

COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING REPORT

VINE 39 CLAIM

Fort Steele Mining Division

Palmer Bar Creek Area

N.T.S. 82G/5W

Lat: 49° 27' 25"

Long: 115° 15' ^{52'} 30"

OWNER

Cominco Ltd.

Kootenay Exploration
1051 Industrial Road No. 2
Cranbrook, B.C.
VIC 4K7

Work performed during May and June 1984

Report By:

D.L. Pighin
Geologist

Under the Supervision of:

D. Anderson
Project Geologist

**GEOLOGICAL BRANCH
ASSESSMENT REPORT**

12,417

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COMINCO LTD.

EXPLORATION

WESTERN DISTRICT

DIAMOND DRILLING REPORT

VINE 39 MINERAL CLAIM

Fort Steele Mining Division

1.00 GENERAL STATEMENT

This report outlines the results of a Diamond drill hole on the Vine 39 mineral claim.

Diamond drilling was done between April 5, 1984 and May 18, 1984.

Total expenditures related to the Diamond drilling program amounted to \$116,674.39.

2.00 INTRODUCTION

2.10 Status of Ownership

The Vine 39 claim is 100% Cominco owned.

2.20 Location and Access

The Vine 39 claim is located 6 kilometers SW of Cranbrook, B.C. Access to the drill site may be gained via Highway 3/95 and approximately 1 kilometer of rough bush road.

The collar of D.H. V-83-1 is located on Vine 39 Mineral Claim at Latitude $49^{\circ} 27' 25''$ and Longitude $115^{\circ} 15' 30''$.

2.30 General Character of the Area

The relief on the Vine 39 claim is flat to moderately rolling. Elevations range between 1000 m and 1140 meters. The area was logged prior to 1920. Natural regeneration has reforested the area to stands of Lodgepole Pine, Ponderosa Pine, Douglas Fir and Larch.

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3.00 DIAMOND DRILLING

One D.D.H. V-83-1-E was collared at a depth of 365.8 meters on the bottom of an existing hole. Diamond Drill hole V-83-1-E drilled to a depth of 1205.7 meters. Sperry Sun Survey tests were taken at 11 points throughout the hole (see page 37 drill log).

The hole cored 839.9 meters of Aldridge stratigraphy; no intrusive rocks were encountered. The sediments in the hole are generally thin to medium bedded, but some thick to very thick beds are present. Lithologically, these sediments are mainly quartzitic wacke, quartz wacke and wacke. The sediments are generally weakly biotitic. Chlorite commonly occurs along fractures and as irregular patches within the sediments. Sericitic alteration is commonly found in quartz wacke beds. Weakly disseminated pyrrhotite and pyrite are found in the sediments throughout the hole. Pyrrhotite in thin laminations is rare, but does occur in some wacke beds. Minor sphalerite and galena is generally associated with the quartz-chlorite filled fractures. Sphalerite is very rare in the sediments, and if it is found, it is usually associated with pyrrhotite.

Bedding to core-axis angles range between 86° and 78° . The hole intersected a faulted zone between 685.0 meters and 780.0 meters. The faulted zone consists of 4 strong shears approximately 30 meters apart. These shears cut the core axis at 20° and consist of brecciated sediments in a soft fault gouge matrix. The faults are partly filled with calcite and minor pyrite.

4.00 CONCLUSIONS

The rocks which were cored by D.D.H. V-83-1-E are lithologically typical of the Aldridge Formation. The hole did not encounter any mineralization of economic significance.

Report by: *D.L. Pighin*
D.L. PIGHIN
Geologist

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

Approved by: *John Hamilton*
J.M. HAMILTON, P.Eng.
Chief Geologist
Kimberley

Approved for
Release by: *G. Harden*
G. HARDEN, Manager
Exploration
Western District
Vancouver

xc: Mining Recorder (2 copies) ✓
Western District, Exploration
Kootenay Exploration

EXHIBIT "A" (PART 1)

STATEMENT OF EXPENDITURES

DIAMOND DRILLING - VINE 39 CLAIM (20 units)

FORT STEELE MINING DIVISION

April 5 to April 30

Salaries

D.L. Pighin - Geologist, Field, office, planning,
Supervision, Core logging 19 days @ \$207 \$ 3,933.00

Mobilization

Bearcat Contracting - 18 hours 1,692.00

Henderson Heavy Hauling - 42 hours 2,818.00

Road Access

Henderson Heavy Hauling - 4 hours 376.00

Transportation

4x4 truck - 3 days @ \$40/day 120.00

Direct

Longyear Canada Inc. 68,277.40

721 Aldford Avenue

Annacis Island, New Westminster, B.C.

V3M 5P5

\$77,216.40


D.L. PIGHIN
Geologist

EXHIBIT "A" (PART 2)
STATEMENT OF EXPENDITURES
DIAMOND DRILLING - VINE 39 CLAIM (20 units)
FORT STEELE MINING DIVISION

May 1 to May 18

Salaries

D.L. Pighin - Geologist, field, office, supervision,
core logging, report writing - 14 days @ \$207 \$ 2,898.00

Demobilization

Bearcat Contracting - 10 hrs 1,004.00
Henderson Heavy Hauling - 5 hrs 371.26

Road Access

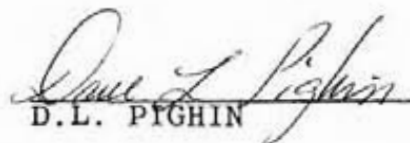
Bearcat Contracting - 6 hrs 500.00

Supplies & Equipment

Core boxes, mud etc. 7,119.66

Direct

Longyear Canada Inc. 27,565.07
721 Aldford Avenue
Annacis Island
New Westminster, B.C.
V3M 5P5 \$ 39,457.99


D.L. PIGHIN

IN THE MATTER OF THE

B.C. MINERAL ACT

AND

IN THE MATTER OF A DIAMOND DRILL PROGRAMME

CARRIED OUT ON THE VINE 39 MINERAL CLAIM

PALMER BAR CREEK AREA

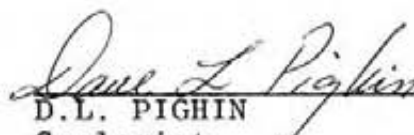
in the Fort Steele Mining Division of
the Province of British Columbia

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

A F F I D A V I T

I, D.L. Pighin, of the City of Cranbrook, 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" to this my Affidavit is a true copy of expenditures incurred on a Diamond Drill programme, on the Vine 39 Mineral Claim.
3. That the said expenditures were incurred between the 5th day of April, 1984 and the 18th day of May, 1984 for the purpose of mineral exploration on the above noted claim.


D.L. PIGHIN
Geologist

COMINCO LTD.

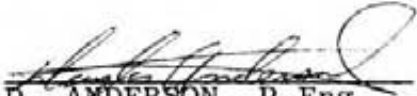
EXPLORATION

WESTERN DISTRICT

STATEMENT OF QUALIFICATIONS

D.L. PIGHIN has personally conducted many types of mineral exploration work for Cominco Ltd. over the last eighteen years.

I consider him well qualified to prepare this report.


D. ANDERSON, P. Eng.
Project Geologist

Drill Hole Record



Property VINE District Fort Steele Hole No. V-83-1-E
 Commenced April 5, 1984 Location Vine 39 claim Tests at 11 tests, See Page 36 Hor. Comp.
 Completed May 17, 1984 Core Size HQ to 775.3, NQ to 1205.7 Corr. Dip 88° top, 84° bottom Vert. Comp.
 Co-ordinates Lat: 49° 27' 25" Long: 115° 15' 37" True Brg. S74°W top, S67°W bottom Logged by D.L. Pighin
 Objective To test Aldridge Sediments for Pb-Zn % Recov. 90-95% Date April & May 1984

Footage From To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
0 to 365.8	See Drill hole Logs V-82-1 & V-83-1.									
365.8 - 367.8	Quartzitic Wacke; medium bedded, fine grained, poorly laminated, contacts indistinct.									
367.8 - 379.5	Quartz Wacke; medium to thick bedded, generally medium grained, contact distinct-undulating, thin wacke tops generally non laminated. Beds are weakly chloritic and sericitic. Bedding to core 87°.									
	371.6 to 375.3 Badly broken core; probably fault zone some fault gouge.									
379.5 - 381.9	Wacke, Thin Interbeds Quartzitic Wacke; medium to thin bedded, medium to fine grained, contacts flat sharp, some parallel lamination.									
381.9 - 384.3	Wacke; medium bedded, very fine grained, contacts flat sharp, very well parallel laminated.									
384.3 - 390.3	Quartz Wacke, Interbedded Wacke; medium to thick bedded, very fine to medium grained, contacts generally flat-sharp some undulating, some flame structured wacke tops. Wacke beds generally wavy laminated.									
	389.4 - 393.0 Fault breccia zone, at 20° to core? matrix mainly fault gouge.									
390.3 - 396.6	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, fine to very fine grained, contact flat to undulating, rip-up clasts common on bed tops, wacke beds good parallel lamination. Calcite after selenite xtls common in wacke bed tops some pyrite-pyrrhotite									

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Drill Hole Record



Page 2

Property VINE District Fort Steele Hole No. V-83-1-E
 Commenced Location Vine 39 claim Tests at 11 tests, See Page 36 Hor. Comp.
 Completed May 17, 1984 Core Size HQ to 775.3, NQ to 1205.7 Corr. Dip 88° top, 84° bottom Vert. Comp.
 Co-ordinates Lat: 49° 27' 25" Long: 115° 15' 37" True Brg. S74°W top, S67°W bottom Logged by D.L. Pighin
 Objective To test Aldridge Sediments for Pb-Zn % Recov. 90-95% Date April & May 1984

Footage From To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
390.3 - 396.6	along hair line fractures.									
	Cont'd									
396.6 - 401.8	Quartz Wacke; medium to thick bedded, generally medium grained contacts indistinct-undulating, some thin wavy to non-laminated wacke bed tops, section generally sericitic, calcite after selenite common in wacke bed tops.									
401.8 - 403.6	Quartz wacke Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts undulating-distinct, fine wavy to wispy lamination in wacke beds. Some flame structured bed bases. Quartz wacke beds generally sericitic.									
403.6 - 411.0	Quartz Wacke Interbedded Wacke; medium to thick bedded, medium to fine grained, contacts undulating-distinct to barely visible wacke beds are parallel to wavy laminated. Bedding to core 86°.									
411.0 - 412.6	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, fine to medium grained, contacts sharp-undulating, wavy laminated, small scale cross bedding common, section weakly chloritic very thin lens of calcite and chlorite contains specks of reddish brown sphalerite.									
412.6 - 415.0	Quartzitic Wacke, with thin non laminated wacke tops, medium to thin bedded, medium to fine grained, contacts indistinct to barely visible.									

B1-447

Drill Hole Record



Property	VINE	District		Hole No.	V-83-1-E
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.		Logged by	
Objective		% Recov.		Date	

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
415.0	- 417.4	Wacke Interbedded Quartzitic Wacke; medium to thin bedded, medium to fine grained, contacts sharp-undulating and flat, some parallel lamination.									
417.4	- 421.4	Quartz Wacke; thick to very thick bedded, thin wacke tops are rare; generally medium grained; contacts distinct-undulating, beds are sericitic and weakly chloritic.									
421.4	- 424.5	Wacke; thin to very thin bedded, very fine grained, contacts flat sharp, very finely parallel laminated, rare small scale cross beds. Very limy from 423 to 424.									
424.5	- 425.6	Quartz Wacke, very thick bedded, medium grained, contacts not visible, strongly sericitic.									
425.6	- 431.0	Quartz Wacke; medium to thick bedded, thin non-laminated wacke bed tops, medium to fine grained, contacts gradational to barely visible, generally sericitic, and weakly biotitic in spots.									
431.0	- 435.3	Quartzitic Wacke Interbedded Wacke; thin to very thin bedded, medium to very fine grained, contact generally flat and sharp, wacke beds parallel laminated. Bands of disseminated pyrite common in wacke beds.									
435.3	- 441.3	Quartzitic Wacke; medium to thin bedded, thin parallel and wavy laminated wacke tops, medium to fine grained, contacts indistinct-undulating.									

B11-4417

Drill Hole Record



Property	VINE	District		Hole No.	V-83-1-E
Commenced		Location		Tests at	Hor. Comp.
Completed		Core Size		Corr. Dip	Vert. Comp.
Co-ordinates		True Brg.		Logged by	
Objective		% Recov.		Date	

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
441.3	- 455.4	Quartz Wacke, Minor Wacke Interbeds; medium to thick bedded, generally medium grained, thin non-laminated wacke bed tops, contacts distinct-undulating, quartz wacke bed generally sericitic.									
455.4	- 456.7	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, medium to very fine grained, contacts distinct-undulating, some parallel lamination in wacke beds. Chloritic in patches, thin disseminated bands of pyrrhotite and pyrite.									
456.7	- 457.8	Quartz Wacke; thick bedded, medium grained, non-laminated wacke tops, contacts distinct-undulating, generally sericitic.									
457.8	- 460.8	Quartzitic Wacke, Interbedded Wacke; thin to very thin bedded, medium to fine grained, contacts flat-distinct generally parallel laminated. Bedding to core 86°.									
460.8	- 462.0	Quartz Wacke; medium to thick bedded, thin non-laminated wacke tops, medium grained, contacts, barely visible-undulating? generally sericitic and weakly chloritic.									
462.0	- 465.3	Wacke; medium to thin bedded, very fine grained, contacts flat sharp, generally finely parallel laminated.									

B11-4417

Scale
Colour Plan
& Dip

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
T Brg.
Collar Dip
Elev.
Length
Hole No.

Footage From	To	Description	Sample No.	Length	Analysis
465.3	- 467.0	Quartz Wacke Interbedded Quartzitic Wacke; medium to thick bedded, thin non-laminated wacke tops, medium grained, contacts indistinct to barely visible, sericitic.			
467.0	- 471.3	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, medium to very fine grained, contacts sharp-flat, small scale soft sediment folding common through-out unit, generally parallel laminated.			
471.3	- 486.1	Quartz Wacke Minor Interbeds of Wacke and Quartzitic Wacke; medium, thick and very thick bedded, medium to fine grained, contacts distinct and undulating, quartz wacke beds commonly sericitic, chloritic mainly adjacent to hairline fractures. Thin biotitic quartz vein at 10° to core. 485.6 - 486.0 Badly broken ground.			
486.1	- 488.9	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, medium to very fine grained, contacts undulating-distinct, some with flame structured bases, fine to moderately spaced parallel lamination. Cleavage to core 10°.			
488.9	- 496.7	Quartzitic Wacke and Quartz Wacke, medium to thick bedded?, medium grained, badly broken ground.			
496.7	- 500.0	Fault Breccia; angular clasts in soft fault gauge matrix, shearing 45° to core.			
500.0	- 503.6	Quartzitic Wacke; medium to thick bedded, medium to fine grained, contacts undulating-distinct, 3 to 6 cm wacke bed tops.			

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Scale
Colour Plan
& Dip

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
T Brg.
Collar Dip
Elev.
Length
Hole No.

Footage From	To	Description	Sample No.	Length	Analysis
503.6	- 510.1	Quartz Wacke; medium to very thick bedded, medium grained, 3 to 6 cm wacke bed tops, contacts undulating-distinct, generally sericitic and weakly chloritic.			
510.1	- 511.0	Wacke; medium bedded, very fine grained, contacts flat sharp, thinly parallel laminated, Bedding to 80°.			
511.0	- 515.6	Quartz Wacke; medium to thick bedded, medium grained, contacts? core badly broken, generally sericitic and weakly chloritic.			
515.6	- 519.6	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, fine to very fine grained, contacts flat sharp, wacke units finely parallel laminated, rare lamina of pyrite and pyrrhotite. 519.0 - 519.4 Brecciated.			
519.6	- 520.3	Quartz Wacke; medium to thick bedded, medium to fine grained, contacts distinct-undulating, thin wacke bed tops, weakly chloritic and sericitic. Strong cleavage @ 25° to core.			
520.3	- 521.0	Wacke; thin to very thin bedded, very fine grained, contacts flat sharp, finely parallel laminated, bedding to core 80°.			

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Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
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Footage From	To	Description	Sample No.	Length	Analysis
521.0	- 526.2	Quartz Wacke; medium to very thick bedded, medium grained, contacts distinct-undulating, thin wacke-subwacke bed tops, weakly chloritic and sericitic, biotitic-chloritic quartz vein (4 cm thick) @ 12° to core.			
526.2	- 528.3	Quartzitic Wacke; medium to thick bedded, coarse grained, contacts undulating-sharp, 3 to 5 cm parallel laminated wacke bed tops.			
528.3	- 531.8	Quartz Wacke; medium to thick bedded, medium to fine grained, contacts undulating-distinct, 2 to 3 cm non-laminated wacke-subwacke tops, chloritic quartz vein 3 cm thick at 12° to core.			
531.8	- 537.7	Quartzitic Wacke; medium bedded, fine to medium grained, contacts undulating distinct, thin wavy laminated wacke tops, weak pyrrhotite dissemination near bed tops.			
537.7	- 542.5	Wacke Interbedded Quartz Wacke; thin to medium bedded, some very thin bedded, very fine to medium grained, contacts-undulating distinct, wacke beds commonly wavy laminated, quartz wacke beds weakly chloritic and sericitic.			
542.5	- 546.2	Quartz Wacke; thick to very thick bedded, medium grained, contacts distinct-undulating, no wacke tops, weakly chloritic and sericitic.			

91441

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.
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Footage From	To	Description	Sample No.	Length	Analysis
546.2	- 551.8	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, fine to medium grained, contacts undulating to flat, sharp to distinct, some wacke beds show good parallel lamination, @ 551.0 small quartz chlorite vein contains abundant pyrrhotite @ 12° to core.			
551.8	- 553.0	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, fine to very fine grained, contacts mainly flat-sharp, generally finely laminated wavy and parallel.			
553.0	- 558.6	Quartzitic Wacke Interbedded Wacke; thin to medium bedded, fine to very fine grained, contacts flat-sharp, wacke beds finely parallel laminated with finely disseminated pyrrhotite.			
558.6	- 561.0	Wacke; thin to very thin bedded, very fine grained, very thinly parallel laminated, contacts flat sharp.			
561.0	- 578.6	Quartz Wacke Interbedded Wacke; medium to very thick bedded, with thin wacke interbeds, quartz wacke medium to very coarse grained, contacts generally flat sharp. 570.0 - 571.1 Fault Breccia zone, silicified, chloritic and pyritic. 570.5 - 571.0 Soft fault gouge, shear @ 60° to core.			
578.6	- 586.2	Wacke Interbedded Quartzitic Wacke; medium to thin bedded, contacts flat-sharp, fine to very fine grained, wacke beds parallel laminated. Bedding to core 85°.			

91441

Drill Hole Record

Property	VINE	District		Hole No.	V-83-1-E
Commenced		Location		Tests at	
Completed		Core Size		Corr. Dip	
Co-ordinates		True Brg.		Logged by	
Objective		% Recov.		Date	

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.	Sheet
586.2	- 596.2	Quartzitic Wacke Interbedded Wacke; medium-thin bedded, fine to very fine grained, contacts are mainly distinct-undulating, some are flat-sharp, wacke beds range from finely parallel laminated to non-laminated. Rare disseminated pyrrhotite and pyrite lamina.										
596.2	- 601.3	Quartz Wacke; thick to very thick bedded, medium to coarse grained, 3 to 6 cm laminated wacke tops, contacts undulating distinct, generally weakly sericitic.										
601.3	- 601.0	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, contacts undulating distinct, medium to very fine grained, some parallel lamination in wacke beds.										
601.0	- 608.0	Quartz Wacke; thick bedded, medium grained, 2 to 5 cm non laminated to wavy laminated wacke tops, contacts distinct-undulating, generally weakly sericitic.										
608.0	- 611.2	Quartzitic Wacke Interbedded Wacke; medium bedded, medium to fine grained, contacts distinct undulating.										
611.2	- 617.0	Quartz Wacke; medium to thick bedded, medium grained, 3 to 5 cm wacke tops, contacts barely visible, weakly sericitic through-out.										

811-847

Drill Hole Record

Property	VINE	District		Hole No.	V-83-1-E
Commenced		Location		Tests at	
Completed		Core Size		Corr. Dip	
Co-ordinates		True Brg.		Logged by	
Objective		% Recov.		Date	

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.	Sheet
617.0	- 623.0	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts barely visible due to bit scouring, wacke interbeds generally wavy laminated.										
623.0	- 629.2	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, medium to very fine grained, contacts mainly flat-sharp, wacke beds fine to very finely laminated.										
629.2	- 638.4	Quartz Wacke; medium to thick bedded, medium to fine grain, contacts gradational-barely visible, some parallel laminated wacke tops, but mainly no wacke tops, quartz wacke beds generally sericitic and chloritic along hairline fractures. @ 634.0 4 cm thick zone contains disseminated pyrrhotite with minor sphalerite est. <0.17% Zn.										
638.4	- 644.3	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, medium to very fine grained, contact undulating-distinct to barely visible, wacke beds commonly finely parallel laminated.										
644.3	- 647.6	Wacke Interbedded Quartzitic Wacke; thin to very thin bedded, fine to very fine grained, contacts flat-sharp and undulating distinct.										

811-847

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length
647.6	- 649.8	Quartzitic Wacke; medium bedded, medium to fine, 3 to 5 cm wacke bed tops, contacts distinct-undulating, some flame structured contacts.								
649.8	- 652.8	Quartz Wacke; thick to very thick bedded, medium grained, contacts barely visible, weakly chloritic and sericitic.								
652.8	- 660.4	Wacke, Interbedded Minor Quartzitic Wacke; thin to medium bedded, fine to very fine grained, contacts flat-sharp, fine to very fine parallel laminated wacke beds, some thin limy beds < .5% CaO ₂ , chloritic along bedding planes, weakly sericite through-out. Bedding to core 90°.								
660.4	- 663.3	Quartz Wacke; medium to thick bedded, medium grained, contacts undulating-distinct, 1 to 10 cm non laminated wacke bed tops, weakly chloritic and sericitic through.								
663.3	- 665.2	Quartzitic Wacke; medium bedded, fine to medium grained, contacts barely visible to distinct, generally undulating non-laminated to wavy laminated wacke bed tops.								
665.2	- 668.0	Wacke interbedded Quartzitic Wacke; thin to medium bedded, fine to very fine grained, contacts mainly flat-distinct, wacke beds commonly finely parallel laminated.								
668.0	- 671.6	Quartz Wacke, medium to thick bedded, medium grained, thin non laminated wacke tops, contacts barely visible, weakly sericitic and chloritic along hairline fractures.								

M-4

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length
671.6	- 675.4	Quartzitic Wacke Interbedded Wacke; finely crackle brecciated, matrix white quartz, sed. clasts will chloritized and silicified, rare fine pyrite in quartz.								
675.4	- 683.5	Mainly Quartz Wacke; strongly fractured parallel to core and at 20° to core, chloritic and sericitic mainly along fractures.								
683.5	- 685.6	Wacke, Interbedded Quartzitic Wacke; medium to very fine grained, contacts distinct-undulating, wacke beds generally finely parallel laminated. Chlorite occurs in patches and along hairline fractures.								
685.6	- 691.6	Fault Breccia; matrix soft fault gouge, brecciated sediments and quartz veins, brecciated quartz mineralized by massive patches of chlorite and disseminated pyrite. Fault HW contact @ 17° to core. Good sharp contact.								
691.6	- 706.4	Strongly Fractured and Brecciated Wacke, Quartzitic Wacke and Quartz Wacke; some thin zones of fault gouge. Fractures are dominantly @ 15° to core, appears to be no chlorite, silicification or pyrite associated with brecciation of fractures.								
706.4	- 708.2	Wacke Interbedded Quartz Wacke; medium to thin bedded, fine to coarse grained, contacts mainly flat-sharp, wacke beds finely parallel laminated. Bedding to 85°.								

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State
County
Date

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Y Brg.	Collar Dip	Elev.	Length
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Footage From	To	Description	Sample No.	Length	Analysis
708.2	710.9	Quartz Wacke; medium to thick bedded, mainly coarse grained. 2 to 6 cm non-laminated wacke bed tops, contacts sharp and undulating, commonly flame structured, generally weakly sericitized.			
710.9	711.0	Quartzitic Wacke; medium bedded, fine grained, non laminated 2 to 4 cm laminated wacke bed tops, contacts undulating distinct to barely visible.			
711.0	715.3	Quartz Wacke; medium to thin bedded, medium grained, contacts barely visible, generally weakly sericitic, and chloritic along hairline fracture and irregular small quartz veins.			
715.3	715.8	Fault Breccia; quartz - calcite matrix. H.W. of breccia zone 15° to core.			
715.8	718.0	Quartz Wacke; strongly fractured, mainly parallel to core. Very rubbly core.			
718.0	722.0	Wacke Interbedded Quartzitic Wacke; medium to thin bedded, fine to very fine grained, contacts indistinct-undulating, some parallel lamination in wacke beds.			
722.0	723.0	Strongly Fracture Quartzitic Wacke and Wacke; very rubbly core.			
723.0	725.0	Fault Breccia; matrix soft fault gouge, shearing @ 15° to core.			

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State
County
Date

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	Y Brg.	Collar Dip	Elev.	Length
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Footage From	To	Description	Sample No.	Length	Analysis
725.0	727.6	Wacke Interbedded Quartzitic Wacke; strongly fractured @ 15° to core, very rubbly core but appears to have been thin bedded sediments.			
727.6	737.8	Quartzitic Wacke; medium to thick bedded, medium to fine grained, contacts-distinct-undulating, some flame structured bases, generally sericitic and chloritic along thin irregular hairline fractures. 2 to 5 cm thick quartz-chlorite-biotite veins @ 20% to core are common.			
737.8	738.6	Quartzitic Wacke Interbedded Wacke; thin bedded, fine grained, contacts-distinct-undulating, wacke beds wavy to parallel laminated, weakly chloritic generally along bed bases.			
738.6	740.7	Quartz Wacke; medium to thick bedded, medium grained, 2-5 cm light gray non-laminated wacke-subwacke bed tops contacts barely visible, weakly sericitic and chloritic through-out.			
740.7	744.7	Wacke; thin to very thin bedded, fine to very fine grained, contacts flat-sharp to wavy distinct, parallel laminated in part to wavy laminated in part. Widely disseminated tiny specks of pyrrhotite.			
744.7	748.2	Quartz Wacke Interbedded Wacke; medium to thin bedded, medium to very fine grained, contacts distinct-undulating, wacke beds are wavy laminated.			

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length
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Footage From To	Description	Sample No.	Length	Analysis
781.2 - 783.8	Quartz Wacke; medium bedded, medium to fine grained, 3 to 5 cm light gray non-laminated wacke tops, contacts distinct-undulating. Weakly sericitic and chloritic in patches.			
783.8 - 784.3	Breccia Zone; wacke clasts in gouge matrix, shearing @ 25° to core - fault?			
784.3 - 790.5	Quartz Wacke Interbedded Wacke; medium bedded, fine grained, 2 to 6 cm thick wavy laminated lite gray wacke tops, contacts distinct-undulating, weakly sericitic through-out section. 789.5 - 790.5 Minor brecciation, dolomite-calcite matrix.			
790.5 - 791.5	Wacke; thin to very thin bedded, fine to very fine grained, very finely parallel laminated in part, contacts sharp-flat rare thin interbeds of calcareous wacke.			
791.5 - 794.2	Quartz Wacke; medium to thick bedded, medium grained, 2 to 4 cm non-laminated light gray wacke tops, contacts distinct-undulating generally sericitic through-out.			
794.2 - 796.5	Quartzitic Wacke, Interbedded Wacke; fine to very fine grained, contacts undulating-distinct, wacke bed mainly wavy laminated, some fine parallel lamination.			
796.5 - 797.8	Calcareous Wacke; thick bedded, fine grained to partly xtn, dark gray with whitish gray specks, very fine faint parallel laminations.			

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim	T Brg.	Collar Dip	Elev.	Length
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Footage From To	Description	Sample No.	Length	Analysis
797.8 - 799.2	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, medium to very fine grained, contacts sharp-flat.			
799.2 - 801.3	Vein; consisting of 90% white to bluish gray xtn quartz, hosts patches of xtn chlorite, coarsely xtn books of black biotite, widely scattered patches of dolomite, patches of massive pyrrhotite with minor chalcopyrite. Hanging wall contact sharp and @ 10° to core.			
801.3 - 802.5	Quartz Wacke; thick bedded, medium grained, contacts barely visible, generally sericitic, chloritic and pink subhedral garnet developed along thin quartz filled fractures.			
802.5 - 804.5	Wacke, Interbedded Quartzitic Wacke; thin to very thin bedded, contacts distinct-undulating, fine to very fine grained.			
804.5 - 812.2	Quartz Wacke; medium to very thick bedded, medium to coarse grained, contacts distinct-undulating 2 to 5 cm thick lite gray and dark gray non laminated wacke tops generally sericitic with rare subhedral pink garnets, chlorite along thin fractures.			
812.2 - 818.5	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, fine to very fine grained, contacts distinct-flat to wavy. Wacke beds wavy & wispy laminated, rare parallel lamination, chloritization and minor subhedral pink garnet along irregular hairline fractures. Some finely disseminated pyrrhotite.			

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length
818.5	- 818.1	Calcareous Wacke; thin to medium bedded, reddish gray speckled silver gray, very fine grained to partly xlin, very finely parallel laminated, contacts sharp-flat, silicified in part, some sericite, abundant fine reddish biotite and calcium carbonate, widely scattered fine disseminated pyrrhotite.								
818.1	- 822.9	Wacke, Interbedded Quartzitic Wacke; thin to very thin bedded, rare medium bed, fine to very fine grained, contacts distinct-undulating, wacke beds wavy laminated and in part parallel laminated.								
822.9	- 825.0	Quartz Wacke; medium to thick bedded, no wacke tops, contacts barely visible, generally weakly sericitic and chloritic with widely scattered subhedral pink garnet.								
825.0	- 827.6	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, fine to very fine grained, contacts distinct-undulating, wacke beds mainly wavy laminated, rare parallel lamination, thin zones of weakly disseminated pyrrhotite.								
827.6	- 830.5	Quartz Wacke; medium to thick bedded, 2 to 10 cm thick wavy to non-laminated wacke bed tops, contacts distinct-undulating some flame structured, Weakly sericitic, chlorite and subhedral pink garnet along thin silicified fractures.								
830.5	- 831.6	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, fine to very fine grained, contacts undulating distinct. Bedding to core 88°.								

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From	To	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length	Sheet	Hole No.
831.6	- 836.0	Quartz Wacke Interbedded Minor Wacke and Quartzitic Wacke; medium to thick bedded, medium to very fine grained, contacts undulating distinct. Quartz wackes generally weakly sericitic.										
832.0	- 832.6	Quartz-calcite vein, contains abundant chlorite, coarsely xlin black biotite minor pyrite and rare xtls of ilmenite.										
836.0	- 839.8	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, fine to very fine grained, contacts distinct-undulating to flat.										
839.8	- 840.0	Calcareous Quartz Arenite; medium bedded, coarse grained, graded-upwards, cross-bedded at top, contacts indistinct. 10% calcium carbonate in matrix.										
840.0	- 840.6	Wacke; thin to very thin bedded, very fine grained, fine to very fine parallel laminated, alternating bands of reddish brown, reddish grey and reddish light gray. Contacts flat-sharp. Widely scattered specks of pyrrhotite - through-out @ 840.3, 4 cm zone contain weakly disseminated sphalerite and pyrrhotite.										
840.6	- 841.0	Calcareous Quartz Arenite; medium bedded, coarse grained, consisting of 50% of the quartz grains are blue quartz, matrix consists of black biotite and calcium carbonate, graded bed fining upwards, contacts are flat-sharp.										
841.0	- 844.2	Wacke; medium to thin bedded, fine to very fine grained, contacts flat-sharp, finely parallel laminated, finely disseminated pyrrhotite through-out, some thin zones up to 3% FeS.										

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
T Brg.
Collar Dip
Elev.
Length
Hole No.

Footage From To	Description	Sample No.	Length	Analysis
844.2 - 845.6	Mainly Calcareous Wacke, Minor Interbeds of Quartz Wacke; wacke beds are thin to very thin bedded, very fine grained, very finely parallel laminated, contact flat-sharp, finely disseminated pyrrhotite through-out, 2 to 4 cm zones may contain up to 3% FeS. The quartz @ 840.7 wacke bed is 40 cm thick, coarse grained, grade fining upwards, contain 10% blue quartz grains, matrix mainly biotite and xtn carbonate.			
845.6 - 847.5	Wacke; medium to thin bedded, fine to very fine grained, very finely parallel laminated, contacts flat-sharp, disseminated fine pyrrhotite through-out, some 2 to 4 cm zones up to 3% FeS. Calcareous Wacke; 846.6 - 846.9 Bedding to core 84° @ 847.2 - 6 cm zone contain, very weakly disseminated sphalerite.			
847.5 - 848.6	Quartz Wacke; very thick bedded, medium grained, contacts barely visible, sericitic and chloritic in patches.			
848.6 - 851.3	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, medium to very fine grained. Contacts distinct to barely visible, flat-sharp to undulating. 850.8 - 851.3 very finely parallel laminated wacke, with fine disseminated pyrrhotite <1% FeS.			
851.3 - 853.0	Quartz Wacke; thick to very thick bedded, medium grained, no wacke tops, contacts - barely visible, generally sericitic and very weakly chloritic.			

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Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
T Brg.
Collar Dip
Elev.
Length
Hole No.

Footage From To	Description	Sample No.	Length	Analysis
853.0 - 859.0	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts distinct-undulating.			
859.0 - 859.7	Quartzitic Wacke; thick bedded, soft sed. slump textured.			
859.7 - 862.4	Quartzitic Wacke; medium bedded, 2 to 5 cm non-laminated wacke bed tops, medium to fine grained, contacts distinct-undulating weakly chloritic and sericitic with minor development of pink subhedral garnet.			
862.4 - 863.4	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts indistinct-undulating.			
863.4 - 863.8	Calcareous Wacke; medium bedded, very fine grained to partly xtn, very fine parallel laminated.			
863.8 - 866.2	Quartzitic Wacke, Interbedded Wacke; medium bedded, medium to fine grained, contact undulating-distinct.			
866.2 - 868.8	Quartz Wacke; medium bedded, medium to coarse grained, 2 to 6 cm wacke bed tops, wavy laminated, flame structured bed bases, weakly sericitic, chloritic along hairline fractures.			

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Scale
 Contour Plot
 & Data

Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
 T Brg.
 Collar Dip
 Elev.
 Length

Footage From To	Description	Sample No.	Length	Analysis
868.8 - 870.4	Wacke; medium bedded, fine grained, contacts flat sharp, very finely parallel laminated, weakly disseminated fine pyrrhotite through-out. @ 891.0 very thin irregular, quartz, chlorite, calcite veins contain rare specks of sphalerite.			
870.4 - 876.2	Quartzitic Wacke; medium to very thick bedded, generally medium grained, contacts barely visible, weakly sericitic, with chlorite and subhedral pink garnets in patches.			
876.2 - 880.1	Quartzitic Wacke, Interbedded Wacke, medium to very fine grained, contacts undulating-distinct, some rip-up clast along bedding planes, wacke beds a wavy to wispy laminated. Chlorite and pink garnet along thin irregular fracture.			
880.1 - 881.5	Quartz Wacke; medium to very thick bedded, medium grained, thin non-laminated wacke tops, contacts undulating-distinct, generally sericitic through-out, chlorite and pink garnets in patches.			
881.5 - 883.6	Quartzitic Wacke; Interbedded Wacke; thin to medium bedded, medium to very fine grained, contacts distinct-undulating wacke beds wavy to parallel laminated.			
883.6 - 889.0	Quartz Wacke; medium to thick bedded, medium to fine grained, thin non-laminated wacke tops, contacts wavy distinct, weakly sericitic through-out. 886.0 - 886.8 Quartz, calcite vein contains, massive xln chlorite and patches of pyrrhotite and minor chalcocopyrite, rare ilmenite. Vein to core 15 ^o .			

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Scale
 Contour Plot
 & Data

Drill Hole Record

Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Claim
 T Brg.
 Collar Dip
 Elev.
 Length

Footage From To	Description	Sample No.	Length	Analysis
889.0 - 891.0	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts distinct-undulating, wacke beds are mainly wispy to wavy laminated, but some parallel laminated beds are present, some thin zones of weakly disseminated pyrrhotite.			
891.0 - 892.4	Quartzitic Wacke; thick bedded, medium grained, contacts barely visible, generally sericitic. 897.0 - 897.6 Quartz vein @ 13 ^o to core, contains patches of pyrrhotite and coarsely xln. Black biotite.			
892.4 - 893.1	Wacke; medium bedded, very fine grained, contacts flat-sharp, very finely parallel laminated, weakly sericitic, very weak finely disseminated pyrrhotite. 892.4 - 892.6 Calcareous wacke unit.			
893.1 - 903.6	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts wavy distinct, wacke beds wavy to non-laminated, rare rip-up clasts, chlorite and pink subhedral garnet developed in and along hairline fractures mainly in quartzitic beds.			
903.6 - 904.6	Quartz Wacke; medium to thick bedded, medium grained, contacts undulating-distinct; generally sericitic with widely depressed subhedral pink garnet.			
904.6 - 908.0	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, fine to very fine grained, contacts flat-sharp to undulating-sharp, some good flame structures on bed bases, some rip-up clasts, thin 2 cm thick slump zones on bed top common.			

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Drill Hole Record



Property	VINE	District	Hole No. V-83-1-E	
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From To	Description	Sample No.	Length	Analysis					
				Claim	T Brg.	Collar Dip	Elev.	Length	
908.0 - 909.3	Quartz Wacke; thick bedded, medium grained, contacts undulating-distinct. Weakly sericitic with widely dispersed garnet.								
909.3 - 912.9	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, fine to very fine grained, contacts distinct flat to undulating, some flame structured bed bases, rare rip-up clasts, wacke beds commonly finely parallel laminated, with widely scattered fine pyrrhotite. @ 911.0 thin breccia zone, sharply angular clasts in calc spar-dolomite matrix about 2° to core.								
912.9 - 920.0	Quartz Wacke; medium to thick bedded, medium to fine grained, contacts distinct-undulating, weakly sericitic through-out, patchy chloritization and widely depressed pink subhedral garnets.								
920.0 - 925.5	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts generally distinct-undulating wacke beds wavy to parallel laminated. Widely dispersed pink subhedral garnet and patchy chloritization in some of the quartzitic wacke beds.								
925.5 - 926.2	Calcareous Quartzitic Wacke; medium bedded, medium to coarse grained, all grade beds, fining upwards, contacts flat-distinct.								

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Drill Hole Record



Property	VINE	District	Hole No. V-83-1-E	
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From To	Description	Sample No.	Length	Analysis					
				Claim	T Brg.	Collar Dip	Elev.	Length	
926.2 - 927.8	Quartzitic Wacke; medium bedded, fine grained, contacts flat-sharp generally sericitic.								
927.8 - 930.7	Calcareous Wacke, Minor Interbedded Wacke; medium to thin bedded, fine grained and partly xtn, contacts flat sharp, commonly finely parallel laminated, weakly sericitic through-out, finely disseminated pyrrhotite, with rare very thin pyrrhotite lamination. Very sparse specks of sphalerite near chloritic hairline fractures. Sampled at 929.2 and 927.5. Thin pyrrhotite are conductive (tested using multimeter) Bedding to 85°.								
930.7 - 931.3	Calcareous Quartz Arenite; thick bedded, coarse grain (.5mm to 1.0 mm) contacts flat-sharp biotitic matrix, some sericite, and very minor pyrrhotite.								
931.3 - 933.8	Wacke, Interbedded Quartzitic Wacke; thin to very thin bedded, fine to very fine grained, contacts flat to undulating, generally distinct, wacke beds faintly parallel laminated.								
933.8 - 935.0	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, fine to very fine grained, contacts undulating-distinct, chlorite and pink subhedral garnets along thin hairline fractures.								
935.0 - 936.1	Quartz Wacke; very thick bedded, medium-grain, contacts flat-sharp and base, barely visible at top very weakly sericitic.								

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Drill Hole Record

Property	VINE	District	Hole No. V-83-1-E	
Commenced	Location	Tests at	Hor. Comp.	
Completed	Core Size	Corr. Dip	Vert. Comp.	
Co-ordinates	True Brg.	Logged by		
Objective	% Recov.	Date		

Footage From To	Description	Sample No.	Length	Analysis					
				Claim	T Brg.	Collar Dip	Elev.	Length	
936.1 - 938.4	Quartzitic Wacke, Interbedded Wacke, fine to very fine grained, contacts generally flat-distinct rare undulating, wacke beds thinly parallel laminated, some small circular patches of silicification with chlorite and pink subhedral garnet.								
938.4 - 943.0	Quartzitic Wacke; medium to thick bedded, medium to fine grained. Wavy laminated black wacke tops, contacts barely visible. Weak widely disseminated pyrrhotite.								
943.0 - 945.2	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts distinct-undulating. Wacke beds parallel laminated @ 944.4 hairline fractures contain quartz, chlorite, pyrite and sphalerite (4 cm thick).								
945.2 - 948.8	Quartz Wacke; medium to thick bedded, medium to coarse grained, contacts barely visible, weakly sericitic through-out.								
948.8 - 953.0	Quartzitic Wacke Interbedded Wacke; medium to thin bedded, Quartz wackes medium to coarse grained, wacke fine to very fine grained, contacts distinct-undulating, wacke beds finely parallel laminated with rare thin (2 to 3 cm) calcareous beds. Soft sedimentary slumping @ 950 and 951.2, abundant assoc. pyrrhotite.								
953.0 - 964.9	Quartz Wacke; medium to very thick bedded, medium to coarse grained, contacts distinct-undulating, 2 to 6 cm light gray non-laminated wacke bed tops, generally sericitic through-out. Blue quartz sand grains noted in some of the beds.								

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Drill Hole Record

Property	VINE	District	Hole No. V-83-1-E	
Commenced	Location	Tests at	Hor. Comp.	
Completed	Core Size	Corr. Dip	Vert. Comp.	
Co-ordinates	True Brg.	Logged by		
Objective	% Recov.	Date		

Footage From To	Description	Sample No.	Length	Analysis					
				Claim	T Brg.	Collar Dip	Elev.	Length	
964.9 - 967.0	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts mainly sharp-flat, wacke beds parallel laminated. @ 966.5 - 10 cm zone contains abundant small rip-up clasts.								
967.0 - 971.5	Quartz Wacke; medium to thick bedded, medium to coarse grained, contacts distinct-undulating, some flame-structured bases 2 to 4 cm wavy laminated wacke bed tops. Bedding to 80°.								
971.5 - 975.0	Quartzitic Wacke; medium to thin bedded, medium to fine grained, contacts distinct to barely visible, undulating, minor chlorite generally in isolated patches.								
975.0 - 979.0	Quartz Wacke; medium to thick bedded, medium grained, contacts distinct flat, 1 to 3 cm non-laminated wacke bed tops, generally weakly sericitic through-out, minor subhedral pink garnets.								
979.0 - 981.5	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts distinct-undulating, wacke beds are wispy to wavy laminated.								
981.5 - 989.5	Quartzitic Wacke; medium bedded, medium grained, 1 to 2 cm non-laminated wacke bed tops, contacts flat-distinct.								
989.5 - 1001.4	Quartz Wacke; thick to very thick bedded; medium grained, contacts distinct undulating, 2 to 6 cm wavy and parallel laminated wacke bed tops, weakly sericitic through-out section, chlorite								

21-447

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length
From	To								
989.5	1001.4								
	rimmed hairline fractures common.								
	cont'd								
1001.4	1006.0								
	Quartzitic Wacke, Interbedded Wacke; medium to thin bedded, medium to very fine grained, contacts flat-sharp and undulating-sharp. Wacke beds commonly finely parallel laminated. Soft sedimentary slump zone 10 cm thick @ 1004.0 m. Rare patches of silification, associated with weak chloritization and subbedral pink garnets. Bedding to core 87°.								
1006.0	1018.5								
	Quartz Wacke; medium to dominately thick bedded, medium grained, 1 to 10 cm parallel and wavy laminated wacke bed tops, contacts sharp-undulating, flame structured bed bases common. some rip-up clasts, generally weakly sericitic with rare silicified patches containing subbedral pink garnets and chlorite.								
1018.5	1019.8								
	Wacke, Interbedded Quartzitic Wacke; medium to very thin bedded, medium to very fine grain, contacts sharp-flat and sharp undulating wacke beds commonly finely parallel laminated, weakly disseminated pyrrhotite through-out section.								
1019.8	1021.2								
	Quartz Wacke; thick bedded, medium grained, contacts barely visable, weakly sericitic and chloritic along hairline fractures.								
1021.2	1022.0								
	Wacke; thin bedded, fine to very fine grained, parallel and wavy laminated, 1021.2 1021.6 strongly chloritic, finely brecciated and mineralized by quartz and calcite and sphalerite.								

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage	Description	Sample No.	Length	Analysis	Claim	T Brg.	Collar Dip	Elev.	Length
From	To								
1022.0	1028.3								
	Quartz Wacke; thick bedded, medium grained, contacts barely visable; generally sericitic.								
1028.3	1031.2								
	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, medium to fine grained, contacts distinct-undulating, minor thin zones of soft sediment slumping.								
1031.2	1035.6								
	Quartz Wacke; medium to thick bedded, medium grained, contacts barely visable, 1 to 3 cm non-laminated wacke bed tops. Weakly chloritic along hairline fractures, very weak sericitization.								
1035.6	1037.8								
	Wacke, Interbedded Quartzitic Wacke; fine to very fine grained, wacke beds are generally finely parallel laminated, contacts flat-sharp to undulating-distinct near bottom of interval. Widely scattered fine disseminated pyrrhotite through-out interval, minor chloritization mainly in small patches and along hairline fractures. Tiny speck of sphalerite @ 1036.6.								
1037.8	1040.5								
	Quartz Wacke; thick bedded, medium grained, contacts barely visable, 2 to 4 cm thick non-laminated wacke bed tops; patchy sericitic and chloritic alteration with subbedral pink garnets.								
1040.5	1044.1								
	Wacke, Interbedded Quartzitic Wacke; medium to thick bedded, medium to very fine grained. Contacts distinct to barely visable, wacke beds generally thick bedded and slump textured.								

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From To	Description	Sample No.	Length	Analysis
1040.5 - 1044.1	with finely disseminated pyrrhotite.			
	Cont'd			
1044.1 - 1046.5	Quartz Wacke, Interbedded Wacke; medium to thin bedded, medium to fine grained, contacts mainly undulating-distinct, wacke beds generally parallel laminated, and weakly chloritic, with weak pyrrhotite disseminated, quartz wacke beds sericitic, with chlorite along hairline fractures.			
1046.5 - 1048.7	Wacke, Minor Interbeds of Quartzitic Wacke; medium to thin bedded, contacts distinct to barely visible, wacke very faint parallel laminated; Interval strongly altered, chloritization and a light cream colored alteration (type?) which is very soft @ 1048.5 very thin fracture contains quartz, chalcopyrite and sphalerite.			
1048.7 - 1050.6	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, medium grained, contacts barely visible, wacke beds parallel laminated to wispy laminated, generally contains weakly disseminated pyrrhotite, 1050.3 to 1050.6 rare tiny reddish specks of sphalerite associated with pyrite and pyrrhotite.			
1050.6 - 1051.0	Calcareous Wacke; medium bedded, fine grain to partly xlin, contacts flat-sharp, very finely parallel laminated, weakly sericitic and chloritic. Bedding to 82°.			

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Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From To	Description	Sample No.	Length	Analysis
1051.0 - 1058.8	Quartz Wacke; thick bedded, medium grained, contacts barely visible to distinct undulating; 1 to 2 cm non-laminated wacke bed tops, interval weakly sericitic through-out with chloritization along thin hairline fractures. Rare small subbedral garnets developed near chloritic fractures.			
1058.8 - 1063.0	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, medium to fine grained, contacts barely visible to distinct-undulating and some flat-distinct contacts.			
1063.0 - 1069.8	Quartz Wacke; thick bedded, medium grained, 2 to 6 cm non-laminated wacke bed top, rare wavy laminated top, weakly sericitic through interval, chlorite and subbedral garnet best developed along hairline fractures.			
1069.8 - 1071.4	Wacke, Interbedded Quartzitic Wacke; thin to very thin bedded, contains flat-sharp to barely visible, wacke beds generally finely parallel laminated. Some very weakly disseminated pyrrhotite.			
1071.4 - 1077.7	Quartz Wacke; thick to very thick bedded, medium grained, light gray non-laminated wacke bed tops are rare, contacts flat distinct, weakly sericitic through-out interval.			
1077.7 - 1080.6	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, medium to very fine grained, contacts distinct-undulating, wacke beds are parallel laminated in part and wavy laminated in part. Small scale cross bedding common in thin quartzitic wacke beds.			

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Drill Hole Record



Property	VINE	District		Hole No.	V-83-1-E		
Commenced		Location		Tests at		Hor. Comp.	
Completed		Core Size		Corr. Dip		Vert. Comp.	
Co-ordinates		True Brg.		Logged by			
Objective		% Recov.		Date			

Footage From	To	Description	Sample No.	Length	Analysis						
					Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.	
1080.6	1088.0	Quartz Wacke; thick bedded, medium grained, rare non-laminated wacke bed top, contacts barely visible, very weakly chloritic, some chlorite and rare pink subhedral garnet along hairline fractures.									
1088.0	1093.8	Wacke, Interbedded Quartzitic Wacke; medium to thin bedded, wacke beds very fine grained and finely parallel laminated, contacts are barely visible - to distinct-flat.									
1093.8	1115.2	Quartz Wacke; medium to thick bedded, generally medium grained and rare coarsed grained beds, 2 cm to 10 cm wavy and some parallel laminated wacke bed tops, contacts mainly undulating-distinct. Quartz wacke beds are generally weakly sericitic, with widely scattered chlorite and pink subhedral garnets, commonly near hairline fractures. Bedding to 87°.									
1115.2	1115.9	Wacke; medium to thin bedded, fine to very fine grained, contacts barely visible, some very weak disseminated pyrrhotite.									
1115.9	1116.7	Quartz Wacke; thick bedded, medium grained, contacts-undulating distinct, weakly sericitic and chloritic.									
1116.7	1119.1	Wacke; thin to very thin bedded, fine to very fine grained, contacts mainly flat-sharp, disseminated pyrrhotite rare thin pyrrhotite lamina, at 1117.3 - 20 cm thick. (soft sed. slump zone.)									

81-447

Drill Hole Record



Property	VINE	District		Hole No.	V-83-1-E		
Commenced		Location		Tests at		Hor. Comp.	
Completed		Core Size		Corr. Dip		Vert. Comp.	
Co-ordinates		True Brg.		Logged by			
Objective		% Recov.		Date			

Footage From	To	Description	Sample No.	Length	Analysis						
					Claim	T Brg.	Collar Dip	Elev.	Length	Hole No.	
1119.1	1119.7	Quartz Wacke; thick bedded, coarse grained, contacts flat-sharp, sericitic with widely scattered subhedral pink garnets.									
1119.7	1121.4	Wacke; thin to very thin bedded, fine to very fine grained, contacts flat-sharp, generally very finely parallel laminated, widely scattered thin <.1 cm pyrrhotite lamina, wide scattered fine specks of pyrrhotite with rare speck of sphalerite. Some thin slump structures zones.									
1121.4	1170.0	Wacke, Interbedded Wacke and Minor thin beds of sandy limestone and calcareous wacke; generally gray with reddish gray banding, medium to thin bedded, contacts sharp-flat, the section is typically finely parallel laminated. Thin light olive gray subwacke bed tops common. Fine reddish and black biotite and minor sericite is evenly distributed through-out the section, fine specks of pyrrhotite through-out the section. Calcareous Wacke and Sandy Limestone beds are rarely more than 10 cm thick. Parallel lamination can be well developed or very weak and is generally accented by biotite. The sandy limestone generally contain quartz sand some of which is blue quartz. About 25% of the section is calcareous. Calcareous beds are less abundant towards base of this interval. Bedding to core 88°.									
1170.0	1171.0	Fault Breccia 20 cm zone of soft gouge and broken core, shearing and gouge @ 45° to core.									

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Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

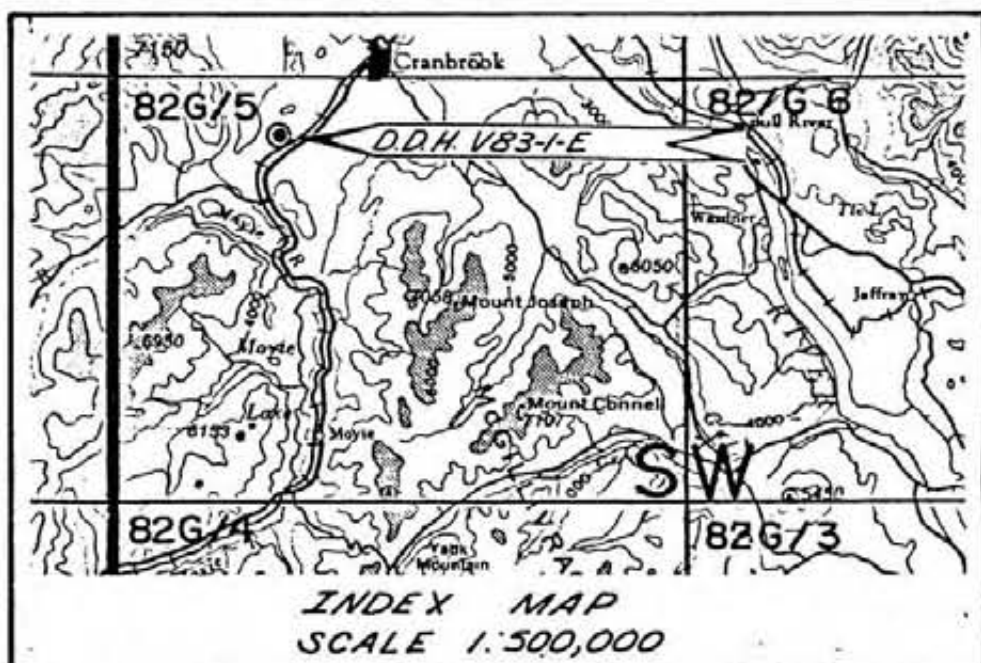
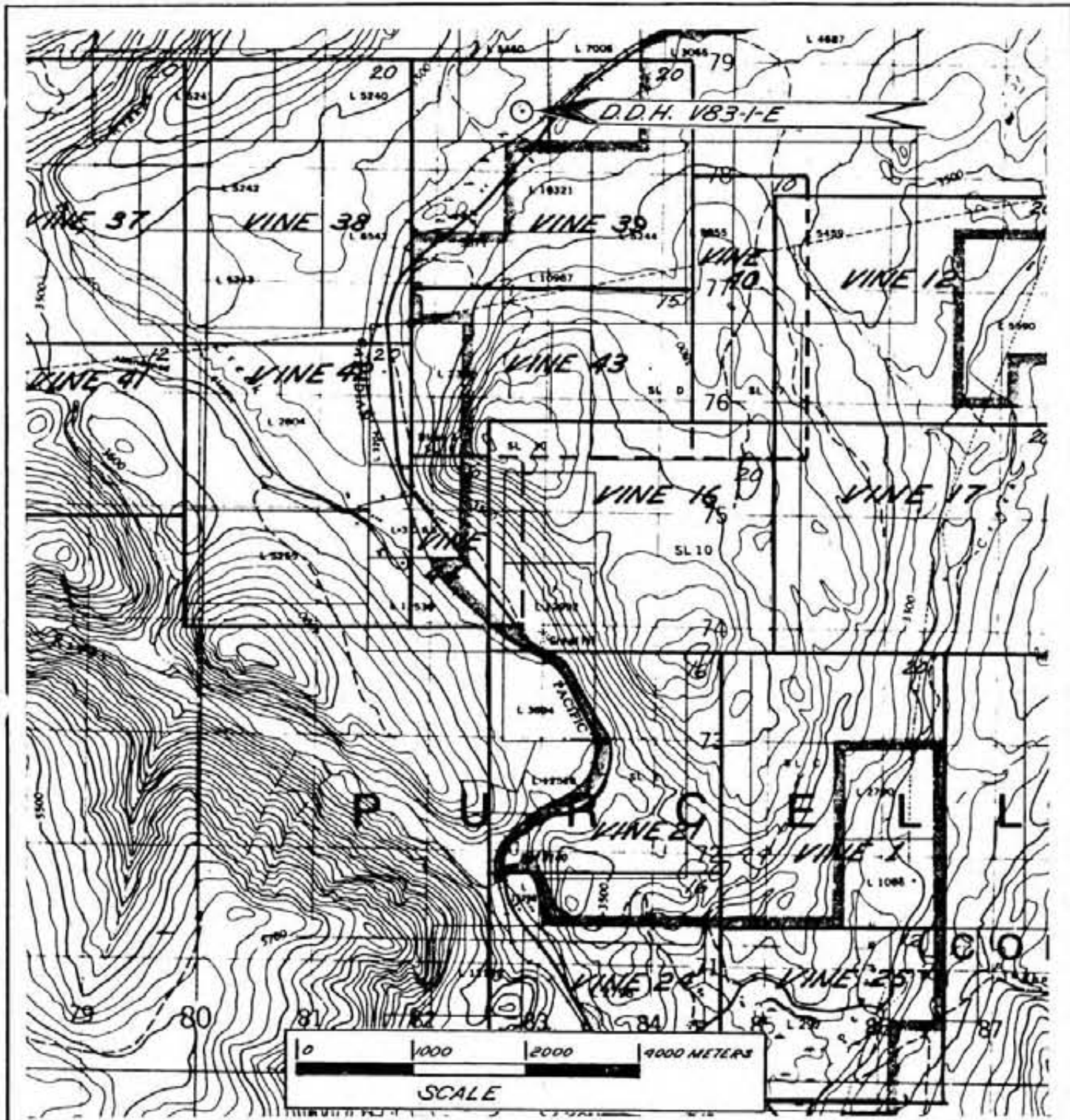
Footage From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length
1171.0	1179.0	Wacke; crackle brecciated, chlorite-calcite matrix, brecciated wacke is chloritic and contains abundant disseminated pyrite. Pyrrhotite, pyrite and rare sphalerite occur in breccia matrix.							
1179.0	1188.0	Wacke Interbedded Quartzitic Wacke; mainly light gray to medium gray, medium to thin bedded, contacts flat-sharp, fine to very fine grained, wacke and quartzitic wacke, very finely parallel laminated, thin light greenish gray subwacke bed tops are rare, quartzitic wacke beds are generally silicified, with abundant sericite developed along parallel lamination. Rare thin limy zones in this interval. Weakly disseminated fine pyrrhotite common through the section.							
1188.0	1190.0	Wacke, Interbedded Subwacke; light gray and bluish gray, thin to very thin bedded, contact distinct-flat, very weakly disseminated fine pyrrhotite.							
1190.0	1205.7	Wacke Interbedded Quartzitic Wacke, minor subwacke, approx. 50% of sediments in this section are calcareous, colors range from reddish gray to light greenish gray, medium to thin bedded, fine to very fine grained, contacts are flat-sharp, all the beds are finely parallel laminated, thin light greenish subwacke bed top are common. Quartzitic Wacke beds are commonly silicified and weakly chloritic, with abundant sericite developed parallel to lamination. Weakly disseminated fine pyrrhotite through the interval. Bedding to core at bottom of hole 80°.							
END OF HOLE CORE STORED AT KINGERLEY, SULLIVAN MINE.									

Drill Hole Record



Property	VINE	District	Hole No.	V-83-1-E
Commenced		Location	Tests at	Hor. Comp.
Completed		Core Size	Corr. Dip	Vert. Comp.
Co-ordinates			True Brg.	Logged by
Objective			% Recov.	Date

Footage From	To	Description	Sample No.	Length	Claim	T Brg.	Collar Dip	Elev.	Length
SPERRY SUN SURVEYS:									
		Depth (Meters)	Brq. True	Dip					
		172.2	S74°W	88°					
		220.4	S67°W	87.5°					
		274.3	S72°W	87.0°					
		365.8	S68°W	-86.8°					
		463.4	S65°W	-86.0°					
		668.3	S62°W	-86.0°					
		779.8	S52°W	-85.7°					
		853.6	S52°W	-84.0°					
		894.3	S62°W	-84.0°					
		1132.6	S70°W	-83.0°					
		1205.7	S67°W	-84.0°					



Drawn by: <i>D.L. Pighin</i>		Traced by:	
Revised by	Date	Revised by	Date

VINE PROPERTY DIAMOND DRILLING 1984

Scale: As Shown

Date: May 17 1984

Plate: