



# Ministry of Energy & Mines Energy & Minerals Division Geological Survey Branch

# ASSESSMENT REPORT TITLE PAGE AND SUMMARY

Assessment Report [type of survey(s)] Assessment Report on the Highway 33 Bo	yet Property (Inspection) \$ 2,425
	SIGNATURE(S) W. Granueld
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S)	YEAR OF WORK 2006
STATEMENT OF WORK - CASH PAYMENT EVENT NUMBER(S)/DATE(S	3) 4116181 (December 14, 2006)
PROPERTY NAME Highway 33 Basalt	
CLAIM NAME(S) (on which work was done) Tenure No.	50/6/0
COMMODITIES SOUGHT_Basalt	
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN	
MINING DIVISION	_ NTS
MINING DIVISION	//9 0 <u>07</u> '" (at centre of work)
OWNER(S)	
1) Jean McBride	2)
MAILING ADDRESS  #106-145 Asher Road  Kelruma, B.C. VIX 3H5	
OPERATOR(S) [who paid for the work]	
1) As allowe	_ 2)
MAILING ADDRESS	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure Flat lying Miocene basalt flows over Batholith and Moneshue Gneiss. Base form a North trending band up to 5	re, alteration, mineralization, size and attitude):  while counties rocks of the Okanogen  Lt flows may exceed 50 m in thickness on  too metro wide.
DEFENDED TO DREVIOUS ASSESSMENT WORK AND ASSESSMEN	NIT PEPOPT NUMBERS N/A
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMEN	NT REPORT NUMBERS N/A .

TYPE OF WORK IN EXTENT OF WORK THIS REPORT (IN METRIC UNITS)		ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)	19		
Ground, mapping			\$ 000 0
Photo interpretation		50/6/0	\$ 990 =
GEOPHYSICAL (line-kilometres)			
Ground	100		
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne		N2 II 1	
GEOCHEMICAL (number of samples analysed for)			
Soil			
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size)			
Core			+
Non-core			
RELATED TECHNICAL			
Sampling/assaying		•	
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY/PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail _			
Trench (metres)			
Underground dev. (metres)			
Underground dev. (metres)Other _Devis Person Devis Person Devis	icosonal	501610	\$ 1,485 = ST \$ 1476 =
- and the second of the second		TOTAL CO	ST \$ 2475 3

# ASSESSMENT REPORT

on the

# **HIGHWAY 33 BASALT PROPERTY**

49°44' North latitude 119°07' West longitude NTS Map 82E/11

for

Jean McBride. #106-145 Asher Road Kelowna, BC. V1X 3H5

Prepared by:

GEOQUEST CONSULTING LTD.

W. Gruenwald, P. Geo. August 5, 2007



Photo A - Satellite view of the Highway 33 property

## **TABLE OF CONTENTS**

			Page				
1.0	SUMMA	RY	1				
2.0	INTROD	DUCTION					
	2.1	General Statement	2				
	2.2	Location and Access	2				
	2.3	Physiography and Vegetation	2				
	2.4	Mineral Claims	2				
	2.5	History	2				
3.0	GEOLOGY3						
4.0	INDUST	RIAL MINERALS	3				
5.0	EXPLO	RATION WORK - 2006	4				
6.0	CONCL	USIONS	4				
7.0	RECOM	MENDATIONS	4				
PHOTOGRAPHS							
			Page				
Phot		Satellite view of Highway 33 property					
Phot		Columnar Basalt					
Phot	_	View looking northeast to Big White Ski Resort	• •				
Phot		Rolling Terrain underlain by basalt	• •				
Phot	-	Columnar basalt flow and talus slope					
Phot		Basalt flows and talus slope	• •				
Phot	0 6	Road and flat area east of Highway 33	Appendix A				
		FIGURES					
			After Page				
Figu		Location Map	1				
Figu		Claim Map					
Figu	re 3	Geology	3				
APPENDICES							
Appe	endix A	Property and area photographs					
Appe	endix B	Personnel					
Appe	endix C	Statement of Expenditures					
Appe	endix D	References					
Appe	endix E	Certificate					

### 1.0 SUMMARY

The Highway 33 Basalt property is situated 29 kilometres southeast of Kelowna in southern British Columbia. The property consists of a single MTO claim covering 281hectares and owned by Jean McBride of Kelowna, BC. Highway 33 and logging roads provide very easy access to the property.

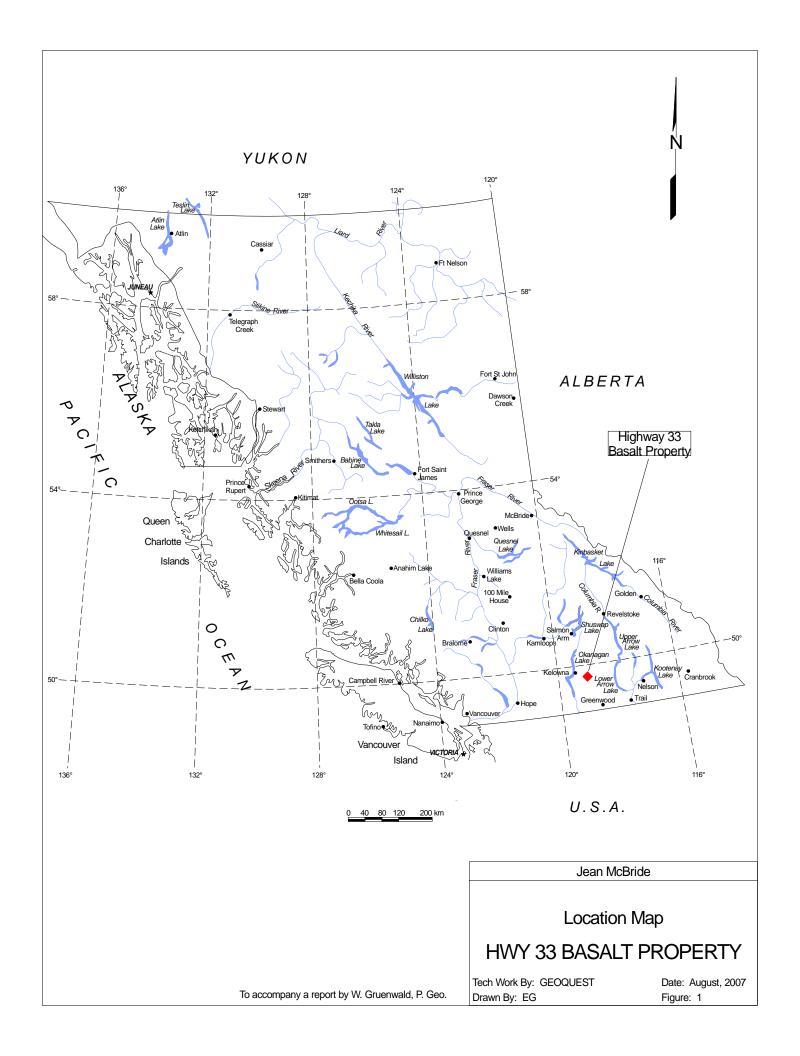
The area first received attention in the 1970s during the exploration boom sparked by the discovery of the Blizzard and other uranium deposits.

The geology of area comprises granitic rocks of the Okanagan Batholith to the west and sheared equivalents of this and Monashee gneiss to the east. A 500m + wide north trending band of flat lying basalt flows underlies the eastern portion of the property. The total thicknesses of the basalt flows could exceed 50 metres in thickness.

In late 2006 a reconnaissance of the property by helicopter and on the ground confirmed the presence of substantial deposits of basalt that have very little overburden cover. Most of the basalt occurs in areas that are gently sloping to flat and that have been previously logged.

The Highway 33 Basalt property offers good potential for the development of readily accessible basalt for landscape material and aggregate. Advantages for developing this deposit are that it is situated outside of urban areas, would have no social or environmental impacts and is within a reasonable trucking distance of Kelowna.

Recommended work includes a survey to accurately determine the extent of the basalt on the property. This should be followed by excavating a number of test pits to determine various properties of the basalt such as ease of extraction, basalt block size, and morphology.



#### 2.0 INTRODUCTION

#### 2.1 General Statement

The Highway 33 Basalt property southeast of Kelowna, BC was investigated by a helicopter reconnaissance on October 31, 2006. A ground examination was conducted by Mr. Rob Montgomery on November 12, 2006. The objectives of this work were to establish the presence and approximate extent of basalt within a portion of the property that is readily to Highway 33.

#### 2.2 Location and Access

The property is located 28.7 kilometres southeast of Kelowna in south-central British Columbia. Geographic coordinates for the centre of the property are 49°44' north latitude and 119°07' west longitude on NTS Map 82E/11. UTM coordinates are 346800E and 551100N on Trim Map 082E.075

Highway 33 transects the eastern third of the property. This along with several logging roads provides excellent access to much of the property. The Kettle Valley rail right of way transects the northwestern part of the property. It is no longer used and has become a recreational corridor. Clear-cut logging has taken place on several parts of the property including most of the area under investigation.

#### 2.3 Physiography and Vegetation

The Highway 33 Basalt property is characterized by broad, rolling terrain of the Okanagan Highland of the Interior Plateau. Several small streams are found on the property all of which are part of the Kettle River drainage system. No lakes occur on the property. Slopes range from gentle to moderate with only a few steep slopes along a creek in the centre of the property (Figure 2). Topographic relief is 60 metres, ranging from 1080 metres in a creek gully in the southeastern part of the property to 1240 metres in the northwest part of the properly.

Glaciation has resulted in extensive till cover. Till thickness is likely less than 3 metres to non existent on ridge tops and knolls. Till may exceed ten metres in valley bottoms and lake filled depressions. The property is forested with fir, and pine along with minor deciduous vegetation. Commercial timber harvesting has taken place over the years resulting in vastly improved access into many parts of the property.

The property is generally snow free and accessible from April into November.

#### 2.4 Mineral Claims

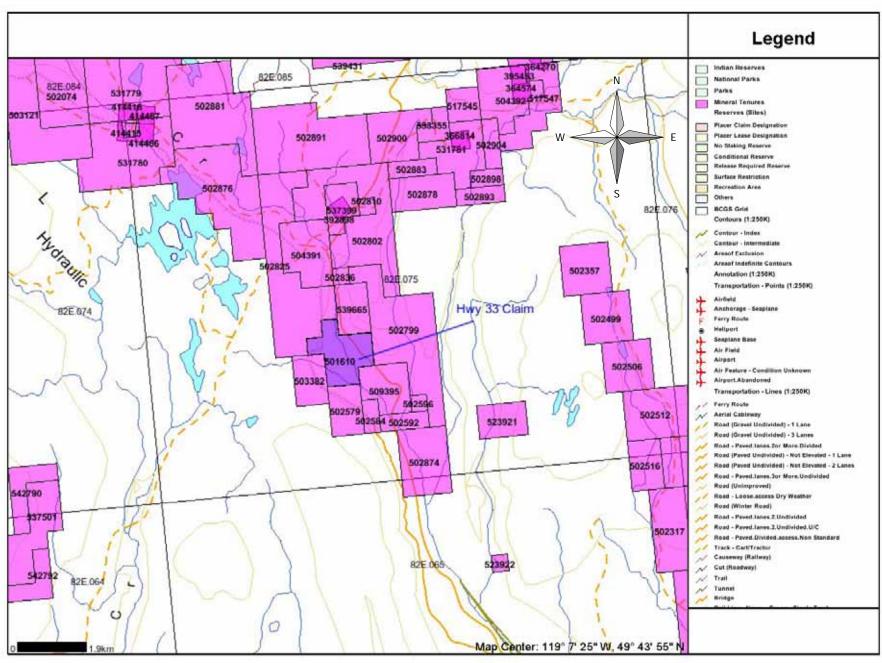
The Highway 33 Basalt property consists of one Mineral Title Online (MTO) claim (Figure 2).

Tenure No.	Claim Name	Owner	Map Number	Good To Date	Area (Hectares)
501610	Jeane	208206 (100%)	082E.075	2008/Jan/12	208.819

The claim is currently surrounded on all sides by other claims.

#### 2.5 History

During the 1970s the region received considerable attention with the discovery of several uranium occurrences. One such occurrence, the Haynes Lake property (Minfile 082ENW051) is situated approximately three kilometres to the north of the Highway 33 property. This and other uraniferous deposits are associated with buried "paleochannel" sediments.



#### 3.0 GEOLOGY

The western area of property and surrounding region is underlain by granite and granodiorite of the Okanagan Batholith of Cretaceous or Jurassic age. Mapping by the Geological Survey of Canada indicates the area easterly of Highway 33 and the property is underlain by "Okanagan Gneiss" described as a sheared equivalent of the Okanagan Batholith and Proterozoic age Monashee Gneiss.

Occupying the eastern part of the property is a northerly trending band of Miocene basaltic rocks. This unit is mapped as at least 500 metres wide and extends north and south of the property. The basalt comprises a series of flat lying to gently dipping lava flows ranging up to several metres thick (Photos 2-5- Appendix A). These flows are estimated to be at least 50 metres thick based on aerial and field observations.

In the 1970 uranium deposits were found in paleochannel sediments that are sandwiched between the basement rocks and on average 75 metres of basaltic flows. It was this geological setting that preserved the uraniferous deposits that would have been easily eroded by glaciation. There is no record of such deposits on the property.

### 4.0 INDUSTRIAL MINERALS

The Highway 33 property hosts substantial thicknesses of basalt that are being considered for a variety of uses. Basalt is a hard, chemically benign material. It is usually devoid of sulphide minerals and thus is not acid generating. After cooling basalt flows often become often jointed in columnar fashion. An example not from the property is shown on Photo 1. This results in a blocky material that can be mined by physical means with little or no need for drilling and blasting. Basalt is used for industrial and landscaping purposes. In the former case it can be crushed to yield an aggregate for a variety of uses such as concrete, road and railway bed fill. Concrete made from crushed basalt has a high tensile strength and is resistant to chemical deterioration. The blocky or columnar nature of basalt often results in shapes that are used for decorative stone, borders, and rock walls purposes.

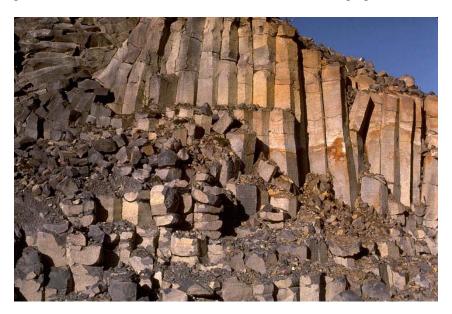
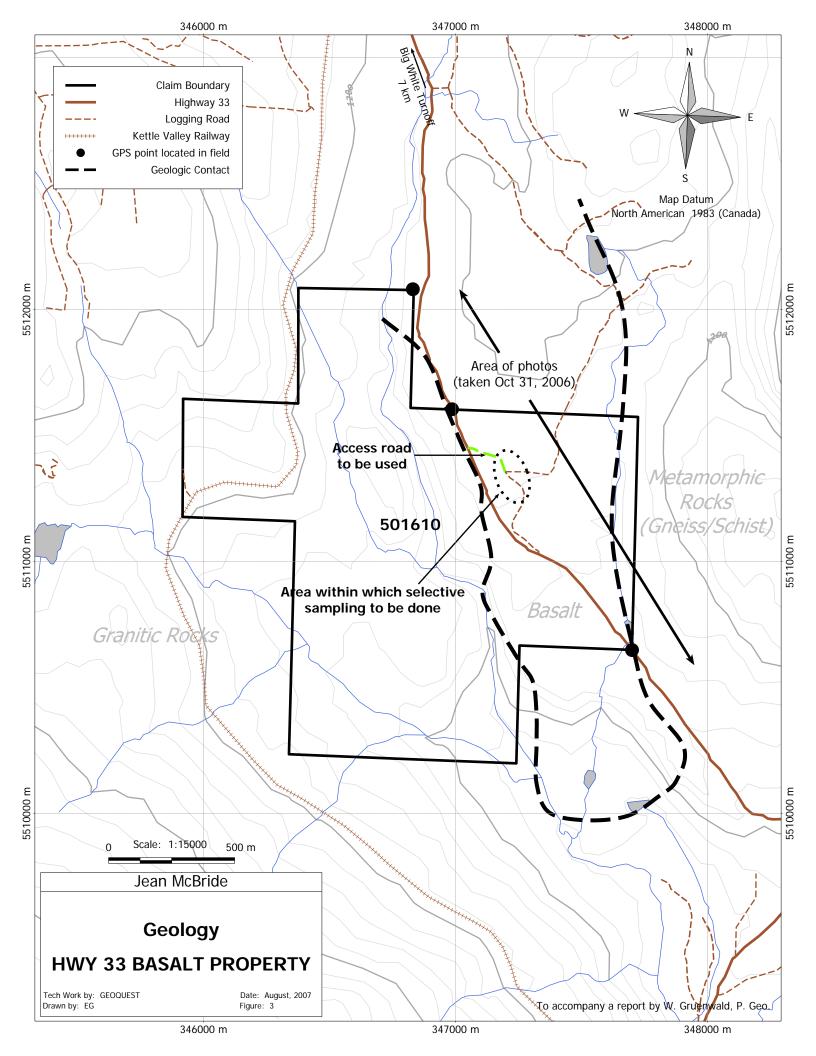


Photo 1 - Columnar Basalt



Basalt is mined near Ashcroft and used to make roofing shingles and a quarry near Whistler produces coarse blocks used as driveway borders and rock walls.

### 5.0 EXPLORATION WORK

On October 31, 2006 the Highway 33 Basalt property was investigated by a helicopter reconnaissance. This was followed on November 12, 2006 by a ground examination by geologist Rob Montgomery. These investigations confirmed that deposits of basalt underlie the eastern portion of the property.

### 6.0 CONCLUSIONS

The property is host to a substantial amount of basalt that offers the potential for the development of a quarry with excellent access. The advantages of a quarry in this area are the negligible social and environmental impact and proximity to major urban and recreation markets such as Kelowna and the Big White Ski Resort.

### 7.0 RECOMMENDATIONS

Initial investigation of the property should include an accurate survey of the basalt that is readily accessible. This will allow an assessment of the area and ultimately the volume of material available. Following this a series of test pits should be dug with an excavator as deep as possible to determine the ease of extraction as well as the variation in basalt block size, morphology, colour and aesthetic appearance.

Submitted by,

Warner Gruenwald, P. Geo, August 5, 2007

## **APPENDIX A**

PROPERTY AND AREA PHOTOGRAPHS



Photo 2 - View looking northeast to Big White Ski Resort



Photo 3 - Rolling terrain underlain by basalt



**Photo 4 - Columnar basalt flow and talus slope** 



Photo 5 - Basalt flows and talus slope.



Photo 6 - Road and flat area E of Hwy 33. Basalt flows in distance

# APPENDIX B PERSONNEL

## Geoquest Consulting Ltd.

Field:

R. Montgomery, B. Sc. (Nov 12, 2006)

Office:

W. Gruenwald, P. Geo (August 5, 2006) 1 day
E. Gruenwald – Map drafting 4 hours

# APPENDIX C STATEMENT OF EXPENDITURES

**Professional Services** 

Geoquest Consulting Ltd., Vernon, BC

(R. Montgomery, W. Gruenwald)

\$1,075.00

**Transportation Costs:** 

Alpine Helicopters Ltd. 1,159.64

Geoquest Consulting Ltd. 40.00 \$1,199.64

**Data and Report Compilation** 

Map preparation, drafting, photocopies, binding \$200.00

TOTAL: \$2,425.64

## APPENDIX D REFERENCES

Templeman-Kluit, D (1986)

GSC Open File Map – Penticton (1:250,000)

BC Assessment Report index

BC Minfile Reports

## APPENDIX E

## **CERTIFICATE**

# I, WARNER GRUENWALD OF THE CITY OF VERNON, BRITISH COLUMBIA HEREBY CERTIFY THAT:

- 1. I am a graduate of the University of British Columbia with a B. Sc. degree in Geology (1972).
- 2. I am a registered member of the Professional Engineers and Geoscientists of British Columbia (#23202).
- 3. I am a fellow of the Geological Association of Canada (F2958)
- 4. I am an independent consulting geologist and president of Geoquest Consulting Ltd., Vernon, BC.
- 5. I have practiced continuously as a Geologist for the past 34 years in western Canada and the US.
- 6. I supervised the 2006 examination of the Highway 33 Basalt property.

W. Gruenwald, P. Geo. Dated: August 5, 2007