



BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

RECORD

GEOCHEMICAL DATA FILES OF ARCHAEOAN VOLCANIC ROCKS, PILBARA BLOCK,
WESTERN AUSTRALIA

BMR Record 1986/14

A.Y. Glikson*, R. Davy** and A.H. Hickman**

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Australia

**Geological Survey of Western Australia, Perth, W.A.

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INTRODUCTION

This Record presents geochemical data tables for Archaean volcanic rocks studied in conjunction with the Pilbara Volcanic Geochemistry joint BMR-GSWA project. The aim is to allow workers to gain access to the data, where such a need arises, prior to the appearance in print of final publication/s based on this study. Some of the data (batches 1-3, Table 5) have been reported earlier (Glikson and Hickman, 1981a). Interpretations of the data of these batches are given in the above reference, in Glikson and Hickman (1986b), Hickman (1983) and in connection with REE studies in Jahn et al. (1982) and Glikson et al. (1986). Interpretations of batches 4-6 will be given in a bulletin and papers in preparation. Whereas the data reported here are available for consultation, please note that any reference given to this information in print requires the permission of the Directors, BMR and GSWA.

The data are presented as computer file printouts, reflecting their storage of flexible discs using the HP 9825B desktop calculator and software written for this purpose (Glikson and Owen, 1982). The data comprise a total of 964 volcanic rocks from the eastern, central and western Pilbara. Note that, as this Record constitutes an interim compilation, the data are arranged in terms of collection batches, stratigraphic sections and serial numbers, rather than according to systematic stratigraphy and rock type classifications.

References

- Glikson, A.Y. and Hickman, A.H., 1981a - Geochemistry of Archaean volcanic successions, eastern Pilbara Block, Western Australia. Aust. Bur. Min. Resour. Record 1981/36.
- Glikson, A.Y. and Hickman A.H., 1981b - Geochemical stratigraphy and petrogenesis of Archaean basic-ultrabasic volcanic units, eastern Pilbara Block, Western Australia. Geol. Soc. Aust. Sp. Publ. 7, pp. 287-300
- Glikson, A.Y. and Owen, M., 1982 - HP9825B software systems for electron probe data, major/trace and RE element geochemistry, magmatic fractionation models and Rb/Sr isotopic parameters. Aust. Bur. Min. Resour. Record 1982/39.
- Glikson, A.Y., Davy, R., Jahn, B., Hickman, A.H. and Pride, C., 1986 - RE, Y, Ti, Nb and P evolution of mafic-ultramafic volcanic suites, Pilbara Block, Western Australia. Aust. Bur. Min. Resour. Record 1986/6
- Hickman, A.H., 1983 - Geology of the Pilbara Block and its Environs. Geol. Sur. W. Aust. Bull. 127.
- Jahn, B., Glikson, A.Y., Peucat, J.J. and Hickman, A.H., 1982 - REE geochemistry and isotopic data of Archaean silicic volcanics and granitoids from the Pilbara Block, Western Australia: implications for early crustal evolution. Geochim. Cosmochim. Acta 45: 1633-1652.
- O'Connor, J.T., 1965 - A classification of quartz-rich igneous rocks based on feldspar ratios. U.S. Geol. Surv. Prof. Pap. 525-B.

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TABLE 1 - CLASSIFICATION OF ANALYSED PILBARA BLOCK VOLCANICS ACCORDING TO STRATIGRAPHIC UNIT, PETROCHEMICAL GROUPING AND SECTION LOCATION.
FOR SECTION ABBREVIATIONS CODE SEE TABLE 2; FOR PETROCHEMICAL GROUPING CODE SEE TABLE 3

PETROCHEMICAL CLASSIFICATION *		PK		HMB/HMD		HMA		PYX		TB		TBA		HALB		TD		TG		TA		TAA		ALTBAS		DAC		RHYDAC		QZLAT		RHYOL		ALTFELS		Total E&C	Total W		
REGION	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	E & C	W	Total E&C	Total W	
Maddina Basalt (MB)									6 (1HC; 5ME)		1 (HC)								6 (2HC;2ME)		3 (HC)																16		
Nymerina Basalt (NB)			5 (4HC; 1ME)						9 (5HC; 4ME)		6 (4HC;2ME)				2 (HC)				5 (3HC;2ME)				1 (ME)														28		
Kylena Basalt (KB)									26 (8ME;12P; 6HC)		17 (14HC;3P)								10 (2ME;6P; 2HC)		11 (9HC;1ME; 1P)		4 (2ME;2P)														68		
Mt Roe Basalt (MRB) (Co. 2-7 by.) Cooya Pooya Volcanics (CP)		1 (CP)	1 (Y)	3 (CP)					21 (2TC;12Y; 7GH)	5 (CP)	7 (3Y;4GH)		1 (TC)						10 (4TC;12Y; 4GH)	3 (WC)			9 (7GH;2Y)														40	14	
Nagri Volcanics (NV)										5 (MN)										16 (9MO;7MN)			1 (MO)		1 (MO)									1 (MO)				24	
Louden Volcanics (LV)		2 (1MN;1MO)		9 (7MN;2MO)		3 (MN)					4 (MO)		1 (MN)				4 (2MN;2MO)																					44	
Mt Brown Rhyolite (MBR)																												1 (MO)				11 (MO)						12	
Mons Cupri Fragmentals (MCF)																										9 (OW)		1 (OW)					8 (OW)					18	
Warrambie Basalt (WB) (Co. 3-0 by.)											6 (2PR;4WR)		1 (WR)				5 (PR)						1 (WR)				1 (PR)											14	
Honeyeater Basalt (HB)			13 (10S;2SG; 1ST)						32 (16S;16SG; 5ST)		3 (SG)		8 (4S;4ST)		11 (9S;2SG)								1 (S)											1 (SG)				69	
Charteris Basalt (CB)			7 (CH)						13 (CH)				1 (CH)		1 (CH)		3 (CH)		1 (CH)					1 (CH)														27	
Wyman Formation (WF)																																23 (10CC; 13BCL&EC)						23	
Selgash Subgroup (SS)			5 (ST)						11 (ST)	27 (20CL;7K)					3 (ST)	8 (3CL;5K)		2 (1CL;1K)																			24	32	
Euro Basalt (EB) (Co. 3-3 by.)			9 (2SP;3CC; 4W)						8 (2SP;5CC; 1W)				1 (SP)		2 (1CC;1W)								1 (SP)															21	
Apex Basalt (AB)	5 (CC)		33 (4TC;7SC; 3SP;9CC; 6T;4W)				2 (1TC;SC)		26 (1TC;6SC; 5SP;10T; 2CC;2W)						8 (4TC;3SC; 1CC)		2 (1TC;1SC)		4 (TC)				3 (1TC;2SP)		1 (TC)													84	
Duffer Formation (DF) (including Towers Formation) (3-5-3-4 by.)							4 (TC)		8 (TC)	4 (MS)		7 (MS)		4 (TC)					11 (TC)	1 (MS)			1 (MS)	62 (36TC; 18SH;4SC; 2BA;2ST)	1 (MS)	2 (SC)		6 (2TC; 4SC)		17 (8TC;5SC; 2W;2SH)	3 (MS)	4 (2SC;2W)					125	10	
Telga Subgroup (TS)							1 (ST)		19 (ST)				3 (ST)		4 (ST)				3 (ST)																			30	
Mt Ada Basalt (MAB)	5 (TC)		13 (7TC;4SH; 2W)				8 (7TC;1W)		44 (40TC; 4SH)	2 (WH)		3 (TC)	4 (WH)	12 (6TC;4SH; 2W)	1 (WH)	6 (2TC;2SH; 2W)		5 (TC)	8 (WH)				1 (TC)		3 (SH)								1 (TC)	2 (WH)			101	17	
McPhee Formation (MF)																							1 (W)															1	
Upper North Star Basalt (UNSB)			2 (TC)						3 (TC)				2 (TC)		1 (TC)		2 (TC)		3 (TC)						8 (TC)													21	
North Star Basalt (Co. 3-7 by.)	5 (TC)		9 (7TC;2SH)						38 (29TC; 5SH;4W)	4 (WH)			3 (WH)	13 (8TC;4SH; 1W)	9 (5TC;2SH; 2W)		2 (TC)						8 (1TC;3SH; 4W)										1 (WH)				84	8	
Total - E&C Pilbara	15		97				15		264		34		26		61		22		60		14		30		74		2		6		40		6		771				
Total - W Pilbara		3		14		3				57		2		7		18		2		49		1		2		12		1		1		22		4			193		

* Abbreviations explained in Table 3
E**=East Pilbara; C=Central Pilbara; W=West Pilbara

Table 2

Code for Fig. 1 -

Correlation of sampling sections - stratigraphic units - data file (in approximate stratigraphic order upwards from top to bottom. Stratigraphic Unit abbreviations from Table 1.

		<u>files</u>
TC	- Talga-Coongan (NSB, MAB, DF, AB, EB, MRB)	2-20
T	- Talga River (NSB, MAB)	2-13
MR	- McPhee Reward (NSB, MAB)	27-30
SH	- Shark Centre (NSB, MAB, DF)	31-34
ST	- Strelley Gorge (TS, SS)	87-90, 93-94
W	- Withnell Creek (NSB, MF, MAB, DF, AB, EB)	60-63
WH	- Whundoo (NSB, MAB)	64-66
B	- Bowls Gorge (DF)	44-48
BA	- Bamboo Creek (DF)	91
SC	- Sandy Creek (DF, AB)	35-38
MS	- Mt Sholl (DF)	69-70
CC	- Camel Creek (AB, EB, WF)	49-51, 21, 52
T	- Tambourah Creek (SS)	58-59
SP	- Spinaway Creek (AB, EB)	39-40
K	- Karratha (SS)	74-75
CL	- Cleaverville (SS)	71-73
MC	- Miralga Creek (SS)	95
BC	- Budjan Creek (WF)	52-53
EC	- Emu Creek (WF)	53
C	- Charteris Creek (CB)	41-43
S	- Soanesville (HB)	22, 54-57
SR	- Strelley Creek (HB)	98
SG	- Shay Gap (HB)	96-97
WR	- Warrambie Station (WB)	77
PR	- Pyramid road (WB)	76
MN	- Mt Megri (LV, NV)	105-109
MO	- Mons Cupri (LV, NV)	110-112, 103-104
OW	- Opaline well (MCF)	99-100
BR	- Mt Brown (MBR)	101-102
Y	- Yandicoogina (MRB)	113-114
GH	- Glen Herring (MRB)	115-117
WC	- Whim Creek (MRB)	118
CP	- Cooya Pooya (MRB)	124-125
P	- Pelican pool (KB)	84-86
ME	- Meentheena (KB, NB, MB)	80-83
HC	- Hays Creek (KB, NB, MB)	



* R 8 6 0 1 4 0 3 *

Table 3 - Petrochemical definition and mineral abbreviations

Ultramafic-mafic volcanic rocks

PK	- Peridot, komatiite - mostly chloritized or serpentinized f.g. porphyritic to quench-textured ultramafic rock with MgO > 20%.
HMB	- High-Mg basalt - f.g. to quench-textured amphibolite or tremolite- chlorite rock. $MgO/Al_2O_3 > 0.6$, $20\% > MgO > 8\%$
PYX	- Pyroxenite - as for HMB, showing cumulate texture
TB	- Tholeiitic metabasalt - amphibolite, $MgO > 8\%$, normative hypersthene and quartz or olivine.
TBA	- Amygdaloidal TB
TBP	- Porphyritic TB
HALB	- High-Al basalt, $Al_2O_3 > 16\%$
TD, TG, HMD, HMG	- Doleritic and gabbroic equivalents of the above.
HMA	- High-Mg andesite or silicified HMB, $SiO_2 > 55\%$, $20\% > MgO > 8\%$.
TA	- Andesite or silicified basalt, $60\% > SiO_2 > 55\%$
TAA	- Amygdaloidal andesite
TAP or P-TA	- Porphyritic andesite
HATA	- High-Al andesite, $Al_2O_3 > 16\%$

Felsic volcanic rocks

See Fig. 2 for petrochemical definitions

DAC - dacite; K-DAC - K_2O -high dacite; Na-DAC - Na_2O -high dacite; Ca-DAC - CaO -high dacite; RHDA - rhyodacite; QZLAT - Qz latite; RHY - rhyolite; K-RHY - K_2O -high rhyolite; Na-RHY - Na_2O -high rhyolite.
l-alk - low-alkali; hydr. - hydrated; carb. - carbonated.

alteration

Upper case formation titles stand for altered samples.

DC	- low-Ca
UC	- high-Ca
DA	- low-Al
UA	- high-Al
DF	- low-Fe
UF	- high-Fe
DS	- low-Si
US	- high-Si
LM	- low-Mg
UM	- high-Mg

Table 3 (cont)

Mineral abbreviations

ac	- actinolite
al	- albite
am	- amphibolite
bi	- biotite
ca	- carbonate
cl	- chlorite
cpx	- clinopyroxene
ep	- epidote
fl	- feldspar
gt	- garnet
il	- ilmenite
mu	- muscovite
ol	- olivine
opx	- orthopyroxene
or	- orthoclase
pl	- plagioclase
py	- pyrite
px/pyrox	- pyroxene
qz	- quartz
sa	- saussurite
se	- sericite
sp	- sphene
sr	- serpentine
su	- sulphide
tr	- tremolite

Table 4 - List of data files

PLB2 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB3 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB4 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB5 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB6 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB7 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB8 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB9 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB10 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB11 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB12 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB13 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN
 PLB14 - PILBARA/DUFFER FORMATION/MARBLE BAR
 PLB15 - PILBARA/DUFFER FORMATION/MARBLE BAR
 PLB16 - PILBARA/DUFFER FORMATION/MARBLE BAR
 PLB17 - PILBARA/DUFFER FORMATION/MARBLE BAR
 PLB18 - PILBARA/SALGASH SUBGROUP/MARBLE BAR
 PLB19 - PILBARA/SALGASH SUBGROUP & Mt ROE BASALT/MARBLE BAR
 PLB20 - PILBARA/Mt ROE BASALT & SALGASH SUBGROUP/MARBLE BAR
 PLB21 - PILBARA/WYMAN FORMATION/CAMEL CREEK
 PLB22 - PILBARA/HONEYEATER BASALT/SOANESVILLE

PLB27 - PILBARA/TALGA SUBGROUP/McPHEE REWARD
 PLB28 - PILBARA/TALGA SUBGROUP/McPHEE REWARD
 PLB29 - PILBARA/TALGA SUBGROUP/McPHEE REWARD
 PLB30 - PILBARA/TALGA SUBGROUP/McPHEE REWARD
 PLB31 - PILBARA/TALGA SUBGROUP/SHARK CENTRE
 PLB32 - PILBARA/TALGA SUBGROUP/SHARK CENTRE
 PLB33 - PILBARA/TALGA SUBGROUP/SHARK CENTRE
 PLB34 - PILBARA/TALGA SUBGROUP/SHARK CENTRE
 PLB35 - PILBARA/DUFFER FORMATION/SANDY CREEK
 PLB36 - PILBARA/DUFFER FORMATION/SANDY CREEK
 PLB37 - PILBARA/SALGASH SUBGROUP/SANDY CREEK
 PLB38 - PILBARA/SALGASH SUBGROUP/SANDY CREEK
 PLB39 - PILBARA/SALGASH SUBGROUP/SPINAWAY CREEK
 PLB40 - PILBARA/SALGASH SUBGROUP/SPINAWAY CREEK
 PLB41 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK
 PLB42 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK
 PLB43 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK
 PLB44 - PILBARA/DUFFER FORMATION/BOWLS GORGE
 PLB45 - PILBARA/DUFFER FORMATION/BOWLS GORGE
 PLB46 - PILBARA/DUFFER FORMATION/BOWLS GORGE
 PLB47 - PILBARA/DUFFER FORMATION/BOWLS GORGE
 PLB48 - PILBARA/DUFFER FORMATION/BOWLS GORGE
 PLB49 - PILBARA/SALGASH SUBGROUP/CAMEL CREEK
 PLB50 - PILBARA/SALGASH SUBGROUP/CAMEL CREEK
 PLB51 - PILBARA/SALGASH SUBGROUP/CAMEL CREEK
 PLB52 - PILBARA/WYMAN FORMATION/CAMEL & BUDJAN CREEKS
 PLB53 - PILBARA/WYMAN FORMATION/BUDJAN & EMU CREEKS
 PLB54 - PILBARA/HONEYEATER BASALT/SOANESVILLE
 PLB55 - PILBARA/HONEYEATER BASALT/SOANESVILLE
 PLB56 - PILBARA/HONEYEATER BASALT/SOANESVILLE
 PLB57 - PILBARA/HONEYEATER BASALT/SOANESVILLE
 PLB58 - PILBARA/SALGASH SUBGROUP/TAMBOURAH
 PLB59 - PILBARA/SALGASH SUBGROUP/TAMBOURAH
 PLB60 - PILBARA/TALGA SUBGROUP/WITHNELL CREEK

PLB61 - PILBARA/WARRAWOONA GROUP/WITHNELL CREEK
 PLB62 - PILBARA/WARRAWOONA GROUP/WITHNELL CREEK
 PLB63 - PILBARA/SALGASH SUBGROUP/WITHNELL CREEK
 PLB64 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO
 PLB65 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO
 PLB66 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO
 PLB67 - PILBARA/DUFFER FORMATION/SHARKS
 PLB68 - PILBARA/DUFFER FORMATION/SHARKS
 PLB69 - PILBARA/DUFFER FORMATION/MT SHOLL
 PLB70 - PILBARA/DUFFER FORMATION/MT SHOLL
 PLB71 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE
 PLB72 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE
 PLB73 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE
 PLB74 - PILBARA/SALGASH SUBGROUP/KARRATHA
 PLB75 - PILBARA/SALGASH SUBGROUP/KARRATHA
 PLB76 - PILBARA/WARRAMBIE BASALT/PYRAMID ROAD
 PLB77 - PILBARA/WARRAMBIE BASALT/WARRAMBIE STATION
 PLB78 - PILBARA/FORTESCUE GROUP/HAYS CREEK
 PLB79 - PILBARA/FORTESCUE GROUP/HAYS CREEK
 PLB80 - PILBARA/FORTESCUE GROUP/MEENTHEENA
 PLB81 - PILBARA/FORTESCUE GROUP/MEENTHEENA
 PLB82 - PILBARA/FORTESCUE GROUP/MEENTHEENA
 PLB83 - PILBARA/FORTESCUE GROUP/MEENTHEENA
 PLB84 - PILBARA/FORTESCUE GROUP/PELICAN POOL
 PLB85 - PILBARA/FORTESCUE GROUP/PELICAN POOL
 PLB86 - PILBARA/FORTESCUE GROUP/PELICAN POOL
 PLB87 - PILBARA/STRELLEY/TALGA SUBGROUP
 PLB88 - PILBARA/STRELLEY/TALGA SUBGROUP
 PLB89 - PILBARA/STRELLEY/TALGA SUBGROUP
 PLB90 - PILBARA/STRELLEY/TALGA SUBGROUP
 PLB91 - PILBARA/BAMBOO CREEK/DUFFER FORMATION
 PLB92 - PILBARA/STRELLEY/SALGASH SUBGROUP
 PLB93 - PILBARA/STRELLEY/SALGASH FORMATION
 PLB94 - PILBARA/STRELLEY/SALGASH SUBGROUP
 PLB95 - PILBARA/NORTH POLE/SALGASH SUBGROUP
 PLB96 - PILBARA/SHAY GAP/HONEYEATER BASALT
 PLB97 - PILBARA/SHAY GAP/HONEYEATER BASALT
 PLB98 - PILBARA/STRELLEY/HONEYEATER BASALT
 PLB99 - PILBARA/OPALINE WELL/MT CUPRI FRAGMENTALS
 PLB100 - PILBARA/OPALINE WELL/MT CUPRI FRAGMENTALS
 PLB101 - PILBARA/MONS CUPRI/MT BROWN RHYOLITE
 PLB102 - PILBARA/MONS CUPRI/MT BROWN RHYOLITE
 PLB103 - PILBARA/MONS CUPRI/NEGRI VOLCANICS
 PLB104 - PILBARA/MONS CUPRI/NEGRI VOLCANICS
 PLB105 - PILBARA/MT NEGRI/NEGRI VOLCANICS
 PLB106 - PILBARA/MT NEGRI/NEGRI VOLCANICS
 PLB107 - PILBARA/MT NEGRI/LOUDEN VOLCANICS
 PLB108 - PILBARA/MT NEGRI/LOUDEN VOLCANICS
 PLB109 - PILBARA/MT NEGRI/LOUDEN VOLCANICS
 PLB110 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS
 PLB111 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS
 PLB112 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS
 PLB113 - PILBARA/YANDICOOGINA/MT ROE BASALT
 PLB114 - PILBARA/YANDICOOGINA/MT ROE BASALT
 PLB115 - PILBARA/GLEN HERRING/MT ROE BASALT
 PLB116 - PILBARA/GLEN HERRING/MT ROE BASALT
 PLB117 - PILBARA/GLEN HERRING/MT ROE BASALT
 PLB118 - PILBARA/WHIM CREEK/MT ROE BASALT
 PLB119 - PILBARA/HAYS CREEK/KYLENA BASALT
 PLB120 - PILBARA/HAYS CREEK/KYLENA BASALT
 PLB121 - PILBARA/HAYS CREEK/KYLENA BASALT
 PLB122 - PILBARA/HAYS CREEK/KYLENA BASALT
 PLB123 - PILBARA/HAYS CREEK/NYMERINA BASALT
 PLB124 - COOYA POOYA "DOLERITE" [MT ROE BASALT]
 PLB125 - COOYA POOYA "DOLERITE" [MT ROE BASALT]

Table 5 - analytical methods and laboratories

Batch No.	Year Collected	Geologist	Sample numbers Range	elements/method/laboratory
1	1975	AYG*	75040002-107 ^a	Silicate analysis (XRF; BMR); Ga, Rb, Sr, Y, Zr, Ba, La, Ce, Pb, Th, U (XRF; BMR); Li, Cr, Co, Ni, Cu, Zn, (AA; BMR); CO ₂ , SO ₃ (AMDEL).
2	1975	AHH**	45062-96 ^a	as for batch No. 1
3	1976	AHH**	45153-49399 ^b	Silicate analysis (XRF; AMEL). The rest as for batch No. 1.
4	1980	AYG*	80040001-286 ^{b,c}	Silicate analysis (ICP; AMDEL). The rest as for batch 1.
5	1980	RD***	59187-70021 ^{b,c}	Silicate analysis (ICP; AMDEL). The rest as for batch 1.
6	1983	DW****	83330088-98 ^d	as for batch No.1

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a - total Fe as Fe₂O₃. H₂O(+) and H₂O(-) as total H₂O

b - FeO, Fe₂O₃, H₂O(+) and H₂O(-) separately determined

c - Cr and Co determined on alternate samples

d - FeO, Fe₂O₃, separately determined. H₂O(+) and H₂O(-) as total H₂O.
CO₂ and S not determined.

vacant spaces represent below-detection limit values

Fig. 1 - localities of sampling sections through volcanic units of the Pilbara Block, Western Australia.
For explanation of abbreviations refer to Table 2.

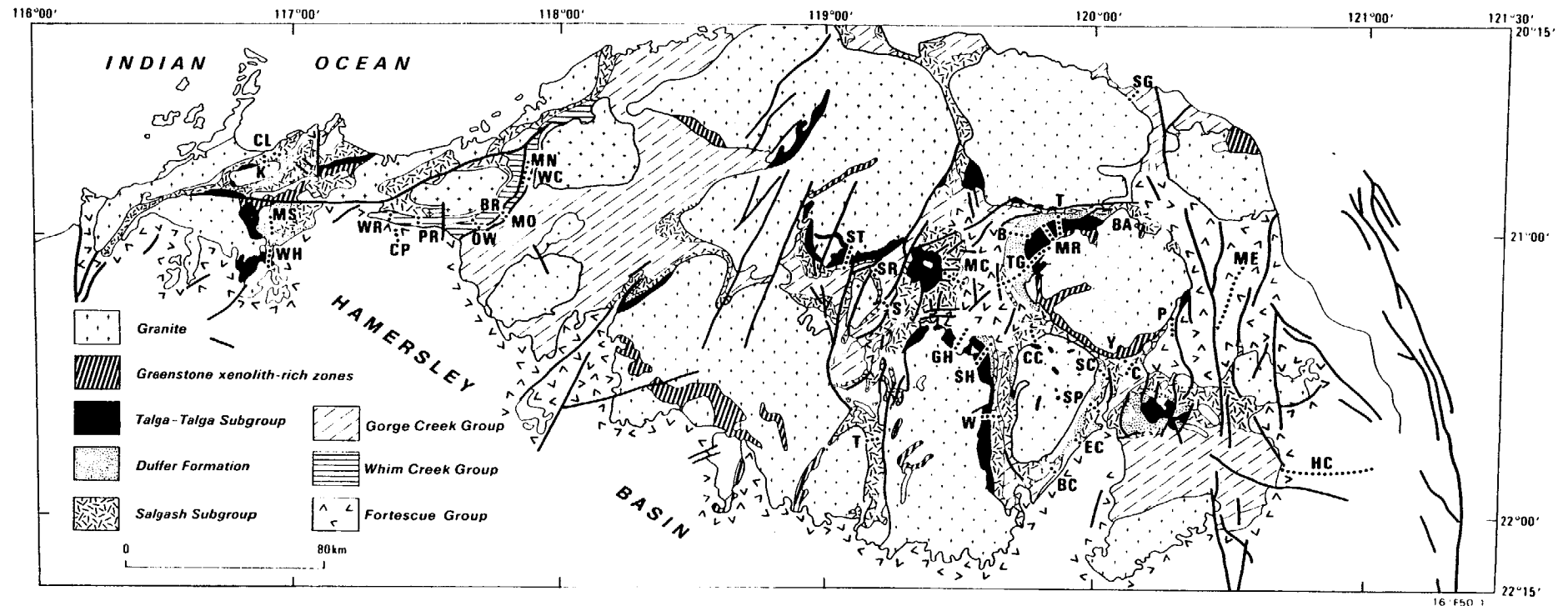
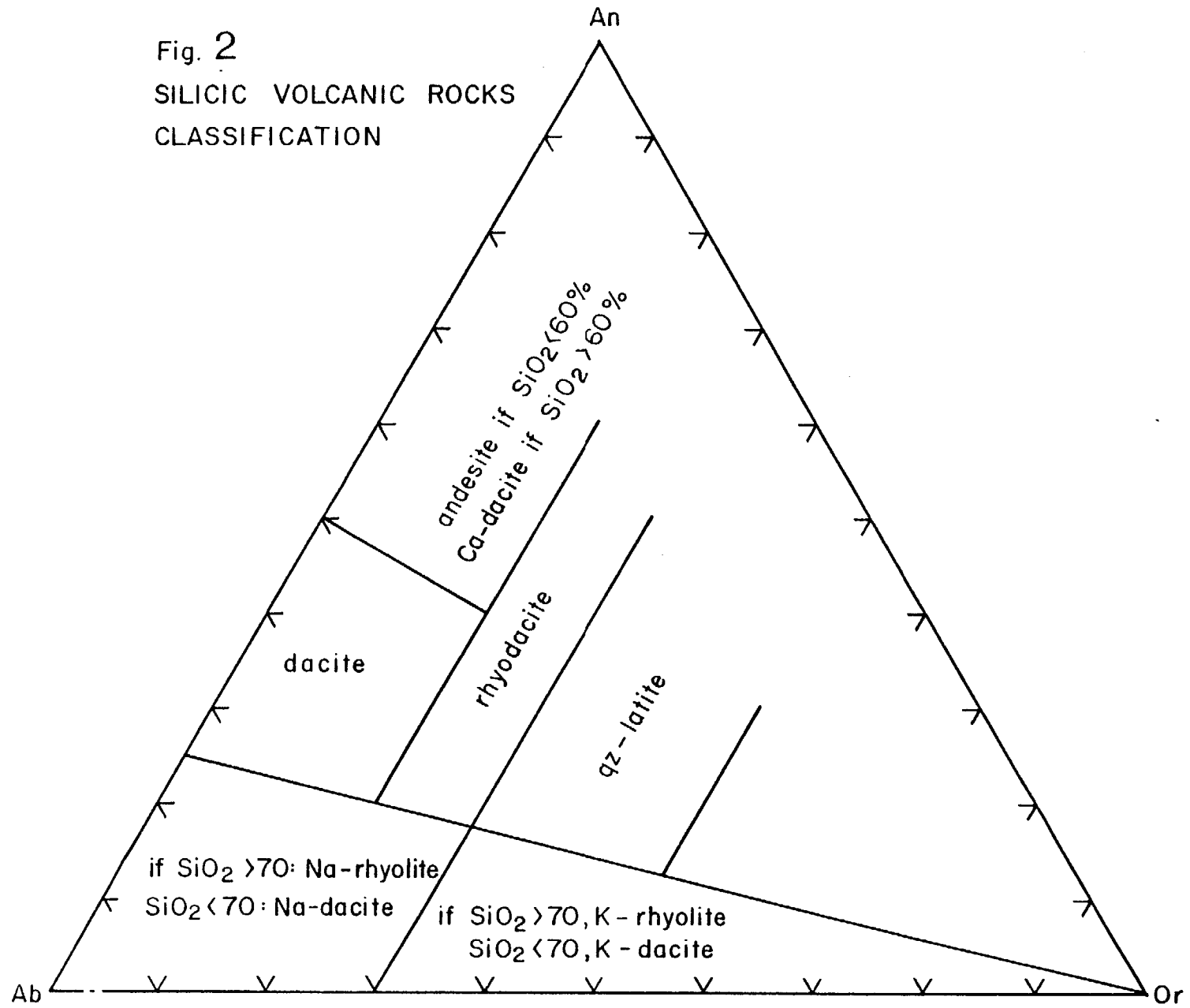


Fig. 2
SILICIC VOLCANIC ROCKS
CLASSIFICATION



PLE2 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040002A	75040002B	75040003C	75040004A	75040004B	75040005A	75040005B	75040007A	75040007B	75040008A
FORMATION	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt
ROCK TYPE	am.cl.ep. al.TB	am.cl.ep. al.TB	sp.ep.tr. HMB	am.sa.al. TD	am.qz.al. TB	am.al.ep. TD	am.sa.al. qz.TB	sp.am.qz. al.TB	am.cl.al. qz.TB	am.cl.al. qz.TB
MAP COORDINATES	11951:2101	11951:2101	11951:2100	11951:2100	11951:2100	11951:2100	11951:2100	11951:2100	11951:2100	11951:2100
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	49.54	49.22	49.68	51.21	49.72	50.69	51.13	50.49	50.64	52.58
TiO ₂	1.59	1.62	0.68	1.08	1.67	0.67	1.33	1.14	1.07	1.23
Al ₂ O ₃	13.96	13.55	5.84	15.95	14.46	15.28	13.84	14.42	13.79	14.20
Fe ₂ O ₃	16.07	16.30	12.44	11.84	15.14	10.43	14.01	12.96	13.01	11.97
FeO										
MnO	0.22	0.24	0.24	0.17	0.36	0.18	0.22	0.22	0.20	0.23
MgO	5.32	6.07	13.91	6.01	4.76	8.85	6.06	6.91	7.61	6.33
CaO	10.77	9.08	14.94	9.10	8.94	9.37	10.46	10.33	10.45	8.49
Na ₂ O	1.58	2.42	0.42	3.18	4.02	2.66	2.00	2.45	2.14	3.48
K ₂ O	0.37	0.30	0.22	0.49	0.37	0.88	0.32	0.19	0.23	0.32
P ₂ O ₅	0.17	0.17	0.40	0.15	0.16	0.05	0.16	0.10	0.09	0.11
H ₂ O [total]	0.80	0.90	0.38	1.16	0.47	1.33	0.78	0.90	0.83	1.15
CO ₂	0.05	0.05	0.24	0.05	0.04	0.02	0.07	0.08	0.06	0.12
TOTAL	100.44	99.92	99.39	100.39	100.11	100.41	100.38	100.19	100.12	100.21
Mg NUMBER	43.5	46.5	72.3	54.2	42.3	66.4	50.2	55.4	57.7	55.2
Ba PPM	81	538	36	216	52	232	106	105	82	67
Rb	11	11	2	32	12	57	8	4	8	10
Sr	317	258	26	336	115	191	144	119	115	107
Pb	2	2								
Th										
U	1							1	1	
Zr	137	145	29	84	147	46	129	96	81	106
Nb	5	7		5	8	2	6	5	4	4
Y	33	35	14	21	33	16	32	26	24	25
La	5	5		12	10	3	5	4	4	2
Ce	28	29		23	24		13	3	5	12
Sc	31	36	13	32	16	39	21	19	17	21
V	374	352	324	229	391	248	312	349	332	302
Cr	132	116	1400	146	187	865	52	199	194	70
Co	49	51	66	40	50	40	42	41	42	49
Ni	62	57	399	65	87	109	56	71	71	51
Cu	99	99	236	63	8	69	46	64	75	33
Zn	106	120	64	86	121	64	103	90	87	88
Ga	22	20	9	17	20	13	17	17	18	16
S	1040	480	640	160	40	80	80	40	40	

PLB3 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040008b	75040009	75040012	75040016a	75040016B	75040016D	75040016E	75040016F	75040016G	75040016H
FORMATION	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	NORTH STAR Basalt DC	North Star Basalt
ROCK TYPE	am.sa.al. qz.TB	am.sa.al. qz.TB	am.sa.al. TB	am.sa.al. qz.TD	am.sa.al. TB	saussur. TD	saussur. TD	am.sa.al. qz.TB	am.al.qz. ch.ep.HATA	tr.sa. TB
MAP COORDINATES	11951:2100	11951:2100	11951:2059	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	COONGAN	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	50.67	53.26	53.37	48.22	49.31	53.61	47.53	50.58	57.79	51.46
TiO ₂	1.24	1.22	1.09	1.75	1.25	0.76	0.83	0.70	1.03	0.59
Al ₂ O ₃	14.54	13.84	13.36	13.37	13.81	14.83	16.65	14.86	16.59	15.08
Fe ₂ O ₃	12.48	12.72	13.17	17.49	15.42	9.96	12.61	10.46	9.22	10.66
FeO										
MnO	0.25	0.23	0.21	0.27	0.25	0.16	0.22	0.19	0.16	0.21
MgO	7.01	5.84	7.59	5.89	6.78	7.37	8.99	8.19	3.00	8.13
CaO	8.14	8.35	7.56	9.04	10.59	9.88	9.08	10.64	6.38	9.96
Na ₂ O	3.43	3.32	2.18	1.61	1.49	1.64	1.89	1.73	3.79	1.26
K ₂ O	0.22	0.36	0.34	0.46	0.46	0.49	0.77	0.59	0.68	0.95
P ₂ O ₅	0.10	0.12	0.10	0.13	0.08	0.05	0.04	0.06	0.11	0.04
B ₂ O ₃ [total]	1.42	1.09	1.99	0.84	0.61	1.20	1.67	1.06	1.16	1.55
CO ₂	0.29	0.13	0.03	0.05	0.10	0.09	0.14	0.11	0.18	0.08
TOTAL	99.79	100.48	100.99	99.12	100.15	100.04	100.42	99.17	100.09	99.97
Mg NUMBER	56.7	51.7	57.3	44.0	50.6	63.3	62.4	64.6	43.1	64.0
Ba PPM	65	51	104	71	103	112	137	134	290	183
Rb	6	8	6	16	10	30	46	35	28	49
Sr	103	146	155	120	120	140	232	130	473	165
Pb		2				2	3		2	
Th										
U				1	1					
Zr	104	98	86	109	74	65	40	62	123	77
Nb	4	4	4	4	3	2	2	3	5	4
Y	25	23	24	32	26	18	16	19	19	21
La	3	3	3						4	3
Ce	7	6	6	5	8				25	3
Sc	27	18	40	56	50	76	75	67	71	67
V	345	321	323	454	385	293	155	288	150	250
Cr	78	45	55	94	147	240	341	320	28	316
Co	47	45	40	55	52	38	58	40	28	44
Ni	52	40	36	76	95	81	250	93	16	105
Cu	88	75	75	117	61	81	63	47	23	56
Zn	95	88	86	131	95	61	150	64	62	66
Ga	16	17	16	18	17	13	14	13	19	13
S	40	40	80	1000	1040	240	320	240	320	60

PLB4 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040006	75040016I	75040016J	75040016N	75040016O	75040016P	75040016Q	75040016R	75040017A	75040017B
FORMATION	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star
ROCK TYPE	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
	tr.ch.	tr.sa.	tr.sa.	saussur.	saussur.	sa.tr.	cpx.	il.	am.	sp.ac.ep.
	PK	TB	TB	TD	TB	HMB	TB	TD	TB	TB
MAP COORDINATES	11951:2100	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103	11950:2103	11949:2103	11949:2103
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	43.56	51.25	51.32	50.87	49.51	51.57	53.86	48.25	52.23	52.84
TiO ₂	0.67	0.59	0.59	1.14	1.04	0.59	0.74	1.53	1.10	1.09
Al ₂ O ₃	6.88	15.02	15.02	15.87	14.07	14.92	14.79	14.14	13.46	13.57
Fe ₂ O ₃	14.12	10.22	10.43	12.68	14.49	10.28	9.46	16.53	12.73	11.94
FeO										
MnO	0.19	0.21	0.21	0.20	0.23	0.22	0.24	0.27	0.19	0.23
MgO	22.20	8.26	8.07	6.57	7.02	9.00	6.05	6.31	7.10	5.33
CaO	7.64	9.89	10.39	8.72	10.87	9.39	12.02	9.83	8.65	11.98
Na ₂ O	0.04	1.22	1.25	2.06	1.66	1.69	2.41	1.90	1.95	1.58
K ₂ O	0.04	1.12	0.84	0.37	0.57	0.31	0.44	0.43	0.34	0.41
P ₂ O ₅	0.04	0.04	0.04	0.06	0.07	0.04	0.05	0.11	0.10	0.10
H ₂ O {total}	4.16	1.57	1.47	1.51	0.80	1.62	0.29	0.68	1.16	0.35
CO ₂	0.05	0.13	0.12	0.33	0.10	0.06	0.06	0.05	0.02	0.07
TOTAL	99.59	99.52	99.75	100.38	100.43	99.69	100.41	100.03	99.03	99.49
Mg NUMBER	78.6	65.3	64.3	54.7	53.0	67.1	59.8	47.1	56.5	51.0
Ba PPM		185	153	56	175	70	168	75	49	27
Rb		49	43	19	15	14	15	15	16	20
Sr	10	163	179	298	121	100	144	131	104	116
Pb		2		2				2		
Th										2
U	1									
Zr	40	77	76	68	62	76	63	94	94	88
Nb		4	5	2	2	4	2	5	5	4
Y	10	20	19	21	23	20	21	28	27	24
La				5		7	2	2		6
Ce		2	6	4		5	7	9	11	9
Sc	3	62	57	127	53	49	12	46	54	15
V	193	244	246	212	354	241	272	403	364	324
Cr	3330	313	319	172	161	430	985	181	77	86
Co	89	45	43	44	51	44	44	54	41	40
Ni	1210	102	101	80	99	127	206	88	50	52
Cu	51	45	47	57	43	115	46	65	57	8
Zn	67	63	62	103	95	66	68	122	86	88
Ga	12	12	13	17	15	12	13	18	16	16
S	40	80	80	1200	240	120	40	840	160	40

PLB5 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040017C	75040017D	75040017E	75040019A	75040019E	75040019F	75040019G	75040019H*	75040020	75040022
FORMATION	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	NORTH STAR Basalt DC	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt
ROCK TYPE	sa.am. TD	amygdal. TB	am. TB	TG	chlorite schist	ch.tr. PK	ep. TG	ch.tr. PK	ta.ch. PK	HMG
MAP COORDINATES	11949:2103	11949:2103	11949:2103	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	51.40	55.25	52.12	49.75	27.46	41.46	49.84	42.50	39.54	50.09
TiO ₂	1.14	1.05	1.10	1.16	1.18	0.27	1.16	0.28	0.23	1.03
Al ₂ O ₃	14.19	13.37	14.00	14.81	20.21	6.09	14.30	6.18	5.21	12.45
Fe ₂ O ₃	13.48	11.22	13.36	13.25	16.97	11.45	13.03	11.57	11.67	13.99
FeO										
MnO	0.21	0.20	0.22	0.22	0.17	0.20	0.22	0.21	0.17	0.23
MgO	6.50	5.56	7.19	6.08	22.66	28.33	5.93	28.11	31.28	8.25
CaO	10.54	10.44	8.36	10.77	0.87	3.46	10.61	4.09	2.13	11.24
Na ₂ O	1.58	2.52	2.70	2.84	0.05	0.05	2.88	0.04	0.06	1.77
K ₂ O	0.47	0.23	0.34	0.34	0.01	0.01	0.32	0.01	0.01	0.70
P ₂ O ₅	0.11	0.10	0.10	0.07	0.20	0.01	0.07	0.02		0.08
H ₂ O{total}	0.62	0.33	0.91	0.75	10.12	7.70	0.71	0.26	9.28	0.49
CO ₂	0.09	0.05	0.01	0.03	0.02	0.02	0.07	0.03	0.03	0.16
TOTAL	100.33	100.32	100.41	100.07	99.92	99.05	99.14	100.30	99.61	100.48
Mg NUMBER	52.9	53.6	55.6	51.7	75.7	85.2	51.5	85.0	86.2	57.9
Ba PPM	63	66	59	54		4	43	29	7	84
Rb	25	9	10	17			17			31
Sr	135	157	122	195	6	25	192	25	14	148
Pb	3	2	2	2			2			
Th					8					
U			1		2					1
Zr	95	89	89	68	194	23	68	23	17	84
Nb	5	4	3	3	7		3			3
Y	27	24	24	19	10	6	19	6	4	25
La	2	2	4		27	3		4	2	
Ce	13	8	9		42					
Sc	43	18	36	65	220	5	68	4	3	10
V	344	319	337	355	220	114	362	120	80	312
Cr	85	77	92	57	29	4250	58	4170	5720	126
Co	44	37	43	43	85	85	46	88	89	54
Ni	53	48	51	57	452	1148	59	1163	1440	168
Cu	84	7	57	13	4	25	19	21	35	18
Zn	94	73	90	91	119	56	92	64	54	96
Ga	17	15	18	19	27	6	19	6	5	18
S	880	160	160		80	40		240	280	

PLB6 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040023	75040024A	75040024B	75040024C	75040024D	75040024E	75040025A	75040025B	75040025C	75040025D
FORMATION	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star
ROCK TYPE	Basalt	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]
	am.cl.	ch.tr.	am.pl.sa.	ta.tr.	am.pl.	al.qz.cl.	am.pl.	ch.	am.ch.pl.	ch.tr.
MAP COORDINATES	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104	11949:2104
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ wt	49.97	51.30	57.40	50.77	58.12	64.49	60.84	66.75	60.60	51.79
TiO ₂	0.81	0.58	0.84	0.56	0.83	0.63	0.71	0.48	0.71	0.52
Al ₂ O ₃	7.44	14.82	16.19	14.39	16.19	16.10	16.73	16.60	16.76	13.60
Fe ₂ O ₃	13.08	10.47	8.14	10.32	8.18	3.78	6.56	3.27	6.98	10.04
FeO										
MnO	0.25	0.25	0.14	0.21	0.14	0.10	0.11	0.09	0.11	0.20
MgO	14.29	8.61	3.85	9.64	3.99	1.76	2.58	0.85	2.58	10.82
CaO	12.69	10.15	7.67	9.67	8.02	7.35	5.75	3.57	5.83	8.77
Na ₂ O	0.43	1.64	3.43	1.16	2.52	3.21	4.61	6.56	3.55	0.82
K ₂ O	0.30	0.30	0.20	0.49	0.27	0.73	0.83	0.96	1.21	0.89
P ₂ O ₅	0.05	0.04	0.15	0.03	0.15	0.04	0.13	0.13	0.12	0.03
H ₂ O[total]	0.75	1.33	1.19	1.76	1.34	1.70	1.46	0.69	0.97	2.24
CO ₂	0.39	0.04	0.11	0.03	0.07	0.15	0.02	0.13	0.18	0.11
TOTAL	100.45	99.53	99.31	99.03	99.82	100.04	100.33	100.08	99.60	99.83
Mg NUMBER	71.8	65.7	52.4	68.5	53.2	52.0	47.8	37.7	46.3	71.5
Ba PPM	13	79	89	105	173	148	225	978	423	214
Rb	19	10	8	23	10	43	21	31	42	40
Sr	44	71	363	112	268	185	430	567	417	111
Pb			4		4		4	12	3	
Th			4		5		3	17	3	
U			2		1		1	2	2	
Zr	41	77	127	74	125	84	115	223	117	67
Nb		4	6	4	5	5	5	9	5	3
Y	15	20	16	19	16	18	12	24	12	17
La		8	25	5	26	8	16	74	18	2
Ce		7	42	11	39	8	29	121	21	3
Sc	13	46	93	42	110	81	27	15	27	41
V	325	240	144	237	149	222	95	22	92	225
Cr	1450	361	69	634	71	449	66	5	67	752
Co	64	46	27	43	28	31	19	5	24	44
Ni	345	115	68	138	68	189	23		24	146
Cu	43	20	46	18	42	52	6	15	161	12
Zn	86	72	66	71	59	25	64	41	65	61
Ga	12	12	19	13	18	12	17	18	18	11
S	80	40	240	80	240	400	400	240	1640	80

PLB7 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040025E	75040025F	75040026A	75040026B	75040026C	75040028A	75040028B	75040029B	75040029C	75040029E
FORMATION	North Star	North Star	North Star	North Star	North Star	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada
ROCK TYPE	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt[U]	Basalt	Basalt	Basalt	Basalt DCF	Basalt
MAP COORDINATES	Na-DAC	am.	am.	am.sa.	am.pl.	am.	tr.	am.pl.	gt.pl.	am.
1:100 000 SHEET	11949:2104	11949:2104	11948:2104	11948:2104	11948:2104	11948:2107	11948:2107	11947:2107	11947:2107	11947:2107
	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ wgt	66.92	58.23	50.57	51.32	61.39	48.35	47.73	50.01	70.11	48.68
TiO ₂	0.49	1.29	1.38	0.58	0.69	0.85	0.81	1.50	0.26	1.64
Al ₂ O ₃	17.05	17.13	13.52	14.85	16.75	5.74	6.04	17.28	15.80	12.34
Fe ₂ O ₃	3.37	8.92	15.78	10.81	6.62	15.64	15.52	13.26	2.66	14.59
FeO										
MnO	0.09	0.17	0.25	0.32	0.11	0.26	0.26	0.20	0.02	0.13
MgO	0.78	2.42	6.15	7.69	2.58	16.58	16.05	4.67	0.60	9.21
CaO	3.45	7.01	9.58	11.83	5.99	11.28	11.45	8.42	3.16	9.28
Na ₂ O	6.37	2.92	1.47	0.85	3.91	0.50	0.54	2.77	5.53	2.41
K ₂ O	0.94	0.70	0.35	0.27	0.90	0.12	0.14	0.82	0.81	0.14
P ₂ O ₅	0.14	0.35	0.13	0.03	0.12	0.05	0.05	0.39	0.03	0.16
H ₂ O[total]	0.68	1.01	1.00	1.17	0.85	1.04	1.05	1.01	0.83	1.17
CO ₂	0.05	0.04	0.12	0.10	0.10	0.04	0.03	0.13	0.03	0.25
TOTAL	100.33	100.19	100.30	99.82	100.01	100.45	99.67	100.46	99.84	100.00
Mg NUMBER	35.0	38.7	47.6	62.4	47.6	71.2	70.7	45.1	34.4	59.5
Ba PPM	431	1115	89	18	275	14	10	296	260	27
Rb	24	33	5	3	27	2	2	58	31	2
Sr	329	594	130	95	449	20	21	502	328	74
Pb	8	14	2		5		2	4	2	
Th	7	19			2			5	4	
U		2		1					2	
Zr	201	229	105	77	119	50	50	144	298	137
Nb	10	10	4	2	5	3	3	9	8	6
Y	36	24	29	19	13	18	18	26	32	36
La	36	79		5	18			59	22	7
Ce	65	138	4	6	28			114	39	13
Sc	16	32	21	26	23	7	9	54	29	8
V	70	26	420	278	90	274	242	233	15	374
Cr	7	11	74	331	76	1930	1930	28	7	280
Co	5	14	54	51	19	73	71	45	8	47
Ni			56	108	23	320	351	75	5	84
Cu	19	5	82	7	42	63	30	61	10	91
Zn	41	78	91	122	65	96	100	92	13	57
Ga	21	18	21	14	16	7	9	19	18	19
S	360	80	360		240	120	120	440		240

PLB8 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040029G	75040030	75040031A	75040031B	75040032A	75040032C	75040032D	75040033A	75040033B	75040033C
FORMATION	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	North Star Basalt[U]	North Star Basalt[U]	North Star Basalt[U]	North Star Basalt[U]	North Star Basalt[U]	North Star Basalt[U]
ROCK TYPE	sp.am. HMB	tr.cpx. HMB	qz.am. TB	qz.am. TB	am.pl. HALB	TG	TG	am. HALB	am. TD	am. DAC
MAP COORDINATES	11947:2107	11947:2107	11947:2107	11947:2107	11948:2104	11948:2104	11948:2104	11948:2104	11948:2104	11948:2104
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	51.55	52.05	49.89	48.82	50.49	48.70	48.10	50.13	53.74	62.03
TiO ₂	0.68	0.69	2.00	2.03	1.15	1.13	1.18	1.52	1.29	0.74
Al ₂ O ₃	6.52	6.58	12.93	12.44	18.15	15.71	14.98	18.58	15.42	16.57
Fe ₂ O ₃	10.81	10.95	18.65	19.57	11.32	12.96	14.31	12.02	11.95	5.62
FeO										
MnO	0.22	0.22	0.28	0.28	0.20	0.20	0.23	0.21	0.22	0.10
MgO	14.12	13.53	4.63	4.62	4.41	6.60	7.46	3.63	5.52	2.69
CaO	14.42	14.59	8.15	7.41	8.79	11.19	10.19	9.02	7.73	5.12
Na ₂ O	0.95	1.00	2.92	3.00	4.33	1.94	2.06	4.10	3.21	5.36
K ₂ O	0.32	0.31	0.38	0.39	0.33	0.94	0.54	0.40	0.77	0.33
P ₂ O ₅	0.04	0.04	0.18	0.17	0.18	0.06	0.09	0.23	0.22	0.11
H ₂ O{total}	0.35	0.41	0.37	0.63	0.74	0.83	0.83	0.31	0.96	0.72
CO ₂	0.05	0.04	0.05	0.04	0.07	0.14	0.03	0.08	0.39	0.08
TOTAL	100.03	100.41	100.43	99.40	100.16	100.40	100.00	100.23	101.42	100.47
Mg NUMBER	75.3	74.2	36.6	35.5	47.6	54.3	54.8	41.3	51.8	48.6
Ba PPM	99	96	83	60	106	193	180	126	159	205
Rb	23	19	7	7	6	55	23	9	40	12
Sr	92	90	148	155	330	245	145	325	274	383
Pb			5	4	3			4	2	32
Th					5			4	2	5
U			1			1		2		
Zr	40	39	160	137	137	59	73	166	99	145
Nb	2	2	7	6	6	2	3	7	5	6
Y	16	15	43	36	25	20	22	30	24	16
La			5	6	29			33	17	19
Ce			16	17	46	6		60	34	29
Sc	52	9	36	45	94	105	133	30	47	68
V	258	248	430	455	224	360	355	222	239	98
Cr	1730	1760	62	67	27	352	169	11	127	42
Co	40	47	46	55	36	44	52	35	33	22
Ni	188	185	36	41	36	91	123	12	41	38
Cu	8	96	100	155	9	127	82	5	10	57
Zn	47	56	187	199	75	83	94	76	79	66
Ga	8	7	19	20	20	17	16	21	17	19
S		80	720	320	40	440	360	40	360	240

PLB9 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040033D	75040034A	75040034B	75040034C	75040034D	75040034E	75040034F	75040035	75040036	75040037A
FORMATION	North Star Basalt[U]	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	MOUNT ADA BASALT	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt
ROCK TYPE	am. DAC	am. TB	am. TD	ch.tr. PK	ta.se. PK	tr.se.ch. PK	ch.tr. PK	ch.tr. PK	am. TD	am. TB
MAP COORDINATES	11948:2104	11948:2105	11948:2105	11948:2105	11948:2105	11948:2105	11948:2105	11948:2105	11948:2105	11948:2105
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	60.78	49.40	49.69	42.07	21.52	39.12	44.95	40.41	48.99	50.71
TiO ₂	0.74	1.38	1.42	0.79	0.35	0.50	0.75	0.58	1.41	1.29
Al ₂ O ₃	16.22	14.16	14.14	5.58	2.46	3.57	5.27	4.23	14.01	13.82
Fe ₂ O ₃	7.07	15.05	14.94	15.85	8.65	15.58	14.25	15.80	15.61	14.47
FeO										
MnO	0.12	0.19	0.24	0.25	0.14	0.25	0.24	0.27	0.26	0.24
MgO	3.24	6.98	6.56	23.45	23.31	28.67	22.61	27.82	5.97	5.61
CaO	5.14	9.39	9.38	6.80	17.21	4.10	8.19	3.42	10.22	9.97
Na ₂ O	5.32	2.78	2.88	0.07	0.03	0.06	0.06	0.02	2.68	2.57
K ₂ O	0.26	0.30	0.32	0.03	0.03	0.01	0.02	0.01	0.59	0.24
P ₂ O ₅	0.12	0.10	0.11	0.07	0.04	0.04	0.07	0.04	0.10	0.12
H ₂ O[total]	0.63	0.55	0.50	4.41	3.69	7.37	3.49	6.90	0.59	0.38
CO ₂	0.30	0.03	0.05	0.03	21.90	0.71	0.03	0.12	0.05	0.07
TOTAL	99.94	100.31	100.23	99.40	99.33	99.98	99.93	99.62	100.48	99.49
Mg NUMBER	51.6	51.9	50.6	77.5	86.3	81.1	78.7	80.4	47.1	47.5
Ba PPM	127	76	72	9	16	53	17	28	144	38
Rb	8	8	8						25	4
Sr	358	144	163	17	121	23	12	15	127	163
Pb	4	2	2							
Th	4									
U		1								
Zr	142	88	87	42	19	26	41	29	86	103
Nb	5	4	4						5	5
Y	16	27	28	11		7	11	8	24	27
La	20	4	4		2					6
Ce	33	13	10						8	15
Sc	67	32	26	3	2	3	3	4	20	10
V	104	409	416	203	93	132	208	149	208	330
Cr	113	176	179	4780	2640	5650	4100	352	192	78
Co	24	46	49	107	61	127	90	124	50	47
Ni	82	76	69	1480	1030	2093	1450	2061	76	49
Cu	7	10	99	58	23	20	62	59	17	108
Zn	68	79	85	58	45	66	69	79	113	108
Ga	19	15	17	12	4	8	11	9	16	17
S	80	40	320	40	80	200	360		40	40

PLB10 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040038A	75040038B	75040038C	75040038D	75040039B	75040039C	75040047A	75040047B	75040047C	75040047D
FORMATION	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada
ROCK TYPE	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
MAP COORDINATES	11948:2105	11948:2105	11948:2105	11948:2105	11947:2107	11947:2107	11945:2102	11945:2102	11945:2102	11945:2102
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	57.91	53.05	58.39	50.89	50.31	50.69	50.66	50.50	49.84	51.34
TiO ₂	1.03	1.04	1.11	0.96	0.87	1.14	0.61	0.90	0.77	0.83
Al ₂ O ₃	16.62	16.77	16.53	15.33	12.76	13.71	8.62	13.17	11.88	12.12
Fe ₂ O ₃	8.66	9.96	8.91	10.88	12.91	13.75	10.52	13.36	13.01	11.85
FeO										
MnO	0.13	0.16	0.15	0.18	0.20	0.22	0.21	0.21	0.22	0.20
MgO	2.70	4.30	2.53	7.21	6.87	6.38	12.48	8.45	9.71	7.95
CaO	5.86	8.82	6.22	8.63	12.21	10.28	11.95	9.41	10.72	10.70
Na ₂ O	4.79	4.09	3.96	2.81	1.21	2.06	2.00	1.71	1.51	1.91
K ₂ O	1.06	0.84	1.06	1.23	0.29	0.51	0.22	0.10	0.18	0.24
P ₂ O ₅	0.19	0.20	0.23	0.15	0.08	0.08	0.05	0.07	0.05	0.08
H ₂ O [total]	0.96	0.64	0.83	1.15	0.90	0.43	1.80	2.36	2.32	1.06
CO ₂	0.03	0.02	0.04	0.05	0.44	0.17	0.51	0.03	0.22	1.93
TOTAL	99.94	99.89	99.96	99.47	99.05	99.42	99.63	100.27	100.43	100.21
Mg NUMBER	42.1	50.1	39.8	60.7	55.3	51.9	73.4	59.6	63.5	61.0
Ba PPM	255	486	565	428	45	70	51	36	57	120
Rb	39	39	44	58	12	13	4		2	4
Sr	548	564	458	458	119	128	63	103	101	115
Pb	4	4	5	2		2			3	
Th	7	6	7	3						
U			1				1			
Zr	165	121	171	88	69	76	39	71	53	75
Nb	8	5	8	4	3	3	2	3	2	3
Y	24	23	26	19	20	23	14	20	17	23
La	31	35	33	24		3		3		3
Ce	55	60	61	40	3	9			4	
Sc	56	37	64	68	11	14	7	10	8	7
V	164	193	154	167	288	337	254	253	235	218
Cr	12	55	10	84	356	162	2320	409	653	447
Co	54	32	24	45	45	45	43	47	50	45
Ni	15	31	14	196	84	81	145	74	134	94
Cu	6	10	38	17	78	128	72	109	62	116
Zn	73	103	95	102	98	91	61	91	87	79
Ga	20	18	20	17	13	16	8	12	12	12
S	320	40	80	40	320	840	120	120	120	280

PLB11 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040047E	75040054A	75040054B	75040055A	75040055B	75040055C	75040056A	75040056B	75040056C	75040056D
FORMATION	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt
ROCK TYPE	ch.tl. TB	ca.al.ch. TB	ca.al.ch. TB	am.ep. TB	am.ep.sp. TB	ch.am. TB	ep.sp.am. TB	am. TB	ca.ch. TB	ep.am. TB
MAP COORDINATES	11945:2102	11950:2059	11950:2059	11950:2059	11950:2059	11950:2059	11950:2058	11950:2058	11950:2058	11950:2058
1:100 000 SHEET	MARBLE BAR	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN
SiO ₂ %wt	50.33	47.59	48.08	49.38	48.76	49.91	48.85	48.49	48.77	49.61
TiO ₂	0.86	2.09	2.11	2.00	1.90	1.95	1.89	1.43	2.17	1.97
Al ₂ O ₃	12.92	12.86	12.72	13.83	13.35	13.70	13.80	13.53	12.11	13.65
Fe ₂ O ₃	12.86	17.46	16.67	13.94	14.21	14.57	15.56	16.22	18.12	15.90
FeO										
MnO	0.19	0.23	0.20	0.20	0.20	0.19	0.23	0.24	0.21	0.23
MgO	7.54	4.28	3.30	6.36	6.18	6.16	5.71	6.55	3.94	5.39
CaO	10.28	6.30	6.55	8.44	9.08	8.06	8.95	8.34	6.12	8.92
Na ₂ O	1.98	2.06	2.36	3.02	2.65	2.75	2.42	2.58	2.28	2.27
K ₂ O	0.20	0.35	0.20	0.22	0.22	0.26	0.25	0.09	0.30	0.27
P ₂ O ₅	0.07	0.22	0.22	0.17	0.16	0.17	0.15	0.11	0.25	0.17
H ₂ O [total]	1.90	2.60	2.12	1.91	2.10	1.92	1.96	2.09	2.21	1.89
CO ₂	0.47	4.35	4.70	1.00	1.63	0.46	0.25	0.76	2.60	0.11
TOTAL	99.60	100.39	99.23	100.47	100.44	100.10	100.02	100.43	99.08	100.38
Mg NUMBER	57.7	36.3	31.6	51.5	50.3	49.6	46.1	48.5	33.6	44.1
Ba PPM	90	250	48	139	105	117	130	74	370	163
Rb	3	6	3	2	3	3	4		6	5
Sr	107	171	128	73	85	98	163	138	95	172
Pb		2	2		2		3			3
Th										
U		1						1	1	
Zr	69	174	172	123	132	141	135	95	163	146
Nb	3	7	8	6	6	6	7	5	8	7
Y	19	37	34	35	36	39	35	28	45	38
La	2	10	10	3	3	5	4	4	4	4
Ce		22	21	11	15	13	9	13	28	19
Sc	9	20	17	14	15	13	20	17	24	20
V	246	385	332	434	410	425	424	345	442	440
Cr	337	71	34	218	210	220	160	232	38	146
Co	44	48	39	41	40	44	43	51	43	44
Ni	76	45	36	56	57	61	74	87	20	67
Cu	80	50	49	7	34	97	36	61	63	52
Zn	90	131	125	69	72	76	117	117	98	115
Ga	13	23	21	19	20	19	19	17	23	19
S	400	40	1560	40	160	40	440		1880	1400

PLB12 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040056E	75040056F	75040057A	75040057B	75040092	75040093A	75040093B	75040094	75040095A	75040095B
FORMATION	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt DC	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt UC
ROCK TYPE	sp.ep.am. TB	ep.am. TB	cpx.am.ep. pyrox.PYX	am.cpx.ep. pyrox.PYX	am. pyrox.PYX	su.ep.ch. TB	pyrox.PYX HMB	ca.ch.ep. HMB	ca.ch. TB	ca.ch. TB
MAP COORDINATES	11950:2058	11950:2058	11950:2058	11950:2058	11950:2058	11951:2058	11951:2058	11951:2058	11951:2058	11951:2058
1:100 000 SHEET	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN
SiO ₂ %wt	48.02	49.30	50.19	50.79	50.91	47.74	50.23	46.60	44.94	44.51
TiO ₂	1.50	1.96	0.68	0.76	0.70	1.73	0.96	1.02	1.08	0.97
Al ₂ O ₃	13.56	13.73	7.05	7.19	7.49	13.72	10.14	10.90	12.08	11.40
Fe ₂ O ₃	15.10	16.04	11.35	11.67	10.83	16.32	13.04	12.84	12.41	11.54
FeO										
MnO	0.23	0.23	0.22	0.23	0.22	0.23	0.23	0.21	0.20	0.22
MgO	6.08	5.34	12.62	12.76	12.19	6.06	10.02	9.12	4.67	4.22
CaO	9.06	9.07	14.55	14.26	14.79	5.99	12.22	9.76	10.92	12.45
Na ₂ O	2.97	2.30	1.05	1.13	1.45	2.95	1.33	0.15	1.89	1.64
K ₂ O	0.08	0.24	0.09	0.07	0.08	0.04	0.09	0.01	0.19	0.04
P ₂ O ₅	0.11	0.16	0.04	0.03	0.04	0.14	0.07	0.07	0.04	0.08
H ₂ O[total]	1.80	1.92	0.82	0.85	0.45	2.87	1.71	4.09	2.79	3.03
CO ₂	1.08	0.14	0.42	0.52	0.42	1.26	0.17	4.70	8.30	9.55
TOTAL	99.59	100.43	99.08	100.26	99.57	99.05	100.21	99.47	99.51	99.65
Mg NUMBER	48.4	43.7	72.1	71.8	72.4	46.4	64.2	62.3	46.7	46.0
Ba PPM	66	109	147	134	117	69	95	12	37	19
Rb		4							6	
Sr	142	165	92	60	61	98	130	198	131	138
Pb		3				3		2	2	
Th										
U							1			
Zr	98	143	40	45	43	132	74	82	86	73
Nb	6	6	3	2		6	3	4	4	3
Y	28	38	16	17	16	33	21	22	23	21
La	8	3			4	3	2	3	3	
Ce	8	16				12	4	5	8	6
Sc	14	19	7	7	6	18	9	18	19	18
V	340	444	236	250	216	355	251	277	282	265
Cr	211	142	1340	1340	1710	82	54	385	101	100
Co	48	45	47	49	46	48	54	50	43	39
Ni	78	69	178	173	176	54	143	111	60	57
Cu	121	46	63	84	52	77	81	71	89	93
Zn	104	116	59	64	58	115	81	86	86	77
Ga	16	19	8	9	9	18	12	13	14	14
S	240	1080	760	200	160	360	40	80	80	560

PLB13 - PILBARA/TALGA SUBGROUP/TALGA-COONGAN

SAMPLE NUMBER	75040096	75040097	75040098A	75040098B						
FORMATION	MOUNT ADA	MOUNT ADA	Mount Ada	Mount Ada						
ROCK TYPE	Basalt DA	Basalt DCF	Basalt	Basalt						
	ca.ch.	ch.al.	ch.sa.qz.	ch.sa.qz.						
MAP COORDINATES	11951:2057	11951:2057	11951	11951:2057						
1:100 000 SHEET	COONGAN	COONGAN	COON	COONGAN						
SiO ₂ %wt	46.68	60.48	48.77	49.22						
TiO ₂	1.06	0.96	1.85	1.63						
Al ₂ O ₃	11.69	15.55	13.79	14.25						
Fe ₂ O ₃	11.37	7.64	16.58	15.96						
FeO										
MnO	6.19	0.09	0.24	0.22						
MgO	4.83	2.56	5.79	6.18						
CaO	10.89	2.82	7.00	6.28						
Na ₂ O	1.77	5.32	0.59	1.04						
K ₂ O	0.01	0.29	0.08	0.08						
P ₂ O ₅	0.09	0.14	0.14	0.11						
H ₂ O[total]	2.57	1.91	3.82	3.72						
CO ₂	8.35	1.80	1.70	1.26						
TOTAL	99.50	99.56	100.51	99.95	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	49.7	43.8	44.9	47.4						
Ba PPM		38	31	428						
Rb		8	2	2						
Sr	112	143	333	481						
Pb	2		3	4						
Th		5								
U		1								
Zr	85	177	127	107						
Nb	4	7	5	5						
Y	21	26	33	29						
La	3	15		3						
Ce	6	34	10							
Sc	26	14	21	19						
V	273	120	400	391						
Cr	86	31	137	157						
Co	41	20	52	53						
Ni	56	28	68	79						
Cu	121	9	62	68						
Zn	77	44	120	115						
Ga	14	17	17	17						
S	80	240	160	240						

PLB14 - PILBARA/DUFFER FORMATION/MARBLE BAR

SAMPLE NUMBER FORMATION	75040043A* Duffer Formation	75040045A Duffer Formation	75040045C Duffer Formation	75040045H Duffer Formation	75040046A Duffer Formation	75040046C DUFFER DC Formation	75040046E DUFFER DC Formation	75040046F DUFFER DC Formation	75040046G Duffer Formation	75040046H Duffer Formation
ROCK TYPE	am.ep. TD	am.ep.sa. pyrox.PYX	sa. pyrox.PYX	am.ep.sa. ch.TB	ch.sa.am. pyrox.PYX	ep.al. Na-DAC	Na-DAC tuff	Na-dacite tuff	il.sa.am. TD	ch.sa. pyrox.PYX
MAP COORDINATES 1:100 000 SHEET	11946:2107 MARBLE BAR	11945:2107 MARBLE BAR	11945:2107 MARBLE BAR	11945:2107 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR
SiO ₂ %wt	50.29	50.30	51.28	52.66	50.01	62.60	61.85	62.25	50.21	50.59
TiO ₂	1.35	0.60	0.56	0.97	0.38	0.70	0.53	0.50	1.08	0.38
Al ₂ O ₃	13.78	10.71	9.55	15.91	12.36	16.09	16.04	16.42	14.58	12.57
Fe ₂ O ₃	15.32	12.68	12.07	11.28	10.62	6.76	5.82	5.61	13.57	10.59
FeO										
MnO	0.22	0.23	0.23	0.16	0.18	0.12	0.21	0.18	0.22	0.19
MgO	5.86	10.86	12.23	5.37	12.50	2.56	2.76	2.58	6.61	12.41
CaO	9.09	10.82	11.30	8.01	7.83	2.44	2.98	2.80	9.72	9.60
Na ₂ O	2.51	1.78	1.23	2.54	0.83	4.65	4.47	6.17	2.26	0.50
K ₂ O	0.56	0.29	0.44	0.64	0.31	1.80	1.35	0.35	0.25	0.98
P ₂ O ₅	0.08	0.04	0.02	0.12	0.02	0.12	0.10	0.09	0.07	0.02
H ₂ O [total]	0.96	1.18	1.05	2.20	3.38	2.08	2.25	1.61	1.71	2.71
CO ₂	0.33	0.38	0.33	0.34	0.75	0.03	1.13	1.47		0.25
TOTAL	100.35	99.87	100.29	100.20	99.17	99.95	99.49	100.03	100.28	100.19
Mg NUMBER	47.1	66.6	70.2	52.6	73.3	46.9	52.5	51.7	53.2	73.2
Ba PPM	836	148	211	389	226	868	397	88	80	776
Rb	24	7	13	16	6	28	43	10	5	14
Sr	186	163	131	367	75	381	315	221	243	91
Pb				5	3	6	4		7	9
Th				2		8	3	3		
U	1					1	1	1		
Zr	83	30	29	127	19	164	115	104	56	19
Nb	3	2		6		7	5	4	3	
Y	26	12	12	25	10	18	10	9	19	11
La				14	3	22	19	19		
Ce				28		37	32	31		
Sc	14	6	6	14	19	9	7	6	8	17
V	414	162	250	163	216	109	77	81	342	229
Cr	151	215	953	146	1150	18	47	54	147	1010
Co	42	51	52	37	40	15	18	17	45	47
Ni	84	211	236	76	219	32	44	49	104	213
Cu	110	94	81	57	68	24	5	4	114	85
Zn	107	80	75	79	76	73	151	122	98	75
Ga	16	10	9	15	10	17	18	19	16	11
S	320	40	80	280	200		280	160		440

PLB15 - PILBARA/DUFFER FORMATION/MARBLE BAR

SAMPLE NUMBER FORMATION	750400461 Duffer Formation	75040046J Duffer Formation	75040046L Duffer DC Formation	75040046M Duffer DC Formation	75040046N Duffer Formation	75040059A Duffer Formation	75040060A Duffer Formation	75040060B DUFFER DC Formation	75040060C Duffer Formation	75040060D Duffer Formation
ROCK TYPE	se.ca.al. tu.RHY	sa.ch.il. TD	al.tuff Na-RHY	al.tuff Na-RHY	ep.ch.al. TA	ca.tuff Na-RHY	tuff K-DAC	tuff K-RHY	il.ch.al. TB	il.ch.al. TB
MAP COORDINATES 1:100 000 SHEET	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11945:2106 MARBLE BAR	11944:2108 MARBLE BAR	11944:2108 MARBLE BAR	11944:2108 MARBLE BAR	11944:2108 MARBLE BAR	11944:2108 MARBLE BAR
SiO ₂ %wt	69.24	50.04	71.15	70.84	59.27	56.04	58.65	74.48	51.94	50.14
TiO ₂	0.33	1.33	0.33	0.32	0.84	0.93	0.78	0.23	0.87	2.33
Al ₂ O ₃	12.94	13.28	13.82	13.74	15.16	14.48	14.83	12.94	13.82	12.71
Fe ₂ O ₃	4.25	16.23	3.82	3.74	7.41	7.83	6.86	2.76	12.54	17.93
FeO										
MnO	0.14	0.25	0.06	0.06	0.12	0.14	0.11	0.05	0.21	0.25
MgO	1.32	6.43	0.94	0.99	3.82	3.65	4.45	0.56	6.86	4.40
CaO	3.01	8.86	2.23	2.48	5.92	6.07	3.19	0.99	10.52	7.75
Na ₂ O	1.16	1.64	4.15	4.11	3.37	3.17	2.44	2.96	1.37	2.23
K ₂ O	3.13	0.22	3.03	2.77	0.82	0.88	2.02	2.64	0.43	0.06
P ₂ O ₅	0.04	0.09	0.04	0.03	0.22	0.23	0.14	0.01	0.07	0.19
H ₂ O{total}	1.81	1.80	0.38	0.67	1.97	2.37	2.43	1.35	1.53	2.35
CO ₂	2.30	0.20	0.03	0.03	0.93	4.30	3.85	0.70	0.04	0.04
TOTAL	99.68	100.37	99.98	99.78	99.85	100.09	99.75	99.67	100.20	100.38
Mg NUMBER	41.9	48.0	36.4	38.1	54.6	52.1	60.2	32.1	56.0	36.4
Ba PPM	988	84	750	369	858	356	496	899	175	31
Rb	54	5	119	24	47	28	63	75	11	
Sr	332	190	76	470	361	352	104	127	131	287
Pb	5	6	4	5	5	7	6	3	4	7
Th	10		13	5	9	4	5	17		
U	2		2	2	2	1	1	3		
Zr	281	84	300	217	304	144	146	388	80	168
Nb	12	3	13	10	12	7	6	20	4	8
Y	40	27	49	21	41	22	19	60	23	44
La	37		68	29	40	27	26	63	3	4
Ce	69	9	120	55	72	47	42	119	10	27
Sc	7	8	7	6	12	10	10	4	6	8
V	23	394	16	103	24	143	127	7	282	519
Cr	11	154	14	12	129	85	67	7	225	223
Co	4	45	8	7	22	22	23	5	43	39
Ni	6	89	12	12	79	51	51	3	60	37
Cu	11	87	5	5	13	7	218	5	60	45
Zn	52	116	25	23	68	89	84	19	97	150
Ga	17	16	17	15	18	16	17	21	15	21
S	40	920	40	40	80	120	320	400	200	40

PLB16 - PILBARA/DUFFER FORMATION/MARBLE BAR

SAMPLE NUMBER	75040062A*	75040062B	75040064B	75040065B	75040065C*	75040066A	75040066B	75040066C*	75040066D	75040067A
FORMATION	Duffer	Duffer DC	DUFFER DC	DUFFER DC	DUFFER DC	Duffer	Duffer	Duffer	Duffer	DUFFER DC
ROCK TYPE	sa.ep. QZLAT	sa.ch. DAC	se. Na-DAC	ca.ch. Na-DAC	se. Na-DAC	ep.ch.ca. TB	ch.tuff TB	il. TD	ca.agglom. TA	al.ch. TA
MAP COORDINATES	11944:2108	11944:2108	11944:2108	11943:2109	11943:2109	11943:2109	11943:2109	11943:2109	11943:2109	11943:2109
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	63.08	62.68	75.52	69.39	76.27	53.98	53.44	49.66	55.76	56.26
TiO ₂	0.62	0.69	0.17	0.37	0.31	1.58	1.37	2.18	1.22	1.01
Al ₂ O ₃	16.63	15.90	12.97	14.06	11.56	15.10	14.65	13.47	14.02	15.71
Fe ₂ O ₃	5.42	5.48	2.38	4.90	2.48	11.24	9.45	16.95	9.70	9.29
FeO										
MnO	0.08	0.09	0.05	0.08	0.06	0.21	0.19	0.24	0.18	0.17
MgO	1.86	2.04	0.32	0.56	0.37	4.16	3.31	4.85	3.20	4.86
CaO	3.55	3.23	1.23	1.53	1.87	5.13	7.11	7.22	6.45	2.39
Na ₂ O	2.94	4.61	3.72	4.80	2.87	2.56	2.34	2.25	2.75	2.86
K ₂ O	3.13	1.50	1.98	1.80	2.13	2.09	2.80	0.47	1.57	1.26
P ₂ O ₅	0.13	0.13		0.04	0.04	0.35	0.30	0.18	0.24	0.15
H ₂ O [total]	1.62	2.71	1.10	1.88	1.01	2.54	2.00	2.14	2.03	2.84
CO ₂	0.19	1.43	1.04	0.04	1.39	1.46	3.05	0.82	2.20	2.65
TOTAL	99.25	100.49	100.48	99.45	100.36	100.40	100.01	100.43	99.32	99.45
Mg NUMBER	44.4	46.4	23.8	21.0	25.8	46.3	44.9	40.0	43.5	54.9
Ba PPM	1667	426	719	498	742	1020	783	368	541	341
Rb	66	41	62	63	51	42	31	22	23	51
Sr	443	199	123	77	142	324	256	321	379	84
Pb	8	2	4	7	6	8	6	6	10	3
Th	8	5	20	12	15	4	5		5	5
U	1	1	3	2	3	1	1	1	1	1
Zr	158	167	389	285	350	125	146	144	115	163
Nb	5	6	18	13	16	7	8	6	8	7
Y	15	15	51	47	53	26	28	35	24	24
La	27	20	78	52	61	22	30	7	21	25
Ce	43	36	149	89	109	45	55	19	36	42
Sc	7	8	1	3	2	10	8	9	8	14
V	87	100	5	12	16	183	228	434	180	165
Cr	15	18	8	9	8	74	16	250	14	45
Co	16	15	4	5	4	28	23	45	22	27
Ni	9	23	3	5	6	7	6	49	6	47
Cu	5	5	6	5	5	12	25	52	41	4
Zn	48	59	17	83	34	114	91	123	89	158
Ga	18	20	18	15	21	16	18	18	17	19
S	40	40	200	40	200	80	280	1440	440	40

PLB17 - PILBARA/DUFFER FORMATION/MARBLE BAR

SAMPLE NUMBER	75040069E	75040072B	75040100A	75040100B						
FORMATION	Duffer Formation	TOWER DCA Formation	DUFFER DC Formation	DUFFER DC Formation						
ROCK TYPE	ch.al. TA	ch.al. TA	qz.se. RHY	qz.se. RHY						
MAP COORDINATES	11942:2110	11942:2110	12021:2138	12021:2138						
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	NULLAGINE	NULLAGINE						
SiO ₂ %wt	56.11	64.07	68.91	66.40						
TiO ₂	1.15	0.87	1.46	1.57						
Al ₂ O ₃	14.08	8.20	16.22	17.28						
Fe ₂ O ₃	10.89	12.23	3.11	3.65						
FeO										
MnO	0.16	0.09	0.01	0.03						
MgO	1.80	7.13	2.54	2.75						
CaO	5.65	1.23	0.15	0.11						
Na ₂ O	3.11	0.04	0.21	0.24						
K ₂ O	0.85	0.01	4.03	4.28						
P ₂ O ₅	0.17	0.06	0.23	0.17						
H ₂ O [total]	2.04	3.64	2.99	3.21						
CO ₂	4.15	1.62	0.01	0.02						
TOTAL	100.16	99.19	99.89	99.71	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	27.8	57.6	65.5	63.7						
Ba PPM	420	7	419	274						
Rb	23		88	37						
Sr	228	12	54	492						
Pb	8	2		3						
Th	2		2	4						
U	1		1	1						
Zr	158	70	159	171						
Nb	7	3	8	8						
Y	24	16	27	26						
La	19	4	15	17						
Ce	39		37	32						
Sc	20	13	57	62						
V	220	219	272	116						
Cr	76	816	223	226						
Co	54	54	8	8						
Ni	186	215	49	13344						
Cu	90	104	2114	8224						
Zn	92	80	47	8224						
Ga	17	10	19	8224						
S	720	480	240	8224						

PLB18 - PILBARA/SALGASH SUBGROUP/MARBLE BAR

SAMPLE NUMBER	75040073A	75040073G	75040075B	75040076A	75040076B	75040076C	75040078A	75040078C	75040078D	75040078E
FORMATION	APEX DC US	APEX DC US	APEX DC	Apex	Apex	Apex	Apex	Apex	APEX DCUS	Apex
ROCK TYPE	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
	ch.al.	qx.al.ch.	ch.	cp.x.il.	cp.x.il.	am.	cp.x.ch.ta.	ch.	ch.	ch.tr.cpx.
	TA	TA	TA	TD	TD	TG	pyrox.PYX	DAC	DAC	HMB
MAP COORDINATES	11942:2111	11942:2111	11942:2110	11942:2110	11942:2110	11942:2110	11941:2110	11941:2110	11941:2110	11941:2110
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	59.08	56.52	59.66	49.07	50.11	50.87	45.76	56.33	61.32	50.23
TiO ₂	1.08	1.06	0.89	0.81	1.09	1.42	0.37	1.22	1.19	0.46
Al ₂ O ₃	12.00	12.98	13.64	14.31	13.50	12.17	6.62	15.23	14.73	9.74
Fe ₂ O ₃	12.49	14.73	12.94	11.90	14.51	16.59	12.01	16.73	13.36	11.26
FeO										
MnO	0.07	0.09	0.07	0.19	0.24	0.22	0.21	0.13	0.10	0.20
MgO	9.06	8.56	6.84	8.10	6.47	6.67	20.65	2.82	2.08	12.95
CaO	0.41	0.44	0.15	9.36	7.90	5.78	9.36	0.44	0.32	9.56
Na ₂ O	0.05	0.01	0.11	3.10	2.75	1.91	0.05	3.13	3.83	1.04
K ₂ O	0.05	0.03	0.81	0.37	0.41	0.78		0.15	0.28	0.04
P ₂ O ₅	0.25	0.25	0.05	0.04	0.06	0.10	0.01	0.22	0.16	0.01
H ₂ O [total]	5.03	5.11	4.71	2.58	2.25	2.56	4.61	3.12	2.38	3.09
CO ₂	0.06	0.11	0.05	0.16	0.38	0.04	0.03	0.03	0.03	0.68
TOTAL	99.63	99.89	99.92	99.99	99.67	99.11	99.68	99.55	99.78	99.26
Mg NUMBER	62.8	57.5	55.2	61.3	50.9	48.4	80.0	28.2	26.6	72.8
Ba PPM	2		134	91	91	89	5	138	215	24
Rb	15		24	6	7	9		2	8	
Sr	14	11	9	149	128	130	10	66	114	55
Pb								43		
Th	2							3	3	
U								1	1	
Zr	183	178	53	45	61	91	18	172	168	24
Nb	9	8	2	2	4	4		7	7	
Y	32	38	17	16	22	30	7	26	24	9
La	13	14					3	10	13	4
Ce	25	25						24	18	
Sc	58	55	43	14	12	14	9	27	22	19
V	245	202	344	278	366	438	147	250	235	186
Cr	98	958	246	244	21	24	2330	152	144	1430
Co	52	63	50	44	49	49	84	66	82	60
Ni	217	274	123	93	45	35	736	195	189	354
Cu	10	177	96	161	173	159	69	106	91	58
Zn	102	135	104	63	83	84	60	122	94	59
Ga	17	18	15	13	15	16	7	21	16	9
S	200	880	40	80	80	680		1600	520	520

PLB19 - PILBARA/SALGASH SUBGROUP & Mt ROE BASALT/MARBLE BAR

SAMPLE NUMBER	75040079A	75040079B	75040079D	75040080B	75040083F	75040083I	75040083K	75040083L	75040083M	75040083O
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Mt Roe Outlier	Mt Roe Outlier	Mt Roe Outlier	Mt Roe Outlier	Mt Roe Outlier	Mt Roe Outlier
ROCK TYPE	cpx.ch.sl. HMB	cpx.ch. HMB	cpx.ch.sl. HMB	pl.ch. TB	ch.se.al. TA	ch.al.se. TB	ch. TB	ch.al.se. TA	ch.al.se. TA	amygdal. ch.HALB
MAP COORDINATES	11941:2110	11941:2110	11941:2110	11941:2110	11942:2111	11942:2111	11942:2111	11942:2111	11942:2111	11942:2111
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	48.23	51.28	52.52	54.34	58.88	50.11	52.35	63.25	65.31	53.77
TiO ₂	0.66	0.57	0.62	0.73	1.03	1.74	0.97	0.95	0.97	1.17
Al ₂ O ₃	11.46	12.93	12.76	14.02	14.28	15.23	13.28	13.36	13.60	16.65
Fe ₂ O ₃	13.18	10.17	10.60	10.96	12.30	18.56	18.76	10.09	10.26	14.68
FeO										
MnO	0.20	0.16	0.16	0.19	0.12	0.18	0.14	0.09	0.08	0.16
MgO	11.04	9.11	8.96	4.54	6.70	2.21	7.81	4.73	4.34	3.23
CaO	9.92	9.17	8.09	4.09	0.10	3.22	0.48	0.06	0.06	1.69
Na ₂ O	3.20	3.39	4.33	2.30	0.05	3.19	0.02	0.11	0.10	3.72
K ₂ O	0.03	0.05	0.04	2.38	1.57	0.20	0.02	1.84	2.07	0.45
P ₂ O ₅	0.03	0.03	0.04	0.05	0.02	0.18	0.08			0.14
H ₂ O [total]	2.13	2.55	1.99	2.96	4.42	2.86	5.03	3.88	3.66	2.83
CO ₂	0.06	0.28	0.23	2.50	0.11	1.36	0.44	0.03	0.03	1.19
TOTAL	100.14	99.69	100.34	99.06	99.58	99.04	99.38	99.29	100.48	99.68
Mg NUMBER	66.1	67.6	66.3	49.1	55.9	21.7	49.2	50.1	49.6	33.9
Ba PPM	12	8	20	125	149	169	14	144		308
Rb				37	57	4		58	64	10
Sr	116	198	64	48	12	98	8	11	12	127
Pb						13				12
Th						8				5
U						2				1
Zr	35	36	32	44	91	263	85	84	84	180
Nb	2		2	2	4	11	4	4	4	7
Y	13	13	13	13	25	26	9	11	11	25
La			4			17		4	3	8
Ce						37		9	3	20
Sc	9	10	9	16	36	27	42	28	26	26
V	250	211	246	289	203	275	278	283	285	242
Cr	407	390	232	72	432	43	867	348	355	164
Co	50	44	42	32	45	64	76	41	37	53
Ni	108	93	91	36	81	107	168	82	77	125
Cu	92	84	104	127	34	84	126	39	42	76
Zn	69	56	60	89	162	111	141	180	165	93
Ga	12	10	12	14	16	22	16	14	14	19
S	240	280	280	40	330	240	5280	40	320	320

PLE20 - PILBARA/Mt ROE BASALT & SALGASH SUBGROUP/MARBLE BAR

SAMPLE NUMBER	75040083Q	75040085	75040089A	75040089B
FORMATION	Mt Rca	APEX DC	APEX UC	APEX UC
	Outlier	Basalt	Basalt	Basalt
ROCK TYPE	amygdal.	tr.pl.cpx.	ca.ch.cpx.	ca.ch.cpx.
	ch.TA	TA	TD	TD
MAP COORDINATES	11942:2111	11941:2112	11941:2112	11941:2112
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR

SiO ₂	wt	61.84	55.72	49.74	47.94
TiO ₂		0.92	0.98	0.59	0.54
Al ₂ O ₃		13.15	13.06	13.20	13.44
Fe ₂ O ₃		14.07	11.78	10.81	10.45
FeO					
MnO		0.11	0.15	0.21	0.22
MgO		4.85	7.20	6.47	6.55
CaO		0.07	4.96	13.48	15.15
Na ₂ O		0.07	4.73	0.83	0.78
K ₂ O		1.44	0.04	0.01	0.02
P ₂ O ₅		0.01	0.08	0.03	0.01
H ₂ O[total]		3.85	0.93	2.73	2.43

CO ₂		0.05	0.07	2.25	2.35
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TOTAL		100.43	99.70	100.35	99.88
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Mg NUMBER		44.5	58.7	58.2	59.4
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Ba PPM		115	19		
Rb		48			
Sr		10	46	115	141

Pb					
Th					
U					

Zr		80	92	32	30
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Nb		3	5	2	
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Y		10	21	12	12
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La		4	5	3	3
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Ce		3	14		
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Sc		25	10	13	12
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V		272	246	236	225
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Cr		361	91	156	414
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Co		61	31	41	39
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Ni		98	49	80	101
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Cu		37	96	85	83
----	--	----	----	----	----

Zn		193	59	57	57
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Ga		14	13	11	13
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S		1200	240	200	400
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0.00	0.00	0.00	0.00	0.00	0.00
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PLB21 - PILBARA/WYMAN FORMATION/CAMEL CREEK

SAMPLE NUMBER	75040105A	75040105B	75040105C								
FORMATION	Wyman	Wyman	Wyman								
	Formation	Formation	Formation								
ROCK TYPE	qz.	qz.	qz.								
	RHY	RHY	RHY								
MAP COORDINATES	11946:2118	11946:2118	11946:2118								
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR								
SiO ₂ %wt	79.12	78.11	78.27								
TiO ₂	0.07	0.07	0.08								
Al ₂ O ₃	12.11	11.96	12.36								
Fe ₂ O ₃	1.09	0.99	1.09								
FeO											
MnO	0.02	0.02	0.02								
MgO	0.28	0.25	0.43								
CaO	0.07	0.40	0.22								
Na ₂ O											
K ₂ O	6.07	6.34	6.11								
P ₂ O ₅											
H ₂ O[total]	0.82	0.70	0.81								
CO ₂	0.07	0.31	0.26								
TOTAL	99.72	99.15	99.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	37.4	37.0	47.9								
Ba PPM	131	146	135								
Rb	211	207	220								
Sr	10	12	12								
Pb	5	7	5								
Th	24	24	25								
U	4	3	4								
Zr	102	101	101								
Nb	10	10	10								
Y	27	27	29								
La	36	37	37								
Ce	61	65	62								
Sc	11	9	12								
V	3	3	3								
Cr	4	4	3								
Co	3	2	3								
Ni	5	5	5								
Cu	5	4	5								
Zn	16	14	19								
Ga	13	13	17								
S		200	240								

PLB22 - PILBARA/HONEYEATER BASALT/SOANESVILLE

SAMPLE NUMBER	75040106B	75040106D	75040106E	75040106F						
FORMATION	Honeyeater Basalt UC	Honeyeater Basalt UC	Honeyeater Basalt DC	Honeyeater Basalt DC						
ROCK TYPE	HMB	HMB	TB	TB						
MAP COORDINATES	11916:2114	11916:2114	11916:2114	11916:2114						
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW						
SiO ₂ %wt	50.12	50.61	56.34	51.22						
TiO ₂	0.61	0.61	0.60	0.65						
Al ₂ O ₃	10.44	10.23	14.38	15.01						
Fe ₂ O ₃	10.87	11.81	11.80	14.91						
FeO										
MnO	0.24	0.25	0.19	0.28						
MgO	8.74	9.00	5.86	6.56						
CaO	14.86	12.83	5.17	4.63						
Na ₂ O	0.34	0.72	1.86	1.75						
K ₂ O	0.13	0.04	0.12	0.10						
P ₂ O ₅	0.03	0.03	0.03	0.04						
H ₂ O{total}	3.40	2.59	3.41	4.03						
CO ₂	0.41	1.72	0.10	0.54						
TOTAL	100.19	100.44	99.86	99.72	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	65.2	64.0	53.6	50.6						
Ba PPM	267	282	18	136						
Rb			2							
Sr	16	19	81	64						
Pb										
Th										
U				1						
Zr	33	33	35	37						
Nb		2	2							
Y	13	13	17	18						
La										
Ce										
Sc	7	9	9	12						
V	251	254	267	265						
Cr	728	728	304	73						
Co	45	48	43	49						
Ni	134	133	49	56						
Cu	82	78	54	98						
Zn	64	64	72	90						
Ga	9	12	11	12						
S	200	40	400	520						

PLE27 - PILBARA/TALGA SUBGROUP/MCPHEE REWARD

SAMPLE NUMBER	45062	45063	45064	45065	45066	45067	45068	45069	45070	45071
FORMATION	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt
ROCK TYPE	ch.am.pl. qz.TB	am.ch.pl. TG	am.ch.ep. al.TB	sr.ca.ta. PK	am.sa.al. sp.TB	am.sa.ep. TG	am.sa.al. qz.TB	tr.ch.al. qz.TB	am.ch.sp. qz.TB	tr.sa.ch. qz.TB
MAP COORDINATES	11951:2101	11951:2101	11950:2101	11950:2101	11950:2101	11950:2101	11950:2101	11950:2100	11950:2100	11950:2100
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	48.17	50.73	49.87	40.30	54.73	49.04	50.96	53.59	52.54	52.14
TiO ₂	2.31	1.73	1.56	0.29	1.56	1.18	1.16	1.07	1.24	1.06
Al ₂ O ₃	12.84	12.94	13.01	3.19	12.83	13.78	13.81	13.02	13.28	13.42
Fe ₂ O ₃	18.99	16.69	15.81	12.69	13.03	14.39	13.60	11.49	13.26	12.36
FeO										
MnO	0.26	0.20	0.22	0.15	0.17	0.21	0.22	0.17	0.24	0.20
MgO	5.68	5.38	6.05	33.58	4.19	6.30	6.98	5.03	5.81	6.02
CaO	6.95	6.74	8.76	2.76	8.91	10.63	10.21	11.38	10.82	10.34
Na ₂ O	1.96	3.94	2.33		2.45	2.53	1.85	2.40	1.84	2.01
K ₂ O	0.61	0.21	0.56	0.06	0.28	0.37	0.31	0.12	0.22	0.15
P ₂ O ₅	0.23	0.20	0.16	0.03	0.18	0.06	0.08	0.11	0.13	0.10
H ₂ O [total]	1.50	0.77	1.18	2.31	0.96	1.04	0.80	1.11	1.15	1.33
CO ₂	0.30	0.20	0.50	3.75	0.15	0.10	0.05	0.10	0.10	0.20
TOTAL	99.80	99.73	100.01	99.11	99.44	99.63	100.03	99.59	100.63	99.33
Mg NUMBER	41.1	42.9	47.1	86.0	42.8	50.5	54.5	50.5	50.5	53.2
Ba PPM	182	97	234	37	104	111	242	46	158	48
Rb	19	5	17		8	14	6	2	5	3
Sr	123	102	125	11	188	140	120	122	116	129
Pb	9	6	9	3	8	4	6	7	3	6
Th	2	2	2			3	4		2	2
U					2				2	
Zr	210	169	138	16	151	73	92	95	106	91
Nb	9	7	7		7	3	4	5	4	4
Y	39	33	29	3	29	18	22	23	24	22
La	19	11	14	4	10	4	9	10		3
Ce	52	34	46	5	32	19	24	23		21
Sc	51	30	35	2	19	13	10	6	8	12
V	407	341	324	102	320	406	363	277	357	338
Cr	19	140	120	4280	139	22	90	78	75	69
Co	49	50	52	118	41	57	44	42	41	42
Ni	9	36	56	2214	51	65	49	46	37	49
Cu	13	63	30	17	137	25	84	46	17	68
Zn	139	105	205	48	89	107	94	70	98	88
Ga	25	21	19	6	20	22	18	17	18	18
S	300	1400	400	200	2400	200	300	200	100	300

PLB28 - PILBARA/TALGA SUBGROUP/MCPHEE REWARD

SAMPLE NUMBER	45072	45073	45074	45075	45076	45077	45078	45079	45080	45081
FORMATION	North Star 1800m	North Star Basalt	North Star Basalt	North Star Basalt	Mount Ada Basalt	Mount Ada Basalt	MOUNT ADA Basalt DF	Mount Ada Basalt	Mount Ada Basalt DC	MOUNT ADA Basalt DC
ROCK TYPE	am.al.sa. qz.TA	am.cl.ep. qz.TB	am.sa.qz. mu.TG	ch.ca.ep. qz.HMB	ca.al.ch. TB	al.ch.ca. TB	ca.al.ch. TB	ca.al.ch. TB	ca.al.ch. TB	se.qz.al schist
MAP COORDINATES 1:100 000 SHEET	119°9:2100 MARBLE BAR	11950:2100 MARBLE BAR	11948:2100 MARBLE BAR	11949:2100 MARBLE BAR	11949:2100 MARBLE BAR	11949:2100 MARBLE BAR	11948:2059 COONGAN	11948:2059 COONGAN	11948:2059 COONGAN	11948:2059 COONGAN
SiO ₂ %wt	55.54	50.71	51.10	48.63	45.27	49.71	50.96	46.76	48.14	74.33
TiO ₂	1.02	0.96	0.50	0.49	1.99	1.55	1.89	2.05	2.08	0.30
Al ₂ O ₃	13.04	13.79	15.05	12.45	12.00	13.04	11.34	12.43	12.66	14.78
Fe ₂ O ₃	10.87	12.15	9.32	9.28	15.97	13.80	12.63	15.11	17.55	3.36
FeO										
MnO	0.17	0.21	0.14	0.18	0.22	0.22	0.30	0.26	0.19	0.01
MgO	5.09	5.52	8.61	9.96	4.44	4.18	2.96	3.09	4.24	0.94
CaO	9.30	11.84	9.80	8.55	6.43	9.89	8.70	8.72	5.41	0.10
Na ₂ O	2.81	1.43	1.01	0.07	2.63	2.08	1.94	1.92	1.89	0.40
K ₂ O	0.23	0.19	0.46	0.02	0.04	0.07	0.02	0.04	0.14	3.63
P ₂ O ₅	0.11	0.08	0.05	0.04	0.20	0.15	0.21	0.21	0.21	0.04
H ₂ O{total}	1.44	2.17	3.33	5.13	1.56	1.84	2.21	2.30	2.54	2.38
CO ₂	0.10	1.15	0.20	4.55	8.35	2.90	6.65	6.10	4.20	0.10
TOTAL	99.72	100.20	99.57	99.35	99.10	99.43	99.81	98.99	99.25	100.37
Mg NUMBER	52.2	51.4	68.3	71.4	39.3	41.4	35.3	32.3	36.0	39.5
Ba PPM	71	51	126	21	45	27	4	55	77	635
Rb	5	4	18						5	104
Sr	143	144	103	35	239	146	193	139	168	43
Pb	6	8	3	6	7	6	7	9	7	5
Th	5				2	2	2		3	7
U				2		2				
Zr	86	74	66	67	169	133	169	171	182	322
Nb	5	3	4	4	9	7	9	9	9	10
Y	19	17	14	12	28	24	26	29	31	27
La	3	12	5	4	84	7	11	14	17	20
Ce	23	14	20	11	34	25	43	29	48	43
Sc	7	14	19	29	24	18	27	24	36	16
V	321	282	227	231	294	351	300	354	368	15
Cr	41	95	286	583	37	54	46	71	48	13
Co	40	45	42	43	44	41	36	42	47	7
Ni	36	52	117	141	41	42	31	41	42	8
Cu	72	10	62	57	66	38	45	36	67	16
Zn	82	90	66	65	136	100	115	125	136	42
Ga	13	13	13	11	23	20	18	21	26	16
S	300	200	100	200	1200	600	600	1400	1600	500

PLB29 - PILBARA/TALGA SUBGROUP/MCPHEE REWARD

SAMPLE NUMBER	45082	45083	45084	45085	45086	45087	45088	45089	45090	45091
FORMATION	Mount Ada Basalt	MOUNT ADA Basalt DA	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt DA	MOUNT ADA Basalt UC	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt DA
ROCK TYPE	ca.al.ch. TB	ca.ch.il. su.TB	ca.al.ch. su.TB	ca.al.ch. TD	ca.al.ch. ep.TB	ca.tr.ch. sa.TB	ca.ch.al. qz.TB	ca.ch.mu. qz.TB	ep.ch.qz. su.TD	ca.sa.ch. al.TB
MAP COORDINATES 1:100 000 SHEET	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN	11948:2058 COONGAN
SiO ₂ %wt	47.29	44.50	48.89	46.88	48.85	46.77	44.82	47.42	49.14	45.39
TiO ₂	2.12	1.26	1.60	1.83	1.02	1.09	0.98	1.09	1.76	0.92
Al ₂ O ₃	12.04	9.67	12.67	12.10	11.51	12.07	10.90	11.31	12.80	10.33
Fe ₂ O ₃	17.27	13.85	14.79	15.41	12.65	12.05	12.40	11.79	18.08	11.30
FeO										
MnO	0.21	0.17	0.17	0.20	0.17	0.16	0.16	0.17	0.26	0.20
MgO	3.99	6.88	5.17	4.38	5.95	4.69	5.36	5.19	5.21	6.66
CaO	7.21	10.09	6.56	8.05	8.81	14.24	11.32	9.91	7.83	12.14
Na ₂ O	1.19	0.43	1.77	1.42	1.00	1.02	1.53	0.51	1.01	0.49
K ₂ O	0.05	0.02	0.04	0.14	0.03	0.03	0.03	1.15	0.10	0.03
P ₂ O ₅	0.19	0.12	0.18	0.16	0.07	0.10	0.09	0.10	0.18	0.07
H ₂ O total	2.80	4.32	3.52	3.20	3.77	2.57	2.93	3.22	2.90	3.88
CO ₂	5.05	7.75	3.10	5.25	5.20	4.85	8.65	7.25	1.10	8.00
TOTAL	99.41	99.06	98.46	99.02	99.03	99.64	99.17	99.11	100.37	99.41
Mg NUMBER	35.0	53.6	44.9	39.8	52.3	47.6	50.2	50.6	40.2	57.9
Ba PPM	88	45	141	61	18	22	14	252	65	104
Rb								38	3	
Sr	164	171	97	95	90	309	79	111	189	135
Pb	6	12	10	7	8	6	15	6	9	5
Th		2	2			4			2	
U										
Zr	162	99	146	132	77	85	78	89	117	66
Nb	7	5	7	7	5	5	4	5	6	3
Y	34	23	30	27	20	19	17	18	31	16
La	12	5	9	8	4	8	2	4	9	2
Ce	43	27	30	30	21	22	26	29	31	9
Sc	22	21	20	28	18	12	20	25	11	24
V	474	341	303	414	257	292	308	330	386	256
Cr	13	482	28	13	69	151	197	30	72	217
Co	44	46	43	42	47	40	39	35	54	42
Ni	22	106	47	31	71	73	78	41	48	89
Cu	66	84	55	92	100	87	76	96	99	56
Zn	97	93	95	112	89	75	91	85	127	86
Ga	20	15	15	20	14	18	13	15	20	12
S	1800	300	300	200	1100	900	1100	600	2000	300

PLB30 - PILBARA/TALGA SUBGROUP/MCPHEE REWARD

SAMPLE NUMBER	45092	45093	45094	45095	45096					
FORMATION	Mount Ada Basalt DA	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt					
ROCK TYPE	ch.tr.ep. ca.TB	ca.al.ch. il.TB	al.ch.ep. il.TG	ca.al.ch. il.TB	ca.al.ch. TB					
MAP COORDINATES	11948:2058	11948:2058	11948:2058	11951:2058	11951:2058					
1:100 000 SHEET	COONGAN	COONGAN	COONGAN	COONGAN	COONGAN					
SiO ₂ %wt	49.25	46.00	49.96	45.26	45.92					
TiO ₂	0.79	2.17	2.66	2.05	2.21					
Al ₂ O ₃	12.33	11.85	12.04	12.13	12.52					
Fe ₂ O ₃	12.00	15.95	16.76	16.70	17.89					
FeO										
MnO	0.18	0.26	0.22	0.23	0.27					
MgO	7.77	4.90	4.08	4.53	4.88					
CaO	9.19	7.79	8.32	7.84	6.25					
Na ₂ O	1.20	2.16	1.85	1.73	2.23					
K ₂ O	0.01	0.03	0.04	0.12	0.16					
P ₂ O ₅	0.06	0.19	0.27	0.22	0.22					
H ₂ O{total}	3.64	2.84		2.77	2.43					
CO ₂	2.75	5.55	3.05	5.55	4.55					
TOTAL	99.27	99.69	99.25	99.13	99.53	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	60.1	41.7	36.2	38.7	38.9					
Ba PPM	22	43	105	76	50					
Rb				2	3					
Sr	176	113	235	240	230					
Pb	10	5	8	8	7					
Th		4	2	2						
U										
Zr	61	154	184	174	184					
Nb	3	5	7	10	10					
Y	14	31	41	28	32					
La	13	15	11	11	9					
Ce	15	28	32	36	35					
Sc	15	14	11	28	24					
V	194	390	404	329	319					
Cr	271	48	7	40	44					
Co	45	44	40	38	46					
Ni	76	47	13	43	45					
Cu	99	69	42	46	69					
Zn	86	88	115	141	147					
Ga	14	18	24	21	26					
S	400	200	2000	700	1100					

PLE31 - PILBARA/TALGA SUBGROUP/SHARK CENTRE

SAMPLE NUMBER	45153	45154	45155	45156	45157	45158	45159	45160	45164	45165
FORMATION	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt DC	Mount Ada Basalt	Mount Ada Basalt DAUC	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt
ROCK TYPE	cpx.pl.ch. ep.HMD	cpx.sa.qz. il.TD	cpx.sa.ep. ch.TD	ca.pl.ch. sp.DAC	px.ac.sa. pl.TG	cpx.sr. HMG	cpx.ca. TB	px.amygdl. TB	cpx.ep. TD	ca.sr.ep. TD
MAP COORDINATES	11936:2123	11936:2123	11936:2123	11936:2124	11936:2124	11936:2124	11936:2124	11936:2124	11936:2124	11936:2124
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	48.97	48.57	48.43	62.70	48.76	49.83	47.62	48.27	48.09	48.16
TiO ₂	1.27	1.43	1.58	0.59	0.93	0.85	1.28	1.30	1.31	1.39
Al ₂ O ₃	10.97	13.54	12.50	15.12	15.10	6.52	14.56	14.87	14.29	14.06
Fe ₂ O ₃	2.61	3.24	3.82	1.03	2.26	2.60	3.05	3.19	4.60	2.33
FeO	10.70	11.00	11.50	6.00	8.70	9.50	9.85	9.80	9.30	9.95
MnO	0.20	0.20	0.22	0.03	0.15	0.21	0.20	0.19	0.19	0.16
MgO	9.05	5.90	5.80	2.18	7.20	12.60	5.85	5.05	6.20	7.35
CaO	11.25	9.59	9.47	1.84	9.33	13.67	9.21	10.16	8.41	6.50
Na ₂ O	1.56	2.30	2.02	4.70	3.18	1.36	2.58	2.82	2.86	3.48
K ₂ O	0.23	0.64	0.34	1.87	0.65	0.16	0.48	0.27	0.40	0.13
P ₂ O ₅	0.12	0.14	0.17	0.13	0.10	0.08	0.11	0.12	0.12	0.13
H ₂ O[+]	2.97	3.12	3.26	2.65	3.45	2.52	3.60	2.96	3.40	4.08
H ₂ O[-]	0.13	0.12	0.16	0.15	0.13	0.08	0.06	0.04	0.08	0.12
CO ₂	0.10	0.20	0.10	0.70	0.10	0.20	1.50	0.80	0.70	1.70
TOTAL	100.13	99.99	99.37	99.69	100.04	100.18	99.95	99.84	99.95	99.54
Mg NUMBER	59.2	47.1	44.9	39.8	58.4	69.1	49.3	45.5	49.2	56.1
Ba PPM	72	148	129	432	174	112	129	76	132	31
Rb	4	14	5	39	14	3	10	8	9	3
Sr	121	124	145	190	148	27	125	193	209	123
Pb									5	
Th				5						
U				3						
Zr	90	99	112	136	59	47	81	86	85	97
Nb	3	5	4	3	3			3	3	
Y	27	29	37	12	17	19	24	24	26	30
La	9	6	8	27	5	4	6	9	7	4
Ce	27	27	31	52	24	24	23	30	23	22
Sc	8	11	10	9	12	9	8	7	8	5
V	285	322	313	82	237	275	278	269	281	327
Cr	639	211	197	39	202	1730	136	139	153	144
Co										
Ni	121	80	73	23	84	203	67	69	81	71
Cu	103	87	83	387	40	64	106	103	105	20
Zn	113	93	126	48	43	116	109	102	68	49
Ga										
S	140	1320	180	440	280	520	920	340	1480	520

PLB32 - PILBARA/TALGA SUBGROUP/SHARK CENTRE

SAMPLE NUMBER	45166	45168	45169	45170	45171	45172	45173	45174	45175	45176
FORMATION	MOUNT ADA	Mount Ada	Mount Ada	MOUNT ADA	MOUNT ADA	Mount Ada	Mount Ada	North Star	North Star	NORTH STAR
ROCK TYPE	Basalt DC	Basalt	Basalt DC	Basalt DCF	Basalt DC	Basalt	Basalt	Basalt[U]	Basalt	Basalt DA
MAP COORDINATES	11936:2124	11936:2124	11936:2124	11936:2125	11936:2125	11936:2125	11936:2125	11936:2126	11936:2126	11936:2126
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	63.44	48.20	49.32	65.78	46.62	50.13	49.18	81.01	49.26	51.00
TiO ₂	0.57	0.88	1.28	0.49	1.28	1.07	1.04	0.05	1.00	0.78
Al ₂ O ₃	15.49	16.55	13.99	15.59	13.76	8.91	8.90	11.96	14.13	7.11
Fe ₂ O ₃	0.74	3.35	5.26	2.16	3.07	3.44	3.63	0.63	5.16	2.73
FeO	4.55	6.60	8.10	2.15	10.60	9.25	9.25	0.05	8.20	8.45
MnO	0.01	0.16	0.19	0.09	0.23	0.22	0.20	0.01	0.21	0.21
MgO	4.28	6.15	6.15	1.55	6.25	8.80	10.50	0.25	6.15	11.60
CaO	0.95	11.09	8.59	2.06	5.07	10.88	8.36	0.04	9.39	13.49
Na ₂ O	5.10	2.24	3.18	6.30	2.70	2.42	2.76	0.27	2.56	1.49
K ₂ O	0.38	0.65	0.33	0.94	0.23	0.57	0.26	3.50	0.06	0.05
P ₂ O ₅	0.13	0.07	0.12	0.12	0.10	0.11	0.10	0.01	0.09	0.07
H ₂ O[+]	3.22	3.30	3.23	1.68	4.75	2.37	3.26	1.60	3.13	2.24
H ₂ O[-]	0.14	0.10	0.15	0.04	0.09	0.13	0.10	0.06	0.09	0.06
CO ₂	0.85	0.70	0.10	1.15	4.70	1.15	2.50	0.05	0.20	0.20
TOTAL	99.85	100.04	99.99	100.10	99.45	99.45	100.04	99.49	99.63	99.48
Mg NUMBER	63.2	57.3	50.1	44.3	49.5	59.9	63.8	45.9	50.1	69.0
Ba PPM	64	139	77	234	53	41	36	78	28	14
Rb	12	15	10	28	8	7	4	270		
Sr	153	119	147	312	56	157	61	18	308	190
Pb				7				8	2	
Th	5			6				25		
U	3							5		
Zr	123	50	85	125	78	84	83	67	73	62
Nb	4			3	3	4		28		
Y	10	18	27	9	23	21	20	18	18	18
La	26	4	6	22	3	6	8	2	9	8
Ce	50	20	21	43	19		22	13	24	19
Sc	24	7	7	6	26	6	9	3	7	6
V	79	261	316	59	335	235	222	2	227	225
Cr	35	276	145	31	145	583	812	4	10	676
Co										
Ni	19	67	76	18	71	173	193		72	171
Cu	3	105	86	6	42	141	138	1	128	62
Zn	29	94	84	51	116	84	92	23	95	70
Ga										
S		140	220		40	280	100			140

PLB33 - PILBARA/TALGA SUBGROUP/SHARK CENTRE

SAMPLE NUMBER	45177	45178	45179	45180	45181	45182	45183	45187	45188	45189
FORMATION	NORTH STAR Basalt DCF	NORTH STAR Basalt DC	NORTH STAR Basalt DCA	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt	North Star Basalt
ROCK TYPE	se.qz. schist	ch.se.qz. schist	ch.ep.qz. schist	ac.ep.sp. TD	ep.sp. TD	TD	cpx.tr.ep. TB	am.pl.ep. sp.TD	am.pl.ep. sp.TG	ca.ep. TB
MAP COORDINATES 1:100 000 SHEET	11936:2127 MARBLE BAR	11936:2127 MARBLE BAR	11936:2127 MARBLE BAR	11936:2127 MARBLE BAR	11936:2127 MARBLE BAR	11935:2127 MARBLE BAR	11935:2127 MARBLE BAR	11935:2127 MARBLE BAR	11935:2127 MARBLE BAR	11935:2127 MARBLE BAR
SIO ₂ %wt	69.60	63.45	58.31	49.38	49.43	52.18	52.70	50.71	49.26	48.60
TiO ₂	0.61	0.77	2.03	2.70	1.66	0.92	0.86	1.36	1.53	1.65
Al ₂ O ₃	24.36	16.97	10.28	12.41	14.70	13.93	12.79	13.70	13.81	14.92
Fe ₂ O ₃	0.04	1.00	2.97	6.05	3.55	3.54	3.21	3.48	3.52	2.89
FeO	0.05	6.75	15.70	8.25	8.45	7.20	6.95	9.55	10.10	9.45
MnO	0.01	0.06	0.09	0.16	0.18	0.17	0.16	0.19	0.23	0.35
MgO	0.03	4.48	4.24	5.35	5.95	6.20	7.70	5.45	5.70	3.22
CaO	0.04	0.13	0.07	8.23	9.09	10.18	9.94	8.91	9.53	11.75
Na ₂ O	0.22	1.60	0.02	4.04	3.10	1.84	1.88	2.68	2.87	3.18
K ₂ O	0.13	0.31	0.04	0.29	0.18	0.08	0.07	0.16	0.17	0.25
P ₂ O ₅	0.01	0.02	0.02	0.25	0.17	0.10	0.09	0.18	0.13	0.15
H ₂ O[+]	4.28	4.53	5.64	2.20	3.03	2.89	3.18	2.60	2.32	1.38
H ₂ O[-]	0.07	0.07	0.16	0.08	0.09	0.01	0.16	0.04	0.18	0.02
CO ₂	0.05		0.10		0.05	0.25	0.05	0.20	0.05	2.00
TOTAL	99.50	100.14	99.67	99.39	99.63	99.49	99.74	99.21	99.40	99.81
Mg NUMBER	42.2	55.1	32.6	45.0	51.7	55.6	62.1	47.4	47.4	35.9
Ba PPM	27	96	42	176	65	34	18	51	60	32
Rb	3	12	3	5	3				3	2
Sr	10	72	5	113	162	148	139	234	207	84
Pb			54							
Th										
U			2							
Zr	65	93	122	126	104	97	72	130	96	105
Nb			4	5	3	4		3		4
Y	9	21	38	36	31	24	19	30	27	27
La	5	5	7	11	7	9	6	12	5	6
Ce	13	16	25	32	29	29	28	36	25	20
Sc	2	28	14	5	9	10	11	7	6	5
V	295	275	447	511	335	221	245	259	335	356
Cr	94	453	24	40	158	25	421	30	189	207
Co										
Ni	4	128	54	44	71	49	74	47	50	58
Cu	3	30	31	100	40	68	64	151	36	6
Zn	4	74	35	84	84	86	76	95	106	127
Ga										
S	20		40	100	80	40	60	100		20

PLB34 - PILBARA/TALGA SUBGROUP/SHARK CENTRE

SAMPLE NUMBER	45190	45191	45192	45193						
FORMATION	North Star	North Star	North Star	North Star						
ROCK TYPE	Basalt	Basalt	Basalt	Basalt						
	ep.sp.	ep.ca.sp.	am.pl.qz.	am.sp.						
MAP COORDINATES	11935:2127	11935:2127	11935:2127	11935:2129						
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR						
SiO ₂ %wt	45.64	51.41	51.47	49.50						
TiO ₂	1.80	0.61	2.57	2.55						
Al ₂ O ₃	13.60	12.10	13.44	12.63						
Fe ₂ O ₃	4.17	1.03	3.57	4.62						
FeO	10.20	8.45	11.40	10.60						
MnO	0.22	0.17	0.25	0.28						
MgO	5.50	9.80	4.08	3.05						
CaO	12.05	7.97	7.46	10.40						
Na ₂ O	2.70	2.50	3.57	2.88						
K ₂ O	0.29	0.81	0.53	0.32						
P ₂ O ₅	0.19	0.06	0.26	0.25						
H ₂ O[+]	1.95	3.32	1.51	1.47						
H ₂ O[-]	0.01	0.04	0.05	0.07						
CO ₂	1.25	1.15	0.05	0.75						
TOTAL	99.57	99.42	100.21	99.37	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	45.2	68.7	36.9	30.2						
Ba PPM	63	141	127	21						
Rb	4	43	13	20						
Sr	187	115	160	131						
Pb	5									
Th										
U										
Zr	123	54	203	128						
Nb	3		8	5						
Y	34	15	45	33						
La	6	6	13	11						
Ce	31	21	48	37						
Sc	5	25	12	5						
V	404	198	322	396						
Cr	117	367	5	21						
Co										
Ni	42	160	10	27						
Cu	22	37	4	7						
Zn	114	83	149	133						
Ga										
S		60								

PLB35 - PILBARA/DUFFER FORMATION/SANDY CREEK

SAMPLE NUMBER FORMATION	45194 DUFFER UC Formation	45195 Duffer DC Formation	45196 Duffer Formation	45197 DUFFER DC Formation	45198 Duffer Formation	45199 Duffer Formation	45200 Duffer UC Formation	49205 Duffer Formation	49206 Duffer Formation	49207 DUFFERUCDF Formation
ROCK TYPE	qz.fl.se. RHDA	qz.fl.bi. mu.DAC	cl.qz.fl. QZLAT	qz.fl.mu. K-RHY	qz.fl.mu. Ca-DAC	ep.cl.ep. RHDA	QZLAT agglom.	QZLAT agglom.	QZLAT agglom.	ca.ep.tuff RHY
MAP COORDINATES 1:100 000 SHEET	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR	12002:2127 MT EDGAR
SiO ₂ %wt	63.09	67.10	66.37	72.86	67.46	63.01	57.08	64.71	65.45	65.37
TiO ₂	0.49	0.51	0.55	0.52	0.44	0.47	0.61	0.63	0.48	0.38
Al ₂ O ₃	16.41	17.22	17.81	17.76	16.52	17.33	15.70	16.69	16.77	11.79
Fe ₂ O ₃	1.33	0.57	0.85	0.55	0.78	1.24	2.35	0.84	0.80	0.31
FeO	1.00	1.80	1.85	0.10	0.45	1.50	3.80	1.45	1.05	1.80
MnO	0.14	0.06	0.06	0.01	0.06	0.10	0.18	0.05	0.05	0.16
MgO	1.51	1.53	1.68	0.18	1.47	2.72	3.10	1.07	1.17	2.36
CaO	10.09	2.89	2.36	0.20	6.61	6.28	7.80	3.69	2.75	5.58
Na ₂ O	1.39	4.46	2.00	0.67	1.82	1.34	0.33	2.20	0.52	0.31
K ₂ O	2.36	1.99	3.58	4.54	1.73	2.37	6.41	5.59	8.63	9.42
P ₂ O ₅	0.14	0.12	0.15	0.13	0.13	0.12	0.26	0.28	0.16	0.12
H ₂ O[+]	1.26	1.46	2.35	2.22	1.53	2.57	1.80	1.46	1.66	0.63
H ₂ O[-]	0.02	0.10	0.11	0.08	0.09	0.09	0.06	0.06	0.06	0.05
CO ₂	0.40	0.10	0.10	0.05	0.60	0.85	0.40	0.50	0.45	1.20
TOTAL	99.63	99.91	99.82	99.87	99.69	99.99	99.88	99.22	100.00	99.48
Mg NUMBER	59.0	58.1	57.4	38.8	72.8	68.6	52.4	50.4	58.1	70.4
Ba PPM	562	285	811	715	1309	1556	296	167	481	479
Rb	69	62	118	15	66	78	155	141	137	135
Sr	157	172	113	64	191	205	80	111	83	45
Pb	5	8	5		6	6	7	8	6	2
Th	9	9	9	8	10	11	10	10	9	6
U	2				2	2				2
Zr	177	180	193	197	187	182	220	237	202	139
Nb	4	5	6	5	6	5	9	10	7	5
Y	13	12	12	12	12	14	25	23	19	13
La	33	31	29	27	31	28	43	38	31	22
Ce	68	62	56	58	57	57	90	79	68	51
Sc	11	31	36	17	17	27	16	21	25	7
V	62	67	53	69	53	78	68	71	70	37
Cr	72	33	50	45	41	48	52	54	42	24
Co										
Ni	15	7	17	2	12	14	23	32	19	6
Cu	16	40	26	4	4	3	52	42	46	29
Zn	27	26	32	2	25	53	66	49	31	26
Ga										
S	200	20	60		80	20	80	80	80	40

PLB36 - PILBARA/DUFFER FORMATION/SANDY CREEK

SAMPLE NUMBER	49208	49209	49210	49211	49212	49213	49214			
FORMATION	Duffer Formation	Duffer Formation	Duffer DC Formation	Duffer Formation	DUFFERDAUC Formation	DUFFER UC Formation	DUFFER DA Formation			
ROCK TYPE	ca. RHY	ca. DAC	DAC	ca. RHY	ca. RHY	ca.ep. tuff	ca.ep. tuff			
MAP COORDINATES	12002:2127	12003:2127	12003:2127	12003:2128	12003:2128	12003:2128	12003:2128			
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR			
SiO ₂ %wt	68.03	69.07	67.68	71.07	75.67	59.68	62.59			
TiO ₂	0.42	0.49	0.57	0.31	0.13	0.27	0.58			
Al ₂ O ₃	13.42	13.73	16.07	11.62	7.26	8.29	8.98			
Fe ₂ O ₃	0.37	0.79	1.07	0.23	0.28	0.25	0.40			
FeO	1.90	1.00	0.75	1.45	0.95	0.90	1.95			
MnO	0.08	0.11	0.09	0.06	0.21	0.31	0.23			
MgO	0.95	1.32	1.57	0.75	3.06	4.18	4.78			
CaO	1.91	3.88	2.75	1.61	3.60	10.96	8.00			
Na ₂ O	0.18	3.30	5.55	0.21	0.09	6.10	0.07			
K ₂ O	10.15	3.12	1.81	9.76	3.62	3.53	2.55			
P ₂ O ₅	0.12	0.13	0.16	0.09	0.04	0.09	0.05			
H ₂ O[+]	0.90	1.22	1.34	0.80	1.74	1.60	2.97			
H ₂ O[-]	0.04	0.04	0.02	0.04	0.06	0.60	0.05			
CO ₂	1.00	1.50	0.20	1.45	2.60	8.30	5.80			
TOTAL	99.47	99.70	99.63	99.45	99.31	99.06	99.00	0.00	0.00	0.00
Mg NUMBER	47.1	61.8	65.8	48.7	84.2	88.6	81.3			
Ba PPM	1045	4410	2603	454	5304	7757	5365			
Rb	174	99	54	129	72	71	88			
Sr	64	91	97	24	41	106	57			
Pb	2				2	4				
Th	6	8	10	8	6	5				
U			2		2	2				
Zr	153	167	213	174	76	86	28			
Nb	6	6	8	5	3	3				
Y	14	18	20	13	10	14	17			
La	28	30	35	27	18	16	3			
Ce	57	56	62	58	38	40	14			
Sc	15	21	23	6	18	26	50			
V	60	63	60	21	25	49	189			
Cr	25	24	24	10	9	60	921			
Co										
Ni	13	15	23	3	3	18	225			
Cu	18	18	25	3	3	22	49			
Zn	58	32	33	15	10	33	219			
Ga										
S	120	80	40	360	20	80	80			

PLB37 - PILBARA/SALGASH SUBGROUP/SANDY CREEK

SAMPLE NUMBER	49215	49216	49217	49218	49219	49220	49221	49222	49223	49224
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt
ROCK TYPE	cpx TD	ac.cl.ca. HMB	ep. HMB	ep.ch.sp. HMB	ep.ch.sp. TB	ep.ca. TB	cpx.ep.ch. HMB	ca. TB	ep.ch.sp. HMB	ep.sp. TB
MAP COORDINATES	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ %wt	48.70	51.02	51.56	50.64	48.99	51.60	50.96	48.19	50.61	50.47
TiO ₂	1.70	0.55	0.58	0.57	0.61	0.61	0.60	0.59	0.60	0.53
Al ₂ O ₃	13.35	11.25	13.41	12.98	14.36	13.63	13.41	13.32	13.53	13.33
Fe ₂ O ₃	3.50	1.32	2.12	2.25	2.50	1.79	2.69	2.34	2.61	3.61
FeO	10.60	8.85	7.65	7.85	7.85	7.70	7.30	6.40	7.45	6.00
MnO	0.20	0.18	0.17	0.18	0.25	0.21	0.15	0.19	0.19	0.21
MgO	5.80	10.40	8.15	9.40	7.95	7.55	8.45	5.90	8.80	6.50
CaO	9.32	7.83	9.61	9.49	10.63	9.84	11.07	14.57	10.69	14.89
Na ₂ O	1.74	3.00	2.88	2.14	2.98	1.16	1.15	1.82	1.66	0.57
K ₂ O	0.71	0.32	0.48	0.18	0.08	0.59	0.27	0.08	0.24	0.13
P ₂ O ₅	0.22	0.04	0.04	0.05	0.06	0.06	0.05	0.06	0.06	0.05
H ₂ O[+]	3.36	3.53	2.63	3.35	2.84	3.62	3.39	3.00	3.40	2.64
H ₂ O[-]	0.08	0.05	0.03	0.11	0.14	0.08	0.11	0.10	0.10	0.12
CO ₂	0.20	1.25	0.20	0.15	0.10	1.00	0.05	3.50	0.10	0.15
TOTAL	99.48	99.59	99.51	99.34	99.34	99.44	99.65	100.06	100.04	99.18
Mg NUMBER	46.9	68.5	64.1	66.6	62.3	63.0	64.6	59.3	65.3	59.6
Ba PPM	2507	309	107	41	25	73	25	5	30	9
Rb	4	9	17	10	2	45	16		9	3
Sr	290	51	184	185	78	92	166	72	119	150
Pb			2							
Th										
U			3							
Zr	99	29	33	31	47	35	31	34	33	29
Nb	4									
Y	33	13	13	12	18	13	13	12	13	12
La	6		2	5	3		6	4	3	3
Ce	305	5	12	15	17	13	19	16	14	16
Sc	22	33	34	44	32	40	36	23	37	18
V	314	206	234	237	246	234	244	237	239	214
Cr	164	584	323	458	348	343	331	349	383	345
Co										
Ni	97	131	99	125	109	102	101	101	107	97
Cu	86	90	82	81	61	84	86	78	79	49
Zn	89	64	64	69	66	65	61	62	66	54
Ga										
S	440	160	100	100	100	100	120	220	100	140

PLE38 - PILBARA/SALGASH SUBGROUP/SANDY CREEK

SAMPLE NUMBER	49225	49226	49227	49228	49229	49230	49231	49232		
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	APEX UC Basalt	Apex Basalt	Apex Basalt	APEX UC DA Basalt	Apex Basalt		
ROCK TYPE	ep.ca. TB	ep.tr.ca. pyrox.PYX	cpx.tr.sa. TG	ca.ch. TD	ep.ca.sp. TD	ca.ep.sp. TB	HMB	HMB		
MAP COORDINATES	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12003:2128	12004:2128		
1:100 OOO SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	800m	MT EDGAR	MT EDGAR		
SiO ₂ %wt	49.74	41.72	48.22	43.02	50.81	52.25	51.70	50.93		
TiO ₂	0.58	0.75	1.25	0.52	0.56	1.13	0.32	0.40		
Al ₂ O ₃	13.60	4.75	13.61	14.77	13.22	12.90	10.66	14.04		
Fe ₂ O ₃	1.68	4.36	2.13	1.50	0.91	2.95	2.27	1.82		
FeO	7.50	10.45	11.50	6.65	7.00	10.60	5.60	7.35		
MnO	0.20	0.24	0.20	0.19	0.23	0.24	0.19	0.15		
MgO	7.06	18.50	6.60	6.80	9.50	4.90	8.60	10.10		
CaO	10.04	10.63	8.65	18.79	8.75	6.47	16.21	9.47		
Na ₂ O	2.80	0.35	2.84	0.60	3.08	3.20	0.27	1.19		
K ₂ O	0.09	0.05	1.23	0.20	0.56	0.22	0.04	0.39		
F ₂ O ₅	0.07	0.08	0.12	0.05	0.06	0.10	0.03	0.03		
H ₂ O[+]	3.47	3.67	3.21	4.15	3.26	3.43	3.02	4.06		
H ₂ O[-]	0.09	0.09	0.09	0.09	0.16	0.19	0.08	0.10		
CO ₂	2.80	1.75	0.05	2.15	0.70	1.00	0.30	0.10		
TOTAL	99.72	97.39	99.70	99.48	98.80	99.58	99.29	100.13	0.00	0.00
Mg NUMBER	62.2	73.0	50.8	64.1	71.8	43.7	70.2	70.2		
Ba PPM	49		399	137	387	243	6	180		
Rb	4	3	28	3	17	5		19		
Sr	189	46	424	75	203	159	143	170		
Pb										
Th										
U										
Zr	33	44	75	33	34	66	18	20		
Nb			3							
Y	14	12	16	11	13	21	11	11		
La	5	3	8	2	7	7	3	2		
Ce	18	27	28	27	16	26	15	10		
Sc	21	9	26	25	39	22	19	41		
V	254	168	191	254	213	361	183	231		
Cr	345	899	14	273	597	13	866	508		
Co										
Ni	97	673	181	89	25	42	18	110		
Cu	84	104	147	3	93	14	30	54		
Zn	64	86	81	45	70	113	50	61		
Ga										
S	120	480	260		120	320	60	20		

PILB39 - PILBARRA/SALGASH SUBGROUP/SPINAWAY CREEK

SAMPLE NUMBER	49233	49234	49235	49236	49237	49239	49240	49241	49242	49243
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	APEX DC Basalt	Apex Basalt	Apex Basalt	Apex Basalt	APEX UC Basalt	APEX DCUS Basalt
ROCK TYPE	cpx.sr.sa. pl.HMB	cpx.ep.sp. sa.TB	cpx.ep.ca. TB	ep.ch.sp. TB	se.qz. rock	ep.cl.ch. sp.TB	cpx.ch.ep. TB	cpx.ca. HMB	ca.ch.qz. HMB	silicified basalt
MAP COORDINATES	12001:2135	12001:2135	12001:2135	12001:2135	12001:2135	12001:2135	12001:2135	12001:2135	12001:2135	12002:2135
1:100 000 SHEET	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE
SiO ₂ %wt	51.96	48.06	49.22	47.79	79.85	48.41	47.39	47.77	41.36	71.49
TiO ₂	0.64	0.92	0.97	1.00	1.41	1.66	1.00	1.07	0.80	0.91
Al ₂ O ₃	12.68	13.72	13.69	13.90	14.56	13.29	13.31	7.48	6.05	6.35
Fe ₂ O ₃	1.88	3.57	2.92	3.14	0.21	3.15	3.47	1.76	0.67	1.00
FeO	7.60	8.45	9.30	9.25	0.05	10.70	8.95	12.30	10.40	8.90
MnO	0.23	0.17	0.19	0.19		0.20	0.19	0.29	0.18	0.05
MgO	9.10	7.35	6.45	7.40	0.03	5.85	6.85	11.30	11.80	5.45
CaO	9.30	11.43	11.39	10.65	0.04	10.50	11.64	11.39	9.74	9.61
Na ₂ O	2.20	1.55	2.00	1.90	0.14	1.92	1.54	2.25	0.02	0.02
K ₂ O	0.04	0.03	0.03	0.06	0.30	0.04	0.24	0.05	0.01	0.01
P ₂ O ₅	0.06	0.07	0.09	0.08	0.01	0.19	0.08	0.11	0.08	0.07
H ₂ O[+]	3.75	3.72	3.29	3.83	2.91	3.32	4.18	2.97	3.68	3.59
H ₂ O[-]	0.11	0.12	0.07	0.11	0.11	0.14	0.14	0.09	0.08	0.11
CO ₂	0.40	0.25	0.25	0.05	0.05	0.35	0.50	0.90	14.60	0.65
TOTAL	99.95	99.41	99.86	99.35	99.67	99.72	99.48	99.73	99.47	99.51
Mg NUMBER	67.2	56.9	53.1	56.2	20.8	47.5	54.3	63.0	69.2	53.8
Ba PPM	46	37	22	34	32	26	63	5		12
Rb					10		4			
Sr	183	178	108	150	5	157	159	84	197	14
Pb										
Th								3		
U										
Zr	44	45	51	56	103	109	58	68	54	56
Nb				2	3	3		7	4	3
Y	14	18	21	22	22	33	22	17	14	9
La	3	4		3		8	4	11	12	6
Ce	18	17	18	17	9	29	18	41	32	16
Sc	20	11	10	13	3	11	8	15	12	6
V	220	305	308	320	344	303	310	198	235	189
Cr	527	168	166	158	84	152	158	849	78	1235
Co										
Ni	104	181	126	119	11	97	121	270	194	
Cu	68	144	140	139	32	91	142	164	114	140
Zn	67	88	84	90	6	92	87	78	74	97
Ga										
S	140	1320	1040	1080	80	560	360	240	220	560

PLB40 - PILBARA/SALGASH SUBGROUP/SPINAWAY CREEK

SAMPLE NUMBER	49244	49245	49246	49247	49248	49249				
FORMATION	EURO DC	EURO DA	EURO DC	EURO	EURO DSUC	Euro				
ROCK TYPE	Basalt ch.se. HALB	Basalt ca.ch. TB	Basalt ca.ch. TB	Basalt ac.ch.ca. HMB	Basalt ca.ch. basalt	Basalt ca.ch. HMB				
MAP COORDINATES	12006:2131	12006:2131	12006:2131	12006:2131	12006:2131	12006:2131				
1:100 000 SHEET	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE	NULLAGINE				
SiO ₂ %wt	45.62	52.03	50.02	46.51	29.48	41.60				
TiO ₂	2.39	1.24	1.96	1.43	1.06	1.00				
Al ₂ O ₃	16.18	10.31	12.96	10.79	8.01	7.77				
Fe ₂ O ₃	1.98	1.48	1.14	1.78	1.32	1.08				
FeO	19.10	8.65	16.55	10.80	15.90	10.30				
MnO	0.15	0.17	0.29	0.23	0.38	0.20				
MgO	5.05	7.55	4.16	9.65	8.10	9.30				
CaO	0.42	7.68	3.10	7.72	12.33	9.63				
Na ₂ O	0.03	3.12	0.01	2.02	0.02	0.03				
K ₂ O	0.91	0.05	0.68	1.25	0.35	0.57				
P ₂ O ₅	0.20	0.17	0.18	0.10	0.05	0.07				
H ₂ O[+]	7.02	2.99	5.82	4.61	3.84	3.77				
H ₂ O[-]	0.18	0.13	0.08	0.07	0.10	0.09				
CO ₂	0.20	3.00	2.50	2.45	18.30	14.20				
TOTAL	99.43	98.57	99.45	99.41	99.24	99.61	0.00	0.00	0.00	0.00
Mg NUMBER	33.6	61.3	33.2	62.0	49.8	63.4				
Ba PPM	13	26	13	389		4				
Rb	19		15	21	12	23				
Sr		118	33	72	28	41				
Pb										
Th										
U										
Zr	136	104	134	87	68	66				
Nb	4	5	5	5	4					
Y	45	29	23	24	23	15				
La		11	8	6	6	5				
Ce	8	30	29	24	31	24				
Sc	45	11	38	16	20	19				
V	527	250	447	301	256	228				
Cr	25	570	23	656	1236	401				
Co										
Ni	56	175	42	183	431	133				
Cu	120	137	195	230	116	121				
Zn	193	108	140	92	92	86				
Ga										
S	1440	1560	1120	680	960	240				

PLB41 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK

SAMPLE NUMBER	49250	49251	49252	49253	49254	49255	49256	49257	49258	49259
FORMATION	Charteris Basalt	Charteris Basalt	Charteris Basalt	Charteris Basalt	Charteris Basalt	Charteris Basalt	Charteris Basalt	CHARTERIS Basalt DC	CHARTERIS Basalt DA	Charteris Basalt
ROCK TYPE	ca.ch.qz. TB	ca. TG	ca. andesite	cpx.ep. por.TB	cpx. HMB	ep. HMB	cpx. TB	ch.ca.sp. HALB	ca.ch. TB	ca.ch. TB
MAP COORDINATES	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127	12009:2127
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ %wt	50.96	48.17	53.38	50.41	48.54	47.94	49.66	49.73	47.91	51.67
TiO ₂	0.75	0.31	0.65	0.68	0.56	0.50	0.54	0.52	1.08	0.65
Al ₂ O ₃	12.95	14.50	16.40	13.16	14.24	13.68	14.61	16.80	11.05	14.69
Fe ₂ O ₃	3.26	1.85	1.08	1.94	1.77	2.07	1.99	0.81	1.98	1.97
FeO	8.55	6.15	2.85	9.70	8.00	7.80	7.40	7.00	11.60	7.65
MnO	0.15	0.16	0.15	0.21	0.19	0.18	0.16	0.14	0.22	0.15
MgO	4.08	6.95	2.10	7.70	9.10	10.10	8.20	8.65	6.45	6.90
CaO	6.45	9.51	8.83	9.48	9.77	10.83	10.64	4.69	7.83	7.29
Na ₂ O	2.20	3.64	5.46	2.93	2.55	2.05	2.64	4.06	1.44	1.73
K ₂ O	1.31	1.11	1.21	0.18	0.90	0.39	0.17	0.95	0.03	0.05
P ₂ O ₅	0.05	0.04	0.07	0.06	0.05	0.05	0.05	0.06	0.11	0.06
H ₂ O[+]	3.93	3.06	2.16	2.88	3.34	3.53	3.44	4.22	4.75	4.25
H ₂ O[-]	0.05	0.12	0.12	0.06	0.12	0.11	0.06	0.22	0.17	0.25
CO ₂	4.75	3.65	4.95	0.45	0.10	0.10	0.25	1.45	5.35	2.70
TOTAL	99.44	99.22	99.41	99.84	99.23	99.33	99.81	99.30	99.97	100.01
Mg NUMBER	42.7	65.1	53.5	58.5	66.5	68.7	65.2	70.1	50.3	60.6
Ba PPM	128	386	127	44	384	67	51	288	2	2
Rb	43	28	44	4	24	11	5	28		
Sr	71	384	140	116	109	256	197	112	68	161
Pb										
Th										
U				2						
Zr	37	9	36	34	27	23	25	28	71	35
Nb										
Y	12	6	17	14	11	10	11	10	22	13
La		2	6	5			3	2	8	3
Ce	12	10	15	18	12	14	14	13	23	16
Sc	23	16	9	9	13	16	12	36	16	20
V	283	155	268	254	221	187	200	173	301	255
Cr	5	47	833	74	642	810	390	313	8	260
Co										
Ni	31	64	150	71	96	222	101	160	62	80
Cu	5	11	90	97	86	85	91	77	168	98
Zn	35	39	54	75	63	59	60	48	105	67
Ga										
S	40	20	300	360	360	360	160	100	200	400

FLB42 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK

SAMPLE NUMBER	49260	49261	49262	49263	49264	49265	49266	49267	49268	49269
FORMATION	Charteris Basalt ca.ch. TB	Charteris Basalt cpx.ch.ep. TB	Charteris Basalt ca. TB	Charteris Basalt ep.sa.ch. HMB	Charteris Basalt ca. TB	Charteris Basalt ep.ch.sp. TB	Charteris Basalt cpx.pl.qz. TG	CHARTERIS BasaltUSDC silicified basalt 12009:2128	CHARTERIS Basalt DC cpx. 12009:2128	Charteris Basalt ol.se. TB 12010:2128
ROCK TYPE										
MAP COORDINATES	12009:2127	12009:2127	12009:2128	12009:2128	12009:2128	12009:2128	12009:2128	12009:2128	12009:2128	12010:2128
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ wt	47.51	48.42	47.38	48.02	46.88	49.59	51.08	77.43	50.09	49.13
TiO ₂	0.57	0.51	0.51	0.49	0.53	0.56	0.95	0.80	1.75	0.54
Al ₂ O ₃	13.51	15.84	15.47	15.49	15.67	15.05	13.85	6.00	13.21	15.31
Fe ₂ O ₃	2.43	2.14	2.27	1.97	2.62	2.36	3.03	0.96	3.87	1.24
FeO	8.00	6.15	6.30	6.00	6.45	6.25	8.00	6.50	10.80	7.65
MnO	0.21	0.16	0.16	0.15	0.16	0.17	0.17	0.02	0.19	0.16
MgO	7.35	8.65	8.32	9.25	8.60	8.30	7.50	4.06	5.45	8.40
CaO	11.80	12.38	11.64	12.86	12.39	12.20	8.45	0.14	6.05	9.44
Na ₂ O	1.93	1.60	1.13	1.02	1.59	0.87	2.60	0.04	3.14	3.46
K ₂ O	0.13	0.19	0.04	0.03	0.02	0.02	0.09	0.03	0.03	0.03
P ₂ O ₅	0.08	0.06	0.06	0.06	0.07	0.05	0.11	0.05	0.23	0.06
H ₂ O[+]	3.36	3.58	3.62	3.82	3.85	3.87	3.60	3.61	3.82	4.04
H ₂ O[-]	0.24	0.12	0.06	0.06	0.15	0.06	0.36	0.05	0.28	0.08
CO ₂	2.80	0.20	1.65	0.10	0.50	0.05	0.10	0.05	0.30	0.15
TOTAL	99.92	100.00	98.61	99.32	99.48	99.40	99.89	99.74	99.21	99.69
Mg NUMBER	60.2	69.2	67.6	71.4	67.2	67.5	59.4	53.6	44.4	66.8
Ba PPM	69	72	15	13	2		12	8	7	13
Rb		7	2				2			
Sr	144	242	190	302	223	239	124	2	156	98
Pb										
Th										
U	2									
Zr	30	26	28	27	28	25	63	47	127	29
Nb									3	
Y	12	9	10	9	10	11	22	13	41	11
La	2	5	3	4	3	3	5	4	9	3
Ce	17	18	13	18	19	19	24	16	32	14
Sc	7	12	13	9	8	12	10	33	10	22
V	227	177	159	160	169	176	331	207	341	175
Cr	419	462	704	622	492	527	140	54	61	477
Co										
Ni	157	199	263	244	204	203	63	226	51	192
Cu	88	86	87	85	83	75	51	53	98	69
Zn	68	57	53	49	56	45	72	78	114	52
Ga										
S	560	260	280	600	440	180	60	80	2120	116

PLB43 - PILBARA/CHARTERIS BASALT/CHARTERIS CREEK

SAMPLE NUMBER	49270	49271	49272	49273	49274	49275	49276			
FORMATION	Charteris Basalt	Charteris Basalt	Charteris Basalt	CHARTERIS Basalt DC	CHARTERIS Basalt DC	Charteris Basalt	Charteris Basalt			
ROCK TYPE	cpx.ch.ep. HMD	ca. HMB	ep. HMB	ca.ch. TG	ca. TD	ep. HMB	cpx.cl. TB			
MAP COORDINATES	12010:2128	12010:2128	12010:2128	12010:2127	12010:2127	12009:2128	12009:2128			
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR			
SiO ₂ twt	45.79	44.22	49.07	52.35	51.35	49.16	47.99			
TiO ₂	0.39	0.54	0.58	0.79	0.61	0.61	0.50			
Al ₂ O ₃	16.13	14.35	13.68	13.60	13.73	14.01	15.91			
Fe ₂ O ₃	1.76	1.99	1.63	3.61	2.31	1.35	1.85			
FeO	6.10	7.35	8.65	9.15	8.05	9.60	7.25			
MnO	0.15	0.19	0.21	0.18	0.14	0.21	0.17			
MgO	11.10	10.60	8.90	6.55	7.15	9.15	8.25			
CaO	10.79	10.57	9.50	3.89	4.36	7.28	10.59			
Na ₂ O	0.63	1.87	2.28	4.62	2.58	3.54	2.24			
K ₂ O	0.72	0.25	0.81	0.64	1.87	0.28	0.46			
P ₂ O ₅	0.04	0.06	0.06	0.06	0.07	0.05	0.06			
H ₂ O[+]	4.89	4.79	3.34	2.84	4.50	3.81	3.74			
H ₂ O[-]	0.07	0.15	0.06	0.36	0.40	0.17	0.12			
CO ₂	0.85	2.30	0.50	1.25	2.95	0.10	0.20			
TOTAL	99.41	99.23	99.27	99.89	100.07	99.32	99.33	0.00	0.00	0.00
Mg NUMBER	75.2	70.9	64.8	52.6	59.7	63.9	66.0			
Ba PPM	132	51	59	121	141	64	112			
Rb	22	6	23	10	27	5	18			
Sr	297	151	86	63	64	77	188			
Pb										
Th										
U										
Zr	19	27	31	38	30	32	30			
Nb										
Y	8	12	12	14	13	13	11			
La	2	2	3	4	3	4	3			
Ce	11	9	11	15	13	16	15			
Sc	34	23	13	1	15	44	33			
V	141	200	210	424	272	242	187			
Cr	449	853	547	3	6	710	407			
Co										
Ni	244	227	139	24	33	134	133			
Cu	70	87	80	8	4	80	89			
Zn	46	58	63	50	51	69	56			
Ga										
S	100	180	360	20		100	240			

PLB44 - PILBARA/DUFFER FORMATION/BOWLS GORGE

SAMPLE NUMBER	49277	49278	49279	49280	49281	49282	49283	49284	49285	49286
FORMATION	DUFFER DC Formation	DUFFER DS Formation	DUFFER Formation	Duffer Formation	Duffer Formation	DUFFER UC Formation	DUFFER DC Formation	DUFFER DC Formation	Duffer Formation	DUFFER DC Formation
ROCK TYPE	RHY tuff	ca.K-rich porphyry	ca.porph. HATA	ca.porph. DAC	ca.tuff RHY	ca.DAC tuff	RHY tuff	ca. TB	ca.sa.se. TB	RHY tuff
MAP COORDINATES	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	78.38	53.09	55.32	63.18	71.18	59.94	73.00	48.48	47.20	67.14
TiO ₂	0.37	1.11	1.06	0.84	0.40	0.43	0.39	1.18	1.16	0.49
Al ₂ O ₃	12.11	17.87	16.56	16.21	11.81	13.23	12.56	15.41	14.80	15.70
Fe ₂ O ₃	1.12	1.39	1.45	0.76	0.81	0.70	0.73	1.59	1.00	0.94
FeO	0.40	3.55	3.55	1.15	2.05	2.45	2.40	9.25	11.20	2.30
MnO	0.01	0.11	0.12	0.07	0.07	0.17	0.04	0.13	0.14	0.03
MgO	0.50	1.59	2.04	1.11	1.24	1.45	1.35	5.05	5.15	1.23
CaO	0.11	4.84	5.17	3.44	2.61	7.09	1.13	5.01	6.54	1.22
Na ₂ O	0.08	0.09	3.22	3.96	2.04	2.46	2.28	3.10	1.11	1.77
K ₂ O	4.31	9.03	3.95	3.96	3.33	3.41	3.12	1.78	1.93	5.40
P ₂ O ₅	0.08	0.29	0.47	0.21	0.12	0.12	0.11	0.11	0.11	0.14
H ₂ O[+]	1.93	2.92	2.79	2.03	1.69	2.21	2.08	4.09	3.52	2.31
H ₂ O[-]	0.07	0.04	0.05	0.05	0.03	0.05	0.04	0.27	0.30	0.13
CO ₂	0.05	3.60	3.65	2.55	2.00	5.65	0.80	2.90	5.15	0.85
TOTAL	99.52	99.52	99.40	99.52	99.38	99.36	100.03	98.35	99.31	99.65
Mg NUMBER	42.7	41.0	46.8	55.9	48.3	49.7	48.1	49.8	47.2	45.0
Ba PPM	465	1173	500	470	439	608	510	3375	339	1048
Rb	102	151	115	105	99	32	79	36	56	124
Sr	6	95	92	64	50	88	29	204	138	39
Pb	9	5	2	3	4	6	3			24
Th	8	4	7	6	9	10	8			12
U							4			3
Zr	149	130	178	157	174	165	149	40	56	180
Nb	6	4	8	5	6	6	5			6
Y	11	19	23	17	13	13	9	17	18	14
La	24	15	34	32	31	33	25	8	10	41
Ce	49	44	74	59	57	61	51	23	27	77
Sc	2	11	12	7	9	9	10	13	28	9
V	35	175	121	100	33	42	44	232	222	47
Cr	24	194	119	100	40	42	41	181	177	30
Co										
Ni	10	166	65	20	20	17	20	123	118	16
Cu	5	54	47	43	22	21	11	103	100	22
Zn	12	104	91	63	44	49	49	77	101	58
Ga										
S	20	400	520	280	220	80	20	920	760	100

PLB45 - PILBARA/DUFFER FORMATION/BOWLS GORGE

SAMPLE NUMBER	49287	49288	49289	49290	49291	49292	49293	49294	49295	49296
FORMATION	Duffer Formation	Duffer Formation	DUFFER DC Formation	Duffer Formation	Duffer Formation	DUFFER DC Formation	DUFFER DC Formation	Duffer Formation	Duffer DC Formation	Duffer DC Formation
ROCK TYPE	ca.tuff K-DAC	ca.tuff K-DAC	ca. tuff DAC	ca. tuff DAC	ca. tuff K-DAC	ca. tuff DAC	ca. tuff DAC	ca. tuff DAC	ca. tuff DAC	ca. tuff DAC
MAP COORDINATES	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103	11941:2103
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	64.32	63.48	63.87	60.28	59.70	61.60	62.83	58.47	60.02	63.52
TiO ₂	0.53	0.53	0.51	0.51	0.61	0.57	0.62	0.81	0.47	0.57
Al ₂ O ₃	15.35	15.10	15.15	14.37	14.42	17.32	15.30	14.92	12.85	13.48
Fe ₂ O ₃	0.88	0.68	0.79	0.80	0.73	0.91	1.16	1.14	1.01	1.36
FeO	3.35	2.90	3.45	4.10	3.95	3.30	3.90	4.25	5.80	3.40
MnO	0.06	0.08	0.05	0.07	0.13	0.06	0.09	0.14	0.23	0.14
MgO	1.73	2.58	2.98	2.98	2.60	2.24	2.36	2.12	3.14	2.48
CaO	1.73	2.04	1.39	2.97	3.32	1.61	2.23	5.65	4.19	3.15
Na ₂ O	1.37	1.99	2.60	2.24	1.05	3.74	4.08	1.08	4.42	3.60
K ₂ O	6.03	5.04	3.79	4.55	6.02	3.79	2.17	3.35	0.19	1.71
P ₂ O ₅	0.17	0.13	0.17	0.16	0.24	0.15	0.14	0.20	0.14	0.12
H ₂ O[+]	2.21	2.27	2.64	2.32	2.07	2.47	2.30	3.38	3.07	2.21
H ₂ O[-]	0.15	0.09	0.16	0.12	0.25	0.15	0.12	0.18	0.09	0.11
CO ₂	1.75	2.85	1.85	4.20	4.65	1.75	1.80	4.45	3.55	3.25
TOTAL	99.63	99.76	99.40	99.67	99.74	99.66	99.10	100.14	99.17	99.10
Mg NUMBER	46.7	60.6	60.0	56.4	54.2	53.3	50.0	45.7	49.5	52.9
Ba PPM	928	713	421	542		1030	556	1358	951	258
Rb	131	129	116	113	136	125	66	100	6	67
Sr	45	57	65	73	47	121	150	101	189	139
Pb	11	4	5	4	5	15	6	8	6	6
Th	11	11	13	11	9	13	11	11	7	7
U	3	2	3	4	3	3	4	4		
Zr	186	158	192	161	154	189	166	194	131	152
Nb	7	5	7	5	7	7	6	9	4	4
Y	14	13	14	13	15	15	15	26	13	14
La	42	38	42	38	39	41	37	37	23	24
Ce	86	71	77	73	77	78	70	70	50	50
Sc	12	11	14	13	11	13	1	18	16	10
V	56	61	61	63	64	62	77	103	66	82
Cr	35	35	30	34	47	38	30	27	19	28
Co										
Ni	25	27	20	26	37	21	26	17	24	30
Cu	22	17	16	17	11	20	22	27	23	48
Zn	51	59	75	68	68	93	78	88	88	93
Ga										
S	720	200	120	80	220	120	240	260	280	80

PLB46 - PILBARA/DUFFER FORMATION/BOWLS GORGE

SAMPLE NUMBER FORMATION	49297 DufferDCA Formation	49298 Duffer Formation	49299 DUFFER DC Formation	49300 DUFFER DC Formation	49301 Duffer Formation	49302 DUFFER DC Formation	49303 Duffer Formation	49304 Duffer UC Formation	49305 Duffer DC Formation	49306 Duffer Formation
ROCK TYPE	ca. tuff DAC	ca. tuff DAC	ca.sa. DAC	pl. DAC	ca.pl. HATA	ca. tuff DAC	ca. tuff DAC	ca.ch.py. HATA	ca. tuff TA	ca.pl.qz. DAC
MAP COORDINATES 1:100 000 SHEET	11941:2103 MARBLE BAR	11941:2103 MARBLE BAR	11942:2103 MARBLE BAR	11942:2103 MARBLE BAR	11942:2103 MARBLE BAR	11942:2103 MARBLE BAR	11942:2103 MARBLE BAR	11942:2103 MARBLE BAR	11943:2103 MARBLE BAR	11943:2103 MARBLE BAR
SiO ₂ %wt	64.01	56.94	61.22	60.02	58.29	64.78	62.62	50.91	56.43	65.59
TiO ₂	0.55	0.62	0.63	0.56	0.61	0.50	0.50	0.91	0.85	0.48
Al ₂ O ₃	12.00	12.66	16.10	18.51	16.35	13.96	12.86	17.34	15.31	14.03
Fe ₂ O ₃	1.78	1.60	1.43	1.16	1.63	1.37	1.49	2.51	1.59	1.50
FeO	3.00	5.65	3.30	3.45	3.25	2.80	2.80	5.20	5.75	2.15
MnO	0.15	0.20	0.07	0.05	0.10	0.07	0.11	0.15	0.14	0.08
MgO	2.60	2.84	3.44	3.34	2.26	2.96	2.60	3.32	3.88	2.01
CaO	4.29	6.50	2.04	0.68	4.55	2.76	4.80	7.78	4.83	3.78
Na ₂ O	5.10	3.74	3.92	7.10	5.10	5.00	4.88	2.34	4.64	4.10
K ₂ O	0.32	0.79	2.32	1.39	2.88	1.47	0.78	3.34	0.73	1.81
P ₂ O ₅	0.12	0.18	0.14	0.13	0.18	0.13	0.11	0.17	0.17	0.12
H ₂ O[+]	1.84	2.70	2.58	2.71	2.05	2.13	2.03	3.43	3.28	2.03
H ₂ O[-]	0.14	0.10	0.16	0.13	0.09	0.03	0.13	0.15	0.14	0.19
CO ₂	3.45	5.20	2.35	0.35	1.95	1.25	3.65	1.55	1.90	1.65
TOTAL	99.35	99.72	99.70	99.58	99.29	99.21	99.36	99.10	99.64	99.52
Mg NUMBER	54.2	45.6	61.1	60.9	50.1	60.6	56.8	48.3	53.1	54.6
Ba PPM	89	81	476	172	1281	475	358	1124	336	662
Rb	11	28	73	55	67	37	26	69	19	47
Sr	140	186	109	298	513	249	171	435	348	245
Pb	5	18	6	15	8	8	4	3	8	2
Th	5	6	8	9	9	9	6	4	7	6
U	3		2	2		4	2			3
Zr	119	123	134	168	131	129	124	123	124	97
Nb	3	2		4	3	3	3	5	4	3
Y	12	11	12	13	13	11	12	24	18	9
La	22	27	32	34	33	26	21	22	21	24
Ce	39	54	61	60	61	53	44	45	49	46
Sc	9	11		8	6	7	8	11	9	6
V	57	87	87	73	114	81	12	147	138	50
Cr	61	29		38	50	53	48	60	34	29
Co										
Ni	38	37		36	38	41	36	29	49	26
Cu	23	20		21	55	10	41	122	27	5
Zn	35	79		95	57	60	52	87	70	43
Ga										
S	200	40	100		60	200	100	160	60	100

PLB47 - PILBARA/DUFFER FORMATION/BOWLS GORGE

SAMPLE NUMBER FORMATION	49307 DufferDFC Formation	49308 Duffer Formation	49309 Duffer DF Formation	49310 Duffer Formation	49311 Duffer DF Formation	49312 DUFFER DFC Formation	49313 Duffer Formation	49314 Duffer Formation	49315 DUFFER UA Formation	49316 Duffer DC Formation
ROCK TYPE	ep.ca.pl. DAC	ca.ep. DAC	ep. DAC	ca.ep.pl. DAC	ca.pl.am. DAC	pl. DAC	ca.pl. DAC	am.ch. TB	pl.ep.cl. HATA	ep.pl. HATA
MAP COORDINATES 1:100 000 SHEET	11943:2103 MARBLE BAR	11943:2103 MARBLE BAR	11943:2103 MARBLE BAR	11943:2103 MARBLE BAR	11943:2103 MARBLE BAR	11944:2103 MARBLE BAR	11944:2103 MARBLE BAR	11944:2103 MARBLE BAR	11944:2102 MARBLE BAR	11944:2102 MARBLE BAR
SiO ₂ wt	64.50	65.40	61.37	59.89	59.69	69.49	62.71	58.47	53.22	58.16
TiO ₂	0.46	0.41	0.48	0.55	0.62	0.36	0.53	0.46	0.74	0.75
Al ₂ O ₃	15.74	14.81	16.22	15.55	16.34	15.81	16.36	11.05	18.84	16.93
Fe ₂ O ₃	2.20	1.44	2.56	2.81	2.08	1.03	1.73	1.16	2.40	1.80
FeO	1.45	1.65	2.70	2.80	3.45	1.15	2.05	6.25	4.25	4.60
MnO	0.07	0.07	0.09	0.13	0.11	0.02	0.09	0.16	0.11	0.12
MgO	1.04	1.32	2.56	1.93	2.16	0.42	0.75	7.85	3.73	3.84
CaO	4.54	4.51	5.24	7.78	5.52	3.06	4.94	5.71	7.71	5.71
Na ₂ O	7.00	3.58	4.64	4.20	5.20	6.15	4.22	2.66	4.32	4.26
K ₂ O	0.20	2.28	0.39	0.26	0.42	0.46	2.20	0.84	0.64	1.55
P ₂ O ₅	0.10	0.11	0.10	0.15	0.14	0.11	0.14	0.07	0.14	0.12
H ₂ O[+]	1.19	1.76	2.31	1.98	2.11	1.02	1.78	3.54	2.94	2.24
H ₂ O[-]	0.11	0.16	0.11	0.06	0.03	0.08	0.08	0.16	0.04	0.80
CO ₂	1.30	2.15	0.45	1.95	1.50	0.15	2.10	0.75	0.55	0.35
TOTAL	99.90	99.65	99.22	100.04	99.37	99.31	99.68	99.13	99.63	99.23
Mg NUMBER	38.9	48.4	51.7	43.2	46.0	29.8	30.4	69.3	55.0	56.4
Ba PPM	89	347	218	125	307	234	559	811	236	501
Rb	5	97	11	7	12	12	80	15	10	32
Sr	490	390	65	870	665	534	311	230	531	434
Pb	8	5	6	13	5	2		2	7	3
Th	7	5	5	5	3		3	5	2	
U	3						3	3	2	
Zr	126	116	90	114	104	127	123	61	109	99
Nb	3	3	2	4	2	2	3	2	2	2
Y	10	8	8	10	11	10	12	13	13	12
La	27	18	21	20	17	12	11	9	14	11
Ce	50	43	43	45	34	31	31	24	35	26
Sc	4	4	7	6	10	7	4	14	6	7
V	10	56	81	72	85	21	54	122	109	91
Cr	34	32	50	115	31	6	7	710	79	24
Co										
Ni	26	2	39	59	24	1	6	183	74	52
Cu	3	8	16	113	3	3	63	54	11	7
Zn	32	39	62	62	65	28	39	58	74	79
Ga										
S	20		60	60	80	120	60	520	120	

PLB48 - PILBARA/DUFFER FORMATION/BOWLS GORGE

SAMPLE NUMBER	49317
FORMATION	DUFFER DFC Formation
ROCK TYPE	ep.pl.ca. DAC
MAP COORDINATES	11944:2103
1:100 000 SHEET	MARBLE BAR

SiO ₂	wt	62.07
TiO ₂		0.54
Al ₂ O ₃		14.70
Fe ₂ O ₃		2.16
FeO		2.90
MnO		0.09
MgO		3.42
CaO		4.94
Na ₂ O		4.34
K ₂ O		0.65
P ₂ O ₅		0.13
H ₂ O[+]		2.38
H ₂ O[-]		0.10
CO ₂		0.90

[illegible]

Mg NUMBER 59.7

Ba PPM 236

Rb 10

Sr 585

Pb 3

Th 2

U 117

217

Nb	3
11	11

Y	11
6	16

La	16
Co	23

Ce	33
Ca	6

65

Cr 74

CP
CO

82

Cu 26

68

Ga

20

PLB49 - PILBARA/SALGASH SUBGROUP/CAMEL CREEK

SAMPLE NUMBER	49325	49326	49327	49328	49329	49330	49331	49332	49333	49334
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt
ROCK TYPE	tr.cl.ca. TB	ch.ep.ac. HMB	ca. HMB	ca.sr. PK	ol. PK	ol.tr. PK	tr.ol. PK	tr.ol. PK	tr.ch. HMB	tr.ch.ep. HMB
MAP COORDINATES	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121	11947:2121
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	49.76	50.42	46.65	39.40	42.89	43.65	42.87	42.99	50.21	49.72
TiO ₂	0.99	1.01	0.38	0.12	0.19	0.19	0.19	0.23	0.47	0.48
Al ₂ O ₃	11.86	11.80	6.92	2.70	4.30	4.38	4.47	4.67	10.01	9.98
Fe ₂ O ₃	2.90	1.98	1.27	2.85	4.44	3.39	3.03	4.50	0.98	1.19
FeO	8.05	10.00	10.50	5.20	4.85	5.60	6.35	5.25	8.85	8.15
MnO	0.21	0.18	0.19	0.12	0.15	0.15	0.14	0.15	0.18	0.21
MgO	7.75	8.05	16.10	36.00	31.50	27.40	32.20	30.70	14.80	13.20
CaO	14.45	9.12	8.98	0.46	4.39	6.47	4.81	4.15	9.70	13.06
Na ₂ O	1.70	3.60	1.31	0.07	0.29	0.48	0.31	0.18	1.90	1.18
K ₂ O	0.09	0.08	0.04	0.01	0.04	0.02	0.02	0.02	0.08	0.22
P ₂ O ₅	0.12	0.11	0.05	0.01	0.04	0.02	0.03	0.03	0.06	0.05
H ₂ O[+]	1.61	2.25	4.08	11.23	6.51	5.15	5.26	6.73	2.50	0.33
H ₂ O[-]	0.15	0.25	0.26	0.07	0.27	0.11	0.22	0.33	0.18	3.00
CO ₂	0.50	0.95	2.10	0.95	0.10	0.20	0.10	0.15	0.05	0.10
TOTAL	100.14	99.80	98.83	99.19	99.96	97.21	100.00	100.08	99.97	100.87
Mg NUMBER	60.4	58.9	74.4	90.7	88.2	86.9	88.1	87.4	76.1	75.0
Ba PPM	7	9	6						12	7
Rb									3	6
Sr	136	51	26	2	15	27	9	25	31	100
Pb										
Th										2
U										22
Zr	62	62	17	3	5	8	6	8	23	
Nb	2									
Y	19	18	8		4	4	5	5	9	10
La	6	5	5		2	2	3	3	2	
Ce	27	18	8	7	5	11	3	39	10	15
Sc	2	5	7	1	3	4	6	5	5	5
V	254	260	190	61	94	102	98	106	198	185
Cr	447	349	1518	951	1630	1285	1176	1570	1456	1248
Co										
Ni	128	110	291	1770	1396	1275	1411	1325	376	305
Cu	19	132	77	16	7	39	5	4	70	20
Zn	85	106	76	27	39	37	31	34	63	65
Ga										
S	20	160	20	140	200	120	20		160	120

PLB50 - PILBARA/SALGASH SUBGROUP/CAMEL CREEK

SAMPLE NUMBER	49335	49336	49337	49338	49339	49340	49341	49342	49343	49344
FORMATION	Apex Basalt tr.ch. HMB	Apex Basalt ch.tr. HMB	Apex Basalt ch.tr. HMB	Apex Basalt ch.tr. HMB	APEX UCDA BasaltUCDA ch.tr.cl. ca.TB	Apex Basalt ch.tr.cl. HMG	Apex Basalt ch.tr.cl. TD	Euro Basalt tr.ep.ca. HMD	Euro Basalt px.ep.ca. HMB	Euro Basalt tr.ch.cl? TB
ROCK TYPE										
MAP COORDINATES	11947:2121	11947:2121	11947:2121	11947:2120	11947:2120	11947:2120	11947:2120	11945:2120	11945:2120	11945:2120
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	49.65	51.11	47.80	48.56	51.79	50.56	52.14	49.67	47.10	49.27
TiO ₂	0.48	0.51	0.46	0.50	0.47	0.37	0.59	1.21	1.39	1.03
Al ₂ O ₃	9.77	12.18	11.51	12.18	10.82	12.81	14.05	9.29	7.23	14.53
Fe ₂ O ₃	1.08	0.99	1.77	1.64	2.43	2.26	2.06	2.44	2.22	2.56
FeO	9.20	8.70	8.45	8.25	6.55	5.80	7.60	8.70	9.70	10.30
MnO	0.19	0.19	0.18	0.18	0.22	0.16	0.17	0.24	0.19	0.19
MgO	14.00	12.00	13.00	11.30	7.75	10.50	7.80	8.40	12.60	7.45
CaO	10.65	9.28	12.83	12.96	16.33	12.59	10.39	12.16	12.98	8.20
Na ₂ O	1.67	2.26	0.94	1.18	0.34	0.97	1.97	2.60	1.10	1.84
K ₂ O	0.14	0.15	0.26	0.34	0.05	0.84	0.08	0.36	0.07	0.28
P ₂ O ₅	0.08	0.06	0.07	0.07	0.08	0.06	0.07	0.14	0.12	0.10
H ₂ O[+]	2.57	2.23	2.66	2.56	1.72	2.74	2.70	2.36	3.24	2.90
H ₂ O[-]	0.03	0.07	0.12	0.08	0.08	0.18	0.08	0.20	0.36	0.24
CO ₂	0.40	0.05	0.10	0.10	1.40	0.10	0.15	2.10	1.10	0.15
TOTAL	99.91	99.78	100.15	99.90	100.03	99.94	99.85	99.87	99.34	100.04
Mg NUMBER	74.3	72.4	73.1	70.9	65.0	73.8	63.4	61.8	69.3	55.3
Ba PPM	8	14	12	27	12	57		90	22	37
Rb	3	4	9	14		21		5		10
Sr	39	64	144	156	117	70	125	111	124	76
Pb										
Th										
U										
Zr	26	29	27	27	23	18	34	77	63	60
Nb								2		
Y	10	12	11	11	9	8	13	17	16	22
La	2	2	4	5	2	2	2	8	3	8
Ce	19	17	15	13	18	16	17	29	16	21
Sc	7	6	8	8	1	6	8	5	10	10
201	201	214	198	223	183	192	238	240	337	340
V	1183	827	1116	858	920	578	356	551	1504	160
Cr										
Co										
Ni	308	267	385	227	217	155	109	161	355	126
Cu	65	60	150	76	50	54	156	207	260	140
Zn	70	66	63	58	58	50	74	80	76	98
Ga										
S	80	340	320	600	100	40	220	1520	80	40

PLE51 - PILBARA/SAIGASH SUBGROUP/CAMEL CREEK

SAMPLE NUMBER	49345	49346	49347	49348	49349	49350				
FORMATION	Euro	Euro	Euro	Euro	Euro	EURO DC				
	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt DC				
ROCK TYPE	sp.	ep.ca.sp.	ep.tr.sp.	ep.tr.sp.	ca.ch.qz.	ca.				
	TB	TB	TB	HMB	TB	TD				
MAP COORDINATES	11945:2120	11945:2120	11945:2120	11946:2120	11946:2119	11946:2119				
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR				
SiO ₂ %wt	48.46	47.85	48.80	52.00	46.22	51.64				
TiO ₂	1.17	1.11	1.11	0.69	1.67	2.32				
Al ₂ O ₃	14.14	13.67	14.40	13.24	11.99	12.68				
Fe ₂ O ₃	3.12	3.68	2.33	2.35	5.32	8.37				
FeO	10.40	9.30	10.80	7.60	10.50	8.40				
MnO	0.22	0.18	0.22	0.17	0.22	0.14				
MgO	6.65	5.85	7.00	8.35	4.62	3.50				
CaO	9.44	9.74	7.88	9.20	7.16	3.70				
Na ₂ O	2.04	1.96	2.46	1.83	3.22	4.08				
K ₂ O	0.09	0.16	0.25	0.10	0.08	0.44				
P ₂ O ₅	0.13	0.12	0.12	0.09	0.17	0.26				
H ₂ O[+]	3.55	4.06	3.94	3.74	3.89	3.00				
H ₂ O[-]	0.11	0.14	0.18	0.18	0.17	0.24				
CO ₂	0.35	2.15	0.30	0.20	4.75	1.20				
TOTAL	99.87	99.97	99.79	99.74	99.98	99.97	0.00	0.00	0.00	0.00
Mg NUMBER	51.4	49.3	53.2	64.3	38.8	31.5				
Ba PPM	10	14	25	8	7	203				
Rb		3	6			8				
Sr	159	145	106	125	74	50				
Pb						29				
Th										
U		2								
Zr	67	64	62	46	115	167				
Nb	2		2		4	6				
Y	22	22	22	16	26	26				
La	4	6	6	4	8	11				
Ce	17	18	25	22	30	38				
Sc	6	5	9	7	9	8				
V	309	329	317	228	323	267				
Cr	94	89	167	443	33	18				
Co										
Ni	105	101	120	107	40	17				
Cu	172	173	158	72	169	61				
Zn	109	92	115	67	97	88				
Ga										
S	200	1600	220	60		120				

PLE52 - PILBARA/WYMAN FORMATION/CAMEL & BUDJAN CREEKS

SAMPLE NUMBER	49318	49319	49320	49321	49322	49323	49324	49351	49352	49353
FORMATION	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation	Wyman Formation
ROCK TYPE	qz.or.se. RHY	qz.or.se. RHY	qz.or.se. RHY	qz.or.se. RHY	qz.or.se. RHY	qz.or.se. RHY	qz.or.se. RHY	qz.pl.ca. RHY	se.qz.pl. RHY	qz.pl.se. RHY
MAP COORDINATES	11946:2118	11946:2118	11946:2118	11946:2118	11946:2118	11946:2118	11946:2118	11951:2150	11951:2150	11951:2150
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK
SiO ₂	wt 78.21	78.14	76.88	76.64	76.95	75.70	76.22	76.77	81.50	85.48
TiO ₂	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.26	0.06	0.05
Al ₂ O ₃	11.36	11.11	11.23	11.16	11.02	11.16	10.53	11.87	11.12	8.53
Fe ₂ O ₃	0.69	0.24	0.74	0.50	0.47	0.49	0.32	0.30	0.27	0.20
FeO	0.10	0.25	0.15	0.15	0.15	0.30	0.30	0.35	0.05	0.05
MnO		0.01	0.03	0.03	0.03	0.04	0.05	0.02		
MgO	0.50	0.18	0.38	0.35	0.37	0.56	0.68	0.32	0.30	0.33
CaO	0.01	0.24	0.55	0.63	0.54	0.93	1.09	0.86	0.05	0.04
Na ₂ O	0.17	0.13	0.40	0.40	0.27	0.30	0.29	3.69	0.09	0.08
K ₂ O	7.08	9.18	7.88	8.62	8.37	8.44	8.11	3.14	4.72	3.88
P ₂ O ₅	0.03	0.03	0.02	0.03	0.03	0.03	0.02	0.05	0.02	0.02
H ₂ O[+]	1.13	0.32	0.65	0.41	0.39	0.48	0.53	0.86	1.33	1.25
H ₂ O[-]	0.07	0.03	0.07	0.09	0.10	0.08	0.09	0.14	0.15	0.13
CO ₂	0.05	0.35	0.70	0.85	0.80	1.25	1.60	0.60		0.05
TOTAL	99.45	100.05	99.73	99.91	99.53	99.80	99.87	99.23	99.66	100.09
Mg NUMBER	59.2	58.7	49.4	55.0	57.5	61.3	70.8	52.0	68.2	75.0
Ba PPM	65	70	67	63	60	59	72	405	493	442
Rb	211	180	197	190	179	194	189	82	91	72
Sr	4	6	7	6	5	9	9	46	11	6
Pb	19	10	14	13	11	13	11	3	5	3
Th	28	31	31	29	31	32	29	9	13	13
U	3	7	6	5	4	4	6	2	4	
Zr	86	82	82	81	80	84	80	114	86	62
Nb	8	10	10	10	11	11	9	3	4	5
Y	24	23	22	27	25	24	22	10	16	19
La	13	19	23	33	27	26	31	23	19	17
Ce	41	47	54	77	67	65	75	43	47	40
Sc	15	3	9	8	7	7	7	3	4	3
V	3							18	2	
Cr		3	4	3	3		4	6	1	3
Co										
Ni	2		1	2				4	4	1
Cu					2	1	1	4	3	16
Zn	21	3	20	10	11	7	7	23	5	5
Ga										
S	20		20	40	20	40		40	160	40

PLB53 - PILBARA/WYMAN FORMATION/BUDJAN&EMU CREEKS

SAMPLE NUMBER	49354	49355	49356	49357	49358	49359	49360	49361	49362	49363
FORMATION	Wyman	Wyman	Wyman	Wyman	Wyman	Wyman	Wyman	Wyman	Wyman	Wyman
ROCK TYPE	Formation	Formation	Formation	Formation	Formation	Formation	Formation	Formation	Formation	Formation
MAP COORDINATES	11951:2150	11951:2150	11951:2150	11951:2150	11951:2150	11951:2150	11959:2142	11959:2142	11959:2142	11959:2142
1:100 000 SHEET	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK
SiO ₂ %wt	81.89	81.35	81.27	80.30	82.06	79.34	70.81	70.21	73.36	73.38
TiO ₂	0.11	0.11	0.18	0.19	0.10	0.11	0.52	0.59	0.50	0.48
Al ₂ O ₃	10.59	10.76	10.69	11.11	9.62	11.19	13.74	14.58	13.11	13.25
Fe ₂ O ₃	0.49	0.54	0.35	0.56	0.33	0.43	0.13	0.20	0.08	0.07
FeO	0.10	0.20	0.15	0.25	0.15	0.15	0.30	0.35	0.15	0.05
MnO						0.01	0.17	0.03	0.02	0.01
MgO	0.50	0.54	0.33	0.45	0.26	0.36	0.11	0.13	0.12	0.08
CaO	0.04	0.05	0.04	0.04	0.10	0.03	0.55	0.11	0.21	0.03
Na ₂ O	0.06	0.08	0.08	0.07	0.10	0.11	0.16	0.23	0.14	0.15
K ₂ O	3.68	3.60	4.77	4.41	5.75	6.62	11.97	12.54	11.05	11.25
P ₂ O ₅	0.02	0.02	0.02	0.02	0.03	0.02	0.36	0.09	0.07	0.08
H ₂ O[+]	1.79	1.82	1.37	1.81	1.25	1.21	0.27	0.54	0.35	0.48
H ₂ O[-]	0.03	0.12	0.08	0.14	0.05	0.15		0.06	0.03	0.02
CO ₂				0.05			0.40	0.15	0.25	
TOTAL	99.30	99.19	99.33	99.40	99.80	99.73	99.49	99.81	99.44	99.33
Mg NUMBER	66.0	62.3	59.8	55.6	54.9	58.4	35.6	34.0	53.1	59.7
Ba PPM	302	110	183	232	471	480	375	445	442	422
Rb	88	91	90	114	136	127	120	122	122	117
Sr	12	10	6	10	21	9	26	18	22	18
Pb	9	5	2	3	46	7	7	6	5	7
Th	10	11	8	9	12	11	6	5	6	6
U	3	2	2	2	3	2	3	2	2	
Zr	125	134	119	132	147	139	127	193	177	173
Nb	4	4	4	4	5	5	4	7	4	5
Y	12	19	13	15	24	22	22	23	18	17
La	21	26	17	20	19	24	9	20	15	20
Ce	38	53	37	42	41	47	26	45	36	39
Sc	2	3	3	3	3	3	2	2	2	1
V	2		7	14			32	43	37	38
Cr	1	1	4	3			11	22	18	17
Co										
Ni	2	2	2	3	3	2	5	11	7	3
Cu	3	5	11	9	6	3	43	29	24	15
Zn	8	11	8	14	11	11	37	18	8	5
Ga										
S	20	20			480	40	600	720	280	40

FLB54 - PILEBARA/HONEYEATER BASALT/SOANESVILLE

SAMPLE NUMBER	49364	49365	49366	49367	49368	49369	49370	49371	49372	49373
FORMATION	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt
ROCK TYPE	px.sr.tr. ep.HMD	ep.sr.ca. pl.TD	cpx.sa.ch. HMB	cpx.ep.ch. HMB	cpx.pl. TD	cpx.sr.pl. TD	cpx.sr. TD	ca. HALB	ca. HALB	sa.sr. TD
MAP COORDINATES	11910:2125	11910:2125	11909:2125	11909:2125	11909:2125	11909:2125	11909:2125	11909:2126	11909:2126	11909:2126
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW
SiO ₂ %wt	49.51	51.05	51.27	47.06	51.07	50.56	49.39	46.05	49.41	51.01
TiO ₂	0.38	0.90	0.45	0.40	0.65	0.69	1.08	0.40	0.43	0.44
Al ₂ O ₃	14.89	13.60	1.76	7.99	15.12	14.26	14.30	16.13	16.21	15.77
Fe ₂ O ₃	2.08	1.28	2.28	2.81	1.38	1.41	2.76	1.12	1.73	2.89
FeO	8.35	8.40	7.00	7.10	7.20	7.55	8.70	7.95	7.50	7.30
MnO	0.19	0.22	0.18	0.17	0.15	0.14	0.19	0.29	0.29	0.19
MgO	9.28	6.80	10.50	12.60	7.83	7.05	7.85	7.05	6.85	7.13
CaO	7.66	9.64	14.88	17.70	8.54	11.25	8.47	7.94	7.84	9.04
Na ₂ O	1.11	2.80	1.27	0.23	3.02	2.60	1.80	2.28	1.76	0.65
K ₂ O	0.32	0.23	0.03	0.01	0.77	0.38	0.80	0.61	0.57	0.26
P ₂ O ₅	0.05	0.12	0.08	0.08	0.08	0.09	0.13	0.04	0.05	0.05
H ₂ O[+]	5.51	3.62	2.85	3.02	3.40	3.16	4.10	5.08	4.66	4.62
H ₂ O[-]	0.29	0.16	0.23	0.26	0.16	0.34	0.36	0.20	0.18	0.16
CO ₂	0.05	1.05	0.30	0.50	0.45	0.35	0.05	3.80	2.60	0.25
TOTAL	99.67	99.87	100.08	99.93	99.82	99.83	99.98	98.94	100.08	99.76
Mq NUMBER	65.6	59.9	70.9	73.3	66.0	62.6	59.5	62.3	61.3	60.2
Ba PPM	74	79	6		311	305	345	240	158	51
Rb	9	6			23	11	22	23	19	5
Sr	205	157	8	3	217	152	289	85	96	160
Pb										
Th										
U										
Zr	19	95	19	17	36	40	98	25	24	22
Nb		2					3			
Y	11	29	10	9	16	15	31	12	13	13
La	2	6	3	4	5	13	5	3	5	
Ce	15	26	11	17	19	19	22	17		10
Sc	11	6	4	3	6	5	7	12	11	11
V	237	264	238	261	219	275	338	234	159	228
Cr	50	272	893	1507	88	134	191	170	135	39
Co										
Ni	108	46	136	192	77	55	43	92	82	86
Cu	55	50	9	34	70	55	65	47	49	63
Zn	65	70	38	50	49	52	81	62	62	65
Ga										
S	200	120		40	200	80	240	40	40	60

PLB55 - PILBARA/HONEYEATER BASALT/SOANESVILLE

SAMPLE NUMBER	49374	49375	49376	49377	49378	49379	49380	49381	49382	49383
FORMATION	HONEYEATER	Honeyeater	Honeyeater	Honeyeater	HONEYEATER	Honeyeater	Honeyeater	Honeyeater	Honeyeater	Honeyeater
ROCK TYPE	Basalt DC	Basalt	Basalt	Basalt	Basalt UC	Basalt	Basalt	Basalt	Basalt	Basalt
MAP COORDINATES	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126	11909:2126
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW
SiO ₂ %wt	50.97	46.78	48.80	49.06	51.83	50.38	47.46	49.18	49.01	51.71
TiO ₂	0.55	0.31	0.41	0.42	0.65	0.99	0.87	0.66	0.81	0.78
Al ₂ O ₃	14.72	18.47	16.28	16.19	11.14	14.52	14.47	9.87	13.93	13.39
Fe ₂ O ₃	2.42	2.39	1.72	1.54	2.27	1.52	1.51	1.11	1.66	2.90
FeO	9.75	7.60	7.60	7.90	8.55	9.10	9.15	7.80	8.10	7.50
MnO	0.19	0.18	0.20	0.19	0.15	0.20	0.21	0.21	0.18	0.14
MgO	6.65	7.45	8.55	8.00	6.20	8.15	8.10	10.40	10.20	3.92
CaO	6.36	9.14	6.38	6.85	11.41	7.22	9.44	11.75	9.29	13.31
Na ₂ O	2.10	1.45	1.55	1.90	1.52	2.04	2.22	1.55	1.50	0.13
K ₂ O	0.17	0.39	1.08	1.38	1.53	1.29	1.18	0.39	0.80	0.02
P ₂ O ₅	0.05	0.04	0.05	0.05	0.07	0.14	0.12	0.07	0.12	0.09
H ₂ O[+]	5.31	5.48	5.10	5.19	3.41	3.95	3.47	3.21	3.53	4.67
H ₂ O[-]	0.39	0.38	0.28	0.25	0.07	0.27	0.13	0.07	0.29	0.07
CO ₂	0.05	0.05	1.40	0.80	0.90	0.15	1.60	3.50	0.45	0.35
TOTAL	99.68	100.11	99.40	99.72	99.70	99.92	99.93	99.77	99.87	98.98
Mg NUMBER	53.9	61.6	66.2	64.4	55.1	62.0	61.8	71.2	69.0	44.8
Ba PPM	90	87	500	1528	65	1642	1615	367	666	
Rb	3	7	35	39	24	33	28	11	21	
Sr	27	91	132	135	14	150	185	87	152	5
Pb										2
Th						2		2		
U						93	78	37	74	44
Zr	30	14	21	17	34	3				
Nb						28	25	16	24	19
Y	18	10	13	14	14	7	6	3	5	2
La		2	2		2	22	21	21	23	17
Ce	12	13	9	10	18	10	9	6	9	3
Sc	6	10	12	12	3	316	279	249	266	350
V	285	200	233	232	258	48	451	583	461	5
Cr	20	31	148	188						
Co										
Ni	59	87	86	86	59	53	114	157	128	28
Cu	77	46	43	51	21	54	50	183	48	32
Zn	70	50	60	57	44	79	77	74	73	58
Ga										
S	100	40	40	40	60	60	100	300	40	100

PLB56 - PILBARA/HONEYEATER BASALT/SOANESVILLE

SAMPLE NUMBER	49384	49385	49386	49387	49388	49389	49390	49391	49392	49393
FORMATION	Honeyeater Basalt	Honeyeater Basalt	HONEYEATER BasaltUCDA	Honeyeater Basalt	HONEYEATER Basalt DC	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt
ROCK TYPE	ch. HMD	cpx.sr. HMB	cpx.ch.ca. basalt	ca. TB	ca. TB	pl.ca. TB	ca. TB	cpx.ch.se. HMB	ca.ep.ch. qz.TB	ep.ch.qz. TB
MAP COORDINATES	11909:2126	11910:2126	11909:2126	11909:2126	11909:2127	11909:2127	11909:2127	11908:2126	11909:2127	11909:2127
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW
SiO ₂ %wt	49.12	49.30	52.95	50.52	50.71	48.19	50.76	49.64	53.06	50.55
TiO ₂	0.49	0.63	0.60	0.93	0.56	0.55	0.58	0.84	0.64	0.68
Al ₂ O ₃	13.74	9.95	9.87	13.72	15.04	14.97	14.84	11.66	15.01	15.01
Fe ₂ O ₃	1.54	1.08	2.53	2.27	2.18	2.24	0.87	1.76	2.88	3.42
FeO	7.55	9.35	5.35	8.05	10.10	9.00	8.70	9.80	8.15	10.70
MnO	0.15	0.19	0.16	0.22	0.26	0.26	0.23	0.17	0.20	0.26
MgO	9.20	12.20	6.80	7.60	6.93	4.78	4.70	9.60	4.62	5.55
CaO	10.46	9.95	15.74	8.33	5.80	9.82	6.75	9.56	6.16	5.79
Na ₂ O	2.50	1.52	0.20	2.50	1.31	1.79	1.95	1.40	1.50	1.14
K ₂ O	0.68	0.72	0.02	0.79	0.11	0.12	1.60	0.64	0.93	0.84
P ₂ O ₅	0.05	0.07	0.06	0.13	0.06	0.06	0.06	0.10	0.06	0.06
H ₂ O[+]	3.52	3.62	3.49	3.60	5.65	4.36	4.25	4.41	4.27	4.89
H ₂ O[-]	0.36	0.36	0.11	0.22	0.15	0.28	0.15	0.33	0.19	0.25
CO ₂	0.05	0.35	1.30	0.70	0.65	3.55	4.51	0.10	1.75	
TOTAL	99.41	99.29	99.23	99.58	99.51	99.97	99.95	100.01	99.42	99.14
Mg NUMBER	68.3	71.2	65.0	61.2	54.6	47.6	51.0	63.9	47.4	45.8
Ba PPM	667	486		310	28	39	179	523	27	74
Rb	18	27		21	3	3	62	22	24	17
Sr	93	54	9	172	102	260	40	54	88	68
Pb										
Th										
U					3					
Zr	22	33	34	98	32	27	30	52	36	36
Nb				2						
Y	11	14	15	29	18	17	16	19	22	21
La	6	4	3	5	3	2		6	3	3
Ce	11	13	15	19	13	11	14	17	14	11
Sc	7	11	3	9	11	13	13	8	12	7
V	243	281	246	275	296	305	324	311	319	350
Cr	147	1060	434	311	15	16	15	589	11	
Co										
Ni	79	182	96	61	62	61	55	123	47	38
Cu	44	18	56	44	76	100	86	73	123	119
Zn	46	57	41	74	87	79	113	58	73	98
Ga										
S	20	20	440	60	100	160	520	100	80	120

PLB57 - PILBARA/HONEYEATER BASALT/SOANESVILLE

SAMPLE NUMBER	49394	49395	49396	49397	49398	49399				
FORMATION	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt				
ROCK TYPE	cpx.am.sr. TD	ch. TB	px.am.sr. TD	cpx.ca. TB	px. TB	ca. TB				
MAP COORDINATES	11909:2127	11909:2127	11909:2127	11909:2127	11909:2127	11909:2128				
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW				
SiO ₂ %wt	49.79	53.21	52.68	50.88	49.31	49.57				
TiO ₂	0.39	0.80	0.62	0.95	1.01	0.95				
Al ₂ O ₃	14.98	14.00	15.07	13.51	14.91	14.15				
Fe ₂ O ₃	2.94	3.84	3.28	2.16	2.57	2.13				
FeO	7.95	9.50	9.05	7.90	8.50	8.20				
MnO	0.19	0.22	0.22	0.17	0.20	0.20				
MgO	8.90	5.35	5.90	7.55	7.80	7.65				
CaO	7.26	6.10	6.37	9.00	7.81	8.10				
Na ₂ O	1.46	1.47	1.69	1.83	2.46	2.30				
K ₂ O	0.48	0.06	0.55	0.41	0.87	0.68				
P ₂ O ₅	0.05	0.08	0.05	0.15	0.15	0.13				
H ₂ O[+]	5.04	4.49	4.37	3.61	3.66	3.75				
H ₂ O[-]	0.62	0.25	0.33	0.19	0.32	0.35				
CO ₂	0.05	0.05	0.10	0.85	0.05	0.95				
TOTAL	100.10	99.42	100.28	99.16	99.62	99.11	0.00	0.00	0.00	0.00
Mg NUMBER	63.8	46.4	50.8	61.7	60.2	61.3				
Ba PPM	17	6	61	60	261	194				
Rb	10	2	11	9	19	17				
Sr	92	108	72	92	137	121				
Pb										
Th					3					
U					103	100				
Zr	22	45	31	101	4	3				
Nb				3	4					
Y	12	25	19	30	31	29				
La	2	4	2	8	6	6				
Ce	19	12	8	25	25	23				
Sc	8	6	7	8	8	9				
V	223	372	321	286	327	300				
Cr	47	8	9	248	292	250				
Co										
Ni	110	30	56	47	56	49				
Cu	75	109	86	53	61	54				
Zn	69	93	83	81	90	87				
Ga										
S	100	80	80	560	100	80				

PLB58 - PILBARA/SALGASH SUBGROUP/TAMBOURAH

SAMPLE NUMBER	80040001	80040002	80040003	80040004	80040005	80040007	80040008	80040009	80040010	80040011
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt
ROCK TYPE	HMB	HMB	TB	HMB	TB	TB	TB	HMB	TB	TB
MAP COORDINATES 1:100 000 SHEET	7262E5928N TAMBOURAH	7263E5930N TAMBOURAH	7264E5930N TAMBOURAH	7265E5930N TAMBOURAH	7266E5928N TAMBOURAH	7268E5928N TAMBOURAH	7269E5928N TAMBOURAH	7270E5924N TAMBOURAH	7269E5921N TAMBOURAH	7271E5922N TAMBOURAH
SiO ₂ %wt	48.40	53.20	52.50	46.30	53.70	52.60	52.90	46.70	48.30	51.80
TiO ₂	0.51	0.78	1.66	0.42	1.88	1.25	1.08	0.40	1.36	1.23
Al ₂ O ₃	11.00	6.95	13.30	10.30	11.90	13.00	13.90	9.75	14.60	10.60
Fe ₂ O ₃	1.24	0.89	1.53	0.97	2.51	2.38	1.94	1.25	1.73	2.06
FeO	9.05	8.65	8.25	9.35	10.70	9.20	9.95	8.95	9.60	11.10
MnO	0.16	0.21	0.18	0.18	0.26	0.21	0.19	0.19	0.19	0.22
MgO	15.80	11.30	5.50	18.30	6.20	6.30	5.30	19.10	8.10	7.65
CaO	8.65	14.50	11.00	8.10	8.05	9.95	10.00	8.70	10.30	9.00
Na ₂ O	1.24	1.41	2.62	0.34	1.58	2.68	1.86	0.46	2.84	3.42
K ₂ O	0.37	0.37	0.38	0.38	0.65	0.05	0.62		0.26	0.23
P ₂ O ₅	0.03	0.03	0.14	0.01	0.19	0.13	0.08	0.02	0.11	0.08
H ₂ O[+]	2.85	1.28	2.05	4.40	1.75	0.90	1.24	4.09	1.67	1.44
H ₂ O[-]	0.16	0.05	0.22	0.36	0.07	0.16		0.12	0.15	0.08
CO ₂	0.05	0.50	0.35	0.10	0.10	0.55	0.85	0.05	0.20	0.60
TOTAL	99.51	100.12	99.68	99.51	99.54	99.36	99.91	99.78	99.41	99.51
Mg NUMBER	76.5	71.5	54.5	79.0	50.1	53.8	48.7	79.9	60.3	55.3
Ba PPM	28	40	49	41	119	63	270		32	95
Rb	48	51	15	25	37	2	12		7	3
Sr	58	107	28	51	84	198	117	12	122	168
Pb	2					2	2		3	7
Th	2		2			2	2			2
U										
Zr	50	52	134	37	132	134	119	34	76	104
Nb		2	4		5	5	5		2	4
Y	13	15	36	11	34	32	2	12	23	23
La			5		5	7	6			9
Ce		7	18		19	23	20		10	29
Sc	37	41	39	30	29	30	37	28	41	31
V	195	218	434	191	348	249	295	170	341	249
Cr	2494		108		64	79		2537		104
Co		44		63			40		40	
Ni	472	141	43	524	35	62	42	618	101	112
Cu	80	178	65	27	12	64	81	13	41	2
Zn	62	77	86	107	111	104	87	83	84	122
Ga	9	6	17	10	18	15	16	8	13	13
S		160	160			40	120	40	40	

PLB59 - PILEBARA/SALGASH SUBGROUP/TAMBOURAH

SAMPLE NUMBER	80040012	80040013	80040014	80040015	80040016	80040017				
FORMATION	Apex	Apex	Apex	APEX	Apex	Apex				
	Basalt	Basalt	Basalt	BASALT	Basalt	Basalt				
ROCK TYPE	TB	HMD	TB	HMG	TB	TB				
MAP COORDINATES	7272E5919N	7273E5918N	7274E5919N	7276E5918N	7278E5917N	7281E5918N				
1:100 000 SHEET	TAMBOURAH	TAMBOURAH	TAMBOURAH	TAMBOURAH	TAMBOURAH	TAMBOURAH				
SiO ₂ %wt	52.20	50.00	51.30	50.10	51.90	52.80				
TiO ₂	1.59	0.41	1.58	0.84	1.45	0.87				
Al ₂ O ₃	13.00	8.45	13.70	14.40	13.40	14.30				
Fe ₂ O ₃	2.81	1.83	2.97	1.48	2.66	1.86				
FeO	9.35	8.70	10.10	8.75	10.20	7.95				
MnO	0.20	0.20	0.19	0.17	0.18	0.17				
MgO	4.42	15.80	5.35	10.60	6.05	7.35				
CaO	9.45	10.50	9.15	6.20	7.85	7.75				
Na ₂ O	3.46	0.87	2.98	2.92	3.08	3.94				
K ₂ O	0.24	0.21	0.38	0.36	0.18	0.24				
P ₂ O ₅	0.18		0.12	0.08	0.16	0.07				
H ₂ O[+]	0.85	2.88	1.11	3.45	1.56	1.75				
H ₂ O[-]	0.21	0.20	0.18	0.20	0.21	0.22				
CO ₂	1.85	0.10	0.25	0.15	0.30	0.20				
TOTAL	99.81	100.15	99.36	99.70	99.18	99.47	0.00	0.00	0.00	0.00
Mg NUMBER	43.8	76.2	46.8	68.8	50.2	61.6				
Ba PPM	146	44	157	176	31	175				
Rb		7	6	13	4	4				
Sr	319	48	299	128	168	129				
Pb	3		3	6	4	3				
Th	2		3			2				
U										
Zr	151	21	150	77	155	112				
Nb	6		7	3	6	4				
Y	32	10	32	25	4	27				
La	7		13	5	14	11				
Ce	28		31	14	32	21				
Sc	28	41	27	35	27	38				
V	291	193	287	251	282	265				
Cr		1561		1006		189				
Co	28		35		40					
Ni	55	295	48	230	62	69				
Cu	51	54	110	111	125	66				
Zn	98	70	105	80	109	72				
Ga	16	8	17	14	17	15				
S	80	120	40	40	1522	40				

PLB60 - PILEBARA/TALGA SUBGROUP/WITHNELL CREEK

SAMPLE NUMBER	80040018	80040019	80040020	80040021	80040022	80040023	80040024	80040025	80040026	80040027
FORMATION	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star	North Star
ROCK TYPE	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
	metabasite	TB	TB	metabasite	TD	metabasite	metabasite	TG	TB	TG
MAP COORDINATES	7698E6021N	7698E6017N	7704E6017N	7705E6013N	7709E6012N	7710E6012N	7710E6012N	7711E6011N	7712E6011N	7712E6011N
1:100 000 SHEET	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK
SiO ₂ %wt	45.00	48.50	51.30	51.50	49.00	53.30	53.80	51.10	52.00	48.10
TiO ₂	2.46	1.26	1.26	1.16	1.77	2.26	2.20	0.86	1.20	0.95
Al ₂ O ₃	13.00	10.80	13.60	11.40	14.10	11.50	11.90	14.90	13.40	11.60
Fe ₂ O ₃	3.62	2.10	3.32	4.95	4.38	3.74	3.44	3.19	3.18	4.69
FeO	14.20	10.80	9.25	5.80	8.30	9.50	9.95	7.30	9.20	7.75
MnO	0.54	0.30	0.20	0.10	0.17	0.17	0.16	0.19	0.13	0.20
MgO	3.88	4.72	5.90	3.08	5.50	3.56	3.70	5.70	5.50	5.95
CaO	11.80	12.50	9.50	14.30	9.75	4.80	4.04	11.20	6.85	14.40
Na ₂ O	1.95	3.12	2.84	0.76	2.98	3.84	3.82	2.52	5.15	2.54
K ₂ O	0.51	0.22	0.14	0.28	0.27	0.31	0.32		0.34	0.17
P ₂ O ₅	0.21	0.08	0.25	0.14	0.18	0.34	0.39	0.04	0.09	0.05
H ₂ O[+]	1.22	0.94	2.30	2.05	2.76	2.75	2.90	2.42	2.26	1.59
H ₂ O[-]	0.27	0.14	0.16	0.18	0.15	0.17	0.18	0.14	0.17	0.11
CO ₂	0.90	4.65	0.10	4.00	0.40	3.60	2.90	0.20	0.70	1.95
TOTAL	99.56	100.13	100.12	99.70	99.71	99.84	99.70	99.76	100.17	100.05
Mg NUMBER	31.8	43.8	50.3	38.6	48.5	36.7	37.3	54.0	48.9	51.0
Ba PPM	72	20	71	19	34	38	36	6	40	9
Rb	3			4	5	5	5		4	2
Sr	211	202	206	861	121	127	114	231	177	223
Pb	2			2		2				2
Th				2		3				
U							1			
Zr	151	87	173	128	123	284	297	67	94	70
Nb	7	5	6	4	4	10	10	3	4	2
Y	2	24	37	28	36	68	76	16	22	19
La	7	3	6	6	4	13	14	2	9	5
Ce	32	20	23	49	17	44	45	11	14	14
Sc	28	28	27	25	40	31	31	28	22	31
V	227	244	207	223	428	102	105	202	245	239
Cr		121		19		4		7		130
Co	27		38		37		20		41	
Ni	5	76	64	35	69	1	1	53	44	62
Cu	3	14	44	154	65	2	3	119	93	8
Zn	123	120	105	65	83	61	64	76	34	48
Ga	20	12	16	13	18	21	23	14	14	14
S	40	40	40	40	80	40	1602	40		40

PLB61 - PILBARA/WARRAWOONA GROUP/WITHNELL CREEK

SAMPLE NUMBER	80040028	80040029	80040031	80040032	80040033	80040034	80040035	80040036	80040037
FORMATION	North Star	McPhee	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada
ROCK TYPE	Basalt	Formation carbonated metabasite	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt
MAP COORDINATES	7713E6009N	7716E6009N	7717E6008N	7717E6008N	7722E6008N	7722E6006N	7724E6006N	7726E6008N	7729E6007N
1:100 000 SHEET	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK
SiO ₂ twt	51.30	44.60	49.30	48.80	47.90	48.70	49.10	49.50	50.60
TiO ₂	0.88	0.86	0.73	0.88	1.04	0.74	1.25	1.30	0.84
Al ₂ O ₃	14.20	6.90	5.60	6.65	14.90	17.30	13.50	13.80	6.20
Fe ₂ O ₃	3.22	2.59	2.64	2.77	2.73	3.13	2.81	3.07	2.40
FeO	7.45	10.00	8.60	9.75	7.35	6.00	10.70	10.20	9.00
MnO	0.16	0.23	0.22	0.20	0.17	0.14	0.20	0.20	0.22
MgO	6.70	12.00	14.40	11.00	8.25	5.95	6.40	6.40	13.40
CaO	10.40	12.80	14.10	13.20	11.50	12.70	3.75	9.15	13.40
Na ₂ O	3.02	1.75	0.59	1.51	2.48	2.08	3.54	3.16	1.12
K ₂ O				0.55	0.33	0.02		0.06	0.01
P ₂ O ₅	0.07	0.06	0.02	0.04	0.10	0.05	0.10	0.10	0.07
H ₂ O[+]	2.67	2.81	2.36	2.23	2.84	2.60	2.99	2.99	1.91
H ₂ O[-]	0.09	0.12	0.14	0.07	0.08	0.10	0.13	0.12	0.07
CO ₂	0.05	4.65	1.10	2.50	0.15	0.05	0.05	0.05	0.10
TOTAL	100.21	99.37	99.80	100.15	99.82	99.56	99.52	100.10	99.34
Mg NUMBER	57.6	67.1	73.3	65.3	63.8	58.6	50.4	50.9	71.6
Ba PPM	12			52	84	84	5	19	13
Rb				8	5	2			
Sr	207	65	40	89	117	115	168	223	72
Pb									
Th			2			2			
U									
Zr	71	59	50	65	56	49	76	89	57
Nb	3	3		2	2		2	3	2
Y	20	15	15	18	24	17	25	27	21
La	3	2		2	2	2	4	2	
Ce	9	5	4	12	11	9	10	11	8
Sc	31	29	39	40	34	40	46	38	56
V	240	187	182	226	266	242	358	320	267
Cr		1281	1900		103		50		2207
Co	38			51		33		42	
Ni	68	360	330	167	143	60	38	64	155
Cu	112	112	89	93	14	113	126	86	32
Zn	66	73	69	73	52	48	72	94	89
Ga	13	9	5	8	13	14	15	12	7
S	40	200	681			1202	80	80	521

PLB62 - PILBARA/WARRAWOONA GROUP/WITHNELL CREEK

SAMPLE NUMBER	80040040	80040041	80040042	80040043					80040044	80040045
FORMATION	DUFFER	DUFFER	DUFFER	DUFFER					Apex	Apex
ROCK TYPE	K-RHY	K-RHY	ser schist	silic.UM					Basalt	Basalt
MAP COORDINATES	7726E6010N	7736E6010N	7739E6009N	7740E6009N					7740E6007N	7742E6002N
1:100 OOO SHEET	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK					SPLIT ROCK	SPLIT ROCK
SiO ₂ %wt	78.20	78.50	87.00	85.40					46.30	50.20
TiO ₂	0.30	0.31	0.17	0.40					0.70	0.50
Al ₂ O ₃	11.50	11.40	8.10	2.82					13.20	8.35
Fe ₂ O ₃	0.58	0.40	0.55	0.90					1.44	0.39
FeO	0.05	0.05	0.05	2.95					10.40	9.10
MnO				0.02					0.16	0.17
MgO	0.15	0.18	0.32	4.10					13.10	12.00
CaO	0.13	0.07	0.01	0.03					6.85	10.80
Na ₂ O	0.08	0.10	0.02	0.03					2.08	2.78
K ₂ O	7.90	7.60	2.68	0.02					0.42	0.06
P ₂ O ₅	0.06	0.07	0.01	0.01					0.06	0.04
H ₂ O[+]	0.82	0.71	1.07	2.30					4.52	2.82
H ₂ O[-]	0.09	0.05	0.08	0.08					0.81	0.16
CO ₂	0.05	0.05	0.05	0.05					0.10	2.45
TOTAL	99.91	99.49	100.11	99.11	0.00	0.00	0.00	0.00	100.14	99.82
Mg NUMBER	35.5	47.9	55.2	69.6					70.1	72.7
Ba PPM	452	440	1440	8					64	79
Rb	99	97	56						9	
Sr	26	20	6						78	43
Pb	8	8	9							
Th	21	21	10							
U	3	3	1							
Zr	160	169	91	29					36	33
Nb	7	6	4							
Y	9	10	6	6					15	14
La	63	61	32							
Ce	114	116	69							
Sc				10					31	45
V	25	29	20	105					246	201
Cr		11		1333						1313
Co	4		3						61	
Ni	4	1	9	306					345	137
Cu	6	5	4	30					89	19
Zn	5	6	7	24					86	52
Ga	11	11	7	5					12	6
S		40	40	40					160	40

PLB63 - PILBARA/SALGASH SUBGROUP/WITHNELL CREEK

SAMPLE NUMBER	80040046	80040047	80040048	80040049	80040050	80040051	80040052	80040053	80040054	80040055
FORMATION	Apex Basalt	Apex Basalt	Apex Basalt	Apex Basalt	Euro Basalt	Euro Basalt	Euro Basalt	Euro Basalt	EURO BASALT	Euro Basalt
ROCK TYPE	TB	HMB	TB	HMB	HMB	HMB	TB	TD	HMB epid.	HMD
MAP COORDINATES	7746E6001N	7746E5997N	7749E5997N	7751E5994N	7754E5994N	7756E5995N	7758E5994N	7760E5994N	7762E5994N	7764E5993N
1:100 000 SHEET	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK	SPLIT ROCK
SiO ₂ %wt	48.50	48.60	52.10	51.20	50.40	50.00	47.60	47.10	48.40	52.60
TiO ₂	0.74	0.84	0.69	0.59	1.21	1.34	1.00	1.03	1.31	0.51
Al ₂ O ₃	15.30	13.50	13.80	12.40	10.20	11.80	14.20	15.10	10.60	11.90
Fe ₂ O ₃	2.78	2.75	1.81	1.99	1.74	2.69	3.20	2.58	2.99	1.84
FeO	8.75	10.30	6.15	7.75	10.40	9.10	9.45	8.30	10.90	7.25
MnO	0.18	0.19	0.13	0.17	0.19	0.18	0.19	0.17	0.23	0.15
MgO	7.05	8.70	7.25	9.95	10.60	8.60	6.20	8.45	8.25	11.40
CaO	9.85	8.40	10.10	11.10	9.10	9.05	11.20	9.65	12.60	7.90
Na ₂ O	2.34	1.97	2.48	1.55	1.65	2.04	1.24	2.92	1.46	1.41
K ₂ O	0.35	0.20	0.05			0.25		0.71	0.03	1.51
P ₂ O ₅	0.07	0.08	0.07	0.05	0.11	0.12	0.08	0.09	0.12	0.08
H ₂ O[+]	3.42	3.97	3.06	3.31	3.56	3.20	3.64	3.37	2.65	3.01
H ₂ O[-]	0.16	0.15	0.15	0.19	0.23	0.38	0.22	0.26	0.25	0.46
CO ₂	0.05	0.05	2.10	0.05	0.30	1.70	1.70	0.05	0.15	0.10
TOTAL	99.54	99.70	99.94	100.30	99.69	99.95	99.92	99.78	99.94	100.12
Mg NUMBER	56.8	58.8	66.1	68.6	65.0	61.0	51.3	62.5	56.0	72.9
Ba PPM	43	44	36	6	16	65		70	9	246
Rb	6	4	2			5		18		41
Sr	204	103	139	171	107	149	107	126	486	156
Pb					2				2	2
Th						1				
U										
Zr	44	56	71	41	98	107	65	68	99	66
Nb			3	3	3	2	2	2	4	2
Y	17	20	18	13	20	22	21	21	21	14
La			2		7	7		2	3	7
Ce	7	7	13	6	14	18	4	7	12	20
Sc	38	35	36	36	30	30	39	29	32	29
V	289	256	213	215	260	292	327	282	264	162
Cr		36		571		537		710		
Co	44		32		52		39		48	
Ni	103	183	85	157	374	195	112	183	198	252
Cu	166	184	75	54	90	86	132	134	141	58
Zn	76	89	64	64	81	81	80	72	80	62
Ga	11	11	12	10	15	16	13	12		11
S	320	40	80	80	40	40	761	881	881	481

PLB64 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO

SAMPLE NUMBER	80040172	80040173	80040174	80040175	80040176	80040177	80040178	80040179	80040180	80040182
FORMATION	North Star Basalt	NORTH STAR BASALT	North Star Basalt		McPhee Formation	North Star Basalt	North Star Basalt	North Star Basalt	Mount Ada Basalt	Mount Ada Basalt
ROCK TYPE	HALB	TB ?tuff	TB ?tuff	contact gneiss	TB	TB	HALB	HALB	HALB	HALB
MAP COORDINATES 1:100 000 SHEET	4913E6649N PINDARI H	4903E6949N PINDARI H	4903E6649N PINDARI H	4903E6649N PINDARI H	4904E6650N PINDARI H	4905E6652N PINDARI H	4905E6654N PINDARI H	4906E6655N PINDARI H	4909E6657N PINDARI H	4912E6658N PINDARI H
SiO ₂ %wt	53.60	52.70	51.50	65.20	50.50	51.00	49.00	51.50	48.00	54.60
TiO ₂	0.81	0.61	0.69	0.51	0.88	1.39	0.65	0.77	0.68	0.55
Al ₂ O ₃	17.20	15.90	14.30	15.10	14.30	15.70	17.50	16.20	17.10	16.80
Fe ₂ O ₃	2.03	1.48	1.30	1.33	1.79	1.24	1.05	0.89	0.90	0.15
FeO	6.50	7.00	9.00	3.30	9.10	8.15	8.95	10.90	9.45	8.95
MnO	0.12	0.17	0.18	0.08	0.19	0.20	0.19	0.24	0.24	0.17
MgO	4.76	6.15	8.15	2.42	7.30	7.20	8.75	7.00	9.30	6.45
CaO	8.10	13.50	9.75	5.00	11.30	9.05	7.70	5.50	4.54	5.09
Na ₂ O	3.10	1.33	2.36	3.60	1.56	2.82	1.61	1.80	3.58	3.26
K ₂ O	1.37	0.06	0.32	1.23	0.32	0.90	1.99	1.98	1.21	1.32
P ₂ O ₅	0.12	0.03	0.04	0.10	0.06	0.34	0.04	0.08	0.05	0.06
H ₂ O[+]	1.91	2.43	2.10	1.76	2.16	1.33	2.62	3.04	3.90	2.75
H ₂ O[-]	0.20	0.15	0.18	0.15	0.13	0.15	0.17	0.27	0.25	0.13
CO ₂	0.15	0.05	0.05	0.10	0.05	0.15	0.05	0.05	0.40	0.05
TOTAL	99.97	99.56	99.92	99.88	99.64	99.62	100.27	100.22	99.60	100.33
Mg NUMBER	54.5	60.7	62.7	53.0	58.8	62.0	65.0	55.6	65.5	59.8
Ba ppm	365	4	63	374	115	339	419	731	496	372
Rb	65		14	42	14	40	108	97	39	49
Sr	261	64	108	282	393	255	396	297	157	144
Pb	2			5						
Th	2			6			2			
U	1			1	1					1
Zr	61	36	40	146	59	219	48	70	58	73
Nb	3			7		9		2		2
Y	11	16	18	18	23	52	16	22	17	15
La	12			24		17		2	2	6
Ce	32	3	4	51	8	34	5	9	9	18
Sc	31	42	44	13	44	26	44	51	38	37
V	253	247	287	82	296	203	220	235	233	189
Cr		287		50		290		32		
Co	34		39	42			45		47	34
Ni	54	62	77	33	105	271	125	66	116	42
Cu	64	14	73	18	86	75	75	59	163	5
Zn	65	69	70	50	70	105	72	102	46	125
Ga	13	12	13	12	12	17	9	9	11	10
S	1081	120	200	40	160		80	80	40	

PLB65 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO

SAMPLE NUMBER	80040183	80040184	80040185	80040186	80040187	80040188	80040189	80040190	80040191	80040192
FORMATION	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada	Mount Ada
ROCK TYPE	Basalt felsic rock	Basalt HALB	Basalt TB	Basalt TA	Basalt TB	Basalt TA	BASALT TA	Basalt HALB	Basalt TA	Basalt TA
MAP COORDINATES	4912E6660N	4912E6660N	4913E6662N	4914E6663N	9108666421	4910E6666N	4907E6669N	4908E6672N	4910E6675N	4912E6676N
1:100 000 SHEET	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H
SiO ₂ %wt	63.80	50.70	50.00	55.60	53.60	55.50	58.90	54.30	59.40	60.00
TiO ₂	0.61	1.50	2.14	1.82	1.86	0.82	0.87	0.64	1.13	1.13
Al ₂ O ₃	15.60	16.20	13.00	14.90	15.00	15.50	15.20	17.00	14.20	14.60
Fe ₂ O ₃	0.48	2.05	2.54	2.29	2.56	1.92	0.68	1.62	1.12	0.89
FeO	4.05	10.30	14.00	9.55	10.20	7.90	7.85	5.70	7.90	8.00
MnO	0.07	0.20	0.28	0.24	0.21	0.28	0.16	0.14	0.22	0.16
MgO	2.18	4.04	4.76	2.42	2.76	4.56	5.10	6.35	2.64	2.84
CaO	3.60	9.35	8.34	6.60	7.65	6.74	5.30	8.10	7.25	6.50
Na ₂ O	5.15	3.14	2.94	3.64	3.30	2.54	4.22	4.44	3.28	2.66
K ₂ O	0.95	0.59	0.33	0.82	0.86	1.21	0.38	0.70	0.76	0.88
P ₂ O ₅	0.22	0.16	0.18	0.25	0.23	0.12	0.11	0.14	0.16	0.15
H ₂ O[+]	1.88	1.41	1.24	1.22	1.31	2.28	1.15	1.06	1.04	1.94
H ₂ O[-]	0.17	0.16	0.12	0.21	0.19	0.22	0.06	0.05	0.05	0.05
CO ₂	0.70	0.15	0.05	0.10	0.05	0.05		0.05	0.40	0.40
TOTAL	99.46	99.95	99.92	99.66	99.78	99.64	99.98	100.29	99.50	100.20
Mg NUMBER	50.5	41.1	38.0	30.4	31.6	49.8	55.8	65.0	38.3	40.4
Ba PPM	366	183	91	262	130	182	104	142	162	152
Rb	31	16	4	22	31	49	18	32	17	25
Sr	404	248	115	165	143	85	149	307	150	152
Pb	6				3	2	4	3		
Th	8			2				2	2	
U	1		1							
Zr	162	98	117	179	150	103	117	91	147	147
Nb	4	4	3	7	6	3	3	2	3	4
Y	12		35	54	47	22	24	14	30	31
La	32	3	5	10	7	5	5	14	9	10
Ce	63	12	18	27	28	16	18	34	23	27
Sc	11	34	41	32	35	38	38	30	43	42
V	94	267	464	92	201	239	229	175	323	332
Cr	58		5		8		7		18	
Co		37		24		33		29		32
Ni	32	44	34	10	8	44	13	77	35	11
Cu	10	88	95	26	30	13	4	4	3	8
Zn	69	102	122	114	115	97	60	70	66	82
Ga	16	18	19	19	19	13	12	13	14	14
S	80	160	120	120	320	80	40	40	80	120

PLB66 - PILBARA/TALGA-TALGA SUBGROUP/WHUNDOO

SAMPLE NUMBER	80040193	80040194	80040195	80040196	80040197					
FORMATION	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	Mount Ada Basalt	MOUNT ADA BASALT					
ROCK TYPE	TA high-Al	granodor	TA ?tuff	TA ?tuff	TD					
MAP COORDINATES	4917E6676N	4917E6676N	4921E6678N	4923E6680N	4923E6685N					
1:100 000 SHEET	PINDARI H	PINDARI H	PINDARI H	PINDARI H	PINDARI H					
SiO ₂ %wt	56.30	73.20	58.80	58.30	54.10					
TiO ₂	0.69	0.24	1.25	1.20	1.38					
Al ₂ O ₃	16.60	13.50	14.30	14.00	15.20					
Fe ₂ O ₃	1.53	1.34	1.44	1.02	1.44					
FeO	6.00	0.68	7.80	8.80	10.50					
MnO	0.13	0.04	0.20	0.20	0.28					
MgO	4.22	0.70	3.02	3.28	4.62					
CaO	7.80	1.70	7.85	6.70	5.95					
Na ₂ O	3.54	4.48	3.32	2.98	0.40					
K ₂ O	0.88	2.78	0.49	0.45	1.83					
P ₂ O ₅	0.12	0.07	0.16	0.17	0.20					
H ₂ O[+]	1.72	0.89	0.90	1.55	3.74					
H ₂ O[-]	0.05	0.05	0.11	0.05	0.11					
CO ₂	0.15	0.30	0.25	0.70	0.05					
TOTAL	99.73	99.97	99.89	99.40	99.80	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	54.5	43.8	41.0	41.4	45.1					
Ba PPM	183	652	105	94	1274					
Rb	30	74	6	11	60					
Sr	233	240	186	175	64					
Pb		12	2		3					
Th	3	6	2		4					
U	1	1	1	1	1					
Zr	104	104	137	136	167					
Nb	3	3	4	4	5					
Y	14	6	32	30	28					
La	10	23	8	8	17					
Ce	24	43	23	23	38					
Sc	30	5	48	44	36					
V	151	24	358	352	382					
Cr	12		5		12					
Co		6		32						
Ni	43	5	10	9	31					
Cu	31	9	5	35	42					
Zn	123	44	87	104	351					
Ga	11	15	14	13	14					
S	280		40	360	481					

PLB67 - PILBARA/DUFFER FORMATION/SHARKS

SAMPLE NUMBER	80040056	80040057	80040058	80040059	80040060	80040061	80040062	80040063	80040064	80040065
FORMATION	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation
ROCK TYPE	Na-DAC lith.tuff	Na-DAC tuff	Na-DAC tuff	Na-DAC agglom	Na-DAC agglom	Na-DAC tuff	Na-DAC tuff	Na-DAC tuff	Na-DAC tuff	Na-DAC tuff
MAP COORDINATES	7702E6322N	7702E6323N	7702E6325N	7703E6325N	7705E6326N	7705E6326N	7706E6326N	7706E6326N	7707E6326N	7710E6327N
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	61.30	62.20	62.10	68.00	64.80	64.50	62.00	62.40	65.30	66.90
TiO ₂	0.65	0.50	0.50	0.46	0.44	0.54	0.53	0.50	0.42	0.36
Al ₂ O ₃	15.90	16.40	16.80	14.80	14.80	15.10	15.30	14.10	14.30	14.00
Fe ₂ O ₃	1.18	1.07	1.09	1.58	1.21	1.66	1.93	1.59	1.01	1.35
FeO	4.70	3.90	3.65	1.85	3.25	2.75	2.70	3.25	2.80	1.50
MnO	0.07	0.07	0.08	0.05	0.09	0.07	0.09	0.09	0.09	0.09
MgO	2.74	2.26	1.34	1.55	2.06	1.86	2.26	2.84	2.16	1.08
CaO	3.16	2.42	3.52	2.22	2.80	3.28	3.70	4.12	2.84	3.60
Na ₂ O	6.05	5.30	6.10	4.38	5.95	6.75	5.05	4.44	4.98	6.30
K ₂ O	0.37	1.75	1.34	2.26	0.80	0.26	1.60	1.36	1.48	0.98
P ₂ O ₅	0.17	0.13	0.14	0.12	0.11	0.14	0.14	0.19	0.10	0.11
H ₂ O[+]	2.05	2.13	1.52	1.69	1.78	1.60	2.35	2.31	1.94	1.20
H ₂ O[-]	0.29	0.26	0.31	0.25	0.21	0.13		0.13	0.10	
CO ₂	1.00	1.00	1.55	0.80	1.90	2.80	2.45	2.80	1.90	2.60
TOTAL	99.63	99.39	100.04	100.01	100.20	101.44	100.10	100.12	99.42	100.07
Mg NUMBER	49.9	49.3	37.8	49.8	49.9	47.9	51.6	56.0	55.0	45.5
Ba PPM	115	379	259	693	117	103	187	206	838	88
Rb	11	47	39	74	27	7	49	41	42	32
Sr	344	275	353	421	168	230	219	268	247	193
Pb	3	5	5	10	3	4	4	2	215	4
Th	5	5	5	3	4	5	5	6	5	4
U	1	1	1		1	1	1	1		
Zr	123	147	138	95	134	141	124	141	114	128
Nb	4	4	4	2	3	4	3	4	3	2
Y	11	11	10	7	8	11	10	10	9	7
La	20	23	17	15	11	20	15	20	11	14
Ce	43	38	37	35	29	42	32	48	28	33
Sc	10	7	8	7	8	9	11	9	8	7
V	97	68	70	57	71	69	75	77	61	45
Cr		21		19		23		28		27
Co	10		10		11		10		8	
Ni	21	18	18	15	25	18	21	17	18	15
Cu	9	18	20	20	34	8	4	4	57	6
Zn	44	69	64	45	67	55	64	75	62	42
Ga	17	19	20	15	17	16	17	14	15	12
S	120	1121	320	320	80			40	240	

PLB68 - PILBARA/DUFFER FORMATION/SHARKS

SAMPLE NUMBER FORMATION	80040067 Duffer Formation	80040068 Duffer Formation	80040069 Duffer Formation	80040071 Duffer Formation	80040072 Duffer Formation	80040073 Duffer Formation	80040074 Duffer Formation	80040075 Duffer Formation	80040076 Duffer Formation	80040077 DUFFER FORMATION
ROCK TYPE	Na-DAC m-tachyl.	Na-DAC agglom.	Na-DAC agglom.	K-DAC tuff	K-DAC carb/tuff	Na-DAC	K-DAC lith.tuff	K-DAC carb.	K-RHY silic	K-RHY silic
MAP COORDINATES 1:100 000 SHEET	7708E6334N MARBLE BAR	7709E6335N MARBLE BAR	7709E6335N MARBLE BAR	7712E6337N MARBLE BAR	7711E6340N MARBLE BAR	7712E6341N MARBLE BAR	7714E6342N MARBLE BAR	7715E6346N MARBLE BAR	7718E6350N MARBLE BAR	7722E6350N MARBLE BAR
SiO ₂ wt	65.10	65.30	65.30	64.00	62.40	64.20	60.00	56.20	80.40	86.60
TiO ₂	0.42	0.50	0.50	0.54	0.47	0.42	0.42	0.63	0.41	0.22
Al ₂ O ₃	15.10	14.90	13.90	13.50	12.70	15.00	16.50	16.40	10.40	9.15
Fe ₂ O ₃	1.67	1.28	2.25	1.69	1.28	1.98	2.32	3.23	1.50	0.21
FeO	1.95	3.30	1.90	3.20	3.10	0.85	2.55	1.50	0.45	
MnO	0.05	0.10	0.08	0.08	0.10	0.07	0.06	0.08	0.01	
MgO	1.28	2.58	2.22	4.36	3.62	1.38	3.14	3.16	0.54	0.07
CaO	3.16	3.48	2.84	1.69	3.38	2.98	2.72	3.60	0.12	0.01
Na ₂ O	5.50	6.25	5.70	2.70	3.10	6.50	2.96	0.06	0.04	0.09
K ₂ O	2.54	1.79	1.91	3.02	3.20	2.26	4.38	6.90	3.70	2.38
P ₂ O ₅	0.11	0.13	0.13	0.18	0.20	0.14	0.18	0.30	0.10	0.03
H ₂ O[+]	1.22	1.58	1.47	2.82	2.00	0.64	2.57	2.66	1.85	1.39
H ₂ O[-]		0.09	0.11		0.11	0.05	0.11	0.15	0.10	0.10
CO ₂	1.85	2.35	1.90	1.95	4.45	3.55	2.65	4.80	0.10	0.05
TOTAL	99.95	100.33	100.21	99.73	100.11	100.02	100.56	99.67	99.72	100.30
Mg NUMBER	43.7	54.9	54.2	65.9	64.1	52.4	58.7	60.1	38.6	43.7
Ba PPM	737			205	543	190	985	392	613	160
Rb	59			79	70	38	113	192	105	55
Sr	343			98	169	174	191	106	76	39
Pb	6			4	3	4	3	14	20	2
Th	6			7	8	4	7	16	10	5
U					1		1	1	2	
Zr	144			170	113	142	134	147	110	81
Nb	3			6	4	4	3	5	4	2
Y	8			13	9	9	10	13	10	7
La	15			17	34	20	32	62	39	23
Ce	33			42	71	42	62	126	76	43
Sc	8			9	11	8	11	15	7	
V	59			83	79	59	102	122	79	25
Cr	45		45	48		18		82		4
Co		17			15		16		5	
Ni	30	40	38	29	23	4	26	20	20	4
Cu	24	20	25	6	17	8	11	25	25	4
Zn	55	77	65	63	72	28	74	48	31	4
Ga	18			16	14	14	18	20	13	11
S	40	40	40		80		240		160	

PLB69 - PILBARA/DUFFER FORMATION/Mt SHOLL

SAMPLE NUMBER	80040198	80040199	80040200	80040201	80040202	80040203	80040204	80040205	80040206	80040207
FORMATION	Duffer Formation HALB	Duffer Formation HALB	Duffer Formation TB	Duffer Formation TB	Duffer Formation TB carbonated	Duffer Formation HALB	Duffer Formation N-dacite	Duffer Formation carbonated metabasite	Duffer Formation TA	Duffer Formation HALB
ROCK TYPE										
MAP COORDINATES 1:100 000 SHEET	4946E6790N DAMPIER	4946E6790N DAMPIER	4944E6791N DAMPIER	4947E6794N DAMPIER	4947E6794N DAMPIER	4947E6796N DAMPIER	4947E6796N DAMPIER	4947E6800N DAMPIER	4947E6801N DAMPIER	4948E6803N DAMPIER
SiO ₂ %wt	54.40	54.20	49.50	48.50	46.70	53.40	69.90	46.80	58.40	53.20
TiO ₂	0.66	0.66	1.61	1.46	1.53	0.99	0.58	1.42	1.17	0.68
Al ₂ O ₃	16.50	16.60	13.40	13.50	12.90	16.70	13.40	12.70	15.00	16.90
Fe ₂ O ₃	2.36	2.07	2.46	5.02	1.45	2.54	1.01	2.12	3.63	0.91
FeO	5.30	5.65	11.10	7.90	11.20	5.90	3.55	9.70	5.55	6.65
MnO	0.15	0.16	0.21	0.17	0.19	0.14	0.06	0.19	0.11	0.13
MgO	4.78	5.30	6.05	4.30	5.65	8.85	5.15	1.03	4.94	6.45
CaO	7.90	6.60	9.50	13.90	8.85	8.30	2.30	11.10	7.70	4.40
Na ₂ O	4.28	4.54	2.08	0.28	1.82	3.70	4.72	1.18	3.00	5.75
K ₂ O	1.06	1.12	0.04	0.03	0.15	0.84	1.43	0.13	0.33	0.98
P ₂ O ₅	0.20	0.21	0.16	0.16	0.15	0.14	0.13	0.12	0.17	0.12
H ₂ O[+]	2.25	2.79	3.45	3.06	4.71	2.77	1.42	4.34	2.62	3.19
H ₂ O[-]	0.09	0.14	0.12	0.14	0.05	0.05	0.05	0.09	0.05	0.09
CO ₂	0.05	0.10	0.10	1.35	4.45	0.15	0.35	4.75	0.05	0.30
TOTAL	99.98	100.14	99.78	99.77	99.80	100.77	99.93	99.58	100.10	99.75
Mg NUMBER	57.4	59.7	48.8	42.1	48.6	56.9	32.6	47.2	35.6	64.4
Ba PPM	524	530	31		186	312	379	23	104	249
Rb	16	16	2		2	14	31		4	15
Sr	191	150	115	325	89	204	94	109	227	71
Pb		2				2	4			
Th	2	3				4	6		3	2
U	1						1		1	
Zr	97	104	127	110	122	135	287	101	166	92
Nb	3	2	5	4	4	5	8	4	5	3
Y	15	15	40	35	36	20	33	33	24	14
La	14	15			2	7	23	3	15	5
Ce	38	40	16	12	15	21	52	12	34	20
Sc	27	27	39	39	37	27	12	34	21	27
V	156	163	381	348	376	141	28	317	256	162
Cr		71		114		156		126		126
Co	29		42		39		8		27	
Ni	327	31	52	69	59	87	7	65	7	57
Cu	53	40	90	115	93	7	45	90	41	10
Zn	79	89	109	95	97	77	59	109	71	74
Ga	13	12	15	18	15	12	14	16	14	11
S	40	80	280	401	40		40	401	80	40

PLB70 - PILBARA/DUFFER FORMATION/MT SHOLL

SAMPLE NUMBER	80040208	80040209	80040210	80040211	80040212	80040213	80040214			
FORMATION	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	Duffer Formation	DUFFER FORMATION			
ROCK TYPE	N-rhyol	N-rhyol	HALB	HALB	HALB	TB	N-rhyol			
MAP COORDINATES	4947E6605N	4947E6607N	4947E6810N	4948E6813N	4948E6815N	4931E6836N	4925E6842N			
1:100 000 SHEET	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER			
SiO ₂ %wt	73.50	71.20	51.50	51.10	51.50	50.00	74.30			
TiO ₂	0.52	0.51	0.42	0.45	0.36	0.98	0.24			
Al ₂ O ₃	11.50	11.00	16.20	16.20	16.60	15.10	10.30			
Fe ₂ O ₃	0.95	0.89	2.02	2.19	1.61	1.06	0.28			
FeO	4.00	5.00	7.00	6.80	7.05	9.30	3.80			
MnO	0.08	0.11	0.18	0.17	0.18	0.22	0.19			
MgO	0.84	0.50	8.10	7.85	8.70	7.20	0.97			
CaO	2.12	2.72	8.40	8.40	8.15	7.00	1.79			
Na ₂ O	4.60	3.86	0.83	1.23	1.24	3.90	3.94			
K ₂ O	0.35	1.28	0.31	0.28	0.11	0.23	1.08			
P ₂ O ₅	0.09	0.10	0.06	0.08	0.05	0.10	0.03			
H ₂ O[+]	1.40	1.65	4.48	4.55	4.42	3.83	1.04			
H ₂ O[-]	0.05	0.05	0.06	0.13	0.08	0.11	0.11			
CO ₂	0.15	1.05	0.15	0.35	0.10	1.30	2.25			
TOTAL	100.15	99.92	99.71	99.78	100.15	100.33	100.32	0.00	0.00	0.00
Mg NUMBER	26.6	15.3	65.8	65.2	68.2	59.5	33.4			
Ba PPM	94	300	47	69	19	174	256			
Rb	4	20	11	6	3	4	26			
Sr	87	60	94	89	70	87	50			
Pb	3						3			
Th	7	6					6			
U	2	1					2			
Zr	421	403	46	56	55	86	421			
Nb	17	15	2	3	2	4	18			
Y	82	79	11	13	13	26	111			
La	28	28	2	2	3		30			
Ce	65	66	9	11	12	9	73			
Sc	14	14	38	38	35	37	9			
V	5	3	145	147	130	255	6			
Cr		3		125		69				
Co	6		43		43					
Ni	6		52	57	55	67	6			
Cu	34	2	36	41	32	37	6			
Zn	40	87	62	60	62	104	74			
Ga	11	12	9	8	7	12	9			
S	40	160	80	160	120	40	40			

PLB71 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE

SAMPLE NUMBER	80040215	80040216	80040218	80040219	80040220	80040221	80040222	80040223	80040224	80040225
FORMATION	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash
	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup
ROCK TYPE	TB	TB	TG	TB	TB	TB	TB	TD	TB	TB
MAP COORDINATES	5022E7076N	5023E7075N	5027E7076N	5028E7076N	5029E7076N	5029E7076N	5031E7076N	5033E7076N	5037E7076N	5039E7073N
1:100 000 SHEET	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE
SiO ₂ %wt	49.40	50.10	46.60	49.40	49.00	49.60	49.00	48.10	48.90	48.80
TiO ₂	1.35	1.35	0.84	1.22	1.22	1.20	1.20	1.14	1.20	1.26
Al ₂ O ₃	15.10	14.80	16.00	14.50	14.40	14.70	14.60	15.20	14.80	14.30
Fe ₂ O ₃	1.51	1.67	1.82	1.67	1.64	2.46	2.59	2.46	1.81	2.25
FeO	10.70	10.10	9.25	10.10	10.40	10.20	10.00	9.75	10.70	10.30
MnO	0.21	0.21	0.17	0.26	0.26	0.25	0.21	0.20	0.22	0.22
MgO	7.45	7.20	8.85	6.05	6.45	7.00	6.20	8.00	6.55	6.80
CaO	9.55	9.60	10.70	10.50	11.60	10.00	12.30	9.65	10.10	11.80
Na ₂ O	2.36	2.34	1.74	2.08	2.02	2.34	1.85	1.86	2.72	1.80
K ₂ O	0.32	0.22	0.31	0.48	0.31	0.15	0.20	0.35	0.28	0.35
P ₂ O ₅	0.12	0.11	0.07	0.09	0.12	0.11	0.10	0.10	0.12	0.11
H ₂ O[+]	2.01	2.21	3.15	1.98	1.52	1.89	1.51	2.80	2.13	1.55
H ₂ O[-]	0.05	0.12	0.13	0.11	0.08	0.07	0.06	0.10	0.10	0.05
CO ₂	0.05	0.10	0.05	0.80	0.60	0.05	0.25	0.05	0.20	0.45
TOTAL	100.18	100.13	99.68	99.24	99.62	100.02	100.07	99.76	99.73	100.04
Mg NUMBER	56.4	56.5	63.0	52.2	53.2	54.2	51.3	58.4	52.7	53.6
Ba PPM	85	48	50	99	61	56	33	79	48	81
Rb	9	3	10	17	8	6	2	16	5	9
Sr	111	139	157	115	111	84	122	100	97	146
Pb				2						
Th										
U	1			1						
Zr	84	91	44	77	76	78	74	71	82	80
Nb	3	2	2	2	2	3	2	2	3	
Y	26	29	17	27	27	28	26	24	28	27
La										
Ce	9	10	7	8	12	8	8	8	10	7
Sc	43	41	34	45	45	45	42	39	42	41
V	346	343	252	340	333	350	321	314	349	337
Cr	130			175		171		134		149
Co		45	54		49		47		45	
Ni	96	92	207	107	107	106	108	134	101	105
Cu	113	111	199	115	109	138	88	99	121	101
Zn	91	90	76	90	91	92	91	90	88	89
Ga	15	15	13	15	14	16	12	14	13	15
S	521	521	1041	1602	1282	200	881	160	401	120

PLE72 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE

SAMPLE NUMBER	80040226	80040227	80040228	80040229	80040230	80040231	80040232	80040233	80040234	80040235
FORMATION	Salgash	Salgash	Salgash	Salgash	SALGASH	Salgash	Salgash	Salgash	Salgash	Salgash
ROCK TYPE	Subgroup TB	Subgroup TB	Subgroup TB	Subgroup TD	SUBGROUP TB	Subgroup TB	Subgroup TB	Subgroup TB	Subgroup TD	Subgroup TB
MAP COORDINATES	5041E7073N	5045E7073N	5048E7074N	5051E7074N	5054E7076N	5056E7075N	5059E7074N	5062E7073N	5065E7074N	5068E7071N
1:100 000 SHEET	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE
wt										
SiO ₂	47.70	47.30	48.10	48.80	49.20	48.20	50.50	49.20	47.50	48.70
TiO ₂	1.23	1.20	1.28	1.17	1.10	1.10	1.10	1.12	1.10	1.46
Al ₂ O ₃	14.40	14.40	15.00	15.00	15.30	15.10	15.00	15.50	15.40	14.60
Fe ₂ O ₃	2.26	1.66	2.03	1.88	0.99	1.81	1.50	1.60	1.35	1.23
FeO	9.75	9.75	10.50	9.20	6.85	10.70	9.00	9.00	10.80	12.20
MnO	0.21	0.17	0.25	0.18	0.27	0.27	0.30	0.38	0.35	0.37
MgO	6.30	6.15	6.25	7.75	3.16	7.45	3.96	4.20	4.66	3.58
CaO	12.30	11.90	11.40	10.20	12.70	10.70	12.10	11.70	11.60	10.60
Na ₂ O	1.81	2.88	2.06	2.86	3.42	2.28	2.40	2.76	2.64	2.46
K ₂ O	0.28	0.21	0.34	0.41	0.31	0.26	0.29	0.29	0.33	0.32
P ₂ O ₅	0.10	0.12	0.12	0.10	0.11	0.10	0.08	0.11	0.10	0.12
H ₂ O[+]	1.60	2.32	1.71	2.06	1.71	1.82	1.08	1.49	1.34	1.26
H ₂ O[-]		0.05							0.05	
CO ₂	1.40	1.55	0.75	0.75	5.10	0.50	2.80	2.65	2.45	2.30
TOTAL	99.34	99.66	99.79	100.36	100.22	100.29	100.11	100.00	99.67	99.20
Mg NUMBER	52.8	53.4	51.5	59.9	46.1	55.9	44.5	45.8	44.8	36.1
Ba PPM	39	10	64	61	55	35	54	60	53	62
Rb	6	3	5	10	8	2	2	2	8	5
Sr	125	94	120	144	132	97	165	118	78	138
Pb		2								
Th							2			
U										1
Zr	80	78	86	75	69	65	67	68	66	94
Nb	2	2	3	2	2	2	2	2	2	3
Y	25	26	29	25	23	24	22	24	24	33
La								3		
Ce	8	7	6	9	7	7	6	7	8	16
Sc	39	37	39	41	40	44	41	42	40	43
V	323	317	329	315	312	317	308	311	309	377
Cr		264		364		227		230		142
Co	45		45		48		50		53	
Ni	126	141	132	120	120	124	130	130	129	66
Cu	95	98	77	127	128	121	142	134	150	128
Zn	83	81	98	78	86	88	73	81	92	112
Ga	13	13	15	14	13	15	15	14	14	17
S	160	681	160	200	280	200	320	240	1242	4526

PLB73 - PILBARA/SALGASH SUBGROUP/CLEAVERVILLE

SAMPLE NUMBER	80040236	80040237	80040238	80040239						
FORMATION	Salgash	Salgash	Salgash	Salgash						
	Subgroup	Subgroup	Subgroup	Subgroup						
ROCK TYPE	TB	TB	TB	TB						
MAP COORDINATES	5069E7069N	5069E7069N	5069E7067N	5071E7066N						
1:100 000 SHEET	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE						
SiO ₂ %wt	48.00	51.60	48.70	54.20						
TiO ₂	1.50	1.56	1.40	1.57						
Al ₂ O ₃	14.70	15.60	14.20	15.20						
Fe ₂ O ₃	2.13	1.75	2.46	1.16						
FeO	11.10	8.95	10.70	8.55						
MnO	0.38	0.29	0.34	0.32						
MgO	5.95	5.00	6.15	3.75						
CaO	11.00	9.60	10.90	8.33						
Na ₂ O	2.02	3.32	1.98	3.15						
K ₂ O	0.35	0.28	0.26	0.47						
P ₂ O ₅	0.14	0.16	0.13	0.15						
H ₂ O[+]	1.37	1.01	1.38	1.50						
H ₂ O[-]			0.17							
CO ₂	1.30	0.90	1.05	1.60						
TOTAL	99.94	100.02	99.82	99.95	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	48.9	49.9	50.0	45.0						
Ba PPM	46	60	39	149						
Rb	6	5	4	22						
Sr	137	109	122	82						
Pb		2								
Th				2						
U										
Zr	99	102	90	109						
Nb	3	3	3	4						
Y	33	35	30	31						
La		7								
Ce	13	13	9	15						
Sc	45	46	43	43						
V	388	398	370	383						
Cr		194		208						
Co	45		43							
Ni	73	68	61	75						
Cu	100	118	75	102						
Zn	115	82	110	80						
Ga	16	17	14	19						
S	280	240	921	841						

PLB74 - PILBARA/SALGASH SUBGROUP/KARRATHA

SAMPLE NUMBER	80040247	80040248	80040249	80040250	80040251	80040252	80040253	80040254	80040255	80040256
FORMATION	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash	Salgash
	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup
ROCK TYPE	TD	TD	TD	TB	TG	TB	TB	TD	TB	TB
MAP COORDINATES	5843E7051N	5843E7052N	5843E7053N	5844E7054N	5844E7054N	5844E7054N	5844E7057N	5844E7059N	5844E7061N	5844E7062N
1:100 000 SHEET	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER	DAMPIER
SiO ₂ %wt	50.00	49.70	50.70	50.00	46.70	49.30	48.40	49.00	51.00	49.20
TiO ₂	1.86	1.79	1.90	1.37	1.09	1.24	1.23	1.21	1.10	1.21
Al ₂ O ₃	13.20	13.50	13.60	14.90	15.20	15.20	15.50	14.80	15.80	14.60
Fe ₂ O ₃	2.06	1.79	1.89	1.76	1.28	2.37	2.00	1.35	1.90	1.34
FeO	11.90	12.40	12.30	9.65	9.15	10.40	10.00	10.70	7.95	10.90
MnO	0.20	0.20	0.20	0.20	0.15	0.15	0.19	0.20	0.20	0.20
MgO	5.00	5.15	4.90	7.00	8.89	7.50	6.30	7.93	4.35	7.00
CaO	9.56	9.57	9.57	11.20	9.73	8.70	11.00	10.00	11.40	11.00
Na ₂ O	1.86	1.73	1.77	2.16	1.53	3.78	2.60	2.59	2.63	1.70
K ₂ O	0.85	0.79	0.96	0.06	0.13	0.04	0.03	0.02	0.04	0.13
P ₂ O ₅	0.23	0.25	0.24	0.11	0.07	0.09	0.11	0.09	0.09	0.10
H ₂ O(+)	2.41	2.39	1.77	1.01	3.44	1.10	1.52	1.34	0.96	1.43
H ₂ O(-)	0.18	0.25	0.10	0.16	0.19	0.13	0.21	0.16	0.44	0.15
CO ₂	0.05	0.10	0.05	0.10	3.25	0.05	0.20	0.35	2.10	0.15
TOTAL	99.36	99.61	99.95	99.68	100.80	100.05	99.29	99.74	99.96	99.11
Mg NUMBER	43.3	43.5	42.3	56.6	64.4	55.6	52.8	58.3	48.6	54.8
Ba PPM	307	265	314	35	19	11	19	26	20	4
Rb	31	29	25	2	7			2		3
Sr	141	130	133	111	75	65	109	128	107	89
Pb	4	4	3							
Th	5	3	4		2					
U	1	1								
Zr	169	161	171	89	60	76	77	76	68	72
Nb	7	6	6	3	2		2	2	2	2
Y	38	38	38	28	23	27	28	26	23	25
La	17	15	15	2		2	2			
Ce	39	37	38	12	6	7	7	8	5	11
Sc	32	32	32	41	36	42	44	38	42	42
V	314	311	303	330	297	340	344	312	314	338
Cr	84		84		186		206		228	
Co		49		42		51		45		46
Ni	70	78	68	91	198	112	119	122	123	103
Cu	72	79	76	102	48	101	98	103	91	124
Zn	109	114	115	84	60	54	88	85	90	97
Ga	17	16	18	15	15	14	14	15	14	14
S	761	1121	641	481	120	521	120	921	481	1322

PLB75 - PILBARA/SALGASH SUBGROUP/KARRATHA

SAMPLE NUMBER	80040257	80040258	80040259								
FORMATION	Salgash	Salgash	Salgash								
	Subgroup	Subgroup	Subgroup								
ROCK TYPE	TD	TB	TB								
MAP COORDINATES	5843E7063N	5842E7065N	5842E7067N								
1:100 000 SHEET	DAMPIER	DAMPIER	DAMPIER								
SiO ₂ %wt	49.20	47.50	49.90								
TiO ₂	1.49	1.23	1.29								
Al ₂ O ₃	14.60	15.60	14.90								
Fe ₂ O ₃	1.55	1.44	0.50								
FeO	11.30	11.10	11.60								
MnO	0.25	0.19	0.18								
MgO	4.66	7.04	7.60								
CaO	10.50	12.00	9.70								
Na ₂ O	2.50	2.08	2.03								
K ₂ O	0.16	0.04	0.11								
P ₂ O ₅	0.11	0.10	0.10								
H ₂ O[+]	1.65	1.23	1.28								
H ₂ O[-]	0.23	0.15	0.14								
CO ₂	1.30	0.25	0.05								
TOTAL	99.50	99.95	99.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	43.5	54.4	56.9								
Ba PPM	97	31	15								
Rb	7	2	7								
Sr	113	121	144								
Pb											
Th											
U											
Zr	98	76	82								
Nb	3	3	2								
Y	32	26	29								
La	2		2								
Ce	15	9	10								
Sc	43	43	42								
V	267	330	347								
Cr	182		247								
Co		47									
Ni	85	109	91								
Cu	79	77	60								
Zn	105	86	100								
Ga	16	15	15								
S	200	881	841								

PLB76 - PILBARA/WARRAMBIE BASALT/PYRAMID ROAD

SAMPLE NUMBER	80040268	80040269	80040270	80040271	80040272	80040273	80040274	80040275		
FORMATION	Warrambie Basalt	Warrambie Basalt	Warrambie Basalt	WARRAMBIE BASALT	Warrambie Basalt	WARRAMBIE BASALT	WARRAMBIE BASALT	Warrambie Basalt		
ROCK TYPE	TB	TB	TD	Carbonated TD	Carbonated TD	Carbonated TD	Carbonated TD	Porphyry		
MAP COORDINATES	5525E6823N	5525N6822E	5252E6822N	5525E6822N	5525E6821N	5525E6821N	5525E6821N	5525E6821N		
1:100 000 SHEET	SHERLOCK	SHERJOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK		
SiO ₂ %wt	48.40	53.00	48.00	43.10	46.80	47.00	45.20	66.90		
TiO ₂	1.19	0.94	1.21	1.70	1.76	1.70	1.77	0.74		
Al ₂ O ₃	14.70	16.60	14.90	12.80	12.90	12.60	12.90	12.40		
Fe ₂ O ₃	1.66	1.23	1.50	2.26	1.94	2.73	1.95	1.44		
FeO	11.10	9.35	11.60	10.90	10.70	12.20	12.30	3.15		
MnO	0.22	0.20	0.23	0.18	0.26	0.25	0.17	0.08		
MgO	7.77	5.94	8.18	4.55	3.17	2.96	4.03	0.87		
CaO	9.88	7.31	10.50	7.73	6.35	5.25	6.14	3.23		
Na ₂ O	2.17	3.18	1.59	1.95	4.07	4.14	3.66	3.72		
K ₂ O	0.41	0.48	0.48	2.01	0.73	0.67	0.32	3.00		
P ₂ O ₅	0.16	0.13	0.14	0.17	0.17	0.18	0.20	0.20		
H ₂ O[+]	1.62	1.73	1.70	3.41	2.16	2.58	3.26	1.23		
H ₂ O[-]	0.10	0.15						0.06		
CO ₂	0.05	0.05	0.05	9.05	8.30	7.65	7.60	2.70		
TOTAL	99.43	100.29	100.08	99.81	99.31	99.91	99.50	99.72	0.00	0.00
Mg NUMBER	56.4	54.4	57.0	42.4	34.8	29.7	37.5	29.1		
Ba PPM	102	190	108	489	200	224	101	876		
Rb	20	19	17	65	18	15	9	55		
Sr	132	127	115	406	249	219	318	151		
Pb				3	5	4	7	5		
Th				2	3	4	3	11		
U					1			2		
Zr	52	112	49	118	126	124	130	271		
Nb		4		7	9	8	9	9		
Y	18	28	17	19	20	18	20	26		
La		5		10	13	12	12	44		
Ce	8	19	2	24	29	24	30	88		
Sc	39	44	41	23	23	23	23	8		
V	218	241	233	278	321	339	324	20		
Cr		148		91		186		3		
Co	49		50		41		50			
Ni	131	54	143	163	85	177	130	85		
Cu	126	66	72		266		257	7		
Zn	103	86	91	116	117	107	129	72		
Ga	15	11	14	17	19	15	19	17		
S	401	80	320	320	240	280	280	80		

PLB77 - PILBARA/WARRAMBIE BASALT/WARRAMBIE STATION

SAMPLE NUMBER	80040241	80040242	80040243	80040244	80040245	80040246				
FORMATION	WARRAMBIE BASALT	WARRAMBIE BASALT	Warrambie Basalt	WARRAMBIE BASALT	Warrambie Basalt	WARRAMBIE BASALT				
ROCK TYPE	TAA	TB	TBA carb.	TB Carbonated	TB carb.	TB oxid.				
MAP COORDINATES	5379E6842N	5380E6842N	5380E6841N	5379E6841N	5379E6840N	5379E6839N				
1:100 000 SHEET	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE	ROEBOURNE				
SiO ₂ %wt	57.10	53.60	48.50	54.90	49.00	52.00				
TiO ₂	1.54	0.91	0.84	0.93	0.86	1.06				
Al ₂ O ₃	13.30	13.10	11.70	13.70	14.00	13.20				
Fe ₂ O ₃	0.82	1.35	1.40	1.64	2.20	4.16				
FeO	9.50	10.20	7.85	9.25	9.45	9.54				
MnO	0.13	0.14	0.35	0.13	0.17	0.16				
MgO	2.84	4.68	3.22	3.58	3.45	4.15				
CaO	3.48	4.84	10.60	4.08	7.60	5.99				
Na ₂ O	3.86	3.00	3.42	3.57	3.44	4.18				
K ₂ O	1.27	1.51	0.71	1.67	0.87	0.58				
P ₂ O ₅	0.20	0.12	0.11	0.10	0.10	0.13				
H ₂ O[+]	3.25	3.80	2.94	3.38	3.28	2.41				
H ₂ O[-]	0.11	0.08	0.16	0.14	0.17	0.17				
CO ₂	2.60	3.05	7.95	2.35	5.25	2.20				
TOTAL	100.00	100.38	99.75	99.42	99.84	99.93	0.00	0.00	0.00	0.00
Mg NUMBER	36.8	46.2	42.6	41.2	38.8	39.6				
Ba PPM	314	1525	433	1953	530	856				
Rb	26	27	12	32	31	11				
Sr	92	409	260	421	427	342				
Pb	3	7	24	7	8	5				
Th	3	6	5	7	5	4				
U					1					
Zr	132	121	113	130	116	135				
Nb	7	6	5	6	2	5				
Y	14	18	19	19	18	17				
La	14	21	19	19	20	18				
Ce	35	44	40	41	42	41				
Sc	23	19	18	16	18	14				
V	297	169	139	162	163	151				
Cr	357		59		32					
Co		48		43		55				
Ni	132	86	84	74	85	118				
Cu		103	85	113	101	217				
Zn	87	99	80	100	92	113				
Ga	16	14	9	14	13	14				
S	120	240	401	160	240	240				

PLB78 - PILBARA/FORTESCUE GROUP/HAYS CREEK

SAMPLE NUMBER	80040078	80040079	80040080	80040081	80040082	80040083	80040084	80040085	80040086	80040087
FORMATION	Nymerina Basalt	Nymerina Basalt	NYMERINA BASALT	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	NYMERINA BASALT	Nymerina Basalt	Nymerina Basalt	NYMERINA BASALT
ROCK TYPE	TB	TB	TBA	TB	TB	TAP	TBAP	TAP	TAP	TB
MAP COORDINATES	2734E5796N	2734E5800N	2738E5798N	2742E5796N	2744E5798N	2749E5800N	2751E5798N	2755E5799N	2756E5800N	2757E5800N
1:100 000 SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK
SiO ₂ %wt	49.00	50.50	53.30	51.40	52.40	55.20	50.80	56.70	56.20	54.50
TiO ₂	1.46	1.20	1.28	1.24	1.23	1.04	0.95	1.01	1.03	1.43
Al ₂ O ₃	13.50	13.80	14.00	12.00	11.70	13.80	12.80	12.90	12.80	12.60
Fe ₂ O ₃	1.96	1.43	2.19	1.41	3.00	1.31	1.83	2.69	2.79	3.86
FeO	12.20	8.25	8.65	8.90	8.10	6.70	6.45	6.85	6.85	8.45
MnO	0.17	0.12	0.10	0.13	0.14	0.08	0.12	0.13	0.13	0.10
MgO	5.00	4.54	4.42	5.45	4.60	5.10	4.12	4.44	4.42	2.82
CaO	8.45	6.85	4.40	7.00	6.95	5.30	8.15	5.60	5.50	4.72
Na ₂ O	2.66	3.46	4.54	3.18	3.64	5.45	3.52	4.92	4.90	4.48
K ₂ O	0.18	1.39	0.79	1.18	1.48	1.39	2.42	2.00	2.08	0.25
P ₂ O ₅	0.23	0.16	0.16	0.15	0.16	0.35	0.24	0.23	0.22	0.26
H ₂ O[+]	3.76	3.54	3.58	3.71	3.02	2.44	2.78	1.51	1.56	2.81
H ₂ O[-]	0.21	0.10	0.15	0.11	0.20	0.13	0.11	0.29	0.21	0.29
CO ₂	3.10	4.05	2.15	3.80	2.70	1.30	5.05	0.70	0.65	1.10
TOTAL	101.88	99.39	99.71	99.66	99.32	99.59	99.34	99.97	99.34	97.67
Mg NUMBER	42.9	49.9	46.6	52.9	47.2	57.6	51.6	50.1	49.7	33.1
Ba PPM	269	515	496	360	445	948	1328	1110	1160	222
Rb	5	30	18	22	31	24	41	37	38	4
Str	376	245	179	130	276	213	213	631	615	338
Pb	3	9	17	5	3	2	3	7	7	10
Th		8	9	7	6	2	4	3	4	5
U		2	1	1	1					
Zr	154	215	215	182	180	219	197	193	197	221
Nb	6	11	11	8	8	9	10	10	10	16
Y	26	29	27	24	25	28	33	37	38	47
La	17	32	28	23	23	35	33	37	38	47
Ce	37	63	57	48	47	76	70	76	75	95
Sc	25	16	13	18	19	19	17	16	15	11
V	245	148	149	178	172	175	147	150	154	136
Cr		43		154		103		77		8
Co	40		35		38		27		33	
Ni	58	51	62	77	65	69	72	73	72	15
Cu	50	136	124	130	101	42	123	98	92	267
Zn	96	95	96	100	92	98	81	102	102	116
Ga	14	16	18	14	14	12	12	13	15	15
S	521	80	200	80	40	80	160	80	120	160

PLE79 - PILBARA/FORTESCUE GROUP/HAYS CREEK

SAMPLE NUMBER	80040092	80040095	80040097	80040098	80040100	80040104	80040106			
FORMATION	MADDINA	Maddina	MADDINA	MADDINA	Maddina	MADDINA	Maddina			
ROCK TYPE	BASALT	Basalt	BASALT	BASALT	Basalt	BASALT	Basalt			
	TAA	TBP	TAAP	TA	TA	TAA	TBA			
		Carbonated	alter.	oxid.	Carbonated	Carbonated	Carbonated			
MAP COORDINATES	2768E5803N	2792E5818N	2801E5820N	2804E5821N	2813E5810N	2823E5796N	2829E5788N			
1:100 000 SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK			
SiO ₂ %wt	55.60	42.10	57.40	59.60	55.00	59.10	54.10			
TiO ₂	1.36	1.16	1.01	0.99	1.05	0.72	1.03			
Al ₂ O ₃	12.60	14.40	11.70	14.90	12.70	10.40	12.40			
Fe ₂ O ₃	2.72	1.95	1.83	5.38	0.80	1.49	0.58			
FeO	9.25	7.20	7.45	4.25	7.65	5.95	8.75			
MnO	0.10	0.18	0.11	0.04	0.17	0.18	0.17			
MgO	3.20	4.34	6.10	3.88	1.87	5.35	2.06			
CaO	4.04	11.10	2.96	0.50	5.25	3.98	5.55			
Na ₂ O	3.50	5.05	3.14	3.94	3.60	3.60	4.20			
K ₂ O	1.43	0.56	0.61	2.42	2.88	0.65	1.69			
P ₂ O ₅	0.25	0.25	0.22	0.21	0.20	0.19	0.19			
H ₂ O[+]	3.08	2.94	3.36	3.32	1.45	2.42	1.65			
H ₂ O[-]	0.16	0.19	0.23	0.19	0.11	0.18	0.26			
CO ₂	2.80	8.45	3.35	0.20	6.95	5.25	7.30			
TOTAL	100.09	99.87	99.47	99.82	99.68	99.46	99.93	0.00	0.00	0.00
Mg NUMBER	36.4	50.4	58.4	47.2	31.9	60.6	31.8			
Ba PPM	482	261	297	683	916	168	538			
Rb	23	12	10	39	71	10	31			
Sr	217	541	68	43	292	43	274			
Pb	7	7	4		11		3			
Th	5	4	5	5	7	5	6			
U	1			2						
Zr	214	231	203	206	214	178	209			
Nb	15	12	11	14	13	8	12			
Y	23	25	23	22	24	19	23			
La	45	39	44	25	41	27	40			
Ce	90	77	87	53	81	57	82			
Sc	10	20	16	7	14	11	13			
V	143	171	165	109	151	131	146			
Cr		53	45							
Co	42			29	34	23	32			
Ni	32	78	67	21	38	37	36			
Cu	227	137	179	157	131	29	114			
Zn	110	100	105	84	77	70	98			
Ga	14	14	14	15	15	12	14			
S	401	80	40	200	120		200			

PLB80 - PILBARA/FORTESCUE GROUP/MEENTHEENA

SAMPLE NUMBER	80040108	80040109	80040111	80040112	80040114	80040115	80040116	80040117	80040118	80040119
FORMATION	Kylena Basalt	Kylena Basalt	Kylena Basalt	KYLENA BASILT altered Ca-rich	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt
ROCK TYPE	TAA	TA	TA	2394E6554N	TB	Palagonite Tuff	TB	TB	TB	TB
MAP COORDINATES	2390E6540N	2390E6544N	2390E6551N	2394E6554N	2397E6558N	2399E6559N	2399E6561N	2401E6562N	2402E6562N	2405E6567N
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	YILGALONG
SiO ₂ %wt	55.10	55.00	55.60	54.70	53.20	54.60	52.50	53.80	53.90	54.00
TiO ₂	0.64	0.64	0.65	0.68	1.38	1.22	1.22	1.26	1.18	1.17
Al ₂ O ₃	14.00	14.30	14.00	14.10	14.10	13.10	13.70	13.60	14.10	13.70
Fe ₂ O ₃	0.82	1.51	0.62	1.93	1.11	1.26	1.10	1.79	1.72	1.74
FeO	8.35	7.60	8.35	3.30	9.80	8.05	9.00	8.65	8.35	8.60
MnO	0.12	0.12	0.14	0.06	0.15	0.11	0.15	0.14	0.13	0.15
MgO	5.80	5.41	5.41	2.51	4.88	5.11	4.44	4.04	4.26	4.13
CaO	6.17	7.69	6.52	17.10	6.42	7.74	7.30	7.30	6.95	7.50
Na ₂ O	3.72	3.04	3.52	0.07	3.06	0.73	2.48	2.46	2.90	2.40
K ₂ O	1.11	0.76	1.88	0.06	1.56	2.18	2.90	2.80	2.18	2.50
P ₂ O ₅	0.15	0.14	0.15	0.15	0.33	0.36	0.31	0.29	0.28	0.28
H ₂ O[+]	3.20	3.57	2.71	3.81	3.27	4.67	2.91	2.70	2.99	2.69
H ₂ O[-]	0.35	0.32	0.05	0.15	0.13	0.15	0.05		0.05	0.05
CO ₂	0.10	0.15	0.10	1.45	0.15	0.65	1.50	1.20	1.20	1.10
TOTAL	99.63	100.25	99.70	100.07	99.54	99.93	99.56	100.03	100.19	100.01
Mg NUMBER	57.2	55.9	56.0	51.1	48.6	53.8	48.2	45.2	47.4	46.0
Ba PPM	379	169	1140	27	585	560	1129	754	545	639
Rb	33	21	65	2	70	82	120	110	86	102
Sr	160	126	452	40	264	33	269	249	225	192
Pb	2	3	8	3	7	9	5	12	8	8
Th	4	5	4	2	11	10	12	13	12	12
U		1	2		2	2	1	2	1	2
Zr	157	160	185	98	389	360	355	393	358	372
Nb	8		4	20	18	18	21	19	21	21
Y	24	23	25	17	47	43	44	47	45	47
La	24	25	25	13	48	32	44	47	45	47
Ce	49	50	51	33	96	69	83	93	88	91
Sc	26	26	185	33	27	24	25	27	28	25
V	166	159	166	157	241	208	213	224	223	209
Cr		136	135			24	5			4
Co	39				42		42		42	
Ni	85	83	79		47	43	50	35	47	41
Cu	41	46	50		39	40	33	35	49	47
Zn	64	60	72		89	73	75	80	75	80
Ga	12	12	13	15	13	14	15	18	15	13
S	80	80	80	280	200	320	240	441	360	441

PLB81 - PILBARA/FORTESCUE GROUP/MEENTHEENA

SAMPLE NUMBER	80040120	80040121	80040122	80040125	80040126	80040127	80040128	80040129	80040130	80040131
FORMATION	Kylena Basalt TB	Kylena Basalt TB	Kylena Basalt TB	Nymerina Basalt TA	NYMERINA BASALT Chlor carb volcanic	Nymerina Basalt TBA carb.	NYMERINA BASALT TB	Nymerina Basalt TBAP	Nymerina Basalt HMBP	Nymerina Basalt TB
ROCK TYPE	TB	TB	TB	TA	Chlor carb volcanic	TBA carb.	TB	TBAP	HMBP	TB
MAP COORDINATES	2409E6568N	2411E6572N	2416E6572N	2416E6572N	2446E6612N	2447E6616N	2448E6619N	2451E6621N	2454E6622N	2454E66252N
1:100 000 SHEET	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG
SiO ₂ %wt	54.30	54.00	54.70	56.70	39.80	52.30	52.70	53.70	53.70	51.50
TiO ₂	1.16	1.04	1.05	1.19	0.85	1.16	1.10	1.22	1.07	1.22
Al ₂ O ₃	13.90	14.30	13.80	13.30	10.70	12.70	12.40	13.40	9.25	11.30
Fe ₂ O ₃	0.96	1.55	1.36	1.58	4.87	1.36	1.69	1.92	1.76	1.18
FeO	9.30	8.05	7.95	7.85	2.55	7.10	8.20	7.90	8.85	8.75
MnO	0.15	0.13	0.12	0.15	0.11	0.15	0.13	0.13	0.17	0.14
MgO	4.30	3.72	3.98	4.11	1.63	3.24	4.58	4.44	7.90	4.24
CaO	6.30	7.70	6.40	5.05	24.80	8.25	8.00	5.15	9.60	8.40
Na ₂ O	2.96	2.88	3.14	5.00	0.02	4.16	3.24	3.80	2.02	2.94
K ₂ O	2.62	2.32	2.28	1.08		0.85	2.66	0.98	1.38	0.47
P ₂ O ₅	0.26	0.24	0.24	0.16	0.11	0.15	0.13	0.18	0.12	0.14
H ₂ O[+]	2.91	2.72	2.94	3.27	3.50	3.10	2.18	3.75	1.92	3.86
H ₂ O[-]	0.05	0.06	0.07	0.17	0.09	0.20	0.11	0.17	0.05	0.18
CO ₂	0.90	1.45	1.35	0.40	10.70	5.00	2.30	2.80	1.70	5.25
TOTAL	100.07	100.16	99.38	100.01	99.73	99.72	99.42	99.54	99.49	99.57
Mg NUMBER	47.0	45.2	47.6	48.2	33.0	44.9	49.7	49.2	61.3	47.5
Ba PPM	717	547	501	286	31	629	1629	474	307	779
Rb	103	96	92	31	2	29	84	30	57	15
Sr	153	187	175	247	49	337	309	223	305	126
Pb	11	16	12	6	22	5	8	5	4	13
Th	13	14	15	8	7	9	7	9	5	6
U	2	3	3			2	1	1	1	1
Zr	370	382	381	215	156	210	189	216	145	181
Nb	20	23	23	10	7	10	10	11	7	9
Y	46	47	47	28	21	29	25	27	23	26
La	47	53	51	34	21	35	26	35	17	23
Ce	93	93	98	66	39	69	55	66	45	50
Sc	27	29	28	13	15	16	17	14	23	19
V	215	193	198	129	85	129	136	143	155	167
Cr		10		26		23		18		159
Co	40		39		27		43		47	
Ni	42	38	40	95	59	65	94	61	171	78
Cu	46	60	57	92	38	166	142	158	115	136
Zn	77	104	89	107	60	85	89	100	86	93
Ga	14	17	15	14	24	13	14	13	12	14
S	280	320	280	80		200	40	240	80	200

PLB2 - PILBARA/FORTESCUE GROUP/MEENTHEENA

SAMPLE NUMBER	80040132	80040133	80040134	80040137	80040138	80040139	80040140	80040141	80040142	80040143
FORMATION	NYMERINA	Nymerina	Nymerina	Maddina	Maddina	Maddina	Maddina	Maddina	MADDINA	Maddina
ROCK TYPE	BASALT	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	Basalt	BASALT	Basalt
	TA	TB	TB	meta norite?	TB	TB	TB	TB	TA	TA
MAP COORDINATES	2452E6629N	2455E6632N	2453E6638N	2457E6646N	2460E6651N	2454E6651N	2459E6653N	2459E6655N	2458E6659N	2458E6660N
1:100 000 SHEET	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG	YILGALONG
SiO ₂ %wt	55.10	50.30	53.10	52.10	54.10	54.80	51.80	53.90	55.30	57.30
TiO ₂	0.98	1.15	0.95	0.76	0.80	0.81	0.78	0.82	0.91	1.03
Al ₂ O ₃	13.00	13.30	14.00	14.70	14.60	14.60	14.40	14.50	14.00	13.60
Fe ₂ O ₃	6.23	1.30	1.22	0.95	0.82	0.76	0.66	0.99	0.99	0.55
FeO	3.75	10.80	8.80	7.45	8.35	8.40	8.40	8.20	8.65	8.95
MnO	0.09	0.19	0.14	0.14	0.13	0.14	0.12	0.14	0.14	0.14
MgO	2.56	5.95	5.20	6.45	5.60	5.50	5.30	5.10	4.74	3.58
CaO	14.20	3.55	7.20	8.10	7.20	6.65	7.45	7.65	6.30	6.40
Na ₂ O	0.11	1.58	3.80	2.28	3.16	3.00	2.68	3.02	3.08	2.62
K ₂ O	0.15	1.35	1.36	1.11	0.57	1.23	0.69	0.78	0.74	1.58
P ₂ O ₅	0.11	0.11	0.15	0.08	0.10	0.09	0.08	0.13	0.14	0.13
H ₂ O[+]	2.41	2.88	3.24	4.14	3.71	3.47	3.68	3.52	3.50	2.93
H ₂ O[-]	0.11		0.05	0.49	0.27	0.39	0.47	0.21	0.41	0.29
CO ₂	0.55	0.90	0.95	1.00	0.65	0.45	3.65	0.90	1.10	1.20
TOTAL	99.35	99.36	100.16	99.75	100.06	100.29	100.16	99.86	100.00	100.30
Mg NUMBER	36.5	51.0	52.4	62.0	56.4	55.9	55.3	54.0	51.0	44.3
Ba PPM	42	386	368	465	338	703	336	431	515	586
Rb	5	59	37	24	10	26	19	17	12	43
Sr	1578	397	230	174	186	197	137	196	163	179
Pb	7	4	8	7	8	9	7	8	10	12
Th	8	2	8	5	8	7	8	9	9	12
U	2		2		2	1	1	3	2	2
Zr	146	113	171	134	153	150	151	151	180	201
Nb	7	4	7	6	7	8	7	8	8	10
Y	23	27	29	26	30	29	29	30	34	36
La	21	8	20	15	19	22	20	20	25	25
Ce	46	24	44	31	41	47	42	45	51	59
Sc	22	34	29	31	32	31	34	32	33	34
V	139	263	211	193	198	202	216	193	218	231
Cr		141		242		107		126		52
Co	29		41		44		44		43	
Ni	60	63	78	111	90	88	89			
Cu	160	80	75	61	65	67	66			
Zn	41	90	78	65	84	88	82			
Ga	9	14	15	13	13	14	13	15	15	14
S	240	1362	120	160	200	160	120	200	240	401

PLB83 - PILBARA/FORTESCUE GROUP/MBENTHEENA

SAMPLE NUMBER	80040144	80040146	80040147							
FORMATION	Maddina	Maddina	Maddina							
ROCK TYPE	Basalt	Basalt	Basalt							
	TA	TB	TA							
MAP COORDINATES	2458E6664N	2461E6668N	2416E6668N							
1:100 000 SHEET	YILGALONG	YILGALONG	YILGALONG							
SiO ₂ %wt	56.60	53.50	57.70							
TiO ₂	0.99	0.78	0.68							
Al ₂ O ₃	13.30	14.80	13.90							
Fe ₂ O ₃	0.95	0.66	0.55							
FeO	8.95	8.85	8.05							
MnO	0.15	0.15	0.13							
MgO	3.76	6.50	4.72							
CaO	6.95	8.05	5.48							
Na ₂ O	2.86	2.10	3.36							
K ₂ O	1.48	0.85	2.78							
P ₂ O ₅	0.12	0.09	0.14							
H ₂ O[+]	2.77	2.96	2.04							
H ₂ O[-]	0.43	0.46	0.31							
CO ₂	0.95	0.55	0.15							
TOTAL	100.26	100.30	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	44.6	59.1	53.7							
Ba PPM	680	437	1247							
Rb	42	20	119							
Sr	187	160	393							
Pb	10	7	9							
Th	9	6	9							
U	3	1	2							
Zr	190	141	211							
Nb	8	7	11							
Y	36	27	30							
La	27	17	33							
Ce	57	39	68							
Sc	33	31	24							
V	222	296	163							
Cr			98							
Co	42	44								
Ni										
Cu										
Zn										
Ga	15	14	13							
S	360	160	120							

PLB84 - PILBARA/FORTESCUE GROUP/PELICAN POOL

SAMPLE NUMBER	80040148	80040149	80040150	80040151	80040152	80040153	80040154	80040155	80040156	80040157
FORMATION	Kylena Basalt	Kylena Basalt	Kylena Basalt	KYLENA BASALT	Kylena Basalt	Kylena Basalt	Kylena Basalt	KYLENA BASALT	Kylena Basalt	KYLENA BASALT
ROCK TYPE	TB Carbonated	TEA	TB	Pal'nitic Tuff	TEA	TEA	TB	TB	TB	TB
MAP COORDINATES	2253E6461N	2253E6456N	2253E6453N	2254E6453N	2246E6453N	2250E6451N	2251E6448N	2251E6446N	2252E6443N	2250E6440N
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ %wt	49.80	53.10	53.00	54.00	49.70	53.80	54.30	53.40	54.60	54.50
TiO ₂	0.56	1.36	1.33	1.17	0.53	1.18	1.17	1.15	1.16	1.14
Al ₂ O ₃	12.90	13.60	13.70	13.40	13.70	13.50	13.50	13.60	13.60	13.50
Fe ₂ O ₃	0.75	1.14	1.00	0.96	1.11	1.01	0.82	0.87	1.81	1.31
FeO	7.20	9.55	9.45	8.40	7.55	9.35	9.25	9.30	8.45	8.90
MnO	0.13	0.17	0.18	0.14	0.16	0.13	0.14	0.14	0.15	0.15
MgO	5.30	4.98	4.66	6.90	5.15	4.08	4.42	4.06	4.28	3.98
CaO	8.95	8.00	7.10	4.94	12.30	7.00	6.45	7.35	7.55	7.65
Na ₂ O	2.30	2.60	2.70	0.06	2.96	2.90	2.90	2.56	2.28	2.38
K ₂ O	1.20	1.47	2.16	3.68	0.54	2.36	2.52	2.66	2.28	2.68
P ₂ O ₅	0.11	0.32	0.32	0.28	0.11	0.26	0.26	0.25	0.25	0.25
H ₂ O[+]	4.00	3.21	3.22	5.01	3.69	2.92	3.12	2.73	3.29	2.65
H ₂ O[-]	0.38	0.34	0.43	0.46	0.13	0.12	0.16	0.14	0.20	0.20
CO ₂	6.40	0.10	0.25	0.65	2.05	1.40	1.15	1.25	1.00	0.90
TOTAL	99.98	99.94	99.50	100.05	99.68	100.01	100.16	99.46	100.90	100.19
Mg NUMBER	58.5	49.7	48.6	61.0	55.8	45.5	48.1	45.8	47.1	45.3
Ba PPM	58	686	1337	468	86	567	681	737	584	736
Rb	90	65	96	86	17	93	99	108	91	109
Sr	94	260	126	25	42	194	160	170	216	234
Pb		10	12	3		6	10	11	8	16
Th		9	10	9	2	11	13	12	11	12
U	1	2	2	2		1	2	2	3	2
Zr	83	376	375	346	78	372	363	360	349	355
Nb	3	19	20	18	2	20	19	19	19	19
Y	15	48	49	42	17	47	46	47	46	46
La	11	48	49	37	17	45	46	46	45	47
Ce	28	89	93	71	30	91	94	91	88	90
Sc	33	27	27	24	27	27	27	26	27	27
V	189	238	247	237	167	221	218	212	207	211
Cr		28		30		16		22		18
Co	39				42		42		41	
Ni				41	84	44	44	44	43	36
Cu				38	55	50	55	49	54	46
Zn				74	64	88	80	90	76	93
Ga	10	16	13	16	12	15	16	16	15	16
S	160	160	320	40	120	441	320	721	320	401

PLB85 - PILBARA/FORESCUE GROUP/PELICAN POOL

SAMPLE NUMBER	80040158	80040159	80040160	80040161	80040162	80040163	80040164	80040165	80040166	80040167
FORMATION	Kylena Basalt	Kylena Basalt	KYLENA BASALT	Kylena Kylena	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	KYLENA BASALT	Kylena Basalt
ROCK TYPE	TB	TAA	TB	TB	TB	TA	TB	TB Carbonated rock	altered	TA
MAP COORDINATES	2251E6437N	2250E6329N	2249E6429N	2251E6424N	2251E6417N	2250E6413N	2252E6408N	2252E6401N	2251E6396N	2254E6389N
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ %wt	53.30	55.30	54.40	54.60	53.60	57.20	54.70	56.70	62.60	55.30
TiO ₂	1.14	1.01	1.09	0.98	1.12	1.00	1.00	1.02	1.06	1.00
Al ₂ O ₃	13.60	13.80	13.90	14.00	13.60	13.40	13.60	12.60	12.30	13.80
Fe ₂ O ₃	2.03	0.64	1.92	1.36	2.23	1.15	1.06	1.02	7.21	0.92
FeO	9.15	8.60	7.90	8.40	8.25	8.50	8.85	8.35	0.67	8.80
MnO	0.14	0.14	0.14	0.13	0.14	0.14	0.13	0.12	0.07	0.14
MgO	4.06	4.88	4.16	4.05	4.36	3.26	4.00	2.38	0.41	4.12
CaO	6.73	5.95	8.05	6.35	7.00	5.75	6.45	5.95	12.80	7.30
Na ₂ O	2.84	3.36	2.28	3.10	2.66	3.04	2.82	1.43	0.09	2.08
K ₂ O	2.52	2.36	2.62	2.30	2.16	2.78	2.94	2.68	0.19	2.72
P ₂ O ₅	0.24	0.21	0.23	0.18	0.25	0.21	0.21	0.25	0.23	0.20
H ₂ O[+]	2.89	3.04	2.25	3.11	3.18	2.59	2.59	3.39	1.40	2.43
H ₂ O[-]	0.15	0.21	0.14	0.25	0.27	0.22	0.38	0.25	0.22	0.16
CO ₂	1.35	0.70	0.90	1.10	1.00	0.95	1.15	3.70	0.50	0.80
TOTAL	100.14	100.20	99.98	99.91	99.82	100.19	99.88	99.84	99.75	99.77
Mg NUMBER	43.7	52.7	47.5	46.9	47.1	41.8	46.1	35.0	10.7	47.3
Ba PPM	648	528	765	529	539	595	759	564	27	570
Rb	96	91	98	89	79	103	113	162	9	113
Sr	201	159	177	177	237	174	191	50	1855	318
Pb	8	6	7	9	10	17	10	10	7	13
Th	12	13	13	13	12	15	14	19	18	12
U	2	2	2	2	2	3	3	4	3	3
Zr	362	370	342	357	349	397	359	461	429	365
Nb	19	20	19	21	20	24	21	27	26	21
Y	45	46	45	46	46	53	44	59	53	46
La	47	48	45	46	45	55	44	64	55	48
Ce	94	91	90	88	89	109	92	120	110	91
Sc	28	27	26	28	28	27	27	26	27	26
V	218	198	198	196	214	189	191	195	138	183
Cr		8		6		8		4		5
Co	42		39		40		42		19	
Ni	44	40	46	37	42	20	46	7	10	39
Cu	45	59	44	55	45	54	58	42	56	62
Zn	86	79	81	87	94	85	73	119	16	81
Ga	16	13	16	14	16	15	16	15	16	15
S	481	240	401	360	441	481	521	641	80	280

PLB86 - PILBARA/FORTESCUE GROUP/PELICAN POOL

SAMPLE NUMBER	80040168	80040169	80040170	80040171						
FORMATION	Kylena Basalt	KYLENA BASALT	Kylena Basalt	KYLENA BASALT						
ROCK TYPE:	TA	TA	TA	TA carb.						
MAP COORDINATES:	2255E6380N	2259E6380N	2256E6379N	2260E6379N						
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR						
SiO ₂ wgt	56.50	57.90	57.20	56.20						
TiO ₂	1.01	1.13	1.05	1.11						
Al ₂ O ₃	13.40	12.80	13.10	12.70						
Fe ₂ O ₃	1.26	0.95	1.30	1.06						
FeO	8.40	8.95	8.50	8.85						
MnO	0.13	0.10	0.14	0.10						
MgO	2.98	2.76	2.62	0.97						
CaO	6.20	4.00	6.20	6.85						
Na ₂ O	2.52	1.77	2.28	1.32						
K ₂ O	2.72	3.40	3.04	2.74						
P ₂ O ₅	0.21	0.25	0.21	0.21						
H ₂ O[+]	2.67	3.34	2.52	2.97						
H ₂ O[-]	0.17	0.25	0.19	0.25						
CO ₂	1.65	2.10	1.80	4.35						
TOTAL	99.82	99.70	100.15	99.68	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	39.6	37.1	36.2	17.2						
Ba PPM	575	582	735	316						
Rb	97	135	103	156						
Sr	261	74	251	41						
Pb	9	20	15	10						
Th	15	18	16	15						
U	3	4	3	3						
Zr	398	472	420	404						
Nb	24	29	25	24						
Y	9	59	53	52						
La	51	67	58	57						
Ce	102	123	112	105						
Sc	25	26	25	29						
V	186	203	183	218						
Cr										
Co	38		37							
Ni	26	10	21	12						
Cu	54	43	54	46						
Zn	79	90	90	94						
Ga	12	16	15	17						
S	360	721	481	681						

PLB87 - PILBARA/STRELLY/TALGA SUBGROUP

SAMPLE NUMBER	69911	69912	69913	69914	69915	69916	69917	69918	69920	69921
FORMATION	Talga	Talga	Talga	Talga	TALGA	TALGA	Talga	Talga	Talga	Talga
ROCK TYPE	Subgroup	Subgroup	Subgroup	Subgroup	SUBGROUP	SUBGROUP	Subgroup	Subgroup	Subgroup	Subgroup
MAP COORDINATES	7175E6692N	7176E6693N	7177E6690N	7176E6688N	7175E6686N	7173E7172N	7176E6679N	7174E6677N	7171E6675N	7177E6672N
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW
SiO ₂ %wt	51.10	49.20	48.50	49.70	57.20	48.70	47.00	47.80	49.00	48.60
TiO ₂	0.56	0.93	0.96	1.02	0.88	1.47	2.10	1.50	1.59	1.21
Al ₂ O ₃	13.60	13.60	15.00	14.70	14.70	14.30	12.50	12.60	11.00	13.20
Fe ₂ O ₃	1.04	2.34	2.84	2.34	1.03	0.30	3.73	3.03	3.30	2.27
FeO	7.21	11.30	9.50	10.50	7.71	13.50	13.20	12.30	9.40	11.90
MnO	0.17	0.22	0.24	0.29	0.18	0.24	0.31	0.24	0.29	0.24
MgO	10.40	6.70	5.90	4.78	4.32	6.35	5.20	5.65	5.50	6.35
CaO	12.00	10.80	10.90	11.70	6.55	6.15	8.75	8.10	8.55	9.10
Na ₂ O	2.04	2.48	2.92	2.18	3.88	2.72	2.74	3.10	2.13	2.78
K ₂ O	0.27	0.52	0.60	0.53	0.40	0.51	0.36	0.31	0.16	0.40
P ₂ O ₅	0.03	0.05	0.08	0.08	0.23	0.12	0.31	0.16	0.15	0.07
H ₂ O[+]	1.53	1.43	1.66	1.60	2.50	1.92	2.01	2.64	3.70	2.23
H ₂ O[-]	0.10	0.08	0.21	0.13	0.09	0.14	0.08	0.21	0.22	0.16
CO ₂	0.08	0.06	0.06	0.10	0.06	0.18	1.26	2.30	4.35	0.98
TOTAL	100.13	99.71	99.37	99.65	99.73	96.60	99.55	99.94	99.34	99.49
Mg NUMBER	72.8	51.2	50.6	44.3	51.2	49.2	39.7	44.1	48.2	48.8
Ba PPM	9	24	68	64	66	94	68	69	23	38
Rb	5	10	13	12	16	23	11	12	11	13
Sr	91	113	345	106	168	109	255	174	139	128
Pb	2	2			3		3	5	5	
Th				2	3			2		
U					1		1		1	
Zr	40	47	68	73	244	104	135	112	131	58
Nb		2	2	2	9	4	4	4	5	2
Y	14	18	18	21	33	30	31	30	32	21
La			2	3	35	4	7	4	8	2
Ce	5		5	10	68	16	21	18	22	8
Sc	42	46	42	43	21	42	42	42	30	41
V	231	309	244	273	128	340	341	303	334	328
Cr		142	191	193	159	104	126	109	124	193
Co										
Ni	197	79	83	66	69	48	39	43	47	68
Cu	46	27	26	5	36	4	72	270	158	150
Zn	60	91	94	111	76	121	153	157	94	103
Ga	10	13	12	14	17	16	17	16	14	15
S		40	80	40	160	40	1362	641	1402	2323

PLB88 - PILBARA/STRELLEY/TALGA SUBGROUP

SAMPLE NUMBER	69922	69923	69924	69925	69926	69927	69929	69930	69931	69932
FORMATION	Talga	Talga	Talga	Talga	Talga	Talga	Talga	Talga	Talga	Talga
	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup	Subgroup
ROCK TYPE	TB	HALB	HALB	TB	HALB	TB	TD	TB	TB	TB
MAP COORDINATES	7176E6670N	7178E6668N	7175E6667N	7174E6665N	7174E6665N	7173E6663N	7172E6658N	7171E6656N	7168E6655N	7166E6653N
1:100 000 SHEET	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW	NORTH SHAW
SiO ₂ %wt	48.80	51.40	48.90	49.50	48.10	49.50	50.30	48.40	47.10	49.20
TiO ₂	1.15	1.77	1.58	1.01	0.86	0.86	1.08	0.81	1.01	1.66
Al ₂ O ₃	14.70	18.70	17.10	13.70	18.00	14.10	14.10	14.70	13.60	13.80
Fe ₂ O ₃	1.73	1.83	1.94	1.83	1.55	2.03	1.65	2.51	2.00	3.40
FeO	10.50	6.99	11.30	11.40	8.41	10.50	10.30	7.46	11.70	10.80
MnO	0.26	0.37	0.46	0.25	0.32	0.34	0.24	0.20	0.29	0.32
MgO	6.80	2.28	3.48	6.55	5.40	6.20	7.25	7.85	6.90	5.35
CaO	11.40	10.90	9.65	10.50	11.20	10.20	9.95	10.70	9.30	9.00
Na ₂ O	2.52	1.38	2.52	1.91	2.80	3.12	3.12	2.50	2.36	3.06
K ₂ O	0.36	0.31	0.38	0.23	0.75	0.43	0.20	0.23	0.94	0.57
P ₂ O ₅	0.07	0.16	0.16	0.06	0.07	0.08	0.07	0.06	0.07	0.14
H ₂ O[+]	1.57	3.48	1.82	2.26	1.99	2.05	0.94	2.79	2.86	2.31
H ₂ O[-]	0.14	0.15	0.20	0.06	0.09	0.13	0.14	0.15	0.22	0.19
CO ₂	0.14	0.36	0.40	0.26	0.22	0.20	0.08	1.18	1.64	0.28
TOTAL	100.14	100.08	99.89	99.52	99.76	99.74	99.42	99.54	99.99	100.08
Hg NUMBER	54.2	35.6	35.9	51.3	53.6	51.3	56.3	62.9	51.7	44.7
Ba PPM	33	6	27	12	58	32	53	25	121	107
Rb	10	14	12	6	28	12	4	6	34	22
Sr	130	127	93	114	124	112	106	137	87	163
Pb		2								2
Th										
U										
Zr	77	109	94	53	59	64	64	51	69	121
Nb	3	4	4	2	2	2	2	2	2	4
Y	23	29	31	18	16	20	23	19	24	37
La		4	3		2	2				4
Ce	6	16	14	5	8	10	7	7	8	17
Sc	42	47	47	41	36	41	48	40	45	46
V	286	421	319	307	223	230	327	271	325	388
Cr	255	244	214	160	166	193	258		191	152
Co										
Ni	76	98	91	71	46	75	75	120	82	68
Cu	7	50	44	135	11	6	5	4	5	8
Zn	137	78	119	96	128	134	100	79	123	123
Ga	16	18	19	13	12	14	14	13	14	17
S	40	401	1282	3004	40	40		40	40	

PLB89 - PILBAKA/STRELLEY/TALGA SUBGROUP

SAMPLE NUMBER FORMATION	69933 Talga Subgroup TB	69934 Talga Subgroup TB	69935 Talga Subgroup TA	69936 Talga Subgroup TB	69937 Talga Subgroup TD	69938 Talga Subgroup TB	69939 TALGA SUBGROUP TA	69940 Talga Subgroup TB	69941 Talga Subgroup TD	69942 TALGA SUBGROUP carb.pyrox
ROCK TYPE	TB	TB	TA	TB	TD	TB	TA			
MAP COORDINATES 1:100 000 SHEET	7166E6650N NORTH SHAW	7166E6648N NORTH SHAW	7165E6645N NORTH SHAW	7164E6643N NORTH SHAW	7165E6642N NORTH SHAW	7163E6640N NORTH SHAW	7163E6638N NORTH SHAW	7164E6636N NORTH SHAW	7164E6633N NORTH SHAW	7165E6130N NORTH SHAW
SiO ₂ %wt	49.20	47.50	55.80	49.30	48.20	49.30	58.60	51.10	48.50	45.40
TiO ₂	1.63	2.14	1.08	1.49	1.84	1.23	0.92	0.77	0.90	0.72
Al ₂ O ₃	13.90	13.00	16.10	14.10	15.40	13.90	16.30	14.80	15.80	5.45
Fe ₂ O ₃	1.94	2.62	1.95	1.99	2.29	2.19	1.51	0.96	1.42	2.65
FeO	12.20	14.20	7.11	11.40	11.60	10.70	5.83	7.93	9.37	8.84
MnO	0.29	0.34	0.13	0.21	0.21	0.22	0.15	0.18	0.20	0.19
MgO	5.65	6.15	3.62	6.50	4.48	6.50	2.86	7.50	8.15	12.90
CaO	9.40	9.15	7.45	10.00	9.65	9.70	7.00	9.60	8.65	14.40
Na ₂ O	2.60	2.44	3.20	2.68	2.74	2.36	3.86	3.10	3.06	0.35
K ₂ O	0.36	0.32	0.95	0.72	0.91	0.57	0.69	0.79	0.64	0.02
P ₂ O ₅	0.15	0.22	0.24	0.22	0.28	0.12	0.19	0.08	0.09	0.08
H ₂ O[+]	1.63	1.68	1.68	1.86	1.70	1.80	1.49	0.27	0.29	0.21
H ₂ O[-]	0.20	0.19	0.24	0.20	0.20	0.24	0.19	0.27	0.25	4.80
CO ₂	0.06			0.10	0.06	0.24	0.18	0.24	0.25	4.80
TOTAL	99.21	99.95	99.55	100.77	99.56	99.07	99.77	99.63	99.56	99.66
Mg NUMBER	45.9	43.8	46.1	50.8	40.7	51.8	45.5	64.1	61.6	70.7
Ba PPM	53	63	285	52	47	73	132	66	30	10
Rb	10	8	34	23	25	13	25	24	17	
Sr	145	141	209	161	111	114	212	177	156	37
Pb										
Th			4			2		2		3
U			1				1			
Zr	115	113	235	115	141	94	229	55	60	54
Nb	3	4	9	6	8	2	9	2	2	4
Y	35	36	30	23	32	32	29	12	14	12
La	3	2	30	7	10	3	26	7	3	4
Ce	14	17	59	21	29	19	55	8	11	10
Sc	45	45	23	34	42	47	20	37	36	24
V	386	348	140	228	294	347	120	203	207	139
Cr	146	79	52	193	168	183	18		286	
Co								39		73
Ni	43	39	41	121	68	69	25	141	129	980
Cu	10	4	9	7	4	47	5	6	113	200
Zn	151	181	124	124	111	96	61	88	99	62
Ga	17	17	17	14	17	15	17	11	13	8
S	721		40	280	40	1642	40	40	120	360

PLB90 - PILBARA/STRELLEY/TALGA SUBGROUP

SAMPLE NUMBER	69944	69945							
FORMATION	Talga	Talga							
	Subgroup	Subgroup							
ROCK TYPE	TD	high-Al DAC							
MAP COORDINATES	7151E6623N	7149E6636N							
1:100 000 SHEET	NORTH SHAW	NORTH SHAW							
SiO ₂ %wt	48.50	60.90							
TiO ₂	1.20	0.66							
Al ₂ O ₃	13.70	17.80							
Fe ₂ O ₃	2.02	1.38							
FeO	10.20	3.62							
MnO	0.20	0.11							
MgO	7.65	1.48							
CaO	9.40	2.96							
Na ₂ O	1.90	3.64							
K ₂ O	1.55	2.60							
P ₂ O ₅	0.10	0.16							
H ₂ O[+]	2.81	2.68							
H ₂ O[-]	0.12	0.15							
CO ₂	0.26	1.68							
TOTAL	99.61	99.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	57.2	39.0							
Ba PPM	46	268							
Rb	33	82							
Sr	105	75							
Pb		4							
Th		10							
U		4							
Zr	79	499							
Nb	2	23							
Y	26	74							
La	2	34							
Ce	10	78							
Sc	38	19							
V	246	3							
Cr									
Co	47								
Ni	98	1							
Cu	51	16							
Zn	86	68							
Ga	15	24							
S	1322	40							

PLB91 - PILBARA/BAMBOO CREEK/DUFFER FORMATION

SAMPLE NUMBER	68968	68969
FORMATION	Duffer	Duffer
	Formation	Formation
ROCK TYPE	K-DAC	DAC
	porphyry	porphyry
MAP COORDINATES	2055E3818N	2054E6820N
1:100 000 SHEET	MUCCAN	MUCCAN

SiO ₂	wt	67.30	64.70
TiO ₂		0.42	0.56
Al ₂ O ₃		14.40	15.70
Fe ₂ O ₃		1.51	1.77
FeO		2.37	3.00
MnO		0.04	0.08
MgO		1.87	2.66
CaO		2.20	4.66
Na ₂ O		4.22	3.88
K ₂ O		3.90	1.29
P ₂ O ₅		0.16	0.20
H ₂ O[+]		1.20	1.79
H ₂ O[-]			0.12
CO ₂		0.65	0.10

TOTAL	100.24	100.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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Mg NUMBER	51.3	54.8
Ba PPM	1059	684
Rb	89	63
Sr	236	714
Pb	11	19
Th	14	14
U	3	3
Zr	186	185
Nb	7	6
Y	12	16
La	38	41
Ce	67	79
Sc	6	11
V	52	78
Cr	37	37
Co		
Ni	24	28
Cu	5	32
Zn	62	78
Ga	17	14
S	40	40

PLB92 - PILBARA/STRELLEY/SALGASH SUBGROUP

SAMPLE NUMBER FORMATION	69946 Salgash Subgroup HMB	69947 Salgash Subgroup HMB	69948 Salgash Subgroup TB carb.	69949 Salgash Subgroup TB	69950 Salgash Subgroup HMB	69951 Salgash Subgroup HMB	69952 Salgash Subgroup TB	69953 Salgash Subgroup TB	69954 Salgash Subgroup TB	69955 Salgash Subgroup TB
ROCK TYPE										
MAP COORDINATES 1:100 000 SHEET	7134E6595N NORTH SHAW	7172E6596N NORTH SHAW	7133E6598N NORTH SHAW	7133E6599N NORTH SHAW	7134E6600N NORTH SHAW	7134E6602N NORTH SHAW	7133E6603N NORTH SHAW	7133E6605N NORTH SHAW	7134E6606N NORTH SHAW	7134E6608N NORTH SHAW
SiO ₂ %wt	50.70	49.50	46.60	46.50	49.10	49.00	49.30	48.10	46.10	49.80
TiO ₂	0.60	0.59	0.60	1.04	0.57	0.59	0.89	1.09	1.11	1.15
Al ₂ O ₃	13.90	13.40	13.80	15.20	13.20	13.40	15.00	15.10	15.30	14.80
Fe ₂ O ₃	1.92	2.19	1.95	2.89	2.05	1.58	1.62	2.66	2.85	1.93
FeO	6.47	7.57	7.69	6.99	8.23	8.66	7.63	7.32	7.06	8.07
MnO	0.16	0.20	0.19	0.20	0.19	0.20	0.16	0.16	0.18	0.16
MgO	9.55	9.65	8.00	7.10	8.80	9.75	7.85	7.15	7.70	7.65
CaO	8.75	10.40	11.40	11.50	10.50	9.10	8.95	10.90	12.10	7.30
Na ₂ O	3.06	2.22	3.08	1.98	2.45	2.55	3.92	3.20	2.14	3.52
K ₂ O	0.17	0.47	0.10	1.24	0.64	1.04	0.39	0.30	0.85	0.75
P ₂ O ₅	0.06	0.05	0.04	0.09	0.04	0.05	0.09	0.11	0.13	0.12
H ₂ O[+]	3.61	3.43	3.39	3.41	3.07	3.32	3.36	3.48	4.03	3.76
H ₂ O[-]	0.45	0.31	0.23	0.24	0.24	0.20	0.21	0.20	0.19	0.19
CO ₂	0.32	0.22	3.15	1.68	1.03	0.42	0.84	0.40	0.44	0.40
TOTAL	99.72	100.20	100.22	100.06	100.11	99.86	100.21	100.17	100.18	99.60
Mg NUMBER	70.9	68.0	64.0	60.8	64.7	67.0	64.4	60.7	62.6	62.1
Ba PPM	22	64		103	36	103	85	99	291	223
Rb	3	11		34	15	22	9	4	13	13
Sr	119	148	124	124	117	74	91	142	140	65
Pb									2	
Th			2					2		2
U								1		
Zr	34	34	35	81	33	35	66	91	96	103
Nb				3		2	3	4	4	4
Y	14	14	14	22	13	13	18	24	26	28
La				3				5	4	5
Ce	3	2	2	10	4	5	10	13	14	15
Sc	43	41	41	29	40	40	30	30	30	28
V	256	226	256	251	226	233	220	264	260	281
Cr				294						276
Co	42		48		47		44		41	
Ni	111	128	135	140	149	133	154	135	130	129
Cu	83	81	84	77	80	82	73	78	91	62
Zn	58	62	68	70	66	68	67	68	66	75
Ga	9	10	11	14	10	10	13	14	15	12
S	120	120	280	601	240	320	401	280	401	561

PLB93 - PILBARA/STRELLEY/SALGASH FORMATION

SAMPLE NUMBER FORMATION	69956 SALGASH SUBGROUP	69957 Salgash Subgroup	69958 Salgash Subgroup	69959 Salgash Subgroup	69960 Salgash Subgroup	69961 Salgash Subgroup	69962 Salgash Subgroup	69963 SALGASH SUBGROUP	69964 Salgash Subgroup	69966 Talga Subgroup
ROCK TYPE	TB	TB oxid.	TB	TB oxid.	TD	TD	TD	HMD alter.	TB carb.	DAC
MAP COORDINATES 1:100 000 SHEET	7133E66G9N NORTH SHAW	7134E6612N NORTH SHAW	7135E6612N NORTH SHAW	7135E6613N NORTH SHAW	7137E6614N NORTH SHAW	7137E6616N NORTH SHAW	7138E6617N NORTH SHAW	7140E6617N NORTH SHAW	7140E6619N NORTH SHAW	7143E6635N NORTH SHAW
SiO ₂ wgt	48.10	48.90	48.10	48.10	53.10	52.50	50.00	52.10	48.00	65.80
TiO ₂	1.80	2.54	2.58	2.58	1.97	1.19	0.96	1.92	1.35	0.45
Al ₂ O ₃	14.10	12.30	12.20	12.20	13.60	16.10	16.40	12.00	13.10	14.70
Fe ₂ O ₃	3.05	5.58	4.90	5.79	3.66	2.90	2.19	2.93	2.55	1.7
FeO	10.40	9.02	10.30	9.91	6.51	4.37	5.05	12.30	9.22	4.13
MnO	0.20	0.20	0.19	0.22	0.14	0.11	0.11	0.10	0.17	0.09
MgO	6.50	4.47	4.06	5.20	5.75	6.10	8.35	10.30	4.59	1.00
CaO	5.10	9.30	8.10	8.30	6.25	7.65	7.60	0.35	9.00	3.20
Na ₂ O	3.80	2.55	2.55	2.38	5.05	5.10	3.41	0.08	3.53	5.65
K ₂ O	0.66	1.51	1.69	1.18	0.52	0.72	1.60	0.04	0.27	0.68
P ₂ O ₅	0.18	0.29	0.30	0.31	0.28	0.17	0.12	0.23	0.13	0.13
H ₂ O[+]	4.18	1.83	2.25	2.45	2.22	2.53	3.96	7.14	3.51	1.75
H ₂ O[-]	0.14	0.42	0.44	0.39	0.41	0.47	0.24	0.37	0.15	0.28
CO ₂	1.16	0.88	1.88	0.10	0.22	0.14	0.08	0.14	3.95	1.10
TOTAL	99.37	99.79	99.54	99.11	99.68	100.05	100.07	100.00	99.52	100.16
Mg NUMBER	50.9	40.0	36.7	41.9	55.1	64.7	71.4	59.1	45.5	28.7
Ba PPM	218	533	409	675	127	197	344	123	35	311
Rb	10	26	28	20	8	17	38	2	4	25
Sr	67	134	82	120	131	248	157		105	138
Pb		2	4	2		3	3			3
Th		3	4	5	4					10
U	1	1	1	1				1		1
Zr	158	148	157	149	225	139	92	154	90	404
Nb	7	6	7	6	10	5	4	6	3	12
Y	41	40	39	40	52	34	23	49	31	48
La	8	14	13	15	17	11	5	8	4	34
Ce	22	33	31	31	48	28	19	25	11	71
Sc	41	37	35	34	32	30	29	45	35	12
V	510	548	557	556	400	251	207	602	369	4
Cr		43		41		105		11		
Co	43		47		29		30		44	8
Ni	55	43	42	42	52	69	117	31	78	
Cu	101	79	81	78	113	46	33	86	95	5
Zn	98	106	106	105	53	45	41	126	92	49
Ga	16	15	17	17	18	15	15	16	13	17
S	1602	2203	2163	1322	360	641	681	80	2763	40

SAMPLE NUMBER	69967
FORMATION	Talga
	Subgroup
ROCK TYPE	DAC

MAP COORDINATES 7147E6636N
1:100 000 SHEET NORTH SHAW

[illegible]






































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PLB96 - PILBARA/SHAY GAP/HONEYEATER BASALT

SAMPLE NUMBER FORMATION	68995 Honeyeater Basalt	68997 HONEYEATER BASALT	68999 Honeyeater Basalt	69900 Honeyeater Basalt	69001 Honeyeater Basalt	69002 Honeyeater Basalt	69003 Honeyeater Basalt	69004 Honeyeater Basalt	69005 Honeyeater Basalt	69006 Honeyeater Basalt
ROCK TYPE	TD	TBA carb.	TBP	TBP	TBP	TBP	TB	TB	TB	TB
MAP COORDINATES 1:100 000 SHEET	2028E7283N MUCCAN	2031E7284N MUCCAN	2033E7285N MUCCAN	2034E7286N MUCCAN	2035E7287N MUCCAN	2037E7286N MUCCAN	2038E7287N MUCCAN	2039E7288N MUCCAN	2040E7284N MUCCAN	2042E7289N MUCCAN
SiO ₂ %wt	53.90	50.00	54.10	54.30	53.90	54.10	52.40	53.00	53.20	50.00
TiO ₂	0.54	1.34	0.60	0.66	0.52	0.50	0.46	0.52	0.52	0.46
Al ₂ O ₃	14.40	13.30	14.10	14.20	14.30	14.80	14.20	14.60	14.40	13.60
Fe ₂ O ₃	1.80	1.19	1.31	1.85	1.59	1.73	1.86	2.21	1.03	2.32
FeO	6.81	9.01	7.41	7.20	7.25	6.81	6.96	6.33	7.44	8.17
MnO	0.15	0.16	0.15	0.16	0.15	0.14	0.16	0.15	0.16	0.19
MgO	6.05	6.90	6.35	5.65	7.25	7.30	7.50	7.05	7.15	6.90
CaO	10.00	6.45	8.85	9.25	9.15	9.30	10.10	10.20	9.75	11.10
Na ₂ O	1.82	2.02	2.38	2.28	1.91	2.01	2.10	1.88	1.77	1.21
K ₂ O	0.90	0.34	0.66	1.24	0.92	0.90	1.30	0.66	0.77	0.70
P ₂ O ₅	0.08	0.19	0.08	0.08	0.07	0.07	0.05	0.06	0.07	0.06
H ₂ O[+]	2.70	5.02	2.63	2.20	2.80	2.87	2.94	2.88	2.95	3.45
H ₂ O[-]	0.05						0.07	0.06	0.05	
CO ₂	0.94	3.95	0.94	0.78	0.16	0.06	0.08	0.48	0.94	1.90
TOTAL	100.14	99.87	99.79	99.85	99.97	100.59	100.18	100.08	100.20	100.06
Mg NUMBER	60.1	58.9	60.8	57.2	63.6	64.7	64.6	64.0	64.2	58.5
Ba PPM	281	242	294	291	244	234	160	166	257	141
Rb	26	12	20	41	24	23	36	20	20	25
Sr	131	81	235	183	194	148	99	165	88	198
Pb	3	5	6	5	2	3	2		2	2
Th		3	3	4	3	4		4		
U			1	1					1	
Zr	73	119	100	96	79	74	59	70	66	65
Nb	2	4	4	3	2	2	2	2		2
Y	17	23	20	21	17	16	16	17	17	20
La	6	12	10	11	8	7	5	6	5	6
Ce	17	28	24	21	19	16	12	12	12	13
Sc	34	20	28	30	31	32	34	37	37	34
V	201	243	182	191	188	182	185	206	211	193
Cr	203	175	265	133	328	332	292	205	223	162
Co										
Ni	79	79	100	83	94	95	95	78	88	83
Cu	58	68	59	64	53	50	51	57	57	50
Zn	77	87	87	79	66	66	65	75	75	72
Ga	12	17	13	13	12	13	11	13	13	11
S	200	80	320	481	160	200	320	841	401	360

PLD97 - PILBARA/SHAY GAP/HONEYEATER BASALT

SAMPLE NUMBER	69007	69008	69009	69010	69011	69012	69013	69014	69015	
FORMATION	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	HONEYEATER BASALT	
ROCK TYPE	TB hydr.	TB hydr.	TB hydr.	TEA hydr.	TEA hydr.	HMD hydr.	HMD/hydr. high Al	TD/hydr. high Al	diorite alter.	
MAP COORDINATES	2044E7290N	2045E7289N	2046E7291N	2048E7291N	2050E7290N	2051E7292N	2053E7293N	2053E7295N	2054E7291N	
1:100 000 SHEET	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	
SiO ₂ %wt	51.60	51.40	52.50	53.10	51.00	52.20	49.40	49.90	65.20	
TiO ₂	0.47	0.49	0.50	0.45	0.45	0.33	0.24	0.29	0.93	
Al ₂ O ₃	14.70	14.60	14.30	13.50	14.80	9.55	17.20	18.10	9.95	
Fe ₂ O ₃	1.84	1.27	1.20	1.40	1.61	1.51	1.95	1.87	6.09	
FeO	6.35	7.60	6.79	6.25	10.17	6.78	4.72	4.50	3.34	
MnO	0.17	0.16	0.15	0.13	0.18	0.15	0.11	0.10	0.09	
MgO	7.50	8.60	7.60	7.70	5.95	16.20	10.10	8.20	1.17	
CaO	10.70	9.65	10.90	10.60	13.90	7.35	10.10	10.60	10.20	
Na ₂ O	1.53	1.29	2.09	1.05	1.38	0.66	1.03	1.33	0.07	
K ₂ O	0.78	0.60	0.08	0.07	0.31	0.37	0.42	0.95	0.17	
P ₂ O ₅	0.08	0.07	0.06	0.07	0.05	0.04	0.03	0.03	0.16	
H ₂ O[+]	3.30	4.21	3.78	4.60	4.12	4.36	4.74	4.05	2.01	
H ₂ O[-]	0.07	0.10	0.08	0.14	0.07	0.13	0.12	0.06	0.02	
CO ₂	1.10	0.06	0.18	0.62	0.12	0.18	0.14	0.14	0.22	
TOTAL	100.19	100.10	100.21	99.68	104.11	99.81	100.30	100.12	99.62	0.00
Kg NUMBER	66.3	67.3	66.9	68.2	51.8	80.7	76.6	73.5	21.8	
Ba PPM	199	122	30	30	123	98	121	215	36	
Rb	28	24	4	3	5	13	13	32	2	
Sr	182	58	71	77	30	107	128	162	624	
Pb	2				11				8	
Th		2		2	2			2	4	
U		1								
Zr	58	59	56	52	51	25	21	29	107	
Nb									4	
Y	15	16	17	14	15	9	6	7	35	
La	3	2	3	3	4				9	
Ce	10	8	12	10	9	2	4	2	20	
Sc	39	41	39	42	42	34	30	29	28	
V	209	224	217	216	214	173	130	144	130	
Cr	270	231	269	265	259			147	4	
Co										
Ni	84	76	77	74	65	273	151	98	3	
Cu	53	55	55	47	151	28	50	17	9	
Zn	67	74	84	70	170	54	43	40	31	
Ga	11	11	10	10	10	7	11	12	10	
S	240	120	401	200	240	80	80	40		

PLB98 - PILBARA/STRELLEY/HONEYEATER BASALT

SAMPLE NUMBER	69901	69902	69903	69904	69905	69906	69907	69908	69909	69910
FORMATION	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt	Honeyeater Basalt
ROCK TYPE	HMB carb.	TB	TB	HALB	HALB	TB	TB	HALB	HALB	TB
MAP COORDINATES	7296E6616N	7295E6616N	7295E6617N	7295E6618N	7294E6618N	7295E6619N	7295E6626N	7295E6621N	7296E6621N	7296E6622N
1:100 000 SHEET	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN	MUCCAN
SiO ₂ %wt	45.30	50.30	50.30	49.80	51.40	52.40	50.00	47.10	50.50	48.70
TiO ₂	0.39	0.43	0.39	0.49	0.40	0.42	0.40	0.46	0.42	0.49
Al ₂ O ₃	6.40	15.90	15.80	16.10	16.00	15.80	15.30	17.00	16.00	15.20
Fe ₂ O ₃	0.50	0.72	1.33	0.94	0.83	1.42	1.96	1.38	1.28	2.45
FeO	9.27	7.81	6.86	7.84	6.32	5.34	6.06	6.59	6.36	9.58
MnO	0.24	0.27	0.22	0.22	0.24	0.19	0.22	0.24	0.28	0.21
MgO	12.60	7.45	8.20	7.30	6.00	5.60	8.00	6.80	5.50	8.10
CaO	15.90	8.40	9.25	8.40	10.60	11.90	10.30	11.20	10.60	7.75
Na ₂ O	0.08	1.57	0.71	1.34	1.19	0.61	0.33	1.32	1.83	0.79
K ₂ O	0.01	0.14	0.06	0.05	0.10	0.07	0.06	0.09	0.09	0.07
P ₂ O ₅	0.03	0.03	0.02	0.03	0.04	0.03	0.02	0.02	0.03	0.03
H ₂ O[+]	3.35	5.11	5.10	5.11	4.63	4.49	4.81	4.73	4.19	5.48
H ₂ O[-]			0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.10
CO ₂	5.85	2.15	1.96	2.10	2.40	1.88	2.70	2.90	3.05	1.04
TOTAL	99.92	100.28	100.25	99.77	100.20	100.20	100.21	99.88	100.19	99.99
Mg NUMBER	73.1	64.9	68.1	63.8	64.0	64.0	68.2	64.5	60.6	59.0
Ba PPM		4						8	7	
Rb		5								
Sr	23	58	206	124	67	77	168	118	91	144
Pb										
Th										
U										
Zr	21	29	25	35	27	29	27	34	27	30
Nb										
Y	8	15	13	16	12	11	13	15	13	16
La										
Ce				2		2	2	4	3	4
Sc	29	38	35	38	36	39	35	39	35	43
V	176	233	201	282	215	208	208	250	225	269
Cr	160	197	136	172	167	212	203	159	152	23
Co										
Ni	78	88	73	88	79	96	94	82	81	79
Cu	50	37	58	48	49	45	43	54	45	66
Zn	58	56	70	53	49	59	58	63	58	76
Ga	7	11	9	11	10	11	8	11	10	12
S	80	40	80	80	80	80	80	120	80	80

PLB99 - PILEARA/OPALINE WELL/MT CUPRI FRAGMENTALS

SAMPLE NUMBER	70060	70061	70062	70063	70064	70065	70066	70066	70068	70069
FORMATION	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental	Mt Cupri Fragmental
ROCK TYPE	RHDA 1-alk tuff	K-RHY	Na-RHY	K-RHY	K-RHY	K-RHY	K-RHY	K-RHY vitr. tuff	K-DAC agglom.	K-DAC tuff
MAP COORDINATES	5738E6807N	5742E6807N	5745E6806N	5745E8101N	5746E6812N	5744E6813N	5741E6813N	5738E6813N	5738E6810N	5736E6811N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK
SiO ₂ %wt	64.70	72.10	71.50	72.80	71.60	71.10	73.60	70.20	69.90	69.30
TiO ₂	0.71	0.60	0.58	0.56	0.55	0.56	0.52	0.66	0.52	0.56
Al ₂ O ₃	12.80	12.70	12.20	12.00	12.20	12.20	10.90	13.20	11.80	12.30
Fe ₂ O ₃	1.76	0.72	0.56	0.57	1.85	1.93	1.18	0.82	1.60	1.22
FeO	5.03	1.67	3.33	1.10	2.29	2.99	2.34	3.35	3.30	3.39
MnO	0.15	0.03	0.04	0.06	0.03	0.04	0.05	0.04	0.06	0.08
MgO	3.80	0.64	1.80	0.70	0.67	0.58	0.62	1.30	1.28	0.74
CaO	3.48	1.26	1.28	1.83	0.94	1.40	1.25	0.31	1.33	1.85
Na ₂ O	2.74	3.72	4.92	3.86	3.32	4.08	2.60	3.54	3.54	3.32
K ₂ O	2.20	4.52	1.10	4.02	5.00	3.26	4.90	4.36	3.66	3.98
P ₂ O ₅	0.08	0.15	0.16	0.16	0.15	0.14	0.13	0.16	0.14	0.14
H ₂ O[+]	2.25	0.94	1.67	0.84	0.64	0.94	0.78	1.46	1.47	1.35
H ₂ O[-]	0.12	0.12	0.09	0.09	0.10	0.16	0.13	0.38	0.16	0.15
CO ₂		0.72	0.68	1.10	0.44	0.60	0.68		0.66	1.16
TOTAL	99.82	99.89	99.91	99.69	99.78	99.98	99.68	99.78	99.42	99.54
Mg NUMBER	54.6	36.7	49.6	47.6	26.2	20.5	27.6	40.0	36.1	25.7
Ba PPM	596	1266	260	1121	1455	1034	1122	1247	987	1078
Rb	60	94	19	82	72	59	75	98	60	91
Sr	268	136	126	163	110	143	56	56	87	66
Pb	6	8	9	9	5	16	7	6	5	28
Th	8	15	12	13	14	14	14	18	12	15
U	2	3	3	3	2	3	2	4	2	3
Zr	209	266	253	256	277	282	260	312	248	265
Nb	7	9	8	9	9	9	8	9	7	9
Y	28	23	22	22	34	25	20	22	23	26
La	33	38	47	35	32	43	25	47	32	37
Ce	58	73	86	70	63	83	53	88	62	73
Sc	14	7	8	7	6	6	5	7	5	7
V	89	18	29	15	17	13	15	24	19	17
Cr		5						3		
Co	25		13		8		9		7	
Ni	105	5	16	5	5	4	4	5	4	4
Cu	40	6	4	11	4	19	9	7	5	14
Zn	107	26	52	38	19	64	39	53	34	103
Ga	15	17	18	16	15	16	11	20	17	17
S	40	841	40	681	40	40	641	120	40	40

PLB100 - PILBARA/OPALINE WELL/MT CUPRI FRAGMENTALS

SAMPLE NUMBER	70070	70071	70072	70073	70074	70075	70076	70077		
FORMATION	Mt Cupri	Mt Cupri	Mt Cupri	Mt Cupri	Mt Cupri	Mt Cupri	Mt Cupri	Mt Cupri		
ROCK TYPE	Fragmental K-DAC	Fragmental Na-DAC tuff	Fragmental K-DAC 1-alk tuff	Fragmental K-RHY tuff	Fragmental K-DAC 1-alk tuff	Fragmental Na-DAC 1-alk tuff	Fragmental Na-DAC 1-alk tuff	Fragmental Na-DAC tuff		
MAP COORDINATES	5733E6813N	5734E6816N	5734E6817N	5733E6817N	5733E6818N	5731E6819N	5730E6820N	5729E6820N		
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK		
SiO ₂ %wt	69.70	67.60	68.50	71.00	68.60	60.00	61.00	62.20		
TiO ₂	0.63	0.57	0.60	0.57	0.58	0.95	0.91	0.97		
Al ₂ O ₃	13.20	11.70	11.90	12.90	11.70	13.80	13.40	14.90		
Fe ₂ O ₃	0.66	0.91	0.85	0.89	0.95	1.21	0.90	0.89		
FeO	2.75	3.55	3.72	2.60	4.18	5.89	5.31	4.69		
MnO	0.07	0.11	0.09	0.04	0.09	0.08	0.10	0.07		
MgO	1.45	0.81	1.38	1.17	2.03	4.82	4.22	3.82		
CaO	1.04	3.71	3.24	1.26	2.13	3.12	3.88	2.42		
Na ₂ O	3.94	3.94	2.20	3.72	2.15	3.26	3.54	3.66		
K ₂ O	3.28	2.08	2.58	2.36	2.34	0.84	0.71	1.07		
P ₂ O ₅	0.16	0.15	0.15	0.14	0.11	0.10	0.10	0.11		
H ₂ O[+]	1.74	1.34	1.56	1.60	2.42	3.54	3.05	3.38		
H ₂ O[-]	0.13	0.26	0.24	0.24	0.22	0.46	0.38	0.28		
CO ₂	0.74	2.75	2.40	0.94	1.58	2.05	2.80	1.64		
TOTAL	99.49	99.48	99.41	99.43	99.08	100.12	100.30	100.10	0.00	0.00
Mg NUMBER	47.6	28.0	39.2	41.9	45.8	59.1	59.1	59.3		
Ba PPM	1099	882	612	457	642	325	272	239		
Rb	86	50	89	84	77	25	18	34		
Sr	97	162	204	146	176	154	189	121		
Pb	394	13	28	28	23	19	11	29		
Th	18	14	11	14	10	4	6	5		
U	4	2	3	3	2	1		1		
Zr	292	253	205	262	200	173	145	150		
Nb	9	8	6	8	8	6	6	5		
Y	37	25	23	25	23	18	17	17		
La	46	39	31	39	28	23	18	18		
Ce	93	75	60	76	60	45	39	45		
Sc	8	8	11	8	11	20	19	20		
V	23	31	71	42	64	152	147	160		
Cr				92						
Co	11		28		20		26			
Ni	5	7	60	57	69	168	147	135		
Cu	107	21	47	30	55	96	97	94		
Zn	844	64	104	90	86	101	107	130		
Ga	19	15	14	19	14	15	14	16		
S	641	280	441	320	1442	120	120	80		

PLB101 - PILBARA/MONS CUPRI/MT BROWN RHYOLITE

SAMPLE NUMBER	69993	69994	69995	69996	69997	69998	70000			
FORMATION	Mt Brown	Mt Brown	Mt Brown	Mt Brown	Mt Brown	Mt Brown	Mt Brown			
ROCK TYPE	Rhyolite	Rhyolite	Rhyolite	Rhyolite	Rhyolite	Rhyolite	Rhyolite			
	spher	spher	spher	spher	spher	spher	spher			
	K-RHY	K-RHY	Na-RHY	K-RHY	Na-RHY	K-RHY	QZLAT			
MAP COORDINATES	5840E6910N	5841E6912N	5842E6912N	5842E6913N	5844E6914N	5844E6915N	5843E6918N			
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK			
SiO ₂ %wt	75.60	73.70	77.10	77.10	75.90	77.20	83.20			
TiO ₂	0.44	0.46	0.46	0.45	0.44	0.44	0.52			
Al ₂ O ₃	11.80	11.80	12.60	11.90	11.60	11.80	9.90			
Fe ₂ O ₃	0.70	0.72	0.19	0.34	0.59	0.50	0.43			
FeO	0.66	2.00	0.33	0.83	0.98	1.16	0.30			
MnO	0.03	0.05		0.01	0.02	0.04	0.01			
MgO	0.16	0.38	0.07	0.13	0.22	0.14	0.19			
CaO	1.23	1.88	0.49	0.68	1.67	0.24	0.38			
Na ₂ O	3.37	3.56	5.30	4.38	4.22	3.70	0.03			
K ₂ O	4.02	2.80	2.52	3.18	2.61	3.30	1.65			
P ₂ O ₅	0.11	0.11	0.12	0.11	0.11	0.10	0.04			
H ₂ O[+]	0.53	0.97	0.31	0.31	0.58	0.65	2.56			
H ₂ O[-]	0.22	0.24	0.20	0.13	0.21	0.20	0.40			
CO ₂	0.74	1.28	0.20	0.36	1.06	0.46	0.06			
TOTAL	99.61	99.95	99.89	99.91	100.21	99.93	99.67	0.00	0.00	0.00
Mg NUMBER	20.6	23.1	22.7	19.3	23.4	15.4	36.7			
Ba PPM	1216	842	724	995	664	965	468			
Rb	112	87	61	79	73	94	79			
Sr	120	128	92	87	116	71	41			
Fb	16	10	34	33	26	31	18			
Th	21	23	23	22	21	22	10			
U	5	4	5	5	5	5	2			
Zr	206	227	240	232	220	230	191			
Nb	8	9	10	9	8	9	7			
Y	21	25	25	24	27	23	21			
La	39	43	44	41	40	44	31			
Ce	75	81	83	79	76	80	62			
Sc	9	10	7	9	10	8	8			
V	32	29	19	27	23	27	50			
Cr		5		13		18	5			
Co		3	6	25	9	27	16			
Ni	24	8	13	13	12	11	23			
Cu	16	66	86	45	52	136	21			
Zn	14	15	12	13	12	12	13			
Ga										
S	2924	681	360	1121	401	481	1041			

PLR102 - PILBARA/MONS CUPRI/MT BROWN RHYOLITE

SAMPLE NUMBER	70014	70016	70019	70020	70021					
FORMATION	Mt Brown	Mt Brown	Mt Brown	Mt Brown	Mt Brown					
	Rhyolite	Rhyolite	Rhyolite	Rhyolite	Rhyolite					
ROCK TYPE	spher	spher	spher	spher	spher					
	K-RHY	K-RHY	K-RHY	K-RHY	K-RHY					
MAP COORDINATES	5845E6819N	5847E6919N	5846E6913N	5846E9327N	5847E6934N					
1:100 000 SHEET	SHERLOCK	MARBLE BAR	SHERLOCK	SHERLOCK	SHERLOCK					
SiO ₂ swt	76.70	77.80	76.00	76.00	78.50					
TiO ₂	0.45	0.48	0.46	0.45	0.40					
Al ₂ O ₃	12.60	12.30	11.70	11.50	10.40					
Fe ₂ O ₃	0.52	0.43	0.95	0.80	0.74					
FeO	0.61	0.40	1.43	1.60	1.39					
MnO	0.01	0.02	0.03	0.04	0.05					
MgO	0.07	0.06	0.42	0.51	0.23					
CaO	0.44	0.39	0.68	0.80	0.87					
Na ₂ O	4.21	3.94	3.60	3.09	2.95					
K ₂ O	3.23	3.50	2.83	3.21	3.26					
P ₂ O ₅	0.10	0.14	0.11	0.09	0.10					
H ₂ O[+]	0.63	0.59	0.99	0.88	0.54					
H ₂ O[-]	0.17	0.17	0.23	0.24	0.22					
CO ₂			0.64	0.86	0.44					
TOTAL	99.74	100.22	100.07	100.07	100.09	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	12.0	13.8	27.8	31.5	19.0					
Ba PPM	826	838	696	618	833					
Rb	111	110	81	96	86					
Sr	142	115	65	73	84					
Pb	18	25	18	44	14					
Th	22	22	22	21	20					
U	5	5	4	4	3					
Zr	206	200	244	243	215					
Nb	9	8	10	10	8					
Y	18	17	31	29	25					
La	41	39	44	44	39					
Ce	79	74	89	85	74					
Sc	9	8	9	9	8					
V	50	52	20	22	15					
Cr			5							
Co	8	8		7						
Ni	10	7	3	2	3					
Cu	16	18	12	26	12					
Zn	43	32	50	43	50					
Ga	15	15	15	15	15					
S	320	441	401	200	160					

PLB103 - PILBARA/MONS CUPRI/NEGRI VOLCANICS

SAMPLE NUMBER FORIATION	70047 NEGRI VOLCANICS	70048 Negri Volcanics	70049 Negri Volcanics	70050 Negri Volcanics	70051 Negri Volcanics	70052 Negri Volcanics	70053 Negri Volcanics	70054 Negri Volcanics	70055 Negri Volcanics	70056 Negri Volcanics
ROCK TYPE	TA	P-TA	P-TA	P-TA	P-TA	TA	TA	carb.	DAC	tuff
MAP COORDINATES 1:100 000 SHEET	5802E6842N SHERLOCK	5800E6843N SHERLOCK	5800E6844N SHERLOCK	5795E6845N SHERLOCK	5793E6847N SHERLOCK	5791E6849N SHERLOCK	5788E6851N SHERLOCK	5785E6853N SHERLOCK	5787E6856N SHERLOCK	5785E6860N SHERLOCK
SiO ₂ wt	55.30	55.20	56.10	57.20	56.10	57.10	55.50	52.00	64.40	55.00
TiO ₂	0.97	1.00	0.97	0.98	1.04	1.01	1.01	1.14	0.93	1.20
Al ₂ O ₃	12.00	12.40	11.40	11.60	12.30	12.10	12.60	13.60	10.90	14.30
Fe ₂ O ₃	1.18	1.05	1.94	1.03	1.38	1.23	3.32	2.73	1.04	3.50
FeO	9.20	9.31	8.34	8.79	8.75	8.80	6.91	7.35	3.40	7.47
MnO	0.15	0.14	0.14	0.15	0.14	0.14	0.14	0.12	0.08	0.14
MgO	5.75	5.50	6.15	5.70	5.75	5.40	4.90	4.80	2.24	4.54
CaO	8.00	7.55	6.90	7.40	7.05	6.70	8.65	6.30	5.75	7.30
Na ₂ O	4.10	2.66	1.97	3.82	3.94	4.44	0.93	4.10	3.24	0.35
K ₂ O	0.83	2.52	2.62	1.49	1.00	1.05	2.68	1.13	2.10	2.28
P ₂ O ₅	0.10	0.12	0.13	0.12	0.14	0.13	0.14	0.16	0.12	0.13
H ₂ O[+]	1.72	1.94	2.49	1.71	2.13	1.76	2.60	2.44	1.85	3.72
H ₂ O[-]	0.15	0.06	0.11	0.05	0.05	0.08	0.18	0.14	0.11	0.10
CO ₂	0.60	0.08	0.24	0.18	0.20		0.25	3.45	3.55	0.16
TOTAL	100.05	99.53	99.50	100.22	99.97	99.94	99.81	99.46	99.71	100.19
Mg NUMBER	54.0	52.9	56.1	55.2	54.7	53.3	50.9	50.6	52.0	47.3
Ba PPM	326	761	1131	452	444	385	1104	381	794	782
Rb	26	83	67	39	25	28	73	26	86	66
Sr	270	374	288	238	262	188	846	185	137	357
Pb	9	7	15	10	4	4	17	2	15	8
Th	6	10	8	7	7	9	7	10	7	7
U		1	1	2	2	2	1	2	2	2
Zr	138	141	133	138	145	143	139	172	135	139
Nb	7	5	5	6	5	6	6	7	5	6
Y	19	19	19	19	19	19	18	20	17	18
La	17	18	18	15	17	18	17	25	14	18
Ce	36	36	36	33	36	36	38	52	30	42
Sc	24	22	23	22	24	22	21	21	21	19
V	187	181	182	185	194	188	176	202	176	243
Cr	416		404			47	279			
Co		46		47		47		41		43
Ni	168	161	166	172	116	145	118	91	70	53
Cu	93	106	103	103	67	95	50	92	12	70
Zn	83	87	89	83	70	85	76	72	46	81
Ga	13	15	15		15	15	17	18	12	17
S	160	280	120	360	360	401	80	200	1161	120

PLB104 - PILBARA/MONS CUPRI/NEGRI VOLCANICS

SAMPLE NUMBER	70057	70058
FORMATION	Negri	Negri
	Volcanics	Volcanics
ROCK TYPE	TA	basalt
		carb.
MAP COORDINATES	5788E6865N	5788E6675N
1:100 000 SHEET	SHERLOCK	SHERLOCK

SiO ₂	%wt	57.50	52.90								
TiO ₂		1.16	1.40								
Al ₂ O ₃		13.20	13.20								
Fe ₂ O ₃		1.48	1.78								
FeO		8.30	8.84								
MnO		0.16	0.14								
MgO		3.74	2.02								
CaO		6.40	7.50								
Na ₂ O		5.20	2.60								
K ₂ O		0.40	1.76								
P ₂ O ₅		0.12	0.14								
H ₂ O[+]		1.96	3.13								
H ₂ O[-]		0.12	0.15								
CO ₂		0.12	4.45								
TOTAL		99.86	100.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER		44.9	28.9								
Ba	PPM	104	252								
Rb		9	105								
Sr		146	97								
Pb		8	2								
Th		7	7								
U		1	2								
Zr		136	157								
Nb		5	6								
Y		18	20								
La		18	19								
Ce		34	39								
Sc		20	22								
V		236	308								
Cr		11									
Co			45								
Ni		40	32								
Cu		104	114								
Zn		77	80								
Ga		17	18								
S		1121	921								

PLB105 - PILBARA/MT NEGRI/NEGRI VOLCANICS

SAMPLE NUMBER	70001	70002	70003	70004	70005	70006	70007	70008	70009	70010
FORMATION	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics	Negri Volcanics
ROCK TYPE	TAP	TAP amygd	TAP amygd	TAP amygd	TAP amygd	TAP amygd	variol amygd	variol amygd	variol amygd	variol amygd
MAP COORDINATES	5877E7013N	5878E7012N	5882E7013N	5881E7013N	5882E7012N	5883E7012N	5883E7013N	5884E7013N	5885E7013N	5885E7013N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK
SiO ₂ %wt	56.50	56.40	56.60	56.20	56.40	55.10	56.60	54.30	52.60	54.60
TiO ₂	0.91	1.02	0.97	0.98	1.00	1.04	0.95	1.06	1.03	1.66
Al ₂ O ₃	12.00	12.10	12.10	12.00	12.20	13.50	13.20	13.70	13.60	13.50
Fe ₂ O ₃	1.50	1.75	0.85	1.50	1.44	1.58	1.70	1.90	1.58	1.66
FeO	8.64	9.37	8.77	9.10	8.79	8.75	7.42	9.09	8.93	9.12
MnO	0.15	0.16	0.13	0.16	0.15	0.15	0.14	0.16	0.16	0.16
MgO	5.70	5.70	5.55	5.70	5.95	5.25	5.40	5.20	4.95	5.40
CaO	6.85	6.55	7.80	7.05	6.90	7.60	6.35	7.50	7.90	7.10
Na ₂ O	2.54	3.18	4.03	3.84	4.15	3.95	2.96	4.42	4.90	4.54
K ₂ O	2.38	0.87	1.00	1.20	0.91	0.98	2.68	0.37	0.15	0.55
P ₂ O ₅	0.10	0.12	0.09	0.10	0.11	0.11	0.08	0.11	0.09	0.12
H ₂ O[+]	2.18	2.56	1.47	1.92	2.15	2.03	2.37	2.28	2.30	2.10
H ₂ O[-]	0.22	0.22	0.21	0.18			0.08	0.06	0.12	0.17
CO ₂	0.14	0.26	0.16	0.12	0.08	0.06			1.08	
TOTAL	99.81	100.26	99.73	100.05	100.23	100.10	99.93	100.15	99.39	100.68
Mg NUMBER	54.5	52.2	55.0	53.3	55.3	52.0	55.8	50.2	50.1	51.6
Ba PPM	1017	357	561	719	450	435	1460	134	41	250
Rb	69	22	29	30	23	22	70	8	4	12
Sr	298	260	391	391	247	379	208	411	125	450
Pb	9	12	6	8	9	6	10	4	12	7
Th	6	7	7	8	8	6	5	6	4	6
U	1	1	1	2	2	1		1		1
Zr	136	143	141	139	140	124	115	130	128	127
Nb	5	6	5	5	6	4	5	5	5	4
Y	18	20	20	20	20	17	16	17	18	18
La	17	15	18	14	19	14	11	14	16	14
Ce	34	34	35	36	39	31	30	31	31	33
Sc	23	24	24	24	23	24	22	24	24	25
V	185	201	192	191	193	218	198	223	217	219
Cr					400		148		157	
Co		51		48		54		50		52
Ni	160	168	166	164	165	103	96	112	111	108
Cu	105	90	99	100	98	109	151	110	126	112
Zn	82	93	85	84	80	82	80	82	79	81
Ga	14	17	15	15	15	15	13	17	16	15
S	240	561	601	481	360	841	561	200	1322	360

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PLE107 - PILBARA/MT NEGRI/LOUDEN VOLCANICS

SAMPLE NUMBER	69968	69969	69970	69971	69972	69973	69974	69975	69976	69977
FORMATION	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics
ROCK TYPE	HMD	TBA	HMAP	HMBP	HMA	HMAP	HMBP opx	HMBP opx	HMBP	TA spinelifer
MAP COORDINATES	5916E7120N	5914E7117N	5914E7113N	5915E7112N	5915E7110N	5914E7108N	5914E7106N	5912E7102N	5911E7100N	5909E7095N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK
SiO ₂ %wt	60.40	54.40	55.80	54.10	55.10	55.10	54.00	53.00	51.80	55.40
TiO ₂	0.44	0.46	0.47	0.44	0.45	0.45	0.45	0.28	0.38	0.52
Al ₂ O ₃	12.10	13.00	13.30	12.10	12.50	12.20	12.20	7.75	16.90	13.50
Fe ₂ O ₃	0.82	1.15	1.11	1.42	1.28	1.36	1.42	1.04	1.25	1.46
FeO	6.10	7.56	7.55	7.82	7.73	7.64	7.63	8.42	7.65	7.68
MnO	0.11	0.17	0.13	0.15	0.15	0.16	0.16	0.18	0.13	0.15
MgO	7.80	7.60	8.70	10.50	9.40	9.60	9.60	18.00	11.50	7.15
CaO	2.86	4.94	4.69	6.80	7.45	8.00	8.05	6.05	5.85	6.75
Na ₂ O	2.12	2.88	3.51	1.54	1.53	1.35	1.36	0.57	0.54	3.54
K ₂ O	0.36	0.11	0.56	1.04	1.26	0.85	0.85	0.48	0.09	0.87
P ₂ O ₅	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.03	0.05	0.06
H ₂ O[+]	4.53	3.89	3.49	3.33	2.83	3.09	3.66	3.68	5.79	2.32
H ₂ O[-]	0.31	0.33	0.14	0.38	0.26	0.29	0.27	0.39	0.39	0.23
CO ₂	1.90	3.10			0.06		0.14		3.70	0.06
TOTAL	99.92	99.66	99.52	99.68	100.06	100.16	99.85	99.87	100.02	99.69
Mg NUMBER	70.5	65.0	68.1	70.8	68.9	69.4	69.3	80.1	73.3	62.5
Ba PPM	452	366	336	274	220	157	113	60	18	559
Rb	16	4	14	41	64	43	21	40	6	22
Sr	90	104	87	197	178	226	112	93	25	102
Pb	5	8	2	3	6	6				3
Th	4	4	4	4	4	3		2		4
U			1		1				1	2
Zr	78	82	79	69	71	74	38	32	52	79
Nb	2	3	2		2	2				2
Y	18	15	15	14	14	14	8	8	12	16
La	7	6	9	8	9	6	2		7	8
Ce	15	21	20	16	17	18	4	7	9	19
Sc	35	32	31	30	31	31	31	33	34	30
V	203	185	185	167	170	169	154	155	187	176
Cr										
Co	47		48		49		53		50	
Ni	219	109	141	182	141	150	201	234	172	87
Cu	45	48	54	48	50	51	35	31	47	51
Zn	87	66	62	66	67	69	59	64	49	67
Ga	15	12	11	10	11	11	6	6	10	13
S	240	441	521	160	240	240	80	160	160	681

PLB108 - PILBARA/MT NEGRI/LOUDEN VOLCANICS

SAMPLE NUMBER	69978	69979	69980	69981	69982	69983	69986	69987	69988	69989
FORMATION	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics
ROCK TYPE	TAP amygd	HMBP	HMBP	TD	TD	PK serpent	TA amygd	TAP oxid.	TAP	TAP variol
MAP COORDINATES	5908E7093N	5908E7093N	5908E7090N	5906E7086N	5904E7084N	5904E7081N	5899E7063N	5898E7060N	5896E7576N	5894E7056N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK
SiO ₂ %wt	56.40	52.50	54.00	52.60	51.20	40.20	55.30	55.50	57.50	58.20
TiO ₂	0.73	0.43	0.40	0.38	0.37	0.12	1.17	1.14	1.11	1.05
Al ₂ O ₃	12.90	11.50	10.00	15.40	16.00	3.24	14.20	13.80	13.30	12.40
Fe ₂ O ₃	2.60	1.67	1.75	1.61	1.63	7.15	1.14	2.86	1.04	1.70
FeO	8.41	7.80	7.60	6.20	6.54	3.55	9.32	7.95	9.68	8.10
MnO	0.14	0.18	0.16	0.13	0.16	0.15	0.16	0.14	0.15	0.14
MgO	5.15	11.80	13.10	7.20	7.90	32.60	3.74	3.53	4.75	4.32
CaO	7.45	7.80	6.70	9.65	8.55	2.09	6.95	8.10	4.18	6.45
Na ₂ O	2.20	1.16	1.11	2.27	1.94	0.05	4.56	3.16	4.24	4.78
K ₂ O	1.08	1.40	0.76	1.95	1.54	0.08	0.75	1.06	1.09	0.18
P ₂ O ₅	0.08	0.05	0.04	0.04	0.04	0.03	0.11	0.11	0.14	0.13
H ₂ O[+]	2.86	3.47	4.13	2.21	3.73	9.53	2.32	2.31	2.64	2.05
H ₂ O[-]	0.12	0.17	0.23	0.18	0.23	0.41	0.17	0.21	0.24	0.22
CO ₂	0.06	0.20		0.08		0.28	0.28	0.14	0.14	0.48
TOTAL	100.18	100.13	99.98	99.90	99.83	99.48	100.17	100.01	100.20	100.20
Mg NUMBER	50.1	72.7	75.0	66.4	67.4	87.3	43.1	41.3	48.4	48.5
Ba PPM	379	288	331	537	493	27	258	655	349	43
Rb	27	60	31	70	61	7	20	32	33	4
Sr	150	110	65	143	216	21	101	564	91	204
Pb	4	2	5	3	2		14	11	11	4
Th	7	5	3	3	3		6	7	10	8
U	2						1	1	2	2
Zr	110	60	55	48	45	13	139	134	172	157
Nb	4	2			2		6	5	7	7
Y	22	12	12	11	10	4	18	17	21	19
La	12	7	6	6	5	5	16	16	19	18
Ce	27	10	10	13	12		34	31	41	38
Sc	30	28	29	33	29	13	21	22	22	21
V	228	158	159	164	141	67	258	252	198	182
Cr				287				11		261
Co	44		58		43		38		45	
Ni	56	256	230	81	90	1037	39	38	106	112
Cu	67	51	51	69	48	33	80	92	55	87
Zn	90	56	51	46	115	26	89	85	103	78
Ga	12	10	9	12	11	3	17	18	15	17
S	441	120	521	160	320	40	481	401	120	280

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PLB110 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS

SAMPLE NUMBER FORMATION	70022 Louden Volcanics TB amygd	70023 Louden Volcanics TEP veined	70024 Louden Volcanics TAP	70025 Louden Volcanics TD	70026 Louden Volcanics TAP	70027 Louden Volcanics TAP	70028 Louden Volcanics TA vitric	70030 Louden Volcanics TAP	70031 Louden Volcanics TAP amygd	70032 Louden Volcanics TAP amygd
ROCK TYPE										
MAP COORDINATES 1:100 000 SHEET	5847E6891N SHERLOCK	5849E6887N SHERLOCK	5851E6886N SHERLOCK	5852E6886N SHERLOCK	5851E6883N SHERLOCK	5855E6882N SHERLOCK	5857E6880N SHERLOCK	5860E6878N SHERLOCK	5835E6843N SHERLOCK	5835E8829N SHERLOCK
SiO ₂ gwt	54.70	54.20	56.00	51.50	56.90	55.30	57.50	55.90	57.00	56.50
TiO ₂	0.90	0.43	0.44	0.37	0.46	0.46	1.32	1.31	0.99	0.99
Al ₂ O ₃	11.50	14.90	14.70	15.40	14.50	14.50	12.50	12.50	12.30	12.30
Fe ₂ O ₃	2.35	1.53	1.22	1.57	0.92	0.95	2.86	1.32	1.25	1.42
FeO	7.87	6.27	6.55	5.70	6.78	7.20	8.40	10.60	8.18	7.99
MnO	0.15	0.15	0.13	0.13	0.14	0.16	0.12	0.15	0.12	0.11
MgO	5.35	6.10	6.50	8.20	6.00	6.20	2.46	2.50	4.56	4.38
CaO	10.30	8.70	6.70	9.40	6.30	7.35	4.32	4.95	6.00	5.35
Na ₂ O	2.94	2.36	3.38	2.02	3.47	4.10	1.52	4.15	3.35	3.50
K ₂ O	0.74	2.66	1.73	2.30	2.04	1.10	3.70	0.02	2.06	0.47
P ₂ O ₅	0.10	0.06	0.05	0.05	0.06	0.06	0.15	0.13	0.13	0.11
H ₂ O[+]	1.83	2.51	2.38	2.95	2.32	2.37	3.04	2.96	2.36	3.20
H ₂ O[-]	0.26	0.24	0.22	0.31	0.28	0.27	0.32	0.22	0.24	0.36
CO ₂	1.24	0.06	0.08	0.08			1.54	3.50	1.62	2.84
TOTAL	100.23	100.17	100.08	99.98	100.17	100.02	99.75	100.21	100.16	99.52
Mg NUMBER	52.9	62.6	64.1	70.7	62.3	61.7	32.0	30.8	50.7	49.8
Ba ppm	218	848	511	806	605	423	1501	18	600	269
Rb	20	85	60	89	56	28	94		52	13
Sr	538	188	177	168	229	197	101	296	163	223
Pb	51	6	3	3	3	3	9	5	6	6
Th	6	3	4	3	4	5	8	9	8	8
U	1	1	1	1	1	1	2	2	1	2
Zr	129	70	74	54	73	74	173	180	147	150
Nb	4	2	2		3	2	6	7	6	6
Y	18	11	13	12	13	16	22	25	19	19
La	12	8	8	6	7	9	22	22	18	21
Ce	28	18	20	14	17	18	45	46	37	38
Sc	24	29	30	29	29	29	21	23	19	21
V	173	148	156	161	166	166	257	275	180	190
Cr		170				307			284	
Co	45		46		40		41	40		41
Ni	147	83	83	86	77	78	85	27	124	116
Cu	102	51	55	53	58	60	141	110	94	97
Zn	82	57	52	50	54	61	96	100	81	76
Ga	18	13	12	11	12	12	14	16	16	14
S	401	160	120	120	160	120	681	721	561	841

PLB111 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS

SAMPLE NUMBER	70033	70034	70035	70036	70037	70038	70040	70041	70042	70043
FORMATION	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics	Louden Volcanics
ROCK TYPE	TBP	variol TAP	TAP	TAP	Peridotite serp.PK	TD	Komatiite HMB	Komatiite HMB	Peridotite serpen.PK	TAP amygd
MAP COORDINATES	5836E6882N	5837E6881N	5839E6879N	5840E6878N	5841E6878N	5842E6877N	5844E6874N	5845E6873N	5846E6873N	5847E6872N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK	SHERLOCK
SiO ₂ %wt	54.90	55.20	56.20	55.60	40.60	53.20	52.90	53.50	41.80	56.70
TiO ₂	1.31	1.39	1.37	0.43	0.14	0.48	0.46	0.48	0.15	1.32
Al ₂ O ₃	12.40	13.20	12.90	14.80	4.04	13.80	10.40	13.00	4.58	12.40
Fe ₂ O ₃	1.61	1.51	2.55	1.40	5.74	2.59	0.74	1.10	5.04	1.55
FeO	10.70	10.40	10.30	6.50	3.83	7.12	7.88	8.01	4.15	9.94
MnO	0.15	0.14	0.15	0.14	0.14	0.15	0.12	0.16	0.14	0.13
MgO	2.38	2.16	2.48	6.15	32.60	7.45	8.65	8.90	31.60	3.14
CaO	5.55	5.05	3.68	8.10	2.76	8.20	5.55	7.00	3.24	4.22
Na ₂ O	2.80	4.04	3.00	2.99	0.04	2.16	1.57	2.38	0.06	3.02
K ₂ O	1.50	0.60	1.55	1.57	0.02	1.41	1.09	1.89	0.06	1.22
P ₂ O ₅	0.16	0.15	0.17	0.05	0.03	0.07	0.03	0.08	0.03	0.15
H ₂ O[+]	3.06	3.18	3.59	2.15	8.58	3.03	4.78	2.65	8.03	3.42
H ₂ O[-]	0.34	0.34	0.42	0.25	0.53	0.30	0.31	0.29	0.45	0.32
CO ₂	3.28	2.70	1.36		0.10		3.38	0.16	0.24	2.00
TOTAL	100.14	100.06	99.72	100.13	99.15	99.96	97.86	99.60	99.57	99.53
Mg NUMBER	29.1	27.8	29.2	62.4	88.4	62.3	68.0	67.5	88.4	36.7
Ba PPM	998	231	904	658	76	1034	943	614	93	498
Rb	34	13	32	48	9	46	25	51	14	27
Sr	210	89	152	246	11	212	65	169	29	151
Pb	14	9	14	5		2		3		8
Th	9	8	8	4		3	4	4		9
U	2	2	2	1		1	1	1		2
Zr	176	185	178	71	16	67	67	67	17	179
Nb	7	7	7	2		2	2	2		7
Y	24	24	24	13	4	15	14	14	4	26
La	24	24	24	8		8	8	9		23
Ce	46	49	50	18		19	15	16		45
Sc	23	23	22	29	13	31	32	30	14	22
V	269	301	284	151	74	182	199	175	80	270
Cr	8		8							6
Co		42					44		72	
Ni	27	27	27	84	1342	73	142	123	1367	28
Cl	104	92	94	51	19	67	59	58	22	101
Zn	104	86	109	62	26	40	64	72	23	96
Ga	17	21	18	13	3	11	11	10	4	17
S	601	801	681	120	80	40	320	521	200	1602

PLB112 - PILBARA/MONS CUPRI/LOUDEN VOLCANICS

SAMPLE NUMBER	70044	70045	70046
FORMATION	Louden Volcanics	LOUDEN VOLCANICS	Louden Volcanics
ROCK TYPE	TA veined	TA alter.	TBP carb. spherul
MAP COORDINATES	5849E6871N	5850E6870N	5851E6870N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK

	70044	70045	70046							
SiO ₂ wt	55.20	58.40	53.70							
TiO ₂	1.35	1.02	1.26							
Al ₂ O ₃	12.90	11.80	12.20							
Fe ₂ O ₃	2.73	7.28	1.82							
FeO	9.78	3.26	9.79							
MnO	0.13	0.11	0.17							
MgO	2.62	1.49	2.26							
CaO	4.36	14.70	5.05							
Na ₂ O	3.00	0.05	4.90							
K ₂ O	2.02									
P ₂ O ₅	0.13	0.12	0.16							
H ₂ O[+]	3.10	1.23	1.94							
H ₂ O[-]	0.38	0.25	0.22							
CO ₂	1.78	0.20	5.80							
TOTAL	99.48	99.91	99.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	31.0	24.1	29.3							
Ba PPM	756	24	53							
Rb	56	2								
Sr	154	236	255							
Pb	11	27	25							
Th	9	6	8							
U	2	1	1							
Zr	178	132	177							
Nb	6	5	7							
Y	25	20	25							
La	21	17	23							
Ce	45	37	45							
Sc	21	22	22							
V	254	193	269							
Cr		5								
Co	43		40							
Ni	36	21	29							
Cu	103	61	104							
Zn	103	48	98							
Ga	19	30	16							
S	801	120	1522							

PLB113 - PILEBARA/YANDICOOGINA/MT ROE BASALT

SAMPLE NUMBER	68946	68947	68950	68951	68952	68953	68954	68955	68956	68957
FORMATION	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	MT ROE BASALT	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt
ROCK TYPE	HMB hydr. cpx	TA hydr. 1-alk	TB hydr. carb.1-alk	TBA hydr. amygd	carb. carbonated	chlor.hydr basalt	TB hydr. carb.1-alk	TB hydr. carb.	TBA 1-alk hydr.	TB hydr.
MAP COORDINATES	2102E6269N	2104E6270N	2108E6272N	2110E6273N	2112E6273N	2114E6273N	2117E6274N	2117E6276N	2118E6278N	2119E6279N
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ %wt	50.10	57.90	45.00	49.60	46.20	34.30	41.40	46.90	47.30	49.90
TiO ₂	1.01	1.13	1.12	1.09	0.94	1.37	1.06	1.13	1.07	1.02
Al ₂ O ₃	11.50	12.20	14.00	12.80	11.00	19.60	12.00	12.40	12.00	12.60
Fe ₂ O ₃	1.31	1.03	0.81	0.65	0.33	1.81	0.25	0.79	0.64	0.74
FeO	10.70	15.00	11.60	10.20	9.51	28.60	11.80	9.46	10.40	9.68
MnO	0.18	0.09	0.11	0.13	0.18	0.05	0.18	0.16	0.15	0.13
MgO	8.35	3.72	2.50	4.74	5.50	4.72	3.84	5.15	5.45	5.35
CaO	8.65	1.23	10.20	7.60	8.65	0.42	13.30	9.75	8.85	8.05
Na ₂ O	2.52	0.20	0.76	2.34	0.82	0.05	0.22	2.48	1.88	2.66
K ₂ O		0.34	1.11	0.30	0.97		0.54		0.13	0.18
P ₂ O ₅	0.14	0.17	0.19	0.17	0.14	0.25	0.15	0.18	0.16	0.18
H ₂ O[+]	3.90	5.45	3.99	3.99	2.79	8.88	4.53	4.26	4.30	4.30
H ₂ O[-]			0.05	0.05						
CO ₂	1.82	1.34	8.10	6.45	12.50	0.10	10.20	7.35	7.55	5.30
TOTAL	100.18	99.90	99.54	100.11	99.53	100.15	99.47	100.01	99.88	100.09
Mg NUMBER	59.6	32.9	29.8	48.0	54.0	24.7	40.1	51.5	51.0	52.0
Ba PPM	125	112	618	141	441	54	335	63	91	86
Rb		7	36	9	29	2	21	2	6	5
Sr	528	44	186	398	269	19	215	270	310	332
Pb	3		3	6	3	27	5	6	4	3
Th	2	2	3	3	3	2		3		3
U			1							
Zr	131	141	159	154	132	180	132	144	133	145
Nb	4	4	5	5	4	6	4	4	4	4
Y	23	22	22	24	21	27	20	24	22	23
La	11	4	12	16	14	16	4	11	12	16
Ce	29	9	25	33	31	34	19	28	32	35
Sc	24	27	26	26	27	28	30	31	29	25
V	194	258	225	192	188	373	235	237	206	201
Cr	447	221	65	60	128	80	239	234	231	122
Co										
Ni	344	310	207	164	303	463	272	242	254	159
Cu	80	165	53	91	78	227	80	91	80	80
Zn	99	139	110	93	84	242	108	85	100	93
Ga	12	16	15	13	13	27	13	12	11	14
S	240	881	481	360	120	40	160	200	240	401

PLB114 - PILBARA/YANDICOOGINA/MT ROE BASALT

SAMPLE NUMBER	68958	68959	68960	68961	68962	68963	68964	68965	68966	68967
FORMATION	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt
ROCK TYPE	TB hydr.	TFA hydr. amygd	TAP hydr. carb.	TBP hydr. carb.	TB carb.	TB carb.	TBP hydr. carb.	TB	TB hydr. carbonated	TB carbonated
MAP COORDINATES	2120E6280N	2122E6280N	2122E6281N	2123E6282N	2125E6282N	2126E6283N	2127E6284N	2129E6284N	2130E6281N	2132E6282N
1:100 000 SHEET	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR	MT EDGAR
SiO ₂ wwt	50.90	47.60	55.50	49.40	51.50	52.40	53.90	48.70	53.30	51.90
TiO ₂	1.08	1.10	1.15	1.25	1.47	0.84	0.83	0.79	0.82	0.76
Al ₂ O ₃	13.50	13.60	12.90	14.50	12.70	12.70	13.20	13.30	13.60	12.80
Fe ₂ O ₃	2.24	0.73	1.40	1.29	1.32	0.44	0.38	0.68	0.33	0.68
FeO	8.96	10.50	8.82	8.83	8.35	7.88	7.71	7.98	7.76	8.48
MnO	0.15	0.15	0.15	0.14	0.16	0.12	0.11	0.13	0.08	0.13
MgO	4.70	3.18	2.34	2.34	1.90	3.76	4.30	2.78	2.50	3.68
CaO	8.60	8.50	5.25	7.20	8.05	6.55	6.15	9.55	7.70	6.55
Na ₂ O	3.34	3.20	3.89	3.06	2.70	2.26	2.56	3.60	3.62	2.76
K ₂ O	0.18	0.49	0.53	1.66	1.28	1.70	0.63	0.60	0.56	0.47
P ₂ O ₅	0.19	0.17	0.21	0.20	0.26	0.16	0.15	0.15	0.14	0.14
H ₂ O[+]	3.41	3.76	3.14	3.00	2.61	2.93	3.33	2.68	3.21	2.65
H ₂ O[-]				0.05					0.05	
CO ₂	2.35	6.55	4.50	6.85	7.50	8.45	6.45	8.95	6.15	8.60
TOTAL	99.60	99.53	99.78	99.77	99.80	100.19	99.70	99.89	99.82	99.60
Mg NUMBER	47.3	37.4	32.7	32.9	29.5	45.8	52.8	40.4	39.4	45.9
Ba PPM	367	264	260	657	496	762	439	350	317	346
Rb	2	16	20	52	40	58	24	22	21	22
Si	571	462	413	493	413	251	372	310	287	415
Pb	2	5	6	8	5	6	7	6	3	5
Th	2	3	7	5	8	5	6	4	5	6
U	1	1	1	1			1			
Zr	152	149	183	181	237	147	156	138	140	133
Nb	5	5	8	6	8	4	5	4	5	5
Y	25	24	29	27	34	20	21	19	19	18
La	16	18	26	22	32	19	21	16	12	15
Ce	38	38	53	46	62	42	44	34	31	37
Sc	22	27	23	19	22	23	22	25	24	23
V	192	208	194	149	184	175	165	177	179	165
Cr	62	56	17	56	53	54	80	88	99	93
Co										
Ni	167	153	62	108	49	81	69	89	97	89
Cu	84	81	91	103	95	55	52	54	60	52
Zn	95	98	95	95	103	79	76	83	81	79
Ga	14	13	16	18	17	15	15	14	15	14
S	160	280	401	280	481	240	240	160	120	200

PLB115 - PILBARA/GLEN HERRING/MT ROE BASALT

SAMPLE NUMBER	69016	69019	69021	69022	69023	69024	69025	69026	69027	69028
FORMATION	Mt Roe Basalt	MT ROE BASALT	Mt Roe Basalt	MT ROE BASALT	MT ROE BASALT	Mt Roe Basalt	MT ROE BASALT	Mt Roe Basalt	MT ROE BASALT	MT ROE BASALT
ROCK TYPE	TA doler hydr.1-alk	hydr.1-alk	BA hydr.carb.	hydr.carb.	hydr.	hydr.1-alk	carb.	TB carb.	carb.	carb.
MAP COORDINATES	7671E6357N	7670E6360N	7671E6362N	7672E6364N	7671E6366N	7672E6368N	7673E6371N	7674E6373N	7673E6375N	7672E6377N
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
SiO ₂ %wt	58.00	56.30	54.30	56.10	58.00	50.70	50.60	51.40	49.40	51.10
TiO ₂	1.53	0.75	0.71	0.72	0.74	0.79	0.68	0.69	0.68	0.69
Al ₂ O ₃	13.00	14.40	14.00	13.50	14.70	12.50	13.10	13.30	13.00	13.10
Fe ₂ O ₃	2.19	1.93	1.07	1.35	1.70	0.99	0.65	1.59	0.55	0.99
FeO	12.70	14.10	6.91	8.23	7.74	7.57	8.19	6.85	8.15	7.30
MnO	0.04	0.06	0.09	0.13	0.13	0.17	0.14	0.12	0.13	0.13
MgO	5.20	4.08	4.68	3.25	4.52	2.22	3.56	3.70	4.14	3.54
CaO	0.36	0.29	6.05	5.00	3.68	11.00	7.30	7.20	7.05	7.25
Na ₂ O	0.09	0.09	3.66	4.80	5.50	0.07	0.68	1.40	1.14	0.87
K ₂ O	0.71	1.32	0.55	0.11	0.19	2.26	1.84	1.15	1.15	1.75
P ₂ O ₅	0.15	0.17	0.14	0.13	0.13	0.14	0.11	0.11	0.12	0.12
H ₂ O+	5.63	5.65	3.58	3.35	3.00	3.37	2.47	2.55	2.62	2.68
H ₂ O-	0.18	0.16	0.17	0.14	0.08	0.12	0.17	0.14	0.10	0.15
CO ₂	0.08	0.08	4.30	3.20	0.20	8.00	10.30	9.80	11.00	10.30
TOTAL	99.86	99.38	100.21	100.01	100.31	99.90	99.79	100.10	99.23	99.97
Mg NUMBER	42.6	35.1	55.5	41.9	50.5	35.5	46.0	48.4	50.1	47.5
Ba PPM	147	254	229	132	139	367	1264	971	1033	814
Rb	19	37	19		3	68	80	46	46	69
Sr	15	12	165	203	445	128	203	436	387	336
Pb	16	7			2	7	4	8	6	6
Th		7	7	8	6	9	7	7	7	6
U		1		1	2	1	2	1	1	1
Zr	136	138	129	131	140	145	122	126	124	125
Nb	5	6	5	5	5	5	5	5	5	5
Y	14	23	19	20	19	19	17	18	17	17
La		8	17	16	22	25	23	22	23	22
Ce	4	21	34	37	47	45	48	48	45	46
Sc	27	21	26	21	21	24	23	25	22	23
V	351	227	209	189	192	191	191	184	187	186
Cr	29	20	19	18	18		12	12	12	12
Co	77	87	43	49	51	40	52	42	45	43
Ni	114	146	92	84	100	93	98	85	84	87
Cu	35	85	11	80	71	94	68	67	68	72
Zn	233	262	94	69	77	69	88	74	77	68
Ga	17	17	14	14	14	14	14	15	14	15
S	401	961	40	280	120	120	280	120	120	160

PLB116 - PILBARA/GLEN HERRING/MT ROE BASALT

SAMPLE NUMBER	69029	69030	69031	69032	69033	69034	69035	69036	69037	69038
FORMATION	Mt Roe Basalt	Mt Roe Basalt	MT ROE BASALT	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	Mt Roe Basalt	MT ROE BASALT	Mt Roe Basalt
ROCK TYPE	TB carb.	TAA hydr.sass.	TA hydr.	TB hydr. carb.	TBA hydr. carb.	TAA hydr. carb.	TB carb.	TBA carb.	basalt carb.	TBP hydr. carb.
MAP COORDINATES	7674E6378N	7676E6379N	7378E6377N	7680E6378N	7681E6380N	7680E6382N	7682E6383N	7683E6384N	7684E6385N	7685E6386N
1:100 000 SHEET	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR	MARBLE BAR
								50.40	44.50	51.90
SiO ₂ %wt	51.70	55.50	55.50	48.10	50.50	57.10	51.20	0.71	0.82	0.87
TiO ₂	0.70	0.75	0.66	0.80	0.74	0.72	0.70	13.50	14.50	14.30
Al ₂ O ₃	13.10	14.30	12.60	15.10	14.00	13.70	13.30	1.01	0.75	2.94
Fe ₂ O ₃	1.05	2.69	2.63	0.88	1.21	1.26	1.17	7.14	8.42	7.52
FeO	7.42	6.67	16.80	9.20	7.37	7.28	7.63	0.11	0.19	0.14
MnO	0.13	0.13	0.07	0.19	0.17	0.10	0.10	2.42	1.59	4.14
MgO	3.86	4.04	4.98	2.46	2.46	2.84	4.04	8.90	12.00	6.65
CaO	7.00	7.00	0.16	8.15	8.80	5.15	6.65	3.52	3.70	3.80
Na ₂ O	1.11	3.80	0.04	3.58	3.30	2.94	2.66	0.97	0.91	0.21
K ₂ O	1.37	0.13	0.44	1.10	1.23	1.19	1.38	0.12	0.13	0.15
P ₂ O ₅	0.11	0.12	0.09	0.14	0.12	0.13	0.11	2.50	2.74	3.31
H ₂ O[+]	2.65	3.03	6.00	3.55	3.11	3.18	2.75	0.08	0.09	0.05
H ₂ O[-]	0.10	0.05	0.12	0.07	0.06	0.07	0.11	8.20	9.55	4.05
CO ₂	9.80	1.60		6.20	6.55	3.80	7.80			
TOTAL	100.10	99.81	100.09	99.52	99.62	99.46	99.60	99.58	99.89	100.03
Mg NUMBER	49.2	48.2	35.3	34.0	37.9	41.4	49.4	38.7	26.8	46.1
Pa PPM	1077	1101	242	284	483	479	710	354	333	780
Rb	52	2	17	37	46	44	56	39	33	7
Sr	337	843	8	413	399	257	287	293	212	504
Pb	7	10		3	5	19	13	4	8	15
Th	9	9	7	9	9	8	9	9	9	7
U	1	1	1	1	1		2	1	1	2
Zr	171	142	123	144	137	133	135	137	156	162
Nb	4	5	5	6	5	5	5	6	5	6
Y	18	21	27	18	20	19	18	18	24	25
La	25	24	33	29	21	28	25	23	23	27
Ce	52	51	68	47	41	52	50	43	46	55
Sc	25	23	28	26	25	24	24	27	27	22
V	185	183	231	217	202	203	192	191	190	192
Cr	12	15	22		17	15	14	9	54	71
Co	44	48	41	47	48	46	45	41	46	45
Ni	83	90	151	98	101	81	77	79	85	88
Cu	71	78	39	79	91	83	75	70	89	108
Zn	73	75	116	79	72	84	73	129	89	80
Ga	15	14	13	17	16	15	16	15	14	16
S	200	240	80	120	200	120	120	160	240	80

PLB117 - PILBARA/GLEN HERRING/MT ROE BASALT

SAMPLE NUMBER	69039	69040								
FORMATION	Mt Roe	Mt Roe								
	Basalt	Basalt								
ROCK TYPE	TBP	TBP								
	carb.	carb.l-alk								
MAP COORDINATES	7685E6387N	7686E6388N								
1:100 000 SHEET	MARBLE BAR	MARBLE BAR								
SiO ₂ %wt	49.90	49.90								
TiO ₂	0.77	0.80								
Al ₂ O ₃	13.90	13.80								
Fe ₂ O ₃	0.59	0.71								
FeO	7.97	8.13								
MnO	0.11	0.13								
MgO	3.54	3.24								
CaO	7.20	7.15								
Na ₂ O	2.34	0.76								
K ₂ O	1.09	2.08								
P ₂ O ₅	0.13	0.13								
H ₂ O[+]	2.32	2.40								
H ₂ O[-]	0.05	0.27								
CO ₂	9.75	9.85								
TOTAL	99.66	99.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	46.6	43.6								
Ba PPM	490	731								
Rb	45	84								
Sr	340	244								
Pb	10	7								
Th	9	8								
U	2	1								
Zr	151	155								
Nb	6	6								
Y	22	22								
La	23	23								
Ce	44	47								
Sc	24	25								
V	175	180								
Cr	58	49								
Co	38	38								
Ni	82	77								
Cu	102	105								
Zn	74	73								
Ga	16	15								
S	80	120								

SAMPLE NUMBER	70078	70079	70080
FORMATION	Mt Roe	Mt Roe	Mt Roe
	Basalt	Basalt	Basalt
ROCK TYPE	TA	TA	TA
	hydr.sass	hydr.	hydr.
MAP COORDINATES	5963E6948N	5958E6936N	5952E6921N
1:100 000 SHEET	SHERLOCK	SHERLOCK	SHERLOCK

	wt	wt	wt							
SiO ₂	56.40	55.50	53.20							
TiO ₂	1.44	1.50	1.43							
Al ₂ O ₃	13.00	14.40	13.00							
Fe ₂ O ₃	2.58	0.82	0.85							
FeO	7.00	8.12	9.22							
MnO	0.16	0.13	0.15							
MgO	5.30	4.34	6.20							
CaO	5.50	4.66	6.80							
Na ₂ O	2.37	3.20	2.24							
K ₂ O	0.20	0.93	0.11							
P ₂ O ₅	0.47	0.47	0.68							
H ₂ O ⁺	3.89	3.62	3.60							
H ₂ O ⁻	0.24	0.34	0.38							
CO ₂	0.42	2.15	1.56							
TOTAL	98.97	100.18	99.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mg NUMBER	54.4	50.7	56.6							
Ba PPM	1116	802	457							
Rb	3	27								
Sr	2322	453	650							
Pb	16	3	14							
Th	6	8	7							
U	1	1								
Zr	310	365	224							
Nb	11	13	10							
Y	38	42	34							
La	55	53	79							
Ce	112	108	173							
Sc	18	19	23							
V	186	220	227							
Cr	291	222	37							
Co	32	41								
Ni	74	68	126							
Cu	24	9	25							
Zn	103	178	101							
Ga	9	15	12							
S	80	80	80							

FILE119 - PILBARA/HAYS CREEK/KYLENA BASALT

SAMPLE NUMBER	59187	59190	59191	59192	59193	59194	59195	59196	59198	59199
FORMATION	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt
ROCK TYPE	TBA hydr. amygd	TBP carb.hydr.	TB hydr.	TBA amygd	TBA amygd	TBA amygd	TBA amygd	TA	TBA amygd	TBA amygd
MAP COORDINATES	2640E5900N	2646E5900N	2651E5897N	2655E5894N	2659E5896N	2656E5899N	2660E5900N	2663E5899N	2666E5893N	2668E5898N
1:100 000 SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK
SiO ₂ %wt	53.50	51.50	54.10	53.40	53.20	53.60	54.30	53.10	53.60	53.30
TiO ₂	1.50	1.22	1.30	1.26	1.26	1.30	1.25	1.24	1.25	1.24
Al ₂ O ₃	13.90	13.00	13.80	13.80	13.80	13.40	13.80	13.90	14.00	13.90
Fe ₂ O ₃	1.30	0.93	0.98	1.14	2.03	1.50	1.30	1.39	1.75	1.38
FeO	9.18	9.24	9.11	8.96	8.07	8.73	8.82	8.47	8.50	8.78
MnO	0.14	0.13	0.13	0.14	0.14	0.12	0.15	0.14	0.14	0.14
MgO	3.16	4.54	4.86	4.84	4.50	4.94	4.92	4.48	4.78	4.96
CaO	5.75	6.75	6.50	6.85	8.05	7.10	6.90	7.95	7.60	7.25
Na ₂ O	3.32	3.16	3.32	2.82	2.18	2.94	2.48	2.24	2.44	2.54
K ₂ O	1.45	0.92	1.89	2.66	2.36	1.47	2.56	2.64	2.18	2.32
P ₂ O ₅	0.38	0.32	0.33	0.31	0.31	0.33	0.32	0.32	0.32	0.29
H ₂ O(+)	3.42	3.80	3.05	2.76	2.64	2.88	2.85	2.70	2.02	2.89
H ₂ O(-)	0.21	0.19	0.15	0.11	0.12	0.33	0.08	0.05	0.13	0.18
CO ₂	2.65	4.15	0.62	0.94	1.00	1.12	0.46	1.40	1.26	0.86
TOTAL	99.86	99.85	100.14	99.99	99.66	99.76	100.19	100.02	99.97	100.03
Mg NUMBER	39.0	48.6	50.5	50.4	48.8	50.7	50.8	49.1	49.9	50.9
B* PPM	474	284	563	792	598	287	657	821	596	676
Rb	57	37	77	104	92	54	103	103	86	89
Sr	169	59	103	166	267	112	202	204	198	176
Pb	3	2	12	9	9	3	14	7	5	6
Th	11	9	10	10	10	12	12	12	11	11
U	2	1	2	2	2	1	2	3	2	2
Zr	410	343	391	365	361	367	359	376	365	363
Nb	20	16	19	19	18	18	18	19	19	19
Y	50	43	45	45	45	43	45	45	45	45
La	49	32	45	44	45	41	43	44	41	43
Ce	93	65	88	86	89	85	84	87	81	85
Sc	26	24	25	25	26	26	25	27	26	25
V	259	213	225	222	213	219	219	214	212	209
Cr	32	27	38	40	41	39	41	38	41	38
Co										
Ni	42	43	49	48	47	52	47	49	51	54
Cu	64	22	44	38	42	56	46	47	37	37
Zn	82	66	84	81	87	83	89	81	75	90
Ga	16	14	13	16	16	14	17	15	15	16
S	200	1081	441	320	721	481	120	280	200	320

PLB120 - PILBARA/HAYS CREEK/KYLENA BASALT

SAMPLE NUMBER	59200	68904	68906	68907	68908	68909	68910	68911	68912	68913
FORMATION	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt
ROCK TYPE	TBA amygd	TBP amygd	TB	TAA amygd	TBA amygd	TBA amygd	TBA amygd	TAA amygd	TAA amygd	TAA amygd
MAP COORDINATES	2670E5897N	2671E5892N	2675E5888N	2675E5886N	2676E5881N	2677E5763N	2681E5870N	2683E5868N	2685E5867N	2677E5873N
1:100 000 SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK
SiO ₂ %wt	54.60	53.20	53.70	55.80	53.40	54.10	54.20	55.30	55.40	55.70
TiO ₂	1.22	1.15	1.17	1.14	1.14	1.23	1.18	1.15	1.14	1.13
Al ₂ O ₃	13.80	13.20	13.90	13.00	13.20	13.70	13.60	13.20	13.60	13.50
Fe ₂ O ₃	0.66	0.96	1.35	1.39	1.32	1.60	0.80	1.06	1.44	1.08
FeO	9.13	8.49	8.86	8.40	8.53	8.73	9.19	8.85	8.15	8.30
MnO	0.14	0.16	0.15	0.15	0.16	0.14	0.16	0.17	0.15	0.14
MgO	5.20	5.90	4.66	4.88	5.15	5.15	5.65	5.55	4.72	5.45
CaO	6.55	7.70	6.70	6.60	7.25	5.75	5.95	6.20	6.15	5.75
Na ₂ O	3.22	3.86	2.62	3.10	3.34	3.14	3.38	3.48	3.44	3.92
K ₂ O	1.68	1.47	2.72	1.60	1.89	2.26	2.38	1.90	1.64	1.84
P ₂ O ₅	0.29	0.28	0.27	0.27	0.26	0.29	0.27	0.26	0.27	0.26
H ₂ O[+]	2.86	2.54	2.76	2.67	2.55	2.97	2.52	2.66	2.79	2.58
H ₂ O[-]	0.26	0.32	0.27	0.38	0.32	0.26	0.41	0.29	0.30	0.26
CO ₂	0.61	0.98	1.02	0.66	1.44	0.58	0.52	0.34	0.82	3.40
TOTAL	100.22	100.21	100.15	100.04	99.95	99.90	100.21	100.41	100.01	100.31
Mg NUMBER	52.9	56.9	49.2	51.5	52.6	51.5	54.4	54.3	51.2	55.2
Ba PPM	558	546	808	287	680	654	749	637	403	453
Rb	65	58	105	55	75	88	95	75	67	69
Sr	158	86	151	121	150	115	113	147	149	64
Pb	1	7	8	16	8	3	5	4	7	24
Th	10	10	11	11	11	13	12	11	12	10
U	2	1	2	2	3	3	1	2	3	3
Zr	362	342	354	346	340	370	377	350	358	350
Nb	19	18	18	18	17	21	20	18	20	19
Y	44	43	46	43	44	51	47	47	48	44
La	42	39	45	42	45	55	47	41	47	37
Ce	84	79	85	82	85	105	93	83	89	79
Sc	26	25	27	26	26	28	26	23	26	24
V	218	204	212	209	208	229	217	211	206	208
Cr	29	31	35	18	29	20	25	22	30	17
Co										
Ni	41	46	42	51	75	45	39	38	41	46
Cu	34	33	36	67	53	41	42	41	34	59
Zn	71	69	60	98	125	80	68	72	78	75
Ga	17	12	15	14	13	13	13	13	15	13
S	120	80	441	80	120	80	80	40	280	120

PLB121 - PILBARA/HAYS CREEK/KYLENA BASALT

SAMPLE NUMBER	68914	68916	68917	68918	68919	68920	68921	68922	68923	68925
FORMATION	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt	Kylena Basalt
ROCK TYPE	TBA amygd	TBA amygd	TB	TBA amygd	TA hydr.	TAA amygd	TAA amygd	TAA amygd	TB hydr.	TAA amygd
MAP COORDINATES	2677E5868N	2678E5857N	2680E5857N	2682E5854N	2684E5851N	2687E5848N	2691E5847N	2695E5847N	2699E5849N	2703E5845N
1:100 000 SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK
SiO ₂ wt	53.80	53.80	54.80	53.90	55.80	55.70	55.10	55.30	52.40	55.40
TiO ₂	1.17	1.17	1.13	1.00	1.01	1.02	1.02	1.01	0.89	1.01
Al ₂ O ₃	13.40	13.40	13.60	13.70	13.90	13.60	13.60	13.80	12.20	13.70
Fe ₂ O ₃	1.75	1.75	1.82	1.40	1.51	1.55	1.72	1.61	8.54	2.00
FeO	7.96	7.96	8.17	8.77	8.27	8.32	7.90	8.00	6.80	7.65
MnO	0.13	0.13	0.14	0.18	0.13	0.14	0.14	0.14	0.32	0.14
MgO	4.20	4.20	4.54	6.10	4.71	4.82	4.16	4.04	3.76	3.74
CaO	7.15	7.15	6.50	6.10	5.30	5.90	7.05	6.75	5.55	6.80
Na ₂ O	3.22	3.22	3.52	3.98	3.80	3.44	3.00	3.06	2.92	2.78
K ₂ O	1.98	1.98	1.49	1.48	1.90	1.76	1.87	2.38	2.06	2.60
P ₂ O ₅	0.28	0.28	0.27	0.26	0.24	0.24	0.25	0.23	0.22	0.23
H ₂ O[+]	2.48	2.48	2.64	2.90	3.14	3.00	2.85	2.89	3.78	2.78
H ₂ O[-]	0.27	0.27	0.26	0.17			0.13		0.17	0.05
CO ₂	1.76	1.76	1.04	0.24	0.70	0.58	1.32	1.08	0.14	1.12
TOTAL	99.55	99.55	99.92	100.18	100.41	100.07	100.11	100.29	99.73	100.00
Mg NUMBER	48.0	48.0	49.2	56.0	50.6	51.0	48.0	47.3	35.2	45.3
Ba PPM	677	559	365	450	482	501	398	559	532	655
Rb	77	76	60	61	76	71	78	99	86	109
Sr	72	224	219	134	131	151	177	160	143	189
Pb	2	10	7	4	2	4	8	8	7	8
Th	13	13	13	11	12	11	13	14	14	14
U	3	1	2	2	2	2	2	3	3	3
Zr	406	357	362	341	352	353	365	373	334	374
Nb	23	20	20	18	20	21	20	22	20	24
Y	51	46	46	43	46	46	48	49	50	49
La	45	45	45	38	45	43	46	49	48	50
Ce	96	87	89	82	89	84	89	95	89	94
Sc	28	26	26	26	26	27	26	26	27	24
V	243	209	208	203	192	193	190	188	202	186
Cr		12	22	29	13	12	12	11	13	12
Co										
Ni	48	44	44	57	39	41	46	42	44	48
Cu	26	44	39	63	48	43	74	58	54	70
Zn	83	88	83	86	71	67	97	76	69	82
Ga	12	16	15	14	13	14	14	14	14	15
S	40	481	360	120	120	120	320	280	401	921

PLH122 - PILBARA/HAYS CREEK/KYLENA BASALT

SAMPLE NUMBER 68931
 FORMATION KYLENA
 Basalt
 ROCK TYPE TAA
 amygd
 MAP COORDINATES 2713E5837N
 1:100 000 SHEET EASTERN CK

SiO ₂	%wt	55.00
TiO ₂		0.92
Al ₂ O ₃		13.10
Fe ₂ O ₃		1.00
FeO		8.55
MnO		0.14
MgO		2.96
CaO		5.80
Na ₂ O		2.74
K ₂ O		2.30
P ₂ O ₅		0.20
H ₂ O[+]		3.20
H ₂ O[-]		0.05
CO ₂		4.15

TOTAL	100.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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Mg NUMBER 39.6

Ba	PPM	667
Rb		88
Sr		125
Pb		11
Th		14
U		3
Zr		34
Nb		20
Y		46
La		49
Ce		93
Sc		28
V		201
Cr		17
Co		
Ni		24
Cu		46
Zn		83
Ga		16
S		561

PLB123 - PILBARA/HAYS CREEK/NYMERINA BASALT

SAMPLE NUMBER	68935	68936	68937	68938	68940	68941	68942	68943	68944
FORMATION	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt	Nymerina Basalt
ROCK TYPE	TD carb.hydr.	TD carb.hydr.	TBA amygd	HMB amygd	TBA amygd	HMB carb.hydr.	HMB hydr.	HMB hydr.	HMB hydr.
MAP COORDINATES	2721E5832N	2723E5832N	2724E5830N	2727E5829N	2725E5822N	2727E5820N	2727E5814N	2727E5810N	2726E5805N
1:100 OOO SHEET	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK	EASTERN CK
SiO ₂ %wt	46.00	49.00	50.10	50.70	50.80	46.10	48.70	48.40	49.50
TiO ₂	1.68	1.67	1.44	1.45	1.66	1.38	1.21	1.22	1.21
Al ₂ O ₃	13.40	12.90	12.30	10.10	12.60	9.40	10.60	10.60	10.80
Fe ₂ O ₃	1.61	1.15	2.52	2.65	2.65	2.56	1.07	1.64	1.50
FeO	10.70	10.30	9.79	10.30	8.32	10.20	11.00	11.30	10.80
MnO	0.12	0.17	0.16	0.17	0.16	0.19	0.17	0.16	0.17
MgO	4.86	4.16	6.35	9.35	5.55	7.80	9.25	8.00	8.65
CaO	8.00	7.20	8.55	7.70	7.60	10.60	8.35	8.55	8.10
Na ₂ O	3.56	3.12	3.68	3.10	3.52	2.86	3.38	3.05	3.00
K ₂ O	0.57	1.16	0.38	0.57	1.54		0.26		0.12
P ₂ O ₅	0.25	0.26	0.23	0.23	0.26	0.23	0.16	0.15	0.15
H ₂ O[+]	4.27	3.90	2.76	3.27	2.90	3.53	3.96	4.21	4.08
H ₂ O[-]	0.13	0.10	0.14	0.13	0.09	0.11	0.11	0.13	0.07
CO ₂	4.75	4.25	1.66	0.42	2.35	5.15	1.68	2.65	1.94
TOTAL	99.90	99.34	100.06	100.14	100.00	100.11	99.90	100.06	100.09
Mg NUMBER	45.6	43.5	52.5	60.7	52.1	56.7	61.8	56.8	59.9
Ba PPM	121	245	152	483	1526	47	237	56	175
Rb	16	28	7	12	31		4		3
Sr	150	199	701	254	1025	352	265	212	238
Pb	2	12	2	2	2	2	2		2
Th	2	4							
U					1	1			
Zr	172	184	142	144	169	140	107	107	106
Nb	14	14	7	7	7	6	5	5	6
Y	25	27	26	23	25	22	20	20	22
La	26	27	20	21	21	18	10	8	10
Ce	57	58	47	45	53	37	23	19	24
Sc	16	18	29	30	25	31	29	29	30
V	209	201	240	252	232	242	240	254	243
Cr	73	47	304	898	254	759	808	862	860
Co									
Ni	129	92	164	292	96	281	265	291	268
Cu	137	130	91	136	169	114	89	70	84
Zn	220	157	106	100	77	88	93	96	92
Ga	15	14	14	14	13	13	12	13	13
S	721	441	240	40	200	200	320	360	200

0.00

[illegible]

PLB125 - COOYA POOYA "DOLERITE" [Mt ROE BASALT]

SAMPLE NUMBER 83330098
FORMATION CooyaPooya
"Dolerite"
ROCK TYPE TB

MAP COORDINATES 085784
1:100 000 SHEET ROEBOURNE

SiO ₂	%wt	53.58
TiO ₂		0.57
Al ₂ O ₃		14.82
Fe ₂ O ₃		1.47
FeO		6.97
MnO		0.12
MgO		6.63
CaO		8.21
Na ₂ O		1.94
K ₂ O		1.35
P ₂ O ₅		0.09
H ₂ O[+]		3.54
H ₂ O[-]		
CO ₂		

TOTAL	99.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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Mg NUMBER	62.6
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Ba	PPM	230
Rb		59
Sr		243
Pb		8
Th		5
U		1
Zr		82
Nb		4
Y		13
La		12
Ce		25
Sc		24
V		136
Cr		244
Co		
Ni		94
Cu		59
Zn		64
Ga		13
S		