



**PEACE REGION
(GRANDE PRAIRIE DISTRICT – SOUTH) GRMP**



SITE INSPECTION FORM

SITE NUMBER AND NAME: GP046 Smoky River West Valley EBL Backslope Slumps		HIGHWAY & KM: 43:04, 32.004	PREVIOUS INSPECTION DATE: July 19, 2021	INSPECTION DATE: June 13, 2023
LEGAL DESCRIPTION: SW 18-72-02 W6M	NAD 83 COORDINATES: UTM Northing Easting 11 6121397 417585		RISK ASSESSMENT: PF: 12 CF: 4 TOTAL: 48	
AVERAGE ANNUAL DAILY TRAFFIC (AADT): 5,940 (west) & 6,480 (east) (Reference No. 30720 & 70000114, 2022)			CONTRACT MAINTENANCE AREA (CMA): 504	

SUMMARY OF SITE INSTRUMENTATION: There is no instrumentation at the GP046 site. LAST READING DATE: N/A	INSPECTED BY: Chris Gräpel (KCB) Courtney Mulhall (KCB) Roger Skirrow (TEC) Max Shannon (TEC)
PRIMARY SITE ISSUE: Several slope instabilities along backslope along/above south (eastbound) lanes of Hwy 43:04 that have coalesced into a single slope instability with a well-defined toe roll which is partially blocking the south (eastbound) highway ditch. The site is located along the west valley slope of the Smoky River.	
APPROXIMATE DIMENSIONS: Entire site is approximately 400 m long. At the site, the backslope is approximately 10 m to 15 m high sloped at approximately 3H:1V.	
DATE OF ANY REMEDIAL ACTION: None.	

ITEM	CONDITION EXISTS		DESCRIPTION AND LOCATION	NOTICABLE CHANGE FROM LAST INSPECTION	
	YES	NO		YES	NO
Pavement Distress		X	Backslope instability not affecting pavement surface but toe roll is partially blocking highway ditch.		X
Slope Movement	X		Backslope instabilities have expanded laterally and coalesced since 2021 inspection.	X	
Erosion	X		Some erosion of scarps on backslope, and along toe of backslope and toe rolls (e.g., at WP317) from surface water runoff.	X	
Seepage		X	None observed at time of 2023 inspection.		X
Culvert Distress		X	No culverts observed by KCB.		X

COMMENTS
TEC says four of five separate slope instabilities initially, which have expanded and coalesced over the years.
Several well-defined scarps are visible on the backslope from the midpoint to the western site limit indicating the western portion of the slope instability is more active than the eastern portion where the ground is more rounded and gentler. At the western site limit where slope instability appears most active, the backscarp appears to be up to approximately 2.5 m high and near vertical.
Backscarp generally within highway right-of-way (ROW) but will eventually encroach onto public property if the slope instability continues to retrogress further upslope. At the crest of the backslope there is: <ul style="list-style-type: none">• two to three old log cabins which are not currently being impacted by the slope instability but the cabins appear to have historical value; and• a recreational trail which is beginning to be impacted by the slope instability.
Backslope well vegetated with dense grass and some small shrubs, particularly from the midpoint to the western site limit.
<u>Maintenance/Repair/Monitoring Recommendations:</u> <ul style="list-style-type: none">• Short-term: Clean out south (eastbound) highway ditch with as little failure material being removed as possible. Ditch will likely fill in again and will need ongoing maintenance to maintain ditch flow capacity.• Long-term: Repair design prepared and tender partially prepared by previous consultant for flattening the backslope to approximately 5H:1V. TEC working to procure land. Work may be included as part of an upcoming overlay project pending land acquisition.

SITE INSPECTION FORM

This report is an instrument of service of Klohn Crippen Berger (KCB). The report has been prepared for the exclusive use of Alberta Transportation and Economic Corridors (Client) for the specific application to the Peace Region (Grande Prairie District – South) Geohazard Risk Management Program (Contract No. CON0022166) and it may not be relied upon by any other party without KCB's written consent.

KCB has prepared this report in a manner consistent with the level of care, skill and diligence ordinarily provided by members of the same profession for projects of a similar nature at the time and place the services were rendered. KCB makes no warranty, express or implied.

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- (i) The report is to be read in full, with sections or parts of the report relied upon in the context of the whole report.
- (ii) The observations, findings and conclusions in this report are based on observed factual data and conditions that existed at the time of the work and should not be relied upon to precisely represent conditions at any other time.
- (iii) The report is based on information provided to KCB by the Client or by other parties on behalf of the client (Client-supplied information). KCB has not verified the correctness or accuracy of such information and makes no representations regarding its correctness or accuracy. KCB shall not be responsible to the Client for the consequences of any error or omission contained in Client-supplied information.
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This report is electronically signed and sealed and its electronic form is considered the original. A printed version of the original can be relied upon as a true copy when supplied by the author or when printed from its original electronic file.

Courtney Mulhall, M.Sc., P.Eng.
Geotechnical Engineer

Inspection Photographs

- Photo 1** Slide area along eastbound lanes (south side) of Hwy 43:04 near western site limit. Note toe roll blocking highway ditch (circled in white). Photo taken June 13, 2023, facing southeast.



- Photo 2** Slide area along eastbound lane (south side) of Hwy 43:04 near western site limit. Note toe roll blocking highway ditch (circled in white). Photo taken June 13, 2023, facing southwest.



Photo 3 Slide area along eastbound lane (south side) of Hwy 43:04 near eastern site limit. Note toe roll blocking highway ditch (circled in white). Photo taken June 13, 2023, facing south.

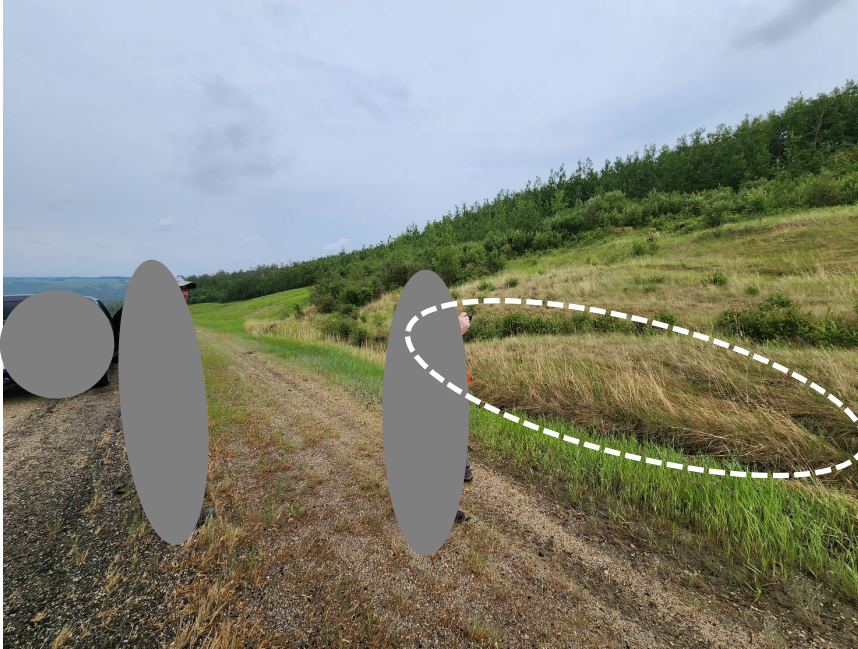


Photo 4 Slide area along eastbound lane (south side) of Hwy 43:04 near eastern site limit. Photo taken June 13, 2023, facing south.



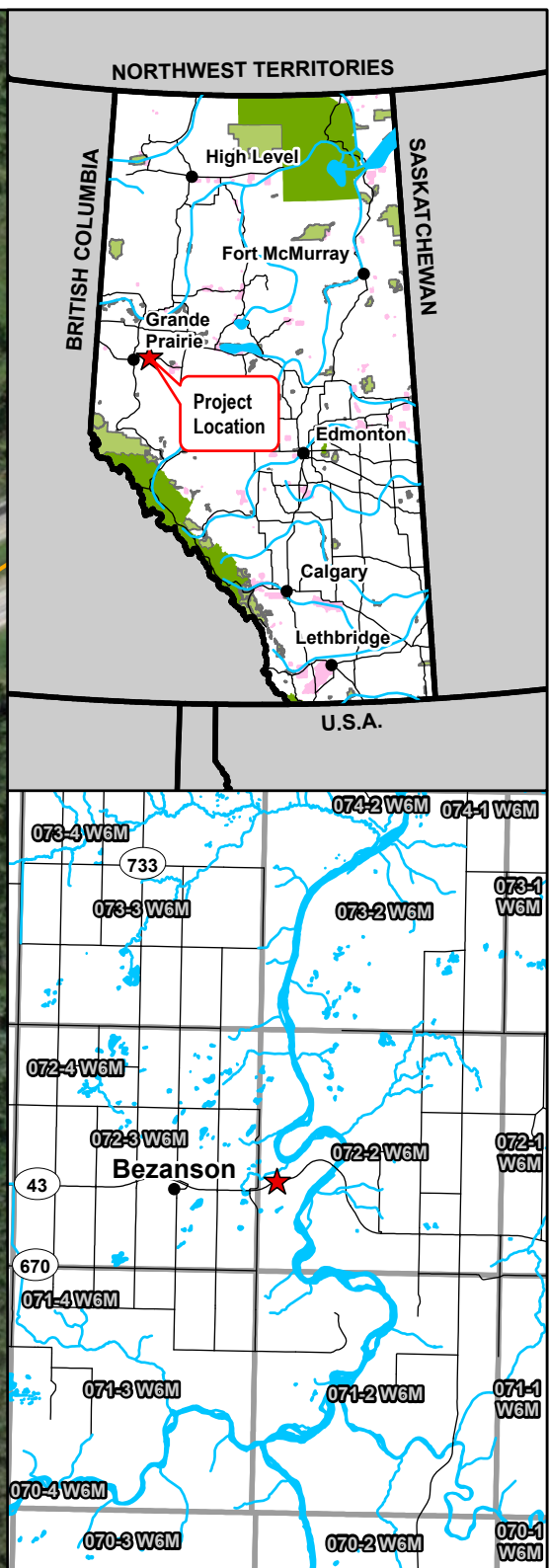
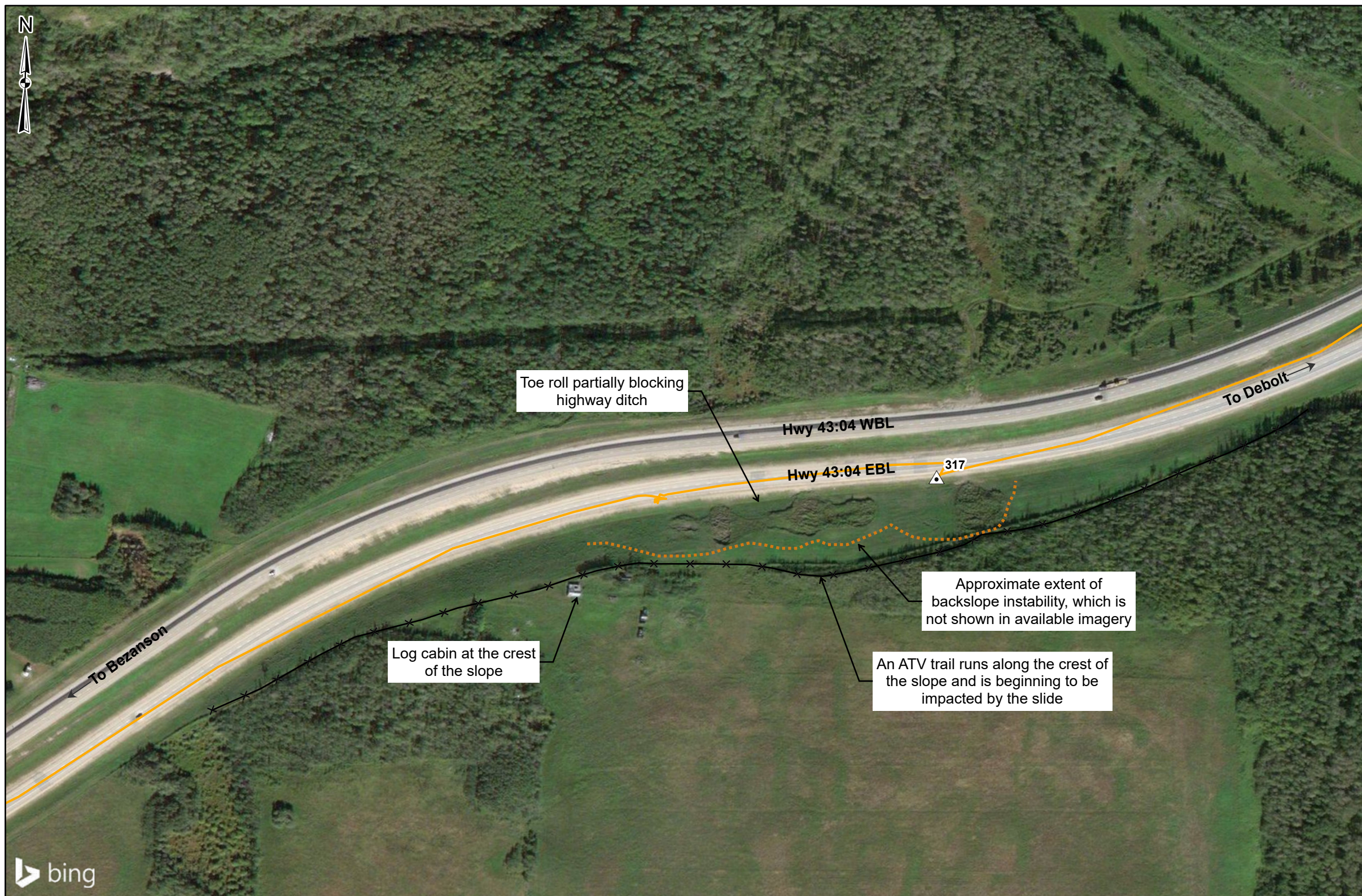
Photo 5 Slide area along eastbound lanes (south side) of Hwy 43:04 near eastern site limit. Note toe roll blocking highway ditch and channel eroded around toe roll (circled in white, see photo below). Photo taken June 13, 2023, facing southwest.







Photo 6 Erosion along toe of backslope and toe roll shown in previous photo near WP317. Photo taken June 13, 2023, facing southwest.



File: \\int.kohn.com\ProjData\A\EDM\A05116A01\ABT Grande Prairie South GRMP\400 Drawings\GIS\MXD\2023\Section B\ABT_GFSouth_SectionB_230619.aprx Date: Time: Creator: aharrison



Legend

-  GPS Waypoint (June 13, 2023)
-  GPS Track (June 13, 2023)
-  Approximate Slide Limit
-  Landowner's Fence

NOTES:
 1. HORIZONTAL DATUM: NAD83
 2. GRID ZONE: UTM ZONE 11N
 3. IMAGE SOURCE: MICROSOFT CORPORATION 2023 MAXAR CNES, DISTRIBUTION AIRBUS DS
 4. SIZE OF BACKSLOPE SLIDE HAS GROWN SINCE AIRPHOTO IMAGERY WAS TAKEN.

CLIENT

Alberta

 **Klohn Crippen Berger**

PROJECT

PEACE REGION (GRANDE PRAIRIE DISTRICT-SOUTH)
 GEOHAZARD RISK MANAGEMENT PROGRAM

TITLE

Site Plan
 GP046 - Smoky River W. Valley EBL Backslope Slumps
 Hwy 43:04, km 32.004

SCALE 1:3,500

PROJECT No. A05116A01

FIG No. 1

