

2002 DIAMOND DRILLING REPORT
SIWASH GOLD MINE AREA
ELK PROPERTY

Similkameen Mining Division
Siwash Lake Area, British Columbia
NTS: 92H/16W; Lat. 49°50'N, Long. 120°19'W

VOLUME II : PLATES 1 TO 14

This report consists of two volumes:
Volume I: Text, Tables, Figures & Appendices
Volume II: Plates 1 to 14

May, 2003

By
W.J. Jakubowski, P. Geo.
Almaden Minerals Ltd.
1103 - 750 West Pender St.
Vancouver, B.C. V6C 2T8

GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

Report Preparation: Original + 4 copies

27,150 ^{26F2}

VOLUME II

PLATES

(in pockets)

Scale

<u>Plate 1:</u>	- Siwash North Mine Site Plan and Surface Drill Hole Locations	1:2000
<u>Plate 2:</u>	- Drill Section 1600E	1:250
<u>Plate 3:</u>	- Drill Section 1650E	1:250
<u>Plate 4:</u>	- Drill Section 2010E	1:250
<u>Plate 5:</u>	- Drill Section 2020E	1:250
<u>Plate 6:</u>	- Drill Section 2110E	1:250
<u>Plate 7:</u>	- Drill Section 2140E	1:300
<u>Plate 8:</u>	- Drill Section 2170E	1:300
<u>Plate 9:</u>	- Drill Section 2190E	1:300
<u>Plate 10:</u>	- Drill Section 2220E	1:300
<u>Plate 11:</u>	- Drill Section 2230E	1:350
<u>Plate 12:</u>	- Drill Section 2260E	1:300
<u>Plate 13:</u>	- Drill Section 2570E	1:300
<u>Plate 14:</u>	- Drill Section 2620E	1:300

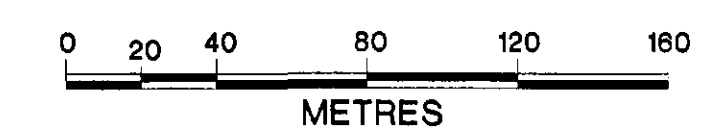


LEGEND

- Stream
- Swamp
- Dirt Road
- Vein Exposure
- Projected Trace of Vein
- Edge of Trees
- Drill Hole Trace

GEOLOGICAL SURVEY BRANCH

27,150



SIWASH GOLD MINE
Similkameen Mining Division
NTS 92H/16W, B.C.

**MINE SITE PLAN AND
SURFACE DRILL HOLE
LOCATIONS**

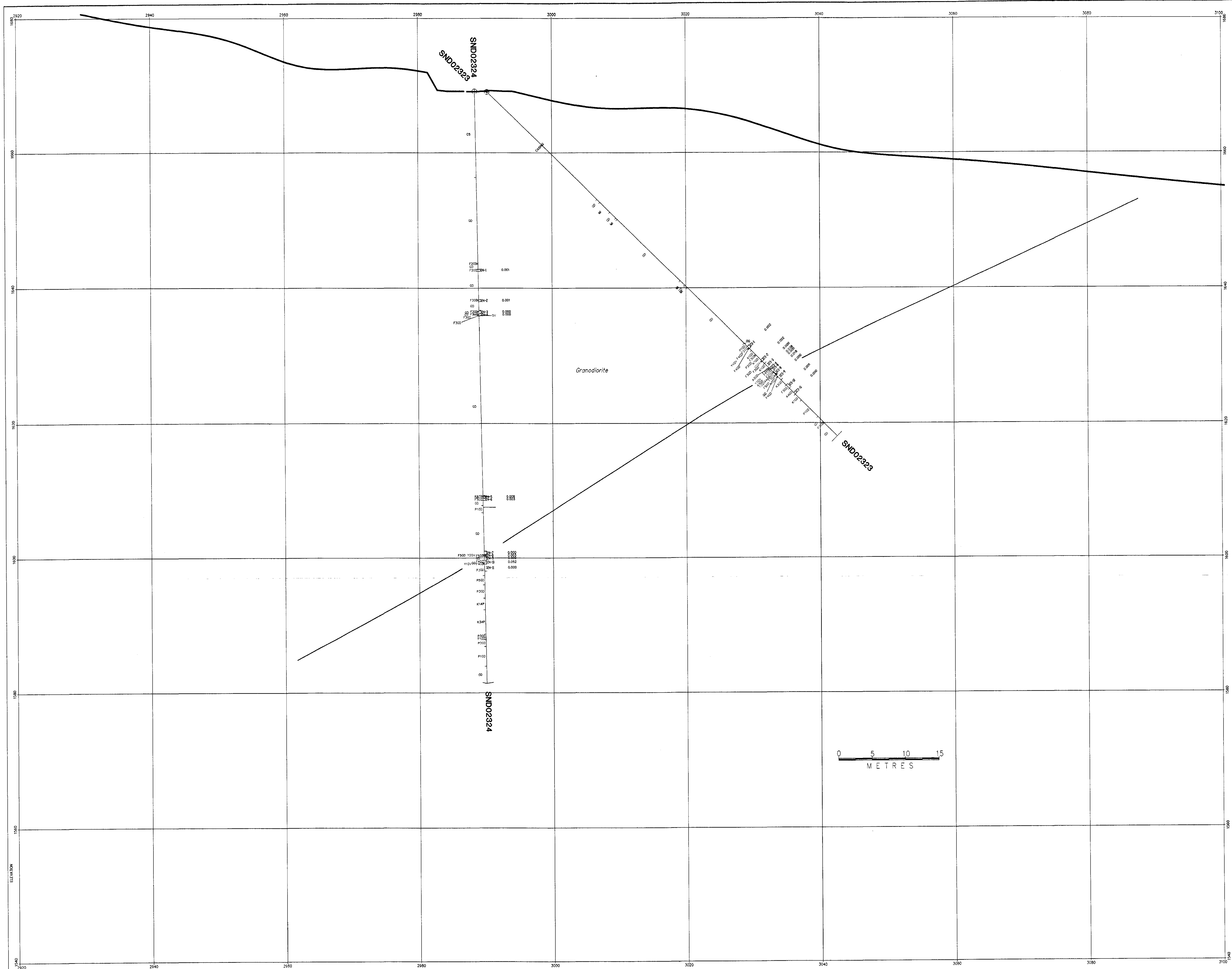
SCALE 1 : 2000

Drawn by WJ, EM
Nov, 2002

Plate 1

ALMADEN MINERALS LTD.

1103 750 West Pender Street Vancouver, British Columbia V6C 2T8



LEGEND

LITHOLOGY

- CS CASING
 - MI MISSING CORE
 - OB OVERBURDEN
- TERTIARY**
- AD ANDESITE DYKE dark grey-green to olive green, fine-grained to weakly porphyritic
 - BR BRECCIA fragmented rock in a clay or clay-chlorite rich matrix; commonly grades into gouge
 - GG GOUGE clay-rich with numerous rock fragments, shear foliation or banding may be evident
 - QV QUARTZ VEIN white to grey quartz with some arsenite; commonly 106 to 20 pyrite, pyrrhotite, sphalerite, galena, tetrahedrite; rare visible gold
- JURASSIC**
- OSPREY LAKE BATHOLITH
- AP APLITE pink to light grey, fine grained, sucrosic, may grade into pegmatite
 - FP FELDSPAR PORPHYRY pink to red, medium fine-grained, K-spar rich
 - GC GRANODIORITE CHILL MARGIN very dark grey, fine grained; up to 25% biotite or hornblende
 - GD GRANODIORITE medium to dark grey, fine to medium grained, with 10% to 20
 - GR GRANITE pink to pinkish grey, quartz - K-spar rich with some hornblende
 - PG PEGMATITE pink to light grey, very coarse grained to megacrystic; quartz - K-spar - muscovite rich
 - QM QUARTZ MONZONITE light to medium pinkish grey, medium to coarse grained equigranular with up to 10% biotite or hornblende
- TRIASSIC**
- NICOLA GROUP VOLCANICS
- AV ANDESITIC VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 - (PV) PSEPHYRIC VOLCANIC as above; phenocrysts of plagioclase or hornblende to about 20%
 - (VB) VOLCANIC BRECCIA as above; brecciated (primary) with andesitic matrix; matrix rarely contains up to 20% pyrite - pyrrhotite - chalcopyrite

ALTERATION CODES

- A(n) ARDILLIC
 - F(n) PHYLIC
 - FK K-spar STABLE PHYLIC
 - K(n) POTASSIC
 - B(n) ALBITIC
 - P(n) PROPYLITIC
 - S(n) SEROTIC
 - SK SKAN
 - X(n) SILICIFICATION
- (n = 1 TO 5, WEAK TO INTENSE)

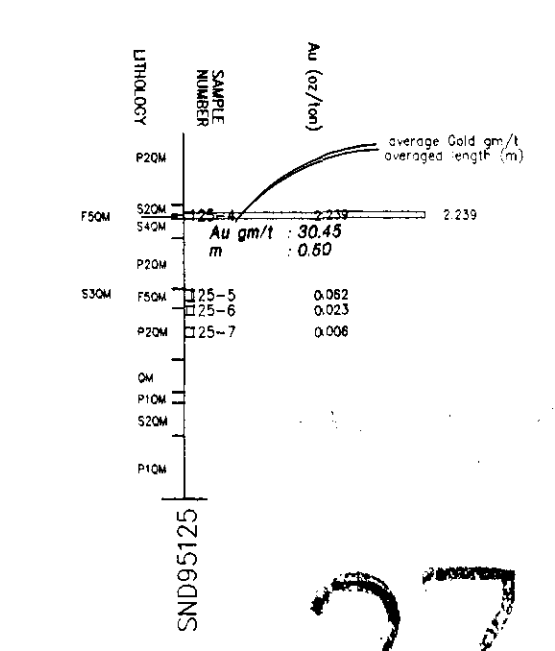
SULFIDE CONTENT CODES (quartz veins)

- Y1 visible gold
- Y2 less than 1% sulfide
- Y3 1 - 10% sulfide
- Y4 10 - 20% sulfide
- Y5 20 - 30% sulfide
- Y6 greater than 30% sulfide

SYMBOLS

- LITHOLOGIC CONTACT
- TRACE OF MINERALIZED STRUCTURE
- FAULT OR SHEAR

PLOT OF DRILL HOLE



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 1420 - 700 West Georgia Street Vancouver, British Columbia V7Y 1B6

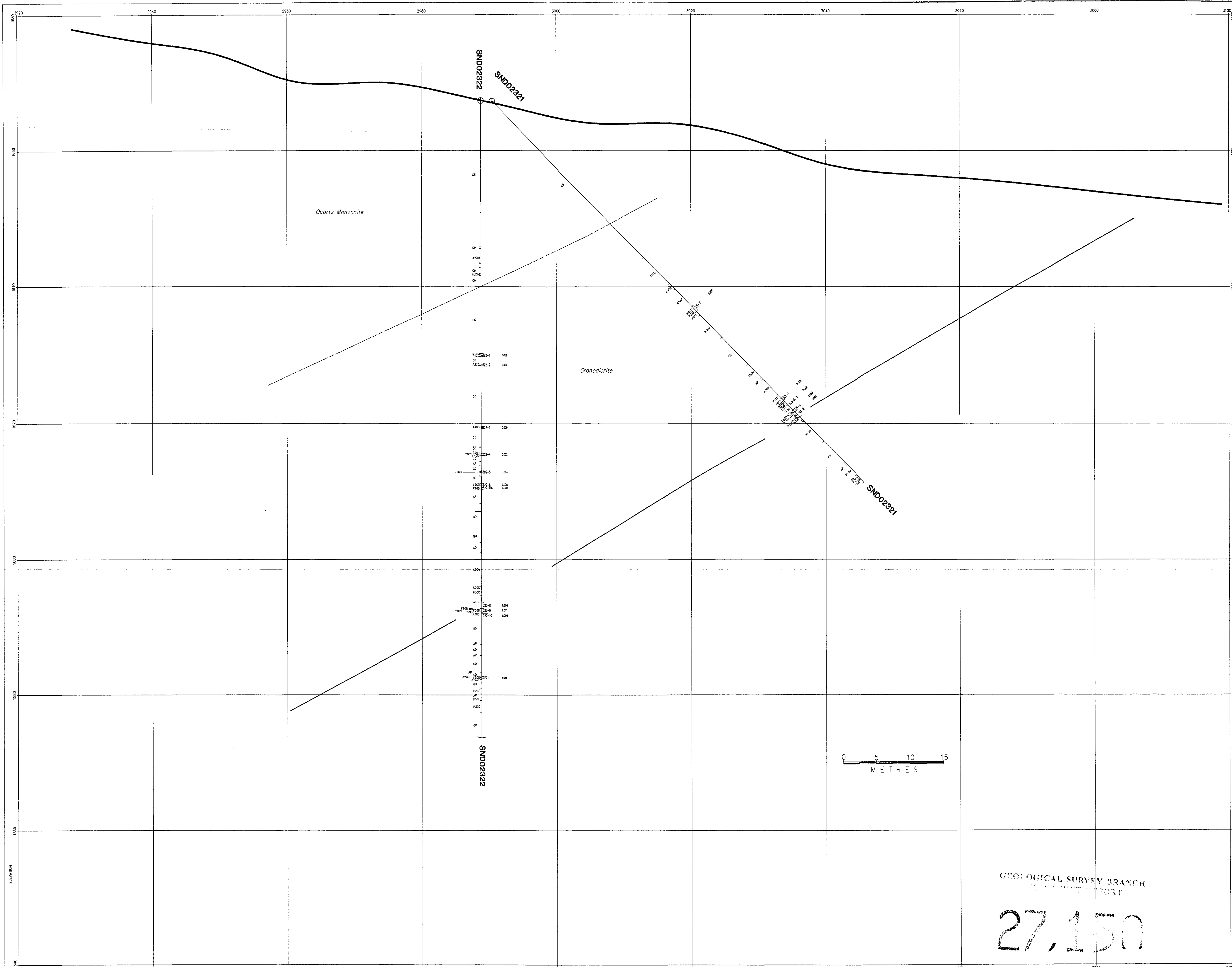
SIWASH GOLD MINE

GOLD CREEK WEST AREA

DIAMOND DRILL SECTION

1600E

SCALE 1 : 250
 LOOKING WEST



LEGEND

LITHOLOGY

CS CASING
 MI MISSING CORE
 OB OVERBURDEN

TERTIARY

AD ANDESITE DYKE dark greyish-green to olive green, fine-grained to weakly porphyritic
 BR BRECCIA fragmented rock in a clay or clay-chorite rich matrix, commonly grades into gouge
 GG GOUGE clay-rich with numerous rock fragments, shear foliation or banding may be evident
 QV QUARTZ VEIN white to grey quartz with some ankerite, commonly 10% to 20% pyrite, pyrrhotite, sphalerite, galena, tetraoerite, rare visible gold

JURASSIC

OSPREY LAKE BATHOLITH

AP APLITE pink to light grey, fine grained, sugrosic, may grade into pegmatite
 FP FELDSPAR PORPHYRY pink to red, medium fine-grained, K-spar rich
 GC GRANDIORITE CHILL MARGIN very dark grey, fine grained, up to 25% biotite or hornblende
 GD GRANDIORITE medium to dark grey, fine to medium grained, with 10% to 20%
 GR GRANITE pink to pinkish grey, quartz = K-spar rich with some hornblende
 PG PEGMATITE pink to light grey, very coarse grained to megacrystic; quartz = K-spar = muscovite rich
 QM QUARTZ MONZONITE light to medium pinkish gray/medium to coarse grained equigranular with up to 10% biotite or hornblende

TRIASSIC

NICOLA GROUP VOLCANICS

AV ANDESITIC VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 (PV) PORPHYRYTIC VOLCANIC as above; phenocrysts of plagioclase or hornblende to about 20%
 (VB) VOLCANIC BRECCIA as above; brecciated (primary) with andesitic matrix, matrix rarely contains up to 25% pyrite = pyrrhotite = chalcocite

ALTERATION CODES

A(n) ARGILLIC P(n) PORPHYRYTIC
 P(n) PHYLIC S(n) SERICITIC
 K(n) K-SPDR STABLE PHYLIC S(n) SILICAN
 K(n) POTASSIC X(n) SULFIDATION
 B(n) ALBITIC

(n = 1 TO 5, WEAK TO INTENSE)

SULFIDE CONTENT CODES (quartz veins)

V0 visible gold
 V1 less than 1% sulfide
 V2 1% to 5% sulfide
 V3 5 - 10% sulfide
 V4 10 - 20% sulfide
 V5 20 - 30% sulfide
 V6 greater than 30% sulfide

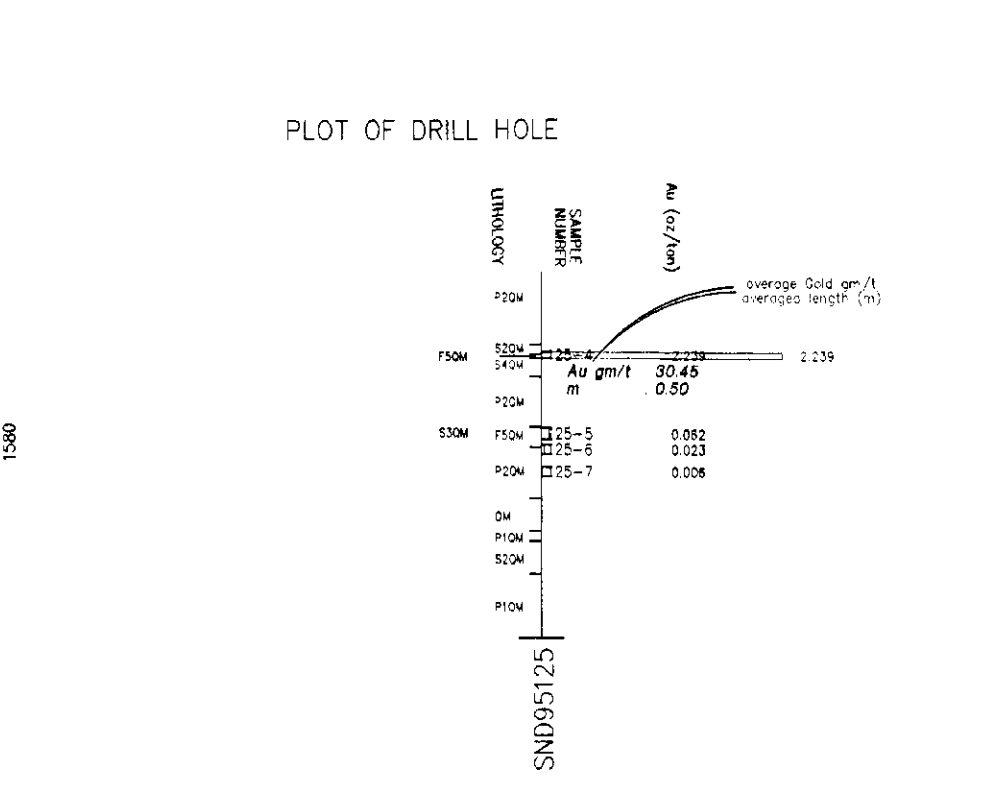
ALTERATION CODES

A(n) ARGILLIC P(n) PORPHYRYTIC
 P(n) PHYLIC S(n) SERICITIC
 K(n) K-SPDR STABLE PHYLIC S(n) SILICAN
 K(n) POTASSIC X(n) SULFIDATION
 B(n) ALBITIC

(n = 1 TO 5, WEAK TO INTENSE)

SULFIDE CONTENT CODES (quartz veins)

V0 visible gold
 V1 less than 1% sulfide
 V2 1% to 5% sulfide
 V3 5 - 10% sulfide
 V4 10 - 20% sulfide
 V5 20 - 30% sulfide
 V6 greater than 30% sulfide



GEOLOGICAL SURVEY BRANCH
 27,150

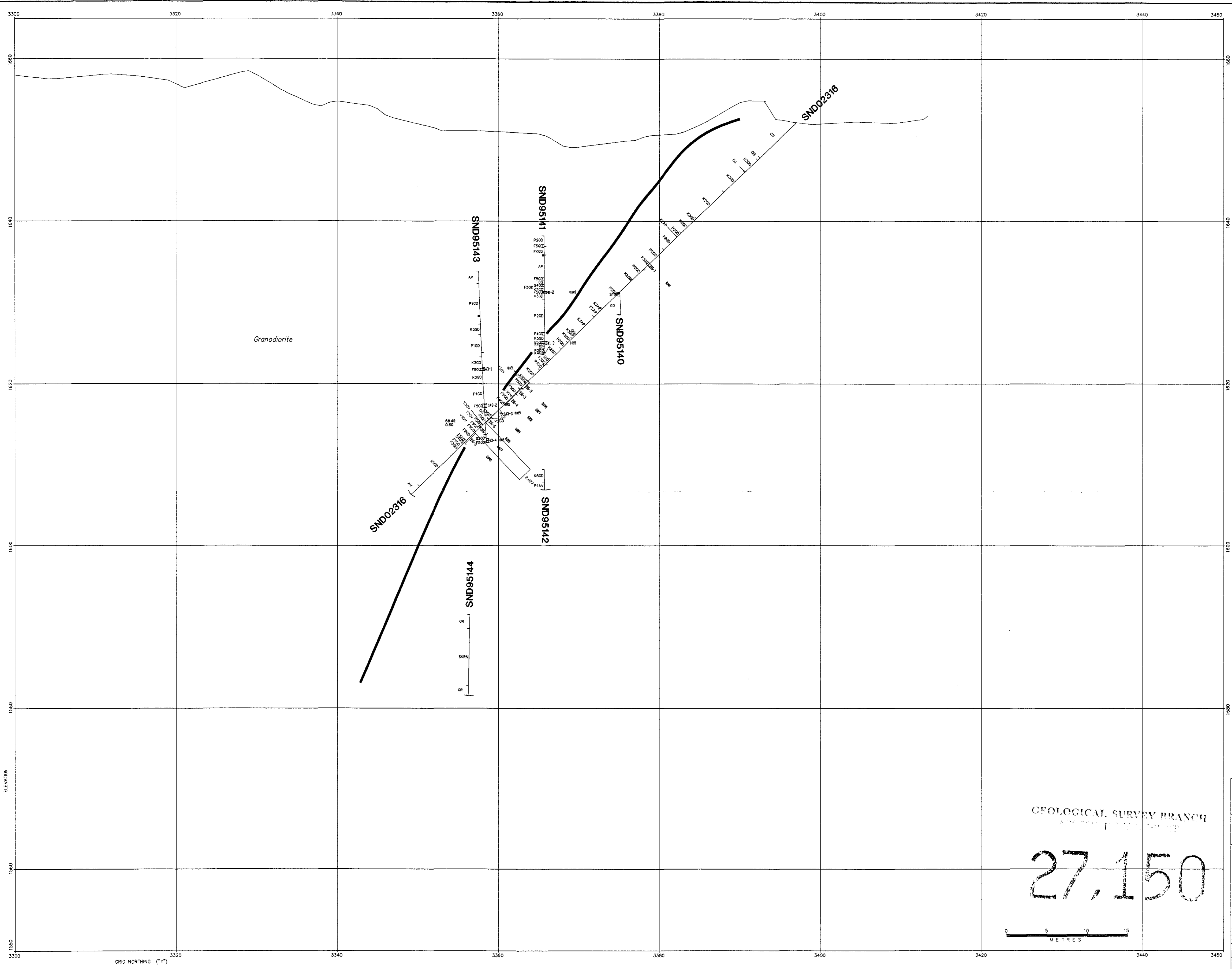
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SIWASH GOLD MINE
GOLD CREEK WEST AREA
DIAMOND DRILL SECTION
1650E
 SCALE 1 : 250
 LOOKING WEST

Drawn by WJ
 April, 2003

Plate 3



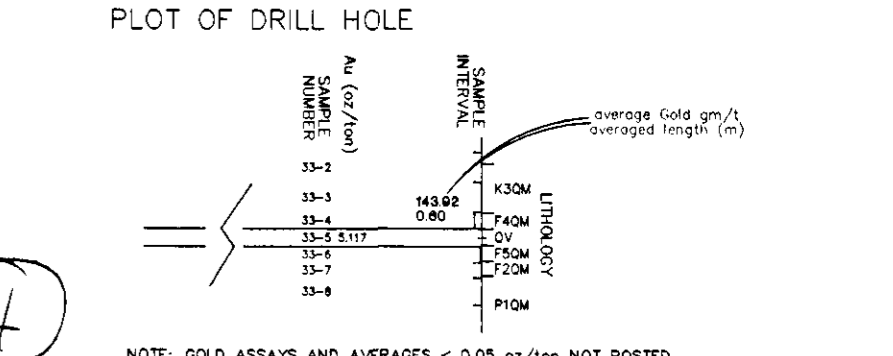
LEGEND

- LITHOLOGY**
- CS CASING
 - MI MISSING CORE
 - OB OVERBURDEN
- TERTIARY**
- AD ANDESITE DYKE dark greyish-green to olive green, fine-grained to weakly porphyritic
 - BR BRECCIA fragmented rock in a clay or clay-chlorite rich matrix, commonly grades into gouge
 - GG GOUGE clay-rich with numerous rock fragments, shear foliation or banding may be evident
 - DV QUARTZ VEIN white to grey quartz with some ankerite, commonly 10% to 20 pyrite, pyrrhotite, sphalerite, galena, tetrahedrite, rare visible gold
- JURASSIC**
- OSPREY LAKE BATHOLITH
- AP APLITE pink to light grey, fine grained, sugrosic, may grade into pegmatite
 - FP FELDSPAR PORPHYRY pink to red, medium fine-grained, k-spar rich
 - GC GRANDIORITE CHILL MARGIN medium to dark grey, fine grained; up to 15% biotite or hornblende
 - GD GRANDIORITE medium to dark grey, fine to medium grained, up to 15% biotite or hornblende
 - GR GRANITE pink to pinkish grey quartz - k-spar rich with some hornblende
 - PG PEGMATITE pink to light grey, very coarse grained to megacrystic, quartz - k-spar - muscovite rich
 - QM QUARTZ MONZONITE light to medium pinkish grey, coarse grained equigranular with up to 15% biotite or hornblende
- TRIASSIC**
- NICOLA GROUP VOLCANICS
- AV ANDESITIC VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 - (P)PORPHYRY VOLCANIC as above; phenocrysts of plagioclase or hornblende to about 20%
 - (V)VOLCANIC BRECCIA as above; brecciated (primary) with andesitic matrix, matrix rarely contains up to 25% pyrite - pyrrhotite - chalcopyrite

- ALTERATION CODES**
- | | |
|---------------------------|---------------------|
| A(n) ARGILLIC | P(n) PROPYLITIC |
| F(n) PHYLIC | S(n) SERICITIC |
| K(n) K-SPOR STABLE PHYLIC | SK SKARN |
| X(n) POTASSIC | X(n) SILICIFICATION |
- (n = 1 TO 5, WEAK TO INTENSE)

- SULFIDE CONTENT CODES (quartz veins)**
- | | |
|----|--------------------------|
| Y1 | less than 1% sulfide |
| Y2 | 1% to 5 |
| Y3 | 5 - 10% sulfide |
| Y4 | 10 - 20% sulfide |
| Y5 | 20 - 30% sulfide |
| Y6 | greater than 30% sulfide |

- SYMBOLS**
- LITHOLOGIC CONTACT
 - TRACE OF MINERALIZED STRUCTURE (line types differ by zone, individual zones labelled on sections)
 - FAULT OR SHEAR



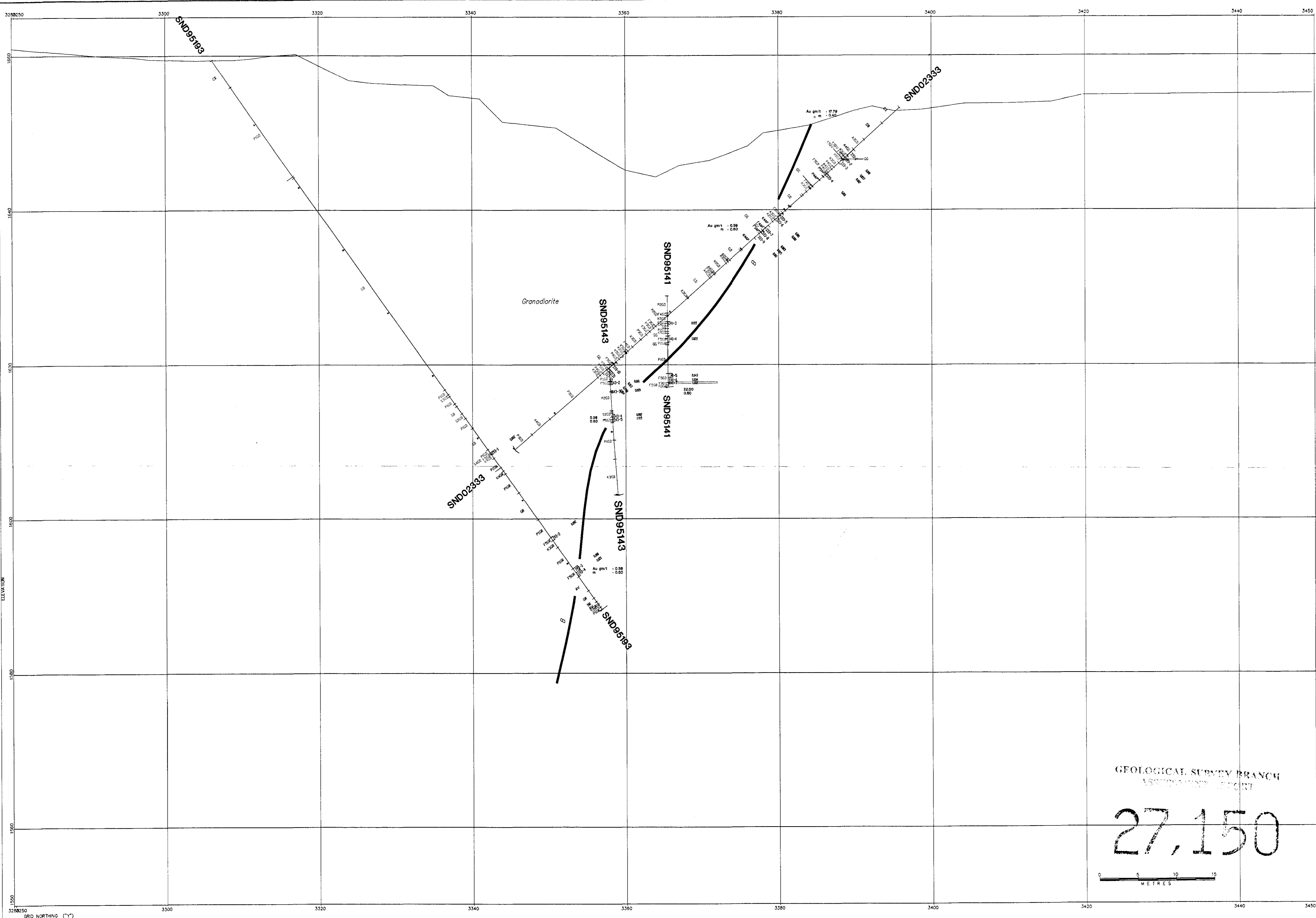
NOTE: GOLD ASSAYS AND AVERAGES < 0.05 oz/ton NOT POSTED

GEOLOGICAL SURVEY BRANCH
 27.150
 0 5 10 15 METRES

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SIWASH GOLD MINE

SIWASH NORTH AREA
DIAMOND DRILL SECTION
2010E
 SCALE 1 : 250
 LOOKING WEST



LEGEND

LITHOLOGY

CS CASING
 MI MISSING CORE
 OB OVERBURDEN

TERTIARY

AD ANDESITE DYKE dark greyish-green to olive green, fine-grained to weakly porphyritic
 BR BRECCIA fragmented rock in a clay or clay-chlorite rich matrix; commonly grades into gouge
 GG GOUGE clay-rich with numerous rock fragments, shear foliation or banding may be evident
 QV QUARTZ VEN white to grey quartz with some ankerite; commonly 10% to 20% pyrite, pyrrhotite, sphalerite, galena, tetrahedrite; rare visible gold

JURASSIC

OSPREY LAKE BATHOLITH

AP APLITE pink to light grey, fine grained, sucrosic, may grade into pegmatite
 FP FELDSPAR PORPHYRY pink to red, medium fine-grained, k-spar rich
 GC GRANODIORITE CHILL MARGIN medium to dark grey, fine grained; up to 15% biotite or hornblende
 GD GRANODIORITE medium to dark grey, fine to medium grained, up to 15% biotite or hornblende
 GR GRANITE pink to pinkish grey, quartz - k-spar rich with some hornblende
 PG PEGMATITE pink to light grey, very coarse grained to megacrystic, quartz - k-spar - muscovite rich
 QM QUARTZ MONZONITE light to medium pinkish grey, coarse grained equigranular with up to 15% biotite or hornblende

TRIASSIC

NICOLA GROUP VOLCANICS

AV ANDESITIC VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 (P)V PORPHYRY VOLCANIC as above; phenocrysts of plagioclase or hornblende to about 20%
 (VB) VOLCANIC BRECCIA as above; brecciated (primary) with andesitic matrix; matrix rarely contains up to 25% pyrite - pyrrhotite - chalcopyrite

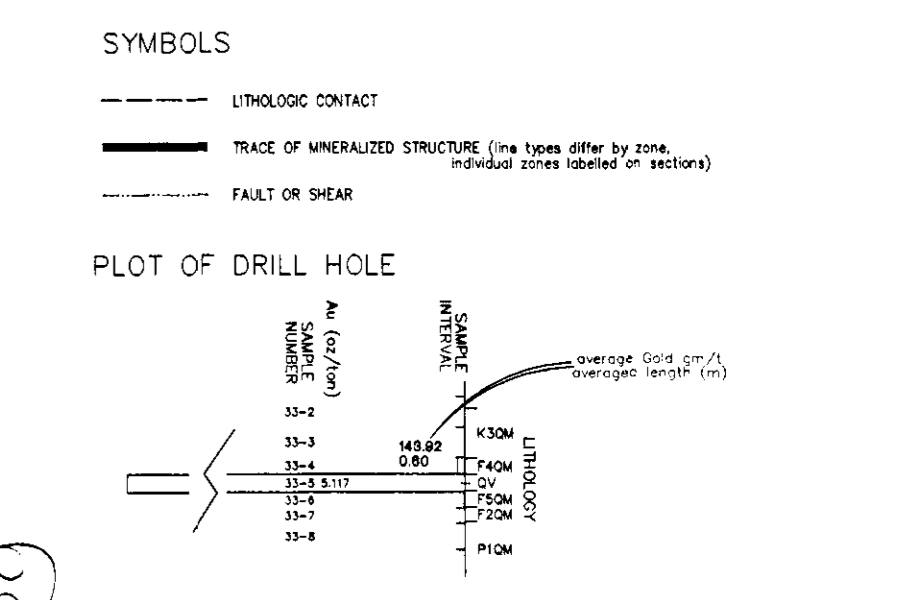
ALTERATION CODES

A(n)	ARGILLIC	P(n)	PROPHYLIC
F(n)	PHYLIC	S(n)	SEROTIC
K(n)	K-SPAR STABLE PHYLIC	SK	SKARN
X(n)	POTASSIC	X(n)	SILICIFICATION

(n = 1 TO 5, WEAK TO INTENSE)

SULFIDE CONTENT CODES (quartz veins)

L	less than 1% sulfide
1/2	1% to 5%
1/3	5% to 10% sulfide
1/4	10% to 20% sulfide
1/5	20% to 30% sulfide
Y5	greater than 30% sulfide



GEOLOGICAL SURVEY BRANCH
 ASSOCIATED REPORT

27,150



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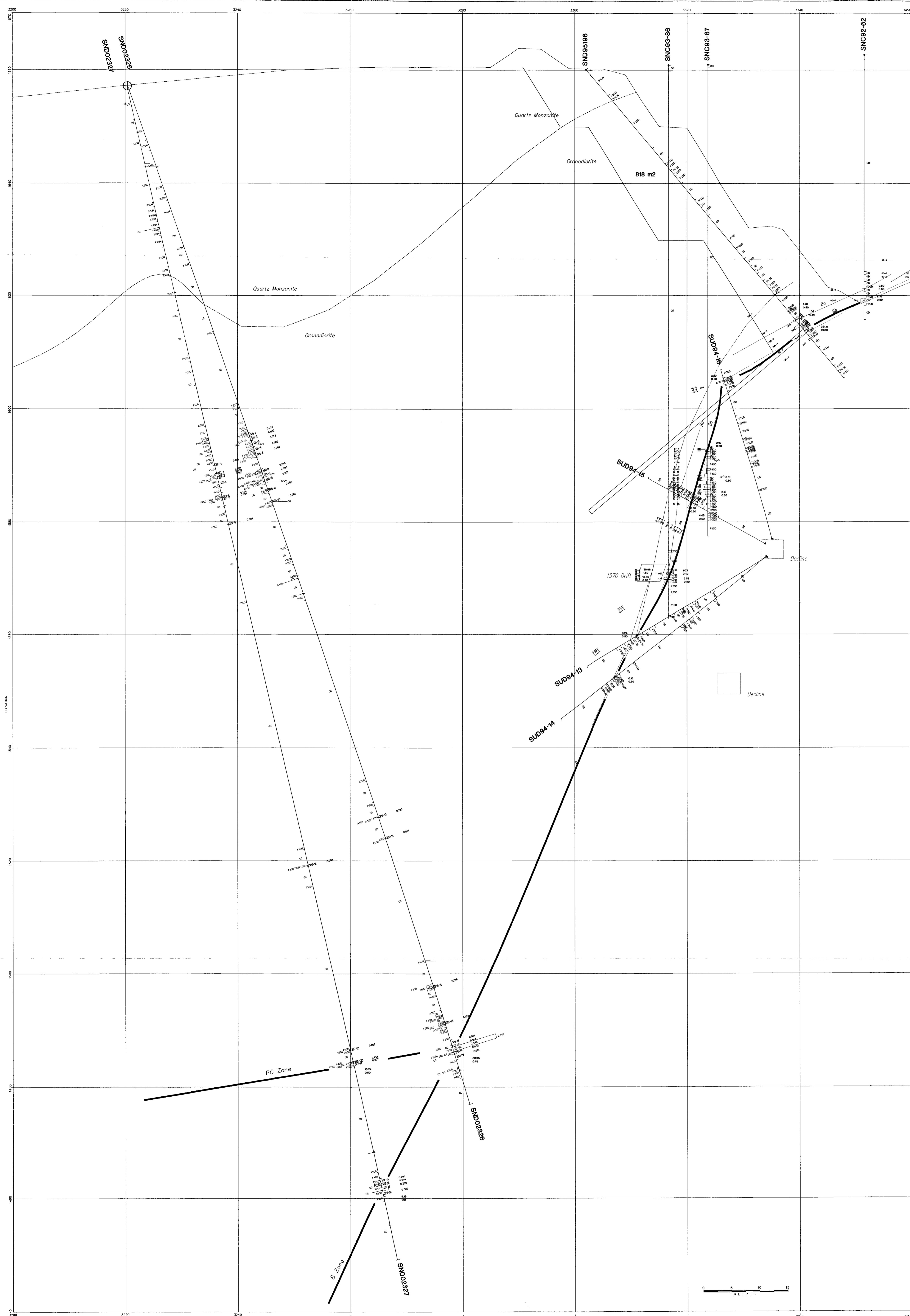
SIWASH GOLD MINE

**SIWASH NORTH AREA
 DIAMOND DRILL SECTION**

2020E
 SCALE 1 : 250
 LOOKING WEST

Drawn by WJ
 April, 2003

Plate 5



LEGEND

LITHOLOGY

CS CASING
 MI MISSING CORE
 OB OVERBURDEN

TERTIARY

AD ANDESITE DIKE dark gray-green to olive green, fragmented to weakly porphyritic
 BR BRECCIA fragmented rock in a clay or clay-chaite rich matrix, commonly grades into gouge
 ED EDGE clay-rich with numerous rock fragments, clear foliation or banding may be evident
 QV QUARTZ VEN white to gray quartz with some calcite, commonly 10x to 25x wide, symplectic, tabular, euhedral, tetrahedral, rare visible gold

JURASSIC

OSPREY LAKE BATHOLITH

AP ALUTE pink to light gray, fine grained, spongy, may grade into pegmatite
 FP FELDSPAR PORPHYRY pink to red, medium fine-grained, k-spar rich
 GC GRANODIORITE CHILL MARON medium to dark gray, fine grained, up to 15% biotite or hornblende
 GD GRANODIORITE medium to dark gray, fine to medium grained, up to 15% biotite or hornblende
 GR GRANITE pink to pinkish gray, quartz - k-spar rich with some hornblende
 PG PEGMATITE pink to light gray, very coarse grained to megacrystic, quartz - k-spar - muscovite rich
 QM QUARTZ MONZONITE light to medium pinkish gray, coarse grained, equigranular with up to 15% biotite or hornblende

TRASSIC

NEOLA GROUP VOLCANICS

AV ANDESITIC VOLCANICS dark gray-green to near black, very fine-grained to aphanitic
 (P) Volcanic tuff as above, phenocrysts of plagioclase or hornblende to about 20x
 (M) Volcanic breccia as above, brecciated (primary) with andesitic matrix, matrix rarely contains up to 25% pyrite - pyrrhotite - chloropyrite

ALTERATION CODES

A(n) ANOLITE P(n) PROPYLITIC
 Ph(n) PHYLIC S(n) SERICITIC
 K(n) POTASSIC X(n) SILICIFICATION
 (n = 1 TO 5, WEAK TO INTENSE)

SULFIDE CONTENT CODES (quartz veins)

V1 less than 1% sulfide
 V2 1% to 5% sulfide
 V3 5% to 20% sulfide
 V4 20% to 50% sulfide
 V5 greater than 50% sulfide

MINERALOGICAL SURVEY BRANCH
 REPORT

27,150

SYMBOLS

--- LITHOLOGIC CONTACT
 --- TRACE OF MINERALIZED STRUCTURE (line type often by zone, individual zones labeled on section)
 --- FAULT OR SHEAR

PLOT OF DRILL HOLE

(6)

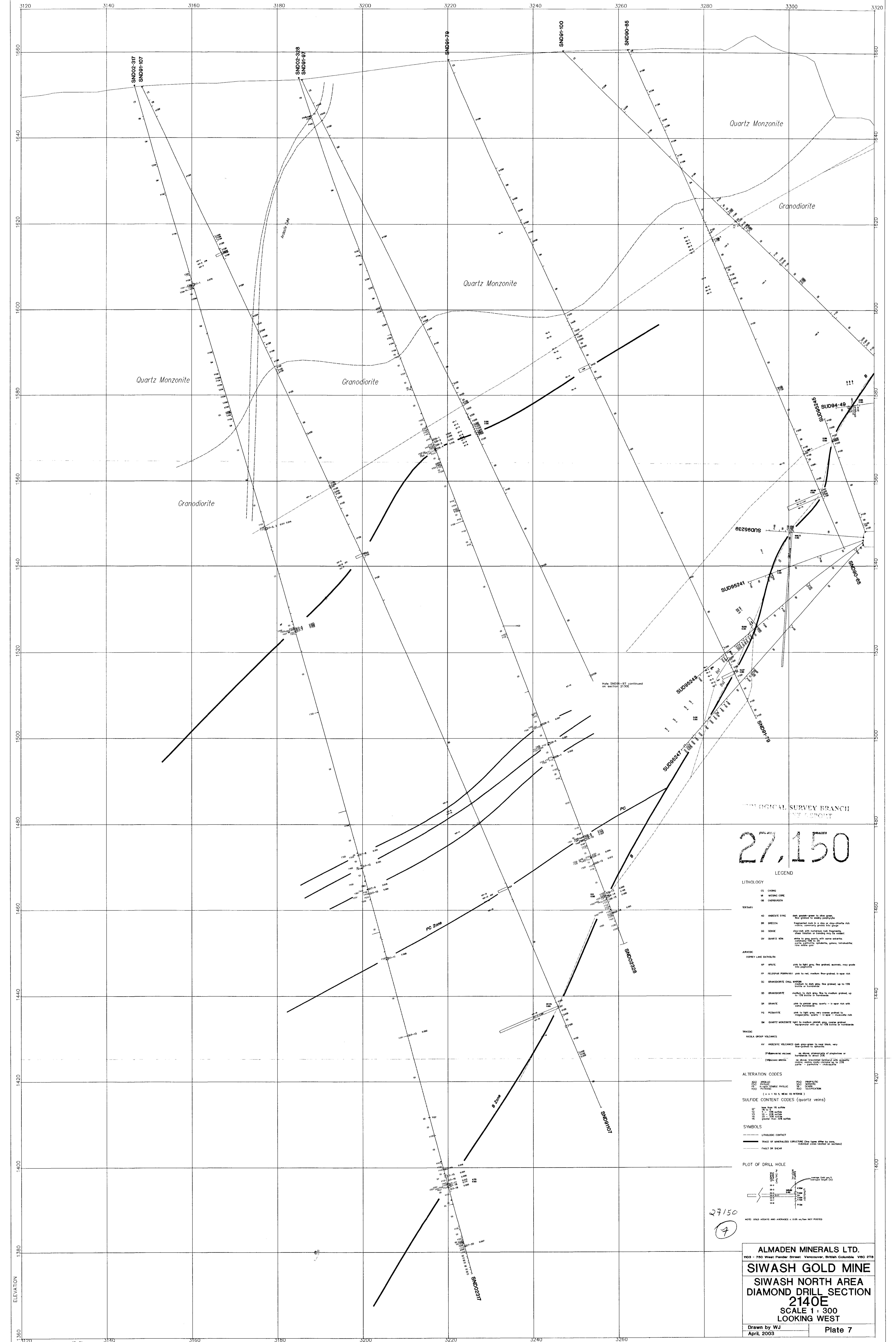
NOTE: GOLD ASSAYS AND REVERSES < 0.05 g/t Au NOT PLOTTED

ALMADEN MINERALS LTD.
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SIWASH GOLD MINE
SIWASH NORTH AREA
DIAMOND DRILL SECTION
2110E
 SCALE 1 : 250
 LOOKING WEST

Drawn by WJ
 April 2003

Plate 6



MINERALOGICAL SURVEY BRANCH
 REPORT

27,150

LEGEND

LITHOLOGY

- CS CASING
- MC MASONRY CORE
- OC ORE CONDUIT
- BR BRICK
- AD ANDRETTA SHALE dark grey to black, shaly, fine grained, sandy parting
- BR BRICK
- CC COAL
- CG CONGLOMERATE
- CU CUMULUS
- QV QUARTZ VEIN
- AR ARKIC
- OP OPEN
- AP AP
- PC PC
- GC GRANODIORITE
- GD GRANODIORITE
- GR GR
- MC MONTESSANO
- QM QUARTZ MONZONITE

ALTERATION CODES

- AN AN
- OP OP
- PC PC
- QV QV

SULFIDE CONTENT CODES (quartz veins)

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SYMBOLS

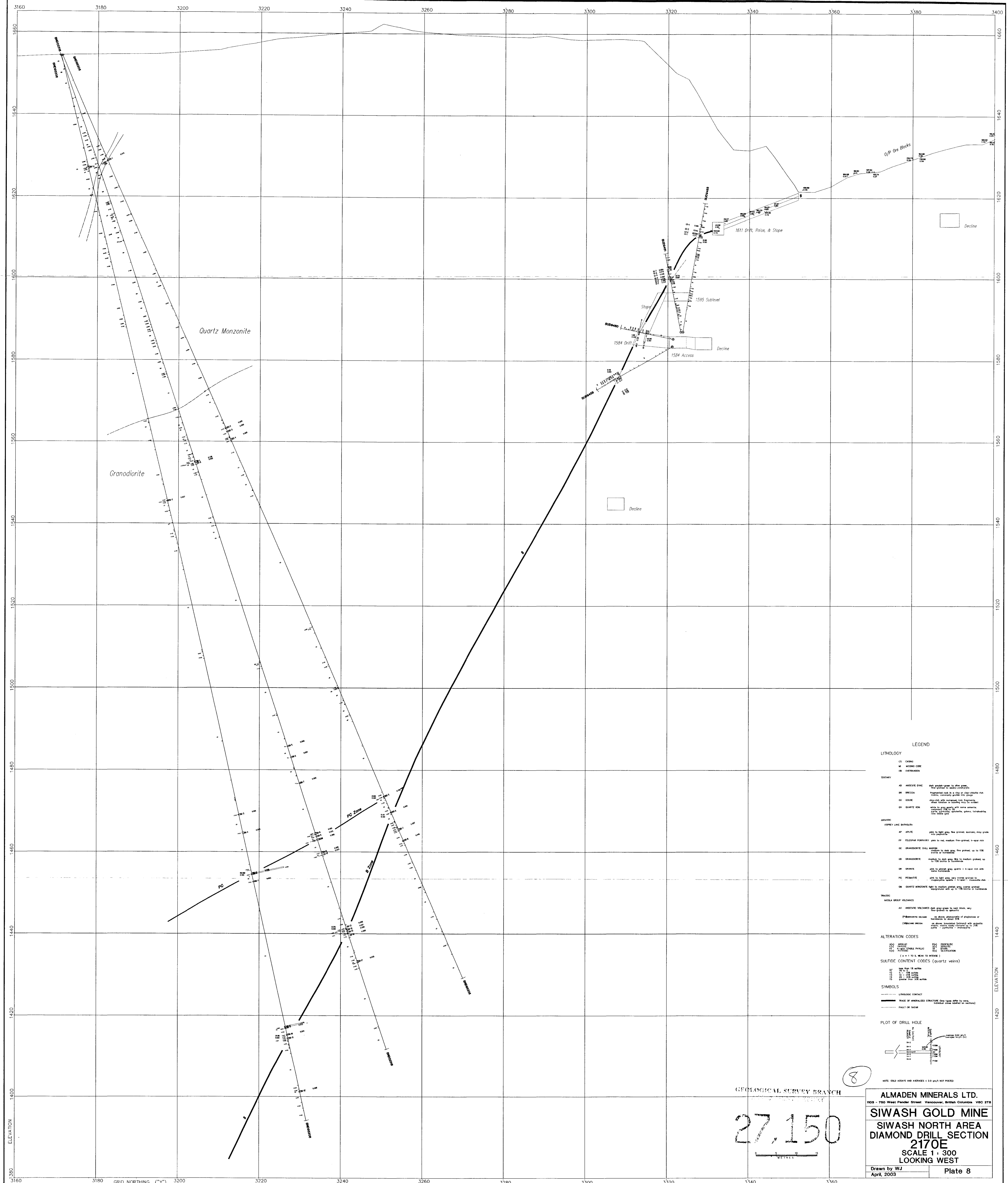
- LITHOLOGIC CONTACT
- TRACE OF MINERALIZED STRUCTURE (See base of map)
- FAULT OR SHEAR

PLOT OF DRILL HOLE



27150
 7

ALMADEN MINERALS LTD.
 100 - 750 West Pender Street Vancouver, British Columbia V6C 2T8
SIWASH GOLD MINE
 SIWASH NORTH AREA
 DIAMOND DRILL SECTION
2140E
 SCALE 1 : 300
 LOOKING WEST
 Drawn by WJ
 April, 2003
 Plate 7



LEGEND

LITHOLOGY

- CS CASING
- MI MISSED CORE
- OB OVERLOOKED

TERTIARY

- AD ANDESITE DIKE
- BR BRECCIA
- GS GOUSS
- QU QUARTZ VEIN

ARABIC

- AP APFITE
- PC PERCULP
- GR GRANODIORITE
- GR GRANODIORITE
- GR GRANITE
- PG PERMITE
- QU QUARTZ MONZONITE

TRUSS

- AV ANDRESIC VOLCANICS

ALTERATION CODES

- 200 ANTECIP
- 201 ANTECIP
- 202 ANTECIP
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- 219 ANTECIP
- 220 ANTECIP

SULFIDE CONTENT CODES (quartz veins)

- 000 000
- 001 001
- 002 002
- 003 003
- 004 004
- 005 005
- 006 006
- 007 007
- 008 008
- 009 009
- 010 010
- 011 011
- 012 012
- 013 013
- 014 014
- 015 015
- 016 016
- 017 017
- 018 018
- 019 019
- 020 020

SYMBOLS

- LITHOLOGICAL CONTACT
- TRACE OF MINERALIZED STRUCTURE (See Table 10 for details)
- FAULT OF SHEAR

PLOT OF DRILL HOLE

NOTE: GOLD ASSAYS AND HEADINGS < 0.00 g/t NOT PLOTTED

GEOLOGICAL SURVEY BRANCH

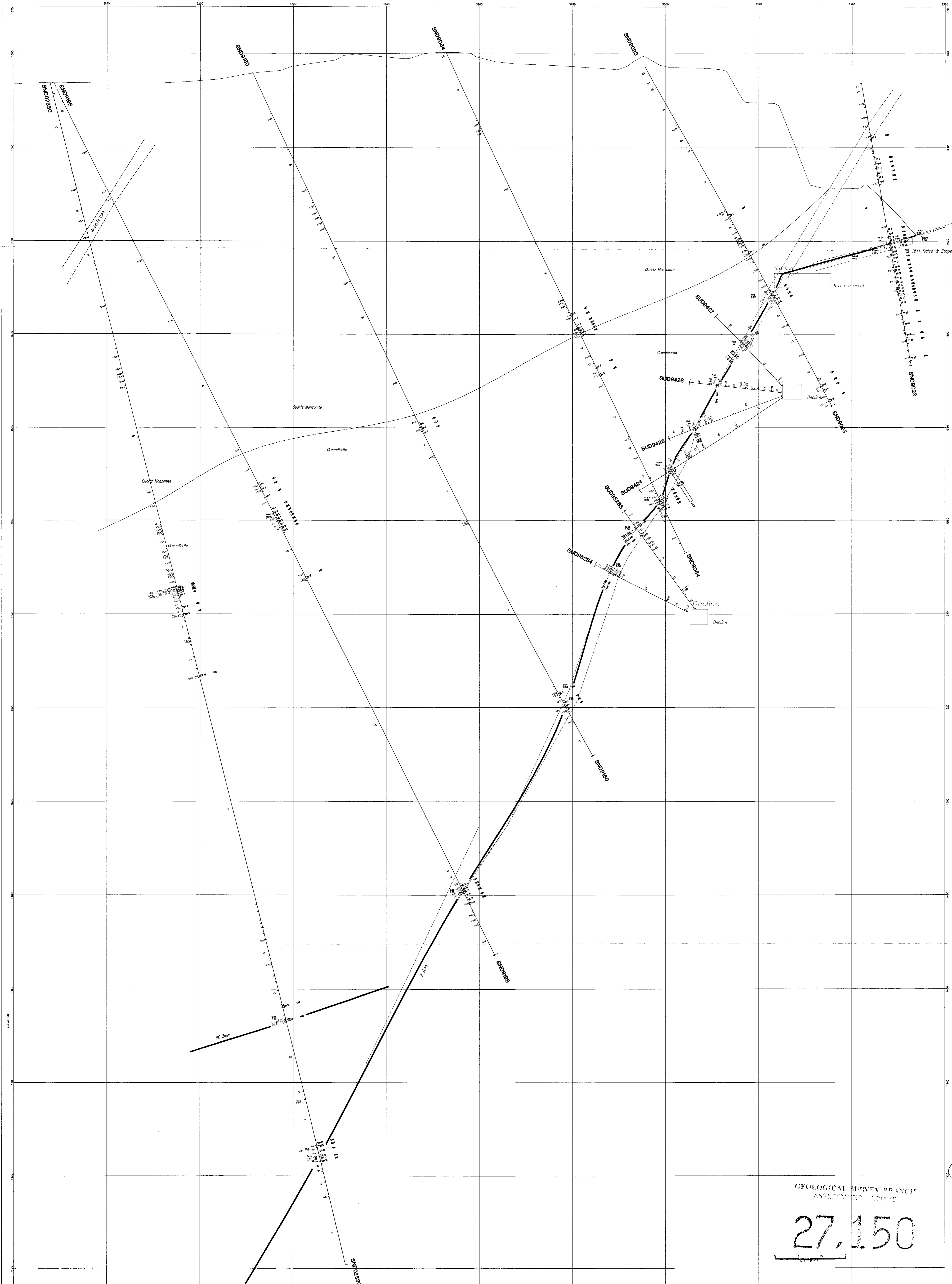
27,150

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SIWASH GOLD MINE
SIWASH NORTH AREA
DIAMOND DRILL SECTION
2170E
 SCALE 1 : 300
 LOOKING WEST

Drawn by WJ
 April, 2003

Plate 8



LEGEND

LITHOLOGY

CS CASING
 MI MINING CORE
 OB OVERBURDEN

TERTIARY

AO ANDERSON DYKE dark grey-green to olive green, fine-grained to weakly porphyritic
 BR BRECKEN fragmented rock in a clay or clay-siltstone rich matrix, commonly grades into quartz
 CC COCKE clay-rich with numerous rock fragments, often laminar or banding may be visible
 QV QUARTZ VEIN white to grey quartz with some hematite, commonly 10% to 20% pyrite, galena, arsenic, silver, telluride, rare native gold

JURASSIC

OSPREY LAKE BATHOLITH

AP ALUTE pink to light grey, fine grained, aphanitic, may grade into pegmatite
 FP FELDSPAR PORPHYRY pink to red, medium fine-grained, 1-2% pyrite
 GC GRANODIORITE CHILL MARGIN medium to dark grey, fine grained, up to 15% biotite or hornblende
 GD GRANODIORITE medium to dark grey, fine to medium grained, up to 15% biotite or hornblende
 GR GRANITE pink to pinkish grey, quartz - 1-2% pyrite with some hematite
 PG PEGMATITE pink to light grey, very coarse grained to megacrystic quartz - 1-2% pyrite - muscovite rich
 QM QUARTZ MONZONITE light to medium pinkish grey, coarse grained equigranular with up to 15% biotite or hornblende

TRASSIC

NOCOLA GROUP VOLCANICS

AV ANDERSON VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 (P)MAGMATIC MUDROCK as above, phaneritic of plagioclase or hornblende to about 25%
 (M)MAGMATIC BRECCIA as above, brecciated (primary) with andesitic matrix, matrix varies from fine to 25% pyrite - pyrite - chlorite

ALTERATION CODES

A(1)	ARGILLIC	(S)	PROPYLITIC
PK	POTASSIC	(S)	SULFIDE
K	KAMPFERTHALIC	(S)	QUARTZ
(K)	(KAMPFERTHALIC)	(S)	SULFIDATION

(a = 1 TO 5, MEAN TO INTENSE)

SULFIDE CONTENT CODES (quartz veins)

0	less than 1% sulfide
1	1% to 5%
2	5% to 10%
3	10% to 25%
4	greater than 25% sulfide

SYMBOLS

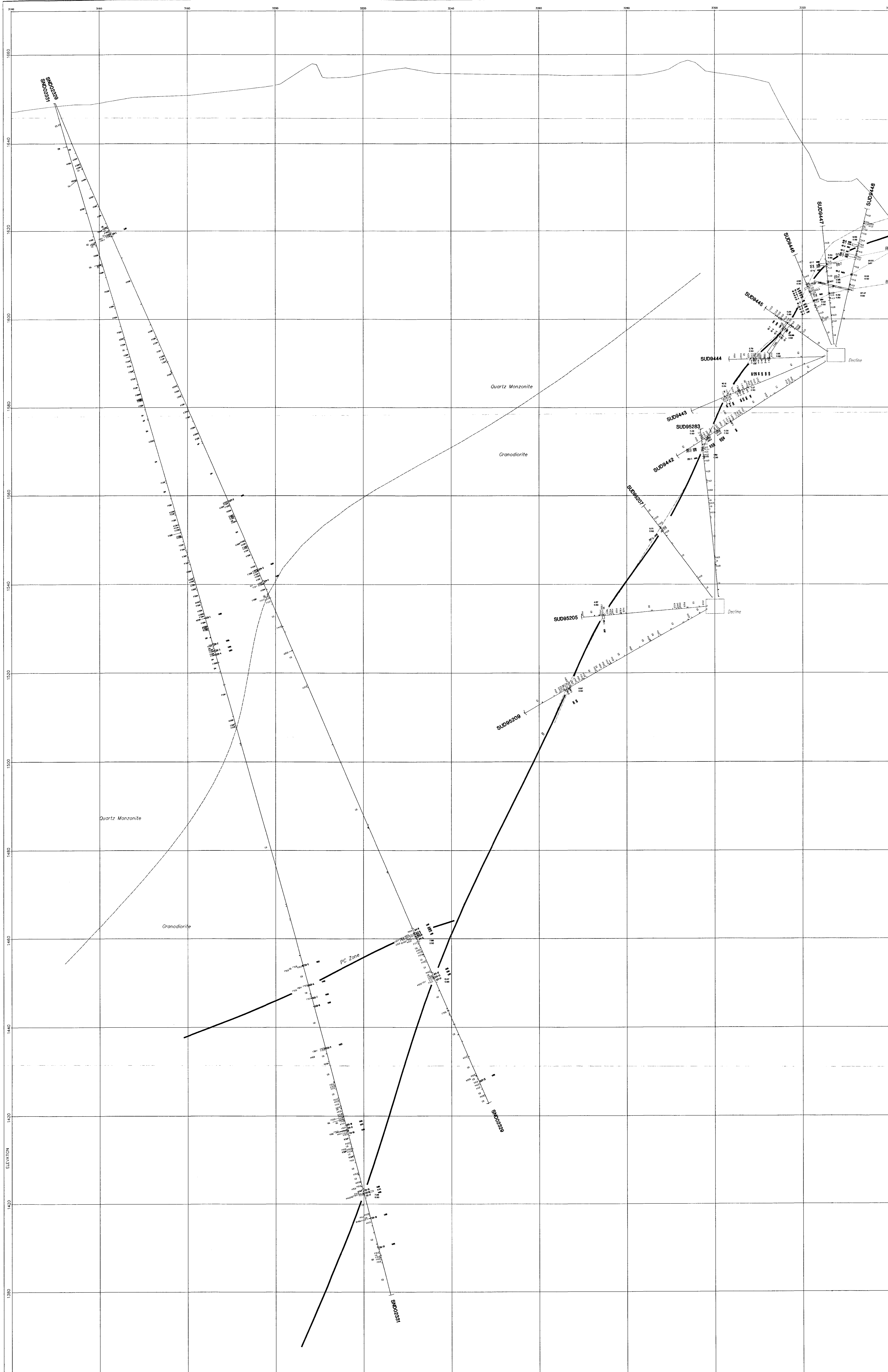
--- LITHOLOGIC CONTACT
 --- TRACE OF MINERALIZED STRUCTURE (line types other than solid, particular zones shaded or hatched)
 --- FAULT OR SHEAR

PLOT OF DRILL HOLE

9

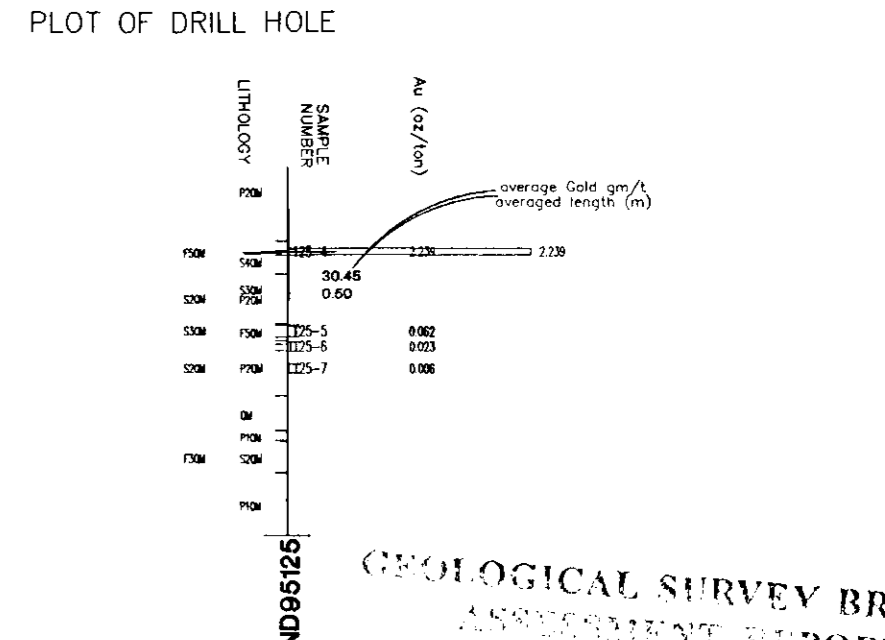
GEOLOGICAL SURVEY BRANCH
 ASSOCIATED REPORT
27,150

ALMADEN MINERALS LTD.
 100-750 West Pender Street Vancouver, British Columbia V6C 2T8
SIWASH GOLD MINE
 SIWASH NORTH AREA
 DIAMOND DRILL SECTION
2190E
 SCALE 1 : 300
 LOOKING WEST
 Drawn by WJ
 April 2002
 Plate 9



- LEGEND**
- LITHOLOGY**
- CS CLAYSTONE
 - ME MESSINE CONG
 - OB OVERBURDEN
- TERTIARY**
- AD ANDESITE DIKES dark grey-green to olive green, fine-grained to waxy porphyritic
 - BR BRECCIA fragmented rock in a clay or clay-siltstone rich matrix, commonly grades into gouge
 - GG GOUGE clay-rich with numerous rock fragments, shear fracture or faulting may be evident
 - QV QUARTZ VEN white to grey quartz with some sericite, commonly 100 to 200 microns
- ARABIAN**
- OSPREY LAKE BATHOLITH**
- AP APFITE fine to light grey, fine grained, aurore, may grade into pegmatite
 - FP FELDSPAR PORPHYRY pink to red, medium fine-grained, K-spar rich
 - GC GRANODIORITE CHL. MARGES very fine grey, fine grained, up to 25% biotite or hornblende
 - GD GRANODIORITE medium to dark grey, fine to medium grained, with 10% to 20% biotite
 - GR GRANITE pink to pinkish grey, quartz - K-spar rich with some hornblende
 - PG PEGMATITE pink to light grey, very coarse grained to porphyritic, quartz - K-spar - muscovite rich
 - DM QUARTZ MONZONITE light to medium pinkish grey, medium to coarse grained, pegmatite with up to 10% biotite or hornblende
- TRAGIC**
- NEOLA GROUP VOLCANICS**
- AV ANDESITIC VOLCANICS dark grey-green to near black, very fine-grained to aphanitic
 - (Subvolcanic Volcanic) no above, phenocrysts of plagioclase or quartz, matrix may contain up to 20% pyrite - pyrrhotite - chlorite
- ALTERATION CODES**
- | | |
|-------------------------------|-------------------|
| AV ANDESITIC | SP SERPENTINIC |
| PH PHYLIC | SO SERPENTINIC |
| FS FINE GRAINED STABLE PHYLIC | SP SERPENTINIC |
| PT PEGMATITIC | SI SILICIFICATION |
| MS MUSCOVITIC | |
- (n = 1 TO 5, NEAR TO INTENSE)
- SULFIDE CONTENT CODES (quartz veins)**
- | |
|----------------------------|
| 00 none |
| 01 less than 1% pyrite |
| 02 1 to 5% pyrite |
| 03 5 to 10% pyrite |
| 04 10 to 20% pyrite |
| 05 greater than 20% pyrite |

- SYMBOLS**
- LITHOLOGIC CONTACT
 - TRACE OF MINERALIZED STRUCTURE (one taken after by zone, individual zones defined on sections)
 - FAULT OR SHEAR



10 27,150

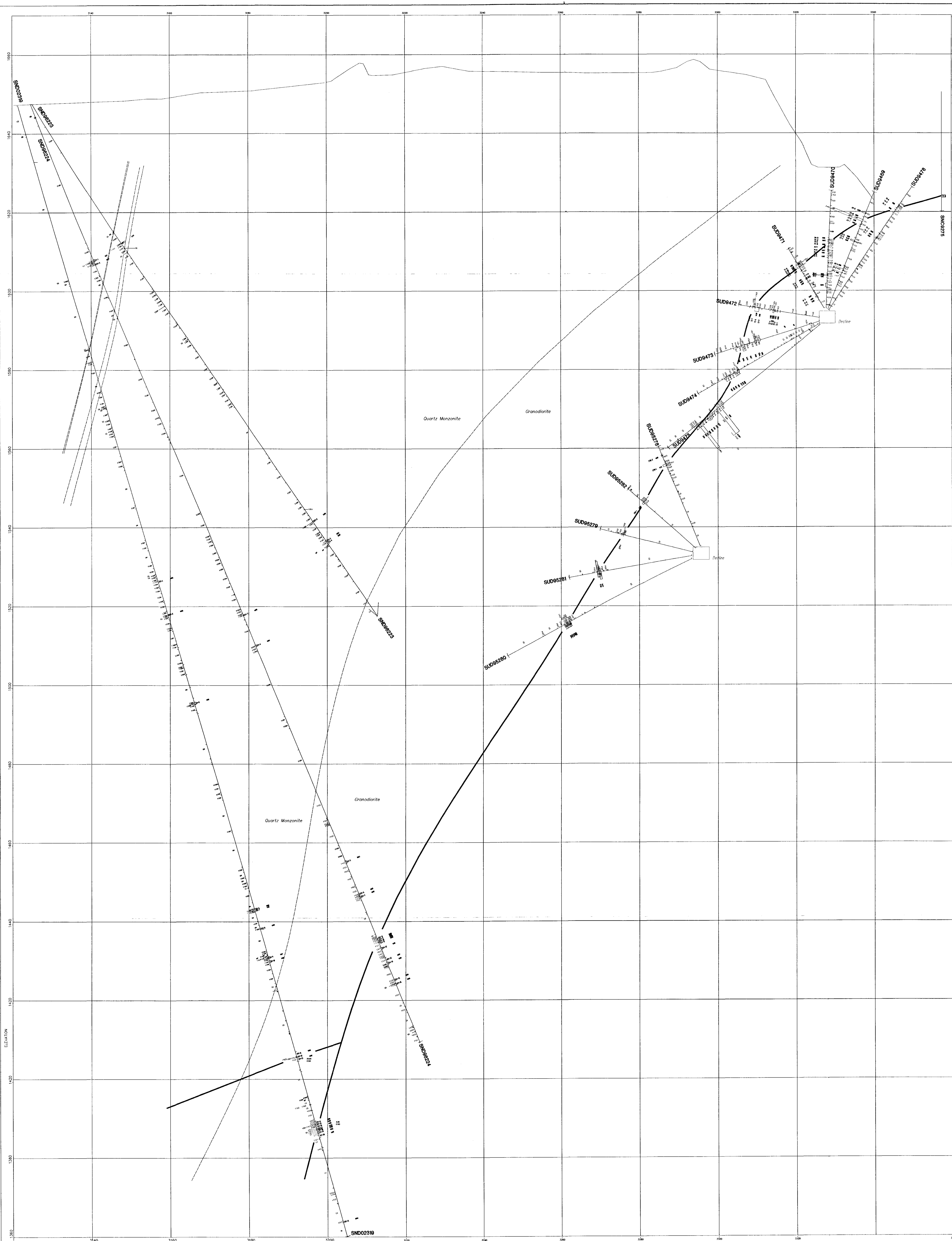
GEOLOGICAL SURVEY BRANCH
ANNOUNCEMENT REPORT

ALMADEN MINERALS LTD.
105 - 750 West Pender Street Vancouver, British Columbia V6C 2T8

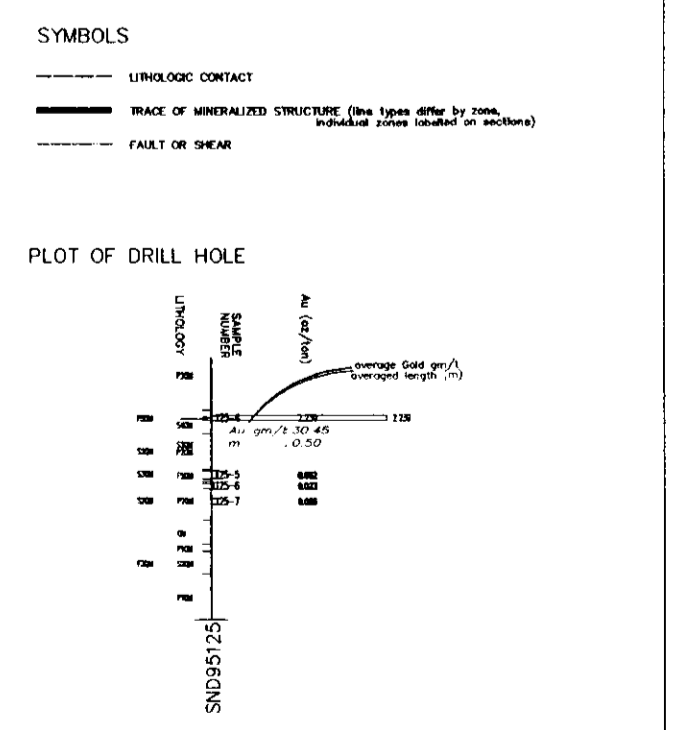
SIWASH GOLD MINE
SIWASH NORTH AREA
DIAMOND DRILL SECTION
2220E
SCALE 1 : 300
LOOKING WEST

Drawn by WJ
April 2003

Plate 10



- LEGEND**
- LITHOLOGY**
- QUARTZ MONZONITE
 - GRANODIORITE
- STRATIGRAPHY**
- UNCONFORMABLE CONTACT
 - FAULT OR BREAK
- ALTERATION CODES**
- ANHYDRITE
 - CHLORITE
 - EPIDOTE
 - QUARTZ
 - SERICITE
 - STASIDITE
 - TERNITE
 - UNALTERED
- SULFIDE CONTENT CODES (quartz veins)**
- 0.00-0.05%
 - 0.05-0.10%
 - 0.10-0.15%
 - 0.15-0.20%
 - 0.20-0.25%
 - 0.25-0.30%
 - 0.30-0.35%
 - 0.35-0.40%
 - 0.40-0.45%
 - 0.45-0.50%
 - 0.50-0.55%
 - 0.55-0.60%
 - 0.60-0.65%
 - 0.65-0.70%
 - 0.70-0.75%
 - 0.75-0.80%
 - 0.80-0.85%
 - 0.85-0.90%
 - 0.90-0.95%
 - 0.95-1.00%



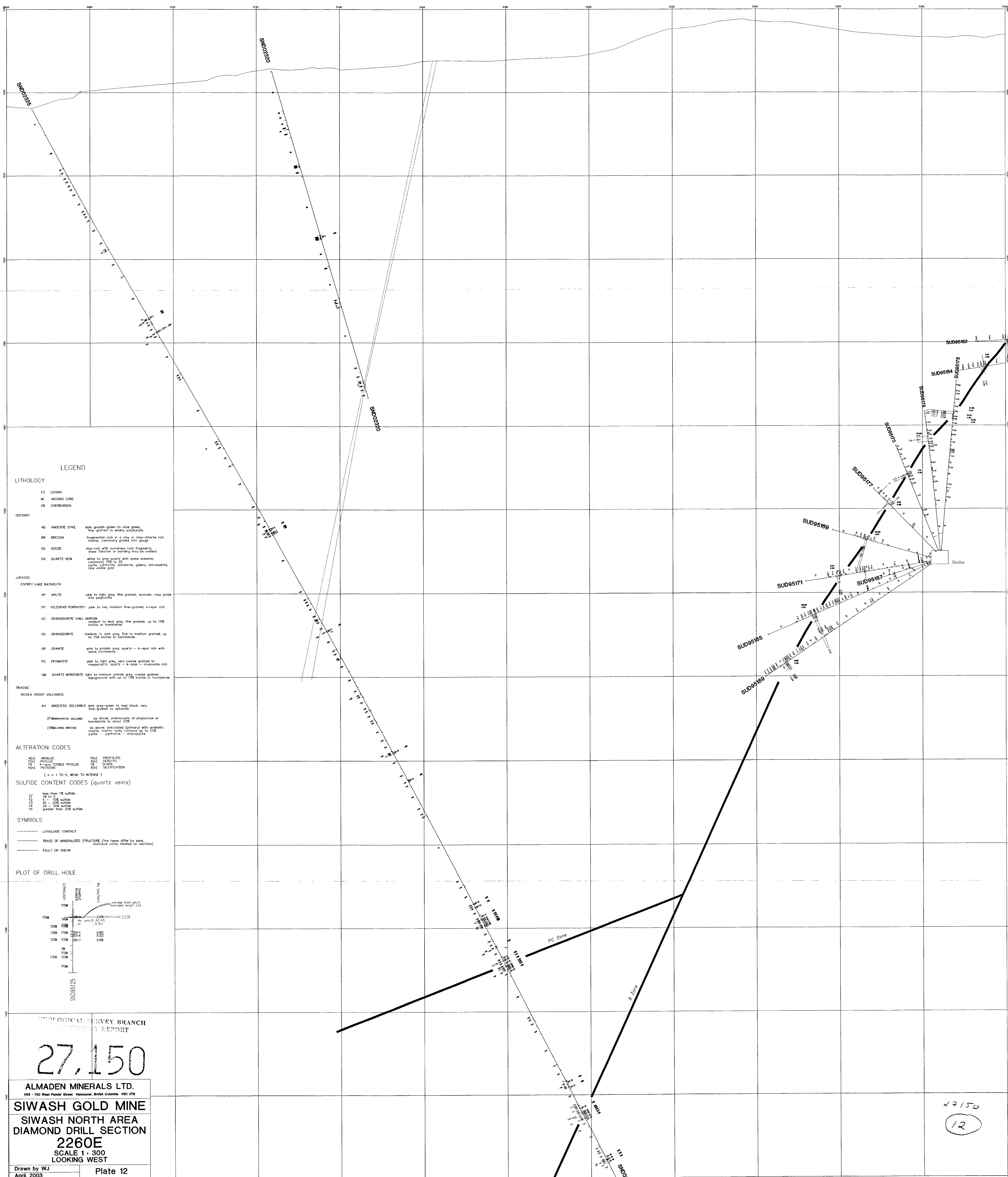
GEOLOGICAL SURVEY BRANCH
 REPORT NO. 27,150

ALMADEN MINERALS LTD.
 100 - 700 West Pender Street, Vancouver, British Columbia V6C 2T8

SIWASH GOLD MINE
 SIWASH NORTH AREA
 DIAMOND DRILL SECTION
 2230E
 SCALE 1 : 350
 LOOKING WEST

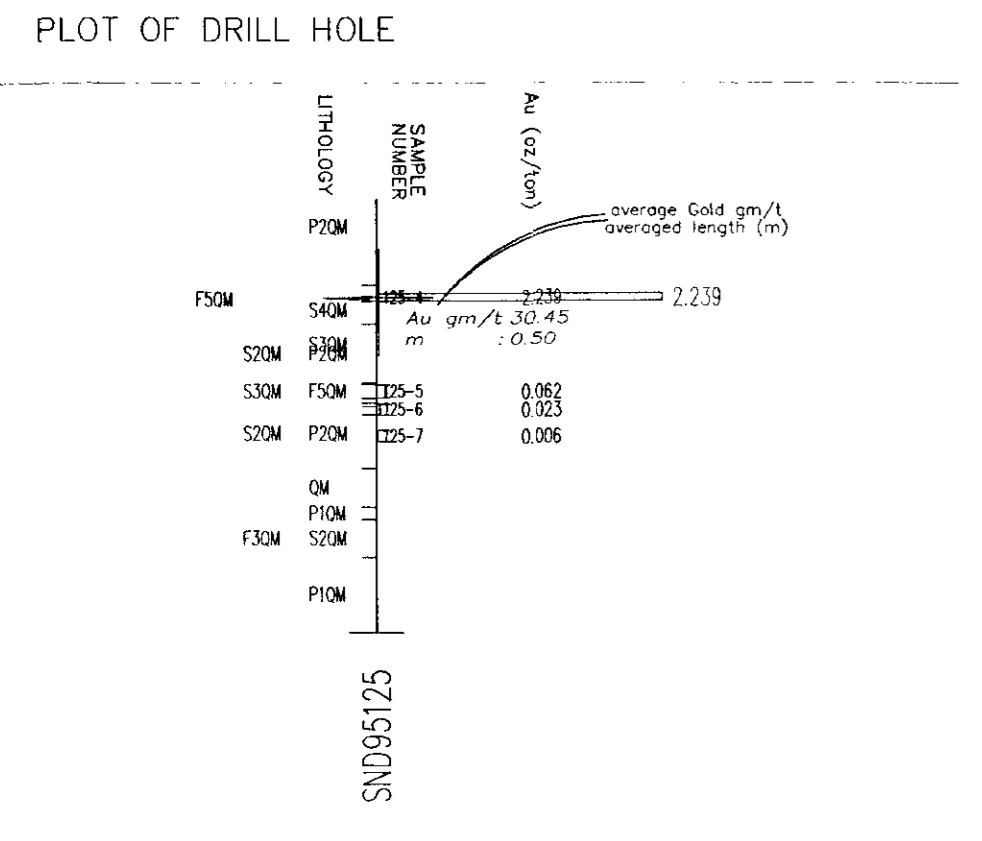
Drawn by WJ
 April 2003

Plate 11



LEGEND

- LITHOLOGY**
- CS CASING
 - M MISSING CORE
 - OB OVERBURDEN
- TERTIARY**
- AD ANDESITE DYKE dark grayish-green to olive green, fine-grained to weakly porphyritic
 - BR BRECCIA fragmented rock in a clay or clay-chlorite rich matrix; commonly grades into gouge
 - GG GOUGE clay-rich with numerous rock fragments, where foliation on bedding may be evident
 - QV QUARTZ VEIN white to gray quartz with some arsenic; commonly 10% to 20% pyrite, pyrrhotite, schalerite, galena, tetrahedrite, rare visible gold
- JURASSIC**
- OSPREY LAKE BATHOLITH**
- AP APLITE pink to light gray, fine grained, saccharic, may grade into pegmatite
 - FP FELDSPAR PORPHYRY pink to red, medium fine-grained, k-spar rich
 - GC GRANDIORITE CHILL MARCON medium to dark gray, fine grained; up to 15% biotite or hornblende
 - GD GRANDIORITE medium to dark gray, fine to medium grained, up to 15% biotite or hornblende
 - GR GRANITE pink to pinkish gray, quartz - k-spar rich with some hornblende
 - PG PEGMATITE pink to light gray, very coarse grained to megacrystic; quartz - k-spar - muscovite rich
 - QM QUARTZ MONZONITE light to medium pinkish gray, coarse grained equigranular with up to 15% biotite or hornblende
- TRIASSIC**
- NEOLA GROUP VOLCANICS**
- AV ANDESITIC VOLCANICS dark gray-green to near black, very fine-grained to subvolcanic
 - (Phonocratic volcanic) as above, phenocrysts of plagioclase or hornblende to about 20%
 - (VOLCANIC BRECCIA) as above; brecciated (primary) with andesitic matrix, matrix rarely contains up to 20% pyrite - pyrrhotite - chalcopyrite
- ALTERATION CODES**
- | | |
|---------------------------|--------------------|
| A(A) ANTECLIC | P(A) PROPYLETIC |
| F(S) PHYLIC | S(S) SERICITIC |
| F(S) K-type STABLE PHYLIC | SK(S) SKARN |
| PO(S) POYASIC | SO(S) SULPHIDATION |
- (n = 1 TO 5, WEAK TO INTENSE)
- SULFIDE CONTENT CODES (quartz veins)**
- | | |
|----|--------------------------|
| ST | less than 1% sulfide |
| V3 | 1% to 3% |
| V4 | 3% to 10% sulfide |
| V5 | 10% to 30% sulfide |
| V6 | greater than 30% sulfide |
- SYMBOLS**
- LITHOLOGIC CONTACT
 - TRACE OF MINERALIZED STRUCTURE (line types differ by zone, individual zones labelled on sections)
 - FAULT OR SHEAR



GEOLOGICAL SURVEY BRANCH
TECHNICAL REPORT

27,150

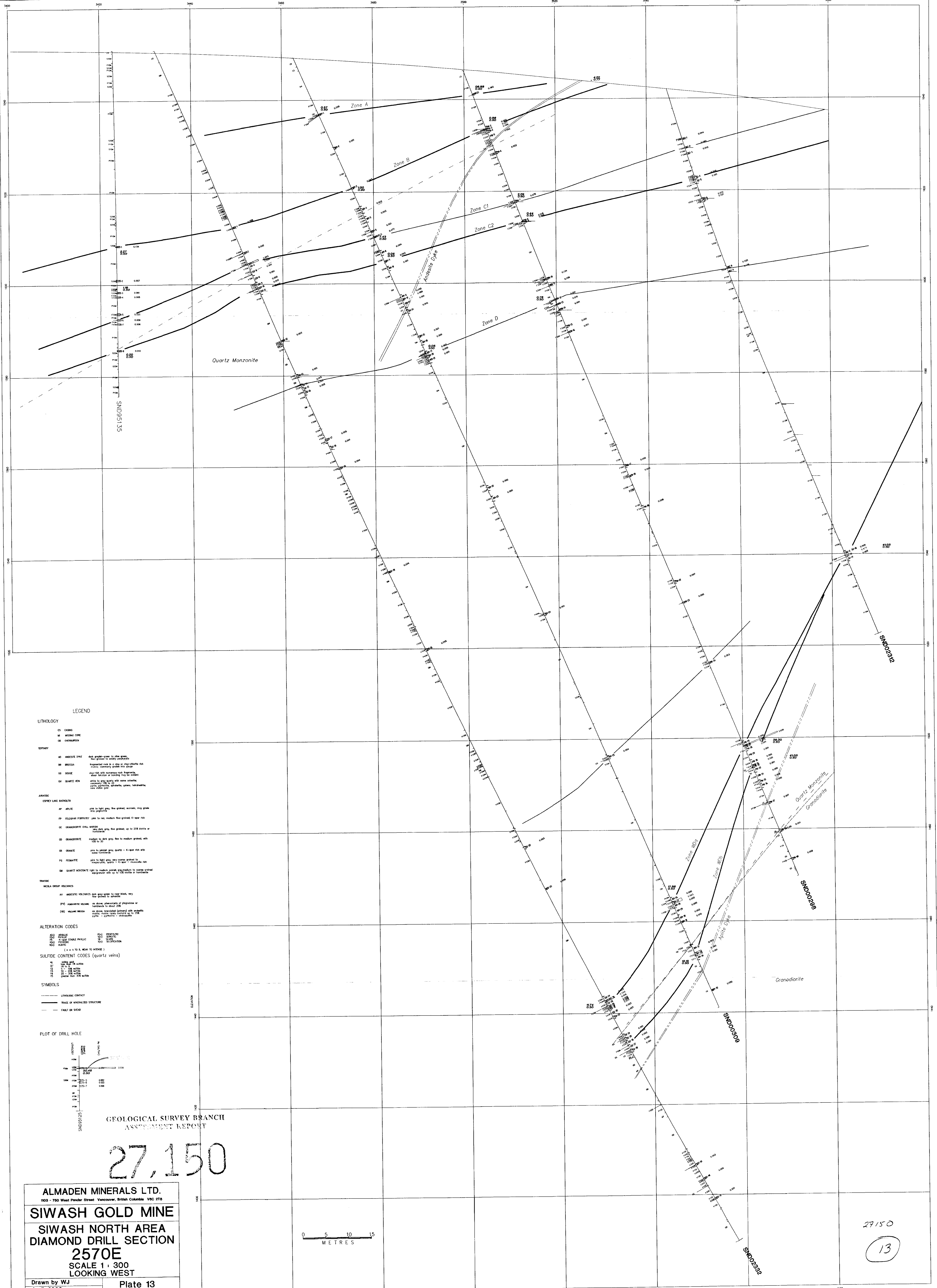
ALMADEN MINERALS LTD.
102 - 750 West Pender Street, Vancouver, British Columbia V6C 2T8

SIWASH GOLD MINE
SIWASH NORTH AREA
DIAMOND DRILL SECTION
2260E
SCALE 1 : 300
LOOKING WEST

Drawn by WJ
April, 2008

Plate 12

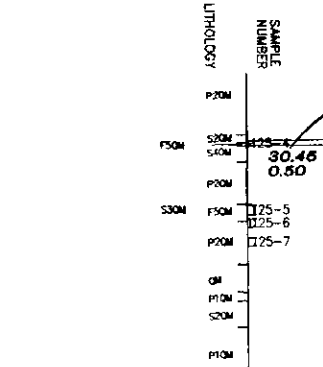
27150
12



LEGEND

- LITHOLOGY**
- CS CASING
 - ME MESSING CORE
 - OB OVERBURDEN
- TERTIARY**
- AB ANDESITE DYKE dark grey-green to olive brown, fine grained to medium porphyritic
 - BE BRECCHA fragmented rock in a clay or clay-siltstone fill, matrix commonly made of fine sand
 - SO SOCLE clay-rich with scattered rock fragments, clear matrix or bedding may be present
 - QV QUARTZ VEIN white to grey quartz with some calcite, pyrite, galena, sphalerite, hematite, and other minerals
- JURASSIC**
- OPREY LAKE BARKLETS**
- AP ANDITE fine to medium grey, fine grained, aphanitic, may contain small porphyroclasts
 - FP FELDSPAR PORPHYRY fine to med. medium fine-grained, K-feldspar rich
 - GC GRANODIORITE CHALCOPHYRE fine to med. grey, fine grained, up to 25% biotite or hornblende
 - GD GRANODIORITE medium to dark grey, fine to medium grained, with 10% biotite
 - GR GRANITE fine to medium grey, quartz - K-feldspar rich with some muscovite
 - PG PERALTE fine to med. grey, very coarse grained, up to 10% biotite, quartz - K-feldspar - muscovite
 - QM QUARTZ MONZONITE fine to medium coarse grained, up to coarse grained, quartz - K-feldspar - biotite
- TRASC**
- MOCLA GROUP VOLCANICS**
- AV ANDESITIC VOLCANICS dark grey-green to olive brown, very fine grained, aphanitic
 - IV ANDESITIC VOLCANIC in situ, phenocrysts of plagioclase or hornblende to about 200 microns
 - WV WALKER MESA in situ, brecciated (sandy) with calcite, matrix, quartz - K-feldspar - biotite - muscovite - chlorite
- ALTERATION CODES**
- | | | | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| APL1 | APL2 | APL3 | APL4 | APL5 | APL6 | APL7 | APL8 | APL9 | APL10 |
| APL11 | APL12 | APL13 | APL14 | APL15 | APL16 | APL17 | APL18 | APL19 | APL20 |
- SULFIDE CONTENT CODES (quartz veins)**
- SYMBOLS**
- LITHOLOGIC CONTACT
 - TRACE OF UNDEVELOPED STRUCTURE
 - FAULT OR SEAM

PLOT OF DRILL HOLE



GEOLOGICAL SURVEY BRANCH
ASSESSMENT REPORT

27,150

ALMADEN MINERALS LTD.
100 - 760 West Pender Street Vancouver, British Columbia V6C 2T8

SIWASH GOLD MINE

SIWASH NORTH AREA

DIAMOND DRILL SECTION

2570E

SCALE 1 : 300

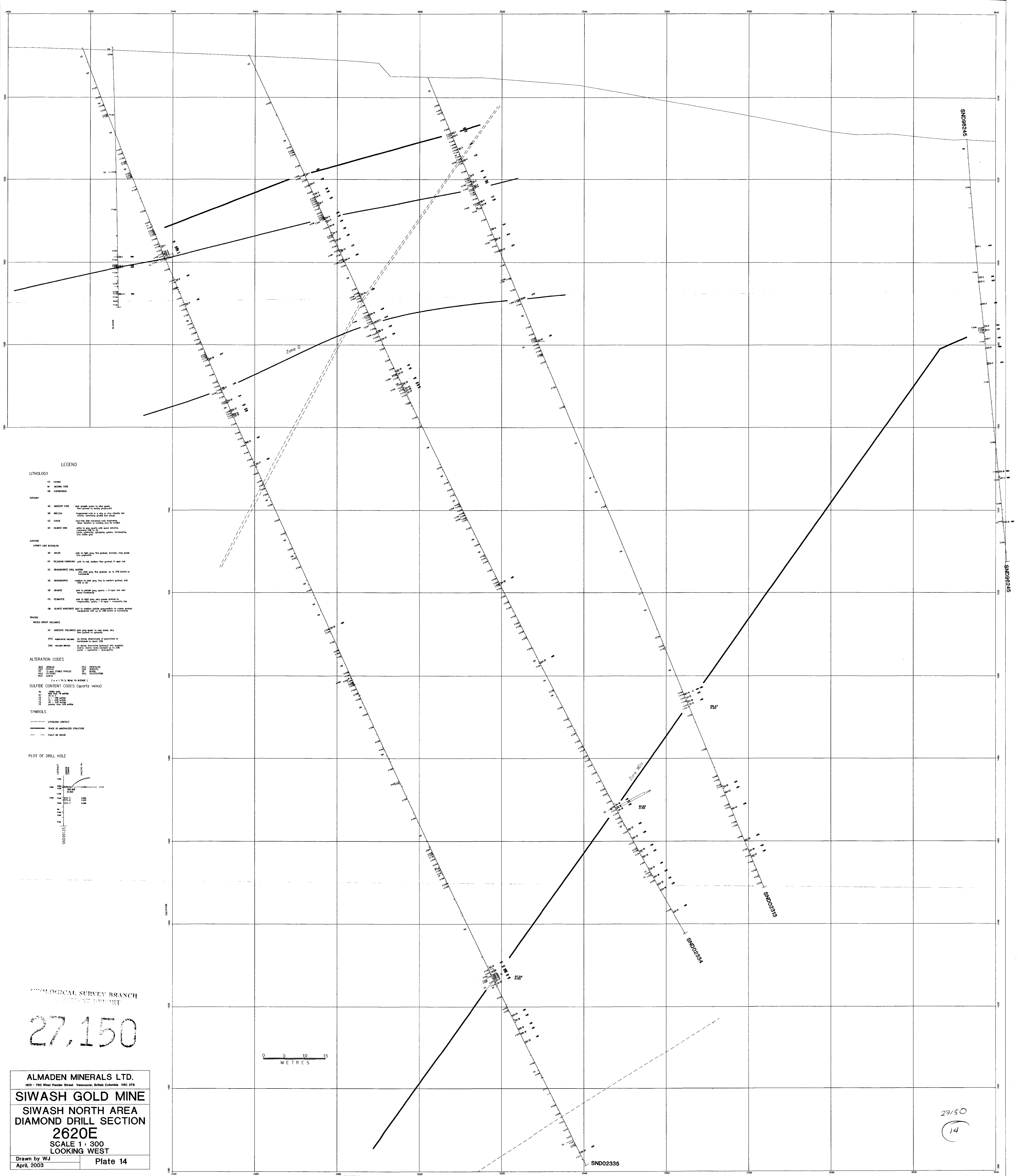
LOOKING WEST

Drawn by WJ
April, 2008

Plate 13

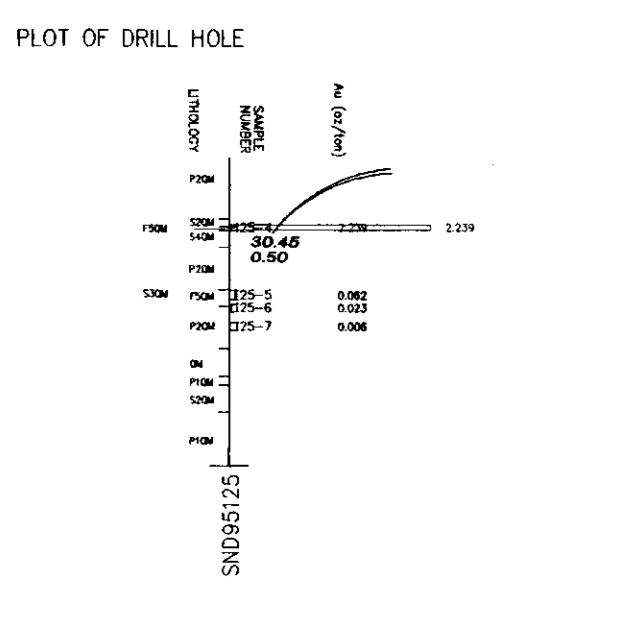


27150
13



LEGEND

- LITHOLOGY**
- 01 CLARK
 - 02 MIDDLE CORE
 - 03 INTERMEDIATE
- TERTIARY**
- 10 ACIDIC DIRT fill, mostly from the area, but also from the surrounding area.
 - 11 BRICKA Argillaceous sandstone, 0.5 to 2.0 m thick, locally silty.
 - 12 CLAY clay with silty interbeds, 0.5 to 1.0 m thick, locally silty.
 - 13 QUARTZ VENE white to grey quartz with some siliceous cementation, 0.5 to 1.0 m thick.
- JURASSIC**
- LOWER LIME DIVISION**
- 20 LIME pale to light grey, fine grained, massive, may grade to silty.
 - 21 FELDSPAR PORPHYRY pale to red, medium fine grained, 0.5 to 1.0 m thick.
 - 22 GRANODIORITE DIRT quartz, 0.5 to 1.0 m thick, locally silty.
 - 23 GRANODIORITE medium to fine grained, fine to medium grained, with 10% to 20% quartz.
 - 24 GRANITE pale to medium grey, quartz - feldspar rich with microcline.
 - 25 PERGATE pale to light grey, very coarse grained, locally silty.
 - 26 QUARTZ MONOCYTE light to medium grained, quartziferous to coarse grained, may grade to quartzite.
- MIDDLE GROUP VOLCANICS**
- 30 ACIDIC VOLCANIC fine grained to very fine, may be quartziferous.
 - 31 ANDESITIC MEDIUM fine to medium grained, locally silty, may be quartziferous.
 - 32 BASALTIC MEDIUM fine to medium grained, locally silty, may be quartziferous.
- ALTERATION CODES**
- 100 ANHYDRITE
 - 101 CHALK
 - 102 CLAY
 - 103 CLAYEY SILT
 - 104 CLAYEY SAND
 - 105 CLAYEY SILTSTONE
 - 106 CLAYEY SANDSTONE
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- SULFIDE CONTENT CODES (quartz veins)**
- 100 0.0% to 0.5%
 - 101 0.5% to 1.0%
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 - 200 50.0% to 50.5%
- SYMBOLS**
- LITHOLOGIC CONTACT
 - TRACE OF MINERALIZED STRUCTURE
 - FAULT OR SHEAR



GEOLOGICAL SURVEY BRANCH
MINERAL DEVELOPMENT

27,150



ALMADEN MINERALS LTD.
103 - 750 West Pender Street, Vancouver, British Columbia V6C 2T8

SIWASH GOLD MINE
SIWASH NORTH AREA
DIAMOND DRILL SECTION
2620E
SCALE 1 : 300
LOOKING WEST

Drawn by WJ
April, 2003

Plate 14

27/50
14

SND02335