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1988 EXPLORATION REPORT ON

THE DUSTY MAC PROPERTY

OSOYOOS MINING DIVISION, B.C.

82E/5E

FOR: MINNOVA INC.

BY: GRAEME EVANS

FEBRUARY 15, 1989

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LOCATION AND ACCESS

The Dusty Mac property is located in the Okanagan Valley approximately 250 km east of Vancouver. The property is situated 19 km south of Penticton at the southern end of Skaha Lake and 1.5 km east of Okanagan Falls. The co-ordinates of the property are longitude 119° 32', and latitude 49° 20'.

The open pit and waste dumps are situated behind a large bluff locally referred to as Peach Cliff.

The village of Okanagan Falls is situated on Provincial Highway 97, approximately 5 km south of Highway 3A - 97 junction.

A paved two lane road, parallels Shuttleworth Creek east of Okanagan Falls, circles Peach Cliff to a point within 500 meters from the open pit.

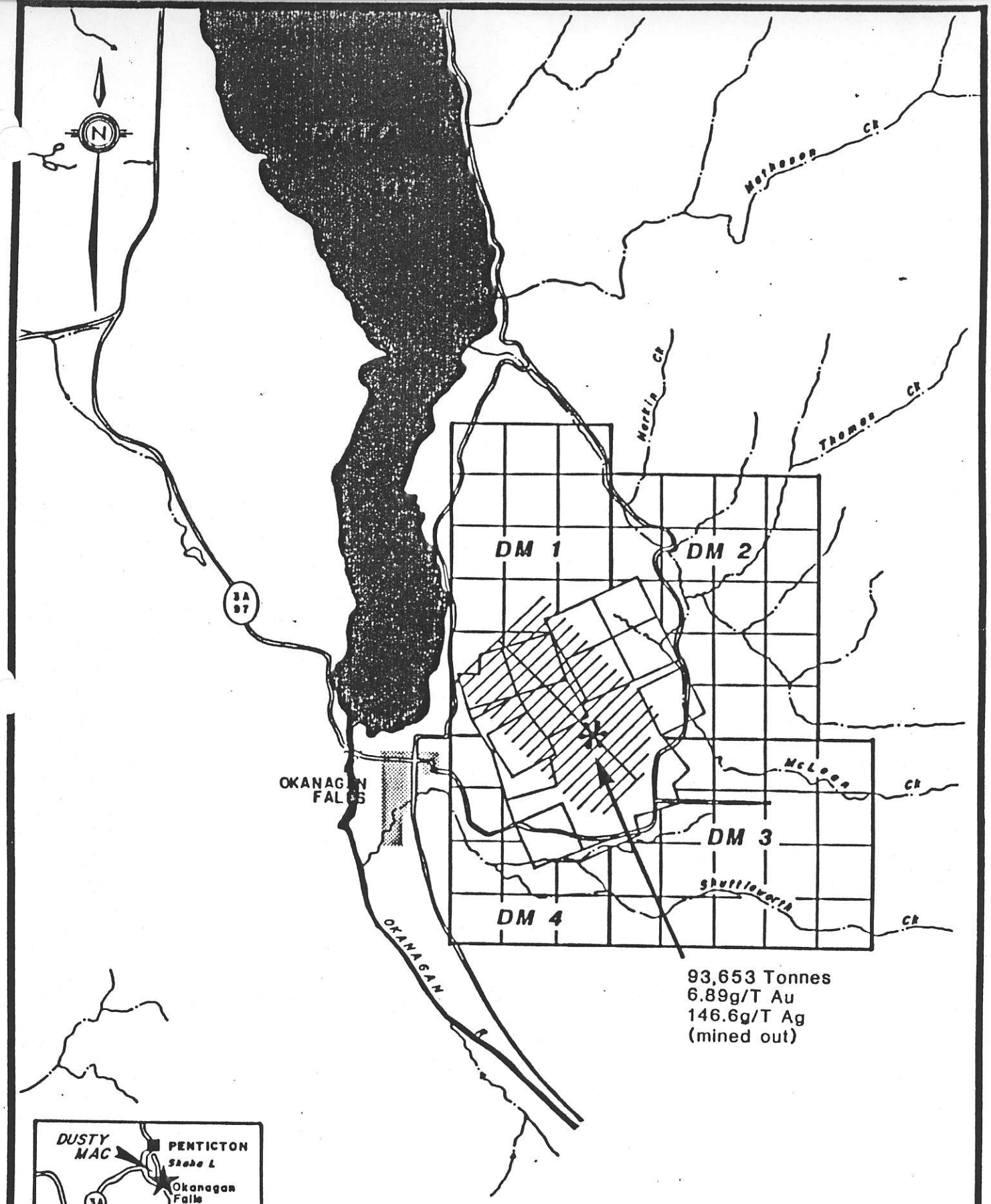
Penticton is a modern community and principle supply center where all services are available including air, road, and rail.

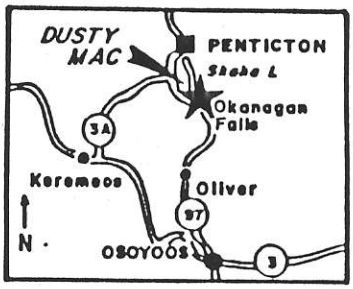
HISTORY AND PAST PRODUCTION

The exploration history of the Dusty Mac property dates back to the turn of the century as witnessed by the four short adits and several open cuts at the western end of the property overlooking Okanagan Falls. The adits were driven on quartz veins which are sparsely mineralized in chalcopyrite and pyrite.

Interest in the area was revived in 1966 when native silver was discovered in quartz veins on the Dusty Mac property. The first recent claims were staked the same year and Dusty Mac Mines Ltd. acquired the property in 1968.

An exploration program was conducted by Cannon Engineering Ltd., and later by Cannon-Hicks Associates Ltd. in late 1968 and 1969 under the direction of Dusty Mac Mines. The work included surface trenching, geological mapping, diamond and





DUSTY MAC OPTION

GRID LOCATION

82E/5

0 2 km

MINNOVA

FIG 1

percussion drilling, and a limited underground program. The program outlined 61,485 tonnes grading 7.88 g/tonne Au, and 170.4 g/tonne Ag.

In 1970, the property was optioned to Noranda Exploration Ltd. which carried out a diamond drilling program. The program failed to add significant tonnage to the known reserves.

In 1973 Dusty Mac Mines carried out an extensive percussion drilling program of 1635.5 m.

Ore reserves based on 3319 m of diamond drilling in 76 holes and 4642 m in 221 percussion holes were estimated in October, 1974 to be 120,280 tonnes grading 7.06 g/tonne Au and 123.4 g/tonne Ag, plus 21,521 tonnes indicated grading 4.59 g/tonne Au and 57.59 g/tonne Ag.

In April, 1975 an agreement was reached for custom milling the ore at the Dankoe mill. Production started August 1, 1975 and ceased in June, 1976. The ore-body was mined by an open pit at 318 tonnes per day. Total ore milled was 93,653 tonnes grading 6.89 g/tonne Au and 146.59 g/tonne Ag. Total production was 581,551 g Au, 10,180.367 g Ag, 2,880 kg copper, and 1,527 kg Pb.

Milling was completed June 9, 1976 and reclamation of the mine area was finished on September 21, 1976.

Further property exploration was carried out in 1976 by Amadeus Consultants Ltd. The program consisted of geochemical soil sampling and percussion drilling over favourable structures. A total of 153 percussion holes were drilled for an aggregate of 5981 m.

Canex Placer Ltd. conducted 1.5 line miles of I.P. in June, 1976 under a data sharing arrangement with Dusty Mac. The results were not encouraging.

Scintrex Pty Ltd. conducted a Rapid Reconnaissance Magnetic Induced Polarization survey (RRMIP) in October, 1981. Results were inconclusive.

The Dusty Mac property remained idle until 1984 when Esso Minerals conducted a surface sampling and mapping program in the vicinity of the open pit and to the northwest encompassing previously known mineralized areas. In 1985 Esso drilled 18 reverse circulation drill holes and 3 diamond drill holes for a total of 1518.3 m

In 1987 Minnova optioned the property from Dusty Mac Mines Ltd.

CLAIM STATUS

CLAIM NAME	RECORD #	EXPIRY DATE
Au 2 Fr.	24347	97/01/17
Au 5 Fr.	24349	97/01/17
Au 6 Fr.	24350	97/01/17
Au 7 Fr.	24351	97/01/17
Au 9 Fr.	24353	97/01/17
Au 10 Fr.	24354	97/01/17
Au 11 Fr.	24355	97/01/17
At Last	19501	97/04/13
JG 1	21688	97/01/25
JG 2	21689	97/01/25
JG 3	21690	97/01/25
JG 4	21691	97/01/25
JG 8	21695	97/01/25
JG 10	21697	97/01/25
JG 11	21698	97/01/25
JG 12	21699	97/01/25
JG 13	22403	95/06/28
JG 14	22425	95/07/03
Prod. Lease	Lot 4079-S	89/04/09

The Production Lease P-3 (Lot 4079-S) consists of the following claims:

Au 1 Fr.	24346
Au 3 Fr.	24348
J Gus 1	22468
J Gus 3	22532
JG 5	21692
JG 7	21694
JG 9	21696
JOE 1	22689
HUNT 7 Fr.	24289
HUNT 22 Fr.	24305
CLAIRE 1 Fr.	30580

CLAIM NAME	UNITS	RECORD #	EXPIRY DATE
DM-1	18	2013	93/05/04
DM-2	20	2014	93/05/04
DM-3	20	2015	93/05/04
DM-4	12	2016	93/05/04

SUMMARY OF 1987 WORK

1. Property Examination and Sampling
2. 26 km Re-established Esso Grid
3. 21 km pole-dipole I.P. Survey

SUMMARY OF 1988 WORK

1. Mapping structures and checking Esso mapping with 47 samples taken for base study - 63 elements (analyzed for Cu, Pb, Zn, Ag, Au)
2. 11 trenches totalling 310 m over mineralized zones, 81 channel samples taken.
3. 14.85 km CSAMT survey over the grid area.
4. 1537.1 m of NQ diamond drilling in 11 holes. 382 samples of core taken and analyzed for Cu, P, Zn, Ag, Au and some with 32 element ICP.
5. Total metallic study done, 10 samples from drill core previously analyzed.

GENERAL COLUMNAR SECTION (Bull. 61, 1973 Church)

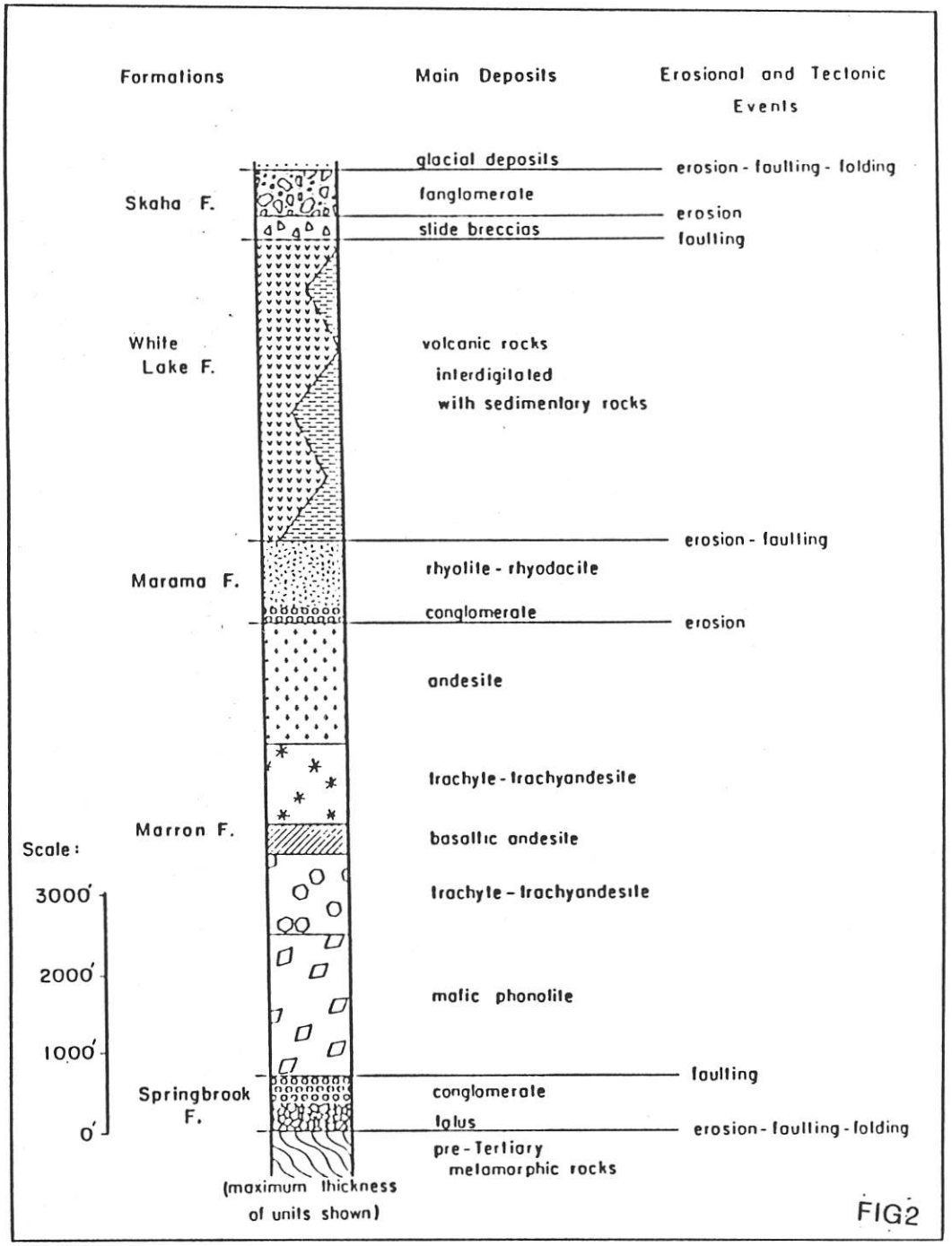


FIG2

REGIONAL GEOLOGY

The Dusty Mac property lies on the eastern margin of an Eocene sequence of rocks known as the White Lake Basin. The White Lake Basin consists of volcanic and sedimentary units up to 2500m thick, which are fault bounded and underlain by Mesozoic and older rocks. The White Lake Basin forms a topographic low and is truncated by early gravity faults. The units generally dip to the east and are folded and faulted in a style very similar to structures on the Dusty Mac property.

The sequence within the White Lake Basin consists of a basal unit called the Springbrook Formation, a polymictic conglomerate, which is overlain by the Marron Formation, dominantly andesite, trachyte and phonolitic lava flows. At a later date rhyodacite domes formed the discontinuous belts known as the Marama Formation. This sequence is overlain and interbedded with a more quiescent period of andesite lahars and lacustrine sediments known as the White Lake Formation, forming in topographic low areas. The final unit is the Skaha Formation which is an erosional unit consisting of landslides and fanglomerate beds.

THE DUSTY MAC PROPERTY

Geology

The Dusty Mac property consists of a Tertiary (Eocene) sequence of volcanic and sedimentary rocks forming a broad syncline to the east of Okanagan Falls. This sequence of Tertiary rocks adjoins the main White Lake Basin and is bounded on the west by the Okanagan Fault. The Tertiary rocks are bounded to the east by the McLean Creek fault and to the south by the Shuttleworth Creek Fault.

The Marron Formation is the oldest sequence of Tertiary rocks exposed on the property. These lie in the very northwestern corner of the property. B.N. Church (BCMEMPR) identified these as the Kitley Lake Member. These consist of coarse trachy-andesite lahars. The fragments are angular and range from 1cm to 40cm in diameter with 3-6mm plagioclase phenocrysts. This unit is virtually indistinguishable from lahars of the White Lake Formation and this identification is only tentative. Property mapping in 1989 should resolve this question.

The Marama Formation is a very distinctive unit exposed along the west side of the property. It is a buff colored dacite to rhyolite unit, commonly with good flow banding. The western bluffs are believed to be a series of sub-aerial domes forming along a rift (possibly the Okanagan fault). These domes have peripheral flows extending off to the east for several hundred meters. Previous workers (Church, Melnyck) believe the White Lake Formation, unconformably overlies the Marama Formation, but information such as in DDH DM#4 suggests that the dacite domes were active during deposition of the Lower White Lake units. Flows of Marama dacites exist between lahar units with primary mixing with andesite visible.

Typically the dacites have a fine grained felsic (buff-red-green) matrix with 10-20% 1-2 mm plagioclase phenocrysts. Occasionally 1-3 mm quartz phenocrysts are seen. Another common feature is pervasive hematite alteration between Marama dacites and lahars of the White Lake Formation. This is probably a primary alteration feature of the flows in a sub-aerial environment.

The White Lake Formation consists of lower andesite lahars and flows interfingered with sediments and overlain by a more dominant sediment package. Esso divided the package into an upper and lower lahar as well as White Lake sediments. The lower lahar consists of angular to subrounded assorted fragments of andesite. Fragments vary markedly in composition with debris consisting of 1 to 80cm angular blocks of andesite which can be

massive, plagioclase phyric and pyroxene phyric. The matrix is an assortment of fine grained andesite with a mixture of siltstone and sandstone. The only distinction between the upper and lower lahar is the presence of Marama dacite fragments. This is a valid subdivision which indicates proximity to the Marama but rather than a time stratigraphic divider it is more of a volcanic facies change.

Within the lower lahar volcanically derived sediments (conglomerate, sandstone and siltstone with minor coal beds) exist in small discontinuous beds. There are also occasional andesite flows likely of small lateral extent and these are either plagioclase or pyroxene phyric (pyroxene dominant).

The upper lahar is a transitional unit which is compositionally identical to the lower lahar except dacite fragments are absent. The unit was formed in a lower energy environment and accordingly has more andesite flows and thicker sediment beds. Thick (50+ m) plagioclase phyric andesite flows are common near the base of the upper lahar while coarse sandstone beds with graphitic shales and rare coal seams become more abundant at the top.

The White Lake sediments both overlie and show a lateral facies change with the upper lahar. They consist of reworked unsorted volcanic rock in large aprons of tuff-breccia with conglomerate, sandstone, siltstone and shale beds. The tuff-breccia unit is a thick, unsorted sequence of angular polymictic fragments of vesiculated volcanics and various rounded sedimentary pebbles and cobbles (chert and sandstone). Exotic fragments include zeolites, dacite, and shale fossil prints. This unit is matrix supported with volcanically derived sandstone and a graphitic component. The thickest sediment packages can be found in this unit.

These are dominantly sandstone with lesser siltstone and shale beds, the beds being up to 50+ m in thickness. The arkosic sandstones and shales commonly have carbonaceous plant fossils and

exhibit cross bedding, slump features and other lacustrine depositional features. Occasional lahar units are found in the sediments but are probably limited to paleotopographic channels.

Structure

The Eocene rocks on the property are bounded by gravity? faults along Shuttleworth Creek and McLean Creek. Paleozoic gneisses form prominent hills around the Eocene rocks which are on the downdropped sides of the faults. Rocks in the southern and western portions of the property strike 140-170° and dip 25-50° to the northeast while rocks in the northeastern portion strike 090° and dip 20-40° to the south. This forms a broad syncline which has a near vertical axial plane trending 135° and which plunges to the southeast.

The bedding generally dips to the east but this may be largely due to structural accommodation of folding by fault rotation. Drill hole and surface information has identified reverse faults parallel to the axial plane (135° +20° / 90° + 10°) with the western side of the fault downdropped. Displacement maybe as much as 150 m and these structures provide good hydrothermal conduits and possible structural traps to enhance episodic boiling. Simultaneously with this reverse faulting is fold accommodation by flex-slip along bedding planes. This is clearly seen in the pit area and on many contacts in the drill holes but displacement is unknown. These structures pre-date mineralizing solutions and provide good conduits.

These faults are commonly splayed and sinnoidal and may control ore deposition. The pit area may be an example as the main fracture pattern is 010° + 10° / 90° + 10° and curves to 135° / 80° E only 100m to the north of the pit. This arcuate trend may have controlled the ore as is common in other epithermal systems.

Main Okanagan faults are a later event and (Church) postulates they are produced by a stress regime in a 010° direction. Resulting cleavage directions from the conjugate set would ideally be 040° and 130° with near vertical dips and right lateral motion along the Okanagan fault systems trending approximately 130°. This motion can be seen on the property particularly in the pit area, with fault motion displaying right lateral movement. The motion on the 040 trending faults as seen on line 7+00N have a left lateral motion. These faults may be re-activated older structures and this strike slip motion has an effect on mineralized structures, which must predate this stress regime.

Structural Summary of Dusty Mac (oldest to youngest)

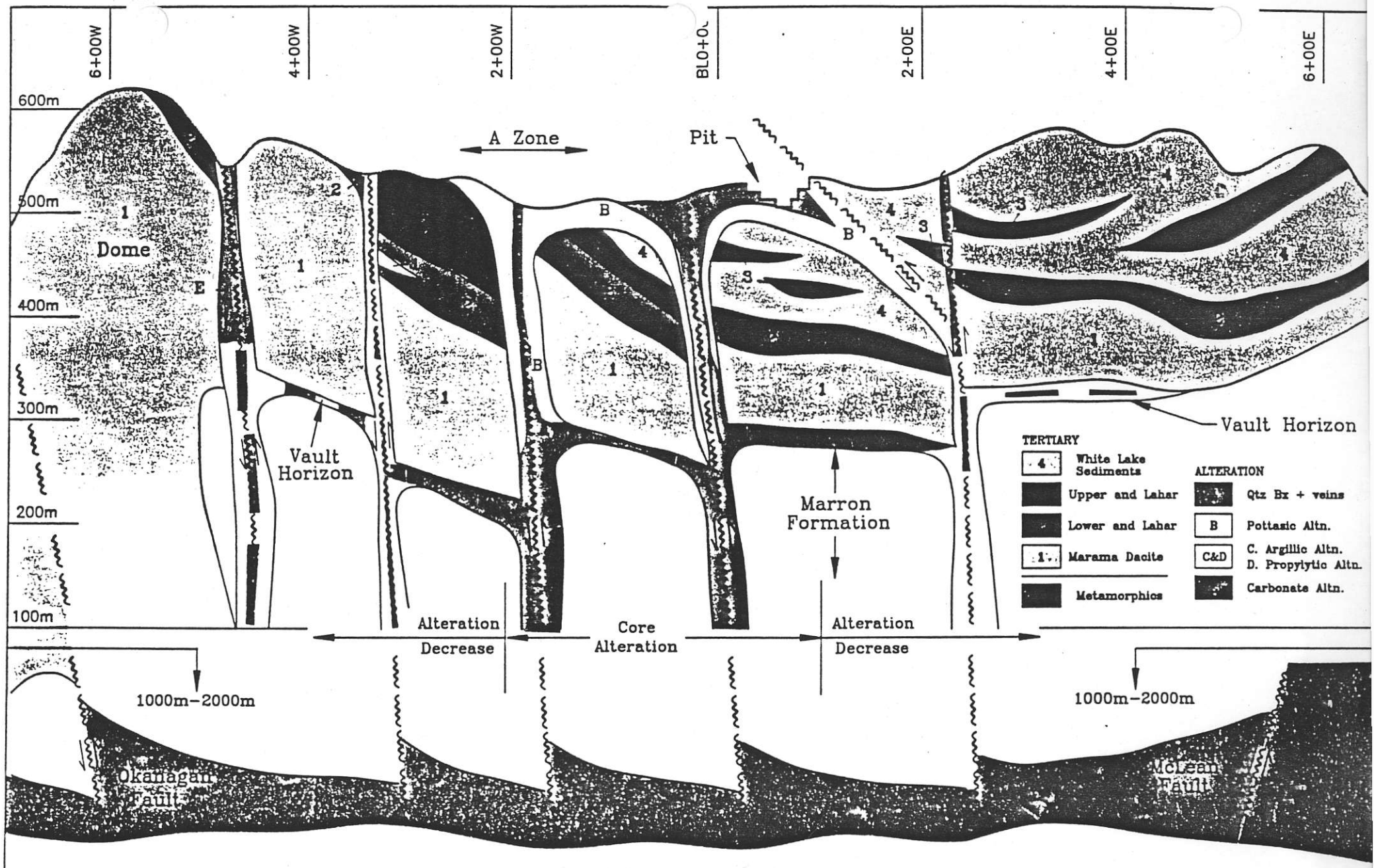
1. Gravity faults bounding Eocene rocks. N-NW and E-W trends, and underlying fault blocks.

2. Post depositional folding (syncline) with an orientation of 135/90° + and a SE plunge.

3. Structural accommodation to folding by flex-slip along bedding planes and reverse faulting along faults 135° + 15° /90° + 10°, as well as 000°-040° faulting.

4. Hydrothermal Systems and Ore Deposition

5. Okanagan Fault activity with strike-slip motion along previous faults
   shear directions 040° - left lateral motion
   130° - right lateral motion
   Some shears appear reactivated to be pre-ore faults.



DUSTY MAC PROPERTY

IDEALIZED CROSS SECTION

MINNOVA Inc.

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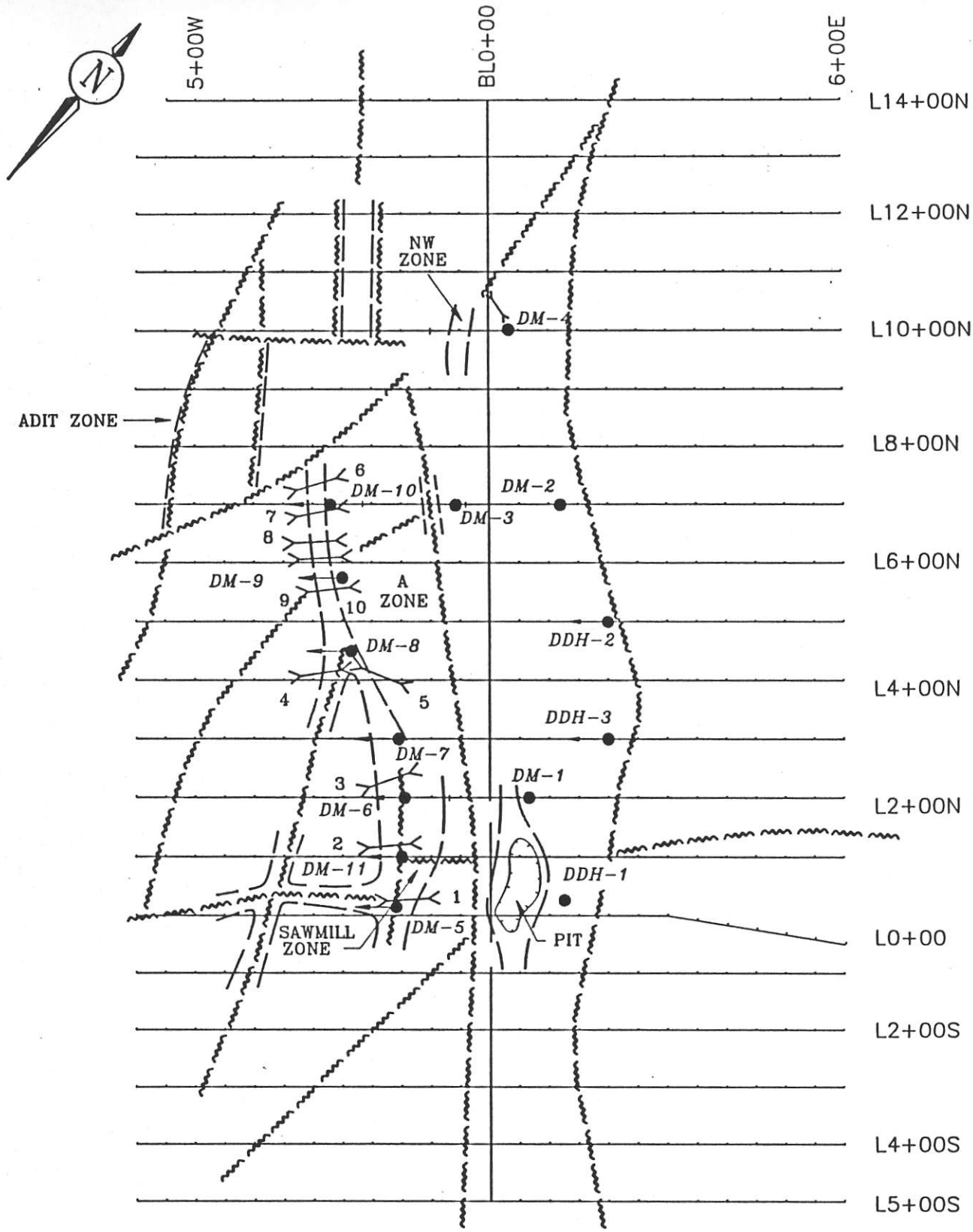
200 metres

FIG3

GWE/sg

OCTOBER 1988



Mineralization

Alteration Zone

Fault

1988 Trench location

DM (MINNOVA 1988)
DDH (ESSO 1986)

DUSTY MAC PROPERTY
STRUCTURE & MINERALIZATION

MINNOVA Inc.

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GWE/sg

FIG4

300 metres

SCALE 1:10000

SEPTEMBER 1988

ALTERATION AND MINERALIZATION

The Dusty Mac property has an Ag-Au epithermal system with characteristics of both stacked cell and closed cell convection models. Alteration consists of a complex gradational series from peripheral propylytic, sericitic, argillic and feldsparic to ore bearing silicification. A major distinction is that the alteration belongs to the adularia-sericite series and not the acid-sulfate type. This suggests that mineralization postdated volcanic activity by $1m_g$+ which conforms to the structural model. This supports the idea that the system is not related to a porphyry type subvolcanic heat source co-eval with Eocene host rocks. Lateral and vertical extent tends to be much larger in these systems and this improves the potential for finding ore deposits on the Dusty Mac property.

A summary of alteration types from the distal end to the ore bearing zones is generalized here. Alteration widths vary from a few centimeters to 10's of meters and mixing of alteration types in various proportions is common.

Propylitic

This is the most common form of alteration on the property. Weak alteration starts with calcite veinlets on fractures +/- fluorite. This is extensive and can be found over most of the property. More proximal to alteration zones are chlorite, calcite and epidote which grades into intense chlorite and calcite, with from 5-10% fine grained pyrite + minor hematite and minor fluorite. Also in this alteration, a light green-blue mineral identified as celadonite is quite common. These zones are widespread and may not define ore zones well.

Sericitic

Within the propylytic halo a common alteration type is intense sericite. These zones have 10-20% fine grained disseminated pyrite and some hematite. Argillic alteration is always present but appears more intense proximal to silicification. Sericite alteration is intensely foliated and forms recessive zones. Geochemically it is anomalous in Te, Tl, Al, Ba, Ca, Fe_2O3, K_2O and P, and is Na depleted.

Argillic

This alteration zone overprints sericitic zones and is gradational into silicified veins and vein breccias. In the sericitic zones it consists of various clay minerals and sulphate vein overprints. A BSc. thesis by P. Chung (1981) on the pit area has recognized advanced argillic alteration with kaolinite, muscovite and ilmenite being abundant. Again this zone is geochemically enhanced in P, Al_2O_3, Ba, Fe_2O_3, K_2O and depleted in Na_2O and sometimes has a high SO_4 content.

Feldsparic

Intense flooding of potassium occurs within a few meters of silicified zones and within them. This combined with a strong Na depletion was what Esso used as an alteration indicator as (K_2O/Na_2O). Esso felt this postdated mineralization as an overprint, but at this time the relationship is not known.

Silicification

This consists of quartz veins, quartz breccias, (both matrix and non matrix supported), chalcedony veins and silicified sericitic zones. Chung's thesis of the pit area identifies two

types of quartz breccia with silicified matrix. These are called black and green breccia based on colours. Both are multi-episodic and carry Ag, Au ores. The black quartz breccia carry the highest Au (up to 3 oz/t) values and are the most silicified. The green quartz breccias have abundant sericite and chlorite in the matrix. Sulphides occur almost exclusively in the matrix and in order of abundance are pyrite, chalcopyrite, galena and sphalerite. Native silver and electrum have been noted as fine grains. Te and up to 4.0% F, are commonly anomalous in the quartz breccias. Non matrix supported breccias consist of angular quartz vein fragments in a propylitic or sericitic altered matrix. These units are often in stratigraphic horizons but rather than being syngenetic are believed to be permeable faulted beds i.e. Norwest Zone and the Pit horizon. Structural controls appear to produce quartz breccia pipes on fault intersections e.g. "A Zone" showing and focus on changes in fault trends and major breaks e.g. the pit area and silicified zones near DM6 and DM7.

An area known as the "Adit Zone" is believed to be a portion of the A Zone with a complex boiling history. Shallow dipping laminated quartz veins are crosscut by several steeply dipping quartz breccia pipes. This area has a very similar chemistry to the pit area except for higher Ag:Au ratios i.e. 500:1 versus 10:1 in the pit zone. The "Adit Zone" quartz breccias have a major hematite component in the matrix of the quartz breccia and this may indicate low pressure, high temperature vent type environment with not enough pressure to precipitate the gold at surface level. This zone is a good potential target and should be drilled in 1989. Geochemically it is anomalous in F, Te, Cu, Pb, Ag and + K while low in Na. To the northeast a wide zone called the "Chalcedony Zone" has laminated chalcedony veins 1-10cm in width and making up 15% of the rock. This fault bounded zone varies in width from 80 to 60 meters. Channel sampling averaged

very consistent values of 1.15 g/t Au and 6.3 g/t Ag. This zone is unusual in its absence of anomalous Cu, Pb, Zn, Tl, Te and Ba. In 1989 this target will be drilled to test continuity and potential of this zone.

In summary the geochemistry works well on a regional scale but correlation co-efficients with Au and Ag and other elements are low. In general high grade values accompany silicification with multiple boiling events increasing the values. Normally, SiO_2, Cu, Pb, Zn and F values are enhanced within the ore zones. Peripherally Na depletion exists while K, Te, Tl, Ba are anomalously high. As, Sb and Hg values are uniformly low and don't appear to be significant alteration indicators. This may indicate we do not have the top portion of the system which may be eroded away.

BASE STUDY GEOCHEMISTRY

Forty-seven samples were taken of different alteration systems on the property and analyzed for numerous elements by ICP and AA methods. Correlation co-efficients were made of the elements in all combinations to define the relationships in general.

Mineralization - Gold was found to be very erratic with the only good correlations with Ag and SiO_2 and a weaker relation with Cu, Pb and Zn indicating it is free electrum. Silver has a much better correlation with Cu, Pb and Zn indicating the forms of silver are as native silver, tetrahedrite and bonded with lead. Silver shows a strong relationship with Ba and K which may be the potassic overprint at a later stage in some areas (i.e. the pit area). The base metals have an extremely high correlation with each other, and are likely introduced together. Silicification also has a general Na_2O depletion and anomalous Cu_2O_3 and Sn.

1988 DMLITHO: TRACE ELEMENTS AND AU-FIRE(PPB)

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	MN	MO	NA	NI	P	PB	SB	SR	TH	U	V	ZN	GA	SN	W
AG	-0.063	-0.065	-0.004	-0.308	-0.210	0.845	-0.153	-0.033	-0.173	-0.208	-0.019	0.604	-0.364	0.022	-0.271
AL	0.405	-0.244	0.048	0.086	0.667	0.327	0.405	-0.218	0.222	-0.248	0.788	0.378	-0.183	0.468	0.128
AS	-0.267	0.083	-0.139	0.007	0.276	-0.175	0.174	-0.182	-0.033	0.174	0.212	-0.175	0.330	-0.092	0.052
B	-0.027	0.534	-0.088	0.078	0.083	0.353	0.019	-0.006	0.024	-0.131	0.229	0.230	-0.176	0.177	0.212
BA	-0.207	-0.057	0.023	-0.236	-0.016	0.632	-0.009	0.011	0.052	-0.287	0.075	0.382	-0.034	0.315	-0.164
BE	0.261	-0.088	-0.157	-0.074	-0.206	-0.082	-0.322	0.805	-0.107	-0.281	-0.230	-0.096	-0.080	-0.065	-0.392
BI	0.046	-0.141	0.048	-0.151	0.498	0.238	0.366	-0.130	0.287	-0.173	0.649	0.293	-0.196	0.842	0.279
CA	0.397	-0.137	-0.150	-0.185	-0.268	0.146	-0.378	0.630	-0.196	-0.402	-0.233	0.063	-0.251	-0.080	-0.475
CD	0.328	-0.122	-0.121	0.060	0.378	0.462	0.197	-0.160	-0.056	-0.122	0.524	0.641	-0.135	0.107	-0.065
CO	0.496	-0.091	0.059	0.475	0.736	-0.113	0.446	-0.213	0.366	-0.013	0.804	0.139	0.034	0.502	0.341
CU	0.089	-0.087	0.000	-0.290	-0.222	0.981	-0.251	0.187	-0.187	-0.206	-0.019	0.830	-0.447	-0.014	-0.227
FE	0.277	0.015	0.124	0.234	0.941	-0.150	0.462	-0.269	0.541	0.108	0.849	0.001	0.276	0.374	0.291
K	-0.110	-0.074	0.000	-0.254	0.104	0.684	0.038	-0.171	0.055	-0.263	0.206	0.447	-0.231	0.255	-0.209
LI	0.582	-0.190	-0.074	0.378	0.701	-0.010	0.455	-0.193	0.207	-0.146	0.812	0.199	-0.063	0.303	0.271
MG	0.676	-0.133	-0.074	0.398	0.660	0.030	0.388	-0.161	0.207	-0.192	0.790	0.283	-0.075	0.322	0.219
MN	1.000	-0.245	-0.066	0.297	0.208	0.043	0.014	0.163	-0.091	-0.319	0.294	0.363	-0.312	-0.022	-0.197
MO	-0.245	1.000	-0.115	-0.024	-0.012	-0.093	0.109	-0.113	0.020	0.297	-0.013	-0.099	0.229	-0.096	-0.009
NA	-0.066	-0.115	1.000	-0.108	0.071	-0.001	0.050	-0.093	0.101	0.166	-0.006	-0.014	0.095	-0.054	0.010
NI	0.297	-0.024	-0.108	1.000	0.221	-0.305	0.178	-0.144	0.110	0.169	0.220	-0.162	0.315	-0.055	0.162
P	0.208	-0.012	0.071	0.221	1.000	-0.244	0.473	-0.237	0.477	0.084	0.843	-0.113	0.309	0.417	0.306
PB	0.043	-0.093	-0.001	-0.305	-0.244	1.000	-0.226	0.159	-0.190	-0.257	-0.023	0.791	-0.468	0.007	-0.211
SB	0.014	0.109	0.050	0.178	0.473	-0.226	1.000	-0.391	0.217	0.056	0.462	-0.124	0.103	0.377	0.259
SR	0.163	-0.113	-0.093	-0.144	-0.237	0.159	-0.391	1.000	-0.138	-0.398	-0.257	0.035	-0.168	-0.061	-0.352
TH	-0.091	0.020	0.101	0.110	0.477	-0.190	0.217	-0.138	1.000	0.167	0.281	-0.195	0.340	0.144	0.275
U	-0.319	0.297	0.166	0.169	0.084	-0.257	0.056	-0.398	0.167	1.000	-0.036	-0.209	0.579	-0.362	0.210
V	0.294	-0.013	-0.006	0.220	0.843	-0.023	0.462	-0.257	0.281	-0.036	1.000	0.105	0.098	0.562	0.353
ZN	0.363	-0.099	-0.014	-0.162	-0.113	0.791	-0.124	0.035	-0.195	-0.209	0.105	1.000	-0.484	0.012	-0.164
GA	-0.312	0.229	0.095	0.315	0.309	-0.468	0.103	-0.168	0.340	0.579	0.098	-0.484	1.000	-0.141	0.136
SN	-0.022	-0.096	-0.054	-0.055	0.417	0.007	0.377	-0.061	0.144	-0.362	0.562	0.012	-0.141	1.000	0.148
W	-0.197	-0.009	0.010	0.162	0.306	-0.211	0.259	-0.352	0.275	0.210	0.353	-0.164	0.136	0.148	1.000
CR	-0.285	0.055	-0.110	0.059	-0.577	0.190	-0.056	-0.066	-0.453	-0.011	-0.324	0.093	-0.256	-0.178	0.217
AU(PPB)	-0.072	-0.074	-0.109	-0.169	-0.303	0.336	-0.193	-0.059	-0.206	-0.142	-0.167	0.219	-0.310	-0.060	-0.166

1988 DMLITHO: TRACE ELEMENTS AND AU-FIRE(PPB)

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	AG	AL	AS	B	BA	BE	BI	CA	CD	CO	CU	FE	K	LI	MG
AG	1.000	0.334	-0.138	0.217	0.668	-0.068	0.188	0.149	0.403	-0.145	0.799	-0.135	0.738	-0.019	-0.018
AL	0.334	1.000	0.065	0.238	0.357	-0.214	0.614	-0.098	0.666	0.691	0.309	0.738	0.565	0.823	0.806
AS	-0.138	0.065	1.000	-0.132	-0.083	-0.172	-0.135	-0.255	0.504	-0.073	-0.168	0.190	0.002	0.091	-0.022
B	0.217	0.238	-0.132	1.000	0.290	-0.145	0.190	-0.070	0.106	0.121	0.296	0.158	0.348	0.112	0.147
BA	0.668	0.357	-0.083	0.290	1.000	-0.117	0.316	0.050	0.272	-0.084	0.579	0.059	0.771	-0.051	-0.026
BE	-0.068	-0.214	-0.172	-0.145	-0.117	1.000	-0.223	0.844	-0.166	-0.207	-0.065	-0.266	-0.187	-0.172	-0.130
BI	0.188	0.614	-0.135	0.190	0.316	-0.223	1.000	-0.212	0.303	0.623	0.250	0.519	0.294	0.446	0.462
CA	0.149	-0.098	-0.255	-0.070	0.050	0.844	-0.212	1.000	-0.065	-0.255	0.146	-0.304	0.020	-0.158	-0.089
CD	0.403	0.666	0.504	0.106	0.272	-0.166	0.303	-0.065	1.000	0.350	0.487	0.425	0.433	0.568	0.568
CO	-0.145	0.691	-0.073	0.121	-0.084	-0.207	0.623	-0.255	0.350	1.000	-0.073	0.763	-0.019	0.815	0.814
CU	0.799	0.309	-0.168	0.296	0.579	-0.065	0.250	0.146	0.487	-0.073	1.000	-0.120	0.603	0.012	0.052
FE	-0.135	0.738	0.190	0.158	0.059	-0.266	0.519	-0.304	0.425	0.763	-0.120	1.000	0.142	0.765	0.742
K	0.738	0.565	0.002	0.348	0.771	-0.187	0.294	0.020	0.433	-0.019	0.603	0.142	1.000	0.067	0.082
LI	-0.019	0.823	0.091	0.112	-0.051	-0.172	0.446	-0.158	0.568	0.815	0.012	0.765	0.067	1.000	0.964
MG	-0.018	0.806	-0.022	0.147	-0.026	-0.130	0.462	-0.089	0.568	0.814	0.052	0.742	0.082	0.964	1.000
MN	-0.063	0.405	-0.267	-0.027	-0.207	0.261	0.046	0.397	0.328	0.496	0.089	0.277	-0.110	0.582	0.676
[illegible]	-0.065	-0.244	0.083	0.534	-0.057	-0.088	-0.141	-0.137	-0.122	-0.091	-0.087	0.015	-0.074	-0.190	-0.183
NA	-0.004	0.048	-0.139	-0.088	0.023	-0.157	0.048	-0.150	-0.121	0.059	0.000	0.124	0.000	-0.074	-0.074
NI	-0.308	0.086	0.007	0.078	-0.236	-0.074	-0.151	-0.185	0.060	0.475	-0.290	0.234	-0.254	0.378	0.398
P	-0.210	0.667	0.276	0.083	-0.016	-0.206	0.498	-0.268	0.378	0.736	-0.222	0.941	0.104	0.701	0.660
PB	0.845	0.327	-0.175	0.353	0.632	-0.082	0.238	0.146	0.462	-0.113	0.981	-0.150	0.684	-0.010	0.030
SB	-0.153	0.405	0.174	0.019	-0.009	-0.322	0.366	-0.378	0.197	0.446	-0.251	0.462	0.038	0.455	0.388
SR	-0.033	-0.218	-0.182	-0.006	0.011	0.805	-0.130	0.630	-0.160	-0.213	0.187	-0.269	-0.171	-0.193	-0.161
TH	-0.173	0.222	-0.033	0.024	0.052	-0.107	0.287	-0.196	-0.056	0.366	-0.187	0.541	0.055	0.207	0.207
U	-0.208	-0.248	0.174	-0.131	-0.287	-0.281	-0.173	-0.402	-0.122	-0.013	-0.206	0.108	-0.263	-0.146	-0.192
V	-0.019	0.788	0.212	0.229	0.075	-0.230	0.649	-0.233	0.524	0.804	-0.019	0.849	0.206	0.812	0.790
ZN	0.604	0.378	-0.175	0.230	0.382	-0.096	0.293	0.063	0.641	0.139	0.830	0.001	0.447	0.199	0.283
GA	-0.364	-0.183	0.330	-0.176	-0.034	-0.080	-0.196	-0.251	-0.135	0.034	-0.447	0.276	-0.231	-0.063	-0.075
SN	0.022	0.468	-0.092	0.177	0.315	-0.065	0.842	-0.080	0.107	0.502	-0.014	0.374	0.255	0.303	0.323
W	-0.271	0.128	0.052	0.212	-0.164	-0.392	0.279	-0.475	-0.065	0.341	-0.227	0.291	-0.209	0.271	0.219
CR	0.119	-0.401	-0.083	0.164	-0.082	-0.247	-0.147	-0.251	-0.178	-0.300	0.138	-0.597	-0.172	-0.307	-0.298
AU(PPB)	0.613	-0.002	-0.115	-0.023	0.194	-0.007	-0.022	0.093	0.068	-0.142	0.297	-0.234	0.179	-0.065	-0.123

DMDRL-L

IRRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	AL2O3	BA	CAO	FE2O3	K2O	MGO	MNO2	NA2O	P2O5	SIO2	SR	TIO2	ZR	S	TOT(%)
AL2O3	1.000	0.749	-0.260	0.196	0.543	-0.116	0.073	0.111	0.297	-0.536	0.676	0.360	0.515	0.603	0.040
BA	0.749	1.000	-0.321	0.115	0.592	-0.207	-0.140	0.180	0.225	-0.471	0.694	0.179	0.404	0.726	-0.022
CAO	-0.260	-0.321	1.000	0.229	-0.413	0.582	0.163	-0.312	0.420	-0.357	-0.197	0.243	-0.205	0.133	-0.577
FE2O3	0.196	0.115	0.229	1.000	0.067	0.736	0.422	-0.661	0.928	-0.731	0.086	0.913	0.619	-0.051	-0.310
K2O	0.543	0.592	-0.413	0.067	1.000	-0.176	-0.236	-0.168	-0.061	-0.422	0.388	0.149	0.220	0.686	-0.059
MGO	-0.116	-0.207	0.582	0.736	-0.176	1.000	0.457	-0.620	0.894	-0.599	-0.038	0.725	0.260	-0.146	-0.430
MNO2	0.073	-0.140	0.163	0.422	-0.236	0.457	1.000	0.024	0.487	-0.210	0.084	0.474	0.298	-0.365	0.102
NA2O	0.111	0.180	-0.312	-0.661	-0.168	-0.620	0.024	1.000	-0.601	0.476	0.298	-0.627	-0.166	-0.237	0.393
P2O5	0.297	0.225	0.420	0.928	-0.061	0.894	0.487	-0.601	1.000	-0.753	0.186	0.951	0.543	0.034	-0.473
SIO2	-0.536	-0.471	-0.357	-0.731	-0.422	-0.599	-0.210	0.476	-0.753	1.000	-0.419	-0.775	-0.413	-0.548	0.621
SR	0.676	0.694	-0.197	0.086	0.388	-0.038	0.084	0.298	0.186	-0.419	1.000	0.140	0.245	0.533	-0.034
TIO2	0.360	0.179	0.243	0.913	0.149	0.725	0.474	-0.627	0.951	-0.775	0.140	1.000	0.589	0.092	-0.308
ZR	0.515	0.404	-0.205	0.619	0.220	0.260	0.298	-0.166	0.543	-0.413	0.245	0.589	1.000	0.010	0.322
S	0.603	0.726	0.133	-0.051	0.686	-0.146	-0.365	-0.237	0.034	-0.548	0.533	0.092	0.010	1.000	-0.273
TOT(%)	0.040	-0.022	-0.577	-0.310	-0.059	-0.430	0.102	0.393	-0.473	0.621	-0.034	-0.308	0.322	-0.273	1.000

DMLITHO MAJOR ELEMENTS INCLUDING AU GEOCHEM (FIRE)

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	AL2O3	BA	BE	CAO	CO	CR2O3	CU	FE2O3	K2O	MGO	MNO2	MO	NA2O	NB	NI
AL2O3	1.000	0.879	-0.342	-0.299	-0.025	-0.617	-0.181	0.812	0.822	0.501	0.120	-0.035	0.508	0.344	0.009
BA	0.879	1.000	-0.324	-0.253	0.047	-0.569	-0.011	0.777	0.833	0.503	0.108	-0.005	0.225	0.369	0.006
BE	-0.342	-0.324	1.000	0.881	-0.020	0.034	-0.107	-0.374	-0.286	-0.210	0.249	-0.103	-0.128	-0.153	-0.052
CAO	-0.299	-0.253	0.881	1.000	0.023	-0.057	0.101	-0.290	-0.312	-0.093	0.418	-0.138	-0.065	-0.185	-0.073
CO	-0.025	0.047	-0.020	0.023	1.000	-0.233	0.192	0.101	-0.115	-0.001	0.159	0.089	0.121	-0.194	0.562
CR2O3	-0.617	-0.569	0.034	-0.057	-0.233	1.000	0.095	-0.377	-0.457	-0.258	-0.184	0.118	-0.428	-0.348	-0.187
CU	-0.181	-0.011	-0.107	0.101	0.192	0.095	1.000	-0.058	-0.187	0.010	0.149	-0.085	-0.077	-0.267	-0.038
FE2O3	0.812	0.777	-0.374	-0.290	0.101	-0.377	-0.058	1.000	0.649	0.764	0.306	0.041	0.226	0.227	0.067
K2O	0.822	0.833	-0.286	-0.312	-0.115	-0.457	-0.187	0.649	1.000	0.295	-0.073	0.101	0.034	0.294	0.020
MGO	0.501	0.503	-0.210	-0.093	-0.001	-0.258	0.010	0.764	0.295	1.000	0.633	-0.169	0.028	0.192	-0.105
MNO2	0.120	0.108	0.249	0.418	0.159	-0.184	0.149	0.306	-0.073	0.633	1.000	-0.261	0.084	-0.081	-0.159
MO	-0.035	-0.005	-0.103	-0.138	0.089	0.118	-0.085	0.041	0.101	-0.169	-0.261	1.000	-0.109	-0.205	0.217
NA2O	0.508	0.225	-0.128	-0.065	0.121	-0.428	-0.077	0.226	0.034	0.028	0.084	-0.109	1.000	0.145	0.013
NB	0.344	0.369	-0.153	-0.185	-0.194	-0.348	-0.267	0.227	0.294	0.192	-0.081	-0.205	0.145	1.000	-0.141
NI	0.009	0.006	-0.052	-0.073	0.562	-0.187	-0.038	0.067	0.020	-0.105	-0.159	0.217	0.013	-0.141	1.000
P2O5	0.770	0.742	-0.275	-0.234	-0.114	-0.390	-0.170	0.887	0.647	0.748	0.256	-0.036	0.155	0.235	-0.069
PB	-0.293	-0.101	-0.080	0.132	0.005	0.160	0.910	-0.217	-0.258	-0.061	0.031	-0.078	-0.162	-0.241	-0.055
RB	0.246	0.354	0.046	0.091	-0.136	-0.029	0.129	0.298	0.282	0.284	0.191	-0.134	-0.128	0.048	-0.072
SIO2	-0.816	-0.756	-0.156	-0.283	-0.016	0.619	0.073	-0.718	-0.662	-0.541	-0.432	0.095	-0.280	-0.227	0.024
SN	-0.580	-0.456	-0.076	-0.166	-0.073	0.551	0.237	-0.314	-0.578	0.026	0.026	-0.134	-0.229	-0.086	-0.174
SR	0.038	-0.011	0.670	0.586	0.093	-0.161	0.101	-0.039	-0.115	-0.076	0.221	-0.134	0.287	-0.058	-0.048
TIO2	0.895	0.828	-0.317	-0.285	-0.092	-0.454	-0.246	0.917	0.767	0.693	0.172	0.033	0.259	0.212	-0.014
	0.176	0.164	0.002	0.023	-0.223	-0.150	-0.081	0.353	-0.007	0.549	0.218	-0.222	0.042	0.267	-0.150
	0.530	0.426	-0.082	-0.026	-0.180	-0.352	-0.290	0.561	0.230	0.674	0.423	-0.131	0.363	0.502	-0.270
ZN	-0.037	0.072	-0.094	0.070	0.204	-0.083	0.832	0.079	-0.075	0.231	0.336	-0.125	-0.075	-0.212	-0.097
ZR	0.945	0.872	-0.317	-0.269	-0.055	-0.650	-0.241	0.767	0.795	0.495	0.130	-0.085	0.461	0.496	-0.001
S	0.219	0.161	-0.081	-0.017	-0.104	-0.087	-0.015	0.405	0.198	0.310	-0.074	0.154	-0.053	0.206	-0.041
TOT(%)	0.149	0.063	-0.779	-0.951	-0.109	0.154	-0.233	0.096	0.195	-0.134	-0.595	0.190	0.048	0.140	0.050
AU(PPB)	-0.329	-0.199	0.009	0.086	0.098	0.029	0.245	-0.280	-0.296	-0.155	-0.174	-0.123	-0.167	-0.023	-0.058

DMLITHO MAJOR ELEMENTS INCLUDING AU GEOCHEM (FIRE)

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	P2O5	PB	RB	SIO2	SN	SR	TIO2	V	W	ZN	ZR	S	TOT(%)	AU(FFB)
AL2O3	0.770	-0.293	0.246	-0.816	-0.580	0.038	0.895	0.176	0.530	-0.037	0.945	0.219	0.149	-0.329
BA	0.742	-0.101	0.354	-0.756	-0.456	-0.011	0.828	0.164	0.426	0.072	0.872	0.161	0.063	-0.199
BE	-0.275	-0.080	0.046	-0.156	-0.076	0.670	-0.317	0.002	-0.082	-0.094	-0.317	-0.081	-0.779	0.009
CAO	-0.234	0.132	0.091	-0.283	-0.166	0.586	-0.285	0.023	-0.026	0.070	-0.269	-0.017	-0.951	0.086
CO	-0.114	0.005	-0.136	-0.016	-0.073	0.093	-0.092	-0.223	-0.180	0.204	-0.055	-0.104	-0.109	0.098
CR2O3	-0.390	0.160	-0.029	0.619	0.551	-0.161	-0.454	-0.150	-0.352	-0.083	-0.650	-0.087	0.154	0.029
CU	-0.170	0.910	0.129	0.073	0.237	0.101	-0.246	-0.081	-0.290	0.832	-0.241	-0.015	-0.233	0.245
FE2O3	0.887	-0.217	0.298	-0.718	-0.314	-0.039	0.917	0.353	0.561	0.079	0.767	0.405	0.096	-0.280
K2O	0.647	-0.258	0.282	-0.662	-0.578	-0.115	-0.767	-0.007	0.230	-0.075	0.795	0.198	0.195	-0.296
MGO	0.748	-0.061	0.284	-0.541	0.026	-0.036	0.693	0.549	0.674	0.231	0.495	0.310	-0.134	-0.155
MNO2	0.256	0.031	0.191	-0.432	0.026	0.221	0.172	0.218	0.423	0.336	0.130	-0.034	-0.595	-0.074
MO	-0.036	-0.078	-0.134	0.095	-0.134	-0.134	0.033	-0.232	-0.131	-0.125	-0.085	0.154	0.190	-0.123
NA2O	0.155	-0.162	-0.128	-0.380	-0.329	0.287	0.259	0.042	0.363	-0.035	0.461	-0.053	0.048	-0.163
NB	0.235	-0.241	0.048	-0.227	-0.086	-0.058	0.312	0.363	0.502	-0.212	0.496	0.206	0.140	0.028
NI	-0.069	-0.055	-0.072	0.024	-0.174	-0.048	-0.014	-0.150	-0.270	-0.097	-0.001	-0.041	0.050	-0.068
P2O5	1.000	-0.264	0.260	-0.692	-0.271	-0.024	0.920	0.455	0.648	-0.027	0.718	0.334	0.074	-0.267
PB	-0.264	1.000	0.188	0.183	0.304	-0.044	-0.350	-0.012	-0.357	0.761	-0.335	-0.066	-0.226	0.361
RB	0.260	0.188	1.000	-0.339	-0.100	-0.081	0.250	0.213	0.070	0.154	0.192	0.086	-0.221	0.025
SIO2	-0.692	0.183	-0.339	1.000	0.634	-0.358	-0.768	-0.231	-0.532	-0.059	-0.787	-0.273	0.433	0.281
SN	-0.271	0.304	-0.100	0.634	1.000	-0.157	-0.434	0.148	-0.097	0.186	-0.509	-0.039	0.169	0.044
SR	-0.024	-0.044	-0.081	-0.358	-0.157	1.000	-0.003	0.036	0.197	0.013	0.075	-0.006	-0.570	-0.159
TIO2	0.920	-0.350	0.250	-0.768	-0.434	-0.003	1.000	0.371	0.625	-0.090	0.848	0.361	0.137	-0.347
V	0.455	-0.012	0.213	-0.231	0.148	0.036	0.371	1.000	0.522	0.083	0.243	0.211	-0.100	0.002
W	0.648	-0.357	0.070	-0.532	-0.097	0.197	0.625	0.522	1.000	-0.174	0.597	0.204	-0.089	-0.229
ZN	-0.027	0.761	0.154	-0.059	0.186	0.013	-0.090	0.083	-0.174	1.000	-0.113	-0.034	-0.228	0.185
ZR	0.718	-0.335	0.192	-0.787	-0.509	0.075	0.848	0.243	0.597	-0.113	1.000	0.225	0.117	-0.319
S	0.334	-0.066	0.086	-0.273	-0.039	-0.006	0.361	0.211	0.204	-0.034	0.225	1.000	-0.004	-0.096
TOT(%)	0.074	-0.226	-0.221	0.433	0.169	-0.570	0.137	-0.100	-0.089	-0.228	0.117	-0.004	1.000	-0.067
AU(FFB)	-0.267	0.361	0.025	0.281	0.044	-0.159	-0.347	0.002	-0.229	0.185	-0.319	-0.096	-0.067	1.000

1988-DML-ITHO: TRACE ELEMENTS AND AU FIRE (PPB)

CORRELATION MATRIX: (99.0 INDICATES COEFFICIENT COULD NOT BE CALCULATED)

	AG	CU	FE	P	PB	GA	AU(PPB)
AG	1.000	0.799	-0.135	-0.210	0.845	-0.364	0.613
CU	0.799	1.000	-0.120	-0.222	0.981	-0.447	0.297
FE	-0.135	-0.120	1.000	0.941	-0.150	0.276	-0.254
P	-0.210	-0.222	0.941	1.000	-0.244	0.309	-0.303
PB	0.845	0.981	-0.150	-0.244	1.000	-0.468	0.336
GA	-0.364	-0.447	0.276	0.309	-0.468	1.000	-0.310
AU(PPB)	0.613	0.297	-0.254	-0.303	0.336	-0.310	1.000

Sericitic and Argillic Alteration - Predates silicification and alteration elements related to it are high values of Al_2O_3, Ba, Fe_2O_3, K_2O, P_2O5, S, Bi, Cd, Co, Li, Mg,TiO_2, Ba and V which all have very high correlations. This alteration contains a large amount of argillic alteration and is difficult to subdivide the two zones. K_2O may again be potassic overprinting as well as Ba and K_2O rich micas while Na_2O is depleted. This zone does not subdivide the propylytic alteration which was included at the time. But this alteration forms a general halo + silicified cores.

Carbonate Alteration - This distal alteration is quite distinct geochemically with CaO, Be, MgO, and Sr being anomalous.

1988 RESULTS

Trenching and Channel Sampling

In early June of 1988 an excavator was brought in to trench alteration and mineralized zones. Trenches 1-10 uncovered a large alteration zone known as the "A" zone with a strike length of at least 600 m. Alteration consists of peripheral carbonate and porphylytic alteration, with core alteration consisting of sericitic and argillic alteration with 5-20% fine grained disseminated pyrite. Occasional quartz veins and quartz breccia zones were seen but overall this large steeply dipping fault zone had low precious metal values (see trench diagrams). The trenching did define the strike length of the 10-30m wide "A" zone fault and later drilling proved it persists at depth. Silicification and alteration intensity appears to increase where cross faults intersect this zone and these areas will be tested further. 68 channel samples were taken along these trenches and the results are shown on the figures.

In June and August 10 channel samples were taken over several outcrops between L9N and L11N in an area called the Chalcedony Zone. Samples over approximately 50 m at 90 to the strike revealed the zone averages 1.1 g/t Au, and 6 g/t Ag. The zone consists of an average of 15% 5-20c m laminated chalcedony veins + vein bx, with surrounding propylytic alteration. This zone will be drill tested in 1989 for continuity and potential high grade zones.

Geophysical Surveys

In 1987 a pole-dipole survey was conducted over the grid. A spacing was 25 m and the survey covered 20.85 km of grid.

Moderate chargeability anomalies (5-.10 mv/v) outlined pyritic alteration zones which were tested along the A zone and areas just to the west of the baseline. The latter target was tested on L7+00N and found to be a pyritic fault zone but the anomaly to the west of the pit remains untested.

The highest resistivities correlate with thick lakebed silts and clays which the survey did not appear to penetrate. The moderate narrower resistivity low features (100-200 ohm/m) anomalies correlate with fault systems.

CSAMT Survey

In April and May a CSAMT survey was carried out by Pacific Geophysical Ltd. The Controlled Source Audio Magnetotelluric (CSAMT) survey covered 14.85 km of the grid. This complex survey generates pseudo sections based on apparent resistivity vs. frequency (for details see 1988 report by Paul Cartwright). Seven zones of high resistivity and fourteen zones of low resistivity were outlined and three holes were recommended for testing.

Diamond drill holes DM1-3 tested these targets and found a general correlation in that as a rule, resistivity low anomalies correlated with sheared alteration in fault zones while resistivity highs corresponded to Marama dacites or silicified zones. While in general the survey appears to have worked complexities in the geology and irregularities in locating anomalies indicate holes should not be drilled on CSAMT anomalies alone.

Summary of Precious Metal Intersections

DM-1

69.7-70.5 m (.8 m)	A quartz-carbonate vein breccia similar to quartz breccias in the pit. Assay: 109.4 g Ag, 1.02 g Au/.8 m
70.5-72.0 m (1.5 m)	in pyritic alteration adjacent to the vein which ran 27.1 g ag/1.5 m

This section is a vertical fault zone related to the pit area.

DM-2

A section from 67.2-81.2 m (14.0 m) is a zone with quartz vein fragments in a healed breccia? the unit appears conformable but may be a vertical structure.

The best section 77.7-79.2 m (1.5 m) runs 52.5 g Ag and 3.62 g Au.

The whole section is anomalous in Au and Ag ranging from .61-52.5 g Ag and 10-3620 ppb Au. Averages are 6.6 g Ag and 383 ppb Au.

This intersection may again be related to the Dusty Mac Pit.

DM-3

A section from 62.4-63.9 m (1.5 m) ran 1.6 g Ag and 1.07 g Au in a near vertical fault zone with 10% py in a bleached and

celadonite altered section with early stage quartz vein fragment. The rest of the fault has anomalous Au values 63.9-70.4 m with low Ag values and Au values ranging from 22-141 ppb.

DM-4

The only anomalous zone was an interval from 23.2-26.2 (3.0 m) which averaged 1.6 g Ag and 191 ppb Au in what appears to be a stratigraphic horizon with chalcedony fragments and chalcedony and fluorite veinlets.

DM-9

A section from 88.6-90.1 m (1.5) m ran .8 g Ag and 200 ppb au. This section contained 10-15% Py in moderately silicified "A" zone material and is a spot anomaly indicating the erratic nature of the gold.

DM-10

A very erratic intersection from 79.7-81.2 m (1.5 m) in a vertical pyritic altered section of the "A" zone, ran 2.2 g Ag and 3.25 g Au. The section had no obvious distinguishing features from the zone around it which had no significant Au values.

A section from 98.0-101.8 m (3.8 m) ran an average of 1.8 g Ag and 246 ppb in an andesite lahar with chalcedony fragments at the end of the hole. This section has visible cpy and was anticipated to have higher values.

DISCUSSION ON EPITHERMAL SYSTEMS IN THE OKANAGAN

The Dusty Mac, Vault and O.K.-Rain properties are located in the S. Okanagan within 20 km of each other and have similar features indicative of widespread epithermal systems.

The Vault property is owned by Seven Mile High Resources and is optioned to Inco Ltd. The main target is the base of the Marama.

GEOLOGY - Upper Marron Formation is overlain by Lower Marama trachyte tuffs and dacite flows of the upper Marama. These are finally overlain by lahars of the White Lake formation. Units dip 20 - 60° NE to SE.

ORE HORIZON - The base of the Marama is a porous trachyte tuff which appears to control mineralization below the impermeable dacite flows. Dacite flows are 80 - 250 m thick and ore intersections occur at elevations of 500 - ~150 m in what appears to be a boiling trap.

MINERALIZATION - Intersections of up to 12.9 m grading .23 oz/t Au and .456 oz/t Ag are reported. Mineralization occurs in silicified tuff with complex multistage quartz and chalcedony veins. Commonly 1-3% pyrite is noted and occasionally to 20%, often in matrix of quartz breccia. Laminated veins appear to carry the highest Au and Ag values. Gouge zones are prolific and hematite, chlorite, calcite are common alteration features. Ag:Au ratios range from 30:1 to 1:1 and average 2:1. Some quartz-carbonate veins carry up to .15 oz/t Au as well.

The O.K. property is owned by Tigris Minerals Ltd. The Rain or Gold claims have been recently optioned by Inco. The property lies 15 km east of the Dusty Mac property.

GEOLOGY - The property is underlain by upper Marama dacite flows overlain by andesite lahars and flows of the White Lake Formation. NW trending faults and EW trending high angle faults appear to be the focus of mineralization.

MINERALIZATION - Native gold and electrum are found in drill hole intersections of 1 to 4 m. Up to 8.032 oz/t Au have been reported over 1 m. Mineralization is in silicified fault zones with quartz veins. Textures include quartz and carbonate

breccias, and clay zones. Sulphides consist of dominantly disseminated 1-5% pyrite and traces of pyrrhotite and chalcopyrite. Common alteration minerals include hematite, chlorite and fluorite. Siliceous breccias and quartz, chalcedony veins carry the best values.

Both the Vault and OK-Rain properties have very similar geology and style of mineralization to the Dusty Mac property. The mineralization style is related to a widespread epithermal system(s). Based on features on the above properties comparisons can be made to epithermal models to improve targets on the Dusty Mac property.

First the relationship to Eocene rocks can be dealt with. A syngenetic origin can be eliminated because mineralization postdates major faults which postdate any units deposited in the White Lake Basin. This is supported by the mineralogy seen on the properties. A primary subdivision of epithermal systems is between hotspring and porphyry type systems with systems resulting from indirect relationship with intrusive bodies as an interaction of meteoric and magmatic fluids. These are known as the acid-sulfate systems versus the latter adularia-sericite type. Dusty Mac and the other properties fit the adularia-sericite type systems the best. Mineralogical indications are strong presence of chlorite, sericite, pottasic alteration, manganese gangue, along with pyrite, hematite and a strong F presence. These are generally related to a higher pH in these systems. Base metals are common in both systems but Dusty Mac has a higher base metal ratio than Vault or O.K. and this maybe related to higher Ag:Au ratios at Dusty Mac.

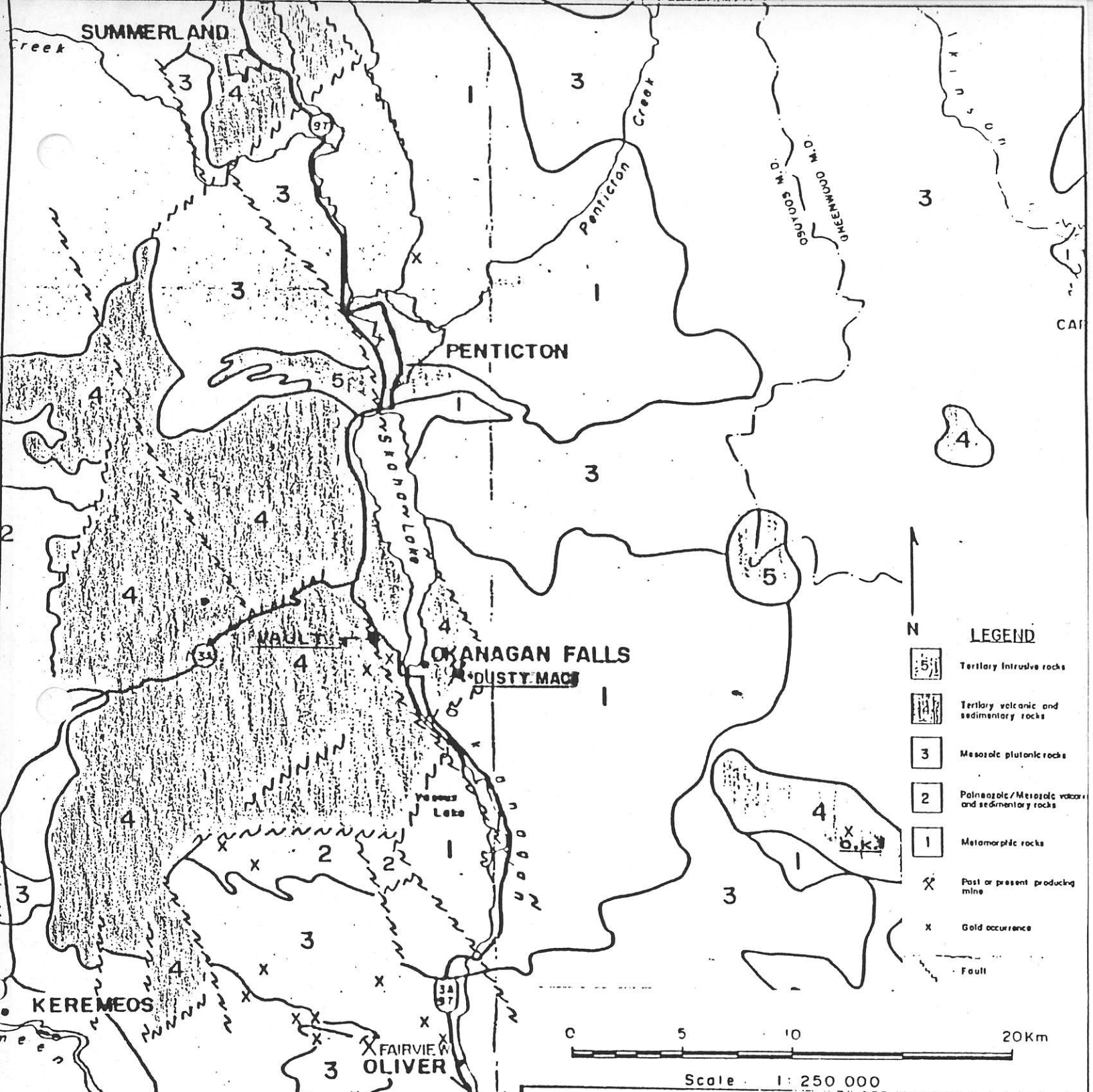
The implications are important as a guide to exploration. Adularia-sericite types are not directly related to a heat source and have a large lateral movement. They are more abundant and also have much larger volume potential in volcanic hosted environments.

Composition of host rocks is not considered critical except for permeability and structural control. Adularia-sericite groups also normally postdate deposition of host rocks by .5-15 m.y. and the vertical range is larger in these system, up to 1000 m. Interestingly enough the silver rich systems tend to dorm the largest deposits.

Next to be dealt with are the structural models. There is not evidence on any of the properties of siliceous sinter and this is supported by an absence of Sb, As and Hg (high level indicators). This combined with base metal values indicate the Dusty Mac property has structurally controlled ore zones of a moderate depth.

Vault appears to be a stacked cell convection system and the same potential exists at Dusty Mac. This is where faults provide a conduit for fluids to migrate upwards till they hit an impermeable barrier (in this case the Marama deposit). Below this barrier fluids will migrate along permeable horizons and boil due to pressure release or interaction with groundwater. This horizon controls mineralization on the Vault property but has never been tested on Dusty Mac to date.

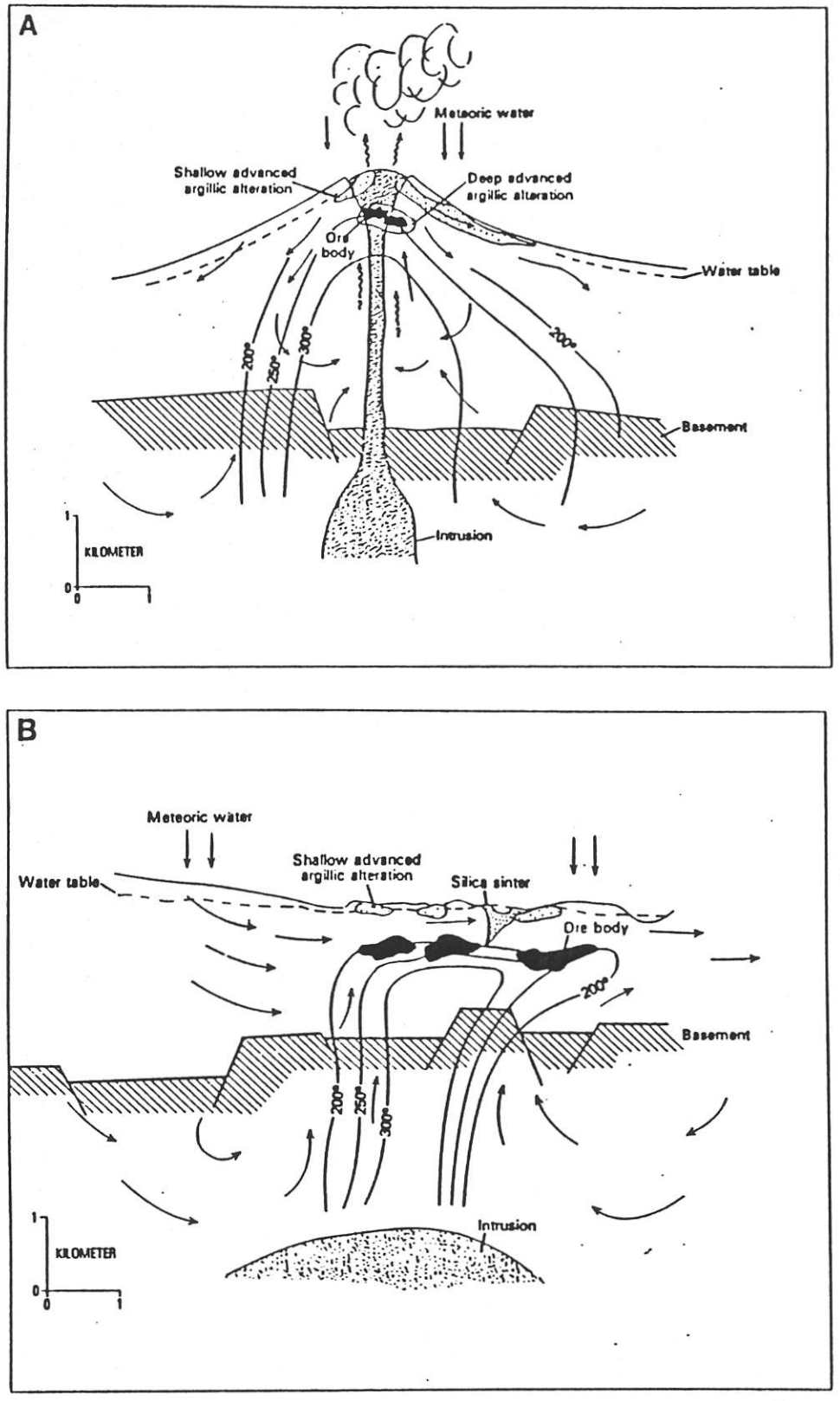
In contrast, the Dusty Mac pit area has no obvious impermeable cap. Steeply dipping faults appear to act as conduits but something needs to induce sealing of these zones for boiling to occur. A closed cell convection system could explain this via self-healing. Low angle veins can form and boiling can be induced upon fracturing. This can produce explosive breccias both matrix and non-matrix supported. Evidence for this exists at the pit where the lens is flat dipping and at the adit zone where shallow dipping veins are disrupted by quartz breccias.



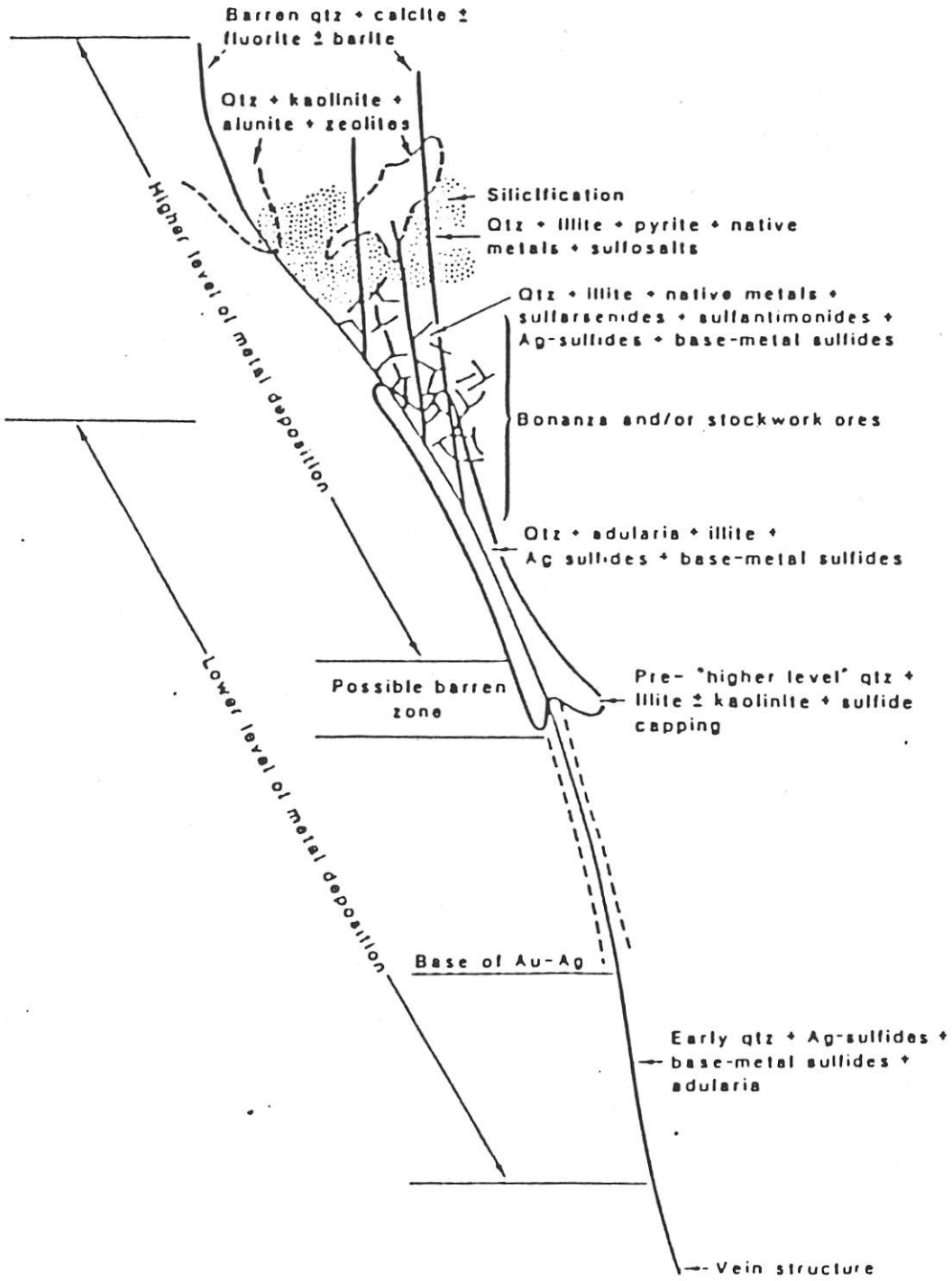
MINNOVA INC.

SOUTH OKANAGAN PROJECT
GEOLOGY AND MINERAL OCCURRENCES

Date:	JUNE 1987	Scale:	1:250 000
Project:	280	N.T.S.	82E
Figure:	FIG5	Mining Division:	OSOYOOS GREENWOOD

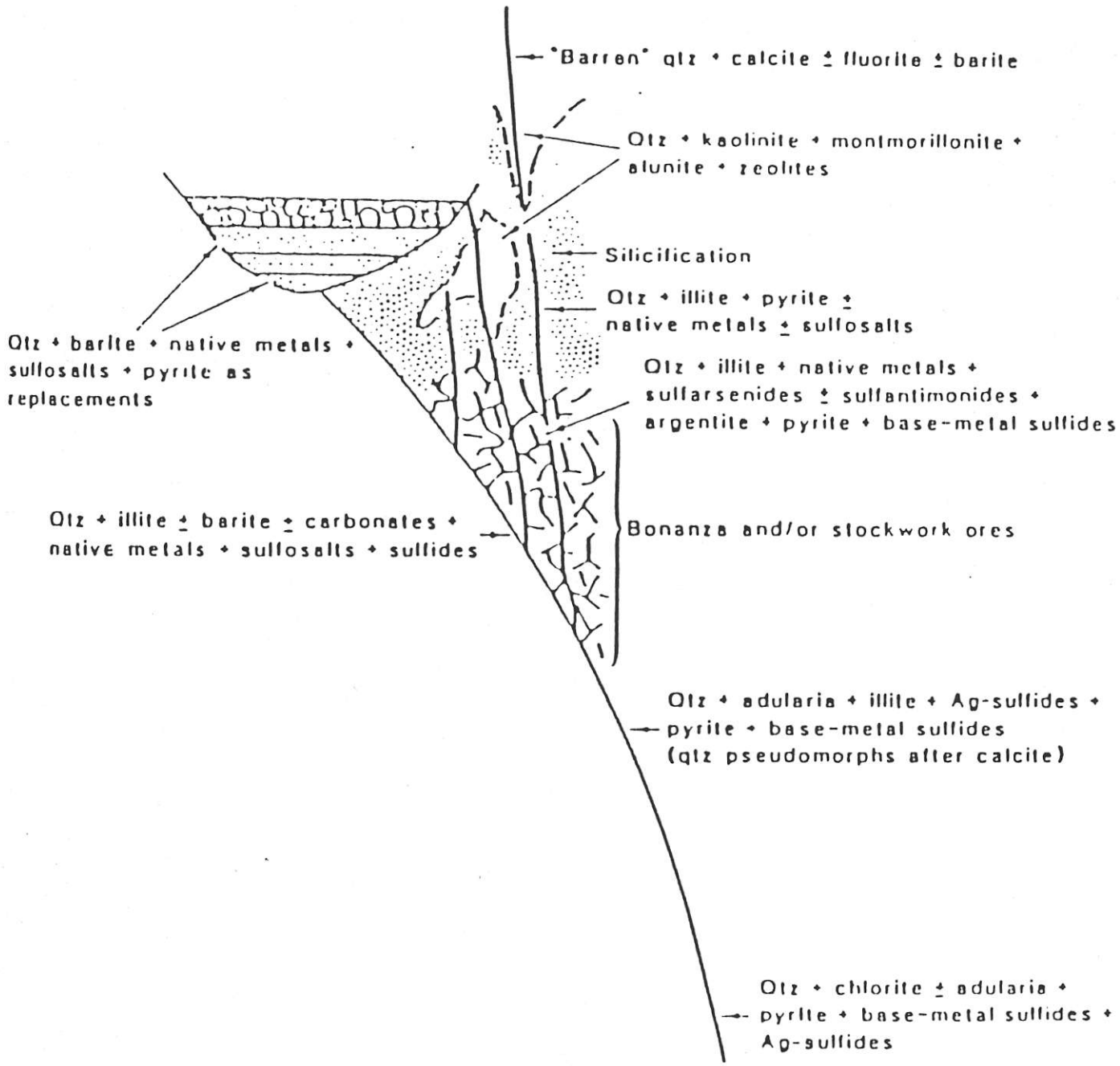


Occurrence models of the two types of epithermal ore deposits in a geothermal system, modified from models of geothermal systems from Henley and Ellis, (1983, fig. 5). A. Acid-sulfate type. B. Adularia-sericite type. The wiggly arrows in A represent sulfur-rich gaseous emanations from the intrusion.



Schematic section of open-vein deposition in the closed-cell convection model including two levels of mineralization resulting in stacked ore bodies, in this case separated by a barren zone. (After Berger and Eimon, 1982).

FIG7



Schematic section of open-vein deposition in the zone of fluid mixing in the stacked-cell convection model including areas of stockwork fracturing and replacement-type deposits. (After Berger and Eimon, 1982).

FIG8

APPENDIX 1

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LOCATION: L 2+00N STN 0+70E
ELEVATION: 463m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-12.4m.:	CASING
12.4-22.4M.:	ANDESITE LAHAR with SEDIMENTS.
22.4-69.7m.:	FELDSPAR PORPHYRY ANDESITE FLOW (competent). N.B. This of the Qtz. Breccia cap corresponds to the CSAMT resistivity high. -(66.3-69.7m.) Tectonic Bx averages 10% disseminated and Qtz.-carb. fragments.
69.7-70.5m.:	VERTICAL FAULT with a QTZ-CARBONATE BRECCIA. -Similar to Qtz Bx in pit.
70.5-103.2m.:	FELDSPAR PORPHYRY ANDESITE FLOW.
103.2-109.9m.:	ANDESITE LAHAR.
109.9-119.2m.:	FELDSPAR PORPHYRY ANDESITE FLOW.
119.2-134.1m.:	FAULT ZONE with QTZ-CARB. STOCKWORK. -Vertical fault with 5% Qtz-carb. veins and 10% disseminated py. -(133.3-134.1m.) Another Qtz-carb. Bx similar to pit area with trace Cpy and possibly Tetrahedrite. -This zone correlates with a moderate I.P. anomally and the CSAMT resistivity low and appears to be the main structure to the West of the pit.
134.1-147.9m.:	ANDESITE LAHAR with SEDIMENTS.
147.9-152.3m.:	FELDSPAR and PYROXENE ANDESITE FLOW. -15% py, 5% Qtz-carb. veinlets, 1% green micas.
152.3-168.7m.:	ANDESITE LAHAR.
168.7-191.4m.:	ANDESITE RICH CONGLOMERATE and SEDIMENTS. -includes coal seams.
191.4-203.3m.:	ANDESITE LAHAR.
203.3m.:	** END OF HOLE **

SUMMARY LOG DM-2

LOCATION: L 7+00N STN 1+28E

ELEVATION: 457m.

AZIMUTH: 225 degrees

DIP: -45 degrees

0-43.7m.:	CASING (lake bed)
43.7-67.7m.:	SANDSTONE and CONGLOMERATE
67.7-81.2m.:	ANDESITE LAHAR with QV FRAGMENTS -5% QV fragments cross-cut by Qtz-carb. veinlets. -Primary or healed breccia?
81.2-103.7m.:	FELDSPAR PORPHYRY ANDESITE FLOW
103.7-115.3m.:	FAULT ZONE -Clay gouge 50-60% to CA (core angle).
115.3-137.7m.:	ANDESITE LAHAR with TUFF -5-8% disseminated py.
137.7-162.5m.:	CONGLOMERATE -some Dacite fragments.
162.5-164.5m.:	FAULT ZONE -Black FGr. matrix with bleached Dacite fragments.
164.5-185.1m.:	ANDESITE LAHAR -10% Hematite, both primary and overprinting.
185.1-199.0m.:	MARAMA DACITE DOME
199.0m.:	** END OF HOLE**

NOTE: No obvious CSAMT resistivity high feature to explain the anomally.

SUMMARY LOG DM-3

LOCATION: L 7+00N STN 0+30W

ELEVATION: 460m.

AZIMUTH: 225 degrees

DIP: -45 degrees

0-32.9m.:	CASING
32.9-62.4m.:	ANDESITE LAHAR -5-8% py at 51.2-62.4m.
62.4-70.4m.:	FAULT ZONE -altered Andesite Lahar -10% py, bleaching, Seladenite? -5% QV fragments, 5% later Qtz-carbonate fragments. - ** CSAMT resistivity low **
70.4-85.0m.:	MARAMA DACITE -quite broken.
85.0-87.5m.:	FAULT ZONE -Lahar host.
87.5-98.2m.:	ANDESITE LAHAR with SEDIMENTS
98.2-110.2m.:	ALTERED ANDESITE LAHAR -weakly silicified with thin Qtz.Breccia zones. -10-15% py, trace green micas.
110.2-123.4m.:	ANDESITE TUFF and LAHAR
123.4-129.9m.:	FELDSPAR-PORPHYRY ANDESITE FLOW
129.9-153.9m.:	ANDESITE LAHAR and TUFF
153.9-168.1m.:	ANDESITE LAHAR -with or without hematite alteration.
168.1-182.3m.:	FELDSPAR+PYROXENE PORPHYRY ANDESITE FLOW -with or without hematite alteration.

SUMMARY LOG DM-4

LOCATION: L10+00N STN 0+40E

ELEVATION: 460m.

AZIMUTH: 225 degrees

DIP: -45 degrees

0-17.1m.: CASING

17.1-20.2m.: DACITE FLOW

20.2-32.7m.: ANDESITE LAHAR with QV FRAGMENTS
-5% laminated Chalcedony fragments.
-1% Chalcedony veinlets, 1% disseminated Py,
tr. Flourite (equivalent unit to NW showing?).

32.7-94.0m.: DACITE DOME
-Intrudes the lower Lahar unit.
-Possibly the CSAMT resistivity high.

94.0-111.5m.: ANDESITE LAHAR
-5% disseminated Py.

111.5-124.2m: ANDESITE LAHAR
-Hematite rich.

124.2-152.5m.: ANDESITE LAHAR

152.5-180.2m.: ANDESITE LAHAR
-Hematite rich.

180.2-203.2m.: ANDESITE LAHAR

203.2m.: ** END OF HOLE **

SUMMARY LOG DM-5

LOCATION: L 0+10N STN 1+63W
ELEVATION: 457m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-18.4m.:	CASING
18.4-41.4m.:	ANDESITE TUFF and LAHAR - 34.0 to 41.4m.: 10% Qtz-carb. fragments, 10-15% Py finegrain disseminated (I.P. target), trace green micas.
41.4-59.4m.:	ANDESITE LAHAR and TUFF - 49.8 to 53.3m.: 0.5m. Qtz-carb. breccia with chalcedony fragments and Fluorite veinlets.
59.4-79.4m.:	ANDESITE LAHAR
79.4-103.7m.:	DACITE FLOW with FLOW-BRECCIA -Hematite rich matrix.
103.7-111.3m.:	DACITE DOME
111.3m.:	** END OF HOLE **

NOTE: Casing was pulled successfully this time!

SUMMARY LOG DM-6

LOCATION: L 2+00N STN 1+80W
ELEVATION: 465m. (approx.)
AZIMUTH: 225 degrees
DIP: -45 degrees

0-9.2m.: CASING

9.2-16.1m.: ALTERED ANDESITE FLOW
- 15% Py, 15% Qtz-carbonate veins.

16.1-26.9m.: PYRITIC ALTERED ANDESITE FLOW
- 15-20% Qtz-carb. veins, 20% Py, 5-10% Silica fragments, Talc?

26.9-48.4m.: FELDSPAR-PORPHYRY ANDESITE FLOW
- minor alteration.

48.4-62.8m.: PYRITIC ANDESITE FLOW
- Weakly silicified with 2% Green Micas and 20% fine-grain Pyrite.

62.8-67.7m.: QUARTZ BRECCIA
- Strong silicification with a Chalcedony matrix, 10% Pyrite, 1% fine-grain black Sulphide.
- Zone is very similar to the "A Zone" Quartz Breccia.

67.7-76.2m.: PYRITIC ANDESITE FLOW
- Vertical shear zone.
- Moderately silicified with 15-20% Py.

76.2-100.6m.: ANDESITE LAHAR

100.6m.: ** END OF HOLE **

NOTE: Mineralized zone correlates well with an I.P. anomally and a CSAMT resistivity low.

SUMMARY LOG DM-7

LOCATION: L 2+90N STN 2+10W
ELEVATION: 475m. (approx.)
AZIMUTH: 225 degrees
DIP: -45 degrees

0-6.1m.:	CASING
6.1-19.4m.:	FELDSPAR PORPHYRY ANDESITE FLOW
19.4-45.7m.:	ALTERED ANDESITE FLOW - Average 10% Py, vertical alteration with 30% silicification, minor Sericite alteration, trace Flourite.
45.7-53.7m.:	ANDESITE LAHAR
53.7-83.3m.:	ALTERED ANDESITE - Average 20% Py, vertical alteration. - Weak pervasive silicification with some Sericite. (This zone hosts the Quartz Breccia in DM-6)
83.3-102.1m.:	ANDESITE LAHAR
102.1m.:	** END OF HOLE **

N.B.: Zones correlate well with the I.P. chargeability high and the CSAMT resistivity low.

SUMMARY LOG DM-8

LOCATION: L 4+30N STN 2+70W
ELEVATION: 490m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-2.9m.:	CASING
2.9-14.4m.:	FELDSPAR PORPHYRY ANDESITE FLOW
14.4-38.1m.:	ALTERED FELDSPAR PORPHYRY ANDESITE FLOW - Silicified zones with up to 15% Py, trace Flourite.
38.1-44.4m.:	MODERATELY ALTERED FELDSPAR PORPHYRY ANDESITE FLOW - Fault zone with silicification and 10-15% Py.
44.4-56.6m.:	QUARTZ-SERICITE BRECCIA - Complex altered zone with moderate silicification, Sericite, clay veinlets and 10% Py.
56.6-62.1m.:	PYRITIC ALTERED ANDESITE - Vertical shear zone. - 15-20% Py, weak silicification.
62.1-76.3m.:	SHEAR ZONE with QUARTZ-SERICITE BRECCIA - Clay matrix with Qtz-Sericite fragments. - Vertical system, 3-4% Py.
76.3-78.6m.:	PYRITIC ALTERED ANDESITE - Weakly silicified, 10-15% Py.
78.6-99.1m.:	LOWER ANDESITE LAHAR
99.1m.:	** END OF HOLE **

SUMMARY LOG DM-9

LOCATION: L 5+85N STN 2+85W
ELEVATION: 510m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-3.1m.:	CASING
3.1-19.0m.:	FELDSPAR PORPHYRY ANDESITE LAHAR
19.0-24.5m.:	ALTERED FELDSPAR PORPHYRY ANDESITE LAHAR - Silicified zones with Epidote and up to 15% Py.
24.5-30.4m.:	ALTERED PYRITIC ANDESITE - Average 15% Py.
30.4-40.1m.:	FELDSPAR PORPHYRY ANDESITE FLOW
40.1-48.9m.:	ALTERED PYRITIC ANDESITE - Weak silicification, 10% Qtz-carb. veinlets, minor Sericite, 15% Py.
48.9-59.5m.:	ANDESITE FLOW
59.5-91.6m.:	ALTERED PYRITIC ANDESITE LAHAR - Weak to moderate silicification with fault zones. - 5-20% Py, Qtz-carb. veinlets with Flourite.
91.6-114.3m.:	LOWER ANDESITE LAHAR
114.3m.:	** END OF HOLE **

SUMMARY LOG DM-10

LOCATION: L 6+80N STN 2+75W
ELEVATION: 500m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-3.1m.:	CASING
3.1-9.1m.:	ANDESITE LAHAR
9.1-18.3m.:	FELDSPAR PORPHYRY ANDESITE FLOW
18.3-53.0m.:	ANDESITE LAHAR
53.0-59.8m.:	ALTERED PYRITIC ANDESITE LAHAR - 10% Py, moderately silicified.
59.8-72.1m.:	ANDESITE LAHAR
72.1-74.9m.:	QUARTZ BRECCIA - White Qtz vein with Breccia. - 3-4% Py, trace chalcopyrite.
74.9-88.2m.:	ALTERED FELDSPAR PORPHYRY ANDESITE FLOW - Vertical fault zones. - Weakly silicified with 10-15% disseminated Py.
88.2-94.2m.:	SHEAR ZONE - Sericite and clay on fracture with weak silicified patches.
94.2-101.8m.:	ANDESITE LAHAR
101.8m.:	** END OF HOLE **

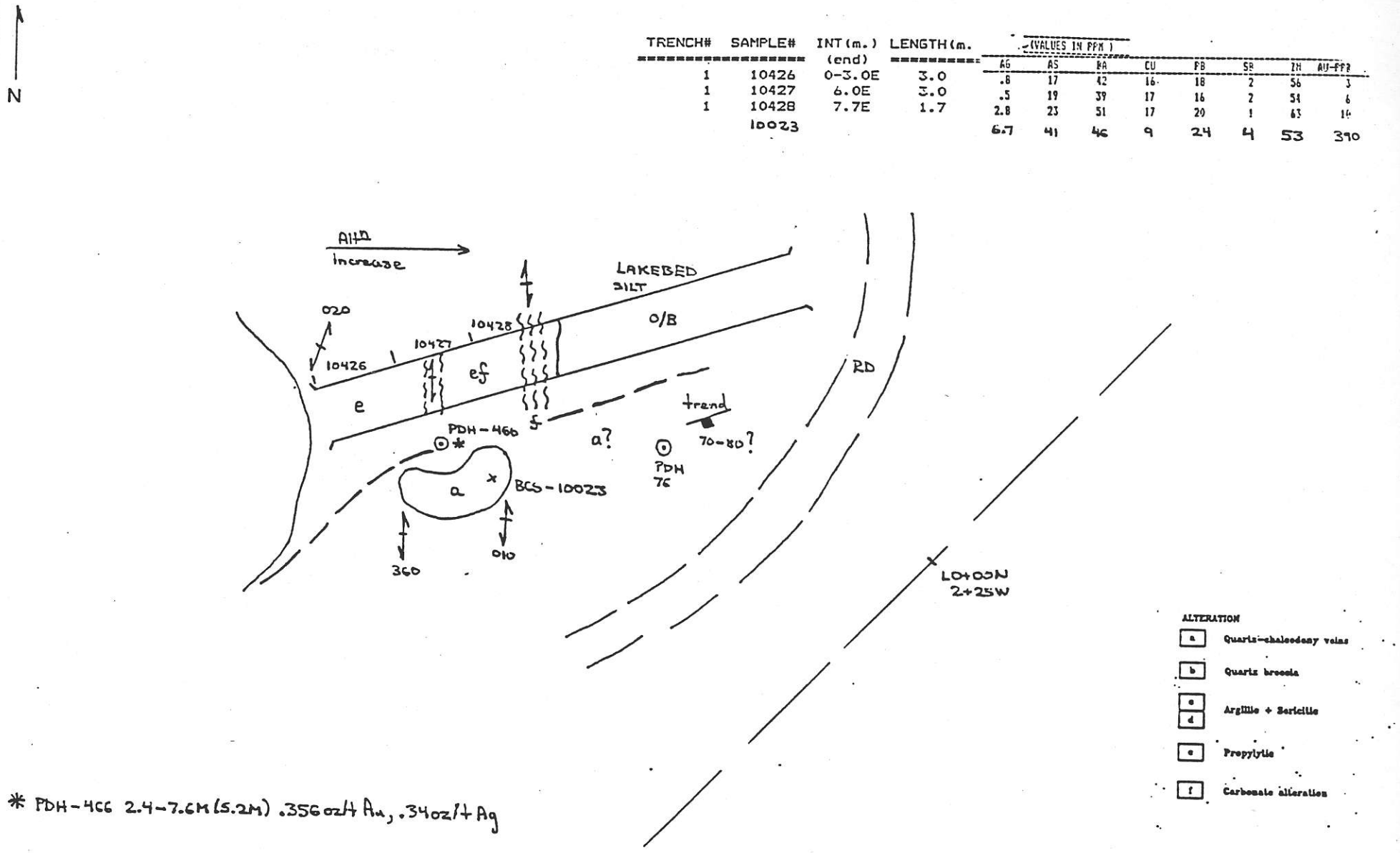
SUMMARY LOG DM-11

LOCATION: L 1+00N STN 1+70W
ELEVATION: 460m.
AZIMUTH: 225 degrees
DIP: -45 degrees

0-9.0m.:	CASING
9.0-15.0m.:	ANDESITE LAHAR
15.0-38.1m.:	FELDSPAR PORPHYRY ANDESITE FLOW
38.1-47.1m.:	ALTERED PYRITIC ANDESITE - Moderate silicification, 15-20% fine-grain Pyrite. - "I.P. anomaly."
47.1-61.5m.:	SILICIFIED ZONE - Strong silicification, 2% Fluorite, 8% Py. - Vertical system, strong faulting, 70% recovery.
61.5-66.3m.:	ALTERED SHEAR ZONE - Weak silicification and sericitization. - 5% Py, vertical fault.
66.3-88.0m.:	LOWER ANDESITE LAHAR
88.0-94.0m.:	DACITE FLOW-BRECCIA - Hematite rich matrix
94.0-102.1m.:	DACITE DOME
102.1m.:	** END OF HOLE **

APPENDIX 2

TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
				(VALUES IN PPM)							
1	10426	0-3.0E	3.0	.8	17	42	16	18	2	56	3
1	10427	6.0E	3.0	.5	19	39	17	16	2	54	6
1	10428	7.7E	1.7	2.8	23	51	17	20	1	63	14
	10023			6.7	41	46	9	24	4	53	390



* PDH-466 2.4-7.6M (5.2M) .356 oz/t Au, .34 oz/t Ag

SCALE 1:200

0 2.0M 10.0M

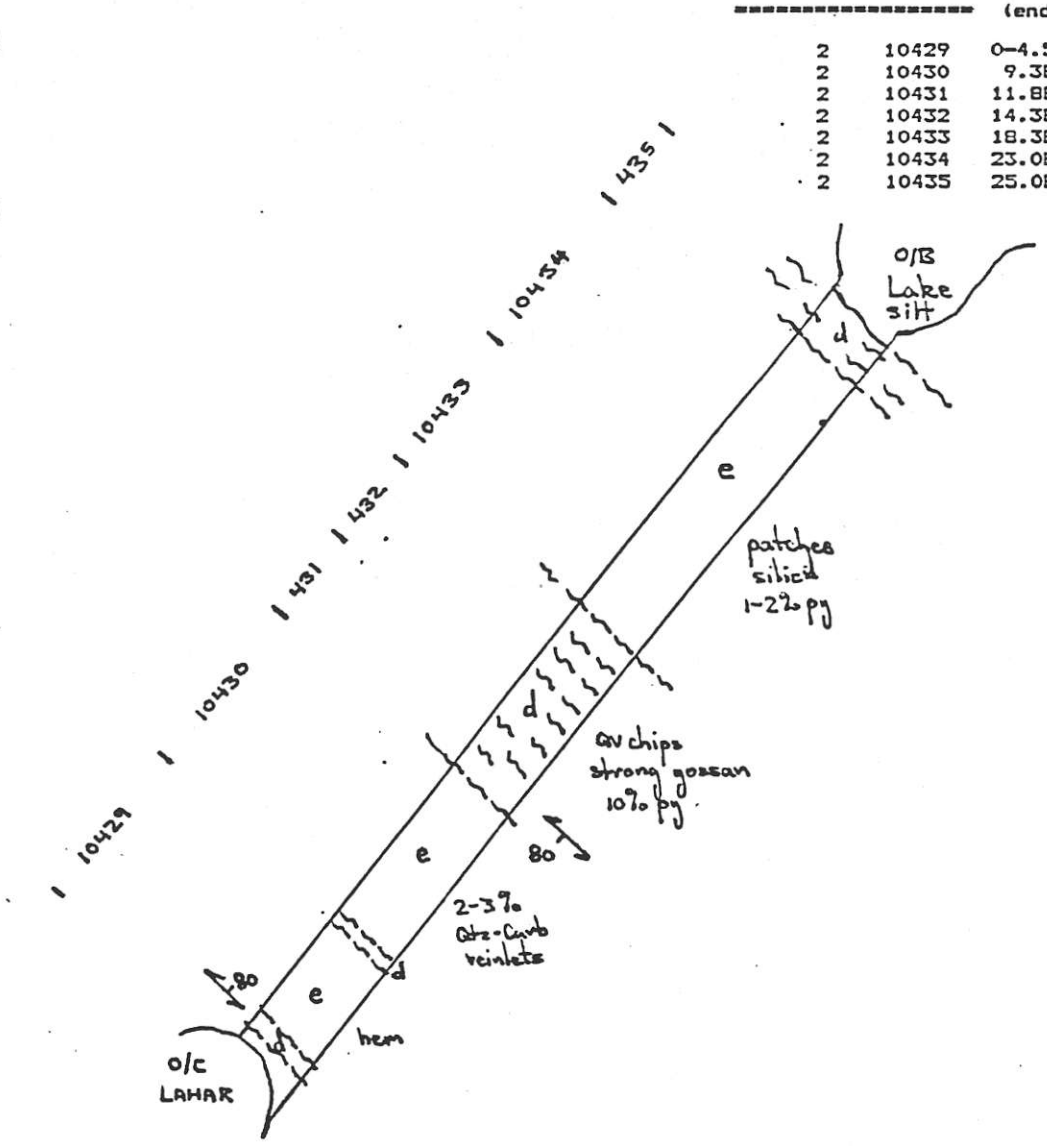
DM 1988

trench# 01

MINNOVA Inc.

TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.
2	10429	0-4.5E	4.5
2	10430	9.3E	4.8
2	10431	11.8E	2.5
2	10432	14.3E	2.5
2	10433	18.3E	4.0
2	10434	23.0E	4.7
2	10435	25.0E	2.0

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
	.7	15	159	17	57	1	53	7
	1.3	36	222	13	73	1	64	4
	1.3	39	120	8	23	1	43	6
	1.5	50	64	10	22	1	51	8
	.3	25	50	14	26	2	72	7
	.3	32	35	13	24	2	75	5
	1.2	62	29	11	22	2	74	252



+ 1+50W
1+20N

ALTERATION

- a Quartz-chalcedony veins
- b Quartz breccia
- c Argillic + Sericitic
- d
- e Propylitic
- f Carbonate alteration

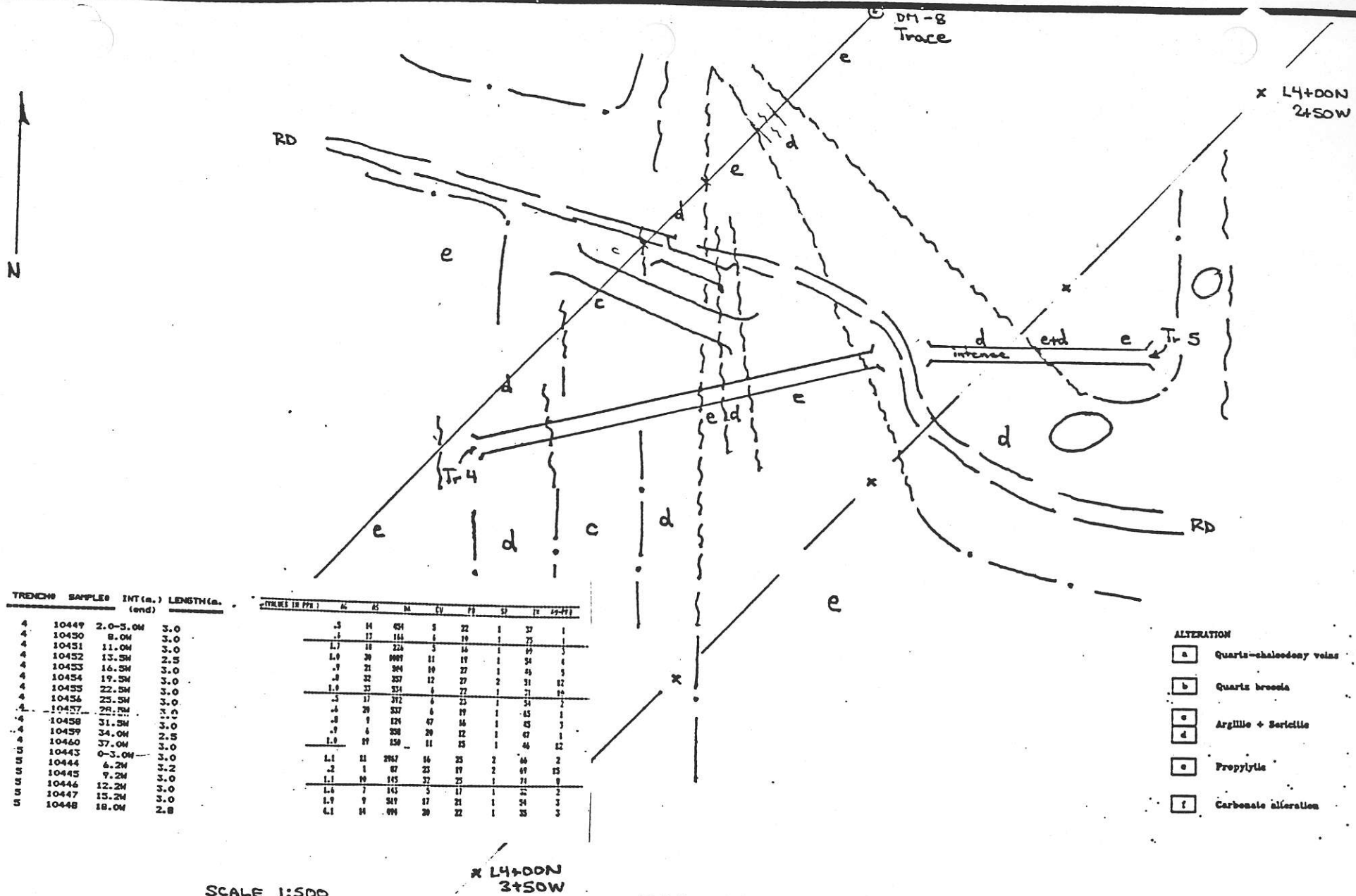
SCALE 1:200

0 10.0M

DM 1988

trench# 02

MINNOVA Inc.



TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.
4	10449	2.0-5.0W	3.0
4	10450	8.0W	3.0
4	10451	11.0W	3.0
4	10452	13.5W	2.5
4	10453	16.5W	3.0
4	10454	19.5W	3.0
4	10455	22.5W	3.0
4	10456	25.5W	3.0
4	10457	28.5W	3.0
4	10458	31.5W	3.0
4	10459	34.0W	2.5
4	10460	37.0W	3.0
5	10443	0-3.0W	3.0
5	10444	6.2W	3.2
5	10445	9.2W	3.0
5	10446	12.2W	3.0
5	10447	15.2W	3.0
5	10448	18.0W	2.8

(VALUES IN PPB)	AU	AG	BA	CU	PB	SB	ZN	AS-PPM
.5	14	454	5	22	1	37	1	
.6	17	166	6	19	1	73	1	
1.7	18	224	5	14	1	69	3	
1.0	30	9009	11	19	1	54	6	
.9	21	344	10	27	1	45	5	
.8	32	357	12	27	2	51	12	
1.0	33	534	6	77	1	71	19	
.5	17	372	6	23	1	54	2	
.6	20	537	6	19	1	65	1	
.8	9	124	47	16	1	43	3	
.9	6	358	20	12	1	67	1	
1.0	19	150	11	15	1	46	12	
1.1	11	2967	16	23	2	66	2	
.2	1	87	23	19	2	69	15	
1.1	19	145	37	25	1	71	8	
1.6	7	143	5	17	1	22	2	
1.9	9	547	17	21	1	54	3	
4.1	14	694	30	22	1	35	3	

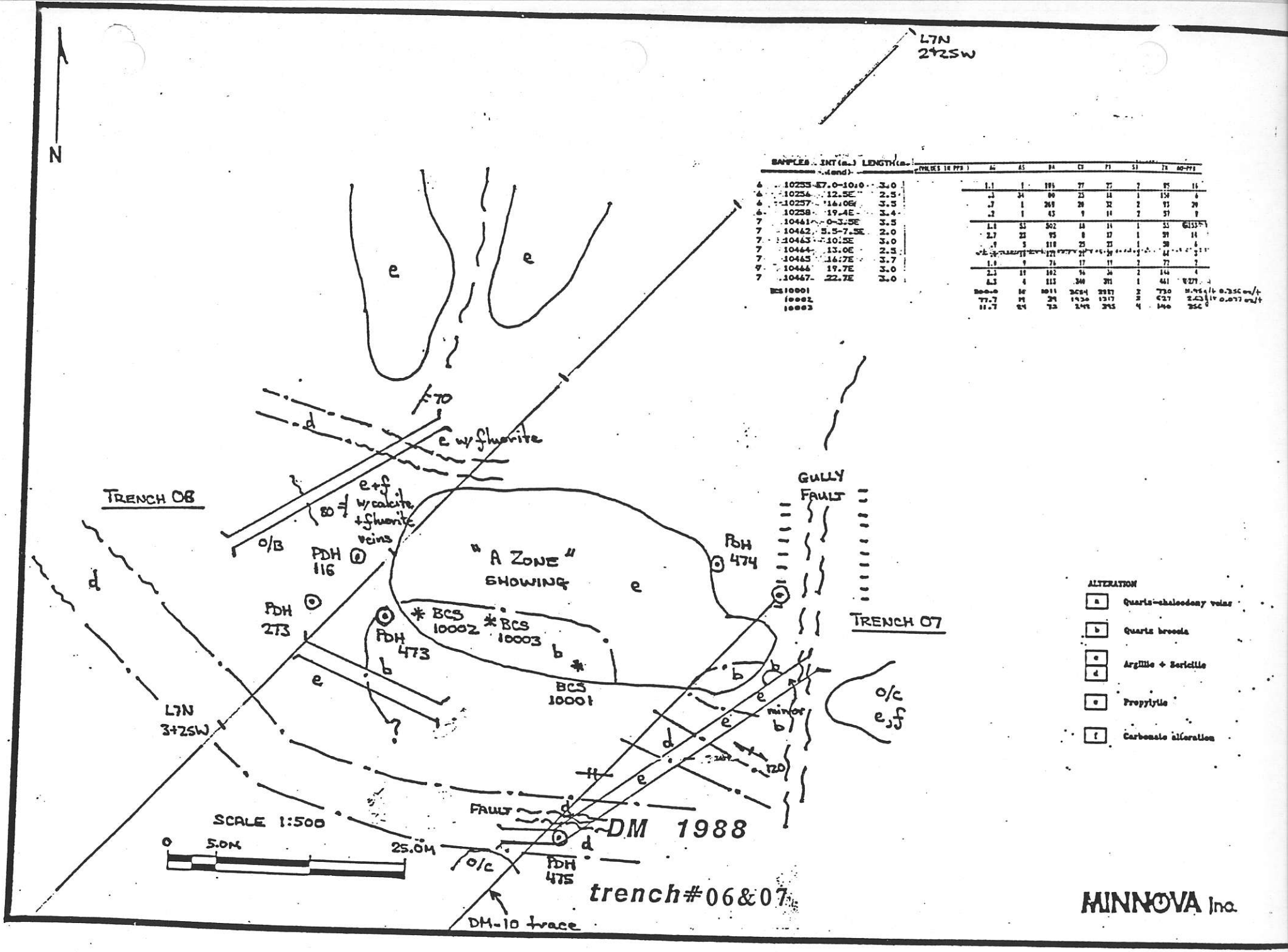
SCALE 1:500

0 5.0 25.0M

DM 1988

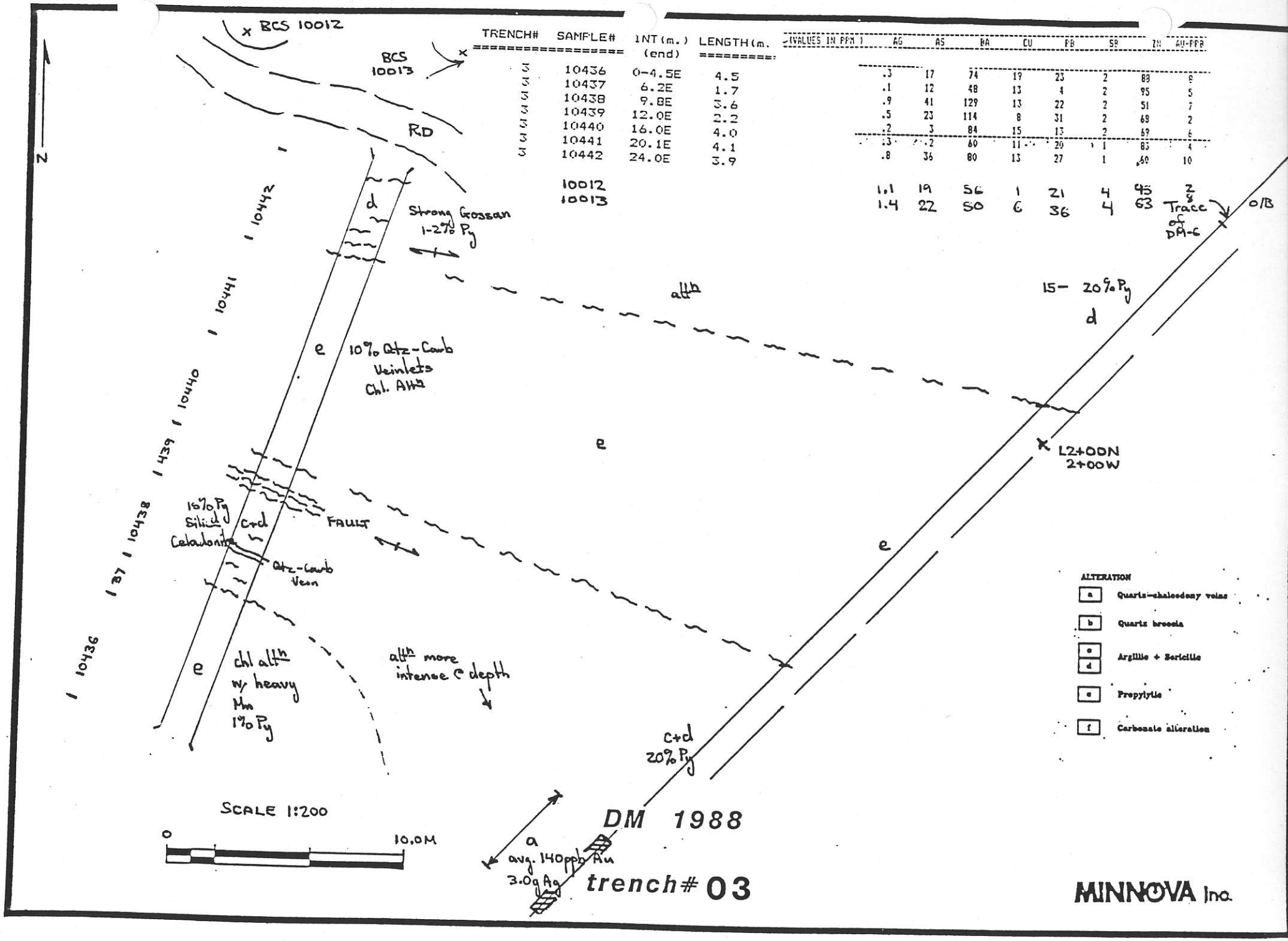
trench#04&05

MINNOVA Inc.



SAMPLES	INT (m.) (end)	LENGTH (m.)	(VALUES IN PPB)	Au	As	Sb	Cu	Pb	Zn	Ag	Au-PPB
4 10255	7.0-10.0	3.0		1.1	1	196	77	77	2	95	16
4 10256	12.5E	2.5		.3	34	80	25	18	1	159	6
4 10257	16.0E	3.5		.7	1	269	28	32	2	93	29
4 10258	19.4E	3.4		.2	1	43	9	11	2	57	9
7 10461	0-3.5E	3.5		1.8	53	302	18	16	1	53	6133
7 10462	5.5-7.5E	2.0		2.7	23	95	8	17	1	59	14
7 10463	10.5E	3.0		.9	3	118	25	23	1	58	6
7 10464	13.0E	2.5		[illegible]	[illegible]	121	21	28	1	64	3
7 10465	16.7E	3.7		1.8	9	76	17	11	2	77	7
9 10466	19.7E	3.0		2.3	19	102	96	36	2	144	4
7 10467	22.7E	3.0		6.3	4	113	340	271	1	441	8277
BCS 10001				800.0	10	8011	2634	2987	2	730	0.95 g/t 0.255 oz/t
10002				77.7	19	29	1930	1317	2	427	2.23 g/t 0.077 oz/t
10003				11.7	69	73	249	243	4	140	256

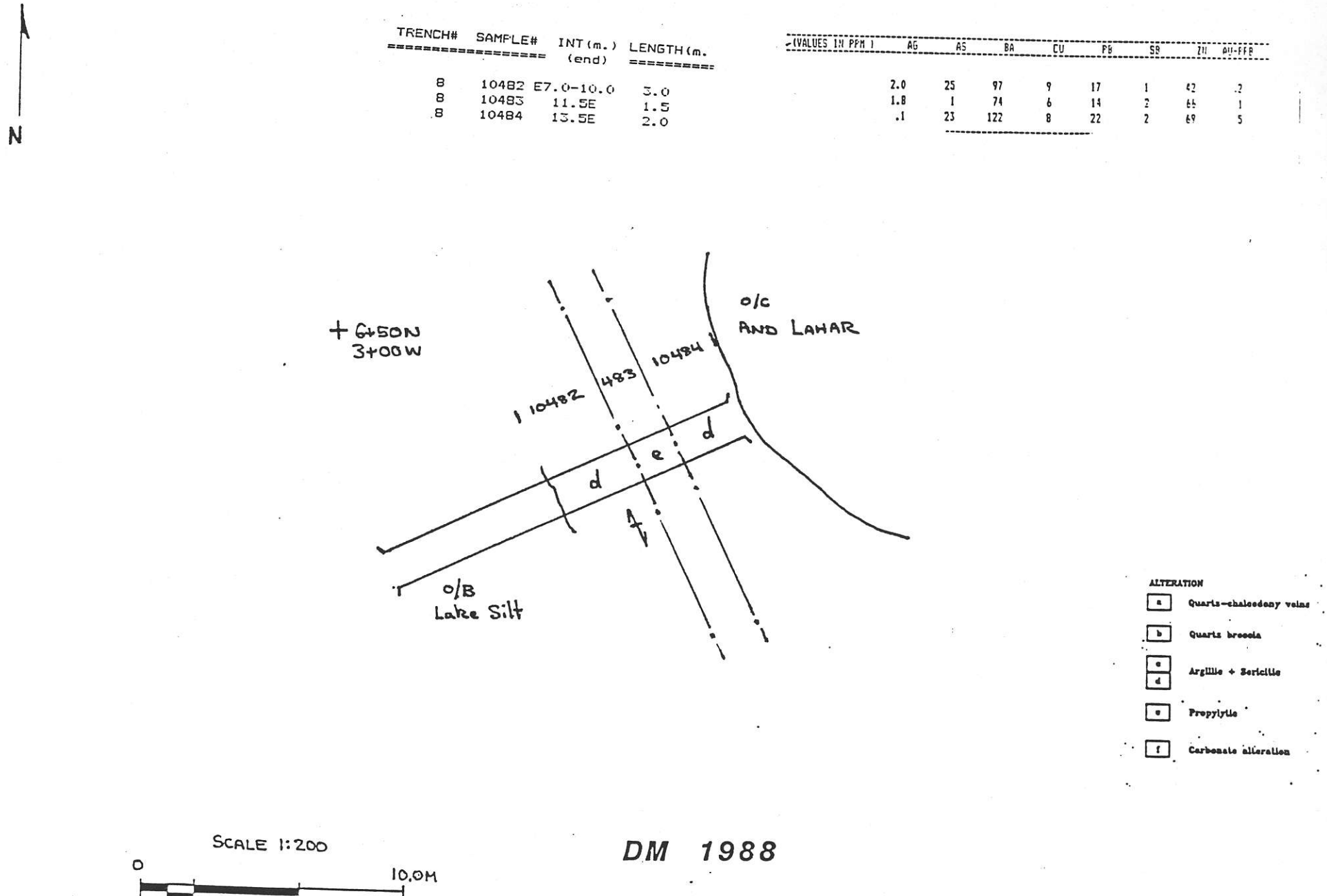
MINNOVA Inc.



TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.
	10436	0-4.5E	4.5
	10437	6.2E	1.7
	10438	9.8E	3.6
	10439	12.0E	2.2
	10440	16.0E	4.0
	10441	20.1E	4.1
	10442	24.0E	3.9
	10012		
	10013		

(VALUES IN PPM)	AG	AS	BA	CU	PB	SB	ZN	AU-PPB
.3	17	74	19	23	2	88	8
.1	12	48	13	4	2	95	5
.9	41	129	13	22	2	51	7
.5	23	114	8	31	2	69	2
.2	3	84	15	13	2	69	6
.3	.2	60	11	20	1	85	4
.8	36	80	13	27	1	60	10
1.1	19	56	1	21	4	45	2
1.4	22	50	6	36	4	63	8

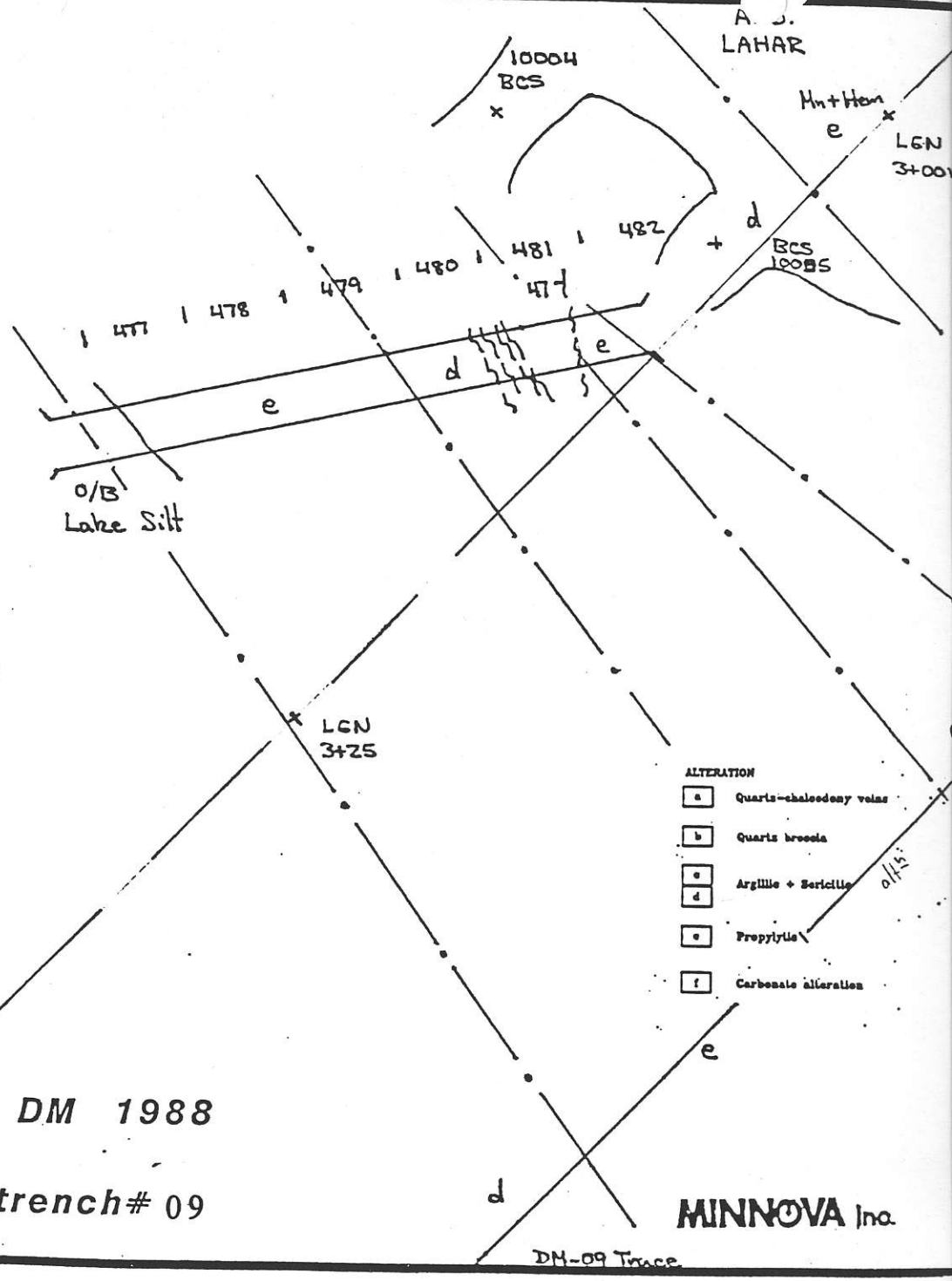
TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.	AG	AS	BA	CU	PB	SB	ZN	AU-FEB
				(VALUES IN PPM)							
8	10482	E7.0-10.0	3.0	2.0	25	97	9	17	1	42	.2
8	10483	11.5E	1.5	1.8	1	74	6	14	2	66	1
8	10484	13.5E	2.0	.1	23	122	8	22	2	69	5



DM 1988

trench# 08

MINNOVA Inc.



TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m.	VALUES IN PPB	Au	Ag	As	Cu	Pb	Sb	Zn	Hg-PPT
9	10477	2.5-5.5E	3.0		1.4	28	264	7	19	3	64	4
9	10478	8.5E	3.0		2.0	28	148	5	14	1	29	12
9	10479	12.0E	3.5		.3	1	86	7	11	2	97	2
9	10480	14.5E	2.5		1.4	9	109	7	16	3	177	1
9	10481	17.5E	3.0		1.4	12	127	13	27	3	36	3
9	10482	21.5E	4.0		2.0	28	97	9	17	1	42	2
	10004				2.6	17	89	6	38	5	98	9
	10005				3.8	22	79	2	37	5	94	21

SCALE 1:200

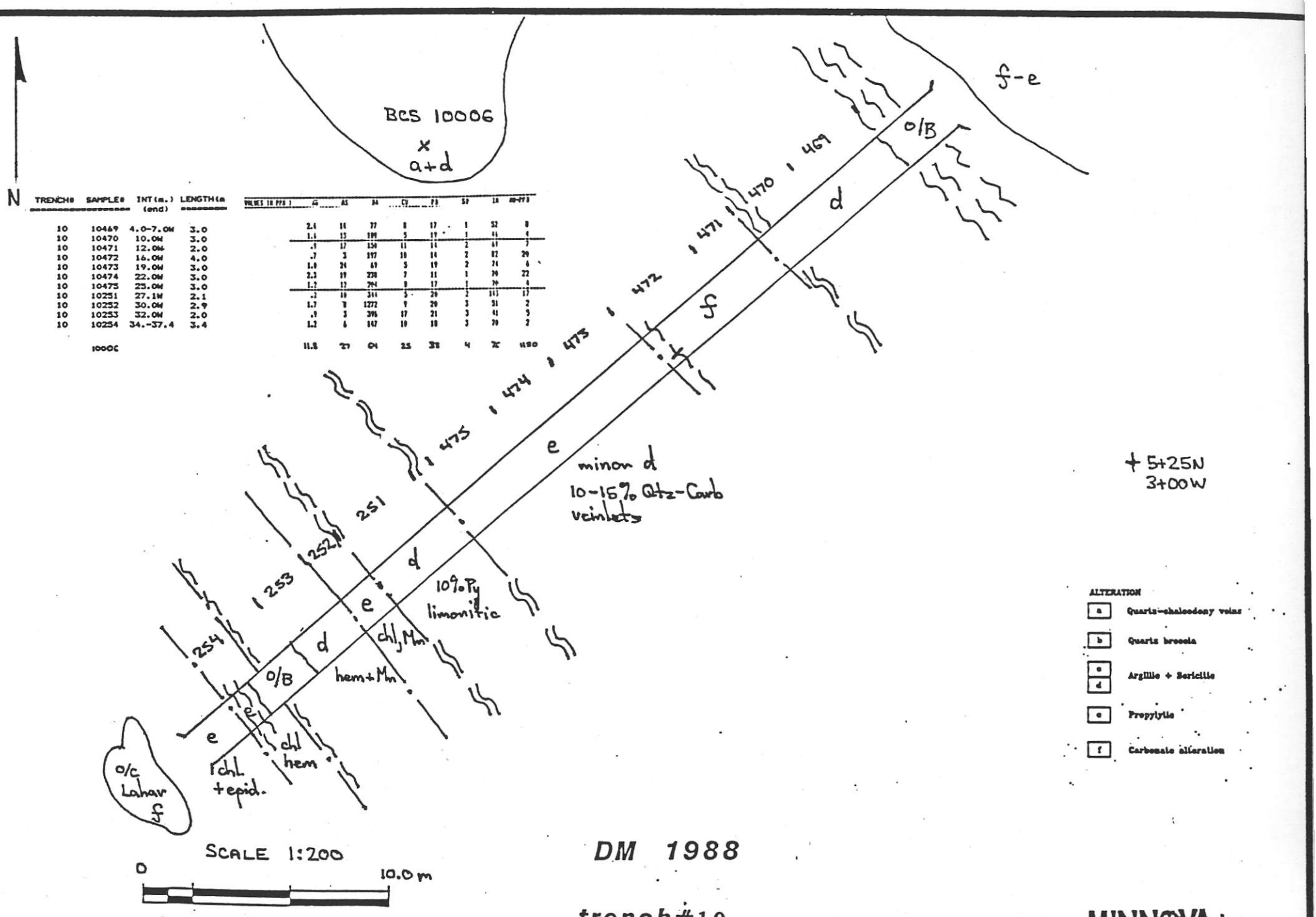
0 10.0M

DM 1988

trench# 09

MINNOVA Inc.

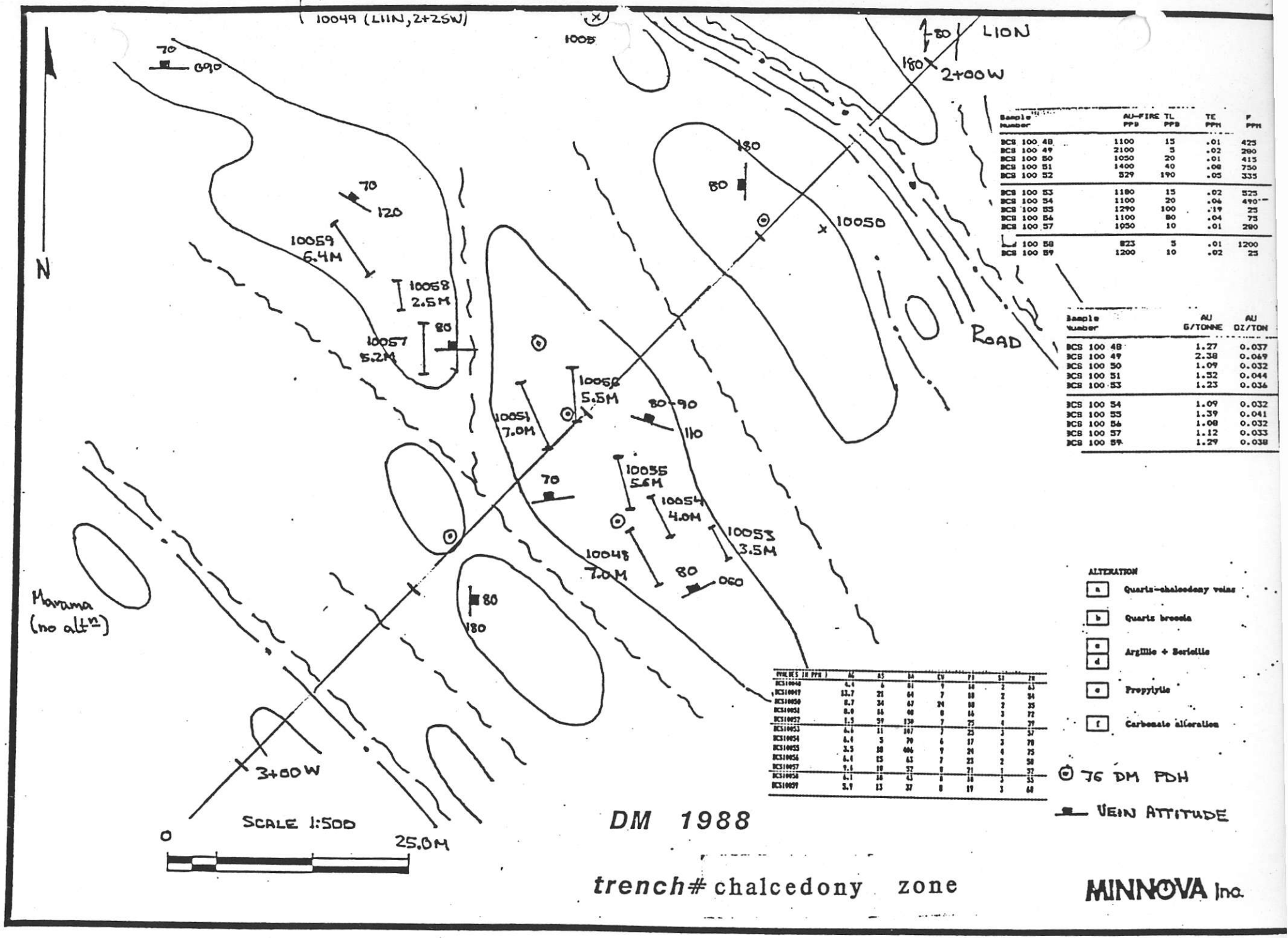
TRENCH#	SAMPLE#	INT(m.) (end)	LENGTH(m	VALUES IN PPB)	AU	AS	SB	CU	PB	SR	LA	AU-PPB
10	10469	4.0-7.0W	3.0	2.4	11	77	8	17	1	52	8	
10	10470	10.0W	3.0	1.1	13	199	5	17	1	44	4	
10	10471	12.0W	2.0	.9	17	150	11	14	2	63	7	
10	10472	16.0W	4.0	.7	3	197	10	14	2	87	29	
10	10473	19.0W	3.0	1.8	24	69	5	19	2	74	6	
10	10474	22.0W	3.0	2.3	19	238	7	11	1	79	22	
10	10475	25.0W	3.0	1.7	17	284	8	17	1	79	4	
10	10251	27.1W	2.1	.2	10	344	5	29	2	113	17	
10	10252	30.0W	2.9	1.7	8	1272	9	29	3	51	2	
10	10253	32.0W	2.0	.9	3	396	17	21	3	41	5	
10	10254	34.-37.4	3.4	1.2	6	147	10	18	3	70	2	
	10000C			11.5	27	64	25	32	4	72	150	



DM 1988

trench#10

MINNOVA Inc.



Sample Number	AU-FIRE PPB	TL PPB	TE PPM	F PPM
BCS 100 48	1100	15	.01	425
BCS 100 49	2100	5	.02	280
BCS 100 50	1050	20	.01	415
BCS 100 51	1400	40	.08	750
BCS 100 52	529	190	.05	335
BCS 100 53	1180	15	.02	525
BCS 100 54	1100	20	.06	490
BCS 100 55	1290	100	.19	25
BCS 100 56	1100	80	.04	75
BCS 100 57	1050	10	.01	280
100 58	823	5	.01	1200
BCS 100 59	1200	10	.02	25

Sample Number	AU G/TONNE	AU OZ/TON
BCS 100 48	1.27	0.037
BCS 100 49	2.38	0.069
BCS 100 50	1.09	0.032
BCS 100 51	1.52	0.044
BCS 100 53	1.23	0.036
BCS 100 54	1.09	0.032
BCS 100 55	1.39	0.041
BCS 100 56	1.08	0.032
BCS 100 57	1.12	0.033
BCS 100 59	1.29	0.038

VALUES IN PPB	AG	AS	BA	CU	PB	SB	ZN
BCS10048	6.4	6	81	9	18	2	63
BCS10049	13.7	21	64	7	18	2	54
BCS10050	8.7	34	67	24	18	2	35
BCS10051	8.0	16	48	8	16	3	72
BCS10052	1.5	59	130	7	75	4	39
BCS10053	6.6	11	107	7	25	3	57
BCS10054	6.4	5	79	6	17	3	78
BCS10055	3.5	18	406	9	24	4	75
BCS10056	6.4	15	63	7	23	2	58
BCS10057	9.6	10	57	8	71	1	57
BCS10058	6.1	16	43	8	16	3	35
BCS10059	5.9	13	37	8	19	3	68