

Q:\Vancouver\Engineering\134\ProjectParks Canada Historical Projects\GIS\Figures\JNP.mxd modified 5/22/2013 by anamaria.firbank

LEGEND

- X Disposal_Sites
- ★ Priority Locations
- National Parks
- freeway
- highway
- arterial
- collector

NOTES
Base data source: Imagery provided by Google Earth Pro

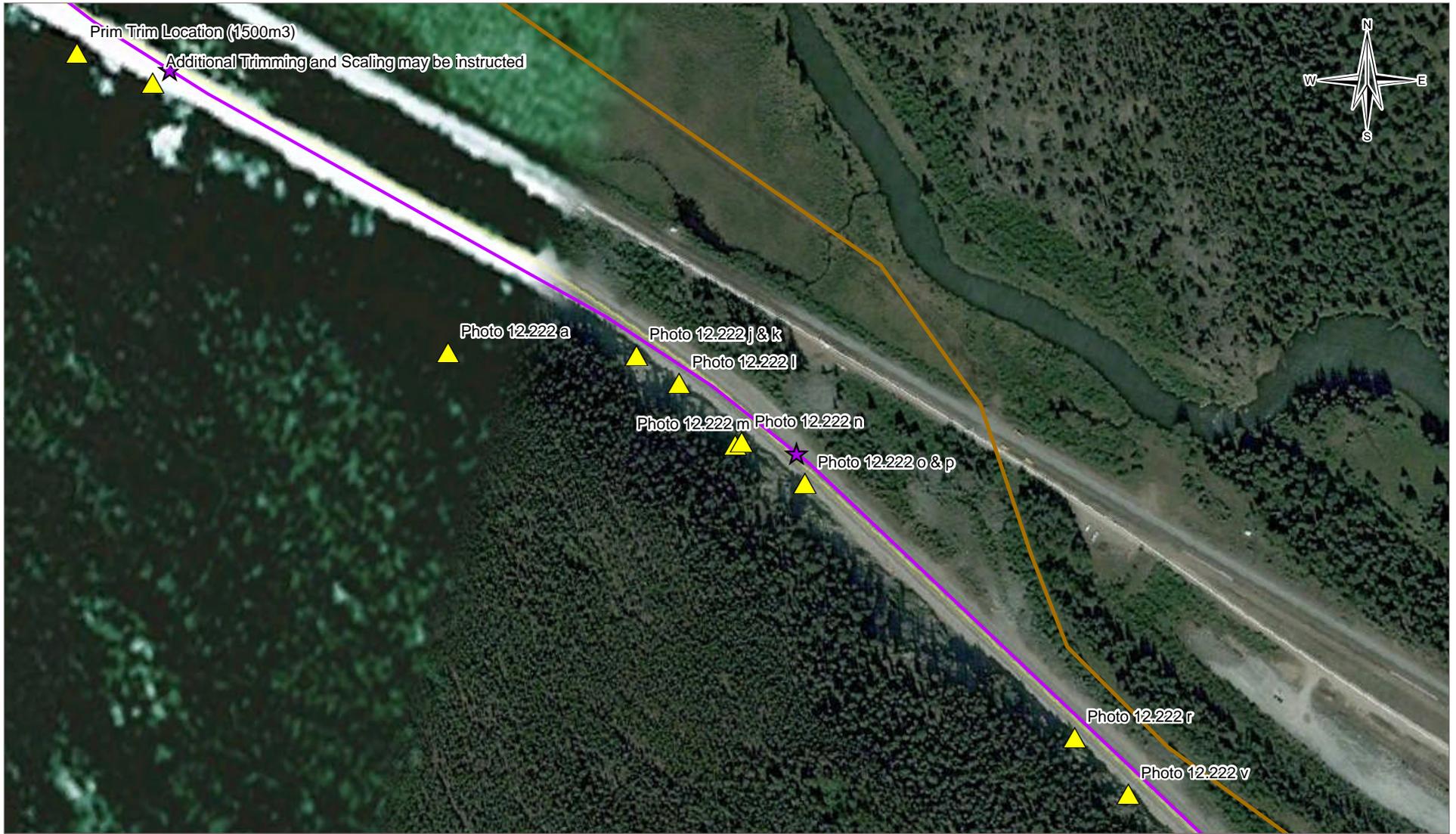
STATUS
Issued for Review

PRIORITIZED ROCK SLOPE STABILIZATION WORK

Jasper National Park

PROJECTION UTM Zone 11		DATUM NAD83		CLIENT Parks Canada	
Scale: 1:1,000,000 Kilometres					
FILE NO. JNP.mxd					
PROJECT NO. V13403021-01		DWN AMF	CKD AN	APVD CH	REV 0
OFFICE EBA-VANC		DATE May 9, 2013			
Figure 1					

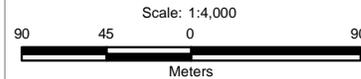




LEGEND

- ▲ Photo Locations
- ▲ Priority Locations
- Expressway / Highway
- TMX Pipeline
- Arterial
- Rapid Transit

NOTES
Base data source: Google Pro Satellite Image



PROJECTION
UTM Zone 10

DATUM
NAD83

FILE NO.
JNP - Figure 2_v2.mxd

CLIENT
 Parks Canada / Parcs Canada

eba
A TETRA TECH COMPANY

STATUS
ISSUED FOR REVIEW

PRIORITIZED ROCK SLOPE STABILIZATION WORK

PIPELINE AND TRIM BLAST LOCATIONS AT PRIORITY LOCATION KM 12.222

PROJECT NO. V13403021-01	DWN AMF	CKD SC	APVD CH	REV 0
OFFICE EBA-VANC	DATE May 22, 2013			

Figure 2

Summary of Work by Rock Slope

Park	Slope Reference	Type of Work	Estimated Quantity
Jasper National Park		Mobilization/ Demobilization	
Jasper National Park	km 7.673 to 8.173	Scaling (hrs)	50
		Trim blasting (cu m)	400
		Rock bolting (m)	32
		Common excavation (cu m)	950
Jasper National Park	km 9.619 to 10.149	Scaling (hrs)	120
		Trim blasting (cu m)	325
		Rock bolting (m)	25
		Common excavation (cu m)	550
		Remove and replace guardrail	40
		Drains	27
Jasper National Park	km 11.872 to 12.125	Scaling (hrs)	250
		Trim blasting (cu m)	2000
		Rock bolting (m)	40
		Common excavation (cu m)	4000
Jasper National Park	km 12.222 to 12.924	Scaling (hrs)	500
		Trim blasting (cu m)	1,500
		Rock bolting (m)	100
		Common excavation (cu m)	3000
		Remove and replace guardrail	200

Appendix A Photographs of Work Areas

Note: Within Jasper National Park, all kilometre stations are measured in an easterly direction from the Jasper Park West Gate.

Jasper National Park - Main Work Items

Jasper National Park Km 7.673 to 8.173

Relevant Photos: 7.673a; 7.673b; 7.673c; 7.673d; 7.673e; 7.673bf; 7.673b; 7.673h; 7.673i; 7.673k; 7.673l; 7.673m; 7.673n; 7.673o

Jasper National Park Km 9.619 to 10.149

Relevant Photos: 9.619a; 9.619b; 9.619c; 9.619d; 9.619f; 9.619g; 9.619h; 9.619j; 9.619m

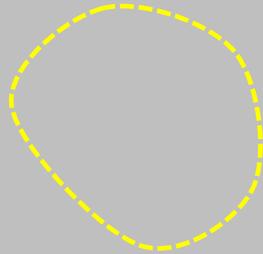
Jasper National Park Km 11.872 to 12.125

Relevant Photos: 11.872a; 11.872b; 11.872c; 11.872f; 11.872g; 11.872h; 11.872(additional 1); 11.872(additional 2)

Jasper National Park Km 12.222 to 12.924

Relevant Photos: 12.222a; 12.222b; 12.222c; 12.222d; 12.222i; 12.222j; 12.222k12.222l; 12.222m; 12.222n; 12.222o; 12.222p; 12.222q; 12.222r; 12.222u; 12.222v; 12.222w; 12.222x; 12.222y

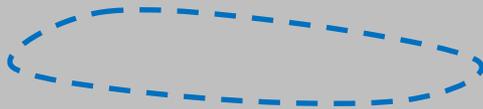
Legend



Approximate area of scaling with total number of man hours for the section



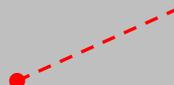
Approximate area of trim blasting



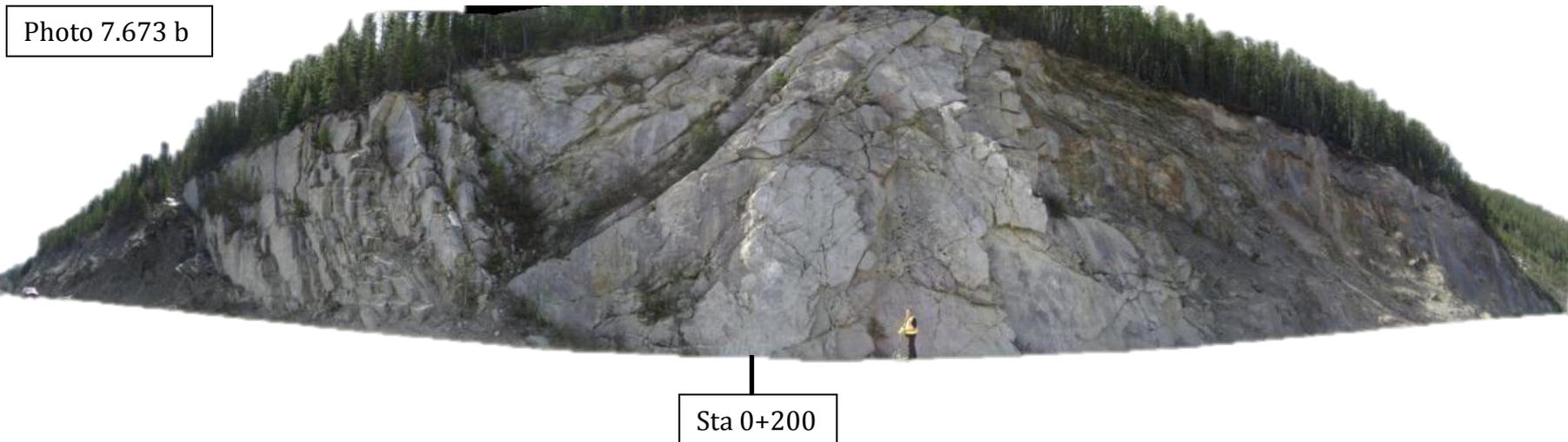
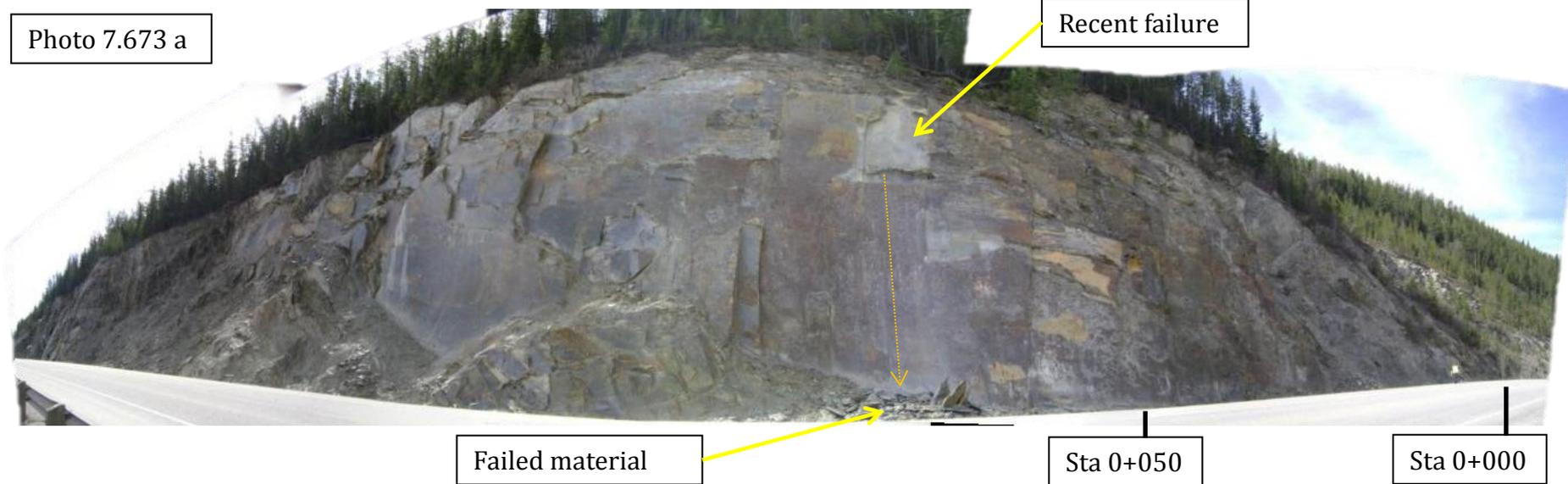
Approximate area of common excavation

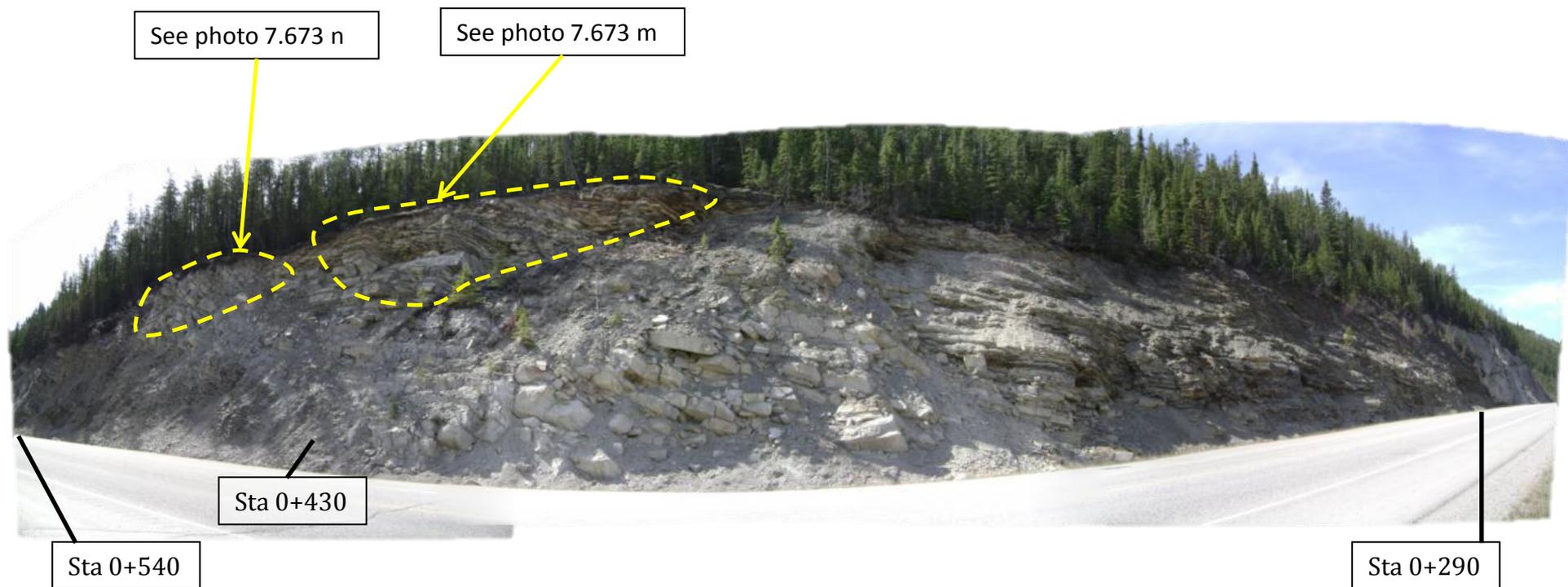


Approximate chainage from start of slope



Approximate location and orientation of rock bolts / dowels





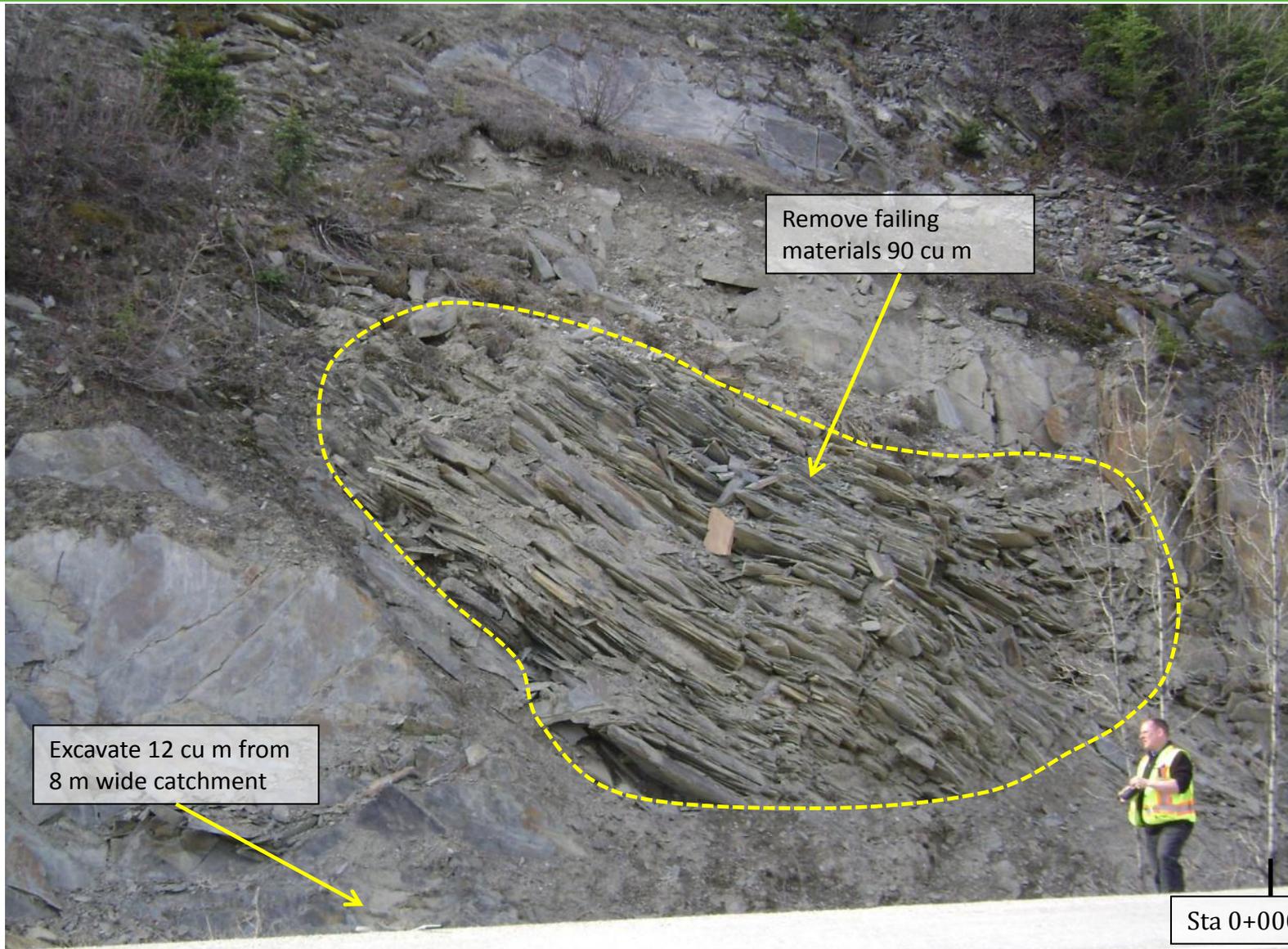
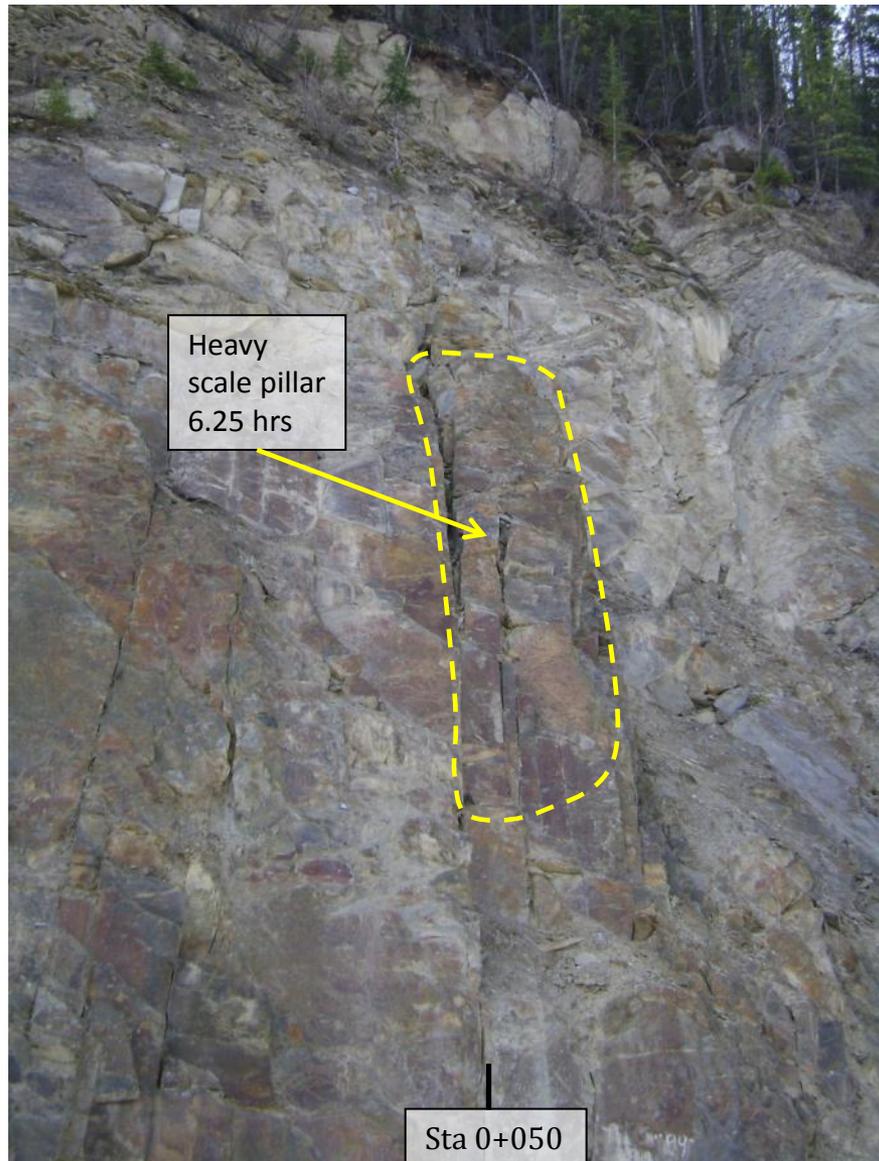
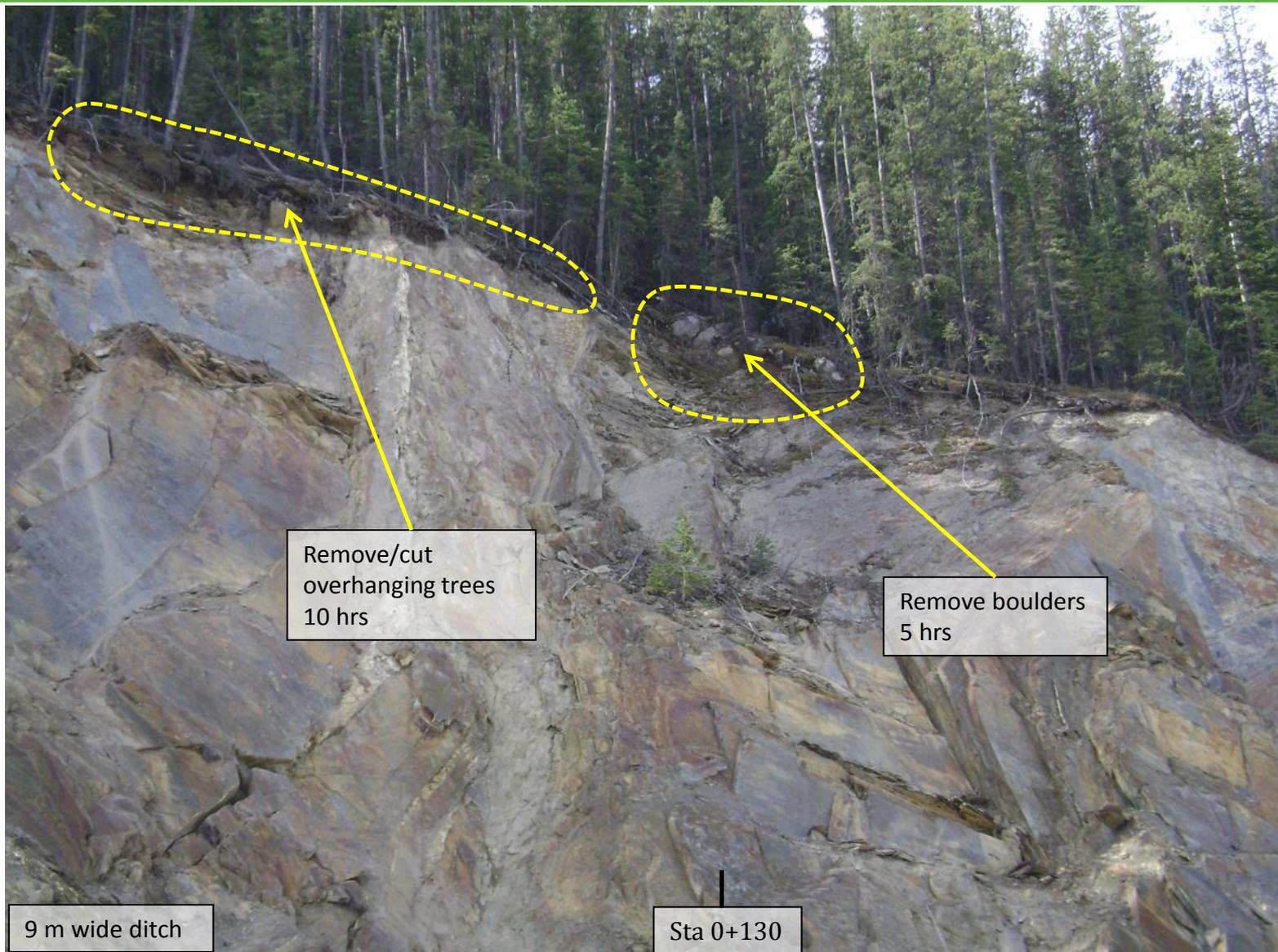


Photo Taken: May 13th, 2011



Heavy
scale pillar
6.25 hrs

Sta 0+050

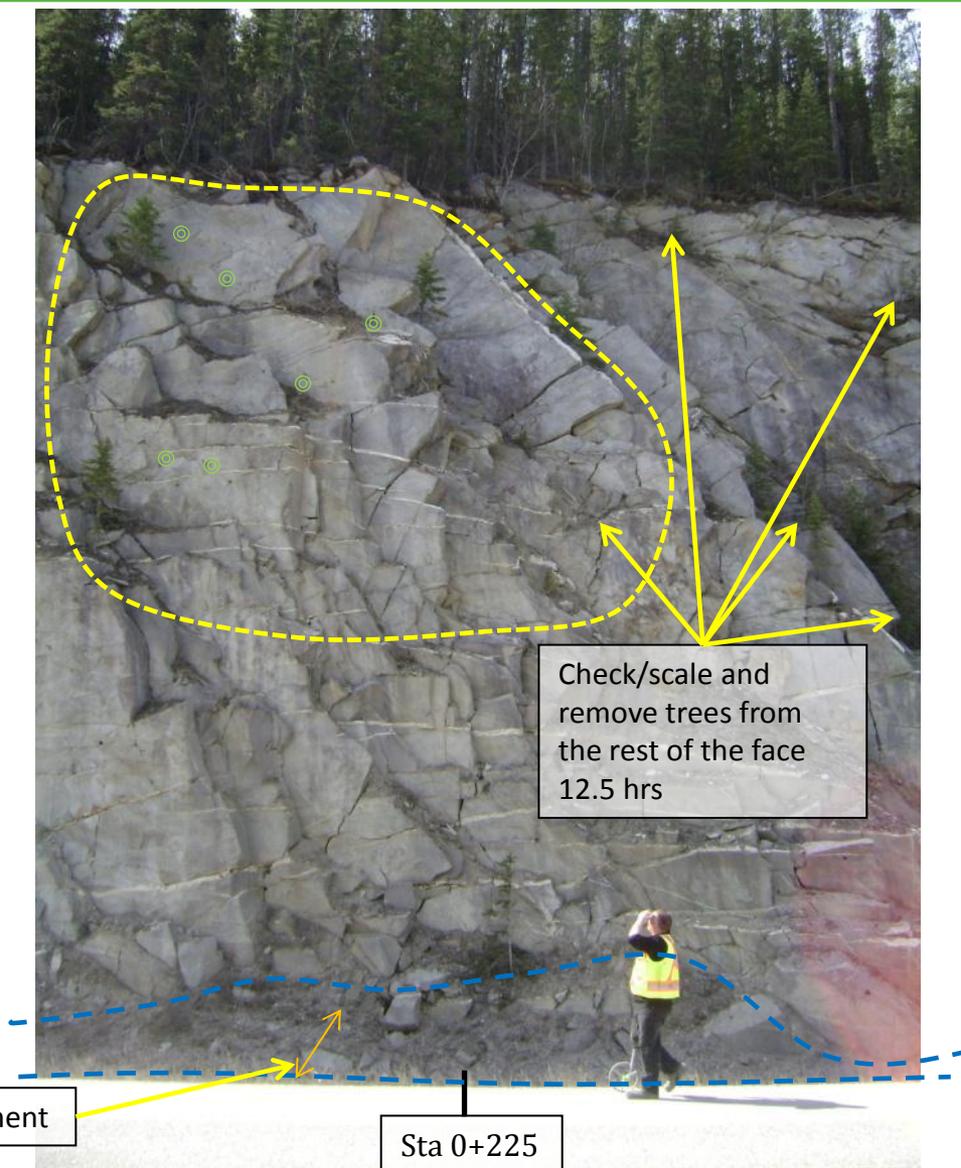


Remove/cut
overhanging trees
10 hrs

Remove boulders
5 hrs

9 m wide ditch

Sta 0+130



Check/scale and
remove trees from
the rest of the face
12.5 hrs

3 m wide catchment

Sta 0+225

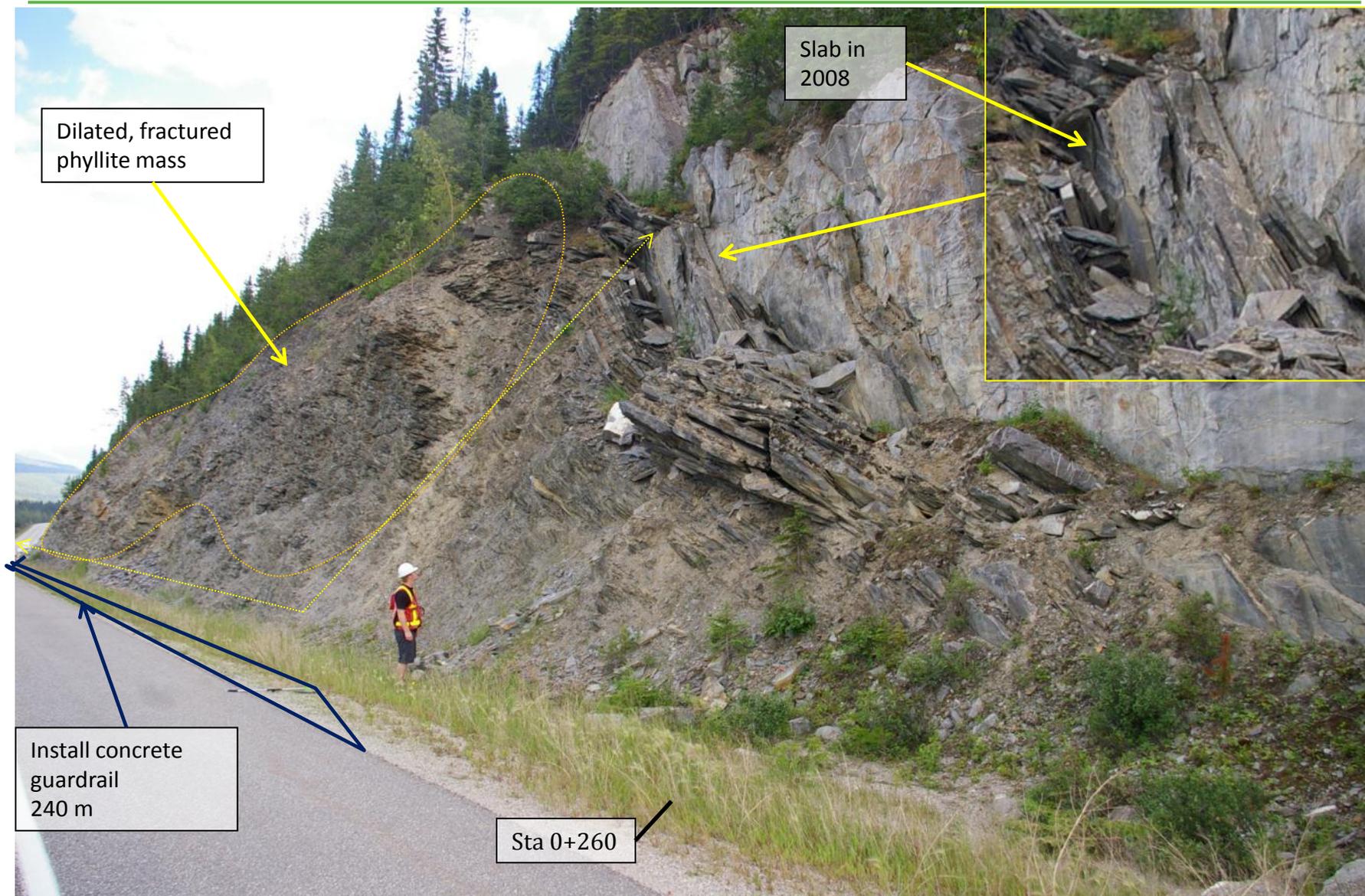
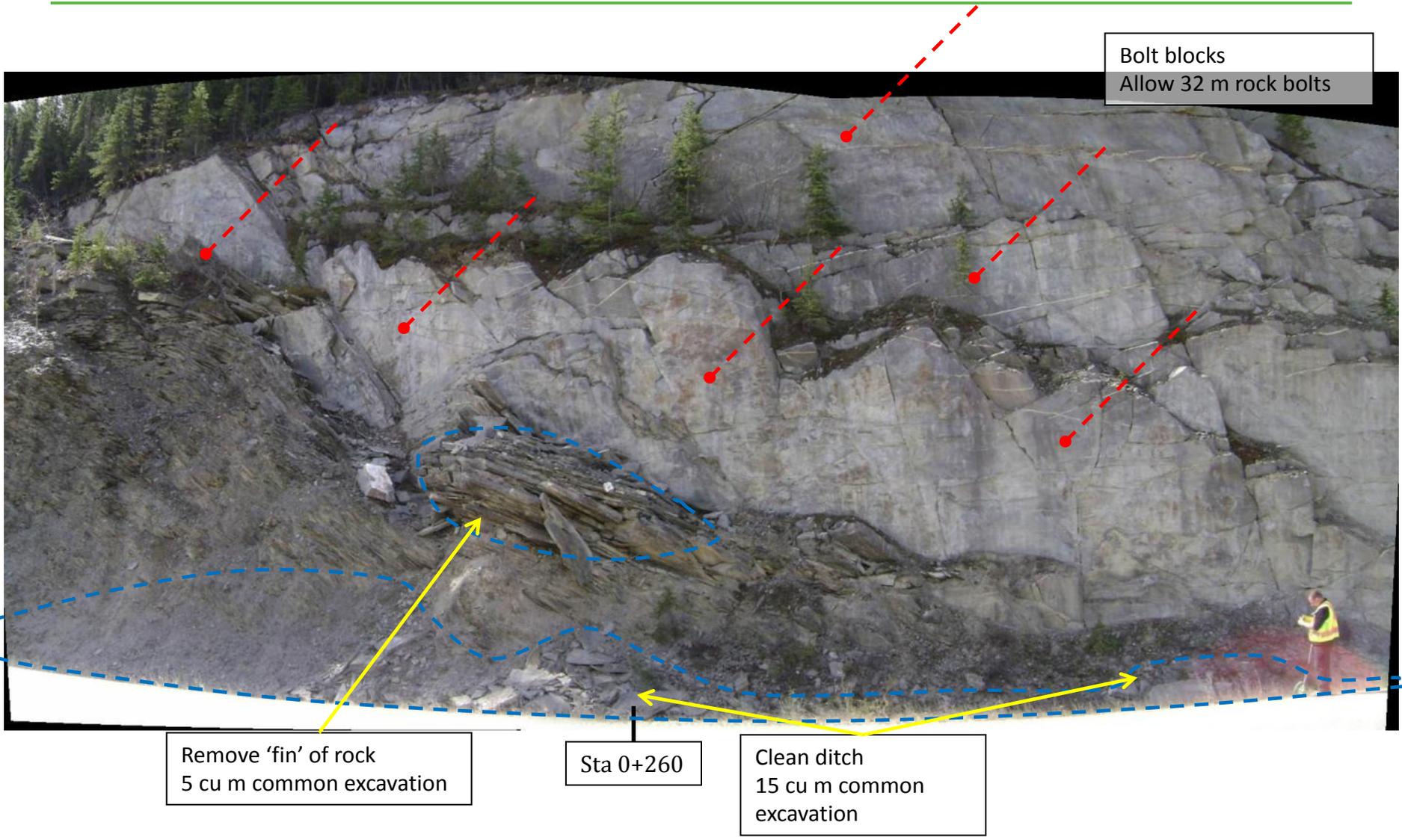


Photo Taken: July 28, 2008



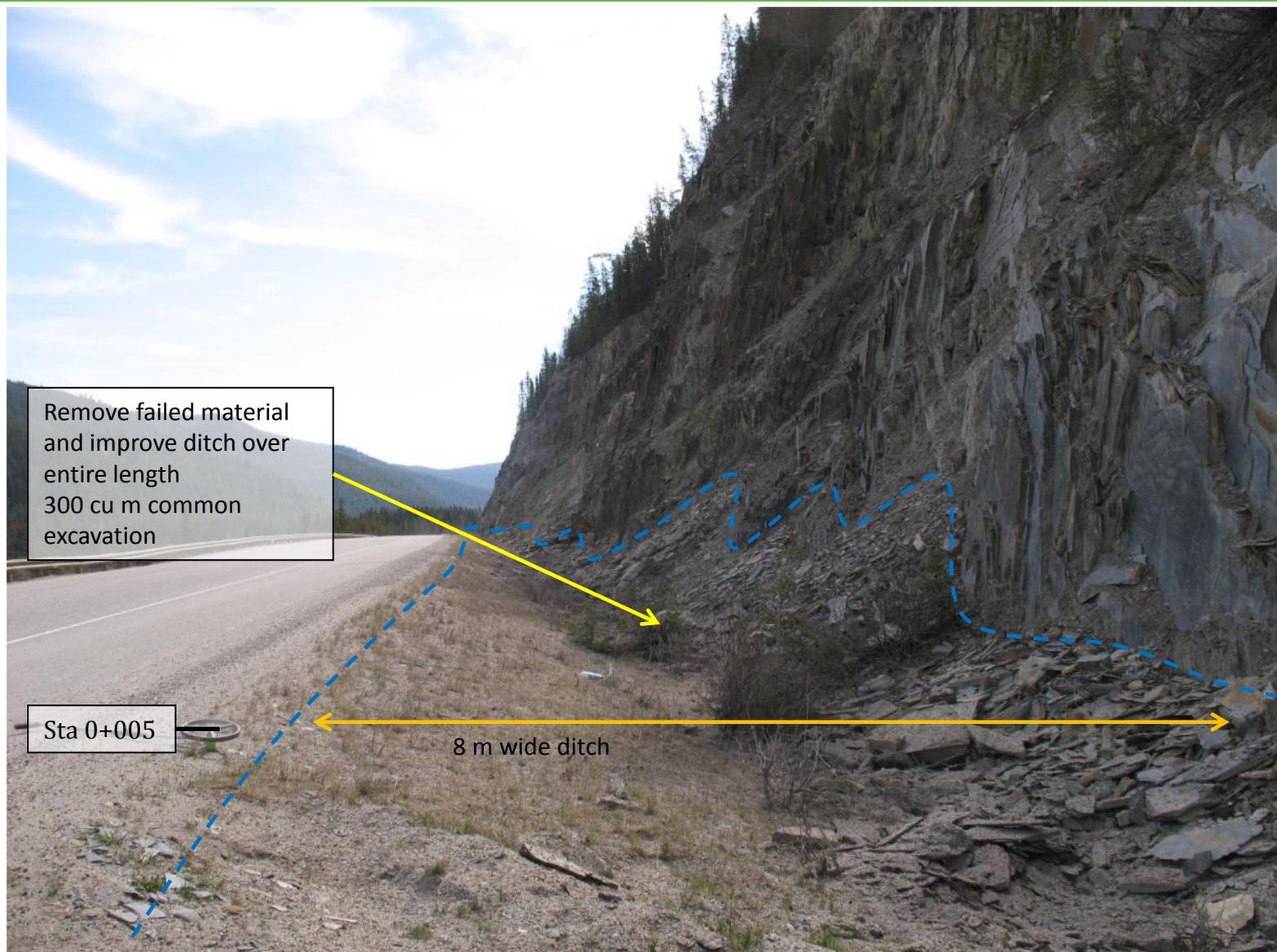


Photo Taken: May 13th, 2011

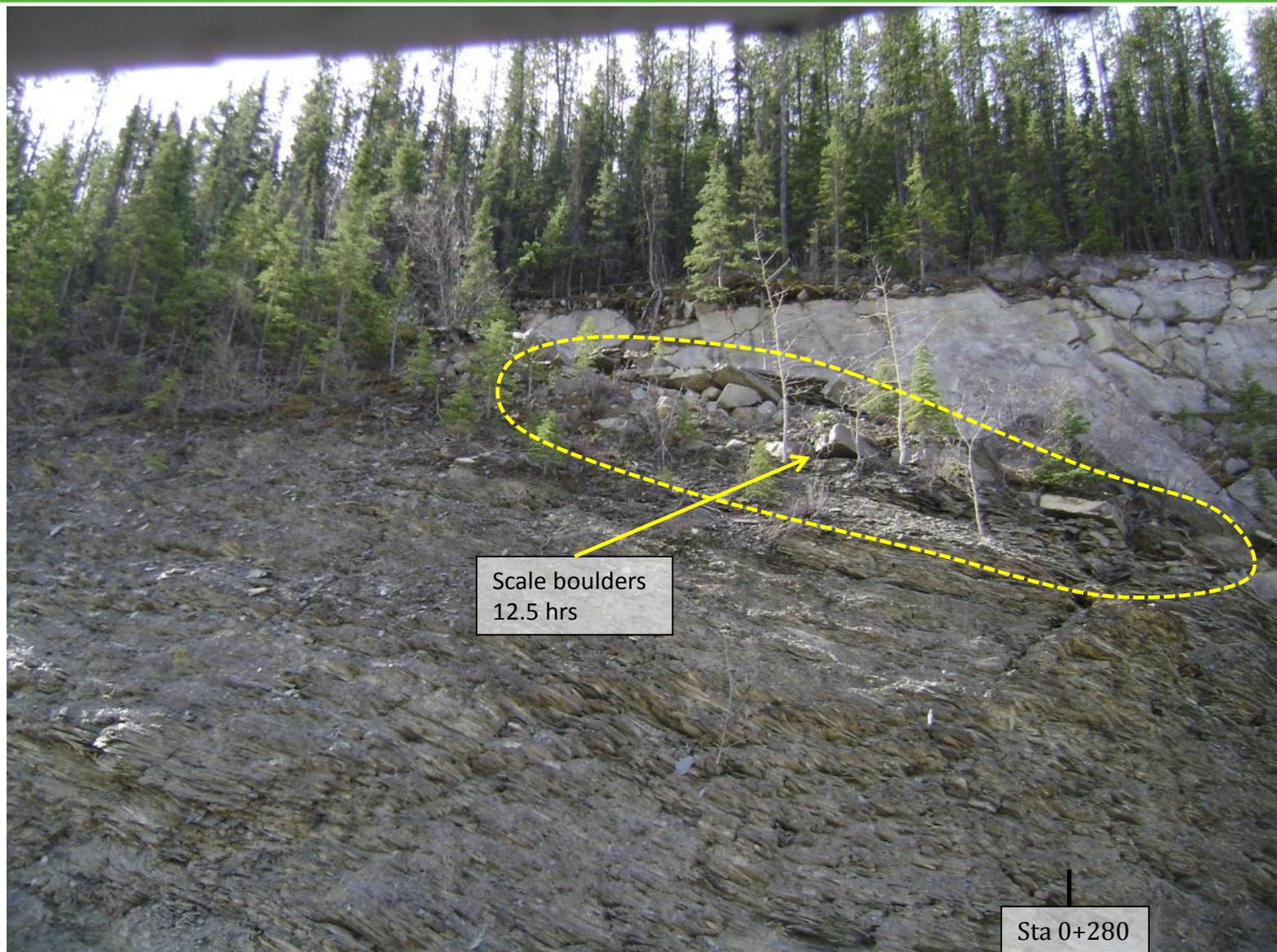
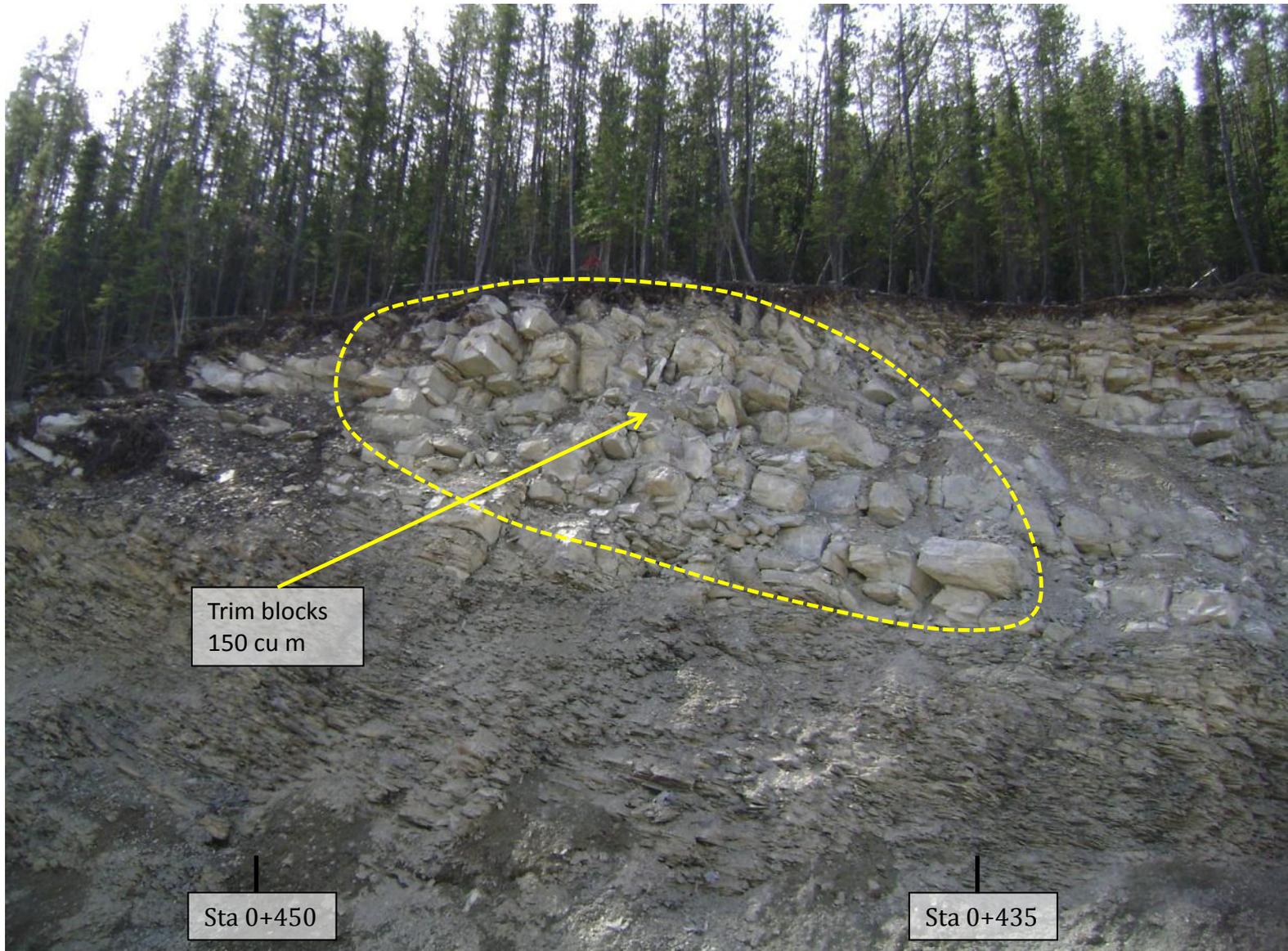




Photo Taken: May 13th, 2011



Trim blocks
150 cu m

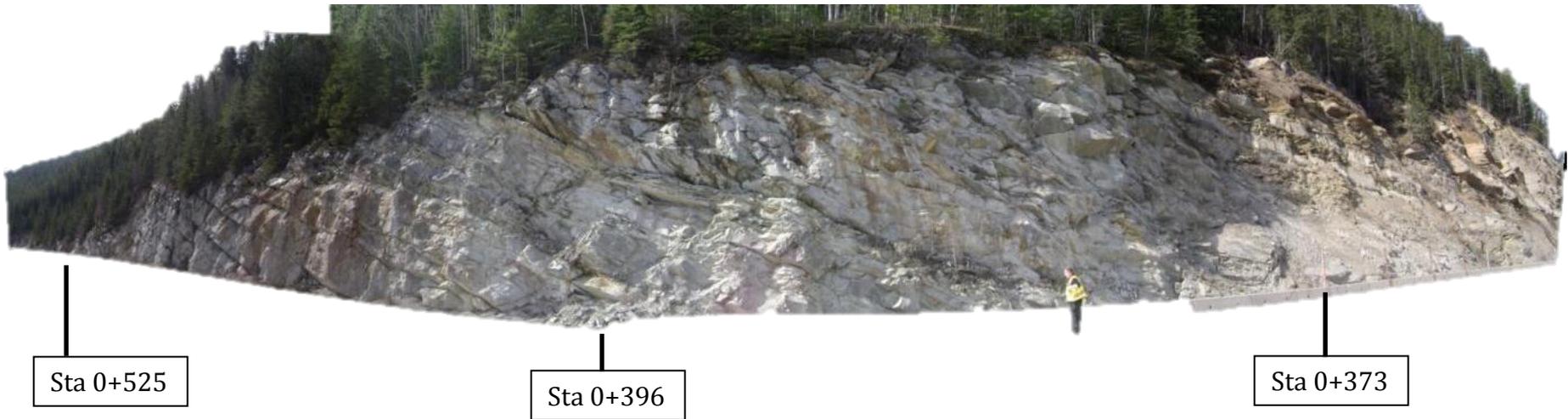
Sta 0+450

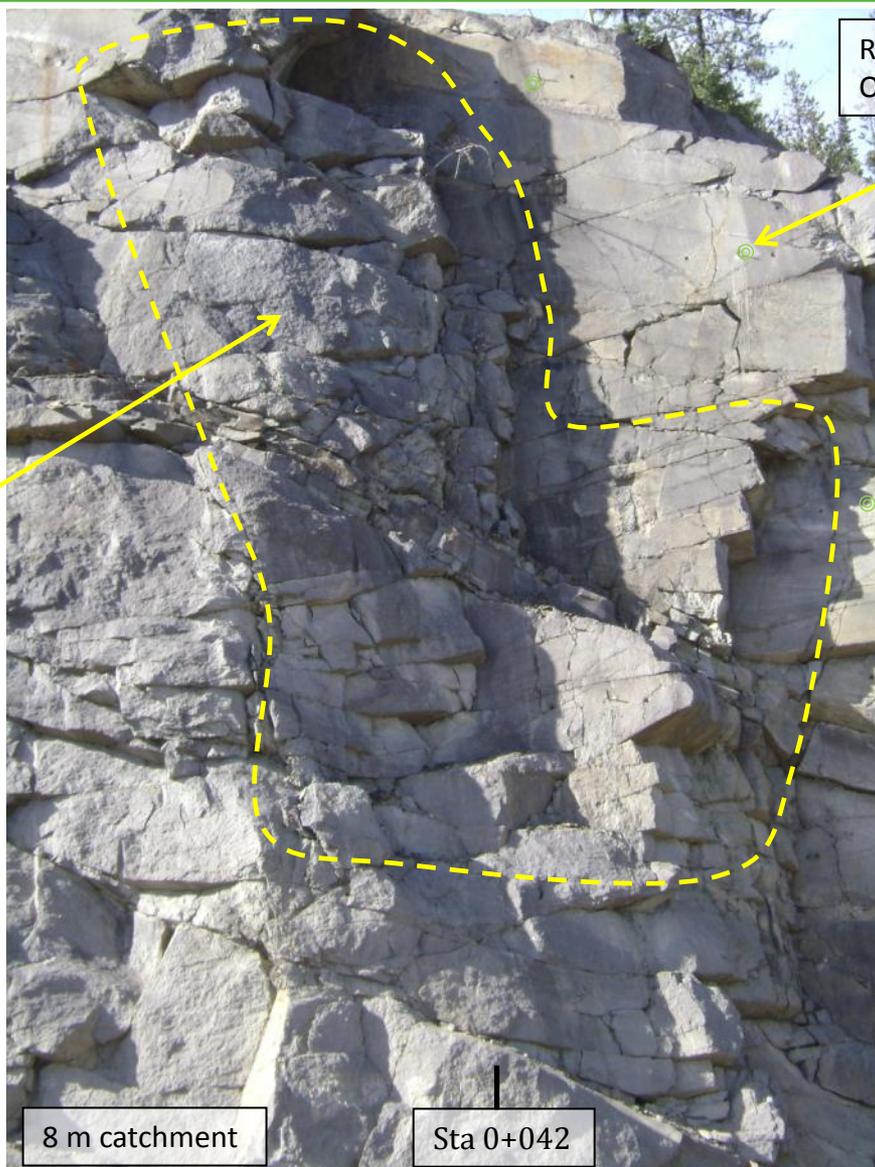
Sta 0+435



See photo 9.619f







Rock bolts in face
Others probably present

Localized scaling of
slab fractured rock
6.25 hrs

8 m catchment

Sta 0+042

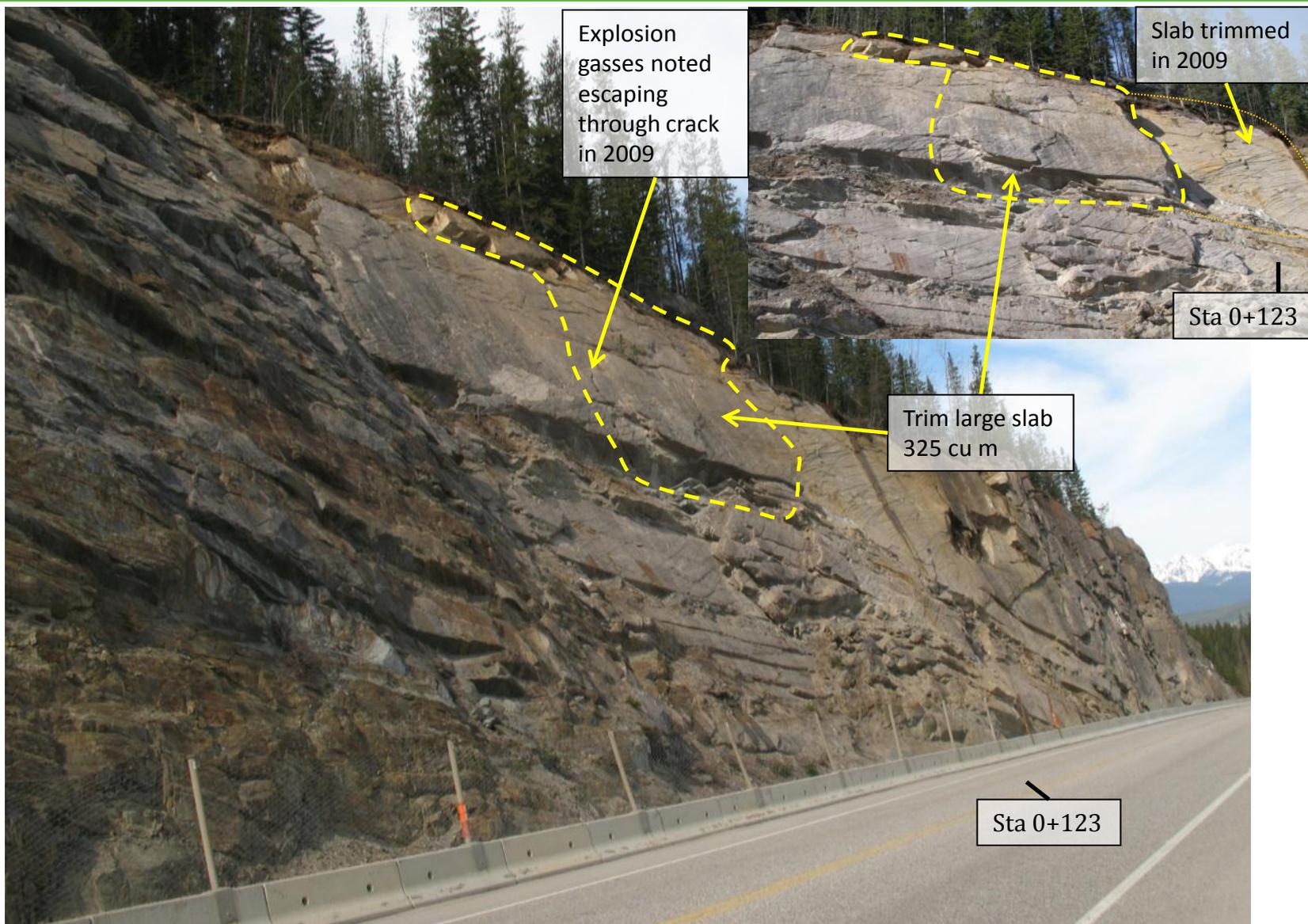
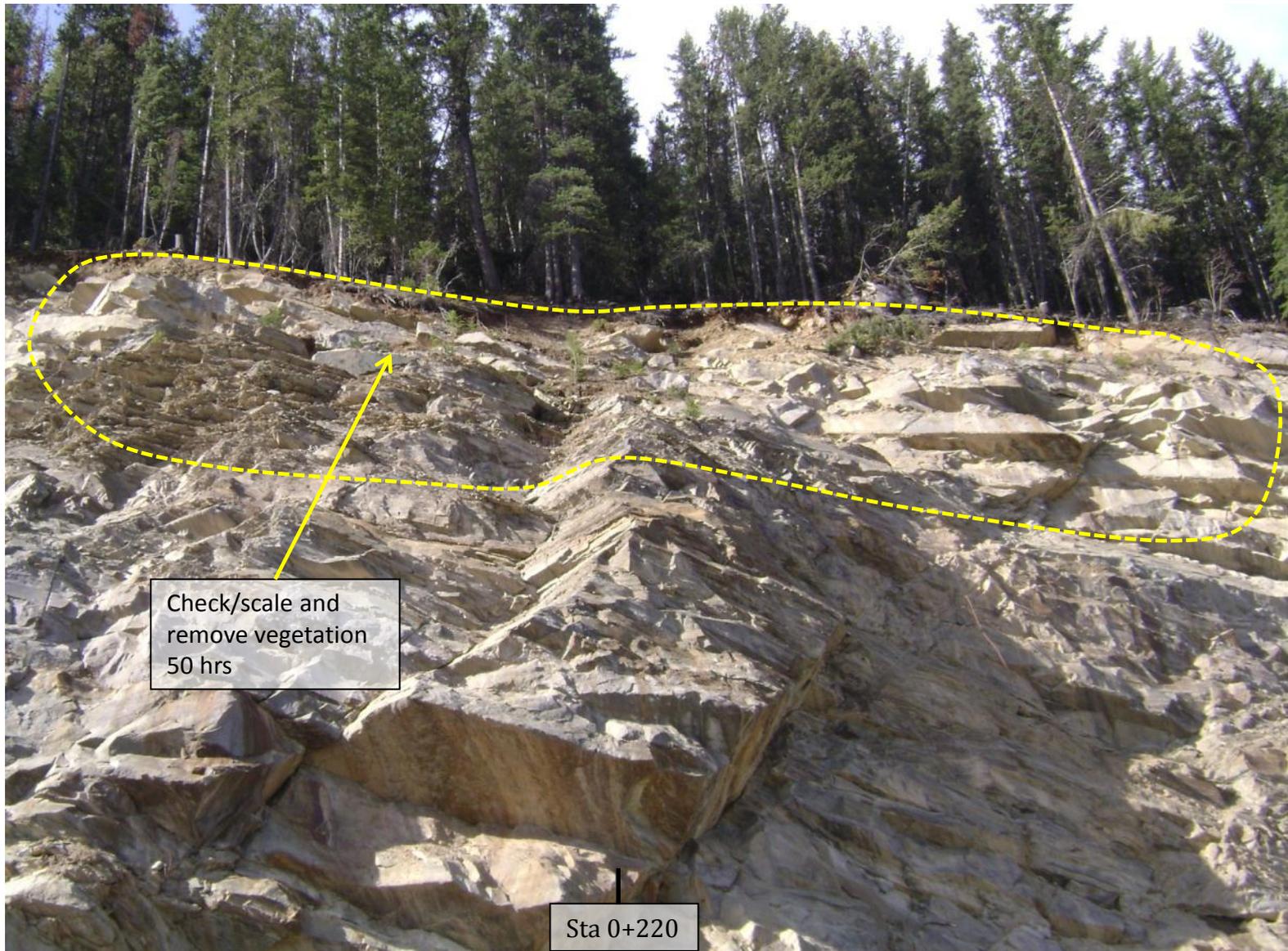


Photo Taken: May 13th, 2011



Check/scale and
remove vegetation
50 hrs

Sta 0+220

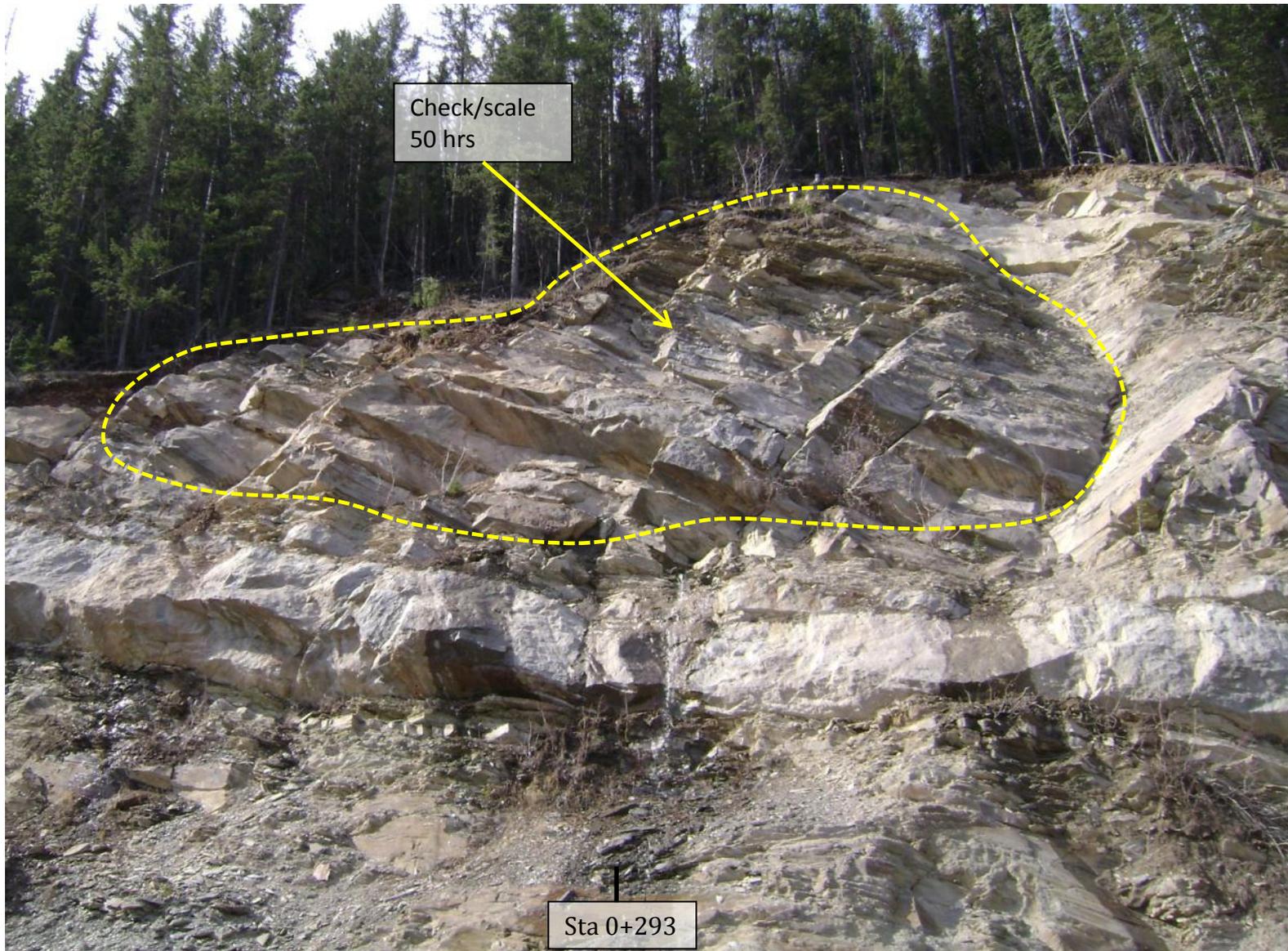


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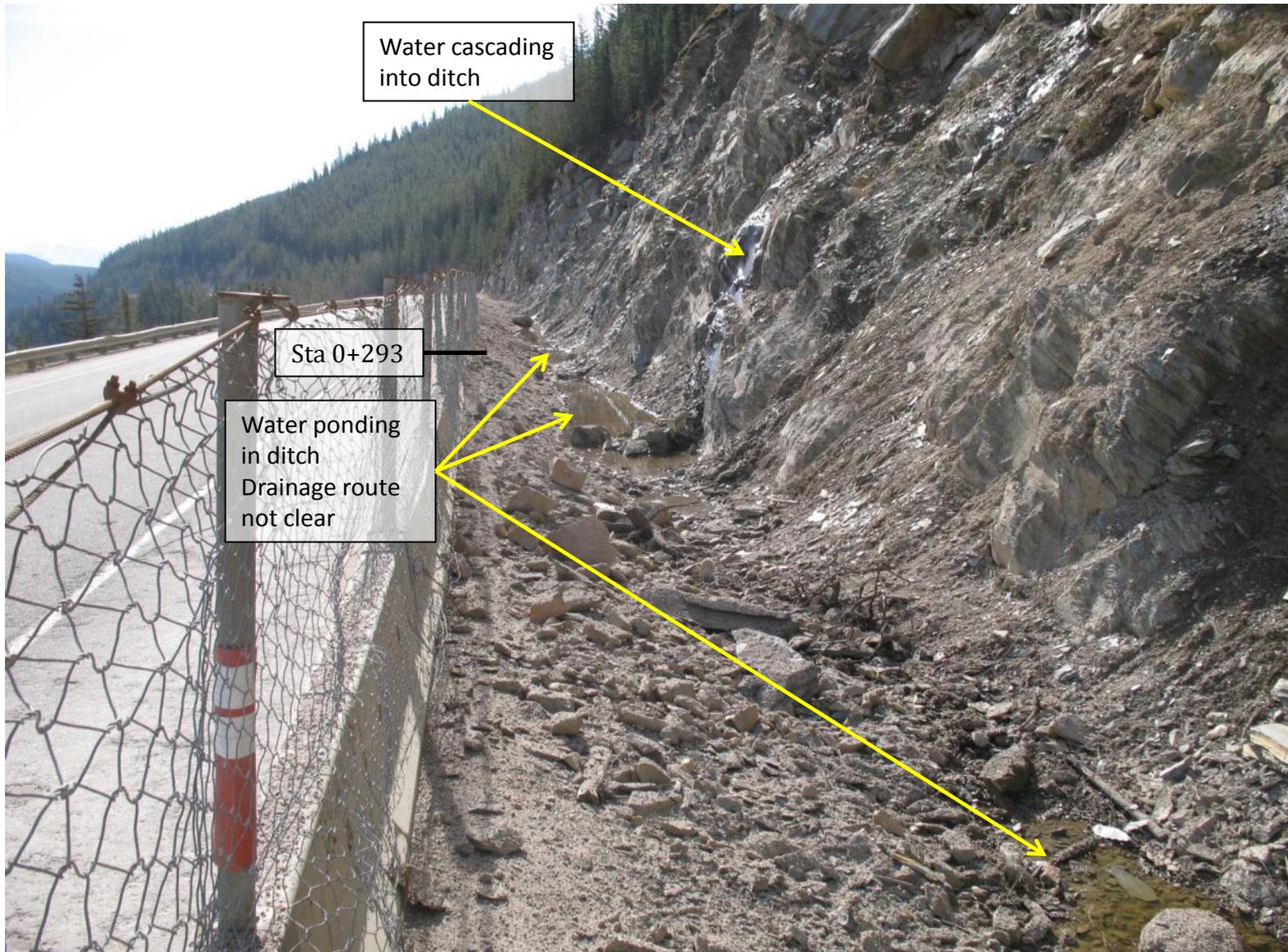


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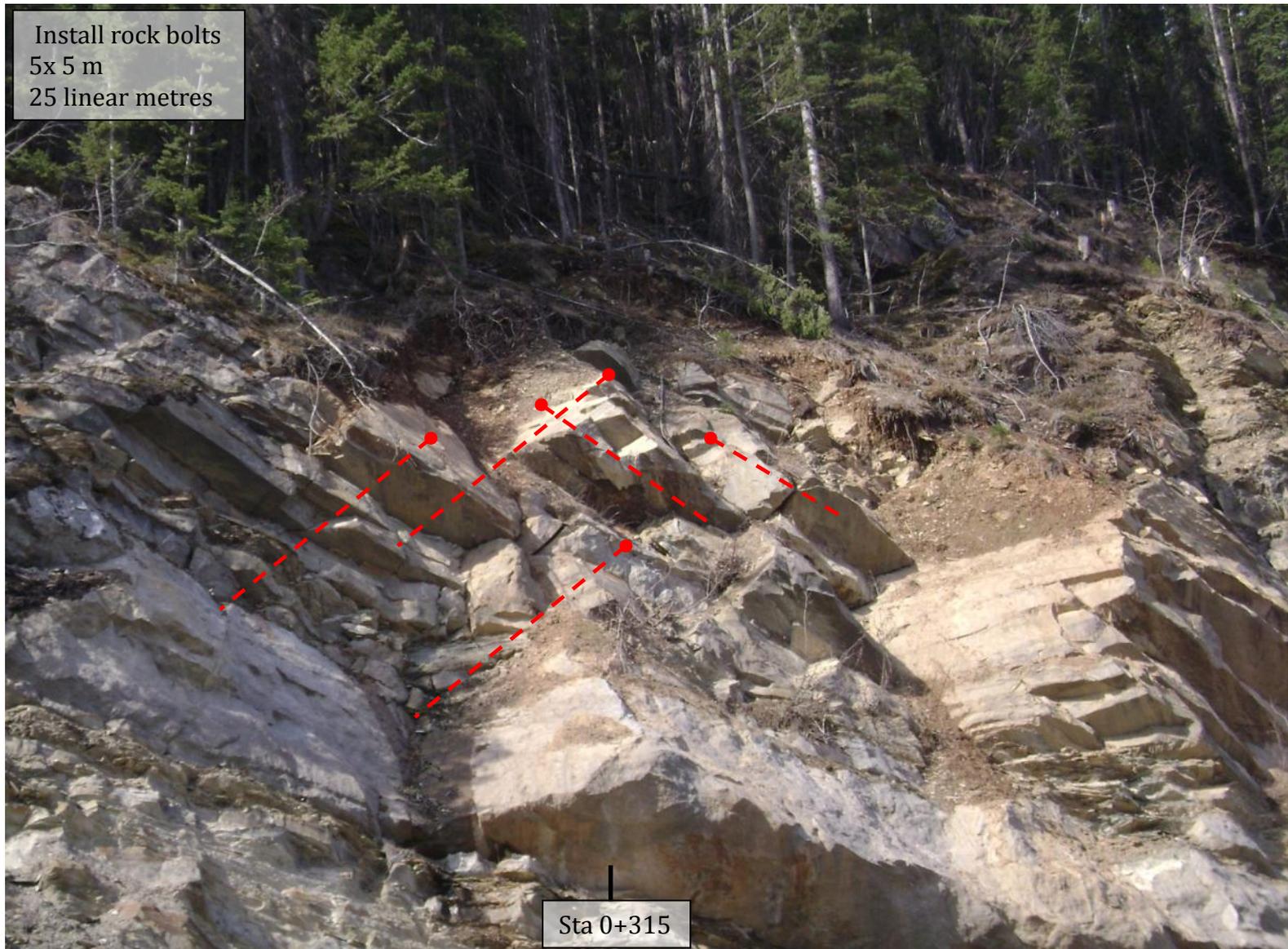
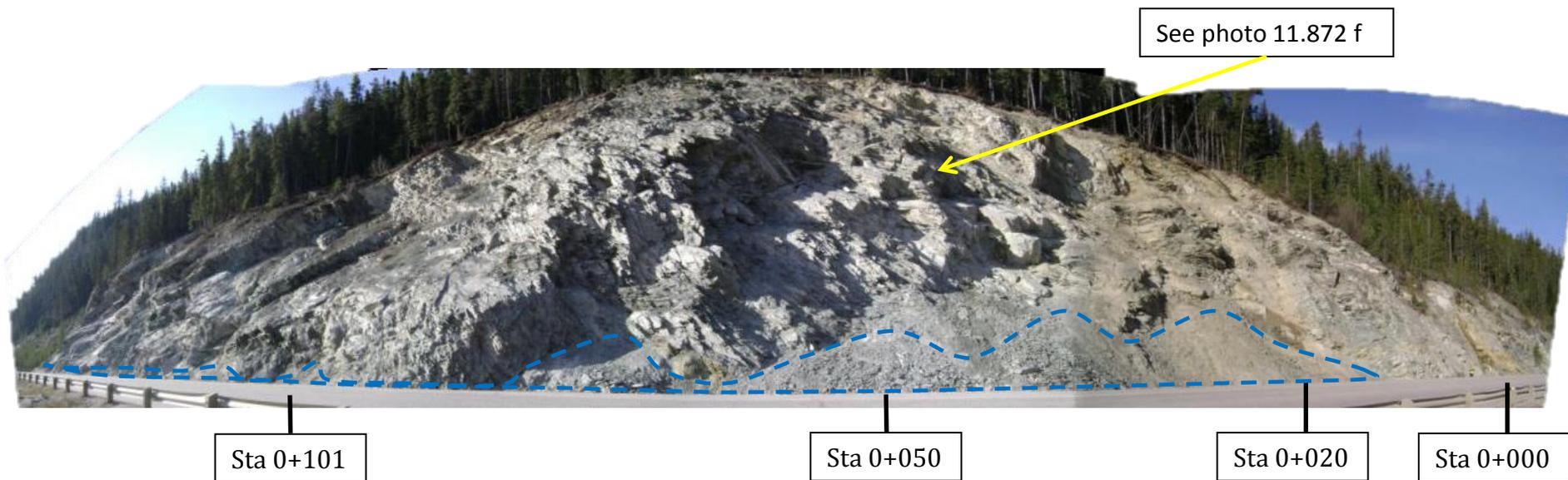
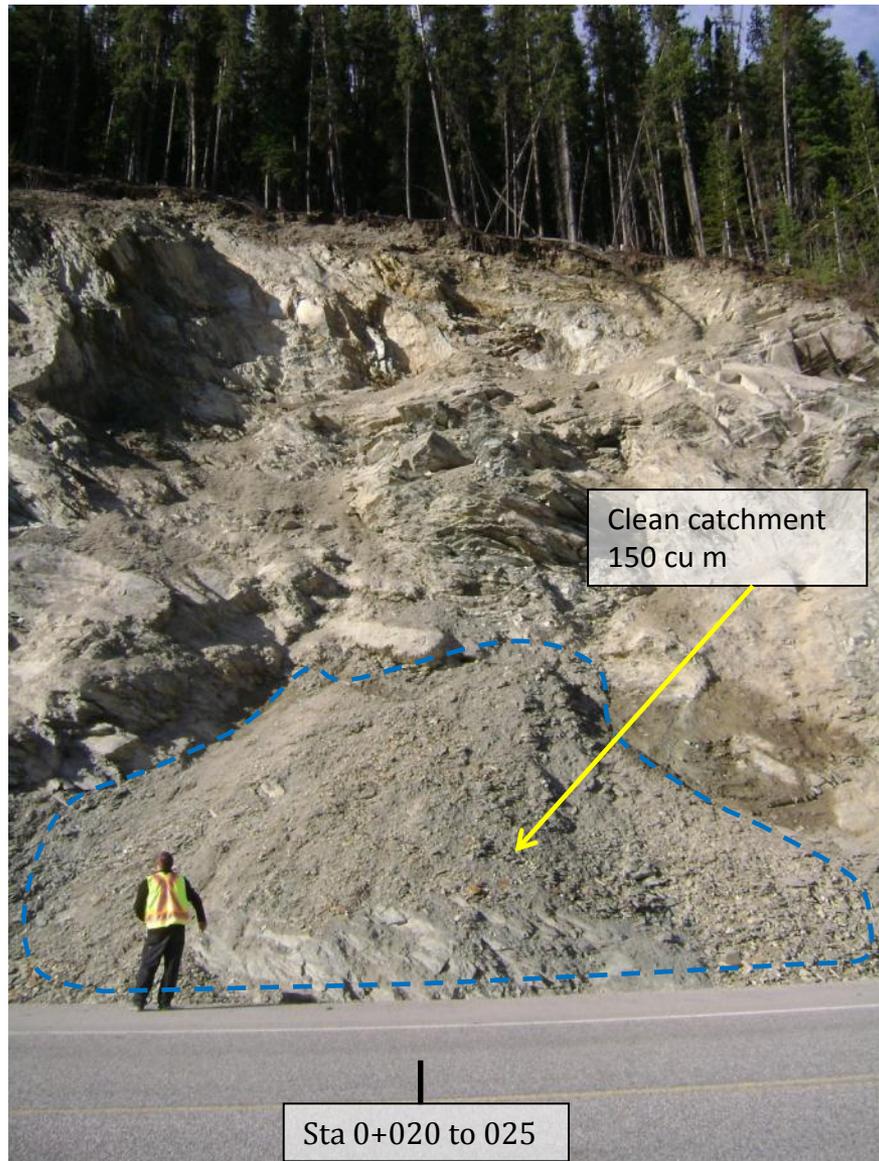


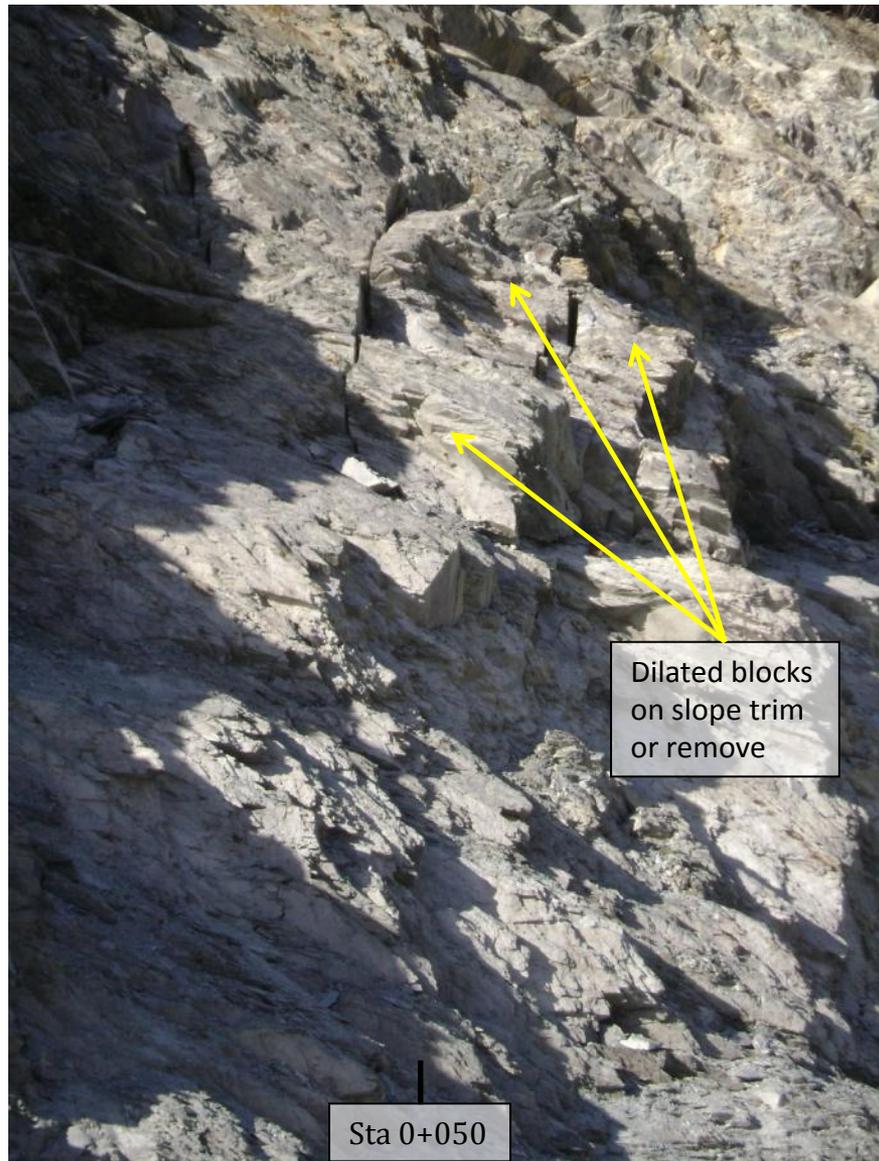
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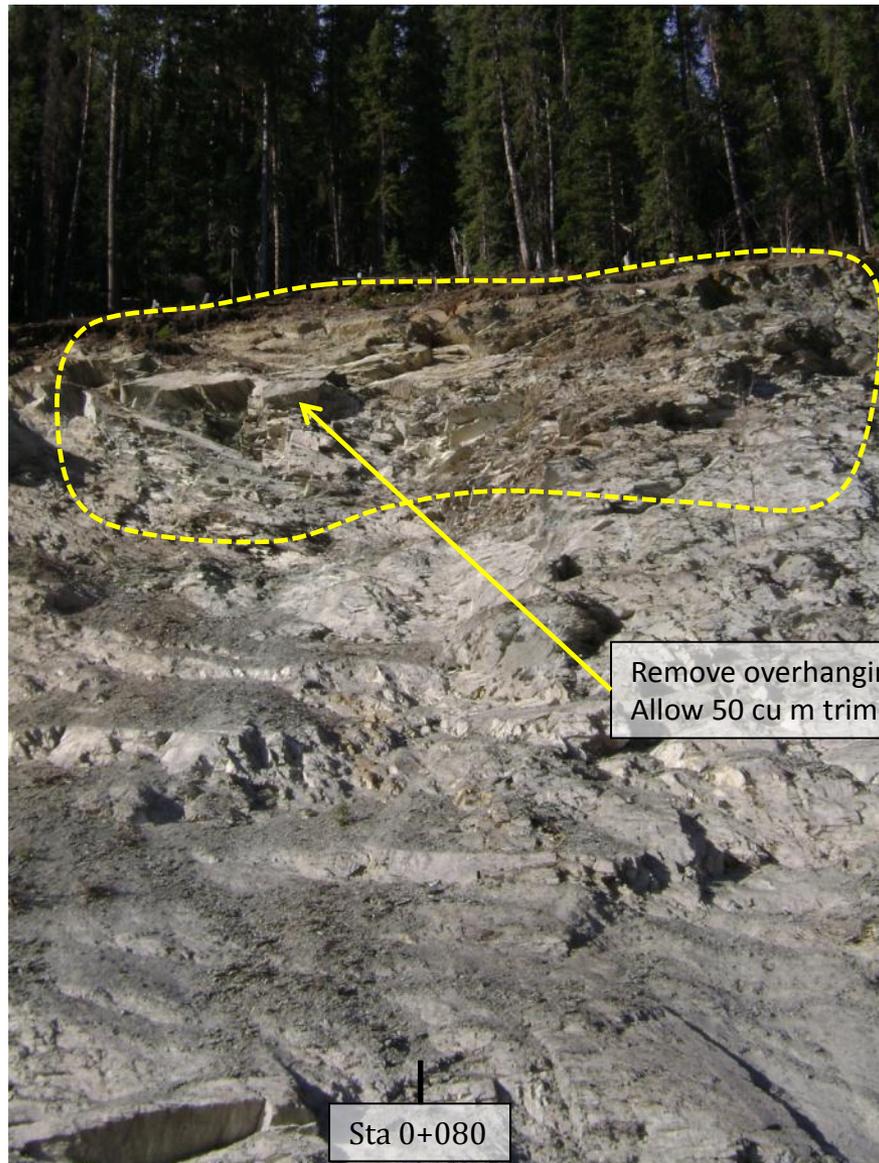


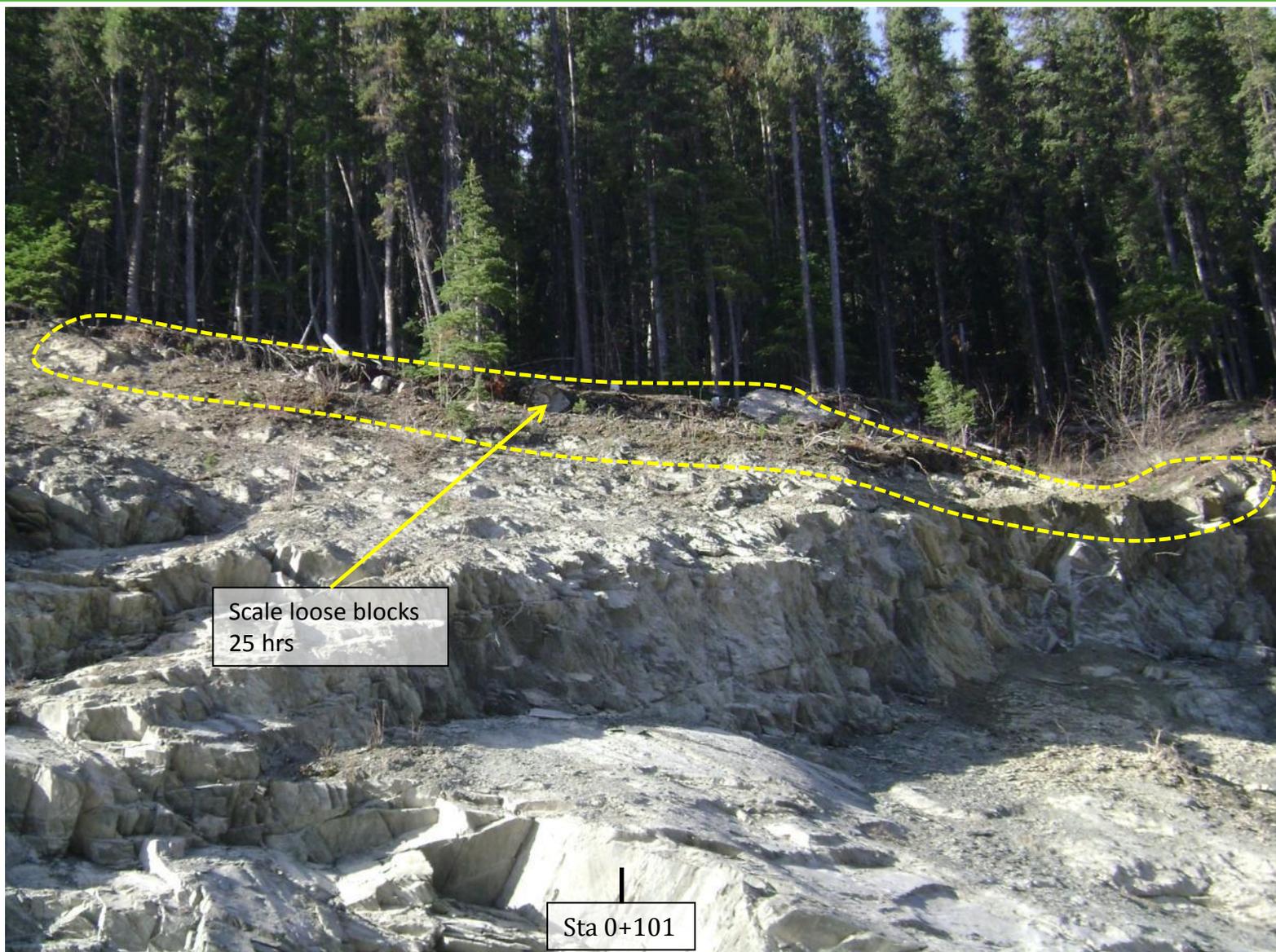
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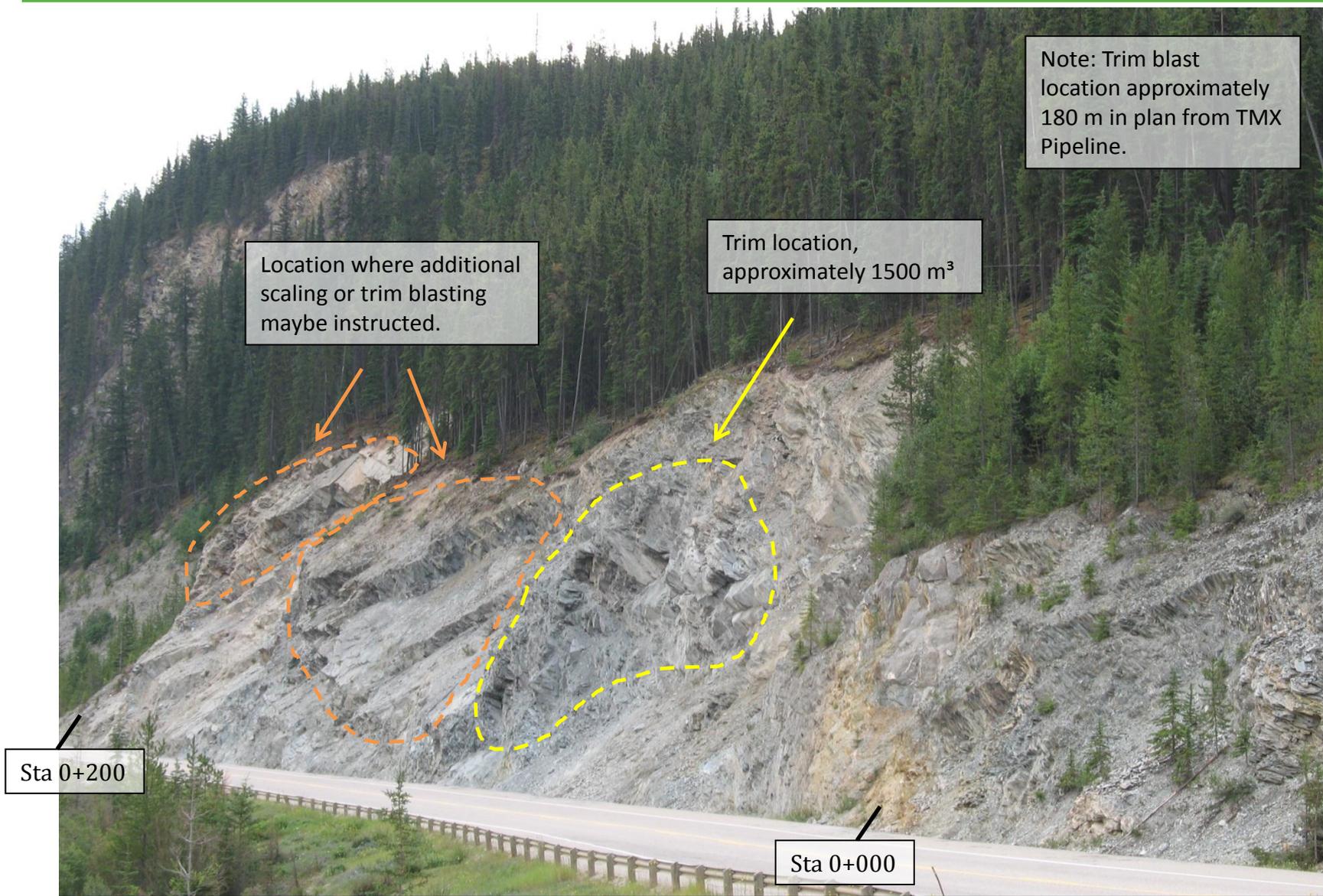
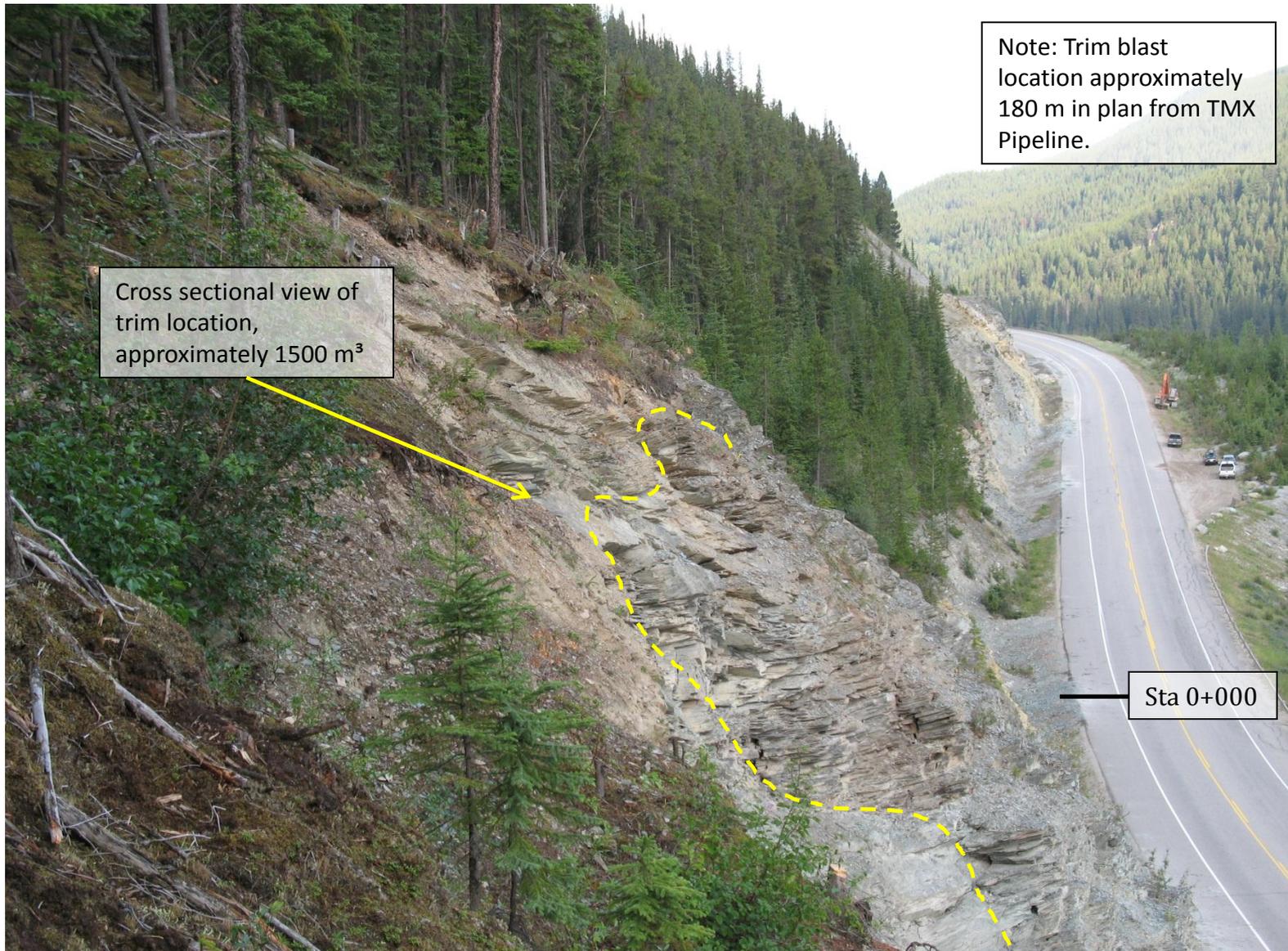
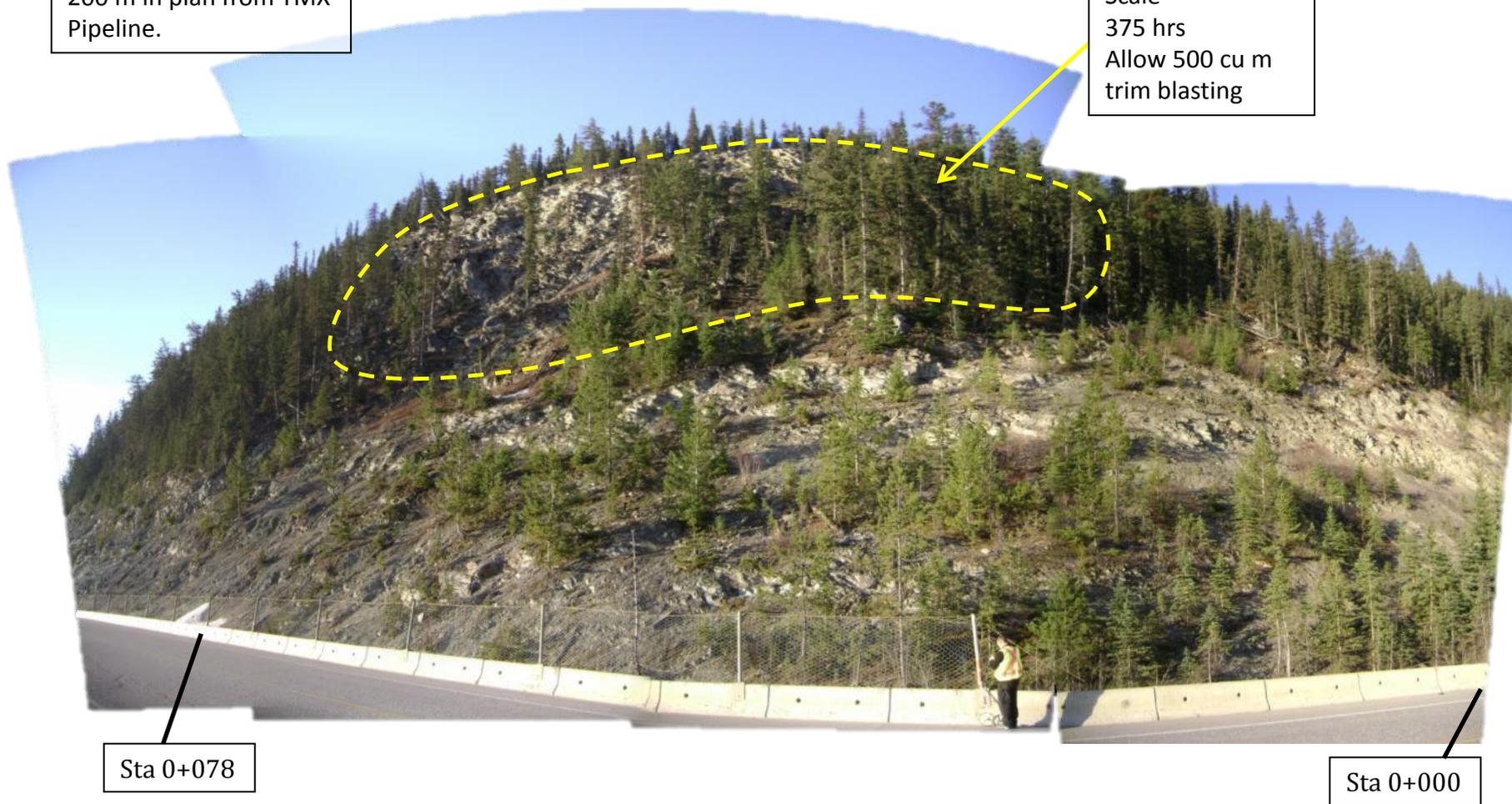


Photo Taken: July 28th, 2009



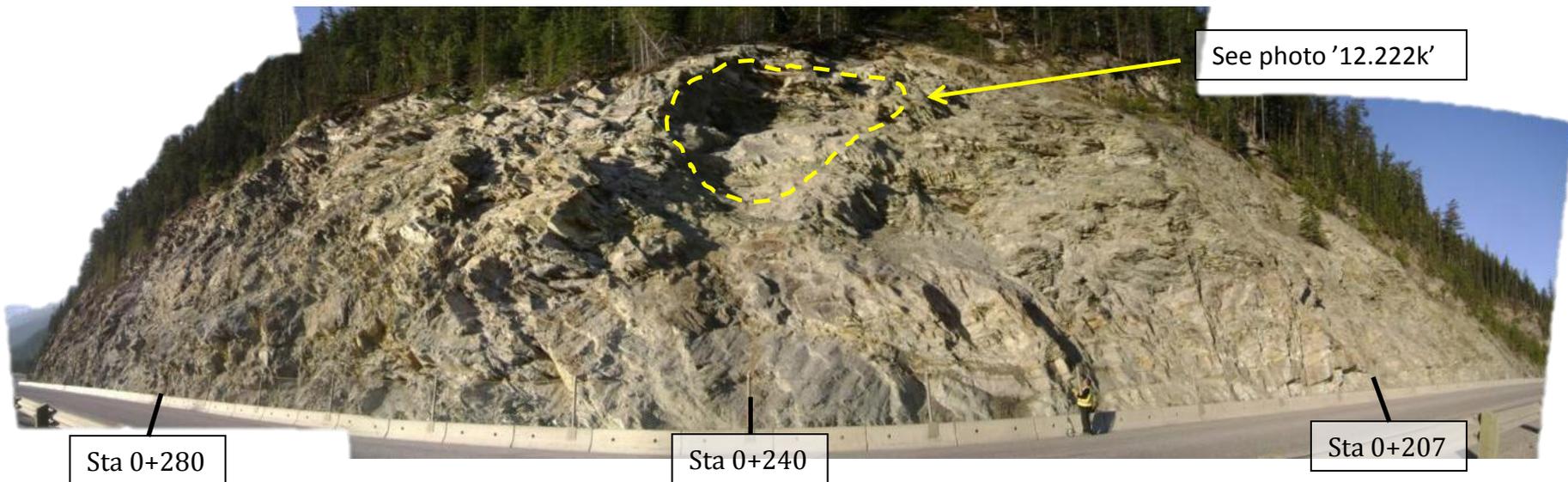
Note: Trim blast
location approximately
200 m in plan from TMX
Pipeline.

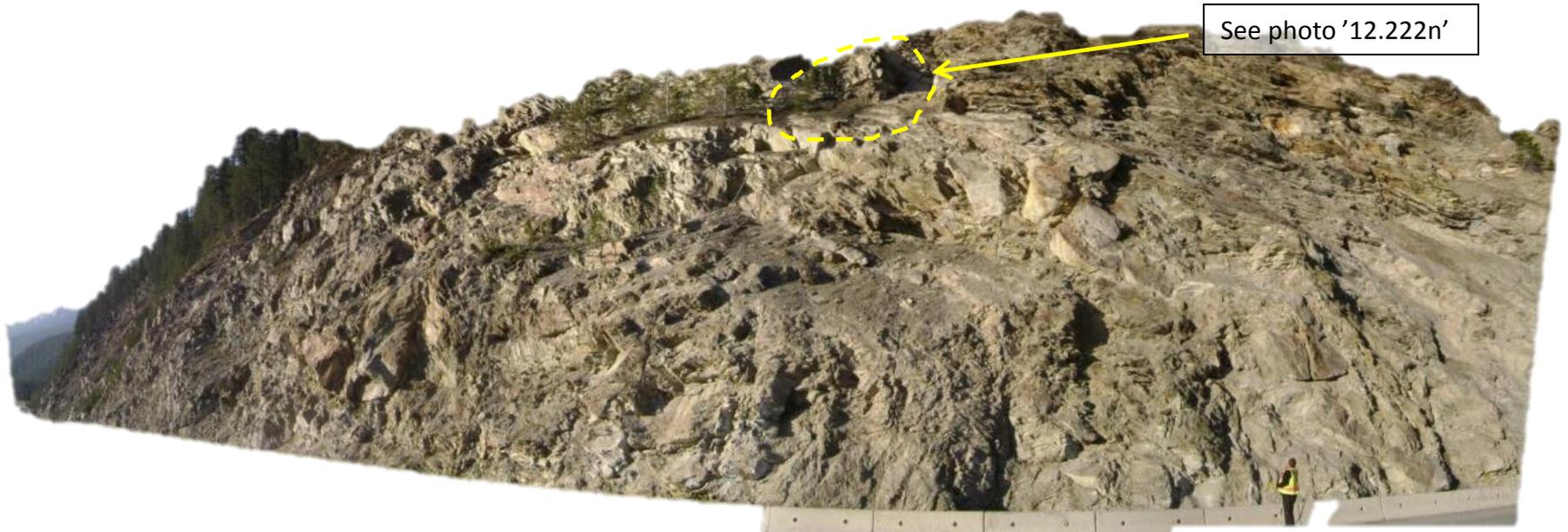
Scale
375 hrs
Allow 500 cu m
trim blasting

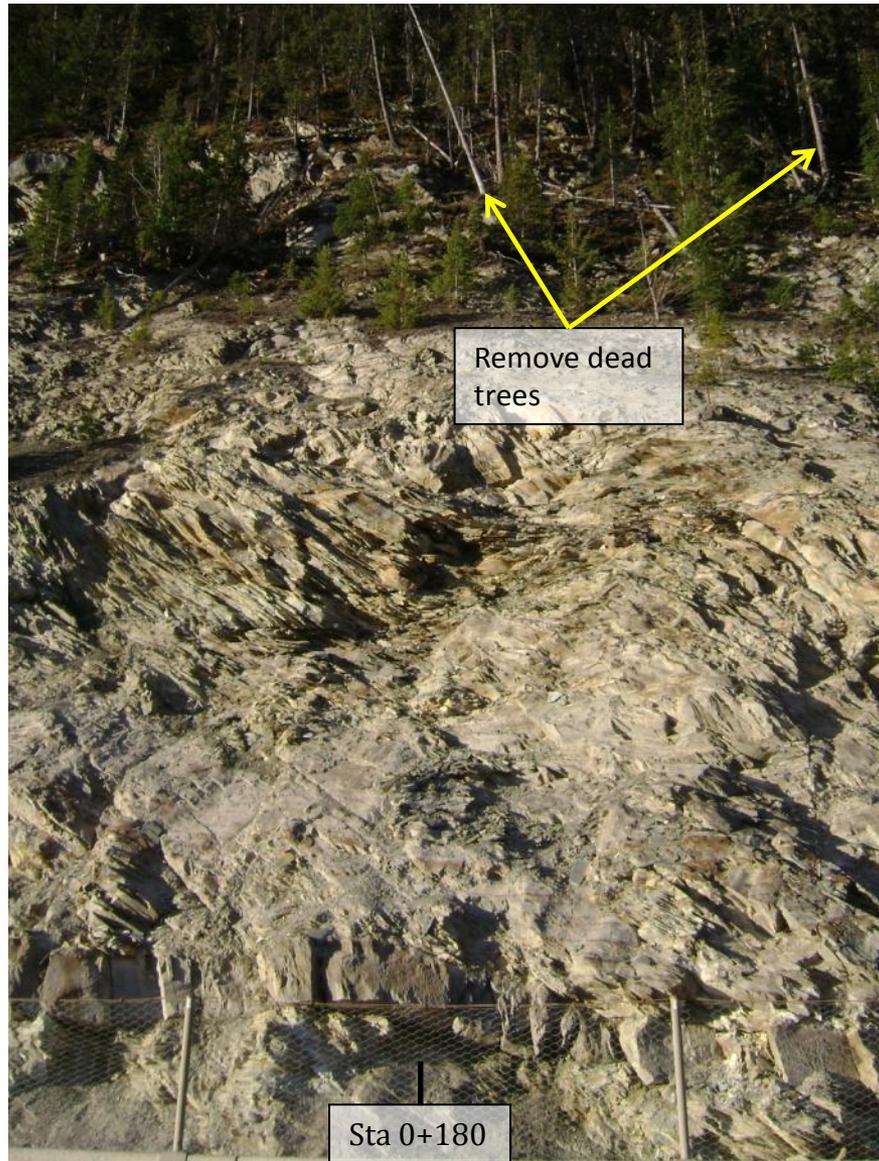


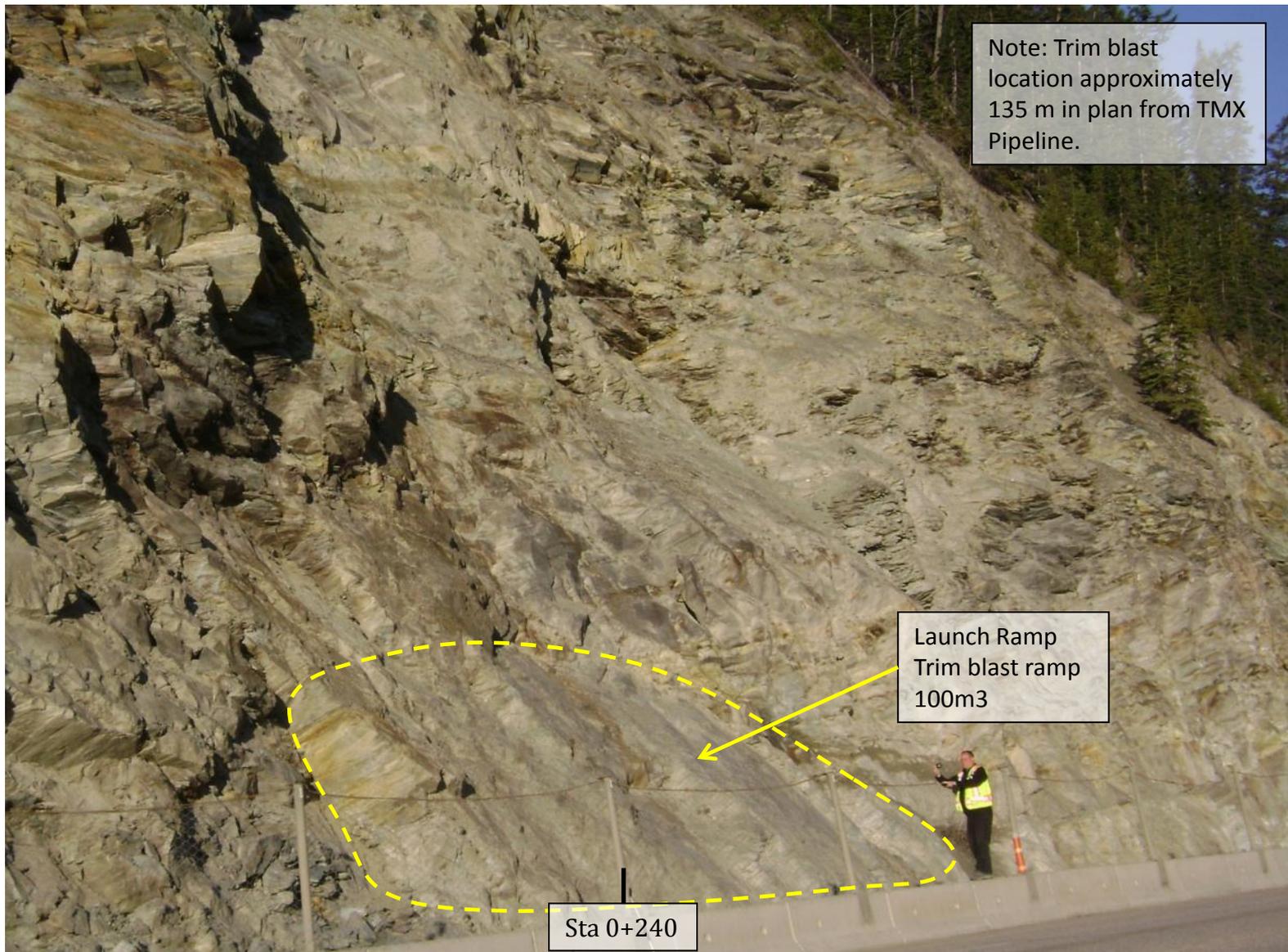
Sta 0+078

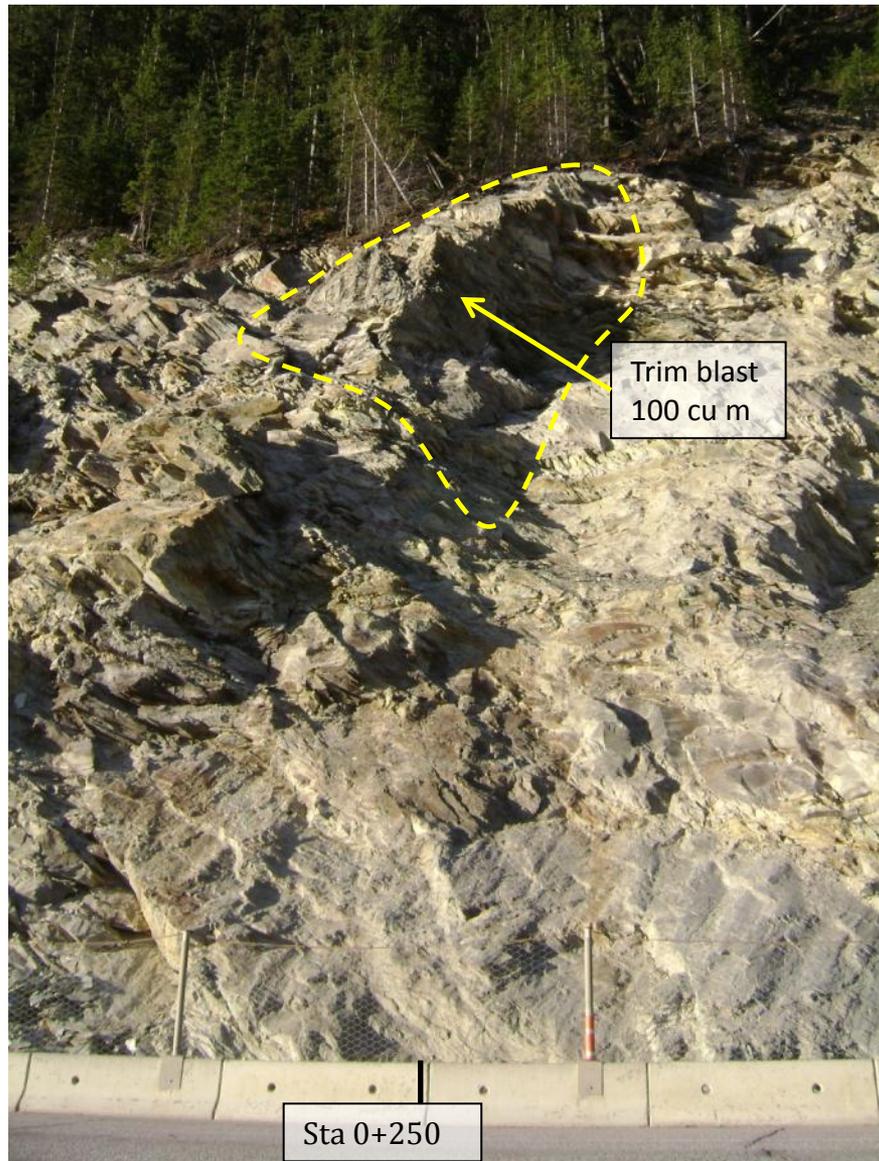
Sta 0+000











Note: Trim blast location approximately 140 m in plan from TMX Pipeline.

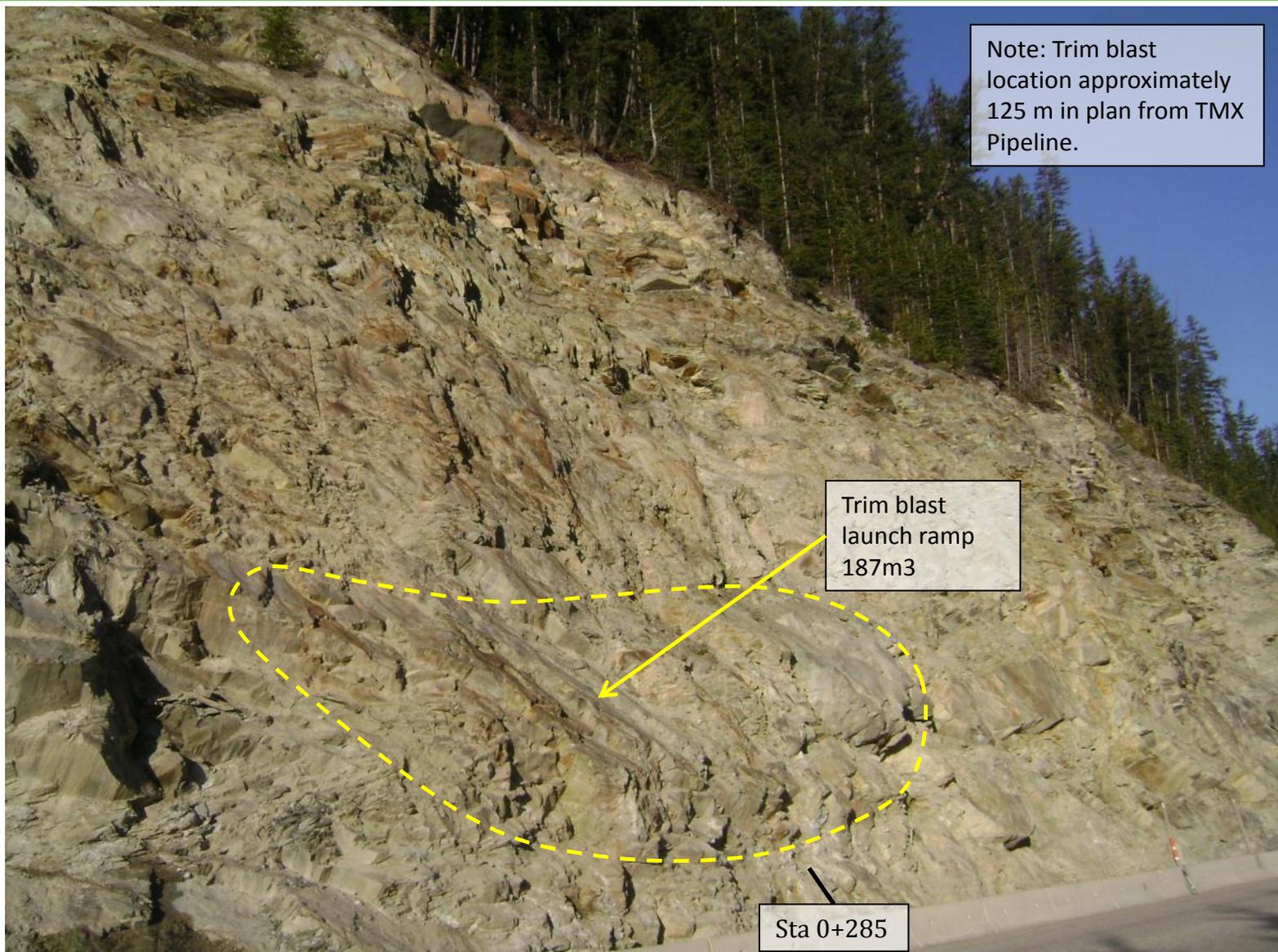
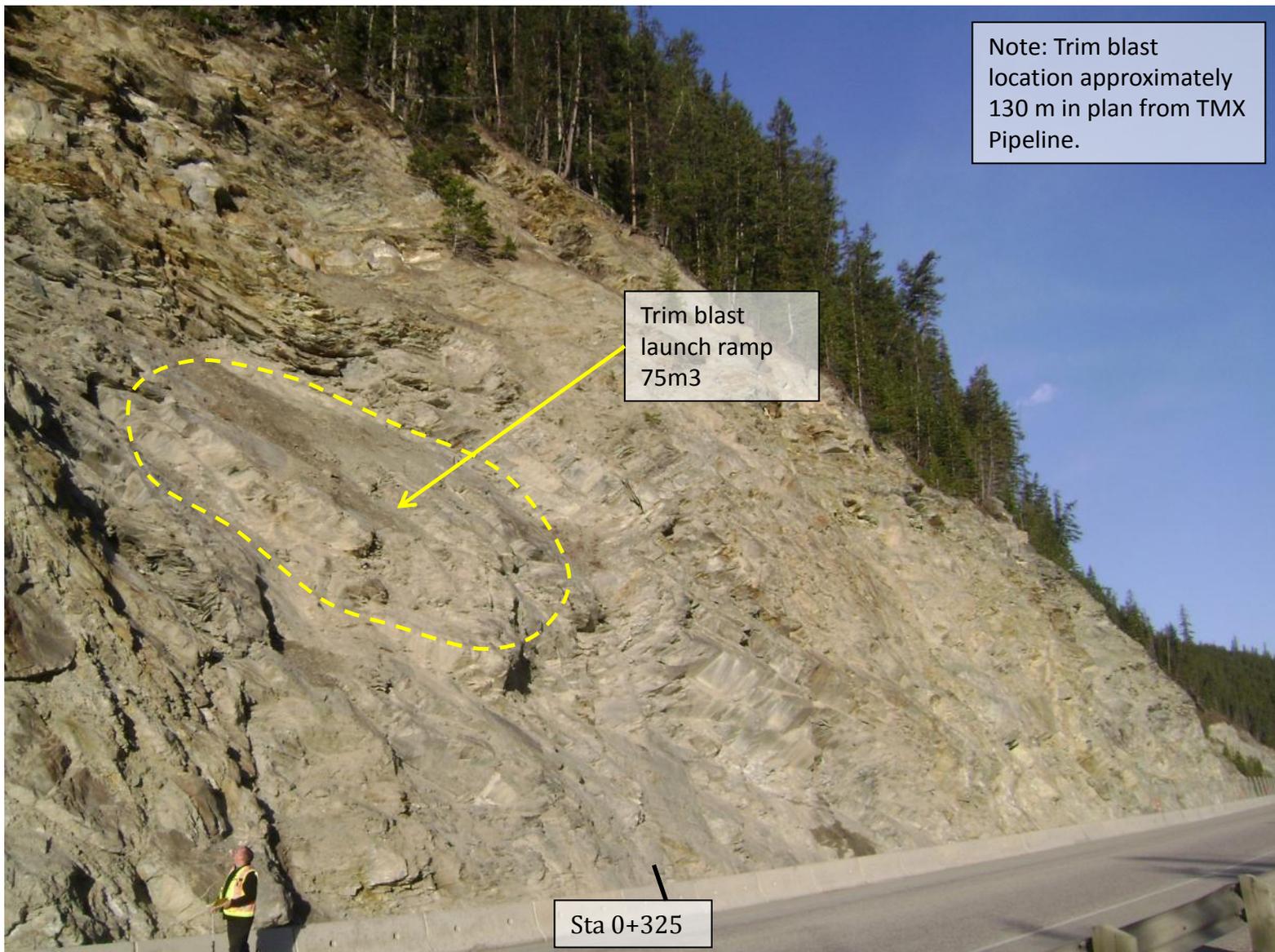
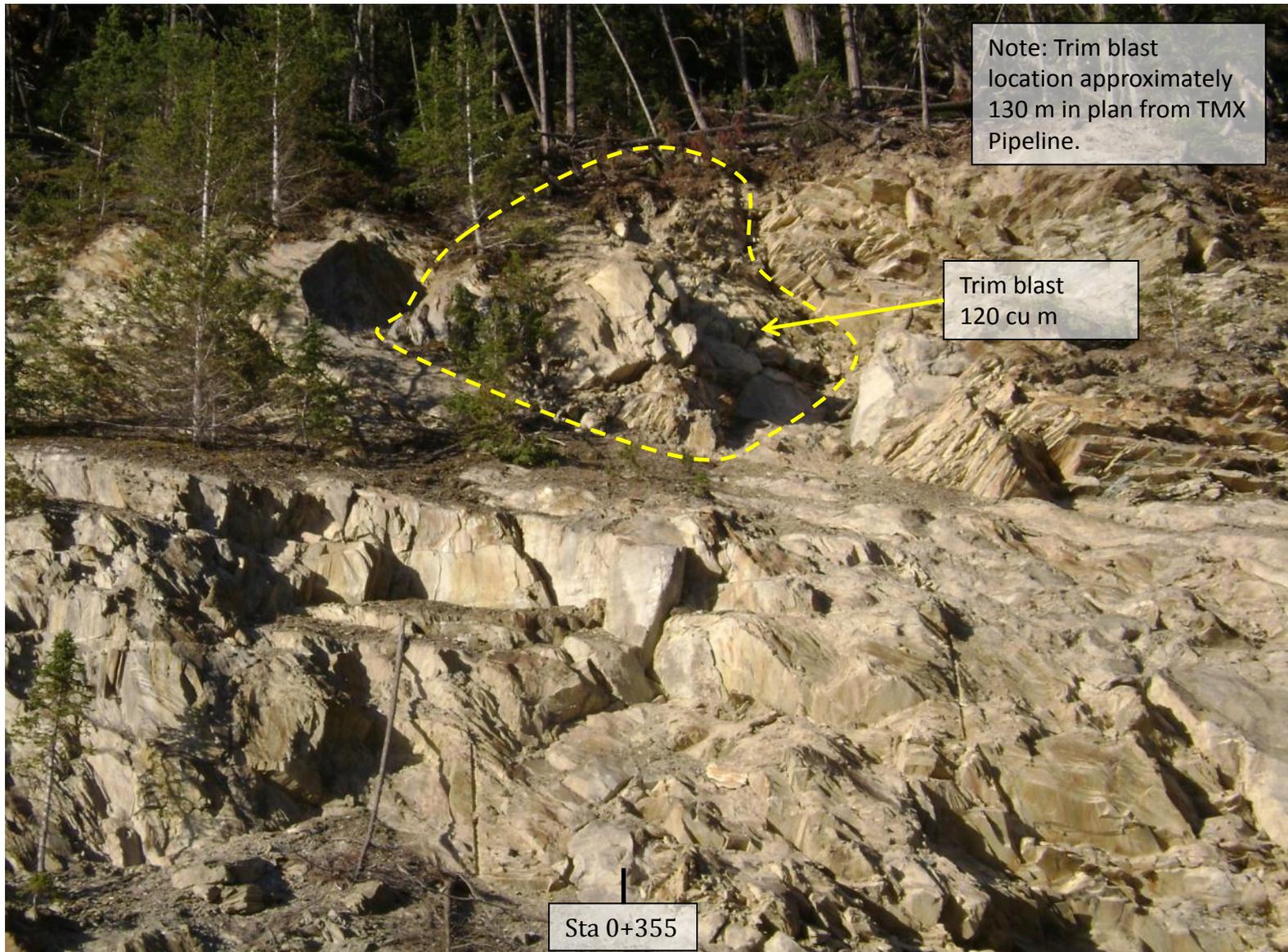
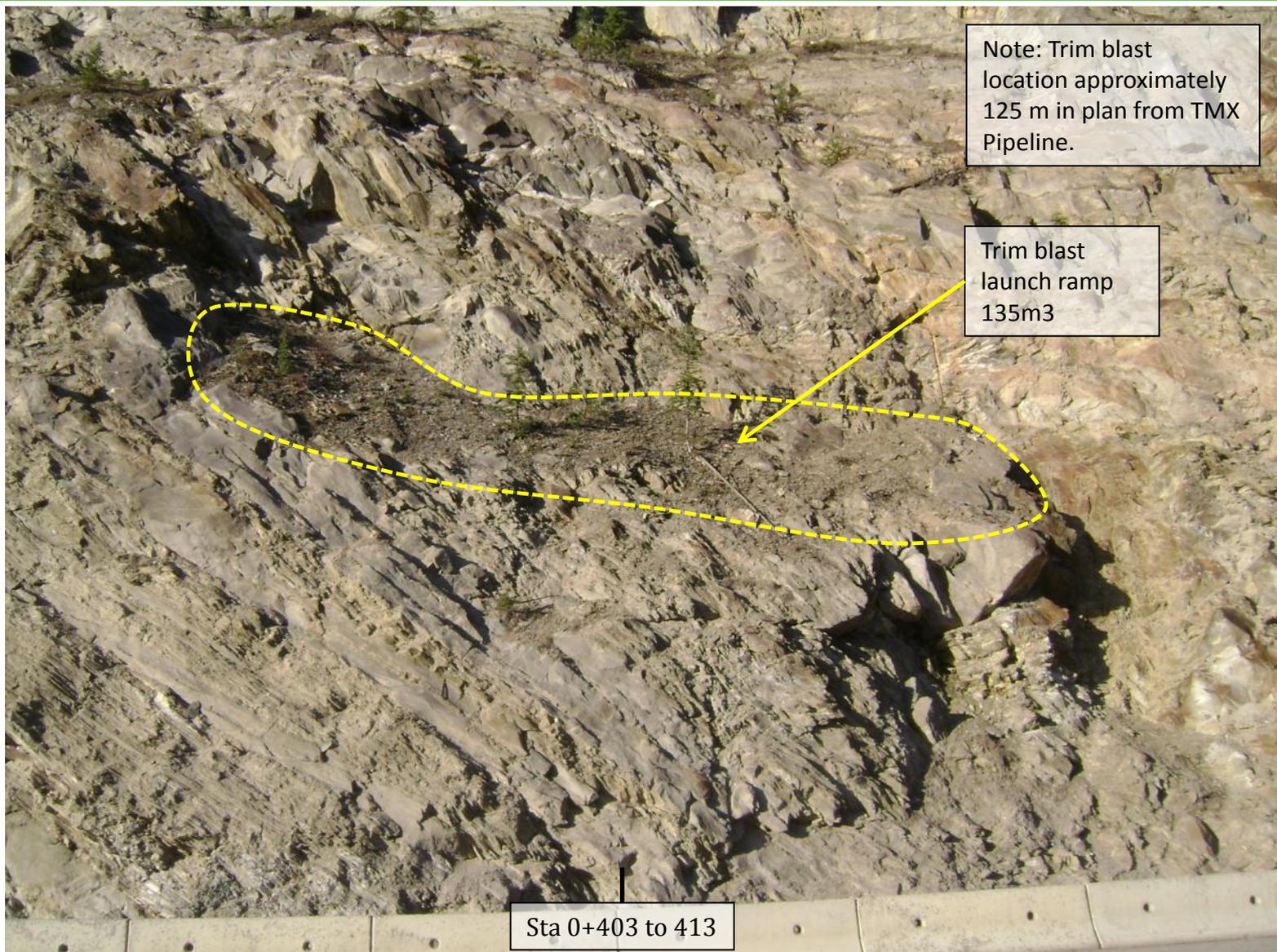
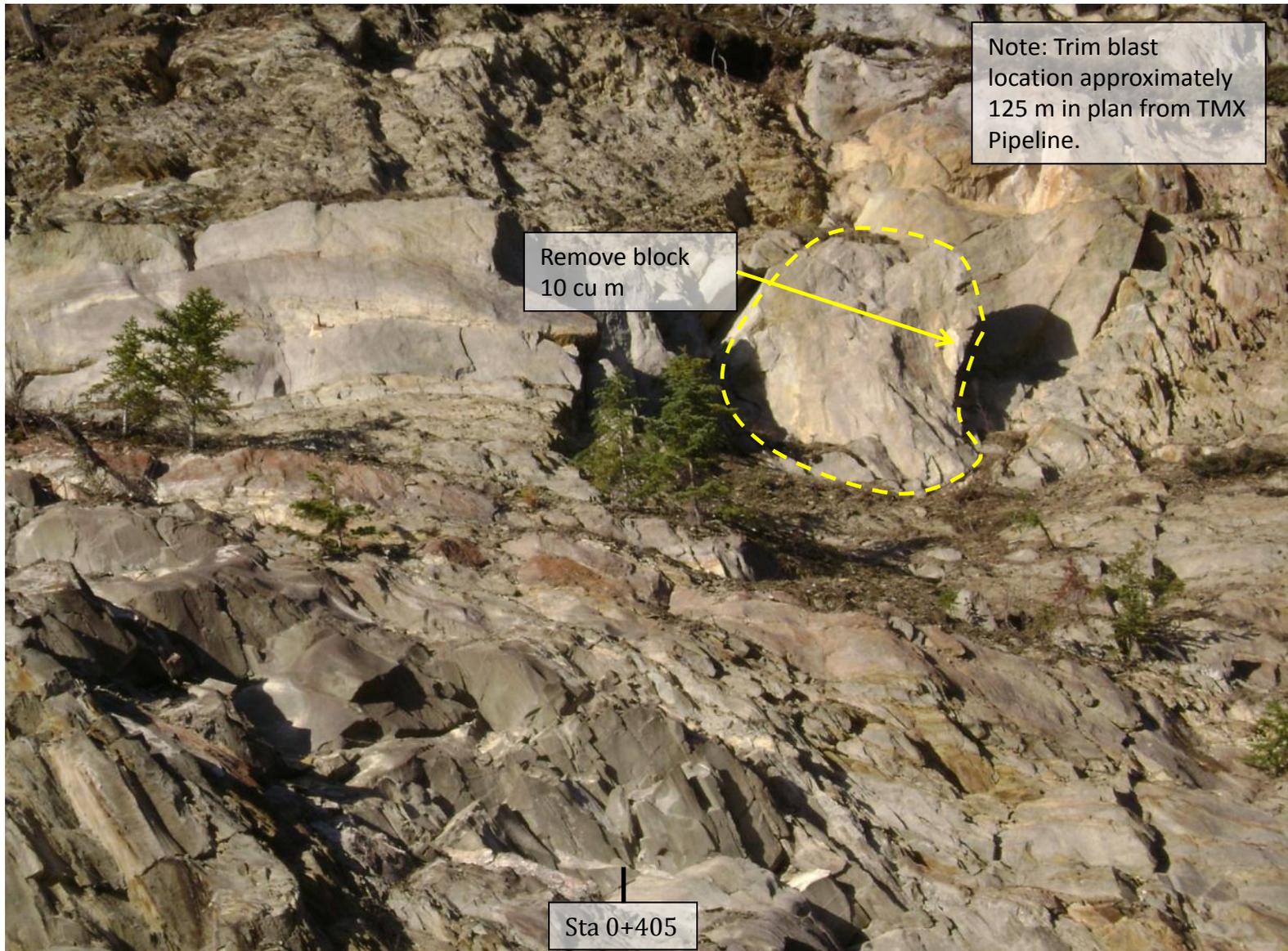


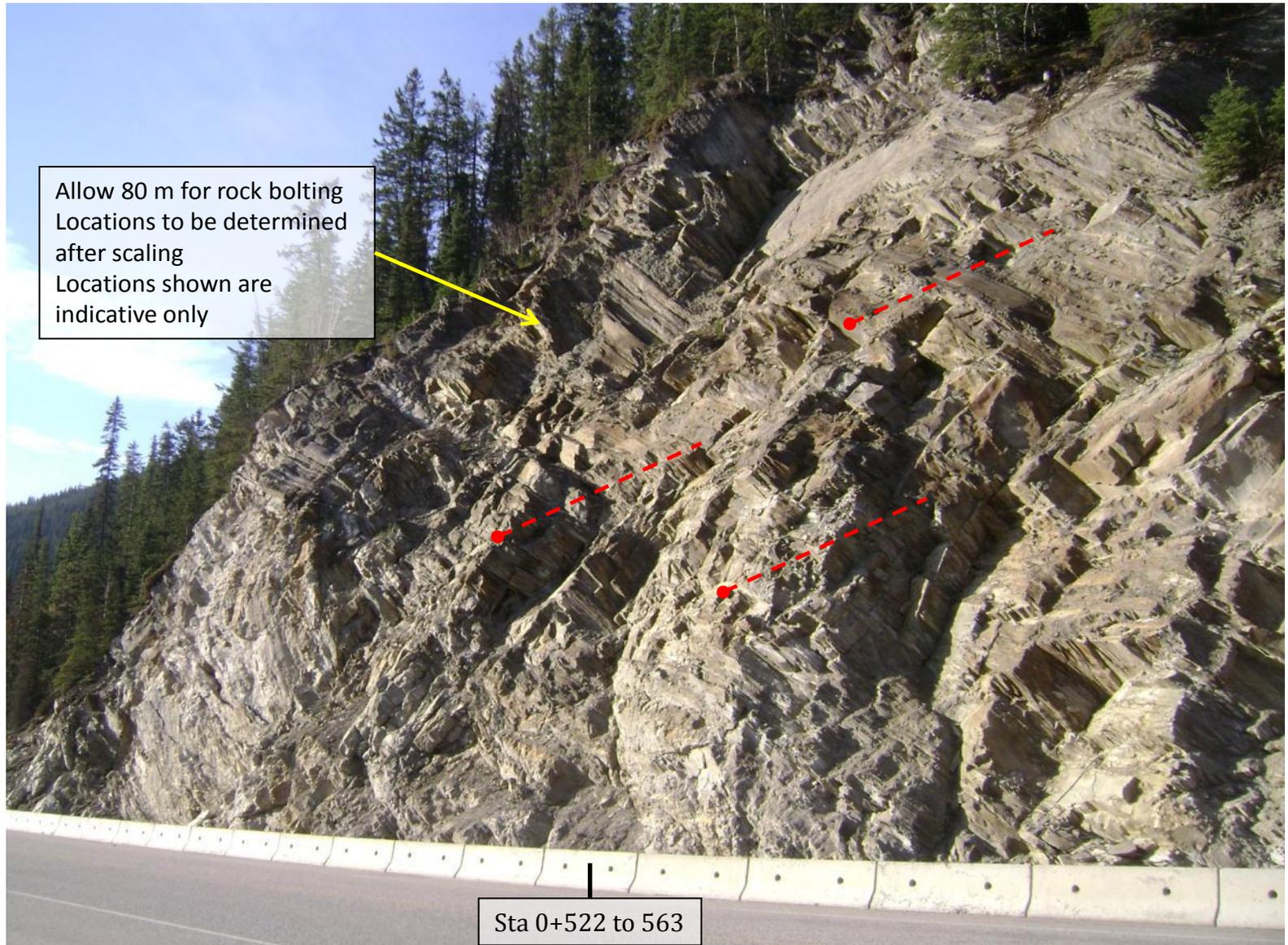
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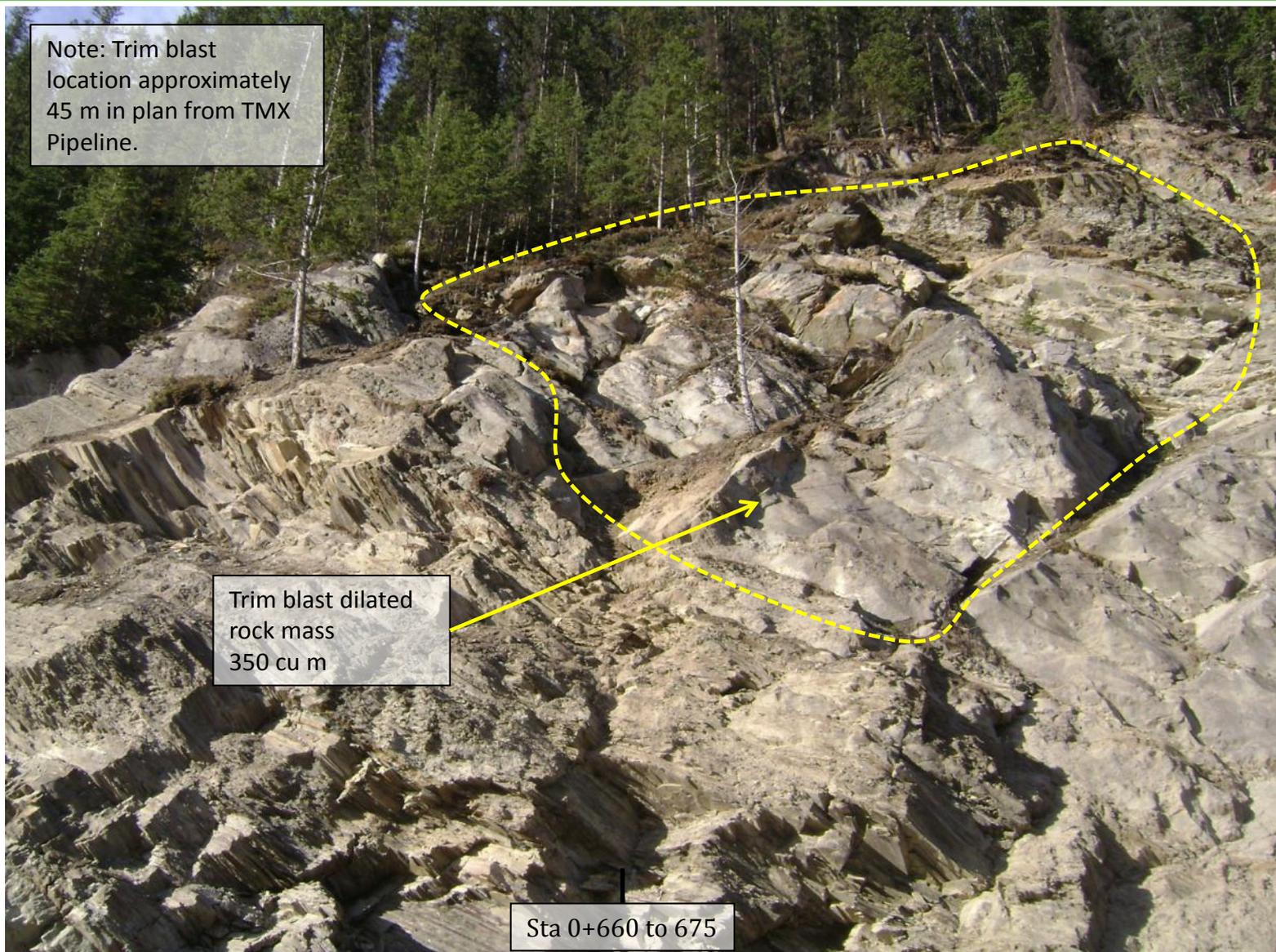


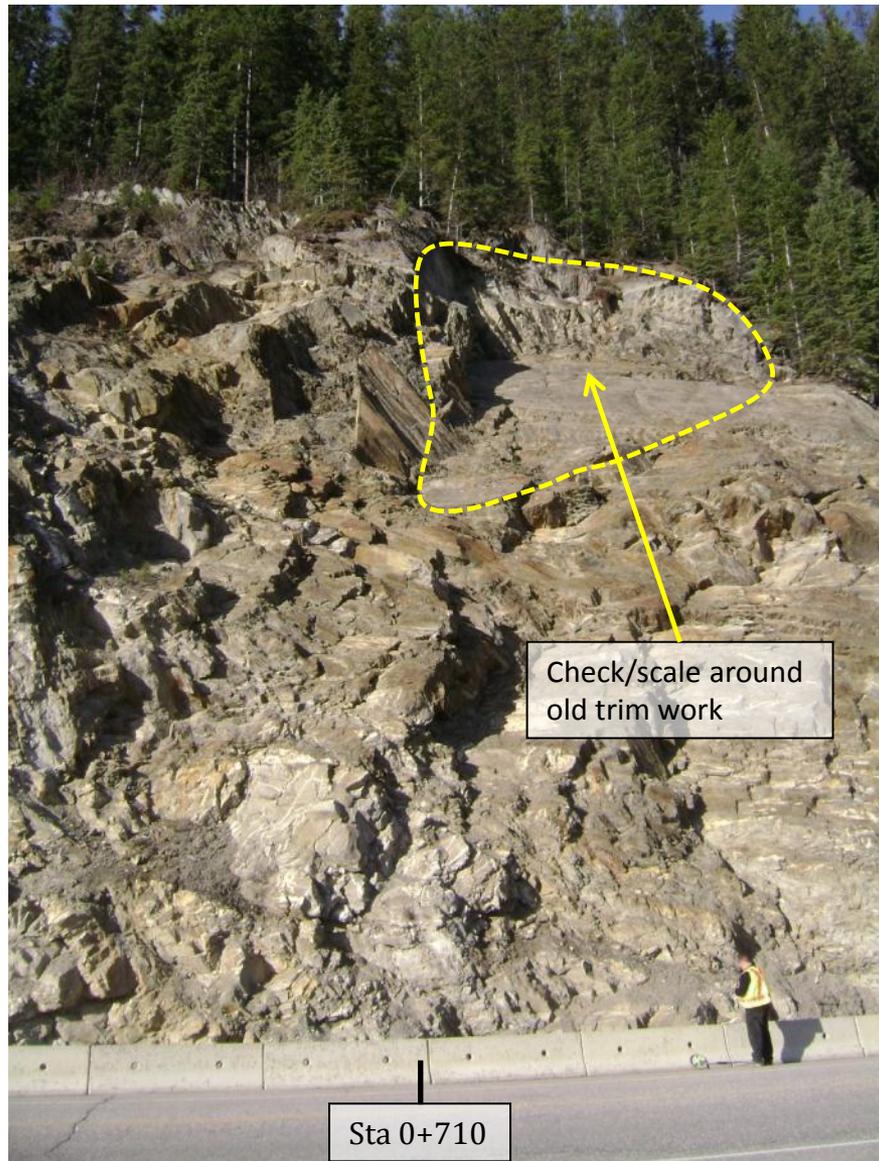


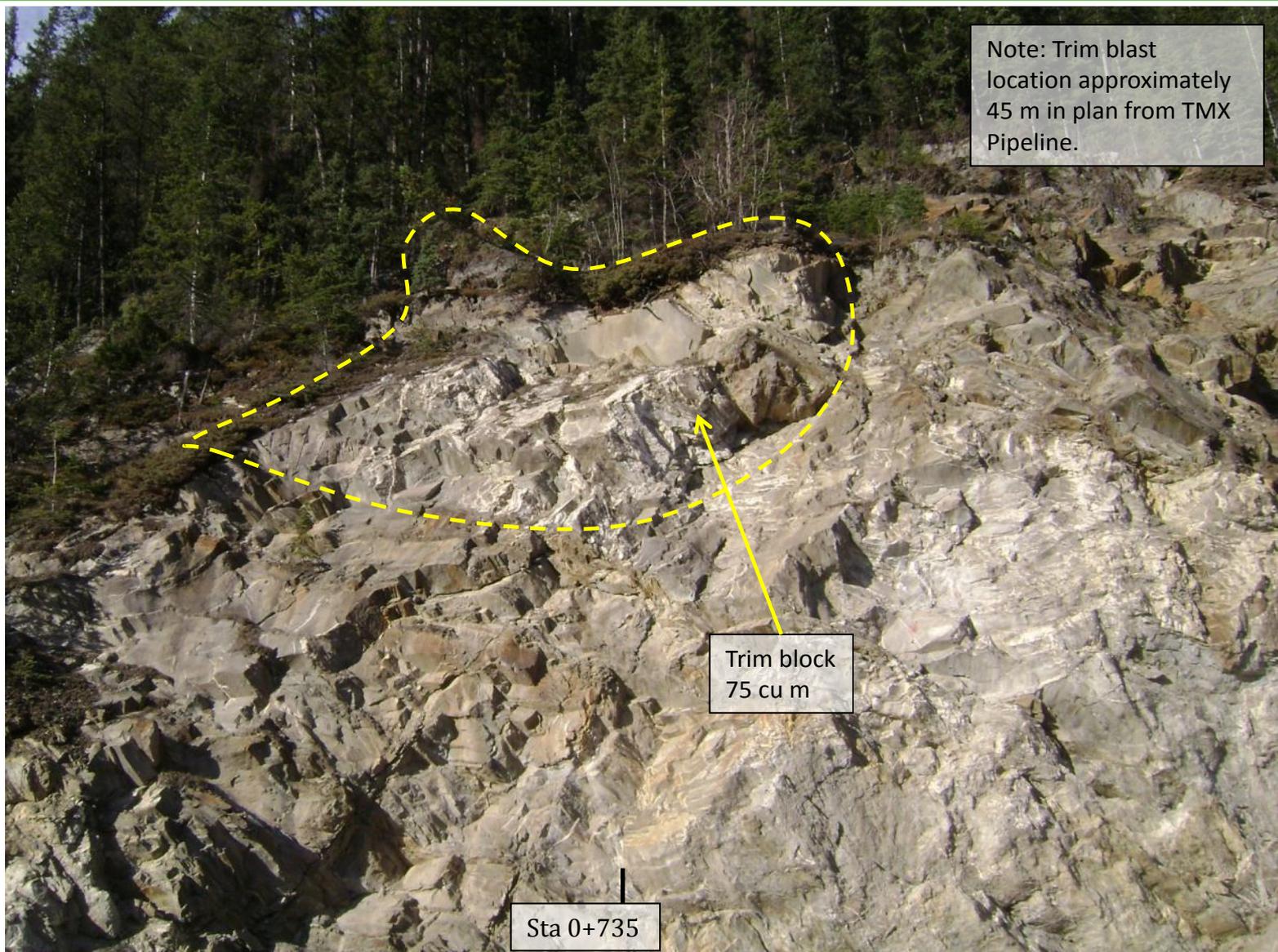










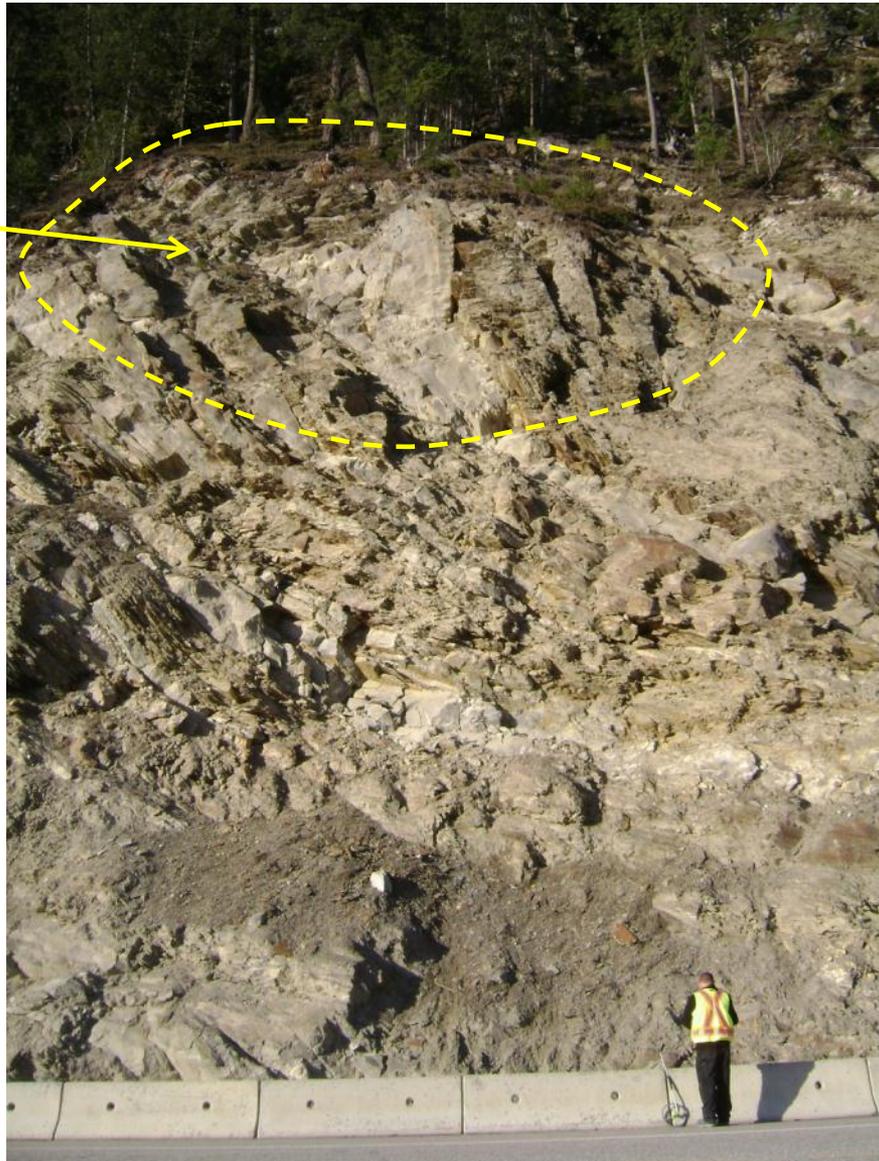


Note: Trim blast location approximately 45 m in plan from TMX Pipeline.

Trim block
75 cu m

Sta 0+735

Check / scale



Relaxation of the rock
in the ditch causing
dilation of blocks



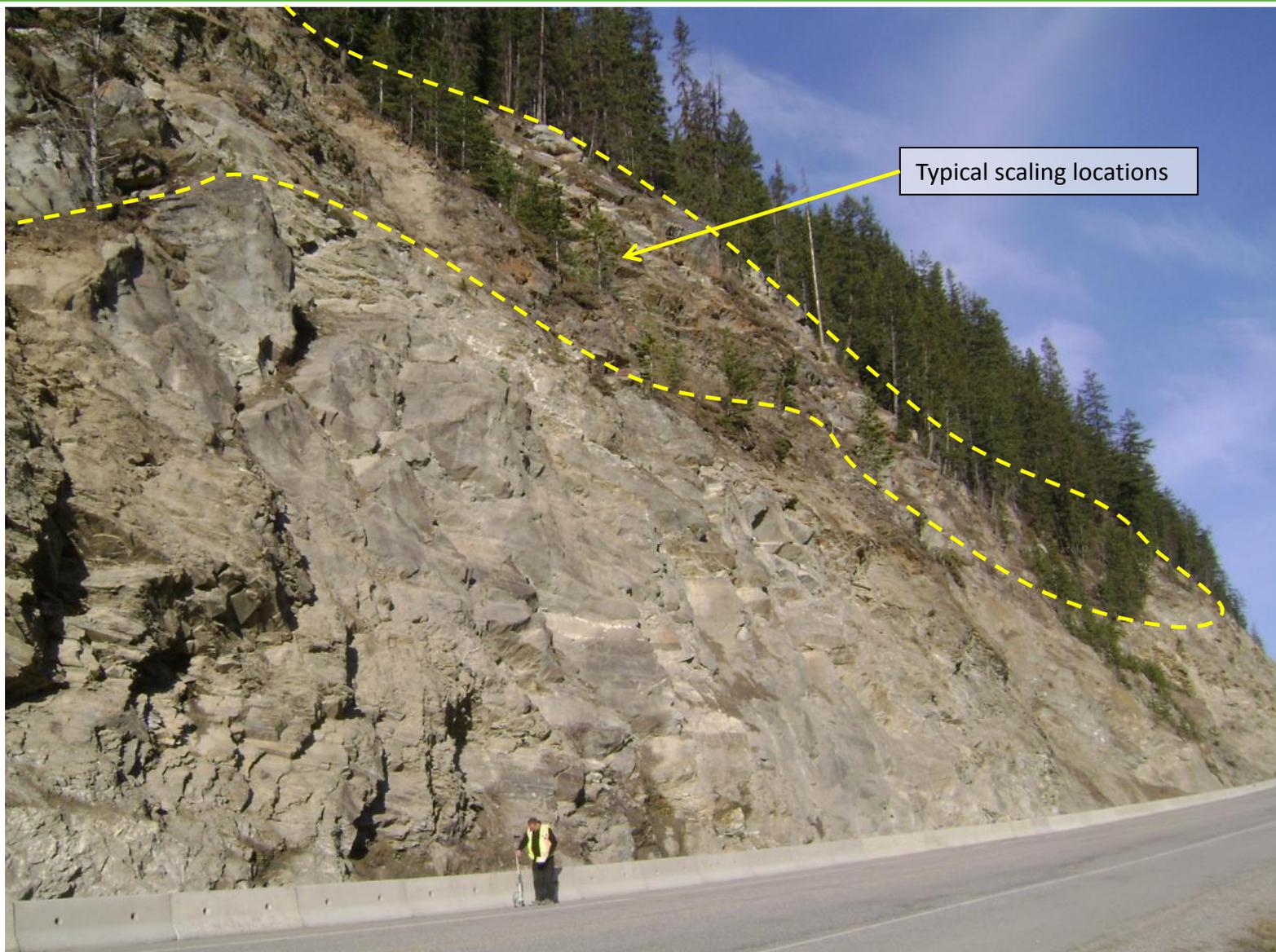


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