

10/88

LOG NO: 1112	RD.
ACTION: 20 pp.	
FILE NO: 87-730 16456	

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

LOG NO: 0120	RD.
ACTION: Date received report back from amendments.	
FILE NO: 87-730-16456	

DIAMOND DRILLING REPORT

VINE PROPERTY

VINE 54, 56 AND 58 CLAIMS

FILMED

FORT STEELE MINING DIVISION, B.C.

CRANBROOK AREA

N.T.S. 82G/5E, 5W

- ASSESSMENT REPORT -

LATITUDE: 49°26'N  
27'

LONGITUDE: 115°50'W  
44'36"

OWNER/OPERATOR

COMINCO LTD.

KOOTENAY EXPLORATION  
1051 INDUSTRIAL ROAD #2,  
CRANBROOK, B.C.  
V1C 4K7

Work Performed June through September, 1987

Report by: A.S. HAGEN  
Submitted: October, 1987.

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

SUB-RECORDER RECEIVED	
NOV 3 1987	
M.R. #	\$
VANCOUVER, B.C.	

16,456



COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING REPORT

VINE 54, 56 & 58 CLAIMS

FORT STEELE M.D.

1.00 INTRODUCTION

1.10 Location and Access

The Vine property lies within the Fort Steele Mining Division. The claims are located immediately south of Cranbrook, B.C., centered at latitude 49° 26' N and longitude 115° 50' W.

Access to the property is by way of good gravel roads from highway 3/95 and from the south area of the municipality of Cranbrook.

1.20 Property Definition

The Vine property consists of 38 mineral claims totalling 491 units and one reverted crown grant (Grey Eagle - Lot 8915). All claims are 100% owned by Cominco Ltd.

1.30 Topography and Vegetation

The Vine claims are located on moderately hilly terrain. Vegetation consists predominantly of lodgepole pine, Douglas fir and larch. A large portion of the area containing lodgepole pine has recently been heavily logged due to an infestation of pine beetles.

2.00 DIAMOND DRILL HOLES V87-1 AND V87-2

2.10 DDH V87-1

Hole V87-1 was collared at -80° dip on azimuth 270° at elevation 1189 m on the boundary line between claims Vine 56 and Vine 58. The hole was triconed to bedrock at 9.1 m where coring began in Middle Aldridge sediments. Drilling remained in sediments to the end of the hole at 555.49 m.

The sediments cored are Middle Aldridge stratigraphy composed predominantly of medium and thick quartzitic wackes and quartzwacke beds of turbidite origin. Alternating with the zones of more proximal-type medium and thick turbidites are segments of more argillaceous, distal turbidites and inter-turbidite sediments which are thinly laminated to

thin bedded wacke, subwacke and argillite beds. Lithologies are typical Middle Aldridge basin-fill type sedimentary deposits.

Chlorite and biotite alteration is common throughout the stratigraphy cored with chlorite being particularly notable.

The rock is intensely fractured in part, with fracturing predominantly at 10° to 25° to core causing well broken core in some zones. Minor Pb/Zn mineralization occurs occasionally, in association with fracturing.

No mineralization of economic significance was encountered in hole V87-1.

#### 2.20 DDH V87-2

Hole V87-2 was collared at -90° at elevation 1067 m on claim Vine 54. The hole was triconed to 4.3 m where bedrock was struck and coring began in Middle Aldridge sediments. Drilling remained in sediments to completion of the hole at 105.8 m.

The stratigraphy cored is of Middle Aldridge sediments composed mainly of medium and thick quartzitic wackes and quartzwackes of turbidite origin. The lithology is similar to that in previously described DDH V87-1 with segments of more distal and inter-turbidite type, thinly laminated to thin bedded wackes, subwackes and argillites alternating with the zones of more proximal, quartzite type medium and thick turbidites. The rock is biotitized and lightly chloritized in part.

No mineralization of economic significance was encountered in DDH V87-2.

### 3.00 CONCLUSIONS

#### 3.10 DDH V87-1

Drillhole V87-1 cored sediments of Middle Aldridge stratigraphy containing minor Pb/Zn mineralization in association with intense fracturing within the upper portion of the hole.

Fracturing was encountered throughout the stratigraphy at 10° to 25° to core indicating proximity to a major fault structure.

DDH V87-1 neither encountered nor indicates proximity to, mineralization of economic significance within the stratigraphy cored.

3.20 DDH V87-2

DDH V87-2, similar to V87-1, cored sediments of Middle Aldridge stratigraphy. No mineralization of economic significance was encountered within the stratigraphy cored.

*The core was not assayed.*

Report by: A.S. Hagen  
A.S. HAGEN  
Geologist II

Endorsed by: D. Anderson  
D. ANDERSON, P.Eng  
Project Geologist

Approved by: John Hamilton  
J.M. HAMILTON, P.Eng  
Manager, Exploration  
Western Canada

Distribution: Mining Recorder (2 Copies)  
Western District, Exploration  
Kootenay Exploration



EXHIBIT "A"STATEMENT OF EXPENDITURES

DIAMOND DRILLING - VINE 56 and 58 CLAIMS  
 DIAMOND DRILLHOLE V87-1  
 FORT STEELE MINING DIVISION

\*INDIRECT\*Salaries

A.S. Hagen	-Drill site preparation, Supervision, Core logging, Report writing 40 days @ \$210/day	\$ 8,400
D. Anderson	-Supervision - 6 days @ \$250/day	1,500
J.S. Allen	-Field Assistant - 4 days @ \$ 81/day	324
H.C. Schultze	-Field Assistant - 4 days @ \$ 98/day	392

Mobilization/Demobilization

Bearcat Contracting Ltd., Fort Steele, B.C.	2,009
Henderson Heavy Hauling (1973) Ltd., Cranbrook, B.C.	1,465
W. Barker Contracting Ltd., Kimberley, B.C.	482

Water Supply

Lawrence Shubert Trucking, Cranbrook, B.C.	9,740
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Transportation

One 4X4 truck	39 days @ \$40/day	1,560
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Other Associated Costs

Supplies: Core boxes, drill additives	5,100
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\*DIRECT\*

Tonto Drilling (B.C.) Ltd. #200 - 3920 Norland Ave. Burnaby, B.C. V5G 4K7	<u>68,957</u>
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Total Drilling Cost - V87-1 = \$99,929

\* Note: Drillhole on boundary of Vine 56 & 58 claims - expenditures split between two groups, Vine 87-1 and Vine 87-2.


  
 A.S. HAGEN  
 Geologist

EXHIBIT "B"STATEMENT OF EXPENDITURES

DIAMOND DRILLING - VINE 54  
 DIAMOND DRILLHOLE V87-2  
 FORT STEELE MINING DIVISION

## \*INDIRECT\*

Salaries

A.S. Hagen	-Drill site preparation, Supervision Core logging, Report writing 7 days @ \$210/day	\$ 1,470
J.S. Allen	-Field Assistant - 1 day @ \$81/day	81
H.C. Schultze	-Field Assistant - 1 day @ \$98/day	98

Mobilization/Demobilization

Bearcat Contracting Ltd., Fort Steele, B.C.	1,225
Henderson Heavy Hauling (1973) Ltd., Cranbrook, B.C.	407

Transportation

One 4X4 truck	8 days @ \$40/day	320
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Other Associated Costs

Supplies: Core boxes, Drill additives	1,000
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## \*DIRECT\*

Tonto Drilling (B.C.) Ltd. #200 - 3920 Norland Ave., Burnaby, B.C. V5G 4K7	<u>9,949</u>
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Total Drilling Cost - V87-2 = \$14,550

  
 A.S. HAGEN  
 Geologist



IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A DIAMOND DRILL PROGRAM

CARRIED OUT ON THE VINE 54, 56 AND 58 CLAIMS

CRANBROOK AREA


in the Fort Steele Mining Division of  
the Province of British Columbia

More Particularly N.T.S. 82G/5

A F F I D A V I T

I, A.S. Hagen, of the City of Kimberley, in the Province of British Columbia, make Oath and say:

1. That I am employed as a Geologist by Cominco Ltd. and as such, have a personal knowledge of the facts to which I hereinafter depose:
2. That annexed hereto and marked as Exhibit "A" and Exhibit "B" to this my Affidavit is a true copy of expenditures incurred on a Diamond Drill program, on the Vine 54, 56 and 58 Mineral Claims.
3. That the said expenditures were incurred between the 24th day of June, 1987 and the 1st day of October, 1987 for the purpose of mineral exploration on the above noted claims.

  
\_\_\_\_\_  
A.S. HAGEN  
GEOLOGIST

COMINCO LTD.

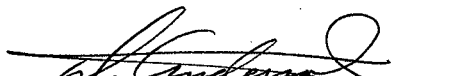
EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

A.S. HAGEN has personally conducted many types of mineral exploration work for Cominco Ltd. over the last twenty years.

I consider him well qualified to prepare this report.

  
D. ANDERSON, P.Eng.  
Project Geologist

# Diamond Drill Geological Log For D.D.H. V87-1

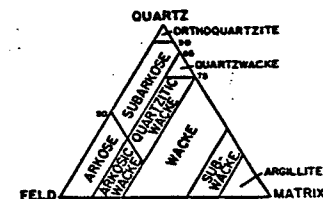


LAT. 49° 27' N	LONG. 115° 45' W	ELEV. 1189 m	<b>GENERAL COMMENTS:</b> Hole V87-1 is stage one of a planned 2 stage drill program. The hole is planned to go to 900 m in stage 2 at a later date.  Intense fracturing throughout stratigraphy cored resulted in difficult and slow drilling at times.  No mineralization of economic significance was encountered in V87-1.
DIP: - 80°	AZIM.: 270°	LENGTH: 555.49m	
HORIZ. COMP. 107.4m	VERT. COMP. 545.1m		
DATE COLLARED: July 6, 1987	DATE COMPLETED: August 4, 1987		
CORE STORAGE: Sullivan Mine facility			
DRILLED ON CLAIM(S): Vine 56 and 58			
OBJECTIVE: Test for Pb/Zn mineralization in Aldridge Fm. sediments			
PLANNED LENGTH: 900 m in two stages			
TERMINATION COMMENTS: Stage one completed			
DRILLED BY: Tonto Drilling (B.C.) Ltd.			
TYPE DRILL: Longyear 38 and 44			
CORE SIZE: HQ and NQ			
PERFORMANCE COMMENTS: Difficulties in ground well fractured with breaks from parallel to 25° to core.			
CASING REMAINING IN HOLE (LENGTH & SIZE): 10m H casing			
TYPE CAP & SEALING METHOD: Screw on type H casing cap			
OTHER MATERIAL REMAINING IN HOLE: nil			
SURVEY INSTRUMENT USED: Sperry-Sun single shot			
ADDITIONAL DOWN HOLE TESTS: nil			

### LOG LEGEND

#### BED THICKNESS CLASSIFICATION

<b>BEDS</b>	Very Thick Bedded
	— 100 cm —
	Thick Bedded
	— 30 cm —
	Medium Bedded
	— 10 cm —
	Thin Bedded
— 3 cm —	
Very Thin Bedded	
— 1 cm —	
<b>LAMINAE</b>	Laminated
	— 0.3 cm —
	Thinly Laminated



Dunham's field classification of stichticlastic rocks of the Permian Supergroup.

D.D.H. V87-1

## Drill Hole Record



Property **V I N E** District **Western/Ft. Steele M.D.** Hole No. **V87-1**  
 Commenced **July 6, 1987** Location **Boundary Vine 56 & 58** Tests at **130m, 276m, 435m, 555m** Hor. Comp. **107.4 m**  
 Completed **August 4, 1987** Core Size **HQ + NQ** Corr. Dip **See attached** Vert. Comp. **545.1 m**  
 Co-ordinates **Latitude 49° 27' N** Longitude **115° 45' W** True Brg. **See attached** Logged by **A.S. Hagen**  
 Objective **Test for Pb/Zn mineralization in Aldridge Fm. sediments.** % Recov. **90 - 95%** Date **August, 1987**

Claim **Vine 56 + 58**  
 T Brg. **West**  
 Collar Dip **-80°**  
 Elev. **1189 m**  
 Length **555.49 m**  
 Hole No. **V87-1** Sheet **1**

From	To	Description	Analysis
0.0	9.1	Overburden	
9.1	11.0	Quartzwackes and quartzitic wackes, medium (predominantly) and thick bedded, contacts flat and distinct. Rock mostly quartzitic with thin (up to a few cm), more argillaceous bed tops. Intense chlorite alteration gives rock a distinctive green tinge. Abundant, fine white flecks (leucoxene?) present. Minor fracturing, with thin quartz veins in part, 10-20° to core. Bedding 78° to core.	
11.0	17.5	Wackes, subwackes and argillites, thin and medium bedded with occasional medium, quartzwacke interbed. Rare, dark grey, thinly laminated, chloritized sediment. This segment more distal and inter-turbidite type lithology. Strong chlorite alteration. Rock becoming more fractured and shattered in part with prominent fracturing 10 to 25° to core. Two cm gouge and crushed rock at 16 m, along argillaceous bed top indicating movement along bedding plane.	
17.5	24.4	Quartzwackes and quartzitic wackes, medium and thick bedded sediment, very rare inter-turbidite type sediment. Intense fracturing in part, moderate to badly broken core, some crushed segments. Chlorite alteration. Bedding 75 to 80° to core.	
24.4	30.5	Wackes, subwackes and argillites, very thin to medium bedded sediments predominate, typical of more distal and inter-turbidite type deposition. Occasional thin bed of dark grey, thinly laminated sediment. Thin sand lenses in part. Chlorite alteration throughout, some bleaching effects highlight features, argillaceous segments commonly light green to buff coloured. Bedding 75 to 80° to core.	
30.5	35.7	Quartzwackes and quartzitic wackes, medium and thick bedded. Minor inter-turbidite type deposition. Alteration effects as in previous segments. Fracturing, as above, causes moderate to badly broken core in part.	
35.7	38.0	Wackes, subwackes and argillites, similar to 24.4 to 30.5 m type deposition. Fractured, broken core in part.	

211-9437

## Drill Hole Record



Property **Vine** District **Western/Ft. Steele M.D.** Hole No. **V87-1**  
 Commenced **July 6, 1987** Location **Boundary Vine 56 & 58** Tests at **130m, 276m, 435m, 555m** Hor. Comp. **107.4 m**  
 Completed **August 4, 1987** Core Size **HQ + NQ** Corr. Dip **See attached** Vert. Comp. **545.1 m**  
 Co-ordinates **Latitude 49° 27' N** Longitude **115° 45' W** True Brg. **See attached** Logged by **A.S. Hagen**  
 Objective **Test for Pb/Zn mineralization in Aldridge Fm. sediments.** % Recov. **90 - 95%** Date **August, 1987**

Claim **Vine 56 + 58**  
 T Brg. **West**  
 Collar Dip **-80°**  
 Elev. **1189 m**  
 Length **555.49 m**  
 Hole No. **V87-1** Sheet **2**

From	To	Description	Analysis
38.0	41.2	Quartzitic wackes and wackes, thin and medium bedded with wacke, subwacke and argillite interbeds composing much of this segment. Rock is well fractured as in previous segments with intense, erratic fracture zones in part causing moderate to badly broken core. Bedding variable from 40° to 75° to core (local folding). Chlorite alteration and bleaching common.	
41.2	50.9	Quartzwackes and quartzitic wackes, medium and thick bedded sediments, amalgamated in part. Rock is partially bleached and well chloritized. Usual fracture pattern as above, moderately broken core. Fine leucoxene flecks common as in all previous segments.	
50.9	54.6	Wackes, subwackes and argillites, rare quartzitic wacke bed. Mainly distal and inter-turbidite type deposition. Some disturbed sediment (slump-like) at 53 m. Alteration as above. Bedding 80 to 85° to core. Fractured core as in previous segments.	
54.6	62.0	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments, amalgamated in part. Some inter-turbidite type and/or current type deposition (minor), irregular, lensey and slump-like at 61 m. Usual fracturing with broken core in part. Some fracturing parallel to core. Bedding 80° to core.	
62.0	67.0	Wackes, subwackes and argillites, very thin to medium bedded. Intensely chloritized altering rock to distinctive medium-dark green. Rock is well fractured with erratic quartz veining in part. Some slickensides along fractures parallel to bedding as well as low angle to core. Zone contains one medium quartzitic wacke bed with base at 65 m. Bedding 75 to 80° to core.	
67.0	75.6	Lithology similar to previous footage with less chlorite alteration. Zone contains several beds of thinly laminated, light and medium/dark grey wackes. One thick quartzwacke bed with base at 69.7 m. Bedding 85° to core.	

211-9437

Scale

Colour Plot  
& Dip

## Drill Hole Record



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Property	Vine	District	Hole No.	V87-1
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

From	To	Description
75.6	104.4	Quartzwackes and quartzitic wackes, medium and thick bedded. Very minor amounts of more argillaceous distal and inter-turbidite type beds. Some beds subtly graded, others change abruptly from quartzite to soft, argillaceous tops. Chlorite alteration as in previous segments, some bleaching highlights features in part. Occasional thin (up to 2 cm) quartz vein reflecting prominent jointing at 5° to 10° to core. Some minor brecciation with adjacent broken core at 76.8 m. Bedding 85° to core.
104.4	120.3	Quartzwackes, quartzitic wackes and wackes, similar type lithology to previous segment however with thicker, argillaceous bed tops and more distal and inter-turbidite type deposition. Several thinly laminated intervals from 3 to 46 cm thick. Abundant chlorite throughout occurs as fine flecks in argillaceous sediment, in association with quartz in fractures and most obvious in erratic, concentrated patch at 110 m. Bedding 85° to core.
120.3	123.2	Quartzwackes, quartzitic wackes and wackes, medium and thick bedded, chloritized sediments. Similar to preceding segment with absence of thinly laminated wacke intervals. Bedding 85° to core.
123.2	130.1	Subwackes and argillite predominantly, some sediment in wacke range. This segment is dark grey and massive appearing for most part (core badly scored, masking features). Core moderately to badly broken in part, with brecciated and/or crushed zone at 125.9 m along plane parallel to bedding. Chlorite alteration throughout.
130.1	132.6	Same type lithology as from 120.3 - 123.2 m. Rip-up clasts in quartzwacke bed at bottom of this segment.
132.6	140.0	Wackes, subwackes and argillites, very thin bedded to medium (rare) bedded (2 medium quartzwacke beds near top of this segment). Thinly laminated, medium/dark grey wacke is abundant in this segment. Thin, calcareous, light grey beds common. Chloritized sediment. Bedding 80° to core.

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	3

211-9437

Scale

Colour Plot  
& Dip

## Drill Hole Record



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Property	Vine	District	Hole No.	V87-1
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

From	To	Description
140.0	148.0	Quartzwackes and quartzitic wackes, medium and thick bedded, rare thin bed. Chloritized rock, bleached in part, highlighting features.
148.0	165.1	Quartzwackes and quartzitic wackes, medium and thick bedded. Some distal and inter-turbidite type wackes, subwacke and argillite deposition. This segment predominantly quartzitic. A few thinly laminated, medium/dark grey wacke intervals up to 38 cm in thickness. Zinc, lead and pyrrhotite fracture mineralization in association with chlorite and calcite from 163.4 to 164.3 m. Chlorite alteration throughout. Bedding 80° to core.
165.1	181.2	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Similar lithology to preceding segment with absence of thinly laminated, medium/dark grey wacke beds. Some minor, erratic fracturing with prominent fractures 5° to 25° to core. Zinc, lead and pyrrhotite in association with calcite and chlorite in fractures at 165.7 to 167.1 m.
181.2	188.1	Wackes, subwackes and argillites, predominantly very thin to medium bedded, chloritized sediments with interval from 184.3 to 186.0 m containing quartzwacke/quartzitic beds in medium/thick range. Numerous intervals of thinly laminated medium/dark grey wacke beds. Occasional thin interval containing fine, calcareous, light grey flecks. Bedding 80° to core.
188.1	193.8	Quartzwackes and quartzitic wackes, medium and thick bedded. Minor amount of more argillaceous, distal and inter-turbidite type deposition. Chlorite alteration.
193.8	196.1	Wackes, subwackes and argillites, very thin to thin bedded range. Abundant thinly laminated, light and medium/dark grey wacke. Some intervals contain fine, calcareous, light grey flecks. Bedding 80 to 85° to core.
196.1	220.4	Quartzwackes, quartzitic wackes, medium and thick bedded, rare bed in thin range. This segment predominantly quartzitic with occasional interval, up to 1 m, containing thinly laminated (rare) to medium range beds of distal and inter-turbidite type

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	4

211-

## Drill Hole Record



Property	Vine	District	Hole No.	V87-1
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	5

From	To	Description	Analysis
196.1	220.4	wacke, subwacke and argillite lithologies. Bedding 80 to 85° to core. (Cont'd)	
220.4	222.3	Wackes, subwackes and argillites. Distal and inter-turbidite type lithologies of thinly laminated, dark grey wacke and medium/light grey, subtly graded to massive argillaceous beds.	
222.3	248.6	Quartzwackes, quartzitic wackes, medium and thick bedded (predominantly) with intervals of less than 1 m containing thin and medium wacke beds, distal and inter-turbidite type sediment. Prominent fracturing from parallel to 25° to core causing broken core in part. Low angle or bedding plane fault indicated by thin (3 cm), brecciated, intensely chloritized segment containing quartz and calcite at 229 m. Minor (less than 2 cm) displacements along fracturing highlighted in some, more argillaceous, segments. Galena, sphalerite and chalcocopyrite (more minor) mineralization in association with fracturing occasionally between 224 and 234 m. White, calcareous flecks abundant in some beds. Slump and/or rip-up features displayed from 240.8 to 241.8 m. Strong chlorite alteration. Bedding 80 to 85° to core.	
248.6	255.5	Similar lithology to preceding segment, however, more argillaceous distal and inter-turbidite type deposition.	
255.5	256.6	Wackes and subwackes, thin and medium bedded. 50% of this segment is thinly laminated, light and medium/dark grey wacke. Bedding 83° to core.	
256.6	271.0	Quartzwackes and quartzitic wackes, medium and predominantly thick bedded sediment. Usual intervals of very thin bedded to thin bedded distal and inter-turbidite type wackes, subwackes and argillites. Pronounced chlorite alteration throughout, intense in part (e.g. 265 m, in association with abundant carbonate in part).	

211-0437

## Drill Hole Record



Property	Vine	District	Hole No.	V87-1
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	6

From	To	Description	Analysis
271.0	275.0	Wackes, subwackes and argillites, very thin bedded to medium bedded, chloritized sediment. Typical distal and inter-turbidite type deposition. Segment contains 2 medium thick, quartzwacke beds. Bedding 80 to 85° to core.	
275.0	287.2	Quartzwackes and quartzitic wackes, medium and thick bedded sediments. Usual intervals, less than 1 m thick, containing distal and inter-turbidite type beds of wacke, subwacke and argillite. Thin (1 cm) gouge along bedding plane at 282.3 m.	
287.2	288.9	Wackes, subwackes and argillites, very thin bedded to medium bedded sediments. Zone contains 3, thin, quartzitic wacke beds. Minor, fine zinc flecks occasionally. Chloritic throughout.	
288.9	294.0	Quartzwackes and quartzitic wackes, medium and thick (predominantly) bedded, chloritized sediment. Typical turbidite type deposition with usual intervals of distal and inter-turbidite type, very thin to thin bedded wackes, subwackes and argillites. Bedding 85° to core.	
294.0	297.2	Wackes, subwackes and argillites, very thin to thin bedded, chloritized sediments. Distal and inter-turbidite type deposition. Some current features, rare cross bedding. Bleaching effect highlights features. 15 mm gouge along bedding plane at 296.9 m.	
297.2	303.8	Quartzwackes, thick bedded sediment. Rare distal and inter-turbidite type, more argillaceous beds. Chloritic as in previous segments.	
303.8	309.5	Quartzwackes, quartzitic wackes and wackes, thin and medium bedded, chloritized sediments. Segment includes some distal and inter-turbidite type deposition. Bedding 80 to 85° to core.	
309.5	316.8	Wackes, subwackes and argillites, very thin to medium bedded, chloritized sediments. Light grey carbonate bed, 7 cm thick, with numerous irregular chlorite blebs at	

211-0437



## Drill Hole Record



Property	Vine	District	Hole No.	V87-1
Commenced	Location		Tests at	Hor. Comp.
Completed	Core Size		Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	9

From	To	Description	Analysis
400.0	408.0	most often tight with quartz, calcite and chlorite in association. Bedding 80° to 85° to core.	
408.8	421.0	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Zone from 416.8 to 418.9 m is thin and medium bedded turbidites with intervals of distal and inter-turbidite type wacke, subwacke and argillite very thin to thin beds. Fine, light grey to white calcareous flecks occasionally throughout.	
421.0	423.2	Intensely fractured, quartzitic sediment. Erratic fracturing from parallel to 25° to core with quartz veins up to 5 cm thick. Minor pyrite, chalcopryrite and sphalerite mineralization. Chlorite alteration highlighted. Polished shear planes indicate this to be a fault zone.	
423.2	425.3	Gabbro, fine grained sill or dyke. Top contact indicates 25° to core, not well defined. Possibly dyke along fault plane as described immediately above.	
425.3	436.9	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Minor amount of argillaceous bed top and distal or inter-turbidite type sediment. Bedding 75 to 80° to core.	
436.9	440.8	Quartzitic wackes and wackes, thin and medium bedded, chloritized sediments. Occasional calcareous segment.	
440.8	453.0	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Minor amount of more argillaceous bed top and distal or inter-turbidite type deposition. Prominant fracturing at very low angle to core continues. Core moderately broken in part.	
453.0	453.7	Fault, well fragmented rock in association with gouge. Gouge along fracture at top of zone 15 to 20° to core.	

211-9437

## Drill Hole Record



Property	Vine	District	Hole No.	V87-1
Commenced	Location		Tests at	Hor. Comp.
Completed	Core Size		Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Vine 56 + 58
T Brg.	West
Collar Dip	-80°
Elev.	1189 m
Length	555.49 m
Hole No.	V87-1
Sheet	10

From	To	Description	Analysis
453.7	457.3	Wackes, subwackes and argillites, very thin bedded to thin bedded, chloritized sediments. Predominantly distal and inter-turbidite type deposition. Fracturing at low angle to core continues causing moderately broken core in part. Some cross-bedding well displayed at 454.9 and 457.0 m. Bedding 85° to core.	
457.3	492.8	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments with occasional intervals of less than 1 m containing more distal and inter-turbidite type wacke, subwacke and argillite beds in the very thin to medium range. Typical Middle Aldridge, repetitive type deposition. Fracturing at shallow angle to core (parallel to 25°) continues throughout this segment. Occasional thin quartz veining along fracture planes. Some sphalerite and galena in association with quartz and calcite along fracturing at 491.2 m. Some well polished surfaces along bedding plane breaks indicate movement along bedding planes in part. Occasionally some thin gouge and crushed sediments along the breaks. Bedding 80 to 85° to core.	
492.8	494.2	Wackes, subwackes and argillites, very thin to medium bedded, chloritized sediments. Lithology similar to 453.7 - 457.3 m. Fracturing as in previous segments continues. Sphalerite, galena and chalcopryrite in thin quartz/calcite filled fractures at 493.8 m.	
494.2	499.0	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments.	
499.0	502.4	Wackes, subwackes and argillites, very thin to medium bedded, chloritized sediments. Some thinly laminated intervals (minor), some medium/light grey, calcareous beds, crossbedded in part. Bedding 80 to 85° to core.	
502.4	508.2	Quartzwackes, quartzitic wackes and wackes. Thin, medium and thick bedded, chloritized sediments with intervals up to 1 m of distal and inter-turbidite type wacke, subwacke and argillite beds in very thin to medium range.	
508.2	524.1	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Amalgamated beds in part. Minor amount of more argillaceous bed top, distal and	

211-9437



## Drill Hole Record



Property	Vine	District	Hole No.	V87-1
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.	Logged by	
Objective		% Recov.	Date	
<del>XXXX</del> Meterage	Description	Analysis		
From To				
508.2 - 524.1 (Cont'd)	inter-turbidite type sediments. Fracturing commonly from parallel to 25° to core with thin (a few mm) quartz/calcite veins. Moderately broken core in part. Bedding 80° to core.			
524.1 - 532.2	Quartzitic wackes and wackes, thin and medium bedded, chloritized sediments. Generally thinner and more argillaceous beds than previous segment with intervals (less than 1 m) containing distal and inter-turbidite type wackes, subwackes and argillites. Moderately broken core due to fracturing from parallel to 25° to core. Bedding 80 to 85° to core.			
532.2 - 533.1	Fault zone, crushed sediment and gouge with quartz and calcite. Broken core at contacts.			
533.1 - 537.8	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Top 1 m along edge of steep dipping fault plane (above), broken core.			
537.8 - 540.4	Quartzitic wackes and wackes, thin and medium bedded chloritized sediments with abundant more argillaceous distal and inter-turbidite type beds. Bedding 80 to 85° to core.			
540.4 - 555.5	Quartzwackes and quartzitic wackes, medium and thick bedded, chloritized sediments. Occasional interval up to 1 m containing more argillaceous distal and inter-turbidite type wacke, subwacke and argillite beds. Some lighter grey, calcareous segments in part (minor). Bedding 80 to 85° to core.			
***** END OF HOLE V87-1 (1987) *****				

## DDH V87-1 SPERRY SUN SURVEYS

Footage	Azim.	Dip
Collar	270°	-80.0°
427'	263°	-78.2°
905'	266°	-79.2°
1,427'	278°	-78.1°
1,822'	274°	-79.9°

## EXTRAPOLATION

Footage	Length	Azim.	Dip	Sin.	Cos.	Vert. Comp.	Horiz. Comp.
0.0 - 213.5'	213.5'	270°	-80.0°	.9848	.1736	210.3'	37.1'
213.5 - 666.0'	452.5'	263°	-78.2°	.9789	.2045	443.0'	92.5'
666.0 - 1166.0'	500.0'	266°	-79.2°	.9823	.1874	491.2'	93.7'
1166.0 - 1624.5'	458.5'	278°	-78.1°	.9785	.2062	448.6'	94.5'
1624.5 - 1822.0'	197.5'	274°	-79.9°	.9845	.1754	194.4'	34.6'
	1822.0'					1787.5'	352.4'

## METRIC CONVERSION

Length	Dip	Azim.	Vert. Comp.	Horiz. Comp.
0.0 - 65.1m	-80.0°	270°	64.1m	11.3m
65.1 - 203.0m	-78.2°	263°	135.1m	28.2m
203.0 - 355.5m	-79.2°	266°	149.8m	28.6m
355.5 - 495.3m	-78.1°	278°	136.8m	28.8m
495.3 - 555.5m	-79.9°	274°	59.3m	10.5m
			545.1m	107.4m



# Drill Hole Record



Property	V I N E	District	Ft. Steele M.D./Western	Hole No.	V87-2
Commenced	July 23, 1987	Location	Vine 54 Claim	Tests at	105.8 m
Completed	July 25, 1987	Core Size	HQ	Hor. Comp.	1.4 m
Co-ordinates	Latitude 49° 27' N	Longitude	115° 44' W	Corr. Dip Collar -90° Tail -88.5°	Vert. Comp. 105.8 m
Objective	Test for Pb/Zn mineralization in Aldridge sediments.		True Brg. Collar - Tail	118°	Logged by A.S. Hagen
		% Recov.	99%	Date	September, 1987

Claim	Vine 54
T Brg.	--
Collar Dip	-90°
Elev.	1067 m
Length	105.8 m
Hole No.	V87-2 Sheet 1

From	To	Description
0.0	4.3	Overburden
4.3	5.2	Wacke, thinly laminated, chloritized sediments. Light and medium/dark grey laminations. Bedding 80° to core.
5.2	11.3	Quartzwackes and quartzitic wackes, medium and thick bedded sediments. Chlorite alteration effect, most apparent in argillaceous bed top sediment.
11.3	16.5	Quartzitic wackes and wackes, thin and medium bedded, chloritized sediments. Some beds calcareous in part. Irregular, current type features well displayed in some, more argillaceous, bed tops. Bedding 80° to core.
16.5	16.8	Wackes, thinly laminated, light and medium/dark grey laminations in lightly chloritized rock.
16.8	33.7	Quartzwackes and quartzitic wackes, medium and thick bedded, slightly chloritized sediments. Minor amount of distal and inter-turbidite type, very thin to medium bedded wacke to argillite deposition. Some beds slightly calcareous in part, 3 strongly calcareous, medium thick beds at 25.4 to 25.8 m. Quartz vein (less than 10 cm thick), with minor chlorite, biotite, calcite pyrite, pyrrhotite and chalcopyrite at 19.2 m. Bedding 80° to core.
33.7	44.2	Wackes, subwackes and argillites, very thin to medium bedded, lightly chloritized sediment. Rare medium bed in quartzitic wacke range. Very thin fine grained sand lenses, commonly displaying crossbedding, alternating with thin, dark grey mudstone makes up large portion of this segment. Occasional calcareous bed. Bedding 75° to 80° to core.
44.2	48.6	Quartzwackes and quartzitic wackes, medium and thick bedded sediments. Similar lithology to 16.8 to 33.7 m.

# Drill Hole Record

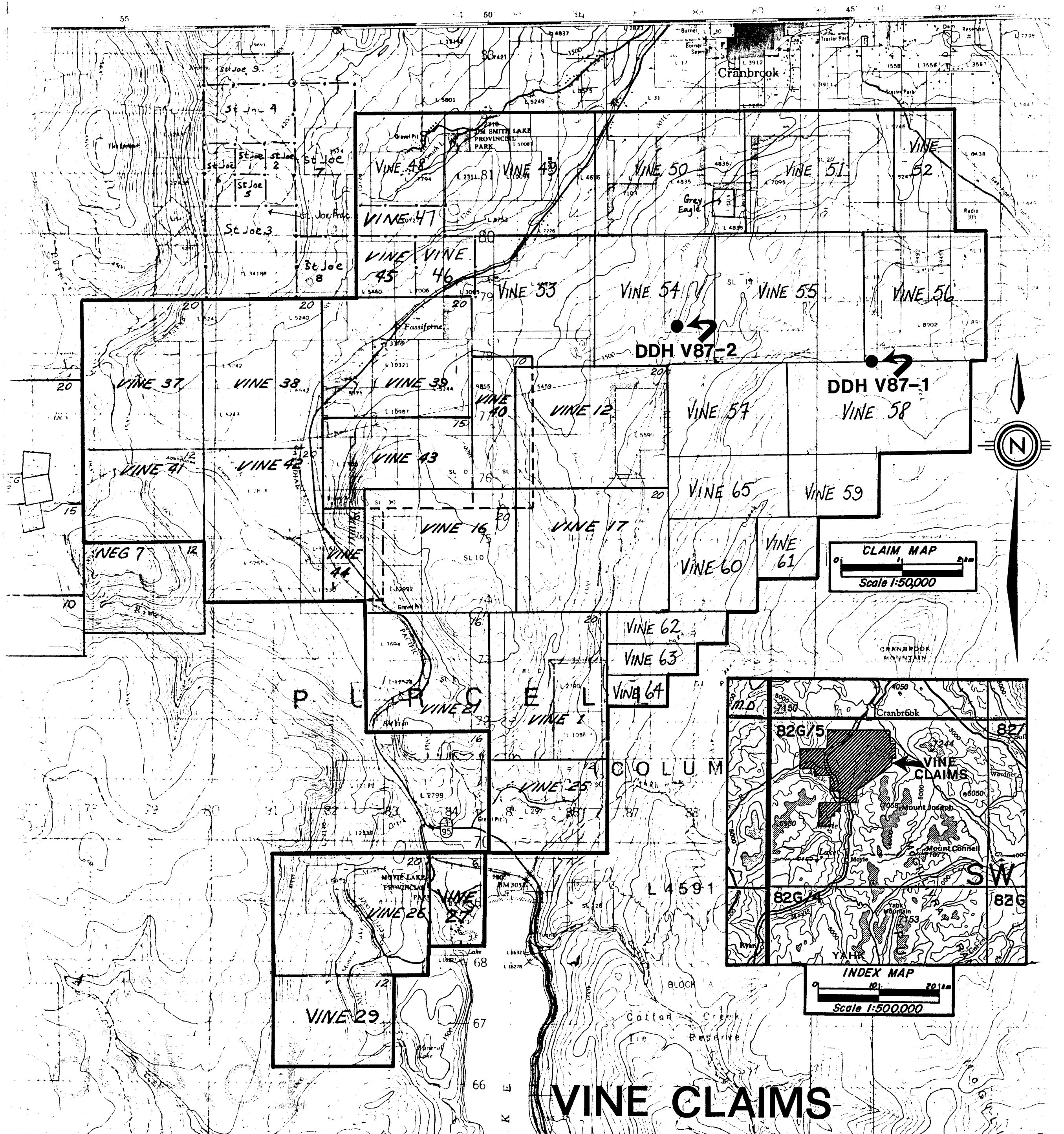


Property	Vine	District		Hole No.	V87-2
Commenced		Location		Tests at	
Completed		Core Size		Corr. Dip	
Co-ordinates				True Brg.	
Objective				% Recov.	
				Date	

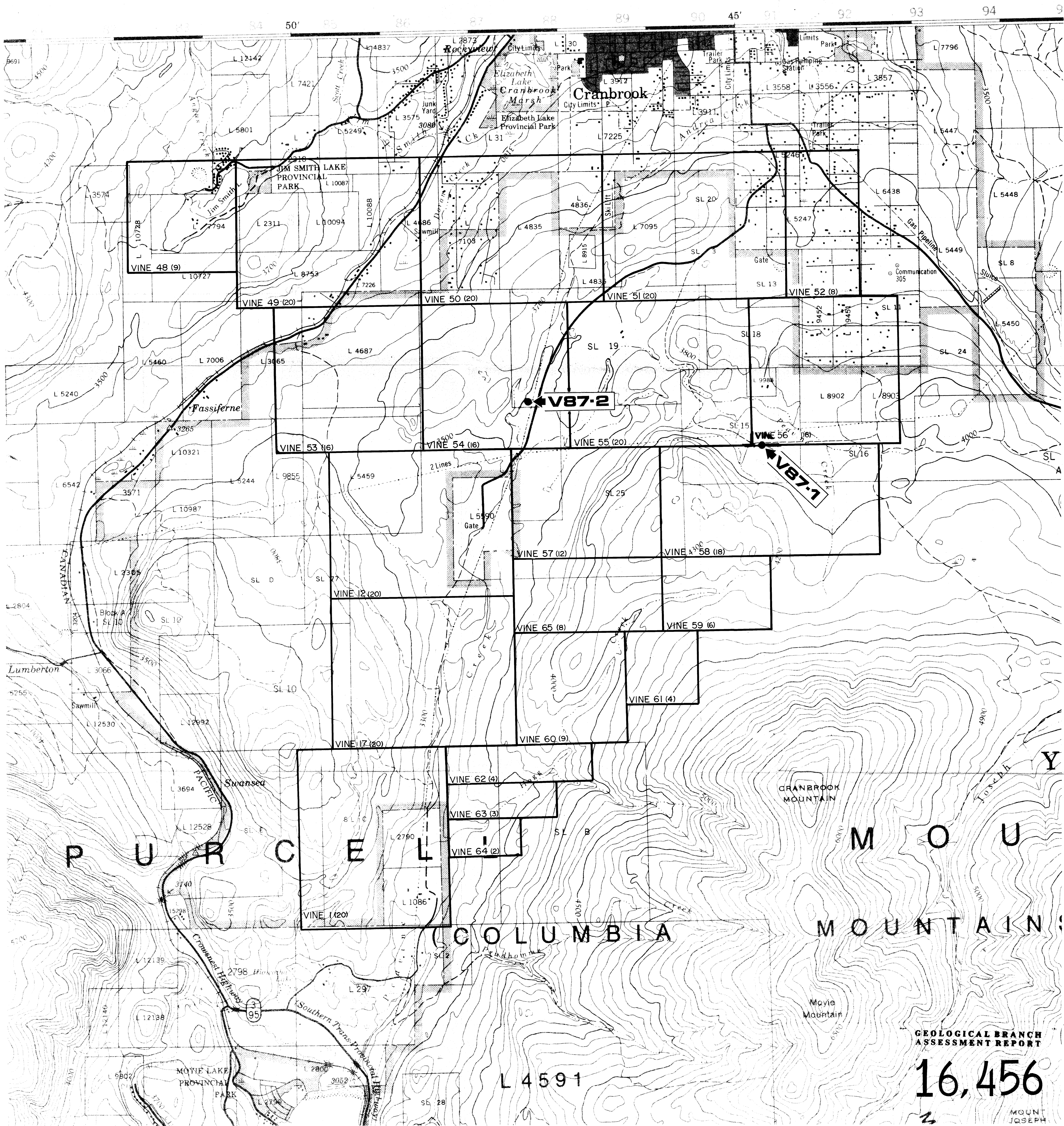
Claim	Vine 54
T Brg.	--
Collar Dip	-90°
Elev.	1067 m
Length	105.8 m
Hole No.	V87-2 Sheet 2

From	To	Description
48.6	54.4	Quartzitic wackes, wackes, subwackes and argillites, very thin to medium bedded, chloritized sediments. Considerably more argillaceous distal and inter-turbidite type deposition than in previous segment. Abrupt change from quartzitic bases to argillaceous tops is common to majority of these beds. Rare, thinly laminated, dark grey bed. Bedding 80° to core.
54.4	61.0	Quartzwackes and quartzitic wackes, medium and thick (predominant) bedded sediments. Minor amount of inter-turbidite type, subwackes and argillites beds. Bedding 78° to core.
61.0	61.4	Two distinct, thinly laminated, light and medium/dark grey wacke beds, 10 cm and 2 cm, separated by medium grey, chloritized mudstone (argillite). Mudstone is sheared, parallel to bedding, rock is brecciated in part.
61.4	64.6	Quartzwackes and quartzitic wackes, similar deposition to 54.4 to 61.0 m.
64.6	68.0	Quartzitic wackes, wackes, subwackes and argillites, thin and medium (predominant) bedded sediments. The more argillaceous bed top type deposition makes up 50% of this segment. Change from quartzitic to argillaceous rock occurs fairly abruptly in most of the beds. Some rip-up clasts. Bedding 78° to core.
68.0	84.5	Quartzwackes and quartzitic wackes, medium and thick bedded sediments. Some intervals less than 1 m containing beds in thin range. Some beds, minor overall, containing more argillaceous distal and inter-turbidite type lithologies of wackes, subwackes and argillites. Bedding 78° to core.
84.5	98.3	Wackes, subwackes and argillites, very thin to medium bedded sediments. Segment contains one thick (60 cm) quartzwacke bed with base at 93.3 m. Zone is typical Middle Aldridge distal and inter-turbidite type deposition. Numerous intervals from 1 to 25 cm of thinly laminated, light and medium/dark grey wackes. Occasional

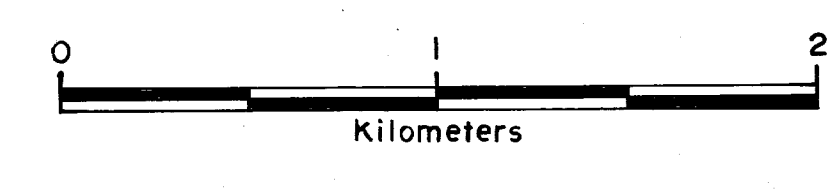




# VINE CLAIMS



VINE EAST CLAIM AREA & DRILLHOLE LOCATIONS



GEOLOGICAL BRANCH  
ASSESSMENT REPORT  
**16,456**