GEOPHYSICAL SURVEY REPORT

ON THE

BRANDY 1-4,6,A,B and VAN 23,29-37,V CLAIMS
MINING LEASE 3

VANCOUVER MINING DIVISION

Latitude 50° 02' Longtitude 123° 05'

NTS 92-J-3

Owner: Silver Tusk Mines Ltd.
Operator: Placer Dome Inc.

R. W. Cannon, P. Eng.

October, 1989

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SUMMARY

The Brandywine property, south of Whistler, B. C., covers three main mineral showings (Tedi Pit, Main Zone and Silver Tunnel) which consist of zones of quartz-carbonate vein and shear hosted stringer sulphide mineralization. The Tedi Pit and Silver Tunnel showings appear to be associated with late felsic dykes. In 1988, Placer Dome Inc. constructed 45 line kilometres of grid and conducted a soil sampling programme.

During the summer of 1989, Placer Dome Inc. added approximately 30 kilometres of line to the 1988 grid. The additional lines were soil sampled and the entire grid was covered by ground geophysics which consisted of a VLF-EM survey and a magnetometer survey.

INTRODUCTION

The following report describes the VLF-EM and magnetometer surveys conducted by Placer Dome Inc. personnel on the Brandywine project. These surveys took place during the period of May 16th through June 7th, 1989. The above surveys were conducted along 74.22 line kilometres of grid.

LOCATION AND ACCESS

The Brandywine property is on the west side of the Cheakamus River approximately 100 km due north of the City of Vancouver, British Columbia. The claims straddle Brandywine Creek northwest of the north end of Daisy Lake.

The property is readily accessible by road from Vancouver. Portions of the property can be reached by means of a variety of both forestry and mining access roads. The roads connect to Highway 99 (from Vancouver to Pemberton) in the valley of the Cheakamus River.

The B. C. Rail Ltd. line runs through the valley on the east side of the property.

PROPERTY STATUS

The Brandywine property is owned by Silver Tusk Mines Ltd. (1257-409 Granville Street, Vancouver, B.C., V6C 1T2) and is under option to Placer Dome Inc. (1600-1055 Dunsmuir Street, Vancouver, B.C., V7X 1P1). The claim status is as follows:

NAME	UNITS	RECORD NO.	EXPIRY DATE
Brandy 1	18	735	August 11, 1990
Brandy 2	18	736	August 11, 1992
Brandy 3	15	737	August 11, 1990
Brandy 4	20	738	August 11, 1992
Brandy 6	15	740	August 11, 1990
Brandy A	20	1952	June 17, 1992
Brandy B	20	1953	June 17, 1993
Van 23	1	11791	June 2, 1992
Van 29	1	11797	June 2, 1992

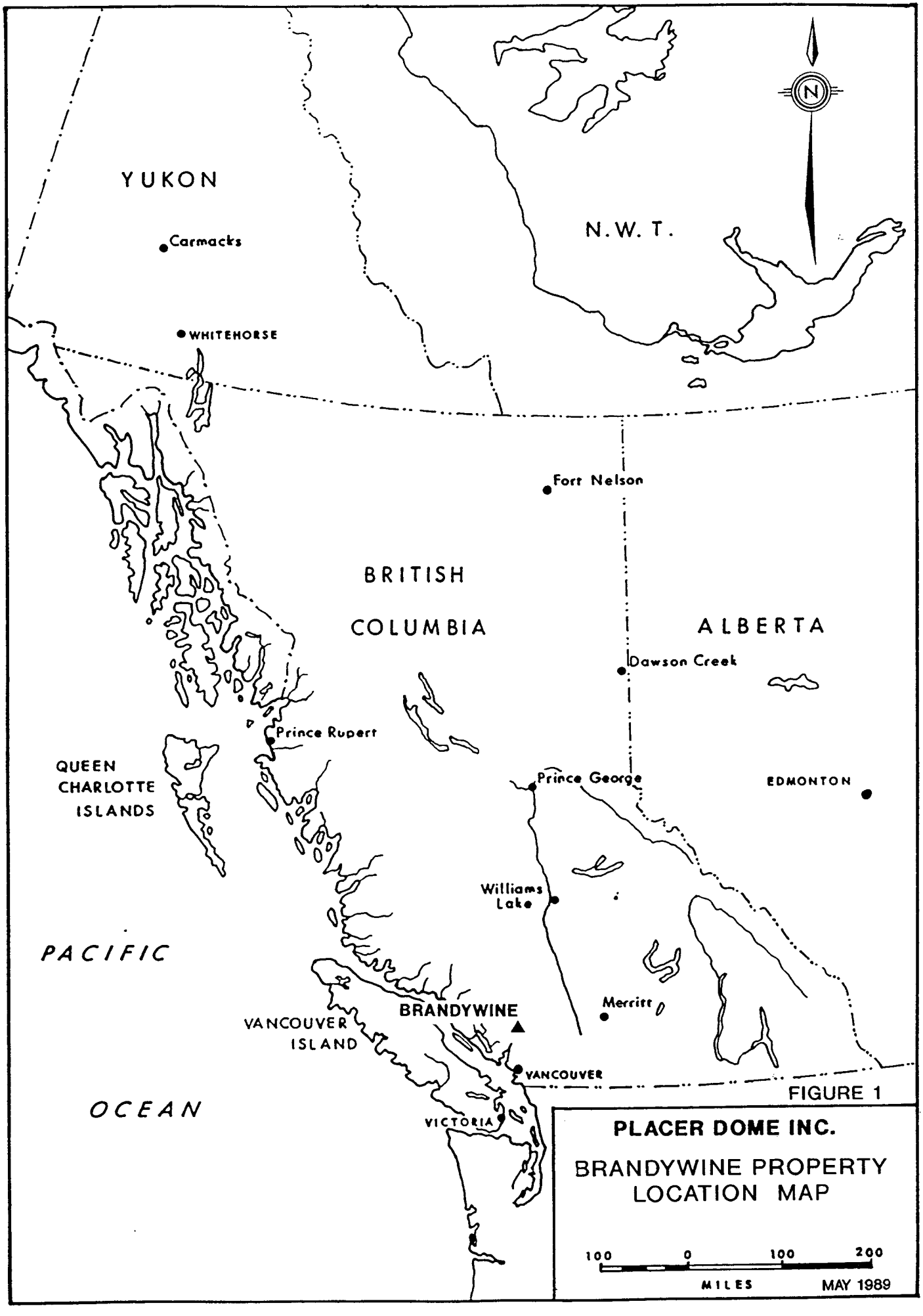

FIGURE 1

PLACER DOME INC.

BRANDYWINE PROPERTY
LOCATION MAP

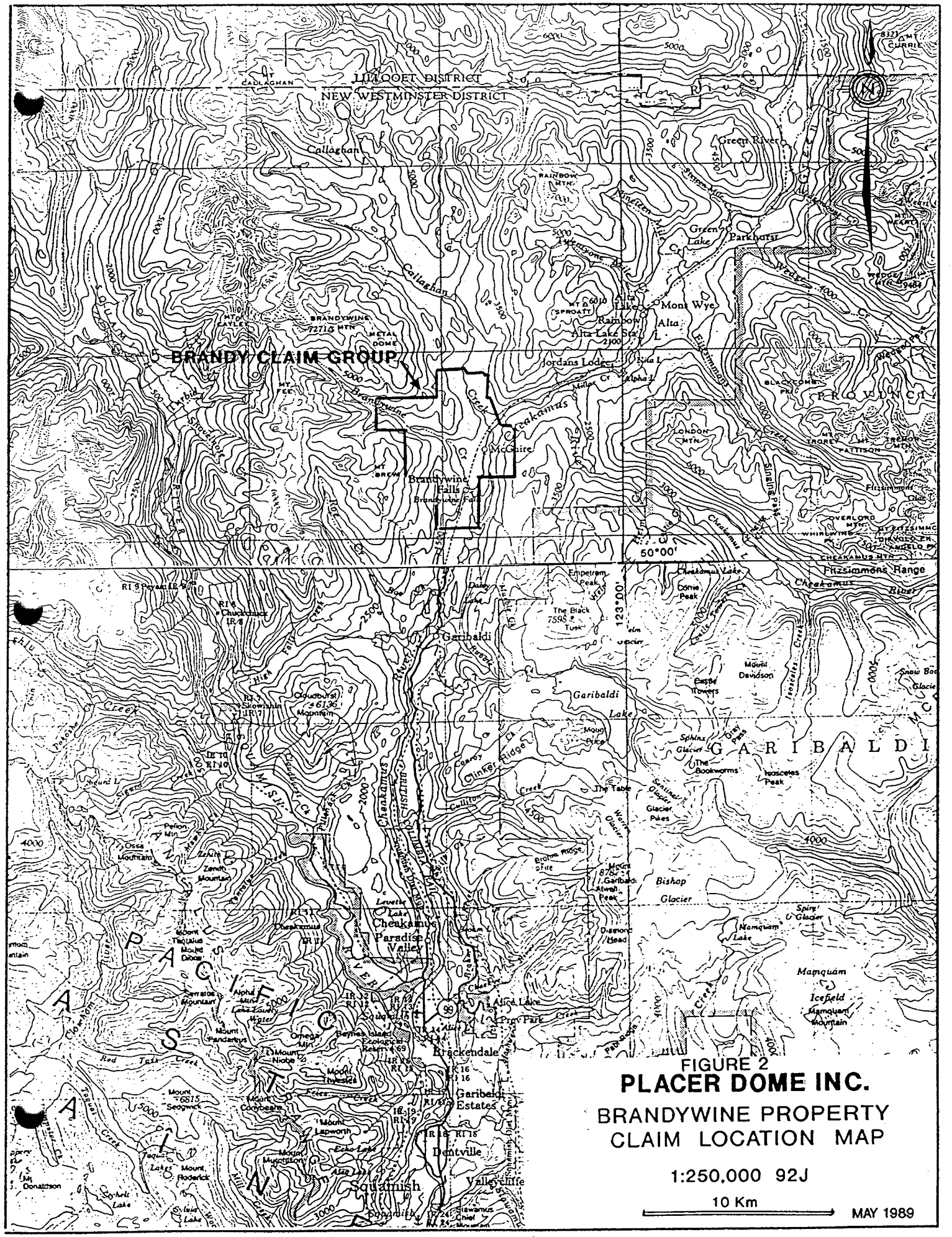

FIGURE 2

PLACER DOME INC.

BRANDYWINE PROPERTY
CLAIM LOCATION MAP

1:250,000 92J

10 Km

MAY 1989

NAME	UNITS	RECORD NO.	EXPIRY DATE
Van 30	1	11798	June 2, 1992
Van 31	1	11799	June 2, 1992
Van 32	1	11800	June 2, 1992
Van 33	1	11801	June 2, 1992
Van 34	1	11802	June 2, 1992
Van 35	1	11803	June 2, 1992
Van 36	1	11804	June 2, 1992
Van 37	1	11805	June 2, 1992
Van V	1	11657	April 19, 1992
Mining Lease 3	6	Lot #3408	Sept. 2, 1990

PROPERTY HISTORY

Most of the known occurrences on the Brandywine property were originally located and explored in the early 1900's. Several of the showings were described in the Minister of Mines Report for 1936.

Van Silver Explorations Ltd. conducted intermittent exploration programmes on the ground between the mid 1960's and 1970, when the ground was optioned to Noranda Mines Ltd.

Noranda put in a grid and conducted a variety of geological, geophysical and diamond drill programmes in 1970 and 1971. The property was subsequently returned to Van Silver Explorations Ltd. who then merged with Tedi Resources in 1975 to form Van Silver Mines Ltd.

Van Silver Mines constructed a 150 tons/day mill in 1977 and processed a small amount of ore from the Silver Tunnel and Main Zone showings. Cominco optioned the property later in the year and conducted a limited diamond drill programme designed to test a number of previously established exploration targets.

Van Silver was restructured into Silver Tusk Mines Ltd. in 1970 and the Brandywine property was optioned to Brett Holdings Ltd.. The company subsequently transferred it's interest to Brandy Resources Inc. in 1980. Brandy Resources conducted underground development work below the old Silver Tunnel adit, ran drill programmes around the Silver Tunnel and Tedi Pit showings. They also ran various soil geochemical surveys in 1980, 1981 and 1983 as well as including the property in an airborne geophysical survey.

REGIONAL GEOLOGY

The geologic assemblage found on the property consists of a mixed package of igneous and metamorphic rocks which can be divided into three main components as follows:

(1) Slivers of metavolcanic and related metasedimentary rock which appear to be fragments of the Callaghan Roof Pendant. These are Lower Cretaceous in age and belong to the Gambier Group.

(2) Deformed and locally strongly sheared intrusions of medium to coarse grained plutonic rock which are assigned to the Coast Plutonic Complex.

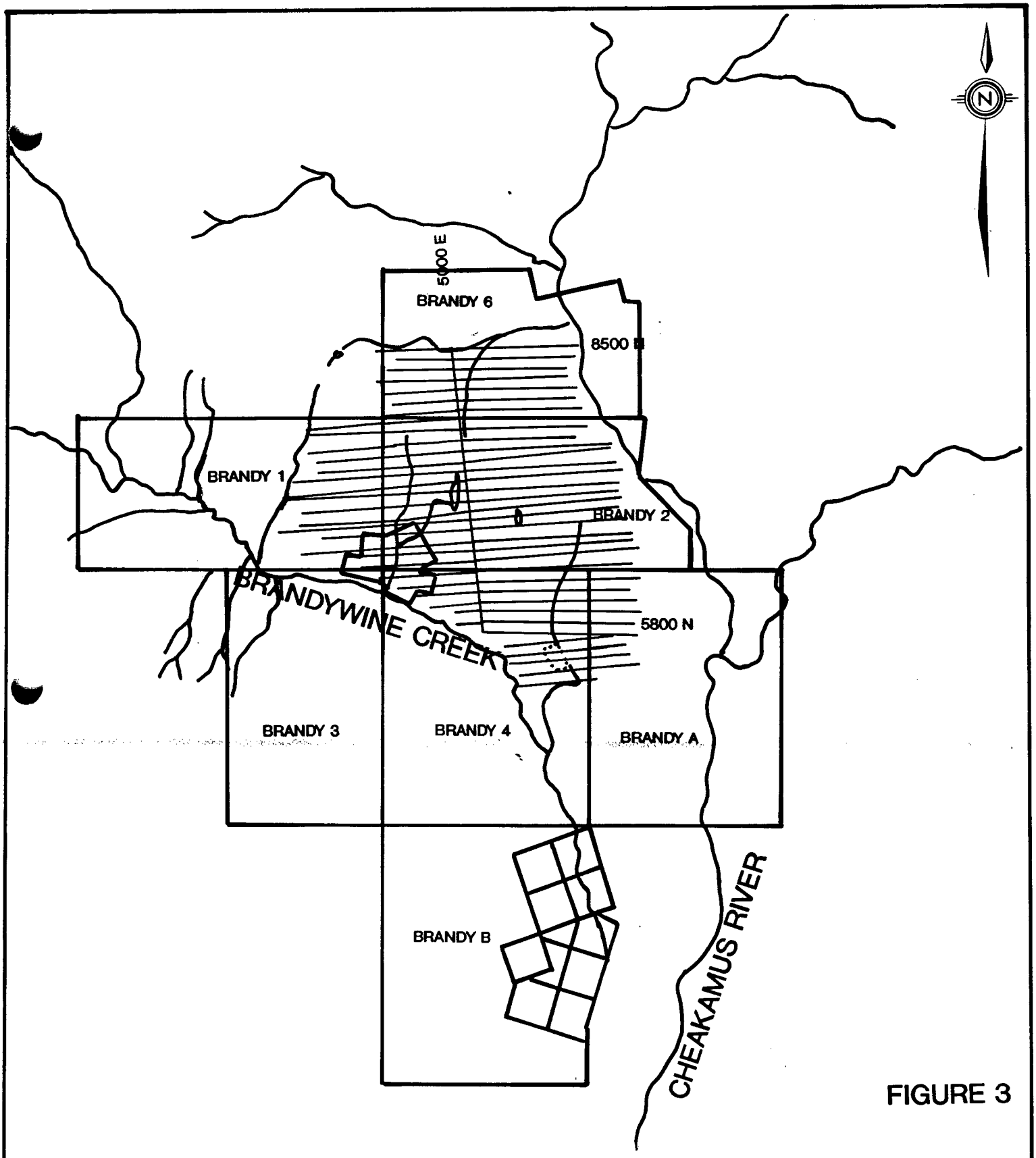

FIGURE 3

PLACER DOME INC.
BRANDYWINE PROPERTY
CLAIM AND GRID MAP
1:50000 92J/3E

(3) Relatively undeformed felsic and locally mafic dykes which appear to follow major shears in the underlying rocks. The dykes are probably Tertiary to Quaternary in age and presumably related to a volcanic centre located near Daisy Lake.

GEOPHYSICAL SURVEYS

VLF-EM and Magnetometer surveys were conducted along 74.22 km of line. The VLF survey was conducted using the Seattle, Washington transmitting station NLK (24.8 kHz) with readings being taken at 20 m stations. Readings were taken facing approximately 070^{o} Az along east-west lines.

Magnetometer readings were taken at 10 m intervals and corrections for drift and diurnal changes were made by use of a base station recording magnetometer.

INSTRUMENTATION AND PROCEDURES

The magnetometer survey was conducted using two Geometrics G-856A portable proton magnetometers (memory-mags). One was used in the field mode while the other was used in a base station mode. The internal clocks were synchronized before commencement of the survey and subsequent daily readings were dumped out onto a Zenith microcomputer. The data from the two magnetometers was merged and corrected for diurnal drift from an established base station value. The corrected results were plotted as field profiles and also stored for eventual transfer to a Sun Microsystems work station for final plotting.

The VLF-EM survey employed a Geonics EM-16 which used the Seattle transmitting station. VLF readings were also entered onto the Zenith portable computer and plots were made of the In-phase, Quadrature and Fraser Filter data. The stored data was transferred to a Sun Microsystems work station for final plotting.

SURVEY RESULTS

The magnetometer survey results were plotted as plan maps of stacked profiles and contoured data at scales of 1:5000 (see plates in folder at back of report).

The VLF-EM survey results were plotted as stacked In-phase, Quadrature and Fraser Filter profiles on a plan map at a scale of 1:5000. Contoured Fraser Filter data has also been presented as a plan map. The Fraser Filter data was calculated as per the method put forth by D.C. Fraser (1969, Contouring of VLF-EM data: Geophysics, v.34,P.958-967). See plates in the folder at the back of report.

DISCUSSION OF RESULTS

The VLF-EM survey detected numerous conductors which have a predominant NNW to N strikes. Offsets occur along E-W and ENE breaks as shown on the accompanying plan maps. Several of these north striking conductive zones coincide with shear zones mapped by A. Sutherland-Brown. Coincident magnetic lows occur within a few of these conductive zones and are probably due to a destruction of magnetite by hydrothermal fluids introduced along fault zones.

The magnetic survey confirmed the presence of magnetite rich basalt flows along the south-east and east portions of the grid. Mapped Unit 3 (a Hybrid Diorite) is magnetic, especially at its contact with Unit 10 (Aplitic Granite). Unit 10 is ringed by a semi-circular magnetic low to the west, south and east. This unit is centred at 490,500 E 5,546,100 N. Gold in soil geochemical anomalies occur south of this intrusive unit. A magnetic high trends south-westerly from this low and probably represents another small intrusive. Units 5 and 6 (Hornblende Quartz Diorite and Porphyritic Diorite respectively) which cover the south-east portion of the grid, just north and west of the basalt flows, are magnetically flat. Several breaks in the magnetic trends can be seen on the contoured plan map which coincide with some of the VLF conductors.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the VLF-EM and magnetic surveys proved useful as an aid to the geologic interpretation. The VLF-EM survey showed that several of the mapped shears and faults actually consist of a series of offset VLF conductors within a broad zone and are thus not distinct faults. Several of the mapped rock units are magnetic and thus can be traced through areas of cover by use of the profiled and contoured magnetic data.

It is recommended that the area of magnetic lows surrounding the Aplitic Granite Unit should be checked with an Induced Polarization and Resistivity survey. A detail soil geochemical survey should also be conducted in the region of this low and coincident VLF conductors which occur in the vicinity of this intrusive. These surveys will hopefully detect the source of the gold geochemical anomaly and outline the best drill targets.

R.W. Cannon, P. Eng.

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STATEMENT OF QUALIFICATIONS

I, Richard W. Cannon, of the City of Vancouver, Province of British Columbia, hereby certify as follows:

1. I am a graduate of the University of British Columbia where I received a B. A. Sc. in Geological Engineering (Geophysics Option) in May, 1966.

2. I am a member of the Association of Professional Engineers of British Columbia and have been so since 1968. Registration No. 6742.

3. I am a member of the Canadian Institute of Mining and Metallurgy, Society of Exploration Geophysicists, and the B. C. Geophysical Society.

4. I have practised my profession since 1966.

Respectfully Submitted,

R. W. Cannon, P. Eng.

R. W. Cannon, P. Eng.

STATEMENT OF EXPENDITURES FOR GEOPHYSICS
BRANDYWINE PROJECT

May 16 to June 7, 1989 inclusive 21 Days

1)	**LABOUR** (Salaries and Benefits)	
	K. Everard - Geophysicist 21 days @ $225/day	$4725.00
	H. Letient - Geophysicist 21 days @ $225/day	$4725.00
2)	**CAMP COSTS**	
	42 person days @ $60/day	$2520.00
3)	**TRANSPORTATION**	
	4X4 Truck lease 3/4 X $800/month	$ 560.00
	Fuel and maintenance 21 days @ $10/day	$ 210.00
4)	**EQUIPMENT CHARGES**	
	2 G-856 Magnetometers @ $400/week X 3	$1200.00
	1 Zenith laptop computer @ $100/week X 3	$ 300.00
	1 Geonics EM-16 @ $200/week X 3	$ 600.00
5)	**REPORT PREPARATION**	
	R. Cannon 6 days @ $410/day	$2460.00
	TOTAL	**$17300.00**

APPENDIX I

IN-PHASE DATA
QUADRATURE DATA
MAGNETOMETER DATA

```
$$LINE$$IP
Brandywine VLF-IP Data
   35   5320   5200   6000   5200*5200 N
  -10   -9   -9   -6   -3   -1    0    0    0    0    1   -1   -2   -3   -2
   -1    0   -1    0    0    3    4    4    5    5    4    0   -2   -1   -2
   -2   -3   -1    3    3
   59   5340   5300   6500   5300*5300 N
  -10   -5   -1    1    0    0    0    0    4   -1    0   -1   -2   -3   -5
   -4    0    3    5    3    5    3    3   10   -6   -1   -1    1   -2   -5
    0   -1    4    6    9    5    5   -6   -5    1    0    0    0    0   -1
   -1   -2    0    0    1   -1    1    1    2    2    6    6    9   17
   60   5220   5400   6400   5400*5400 N
   -8   -9  -10   -9   -6   -3   -1    1    4    4    5    4    5    5    7
    4    2    4    4    3    4    5    5    7    9    6   10   13    8    0
  -13  -13  -11   -8   -5    1    5    9   11   11    6   -1   -4   -2   -1
   -1    6    6    5   -1    3    3    1    2    2    3    2    0   -2    1
   61   5200   5500   6400   5500*5500 N
   -7   -2   -4   -5   -9   -4   -3   -3   -1   -1    2    9    7    9   11
    9    7    6    5    2    1    2    2    4    5    5    7    4    0   -5
   -6   -5   -9   -2   -1    0    9   13   14   17   12    6    9    4   -6
   -4   -9    4    3    5    1    3    1   -3   -6    0   -1    0   -2   -2
   -4
   61   5200   5600   6400   5600*5600 N
  -18  -14  -15  -13  -12   -5   -1   -2   -2    7    7   11   13    8    3
   -1    0    1    2    1    1   -3    0    3    5   12    6   13    5    0
   -6   -1    0    7    6   20   20   18   13   11    8   13   15   11    1
    0    0    0    0    1   -8   -8   -9  -10   -5   -5   -3   -3   -2   -5
   -1
   76   5000   5700   6500   5700*5700 N
   -9   -7   -9   -8  -14  -14  -18  -21  -25  -16  -13   -7   -6   -1    5
    7    6   14   22   13    5   14    7    5    6    3    2    8    5    7
    5   10    3    5    7    9   15    8    2   -4   -3    9    7    8   16
   22   18   14   11   13   14   20   18    6    6   -1   -1    4   -3  -10
   -9   -6   -9   -8   -7   -6   -4   -3   -3    4    6   10    8    7    3
    3
   88   4760   5800   6500   5800*5800 N
   -5   -1    4    6    6    1   -5   -5  -11   -9   -4    4    2   -1   -4
   -5   -3    0    0   -4   -5   -3    0    1    0   10   11   11   13   17
   18   18   15    9   10   10   13   10    3    5    2    3    4   -6   -3
    1    2    7   11    3    3    6    5   17   12   13   17   16    8   14
   10   11   11   18    3    1    4   -3   -5  -12  -10  -12  -13  -20  -12
  -11  -12  -16  -10   -8   -1   -1    4   -3    4    2   -1   -2
   90   4720   5900   6500   5900*5900 N
    8    1   10   15   18   20   22   26   14    4    0    0    0    0   -5
    0    2    4    2    8   10    6    6   -2    3   15    9   25   22   19
   27   20   22   20   13    9   12    2   -5   -9  -13   -9  -16  -20  -14
    2    7   12    3    3    0    6    7    7   17   18   14   13   14   11
    8    1    0    2   -5   -5   -8   -8  -11  -12  -14  -14  -14  -10   -8
  -12  -13  -13   -9    7   12   -3   -9  -12  -13  -11  -10   -9   -9   -9
   97   4580   6000   6500   6000*6000 N
    8    5    2    2    2    6   10   14   13   17   15   14   13   13   12
   16   14    2   -9   -8    2    2    1   -2    1    7    7    9    8    7
   10   16   17   15   15   17   18   19   20   21   22   17    7    4    1
    0   -4  -12  -15  -13  -18  -22  -22  -22  -16   -7    1   12   10    2
   -6   -2    5   10   13   15   14   14   13   11    7    7    8    5    1
    0    1    0   -2   -3   -7   -9  -10  -10  -10   -7   -8   -8  -14  -16
  -15  -13   -4    6   12    1  -10
  105   4400   6100   6480   6100*6100 N
    1    2   10   10   15   16   19   18   17   14   18   20   15   13   10
   12   17   21   18   18   15   14   12   15   18   13    3   -2    5    2
    2    7    8   10   14   12   15   13   11   12   13   13   17   19   17
   16   18   17   16   11    5    4  -10  -11  -14  -18  -21  -21  -23  -23
  -22  -19  -16   -8    1    3    1    1   -1    5    5   13   12   11   14
   17   15    5    6    6    6    1    0    1   -1   -4   -2   -1  -11   -9
   -9  -10   -7  -13  -19  -18  -17  -17  -15  -11   -7   -4   -1   -7  -17
  117   4180   6200   6500   6200*6200 N
  -23   -5   -3    2   17   16   11    9   11   12   13   12   12   15   19
   21   23   25   24   20   18   18   17   12    8    6    4   10   10    6
   12   16   16   17   17   16   12    6    7   10    8    7   12    7    8
   12   15   13   12   11   13   15   18   22   22   22   20   18   12    7
    2   -7  -11  -14  -21  -21  -22  -24  -23  -25  -23  -18  -13   -6   -2
   -5   -9  -10    3    8   11   17   17   -6    4    4    4    0   -1    0
    0   -4   -6   -9   -8   -9  -10  -10  -12  -14  -19  -18  -17  -15  -13
   -8   -7   -5   -5  -19  -27  -27  -24  -16  -11   -3   -9
  116   4200   6300   6500   6300*6300 N
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   13   14   13   14   17   19   22   23   21   21   18    4    5   10   15
   14   18   14   17   20   18   17   18   17   14   14   18   17   12   17
   16   20   19   17   18   18   19   19   18   12    5    3    0   -8  -19
  -34  -30  -38  -32  -42  -39  -32  -29  -25  -21  -16  -18  -14  -13  -19
  -19  -1999999999999999   18   12   19   14    2    7    5    7    6   11
    1    0   -9  -10  -12   -9  -11   -9  -10  -10  -16  -16  -20  -18  -16
  -13   -9   -8   -4   -2  -11  -25  -30  -30  -19  -14
  130   3920   6400   6500   6400*6400 N
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    2   -1    1    4    8   12   12   14   17   17   20   18   19   20   18
   17   13    7    8    8    8   13   14   13   14   15   17   23   22   20
   20   20   18   17   17   20   21   23   19   20   18   16   15   12   11
   14   15   14   10   12    5    8    4    3   -7   -3   -6  -10  -19  -35
  -34  -31  -32  -30  -29  -33  -40  -30  -29  -31  -23  -18  -15  -11   -5
   -2   -6   -3    5    6   -3    6    5    8   12    6   10    4    3    1
   -3   -5  -13  -14  -12  -16  -15  -20  -13  -16  -11  -10  -14  -24  -14
  -15  -11   -8  -14  -28  -28  -21  -21  -18  -10
  136   3800   6500   6500   6500*6500 N
   -2    2   -7   -9   -9   -7   -9  -10   -8  -10   -5    3    5    6    6
   10    9   12   11   13   17   19   15   19   14    5   10   11   15   21
   24   26   24   18   16   11   10   -2    1    5    8   14   18   18   24
   28   26   27   30   31   22   19   19   18   18   16   20   19   19   17
   15   16   13   13   13   16   15   15   13   11   12    8    5    5    2
    2   -2   -3   -6   -7  -15  -21  -30  -26  -28  -27  -25  -24  -27  -28
  -32  -33  -27  -24  -21  -16  -15  -12   -9   -4   -7   -7   -6   -2    0
    1    0    4   12   16   14    8   -3   -6   -5   -5   -5   -3   -2   -6
  -13  -12  -13  -11   -9  -15  -13  -12  -10   -7   -8   -7  -10  -13  -30
  -21
  163   3260   6600   6500   6600*6600 N
   10   12   10    5    7    2    8   -1   -2   -2   -1   -2   -3   -2    2
    6    6    7    7    7    7    8   11   12    7    4    0   -1   -2   -2
    0    2    1    0   -5   -7   -7   -8   -5   -1   10    9   11   19    9
   10   12   11   17   18   22   22   22   22   17    9   13    8   19   25
   26   24   18    4    6   10   12    6    7    6   12   17   20   27   43
   32   38   28   24   22   18   17   19   18   18   18   17   16   17   10
   15   14   12    9    7    8    5   -2   -2   -3  -12  -17  -16  -10  -14
  -15  -16  -21  -25  -25  -28  -27  -25  -25  -23  -27  -26  -30  -30  -35
  -33  -34  -30  -27  -31  -23  -18  -15   -7   -6  -10   -9  -10  -12  -16
  -10   -6   -4   -1    5    8    4    2  -10  -11  -11   -8   -8   -8   -4
   -2  -10  -10  -14  -17  -16  -10  -12   -8   -8   -5  -13  -18
  149   3520   6700   6480   6700*6700 N
    5    5    6   16   16   13   13   12   11    8    4    3   -2    4    9
    6    7    6   -1   -4    2    4   10   13   13   11   11   13   17   12
   10    5    7    8    2   -3    1    7    7   11   11    8    2   -9    3
   13   13   17   13    6   -5    4    7    9   13   15   17   16   23   24
   26   26   27   22   14   13    8    7   -5   12   14   13   12   14   18
   17   14   11   15   11    3    1   -1   -5   -8  -15  -16  -18  -15   -6
  -13  -23  -22  -29  -25  -27  -22  -22  -22  -23  -20  -32  -34  -34  -47
  -33  -34  -35  -17  -20   -7  -11  -10   -5   -9  -15  -21  -20  -12   -7
   -2    0    0   -5   -2   -1  -10  -13  -10   -8   -7   -7   -9  -10  -11
   -8   -5   -2   -3  -10  -23  -13   -4    2    7   17    9   -5   -7
  161   3300   6800   6500   6800*6800 N
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 11   15   16   16   11   15   19   15   10    2    2    0    5    9   11
 14   16   17   18   16   20   18   16    6    0   -4   -2   -5   -7   -6
 -1    3    6   12   14   13   12   14   17   18   20   22   12    0   -3
  2    1    1    5    5    5    3    7    4   10   12   10   -4   10   13
 17   20   22   19   21   23   16   15   14    6   14   15   14   18   22
 22   23   17    8    6    9   10   12   10   13   11   13   14   11    8
  8    5   -3  -14  -11  -16  -17  -21  -16  -16  -16  -19  -25  -22  -20
-15  -10  -39  -28  -23  -21  -20  -20  -18  -28  -38  -33  -36  -43  -31
-35  -25  -24  -25  -16  -15   -6    5    0  -17  -24  -18  -17  -14  -14
-11  -14   -4  -11   -9   -7   -5   -3   -3   -2   -1   -1    0    1    1
 -5  -22  -17  -10    4    1   -3   -4   -4   -5   -6
154   3440   6900   6500   6900*6900 N
  6   14   14   20   22   22   20   16   16   16   14   12   20   16    9
  2   -6   -8  -10   -5    5    7   10   14   16   14   15   14   18   15
 18   15    6    1   -5    1   -6   -3    0    0    0    2    6    7   10
 11   11   10    1    6    6   13   13   16   20   22   17   12    6   12
 15   15   16   19   20   18   19   21   23   21   10    5    3    5    7
  8    8   10    9    2    0   -2  -12  -11  -12  -13  -13  -16  -22  -23
-23  -17  -18  -18  -16  -14  -17  -13  -10   89999999999  -27  -15  -17
-20  -22  -31  -34  -33  -31  -29  -30  -30  -27  -24  -22  -18  -15   -9
 -6   -7  -17  -30  -23  -18  -17  -13  -14  -15  -15  -12  -10   -7   -1
  2    1    1    2    0   -9  -15  -18  -26  -27  -22  -17  -15  -13  -13
-13  -10   -7   -6
152   3480   7000   6500   7000*7000 N
 23   26   32   34   26   14   14   14    5   13   20   23   25   18   11
  8    1    1    7    4    1    7   10    8    7    6    9    8   10   12
 14    4    5    1   -1    0   -5   -4    2    4    2    1    8   11   12
  7   10   14   14   13    4   11   17   19   15   15   11    6   13   13
 18   14   18   15   15   18   17   20   20    9    4    7    7    4    0
 -1   17    6  -14  -10   -9  -10   -8   -9  -12  -27  -24  -23  -21  -21
-19  -22  -19  -16  -19  -15  -13  -10  -11  -13  -18  -20  -23  -23  -29
-33  -34  -34  -33  -36  -37  -36  -32  -30  -31  -27  -22  -17  -13  -16
-17  -24  -29  -22  -19  -18  -16  -14  -12   -9  -15   -7   -5    0    0
  2    9    9    5   -5  -15  -23  -31  -25  -20  -14  -15  -15  -13  -14
-10   -9
152   3480   7100   6500   7100*7100 N
 20   31   34   29   25   23    9   17   28   29   24   27   30   26   17
 15   10   10    5    2    5    4    4    4    5    0    2    3    1    0
  9    5    5    4    2    4   -1   -7  -10    5    3    2    7    5    6
  8   10   14   16   13   14   13    7   13   15   12   11    9    3    0
  9   10   15   12   12   14   13   14   279999999999999999  -10    5    5
  7   12   14   -8   -6   -7  -13  -19  -20  -20  -13  -28  -25  -22  -20
-18  -16  -19  -15  -22  -18  -15  -16  -15  -15  -20  -18  -18  -18  -15
-28  -35  -40  -39  -40  -39  -40  -36  -33  -27  -26  -27  -27  -28  -24
-28  -29  -24  -15  -11  -12  -12   -2    5    4    0    0   -6   -2   -4
 -2   -4   -7  -10  -15  -15  -19  -18  -18  -20  -20  -14  -15  -15  -12
-10   -4
150   3500   7200   6480   7200*7200 N
 34   48   34   27   20    8   14   26   27   25   28   31   41   35   12
  8    5   -1   -3   -2    1    1    1    2    1   -2    0    0    2    2
  1    2    3    2   -4   -9  -10   -8    0    2    0    1    3    9    7
  7   10   14   16   17   16   14   11    4    2    5    6   11    7    6
  4    0    2    3    3    5    4   10   18   2199999  -22    0    5    6
 -1   -7  -14  -17  -18  -21  -23  -23  -16  -20  -18  -18  -23  -21  -17
-16  -16  -14  -15  -19  -21  -21  -23  -22  -16  -14  -15  -15  -16  -33
-37  -37  -49  -50  -48  -45  -40  -36  -37  -26  -23  -26  -22  -19  -14
-20  -25  -18  -11  -11  -10   -5    6    2   -4   -5  -29  -30  -24  -11
 -8   -1    1   -3   -6  -10  -12  -14  -16  -15  -14  -14  -13  -17  -15
154   3420   7300   6480   7300*7300 N
 24   31   33   32   20   30   29   25   22   21   21   27   28   30   24
  5    7    3   -2   -1   -1    1   -2    2    3    5    2    5    4    3
  5    4    2    1   -1  -14  -13  -11  -15  -13  -11   -9   -7   -8   -4
  2    5    7    7    9    9   12   13    9   -2   -3   -2    0    2    2
  2    3    0   -5   -3   -2    1    4    8    9   13   12   15  2099999
```

```
  0    3    4  -10  -11  -15  -18  -20  -18  -17  -18  -16  -16  -15  -17
-14  -16  -15  -17  -14  -14  -14  -12  -23  -26  -26  -25  -23  -21  -20
-20  -18  -19  -33  -42  -40  -37  -50  -47  -45  -41  -33  -34  -28  -22
-17  -14  -14  -12  -13  -29  -28  -24  -19  -17  -17  -12   -3    3   -6
 -7  -21  -32  -24  -18  -12   -5   -6   -6   -4   -6   -8  -10  -14  -13
-13  -16  -14  -15
141   3660   7400   6460   7400*7400 N
 32   38   27   27   26   24   30   24   33   24   12   -2   -1    0    1
  3    3    5    4    4    3    2    3    0   -3   -8  -15  -16  -12  -10
-10  -14  -13   -8   -4    1    4    7    8    7    7    7    4    1   -8
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-16  -15  -14  -16  -14  -15  -15  -15  -21  -30  -25  -29  -25  -24  -21
-19  -18  -15  -12  -10  -22  -42  -45  -42  -40  -41  -43  -41  -40  -38
-34  -30  -28  -23  -21  -15   -9   -5   -1   -5  -30  -34  -21  -17  -14
-15   -8    0    1    3   -5  -30  -38  -41  -31  -25  -17  -17  -10   -8
 -9   -8  -13  -14  -10  -12
140   3700   7500   6480   7500*7500 N
 30   17   13   16   20   24   21   14   16    4    6    7    8    8    6
  6    5    5    4    3   -3  -13  -16  -13  -14   -8   -7   -8  -16  -16
 -9   -5   -3   -2    0    1   -1   -1   -6  -12  -24  -25  -16  -11  -10
-10  -19  -20  -18  -11   -6   -3   -1    1    3    4    7    8    7    0
-12  -16  -17  -17  -20  -15  -22  -21  -25  -22  -20  -19  -18  -19  -18
-20  -23  -25  -29  -29  -26  -24  -19  -27  -25  -19  -16  -14  -13  -11
-19  -24  -39  -39  -40  -38  -32  -26  -46  -39  -35  -22  -29  -26  -20
-21  -18   -8   -3   -1   -3  -17  -28  -24  -16  -15  -11   -9   -6   -8
 -1   -1   -3  -12  -27  -31  -40  -31  -24  -23  -18  -12   -9   -5   -1
 -5  -12   -9   -6   -8
130   3500   7600   6080   7600*7600 N
 35   34   24   21   22   10   10    8   12   12   15   16    7    8   10
 12    9    9    4    4    2    1    1    0   -2   -4   -5   -4   -5   -6
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-16  -15  -12  -26  -18  -23  -22  -23  -27  -22  -14  -13  -14  -11   -8
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128   3660   7700   6200   7700*7700 N
 -6   -7   -7   -1    2    3    7   11   12   10    7    6    5    6    6
  7    9    8    8    7    7    6    5    4    0   -4  -10  -14  -16  -14
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-15  -16  -15  -24  -22  -22  -21  -17  -14  -11   -6   -5  -10  -24  -30
-29  -44  -40  -36  -35  -36  -33  -29  -31  -42  -38  -34  -30  -34  -30
-23  -19  -13   -9   -6   -7  -14  -20  -21  -22  -21  -16  -16  -15  -15
-15  -13  -11  -10  -11   -9  -14  -16
130   3740   7800   6320   7800*7800 N
  0   -2    5    5    6    9    9    9    2    4    8   10   11   10    9
  7   10   10    5    3    3    1    0   -5  -11  -14  -18  -17  -15  -15
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-12  -13  -22  -27  -24  -19  -19  -17  -18  -19  -18  -17  -18  -12  -12
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-44  -38  -40  -42  -46  -43  -40  -38  -39  -37  -34  -34  -28  -23  -22
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-11  -14  -17  -10   -6   -3  -11  -13  -13  -26
 86   4440   7900   6140   7900*7900 N
-19  -14   -8  -18  -19  -15  -15  -20  -34  -29  -25  -20  -18  -16  -16
-15  -15  -14  -13  -13  -15  -14  -13  -13  -13  -11  -13  -25  -26  -23
-20  -22  -23  -19  -18  -16  -14  -15  -16  -16  -18  -15  -11  -15  -25
-23  -20  -15  -28  -43  -38  -43  -48  -41  -32  -46  -45  -38  -37  -30
-33  -27  -25  -25  -20  -14  -15  -13  -10  -10  -11  -18  -25  -32  -31
```

```
-35  -29  -25  -20  -20  -15   -8   -4   -4   -7  -12
 78   4460   8000   6000   8000*8000 N
-27  -26  -25  -23  -17  -20  -35  -45  -39  -34  -29  -24  -20  -20  -16
-16  -12  -13  -13  -13  -13  -13  -11  -10  -10  -13  -23  -22  -25  -20
-24  -22  -24  -26  -26  -24  -22  -20  -19  -14  -18  -15  -21  -22  -28
-41  -44  -43  -43  -40  -40  -33  -38  -41  -34  -30  -30  -24  -18  -15
-15  -14  -22  -22  -13   -9  -15  -25  -32  -40  -34  -30  -27  -19  -14
 -6   -6   -5
 87   4320   8100   6040   8100*8100 N
-22  -32  -30  -31  -34  -28  -28  -21  -20  -16  -18  -12  -27  -23  -50
-49  -42  -34  -24  -21  -20  -18  -17  -16  -17  -17  -13  -14  -15  -16
-15  -16  -15  -18  -21  -21  -24  -28  -30  -26  -22  -19  -18  -19  -16
-16  -14   -9  -12  -26  -21  -39  -28  -31  -32  -55  -50  -41  -36  -34
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-23  -33  -42  -43  -37  -28  -24  -24  -21  -17  -18  -17
 85   4300   8200   5980   8200*8200 N
-31  -28  -27  -26  -23  -23  -23  -22  -20  -16  -15  -20  -35  -21  -34
-49  -37  -31  -24  -22  -20  -18  -18  -16  -17  -18  -17  -14  -14  -13
-14  -18  -19  -25  -27  -27  -27  -25  -25  -27  -26  -20  -22  -19  -17
-20  -16  -17  -13  -21  -33  -33  -25  -22  -22  -15    0  -22  -46  -48
-33  -24  -17  -14   -9  -16  -15  -13   -8   -6   -9   -8  -11  -14  -23
-26  -25  -31  -37  -42  -43  -40  -33  -29  -30
 83   4360   8300   6000   8300*8300 N
-29  -28  -25  -26  -23  -22  -21  -23  -20  -25  -29  -31  -58  -43  -36
-31  -26  -23  -24  -24  -23  -23  -24    0  -24  -22  -21  -23  -28  -30
-32  -34  -32  -33  -31  -33  -30  -30  -34  -36  -33  -30  -27  -26  -26
-27  -35  -30  -36  -38  -34  -34  -18   -8   -3  -14  -23  -39  -30  -25
-16  -17  -19  -20  -19  -16  -15  -15  -18  -20  -20  -25  -31  -34  -28
-32  -32  -40  -35  -35  -23  -25  -28
 86   4400   8400   6100   8400*8400 N
-27  -27  -25  -21  -22  -26  -35  -53  -50  -41  -35  -25  -25  -27  -29
-27  -27  -27  -27  -25  -26  -25  -20  -22  -24  -30  -38  -42  -41  -40
-35  -42  -40  -38  -35  -34  -35  -31  -29  -25  -28  -32  -32  -32  -30
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-15  -15  -17  -17  -20  -22  -25  -28  -25  -27  -28  -26  -26  -25  -20
-17  -17  -18  -22  -22  -20  -20  -22  -24  -23  -20
101   4200   8500   6200   8500*8500 N
-34  -35  -40  -33  -35  -33  -37  -32  -39  -33  -26  -20  -20  -37  -40
-56  -40  -36  -31  -31  -31  -31  -33  -29  -32  -36  -30  -31  -35  -36
-41  -40  -43  -45  -48  -48  -50  -38  -36  -35  -45  -45  -45  -48  -38
-40  -41  -31  -32  -32  -34  -39  -35  -34  -22  -17  -10   -4   -2    0
  3   -4    4    0   -8  -10  -18  -25  -26  -21  -15  -16  -17  -25  -26
-25  -26  -26  -27  -26  -25  -25  -27  -30  -26  -20  -15  -13  -14  -19
-39  -19  -17  -20  -21  -24  -20  -20  -18  -16  -13
```

```
$$LINE$$QD
Brandywine Quadrature Data
   35   5320    5200    6000    5200*5200 N
   -8   -6   -4   -3   -2    0    0   -1   -2   -3   -2   -4   -5   -4   -2
    0    2    3    4    5    8   10   12   11   12   10    8    6    8    8
    7    6    8   10   10
   59   5340    5300    6500    5300*5300 N
   -7   -4   -2   -1   -3   -4   -4   -6   -9   -8   -8   -6   -6   -4   -2
   -2    0    3    5    6    8    8    9   13   12   12   12   12   10   10
   10   10   10   13   13   10    8    0    4    8    4    0    2    0   -1
   -2   -4   -4   -6   -8   -8   -8   -7   -4   -8   -8  -10   -9   -8
   60   5220    5400    6400    5400*5400 N
   -6   -5   -6   -4   -3   -3   -4   -2   -2   -3   -4   -6   -6   -7   -7
   -8   -7   -6   -3   -2    1    0    2    4    7   10   14   20   16   13
   12   10   10   14   14   15   16   16   16   13   10    4    2    2    2
    2    4    6    2    0   -2   -2   -3   -4   -6   -6   -8   -8   -8  -10
   61   5200    5500    6400    5500*5500 N
    0   -4   -6   -4   -4   -6   -7   -8   -8   -8   -8   -7   -6   -4   -4
   -4   -4   -4   -4   -4   -3   -1    0    3    6    9   10   12   13   16
   16   18   18   16   16   18   21   22   20   20   16   12   13    8    0
    1    3    2    4    2    2    0    0   -8   -8   -6   -8   -7  -10  -10
  -10
   61   5200    5600    6400    5600*5600 N
    0   -2   -4   -6   -6   -8   -8   -8   -6   -4   -4   -4   -3   -4   -4
   -2   -1   -1    2    1    0   -2    0    0    4   11   14   20   21   20
   22   22   20   23   28   28   24   22   16   13   14   16   17   14    2
    3    4    2    0   -4   -6   -5   -7  -10  -12  -10  -14  -10   -9  -13
  -13
   76   5000    5700    6500    5700*5700 N
    4    5    7    7    4    6    2    0   -2    0    1    4    0   -1   -3
    0   -4   -6   -5   -2   -3    0    0    1    0   -3   -3   -4   -2   -2
    0    2   -4    6    8   16   26   24   26   20   21   26   22   26   28
   23   20   16   15   15   16   19   17    8    8    3    2    1    0   -6
   -6   -8  -10   -8   -8  -13  -10  -13  -14  -13  -12  -10  -10   -7   -5
   -5
   88   4760    5800    6500    5800*5800 N
  -10   -6   -4    0    0    0    2    1    2    6   10   14   12    8    4
    5    8    8    7    4    4    4    4    1    0    0    0    0    0    0
    2    3    3    0    0    0    3    3   -2   -4   -2    0    2    2    4
   16   17   20   28   22   22   24   22   28   23   24   22   20   12   12
   14   14   14   16    7    6    7    2   -2   -2   -3   -6   -8  -10  -11
  -13  -14  -14  -20  -16  -12  -14  -12  -16  -12   -5   -7    0
   90   4720    5900    6500    5900*5900 N
   -6   -4    2    4    7    8   10   12   10    8   10   10   12   10    8
   10   10   10    8    8    8    6    6   -1   -4    0    1    0    0    2
    0    2    7   10   10    6    6    6    2    1   -3    2    0    0    5
   18   16   22   20   20   18   22   20   18   22   22   17   18   18   16
   12    6    7    6    4    2    0    0   -4   -6  -10  -10  -10  -12  -10
  -14  -18  -18  -18   -8    0   -1    0    3    8    6    6    4    4    2
   97   4580    6000    6500    6000*6000 N
   -4   -7   -8   -9   -8   -4    0    2    2    7    3    3    6    6    4
   13   14    8    2    4   10    8   10    8   10    9    6    5    2   -2
    2    6    4    0   -2   -2    0   -1   -2    4    8    8    5    6    4
    4    2   -1   -2   -1   -2   -4   -4   -2    0    8   14   22   22   18
   14   18   22   22   23   23   20   18   19   18   15   14   17   14    6
    8    7    4    4    4    2   -4   -5   -8   -8   -9  -10   -8  -15  -20
  -18  -18  -12   -6    0    0    2
  105   4400    6100    6480    6100*6100 N
    0    0    4    2    3   -2    6    1   -3   -6   -2   -1   -1   -1   -2
    0    4    4    8    8    8   10    9   14   16   15    8   10   14   12
   12   10    7    8    7    4    2    2   -3   -4   -5   -4   -2    0    2
    2    4    6   10   12    6    4    1    2    4    4    3    2    2    0
    0    2    3    4    9   12   18   18   18   20   22   20   16   16   18
   20   16   13   14   14   15    8    9   10    8    4    4    4   -4   -2
   -2   -4   -3  -12  -22  -22  -20  -21  -22  -24  -24  -12  -12   -4   -3
  117   4180    6200    6500    6200*6200 N
    6   17   17   16   22   22   14    8    5    6    2    1   -4   -2    0
    0    1    0    2   -1   -3   -2   -2   -3   -3    0    2    5    6    4
    8   11   11   10   12   12    8    8   10   13   12   12   14    8    9
    9    8    6    4    0   -3   -4    0    5    6    7    8   10   12   13
    8    0    1    2   -1    0    2    0   -2   -4   -4   -3   -2    0    0
    0    5    9   16   16   16   20   21    6   15   14   12   10    9    9
    9    4    2   -1   -1   -2   -3   -4   -6  -10  -16  -16  -16  -18  -16
  -15  -11  -11   -6  -12   -6   -3   -2    3    4    1    2
  116   4200    6300    6500    6300*6300 N
   14   14   16   16   17   15   16   14   16   14   14   16   14   12    8
    8    3    4    4    3    3    4    4    2    4    5   -1    2    6    8
    8    9    6   10   13   10    8    9   10   11   12    8   10   16   12
   12   13   14    3    3    2    5    9    9   11   12    9   10    5    0
   -4   -1   -3    0   -6   -4   -4   -4   -3   -3    0   -2   -2   -4   -9
    0  17999999999999999   20   22   18   16   10   16   17   15   15   16
   10   10    6    3    2    0    0   -2   -1   -4  -12  -14  -16  -16  -18
  -17  -17  -14  -11   -8   -8  -12   -9   -4    0    6
  130   3920    6400    6500    6400*6400 N
   19   14   15   16   16   13    9    8    6    5    5    6    7    7   12
   14   16   14   14   10   12    9   10   10   10   10    9    8    8    8
    6    4   -1   -1    0    2    6    7    6    7    6    9   12   13   12
   12   14   12    8   10   10   12   14   11    6    6    6    6    7    5
    6    6    6    2    2    0    0    0    2    0    2    2    0    0   -1
   -6   -6   -4   -4   -5   -8   -6  -10  -10  -10  -12   -8   -8   -8   -8
   -6   -8   -4    2   12   14   20   22   20   24   20   20   14   12   11
    8    7   -1    0   -2   -1   -3   -6   -8   -8  -10  -10  -12  -17  -18
  -15  -14  -10   -9   -8   -8   -6   -4   -4   -2
  136   3800    6500    6500    6500*6500 N
   10   11   10   12   13   14   11   12   11    8    8   10   10    7    6
   10   10   12   12   14   18   19   18   20   15    6    7    8    7   10
   14   14   12    4    2    0   -1   -8   -6   -3    0    4    8    7    9
   12   10   10   14   16   10    9    9    7    6    6   10    9    9    7
    5    5    5    5    5    4    5    4    3    4    3    0   -2   -2   -2
   -1    0    0    0    2   -2   -2   -4   -3   -5   -4   -5   -4   -6   -9
  -10  -12  -11   -9  -10   -8  -10  -12  -10   -6  -10   -8   -4    4   14
   13   12   16   24   26   22   18   10    6    6    6    5    4    5    2
   -5   -8   -8   -6   -8  -14  -14  -16  -16  -12  -17  -14  -12  -12  -14
  -11
  163   3260    6600    6500    6600*6600 N
    3    2    2    1    3    0   -1   -2   -4   -5   -8    0   -3   -3   -2
    2    1    3    3    4    5    8   10   10   10    9    8   10   10   12
   14   17   16   18   14   12   14    9   11   11   14   14   15   16   11
   10   11    7   11   11   11   13   16   16   12    4    9   11   14   15
   14   12    6   -2   -1    0    2    0    4    1    3    5    8   12   18
   13   16   12   10   10    8    8    9   10    8    8    5    4    2    2
    3    2    0   -2   -2   -1    0   -3   -3   -2   -6   -8   -6    0   -4
   -2    0   -2   -2   -4   -4   -4   -4   -2   -5   -6   -5   -6  -12  -12
  -12  -10  -10  -11  -14  -14  -13  -12   -5   -7   -8   -7   -4   -3    0
   10   10   14   14   20   18   16   14    6    5    5    5    3    4    4
    3    4   -6   -6  -11  -14  -13  -14  -13  -16  -12  -14  -18
  149   3520    6700    6480    6700*6700 N
    0   -2    1    7    6    6    6    6    8    8    8    7    8   12   13
   13   15   14   12    8   14   16   16   16   16   14   14   14   16   14
   13   10    9    8    4   -4    0    4    4    6    8    6    4   -2    3
    8   10   10    6    3   -2    2    6    8   10   10    8   10   10   10
   10   12   10    8    5    8    7    6    8    8    8    5    5    4    5
    4    2    2    4    3   -2    2    2   -4   -2   -5   -5   -5    0    4
    0   -3   -4   -6    0   -2    0    0    0   -4   -5  -10   -9  -10  -14
  -13  -14  -16  -16  -12   -5  -10   -7   -2    0    0   -2    2    7   12
   12   14   12    8   10   10    0   -2   -4   -2   -4   -6   -7  -10  -11
  -12   -8   -8   -8  -12  -22  -15  -12   -8   -6    2   -3   -7   -8
  161   3300    6800    6500    6800*6800 N
```

```
   4    4    2    4   -2    2    2    2   -2   -3   -4   -4    0    3    4
   5    7    7    7   10   13   15   12    8    6    6   10    8    7    8
   9    9   10   12   12   10    9   10   11   12   12   12    4   -3   -6
  -1    0    0    4    4    3    3    4    4    9   10    8    3    8   10
  12   10   10    8   10   12    6    5    7    3    5    6    6    6    6
   6    6    5    2    1    5    6    6    6    7    6    8    2    6    6
   8    4    2   -2    2    0    2    0   -3   -2   -4   -5   -9   -6   -3
   0    6   -8   -3    0    0    0    4    1   -3   -8  -10  -15  -14  -14
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   3    6   10    3    3    2    2    4    0   -2   -4   -5   -6   -6   -8
  -7  -18  -15  -11   -2   -6   -8  -10  -10  -10  -10
154   3440    6900    6500    6900*6900 N
   0    0    3    5    4    6    3    3    6   10   12   13   18   12    7
   6    0    2    3    6    8    8   10   11    8    7    7    8    6    4
   4    3   -3   -7   -5    0   -4   -3    0    0    0    0    3    3    6
   8    8    7    4    6    6   10   10   10   12   12    4    1   -4    3
   4    5    2    4   10    0    4    5    4    2    0    0   -3    0    2
   7   10   10   10    5    5    6    0    3    2    2    2    2   -2   -2
  -4   -2   -2   -2   -3   -2   -7   -2    0  149999999999   -9   -2   -2
  -5   -4  -11  -15  -16  -15  -14  -14  -15  -16  -18  -16  -16  -14  -12
 -10   -7   -8  -10   -4   -6   -4   -4   -4   -5   -6   -2    0    3    8
   6    2    0    0   -2   -5   -9  -11  -10  -12  -11   -9   -8   -8   -8
 -10  -10  -10  -10
152   3480    7000    6500    7000*7000 N
   2    1    3    4    2   -2    2    4    5   12   14   15   18   14    6
   4    3    4   10    3    2    4    6    4    2    0    0   -2   -3   -3
   0   -5   -2   -5   -4   -4   -4   -2    3    5    2   -4    0    3    4
  -2    4    8   10    8    5    8   12   12    8    5    1   -2    1    3
   5    0    2    0    2    3    4    1    0   -3   -3    3    8    7   10
  11   18   16    4    8    9    8    8    8    7   -3    0    0    1    0
  -1   -4   -6   -3   -6   -4   -2    0    2    2   -1   -1   -4   -5   -6
 -12  -13  -16  -14  -18  -18  -20  -22  -18  -18  -19  -18  -16  -13  -14
 -14  -11  -10   -8   -6   -8   -8   -8   -8   -6   -2   -1    2    5    4
   4    8    6    3   -2   -7  -10  -15  -14  -11   -8   -9   -9   -8  -10
 -10   -9
152   3480    7100    6500    7100*7100 N
   0    9   14    4    3    0  -15  -16    3    7    5   10   13   12    8
   7    4    5    3    0    4    2    2    0    0   -4   -4   -4   -4   -6
 -10   -6   -6   -6   -3    0    1   -2   -3    8    3    0    0    0    0
  -1    0    2    4    4    7    5    3   10   10    8    7    6    0   -4
   2    2    2    0    0    2   -3    1  109999999999999999   10   26   20
  22   24   20   14   13   13    7    6    5    7   14   -3    0    0    1
   2    2   -1    0   -8   -4   -3   -5   -3   -4   -6   -3   -2   -2    0
  -8  -10  -14  -16  -20  -19  -18  -20  -19  -18  -16  -20  -20  -23  -20
 -15  -14  -12   -8   -6  -10  -12   -6    1    2    1    3    2    3    6
   8    7    4    6   -4  -10  -10  -10   -9   -9   -8   -7   -8   -8  -10
  -9   -8
150   3500    7200    6480    7200*7200 N
   6   14    6    4   -2  -14   -9   -1    2    4    8   10   17   16    5
   5    4    0   -1   -1    2    1    0    0   -2   -4   -4   -4   -3   -2
  -4    0    0   -1   -3   -3   -4   -2    2    3    0    1    2    3    0
   0    0    3    6    7    8    6    5    4    6    8   11   15   10    8
   5    2    1    2    0    0   -2    2    5  1099999    4   14   22   22
  14   12   12   10   12   11   10   12   10   12    9    9    4    4    2
   3    0    2    3   -2   -4   -8  -10  -10   -6   -3   -4   -2    0   -8
 -10  -10  -16  -22  -24  -24  -24  -22  -25  -20  -19  -23  -24  -20  -18
 -18  -14  -10   -6   -8   -8   -4    0    0   -1    2   -3   -3    2    8
   8   10   10    6    2   -2   -4   -4   -4   -3   -3   -4   -4   -8   -8
154   3420    7300    6480    7300*7300 N
  -7   -2    5    6    2   10    6    2    0    1    1    6    8   12   10
  -2    2    0   -4   -2   -3   -2   -2   -3   -2    0    0   -1   -2   -2
  -2   -2   -4   -2   -2  -10   -6   -5   -6   -4   -4   -5   -4   -6   -6
  -2   -2   -2    0    2    2    2    2    2    1    6    8   10   10    9
   8    8    4    0    2    2    4    4    6    6    8    6    7  1299999
  15   18   17   12   15   14   14   13   14   14   14   14   13   14   10
  10    8    6    6    5    5    5    5   -6   -8  -10  -10  -10  -10   -8
  -8   -6   -4  -10  -14  -16  -12  -22  -22  -24  -26  -24  -24  -23  -20
 -20  -22  -22  -20  -18  -22  -16  -11   -8   -8   -7   -4    0    2   -3
   3    3    0    8   10    8   12    9    8    4    4    2    2    0   -1
   0   -2   -6   -8
141   3660    7400    6460    7400*7400 N
   2    8    2    0    2    3   10    4   13    8    5   -2    0   -1    0
   0   -1    0   -1   -2   -3   -4   -2   -2   -2   -4   -7   -4   -1    2
   2   -4   -6   -4   -2    0    0    2    3    2    0    2    0    2    4
  -5   11   14   14   12    6   -2    5   10   11   12   10   10   10   10
   9    8    9    6    6    8   12   16   12   13   12   13   14   14   14
  15   13   10    8    6    6    4    4    0   -8   -4   -8  -10   -9  -14
 -10  -10   -9   -5   -4  -10  -16  -20  -18  -18  -18  -18  -22  -23  -24
 -25  -25  -24  -22  -24  -26  -20  -18  -16  -13  -17  -20  -10   -7   -4
  -8   -8   -2   -2    2    4    3    2    2    6    9   11   11   11    8
   8    4    1    0   -2   -3
140   3700    7500    6480    7500*7500 N
   7    0   -2    0    6    8   10    6   10    0    2    4    4    2    0
  -1   -1   -2   -1    0   -3   -8   -8   -4    1    4    6    5   -1   -3
   0    3    2    2    1    0    0   -1   -3   -1    1    4   10   14   14
  14    8    9   10   12   13   13   12   12   12   10   11   10   11    6
  -4   -4   -5    1    8   13   11   14   10   12   12   12   11   10    8
   5    3    2   -2   -4   -8   -6   -2   -9  -10   -8   -8   -7   -7  -14
  -6   -8  -17  -18  -17  -16  -10   -7  -25  -28  -26  -23  -25  -25  -24
 -26  -28  -24  -21  -18  -14  -16  -20  -16  -10   -8   -6   -7   -5   -6
  -1    0    0    2    2    6    0    4    8    6    8    9    8   10   12
   7   -2   -2   -2   -3
130   3500    7600    6080    7600*7600 N
   6    6    0    0    2   -3    0    1    2    4    8   10    4    3    8
   8    5    4    0    0    0    0    0    0   -2   -2   -2    0    1    4
   6    6    4    2    2   -1   -2    0    1    2    2    1   -1   -5   -8
 -12   -9   -1    0    8    6   10   12   11   16   22   16   15   14   14
  15   14   12    8    7    6    5    4   -2   -8   -8   -6   -5   -1    2
   2    7    7   12   12   11   12    4    4    4    0    0    0   -1   -2
  -4   -4   -5   -5   -7   -8   -4   -4   -4   -4   -9  -18  -17  -16  -14
 -16  -16  -15  -14  -18  -20  -22  -20  -24  -28  -30  -30  -24  -20  -18
 -16  -15  -18  -17  -14  -10   -8   -6   -6   -4
128   3660    7700    6200    7700*7700 N
   0    0   -1    4    3    2    6    8   10   10    8    7    8   10   11
  12   14   15   14   13   14   14   14   12    9    8    2   -2   -1   -1
  -1   -1   -2   -2   -6   -7   -8   -9  -15   -8  -11  -14  -12    8   14
  10   16   18   15   12   11   12   10   10    8    6    4    2   -1   -2
  -4   -6  -10  -11   -8   -5    1   -8    2    7   10   10    8    8    6
   6    3    4    0    0    2   -2   -1    0    2    6    7    2   -7  -10
  -9  -16  -14  -12  -12  -10  -11   -8  -10  -18  -19  -19  -28  -26  -26
 -25  -24  -22  -20  -18  -16  -18  -16  -14  -12  -12   -8   -8   -6   -4
  -4   -2   -1   -2   -2    1    2    6
130   3740    7800    6320    7800*7800 N
   0   -6    1    2    2    5    5    6    4    8   12   12   13   12   13
  14   17   18   15   14   14   12   12    7    2    0   -1    0    0   -2
  -7  -12  -10  -10  -14  -16  -14  -10  -12   -6   -5   10    9   14   16
  12   12   10   10   10    8    6    4   -2   -4   -6   -8  -10  -10   -8
  -8   -6   -7   -7   -4    3    4    6    4    5    4    4    4    6    5
   8    5   -4   -4   -4    0    1    2    4    5   -2    2    0   -7  -14
 -15  -10  -14  -14  -18  -16  -18  -17  -18  -22  -24  -26  -25  -22  -25
 -28  -24  -24  -20  -19  -18  -18  -18  -16  -14  -14  -14  -10   -8   -3
   0   -2   -5   -4    0    4   -2   -2    3    2
  86   4440    7900    6140    7900*7900 N
 -13  -10   -9  -14   -9   -6    0    8    7   12   12   10   10   10    7
   6    3   -1   -2   -7  -11  -10  -10  -11  -10   -8   -6  -12  -10  -10
  -4   -2   -2    2    1    2    2    2    0    0   -2   -1    2    1   -4
  -2   -1    4   -4  -10   -6   -8  -16  -14   -8  -16  -18  -16  -18  -10
 -18  -16  -16  -20  -21  -22  -20  -22  -19  -18  -16  -14  -16  -13  -13
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-12  -10   -7   -4   -4   -4   -1    0    1   -2   -1
 78   4460   8000   6000   8000*8000 N
-20  -20  -16  -16   -6   -2    5    0    4    6    8   10   10    8    6
  4    1   -3   -6   -7  -13  -10  -10   -9   -8   -7  -14  -14  -10   -4
 -4   -4   -4   -5   -7   -4   -4   -4   -4   -4   -4    0   -1   -1   -1
 -8  -10  -10  -10  -10  -10   -6  -12  -20  -16  -14  -16  -16  -14  -12
-14  -16  -24  -28  -22  -26  -15  -14  -14  -14  -10  -14   -8   -5   -4
 -1    2    0
 87   4320   8100   6040   8100*8100 N
 -4   -9  -10  -10  -14  -19  -20  -21  -19  -16  -18  -10  -14    1   -2
  0    6   10   14    9    6    6    1   -1   -4   -6   -7   -8   -9   -8
-11  -12  -12  -15  -14  -13  -12  -14  -14  -10   -8   -4   -4   -7   -6
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-18   -8   -6  -14  -10  -14  -14  -13  -19  -22  -28  -22  -16  -14  -14
-10  -10  -11  -15  -11   -8  -10  -10  -10   -7  -10  -10
 85   4300   8200   5980   8200*8200 N
 -8  -10  -11  -14  -16  -17  -18  -18  -18  -14  -15  -12  -20   -4   -2
 -3    3    5    6    7    6    6    2    0   -1   -3   -4   -4   -4   -3
 -8  -10  -13  -16  -18  -19  -17  -14  -13  -15  -12   -8  -10   -9   -8
-12   -8   -7   -1   -4   -6   -6    3    3    4    9   12   -2  -20  -32
-18  -14  -11  -12   -8  -11  -15  -16  -15  -13  -14  -13  -10  -10   -9
 -4    0    0   -2   -4  -11  -11   -6   -8  -14
 83   4360   8300   6000   8300*8300 N
-15  -16  -16  -16  -16  -16  -16  -20  -15  -16  -13   -8   -7    0    6
  6    8    8    4    2   -2   -4   -6   -8   -9  -10   -8  -10  -15  -16
-18  -18  -14  -14  -12  -14  -12  -12  -10  -12  -13  -13   -8  -10   -8
 -4   -5   -4   -9   -4   -4   -6    4    8    8   -3   -9  -17  -17  -15
-10  -10  -13  -14  -16  -17  -15  -16  -14  -10   -5   -2    1    3    6
  5    2   -2   -4    1    0   -6   -4
 86   4400   8400   6100   8400*8400 N
-17  -17  -19  -15  -10  -10  -10   -8    0    3    6   15   11    8    8
  3    2   -1   -2   -3   -2   -4   -5   -4   -5  -10  -15  -14  -16  -11
 -9  -10  -10  -10   -8  -10  -10   -8   -8   -4   -4   -6   -8   -8   -5
 -1   -6   -6   -4    3    2    1    0   -3   -5   -9  -12  -10   -8   -4
 -4   -6   -9  -10  -10  -10  -10   -7   -3   -1    4    8   10    7   10
 12   14    8    3    2   -2    0   -2   -1   -4   -2
101   4200   8500   6200   8500*8500 N
 -6   -7   -8  -10  -12  -12  -14  -14  -20  -18  -15  -11   -4  -11   -6
 -3    5    8    8    8    6    7    6    6    3   -3   -5   -6   -6   -6
 -8  -10  -12  -10  -11  -11   -7   -8   -4   -2   -6  -11  -10   -8  -10
 -7   -7   -7   -4   -7   -1   -5   -5   -2    1    2   -2    1   -2   -4
 -6   -6   -7   -8   -7   -5   -4   -5   -6   -6   -7   -8  -10  -10  -11
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559185591055839557 56
165 4360 8300 6000 8300*8300 N
564275644156487567045618056340564925663056406560145626256364562665698156450
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BRANDYWINE PROJECT 1989
STACKED VLF-EM PROFILES

LIGHT LINE = QUADRATURE
MEDIUM LINE = IN-PHASE
DARK LINE = FRASER FILTER

SEATTLE TX. USED WITH RDGS
TAKEN FACING EASTERLY ALONG THE LINES.

488,500 489,000 489,500 490,000 490,500 491,000 491,500 492,000

5,548,000 5,547,500 5,547,000 5,546,500 5,546,000 5,545,500 5,545,000 5,544,500

CALLAGHAN CREEK

MARTIAL LAKE

BRANDYWINE CREEK

VLF CONDUCTOR

DATA PLOTTED ON THIS MAP:
DIRECTORY: &EXPL/BRANDYWINE/GP

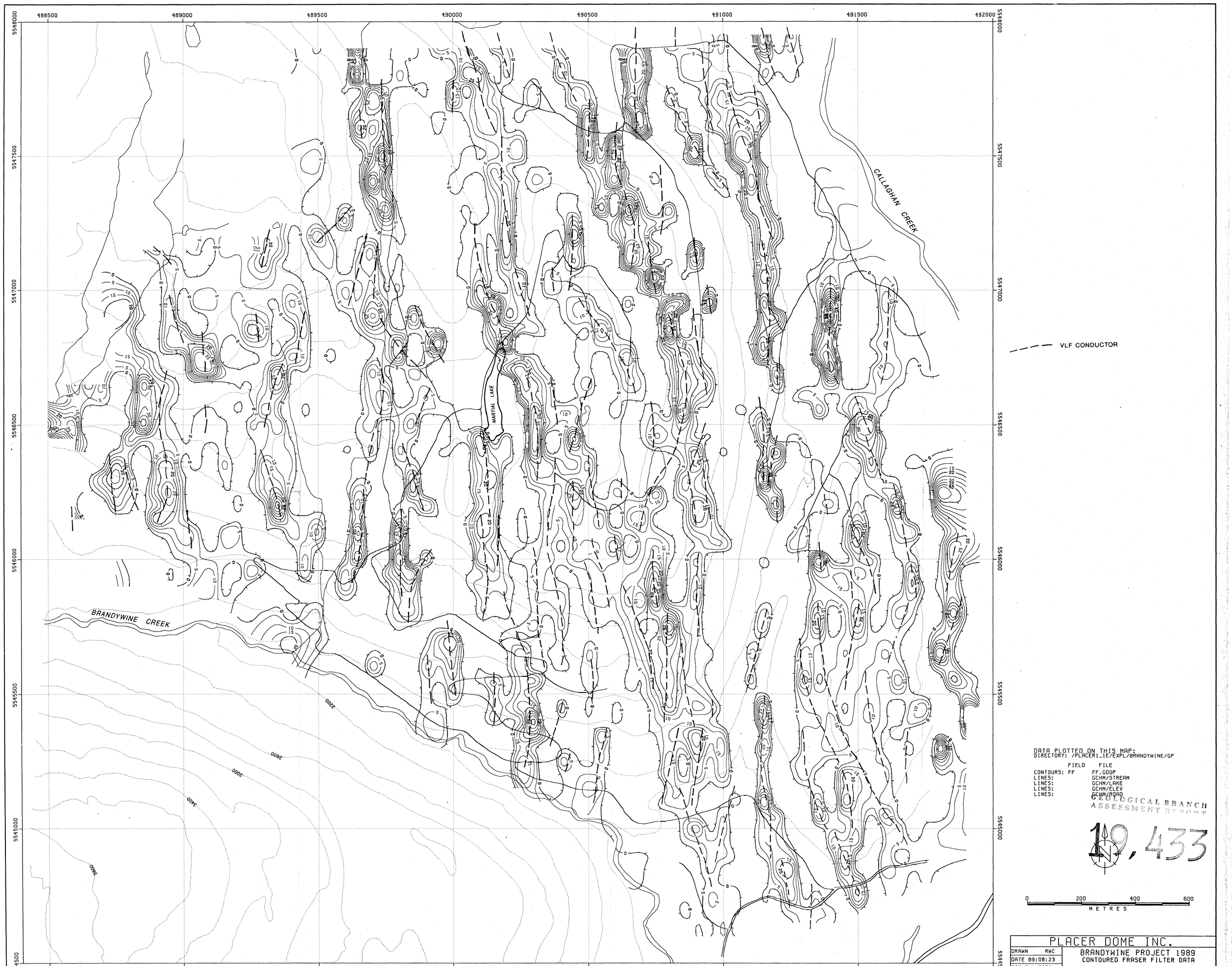
	FIELD	FILE
	IP	IP.UTM
		SCALE: 20.0 UNITS / CM
		BASE LEVEL: 0.0
	IP	IP.UTM
		SCALE: 20.0 UNITS / CM
		BASE LEVEL: 0.0
		FRASER FILTER APPLIED
	QD	QD.UTM
		SCALE: 20.0 UNITS / CM
		BASE LEVEL: 0.0
	SEG	GCHM/STREAM
	SEG	GCHM/LAKE
	SEG	GCHM/ELEV
	SEG	GCHM/ROAD

GEOLOGICAL BRANCH
ASSESSMENT REPORT

19,433

0 200 400 600
METRES

PLACER DOME INC.	
DRAWN RWC	BRANDYWINE PROJECT 1989
DATE 89:10:16	STACKED VLF-EM PROFILES
SCALE 1:5000	
NO.	PLATE 001



DATA PLOTTED ON THIS MAP:
DIRECTORY: /PLACER1_1E/EXPL/BRANDYWINE/GP

	FIELD	FILE
CONTOURS:	FF	FF.GDOP
LINES:		GCHM/STREAM
LINES:		GCHM/LAKE
LINES:		GCHM/ELEV
LINES:		GCHM/ROAD

0 200 400 600
METRES

PLACER DOME INC.	
DRAWN RWC	BRANDYWINE PROJECT 1989
DATE 89:08:23	CONTOURED FRASER FILTER DATA
SCALE 1:5000	
	NO. PLATE 002

BRANDYWINE PROJECT 1989
STACKED MAGNETIC PROFILES

UNITS = NANOTESLAS

488.500 489.000 489.500 490.000 490.500 491.000 491.500 492.000

5.548.000 5.547.500 5.547.000 5.546.500 5.546.000 5.545.500 5.545.000 5.544.500

CALLAGHAN CREEK

MARTIAL LAKE

BRANDYWINE CREEK

2200 2600 3000 3400 3800

DATA PLOTTED ON THIS MAP:
DIRECTORY: $EXPL/BRANDYWINE/GP

	FIELD	FILE
———	MAG	MAG.UTM
	SCALE:	500 UNITS / CM
	BASE LEVEL:	56000
———	SEG	GCHM/STREAM
———	SEG	GCHM/LAKE
———	SEG	GCHM/ELEV
———	SEG	GCHM/ROAD

0 200 400 600
METRES

PLACER DOME INC.

DRAWN RWC	BRANDYWINE PROJECT 1989
DATE 89:08:23	STACKED MAGNETIC PROFILES
SCALE 1:5000	
	NO. PLATE 003

BRANDYWINE PROJECT 1989
CONTOURED MAGNETIC DATA

UNITS=NANOTESLAS

DATA HAS BEEN GRIDDED USING MINC

BRANDYWINE CREEK

CALLAGHAN CREEK

MARTIAL LAKE

DATA PLOTTED ON THIS MAP:
DIRECTORY: /PLACER1_1E/EXPL/BRANDYWINE/GP

	FIELD	FILE
CONTOURS:	MAG	MAG.GRD
LINES:		GCHM/STREAM
LINES:		GCHM/LAKE
LINES:		GCHM/ELEV
LINES:		GCHM/ROAD

0 200 400 600
METRES

PLACER DOME INC.	
DRAWN BG	BRANDYWINE PROJECT 1989
DATE 89:08:23	CONTOURED MAGNETIC DATA
SCALE 1:5000	
	NO. PLATE 004