 0+255
3.0m Backspar

Simple third point deflection: 7.0%
Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Simple third point deflection: 7.0%

Grapple, ML, HB, Grapple, Car Wt.=4000lbs



Safety Highlights – OPENING#TS2

ACCESS ROAD: TA568

CUTTING PERMIT: NO. 9

TIMBERMARK: K2D 009

STEEP ROAD GRADES

Road segments with gradients > 18% have been identified on the Harvest and Road Instruction Plan Map in and en route to the setting, they are as follows:

TA568J

- 130-156m
- 164-232m
- 264-276m
- 318-333m
- 433-480m
- 499-523m
- 648-677m
- 703-770m
- 820-856m

Prior to commencing log hauling operations the contractor must perform a risk assessment of the current conditions and adjust hauling activities to fit the traction conditions. Hauling for TS2 will not be permitted when ice and or snow is on the logging roads leading to or in the given setting (very low traction level). This has been determined using FERRIC step grade decent guidelines. The Ministry of Transportation guidelines are to be followed once hauling on the highway.

ROCK FALL HAZARD

Rock fall hazards have been identified in two areas of cutblock TS2. Area one is below the bluffs from FC 10 to FC#12 and from FC#5 to FC#6. Area two is along the base of the rock outcrops near FC#29, just east of the NCD. A more detailed description of these areas can be found on in the Terrain Stability Assessment Report. The areas may also be viewed on the harvest and road instructions map.

RAINFALL SHUT DOWN

Cutblock TS2 is within Rainfall Shutdown Area “5”

Shutdown Criteria: Activities must shut down if: The total rainfall reaches 72 mm in 24 hours. Onsite rain gages should be used and monitored daily.

Start-Up Criteria: Activities may start-up when: The total rainfall is equal to or less than 50 mm in 48 hours. Refer to the Return to work guide in the tender document for more information.

Adequate recovery time should be given before building operations commence after a shutdown.

FALLING of SNAGS and DANGER TREES

There are minimal snags and danger trees within cutblock TS2. The following instructing area to be followed if dealing with snags and danger trees: In accordance with the Cutting Permit Authority and Work Safe BC Regulations, all snags and danger trees that endanger workers within a distance of 50m outside the cutblock boundaries, or within one and a half tree lengths, (whichever is greater), are approved for falling under these harvest



Safety Highlights – OPENING#TS2

instructions. All danger trees and snags outside the cutblock boundaries that are required to be felled must be recorded on a map and provided to AVCF once falling has been completed. AVCF will be notified immediately if danger trees and/or snags are identified in groups and removal will result in the cutblock boundary being substantially impacted. Felled snags and danger trees up to 50m outside of the falling boundary meeting utilization specifications will be recovered.

EXCEPTION- Wildlife Tree Patch (WTP) areas and OLD Growth Management Areas (OGMAs) - Snags or danger trees can be felled within a WTP for safety reasons although only the portion of the felled snag or danger tree that falls outside the WTP can be recovered.

Steep Slopes

This setting is to be hand felled and logged utilizing both grapple yarding and helicopter harvest systems. Operators are to assess areas prior to operation.

Recreational Use

Cutblock TS2 can be accessed from the public. Adequate signs must be posted to inform public of active blasting, logging, and hauling of the area.

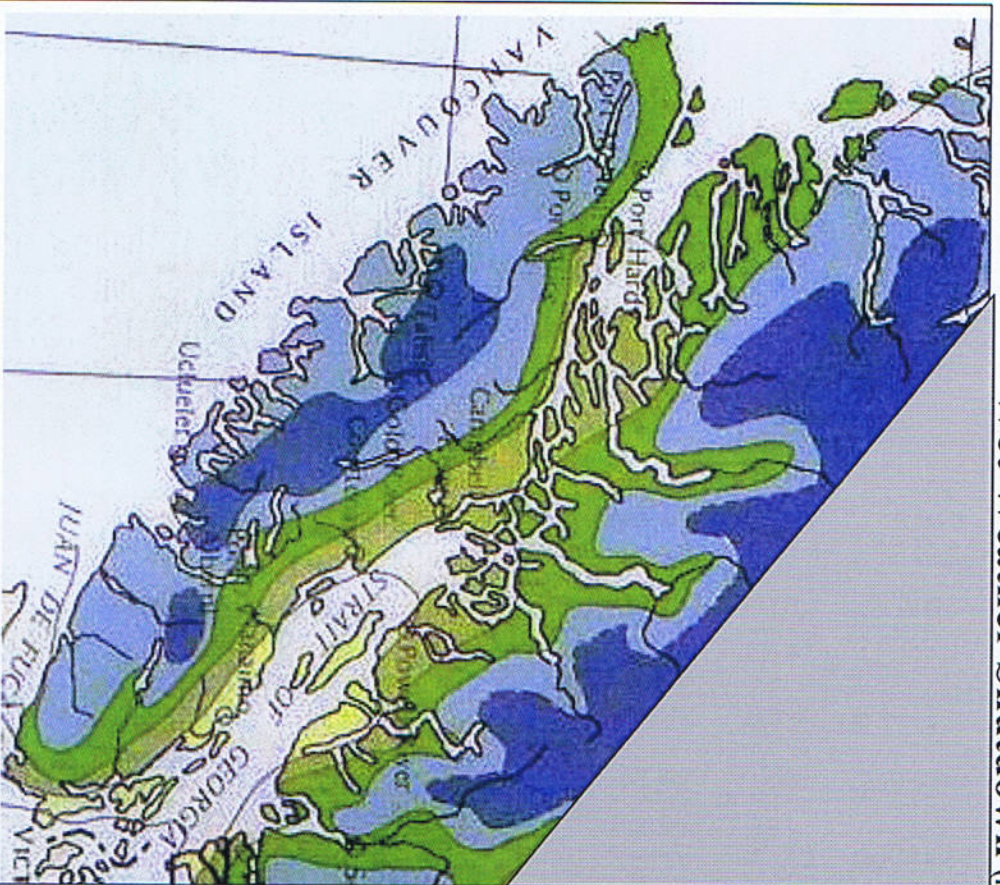
Leave Trees

Uniformly dispersed leave trees have been retained within the harvest areas as part of the **legal requirements** for cutblock's located within the Sproat Lake Special Management Zone No. 17. As such, these trees have been selected and marked /identified with a blue panted "L" for leave tree. They are not to be cut or damaged during cutblock development.

Wet Weather Shutdown (modified Nov 7, 2006)



BCTS
BC Timber Sales
Strait of Georgia



Zone	Mean Annual Precip (mm)	Shutdown Threshold (mm/24 hours)
1	750	20
2	1500	40
3	2500	60
4	3000	75
5	3500	90

TABLE B Local Soil Type	Multiplier Factor
Very Erodible (e.g. lacustrine)	0.4
Erodible (e.g. organics, sands)	0.6
Least Erodible (e.g. colluvium, till)	0.8
Bedrock	1.0

TABLE C Slope Modifier	Multiplier Factor
0% - 57	1.0
57% - 70%	0.9
71% - 88%	0.8
89% +	0.7

Instructions:

- 1) Use base shutdown threshold from Table A
 - 2) Multiply by Soil Type Modifier from Table B
 - 3) Multiply result by Slope Modifier from Table C
- Result is rainfall shutdown threshold in millimeters in a 24 hour period

Example

Zone#	Table-A: Mean Annual Precipitation (mm)	Shutdown Threshold (mm/24-hours)
1#	750#	20#
2#	1500#	40#
3#	2500#	60#
4#	3000#	75#
5#	3500#	90#



TABLE-B: Local Soil Types	Multiplier Factor
Very-Erodible (e.g. lacustrine)	0.4#
Erodible (e.g. organics, sands)	0.6#
Least-Erodible (e.g. colluvium, till)	0.8#
Bedrock	1.0#



TABLE-C: Slope Modifiers	Multiplier Factor
0% - 5%	1.0#
5% - 70%	0.9#
71% - 88%	0.8#
89% +	0.7#

For Dark Blue Zone 5; 24 Hr Shutdown Criteria = $90 \times 0.8 \times 0.8 = 58 \text{ mm}$

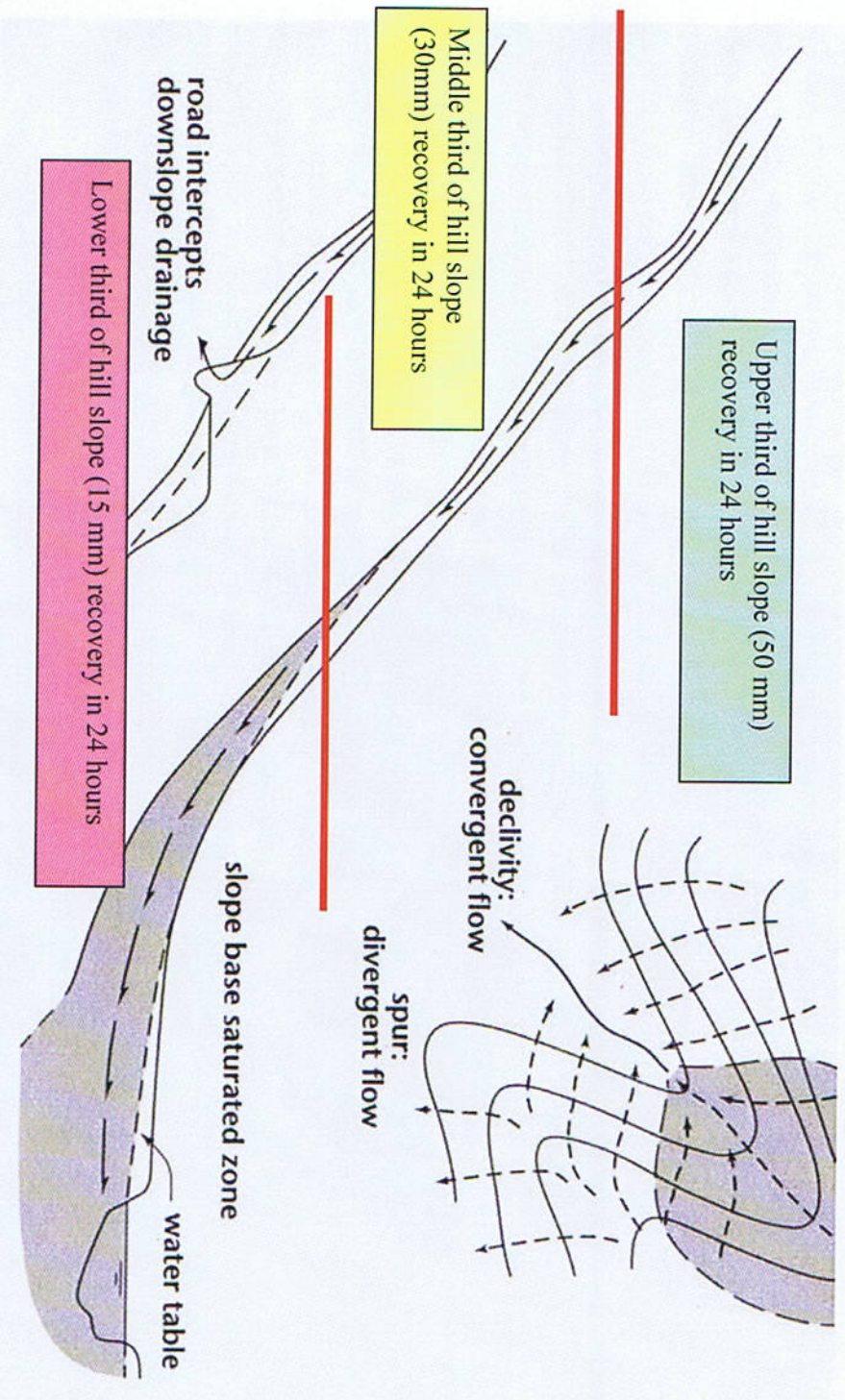
Return to Work Estimation Guide

Water balance returns to normal after a heavy rainfall period subject to a number of variables

- -slope position
- -slope gradient
- -soil type and depth (or proximity to bedrock)

Where a road is located above the worksite, interception by ditch lines may have the effect of increasing the recovery rate for lower slope positions

Using the following sketch as a guide, identify the slope position of the planned activity (upper, middle and lower thirds)
In an **average** situation precipitation input is reduced in a 24 hour period by the indicated values based on slope position





**COMMUNITY FOREST
AGREEMENT K2D
CUTTING PERMIT NO. 010**

Ministry of
Forests, Lands and
Natural Resource Operations

PURSUANT TO the Community Forest Agreement No. **K2D** (the "Agreement"), this Cutting Permit is issued to:

ALBERNI VALLEY COMMUNITY FOREST CORPORATION

7500 Airport Road
Port Alberni, British Columbia
V9Y 8Y9
(the "Agreement Holder")

1.00 PERMIT AREA AND TERM

- 1.01 Subject to the Agreement and the Forestry Legislation, the Agreement Holder is authorized to cut and Remove timber from the areas of lands within the Agreement Area that are designated on the map attached as Exhibit "A" to this Cutting Permit.
- 1.02 Subject to the Agreement, the term of this Cutting Permit is **four (4)** years, beginning on the date signed by the District Manager (See Page 3).

2.00 SPECIAL CONDITIONS AND REQUIREMENTS

- 2.01 The Agreement Holder must comply with the conditions and requirements set out in Schedule "A" to this Cutting Permit.

3.00 TIMBER REMOVED AND WASTE ASSESSMENT

- 3.01 The timber described in Schedule "B" is specified as reserved timber and the Agreement Holder must not fell standing timber, and must not buck or remove felled or dead and down timber, as the case may be, of the species and description set out in Schedule "B".

4.00 TIMBER MARKS

4.01 The timber mark(s) for timber Removed from land identified as Schedule B Land in the Agreement under this Cutting Permit is/are:

**K2D
010**

4.02 The timber mark for timber Removed from land identified as Schedule A Land in the Agreement under this Cutting Permit is/are: **Not Applicable**

4.03 If directed to do so by the District Manager, the Agreement Holder must erect signs at all exits from the areas of land referred to in paragraph 1.01, clearly showing the timber mark(s) referred to in paragraphs 4.01 and 4.02.

5.00 SCALE-BASED STUMPAGE

5.01 The Agreement Holder must ensure that

- (a) all timber Removed from the areas of land referred to in paragraph 1.01 is scaled, and
- (b) the scale of the timber is conducted properly in accordance with the requirements of the *Forest Act* and the regulations made under that Act.

5.02 For the purpose of determining the amount of stumpage payable in respect of timber Removed from the areas of Schedule B Land in the Agreement, authorized for cutting and Removal under this Cutting Permit, the volume or quantity of timber Removed will be determined using information provided in a scale of the timber.

6.00 ROADS

Subject to the Agreement and the Forestry Legislation, the Agreement Holder may use, construct, modify, maintain or deactivate roads on the area covered by this Cutting Permit.

7.00 HARVESTING OPERATIONS

7.01 The Agreement Holder must ensure that

- (a) all phases of timber cutting and Removal and related operations under or associated with this Cutting Permit are synchronized, and

- (b) all operations on one area designated for cutting and Removal of timber under this Cutting Permit is completed to the satisfaction of the District Manager before operations are commenced on another area.
- 7.02** The Agreement Holder must not erect or operate a sawmill or wood processing plant on an area of land referred to in paragraph 1.01 of this Cutting Permit.
- 7.03** The rights granted under this Cutting Permit are subject to other rights of use and occupation, and the Agreement Holder must not interfere with the exercise of those rights.
- 7.04** The Agreement Holder must not allow the manufacture of special forest products on the area of land described in paragraph 1.01 of this Cutting Permit, unless authorized to do so by the District Manager.

MISCELLANEOUS

- 8.01 The Schedules and Exhibit “A” to this Cutting Permit are deemed to be part of this Cutting Permit.
 - 8.02 As provided in the Agreement, this Cutting Permit is deemed to be part of the Agreement.
 - 8.03 The Agreement governs the interpretation of this Cutting Permit.
-

SCHEDULE "A"
SPECIAL CONDITIONS AND REQUIREMENTS

1.00 TIMING OF OPERATIONS

The Licensee must ensure that all phases of timber harvesting and related operations under or associated with this Cutting Permit are synchronized.

2.00 ORDERLY CONDITION

The Licensee shall, concurrently with harvesting operations, leave all areas in an orderly and sanitary condition.

3.00 DANGEROUS TREES

3.01 The Licensee may fell trees outside of the cutblock boundary(s) identified on the attached map as Exhibit "A", for the purposes of tree felling to eliminate a safety hazard, if the person conducting tree felling or rigging tail hold/anchor trees determines that the tree is a dangerous tree according to Work Safe BC regulations and it is within 50 metres beyond the cutting authority area.

3.02 No authorization is given to fell, damage, alter or utilize timber located outside of the boundaries of Crown land associated with Community Forest Licence K2D.

4.00 TIMBER MARKS

4.01 In reference to paragraph 4.03 of the Cutting Permit, the Licensee must erect timber mark signs at all exits from the area of land or at changes of timber marks within the area of land referred to in the Cutting Permit paragraph 1.01, clearly showing the appropriate timber marks.

4.02 Harvesting operations must be conducted in a manner ensuring the accurate application of timber marks to timber to the satisfaction of the District Manager.

5.00 OTHER OCCUPIERS OF LAND

The rights granted under this Permit are subject to other rights of use and occupation and the Licensee must not interfere with exercise of those rights.

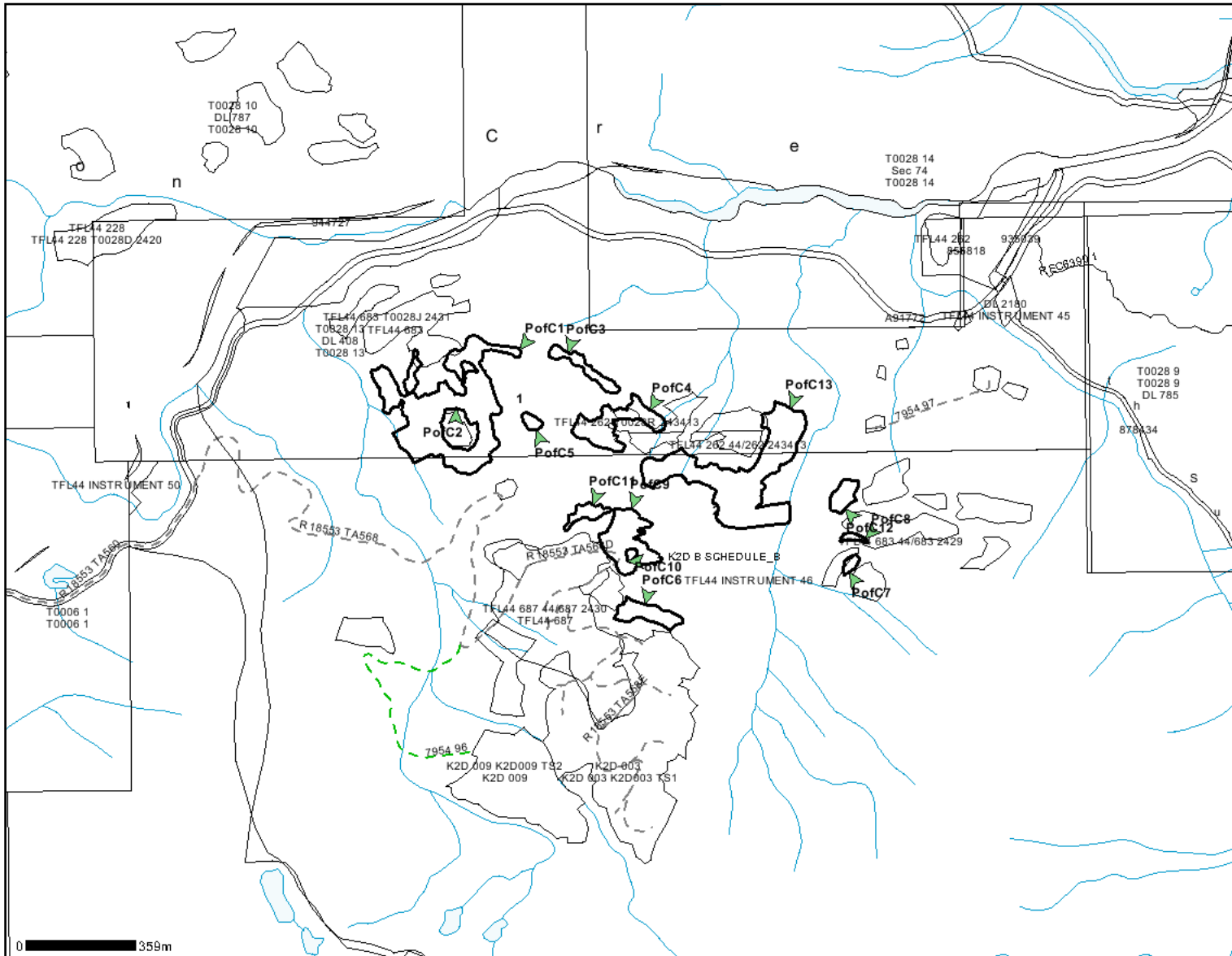
SCHEDULE “B”

1.00 RESERVED TIMBER
























1.01 The following timber is specified as reserved timber:

Cutblock	Description (size, etc.)
<p>1 2</p>	<p>All sizes and grades of timber, whether fallen or standing, dead or alive, within areas shown as “Retention” on the 1:5,000 scale application “Exhibit A Map” for cutblocks 1 and 2 attached to this Cutting Permit are reserved from felling except if the person conducting tree felling or rigging tailhold/anchor trees determines that the tree represents a safety hazard according to Work Safe BC standards.</p> <p>All sizes and grades of timber, whether fallen or standing, dead or live, within areas shown as 70%, dispersed retention and on the 1:5,000 application ‘Exhibit A Map’ for cutblock 2 attached to this Cutting Permit are reserved timber except in the following circumstances:</p> <p style="padding-left: 40px;">If the person conducting tree felling or rigging tailhold/anchor trees determines that a tree represents a safety hazard according to Work Safe BC standards. Unless otherwise reserved from removal or harvesting in the applicable forest stewardship plan, any felled safety hazard trees may be removed.</p> <p style="padding-left: 40px;">Areas described as 70% dispersed timber is reserved to the extent necessary to achieve the post harvest stand structure as detailed in the attached table titled “Leave Tree Report”.</p>

MAP OF : K2D CP 010 (shown in bold black)			
FOREST REGION : RWC FOREST DISTRICT : DSI	TSA : 38 LAND DISTRICT : CLAYOQUOT DISTRICT	PULPWOOD AGREEMENT :	MGT UNIT TYPE : COMMUNITY FOREST MGT UNIT NO :
ESF SUBMISSION ID : 1476124 BCGS MAPSHEET NO : 92F.024	SCALE : 1:20000 at A Size Area (Ha): 24.539	UTM : 10 NAD : NAD 83	DRAWN BY : FTA DATE : Jan 8, 2016



Legend

-  Tenure Application
-  Tenure Road Application
-  Retired Tenure Road
-  P of C
-  P of T
-  Tenure Feature
-  Range
-  TFL
-  Provincial Forest
-  Forest Service Road
-  Highway
-  Municipal Road
-  Non Status Road
-  Recreation Trails
-  Road Permit
-  SUP Road
-  Right of Way
-  Schedule B CP Road
-  Mineral Tenure Points
-  Cities
-  Waterbodies
-  River/Stream
-  Coastline / Island

1 (11.999 Ha)
 PoFC1 UTM10 330495, 5461937
 PoFC2 UTM10 330281, 5461754
 PoFC3 UTM10 330651, 5461920
 PoFC4 UTM10 330909, 5461722
 PoFC5 UTM10 330537, 5461673

2 (12.539 Ha)
 PoFC6 UTM10 330869, 5461091
 PoFC7 UTM10 331534, 5461169
 PoFC8 UTM10 331591, 5461277
 PoFC9 UTM10 330837, 5461405
 PoFC10 UTM10 330817, 5461234
 PoFC11 UTM10 330711, 5461422
 PoFC12 UTM10 331529, 5461376
 PoFC13 UTM10 331365, 5461710

Cutblock: 2

Forest Region: Coast
Forest District: South Island
Land District: Barclay
Cascades: West C
Tenure: K2D
Geographic Coordinates:
Lat: 49° 16' 54"
Long: 125° 19' 20"
Author: D. Brown
Map Date: June-01-16

Scale:
1:5,000

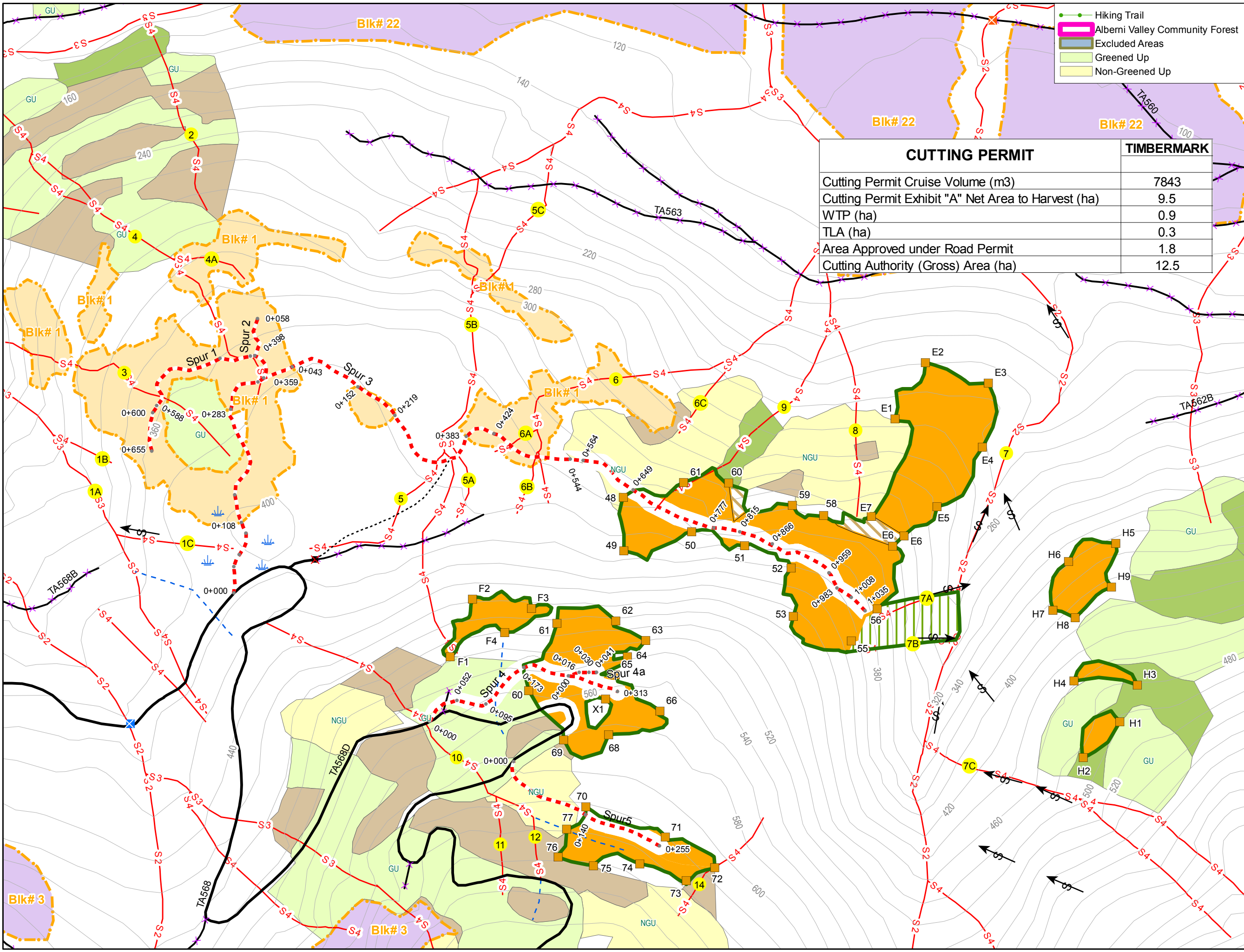
Mapsheet: 92F024
Datum: NAD83

CUTTING PERMIT		TIMBERMARK
Cutting Permit Cruise Volume (m3)		7843
Cutting Permit Exhibit "A" Net Area to Harvest (ha)		9.5
WTP (ha)		0.9
TLA (ha)		0.3
Area Approved under Road Permit		1.8
Cutting Authority (Gross) Area (ha)		12.5

MAP LEGEND

- Boundary Features:**
 - Falling Boundary
 - Heli Splitline
 - Adjacent Engineered Block
 - Adjacent Proposed Block
 - Legal Boundary
 - Pruning
 - Feathering
- Road Features:**
 - Built Road
 - Permanent Deactivated Rd
 - Semi-Perm Deactivated Rd
 - Proposed Road
 - Backspar Trail
 - Safety Trail
 - Bridge Existing / New / Out
 - Road Station
 - Existing Culvert
 - New Culvert
 - Culvert Out
- Natural Features:**
 - Windthrow
 - Snag
 - Swamp
 - Slide
 - Rock Bluff
 - Karst Feature
 - Landslide Initiation Feature
- Resource Features:**
 - Hazard
 - Single Tree Retention
 - Monumental Cedar
 - Archaeological Feature/CMT
 - Government Archaeological Site
 - Quarry/Gravel Pit
 - Bear Den/Bird Nest
 - Helipad/Service Landing
 - Index Contour
 - Intermediate Contour
- Riparian Features:**
 - Fish Streams (S1-S4)
 - Non Fish streams (S5, S6)
 - Unclassified Creek
 - Non Classified Drainage
 - Gully
 - Fish Habitat Area
 - Reach Break/Fish Barrier
 - Stream ID
- Lakes/Wetlands:**
 - Lakes Class 1, 2, 3, 4
 - Wetlands Class 1, 2, 3, 4, 5
- Sensitive and Designated Areas:**
 - Wildlife Tree Patch
 - TLA (100% Retention)
 - Adjacent WTP
 - Adjacent TLA

Cutting Permit:	
CP Gross Area	
CP Net Area	



Road Permit:

Cutting Permit:

MAP 1 of 1

Cutblock: 1

Forest Region: Coast
Forest District: South Island
Land District: Barclay
Cascades: West C
Tenure: K2D
Geographic Coordinates:
Lat: 49° 17' 6"
Long: 125° 19' 52"
Author: D. Brown
Map Date: June-01-16

Scale:
1:5,000

Mapsheet: 92F024
Datum: NAD83

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splittine
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Rece Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature
- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- TLA (100% Retention)
- Adjacent WTP
- Adjacent TLA

Cutting Permit:

- CP Gross Area
- CP Net Area

CUTTING PERMIT		TIMBERMARK
Cutting Permit Cruise Volume (m3)		4680
Cutting Permit Exhibit "A" Clearcut Area to Harvest (ha)		8.7
Cutting Permit Exhibit "A" 70% Retention (ha)		0.3
WTP (ha)		0.8
TLA (ha)		0.2
Area Approved under Road Permit		2.0
Cutting Authority (Gross) Area (ha)		12.0

70% Dispersed Retention
Area - Fallers Select

Road Permit:

Cutting Permit:

MAP 1 of 1

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

08-Jan-2016 07:42:31AM
 Filename: comm_for_blk1_leave_tree_report
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [70% Leave : 0.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20										59.9
25										
30		19.2	24.3				43.6			
35		15.6					15.6			
40			26.3		13.5		39.8			
45			31.4				31.4			
50	7.4	15.7	7.4				30.6			
55	6.8	6.4	6.5				19.6			
60		16.1	5.5				21.6			
65		13.3					13.3			
70	4.2	4.3					8.5			
75										
80	6.3						6.3			
85		2.9					2.9			
90	2.6						2.6			
95	4.4	2.2	2.2				8.9			
100	1.9						1.9			
105	1.9						1.9			
110	5.0	3.4					8.5			
115										
120										
125										
130										
135										
140	1.1						1.1			
145										
150										
175										
200										
225										
250										
275										
Total	41.6	99.3	103.7		13.5		258.1			
Dead P										
Dead U										
Live U										59.9
Average DBH(cm) at 5 Levels										
12.5 +	82.1	56.8	44.0		38.5		56.4			18.3
17.5 +	82.1	56.8	44.0		38.5		56.4			18.3
22.5 +	82.1	56.8	44.0		38.5		56.4			
27.5 +	82.1	56.8	44.0		38.5		56.4			
32.5 +	82.1	61.3	47.7		38.5		60.4			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Leave Tree Report, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Type Stock Table (m3/ha)

Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF_NOVA Computerized Breakage District: 04 - South Island

08-Jan-2016 07:42:31AM
 Filename: comm_for_blk1_leave_tree_report
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [70% Leave : 0.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30		4.3	8.5				12.9			
35		4.3					4.3			
40			29.2		9.4		38.6			
45			47.7				47.7			
50	13.7	18.1	15.9				47.7			
55	14.5	7.3	16.8				38.6			
60		20.9	19.5				40.4			
65		22.1					22.1			
70	18.0	7.1					25.2			
75										
80	26.8						26.8			
85		6.9					6.9			
90	14.5						14.5			
95	34.7	9.6	20.1				64.4			
100	15.4						15.4			
105	13.4						13.4			
110	43.9	17.2					61.1			
115										
120										
125										
130										
135										
140	18.3						18.3			
145										
150										
175										
200										
225										
250										
275										
Total	213.2	117.8	157.7		9.4		498.2			
Dead P										
Total Volumes for 7 Levels										
17.5 +	213.2	117.8	157.7		9.4		498.2			
22.5 +	213.2	117.8	157.7		9.4		498.2			
27.5 +	213.2	117.8	157.7		9.4		498.2			
32.5 +	213.2	113.5	149.2		9.4		485.4			
37.5 +	213.2	109.2	149.2		9.4		481.1			
42.5 +	213.2	109.2	120.0				442.4			
47.5 +	213.2	109.2	72.3				394.8			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Leave Tree Report, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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File: 11400-25, R18553, Amendment #11

Alberni Valley Community Forest Corporation
7500 Airport Road
Port Alberni, British Columbia
V9Y 8Y9

Dear Sir/Madam:

Reference is made to your application dated January 4, 2016, for an amendment of Road Permit (RP) No. R18553 within Alberni Valley Community Forest Licence K2D.

Pursuant to paragraph 1.01 and 2.01 of RP No. R18553, the roads identified in the list below, and the attached map shall form an integral part of the document for RP No. R18553 and should be attached thereto.

This amendment pertains to the construction, maintenance and use of the following roads within the *Alberni Valley Community Forest Corporation 2011 to 2016 Forest Stewardship Plan approved June 6, 2011*:

Licensee Road Name	Sec. Designation on Exhibit A Map	Station(from)	Station(to)
Spur 1	Spur 1	0+000	0+655
Spur 2	Spur 2	0+000	0+058
Spur 3	Spur 3	0+000	1+035
Spur 4	Spur 4	0+000	0+313
Spur 4a	Spur 4a	0+000	0+041
Spur 5	Spur 5	0+000	0+255

All operations are to conform to the *Forest and Range Practices Act*. The Forest Road Engineering Guidebook may be used to assist achieving compliance with the Act.

Yours truly,

Attachment: Exhibit A Map (ESF 1476127)

**Ministry of Forests, Lands
and Natural Resource
Operations**

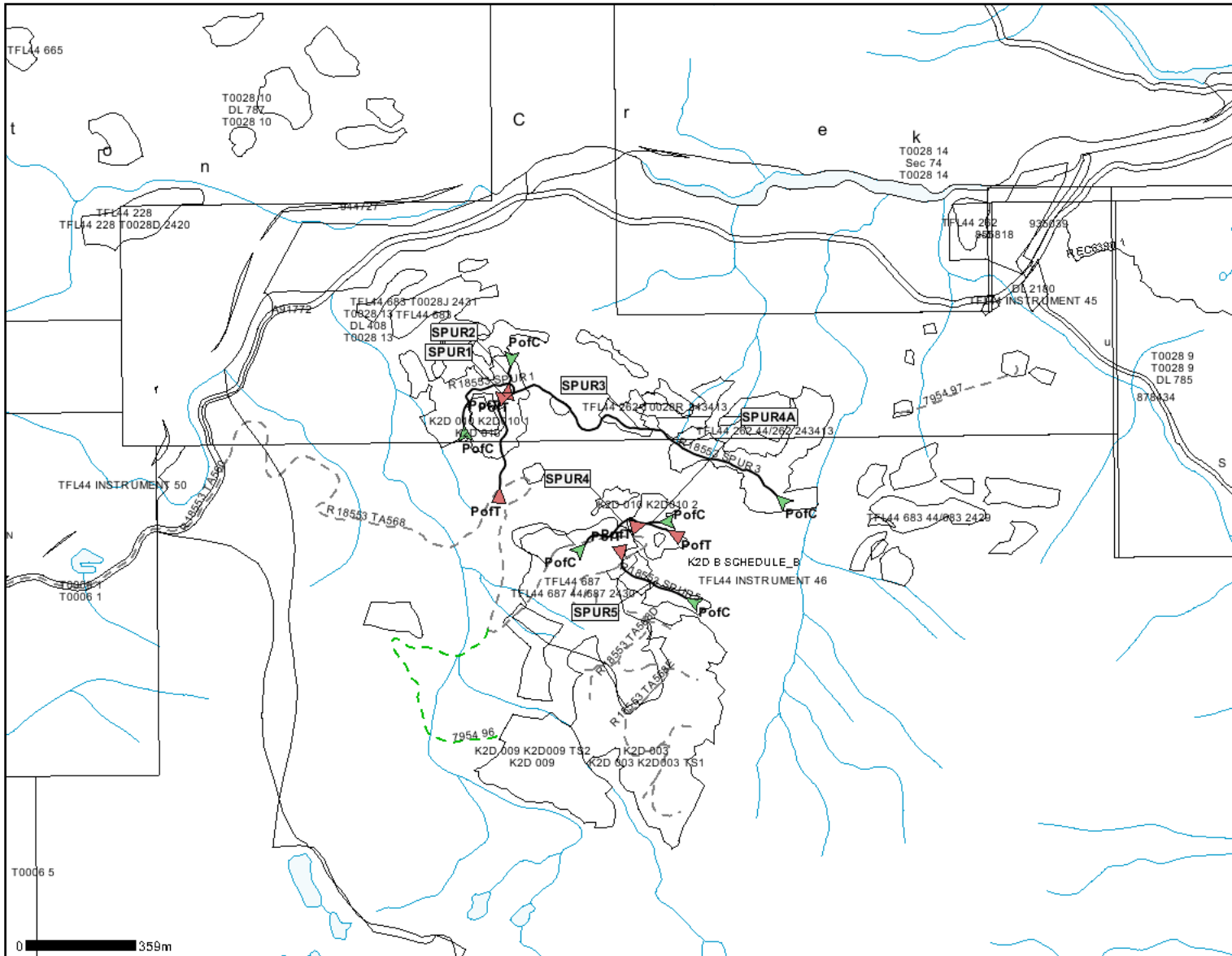
South Island Natural
Resource District

Location:
4885 Cherry Creek Road
Port Alberni BC
























Mailing Address:
4885 Cherry Creek Road
Port Alberni BC V9Y 8E9

Tel: (250) 731-3000
Fax: (250) 731-3010

MAP OF : R18553 Amendment # 11 (shown in bold black)			
FOREST REGION : RWC FOREST DISTRICT : DSI	TSA : LAND DISTRICT : CLAYOQUOT DISTRICT	PULPWOOD AGREEMENT :	MGT UNIT TYPE : COMMUNITY FOREST MGT UNIT NO :
ESF SUBMISSION ID : 1476127 BCGS MAPSHEET NO : 92F.024	SCALE : 1:20000 at A Size Length (Km): 2.357	UTM : 10 NAD : NAD83	DRAWN BY : FTA DATE : Jan 11, 2016



Legend

-  Tenure Application
-  Tenure Road Application
-  Retired Tenure Road
-  P of C
-  P of T
-  Tenure Feature
-  Range
-  TFL
-  Provincial Forest
-  Forest Service Road
-  Highway
-  Municipal Road
-  Non Status Road
-  Recreation Trails
-  Road Permit
-  SUP Road
-  Right of Way
-  Schedule B CP Road
-  Mineral Tenure Points
-  Cities
-  Waterbodies
-  River/Stream
-  Coastline / Island

SPUR1 (Length: 0.655 Km, R/W: 75 m) PoC UTM10 330211, 5461651 PoT UTM10 330320, 5461444
SPUR2 (Length: 0.0576 Km, R/W: 75 m) PoC UTM10 330369, 5461833 PoT UTM10 330363, 5461781
SPUR3 (Length: 1.0353 Km, R/W: 75 m) PoC UTM10 331216, 5461383 PoT UTM10 330375, 5461749
SPUR4 (Length: 0.3127 Km, R/W: 75 m) PoC UTM10 330591, 5461250 PoT UTM10 330859, 5461282
SPUR4A (Length: 0.041 Km, R/W: 75 m) PoC UTM10 330831, 5461310 PoT UTM10 330791, 5461307
SPUR5 (Length: 0.2551 Km, R/W: 75 m) PoC UTM10 330910, 5461060 PoT UTM10 330708, 5461188

AVCF

COMM - CP# PRE

Block #: Block 1

SUMMARY OF VOLUMES (loss factors)
FULL VOLUMES APPLIED

28-Sep-2015 07:24:47PM

Map Area Statement Report

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Card A Cruise Identity

Licence #	: COMM	Cutting Permit #	: PRE
Number of Blocks	: 1	Forest Region	: West Coast
Forest District	: South Island	Type	: PSYU
Unit No	: Nootka	Tenure	: Community Forest Agreement
Quota	: Prop./Mngd.PSYU,TFL,or SSA	Sale Type	: None
Elevation	: 1	Co-ordinates Zone	: Unknown
East	: 0	North	: 0
Total Merch Area	: 12.30	Report Type	: *** FOR APPRAISAL PURPOSES ***
Locality	:		

Card B Compilation Standard

Damage	: Damage	Selective	: Compile All Trees
Double Sampling	: Measure Plots Only	Special Compilation	: No Special Compilation
Species Compilation	: Exceptions Not Used	Type of Compilation	: Coastal

Compilation Standard	Mature	Immature
DBH Limit	17.50	12.00
Stump Height	30	30
Top Diameter	15.00	10.00

Card C Type Description

Type	Description	Silvicultural Treatment Units	
		A	B
1	CF (H) 951	4.7	
2	FH (C) 841	6.2	0.4
3	F (P) 831	0.3	0.7

Card D Block Description

Block	Description	Maturity	Type	Silvicultural Treatment Units	
				A	B
001	Block 1	M	1	4.7	
			2	6.2	0.4
			3	0.3	0.7

Card F Harvesting Description

Harvest Method	Harvest Description	Type	Silvicultural Treatment Units		
			A	B	
CC	Cable - Clearcut	1	1.1		
		2	4.1		
HL	Heli - Land	1	3.6		
		2	0.4		
SC	Ground Systems - Clearcut	2	1.7	0.4	
		3	0.3	0.7	

*** FOR APPRAISAL PURPOSES ***

MAS- 2 , p3

Average Line Method
AVCF
Licence Number: COMM CP: PRE
Project: AVCF_NOVA

Grades: MOF Computerized
Computerized Decay
Computerized Waste
Computerized Breakage

Map Area Statement Report

FIZ: B
PSYU: Nootka
Region: 2 - West Coast
District: 04 - South Island

28-Sep-2015 07:24:47PM
Filename: comm_for_blk1_typed_lf.ccp
Compiled by: F Warren and Associates Ltd
Cruised by: AZMETH
Version: 2015.00 IFS build 5947

Card G Treatment Unit Description

Treatment Unit Description

A	Block
B	RW outside

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Appraisal Summary Report

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA
 Location :

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage
 No Of Blocks : 1

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Net Area: [All Treatment Units : 12.3]

All Method Summary

Algorithm Grades % Species Code Description	D	F	H	I	J	U	X	Y	Net Volume (m3)			Net Volume / ha		
									All	Live	DP	All	Live	DP
BA Balsam					100				96	96	0	7.836	7.836	0.000
CE Cedar			41		23	31	4	1	1002	1002	0	81.485	81.485	0.000
CY Y. Cedar					97				224	63	160	18.192	5.157	13.036
FI Doug-Fir	2	7	34	8	12	32	3	2	2952	2952	0	240.027	240.027	0.000
HE Hemlock			17	11	54	15		3	1689	1667	22	137.334	135.540	1.794
WH W.W. Pine					100				50	50	0	4.088	4.088	0.000
Total									6014	5832	182	488.963	474.133	14.830

Harvesting Method Summaries

Harvest Method	Net Volume	Net Vol /10m Log	Net Vol /Hectare	Hem+ Bal%	Partial Cut%	Slope%	Down Tree%	Heavy Fire%
CC	2281	0.77	438.676	30		50	0	0
HL	2709	0.86	677.140	32		64	0	0
SC	1025	0.73	330.504	25		25	0	0
Conventional Methods	3306	0.75	398.275	28		40	0	0
All Methods	6014	0.80	488.963	30			0	0

Cutting Authority

95% Confidence Interval 25.5
 Plots/Ha 1.3
 Cruised Trees/Plot 5.1
 Net 2nd Growth-Conifer % 0.0
 Net 2nd Growth-Conifer (m3) 0
 Net Immature by Block % 001: 0%
 Non Heli Select Conifer (m3/ha) 488.96
 Heli Select Total (decimal) 0.00
 Heli+Skyline Total (decimal) 0.45
 Piece Size - Conifer (m3/10m log) 0.80
 Cruise Date (yy-mm): 15-09
 # Plots: 16 # <= 5yrs: 16 # > 5yrs: 0 # > 10yrs: 0 # no date: 0

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Volume Statistical Analysis

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Plots			Area ha	Net Volume m3/ha	Proportional Volume	Trees			Standard Deviation	Coeff. of Variation	Sampling Error	
	Cnt	Mea	Tot				Cnt	Mea	Tot			1 SE%	2 SE%
1 :CF (H) 951	0	9	9	4.7	711.8	0.56	0	41	41	346.3424	48.7	16.2	37.4
2 :FH (C) 841	0	6	6	6.6	365.4	0.40	0	33	33	169.9655	46.5	19.0	48.8
3 :F (P) 831	0	1	1	1.0	257.2	0.04	0	7	7	0.0000		0.0	0.0
TOTAL	0	16	16	12.3	489.0		0	81	81		47.2	11.8	25.5

Number of live & dead potential trees sampled is 81
 Number of dead useless trees sampled is 0
 Number of live useless trees sampled is 1

The weighted sampling error is 25.5% at the 95% confidence level

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
 CruiseComp Copyright© 1996-2015, Industrial Forestry Service Ltd.

Basal Area Statistical Analysis

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Plots			Area ha	Basal Area m2/ha	Proportional Basal Area	Trees			Standard Deviation	Coeff. of Variation	Sampling Error	
	Cnt	Mea	Tot				Cnt	Mea	Tot			1 SE%	2 SE%
1 :CF (H) 951	0	9	9	4.7	92.3	0.54	0	41	41	43.0891	46.7	15.6	35.9
2 :FH (C) 841	0	6	6	6.6	49.5	0.41	0	33	33	18.6628	37.7	15.4	39.6
3 :F (P) 831	0	1	1	1.0	43.8	0.05	0	7	7	0.0000		0.0	0.0
TOTAL	0	16	16	12.3	65.4		0	81	81		41.9	10.5	22.6

Number of live & dead potential trees sampled is 81
 Number of dead useless trees sampled is 0
 Number of live useless trees sampled is 1

The weighted sampling error is 22.6% at the 95% confidence level

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
 CruiseComp Copyright© 1996-2015, Industrial Forestry Service Ltd.

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[All Treatment Units : 12.3]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	7324	7324	3268	1795	1836	104	267	54
Net Merchantable	m3	6014	6014	2952	1002	1689	96	224	50
Net Merch - All	m3/ha	488.963	488.963	240.027	81.485	137.334	7.836	18.192	4.088
Net Merch - Live	m3/ha	474.133	474.133	240.027	81.485	135.540	7.836	5.157	4.088
Net Merch - DP	m3/ha	14.830	14.830			1.794		13.036	
Decay	%	9	9	4	27	2	2	9	1
Waste(billing)	%	4	4	1	18	0	1	0	
Total Cull (DWB)	%	18	18	10	44	8	8	16	6
Net Merch Vol/Tree	m3	1.54	1.54	3.44	0.96	1.06	1.17	0.86	0.86
Avg 10.0 m Log Net	m3	0.80	0.80	1.27	0.57	0.64	0.62	0.46	0.45
Useless Dead/Living	%	9	9			20			
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								

Algorithm Grades %

#1 Lum/#1 Prem	D	1	1	2					
#2 Lum/#1 Lum	F	3	3	7					
#2 Sawlog	H	28	28	34	41	17			
#3 Sawlog	I	7	7	8		11			
#4 Sawlog	J	32	32	12	23	54	100	97	100
#5 Utility	U	25	25	32	31	15			
#6 Utility	X	3	3	3	4	3		3	
#7 Chipper	Y	1	1	2	1				

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[Block : 11.2]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	6963	6963	3046	1774	1773	98	255	16
Net Merchantable	m3	5688	5688	2747	989	1632	91	214	15
Net Merch - All	m3/ha	507.860	507.860	245.241	88.346	145.730	8.084	19.111	1.347
Net Merch - Live	m3/ha	492.561	492.561	245.241	88.346	143.879	8.084	5.663	1.347
Net Merch - DP	m3/ha	15.299	15.299			1.851		13.448	
Decay	%	9	9	4	27	2	2	9	1
Waste(billing)	%	4	4	1	19	0	1	0	
Total Cull (DWB)	%	18	18	10	44	8	8	16	6
Net Merch Vol/Tree	m3	1.57	1.57	3.65	0.97	1.09	1.17	0.85	0.86
Avg 10.0 m Log Net	m3	0.80	0.80	1.29	0.58	0.64	0.62	0.46	0.45
Useless Dead/Living	%	10	10			21			
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								

Algorithm Grades %

#1 Lum/#1 Prem	D	1	1	2					
#2 Lum/#1 Lum	F	4	4	8					
#2 Sawlog	H	29	29	34	43	17			
#3 Sawlog	I	7	7	9		11			
#4 Sawlog	J	30	30	12	23	54	100	96	100
#5 Utility	U	24	24	29	30	15			
#6 Utility	X	3	3	3	3	3		4	
#7 Chipper	Y	2	2	3	1				

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[RW outside : 1.1]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	362	362	222	22	63	6	12	38
Net Merchantable	m3	326	326	206	13	57	6	10	35
Net Merch - All	m3/ha	296.555	296.555	186.936	11.625	51.850	5.311	8.834	32.000
Net Merch - Live	m3/ha	286.505	286.505	186.936	11.625	50.634	5.311		32.000
Net Merch - DP	m3/ha	10.050	10.050			1.216		8.834	
Decay	%	4	4	2	24	3	2	9	1
Waste(billing)	%	1	1	0	16	1	1	0	
Total Cull (DWB)	%	10	10	7	41	10	8	16	6
Net Merch Vol/Tree	m3	1.14	1.14	1.96	0.55	0.56	1.17	0.94	0.86
Avg 10.0 m Log Net	m3	0.73	0.73	1.07	0.41	0.50	0.62	0.51	0.45
Useless Dead/Living	%								
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								

Algorithm Grades %

#2 Sawlog	H	13	13	15	38	7			
#3 Sawlog	I	4	4	4		7			
#4 Sawlog	J	37	37	13	11	73	100	100	100
#5 Utility	U	45	45	68	37	11			
#6 Utility	X	1	1		14	2			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Harvest Method : CC - Cable - Clearcut [All Treatment Units : 5.2]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	2721	2721	1283	558	679	65	137	
Net Merchantable	m3	2281	2281	1169	316	621	60	114	
Net Merch - All	m3/ha	438.676	438.676	224.889	60.820	119.443	11.515	22.009	
Net Merch - Live	m3/ha	416.886	416.886	224.889	60.820	116.807	11.515	2.855	
Net Merch - DP	m3/ha	21.791	21.791			2.636		19.155	

Decay	%	8	8	3	26	2	2	9	
Waste(billing)	%	3	3	1	18	1	1	0	
Total Cull (DWB)	%	16	16	9	43	9	8	16	

Net Merch Vol/Tree	m3	1.42	1.42	3.28	0.80	0.91	1.17	0.90	
Avg 10.0 m Log Net	m3	0.77	0.77	1.19	0.52	0.60	0.62	0.49	
Useless Dead/Living	%	6	6			12			

Net Second Growth %

All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								
% Average Slope		50							

Algorithm Grades %

#1 Lum/#1 Prem	D	1	1	1					
#2 Lum/#1 Lum	F	2	2	4					
#2 Sawlog	H	29	29	38	41	15			
#3 Sawlog	I	8	8	9		11			
#4 Sawlog	J	30	30	12	20	55	100	98	
#5 Utility	U	26	26	33	32	16			
#6 Utility	X	3	3	2	6	3		2	
#7 Chipper	Y	1	1	1	1				

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Version: 2015.00 IFS build 5947

Harvest Method : HL - Heli - Land [All Treatment Units : 4.0]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	3445	3445	1332	1124	913	6	70	
Net Merchantable	m3	2709	2709	1178	619	847	6	58	
Net Merch - All	m3/ha	677.140	677.140	294.523	154.716	211.866	1.460	14.575	
Net Merch - Live	m3/ha	674.376	674.376	294.523	154.716	211.531	1.460	12.146	
Net Merch - DP	m3/ha	2.764	2.764			0.334		2.429	

Decay	%	11	11	5	27	1	2	9	
Waste(billing)	%	5	5	2	19	0	1	0	
Total Cull (DWB)	%	21	21	12	45	7	8	16	

Net Merch Vol/Tree	m3	1.87	1.87	4.86	1.16	1.45	1.17	0.73	
Avg 10.0 m Log Net	m3	0.86	0.86	1.50	0.63	0.71	0.62	0.40	
Useless Dead/Living	%	18	18			35			

Net Second Growth %

All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								
% Average Slope		64							

Algorithm Grades %

#1 Lum/#1 Prem	D	1	1	3					
#2 Lum/#1 Lum	F	6	6	14					
#2 Sawlog	H	30	30	33	43	20			
#3 Sawlog	I	7	7	8		11			
#4 Sawlog	J	30	30	13	26	52	100	90	
#5 Utility	U	20	20	20	29	14			
#6 Utility	X	3	3	4	1	2		10	
#7 Chipper	Y	3	3	5	1	1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Harvest Method : SC - Ground Systems - Clearcut[All Treatment Units : 3.1]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	1158	1158	653	113	244	33	61	54
Net Merchantable	m3	1025	1025	605	67	221	31	51	50
Net Merch - All	m3/ha	330.504	330.504	195.100	21.657	71.176	9.893	16.457	16.221
Net Merch - Live	m3/ha	311.782	311.782	195.100	21.657	68.911	9.893		16.221
Net Merch - DP	m3/ha	18.722	18.722			2.265		16.457	
Decay	%	5	5	2	24	3	2	9	1
Waste(billing)	%	1	1	0	16	1	1	0	
Total Cull (DWB)	%	12	12	7	41	10	8	16	6
Net Merch Vol/Tree	m3	1.20	1.20	2.34	0.55	0.65	1.17	0.94	0.86
Avg 10.0 m Log Net	m3	0.73	0.73	1.08	0.41	0.53	0.62	0.51	0.45
Useless Dead/Living	%								
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								
% Average Slope		25							

Algorithm Grades %

#2 Sawlog	H	21	21	28	38	10			
#3 Sawlog	I	6	6	7		10			
#4 Sawlog	J	34	34	12	11	62	100	100	100
#5 Utility	U	37	37	52	37	15			
#6 Utility	X	2	2	1	14	3			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Harvest Method : SC - Ground Systems - Clearcut[Block : 2.0]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	796	796	432	92	181	27	49	16
Net Merchantable	m3	698	698	399	54	164	25	41	15
Net Merch - All	m3/ha	349.176	349.176	199.591	27.174	81.806	12.414	20.650	7.543
Net Merch - Live	m3/ha	325.685	325.685	199.591	27.174	78.964	12.414		7.543
Net Merch - DP	m3/ha	23.491	23.491			2.842		20.650	
Decay	%	5	5	2	24	3	2	9	1
Waste(billing)	%	2	2	0	16	1	1	0	
Total Cull (DWB)	%	12	12	7	41	10	8	16	6
Net Merch Vol/Tree	m3	1.22	1.22	2.60	0.55	0.69	1.17	0.94	0.86
Avg 10.0 m Log Net	m3	0.72	0.72	1.08	0.41	0.54	0.62	0.51	0.45
Useless Dead/Living	%								
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								

Algorithm Grades %

#2 Sawlog	H	25	25	34	38	11			
#3 Sawlog	I	8	8	9		11			
#4 Sawlog	J	33	33	12	11	58	100	100	100
#5 Utility	U	32	32	44	37	17			
#6 Utility	X	2	2	1	14	3			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Harvest Method : SC - Ground Systems - Clearcut[RW outside : 1.1]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	362	362	222	22	63	6	12	38
Net Merchantable	m3	326	326	206	13	57	6	10	35
Net Merch - All	m3/ha	296.555	296.555	186.936	11.625	51.850	5.311	8.834	32.000
Net Merch - Live	m3/ha	286.505	286.505	186.936	11.625	50.634	5.311		32.000
Net Merch - DP	m3/ha	10.050	10.050			1.216		8.834	
Decay	%	4	4	2	24	3	2	9	1
Waste(billing)	%	1	1	0	16	1	1	0	
Total Cull (DWB)	%	10	10	7	41	10	8	16	6
Net Merch Vol/Tree	m3	1.14	1.14	1.96	0.55	0.56	1.17	0.94	0.86
Avg 10.0 m Log Net	m3	0.73	0.73	1.07	0.41	0.50	0.62	0.51	0.45
Useless Dead/Living	%								
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%								
Insect Volume	%								

Algorithm Grades %

#2 Sawlog	H	13	13	15	38	7			
#3 Sawlog	I	4	4	4		7			
#4 Sawlog	J	37	37	13	11	73	100	100	100
#5 Utility	U	45	45	68	37	11			
#6 Utility	X	1	1		14	2			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: [All Treatment Units : 12.3]
 Gross Area: [Grand Total : 12.3]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	7324	7324		3268	1795	1836	104	267	54
Net Merchantable m3	6014	6014		2952	1002	1689	96	224	50
Net Merch - All m3/ha	489	489		240	81	137	8	18	4
Distribution %	100	100		49	17	28	2	4	1
Decay %	9	9		4	27	2	2	9	1
Waste %	3	3		1	10	0	1	0	
Waste(billing) %	4	4		1	18	0	1	0	
Breakage %	6	6		5	7	6	5	7	5
Total Cull (DWB) %	18	18		10	44	8	8	16	6
Stems/Ha (Live & DP)	317.7	317.7		69.7	85.2	130.1	6.7	21.2	4.8
Avg DBH (Live & DP) cm	51.2	51.2		71.9	51.5	39.0	39.1	38.5	36.9
Snags/Ha	32.7	32.7				32.7			
Avg Snag DBH cm	18.3	18.3				18.3			
Gross Merch Vol/Tree m3	1.87	1.87		3.81	1.71	1.15	1.27	1.02	0.92
Net Merch Vol/Tree m3	1.54	1.54		3.44	0.96	1.06	1.17	0.86	0.86
Avg Weight Total Ht m	31.2	31.2		34.7	29.2	28.8	25.9	23.5	22.5
Avg Weight Merch Ht m	25.6	25.6		29.8	23.0	22.1	19.3	16.9	16.1
Avg 10.0 m Log Net m3	0.80	0.80		1.27	0.57	0.64	0.62	0.46	0.45
Avg 10.0 m Log Gross m3	0.91	0.91		1.33	0.91	0.65	0.63	0.51	0.46
Avg # of 10.0 m Logs/Tree	2.06	2.06		2.87	1.88	1.76	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#1 Lum/#1 Prem D	1	1		2					
#2 Lum/#1 Lum F	3	3		7					
#2 Sawlog H	28	28		34	41	17			
#3 Sawlog I	7	7		8		11			
#4 Sawlog J	32	32		12	23	54	100	97	100
#5 Utility U	25	25		32	31	15			
#6 Utility X	3	3		3	4	3		3	
#7 Chipper Y	1	1		2	1				
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: [Block : 11.2]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	6963	6963		3046	1774	1773	98	255	16
Net Merchantable m3	5688	5688		2747	989	1632	91	214	15
Net Merch - All m3/ha	508	508		245	88	146	8	19	1
Distribution %	100	100		48	17	29	2	4	0
Decay %	9	9		4	27	2	2	9	1
Waste %	3	3		1	10	0	1	0	
Waste(billing) %	4	4		1	19	0	1	0	
Breakage %	6	6		5	7	6	5	7	5
Total Cull (DWB) %	18	18		10	44	8	8	16	6
Stems/Ha (Live & DP)	323.4	323.4		67.2	91.5	133.9	6.9	22.4	1.6
Avg DBH (Live & DP) cm	51.5	51.5		73.1	51.8	39.3	39.1	38.5	36.9
Snags/Ha	35.9	35.9				35.9			
Avg Snag DBH cm	18.3	18.3				18.3			
Gross Merch Vol/Tree m3	1.92	1.92		4.05	1.73	1.18	1.27	1.02	0.92
Net Merch Vol/Tree m3	1.57	1.57		3.65	0.97	1.09	1.17	0.85	0.86
Avg Weight Total Ht m	31.5	31.5		35.4	29.2	29.0	25.9	23.4	22.5
Avg Weight Merch Ht m	25.9	25.9		30.4	23.0	22.3	19.3	16.8	16.1
Avg 10.0 m Log Net m3	0.80	0.80		1.29	0.58	0.64	0.62	0.46	0.45
Avg 10.0 m Log Gross m3	0.92	0.92		1.35	0.92	0.66	0.63	0.51	0.46
Avg # of 10.0 m Logs/Tree	2.09	2.09		3.00	1.89	1.80	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#1 Lum/#1 Prem D	1	1		2					
#2 Lum/#1 Lum F	4	4		8					
#2 Sawlog H	29	29		34	43	17			
#3 Sawlog I	7	7		9		11			
#4 Sawlog J	30	30		12	23	54	100	96	100
#5 Utility U	24	24		29	30	15			
#6 Utility X	3	3		3	3	3		4	
#7 Chipper Y	2	2		3	1				
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: [RW outside : 1.1]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	362	362		222	22	63	6	12	38
Net Merchantable m3	326	326		206	13	57	6	10	35
Net Merch - All m3/ha	297	297		187	12	52	5	9	32
Distribution %	100	100		63	4	17	2	3	11
Decay %	4	4		2	24	3	2	9	1
Waste %	1	1		0	10	1	0	0	
Waste(billing) %	1	1		0	16	1	1	0	
Breakage %	5	5		5	7	6	5	7	5
Total Cull (DWB) %	10	10		7	41	10	8	16	6
Stems/Ha (Live & DP)	259.6	259.6		95.4	21.0	92.1	4.5	9.4	37.2
Avg DBH (Live & DP) cm	47.4	47.4		62.4	40.7	34.0	39.1	38.5	36.9
Snags/Ha									
Avg Snag DBH cm									
Gross Merch Vol/Tree m3	1.27	1.27		2.11	0.93	0.62	1.27	1.12	0.92
Net Merch Vol/Tree m3	1.14	1.14		1.96	0.55	0.56	1.17	0.94	0.86
Avg Weight Total Ht m	24.6	24.6		25.3	26.4	22.4	25.9	25.3	22.5
Avg Weight Merch Ht m	19.6	19.6		21.0	20.7	16.5	19.3	18.2	16.1
Avg 10.0 m Log Net m3	0.73	0.73		1.07	0.41	0.50	0.62	0.51	0.45
Avg 10.0 m Log Gross m3	0.77	0.77		1.10	0.61	0.52	0.63	0.56	0.46
Avg # of 10.0 m Logs/Tree	1.65	1.65		1.92	1.52	1.21	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#2 Sawlog H	13	13		15	38	7			
#3 Sawlog I	4	4		4		7			
#4 Sawlog J	37	37		13	11	73	100	100	100
#5 Utility U	45	45		68	37	11			
#6 Utility X	1	1			14	2			
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [All Treatment Units : 12.3]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	7324	7324		3268	1795	1836	104	267	54
Net Merchantable m3	6014	6014		2952	1002	1689	96	224	50
Net Merch - All m3/ha	489	489		240	81	137	8	18	4
Distribution %	100	100		49	17	28	2	4	1
Decay %	9	9		4	27	2	2	9	1
Waste %	3	3		1	10	0	1	0	
Waste(billing) %	4	4		1	18	0	1	0	
Breakage %	6	6		5	7	6	5	7	5
Total Cull (DWB) %	18	18		10	44	8	8	16	6
Stems/Ha (Live & DP)	317.7	317.7		69.7	85.2	130.1	6.7	21.2	4.8
Avg DBH (Live & DP) cm	51.2	51.2		71.9	51.5	39.0	39.1	38.5	36.9
Snags/Ha	32.7	32.7				32.7			
Avg Snag DBH cm	18.3	18.3				18.3			
Gross Merch Vol/Tree m3	1.87	1.87		3.81	1.71	1.15	1.27	1.02	0.92
Net Merch Vol/Tree m3	1.54	1.54		3.44	0.96	1.06	1.17	0.86	0.86
Avg Weight Total Ht m	31.2	31.2		34.7	29.2	28.8	25.9	23.5	22.5
Avg Weight Merch Ht m	25.6	25.6		29.8	23.0	22.1	19.3	16.9	16.1
Avg 10.0 m Log Net m3	0.80	0.80		1.27	0.57	0.64	0.62	0.46	0.45
Avg 10.0 m Log Gross m3	0.91	0.91		1.33	0.91	0.65	0.63	0.51	0.46
Avg # of 10.0 m Logs/Tree	2.06	2.06		2.87	1.88	1.76	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#1 Lum/#1 Prem D	1	1		2					
#2 Lum/#1 Lum F	3	3		7					
#2 Sawlog H	28	28		34	41	17			
#3 Sawlog I	7	7		8		11			
#4 Sawlog J	32	32		12	23	54	100	97	100
#5 Utility U	25	25		32	31	15			
#6 Utility X	3	3		3	4	3		3	
#7 Chipper Y	1	1		2	1				
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								
Slope % Statistics									
Min= 15, Max=102, CV=43.7, Std Error of Mean=5.9, 2SE%=23.3									

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [Block : 11.2]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	6963	6963		3046	1774	1773	98	255	16
Net Merchantable m3	5688	5688		2747	989	1632	91	214	15
Net Merch - All m3/ha	508	508		245	88	146	8	19	1
Distribution %	100	100		48	17	29	2	4	0
Decay %	9	9		4	27	2	2	9	1
Waste %	3	3		1	10	0	1	0	
Waste(billing) %	4	4		1	19	0	1	0	
Breakage %	6	6		5	7	6	5	7	5
Total Cull (DWB) %	18	18		10	44	8	8	16	6
Stems/Ha (Live & DP)	323.4	323.4		67.2	91.5	133.9	6.9	22.4	1.6
Avg DBH (Live & DP) cm	51.5	51.5		73.1	51.8	39.3	39.1	38.5	36.9
Snags/Ha	35.9	35.9				35.9			
Avg Snag DBH cm	18.3	18.3				18.3			
Gross Merch Vol/Tree m3	1.92	1.92		4.05	1.73	1.18	1.27	1.02	0.92
Net Merch Vol/Tree m3	1.57	1.57		3.65	0.97	1.09	1.17	0.85	0.86
Avg Weight Total Ht m	31.5	31.5		35.4	29.2	29.0	25.9	23.4	22.5
Avg Weight Merch Ht m	25.9	25.9		30.4	23.0	22.3	19.3	16.8	16.1
Avg 10.0 m Log Net m3	0.80	0.80		1.29	0.58	0.64	0.62	0.46	0.45
Avg 10.0 m Log Gross m3	0.92	0.92		1.35	0.92	0.66	0.63	0.51	0.46
Avg # of 10.0 m Logs/Tree	2.09	2.09		3.00	1.89	1.80	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#1 Lum/#1 Prem D	1	1		2					
#2 Lum/#1 Lum F	4	4		8					
#2 Sawlog H	29	29		34	43	17			
#3 Sawlog I	7	7		9		11			
#4 Sawlog J	30	30		12	23	54	100	96	100
#5 Utility U	24	24		29	30	15			
#6 Utility X	3	3		3	3	3		4	
#7 Chipper Y	2	2		3	1				
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								
Slope % Statistics									
Min= 15, Max=102, CV=43.7, Std Error of Mean=5.9, 2SE%=23.3									

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [RW outside : 1.1]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	362	362		222	22	63	6	12	38
Net Merchantable m3	326	326		206	13	57	6	10	35
Net Merch - All m3/ha	297	297		187	12	52	5	9	32
Distribution %	100	100		63	4	17	2	3	11
Decay %	4	4		2	24	3	2	9	1
Waste %	1	1		0	10	1	0	0	
Waste(billing) %	1	1		0	16	1	1	0	
Breakage %	5	5		5	7	6	5	7	5
Total Cull (DWB) %	10	10		7	41	10	8	16	6
Stems/Ha (Live & DP)	259.6	259.6		95.4	21.0	92.1	4.5	9.4	37.2
Avg DBH (Live & DP) cm	47.4	47.4		62.4	40.7	34.0	39.1	38.5	36.9
Snags/Ha									
Avg Snag DBH cm									
Gross Merch Vol/Tree m3	1.27	1.27		2.11	0.93	0.62	1.27	1.12	0.92
Net Merch Vol/Tree m3	1.14	1.14		1.96	0.55	0.56	1.17	0.94	0.86
Avg Weight Total Ht m	24.6	24.6		25.3	26.4	22.4	25.9	25.3	22.5
Avg Weight Merch Ht m	19.6	19.6		21.0	20.7	16.5	19.3	18.2	16.1
Avg 10.0 m Log Net m3	0.73	0.73		1.07	0.41	0.50	0.62	0.51	0.45
Avg 10.0 m Log Gross m3	0.77	0.77		1.10	0.61	0.52	0.63	0.56	0.46
Avg # of 10.0 m Logs/Tree	1.65	1.65		1.92	1.52	1.21	2.00	2.00	2.00
Net Immature %									
Net 2nd Growth %									
Average Slope %	51								
Algorithm Grades %									
#2 Sawlog H	13	13		15	38	7			
#3 Sawlog I	4	4		4		7			
#4 Sawlog J	37	37		13	11	73	100	100	100
#5 Utility U	45	45		68	37	11			
#6 Utility X	1	1			14	2			
Statistical Summary									
Coeff. of Variation %	47.2	47.2		87.3	106.6	113.5	400.0	308.2	
Two Standard Error %	25.5	25.5		47.1	57.6	61.3	216.0	166.4	
Number and Type of Plots	MP = 16								
Number of Potential Trees	81								
Plots/Ha	1.3								
Cruised Trees/Plot	5.1								
Slope % Statistics									
Min= 15, Max=102, CV=43.7, Std Error of Mean=5.9, 2SE%=23.3									

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [Block : 4.7]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable m3	4278	4278		1624	1439	1140		76	
Net Merchantable m3	3345	3345		1432	791	1059		63	
Net Merch - All m3/ha	712	712		305	168	225		13	
Distribution %	100	100		43	24	32		2	
Decay %	12	12		5	28	1		9	
Waste %	4	4		2	10			0	
Waste(billing) %	5	5		2	19			0	
Breakage %	6	6		5	7	6		7	
Total Cull (DWB) %	22	22		12	45	7		16	
Stems/Ha (Live & DP)	368.7	368.7		59.4	141.9	148.1		19.3	
Avg DBH (Live & DP) cm	56.4	56.4		82.1	56.8			38.5	
Snags/Ha	85.5	85.5				85.5			
Avg Snag DBH cm	18.3	18.3				18.3			
Gross Merch Vol/Tree m3	2.47	2.47		5.81	2.16	1.64		0.83	
Net Merch Vol/Tree m3	1.93	1.93		5.13	1.19	1.52		0.70	
Avg Weight Total Ht m	33.6	33.6		40.1	29.9	30.5		19.0	
Avg Weight Merch Ht m	28.0	28.0		35.1	23.5	23.4		13.5	
Avg 10.0 m Log Net m3	0.87	0.87		1.55	0.64	0.72		0.38	
Avg 10.0 m Log Gross m3	1.04	1.04		1.66	1.03	0.73		0.42	
Avg # of 10.0 m Logs/Tree	2.38	2.38		3.50	2.09	2.25		2.00	
Net Immature %									
Net 2nd Growth %									

Algorithm Grades %

#1 Lum/#1 Prem	D	2	2	4					
#2 Lum/#1 Lum	F	6	6	15					
#2 Sawlog	H	30	30	33	43	20			
#3 Sawlog	I	7	7	7		11			
#4 Sawlog	J	30	30	13	26	52		88	
#5 Utility	U	19	19	19	29	14			
#6 Utility	X	3	3	4	1	2		12	
#7 Chipper	Y	3	3	5	1	1			

Statistical Summary

Coeff. of Variation %	48.7	48.7	110.8	90.5	76.7	300.0
Two Standard Error %	37.4	37.4	85.2	69.6	58.9	230.6
Number and Type of Plots	MP =	9				
Number of Potential Trees		41				
Plots/Ha		1.9				
Cruised Trees/Plot		4.7				

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [All Treatment Units : 6.6]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	2769	2769	1453	356	664	104	191	
Net Merchantable	m3	2412	2412	1343	211	601	96	160	
Net Merch - All	m3/ha	365	365	203	32	91	15	24	
Distribution	%	100	100	56	9	25	4	7	
Decay	%	6	6	2	24	3	2	9	
Waste	%	2	2	0	10	1	1	0	
Waste(billing)	%	2	2	0	16	1	1	0	
Breakage	%	6	6	5	7	6	5	7	
Total Cull (DWB)	%	13	13	8	41	10	8	16	
Stems/Ha (Live & DP)		293.1	293.1	71.0	57.8	126.1	12.5	25.8	
Avg DBH (Live & DP)	cm	46.4	46.4	67.6	40.7	34.8	39.1	38.5	
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.43	1.43	3.10	0.93	0.80	1.27	1.12	
Net Merch Vol/Tree	m3	1.25	1.25	2.87	0.55	0.72	1.17	0.94	
Avg Weight Total Ht	m	28.5	28.5	30.4	26.4	26.7	25.9	25.3	
Avg Weight Merch Ht	m	23.1	23.1	25.6	20.7	20.6	19.3	18.2	
Avg 10.0 m Log Net	m3	0.72	0.72	1.08	0.41	0.54	0.62	0.51	
Avg 10.0 m Log Gross	m3	0.78	0.78	1.11	0.61	0.56	0.63	0.56	
Avg # of 10.0 m Logs/Tree		1.84	1.84	2.79	1.52	1.42	2.00	2.00	
Net Immature	%								
Net 2nd Growth	%								
Algorithm Grades %									
#2 Sawlog	H	28	28	40	38	11			
#3 Sawlog	I	9	9	10		11			
#4 Sawlog	J	31	31	11	11	56	100	100	
#5 Utility	U	29	29	38	37	18			
#6 Utility	X	3	3	1	14	4			
Statistical Summary									
Coeff. of Variation	%	46.5	46.5	67.0	138.9	161.3	244.9	244.9	
Two Standard Error	%	48.8	48.8	70.4	145.8	169.3	257.1	257.1	
Number and Type of Plots	MP =	6							
Number of Potential Trees		33							
Plots/Ha		0.9							
Cruised Trees/Plot		5.5							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [Block : 6.2]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	2601	2601	1365	335	624	98	180	
Net Merchantable	m3	2266	2266	1262	198	564	91	151	
Net Merch - All	m3/ha	365	365	203	32	91	15	24	
Distribution	%	100	100	56	9	25	4	7	
Decay	%	6	6	2	24	3	2	9	
Waste	%	2	2	0	10	1	1	0	
Waste(billing)	%	2	2	0	16	1	1	0	
Breakage	%	6	6	5	7	6	5	7	
Total Cull (DWB)	%	13	13	8	41	10	8	16	
Stems/Ha (Live & DP)		293.1	293.1	71.0	57.8	126.1	12.5	25.8	
Avg DBH (Live & DP)	cm	46.4	46.4	67.6	40.7	34.8	39.1	38.5	
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.43	1.43	3.10	0.93	0.80	1.27	1.12	
Net Merch Vol/Tree	m3	1.25	1.25	2.87	0.55	0.72	1.17	0.94	
Avg Weight Total Ht	m	28.5	28.5	30.4	26.4	26.7	25.9	25.3	
Avg Weight Merch Ht	m	23.1	23.1	25.6	20.7	20.6	19.3	18.2	
Avg 10.0 m Log Net	m3	0.72	0.72	1.08	0.41	0.54	0.62	0.51	
Avg 10.0 m Log Gross	m3	0.78	0.78	1.11	0.61	0.56	0.63	0.56	
Avg # of 10.0 m Logs/Tree		1.84	1.84	2.79	1.52	1.42	2.00	2.00	
Net Immature	%								
Net 2nd Growth	%								

Algorithm Grades %

#2 Sawlog	H	28	28	40	38	11			
#3 Sawlog	I	9	9	10		11			
#4 Sawlog	J	31	31	11	11	56	100	100	
#5 Utility	U	29	29	38	37	18			
#6 Utility	X	3	3	1	14	4			

Statistical Summary

Coeff. of Variation	%	46.5	46.5	67.0	138.9	161.3	244.9	244.9	
Two Standard Error	%	48.8	48.8	70.4	145.8	169.3	257.1	257.1	
Number and Type of Plots	MP =	6							
Number of Potential Trees		33							
Plots/Ha		0.9							
Cruised Trees/Plot		5.5							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [RW outside : 0.4]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	168	168	88	22	40	6	12	
Net Merchantable	m3	146	146	81	13	36	6	10	
Net Merch - All	m3/ha	365	365	203	32	91	15	24	
Distribution	%	100	100	56	9	25	4	7	
Decay	%	6	6	2	24	3	2	9	
Waste	%	2	2	0	10	1	0	0	
Waste(billing)	%	2	2	0	16	1	1	0	
Breakage	%	6	6	5	7	6	5	7	
Total Cull (DWB)	%	13	13	8	41	10	8	16	
Stems/Ha (Live & DP)		293.1	293.1	71.0	57.8	126.1	12.5	25.8	
Avg DBH (Live & DP)	cm	46.4	46.4	67.6	40.7	34.8	39.1	38.5	
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.43	1.43	3.10	0.93	0.80	1.27	1.12	
Net Merch Vol/Tree	m3	1.25	1.25	2.87	0.55	0.72	1.17	0.94	
Avg Weight Total Ht	m	28.5	28.5	30.4	26.4	26.7	25.9	25.3	
Avg Weight Merch Ht	m	23.1	23.1	25.6	20.7	20.6	19.3	18.2	
Avg 10.0 m Log Net	m3	0.72	0.72	1.08	0.41	0.54	0.62	0.51	
Avg 10.0 m Log Gross	m3	0.78	0.78	1.11	0.61	0.56	0.63	0.56	
Avg # of 10.0 m Logs/Tree		1.84	1.84	2.79	1.52	1.42	2.00	2.00	
Net Immature	%								
Net 2nd Growth	%								

Algorithm Grades %

#2 Sawlog	H	28	28	40	38	11			
#3 Sawlog	I	9	9	10		11			
#4 Sawlog	J	31	31	11	11	56	100	100	
#5 Utility	U	29	29	38	37	18			
#6 Utility	X	3	3	1	14	4			

Statistical Summary

Coeff. of Variation	%	46.5	46.5	67.0	138.9	161.3	244.9	244.9	
Two Standard Error	%	48.8	48.8	70.4	145.8	169.3	257.1	257.1	
Number and Type of Plots	MP =	6							
Number of Potential Trees		33							
Plots/Ha		0.9							
Cruised Trees/Plot		5.5							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [All Treatment Units : 1.0]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	277	277	191		33			54
Net Merchantable	m3	257	257	177		29			50
Net Merch - All	m3/ha	257	257	177		29			50
Distribution	%	100	100	69		11			20
Decay	%	2	2	2		3			1
Waste	%	0	0	0					
Waste(billing)	%	0	0	0					
Breakage	%	5	5	5		6			5
Total Cull (DWB)	%	7	7	7		10			6
Stems/Ha (Live & DP)		240.4	240.4	109.3		72.6			58.4
Avg DBH (Live & DP)	cm	48.1	48.1	60.3		33.1			36.9
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.15	1.15	1.75		0.45			0.92
Net Merch Vol/Tree	m3	1.07	1.07	1.62		0.41			0.86
Avg Weight Total Ht	m	21.2	21.2	22.0		15.0			22.5
Avg Weight Merch Ht	m	16.6	16.6	18.0		9.3			16.1
Avg 10.0 m Log Net	m3	0.74	0.74	1.07		0.43			0.45
Avg 10.0 m Log Gross	m3	0.76	0.76	1.09		0.45			0.46
Avg # of 10.0 m Logs/Tree		1.52	1.52	1.60		1.00			2.00
Net Immature	%								
Net 2nd Growth	%								

Algorithm Grades %

#4 Sawlog	J	41	41	15		100			100
#5 Utility	U	59	59	85					

Statistical Summary

Coeff. of Variation	%								
Two Standard Error	%								
Number and Type of Plots	MP =	1							
Number of Potential Trees		7							
Plots/Ha		1.0							
Cruised Trees/Plot		7.0							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [Block : 0.3]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	83	83	57		10			16
Net Merchantable	m3	77	77	53		9			15
Net Merch - All	m3/ha	257	257	177		29			50
Distribution	%	100	100	69		11			20
Decay	%	2	2	2		4			1
Waste	%	0	0	0					
Waste(billing)	%	0	0	0					
Breakage	%	5	5	5		6			5
Total Cull (DWB)	%	7	7	7		10			6
Stems/Ha (Live & DP)		240.4	240.4	109.3		72.6			58.4
Avg DBH (Live & DP)	cm	48.1	48.1	60.3		33.1			36.9
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.15	1.15	1.75		0.45			0.92
Net Merch Vol/Tree	m3	1.07	1.07	1.62		0.41			0.86
Avg Weight Total Ht	m	21.2	21.2	22.0		15.0			22.5
Avg Weight Merch Ht	m	16.6	16.6	18.0		9.3			16.1
Avg 10.0 m Log Net	m3	0.74	0.74	1.07		0.43			0.45
Avg 10.0 m Log Gross	m3	0.76	0.76	1.09		0.45			0.46
Avg # of 10.0 m Logs/Tree		1.52	1.52	1.60		1.00			2.00
Net Immature	%								
Net 2nd Growth	%								

Algorithm Grades %

#4 Sawlog	J	41	41	15		100			100
#5 Utility	U	59	59	85					

Statistical Summary

Coeff. of Variation	%								
Two Standard Error	%								
Number and Type of Plots	MP =	1							
Number of Potential Trees		7							
Plots/Ha		1.0							
Cruised Trees/Plot		7.0							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [RW outside : 0.7]

	Total	Conifer	Decid	F	C	H	B	Y	PW
Utilization Limits									
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	194	194	134		23			38
Net Merchantable	m3	180	180	124		21			35
Net Merch - All	m3/ha	257	257	177		29			50
Distribution	%	100	100	69		11			20
Decay	%	2	2	2		3			1
Waste	%	0	0	0					
Waste(billing)	%	0	0	0					
Breakage	%	5	5	5		6			5
Total Cull (DWB)	%	7	7	7		10			6
Stems/Ha (Live & DP)		240.4	240.4	109.3		72.6			58.4
Avg DBH (Live & DP)	cm	48.1	48.1	60.3		33.1			36.9
Snags/Ha									
Avg Snag DBH	cm								
Gross Merch Vol/Tree	m3	1.15	1.15	1.75		0.45			0.92
Net Merch Vol/Tree	m3	1.07	1.07	1.62		0.41			0.86
Avg Weight Total Ht	m	21.2	21.2	22.0		15.0			22.5
Avg Weight Merch Ht	m	16.6	16.6	18.0		9.3			16.1
Avg 10.0 m Log Net	m3	0.74	0.74	1.07		0.43			0.45
Avg 10.0 m Log Gross	m3	0.76	0.76	1.09		0.45			0.46
Avg # of 10.0 m Logs/Tree		1.52	1.52	1.60		1.00			2.00
Net Immature	%								
Net 2nd Growth	%								

Algorithm Grades %

#4 Sawlog	J	41	41	15		100			100
#5 Utility	U	59	59	85					

Statistical Summary

Coeff. of Variation	%								
Two Standard Error	%								
Number and Type of Plots	MP =	1							
Number of Potential Trees		7							
Plots/Ha		1.0							
Cruised Trees/Plot		7.0							

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,

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Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								20.8		32.7
25		19.2	18.4				37.6			
30		10.5	13.3				23.8			
35		8.5	5.9			4.8	19.2			
40	6.9		26.7	6.7	7.4		47.7	13.8		
45	3.5		27.6				31.1			
50	7.9	12.9	4.1				24.9			
55	3.7	3.5	3.5				10.7			
60	2.7	11.8	8.6				23.1			
65	10.1	7.3					17.4			
70	6.5	6.8					13.3			
75	6.1						6.1			
80	5.1						5.1			
85	4.3	1.6					5.9			
90	2.7						2.7			
95	4.7	1.2	1.2				7.1			
100	1.1						1.1			
105	1.0						1.0			
110	2.7	1.9					4.6			
115										
120										
125										
130										
135										
140	0.6						0.6			
145										
150										
175										
200										
225										
250										
275										
Total	69.7	85.2	109.3	6.7	7.4	4.8	283.1			
Dead P			20.8		13.8			34.6		
Dead U										
Live U			32.7							32.7
Average DBH(cm) at 5 Levels										
12.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	29.8		18.3
17.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	29.8		18.3
22.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	38.5		
27.5 +	71.9	57.2	44.2	39.1	38.5	36.9	56.4	38.5		
32.5 +	71.9	60.8	46.3	39.1	38.5	36.9	58.5	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								21.5		35.9
25		19.8	19.0				38.8			
30		11.5	14.6				26.1			
35		9.4	1.9			1.6	12.9			
40	7.1		28.5	6.9	8.1		50.6	14.3		
45	1.2		29.6				30.8			
50	8.4	13.9	4.5				26.8			
55	4.0	3.8	3.9				11.8			
60	2.8	12.8	9.1				24.6			
65	8.3	8.0					16.3			
70	6.9	7.1					14.0			
75	4.6						4.6			
80	5.5						5.5			
85	4.5	1.7					6.2			
90	2.9						2.9			
95	5.0	1.3	1.3				7.7			
100	1.2						1.2			
105	1.1						1.1			
110	3.0	2.1					5.1			
115										
120										
125										
130										
135										
140	0.6						0.6			
145										
150										
175										
200										
225										
250										
275										
Total	67.2	91.5	112.4	6.9	8.1	1.6	287.7			
Dead P			21.5		14.3			35.7		
Dead U										
Live U			35.9							35.9
Average DBH(cm) at 5 Levels										
12.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	29.8		18.3
17.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	29.8		18.3
22.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	38.5		
27.5 +	73.1	57.2	44.6	39.1	38.5	36.9	56.8	38.5		
32.5 +	73.1	60.8	46.9	39.1	38.5	36.9	59.2	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								14.1		
25		13.0	12.5				25.5			
30										
35			46.2			37.2	83.4			
40	4.7		8.4	4.5			17.6	9.4		
45	27.6		7.1				34.7			
50	2.6	3.0					5.6			
55										
60	1.8	2.0	3.8				7.7			
65	28.4						28.4			
70	2.9	3.0					5.9			
75	20.9						20.9			
80	1.1						1.1			
85	2.9						2.9			
90	0.9						0.9			
95	1.5						1.5			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	95.4	21.0	78.0	4.5		37.2	236.1			
Dead P			14.1		9.4			23.5		
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	62.4	40.7	35.7	39.1			36.9	48.8	29.8	
17.5 +	62.4	40.7	35.7	39.1			36.9	48.8	29.8	
22.5 +	62.4	40.7	35.7	39.1			36.9	48.8	38.5	
27.5 +	62.4	58.9	37.5	39.1			36.9	51.1	38.5	
32.5 +	62.4	58.9	37.5	39.1			36.9	51.1	38.5	

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stock Table (m3/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								1.8		
25		2.1	2.8				4.9			
30		2.4	4.7				7.0			
35		2.4	2.4			4.1	8.8			
40	6.0		26.5	7.8	5.2		45.5	13.0		
45	2.1		40.1				42.2			
50	14.4	11.9	8.7				35.0			
55	7.9	4.0	9.2				21.1			
60	6.6	14.3	30.3				51.1			
65	25.4	12.0					37.5			
70	23.7	14.0					37.7			
75	20.1						20.1			
80	21.3						21.3			
85	18.9	3.8					22.7			
90	13.0						13.0			
95	30.8	5.3	11.0				47.0			
100	8.4						8.4			
105	7.3						7.3			
110	24.0	9.4					33.3			
115										
120										
125										
130										
135										
140	10.0						10.0			
145										
150										
175										
200										
225										
250										
275										
Total	240.0	81.5	135.5	7.8	5.2	4.1	474.1			
Dead P			1.8		13.0			14.8		
Total Volumes for 7 Levels										
17.5 +	240.0	81.5	135.5	7.8	5.2	4.1	474.1	14.8		
22.5 +	240.0	81.5	135.5	7.8	5.2	4.1	474.1	13.0		
27.5 +	240.0	79.4	132.8	7.8	5.2	4.1	469.2	13.0		
32.5 +	240.0	77.0	128.1	7.8	5.2	4.1	462.2	13.0		
37.5 +	240.0	74.7	125.7	7.8	5.2		453.4	13.0		
42.5 +	234.0	74.7	99.2				407.9			
47.5 +	231.9	74.7	59.1				365.7			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stock Table (m3/ha)

Average Line Method	Grades: MOF Computerized	FIZ: B
AVCF	Computerized Decay	PSYU: Nootka
Licence Number: COMM CP: PRE	Computerized Waste	Region: 2 - West Coast
Project: AVCF_NOVA	Computerized Breakage	District: 04 - South Island

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 Version: 2015.00 IFS build 5947

[Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.9		
25		2.2	2.9				5.1			
30		2.6	5.1				7.7			
35		2.6	0.8			1.3	4.7			
40	6.2		28.4	8.1	5.7		48.3	13.4		
45	0.7		43.1				43.8			
50	15.4	13.0	9.5				37.9			
55	8.7	4.4	10.1				23.2			
60	6.8	15.5	32.0				54.2			
65	22.1	13.2					35.3			
70	25.1	14.7					39.8			
75	16.2						16.2			
80	23.0						23.0			
85	19.5	4.2					23.7			
90	14.0						14.0			
95	33.0	5.8	12.0				50.8			
100	9.2						9.2			
105	8.0						8.0			
110	26.3	10.3					36.6			
115										
120										
125										
130										
135										
140	11.0						11.0			
145										
150										
175										
200										
225										
250										
275										
Total	245.2	88.3	143.9	8.1	5.7	1.3	492.6			
Dead P			1.9		13.4			15.3		
Total Volumes for 7 Levels										
17.5 +	245.2	88.3	143.9	8.1	5.7	1.3	492.6	15.3		
22.5 +	245.2	88.3	143.9	8.1	5.7	1.3	492.6	13.4		
27.5 +	245.2	86.2	141.0	8.1	5.7	1.3	487.5	13.4		
32.5 +	245.2	83.6	135.9	8.1	5.7	1.3	479.8	13.4		
37.5 +	245.2	81.0	135.1	8.1	5.7		475.1	13.4		
42.5 +	239.1	81.0	106.7				426.8			
47.5 +	238.4	81.0	63.6				383.0			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stock Table (m3/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								1.2		
25		1.4	1.9				3.3			
30										
35			18.7			32.0	50.7			
40	4.1		7.2	5.3			16.5	8.8		
45	16.8		9.5				26.3			
50	4.7	1.4					6.1			
55										
60	4.4	1.9	13.3				19.7			
65	58.9						58.9			
70	9.4	6.9					16.3			
75	59.8						59.8			
80	4.5						4.5			
85	12.8						12.8			
90	3.5						3.5			
95	8.0						8.0			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	186.9	11.6	50.6	5.3		32.0	286.5			
Dead P			1.2		8.8			10.0		
Total Volumes for 7 Levels										
17.5 +	186.9	11.6	50.6	5.3		32.0	286.5	10.0		
22.5 +	186.9	11.6	50.6	5.3		32.0	286.5	8.8		
27.5 +	186.9	10.2	48.7	5.3		32.0	283.2	8.8		
32.5 +	186.9	10.2	48.7	5.3		32.0	283.2	8.8		
37.5 +	186.9	10.2	30.0	5.3			232.4	8.8		
42.5 +	182.9	10.2	22.8				215.9			
47.5 +	166.1	10.2	13.3				189.6			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								0.8		0.9
25		0.8	0.8				1.6			
30		0.9	0.9				1.7			
35		0.9	0.5			0.5	1.9			
40	0.8		3.3	0.8	0.9		5.8	1.6		
45	0.5		4.2				4.7			
50	1.7	2.5	0.9				5.0			
55	0.9	0.9	0.9				2.6			
60	0.8	3.4	2.5				6.7			
65	3.4	2.6					6.0			
70	2.5	2.5					4.9			
75	2.6						2.6			
80	2.5						2.5			
85	2.4	0.9					3.3			
90	1.7						1.7			
95	3.3	0.9	0.9				5.0			
100	0.9						0.9			
105	0.9						0.9			
110	2.6	1.7					4.3			
115										
120										
125										
130										
135										
140	0.9						0.9			
145										
150										
175										
200										
225										
250										
275										
Total	28.3	17.8	14.7	0.8	0.9	0.5	63.0			
Dead P			0.8		1.6			2.4		
Dead U										
Live U			0.9							0.9
Average Basal Area (m2) at 5 Levels										
12.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	2.4		0.9
17.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	2.4		0.9
22.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	1.6		
27.5 +	28.3	17.0	13.9	0.8	0.9	0.5	61.3	1.6		
32.5 +	28.3	16.1	13.1	0.8	0.9	0.5	59.6	1.6		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								0.8		0.9
25		0.8	0.8				1.7			
30		0.9	0.9				1.9			
35		0.9	0.2			0.2	1.3			
40	0.8		3.5	0.8	0.9		6.2	1.7		
45	0.2		4.5				4.7			
50	1.8	2.7	0.9				5.4			
55	0.9	0.9	0.9				2.8			
60	0.8	3.7	2.6				7.1			
65	2.8	2.8					5.7			
70	2.6	2.6					5.2			
75	2.0						2.0			
80	2.7						2.7			
85	2.5	0.9					3.4			
90	1.8						1.8			
95	3.5	0.9	0.9				5.4			
100	0.9						0.9			
105	0.9						0.9			
110	2.8	1.9					4.7			
115										
120										
125										
130										
135										
140	0.9						0.9			
145										
150										
175										
200										
225										
250										
275										
Total	28.2	19.3	15.4	0.8	0.9	0.2	64.8			
Dead P			0.8		1.7			2.5		
Dead U										
Live U			0.9							0.9
Average Basal Area (m2) at 5 Levels										
12.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	2.5		0.9
17.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	2.5		0.9
22.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	1.7		
27.5 +	28.2	18.4	14.6	0.8	0.9	0.2	63.1	1.7		
32.5 +	28.2	17.5	13.6	0.8	0.9	0.2	61.2	1.7		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								0.5		
25		0.5	0.5				1.1			
30										
35			4.0			4.0	8.0			
40	0.5		1.1	0.5			2.2	1.1		
45	4.0		1.1				5.1			
50	0.5	0.5					1.1			
55										
60	0.5	0.5	1.1				2.2			
65	9.6						9.6			
70	1.1	1.1					2.2			
75	9.0						9.0			
80	0.5						0.5			
85	1.6						1.6			
90	0.5						0.5			
95	1.1						1.1			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	29.2	2.7	7.8	0.5		4.0	44.2			
Dead P			0.5		1.1			1.6		
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.6		
17.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.6		
22.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.1		
27.5 +	29.2	2.2	7.3	0.5		4.0	43.1	1.1		
32.5 +	29.2	2.2	7.3	0.5		4.0	43.1	1.1		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								20.8		32.7
25		19.2	18.4				37.6			
30		10.5	13.3				23.8			
35		8.5	5.9			4.8	19.2			
40	6.9		26.7	6.7	7.4		47.7	13.8		
45	3.5		27.6				31.1			
50	7.9	12.9	4.1				24.9			
55	3.7	3.5	3.5				10.7			
60	2.7	11.8	8.6				23.1			
65	10.1	7.3					17.4			
70	6.5	6.8					13.3			
75	6.1						6.1			
80	5.1						5.1			
85	4.3	1.6					5.9			
90	2.7						2.7			
95	4.7	1.2	1.2				7.1			
100	1.1						1.1			
105	1.0						1.0			
110	2.7	1.9					4.6			
115										
120										
125										
130										
135										
140	0.6						0.6			
145										
150										
175										
200										
225										
250										
275										
Total	69.7	85.2	109.3	6.7	7.4	4.8	283.1			
Dead P			20.8		13.8			34.6		
Dead U										
Live U			32.7							32.7
Average DBH(cm) at 5 Levels										
12.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	29.8		18.3
17.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	29.8		18.3
22.5 +	71.9	51.5	41.4	39.1	38.5	36.9	53.2	38.5		
27.5 +	71.9	57.2	44.2	39.1	38.5	36.9	56.4	38.5		
32.5 +	71.9	60.8	46.3	39.1	38.5	36.9	58.5	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								21.5		35.9
25		19.8	19.0				38.8			
30		11.5	14.6				26.1			
35		9.4	1.9			1.6	12.9			
40	7.1		28.5	6.9	8.1		50.6	14.3		
45	1.2		29.6				30.8			
50	8.4	13.9	4.5				26.8			
55	4.0	3.8	3.9				11.8			
60	2.8	12.8	9.1				24.6			
65	8.3	8.0					16.3			
70	6.9	7.1					14.0			
75	4.6						4.6			
80	5.5						5.5			
85	4.5	1.7					6.2			
90	2.9						2.9			
95	5.0	1.3	1.3				7.7			
100	1.2						1.2			
105	1.1						1.1			
110	3.0	2.1					5.1			
115										
120										
125										
130										
135										
140	0.6						0.6			
145										
150										
175										
200										
225										
250										
275										
Total	67.2	91.5	112.4	6.9	8.1	1.6	287.7			
Dead P			21.5		14.3			35.7		
Dead U										
Live U			35.9							35.9
Average DBH(cm) at 5 Levels										
12.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	29.8		18.3
17.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	29.8		18.3
22.5 +	73.1	51.8	41.8	39.1	38.5	36.9	53.5	38.5		
27.5 +	73.1	57.2	44.6	39.1	38.5	36.9	56.8	38.5		
32.5 +	73.1	60.8	46.9	39.1	38.5	36.9	59.2	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								14.1		
25		13.0	12.5				25.5			
30										
35			46.2			37.2	83.4			
40	4.7		8.4	4.5			17.6	9.4		
45	27.6		7.1				34.7			
50	2.6	3.0					5.6			
55										
60	1.8	2.0	3.8				7.7			
65	28.4						28.4			
70	2.9	3.0					5.9			
75	20.9						20.9			
80	1.1						1.1			
85	2.9						2.9			
90	0.9						0.9			
95	1.5						1.5			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	95.4	21.0	78.0	4.5		37.2	236.1			
Dead P			14.1		9.4			23.5		
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	62.4	40.7	35.7	39.1			36.9	48.8	29.8	
17.5 +	62.4	40.7	35.7	39.1			36.9	48.8	29.8	
22.5 +	62.4	40.7	35.7	39.1			36.9	48.8	38.5	
27.5 +	62.4	58.9	37.5	39.1			36.9	51.1	38.5	
32.5 +	62.4	58.9	37.5	39.1			36.9	51.1	38.5	

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.8		
25		2.1	2.8				4.9			
30		2.4	4.7				7.0			
35		2.4	2.4			4.1	8.8			
40	6.0		26.5	7.8	5.2		45.5	13.0		
45	2.1		40.1				42.2			
50	14.4	11.9	8.7				35.0			
55	7.9	4.0	9.2				21.1			
60	6.6	14.3	30.3				51.1			
65	25.4	12.0					37.5			
70	23.7	14.0					37.7			
75	20.1						20.1			
80	21.3						21.3			
85	18.9	3.8					22.7			
90	13.0						13.0			
95	30.8	5.3	11.0				47.0			
100	8.4						8.4			
105	7.3						7.3			
110	24.0	9.4					33.3			
115										
120										
125										
130										
135										
140	10.0						10.0			
145										
150										
175										
200										
225										
250										
275										
Total	240.0	81.5	135.5	7.8	5.2	4.1	474.1			
Dead P			1.8		13.0			14.8		
Total Volumes for 7 Levels										
17.5 +	240.0	81.5	135.5	7.8	5.2	4.1	474.1	14.8		
22.5 +	240.0	81.5	135.5	7.8	5.2	4.1	474.1	13.0		
27.5 +	240.0	79.4	132.8	7.8	5.2	4.1	469.2	13.0		
32.5 +	240.0	77.0	128.1	7.8	5.2	4.1	462.2	13.0		
37.5 +	240.0	74.7	125.7	7.8	5.2		453.4	13.0		
42.5 +	234.0	74.7	99.2				407.9			
47.5 +	231.9	74.7	59.1				365.7			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.9		
25		2.2	2.9				5.1			
30		2.6	5.1				7.7			
35		2.6	0.8			1.3	4.7			
40	6.2		28.4	8.1	5.7		48.3	13.4		
45	0.7		43.1				43.8			
50	15.4	13.0	9.5				37.9			
55	8.7	4.4	10.1				23.2			
60	6.8	15.5	32.0				54.2			
65	22.1	13.2					35.3			
70	25.1	14.7					39.8			
75	16.2						16.2			
80	23.0						23.0			
85	19.5	4.2					23.7			
90	14.0						14.0			
95	33.0	5.8	12.0				50.8			
100	9.2						9.2			
105	8.0						8.0			
110	26.3	10.3					36.6			
115										
120										
125										
130										
135										
140	11.0						11.0			
145										
150										
175										
200										
225										
250										
275										
Total	245.2	88.3	143.9	8.1	5.7	1.3	492.6			
Dead P			1.9		13.4			15.3		
Total Volumes for 7 Levels										
17.5 +	245.2	88.3	143.9	8.1	5.7	1.3	492.6	15.3		
22.5 +	245.2	88.3	143.9	8.1	5.7	1.3	492.6	13.4		
27.5 +	245.2	86.2	141.0	8.1	5.7	1.3	487.5	13.4		
32.5 +	245.2	83.6	135.9	8.1	5.7	1.3	479.8	13.4		
37.5 +	245.2	81.0	135.1	8.1	5.7		475.1	13.4		
42.5 +	239.1	81.0	106.7				426.8			
47.5 +	238.4	81.0	63.6				383.0			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								1.2		
25		1.4	1.9				3.3			
30										
35			18.7			32.0	50.7			
40	4.1		7.2	5.3			16.5	8.8		
45	16.8		9.5				26.3			
50	4.7	1.4					6.1			
55										
60	4.4	1.9	13.3				19.7			
65	58.9						58.9			
70	9.4	6.9					16.3			
75	59.8						59.8			
80	4.5						4.5			
85	12.8						12.8			
90	3.5						3.5			
95	8.0						8.0			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	186.9	11.6	50.6	5.3		32.0	286.5			
Dead P			1.2		8.8			10.0		
Total Volumes for 7 Levels										
17.5 +	186.9	11.6	50.6	5.3		32.0	286.5	10.0		
22.5 +	186.9	11.6	50.6	5.3		32.0	286.5	8.8		
27.5 +	186.9	10.2	48.7	5.3		32.0	283.2	8.8		
32.5 +	186.9	10.2	48.7	5.3		32.0	283.2	8.8		
37.5 +	186.9	10.2	30.0	5.3			232.4	8.8		
42.5 +	182.9	10.2	22.8				215.9			
47.5 +	166.1	10.2	13.3				189.6			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [All Treatment Units : 12.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								0.8		0.9
25		0.8	0.8				1.6			
30		0.9	0.9				1.7			
35		0.9	0.5			0.5	1.9			
40	0.8		3.3	0.8	0.9		5.8	1.6		
45	0.5		4.2				4.7			
50	1.7	2.5	0.9				5.0			
55	0.9	0.9	0.9				2.6			
60	0.8	3.4	2.5				6.7			
65	3.4	2.6					6.0			
70	2.5	2.5					4.9			
75	2.6						2.6			
80	2.5						2.5			
85	2.4	0.9					3.3			
90	1.7						1.7			
95	3.3	0.9	0.9				5.0			
100	0.9						0.9			
105	0.9						0.9			
110	2.6	1.7					4.3			
115										
120										
125										
130										
135										
140	0.9						0.9			
145										
150										
175										
200										
225										
250										
275										
Total	28.3	17.8	14.7	0.8	0.9	0.5	63.0			
Dead P			0.8		1.6			2.4		
Dead U										
Live U			0.9							0.9
Average Basal Area (m2) at 5 Levels										
12.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	2.4		0.9
17.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	2.4		0.9
22.5 +	28.3	17.8	14.7	0.8	0.9	0.5	63.0	1.6		
27.5 +	28.3	17.0	13.9	0.8	0.9	0.5	61.3	1.6		
32.5 +	28.3	16.1	13.1	0.8	0.9	0.5	59.6	1.6		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [Block : 11.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20								0.8		0.9
25		0.8	0.8				1.7			
30		0.9	0.9				1.9			
35		0.9	0.2			0.2	1.3			
40	0.8		3.5	0.8	0.9		6.2	1.7		
45	0.2		4.5				4.7			
50	1.8	2.7	0.9				5.4			
55	0.9	0.9	0.9				2.8			
60	0.8	3.7	2.6				7.1			
65	2.8	2.8					5.7			
70	2.6	2.6					5.2			
75	2.0						2.0			
80	2.7						2.7			
85	2.5	0.9					3.4			
90	1.8						1.8			
95	3.5	0.9	0.9				5.4			
100	0.9						0.9			
105	0.9						0.9			
110	2.8	1.9					4.7			
115										
120										
125										
130										
135										
140	0.9						0.9			
145										
150										
175										
200										
225										
250										
275										
Total	28.2	19.3	15.4	0.8	0.9	0.2	64.8			
Dead P			0.8		1.7			2.5		
Dead U										
Live U			0.9							0.9
Average Basal Area (m2) at 5 Levels										
12.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	2.5		0.9
17.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	2.5		0.9
22.5 +	28.2	19.3	15.4	0.8	0.9	0.2	64.8	1.7		
27.5 +	28.2	18.4	14.6	0.8	0.9	0.2	63.1	1.7		
32.5 +	28.2	17.5	13.6	0.8	0.9	0.2	61.2	1.7		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Version: 2015.00 IFS build 5947

Block : (M) - 001:Block 1, Plots in Block: 16, TUs: [RW outside : 1.1]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								0.5		
25		0.5	0.5				1.1			
30										
35			4.0			4.0	8.0			
40	0.5		1.1	0.5			2.2	1.1		
45	4.0		1.1				5.1			
50	0.5	0.5					1.1			
55										
60	0.5	0.5	1.1				2.2			
65	9.6						9.6			
70	1.1	1.1					2.2			
75	9.0						9.0			
80	0.5						0.5			
85	1.6						1.6			
90	0.5						0.5			
95	1.1						1.1			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	29.2	2.7	7.8	0.5		4.0	44.2			
Dead P			0.5		1.1			1.6		
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.6		
17.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.6		
22.5 +	29.2	2.7	7.8	0.5		4.0	44.2	1.1		
27.5 +	29.2	2.2	7.3	0.5		4.0	43.1	1.1		
32.5 +	29.2	2.2	7.3	0.5		4.0	43.1	1.1		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [Block : 4.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20										85.5
25										
30		27.5	34.8				62.2			
35		22.4					22.4			
40			37.5		19.3		56.9			
45			44.8				44.8			
50	10.6	22.4	10.6				43.7			
55	9.6	9.1	9.3				28.0			
60		23.0	7.9				30.9			
65		19.1					19.1			
70	6.0	6.2					12.2			
75										
80	9.0						9.0			
85		4.1					4.1			
90	3.7						3.7			
95	6.3	3.2	3.2				12.7			
100	2.8						2.8			
105	2.7						2.7			
110	7.2	4.9					12.1			
115										
120										
125										
130										
135										
140	1.5						1.5			
145										
150										
175										
200										
225										
250										
275										
Total	59.4	141.9	148.1		19.3		368.7			
Dead P										
Dead U										
Live U										85.5
Average DBH(cm) at 5 Levels										
12.5 +	82.1	56.8	44.0		38.5		56.4			18.3
17.5 +	82.1	56.8	44.0		38.5		56.4			18.3
22.5 +	82.1	56.8	44.0		38.5		56.4			
27.5 +	82.1	56.8	44.0		38.5		56.4			
32.5 +	82.1	61.3	47.7		38.5		60.4			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [All Treatment Units : 6.6]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								38.8		
25		35.8	34.3				70.1			
30										
35										
40	12.8		23.0	12.5			48.3	25.8		
45			19.5				19.5			
50	7.2	8.2					15.4			
55										
60	5.0	5.6	10.5				21.1			
65	13.3						13.3			
70	7.9	8.2					16.1			
75	6.9						6.9			
80	3.1						3.1			
85	8.1						8.1			
90	2.4						2.4			
95	4.2						4.2			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	71.0	57.8	87.3	12.5			228.6			
Dead P			38.8		25.8			64.5		
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
17.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
22.5 +	67.6	40.7	39.1	39.1			50.1	38.5		
27.5 +	67.6	58.9	46.5	39.1			58.1	38.5		
32.5 +	67.6	58.9	46.5	39.1			58.1	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [Block : 6.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								38.8		
25		35.8	34.3				70.1			
30										
35										
40	12.8		23.0	12.5			48.3	25.8		
45			19.5				19.5			
50	7.2	8.2					15.4			
55										
60	5.0	5.6	10.5				21.1			
65	13.3						13.3			
70	7.9	8.2					16.1			
75	6.9						6.9			
80	3.1						3.1			
85	8.1						8.1			
90	2.4						2.4			
95	4.2						4.2			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	71.0	57.8	87.3	12.5			228.6			
Dead P			38.8		25.8			64.5		
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
17.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
22.5 +	67.6	40.7	39.1	39.1			50.1	38.5		
27.5 +	67.6	58.9	46.5	39.1			58.1	38.5		
32.5 +	67.6	58.9	46.5	39.1			58.1	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [RW outside : 0.4]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								38.8		
25		35.8	34.3				70.1			
30										
35										
40	12.8		23.0	12.5			48.3	25.8		
45			19.5				19.5			
50	7.2	8.2					15.4			
55										
60	5.0	5.6	10.5				21.1			
65	13.3						13.3			
70	7.9	8.2					16.1			
75	6.9						6.9			
80	3.1						3.1			
85	8.1						8.1			
90	2.4						2.4			
95	4.2						4.2			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	71.0	57.8	87.3	12.5			228.6			
Dead P			38.8		25.8			64.5		
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
17.5 +	67.6	40.7	39.1	39.1			50.1	29.8		
22.5 +	67.6	40.7	39.1	39.1			50.1	38.5		
27.5 +	67.6	58.9	46.5	39.1			58.1	38.5		
32.5 +	67.6	58.9	46.5	39.1			58.1	38.5		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [All Treatment Units : 1.0]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			72.6			58.4	131.1			
40										
45	43.4						43.4			
50										
55										
60										
65	37.0						37.0			
70										
75	28.9						28.9			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	109.3		72.6			58.4	240.4			
Dead P										
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	60.3		33.1			36.9	48.1			
17.5 +	60.3		33.1			36.9	48.1			
22.5 +	60.3		33.1			36.9	48.1			
27.5 +	60.3		33.1			36.9	48.1			
32.5 +	60.3		33.1			36.9	48.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [Block : 0.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			72.6			58.4	131.1			
40										
45	43.4						43.4			
50										
55										
60										
65	37.0						37.0			
70										
75	28.9						28.9			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	109.3		72.6			58.4	240.4			
Dead P										
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	60.3		33.1			36.9	48.1			
17.5 +	60.3		33.1			36.9	48.1			
22.5 +	60.3		33.1			36.9	48.1			
27.5 +	60.3		33.1			36.9	48.1			
32.5 +	60.3		33.1			36.9	48.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [RW outside : 0.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			72.6			58.4	131.1			
40										
45	43.4						43.4			
50										
55										
60										
65	37.0						37.0			
70										
75	28.9						28.9			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	109.3		72.6			58.4	240.4			
Dead P										
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	60.3		33.1			36.9	48.1			
17.5 +	60.3		33.1			36.9	48.1			
22.5 +	60.3		33.1			36.9	48.1			
27.5 +	60.3		33.1			36.9	48.1			
32.5 +	60.3		33.1			36.9	48.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
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 Version: 2015.00 IFS build 5947

Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [Block : 4.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30		6.2	12.2				18.4			
35		6.2					6.2			
40			41.7		13.5		55.2			
45			68.1				68.1			
50	19.6	25.8	22.7				68.1			
55	20.7	10.4	24.1				55.2			
60		29.9	27.9				57.8			
65		31.5					31.5			
70	25.8	10.2					36.0			
75										
80	38.3						38.3			
85		9.9					9.9			
90	20.8						20.8			
95	49.5	13.8	28.7				92.0			
100	22.0						22.0			
105	19.1						19.1			
110	62.8	24.5					87.3			
115										
120										
125										
130										
135										
140	26.1						26.1			
145										
150										
175										
200										
225										
250										
275										
Total	304.6	168.4	225.3		13.5		711.8			
Dead P										
Total Volumes for 7 Levels										
17.5 +	304.6	168.4	225.3		13.5		711.8			
22.5 +	304.6	168.4	225.3		13.5		711.8			
27.5 +	304.6	168.4	225.3		13.5		711.8			
32.5 +	304.6	162.2	213.1		13.5		693.4			
37.5 +	304.6	156.0	213.1		13.5		687.3			
42.5 +	304.6	156.0	171.4				632.1			
47.5 +	304.6	156.0	103.3				564.0			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [All Treatment Units : 6.6]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								3.3		
25		3.9	5.2				9.1			
30										
35										
40	11.2		19.7	14.6			45.5	24.3		
45			26.2				26.2			
50	12.9	3.9					16.8			
55										
60	12.2	5.3	36.6				54.1			
65	36.5						36.5			
70	25.9	18.8					44.7			
75	25.5						25.5			
80	12.4						12.4			
85	35.3						35.3			
90	9.5						9.5			
95	22.1						22.1			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	203.5	32.0	87.7	14.6			337.8			
Dead P			3.3		24.3			27.6		
Total Volumes for 7 Levels										
17.5 +	203.5	32.0	87.7	14.6			337.8	27.6		
22.5 +	203.5	32.0	87.7	14.6			337.8	24.3		
27.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
32.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
37.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
42.5 +	192.3	28.0	62.8				283.2			
47.5 +	192.3	28.0	36.6				256.9			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [Block : 6.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH Class										
5										
10										
15										
20								3.3		
25		3.9	5.2				9.1			
30										
35										
40	11.2		19.7	14.6			45.5	24.3		
45			26.2				26.2			
50	12.9	3.9					16.8			
55										
60	12.2	5.3	36.6				54.1			
65	36.5						36.5			
70	25.9	18.8					44.7			
75	25.5						25.5			
80	12.4						12.4			
85	35.3						35.3			
90	9.5						9.5			
95	22.1						22.1			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	203.5	32.0	87.7	14.6			337.8			
Dead P			3.3		24.3			27.6		
Total Volumes for 7 Levels										
17.5 +	203.5	32.0	87.7	14.6			337.8	27.6		
22.5 +	203.5	32.0	87.7	14.6			337.8	24.3		
27.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
32.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
37.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
42.5 +	192.3	28.0	62.8				283.2			
47.5 +	192.3	28.0	36.6				256.9			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [RW outside : 0.4]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								3.3		
25		3.9	5.2				9.1			
30										
35										
40	11.2		19.7	14.6			45.5	24.3		
45			26.2				26.2			
50	12.9	3.9					16.8			
55										
60	12.2	5.3	36.6				54.1			
65	36.5						36.5			
70	25.9	18.8					44.7			
75	25.5						25.5			
80	12.4						12.4			
85	35.3						35.3			
90	9.5						9.5			
95	22.1						22.1			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	203.5	32.0	87.7	14.6			337.8			
Dead P			3.3		24.3			27.6		
Total Volumes for 7 Levels										
17.5 +	203.5	32.0	87.7	14.6			337.8	27.6		
22.5 +	203.5	32.0	87.7	14.6			337.8	24.3		
27.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
32.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
37.5 +	203.5	28.0	82.5	14.6			328.6	24.3		
42.5 +	192.3	28.0	62.8				283.2			
47.5 +	192.3	28.0	36.6				256.9			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [All Treatment Units : 1.0]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			29.5			50.3	79.7			
40										
45	26.3						26.3			
50										
55										
60										
65	71.7						71.7			
70										
75	79.4						79.4			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	177.5		29.5			50.3	257.2			
Dead P										
Total Volumes for 7 Levels										
17.5 +	177.5		29.5			50.3	257.2			
22.5 +	177.5		29.5			50.3	257.2			
27.5 +	177.5		29.5			50.3	257.2			
32.5 +	177.5		29.5			50.3	257.2			
37.5 +	177.5						177.5			
42.5 +	177.5						177.5			
47.5 +	151.1						151.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [Block : 0.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			29.5			50.3	79.7			
40										
45	26.3						26.3			
50										
55										
60										
65	71.7						71.7			
70										
75	79.4						79.4			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	177.5		29.5			50.3	257.2			
Dead P										
Total Volumes for 7 Levels										
17.5 +	177.5		29.5			50.3	257.2			
22.5 +	177.5		29.5			50.3	257.2			
27.5 +	177.5		29.5			50.3	257.2			
32.5 +	177.5		29.5			50.3	257.2			
37.5 +	177.5						177.5			
42.5 +	177.5						177.5			
47.5 +	151.1						151.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [RW outside : 0.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			29.5			50.3	79.7			
40										
45	26.3						26.3			
50										
55										
60										
65	71.7						71.7			
70										
75	79.4						79.4			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	177.5		29.5			50.3	257.2			
Dead P										
Total Volumes for 7 Levels										
17.5 +	177.5		29.5			50.3	257.2			
22.5 +	177.5		29.5			50.3	257.2			
27.5 +	177.5		29.5			50.3	257.2			
32.5 +	177.5		29.5			50.3	257.2			
37.5 +	177.5						177.5			
42.5 +	177.5						177.5			
47.5 +	151.1						151.1			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF_NOVA Computerized Breakage District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 1 (M):CF (H) 951, Plots in Type: 9, TUs: [Block : 4.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH										
Class										
5										
10										
15										
20										2.3
25										
30		2.2	2.3				4.5			
35		2.3					2.3			
40			4.5		2.2		6.8			
45			6.8				6.8			
50	2.3	4.5	2.3				9.0			
55	2.3	2.3	2.3				6.8			
60		6.8	2.3				9.0			
65		6.8					6.8			
70	2.3	2.3					4.5			
75										
80	4.5						4.5			
85		2.3					2.3			
90	2.2						2.2			
95	4.5	2.3	2.3				9.0			
100	2.3						2.3			
105	2.3						2.3			
110	6.8	4.5					11.3			
115										
120										
125										
130										
135										
140	2.3						2.3			
145										
150										
175										
200										
225										
250										
275										
Total	31.5	36.0	22.5		2.2		92.3			
Dead P										
Dead U										
Live U										2.3
Average Basal Area (m2) at 5 Levels										
12.5 +	31.5	36.0	22.5		2.2		92.3			2.3
17.5 +	31.5	36.0	22.5		2.2		92.3			2.3
22.5 +	31.5	36.0	22.5		2.2		92.3			
27.5 +	31.5	36.0	22.5		2.2		92.3			
32.5 +	31.5	33.8	20.3		2.2		87.8			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF_NOVA Computerized Breakage District: 04 - South Island

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Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [All Treatment Units : 6.6]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.5		
25		1.5	1.5				3.0			
30										
35										
40	1.5		3.0	1.5			6.0	3.0		
45			3.0				3.0			
50	1.5	1.5					3.0			
55										
60	1.5	1.5	3.0				6.0			
65	4.5						4.5			
70	3.0	3.0					6.0			
75	3.0						3.0			
80	1.5						1.5			
85	4.5						4.5			
90	1.5						1.5			
95	3.0						3.0			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	25.5	7.5	10.5	1.5			45.0			
Dead P			1.5		3.0			4.5		
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
17.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
22.5 +	25.5	7.5	10.5	1.5			45.0	3.0		
27.5 +	25.5	6.0	9.0	1.5			42.0	3.0		
32.5 +	25.5	6.0	9.0	1.5			42.0	3.0		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF_NOVA Computerized Breakage District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [Block : 6.2]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.5		
25		1.5	1.5				3.0			
30										
35										
40	1.5		3.0	1.5			6.0	3.0		
45			3.0				3.0			
50	1.5	1.5					3.0			
55										
60	1.5	1.5	3.0				6.0			
65	4.5						4.5			
70	3.0	3.0					6.0			
75	3.0						3.0			
80	1.5						1.5			
85	4.5						4.5			
90	1.5						1.5			
95	3.0						3.0			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	25.5	7.5	10.5	1.5			45.0			
Dead P			1.5		3.0			4.5		
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
17.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
22.5 +	25.5	7.5	10.5	1.5			45.0	3.0		
27.5 +	25.5	6.0	9.0	1.5			42.0	3.0		
32.5 +	25.5	6.0	9.0	1.5			42.0	3.0		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF_NOVA Computerized Breakage District: 04 - South Island

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Type 2 (M):FH (C) 841, Plots in Type: 6, TUs: [RW outside : 0.4]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20								1.5		
25		1.5	1.5				3.0			
30										
35										
40	1.5		3.0	1.5			6.0	3.0		
45			3.0				3.0			
50	1.5	1.5					3.0			
55										
60	1.5	1.5	3.0				6.0			
65	4.5						4.5			
70	3.0	3.0					6.0			
75	3.0						3.0			
80	1.5						1.5			
85	4.5						4.5			
90	1.5						1.5			
95	3.0						3.0			
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	25.5	7.5	10.5	1.5			45.0			
Dead P			1.5		3.0			4.5		
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
17.5 +	25.5	7.5	10.5	1.5			45.0	4.5		
22.5 +	25.5	7.5	10.5	1.5			45.0	3.0		
27.5 +	25.5	6.0	9.0	1.5			42.0	3.0		
32.5 +	25.5	6.0	9.0	1.5			42.0	3.0		

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Basal Area Table (m2/ha)
 FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [All Treatment Units : 1.0]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			6.3			6.3	12.5			
40										
45	6.3						6.3			
50										
55										
60										
65	12.5						12.5			
70										
75	12.5						12.5			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	31.3		6.3			6.3	43.8			
Dead P										
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	31.3		6.3			6.3	43.8			
17.5 +	31.3		6.3			6.3	43.8			
22.5 +	31.3		6.3			6.3	43.8			
27.5 +	31.3		6.3			6.3	43.8			
32.5 +	31.3		6.3			6.3	43.8			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Basal Area Table (m2/ha)
 FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [Block : 0.3]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			6.3			6.3	12.5			
40										
45	6.3						6.3			
50										
55										
60										
65	12.5						12.5			
70										
75	12.5						12.5			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	31.3		6.3			6.3	43.8			
Dead P										
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	31.3		6.3			6.3	43.8			
17.5 +	31.3		6.3			6.3	43.8			
22.5 +	31.3		6.3			6.3	43.8			
27.5 +	31.3		6.3			6.3	43.8			
32.5 +	31.3		6.3			6.3	43.8			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Basal Area Table (m2/ha)
 FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 3 (M):F (P) 831, Plots in Type: 1, TUs: [RW outside : 0.7]

	F	C	H	B	Y	PW	Total	DP	DU	LU
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25										
30										
35			6.3			6.3	12.5			
40										
45	6.3						6.3			
50										
55										
60										
65	12.5						12.5			
70										
75	12.5						12.5			
80										
85										
90										
95										
100										
105										
110										
115										
120										
125										
130										
135										
140										
145										
150										
175										
200										
225										
250										
275										
Total	31.3		6.3			6.3	43.8			
Dead P										
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	31.3		6.3			6.3	43.8			
17.5 +	31.3		6.3			6.3	43.8			
22.5 +	31.3		6.3			6.3	43.8			
27.5 +	31.3		6.3			6.3	43.8			
32.5 +	31.3		6.3			6.3	43.8			

*** 1 tree(s) changed to tree class 6:because only log was less then 3.00 m ***
 FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:24:47PM
 Filename: comm_for_blk1_typed_lf.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Block Strip	Plot #	Plot Size	Slope %	Species	# of Stems	Stems / Ha	Avg Diam	Gross Merch	Less Decay	Less DB	Less DWB	Cruise Date	Loss Ref YI	Loss Ref OI	No. M
1-CF (H) 951	001	2	20.250F	102	W.R. Cedar	1	28.87	94.50	188.70	154.55	141.34	123.79	1509			211
					Doug-Fir	5	180.69	84.47	1090.21	1063.60	1009.09	1003.94		110		
					Hemlock	1	161.95	39.90	245.78	238.90	224.15	224.15		396		
					All Sp.	7	371.52	69.70	1524.69	1457.05	1374.58	1351.89				
		3	20.250F	90	W.R. Cedar	1	201.17	35.80	113.22	78.57	70.65	55.36			211	
					Doug-Fir	3	109.70	83.97	751.15	645.37	607.81	566.41	110			
					Hemlock	1	83.40	55.60	234.29	230.54	216.49	216.49	396			
					All Sp.	5	394.28	57.18	1098.66	954.49	894.95	838.26	1509			
		4	20.250F	85	W.R. Cedar	1	97.59	51.40	152.27	125.17	114.51	105.22			211	
					Hemlock	2	156.64	57.38	440.53	437.17	410.74	410.74	396			
					All Sp.	3	254.23	55.16	592.80	562.34	525.25	515.96	1509			
		5	20.250F	42	W.R. Cedar	5	301.79	65.36	929.89	607.63	542.54	429.47			211	
Hemlock	3				976.83	28.14	509.69	506.39	475.81	475.81	396					
All Sp.	8				1278.62	40.16	1439.58	1114.02	1018.34	905.28	1509					
6	20.250F	55	Doug-Fir	1	54.15	69.00	248.96	244.48	232.03	231.78			110			
			Hemlock	1	95.72	51.90	218.60	217.07	203.95	203.95	396					
			All Sp.	2	149.87	58.66	467.56	461.55	435.98	435.74	1509					
7	20.250F	60	W.R. Cedar	2	113.20	67.49	368.64	270.45	244.65	208.51			211			
			Doug-Fir	3	129.42	77.31	580.19	562.12	533.11	528.52	110					
			All Sp.	5	242.62	72.89	948.82	832.57	777.76	737.03	1509					
8	20.250F	30	Doug-Fir	1	33.07	88.30	199.83	197.24	187.24	187.04			110			
			Hemlock	1	313.02	28.70	118.15	116.61	109.53	109.53	396					
			Y. Cedar	1	173.95	38.50	144.93	131.75	121.60	121.46	610					
			All Sp.	3	520.03	38.57	462.92	445.60	418.37	418.03	1509					
9	20.250F	40	W.R. Cedar	2	173.71	54.48	343.85	281.84	257.77	233.92			211			
			All Sp.	2	173.71	54.48	343.85	281.84	257.77	233.92	1509					
15	20.250F	65	W.R. Cedar	4	360.60	53.48	659.43	478.14	431.98	358.92			211			
			Doug-Fir	1	27.86	96.20	239.10	236.23	224.28	224.04	110					
			Hemlock	2	315.21	40.45	415.08	411.85	386.95	386.95	396					
			All Sp.	7	703.67	50.64	1313.61	1126.23	1043.21	969.90	1509					
2-FH (C) 841	001	1	9.000F	73	W.R. Cedar	2	49.27	68.20	171.28	139.59	127.60	113.04			211	
					Doug-Fir	2	120.11	43.68	157.15	153.23	145.38	144.61	110			
					Hemlock	1	29.62	62.20	124.97	122.97	115.47	115.47	396			
					All Sp.	5	199.01	53.66	453.40	415.80	388.45	373.13	1509			

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Utilization Levels: Minimum DBH Top Diameter Stump Height

Mature Blocks: (cm) 17.5 15.0 30
 Immature Blocks:(cm) 12.0 10.0 30

Standard Log Length:(m) 10.00

Forest Type	Block Strip	Plot #	Plot Size	Slope %	Species	# of Stems	Stems / Ha	Avg Diam	Gross Merch	Less Decay	Less DB	Less DWB	Cruise Date	Loss YI	Ref OI	No. M
2-FH (C) 841	001	10	9.000F	42	W.R. Cedar	2	263.67	29.48	81.50	60.41	54.71	46.90	1509			211
					Doug-Fir	4	79.05	76.15	304.59	297.12	281.89	280.12		110		
					All Sp.	6	342.72	44.79	386.09	357.53	336.59	327.02				
		11	9.000F	45	Doug-Fir	3	66.63	71.83	238.79	234.65	222.71	222.39		110		
					Hemlock	2	299.05	27.68	72.39	64.97	60.63	54.97	396			
					All Sp.	5	365.68	39.58	311.18	299.62	283.34	277.36	1509			
		12	9.000F	30	Balsam	1	74.95	39.10	94.93	92.85	88.10	87.62		411		
					Doug-Fir	1	26.79	65.40	73.64	72.24	68.56	68.41	110			
					Hemlock	5	427.65	36.60	406.48	400.22	375.83	375.83	396			
					All Sp.	7	529.40	38.93	575.06	565.31	532.49	531.87	1509			
		13	9.000F	42	Doug-Fir	6	112.10	78.31	461.85	451.27	428.18	426.32		110		
					Y. Cedar	2	154.62	38.50	173.94	158.11	145.94	145.76	610			
					All Sp.	8	266.72	58.63	635.79	609.38	574.11	572.08	1509			
		14	9.000F	53	W.R. Cedar	1	33.71	58.30	70.98	46.00	41.03	31.87		211		
Doug-Fir	1				21.27	73.40	84.79	83.43	79.19	79.11	110					
All Sp.	2				54.98	64.56	155.77	129.43	120.22	110.98	1509					
3-F (P) 831	001	16	6.250F	15	Doug-Fir	5	109.33	60.33	190.95	187.40	177.86	177.47		110		
					Hemlock	1	72.63	33.10	32.54	31.41	29.45	29.45	396			
					W.W. Pine	1	58.44	36.90	53.67	52.97	50.29	50.29	710			
					All Sp.	7	240.41	48.14	277.16	271.78	257.59	257.21	1509			

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Frequency Report

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Measure Plots

Blocks	Timber Type		
	1	2	3

BLOCK 001 (M)

# of Plots	9	6	1
ha / Plot	0.52	1.10	1.00

Cutting Permit

# of Plots	9	6	1
ha / Plot	0.52	1.10	1.00

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF_NOVA

Grades: MOF Computerized
 Computerized Decay
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Plot Frequency Report

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Measure Plots

Harvest Methods	Timber Type		
	1	2	3
METHOD CC			
# of Plots	1	4	
ha / Plot	1.10	1.02	
METHOD HL			
# of Plots	8	1	
ha / Plot	0.45	0.40	
METHOD SC			
# of Plots		1	1
ha / Plot		2.10	1.00
All Methods			
# of Plots	9	6	1
ha / Plot	0.52	1.10	1.00

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
AVCF
Licence Number: COMM CP: PRE
Project: AVCF_NOVA

Grades: MOF Computerized
Computerized Decay
Computerized Waste
Computerized Breakage

Plot Frequency Report

FIZ: B
PSYU: Nootka
Region: 2 - West Coast
District: 04 - South Island

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Cruised by: AZMETH
Version: 2015.00 IFS build 5947

Count Plots

Blocks	Timber Type		
	1	2	3

BLOCK 001 (M)
of Plots
ha / Plot

Cutting Permit
of Plots
ha / Plot

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
AVCF
Licence Number: COMM CP: PRE
Project: AVCF_NOVA

Grades: MOF Computerized
Computerized Decay
Computerized Waste
Computerized Breakage

Plot Frequency Report

FIZ: B
PSYU: Nootka
Region: 2 - West Coast
District: 04 - South Island

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Compiled by: F Warren and Associates Ltd
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Version: 2015.00 IFS build 5947

Count Plots

Harvest Methods	Timber Type		
	1	2	3

METHOD CC
of Plots
ha / Plot

METHOD HL
of Plots
ha / Plot

METHOD SC
of Plots
ha / Plot

All Methods
of Plots
ha / Plot

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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AVCF

COMM - CP# PRE

Block #: Block 2

SUMMARY OF VOLUMES (loss factors)
FULL VOLUMES APPLIED

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Map Area Statement Report

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Card A Cruise Identity

Licence #	: COMM	Cutting Permit #	: PRE
Number of Blocks	: 1	Forest Region	: West Coast
Forest District	: South Island	Type	: PSYU
Unit No	: Nootka	Tenure	: Community Forest Agreement
Quota	: Prop./Mngd.PSYU,TFL,or SSA	Sale Type	: None
Elevation	: 1	Co-ordinates Zone	: Unknown
East	: 0	North	: 0
Total Merch Area	: 12.10	Report Type	: *** FOR APPRAISAL PURPOSES ***
Locality	:		

Card B Compilation Standard

Damage	: Damage	Selective	: Compile All Trees
Double Sampling	: Measure Plots Only	Special Compilation	: No Special Compilation
Species Compilation	: Exceptions Not Used	Type of Compilation	: Coastal

Compilation Standard	Mature	Immature
DBH Limit	17.50	12.00
Stump Height	30	30
Top Diameter	15.00	10.00

Card C Type Description

Type	Description	Silvicultural Treatment Units	
		A	B
1	HF 951	6.1	0.3
2	HFC 941	5.3	0.4

Card D Block Description

Block	Description	Maturity	Type	Silvicultural Treatment Units	
				A	B
002	Block 2	M	1	6.1	0.3
			2	5.3	0.4

Card F Harvesting Description

Harvest Method	Harvest Description	Type	Silvicultural Treatment Units	
			A	B
CC	Cable - Clearcut	1	2.1	0.3
		2	4.0	0.4
HL	Heli - Land	1	4.0	
SC	Ground Systems - Clearcut	2	1.3	

Card G Treatment Unit Description

Treatment Unit	Description
A	Block
B	RW

Appraisal Summary Report

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF
 Location :

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage
 No Of Blocks : 1

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Net Area: [All Treatment Units : 12.1]

All Method Summary

Algorithm Grades % Species Code Description	F	H	I	J	M	U	X	Y	Net Volume (m3)			Net Volume / ha		
									All	Live	DP	All	Live	DP
BA Balsam	39	17	19		25				663	663	0	54.775	54.775	0.000
CE Cedar	34	9	29	4	20	2	2		571	530	40	47.157	43.817	3.340
CY Y. Cedar	41		32		27				154	154	0	12.723	12.723	0.000
FI Doug-Fir	3	59	17	3		15		3	1846	1746	100	152.584	144.282	8.302
HE Hemlock		35	17	18		28	1	1	7070	6374	696	584.259	526.755	57.504
Total									10303	9466	837	851.498	782.352	69.146

Harvesting Method Summaries

Harvest Method	Net Volume	Net Vol /10m Log	Net Vol /Hectare	Hem+ Bal%	Partial Cut%	Slope%	Down Tree%	Heavy Fire%
CC	5431	1.13	798.651	77		85	3	0
HL	3972	1.27	992.958	72		68	2	0
SC	900	1.04	692.667	80		49	4	0
Conventional Methods	6331	1.12	781.642	77		79	3	0
All Methods	10303	1.17	851.498	75			3	0

Cutting Authority

95% Confidence Interval 26.9
 Plots/Ha 1.3
 Cruised Trees/Plot 4.9
 Net 2nd Growth-Conifer % 0.0
 Net 2nd Growth-Conifer (m3) 0
 Net Immature by Block % 002: 0%
 Non Heli Select Conifer (m3/ha) 851.50
 Heli Select Total (decimal) 0.00
 Heli+Skyline Total (decimal) 0.39
 Piece Size - Conifer (m3/10m log) 1.17
 Cruise Date (yy-mm): 15-09
 # Plots: 16 # <= 5yrs: 16 # > 5yrs: 0 # > 10yrs: 0 # no date: 0

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.1]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	11974	11974	2128	892	7973	763	218
Net Merchantable	m3	10303	10303	1846	571	7070	663	154
Net Merch - All	m3/ha	851.498	851.498	152.584	47.157	584.259	54.775	12.723
Net Merch - Live	m3/ha	782.352	782.352	144.282	43.817	526.755	54.775	12.723
Net Merch - DP	m3/ha	69.146	69.146	8.302	3.340	57.504		
Decay	%	6	6	6	20	4	6	17
Waste(billing)	%	2	2	2	13	1	2	7
Total Cull (DWB)	%	14	14	13	36	11	13	29
Net Merch Vol/Tree	m3	2.89	2.89	6.12	1.42	3.08	2.03	0.64
Avg 10.0 m Log Net	m3	1.17	1.17	1.56	0.71	1.23	0.87	0.56
Useless Dead/Living	%							
Net Second Growth	%							
All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	3	3	5	7	2		
Insect Volume	%							

Algorithm Grades %

#2 Lum/#1 Lum	F			3				
#2 Sawlog	H	41	41	59	34	35	39	41
#3 Sawlog	I	16	16	17	9	17	17	
#4 Sawlog	J	16	16	3	29	18	19	32
#4 Shingle	M				4			
#5 Utility	U	25	25	15	20	28	25	27
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2	1		

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[Block : 11.4]

		Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits									
Min DBH	cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht	cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia	cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len	m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data									
Gross Merchantable	m3	11306	11306		2011	843	7533	713	206
Net Merchantable	m3	9728	9728		1747	539	6677	619	146
Net Merch - All	m3/ha	853.349	853.349		153.241	47.322	585.701	54.312	12.772
Net Merch - Live	m3/ha	783.804	783.804		145.048	44.026	527.645	54.312	12.772
Net Merch - DP	m3/ha	69.545	69.545		8.193	3.296	58.056		
Decay	%	6	6		6	20	4	6	17
Waste(billing)	%	2	2		2	13	1	2	7
Total Cull (DWB)	%	14	14		13	36	11	13	29
Net Merch Vol/Tree	m3	2.89	2.89		6.12	1.44	3.08	2.01	0.64
Avg 10.0 m Log Net	m3	1.17	1.17		1.56	0.72	1.23	0.86	0.56
Useless Dead/Living	%								
Net Second Growth	%								
All Burn Volume	%								
Heavy Fire Volume	%								
Blowdown Volume	%	3	3		5	7	2		
Insect Volume	%								

Algorithm Grades %

#2 Lum/#1 Lum	F				3				
#2 Sawlog	H	41	41		59	35	36	40	42
#3 Sawlog	I	16	16		17	9	17	17	
#4 Sawlog	J	16	16		3	28	17	19	31
#4 Shingle	M					4			
#5 Utility	U	25	25		15	20	28	24	27
#6 Utility	X	1	1			2	1		
#7 Chipper	Y	1	1		3	2	1		

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

All Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

[RW : 0.7]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	668	668	117	49	440	50	11
Net Merchantable	m3	575	575	99	31	393	44	8
Net Merch - All	m3/ha	821.363	821.363	141.882	44.465	560.784	62.306	11.926
Net Merch - Live	m3/ha	758.715	758.715	131.811	40.414	512.258	62.306	11.926
Net Merch - DP	m3/ha	62.647	62.647	10.070	4.051	48.526		
Decay	%	6	6	7	21	4	6	15
Waste(billing)	%	2	2	3	13	1	2	6
Total Cull (DWB)	%	14	14	15	37	11	14	27
Net Merch Vol/Tree	m3	2.76	2.76	6.06	1.20	2.98	2.45	0.51
Avg 10.0 m Log Net	m3	1.15	1.15	1.55	0.64	1.21	0.99	0.48
Useless Dead/Living	%							
Net Second Growth	%							
All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	3	3	7	9	2		
Insect Volume	%							

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	3				
#2 Sawlog	H	40	40	60	30	37	42	36
#3 Sawlog	I	15	15	17	8	15	19	
#4 Sawlog	J	17	17	2	34	19	13	40
#4 Shingle	M				3			
#5 Utility	U	25	25	15	21	28	26	24
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2			

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
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 Version: 2015.00 IFS build 5947

Harvest Method : CC - Cable - Clearcut [All Treatment Units : 6.8]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	6302	6302	1085	458	4121	536	103
Net Merchantable	m3	5431	5431	910	289	3693	462	77
Net Merch - All	m3/ha	798.651	798.651	133.816	42.437	543.092	67.982	11.324
Net Merch - Live	m3/ha	740.901	740.901	122.413	37.850	501.332	67.982	11.324
Net Merch - DP	m3/ha	57.750	57.750	11.403	4.587	41.760		
Decay	%	6	6	8	22	3	7	14
Waste(billing)	%	2	2	4	13	1	2	5
Total Cull (DWB)	%	14	14	16	37	10	14	25
Net Merch Vol/Tree	m3	2.67	2.67	6.01	1.06	2.91	2.80	0.44
Avg 10.0 m Log Net	m3	1.13	1.13	1.54	0.59	1.19	1.08	0.43
Useless Dead/Living	%							

Net Second Growth %

All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	3	3	9	11	2		
Insect Volume	%							
% Average Slope		85						

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	4				
#2 Sawlog	H	39	39	59	26	37	44	31
#3 Sawlog	I	14	14	17	7	14	19	
#4 Sawlog	J	18	18	2	38	20	10	49
#4 Shingle	M				3			
#5 Utility	U	26	26	15	22	28	27	20
#6 Utility	X	1	1		3	1		
#7 Chipper	Y	1	1	3	1			

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Harvest Method : CC - Cable - Clearcut [Block : 6.1]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	5634	5634	968	409	3681	486	91
Net Merchantable	m3	4856	4856	811	257	3300	419	69
Net Merch - All	m3/ha	796.045	796.045	132.891	42.204	541.061	68.634	11.255
Net Merch - Live	m3/ha	738.858	738.858	121.335	37.555	500.078	68.634	11.255
Net Merch - DP	m3/ha	57.188	57.188	11.556	4.649	40.983		
Decay	%	6	6	8	22	3	7	14
Waste(billing)	%	2	2	4	13	1	2	5
Total Cull (DWB)	%	14	14	16	37	10	14	25
Net Merch Vol/Tree	m3	2.66	2.66	6.00	1.04	2.90	2.85	0.43
Avg 10.0 m Log Net	m3	1.13	1.13	1.54	0.59	1.19	1.09	0.42
Useless Dead/Living	%							
Net Second Growth	%							
All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	3	3	9	11	2		
Insect Volume	%							

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	4				
#2 Sawlog	H	39	39	59	25	37	44	30
#3 Sawlog	I	14	14	17	6	14	19	
#4 Sawlog	J	18	18	2	40	20	10	50
#4 Shingle	M				3			
#5 Utility	U	26	26	15	22	28	27	20
#6 Utility	X	1	1		3	1		
#7 Chipper	Y	1	1	3	1			

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
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 Version: 2015.00 IFS build 5947

Harvest Method : CC - Cable - Clearcut [RW : 0.7]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	668	668	117	49	440	50	11
Net Merchantable	m3	575	575	99	31	393	44	8
Net Merch - All	m3/ha	821.363	821.363	141.882	44.465	560.784	62.306	11.926
Net Merch - Live	m3/ha	758.715	758.715	131.811	40.414	512.258	62.306	11.926
Net Merch - DP	m3/ha	62.647	62.647	10.070	4.051	48.526		
Decay	%	6	6	7	21	4	6	15
Waste(billing)	%	2	2	3	13	1	2	6
Total Cull (DWB)	%	14	14	15	37	11	14	27
Net Merch Vol/Tree	m3	2.76	2.76	6.06	1.20	2.98	2.45	0.51
Avg 10.0 m Log Net	m3	1.15	1.15	1.55	0.64	1.21	0.99	0.48
Useless Dead/Living	%							
Net Second Growth	%							
All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	3	3	7	9	2		
Insect Volume	%							

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	3				
#2 Sawlog	H	40	40	60	30	37	42	36
#3 Sawlog	I	15	15	17	8	15	19	
#4 Sawlog	J	17	17	2	34	19	13	40
#4 Shingle	M				3			
#5 Utility	U	25	25	15	21	28	26	24
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2			

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
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Harvest Method : HL - Heli - Land [All Treatment Units : 4.0]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	4631	4631	878	363	3203	84	103
Net Merchantable	m3	3972	3972	811	239	2778	78	66
Net Merch - All	m3/ha	992.958	992.958	202.821	59.791	694.457	19.421	16.468
Net Merch - Live	m3/ha	893.307	893.307	202.821	59.791	594.806	19.421	16.468
Net Merch - DP	m3/ha	99.651	99.651			99.651		
Decay	%	6	6	2	18	6	2	22
Waste(billing)	%	2	2	1	14	2	1	10
Total Cull (DWB)	%	14	14	8	34	13	7	36
Net Merch Vol/Tree	m3	3.50	3.50	6.32	4.22	3.50	0.57	3.44
Avg 10.0 m Log Net	m3	1.27	1.27	1.60	1.17	1.32	0.30	1.27
Useless Dead/Living	%							

Net Second Growth %

All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	2	2			4		
Insect Volume	%							
% Average Slope		68						

Algorithm Grades %

#2 Sawlog	H	44	44	62	51	37		60
#3 Sawlog	I	20	20	17	13	23		
#4 Sawlog	J	12	12	4	9	12	100	
#4 Shingle	M				6			
#5 Utility	U	23	23	14	18	27		40
#6 Utility	X							
#7 Chipper	Y	1	1	3	3	1		

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Harvest Method Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
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 Version: 2015.00 IFS build 5947

Harvest Method : SC - Ground Systems - Clearcut[All Treatment Units : 1.3]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable	m3	1041	1041	165	71	650	144	12
Net Merchantable	m3	900	900	125	43	599	123	11
Net Merch - All	m3/ha	692.667	692.667	96.177	32.971	460.529	94.470	8.519
Net Merch - Live	m3/ha	657.772	657.772	78.554	25.882	450.346	94.470	8.519
Net Merch - DP	m3/ha	34.895	34.895	17.623	7.089	10.183		
Decay	%	6	6	14	25	2	7	1
Waste(billing)	%	2	2	7	13	0	3	
Total Cull (DWB)	%	14	14	24	40	8	14	8
Net Merch Vol/Tree	m3	2.25	2.25	5.69	0.61	2.55	5.03	0.23
Avg 10.0 m Log Net	m3	1.04	1.04	1.49	0.40	1.10	1.53	0.25
Useless Dead/Living	%							

Net Second Growth %

All Burn Volume	%							
Heavy Fire Volume	%							
Blowdown Volume	%	4	4	18	22			
Insect Volume	%							
% Average Slope		49						

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	9				
#2 Sawlog	H	38	38	53		35	49	
#3 Sawlog	I	10	10	16		7	21	
#4 Sawlog	J	22	22		69	27		100
#5 Utility	U	27	27	17	26	30	30	
#6 Utility	X	1	1	1	5	1		
#7 Chipper	Y	1	1	4				

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
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 Version: 2015.00 IFS build 5947

Net Area: [All Treatment Units : 12.1]
 Gross Area: [Grand Total : 12.1]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable m3	11974	11974		2128	892	7973	763	218
Net Merchantable m3	10303	10303		1846	571	7070	663	154
Net Merch - All m3/ha	851	851		153	47	584	55	13
Distribution %	100	100		18	6	69	6	1
Decay %	6	6		6	20	4	6	17
Waste %	2	2		2	9	1	2	5
Waste(billing) %	2	2		2	13	1	2	7
Breakage %	6	6		5	7	6	5	7
Total Cull (DWB) %	14	14		13	36	11	13	29
Stems/Ha (Live & DP)	295.0	295.0		24.9	33.1	190.0	27.0	20.0
Avg DBH (Live & DP) cm	57.8	57.8		84.5	52.3	57.8	46.0	35.8
Snags/Ha								
Avg Snag DBH cm								
Gross Merch Vol/Tree m3	3.35	3.35		7.05	2.22	3.47	2.34	0.90
Net Merch Vol/Tree m3	2.89	2.89		6.12	1.42	3.08	2.03	0.64
Avg Weight Total Ht m	39.3	39.3		46.0	37.6	38.3	37.4	28.1
Avg Weight Merch Ht m	32.7	32.7		40.9	30.8	31.1	31.6	22.0
Avg 10.0 m Log Net m3	1.17	1.17		1.56	0.71	1.23	0.87	0.56
Avg 10.0 m Log Gross m3	1.28	1.28		1.70	1.00	1.30	0.94	0.72
Avg # of 10.0 m Logs/Tree	2.63	2.63		4.14	2.22	2.67	2.49	1.25
Net Immature %								
Net 2nd Growth %								
Average Slope %	74							
Algorithm Grades %								
#2 Lum/#1 Lum F				3				
#2 Sawlog H	41	41		59	34	35	39	41
#3 Sawlog I	16	16		17	9	17	17	
#4 Sawlog J	16	16		3	29	18	19	32
#4 Shingle M					4			
#5 Utility U	25	25		15	20	28	25	27
#6 Utility X	1	1			2	1		
#7 Chipper Y	1	1		3	2	1		
Statistical Summary								
Coeff. of Variation %	50.1	50.1		118.0	155.2	60.2	180.3	301.5
Two Standard Error %	26.9	26.9		63.3	83.2	32.3	96.7	161.7
Number and Type of Plots	MP = 16							
Number of Potential Trees	79							
Plots/Ha	1.3							
Cruised Trees/Plot	4.9							

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
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Net Area: [Block : 11.4]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable m3	11306	11306		2011	843	7533	713	206
Net Merchantable m3	9728	9728		1747	539	6677	619	146
Net Merch - All m3/ha	853	853		153	47	586	54	13
Distribution %	100	100		18	6	69	6	1
Decay %	6	6		6	20	4	6	17
Waste %	2	2		2	9	1	2	5
Waste(billing) %	2	2		2	13	1	2	7
Breakage %	6	6		5	7	6	5	7
Total Cull (DWB) %	14	14		13	36	11	13	29
Stems/Ha (Live & DP)	294.9	294.9		25.0	32.9	190.1	27.1	19.8
Avg DBH (Live & DP) cm	57.8	57.8		84.5	52.5	57.8	45.8	36.0
Snags/Ha								
Avg Snag DBH cm								
Gross Merch Vol/Tree m3	3.36	3.36		7.05	2.25	3.48	2.31	0.91
Net Merch Vol/Tree m3	2.89	2.89		6.12	1.44	3.08	2.01	0.64
Avg Weight Total Ht m	39.4	39.4		46.0	37.7	38.3	37.4	28.2
Avg Weight Merch Ht m	32.7	32.7		40.9	30.9	31.1	31.6	22.1
Avg 10.0 m Log Net m3	1.17	1.17		1.56	0.72	1.23	0.86	0.56
Avg 10.0 m Log Gross m3	1.28	1.28		1.70	1.01	1.30	0.93	0.73
Avg # of 10.0 m Logs/Tree	2.63	2.63		4.14	2.23	2.67	2.48	1.26
Net Immature %								
Net 2nd Growth %								
Average Slope %	74							
Algorithm Grades %								
#2 Lum/#1 Lum F				3				
#2 Sawlog H	41	41		59	35	36	40	42
#3 Sawlog I	16	16		17	9	17	17	
#4 Sawlog J	16	16		3	28	17	19	31
#4 Shingle M					4			
#5 Utility U	25	25		15	20	28	24	27
#6 Utility X	1	1			2	1		
#7 Chipper Y	1	1		3	2	1		
Statistical Summary								
Coeff. of Variation %	50.1	50.1		118.0	155.2	60.2	180.3	301.5
Two Standard Error %	26.9	26.9		63.3	83.2	32.3	96.7	161.7
Number and Type of Plots	MP = 16							
Number of Potential Trees	79							
Plots/Ha	1.3							
Cruised Trees/Plot	4.9							

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Cutting Permit Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Net Area: [RW : 0.7]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable m3	668	668		117	49	440	50	11
Net Merchantable m3	575	575		99	31	393	44	8
Net Merch - All m3/ha	821	821		142	44	561	62	12
Distribution %	100	100		17	5	68	8	1
Decay %	6	6		7	21	4	6	15
Waste %	2	2		3	8	1	2	5
Waste(billing) %	2	2		3	13	1	2	6
Breakage %	6	6		5	7	6	5	7
Total Cull (DWB) %	14	14		15	37	11	14	27
Stems/Ha (Live & DP)	297.5	297.5		23.4	37.2	188.2	25.4	23.3
Avg DBH (Live & DP) cm	56.9	56.9		85.2	49.3	57.2	49.9	32.8
Snags/Ha								
Avg Snag DBH cm								
Gross Merch Vol/Tree m3	3.21	3.21		7.11	1.89	3.34	2.83	0.70
Net Merch Vol/Tree m3	2.76	2.76		6.06	1.20	2.98	2.45	0.51
Avg Weight Total Ht m	38.7	38.7		45.7	35.7	37.6	38.4	26.5
Avg Weight Merch Ht m	32.1	32.1		40.7	28.9	30.4	32.7	20.2
Avg 10.0 m Log Net m3	1.15	1.15		1.55	0.64	1.21	0.99	0.48
Avg 10.0 m Log Gross m3	1.25	1.25		1.72	0.91	1.27	1.08	0.60
Avg # of 10.0 m Logs/Tree	2.56	2.56		4.13	2.07	2.63	2.63	1.18
Net Immature %								
Net 2nd Growth %								
Average Slope %	74							
Algorithm Grades %								
#2 Lum/#1 Lum F	1	1		3				
#2 Sawlog H	40	40		60	30	37	42	36
#3 Sawlog I	15	15		17	8	15	19	
#4 Sawlog J	17	17		2	34	19	13	40
#4 Shingle M					3			
#5 Utility U	25	25		15	21	28	26	24
#6 Utility X	1	1			2	1		
#7 Chipper Y	1	1		3	2			
Statistical Summary								
Coeff. of Variation %	50.1	50.1		118.0	155.2	60.2	180.3	301.5
Two Standard Error %	26.9	26.9		63.3	83.2	32.3	96.7	161.7
Number and Type of Plots	MP = 16							
Number of Potential Trees	79							
Plots/Ha	1.3							
Cruised Trees/Plot	4.9							

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [All Treatment Units : 12.1]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data								
Gross Merchantable	m3	11974	11974	2128	892	7973	763	218
Net Merchantable	m3	10303	10303	1846	571	7070	663	154
Net Merch - All	m3/ha	851	851	153	47	584	55	13
Distribution	%	100	100	18	6	69	6	1
Decay	%	6	6	6	20	4	6	17
Waste	%	2	2	2	9	1	2	5
Waste(billing)	%	2	2	2	13	1	2	7
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	13	36	11	13	29
Stems/Ha (Live & DP)		295.0	295.0	24.9	33.1	190.0	27.0	20.0
Avg DBH (Live & DP)	cm	57.8	57.8	84.5	52.3	57.8	46.0	35.8
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	3.35	3.35	7.05	2.22	3.47	2.34	0.90
Net Merch Vol/Tree	m3	2.89	2.89	6.12	1.42	3.08	2.03	0.64
Avg Weight Total Ht	m	39.3	39.3	46.0	37.6	38.3	37.4	28.1
Avg Weight Merch Ht	m	32.7	32.7	40.9	30.8	31.1	31.6	22.0
Avg 10.0 m Log Net	m3	1.17	1.17	1.56	0.71	1.23	0.87	0.56
Avg 10.0 m Log Gross	m3	1.28	1.28	1.70	1.00	1.30	0.94	0.72
Avg # of 10.0 m Logs/Tree		2.63	2.63	4.14	2.22	2.67	2.49	1.25
Net Immature	%							
Net 2nd Growth	%							
Average Slope	%	74						

Algorithm Grades %								
#2 Lum/#1 Lum	F			3				
#2 Sawlog	H	41	41	59	34	35	39	41
#3 Sawlog	I	16	16	17	9	17	17	
#4 Sawlog	J	16	16	3	29	18	19	32
#4 Shingle	M				4			
#5 Utility	U	25	25	15	20	28	25	27
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2	1		

Statistical Summary								
Coeff. of Variation	%	50.1	50.1	118.0	155.2	60.2	180.3	301.5
Two Standard Error	%	26.9	26.9	63.3	83.2	32.3	96.7	161.7
Number and Type of Plots	MP =	16						
Number of Potential Trees		79						
Plots/Ha		1.3						
Cruised Trees/Plot		4.9						

Slope % Statistics
 Min= 33, Max=140, CV=39.2, Std Error of Mean=7.3, 2SE%=20.9

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
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 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [Block : 11.4]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data								
Gross Merchantable	m3	11306	11306	2011	843	7533	713	206
Net Merchantable	m3	9728	9728	1747	539	6677	619	146
Net Merch - All	m3/ha	853	853	153	47	586	54	13
Distribution	%	100	100	18	6	69	6	1
Decay	%	6	6	6	20	4	6	17
Waste	%	2	2	2	9	1	2	5
Waste(billing)	%	2	2	2	13	1	2	7
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	13	36	11	13	29
Stems/Ha (Live & DP)		294.9	294.9	25.0	32.9	190.1	27.1	19.8
Avg DBH (Live & DP)	cm	57.8	57.8	84.5	52.5	57.8	45.8	36.0
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	3.36	3.36	7.05	2.25	3.48	2.31	0.91
Net Merch Vol/Tree	m3	2.89	2.89	6.12	1.44	3.08	2.01	0.64
Avg Weight Total Ht	m	39.4	39.4	46.0	37.7	38.3	37.4	28.2
Avg Weight Merch Ht	m	32.7	32.7	40.9	30.9	31.1	31.6	22.1
Avg 10.0 m Log Net	m3	1.17	1.17	1.56	0.72	1.23	0.86	0.56
Avg 10.0 m Log Gross	m3	1.28	1.28	1.70	1.01	1.30	0.93	0.73
Avg # of 10.0 m Logs/Tree		2.63	2.63	4.14	2.23	2.67	2.48	1.26
Net Immature	%							
Net 2nd Growth	%							
Average Slope	%	74						

Algorithm Grades %								
#2 Lum/#1 Lum	F			3				
#2 Sawlog	H	41	41	59	35	36	40	42
#3 Sawlog	I	16	16	17	9	17	17	
#4 Sawlog	J	16	16	3	28	17	19	31
#4 Shingle	M				4			
#5 Utility	U	25	25	15	20	28	24	27
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2	1		

Statistical Summary								
Coeff. of Variation	%	50.1	50.1	118.0	155.2	60.2	180.3	301.5
Two Standard Error	%	26.9	26.9	63.3	83.2	32.3	96.7	161.7
Number and Type of Plots MP = 16								
Number of Potential Trees 79								
Plots/Ha 1.3								
Cruised Trees/Plot 4.9								

Slope % Statistics
 Min= 33, Max=140, CV=39.2, Std Error of Mean=7.3, 2SE%=20.9

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [RW : 0.7]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	668	668	117	49	440	50	11
Net Merchantable	m3	575	575	99	31	393	44	8
Net Merch - All	m3/ha	821	821	142	44	561	62	12
Distribution	%	100	100	17	5	68	8	1
Decay	%	6	6	7	21	4	6	15
Waste	%	2	2	3	8	1	2	5
Waste(billing)	%	2	2	3	13	1	2	6
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	15	37	11	14	27
Stems/Ha (Live & DP)		297.5	297.5	23.4	37.2	188.2	25.4	23.3
Avg DBH (Live & DP)	cm	56.9	56.9	85.2	49.3	57.2	49.9	32.8
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	3.21	3.21	7.11	1.89	3.34	2.83	0.70
Net Merch Vol/Tree	m3	2.76	2.76	6.06	1.20	2.98	2.45	0.51
Avg Weight Total Ht	m	38.7	38.7	45.7	35.7	37.6	38.4	26.5
Avg Weight Merch Ht	m	32.1	32.1	40.7	28.9	30.4	32.7	20.2
Avg 10.0 m Log Net	m3	1.15	1.15	1.55	0.64	1.21	0.99	0.48
Avg 10.0 m Log Gross	m3	1.25	1.25	1.72	0.91	1.27	1.08	0.60
Avg # of 10.0 m Logs/Tree		2.56	2.56	4.13	2.07	2.63	2.63	1.18
Net Immature	%							
Net 2nd Growth	%							
Average Slope	%	74						

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	3				
#2 Sawlog	H	40	40	60	30	37	42	36
#3 Sawlog	I	15	15	17	8	15	19	
#4 Sawlog	J	17	17	2	34	19	13	40
#4 Shingle	M				3			
#5 Utility	U	25	25	15	21	28	26	24
#6 Utility	X	1	1		2	1		
#7 Chipper	Y	1	1	3	2			

Statistical Summary

Coeff. of Variation	%	50.1	50.1	118.0	155.2	60.2	180.3	301.5
Two Standard Error	%	26.9	26.9	63.3	83.2	32.3	96.7	161.7
Number and Type of Plots MP = 16								
Number of Potential Trees 79								
Plots/Ha 1.3								
Cruised Trees/Plot 4.9								

Slope % Statistics

Min= 33, Max=140, CV=39.2, Std Error of Mean=7.3, 2SE%=20.9

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 1 (M):HF 951, Plots in Type: 9, TUs: [All Treatment Units : 6.4]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	7409	7409	1405	581	5124	134	165
Net Merchantable	m3	6355	6355	1298	383	4445	124	105
Net Merch - All	m3/ha	993	993	203	60	694	19	16
Distribution	%	100	100	20	6	70	2	2
Decay	%	6	6	2	18	6	2	22
Waste	%	2	2	0	9	2	1	7
Waste(billing)	%	2	2	1	14	2	1	10
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	8	34	13	7	36
Stems/Ha (Live & DP)		283.6	283.6	32.1	14.2	198.3	34.3	4.8
Avg DBH (Live & DP)	cm	62.0	62.0	82.4	80.6	60.3	28.9	77.4
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	4.08	4.08	6.84	6.41	4.04	0.61	5.39
Net Merch Vol/Tree	m3	3.50	3.50	6.32	4.22	3.50	0.57	3.44
Avg Weight Total Ht	m	41.8	41.8	47.0	44.7	40.9	23.2	33.1
Avg Weight Merch Ht	m	34.9	34.9	41.7	37.4	33.5	15.1	27.8
Avg 10.0 m Log Net	m3	1.27	1.27	1.60	1.17	1.32	0.30	1.27
Avg 10.0 m Log Gross	m3	1.39	1.39	1.64	1.60	1.43	0.31	1.80
Avg # of 10.0 m Logs/Tree		2.94	2.94	4.17	4.00	2.83	2.00	3.00
Net Immature	%							
Net 2nd Growth	%							

Algorithm Grades %

#2 Sawlog	H	44	44	62	51	37		60
#3 Sawlog	I	20	20	17	13	23		
#4 Sawlog	J	12	12	4	9	12	100	
#4 Shingle	M				6			
#5 Utility	U	23	23	14	18	27		40
#6 Utility	X							
#7 Chipper	Y	1	1	3	3	1		

Statistical Summary

Coeff. of Variation	%	26.7	26.7	115.8	151.2	41.4	300.0	300.0
Two Standard Error	%	20.5	20.5	89.0	116.2	31.8	230.6	230.6
Number and Type of Plots	MP =	9						
Number of Potential Trees		40						
Plots/Ha		1.4						
Cruised Trees/Plot		4.4						

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 1 (M):HF 951, Plots in Type: 9, TUs: [Block : 6.1]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable m3	7062	7062		1339	554	4884	128	157
Net Merchantable m3	6057	6057		1237	365	4236	118	100
Net Merch - All m3/ha	993	993		203	60	694	19	16
Distribution %	100	100		20	6	70	2	2
Decay %	6	6		2	18	6	2	22
Waste %	2	2		0	9	2	1	7
Waste(billing) %	2	2		1	14	2	1	10
Breakage %	6	6		5	7	6	5	7
Total Cull (DWB) %	14	14		8	34	13	7	36
Stems/Ha (Live & DP)	283.6	283.6		32.1	14.2	198.3	34.3	4.8
Avg DBH (Live & DP) cm	62.0	62.0		82.4	80.6	60.3	28.9	77.4
Snags/Ha								
Avg Snag DBH cm								
Gross Merch Vol/Tree m3	4.08	4.08		6.84	6.41	4.04	0.61	5.39
Net Merch Vol/Tree m3	3.50	3.50		6.32	4.22	3.50	0.57	3.44
Avg Weight Total Ht m	41.8	41.8		47.0	44.7	40.9	23.2	33.1
Avg Weight Merch Ht m	34.9	34.9		41.7	37.4	33.5	15.1	27.8
Avg 10.0 m Log Net m3	1.27	1.27		1.60	1.17	1.32	0.30	1.27
Avg 10.0 m Log Gross m3	1.39	1.39		1.64	1.60	1.43	0.31	1.80
Avg # of 10.0 m Logs/Tree %	2.94	2.94		4.17	4.00	2.83	2.00	3.00
Net Immature %								
Net 2nd Growth %								

Algorithm Grades %

#2 Sawlog H	44	44		62	51	37		60
#3 Sawlog I	20	20		17	13	23		
#4 Sawlog J	12	12		4	9	12	100	
#4 Shingle M					6			
#5 Utility U	23	23		14	18	27		40
#6 Utility X								
#7 Chipper Y	1	1		3	3	1		

Statistical Summary

Coeff. of Variation %	26.7	26.7		115.8	151.2	41.4	300.0	300.0
Two Standard Error %	20.5	20.5		89.0	116.2	31.8	230.6	230.6
Number and Type of Plots	MP =	9						
Number of Potential Trees		40						
Plots/Ha		1.4						
Cruised Trees/Plot		4.4						

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 1 (M):HF 951, Plots in Type: 9, TUs: [RW : 0.3]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	347	347	66	27	240	6	8
Net Merchantable	m3	298	298	61	18	208	6	5
Net Merch - All	m3/ha	993	993	203	60	694	19	16
Distribution	%	100	100	20	6	70	2	2
Decay	%	6	6	2	18	6	2	22
Waste	%	2	2	0	9	2	1	7
Waste(billing)	%	2	2	1	14	2	1	10
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	8	34	13	7	36
Stems/Ha (Live & DP)		283.6	283.6	32.1	14.2	198.3	34.3	4.8
Avg DBH (Live & DP)	cm	62.0	62.0	82.4	80.6	60.3	28.9	77.4
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	4.08	4.08	6.84	6.41	4.04	0.61	5.39
Net Merch Vol/Tree	m3	3.50	3.50	6.32	4.22	3.50	0.57	3.44
Avg Weight Total Ht	m	41.8	41.8	47.0	44.7	40.9	23.2	33.1
Avg Weight Merch Ht	m	34.9	34.9	41.7	37.4	33.5	15.1	27.8
Avg 10.0 m Log Net	m3	1.27	1.27	1.60	1.17	1.32	0.30	1.27
Avg 10.0 m Log Gross	m3	1.39	1.39	1.64	1.60	1.43	0.31	1.80
Avg # of 10.0 m Logs/Tree		2.94	2.94	4.17	4.00	2.83	2.00	3.00
Net Immature	%							
Net 2nd Growth	%							

Algorithm Grades %

#2 Sawlog	H	44	44	62	51	37		60
#3 Sawlog	I	20	20	17	13	23		
#4 Sawlog	J	12	12	4	9	12	100	
#4 Shingle	M				6			
#5 Utility	U	23	23	14	18	27		40
#6 Utility	X							
#7 Chipper	Y	1	1	3	3	1		

Statistical Summary

Coeff. of Variation	%	26.7	26.7	115.8	151.2	41.4	300.0	300.0
Two Standard Error	%	20.5	20.5	89.0	116.2	31.8	230.6	230.6
Number and Type of Plots	MP =	9						
Number of Potential Trees		40						
Plots/Ha		1.4						
Cruised Trees/Plot		4.4						

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
 CruiseComp Copyright© 1996-2015, Industrial Forestry Service Ltd.

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):HFC 941, Plots in Type: 7, TUs: [All Treatment Units : 5.7]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	4564	4564	723	311	2849	629	53
Net Merchantable	m3	3948	3948	548	188	2625	538	49
Net Merch - All	m3/ha	693	693	96	33	461	94	9
Distribution	%	100	100	14	5	66	14	1
Decay	%	6	6	14	25	2	7	1
Waste	%	2	2	5	8	0	2	
Waste(billing)	%	2	2	7	13	0	3	
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	24	40	8	14	8
Stems/Ha (Live & DP)		307.9	307.9	16.9	54.4	180.6	18.8	37.1
Avg DBH (Live & DP)	cm	53.1	53.1	88.9	40.5	54.4	68.9	24.5
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	2.60	2.60	7.50	1.00	2.77	5.88	0.25
Net Merch Vol/Tree	m3	2.25	2.25	5.69	0.61	2.55	5.03	0.23
Avg Weight Total Ht	m	35.3	35.3	44.0	25.1	33.6	40.7	15.2
Avg Weight Merch Ht	m	29.1	29.1	39.3	17.5	27.0	35.4	7.9
Avg 10.0 m Log Net	m3	1.04	1.04	1.49	0.40	1.10	1.53	0.25
Avg 10.0 m Log Gross	m3	1.13	1.13	1.84	0.59	1.12	1.69	0.25
Avg # of 10.0 m Logs/Tree		2.30	2.30	4.08	1.70	2.46	3.48	1.00
Net Immature	%							
Net 2nd Growth	%							

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	9				
#2 Sawlog	H	38	38	53		35	49	
#3 Sawlog	I	10	10	16		7	21	
#4 Sawlog	J	22	22		69	27		100
#5 Utility	U	27	27	17	26	30	30	
#6 Utility	X	1	1	1	5	1		
#7 Chipper	Y	1	1	4				

Statistical Summary

Coeff. of Variation	%	77.8	77.8	103.1	153.1	87.6	133.5	264.6
Two Standard Error	%	71.9	71.9	95.3	141.6	81.0	123.5	244.7
Number and Type of Plots	MP =	7						
Number of Potential Trees		39						
Plots/Ha		1.2						
Cruised Trees/Plot		5.6						

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):HFC 941, Plots in Type: 7, TUs: [Block : 5.3]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0
Volume and Size Data								
Gross Merchantable m3	4244	4244		672	289	2649	585	49
Net Merchantable m3	3671	3671		510	175	2441	501	45
Net Merch - All m3/ha	693	693		96	33	461	94	9
Distribution %	100	100		14	5	66	14	1
Decay %	6	6		14	25	2	7	1
Waste %	2	2		5	8	0	2	
Waste(billing) %	2	2		7	13	0	3	
Breakage %	6	6		5	7	6	5	7
Total Cull (DWB) %	14	14		24	40	8	14	8
Stems/Ha (Live & DP)	307.9	307.9		16.9	54.4	180.6	18.8	37.1
Avg DBH (Live & DP) cm	53.1	53.1		88.9	40.5	54.4	68.9	24.5
Snags/Ha								
Avg Snag DBH cm								
Gross Merch Vol/Tree m3	2.60	2.60		7.50	1.00	2.77	5.88	0.25
Net Merch Vol/Tree m3	2.25	2.25		5.69	0.61	2.55	5.03	0.23
Avg Weight Total Ht m	35.3	35.3		44.0	25.1	33.6	40.7	15.2
Avg Weight Merch Ht m	29.1	29.1		39.3	17.5	27.0	35.4	7.9
Avg 10.0 m Log Net m3	1.04	1.04		1.49	0.40	1.10	1.53	0.25
Avg 10.0 m Log Gross m3	1.13	1.13		1.84	0.59	1.12	1.69	0.25
Avg # of 10.0 m Logs/Tree	2.30	2.30		4.08	1.70	2.46	3.48	1.00
Net Immature %								
Net 2nd Growth %								

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	9				
#2 Sawlog	H	38	38	53		35	49	
#3 Sawlog	I	10	10	16		7	21	
#4 Sawlog	J	22	22		69	27		100
#5 Utility	U	27	27	17	26	30	30	
#6 Utility	X	1	1	1	5	1		
#7 Chipper	Y	1	1	4				

Statistical Summary

Coeff. of Variation %	77.8	77.8	103.1	153.1	87.6	133.5	264.6
Two Standard Error %	71.9	71.9	95.3	141.6	81.0	123.5	244.7
Number and Type of Plots	MP =	7					
Number of Potential Trees		39					
Plots/Ha		1.2					
Cruised Trees/Plot		5.6					

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Net Area: Type 2 (M):HFC 941, Plots in Type: 7, TUs: [RW : 0.4]

	Total	Conifer	Decid	F	C	H	B	Y
Utilization Limits								
Min DBH cm (M)				17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)				30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)				15.0	15.0	15.0	15.0	15.0
Log Len m				10.0	10.0	10.0	10.0	10.0

Volume and Size Data

Gross Merchantable	m3	320	320	51	22	200	44	4
Net Merchantable	m3	277	277	38	13	184	38	3
Net Merch - All	m3/ha	693	693	96	33	461	94	9
Distribution	%	100	100	14	5	66	14	1
Decay	%	6	6	14	25	2	7	1
Waste	%	2	2	5	8	0	2	
Waste(billing)	%	2	2	7	13	0	3	
Breakage	%	6	6	5	7	6	5	7
Total Cull (DWB)	%	14	14	24	40	8	14	8
Stems/Ha (Live & DP)		307.9	307.9	16.9	54.4	180.6	18.8	37.1
Avg DBH (Live & DP)	cm	53.1	53.1	88.9	40.5	54.4	68.9	24.5
Snags/Ha								
Avg Snag DBH	cm							
Gross Merch Vol/Tree	m3	2.60	2.60	7.50	1.00	2.77	5.88	0.25
Net Merch Vol/Tree	m3	2.25	2.25	5.69	0.61	2.55	5.03	0.23
Avg Weight Total Ht	m	35.3	35.3	44.0	25.1	33.6	40.7	15.2
Avg Weight Merch Ht	m	29.1	29.1	39.3	17.5	27.0	35.4	7.9
Avg 10.0 m Log Net	m3	1.04	1.04	1.49	0.40	1.10	1.53	0.25
Avg 10.0 m Log Gross	m3	1.13	1.13	1.84	0.59	1.12	1.69	0.25
Avg # of 10.0 m Logs/Tree		2.30	2.30	4.08	1.70	2.46	3.48	1.00
Net Immature	%							
Net 2nd Growth	%							

Algorithm Grades %

#2 Lum/#1 Lum	F	1	1	9				
#2 Sawlog	H	38	38	53		35	49	
#3 Sawlog	I	10	10	16		7	21	
#4 Sawlog	J	22	22		69	27		100
#5 Utility	U	27	27	17	26	30	30	
#6 Utility	X	1	1	1	5	1		
#7 Chipper	Y	1	1	4				

Statistical Summary

Coeff. of Variation	%	77.8	77.8	103.1	153.1	87.6	133.5	264.6
Two Standard Error	%	71.9	71.9	95.3	141.6	81.0	123.5	244.7
Number and Type of Plots	MP =	7						
Number of Potential Trees		39						
Plots/Ha		1.2						
Cruised Trees/Plot		5.6						

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Volume Statistical Analysis

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Plots			Area ha	Net Volume m3/ha	Proportional Volume	Trees			Standard Deviation	Coeff. of Variation	Sampling Error	
	Cnt	Mea	Tot				Cnt	Mea	Tot			1 SE%	2 SE%
1 :HF 951	0	9	9	6.4	993.0	0.62	0	40	40	264.9657	26.7	8.9	20.5
2 :HFC 941	0	7	7	5.7	692.7	0.38	0	39	39	538.7704	77.8	29.4	71.9
TOTAL	0	16	16	12.1	851.5		0	79	79		50.1	12.5	26.9

Number of live & dead potential trees sampled is 79
 Number of dead useless trees sampled is 0
 Number of live useless trees sampled is 0

The weighted sampling error is 26.9% at the 95% confidence level

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Basal Area Statistical Analysis

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Plots			Area ha	Basal Area m2/ha	Proportional Basal Area	Trees			Standard Deviation	Coeff. of Variation	Sampling Error	
	Cnt	Mea	Tot				Cnt	Mea	Tot			1 SE%	2 SE%
1 :HF 951	0	9	9	6.4	85.6	0.58	0	40	40	26.3014	30.7	10.2	23.6
2 :HFC 941	0	7	7	5.7	68.3	0.42	0	39	39	44.6507	65.4	24.7	60.5
TOTAL	0	16	16	12.1	77.4		0	79	79		47.6	11.9	25.5

Number of live & dead potential trees sampled is 79
 Number of dead useless trees sampled is 0
 Number of live useless trees sampled is 0

The weighted sampling error is 25.5% at the 95% confidence level

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					17.5	17.5			
30		11.1	15.6	18.1		44.8			
35		9.3	26.2			35.5			
40									
45			33.5			33.5			
50			18.4			18.4	9.8		
55			11.8	3.4		15.2	3.3		
60	4.0		23.2			27.2			
65	3.4		8.3	2.4		14.1			
70	2.9	3.3	7.2			13.5			
75	1.8	1.9	16.9		2.5	23.1	1.8		
80		1.5	4.2	1.7		7.4	1.6		
85	2.1	1.3	2.0			5.4			
90	1.2		3.8	1.3		6.3			
95	1.7		2.9			4.6	1.7		
100	1.5		0.9			2.3			
105		1.4				1.4	1.3		
110	0.8		1.2			2.0			
115							1.1		
120									
125	1.0					1.0			
130	0.6					0.6			
135									
140									
145									
150	0.4					0.4			
175									
200									
225									
250									
275									
Total	21.5	29.8	176.0	27.0	20.0	274.3			
Dead P	3.4	3.3	14.0				20.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
17.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
22.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
27.5 +	85.5	51.9	56.6	46.0	77.4	58.3	70.3		
32.5 +	85.5	61.0	58.4	68.9	77.4	62.6	70.3		

Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					17.3	17.3			
30		10.9	15.7	18.4		45.0			
35		9.2	25.8			35.0			
40									
45			33.6			33.6			
50			18.4			18.4	9.8		
55			11.8	3.4		15.1	3.3		
60	4.1		23.3			27.4			
65	3.4		8.2	2.4		14.1			
70	3.0	3.4	7.2			13.6			
75	1.8	1.9	16.8		2.6	23.0	1.8		
80		1.5	4.2	1.7		7.4	1.6		
85	2.1	1.3	2.1			5.4			
90	1.2		3.8	1.3		6.3			
95	1.8		2.9			4.7	1.7		
100	1.5		0.9			2.4			
105		1.4				1.4	1.3		
110	0.8		1.2			2.0			
115							1.2		
120									
125	1.0					1.0			
130	0.6					0.6			
135									
140									
145									
150	0.4					0.4			
175									
200									
225									
250									
275									
Total	21.6	29.6	176.0	27.1	19.8	274.1			
Dead P	3.4	3.3	14.1				20.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4		
17.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4		
22.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4		
27.5 +	85.4	52.1	56.6	45.8	77.4	58.3	70.4		
32.5 +	85.4	61.2	58.5	68.9	77.4	62.7	70.4		

Cutting Permit Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					21.2	21.2			
30		13.4	12.6	14.7		40.7			
35		11.3	31.8			43.0			
40									
45			31.4			31.4			
50			18.3			18.3	9.5		
55			12.5	4.1		16.6	4.1		
60	3.2		21.2			24.4			
65	2.8		8.6	3.0		14.3			
70	2.4	2.7	7.5			12.6			
75	2.2	2.3	18.2		2.0	24.8	2.2		
80		1.2	4.1	2.1		7.4	1.9		
85	1.7	1.1	1.6			4.4			
90	1.5		3.1	1.5		6.1			
95	1.4		2.8			4.2	1.4		
100	1.2		0.7			1.9			
105		1.1				1.1	1.1		
110	1.0		1.0			2.0			
115							0.9		
120									
125	0.8					0.8			
130	0.7					0.7			
135									
140									
145									
150	0.3					0.3			
175									
200									
225									
250									
275									
Total	19.3	33.1	175.3	25.4	23.3	276.3			
Dead P	4.2	4.1	12.9				21.2		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
17.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
22.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
27.5 +	86.6	48.4	56.2	49.9	77.4	57.7	68.8		
32.5 +	86.6	57.4	57.7	68.9	77.4	61.6	68.8		

Cutting Permit Stock Table (m3/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH									
Class									
5									
10									
15									
20									
25					4.0	4.0			
30		4.5	10.2	10.3		25.0			
35		4.6	19.6			24.2			
40									
45			45.3			45.3			
50			40.5			40.5	15.8		
55			35.2	11.7		47.0	3.3		
60	11.1		74.0			85.1			
65	12.2		39.3	10.6		62.1			
70	12.3	9.5	34.6			56.4			
75	8.2	3.1	97.6		8.7	117.6	4.0		
80		6.0	19.2	9.0		34.1	4.3		
85	16.1	6.1	16.6			38.9			
90	10.1		34.3	13.2		57.6			
95	14.9		28.9			43.8	12.9		
100	16.3		10.1			26.4			
105		10.0				10.0	13.6		
110	8.9		21.2			30.1			
115							15.2		
120									
125	14.7					14.7			
130	9.8					9.8			
135									
140									
145									
150	9.7					9.7			
175									
200									
225									
250									
275									
Total	144.3	43.8	526.8	54.8	12.7	782.4			
Dead P	8.3	3.3	57.5				69.1		
Total Volumes for 7 Levels									
17.5 +	144.3	43.8	526.8	54.8	12.7	782.4	69.1		
22.5 +	144.3	43.8	526.8	54.8	12.7	782.4	69.1		
27.5 +	144.3	43.8	526.8	54.8	8.7	778.3	69.1		
32.5 +	144.3	39.3	516.5	44.5	8.7	753.3	69.1		
37.5 +	144.3	34.7	496.9	44.5	8.7	729.1	69.1		
42.5 +	144.3	34.7	496.9	44.5	8.7	729.1	69.1		
47.5 +	144.3	34.7	451.6	44.5	8.7	683.7	69.1		

Cutting Permit Stock Table (m3/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					4.0	4.0			
30		4.5	10.3	10.4		25.2			
35		4.5	19.4			23.9			
40									
45			45.5			45.5			
50			40.5			40.5	15.9		
55			35.2	11.6		46.7	3.3		
60	11.2		74.4			85.6			
65	12.4		39.2	10.5		62.1			
70	12.4	9.6	34.5			56.6			
75	8.1	3.0	97.1		8.8	117.1	3.9		
80		6.0	19.2	8.9		34.1	4.3		
85	16.3	6.2	16.8			39.3			
90	10.0		34.7	13.0		57.7			
95	15.0		29.0			44.0	13.1		
100	16.5		10.3			26.7			
105		10.1				10.1	13.8		
110	8.8		21.5			30.3			
115							15.4		
120									
125	14.8					14.8			
130	9.6					9.6			
135									
140									
145									
150	9.8					9.8			
175									
200									
225									
250									
275									
Total	145.0	44.0	527.6	54.3	12.8	783.8			
Dead P	8.2	3.3	58.1				69.5		
Total Volumes for 7 Levels									
17.5 +	145.0	44.0	527.6	54.3	12.8	783.8	69.5		
22.5 +	145.0	44.0	527.6	54.3	12.8	783.8	69.5		
27.5 +	145.0	44.0	527.6	54.3	8.8	779.8	69.5		
32.5 +	145.0	39.5	517.3	43.9	8.8	754.6	69.5		
37.5 +	145.0	35.0	497.9	43.9	8.8	730.7	69.5		
42.5 +	145.0	35.0	497.9	43.9	8.8	730.7	69.5		
47.5 +	145.0	35.0	452.4	43.9	8.8	685.3	69.5		

Cutting Permit Stock Table (m3/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH									
Class									
5									
10									
15									
20									
25					4.9	4.9			
30		5.5	8.3	8.3		22.1			
35		5.6	23.8			29.4			
40									
45			43.1			43.1			
50			39.7			39.7	14.7		
55			36.5	14.2		50.7	4.1		
60	9.0		66.5			75.4			
65	9.9		40.0	12.9		62.8			
70	10.0	7.7	35.8			53.4			
75	10.0	3.7	104.7		7.1	125.5	4.8		
80		4.8	19.2	10.9		34.9	5.3		
85	13.1	5.0	13.5			31.5			
90	12.3		27.8	16.0		56.1			
95	12.0		28.0			40.0	10.5		
100	13.2		8.2			21.4			
105		8.1				8.1	11.0		
110	10.8		17.2			28.0			
115							12.3		
120									
125	11.9					11.9			
130	11.8					11.8			
135									
140									
145									
150	7.9					7.9			
175									
200									
225									
250									
275									
Total	131.8	40.4	512.3	62.3	11.9	758.7			
Dead P	10.1	4.1	48.5				62.6		
Total Volumes for 7 Levels									
17.5 +	131.8	40.4	512.3	62.3	11.9	758.7	62.6		
22.5 +	131.8	40.4	512.3	62.3	11.9	758.7	62.6		
27.5 +	131.8	40.4	512.3	62.3	7.1	753.8	62.6		
32.5 +	131.8	34.9	504.0	54.0	7.1	731.7	62.6		
37.5 +	131.8	29.4	480.2	54.0	7.1	702.4	62.6		
42.5 +	131.8	29.4	480.2	54.0	7.1	702.4	62.6		
47.5 +	131.8	29.4	437.0	54.0	7.1	659.2	62.6		

Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH									
Class									
5									
10									
15									
20									
25					0.8	0.8			
30		0.8	1.2	1.2		3.2			
35		0.8	2.5			3.3			
40									
45			5.2			5.2			
50			3.6			3.6	2.0		
55			2.8	0.8		3.7	0.8		
60	1.2		6.4			7.6			
65	1.2		2.8	0.8		4.9			
70	1.2	1.2	2.8			5.2			
75	0.8	0.8	7.3		1.2	10.2	0.8		
80		0.7	2.0	0.8		3.6	0.8		
85	1.2	0.7	1.2			3.1			
90	0.8		2.4	0.8		4.0			
95	1.2		2.0			3.2	1.2		
100	1.2		0.7			1.9			
105		1.2				1.2	1.2		
110	0.8		1.2			2.0			
115							1.2		
120									
125	1.2					1.2			
130	0.8					0.8			
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	12.3	6.3	44.2	4.5	2.0	69.3			
Dead P	1.6	0.8	5.6				8.1		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
17.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
22.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
27.5 +	12.3	6.3	44.2	4.5	1.2	68.5	8.1		
32.5 +	12.3	5.5	43.0	3.3	1.2	65.3	8.1		

Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU	
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class										
5										
10										
15										
20										
25					0.8	0.8				
30		0.8	1.2	1.2		3.2				
35		0.8	2.4			3.3				
40										
45			5.2			5.2				
50			3.6			3.6	2.0			
55			2.8	0.8		3.6	0.8			
60	1.2		6.4			7.6				
65	1.2		2.8	0.8		4.8				
70	1.2	1.2	2.8			5.2				
75	0.8	0.8	7.3		1.2	10.1	0.8			
80		0.7	2.0	0.8		3.6	0.8			
85	1.2	0.7	1.2			3.1				
90	0.8		2.4	0.8		4.0				
95	1.2		2.0			3.2	1.2			
100	1.2		0.7			1.9				
105		1.2				1.2	1.2			
110	0.8		1.2			2.0				
115							1.2			
120										
125	1.2					1.2				
130	0.8					0.8				
135										
140										
145										
150	0.7					0.7				
175										
200										
225										
250										
275										
Total	12.4	6.3	44.2	4.5	2.0	69.4				
Dead P	1.6	0.8	5.6				8.1			
Dead U										
Live U										
Average Basal Area (m2) at 5 Levels										
12.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1			
17.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1			
22.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1			
27.5 +	12.4	6.3	44.2	4.5	1.2	68.6	8.1			
32.5 +	12.4	5.5	43.0	3.3	1.2	65.4	8.1			

Cutting Permit Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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[RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
DBH									
Class									
5									
10									
15									
20									
25					1.0	1.0			
30		1.0	1.0	1.0		2.9			
35		1.0	3.0			4.0			
40									
45			4.9			4.9			
50			3.5			3.5	2.0		
55			3.0	1.0		4.0	1.0		
60	1.0		5.9			6.8			
65	1.0		3.0	1.0		4.9			
70	1.0	1.0	3.0			4.9			
75	1.0	1.0	7.9		1.0	10.9	1.0		
80		0.6	2.0	1.0		3.5	1.0		
85	1.0	0.6	1.0			2.5			
90	1.0		1.9	1.0		3.9			
95	1.0		2.0			2.9	1.0		
100	1.0		0.6			1.5			
105		1.0				1.0	1.0		
110	1.0		1.0			2.0			
115							1.0		
120									
125	1.0					1.0			
130	1.0					1.0			
135									
140									
145									
150	0.6					0.6			
175									
200									
225									
250									
275									
Total	11.3	6.1	43.5	5.0	2.0	67.8			
Dead P	2.0	1.0	4.9				7.9		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
17.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
22.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
27.5 +	11.3	6.1	43.5	5.0	1.0	66.8	7.9		
32.5 +	11.3	5.1	42.5	4.0	1.0	63.9	7.9		

Block Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					17.5	17.5			
30		11.1	15.6	18.1		44.8			
35		9.3	26.2			35.5			
40									
45			33.5			33.5			
50			18.4			18.4	9.8		
55			11.8	3.4		15.2	3.3		
60	4.0		23.2			27.2			
65	3.4		8.3	2.4		14.1			
70	2.9	3.3	7.2			13.5			
75	1.8	1.9	16.9		2.5	23.1	1.8		
80		1.5	4.2	1.7		7.4	1.6		
85	2.1	1.3	2.0			5.4			
90	1.2		3.8	1.3		6.3			
95	1.7		2.9			4.6	1.7		
100	1.5		0.9			2.3			
105		1.4				1.4	1.3		
110	0.8		1.2			2.0			
115							1.1		
120									
125	1.0					1.0			
130	0.6					0.6			
135									
140									
145									
150	0.4					0.4			
175									
200									
225									
250									
275									
Total	21.5	29.8	176.0	27.0	20.0	274.3			
Dead P	3.4	3.3	14.0				20.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
17.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
22.5 +	85.5	51.9	56.6	46.0	35.8	56.7	70.3		
27.5 +	85.5	51.9	56.6	46.0	77.4	58.3	70.3		
32.5 +	85.5	61.0	58.4	68.9	77.4	62.6	70.3		

Block Stand Table (stems/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU	
Utilization Limits										
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	
Class										
5										
10										
15										
20										
25					17.3	17.3				
30		10.9	15.7	18.4		45.0				
35		9.2	25.8			35.0				
40										
45			33.6			33.6				
50			18.4			18.4	9.8			
55			11.8	3.4		15.1	3.3			
60	4.1		23.3			27.4				
65	3.4		8.2	2.4		14.1				
70	3.0	3.4	7.2			13.6				
75	1.8	1.9	16.8		2.6	23.0	1.8			
80		1.5	4.2	1.7		7.4	1.6			
85	2.1	1.3	2.1			5.4				
90	1.2		3.8	1.3		6.3				
95	1.8		2.9			4.7	1.7			
100	1.5		0.9			2.4				
105		1.4				1.4	1.3			
110	0.8		1.2			2.0				
115							1.2			
120										
125	1.0					1.0				
130	0.6					0.6				
135										
140										
145										
150	0.4					0.4				
175										
200										
225										
250										
275										
Total	21.6	29.6	176.0	27.1	19.8	274.1				
Dead P	3.4	3.3	14.1				20.8			
Dead U										
Live U										
Average DBH(cm) at 5 Levels										
12.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4			
17.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4			
22.5 +	85.4	52.1	56.6	45.8	36.0	56.8	70.4			
27.5 +	85.4	52.1	56.6	45.8	77.4	58.3	70.4			
32.5 +	85.4	61.2	58.5	68.9	77.4	62.7	70.4			

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					21.2	21.2			
30		13.4	12.6	14.7		40.7			
35		11.3	31.8			43.0			
40									
45			31.4			31.4			
50			18.3			18.3	9.5		
55			12.5	4.1		16.6	4.1		
60	3.2		21.2			24.4			
65	2.8		8.6	3.0		14.3			
70	2.4	2.7	7.5			12.6			
75	2.2	2.3	18.2		2.0	24.8	2.2		
80		1.2	4.1	2.1		7.4	1.9		
85	1.7	1.1	1.6			4.4			
90	1.5		3.1	1.5		6.1			
95	1.4		2.8			4.2	1.4		
100	1.2		0.7			1.9			
105		1.1				1.1	1.1		
110	1.0		1.0			2.0			
115							0.9		
120									
125	0.8					0.8			
130	0.7					0.7			
135									
140									
145									
150	0.3					0.3			
175									
200									
225									
250									
275									
Total	19.3	33.1	175.3	25.4	23.3	276.3			
Dead P	4.2	4.1	12.9				21.2		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
17.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
22.5 +	86.6	48.4	56.2	49.9	32.8	55.9	68.8		
27.5 +	86.6	48.4	56.2	49.9	77.4	57.7	68.8		
32.5 +	86.6	57.4	57.7	68.9	77.4	61.6	68.8		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					4.0	4.0			
30		4.5	10.2	10.3		25.0			
35		4.6	19.6			24.2			
40									
45			45.3			45.3			
50			40.5			40.5	15.8		
55			35.2	11.7		47.0	3.3		
60	11.1		74.0			85.1			
65	12.2		39.3	10.6		62.1			
70	12.3	9.5	34.6			56.4			
75	8.2	3.1	97.6		8.7	117.6	4.0		
80		6.0	19.2	9.0		34.1	4.3		
85	16.1	6.1	16.6			38.9			
90	10.1		34.3	13.2		57.6			
95	14.9		28.9			43.8	12.9		
100	16.3		10.1			26.4			
105		10.0				10.0	13.6		
110	8.9		21.2			30.1			
115							15.2		
120									
125	14.7					14.7			
130	9.8					9.8			
135									
140									
145									
150	9.7					9.7			
175									
200									
225									
250									
275									
Total	144.3	43.8	526.8	54.8	12.7	782.4			
Dead P	8.3	3.3	57.5				69.1		
Total Volumes for 7 Levels									
17.5 +	144.3	43.8	526.8	54.8	12.7	782.4	69.1		
22.5 +	144.3	43.8	526.8	54.8	12.7	782.4	69.1		
27.5 +	144.3	43.8	526.8	54.8	8.7	778.3	69.1		
32.5 +	144.3	39.3	516.5	44.5	8.7	753.3	69.1		
37.5 +	144.3	34.7	496.9	44.5	8.7	729.1	69.1		
42.5 +	144.3	34.7	496.9	44.5	8.7	729.1	69.1		
47.5 +	144.3	34.7	451.6	44.5	8.7	683.7	69.1		

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					4.0	4.0			
30		4.5	10.3	10.4		25.2			
35		4.5	19.4			23.9			
40									
45			45.5			45.5			
50			40.5			40.5	15.9		
55			35.2	11.6		46.7	3.3		
60	11.2		74.4			85.6			
65	12.4		39.2	10.5		62.1			
70	12.4	9.6	34.5			56.6			
75	8.1	3.0	97.1		8.8	117.1	3.9		
80		6.0	19.2	8.9		34.1	4.3		
85	16.3	6.2	16.8			39.3			
90	10.0		34.7	13.0		57.7			
95	15.0		29.0			44.0	13.1		
100	16.5		10.3			26.7			
105		10.1				10.1	13.8		
110	8.8		21.5			30.3			
115							15.4		
120									
125	14.8					14.8			
130	9.6					9.6			
135									
140									
145									
150	9.8					9.8			
175									
200									
225									
250									
275									
Total	145.0	44.0	527.6	54.3	12.8	783.8			
Dead P	8.2	3.3	58.1				69.5		
Total Volumes for 7 Levels									
17.5 +	145.0	44.0	527.6	54.3	12.8	783.8	69.5		
22.5 +	145.0	44.0	527.6	54.3	12.8	783.8	69.5		
27.5 +	145.0	44.0	527.6	54.3	8.8	779.8	69.5		
32.5 +	145.0	39.5	517.3	43.9	8.8	754.6	69.5		
37.5 +	145.0	35.0	497.9	43.9	8.8	730.7	69.5		
42.5 +	145.0	35.0	497.9	43.9	8.8	730.7	69.5		
47.5 +	145.0	35.0	452.4	43.9	8.8	685.3	69.5		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Block Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					4.9	4.9			
30		5.5	8.3	8.3		22.1			
35		5.6	23.8			29.4			
40									
45			43.1			43.1			
50			39.7			39.7	14.7		
55			36.5	14.2		50.7	4.1		
60	9.0		66.5			75.4			
65	9.9		40.0	12.9		62.8			
70	10.0	7.7	35.8			53.4			
75	10.0	3.7	104.7		7.1	125.5	4.8		
80		4.8	19.2	10.9		34.9	5.3		
85	13.1	5.0	13.5			31.5			
90	12.3		27.8	16.0		56.1			
95	12.0		28.0			40.0	10.5		
100	13.2		8.2			21.4			
105		8.1				8.1	11.0		
110	10.8		17.2			28.0			
115							12.3		
120									
125	11.9					11.9			
130	11.8					11.8			
135									
140									
145									
150	7.9					7.9			
175									
200									
225									
250									
275									
Total	131.8	40.4	512.3	62.3	11.9	758.7			
Dead P	10.1	4.1	48.5				62.6		
Total Volumes for 7 Levels									
17.5 +	131.8	40.4	512.3	62.3	11.9	758.7	62.6		
22.5 +	131.8	40.4	512.3	62.3	11.9	758.7	62.6		
27.5 +	131.8	40.4	512.3	62.3	7.1	753.8	62.6		
32.5 +	131.8	34.9	504.0	54.0	7.1	731.7	62.6		
37.5 +	131.8	29.4	480.2	54.0	7.1	702.4	62.6		
42.5 +	131.8	29.4	480.2	54.0	7.1	702.4	62.6		
47.5 +	131.8	29.4	437.0	54.0	7.1	659.2	62.6		

Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [All Treatment Units : 12.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					0.8	0.8			
30		0.8	1.2	1.2		3.2			
35		0.8	2.5			3.3			
40									
45			5.2			5.2			
50			3.6			3.6	2.0		
55			2.8	0.8		3.7	0.8		
60	1.2		6.4			7.6			
65	1.2		2.8	0.8		4.9			
70	1.2	1.2	2.8			5.2			
75	0.8	0.8	7.3		1.2	10.2	0.8		
80		0.7	2.0	0.8		3.6	0.8		
85	1.2	0.7	1.2			3.1			
90	0.8		2.4	0.8		4.0			
95	1.2		2.0			3.2	1.2		
100	1.2		0.7			1.9			
105		1.2				1.2	1.2		
110	0.8		1.2			2.0			
115							1.2		
120									
125	1.2					1.2			
130	0.8					0.8			
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	12.3	6.3	44.2	4.5	2.0	69.3			
Dead P	1.6	0.8	5.6				8.1		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
17.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
22.5 +	12.3	6.3	44.2	4.5	2.0	69.3	8.1		
27.5 +	12.3	6.3	44.2	4.5	1.2	68.5	8.1		
32.5 +	12.3	5.5	43.0	3.3	1.2	65.3	8.1		

Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [Block : 11.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					0.8	0.8			
30		0.8	1.2	1.2		3.2			
35		0.8	2.4			3.3			
40									
45			5.2			5.2			
50			3.6			3.6	2.0		
55			2.8	0.8		3.6	0.8		
60	1.2		6.4			7.6			
65	1.2		2.8	0.8		4.8			
70	1.2	1.2	2.8			5.2			
75	0.8	0.8	7.3		1.2	10.1	0.8		
80		0.7	2.0	0.8		3.6	0.8		
85	1.2	0.7	1.2			3.1			
90	0.8		2.4	0.8		4.0			
95	1.2		2.0			3.2	1.2		
100	1.2		0.7			1.9			
105		1.2				1.2	1.2		
110	0.8		1.2			2.0			
115							1.2		
120									
125	1.2					1.2			
130	0.8					0.8			
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	12.4	6.3	44.2	4.5	2.0	69.4			
Dead P	1.6	0.8	5.6				8.1		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1		
17.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1		
22.5 +	12.4	6.3	44.2	4.5	2.0	69.4	8.1		
27.5 +	12.4	6.3	44.2	4.5	1.2	68.6	8.1		
32.5 +	12.4	5.5	43.0	3.3	1.2	65.4	8.1		

Block Basal Area Table (m2/ha)

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Block : (M) - 002:Block 2, Plots in Block: 16, TUs: [RW : 0.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					1.0	1.0			
30		1.0	1.0	1.0		2.9			
35		1.0	3.0			4.0			
40									
45			4.9			4.9			
50			3.5			3.5	2.0		
55			3.0	1.0		4.0	1.0		
60	1.0		5.9			6.8			
65	1.0		3.0	1.0		4.9			
70	1.0	1.0	3.0			4.9			
75	1.0	1.0	7.9		1.0	10.9	1.0		
80		0.6	2.0	1.0		3.5	1.0		
85	1.0	0.6	1.0			2.5			
90	1.0		1.9	1.0		3.9			
95	1.0		2.0			2.9	1.0		
100	1.0		0.6			1.5			
105		1.0				1.0	1.0		
110	1.0		1.0			2.0			
115							1.0		
120									
125	1.0					1.0			
130	1.0					1.0			
135									
140									
145									
150	0.6					0.6			
175									
200									
225									
250									
275									
Total	11.3	6.1	43.5	5.0	2.0	67.8			
Dead P	2.0	1.0	4.9				7.9		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
17.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
22.5 +	11.3	6.1	43.5	5.0	2.0	67.8	7.9		
27.5 +	11.3	6.1	43.5	5.0	1.0	66.8	7.9		
32.5 +	11.3	5.1	42.5	4.0	1.0	63.9	7.9		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 1 (M):HF 951, Plots in Type: 9, TUs: [All Treatment Units : 6.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			29.4	34.3		63.7			
35									
40									
45			43.1			43.1			
50			18.8			18.8	11.1		
55			8.8			8.8			
60	7.6		32.7			40.3			
65	6.4		6.8			13.2			
70	5.6	6.3	6.0			17.9			
75			10.6		4.8	15.4			
80		2.8	4.7			7.5			
85	3.9	2.5	3.8			10.2			
90			7.2			7.2			
95	3.3		3.3			6.6	3.2		
100	2.8		1.7			4.4			
105		2.6				2.6	2.5		
110			2.3			2.3			
115							2.2		
120									
125	1.9					1.9			
130									
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	32.1	14.2	179.3	34.3	4.8	264.7			
Dead P			19.0				19.0		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
17.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
22.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
27.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
32.5 +	82.4	80.6	62.1		77.4	67.6	77.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
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 Version: 2015.00 IFS build 5947

Type 1 (M):HF 951, Plots in Type: 9, TUs: [Block : 6.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			29.4	34.3		63.7			
35									
40									
45			43.1			43.1			
50			18.8			18.8	11.1		
55			8.8			8.8			
60	7.6		32.7			40.3			
65	6.4		6.8			13.2			
70	5.6	6.3	6.0			17.9			
75			10.6		4.8	15.4			
80		2.8	4.7			7.5			
85	3.9	2.5	3.8			10.2			
90			7.2			7.2			
95	3.3		3.3			6.6	3.2		
100	2.8		1.7			4.4			
105		2.6				2.6	2.5		
110			2.3			2.3			
115							2.2		
120									
125	1.9					1.9			
130									
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	32.1	14.2	179.3	34.3	4.8	264.7			
Dead P			19.0				19.0		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
17.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
22.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
27.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
32.5 +	82.4	80.6	62.1		77.4	67.6	77.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Type 1 (M):HF 951, Plots in Type: 9, TUs: [RW : 0.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			29.4	34.3		63.7			
35									
40									
45			43.1			43.1			
50			18.8			18.8	11.1		
55			8.8			8.8			
60	7.6		32.7			40.3			
65	6.4		6.8			13.2			
70	5.6	6.3	6.0			17.9			
75			10.6		4.8	15.4			
80		2.8	4.7			7.5			
85	3.9	2.5	3.8			10.2			
90			7.2			7.2			
95	3.3		3.3			6.6	3.2		
100	2.8		1.7			4.4			
105		2.6				2.6	2.5		
110			2.3			2.3			
115							2.2		
120									
125	1.9					1.9			
130									
135									
140									
145									
150	0.7					0.7			
175									
200									
225									
250									
275									
Total	32.1	14.2	179.3	34.3	4.8	264.7			
Dead P			19.0				19.0		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
17.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
22.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
27.5 +	82.4	80.6	58.2	28.9	77.4	60.7	77.7		
32.5 +	82.4	80.6	62.1		77.4	67.6	77.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [All Treatment Units : 5.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					37.1	37.1			
30		23.5				23.5			
35		19.7	55.6			75.3			
40									
45			22.6			22.6			
50			17.9			17.9	8.4		
55			15.2	7.2		22.4	7.1		
60			12.5			12.5			
65			9.9	5.2		15.1			
70			8.6			8.6			
75	3.9	4.1	23.8			31.8	3.9		
80			3.6	3.7		7.3	3.4		
85									
90	2.6			2.7		5.4			
95			2.4			2.4			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.3					1.3			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	9.6	47.3	172.2	18.8	37.1	285.1			
Dead P	7.3	7.1	8.4				22.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
17.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
22.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
27.5 +	96.2	37.6	54.5	68.9		55.3	62.5		
32.5 +	96.2	43.2	54.5	68.9		57.2	62.5		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [Block : 5.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					37.1	37.1			
30		23.5				23.5			
35		19.7	55.6			75.3			
40									
45			22.6			22.6			
50			17.9			17.9	8.4		
55			15.2	7.2		22.4	7.1		
60			12.5			12.5			
65			9.9	5.2		15.1			
70			8.6			8.6			
75	3.9	4.1	23.8			31.8	3.9		
80			3.6	3.7		7.3	3.4		
85									
90	2.6			2.7		5.4			
95			2.4			2.4			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.3					1.3			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	9.6	47.3	172.2	18.8	37.1	285.1			
Dead P	7.3	7.1	8.4				22.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
17.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
22.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
27.5 +	96.2	37.6	54.5	68.9		55.3	62.5		
32.5 +	96.2	43.2	54.5	68.9		57.2	62.5		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stand Table (stems/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [RW : 0.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					37.1	37.1			
30		23.5				23.5			
35		19.7	55.6			75.3			
40									
45			22.6			22.6			
50			17.9			17.9	8.4		
55			15.2	7.2		22.4	7.1		
60			12.5			12.5			
65			9.9	5.2		15.1			
70			8.6			8.6			
75	3.9	4.1	23.8			31.8	3.9		
80			3.6	3.7		7.3	3.4		
85									
90	2.6			2.7		5.4			
95			2.4			2.4			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.3					1.3			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	9.6	47.3	172.2	18.8	37.1	285.1			
Dead P	7.3	7.1	8.4				22.8		
Dead U									
Live U									
Average DBH(cm) at 5 Levels									
12.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
17.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
22.5 +	96.2	37.6	54.5	68.9	24.5	52.3	62.5		
27.5 +	96.2	37.6	54.5	68.9		55.3	62.5		
32.5 +	96.2	43.2	54.5	68.9		57.2	62.5		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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Type 1 (M):HF 951, Plots in Type: 9, TUs: [All Treatment Units : 6.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			19.3	19.4		38.7			
35									
40									
45			55.7			55.7			
50			44.2			44.2	20.8		
55			29.3			29.3			
60	20.9		109.3			130.2			
65	23.1		35.7			58.8			
70	23.3	18.0	29.0			70.3			
75			64.0		16.5	80.4			
80		11.3	19.3			30.5			
85	30.5	11.6	31.5			73.5			
90			64.9			64.9			
95	28.1		33.4			61.5	24.4		
100	30.8		19.2			49.9			
105		19.0				19.0	25.7		
110			40.2			40.2			
115							28.7		
120									
125	27.7					27.7			
130									
135									
140									
145									
150	18.4					18.4			
175									
200									
225									
250									
275									
Total	202.8	59.8	594.8	19.4	16.5	893.3			
Dead P			99.7				99.7		
Total Volumes for 7 Levels									
17.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
22.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
27.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
32.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
37.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
42.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
47.5 +	202.8	59.8	519.8		16.5	798.9	99.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Type 1 (M):HF 951, Plots in Type: 9, TUs: [Block : 6.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			19.3	19.4		38.7			
35									
40									
45			55.7			55.7			
50			44.2			44.2	20.8		
55			29.3			29.3			
60	20.9		109.3			130.2			
65	23.1		35.7			58.8			
70	23.3	18.0	29.0			70.3			
75			64.0		16.5	80.4			
80		11.3	19.3			30.5			
85	30.5	11.6	31.5			73.5			
90			64.9			64.9			
95	28.1		33.4			61.5	24.4		
100	30.8		19.2			49.9			
105		19.0				19.0	25.7		
110			40.2			40.2			
115							28.7		
120									
125	27.7					27.7			
130									
135									
140									
145									
150	18.4					18.4			
175									
200									
225									
250									
275									
Total	202.8	59.8	594.8	19.4	16.5	893.3			
Dead P			99.7				99.7		
Total Volumes for 7 Levels									
17.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
22.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
27.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
32.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
37.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
42.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
47.5 +	202.8	59.8	519.8		16.5	798.9	99.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type 1 (M):HF 951, Plots in Type: 9, TUs: [RW : 0.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			19.3	19.4		38.7			
35									
40									
45			55.7			55.7			
50			44.2			44.2	20.8		
55			29.3			29.3			
60	20.9		109.3			130.2			
65	23.1		35.7			58.8			
70	23.3	18.0	29.0			70.3			
75			64.0		16.5	80.4			
80		11.3	19.3			30.5			
85	30.5	11.6	31.5			73.5			
90			64.9			64.9			
95	28.1		33.4			61.5	24.4		
100	30.8		19.2			49.9			
105		19.0				19.0	25.7		
110			40.2			40.2			
115							28.7		
120									
125	27.7					27.7			
130									
135									
140									
145									
150	18.4					18.4			
175									
200									
225									
250									
275									
Total	202.8	59.8	594.8	19.4	16.5	893.3			
Dead P			99.7				99.7		
Total Volumes for 7 Levels									
17.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
22.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
27.5 +	202.8	59.8	594.8	19.4	16.5	893.3	99.7		
32.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
37.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
42.5 +	202.8	59.8	575.5		16.5	854.6	99.7		
47.5 +	202.8	59.8	519.8		16.5	798.9	99.7		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [All Treatment Units : 5.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					8.5	8.5			
30		9.6				9.6			
35		9.7	41.7			51.4			
40									
45			33.7			33.7			
50			36.3			36.3	10.2		
55			41.9	24.9		66.8	7.1		
60			34.3			34.3			
65			43.3	22.5		65.8			
70			40.8			40.8			
75	17.5	6.5	135.3			159.3	8.4		
80			19.1	19.1		38.1	9.2		
85									
90	21.4			28.0		49.5			
95			23.9			23.9			
100									
105									
110	18.9					18.9			
115									
120									
125									
130	20.7					20.7			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	78.6	25.9	450.3	94.5	8.5	657.8			
Dead P	17.6	7.1	10.2				34.9		
Total Volumes for 7 Levels									
17.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
22.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
27.5 +	78.6	25.9	450.3	94.5		649.3	34.9		
32.5 +	78.6	16.2	450.3	94.5		639.6	34.9		
37.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
42.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
47.5 +	78.6	6.5	374.9	94.5		554.5	34.9		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [Block : 5.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					8.5	8.5			
30		9.6				9.6			
35		9.7	41.7			51.4			
40									
45			33.7			33.7			
50			36.3			36.3	10.2		
55			41.9	24.9		66.8	7.1		
60			34.3			34.3			
65			43.3	22.5		65.8			
70			40.8			40.8			
75	17.5	6.5	135.3			159.3	8.4		
80			19.1	19.1		38.1	9.2		
85									
90	21.4			28.0		49.5			
95			23.9			23.9			
100									
105									
110	18.9					18.9			
115									
120									
125									
130	20.7					20.7			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	78.6	25.9	450.3	94.5	8.5	657.8			
Dead P	17.6	7.1	10.2				34.9		
Total Volumes for 7 Levels									
17.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
22.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
27.5 +	78.6	25.9	450.3	94.5		649.3	34.9		
32.5 +	78.6	16.2	450.3	94.5		639.6	34.9		
37.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
42.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
47.5 +	78.6	6.5	374.9	94.5		554.5	34.9		

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Stock Table (m3/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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 Version: 2015.00 IFS build 5947

Type 2 (M):HFC 941, Plots in Type: 7, TUs: [RW : 0.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					8.5	8.5			
30		9.6				9.6			
35		9.7	41.7			51.4			
40									
45			33.7			33.7			
50			36.3			36.3	10.2		
55			41.9	24.9		66.8	7.1		
60			34.3			34.3			
65			43.3	22.5		65.8			
70			40.8			40.8			
75	17.5	6.5	135.3			159.3	8.4		
80			19.1	19.1		38.1	9.2		
85									
90	21.4			28.0		49.5			
95			23.9			23.9			
100									
105									
110	18.9					18.9			
115									
120									
125									
130	20.7					20.7			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	78.6	25.9	450.3	94.5	8.5	657.8			
Dead P	17.6	7.1	10.2				34.9		
Total Volumes for 7 Levels									
17.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
22.5 +	78.6	25.9	450.3	94.5	8.5	657.8	34.9		
27.5 +	78.6	25.9	450.3	94.5		649.3	34.9		
32.5 +	78.6	16.2	450.3	94.5		639.6	34.9		
37.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
42.5 +	78.6	6.5	408.7	94.5		588.2	34.9		
47.5 +	78.6	6.5	374.9	94.5		554.5	34.9		

Average Line Method Grades: MOF Computerized
 AVCF Computerized Decay
 Licence Number: COMM CP: PRE Computerized Waste
 Project: AVCF Computerized Breakage

28-Sep-2015 07:52:52PM
 Filename: comm_for_blk2_LF_typed.ccp
 Compiled by: F Warren and Associates Ltd
 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type Basal Area Table (m2/ha)

Type 1 (M):HF 951, Plots in Type: 9, TUs: [All Treatment Units : 6.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			2.3	2.3		4.5			
35									
40									
45			6.8			6.8			
50			3.6			3.6	2.3		
55			2.3			2.3			
60	2.3		9.0			11.3			
65	2.3		2.3			4.5			
70	2.3	2.2	2.3			6.8			
75			4.5		2.2	6.7			
80		1.4	2.2			3.6			
85	2.2	1.4	2.3			5.9			
90			4.5			4.5			
95	2.3		2.2			4.5	2.2		
100	2.3		1.4			3.6			
105		2.3				2.3	2.3		
110			2.3			2.3			
115							2.3		
120									
125	2.2					2.2			
130									
135									
140									
145									
150	1.4					1.4			
175									
200									
225									
250									
275									
Total	17.1	7.2	47.7	2.3	2.2	76.6			
Dead P			9.0				9.0		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
17.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
22.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
27.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
32.5 +	17.1	7.2	45.5		2.2	72.1	9.0		

Average Line Method Grades: MOF Computerized
 AVCF Computerized Decay
 Licence Number: COMM CP: PRE Computerized Waste
 Project: AVCF Computerized Breakage

28-Sep-2015 07:52:52PM
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 Cruised by: AZMETH
 Version: 2015.00 IFS build 5947

Type Basal Area Table (m2/ha)

Type 1 (M):HF 951, Plots in Type: 9, TUs: [Block : 6.1]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			2.3	2.3		4.5			
35									
40									
45			6.8			6.8			
50			3.6			3.6	2.3		
55			2.3			2.3			
60	2.3		9.0			11.3			
65	2.3		2.3			4.5			
70	2.3	2.2	2.3			6.8			
75			4.5		2.2	6.8			
80		1.4	2.3			3.6			
85	2.2	1.4	2.3			5.9			
90			4.5			4.5			
95	2.3		2.3			4.5	2.3		
100	2.3		1.4			3.6			
105		2.3				2.3	2.3		
110			2.3			2.3			
115							2.3		
120									
125	2.3					2.3			
130									
135									
140									
145									
150	1.4					1.4			
175									
200									
225									
250									
275									
Total	17.1	7.2	47.7	2.3	2.2	76.6			
Dead P			9.0				9.0		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
17.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
22.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
27.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
32.5 +	17.1	7.2	45.5		2.2	72.1	9.0		

Average Line Method Grades: MOF Computerized
 AVCF Computerized Decay
 Licence Number: COMM CP: PRE Computerized Waste
 Project: AVCF Computerized Breakage

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Type Basal Area Table (m2/ha)

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

Type 1 (M):HF 951, Plots in Type: 9, TUs: [RW : 0.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25									
30			2.3	2.3		4.5			
35									
40									
45			6.8			6.8			
50			3.6			3.6	2.3		
55			2.3			2.3			
60	2.3		9.0			11.3			
65	2.3		2.3			4.5			
70	2.3	2.3	2.3			6.8			
75			4.5		2.2	6.8			
80		1.4	2.3			3.6			
85	2.2	1.4	2.3			5.9			
90			4.5			4.5			
95	2.3		2.3			4.5	2.3		
100	2.3		1.4			3.6			
105		2.3				2.3	2.3		
110			2.3			2.3			
115							2.3		
120									
125	2.3					2.3			
130									
135									
140									
145									
150	1.4					1.4			
175									
200									
225									
250									
275									
Total	17.1	7.2	47.7	2.3	2.2	76.6			
Dead P			9.0				9.0		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
17.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
22.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
27.5 +	17.1	7.2	47.7	2.3	2.2	76.6	9.0		
32.5 +	17.1	7.2	45.5		2.2	72.1	9.0		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Basal Area Table (m2/ha)
 FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

28-Sep-2015 07:52:52PM
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Type 2 (M):HFC 941, Plots in Type: 7, TUs: [All Treatment Units : 5.7]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					1.8	1.8			
30		1.8				1.8			
35		1.8	5.3			7.0			
40									
45			3.5			3.5			
50			3.5			3.5	1.7		
55			3.5	1.8		5.3	1.8		
60			3.5			3.5			
65			3.5	1.7		5.3			
70			3.5			3.5			
75	1.8	1.7	10.5			14.0	1.8		
80			1.7	1.8		3.5	1.8		
85									
90	1.8			1.7		3.5			
95			1.8			1.8			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.8					1.8			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	7.0	5.3	40.3	7.0	1.8	61.3			
Dead P	3.5	1.8	1.7				7.0		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
17.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
22.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
27.5 +	7.0	5.3	40.3	7.0		59.5	7.0		
32.5 +	7.0	3.5	40.3	7.0		57.8	7.0		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Type Basal Area Table (m2/ha)
 FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Type 2 (M):HFC 941, Plots in Type: 7, TUs: [Block : 5.3]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Class	F	C	H	B	Y	Total	DP	DU	LU
5									
10									
15									
20									
25					1.8	1.8			
30		1.8				1.8			
35		1.8	5.3			7.0			
40									
45			3.5			3.5			
50			3.5			3.5	1.8		
55			3.5	1.8		5.3	1.8		
60			3.5			3.5			
65			3.5	1.7		5.3			
70			3.5			3.5			
75	1.8	1.7	10.5			14.0	1.8		
80			1.7	1.8		3.5	1.8		
85									
90	1.8			1.8		3.5			
95			1.8			1.8			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.8					1.8			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	7.0	5.3	40.3	7.0	1.8	61.3			
Dead P	3.5	1.8	1.8				7.0		
Dead U									
Live U									

	Average Basal Area (m2) at 5 Levels								
12.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
17.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
22.5 +	7.0	5.3	40.3	7.0	1.8	61.3	7.0		
27.5 +	7.0	5.3	40.3	7.0		59.5	7.0		
32.5 +	7.0	3.5	40.3	7.0		57.8	7.0		

Average Line Method Grades: MOF Computerized FIZ: B
 AVCF Computerized Decay PSYU: Nootka
 Licence Number: COMM CP: PRE Computerized Waste Region: 2 - West Coast
 Project: AVCF Computerized Breakage District: 04 - South Island

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Type 2 (M):HFC 941, Plots in Type: 7, TUs: [RW : 0.4]

	F	C	H	B	Y	Total	DP	DU	LU
Utilization Limits									
Min DBH cm (M)	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Stump Ht cm (M)	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
Top Dia cm (M)	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Log Len m	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Class									
5									
10									
15									
20									
25					1.7	1.7			
30		1.8				1.8			
35		1.8	5.3			7.0			
40									
45			3.5			3.5			
50			3.5			3.5	1.8		
55			3.5	1.8		5.3	1.8		
60			3.5			3.5			
65			3.5	1.8		5.3			
70			3.5			3.5			
75	1.8	1.7	10.5			14.0	1.8		
80			1.8	1.8		3.5	1.8		
85									
90	1.8			1.7		3.5			
95			1.8			1.8			
100									
105									
110	1.8					1.8			
115									
120									
125									
130	1.8					1.8			
135									
140									
145									
150									
175									
200									
225									
250									
275									
Total	7.0	5.3	40.3	7.0	1.7	61.3			
Dead P	3.5	1.8	1.8				7.0		
Dead U									
Live U									
Average Basal Area (m2) at 5 Levels									
12.5 +	7.0	5.3	40.3	7.0	1.7	61.3	7.0		
17.5 +	7.0	5.3	40.3	7.0	1.7	61.3	7.0		
22.5 +	7.0	5.3	40.3	7.0	1.7	61.3	7.0		
27.5 +	7.0	5.3	40.3	7.0		59.5	7.0		
32.5 +	7.0	3.5	40.3	7.0		57.8	7.0		

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Utilization Levels:	Minimum DBH	Top Diameter	Stump Height
Mature Blocks: (cm)	17.5	15.0	30
Immature Blocks:(cm)	12.0	10.0	30
Standard Log Length:(m)	10.00		

Forest Type	Block Strip	Plot #	Plot Size	Slope %	Species	# of Stems	Stems / Ha	Avg Diam	Gross Merch	Less Decay	Less DB	Less DWB	Cruise Date	Loss Ref YI	Loss Ref OI	No. M		
1-HF 951	002	1	20.250F	55	Doug-Fir	1	17.07	122.90	266.79	263.06	249.72	249.72	1509			110		
					Hemlock	3	179.17	65.71	840.07	828.93	778.53	778.53				396		
					All Sp.	4	196.24	72.50	1106.86	1091.99	1028.25	1028.25						
		2	20.250F	120	Hemlock	3	379.12	45.17	773.05	766.79	720.41	720.41			1509			396
					Y. Cedar	1	43.04	77.40	231.94	179.99	163.75	148.21	610					
					All Sp.	4	422.16	49.43	1004.99	946.78	884.16	868.62						
		3	20.250F	33	Doug-Fir	3	176.14	66.27	661.61	644.46	611.38	605.68			1509			110
					Hemlock	3	263.74	54.16	884.54	810.50	757.43	727.18	396					
					All Sp.	6	439.87	59.30	1546.15	1454.96	1368.80	1332.86						
		4	20.250F	60	Balsam	1	308.70	28.90	188.55	185.35	175.92	174.79			1509			411
					W.R. Cedar	1	56.59	67.50	245.32	199.94	182.76	161.91	211					
					Hemlock	2	123.86	64.52	572.21	564.40	530.07	530.07	396					
All Sp.	4				489.15	45.92	1006.08	949.68	888.75	866.77								
5	20.250F	60	W.R. Cedar	1	23.25	105.30	258.61	212.58	194.47	170.68			1509			211		
			Doug-Fir	2	64.50	89.41	563.69	556.34	528.15	527.59	110							
			Hemlock	3	388.24	44.64	542.74	533.93	501.37	501.37	396							
			All Sp.	6	475.99	57.01	1365.04	1302.84	1223.99	1199.64								
6	20.250F	80	Hemlock	5	235.96	73.92	1450.64	1428.93	1341.89	1341.89			1509			396		
			All Sp.	5	235.96	73.92	1450.64	1428.93	1341.89	1341.89								
12	20.250F	80	Doug-Fir	1	24.93	101.70	306.18	295.15	279.85	276.78			1509			110		
			Hemlock	3	100.25	87.84	1021.24	853.89	792.62	739.54	396							
			G-Shatt	1	29.18	94.00	345.13	266.78	246.07	219.85	396							
			All Sp.	4	125.18	90.77	1327.42	1149.05	1072.46	1016.32								
13	20.250F	75	Hemlock	2	39.98	113.57	808.99	697.71	649.17	619.62			1509			396		
			All Sp.	2	39.98	113.57	808.99	697.71	649.17	619.62								
14	12.250F	82	W.R. Cedar	2	47.61	80.94	313.31	255.51	233.58	205.53			1509			211		
			Doug-Fir	1	6.09	160.00	177.13	174.47	165.61	165.61	110							
			Hemlock	2	74.55	64.69	312.65	310.28	291.52	291.52	396							
			All Sp.	5	128.25	77.98	803.09	740.26	690.71	662.66								
2-HFC 941	002	7	12.250F	140	Balsam	1	18.96	90.70	223.31	210.13	198.97	196.06	1509			411		
					Hemlock	2	79.42	62.67	355.38	353.25	331.92	331.92				396		
					All Sp.	3	98.38	68.96	578.69	563.38	530.89	527.99						
8	12.250F	57	Hemlock	3	297.49	39.66	305.07	301.30	282.99	282.99			1509			396		
			All Sp.	3	297.49	39.66	305.07	301.30	282.99	282.99								

Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Summary

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Utilization Levels: Minimum DBH Top Diameter Stump Height

Mature Blocks: (cm) 17.5 15.0 30
 Immature Blocks:(cm) 12.0 10.0 30

Standard Log Length:(m) 10.00

Forest Type	Block Strip	Plot #	Plot Size	Slope %	Species	# of Stems	Stems / Ha	Avg Diam	Gross Merch	Less Decay	Less DB	Less DWB	Cruise Date	Loss Ref YI	Loss Ref OI	No. M
2-HFC 941	002	9	12.250F	40	W.R. Cedar	1	28.64	73.80	94.07	62.37	55.78	45.72	1509			211
					Doug-Fir	1	9.14	130.60	159.44	154.02	146.05	144.93				110
					Hemlock	6	304.83	55.41	839.69	834.26	783.87	783.87				396
					Y. Cedar	1	259.84	24.50	64.68	64.16	59.63	59.63				610
					All Sp.	9	602.46	48.27	1157.88	1114.80	1045.34	1034.16				
	10	12.250F	79	Balsam	1	36.35	65.50	174.26	167.64	158.93	157.53			411		
				W.R. Cedar	2	302.57	32.11	173.88	152.26	140.09	135.45		211			
				All Sp.	3	338.93	37.16	348.15	319.90	299.02	292.99	1509				
	11	12.250F	45	Balsam	2	76.02	64.06	375.15	340.68	320.08	307.70			411		
				Doug-Fir	2	39.73	88.61	281.47	271.88	257.81	254.86	110				
				Hemlock	8	276.02	67.24	1302.51	1289.68	1211.53	1211.53	396				
				All Sp.	12	391.78	69.12	1959.14	1902.24	1789.42	1774.09	1509				
	15	12.250F	110	W.R. Cedar	1	49.74	56.00	113.56	73.13	65.18	49.63			211		
				E-Down	1	49.74	56.00	113.56	73.13	65.18	49.63	211				
				Doug-Fir	2	50.96	78.24	286.51	180.69	166.36	123.36	110				
				E-Down	2	50.96	78.24	286.51	180.69	166.36	123.36	110				
Hemlock				3	252.52	43.05	363.51	336.05	314.24	302.73	396					
All Sp.				6	353.21	51.47	763.58	589.87	545.79	475.71	1509					
16	12.250F	70	Doug-Fir	1	18.55	91.70	160.35	158.27	150.25	150.09			110			
			Hemlock	2	54.18	75.88	332.60	330.61	310.65	310.65	396					
			All Sp.	3	72.73	80.21	492.95	488.87	460.90	460.74	1509					

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Frequency Report

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Measure Plots

Blocks	Timber Type	
	1	2

BLOCK 002 (M)

# of Plots	9	7
ha / Plot	0.71	0.81

Cutting Permit

# of Plots	9	7
ha / Plot	0.71	0.81

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
 AVCF
 Licence Number: COMM CP: PRE
 Project: AVCF

Grades: MOF Computerized
 Computerized Decay
 Computerized Waste
 Computerized Breakage

Plot Frequency Report

FIZ: B
 PSYU: Nootka
 Region: 2 - West Coast
 District: 04 - South Island

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Measure Plots

Harvest Methods	Timber Type	
	1	2
METHOD CC		
# of Plots	3	5
ha / Plot	0.80	0.88
METHOD HL		
# of Plots	6	
ha / Plot	0.67	
METHOD SC		
# of Plots		2
ha / Plot		0.65
All Methods		
# of Plots	9	7
ha / Plot	0.71	0.81

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
AVCF
Licence Number: COMM CP: PRE
Project: AVCF

Grades: MOF Computerized
Computerized Decay
Computerized Waste
Computerized Breakage

Plot Frequency Report

FIZ: B
PSYU: Nootka
Region: 2 - West Coast
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Cruised by: AZMETH
Version: 2015.00 IFS build 5947

Count Plots

Blocks	Timber Type
	1 2

BLOCK 002 (M)
of Plots
ha / Plot

Cutting Permit
of Plots
ha / Plot

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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Average Line Method
AVCF
Licence Number: COMM CP: PRE
Project: AVCF

Grades: MOF Computerized
Computerized Decay
Computerized Waste
Computerized Breakage

Plot Frequency Report

FIZ: B
PSYU: Nootka
Region: 2 - West Coast
District: 04 - South Island

28-Sep-2015 07:52:52PM
Filename: comm_for_blk2_LF_typed.ccp
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Count Plots

Harvest Methods	Timber Type
	1 2

METHOD CC
of Plots
ha / Plot

METHOD HL
of Plots
ha / Plot

METHOD SC
of Plots
ha / Plot

All Methods
of Plots
ha / Plot

FLAGS: Full Volumes, Normal Cruise, All Trees Compiled, Measure Plots Only, Damage,
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TERRAIN STABILITY FIELD ASSESSMENT

Cutblocks 1 and 2

SUMMARY

Cutblock1

Apart from the one area mentioned below, this cutblock has a *Very Low to Low* potential for post-harvest landslides.

Polygon 2 of Heli-Unit A has a ***Moderate to High*** potential for post-harvest landslides. I understand that this area will be deleted from the proposed cutblock.

Cutblock 2

Polygon 1 of Heli-Unit A 1 has a ***Moderate*** potential for small landslides and ***High*** for rockfall.

Roads

For Spur 1 between Stn. 47 and Stn. 48, no sidecasting over steep bedrock located just downslope of centerline.

For Spur 3, Partial Endhaul between Stn. 29 and Stn. 36 will result in a *Low* potential for Fillslope failures.

For Spur 3, Stn. 49 to Stn. 51, I recommend: Have a Professional Engineer (with experience in bedrock mechanics) assess this segment, or have a Qualified Professional on-site during road building, or end the road at Stn. 49 and helicopter yard the remaining area.

For Spur 3, from Stn. 55 -10m to Stn. 62-5m, and from Stn. 63 to Stn. 64+5m, Full Bench Endhaul reduces the potential for Fillslope failures to *Low*.

For Spur 4, between Stn. 4 and Stn. 8, Full Bench Endhaul reduces the potential for Fillslope failures to *Low*.

For Spur 4a, between Stn. 0+016 and Stn. 0+030, Full Bench Endhaul reduces the potential for Fillslope failures to *Low*.

Safety Hazards

Workers should be made aware of the potential for rockfall from within and upslope of many areas in both cutblocks.

Terrain Risk Associated with Windthrow

If post-harvest windthrow occurs from FCA2 to FCA4, it would likely contribute to landslide initiation with a slide going directly into Stream 1. If it occurs from FC55 to FCE3, it would likely contribute to landslide initiation with a slide going directly into Stream 7. If Polygon 2 of Cutblock 1 Heli-Unit A is deleted from the proposed cutblock and windthrow occurs in this area, it would likely contribute to landslide initiation with a slide going directly into Stream 1.

INTRODUCTION

Geoforestry Consulting was retained by Novafor Forest Services Ltd. to assess the terrain-related hazards for the proposed Cutblocks 1 and 2 in the Sutton Creek drainage system. I inspected the area on August 28th, September 3rd, 8th, and 17th, 2015. It was generally cloudy with light rain each day.

Information reviewed prior to my field assessment consisted of:

- 1:5,000-scale contour map showing boundary locations.
- Aerial photographs were not available.
- Google Earth 3D Images
- 1:5,000 Terrain Map

The proposed cutblocks were partially ribboned and traversed at the time of the assessment. The cutblocks will be harvested by a combination of conventional clearcutting and helicopter yarding.

Location

The proposed cutblocks are located a short distance to the west of the western end of Sproat Lake. They are situated on north-facing slopes overlooking several tributaries to Sutton Creek.

Access to the area is via the TA568 road systems.

General Description of Cutblocks

The proposed cutblocks are laid out over an area roughly 1.6 km long by up to about 900 m wide. The blocks consist of many areas separated by considerable distances in some places. Please see the accompanying maps for the location and size of the units within the two cutblock.

Bedrock Geology

Bedrock in the area consists mainly of the Triassic-aged Karmutsen Volcanics. Bedrock outcrops are common throughout the proposed development and include mainly basalt. There may be Jurassic-aged rocks of the Island Intrusions in the area.

Bedrock outcrops form a series of steep bluffs and gently-sloping benches throughout the proposed development area. This could reflect regional bedrock faulting patterns or possibly bedrock subsidence activity. Some of the steep bedrock outcrops are unstable.

Surficial Geology

Soils throughout the proposed cutblocks are generally thin and there is an abundance of bedrock outcroppings in the area. Soils are locally deeper where colluvium has collected and this is often coarse material.

There do not appear to be deep till deposits in the area.

Downslope Resources

The proposed cutblock is located within the Sproat Lake Community Watershed.

As far as I am aware, there are no fish-bearing streams located within the proposed cutblocks but the streams within are mapped as S4. Streams 1 and 7 are mapped as S2.

From most areas within the proposed cutblocks, the potential for landslide runout is considered short due to coarse materials and the step-bench topography; benches are generally broad enough to stop landslides. A small portion of Cutblock 1 slopes towards Stream 1 and a small portion of Cutblock 2 slopes towards Stream 7. If landslides occur in these areas they could go into either stream.

Existing Landslides

The surrounding area was inspected for evidence of existing landslides on the air photos, on the drive and flight to the cutblock, and during the ground inspection. Determination of the cause of the landslides outside of the cutblock is important because the conditions present in the initiation zone can be compared to the conditions within the proposed cutblock and/or road alignment. Should similar conditions be found to exist, thorough field observations should be carried out to ensure stability.

As mentioned above, bedrock outcrops form a series of steep bluffs and gently-sloping benches throughout the proposed development area. The upslope edges of some of the steep bedrock outcrops are fractured and some are failing/sliding. In Unit A of the conventional portion of Cutblock 2, there is what appears to be a large rockslide feature. It is well over 50 m wide and 150 m long. There is abundant coarse colluvium through the area and downslope of it. Some of the bedrock on the margins of the feature is heavily fractured and unstable.

There are two other smaller similar areas located just outside of the falling boundary; one is located downslope of CC Unit B, Polygon 1 and the other just downslope of CC Unit A.

There are numerous rock bluffs located within and along the upper edge of the proposed cutblock. Some of these bluffs could have fracture zones and could fail during or after harvesting activities. Workers should be made aware of this potential safety hazard.

There is a small probable landslide scar located along Stream 3 in the northwestern portion of Cutblock 1 (Heli Unit A, Polygon 2). The feature is about 10 to 12 m wide by 1 m deep. Soils are deeper here than in most other areas and contain abundant fine rubble. The soils have poor strength. There are several leaning coniferous trees and it appears that a larger landslide could occur.

Other than the landslide mentioned above and failures along the edge of steep rock outcrops, there does not appear to be many open-slope landslides in the proposed development area.

TERRAIN STABILITY HAZARD RATINGS

A terrain stability hazard rating is the estimated potential for landslide initiation in a given area after road building and/or logging. Determination of a hazard rating is based primarily on the following:

- Hillslope gradient
- Topography
- Surficial material type, texture, and structure
- Derived soils, their texture and drainage
- Bedrock geology of the area
- Vegetation, primarily wet-site indicators
- Evidence of previous landslides or indications of active instability
- Experience in similar terrain with similar geological conditions
- Proposed yarding methods and road location and design
- Potential changes to the natural hillslope drainage pattern
- The effects of root decay

The following are some reference reports that explain in part how I arrive at the hazard ratings presented in this report.

- The report "Terrain Stability Management Strategy for Rennell Sound" by this investigator, May, 2005
- The report "Some Relationships between Bedrock, Shallow Landslides, and Forest Practices", June, 2003, by this investigator
- WFP Terrain Risk Management Strategy, March 2012

A four-class system (Very Low, Low, Moderate, or High) is used to describe the terrain stability hazard rating of a given area or road section. The criteria used for this classification system can be found in the attached Appendix A.

Consequence refers to the anticipated damage caused by a potential landslide. Damage is quantified by first estimating the composition, size, and runout distances of slides. Then the following downslope entities are considered:

- Human safety
- The potential to damage infrastructure such as roads or buildings
- environmentally sensitive receptors such as fish-bearing drainages
- Loss of resource and site degradation

The potential runout distances for slides and their downslope impacts are described in Table 1.

FIELD OBSERVATIONS AND HAZARD MITIGATION OPTIONS

Terrain Hazards Related to Harvesting

The following Table 1 includes observations of the geological conditions and hillslope gradient and topography within an area of the opening. Based on the observations, an area has been assigned a terrain stability hazard rating. I have mapped out areas of homogenous terrain conditions and hazard ratings into polygons, which are shown on the accompanying map of the opening. The delineation of each polygon is completed in the field and is an approximation, based on tying into falling corners and topographic maps.

For each polygon, should a slide be triggered (even Low hazard polygons can have slides), the downslope impacts of a slide, including anticipated runout distance and interceptors are described.

Terrain Hazards Related to Road Construction

The following Table 2 includes observations of the geological conditions and hillslope gradient and topography along a specified segment of the proposed road alignment. Based on the observations, each specified road segment has

been assigned a post-construction hazard rating for conventional construction techniques. Each specified road segment is based on having homogenous terrain conditions and hazard ratings and is delineated in the field.

For road segments that have a higher than Low post-construction failure rating, alternative construction options and the post-construction failure ratings are provided. The hazard ratings provided in this table include the potential instability from road fillslopes and cutslopes and road drainage.

Table 1. Geological Observations, Terrain Hazard and Consequences for Polygons in Cutblocks 1 & 2

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
Cutblock 1						
CC Unit A						
1	This polygon is located in the northern portion of Unit A.	Generally thin soils and bedrock outcrops.	Rolling and irregular topography. Generally 40 to 60% but with some gently-sloping areas and	Low, with some Very Low	A landslide would likely be small but could potentially travel along Stream 3 and go into Stream 1 (not from the eastern portion of this polygon).	
2	Polygon 2 is located in the southern portion of Unit A.	Generally thin soils and bedrock outcrops.	Rolling and irregular topography with much of the ground at less than 25%. Short steep sections on bedrock outcrops.	Very Low, with some Low.	A landslide would likely be very small or smaller and travel less than 25 m.	
CC Unit B						
1	This polygon occupies all of Unit B.	Generally thin soils and bedrock outcrops. Stream 6 is generally weakly incised.	Variable topography with some 50 to 65% ground downslope of centerline with 8 to 10 m of steeper bedrock below that. 40 m of less than 30% slope along Stream 6.	Low and Very Low	A landslide would likely be very small or smaller and travel less than 25 m.	
Cutblock 1 Heli Unit A						
1	Polygon 1 is located in the northern portion of Unit A. The ground in this polygon slopes towards Stream 1.	Thin soils with bedrock outcrops and some pockets of deeper colluvium.	65 to 80% with irregular topography.	Low	A landslide could be small to moderate in size and could go directly into Stream 1.	

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
2	This polygon is located in the southern portion of Unit A.	Deep silty-rubby soils with a probably landslide headwall along Stream 3. The landslide appears to be about 10 to 12 m wide and 1 m deep. A larger slide of possibly over 20 m wide could occur.	75 to over 80%. Soils have poor strength.	Moderate to High	A landslide could be small to moderate in size and would go directly into Stream 1.	
Unit B						
1	Polygon 1 occupies all of Unit B.	Generally thin soils and bedrock outcrops.	Much of the ground in this polygon is gently-sloping. Some moderately-sloping ground in the southwestern portion.	Very Low, with some Low	A landslide would likely be very small or smaller and would likely travel less than 25 m.	
Unit C						
1	Polygon 1 occupies all of Unit C.	Generally thin soils and bedrock outcrops. Some coarse colluvium. 15 to 25 m high bedrock outcrop upslope of falling boundary.	Gently-sloping ground in the northeastern portion. Moderate to locally steep in the western portion. There is a large gently-sloping bench located downslope of the western portion of the unit.	Low, with some Very Low	A landslide would likely be small and could travel up to about 75 to 100 m in the western portion of the unit.	Workers should be made aware of the potential for rockfall from upslope of the eastern portion of this polygon.
Unit D						

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
Unit D						
1	Polygon 1 occupies all of Unit D.	Generally thin soils and bedrock outcrops. Several weakly incised small streams. Some coarse colluvium. 25 m high bedrock outcrop upslope of falling boundary. Up to 50 m bluff downslope.	Most of the ground has a hillslope gradient of less than 25%. The ground in the upper portion of the area is located on the toe of steep ground along the bedrock outcrops.	Very Low, with some Low.	A landslide would likely be very small or smaller and would stop in this polygon.	Note that the gently-sloping ground is located downslope of the steep ground and is wide enough to stop a small landslide. Workers should be made aware of the potential for rockfall from upslope of this polygon.
Unit E						
1	Polygon 1 occupies all of Unit A.	Generally thin soils. Up to 5 m high bedrock outcrops exposed in the upper-eastern portion of the unit.	Steep in the upper eastern portion; otherwise generally gently-sloping. Irregular topography. Stream 6 has a 15 m long section where it flows over steep bedrock in what is probably a bedrock fault.	Low and Very Low	If a landslide does occur it would be very small or smaller and would stop in this polygon.	
Cutblock 2						
Unit A						
1	Polygon 1 is located in the eastern portion of Unit A.	Generally thin soils with scattered bedrock outcrops.	Variable topography with short steep sections on bedrock outcrops, some small gently-sloping benches, and much ground in the 40 to 60% range.	Low	A landslide would likely be small to moderate in size and could travel up to about 150 m.	

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
2	This polygon is located in the western portion of Unit A.	This polygon is located in what is possibly a bedrock landslide zone. There is abundant coarse colluvium within the area and fractured bedrock around the perimeter.	45 to 70% with short steeper sections on bedrock outcrops.	Low for landslides, High for rockfall.	Due to the coarse material in the polygon, a landslide would likely not travel far.	Workers should be made aware of the potential for rockfall from within and upslope of this polygon.
Unit B						
1	Polygon 1 is located in the downslope or northern portion of Unit B.	Moderately well to well drained soils derived from weathered bedrock and colluvium. Fractured bedrock outcrops to about 7 m high.	Steep ground with irregular topography.	Low for landslides, High for rockfall.	A landslide would likely be small to possibly moderate in size and could travel over 100 m to gently-sloping ground.	Workers should be made aware of the potential for rockfall from within this polygon.
2	This polygon is located in the upper or southern portion of Unit B.	Thin soils and bedrock outcrops.	Generally less than 25% but with short moderately steep to steep sections.	Mostly Very Low, some Low	A landslide would likely be very small or smaller and would stop in this polygon.	
Unit C						
1	Polygon 1 occupies the downslope or northern portion of Unit C.	Thin soils and bedrock outcrops.	Generally less than 25%.	Very Low	N/a.	
2	This polygon is located in the upper portion of Unit C. The ground in this polygon slopes towards Polygon 1.	Thin soils and bedrock outcrops.	45 to locally over 60%.	Low	A landslide would likely be very small to small and would stop in Polygon 1.	

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
Cutblock 2 Heli						
Unit A						
1	Polygon 1 occupies all of Unit A.	Generally thin soils and bedrock outcrops. Some outcrops are fractured. One section with J-stemmed regenerating coniferous trees; could be a small rockslide scar.	Generally steep at up to over 80% locally.	Moderate for landslides, High for rockfall.	If a landslide does occur it would likely be small and travel about 75 to 100 m.	Workers should be made aware of the potential for rockfall from within and upslope of this polygon.
Unit B						
1	Polygon 1 is located in the lower portion of Unit B.	Moderately well to well drained soils derived mainly from weathered bedrock. Scattered bedrock outcrops.	Generally less than 30% but with some short steeper sections including a 5 to 7 m high fractured bedrock bluff.	Very Low, with some Low	A landslide would be smaller than very small and would stop in this polygon.	The fractured bedrock does not appear to be a large feature but workers should be made aware of the potential for rockfall in this area.
2	This polygon is located in the upper portion of Unit B.	Moderately well to well drained soils derived mainly from weathered bedrock.	Generally 40 to 55% with some ground to 65%.	Low	A landslide would likely be small or very small and would stop in this polygon or in Polygon 1.	
3	Polygon 3 is located along the eastern edge of Unit B. The ground in this polygon slopes towards Stream 7.	Moderately well drained soils derived mainly from weathered bedrock.	25 to 50%.	Low	A landslide would likely be small to moderate in size and would go into Stream 7.	

Polygon	General Polygon Description	Geological Conditions	Hillslope Gradient and Topography	Terrain Stability Hazard	Consequence of a Landslide	Remarks
Unit C						
1	Polygon 1 occupies all of Unit C.	Moderately well drained soils derived from weathered bedrock and colluvium. Scattered bedrock outcrops to 15 m high.	Variable topography with a 30 m wide, gently-sloping bench located in the central and eastern portion of the area. Steep bedrock outcrops along the southern edge.	Low	A landslide would likely be very small and stop in this polygon.	
Unit D						
1	Polygon 1 occupies all of Unit D.	Generally thin soils derived from weathered bedrock. Some bedrock outcrops.	Gently-sloping ground along the upslope edge of the polygon. 40 to 60% in the lower portion with some short steeper sections on bedrock outcrops.	Low	A landslide would likely be very small to small and would probably travel less than 50 m.	
Unit E						
1	Polygon 1 occupies all of Unit E.	Moderately well to well drained soils derived from weathered bedrock. Scattered bedrock outcrops.	Less than 60%.	Low	A landslide would likely be small initially but could possibly go into Stream 7.	

Table 2. Hazard Rating and Consequences for Construction Options – Spurs 1 to 5

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
Spur 1							
Stn. 1 – Stn. 19	Generally less than 25% with short sections of steeper ground.	Thin soils and bedrock outcrops. Possibly some till. Some wet areas.	Conventional	Very Low/ Very Low	Low	N/a.	
Stn. 19 – Stn. 22	Along edge of heli-clearcut. Some -40 to 50% with a 4 to 5 m drop below that. Gently-sloping ground at the toe of the steeper ground and upslope of centerline.	Thin soils and bedrock.	Conventional	Low/ Low	Low	A landslide would be very small or smaller and travel less than 20 m.	
Stn. 22 – Stn. 43	Rolling topography with scattered bedrock outcrops as well as broad gently-sloping areas.	Thin soils and bedrock outcrops.	Conventional	Low and Very Low for both Cutslope and Fillslope.	Low	A landslide would likely be very small or smaller and travel less than 25 m.	
Stn. 43 – Stn. 47	Less than 10%.	Thin, moderately well drained soils.	Conventional	Very Low/ Very Low	Low	N/a.	
Stn. 47 – Stn. 48	3 to 5 m bedrock outcrop located just downslope of centerline between Stn. 47 and Stn. 48.	Thin soils.	Conventional, with no sidecasting over steep bedrock outcrop.	Low/ Low	Low	A landslide could potentially travel down Stream 3 and go into Stream 1.	
Stn. 48 – Stn. 51	-30 to 50% with less than 25% ground located a short distance upslope of centerline.	Thin soils.	Conventional	Low/ Low	Low	A landslide could potentially travel down Stream 3 and go into Stream 1.	

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
Spur 2							
Stn. 1 – Stn. 5	Generally less than 25%.	Thin soils and bedrock outcrops.	Conventional	Very Low/ Very Low	Low	N/a.	
Spur 3							
Stn. 1 – Stn. 29	Not assessed.			Assumed to be Very Low to Low			
Stn. 29 – Stn. 36	The alignment is located just upslope of a 6 to 10 m high and steep bedrock outcrop. -20 to 40% for up to 4 m with 6 to 10 m drop below. Downslope of that is a 40 to 50 m wide, gently-sloping bench.	Thin soils and bedrock.	Conventional	Low/ Moderate	Low	A landslide would travel less than 20 m.	
Partial Endhaul			Low/ Low	Low	As above.	This option reduces the potential for Fillslope failures to Low.	
Stn. 36 – Stn. 40	Centerline is located just upslope of a small bench.	Thin soils and bedrock.	Conventional	Low/ Low	Low	A landslide could likely travel less than 50 m.	
Stn. 40 – Stn. 44	Less than 10%.	Moderately well drained soils derived from colluvium.	Conventional	Very Low/ Very Low	Low	N/a.	

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
Stn. 44 – Stn. 49	-45 to 60%, +60 to 70%.	Coarse colluvium.	Conventional	Low/ Low	Low	A landslide could travel over 100 m downslope.	
Stn. 49 – Stn. 51+5m	The alignment crosses through the edge of a large bedrock failure. Over -80% for over 10 m; over 75% upslope for less than 10 m and then less than 65%.	It is difficult to determine if there are fractures within the bedrock or if the material is all coarse colluvium. It might not be possible to develop a stable road prism through this segment.	Conventional	Moderate?/ High	Low	A landslide could be moderate to large in size but would likely travel less than 150 m downslope.	

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
			If competent bedrock does exist through this segment, then Full Bench Endhaul with a Cutslope Angle of 3:1 should be stable.				Have a Professional Engineer (with experience in bedrock mechanics) assess this segment, or have a Qualified Professional on-site during road building, or end the road at Stn. 49 and helicopter yard the remaining area.
Stn.51+5m – Stn. 55-10m	40 to 50%.	Moderately well drained soils; fairly brushy ground.	Conventional	Low/ Low	Low	A landslide could travel over 100 m downslope.	
Stn.55-10m – Stn.62-5m	Over -60% for over 10 m and +65 to 70%.	Moderately well to well drained thin soils.	Conventional	Low/ Moderate	Low	A landslide could travel over 100 m downslope.	
			Full Bench Endhaul	Low/ Low	Low	Little material available to slide.	This option reduces the potential for Fillslope failures to Low.
Stn.62-5m – Stn. 63	-10 to 20% for less than 10 m and +35 to 50%.	Moderately well drained folisols.	Conventional	Low/ Very Low	Low	A cutslope failure would likely stop on the road.	

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
Stn. 63 – Stn. 64+5m	Over -60% for 10 to 15 m. Less than 5 m high bedrock outcrop upslope of centerline.	Thin soils and bedrock outcrops.	Conventional	Low/ Moderate	Low	A landslide could travel over 100 m downslope.	
			Full Bench Endhaul	Low/ Low	Low	Little material available to slide.	This option reduces the potential for Fillslope failures to Low.
Stn. 64+5m – Stn. 66	-30 to 45%, +50 to 65%.	Moderately well drained folisols.	Conventional	Low/ Low	Low	A landslide could potentially travel over 150 m into the Stream 7 system.	
Spur 4							
Stn. 1 – Stn. 4	30 to 40%.	Fillslope of built road.	Conventional	Low/ Low	Low	A landslide would likely be very small to small and would probably travel less than 50 m to a bench.	
Stn. 4 – Stn. 8	Up to -65% and +80.	Road fillslope and colluvium.	Conventional	Low/ Moderate	Low	As above.	
			Full Bench Endhaul	Low/ Low	Low	Little material available to slide.	This option reduces the potential for Fillslope failures to Low.
Stn. 8 – Stn. 22	Generally less than 25% with short steeper sections.	Thin soils and scattered bedrock outcrops.	Conventional	Very Low, with some Low for both Cutslope and Fillslope.	Low	N/a.	

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
Stn. 22 – Stn. 23	Short section of -45 to 55%.	Thin soils and bedrock.	Conventional	Low/ Low	Low	A landslide would likely be small initially but could potentially travel over 150 m downslope.	
Stn. 23 – Stn. 26	Less than 15%.	Thin soils and bedrock.	Conventional	Very Low/ Very Low	Low	N/a.	
Spur 4a							
0+000 – 0+016	Less than 45%.	Thin soils and bedrock outcrops.	Conventional	Low/ Low	Low	A landslide would likely be small initially but could potentially travel over 150 m downslope.	
0+016 – 0+030	Over 60% with irregular topography.	Thin soils and bedrock outcrops.	Conventional	Low/ Moderate	Low	A landslide would likely be small initially but could potentially travel over 150 m downslope.	
			Full Bench Endhaul	Low/ Low	Low	Little material available to slide.	This option reduces the potential for Fillslope failures to Low.

Road Section	Hillslope Gradient and Topography	Geological Conditions	Construction Options	Post Construction Landslide Hazard Cutslope/ Fillslope	Road Drainage Hazard	Consequence of a Slide	Remarks
0+030 – 0+041	Less than 55%.	Thin soils and bedrock outcrops.	Conventional	Low/ Low	Low	A landslide would likely be small initially but could potentially travel over 150 m downslope.	
Spur 5							
Stn. 1 – End	Less than 25%.	Generally thin soils and scattered bedrock outcrops.	Conventional	Very Low	Low	N/a.	

GULLIES, GULLY-LIKE FEATURES, and FANS

This section lists and describes significant gullies, gully-like terrain, and fans within and adjacent to the proposed cutblock. The purpose of this section is to alert foresters and managers to these features in order to facilitate management of windthrow and sediment.

Stream 1

Stream 1 flows adjacent to the western edge of Cutblock 1. I was able to observe the stream only from the northwestern corner of the proposed cutblock. The stream has a high flow potential and is transporting material to boulder size. It generally has steep sidewalls and there are some sidewall landslides like the one located in Polygon 2 of Heli-Unit A.

Stream 7

Stream 7 is a massive gully system that is located in the eastern end of the proposed development area. The system is well over 150 m wide with steep to extremely steep sidewalls. There are numerous landslides, rockslides, gullies, and snow avalanche zones within the larger gully system. The active channel is over 10 m wide and transporting abundant material to boulder size.

TERRAIN RISK ASSOCIATED WITH WINDTHROW

This section deals with the anticipated terrain hazard and consequence should windthrow occur along an edge of the cutblock following harvesting. This section is not a windthrow hazard assessment; it is intended to be used by the silvicultural prescription writer, layout engineers, and managers as a guide for possible edge treatments such as topping or pruning. Only those edges that I consider to have significant terrain risk associated with windthrow are included below. If the layout crew determines that the hazard of windthrow is low, then treatment of the edge would likely not be required.

Segment A – Stream 1; FCA2 to FCA4

Stream 1 is described above in the Gullies section of the report. If post-harvest windthrow occurs along the edge of this boundary, it would likely contribute to landslide initiation. A landslide would likely be small to moderate in size and would go directly into Stream 1.

Segment B – Stream 7; FC55 to FCE3

Stream 7 is described above in the Gullies section of the report. If post-harvest windthrow occurs along this boundary segment it would likely contribute to

landslide initiation. A landslide could potentially be large and would go directly into Stream 7.

Segment C; Cutblock 2 Heli-Unit A Polygon 2

This polygon is described above in the Gullies section of the report. If this polygon is deleted and post-harvest windthrow occurs, it would likely contribute to landslide initiation. A slide would likely be small to moderate in size and would go directly into Stream 1.

CONCLUSIONS

The proposed cutblocks are located in an area with step-bench topography that is bedrock-controlled. Much of the ground in the cutblocks is gently-sloping but there are several steep areas. Some of the steep bedrock outcrops have failed including one area that has a proposed road across it. At least two sections of bedrock are actively failing but located outside of the proposed cutblock.

Apart from the one area mentioned below, this cutblock has a very low to low potential for post-harvest landslides. Polygon 2 of Heli-Unit A has a moderate to high potential for post-harvest landslides. I understand that this area will be deleted from the proposed cutblock. Polygon 1 of Heli-Unit A 1 has a moderate potential for small landslides and high for rockfall.

For Spur 1 between Stn. 47 and Stn. 48, no sidecasting over steep bedrock located just downslope of centerline. For Spur 3, Partial Endhaul between Stn. 29 and Stn. 36 will result in a low potential for Fillslope failures. For Spur 3, Stn. 49 to Stn. 51, I recommend: Have a Professional Engineer (with experience in bedrock mechanics) assess this segment, or have a Qualified Professional on-site during road building, or end the road at Stn. 49 and helicopter yard the remaining area. For Spur 3, from Stn. 55 -10m to Stn. 62-5m, and from Stn. 63 to Stn. 64+5m, Full Bench Endhaul reduces the potential for Fillslope failures to low. For Spur 4, between Stn. 4 and Stn. 8, Full Bench Endhaul reduces the potential for Fillslope failures to low. For Spur 4a, between Stn. 0+016 and Stn. 0+030, Full Bench Endhaul reduces the potential for Fillslope failures to low.

Workers should be made aware of the potential for rockfall from within and upslope of many areas in both cutblocks.

If post-harvest windthrow occurs from FCA2 to FCA4, it would likely contribute to landslide initiation with a slide going directly into Stream 1. If it occurs from FC55 to FCE3, it would likely contribute to landslide initiation with a slide going directly into Stream 7. If Polygon 2 of Cutblock 1 Heli-Unit A is deleted from the proposed cutblock and windthrow occurs in this area, it would likely contribute to landslide initiation with a slide going directly into Stream 1.

LIMIT OF LIABILITY

This report provides an assessment of the potential for terrain instability following timber harvesting in accordance with the harvesting plans disclosed to Geoforestry Consulting.

The evaluation of the hazards contained within this report is based upon limited visual inspection of surface expression, road cuts, slope failures, gullies, and/or shallow soil pits in the proposed harvesting area along with our experience in similar terrain. It represents our professional opinion of the hazards in the area assessed. However, it is not intended to be a guarantee or warranty of the actual conditions or hazards existing in the area. No other surface or subsurface investigation was performed. Accordingly, assessment of the potential for deep-seated bedrock failures is beyond the scope of this report.

Predicting the location or distribution of underground water conduits, zones of soft bedrock, or developing failure plains is beyond the scope of this assessment if they are not expressed on the ground surface in terms of plant growth, surface water flow, or topographic features (draws, bowls, or channels). It is possible during heavy rainfall events that springs will develop in areas where there is no surface expression of existing springs. If a spring develops during a heavy rainstorm, it could trigger a landslide depending upon its location.

Geological conditions other than those indicated in this report may exist in the area assessed. If such conditions are observed, Geoforestry Consulting should be immediately contacted so that this report may be reviewed and amended accordingly.

This report pertains to the circumstances and conditions which apply to the specific harvesting plans disclosed and it can not be reasonably used for any purpose except in order to complete the specific harvesting plans disclosed and by government agencies regulating these specific harvesting activities. It is not reasonable for any third party to rely upon this or any of the observations, opinions or conclusions contained herein and any reliance on or decisions made by third parties based upon this report remains the responsibility of such third parties. Geoforestry Consulting accepts no responsibility for damages, if any, suffered by any third party as a result of any reliance upon this report.

Prepared by:

Jack Whittles, M.Sc., P.Geo.



APPENDIX A

(From Western Forest Products Terrain Risk Management Strategy 2012)

Table 1: Terrain Hazard Definitions

HIGH	>5 failures per 100 ha logged on steep terrain.
MODERATE	3-5 failures per 100 ha logged on steep terrain.
LOW	1-<3 failures per 100 ha logged on steep terrain.
VERY LOW	<1 failure per 100 ha logged on steep terrain.

- ❖ Failure = 0.05 ha event (smallest inventoried and smallest visible on airphotos)
- ❖ Steep terrain = Class IV/V; Es1/Es2; P/U; >60%
- ❖ Terrain to be evaluated with a 1 in 15 year storm event in mind (100 mm in 24 hrs)

Table 2: Landslide Size

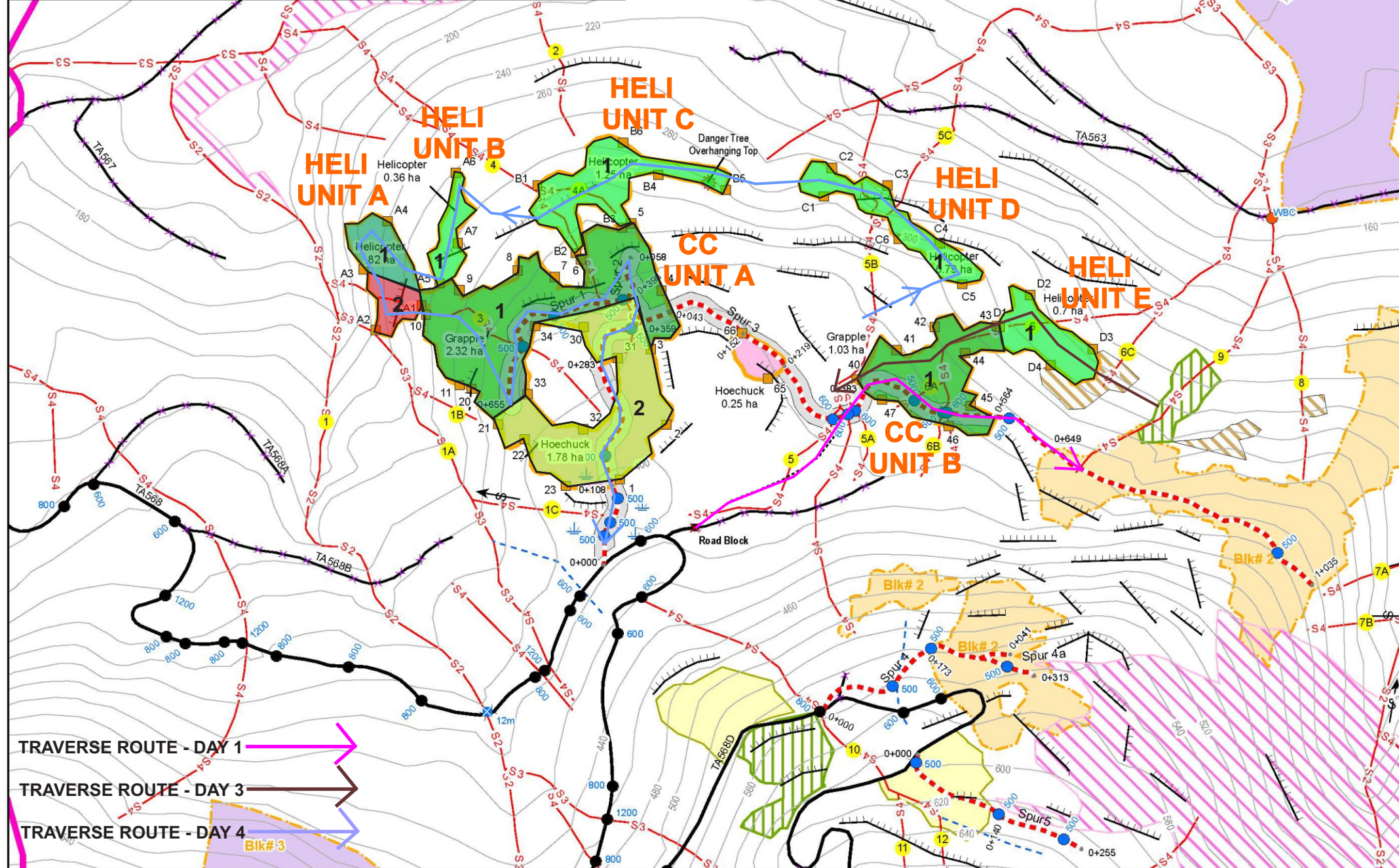
1	0.05 – 0.1 ha	Very Small
2	<0.1 – 0.25 ha	Small
3	<0.25 – 0.5 ha	Medium
4	<0.5 – 1 ha	Large
5	>1 ha	Very Large

Table 3: Consequence Definitions

<p style="text-align: center;">HIGH</p>	<ul style="list-style-type: none"> • Landslide would directly enter fish stream, fish lake, or marine waters, or water intake for domestic consumption, or jeopardizes lives of the public, or impact major public infrastructure, or other property owner. • Landslide would enter nonfish stream within 500 m of fish bearing waters.
<p style="text-align: center;">MODERATE</p>	<ul style="list-style-type: none"> • Landslide would enter nonfish stream more than 500 m from fish bearing waters, OR there is a runout slope of <20% for <100 m below landslide to fish bearing waters or intake to a public area, or other property owner.
<p style="text-align: center;">LOW</p>	<ul style="list-style-type: none"> • There is a runout slope of <20% for >200 m below landslide. Some suspended sediment and small woody debris may reach fish habitat/intake, or public area, or other property owner.
<p style="text-align: center;">VERY LOW</p>	<ul style="list-style-type: none"> • There is a runout slope of <20% for >200 m below landslide. Slide material is unlikely to reach stream/intake at time of event or transport to stream. A landslide would not be a public or safety concern; would not impact any infrastructure or other property owner.

Terrain Hazard Assessment- Cutblock Novafor1

Falling Type	Ha	Volume	HARVEST METHODS		VOLUME BY TIMBERMARK				PROFESSIONAL SEAL AND SIGNATURE	
			System	Ha	Volume	Timbermark	Type	Ha	Vol	
Handfelling	0.0	0	System	1.9	1254					
Mechanical	0	0	R/W							
TOTAL	0	0	Snorkel							
CRUISE VOL/HA (m3)			Hoe Chuck	2.0	1760					
FOPS VOL/HA (m3)			Grapple	3.4	2992					
HAUL DISTANCE			High Lead			TOTAL		0	0	
Shoemaker - off highway	44.5		Helicopter	3.9	2574	Field Work:				
Shoemaker - highway	57.3		Harvest Area	11.2	8580	Checked By:				
			R/W Removed			CONTRACTOR	PHASE	DATE		
			WTP							
			TLA			CONTRACTOR	PHASE	DATE		
			Gross Area	11.2	8580	CONTRACT SUPERVISOR				
			External R/W	1.1	726					



Alberni Valley
Community Forest

HARVEST INSTRUCTIONS MAP

Cutblock: 1
Forest Region: Coast
Forest District: South Island
Land District: Barclay
Cascades: West C

Scale: 1:5,000

Geographic Coordinates: Mapsheet: 92F024
Datum: NAD83
Lat: #° #' #"
Long: #° #' #"
Author: D. Brown
Map Date: September-18-15

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splitline
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Recce Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area

Harvest Methods:

- Grapple
- Hoe Forward
- Hoe Chuck
- Helicopter
- Highlead
- Right-of-Way
- Snorkel

Yarding Features:

- Backspar Tree
- Sensitive Soils
- Heli Drop Zone
- Steep Grade

Road Permit: Cutting Permit: MAP 1 of 1

DRAFT

Terrain Hazard Assessment- Cutblock Novafor 2

TRAVERSE ROUTE →

Felling Type	Ha	Volume	HARVEST METHODS		VOLUME BY TIMBERMARK				PROFESSIONAL SEAL AND SIGNATURE	
			System	Ha	Volume	Timbermark	Type	Ha	Vol	
Handfelling	0.0	0								
Mechanical	0	0	RW	1.6	1117					
TOTAL	0	0	Snorkel							
CRUISE VOL/HA (m3)			Hoe Chuck	1.1	1023					
FOPS VOL/HA (m3)			Grapple	4.7	4371					
HAUL DISTANCE			High Lead			TOTAL		0	0	
Shoemaker - off highway	56.2		Helicopter	4.0	2792					
Shoemaker - highway	59.0		Harvest Area	11.4	9303					
			RAW Removed	0.2		Checked By:				
			WTP			CONTRACTOR	PHRSE	DATE		
			TLA							
			Gross Area	11.6	9303	CONTRACTOR	PHRSE	DATE		
			External R/W	0.7	489					

Alberni Valley Community Forest

HARVEST INSTRUCTIONS MAP

Cutblock: 2

Forest Region: Coast
 Forest District: South Island
 Land District: Barclay
 Cascades: West C
 Tenure:
 Geographic Coordinates: Mapsheet: 92F024
 Lat: #####
 Long: #####
 Author: D. Brown
 Map Date: September-18-15

Scale: 1:5,000

Datum: NAD83

MAP LEGEND

Boundary Features:

- Falling Boundary
- Heli Splitline
- Adjacent Engineered Block
- Adjacent Proposed Block
- Legal Boundary
- Pruning
- Feathering

Road Features:

- Built Road
- Permanent Deactivated Rd
- Semi-Perm Deactivated Rd
- Recess Road
- Proposed Road
- Backspar Trail
- Safety Trail
- Bridge Existing / New / Out
- Road Station
- Existing Culvert
- New Culvert
- Culvert Out

Natural Features:

- Windthrow
- Snag
- Swamp
- Slide
- Rock Bluff
- Karst Feature
- Landslide Initiation Feature

Resource Features:

- Hazard
- Single Tree Retention
- Monumental Cedar
- Archaeological Feature/CMT
- Government Archaeological Site
- Quarry/Gravel Pit
- Bear Den/Bird Nest
- Helipad/Service Landing
- Index Contour
- Intermediate Contour

Riparian Features:

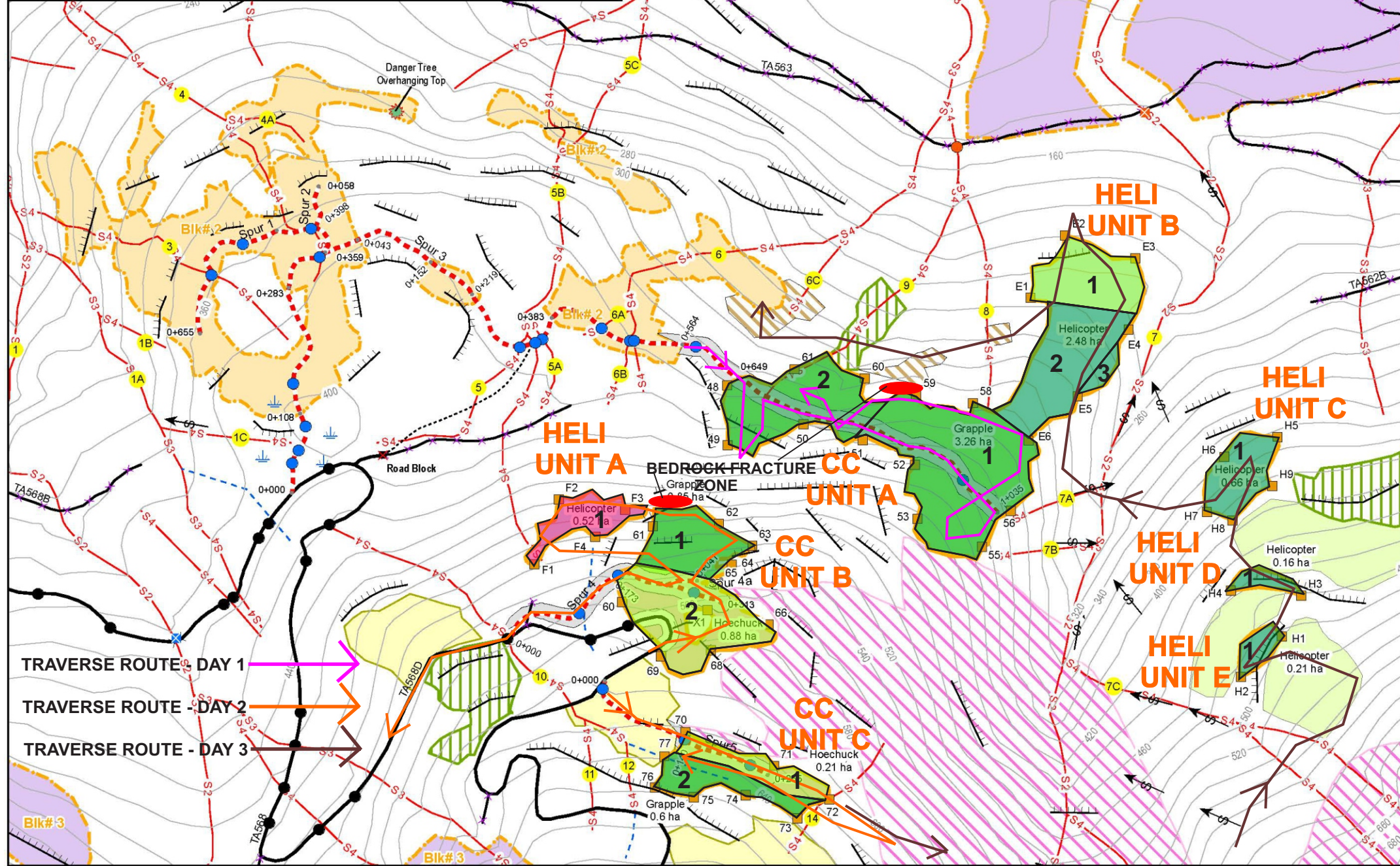
- Fish Streams (S1-S4)
- Non Fish streams (S5, S6)
- Unclassified Creek
- Non Classified Drainage
- Gully
- Fish Habitat Area
- Reach Break/Fish Barrier
- Stream ID

Lakes/Wetlands:

- Lakes Class 1, 2, 3, 4
- Wetlands Class 1, 2, 3, 4, 5

Sensitive and Designated Areas:

- Wildlife Tree Patch
- Timber Leave Area



TRAVERSE ROUTE - DAY 1

TRAVERSE ROUTE - DAY 2

TRAVERSE ROUTE - DAY 3

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Road Permit:

Cutting Permit:

MAP 1 of 1

DRAFT

2282 Seabank Road
Courtenay, B.C. V9J 1Y1
office (250) 339-2633
mobile (250) 703-6775
email: michaelcullen@shaw.ca

Alberni Valley Community Forest Corporation
7500 Airport Road
Port Alberni, BC V9Y 8Y9

November 17, 2015

Attention: Chris Law RPF

**Slope Stability Assessment
Select Sections of Block 2 Spur 3 Stn 0+777 to 0+815 – Sutton Pass BC**

Summary and Recommendations

As requested Michael Cullen Geotechnical Ltd (MCG) has completed an assessment of slope stability between Stn 0+777 to 0+815 on the proposed Spur 3 road where Geoforestry Consulting identified conditions that warranted review by a rock slope specialist.

The proposed alignment crosses a rockslide deposit located across the crest of stepped bedrock bluffs. It is understood that the road is short term (less than 5 years) and will be constructed using full bench endhaul. We recommend the following (also see Figure 1):

- Minimize the cut slope height by keeping the road width as narrow as possible (with due consideration for safety and water management on the steep grade).
 - Consider eliminating the ditch line and out slope the subgrade for drainage.
- Use a cut slope angle of 1.2V:1H (120%) in talus and rock slide material.
 - The cut slope will be up to 12m high depending upon bedrock encountered. The slope should be grade staked and a tote road constructed to reach the top of cut.
 - Remove all loose rock from the surface within 3m of the crest of the cut.
 - A rock hammer or blasting will be required to deal with larger boulders.
 - Use smaller rock to fill in voids encountered in the cut slope and road surface.
 - Where possible re-arrange and stack rocks to create interlocked mass.
 - Expect to endhaul between 30 and 40 m³/m of road.
- Use a cut slope angle of 4V:1H (400%) in bedrock.
 - There is insufficient information to determine where bedrock will be encountered in the cut, our best estimate at this time is 1 to 3m.
- There will be very high likelihood of raveling from the cut slope. There will be a high likelihood of small sloughs (less than 0.05ha) from the cut slope. Any failures that occur will run out onto the road prism and possibly onto the moderate slopes below. The safety hazard can be mitigated with the following strategies:
 - Inspect the cut slope daily during operations for signs of instability such as tension cracks, bulges, undercutting, and raveling.
 - Post signs to warn of rock fall and no stopping.
 - Maintain good site lines to reduce hazard of vehicle encounter with fallen rock.
 - Apply conservative rainfall shutdown criteria (75% of normal for area)

- Deactivate the road to prevent access once harvesting is completed.
- Contact MCG or other qualified professional if conditions are other than expected or if there are further concerns over rock stability.

MCG considers that implementing of the above strategies will reduce the safety risk to levels typically accepted in the forest industry.

Geoforestry Consulting have identified a rock fall hazard affecting right of way clearing and falling. MCG concurs with this assessment and recommends that no work or travel be completed on the road segment assessed while falling is occurring upslope.

Introduction

As requested Michael Cullen Geotechnical Ltd (MCG) has completed an assessment of slope stability between Stn. 0+777 to Sta 0+815 of the proposed Spur 3 in Block 2 near Sutton Pass. It is understood that the road is short term (less than 5 years) and will be constructed using full bench endhaul. A Terrain Stability Assessment Report completed by Geoforestry Consulting recommended that a Professional Engineer with experience in bedrock mechanics assess the proposed road section.

The purpose of the work completed by MCG was to assess the stability of the slopes through the subject road section, and provide recommendations for road construction to mitigate safety concerns.

Michael Cullen P.Eng completed an inspection of the road section on November 9 2015 accompanied by Chris Law and Jim Sears. The site inspection included the proposed road centerline alignment as well as the slopes above and below the subject sections.

Observations and Discussion

The proposed road alignment from 0+777 to 0+815 crosses a rock slide deposit that is perched on top of stepped bedrock bluffs. The rock slide initiated from bluffs located approximately 60m upslope of the proposed centerline. There is evidence that the slide carried on past the proposed centerline depositing on the moderate to gentle slopes below the bluff.

The rock slide surface is at an angle of between 70% and 80%, locally the slope increases up to 100% especially just beyond the proposed road centerline at the edge of the rock bluff where progressive ravelling has occurred. The thickness of the slide deposit is estimated at 3 to 5m. The material below the rock slide deposit consist of older talus (colluvium) deposits over bedrock as indicated on Figure 1. The slide deposit consists of sand to boulder size material. Boulders up to 3m diameter were noted.

Based on observations of tree growth the rock slide is estimated at about 300 years old and was possibly triggered the last Cascadia subduction earthquake (which triggered many rock slides in

the area). It appears that there has been ongoing rock fall since this main event as there are boulders on the slope that are clearly less than 300 years old, see Photo 1. Detached rock blocks are present at the head scarp, see Photo 2; the potential for further rock falls is considered high.

More recent rock fall and loose rock blocks sitting on the slope surface will be significantly less stable than the underlying blocks that have undergone some consolidation and void filling. Close to surface the slide deposit is expected to contain voids which may affect cut slope and road prism stability.

The rockslide and underlying talus material has an estimated cohesion of 0 kPa and friction angle of 50 to 55 degrees (excluding loose rocks at surface). The trees growing on the slope are mostly immature and offer little root strength to the slope. Under dry conditions it should be possible to excavate a short term stable slope with an angle up to 120% in the rock slide and talus material. Under saturated conditions, and with time, the stability of the slope will decrease and failures will occur. We consider that the likelihood of ravelling is very high and the likelihood of sloughs (less than 0.05ha) is high, see Appendix 2 for definitions. The volume of any failures is limited by the presence of the rock bluffs above the road alignment and by the height of road cut within the slide and talus deposit. As noted by Geoforestry any landslide that does occur is expected to travel less than 150m beyond the road.


The bedrock exposed on the bluff just below the road alignment (and expected to be encountered in the cut slope), is a slightly altered basalt. A cap rock layer typically 0.5 to 2m thick blankets much of the rock surface. The cap rock consists of more altered and fractured rock. The rock has a Geologic strength index (GSI) of 45 to 65, fracture frequency of 8 to 12, and ISRM hardness value of R3 to R4. The lower values are associated with the cap rock and fault zones. Geotechnical mapping identified five geologic discontinuity sets. Descriptions of these fractures are given in Table 1. Geotechnical analysis was completed using a stereonet, see Appendix 1, the results are as follows:

- There is kinematic potential for planar failures on J1 and J2 if the rock slope is steeper than 76°.
- There is kinematic potential for small wedge failures on J3- JI if the rock cut slope is steeper than 78°.

Closure

We trust that this report satisfies your present requirements. Should you have any questions or comments, please do not hesitate to contact us. The opportunity to be of service to you is appreciated.

Sincerely
 Michael Cullen Geotechnical Ltd.
 per

Michael Cullen 

Michael Cullen, P.Eng.

Table 1: Discontinuity Orientation and Condition

FEATURE	DIP (deg.)	DIP DIR. (deg.)	SPACING (m)	CONTINUITY (m)	SURFACE CONDITON	COMMENTS
Joint 1	80	010	<1.0	>10m	rough, undulating, tight staining only	Parallel to bluff, controls face of bluff.
Joint 2	76	045	<1.0	>10m	rough, sl. undulating, tight staining only	Sub-parallel to bluff, controls face of bluff with J1.
Joint 3	80	095	<1.0	>10	Sl. rough, sl. planar	Perpendicular to bluff. Creates release surfaces for slabs on J1 and J2. Occasionally faulted with zones to 1m. Contributing factor to rock slide
Joint 4	60	210	<1.0	<5	rough, planar tight staining only	Dips into slope. May result in minor overhangs
Joint 5	20	055	2	<10	rough, Sl. planar tight staining only	Dips out of slope. Sliding not expected due to shallow angle
	40	040		<10		observed at headscarp of slide not at road

Dip angles are typically +/- 5 degrees. Dip direction is typically +/- 10 degrees.

Clip 1: Proposed design cross sections 0+777 to 0+815

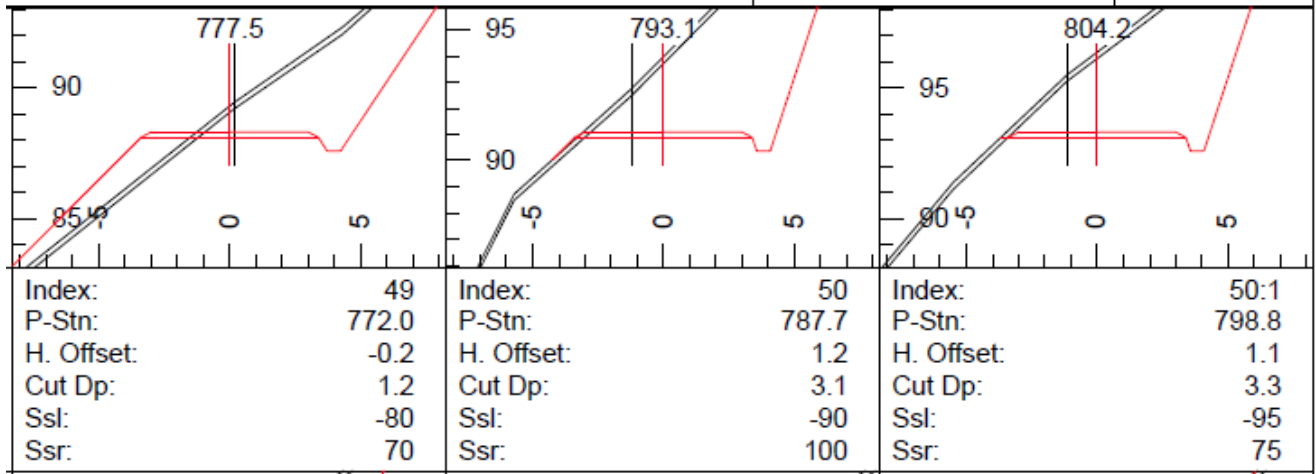


Figure 1: Recommended Construction

Yellow shade is estimated rock slide material, and orange shade is pre-slide talus deposit

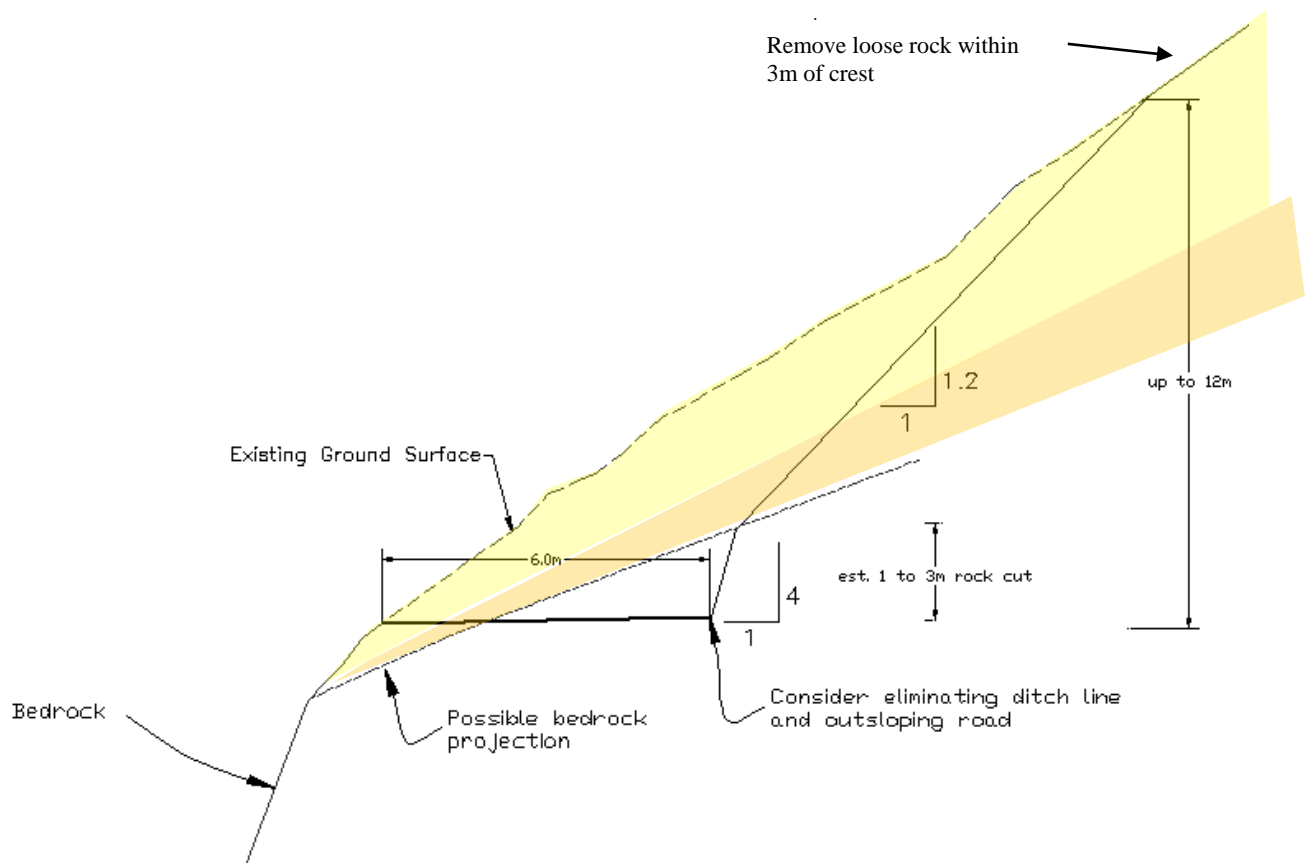


Photo 1: Recent Rock Fall Boulder on surface of older slide



Photo 2: Detached Blocks at Headscarp of Slide Near FC 50-5 (flag)



Limitations

Michael Cullen Geotechnical Ltd (MCG) prepared this report for the use of AVCF (the Client). This report applies only to the subject road section. MCG does not accept liability for any damages suffered where a third party uses this report, or where it is used for purposes other than intended.

This written report is of a summary nature and is not intended to stand alone without reference to the instructions given to us by the Client, communications between MCG and the Client, and to any other reports, writings, proposals, related to the project, which in aggregate form the whole report. In order to properly understand the recommendations and opinions expressed herein, reference must be made to the whole of the report.

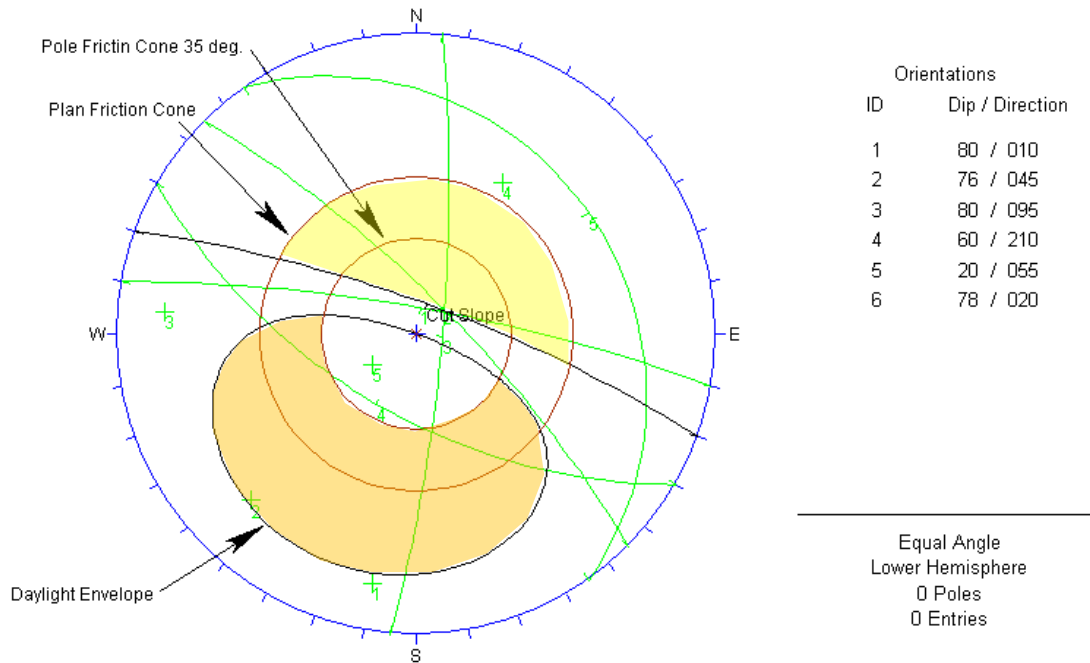
This report has been prepared in accordance with standard geotechnical engineering practices for the resource sector using the degree of skill and care normally exercised for such work within the jurisdiction of the work. No other warrantee is inferred or implied.

The conclusions and recommendations in this report are based on limited surface observations and measurements. Geological and hydrological conditions can vary significantly over a very short distance, or depth, and may also change with time. The field investigation cannot practically cover the entire project area and will only identify conditions at the point and time of observation. Identification of sub surface conditions is judgemental in nature and even comprehensive sampling and testing programs may fail to locate some conditions. All investigations involve an inherent risk that some conditions will not be detected and that actual conditions may vary significantly between the points investigated; all persons making use of this report must be aware of, and accept, this risk. Any variation in the conditions presented in this report which are discovered at a later time should be brought to the attention of MCG in order to evaluate the impact on the conclusions and recommendations presented in this report.

The conclusions and recommendations in this report are based on information made available at the time the report was prepared. We have relied in good faith upon representations, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the Report as a result of misstatements, errors, omissions, or misrepresentations, of persons providing information. Any changes to information used by us for completion of this report should be brought to the attention of MCG in order to evaluate the impact of the changes on the conclusions and recommendations presented in this report.

The information, interpretations and conclusions in the Report are based on our interpretation of conditions revealed through limited assessment conducted within a defined scope of services. MCG does not accept liability for independent conclusions, interpretations, interpolations and/or decisions of the Client, or others who may come into possession of the Report, or any part thereof, which may be based on information contained in the Report.

Appendix 1 Stereonets showing discontinuities and stability analysis



Appendix 2: Qualitative Definitions of Likelihood

Likelihood is a qualitative description of the probability or frequency of a hazardous event occurring.

Likelihood of an event over project life of 5 years

Likelihood (probability) of a Hazardous event	Approximate Annual Probability of an event (%)	Approximate Probability of an event in 5 years (%)
Very Low An event is essentially inconceivable.	Less than 0.004 (less than 1:2500)	Less than 0.2
Low An event is not expected	0.04 to 0.2 (1:2500 to 1:500)	0.2 to 1.0
Moderate An event is not expected under normal conditions but may occur under adverse conditions.	0.2 to 1 (1:500 to 1:100)	1.0 to 4.9
High An event will probably occur.	1 to 5 (1:100 to 1:20)	4.9 to 22
Very High Event(s) are expected to occur.	Greater than 5 (greater than 1:20)	Greater than 22

modified from "Landslide Risk Case Studies in Forest Development and Planning" Wise, Moore, VanDine 2004, BC Ministry of Forests Land Management Handbook 56