Natural Environment Research Council

BRITISH GEOLOGICAL SURVEY

Mineral Reconnaissance Programme Report

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No. 76

Disseminated molybdenum mineralisation in the Etive plutonic complex in the western Highlands of Scotland.

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Disseminated molybdenum mineralisation in the Etive plutonic complex in the western Highlands of Scotland.

Geochemistry
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with a contribution on fluid inclusions
by M. F. Miller

A report prepared for the Department of Trade and Industry

Keyworth, Nottinghamshire 1985

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76 Disseminated molybdenum mineralisation in the Etive plutonic complex in the western Highlands of Scotland

On 1 January 1984 the Institute of Geological Sciences was renamed the British Geological Survey. It continues to carry out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as its basic research projects; it also undertakes programmes of British technical aid in geology in developing countries as arranged by the Overseas Development Administration.

The British Geological Survey is a component body of the Natural Environment Research Council.

Bibliographic reference
Haslam, H. W., and **Cameron, D. G.** 1985. Disseminated molybdenum mineralisation in the Etive plutonic complex in the western Highlands of Scotland. *Mineral Reconnaissance Programme Rep. Br. Geol. Surv.*, No. 76.

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SUMMARY

Molybdenite, mainly in quartz veinlets, occurs over an area about 5 km in diameter within the Central Starav Granite. Although selected samples of mineralised rock have been shown to contain up to 0.9% Mo, incidence of sulphide mineral is too sparse, even in the best areas, for a meaningful estimate of tenor to be given. Molybdenite is usually accompanied by pyrite. Chalcopyrite and scheelite are also widespread, though less common. Mild hydrothermal alteration accompanies the mineralisation, but there is no pervasive or zoned alteration, nor is there any K or Rb metasomatism. It is suggested that the ore minerals were deposited from hydrothermal fluids which, for lack of any structural or physico-chemical constraints, circulated freely throughout a large volume of rock with the consequence that the ore minerals are widely dispersed.

Within the central mineralised area, the Central Starav Granite is more evolved in composition below 650 m than above that altitude, suggesting that present exposure may be near the original roof of the intrusion. Most of the molybdenite mineralisation lies below 650 m and the CO_2 contents of fluid inclusions are generally higher at higher altitudes.

A drainage geochemical survey, covering most of the Etive plutonic complex, involved the collection and chemical analysis of 428 stream sediments and panned concentrates. The highest concentrations of Mo in stream sediment (40 - 120 ppm) came from streams draining the central mineralised area and only this area was examined in detail.

The investigation provided no evidence for the existence of exploitable mineral deposits at surface or for their prediction in depth. The possible extent of the mineralised body at depth can only be tested by drilling, but it is suggested that further examination of exposures, collection of additional samples of vein quartz for fluid inclusion studies, and an Induced Polarisation survey would provide more information about mineralisation at and near the surface and might help to define a target for drilling.

INTRODUCTION

The Etive igneous complex occupies about 300 km^2 around the head of Loch Etive, Argyll. It is an area of rugged terrain, and includes the peaks of Ben Cruachan (1126 m) in the south and Ben Starav (1078 m) near the centre. Part of the area under investigation is forested, but most of the ground provides rough grazing for deer and, in some parts, for sheep.

Attention was drawn to Etive partly by its geological similarity with the Ballachulish complex, in which Cu-Mo-W mineralisation had been investigated (Haslam and Kimbell, 1981), and partly by high values of Mo found in stream sediments collected in the course of the Regional Geochemical Reconnaissance Programme, from which sets of provisional data were released for purchase in 1979. Samples with the highest Mo values (20-50 ppm) came mostly from the central part of the complex, around Ben Starav, but some values over 20 ppm were derived from other parts of the area. A few high Cu values (up to 115 ppm) were also recorded from the central area, and some additional XRF determinations showed W values of up to 35 ppm.

The investigations described in this report comprised a high-density geochemical drainage survey and an examination, in the field and the laboratory, of mineralised and related rock types.

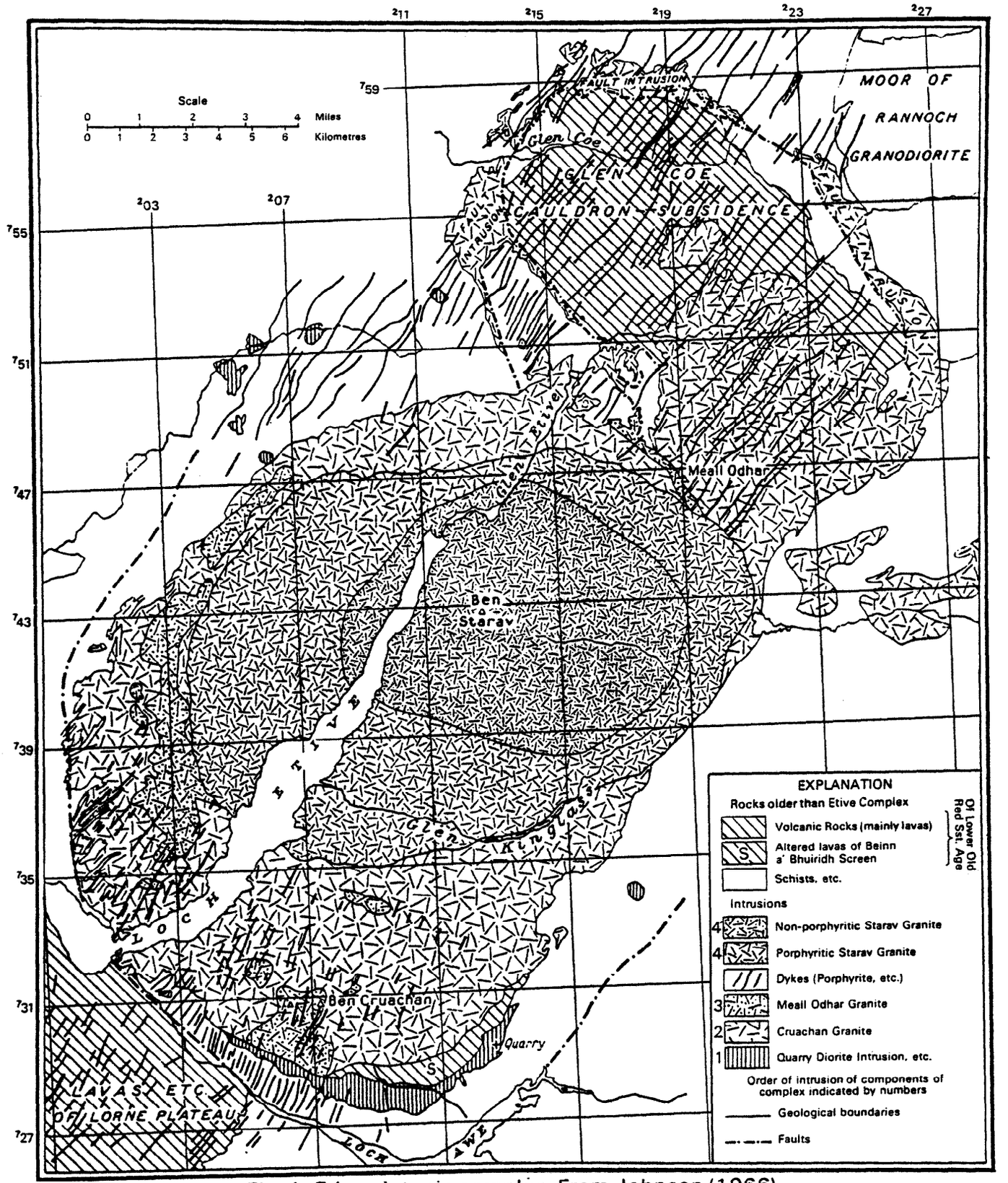

Fig. 1. Etive plutonic complex. From Johnson (1966).

GEOLOGY

The Etive igneous complex (Figure 1) is a late (post-tectonic) discordant intrusive complex emplaced at a high level (Read, 1961; Plant and others, 1980) about 400 Ma ago. It has been described by Kynaston and Hill (1908), Bailey and Maufe (1960) (the northern part), and Anderson (1937). Recent geochemical studies have been made by Brown (1975) and Clayburn and others (1983). The last-named authors summarised the geology of the complex as follows:- "The earliest intrusive phase is the Quarry Intrusion, a small lens of diorite and quartz diorite which outcrops at the south-eastern margin of the complex between the altered Beinn a'Bhuiridh andesite screen and the local Dalradian metasedimentary country rock. The Cruachan Granite is the oldest major phase of the Etive complex. It is compositionally heterogeneous, ranging from a fine-grained tonalite in the southern lobe, where xenoliths of Dalradian quartzite and schist are common, to a coarse-grained biotite-hornblende granodiorite in the northern lobe. In the north-east the Cruachan Granite merges concordantly into the finer-grained Fault Intrusion, a heterogeneous series of magmas injected along the Glen Coe ring fault. The next phase of the complex to be emplaced was the Meall Odhar Granite, a pink K-feldspar and quartz granite which occurs only within the outcrop of the Cruachan intrusion as a series of sheet and dyke intrusions. Penecontemporaneous with the intrusion of the Meall Odhar Granite was the injection of a suite of north-east-trending porphyrite dykes which cut across the early phases of the plutonic complex. The centre of the Etive complex is composed of two concentric granites, the outer Porphyritic Starav Granite and the inner leucocratic Central Starav Granite".

The Central Starav Granite is typically of coarse grain size (most grains between 1.5 and 3 mm in diameter) but throughout most of its outcrop there are large and small areas of medium-grained granite (grains mostly 0.25 to 1 mm). Intermediate textures are also common. Intermingling of these types is too complex to enable the boundaries to be delineated at an acceptable scale of mapping, a conclusion evidently also reached by Kynaston who mapped this part of the Oban sheet (sheet 45). It is only near the outer margin of the Central Starav Granite, where it merges gradually into the surrounding Porphyritic Starav Granite, that the finer-textured varieties are absent.

The Central Starav Granite contains, in addition to quartz, about equal amounts of oligoclase and alkali feldspar (orthoclase microperthite). Biotite generally shows partial alteration to chlorite, and in some specimens to muscovite. White mica has also formed at the expense of plagioclase, and occurs rarely as an apparently primary phase. Ilmenite (partially altered to leucoxene) and magnetite (partially altered to hematite) are generally present as accessory minerals; apatite and zircon are quite common; and sphene is present in some samples (commoner near the outer margin of the intrusion than centrally). Monazite and allanite are rare (XDR 389). Epidote occurs rarely as partial replacement of biotite. Disseminated pyrite or goethitic alteration products are sometimes present, and chalcopyrite and pyrrhotite occur rarely. The finer-grained varieties are generally more leucocratic.

Aplite dykes occur within the Central Starav Granite. No pegmatite veins were observed in this survey, but coarse, pegmatitic patches, mostly <1 m in dimension, are quite common.

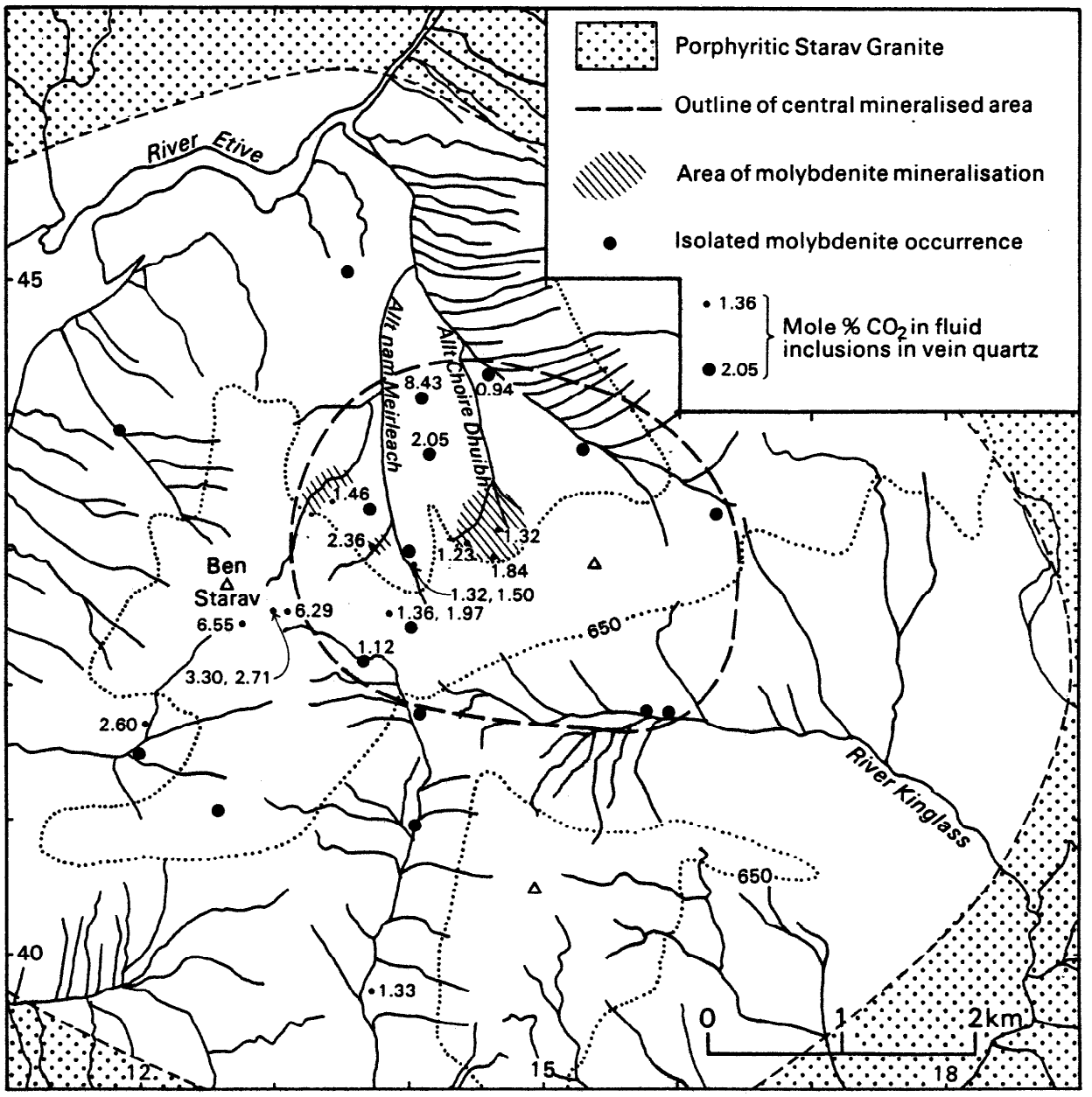

Fig. 2. Distribution of observed outcropping molybdenite mineralisation in the Central Starav Granite, shown in relation to the 650m contour. Fluid-inclusion CO_2 contents are also shown.

Narrow quartz veinlets, some of which are sulphide-bearing, are described below. There are, in addition, wider veins of milky quartz, 1 m or more in width, in the vicinity of Ben Starav, trending approximately E-W. A thin coating on the surface of a quartz grain within one such vein (XDR 350) was identified (XRD) as rutile.

Fractures and joints are numerous in the Central Starav Granite, both near-vertical and shallow-dipping. Trends vary from one part of the granite to another, and no predominant directions were apparent. These field observations were confirmed by a study of the air photographs carried out by Dr B J Amos and Mr F Habgood. A major NNE-trending fault, followed by Loch Etive and the River Etive, passes about 4 km NW of Ben Starav.

MINERALISATION

The principal ore mineral of interest is molybdenite. It has been identified at outcrop, sparsely dispersed over an area nearly 5 km in diameter (Figure 2) in the middle of the Central Starav Granite. The molybdenite mineralisation tends to be best developed towards the centre of this area and at lower altitudes, most exposures being at altitudes between 350 and 650 m OD.

Most of the observed molybdenite occurrences are isolated, but there is a higher incidence of molybdenite-bearing rock in three areas (Figure 2): in Choire Dhuibh around [145 432], and in two tributaries of Allt nam Meirleach, around [134 435] and [137 430]. Even in these areas the distribution of molybdenite is much too sparse to enable a meaningful Mo tenor to be assigned to any mass of rock larger than a few kilograms.

The molybdenite occurs mainly in association with quartz veins of varying size and on fracture surfaces, but a few examples of sparse disseminations have been observed. Most of the quartz veinlets, which are up to 1 cm wide, are nearly vertical, but some have shallower dips and some are almost horizonal. Most of the mineralised veinlets have a trend between 300° and 40°, E-W trends being rare, but this does not apply to fractures or unmineralised veinlets, which show no dominant trend. Molybdenite typically occurs at the margins of the veins, pyrite and copper minerals (where present) being more widely dispersed within the veins and in the surrounding granite. Sericitisation is commonly associated with the mineralisation, and white mica often accompanies molybdenite. Quartz veins are sometimes bounded by coarse muscovite.

Molybdenite is generally accompanied by pyrite, and this mineral is more widespread than molybdenite. Other ore minerals are less common, chalcopyrite being the commonest copper mineral. Covellite, replacing chalcopyrite is rare. Bornite and malachite are also rare, and a trace of brochantite was identified (XRD) with malachite and covellite in a stream boulder (XDR 397) from Allt Hallater. Pyrrhotite is rare, as is galena. Ferrimolybdite was seen as an alteration product of molybdenite in a stream boulder (XDR 375) in Allt Choire Dhuibh (confirmed by XRD as fully hydrated ferrimolybdite). Another boulder from the same area (XDR 316) contained quite abundant chalcocite and covellite with pyrite and rare bornite but no chalcopyrite. Scheelite occurs in some specimens, and appears to account for nearly all the tungsten in the rocks.

Examination of panned concentrates from stream sediments within the mineralised area (see below) showed the presence of wulfenite, wolframite, bismutite and vanadinite, none of which was identified in bedrock samples.

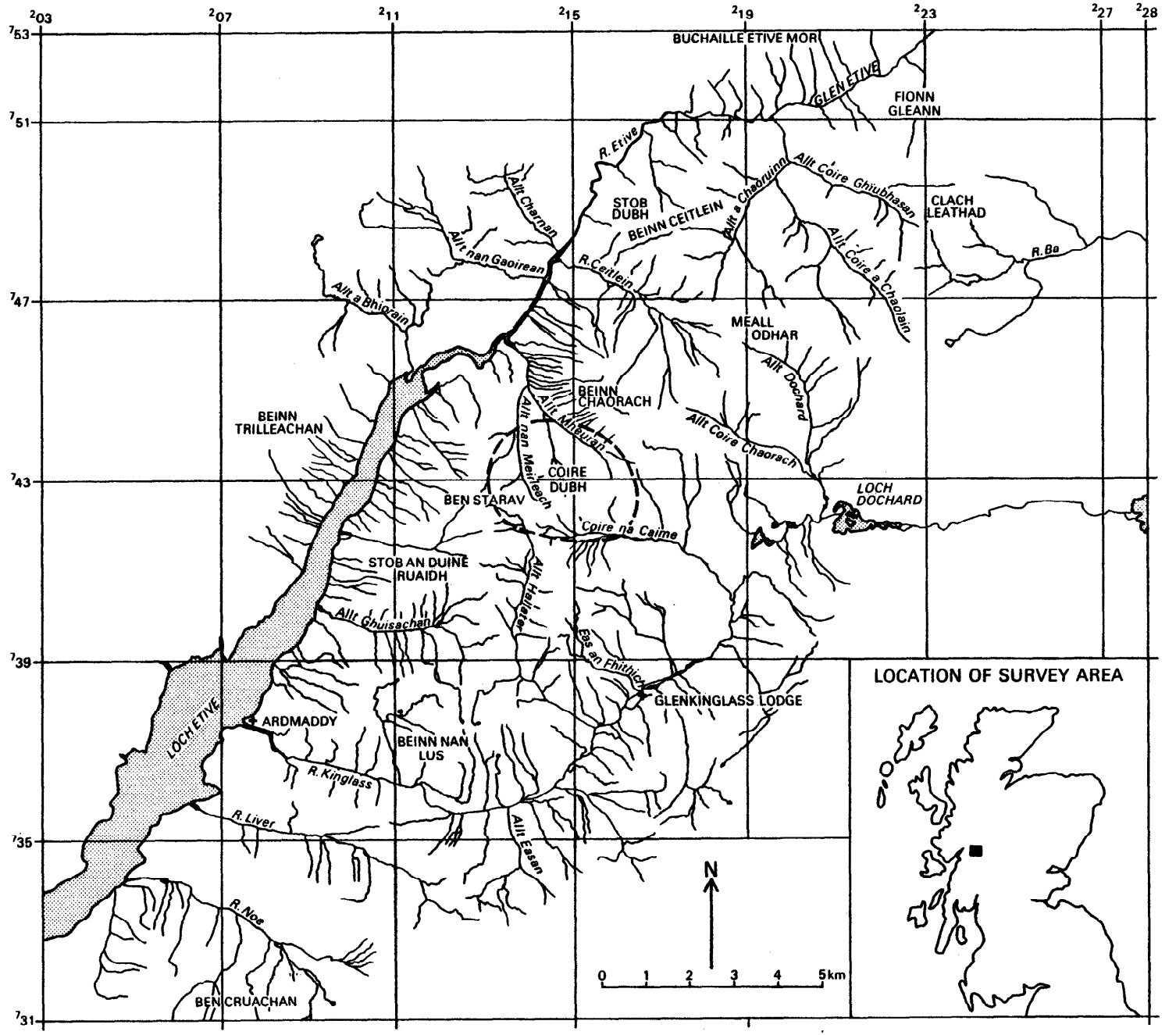

Fig. 3. Area of geochemical drainage survey. The central mineralised area is outlined.

Baryte also occurs in stream detritus (e.g. XDR 314) but was not found in outcrop. Scheelite is frequent in panned concentrates though uncommon in outcrop.

Mineralised rock tends to be more susceptible to alteration than that lacking mineralisation features, white mica and chlorite being the main alteration products. The intensity of alteration is nowhere great, however, nor is there any indication that pervasive alteration delineates the most highly mineralised areas. Sample XDR 439 from Choire Dhuibh, 2 m from a molybdenite-bearing quartz vein, for example, is relatively unaltered.

The zonation of alteration commonly associated with porphyry-style deposits is not observed at Etive. The alteration suffered by the Central Starav Granite can be attributed to two processes. The first is a pervasive mild hydrothermal process accompanying post-consolidation cooling, producing alteration similar to that commonly seen in granitic rocks generally and represented mainly by chloritisation of biotite and sericitisation of plagioclase. The second alteration process is associated with the sulphide mineralisation and is restricted to the immediate vicinity of the veins. Its effects are similar to those of the pervasive alteration but the intensity is greater and, in particular, the development of muscovite at the expense of biotite, which is rare in unmineralised samples, is common in the mineralised material.

DRAINAGE GEOCHEMICAL SURVEY

A geochemical drainage survey of the Glen Etive, Ben Starav and Glen Kinglass areas involved the collection of samples from 428 sites (Figure 3). At each site, a minus 100-mesh stream sediment and a minus 8-mesh panned concentrate were collected. These were dried, and a subsample of the minus 100-mesh stream sediment was analysed at a field base for molybdenum, using a wet chemical method (Peachey and others, in preparation). These molybdenum results made it possible to identify areas for geological inspection and collection of rock samples during the course of the same survey.

In the laboratory, samples of both types were disaggregated and ground for the preparation of pellets for analysis by X-ray fluorescence spectrometry (XRF). Each sample was analysed for 28 elements and the tabulated results are shown on fiche (Appendix 1). Selected concentrates were examined under the microscope in order to identify the host for certain elements. XRF, XRD and electron microprobe were used to support the optical examination.

Results

Summary statistics are presented in Table 1, correlation coefficients in Table 2 and R-mode factor analysis in Table 3.

Cumulative frequency distribution graphs and histograms were plotted to examine the frequency distribution of each element. Correlation matrices and R-mode cluster and factor analyses were also produced to study inter-element relationships. Although all elements were used in the correlation matrix, elements with fewer than 50% of results above detection limit were excluded from the cluster and factor analyses. Additionally, size limits on the programmes used meant that only 39 elements were used in the factor analysis. All elements were log transformed prior to analysis

Table 1 Summary statistics (in ppm), 428 analysed stream sediments and panned concentrate samples

Stream sediments	Min.	Max.	Median	Arithmetic Mean	Standard deviation	Geometric Mean	Geometric mean + geo. deviation	Geometric mean + 2 geo. deviation	Detection limit
Ce	24	148	66	68.7	21.6	65.4	89.8	123.4	17
Ba	143	1985	555	565	238.2	515.7	802.4	1248.5	13
Sb *	<8	10	-	-	-	-	-	-	8
Sn	<7	15	-	-	-	-	-	-	7
Pb	22	364	85	91.8	46.1	82.2	131.2	209.3	4
Zn	9	502	97	113	69.9	95.6	171.2	306.5	1
Cu	<2	226	6	11.4	22.5	5.3	17.3	57.0	2
Ca	1920	28720	8850	9396.3	5591	7870.7	14454.8	26546.9	-
Ni	<1	131	14	16.4	16.3	10.4	29.9	86.1	1
Ag *	<3	6	-	-	-	-	-	-	3
U	<3	191	16	21.1	23.3	13	37.2	106.2	3
Rb	35	376	108	115.9	48	106.3	162.4	248.1	1
Th	3	83	20	21.2	11.2	18.6	31.3	52.6	3
Nb	10	55	21	21.6	5.8	20.8	27.2	35.6	3
Sr	72	828	302	303.2	142.9	268.7	447.9	746.8	1
Zr	7	3767	624	787.3	550.5	647.7	1217.3	2287.7	2
Y	8	41	18	18.7	6.2	17.7	24.3	33.3	2
Mo	<2	120	5	11	16.8	5.4	16.8	52.2	2
Fe	2300	160400	32400	38502.1	24885	31831.7	59959.7	11294.3	-
Mn	20	17190	1180	1663.9	1632.3	1224.7	2636.4	5675.6	-
Ti	1410	11680	4900	4991.3	2200.9	4502.2	7168.4	11413.5	-
V	10	220	80	78.6	40.4	67.6	121.8	219.7	10
Cr	<10	300	30	39.4	35.6	27.3	67.3	166	10
Co	< 2	90	16	17.7	12.5	13.8	29.2	62	2
La	20	120	50	50.3	14	48.5	63.6	83.4	3
As	< 2	36	8	9	5	7.7	14.2	26.5	2
W	< 3	53	6	8.8	7.8	6.4	14.1	31	3
Bi*	< 2	12	-	-	-	-	-	-	2
Panned concentrate									
Ce	<17	1077	130	200.3	184.5	138.2	330	788	17
Ba	97	74800	507	777.4	3784.0	475.8	904.5	1719.5	13
Sb*	< 8	30	-	-	-	-	-	-	8
Sn*	< 7	35	-	-	-	-	-	-	7
Pb	7	401	27	32.9	27.1	28.9	45	69.9	4
Zn	5	1335	43	56	72	41.9	88	184.4	1
Cu	< 2	104	3	7.5	11.8	3.5	11.6	38.1	2
Ca	1200	41190	8820	10509.4	8261.8	7664.9	17559.1	40225.7	-
Ni	< 1	84	11	13.3	12.7	7	26.9	103.2	1
Ag *	< 3	18	-	-	-	-	-	-	3
U	< 3	79	6	8.5	8.6	5.8	13.9	35.6	3
Rb	2	210	92	89.9	34.7	81.5	133.4	218.4	1
Th	3	407	23	32.3	33.8	22.9	51.8	117.1	3
Nb	6	605	65	85.3	78.7	61.7	139.9	317.6	3
Sr	50	1878	256	271.2	167.6	224.9	424.5	801.5	1
Zr	25	7852	501	811.2	946.1	497.7	1349	3656	2
Y	3	237	35	51.3	42.2	37.7	83.7	185.6	2
Mo	< 2	78	2	4.2	8.1	2.3	5.7	14.5	2
Fe	2500	446300	33100	64419.7	73183.6	36071.6	109942.5	335093.1	-
Mn	170	7990	820	1199.2	1053	894.9	1882.6	3960.6	-
Ti	1410	81000	8220	11704.1	10940.3	8541.1	18387.1	39583.4	-
V	<10	2030	80	152.4	198.5	79	263.3	878.0	10
Cr	<10	710	40	68.4	80.6	36.8	119.7	390.2	10
Co	< 2	217	10	21	27.2	10.3	36.5	128.9	2
La	< 3	470	70	89.8	73.4	66.1	148.3	332.9	3
As *	< 2	26	-	-	-	-	-	-	2
W	< 3	523	10	28.7	58.3	12.2	40.17	132.4	3
Bi*	< 2	152	-	-	-	-	-	-	2

* Elements with > 50% of values below detection limit

in order to reduce skewness. The results were treated with caution and high significance levels set before interpretation in order to reduce any effects from highly truncated variables in the correlation matrices.

Results for individual samples were plotted on site-value maps (e.g. Figures 4-6). Hand-contoured greyscale moving average maps were plotted to show broad spatial patterns in the element distributions, and figure-field plots were also produced for most elements. Both types of maps are created using moving average algorithms, the former with up to 10 classes based on percentile division and the latter with 5 classes, again based on a percentile division. The figure-field uses less interpolation and is spatially closer to the limits of the survey area. The averaging in the greyscale maps gives a much smoother map than the figure field, and isolated high and low values are more readily obscured. The greyscale and figure-field, and the averaged values shown on them, were used in the descriptions of the spatial distribution of each element (see below).

Examination of the greyscale and figure-field maps shows that most element distributions are spatially related to fundamental petrogenetic variations in the underlying rock type, and this is confirmed by the factor analysis (Table 3), in which the first factor represents the gradation from less evolved to more evolved granite. Other factors to which geochemical variation is related (Table 3) are:-

1. Mineralisation. Cu_{sp}, Mo_p, Pb_p and Zn_p form one factor and Mo_s another.* The first of these is due to selective concentration of heavy mineral phases in panned samples. Molybdenite, a flaky mineral, is not concentrated by the panning process, but Mo registers strongly in the fine sediment. Baryte accounts for a factor containing Ba_{sp} and Sr_{sp} (not shown in Table 3). In addition, Ba in baryte-free samples is related to the bedrock composition, being higher over the less evolved rocks.

2. Hydrous oxide precipitates. The fine sediments (but not the concentrates) contain hydrous oxides of Mn and Fe, on which Pb, Zn, Co and U are precipitated.

3. Magnetite and ilmenite. Magnetite appears to be included in the "less-evolved granite" factor, while ilmenite shows as a separate factor involving Mn_p, Ti_p and Nb_p. The magnetite is the host for V_{sp}, Co_{sp}, Ni_{sp}, Cr_{sp} and Fe_{sp}.

4. Zircon and sphene. Ce_p, Th_p, Y_p, U_p, Nb_p, La_p and Ti_p are contained in sphene and zircon. They feature in the "less-evolved granite" factor, as well as defining a distinct factor. Ce, Y and La appear to reside principally in sphene, and this mineral also accounts for much of the Nb and some of the Zn and Sn, but there is a considerable range in sphene compositions. Sphene grains in two concentrates were analysed by electron microprobe for Nb, La and Ce. In XDP 133 from [1414 4533] in the Allt Mheuran (590 ppm Nb, 150 ppm La, 320 ppm Ce), four sphene grains gave 1000-1600 ppm Nb, 2700-3900 ppm La and 9000-13000 ppm Ce. In XDP 422 from [0609 3381] in Glen Noe (180 ppm Nb, 370 ppm La and 1000 ppm Ce), four sphene grains gave 320-820 ppm Nb and six grains gave 2600-5700 ppm La and 5000-16000 ppm Ce. XRF analyses of sphene concentrates from XDP 127 [1462 4326] indicated

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* The subscripts s and p are used to denote sediment and concentrate samples.

Table 2 Inter-element correlation coefficients (log transformed data) for 428 stream sediment and panned concentrate samples

	0.5 - 0.59	0.6 - 0.69	0.7 - 0.79	0.8 - 0.89	0.9 - 1.0
Ce_s		La_s			
Ba_s	$^{-}Rb_p$, $^{-}Pb_s$, Y_s, Fe_s, Co_p, $^{-}W_s$, $^{-}Mo_s$, Rb_s, Th_s	V_p, Cr_p, Cr_s, $^{-}U_s$, Ni_s, Co_s	V_s, Ni_p, Ca_p, Ca_s, Ti_s, Sr_p	Sr_s	
Sb_s					
Sn_s					
Pb_s	$^{-}Sr_s$, $^{-}Ba_s$	U_s, As_s			
Zn_s	Ni_s, Co_s	Mn_s			
Cu_s	Mo_p	Cu_p			
Ca_s	Y_s, Y_p, $^{-}Mo_s$, Co_p	V_p, $^{-}U_s$, $^{-}W_s$, Cr_p	$^{-}Th_s$, Ni_p, Co_s, Cr_s, Ba_s, Fe_s, $^{-}Rb_p$, Ni_s	Sr_p, $^{-}Rb_s$, V_s	Ca_p, Sr_s Ti_s
Ni_s	Zn_s, $^{-}Mo_s$, $^{-}Rb_s$, $^{-}W_s$, Co_p, V_p	Fe_s, Ba_s	Sr_p, Cr_p, Co_s, Ni_p, Ca_p, Sr_s, Ca_s	V_s, Ti_s	Cr_s
Ag_s					
U_s	$^{-}Ni_p$, Rb_p, $^{-}Sr_p$, $^{-}Ti_s$, Rb_s	Pb_s, $^{-}Sr_s$, $^{-}Ba_s$, Th_s, $^{-}Ca_p$, $^{-}Ca_s$			
Rb_s	$^{-}V_p$, $^{-}Zr_p$, $^{-}Ba_s$, $^{-}Ni_p$, Ni_s, $^{-}Cr_s$ $^{-}Cr_p$, $^{-}Y_p$, U_s, Nb_s, W_s	$^{-}Co_s$	$^{-}Sr_p$, $^{-}Ti_s$, $^{-}Sr_s$, Rb_p, $^{-}Fe_s$, $^{-}V_s$	$-Ca_p$, Ca_p $^{-}Ca_s$ Th_s	
Th_s	$^{-}Cr_s$, $^{-}Ni_s$, U_p, $^{-}Ba_s$, $^{-}Co_s$, $^{-}Fe_s$ W_s	Rb_p, $^{-}Ti_s$, $^{-}Sr_p$, Nb_s, $^{-}Ca_p$, $^{-}V_s$, U_s, $^{-}Sr_s$	$^{-}Ca_s$	Rb_s	
Nb_s	$^{-}Sr_p$, Rb_s	Th_s			
Sr_s	$^{-}Pb_s$, Y_p, Co_p, V_p, Fe_s	$^{-}Mo_s$, Cr_p, $^{-}Rb_p$, Cr_s, $^{-}Th_s$, $^{-}W_p$, $^{-}U_s$, Co_s	Ni_p, $^{-}Rb_s$, V_s Ni_s	Ti_s, Ca_p, Ba_s, Sr_p	Ca_s
Zr_s	Ce_p, $^{-}Rb_p$, Ca_p, Y_p, Zr_p				
Y_s	Ca_p, Ti_s, Cr_{sp}, Co_p, Ni_p, V_p, Ca_s, Ba_s, Ce_s				
Mo_s	$^{-}Cr_p$, $_Ba_s$, $^{-}Ca_{sp}$, $^{-}Cr_s$, $^{-}Sr_p$, W_s, $^{-}Ti_s$, $^{-}V_s$, $^{-}Ni_{sp}$	$^{-}Sr_s$			
Fe_s	Co_p, $^{-}W_s$, V_p, Cr_p, Ba_s, Sr_{sp}, Ni_p, $^{-}Th_s$, $^{-}Rb_p$	Cr_s, Ni_s, Ca_p	Ca_s, Ti_s, $^{-}Rb_s$	V_s	Co_s
Mn_s		Zn_s, Co_s			
Ti_s	Y_s, Fe_p, Y_p, $^{-}U_s$, $^{-}W_s$, $^{-}Mo_s$	Co_p, $^{-}Th_s$, V_p, $^{-}Rb_p$	Cr_p, $^{-}Rb_s$, Sr_p, Ba_s, Ni_p Fe_s, Co_s	Sr_s, Ni_s, Ca_p Cr_s	Ca_s, V_s
V_s	Y_p, $^{-}Mo_s$, Fe_p	Co_p, $-Rb_p$, V_p, Cr_p, $^{-}Th_s$	Ba_s, Sr_p, Ni_p, $^{-}Rb_s$, Sr_s	Ca_p, Ni_s, Ca_s Fe_s, Co_s, Cr_s	Ti_s
Cr_s	Y_s, $^{-}Mo_s$, $^{-}Th_s$, $^{-}W_s$, V_p, $^{-}Rb_s$	Fe_s, Ba_s, Sr_{sp}	Ca_p, Cr_p, Ni_p, Co_s, Ca_s	V_s, Ti_s	Ni_s
Co_s	Co_p, $^{-}W_s$, $^{-}Rb_p$, V_p, Zn_s, Th_s	Cr_p, Ba_s, Mn_s, Sr_{sp}, Ni_p, $^{-}Rb_s$	Ca_p, Cr_s, Ca_s, Ni_s, Ti_s	V_s	Fe_s
La_s		Ca_s			
As_s		Pb_s			
W_s	$^{-}Ni_{sp}$, $^{-}Ba_s$, $^{-}Cr_s$, $^{-}Fe_s$, $^{-}Co_s$, Th_s Mo_s, $^{-}Ti_s$, V_s, $^{-}Ca_p$, $^{-}Sr_p$, Rb	W_p, $^{-}Sr_s$, $^{-}Ca_s$			
Bi_s					
Ce_p	Th_p, Zr_s, Co_p	Sr_p, Ca_p, $^{-}Rb_p$, Zr_p, Fe_p, V_p	Ti_p	Y_p, La_p	
Ba_p					
Sb_p	As_p				
Sn_p	Nb_p, La_p, Ti_p	Ce_p			
Pb_p					
Zn_p					
Cu_p	Ni_p, Cr_p, Ag_p, Mo_p	V, Fe_p, Cu_s, Co_p			
Ca_p	Zr_s, Y_s, Ti_p, $^{-}W_s$, $^{-}Mo_s$	Ce_p, La_p, Zr_p, Fe_{sp}, $^{-}U_s$, Th_s	Ni_s, Co_{sp}, Y_p, $^{-}Rb_p$, V_p, Sr_p, Cr_s, Ba_s, Cr_p		

Ni_p	$Cu_p, {}^{-}U_s, La_p, Ag_p, Y_s, Zr_p, {}^{-}W_s, {}^{-}Rb_s, {}^{-}Mo_s, Fe_s$	${}^{-}Rb_p, Y_p, Sr_p, Co_s$	$Sr_s, Ca_s, Ba_s, V_s, Ti_s, Ni_s, Cr_s$	Fe_p, Ca_p, V_p Co_p	Cr_p
Ag_p	$Zr_p, La_p, Cu_p, Ni_p, Ti_p$	${}^{-}Rb_p, Cr_p$	Fe_p, V_p, Co_p		
U_p	${}^{-}Sr_p, W_p, Th_s$		Nb_p, Th_p		
Rb_p	${}^{-}Ba_s, {}^{-}Zr_s, U_s, {}^{-}La_p, {}^{-}Fe_s, {}^{-}Co_s$	${}^{-}Ce_p, {}^{-}V_s, {}^{-}Y_p, {}^{-}Zr_s, {}^{-}Ti_{sp}, {}^{-}Ni_p, {}^{-}Ag_p, Th_s, {}^{-}Fe_p, {}^{-}Sr_s, {}^{-}V_p, {}^{-}Cop, {}^{-}Cr_p$	${}^{-}Ca_s, {}^{-}Ca_p, Rb_s$		
Th_p	Ce_p, W_p	Nb_p, La_p	U_p		
Nb_p	${}^{-}Sr_p, La_p, Sn_p, W_p$	Th_p, Ti_p	U_p, Mn_p		
Sr_p	${}^{-}Nb_{sp}, {}^{-}U_p, Cr_p, {}^{-}U_s, Fe_s, {}^{-}W_p, {}^{-}Mo_s$ ${}^{-}W_s$	$Co_s, Ni_p, {}^{-}Th_s, Cr_s$	$Ni_s, V_s, Ti_s, Ca_p, {}^{-}Rb_s,$ Ba_s	Ca_s, Sr_s	
Zr_p	$Ag_p, {}^{-}Rb_s, Ni_p, Cr_p, Zr_s$	${}^{-}Rb_p, Ca_p, Ce_p, Co_p, Fe_p$	V_p, Ti_p, La_p, Y_p		
Y_p	$Zr_s, V_s, {}^{-}Rb_s, Ca_s, Sr_s, Ti_s$	$Ni_p, Cr_p, {}^{-}Rb_p, Ti_p, Co_p$	Fe_p, V_p, Ca_p, Zr_p	Ce_p, La_p	
Mo_p	W_p, Cu_{sp}				
Fe_p	Ti_s, V_s	$Ce_p, {}^{-}Rb_p, Cu_p, Zr_p, Ca_p$	Y_p, Ag_p, La_p, Ti_p	Ni_p, Cr_p	V_p, Co_p
Mn_p	Sn_p		Nb_p, Ti_p		
Ti_p	Ca_p, Ag_p	$Nb_p, {}^{-}Rb_p, V_p, Co_p, Y_p$	$Ce_p, Fe_p, Zr_p, Mn_p, La_p$		
V_p	${}^{-}Rb_s, Co_s, Ni_s, Cr_s, Sr_s, Y_s$	$Cu_p, Ce_p, Ca_s, Ti_{sp}, {}^{-}Rb_p, Ba_s, V_s$	$Ag_p, Zr_p, Y_p, La_p, Ca_p$	Ni_p	Cr_p, Co_p Fe_p
Cr_p	$Cu_p, {}^{-}Mo_s, Fe_s, Sr_p, La_p, Zr_p, {}^{-}Rb_s$ Y_s	$Y_p, Ag_p, Co_s, Ba_s, Cas, {}^{-}V_s, {}^{-}Rb_s, Sr_s$	Ni_s, Ti_s, Cr_s, Ca_p	Fe_p, Co_p	Ni_p, V_p
Co_p	$Fe_s, Sr_s, Co_s, Ce_p, Ca_s, Ba_s, Y_s,$ Ni_s, Cr_s	$V_s, Ti_{sp}, Cu_p, Zr_p, {}^{-}Rb_p, Y_p$	Ag_p, La_p, Ca_p	Ni_p, Cr_p	V_p, Fe_p
La_p	$Ag_p, Nb_p, Ni_p, Sn_p, Cr_p, {}^{-}Rb_p$	Ca_p, Th_p	$Co_p, V_p, Fe_p, Ti_p, Zr_p$	Ce_p, Y_p	
As_p		Sb_p			
W_p	$Mo_p, {}^{-}Sr_p, U_p, Th_s, Nb_b$	W_s			
Bi_p	Y_s				

Table 3 R Mode factor analysis, 6 factors retained, 39 elements

Factor loading	Less evolved granite	Zircon, Sphene	Mineralisation	Hydrous oxide precipitates	Ilmenite	Mineralisation
	Sr_S		Cu_S			
	Ca_STi_S		Cu_p,Mo_p			
	Ca_p,Sr_p,V_S	La_p				
	Ba_S,Ni_S,Cr_S,Co_S	Ce_p,Y_p		Mn_S		
0.8						
	Ni_p	Th_p		Pb_S,Zn_S	Mn_p	
	Fe_S	Zr_p				
		Nb_p,Ti_p				
	Cr_p	U_p,Fe_p			Ti_p	
0.6						
	V_p	V_p	Pb_p			
		Co_p		Co_S		Mo_S
	Co_p		W_p			
0.4	Y_p,Fe_p	Mn_p	W_S	U_S	Nb_p	
-0.4	Pbs				V_S	V_p
	Nb_S,W_p	Rb_p			Rb_p	Ni_p,Co_p,Cr_p
	Mo_S					Fe_p
	U_p,W_S					
-0.6						
	Rb_p,U_S					
-0.8						
	Rb_S					

that more than one variety of sphene was present. One concentrate accounted for much of the Y and possibly Nb and Sn, while another contained the rare earths, U, Th and possibly Y and Sn.

Element distributions

Cerium

The Ce_p distribution is composed of two overlapping populations, the lower approximately lognormal and the upper normal. These can be related to the granites, the lower population occurring in the Central Starav Granite and to the NE of Meall Odhar. Higher values occur over the Porphyritic Starav Granite, over Beinn Trilleachan and over the Cruachan Granite. The highest values were at two sites in Glen Noe, over the Cruachan Granite ([0609 3381], XDP 422, 1000 ppm; [0855 3234], XDP 427; 1100 ppm). The Ce_s plot showed only one population, which was approximately lognormal. The highest values were over the Cruachan Granite in the south, the southern part of the Porphyritic Starav Granite and the north-western part of the Central Starav Granite. Ce_p values were considerably higher than those of Ce_s over most of the survey area, due to upgrading of heavy minerals during the panning process. Sphene is the principal host for Ce (see above), but monazite is also present in some concentrates.

Barium

Ba_p is composed of two overlapping lognormal populations and Ba_s of overlapping lower lognormal and upper normal populations. The lowest Ba_p values are in the Central Starav Granite. The Porphyritic Starav Granite has average values varying from 414 up to 611 ppm, while the average over the Cruachan Granite is >611 ppm. Isolated high values are due to the presence of baryte: eg. XDP 212, 2500 ppm, at [1222 4330] on Ben Starav, XDP 190, 2600 ppm, at [2082 4947] in the north of the area and XDP 127, 1400 ppm at [1462 4326] in Choire Dhuibh. The highest values recorded were at [2027 4354] (XDP 497, 75000 ppm) and [1881 4808] (XDP 205, 24000 ppm), both in streams draining the Cruachan Granite.

Ba_s results also reflect the underlying variations in granite composition, the Starav Granite giving an average of <820 ppm, and the lowest values again being over the Central Starav Granite. In the Cruachan Granite, values average from 640 to 1080 with areas greater than this in Glen Noe and Glen Ceitlein. The highest values are XDC 511, 1985 ppm, at [0784 3527] in Glen Liver and XDC 427, 1050 ppm at [0855 3234] in Glen Noe. Ba_p at the latter site was only 650 ppm, and no baryte was found during examination of the concentrate. Other sites in Glen Noe have Ba_s values higher than Ba_p and this indicates a host for Ba in the rock-forming minerals, probably feldspar.

Antimony

Only 4% of samples were above detection limit for Sb_p and 5% for Sb_s. The highest Sb_p value was 30 ppm in XDP 435 at [0827 3734] near Ardmaddy Furnace. No source for Sb or As (26 ppm) was evident during mineralogical examination of this concentrate. The highest Sb_s value was 10 ppm in a stream draining Ben Starav (XDC 176, at [1112 4390]).

Tin

Results above detection limits for Snp form a lognormal distribution, as do those for Sn_s. The highest Snp values are over the Porphyritic

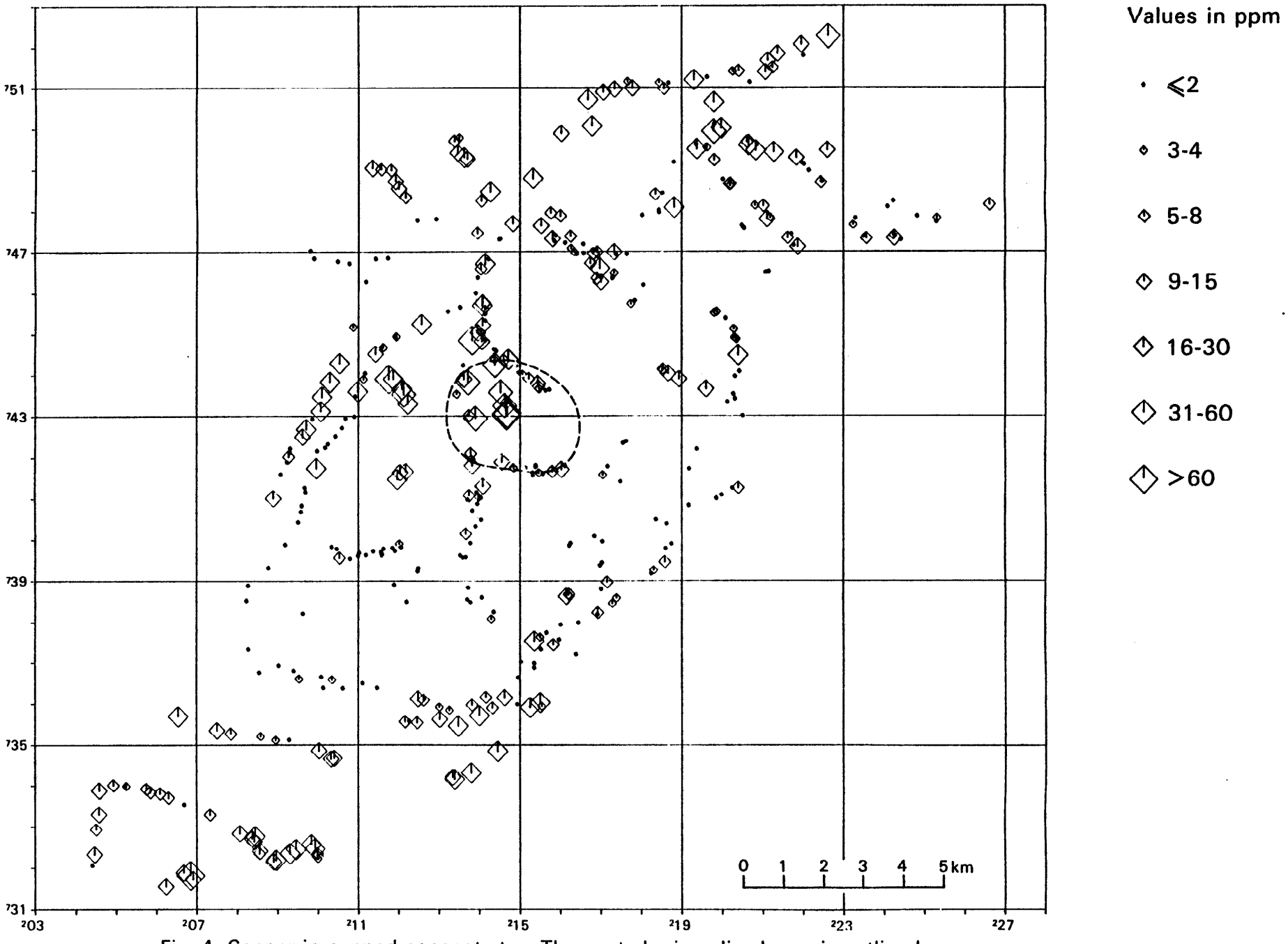

Fig. 4. Copper in panned concentrates. The central mineralised area is outlined.

Starav Granite and the Cruachan Granite, with a generally lower average of <10 ppm to the NE of Meall Odhar and in the Central Starav Granite. Isolated high values in the central area (e.g. 22 ppm in XDP 133 at [1414 4522], and 25 ppm in XDP 147 at [1257 4524]) were considered to be due to the presence of tin in ilmenite and sphene, as Sn_p correlates with Ti_p and other elements associated with sphene. The highest value, 35 ppm, is in XDP 448 at [1302 3562].

Sn_s shows no recognisable pattern in its distribution. The highest value is 15 ppm in XDC 493 at [0732 3329], on a tributary of the River Noe.

Lead

The upper part of the Pb_p distribution is complex, and the lower part lognormal. The upper populations presumably represent the different areas of mineralisation described below. The highest background is over the Central Starav Granite, averaging 30-60 ppm, and also over the area NE of Meall Odhar and in Glen Etive, where values >30 ppm are common.

Lead minerals were identified in three samples from west of Ben Starav. In XDP 212 from [1222 4330] (400 ppm Pb), galena was fresh and included some coarse grains, suggesting that the bedrock source was not far upstream. In XDP 271 from [0969 4268] (250 ppm Pb) wulfenite ($Pb\ MoO_4$) was identified, and secondary lead minerals, together with probable wulfenite, occurred in XDP 247 [1196 4147] (226 ppm Pb).

Further north, XDP 293 from [1668 5071], (110 ppm Pb) contained vanadinite $Pb_5\ (VO_4)_3Cl$ (XRD) and other secondary lead minerals, in association with probable bismutite and probable scheelite.

Pb_s is present in larger amounts than Pb_p, with a median concentration of 85 ppm compared to 27 ppm. The distribution comprises overlapping lower lognormal and upper normal populations. The highest values are over the Central Starav Granite, averaging generally > 95 ppm. The highest value, 364 ppm (XDC 198) lies on Ben Starav, at [1186 4390], and may be due to the presence of Pb secondary minerals. Pb_s is also influenced by hydrous oxide precipitation, and its spatial distribution in the central area is similar to that of Mn_s.

Zinc

Zn_p shows a complex distribution with three overlapping populations, lower lognormal, middle normal and upper lognormal. The lowest values are over the Starav Granite, and the highest over the southern part of the Cruachan. Mineralogical examination of some panned concentrates indicated that Zn occurs in trace quantities in several phases, probably mainly in iron oxides but also in sphene (a Zn-bearing sphene grain was identified in XDP 190, [2082 4947], 247 ppm).

Zn_s has an approximately lognormal distribution and is also lowest over the Central Starav Granite. The highest levels are over the Cruachan and Porphyritic Starav Granites and are most likely due to secondary concentration by hydrous oxide precipitation and scavenging effects, operating over the basic source rocks. The higher levels of Zn_s compared with Zn_p (medians 97 and 43 respectively) confirm that secondary precipitation is important. The highest value is from [1614 3863] (XDC 480, 502 ppm) in the Eas an Fhithich, which lies in an area of high Mn_s values indicative of precipitation effects.

Copper

The Cu_p distribution comprises a lower normal and an upper lognormal population, the upper relating to the mineralisation. The highest values mostly lie in the mineralised zone around Ben Starav (Figure 4). In the extreme north and south values average > 6 ppm, but elsewhere they are below this. There is a correlation between Cu and elements such as Fe, Cr, V and Ni (Table 2), indicating a relationship with magnetite; and in much of the area, including the Cruachan Granite, magnetite is the likely host for the Cu. However, over the Central Starav Granite the Cu is related to the hydrothermal mineralisation. No discrete grains of copper-bearing minerals were observed in the mineralogical examination of the panned concentrates, and it can only be deduced, without microprobe work, that the Cu occurs as small inclusions of chalcopyrite enclosed in grains of pyrite and other minerals.

Cu_s shows a complex frequency distribution plot with two upper populations, possibly both normal, and a lower normal population. There is a correlation with Mo_p and Bi_p as well as Cu_p, indicating an association with the mineralisation for the upper populations. Again, values over the Cruachan Granite, averaging 4-21 ppm, are higher than those over the Porphyritic Starav Granite. In the Ben Starav area, values range from 8 to 230 ppm, the highest result being 230 ppm Cu in XDC 128 from [1468 4308].

Calcium

The Ca_p distribution comprises two overlapping lognormal populations, correlating closely with the mapped rock units, and with average values generally < 6010 ppm over the Central Starav Granite, 6010 to 22620 ppm over the Porphyritic Starav and northern Cruachan Granites, and 22620 to 41190 ppm over the southern Cruachan Granite. The latter value is in XDP 473 at [0992 3245] in Glen Noe, an area known to be underlain by the most basic variety of the Cruachan Granite (Kynaston and Hill, 1908) with abundant hornblende, plagioclase and biotite.

Ca_s likewise has two overlapping populations, a lower lognormal and an upper normal, and is similar to Ca_p in its spatial distribution.

Nickel

Ni_p has a lower lognormal population and two upper overlapping normal populations. Its spatial distribution reflects the relative acidity of the underlying rock types. The highest value is 87 ppm in XDP 470 at [0750 3535], a site in Glen Liver where Cr_p and Co_p values are high, indicating that the host is magnetite.

Ni_s has two overlapping normal populations and is similarly correlated with the iron oxide group of metals. Ni_s distribution is similar to Ni_p. The largest value, (130 ppm) is from a site over the Porphyritic Starav Granite (XDC 480, [1614 3863]).

Silver

Thirty-five percent of the Ag_p values were above detection limit, forming a lognormal distribution. The higher values mostly fall in the peripheral areas, near Beinn Trilleachan and over the less acid rocks. Ag_p correlates with the heavy mineral group and may have been upgraded during panning. Only 8% of the Ag_s population is above detection limit, these samples (>3 ppm) coming from the Porphyritic Starav and Cruachan Granites.

Uranium

The U_p population is approximately lognormal in form but complex in detail. The highest values occur over the Central Starav Granite, the maximum (73 ppm) being in the Trilleachan area, at [1028 4383] (XDP 273). Most values over the Cruachan Granite are less than 4 ppm, except for a patch in the NE, where the range is 6-19 ppm. U_p is closely correlated with Th_p and Nb_p and to a lesser extent with W_p.

U_s distribution has two overlapping components and is similar spatially to U_p. Most, though not all, of the high values lie in the centre, where the range is 9 to 190 ppm.

Like Rb, Th and Nb, U is highest over the most acid rocks. It is probably a component of the accessory rock-forming minerals, such as zircon and sphene. No uraninite was observed. As U_s values are greater than U_p, some secondary precipitation effects must be expected, and U_s is part of the hydrous oxide precipitate factor.

Rubidium

Rb_p shows a normal form on the frequency distribution plot and can be related to the underlying lithology, being highest over the Central Starav Granite. Rb_s is approximately lognormal, although complex in detail, and shows a similar geographical distribution to Rb_p. Rb_p and Rb_s correlate strongly and have negative correlations with elements concentrated in less acid rocks. Th_s, U_{sp}, Nb_s, W_s, Mo_s and Pb_s correlate with both Rb_p and Rb_s.

Thorium

Th_p has a lognormal frequency distribution and, like Rb, its highest levels occur over the more acid granites. The highest value was 400 ppm in XDP 273 from [1028 4383] on Beinn Trilleachan. At this site Th reported in the non-magnetic fraction of the panned concentrate, and one Th-bearing grain was identified (XRD) as probable brockite, (Ca, Th, Ln) (PO_4, CO_3). H_2O. The Th_s distribution plot is approximately lognormal, though complex in detail, and is similar to Th_p in spatial distribution with highest values in the more acid granite. From interpretation of the factor and cluster analyses, Th shows a relationship with Ce, La and Nb and the source may be in rock-forming minerals such as zircon and sphene.

Niobium

Nb_p has an approximately lognormal frequency distribution. Lowest values are over the northern part of the Cruachan Granite, and the highest over the Central Starav Granite. The highest value, 600 ppm, was in XDP 147 from [1257 4524] on Ben Starav. In XDP 107 from [1544 4379] on the Allt Mheuran, with 450 ppm Nb, and Nb appeared to lie mostly in ilmenite and sphene (both minerals that are widespread in the area) and a small amount of Nb-bearing anatase (XRD) was also present. Up to 1600 ppm Nb was located in sphene in XDP 133 (see above). The high correlation with Ti_p and Mn_p (Table 2) indicates that ilmenite is an important host for Nb.

Nb_s has a normal form of frequency distribution and differs from Nb_p in its distribution by having lower values over all of the Cruachan Granite.

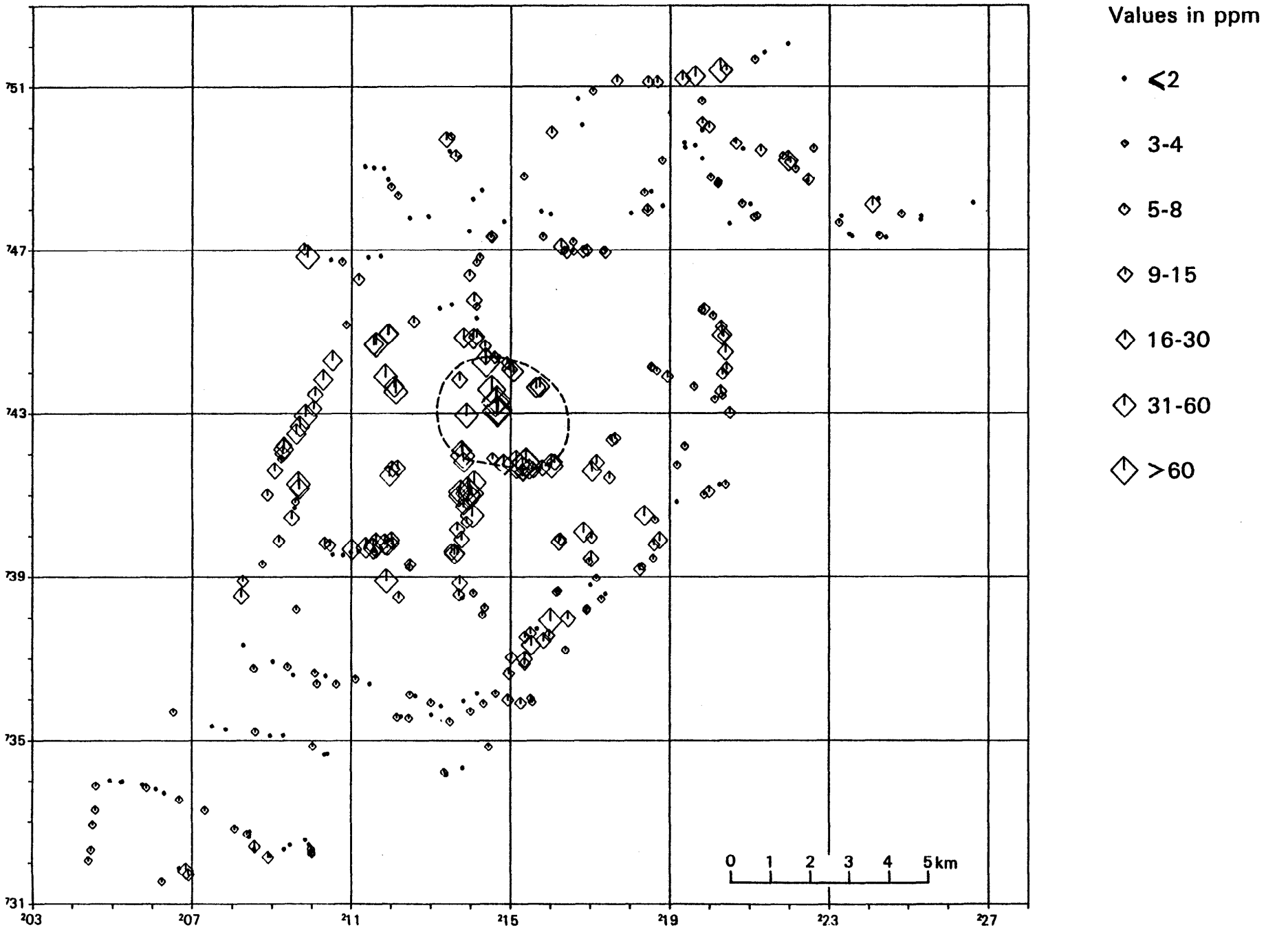

Fig. 5. Molybdenum in stream sediments. The central mineralised area is outlined.

Strontium

Sr_p is approximately normal in its frequency distribution plot and correlates with Ca_{sp}, Ba_{sp} and Ti_s. Its spatial distribution reflects the underlying lithology almost exactly, being extremely low over both types of Starav Granite and higher over the Cruachan Granite. The highest value (2900 ppm) is at [2039 4449] in XDP 497, on the Dochard, and may be contained in baryte (Ba_p = 75000 ppm).

Sr_s has two overlapping lognormal populations. Its spatial distribution follows that of Sr_p in being very low over the Starav Granites and higher over the Cruachan Granite. Like Ba, Sr is concentrated in the less evolved granite.

Zirconium

Zr_p distribution is approximately lognormal. The lowest values are over the Central Starav and northern Cruachan Granites. The frequency distribution plot of Zr_s shows two overlapping lognormal components and again the lowest values are over the Central Starav Granite and northern Cruachan Granite. The obvious host for Zr is zircon, fairly abundant in the area and upgraded in the panning process.

Yttrium

The Y_p frequency distribution plot shows two overlapping populations, normal upper and lognormal lower. Its spatial distribution resembles that of Zr_p, and the Y is contained in zircon and sphene, probably mainly in the latter. Y_s is approximately lognormal but complex in detail. The Y-bearing minerals seem to be mainly associated with the Porphyritic Starav Granite and parts of the Cruachan Granite.

Molybdenum

Forty-three percent of Mo_p samples are below detection limit. Above this are two overlapping lognormal populations. The higher values (>8 ppm) are almost entirely confined to the Central Starav Granite around Ben Starav and Beinn Trilleachan. The southern Cruachan Granite averages 3-8 ppm, and this may represent high background. The principal Mo mineral in bedrock is molybdenite, but this phase is not readily retained during the panning process. Each of the eleven concentrate samples with > 30 ppm Mo was examined microscopically, and in only three of them was any molybdenite observed. The two samples with the highest Mo content were also rich in Pb and contained the mineral wulfenite ($PbMoO_4$): XDP 247, [1196 4147], 73 ppm Mo, 226 ppm Pb; XDP 271, [0969 4268], 78 ppm Mo, 246 ppm Pb; the identification of wulfenite in the latter sample was confirmed by XRD. Only one concentrate from outside the Central Starav Granite contained more than 20 ppm: XDP 515 from [1998 4108], from a stream draining the Cruachan Granite, contained 37 ppm Mo, but no molybdenum-bearing minerals were identified in it.

Mo_s has a complex frequency distribution, with a lower lognormal distribution and an upper complex population. It is a better guide to the distribution of molybdenite mineralisation than is Mo_p, and values are generally higher (Table 1). Mo is effectively retained in the fine stream sediment, possibly as finely comminuted molybdenite flakes, possibly as fine grains of secondary Mo minerals such as ferrimolybdite, whereas it is not retained in panned concentrates. The geochemical map (Figure 5)

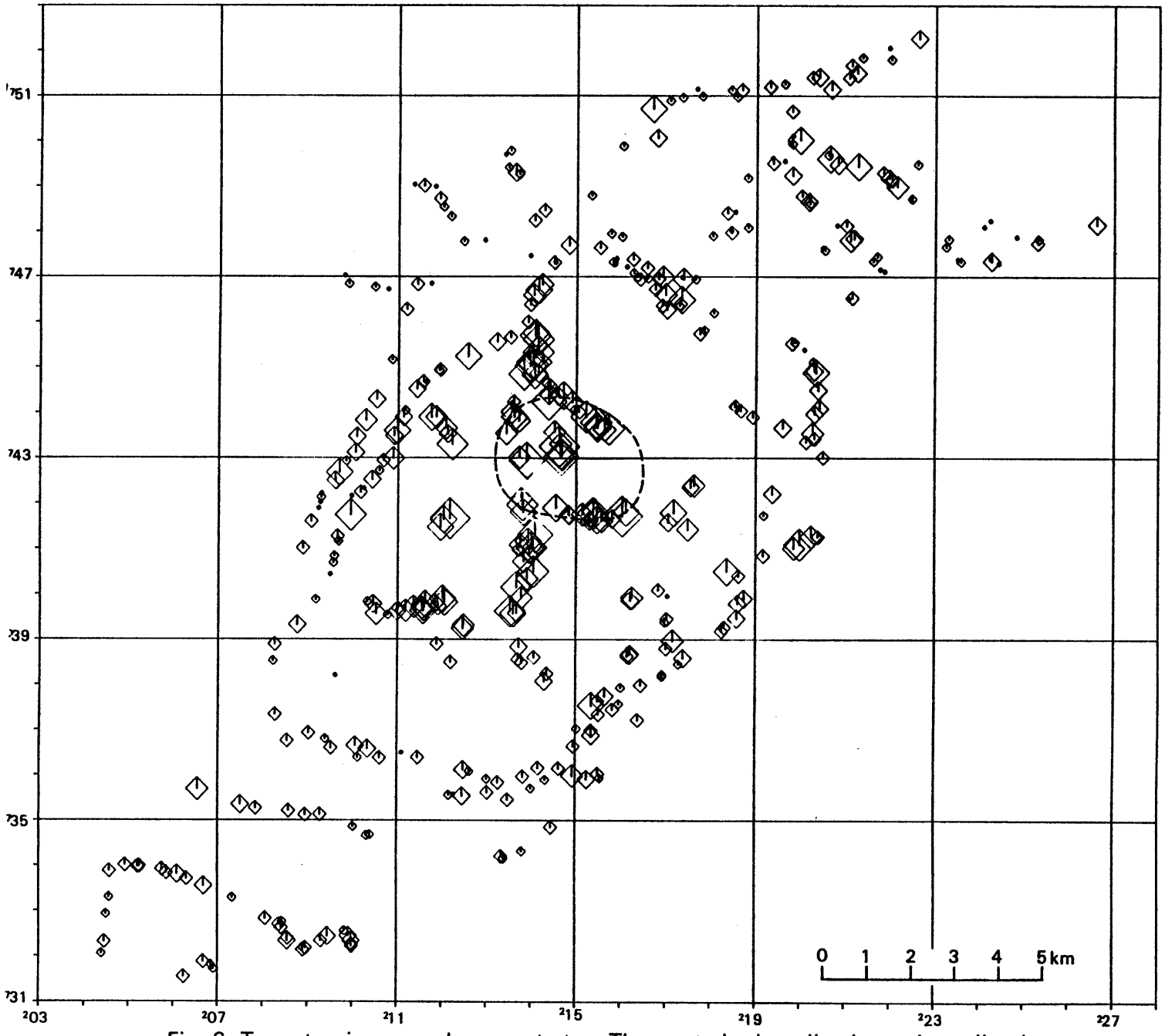

Fig. 6. Tungsten in panned concentrates. The central mineralised area is outlined.

that of V_p. The Cr_s frequency plot is composed of two normal populations, and the geographical distribution resembles that of V_s. Like vanadium, chromium occurs mainly in the iron oxides, preferentially in magnetite.

Cobalt

Co_p has a lower lognormal population with a normal population above. Co_s has a frequency distribution consisting of two overlapping normal components. The spatial distributions resemble those for V and Cr. Again, like the latter elements, the distribution is linked to that of iron oxides, mainly magnetite. That of Co_s is affected to a greater extent by hydrous oxide precipitation and scavenging effects.

Lanthanum

La_p distribution comprises a lower lognormal population with an aproximately normal component above it and has a spatial distribution similar to that of Ce_p. La_s has a frequency distribution plot of approximately lognormal form. Its spatial distribution differs from that of La_p in a number of areas, with some higher values in the Central Starav Granite. Like Ce and Y, La is contained in sphene (see above) and zircon and will be relatively upgraded in the panned concentrate.

Arsenic

Only 4% of As_p values are above the detection limit of 2 ppm. Most of these lie in the Central Starav Granite and are of the order of 2-4 ppm. The highest value is 26 ppm in XDP 435 from [0827 3734], near Ardmaddy. This site is near old iron smelting platforms and may be a result of this activity as no source for As_p or Sb_p, also high here, was found during mineralogical examination.

As_s has a frequency distribution of approximately lognormal form. A belt of high values lies across the southern parts of the Central and Porphyritic Starav Granites. Values are lowest over the Central Starav Granite and adjacent Cruachan Granite. The highest value is 36 ppm in XDC 382 from [0822 3853], on the east side of Loch Etive near Ardmaddy. A correlation with Mn_s and Pb_s suggests that As_s is affected by hydrous oxide precipitation and scavenging processes.

Tungsten

W_p has a frequency distribution comprising two overlapping lognormal populations. Values above 20 ppm are confined mainly to the Central Starav Granite (Figure 6). W_s frequency distribution shows the presence of two overlapping lognormal populations. Its geographical pattern is fairly similar to that of W_p, but the values are rather lower (Table 1). Scheelite was identified in many of the panned concentrates and probably accounts for nearly all the W in the samples. One grain of wolframite was identified in XDP 248 ([1217 4166], 520 ppm W) and this mineral was also suspected in XDP 118 ([1390 4295], 320 ppm W).

Bismuth

Only 30% of Bi_p values were above detection limit, and they comprise two overlapping lognormal populations. Most of the sites with > 2 ppm are over the Central Starav Granite, but three patches in the extreme north of the survey area also yield high values, the highest being 152 ppm Bi in XDP

clearly delineates the mineralised area around the Ben Starav massif. The Mo_s levels in this area are very much higher than those in other areas of molybdenite mineralisation in Scotland (e.g. Haslam and Kimbell, 1981).

Iron

Fe_p has a frequency distribution consisting of a lower lognormal and upper normal population; this, together with its distribution on the ground, reflects the composition of the underlying granites, the highest values being over the southern Cruachan Granite. Fe_s has an approximately log-normal distribution and is fairly similar to Fe_p in its distribution although its values have a lower range. In panned concentrates the Fe is mostly in magnetite and ilmenite, the former being generally the more abundant. These minerals probably also occur in stream sediments, but hydrous oxides account for much of the Fe in these samples.

Examination of panned concentrates showed that even in the most highly mineralised areas pyrite only accounted for a very small proportion of the Fe.

Manganese

Mn_p has a frequency distribution split into lower normal and upper lognormal components. Mn_p is much more highly correlated with Ti_p than Fe_p, indicating that Mn is contained more in ilmenite than in magnetite. This was confirmed in XDP 133 ([1414 4833], 7990 ppm Mn) in which ilmenite was much richer in Mn than was the accompanying magnetite.

Mn_s has an approximately lognormal frequency distribution, but the spatial distribution is relatively complex. The high values are associated both with the presence of abundant magnetite and ilmenite and with hydrous oxide precipitates.

Titanium

Ti_p has a lower lognormal and an upper complex population and its geographical distribution reflects the underlying lithologies, the higher values being over the more basic rocks. The main host is ilmenite, though sphene is also important. Magnetite, rutile and anatase would account for a small amount of the Ti. The spatial distribution is also complex, only the southern Cruachan Granite showing great enrichment in Ti_p.

Ti_s has a frequency distribution consisting of a lower lognormal population with a complex upper population. The geographical distribution reflects the abundance of ilmenite and sphene in the sediments, with higher values over the less acidic Porphyritic Starav and Cruachan Granites.

Vanadium

V_p shows an approximately lognormal distribution, which in detail comprises two overlapping lognormal components, but V_s is composed of two overlapping normal populations. Levels of both are higher over the less acid rocks. V probably occurs mostly in magnetite.

Chromium

The Cr_p frequency distribution plot shows a lognormal lower population with an overlapping normal population. Its spatial distribution is like

291 from [1706 5089] on the Allt Faslaich in Glen Etive. No Bi mineral was found in the heavy fraction during mineralogical examination of the concentrate from this site. The secondary mineral bismutite ($Bi_2O_3.CO_2.H_2O$) was present in XDP 121 ([1438 4424], 103 ppm Bi) and probably in XDP 127 ([1460 4340], 25 ppm Bi) and XDP 305 ([1408 4131], 80 ppm Bi) from the Ben Starav area and in XDP 211 ([2260 5240], 66 ppm Bi) and probably XDP 293 [1408 4131] from the north of the area. No primary Bi mineral was identified. Bi_s has a frequency distribution composed of two overlapping lognormal populations. Again higher values are mainly concentrated over the Central Starav Granite.

Bi is clearly associated with the sulphide mineralisation in the Central Starav Granite and possibly indicates the existence of further mineralisation in the northern part of the Cruachan Granite.

Conclusions

Sulphide mineralisation, involving mainly Mo, W and Cu with associated Pb and Bi, occurs in the central part of the Central Starav Granite. Within this area some zonation can be seen in the distribution of these ore elements. Mo and Cu occur mainly on the Ben Starav massif and Beinn Trilleachan, with few high values east of Choire Dhuibh or south of Allt Coire na Larach, although small amounts of Mo are located in the Kinglass and Hallater headwaters. W mineralisation appears to be centred further south, around the Hallater and Upper Kinglass valleys, and also extends further north, over Beinn Chaorach and Stob Coir' an Albannaich. Pb is more widespread still and extends from Glen Ceitlein to the Hallater-Kinglass area. Bi also appears to be well spread over the whole mineralised area.

With the exception of a few occurrences of baryte, most other elements occur in rock-forming minerals, among which magnetite, ilmenite, sphene and zircon are important as hosts for Ce, Sn, Zn, Ni, U, Th, Nb, Zr, Y, Fe, Mn, Ti, V, Cr, Co and La. The distribution patterns of most elements are related to the primary petrogenetic variations between the different granite masses. These patterns can be modified by the processes of hydrous oxide precipitation and by any variation or inconsistency in the panning techniques used during sampling.

ROCK GEOCHEMISTRY

One hundred rock samples were analysed by XRF for Ce, Ba, Sb, Sn, Pb, Zn, Cu, Ca, Ni, Ag, U, Rb, Th, Nb, Sr, Zr, Y, Mo, Fe, Mn, Ti, V, Cr, Co, La, As, W, Bi and K.

Central Starav Granite

Analytical results for 88 samples of the Central Starav Granite are given on fiche in Appendix 1. Summary statistics are given in Table 4 and correlation coefficients in Table 5. The samples include mineralised and unmineralised rocks. Some contain quartz veins, while others do not. There was some sampling bias, with preferential collection of rocks containing molybdenite.

Frequency distribution

Cumulative frequency graphs were plotted for each element. For Sb, Sn, Ni, Ag, V, Cr, Co, La, As and Bi most of the results are near or below

Table 4 Summary statistics (in ppm) for 88 analysed samples of Central Starav Granite

	Min.	Max.	Median	Arithmetic mean	Standard deviation	Geometric mean	Geometric deviation
Ce	<10	52	26	26	10	23	0.2
Ba	< 8	789	200	295	228	190	0.5
Sb	< 5	12	<5				
Sn	< 4	13	<4				
Pb	11	582	37	48	62	40	0.2
Zn	2	1656	20	44	175	20	0.4
Cu	< 2	622	14	37	83	12	0.7
Ca	140	5420	2500	2645	1372	2179	0.3
Ni	1	7	1	1		1	
Ag	< 2	8	<2				
U	< 2	13	5	5	3	4	0.3
Rb	107	317	212	207	39	203	0.1
Th	6	32	16	17	5	16	0.1
Nb	2	30	14	14	4	14	0.2
Sr	8	314	95	115	80	85	0.4
Zr	27	212	87	95	29	90	0.1
Y	1	16	8	8	3	7	0.2
Mo	< 2	8713	6	257	1013	12	1.1
Fe	2500	19400	4900	5906	2539	5453	0.2
Mn	40	590	240	241	102	215	0.2
Ti	240	2990	820	907	429	816	0.2
V	<10	40	10				
Cr	<10	80	10				
Co	< 2	9	< 2				
La	< 3	40	20	18	8	15	0.3
As	< 2	3	< 2				
W	< 3	242	3	8	26	4	0.4
Bi	< 2	21	< 2				
K	16645	46497	38000	37381	4607	36998	0.1

Table 5 Inter-element correlation coefficients (log transformed data) for 88 samples of Central Starav Granite

	0.4-0.49	0.5-0.59	0.6-0.69	0.7-0.79	0.8-0.89	⩾ 0.9
Ce	Ca,Ni	Ba,Sr,Y,Fe,Mn,Ti,Co,La,	Zr,			
Ba	Zn,Ca,Rb	Ce,⁻U,Mn,V,La,K/Rb	Ni,⁻Th	Zr,Co,	Fe,Ti	Sr,
Sb						
Sn						
Pb		Ag,Bi,				
Zn	Ba,Ca,Ni,Zr,Fe,Ti,Cu,La	Ag,Bi,	Mn,V,			
Cu			Mo			
Ca	Ce,Ba,Zn,Ni,⁻Mo,Fe,⁻W	Y,Co,K,K/Rb	Sr,Zr,Ti,	La,	Mn	
Ni	Ce,Zn,Ca,⁻Rb,⁻Th,La	Mn	Ba,⁻U,Sr,Zr,V,K/Rb	Fe,Ti,	Co	
Ag	W	Pb,Zn	Bi			
U	⁻Sr,⁻Ti,⁻Cr,⁻K/Rb	⁻Ba,Rb,Nb,⁻Fe,⁻V	⁻Ni,Th,⁻Co			
Rb	-Ba,⁻Ni,⁻Sr,⁻V,⁻Co,K	U,Th	Nb	⁻K/Rb		
Th	⁻Ni,⁻Ti,⁻V,⁻Co	Rb,Nb,⁻Sr,⁻Fe	⁻Ba,U			
Nb		U,Th,K	Rb,Y,			
Sr	⁻U,Rb,V	Ce,⁻Th	Ca,Ni,Mn,La,K/Rb	Co	Zr,Fe	Ba,Ti
Zr	Zn,V	Y,K,K/Rb	Ce,Ca,Ni	Ba,Mn,Co,La	Sr,Fe	Ti
Y	La,K	Ce,Ca,Zr,Mn	Nb			
Mo	⁻Ca		Cu			
Fe	Zn,Ca	Ce,⁻U,⁻Th,La,K/Rb	Mn,V	Ni	Ba,Sr,Zr,Co	Ti
Mn	V,K,K/Rb	Ce,Ba,Ni,Y	Zn,Sr,Fe,Co	Zr,Ti,La	Ca	
Ti	Zn,⁻U,⁻Th,K,K/Rb	Ce,V	Ca,K/Rb	Ni,Mn,La	Ba,Co	Sr,Zr,Fe
V	⁻Rb,⁻Th,Sr,Zr,Mn	Ba,⁻U,Ti	Zn,Ni,Fe,Co			
Cr	⁻U					
Co	Zn,⁻Rb,⁻Th	Ce,Ca,La	⁻U,Mn,V,K/Rb	Ba,Sr,Zr	Ni,Fe,Ti	
La	Zn,Ni,Y	Co,Ba,Fe,Co,K/Rb	Sr,K	Ca,Zr,Mn,Ti		
As						
W	⁻Ca,Ag,Bi					
Bi	W	Pb,Zn	Ag			
K	⁻Sn,Rb,Y,Mn,Ti	Ca,Nb,Zr	La			

Table 6 Grain size and composition in the Central Starav Granite

Geometric means of element concentrations (in ppm) for grain sizes 5 (coarse) to 1 (median).

	5	4	3	2	1	C*
Ce	27.2	27.5	24.9	17.6	16.2	0.40
Ba	392.4	330.3	216.9	78.7	38.3	0.76
Pb	42.0	37.0	41.7	41.4	37.3	0.06
Zn	27.2	23.5	19.7	13.7	13.3	0.31
Cu	18.1	8.0	11.1	6.9	10.2	0.11
Ca	2353.9	2963.7	2408.6	1252.9	1607.4	0.26
U	3.0	3.7	4.9	7.0	5.7	-0.34
Rb	188.0	206.0	199.8	216.6	224.8	-0.29
Th	12.8	14.2	16.2	21.8	20.8	-0.53
Nb	11.9	13.7	14.2	13.7	16.3	-0.27
Sr	138.7	138.3	96.3	41.3	26.4	0.72
Zr	102.6	101.6	94.1	76.6	64.2	0.50
Y	7.7	7.9	8.3	5.1	7.2	0.12
Mo	24.9	9.0	7.5	17.1	6.8	0.14
Fe	6812.8	6309.9	5510.9	4020.9	3655.2	0.58
Mn	240.3	281.4	224.7	149.9	153.1	0.37
Ti	1071.0	1012	832	537	490	0.63
La	19	20	17	8	10	0.46
W						-0.02
K						0.09
K/Rb						0.37
Altitude (m)	512	491	546	739	641	-0.27

* C = correlation coefficient

the detection limits. In the case of W, 42% of results are below the detection limit (3 ppm) but the rest lie on a steep, nearly lognormal trend. Trends approximating to a normal distribution are shown by elements which occur in major and accessory rock-forming minerals: Ce, Ba, Ca, U, Rb (the normal population has a small range, 145-254 ppm, with three low values in the range 107-122 ppm and five high values, 267-317 ppm, mostly representing finer-grained rocks), Th, Nb, Sr (with some irregularities), Zr, Y, Mn, Ti and K.

The Pb plot is lognormal up to 85 ppm, above which there are two higher values. Galena was identified in a quartz vein in the richest sample: XDR 384, from [1360 3968] with 582 ppm Pb. The Zn plot is lognormal up to 62 ppm, above which there are two high values, the highest of which (1650 ppm) is also in XDR 384. The Cu plot is nearly straight, indicating a lognormal distribution, between the detection limit (3 ppm) and 400 ppm. There is no sharp break separating mineralised from unmineralised rocks.

The Mo plot shows 28% of values below detection limit (2 ppm). From 28% to 65% the trend is nearly straight, showing that the distribution approximates to lognormal. At 65% there is a gap between 13 ppm and 29 ppm, and above this the distribution is somewhat irregular but with an overall trend which is linear (lognormal). This upper 35% of the samples (31 samples) presumably contain molybdenite. In most of these 31 samples molybdenite had been recognised in the field, though in eight of them (each containing < 200 ppm Mo) it had not. Several of the samples were selected for analysis because they were conspicuously rich in molybdenite. Only six of these contain $> 0.08\%$ Mo, only two $> 0.2\%$, and the maximum is 0.87%. Thus most of the best outcrop mineralisation is well below ore grade.

The Fe trend indicates a normal distribution, except for an unexplained discontinuity at 53%, with no values between c. 5900 and c. 7900 ppm. Another gap separates the highest value (19400 ppm) from the second highest (10000 ppm).

Correlation between composition and grain size

The analysed rocks were assigned to five classes by grain size, from class 5 (coarse grained) to class 1 (medium grained). This classification was inevitably arbitrary, and there was considerable scatter in the values for each element within each class and, for most elements, substantial overlap between classes. Nevertheless, some consistent trends are clear (Table 6). The most conspicuous is for Ba, which is very much lower in the finer-grained specimens. Other elements which decrease from coarse to fine are Ce, Sr, Zr, Fe, Ti and, less definitely, Zn, Ca, Mn and La. U and Th increase, and so does Rb, though less strongly. The finer-grained rocks are thus more acidic, more evolved, which is consistent with their more leucocratic appearance. Higher levels of the hydrothermal elements, Cu and Mo, seem to be associated rather more with the coarse rocks than the finer, but there are no consistent trends.

Spatial distribution

It has been seen that part of the variation in composition within the Central Starav Granite may be attributed to variation in grain size. The finer and coarser varieties are mixed on a small scale and the correlations with element concentration are not displayed to advantage on geochemical maps.

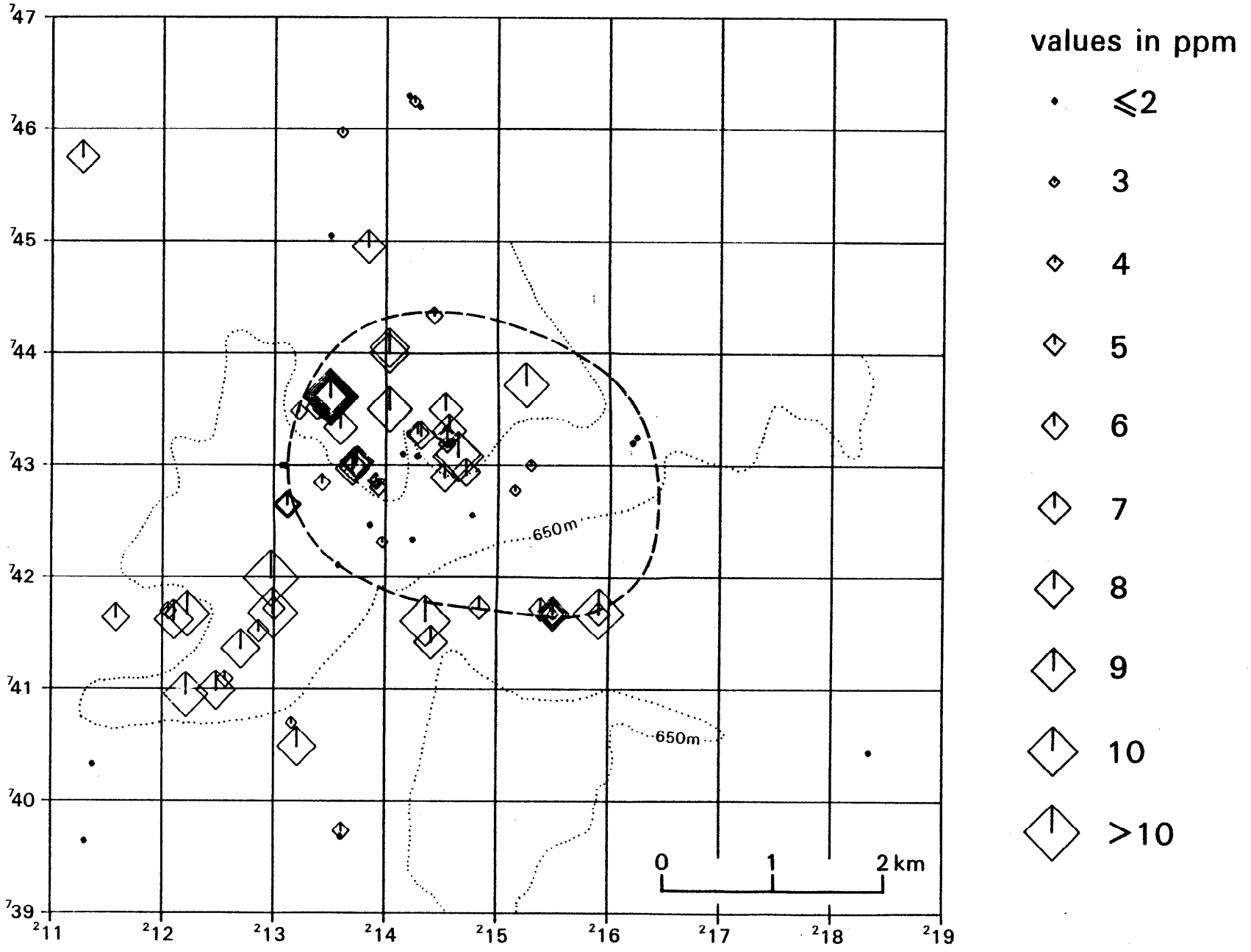

Fig. 7. Uranium in rock samples, in relation to the 650m contour. The central mineralised area is outlined.

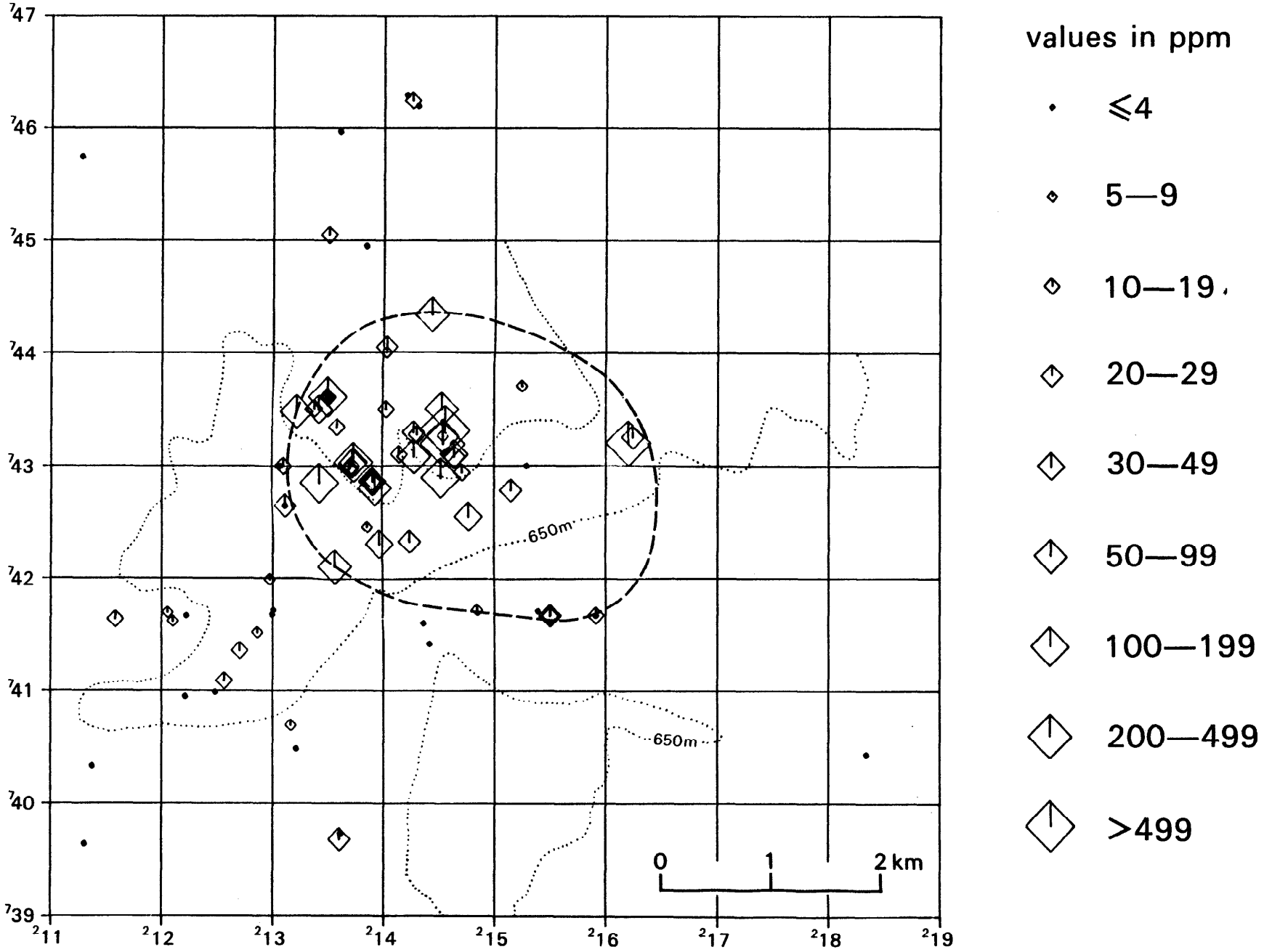

Fig. 8. Copper in rock samples. The central mineralised area is outlined.

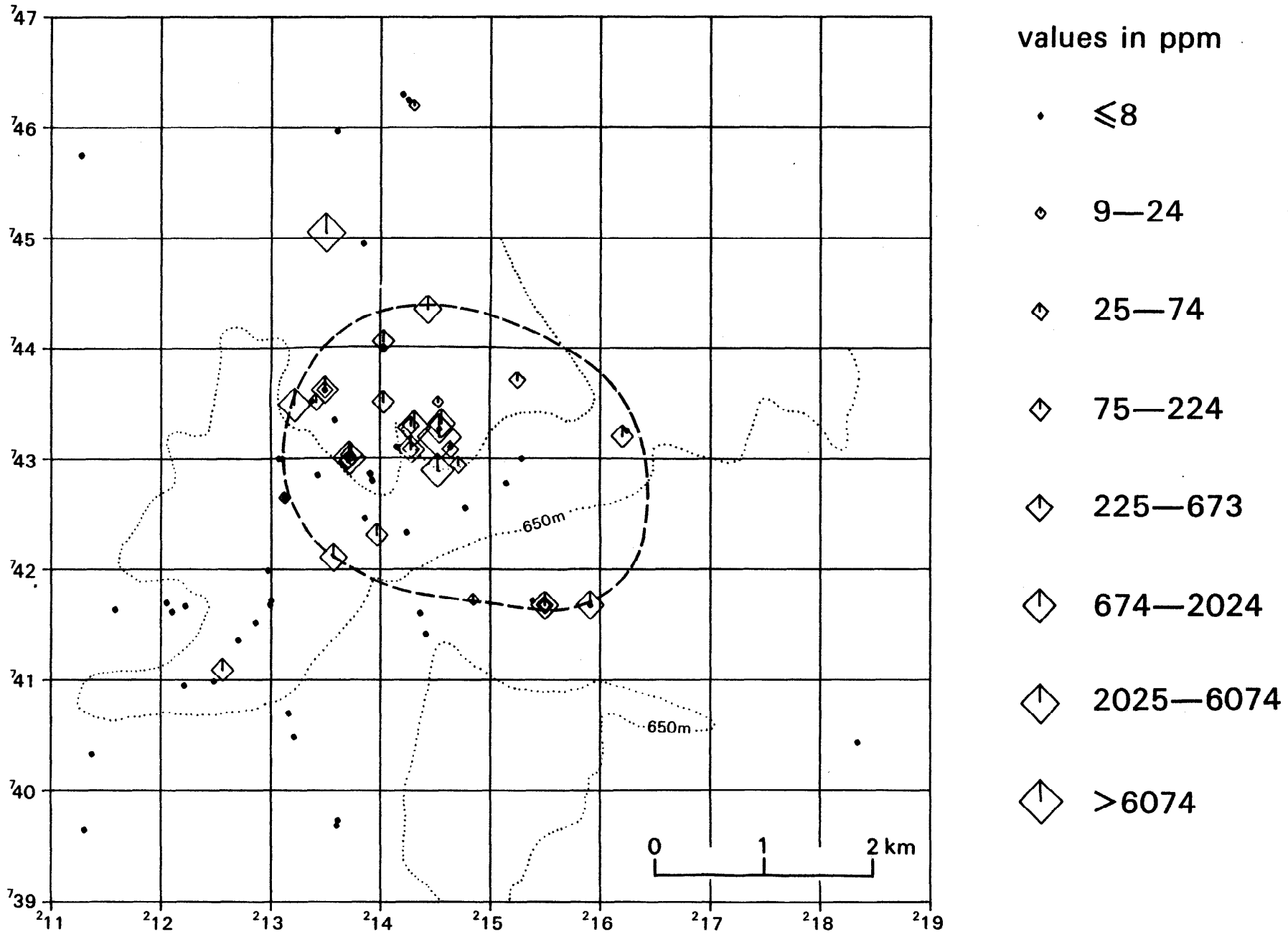

Fig. 9. Molybdenum in rock samples. The central mineralised area is outlined.

Examination of the geochemical maps showed that two other parameters are correlated with element distribution: altitude, and the distribution of visible mineralisation.

The altitude dependence of certain elements is best shown in relation to the 650 m contour in the central part of the area sampled; and the element showing the strongest correlation is U (Figure 7). Low values ($\leqslant$ 3 ppm) lie at altitudes above 650 m in the central area (the central area outlined in Figure 7 is the same as the central mineralised area outlined in Figures 2 and 8-10), while higher values occur at lower altitudes. Similar but less well-defined patterns are shown by Rb and Th, while the reverse relationship is shown, to some degree, by Ba, Ca, Sr, Zr, Fe, Mn, Ti, V, Co and K/Rb. Outside the central area, this altitude relationship does not apply. The correlation of composition with altitude is thus similar to the correlation of composition with grain size, so it would be expected that there would be some correlation between altitude and grain size. Some such correlation is present within the central mineralised area, but it is not as strong as that between Ba and grain size or that between U and altitude. Within the central area, where the U is so strongly altitude-dependent, there are no samples of the finest grain size above 650 m, but there are some coarse samples below 650 m and they contain $>$ 3 ppm U (up to 9 ppm U).

The more basic, high-altitude rocks may be interpreted as part of a roof zone which crystallised first, leaving slightly more differentiated magma to crystallise subsequently below. To the south of Ben Starav this roof zone was above the present level of exposure, but geochemical values characteristic of the roof zone occur at lower altitudes further from the centre, 3 km N and 3 km S of Ben Starav.

The central mineralised area is well illustrated by Cu (Figure 8). There are few very low values within this area and none above 20 ppm outside it. The Mo map (Figure 9) shows more very low values ($<$ 8 ppm) within the central area and two very high values (180 and 3500 ppm) outside it. There are few high Mo values above 650 m altitude, in the roof zone. The W map (Figure 10) shows high values within the central area (mostly below 650 m), but values are just as high to the SW. XDR 384 [1360 3968] contains a mineralised quartz veinlet, and contained 242 ppm W as well as 582 ppm Pb and 1656 ppm Zn.

The Pb and Zn maps show little pattern, but Sn values $\geqslant$ 4 ppm, Ni values $\geqslant$ 2 ppm, Ag values $\geqslant$ 2 ppm and V values $\geqslant$ 20 ppm mostly fall within the central mineralised area.

Inter-element correlation

Most of the stronger correlations (Table 5) have already been noted. Correlations between the elements characteristic of the more acid rocks (U, Rb, Th, Nb) are less strong (0.53-0.63) than those between elements associated with the less acid granites (Ba, Ca, Ni, Sr, Zr, Fe, Mn, Ti and Co). The correlation coefficient between Cu and Mo is 0.65, but the other elements potentially associated with mineralisation (W, Bi, As, Pb, Zn, Ag) show no coefficients greater than 0.61.

It has been observed that the rocks show petrographic evidence of very little alteration associated with the mineralisation. Correlation coefficients between K/Rb and Cu, Mo and W are, respectively, -0.37, -0.38 and -0.38. Other correlation coefficients that might indicate alteration associated with mineralisation are much lower.

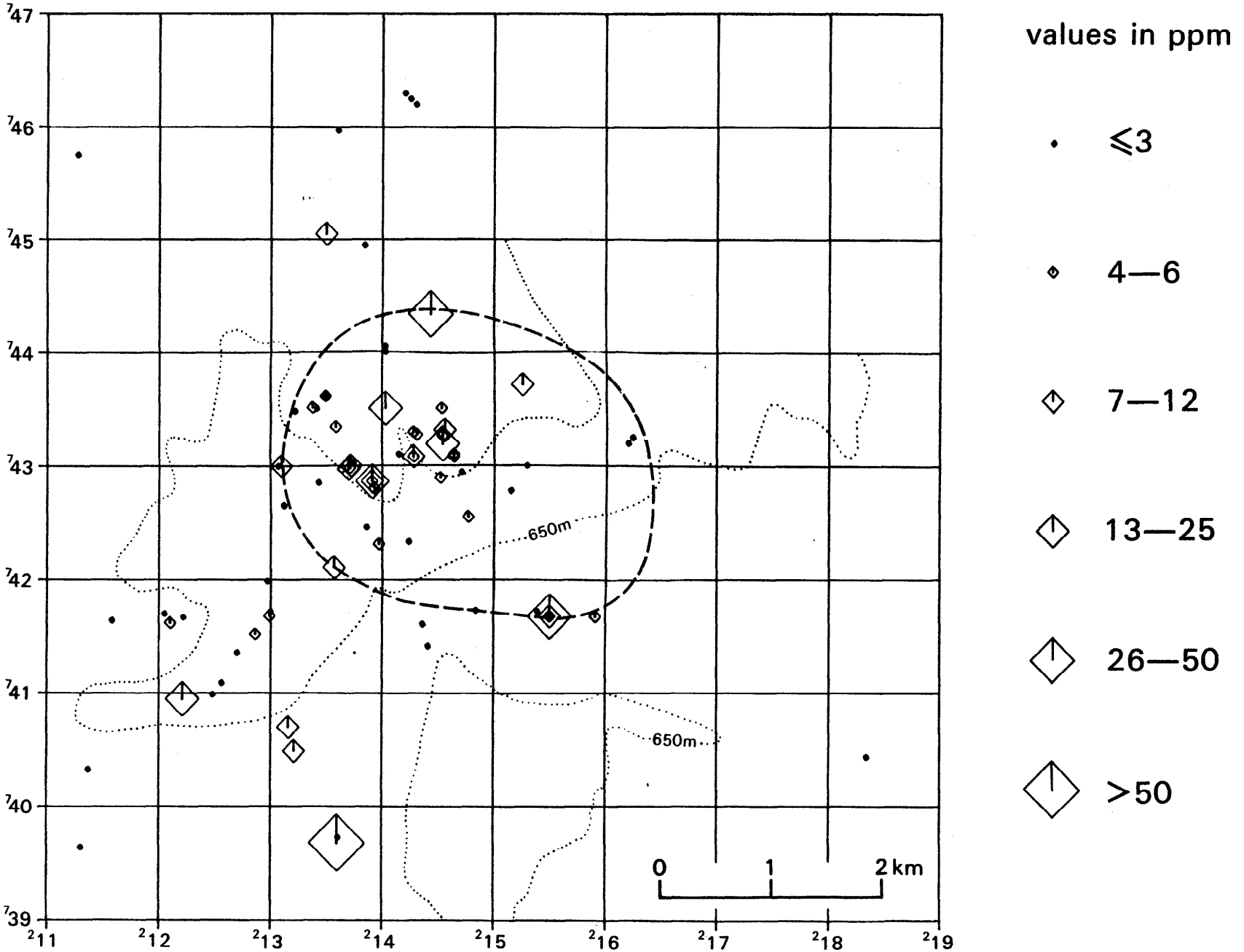

Fig. 10. Tungsten in rock samples. The central mineralised area is outlined.

Table 7 Fluid inclusion gas compositions for those samples in which the volume of non-condensable gases was above the detection threshold

	XDR 306	XDR 350	XDR 404	XDR 345
Total non-condensables*	0.002	0.0017	0.0006	0.004
Mole % H_2O	91.39	93.35	93.68	96.90
Mole % CO_2	8.43	6.55	6.29	2.60
Mole % N_2	0.09	0.04	0.01	0.36
Mole % CH_4	0.04	0.01	0.00	0.03
Mole % H_2	0.05	0.04	0.01	0.10
Mole % Ar	0.00	0.00	0.00	0.00

* Volume of non-condensable gas per g of quartz, cm^3 at STP

Table 8 Fluid inclusion gas compositions

XDR	H_2O (μmol/g)	CO_2 (μmol/g)	CO_2 mol%
306	27.6	2.54	8.43
350	74.0	5.20	6.55
404	85.9	5.77	6.29
406	52.9	1.80	3.30
407	61.8	1.72	2.71
345	33.4	0.90	2.60
357	39.1	0.94	2.36
308	58.7	1.23	2.05
402	84.6	1.70	1.97
339	45.0	0.84	1.84
411	48.6	0.74	1.50
371	54.3	0.81	1.46
401	65.9	0.91	1.36
384	36.9	0.50	1.33
334	36.1	0.48	1.32
409	54.1	0.72	1.32
441	78.9	0.99	1.23
408	20.5	0.23	1.12
381	61.3	0.58	0.94

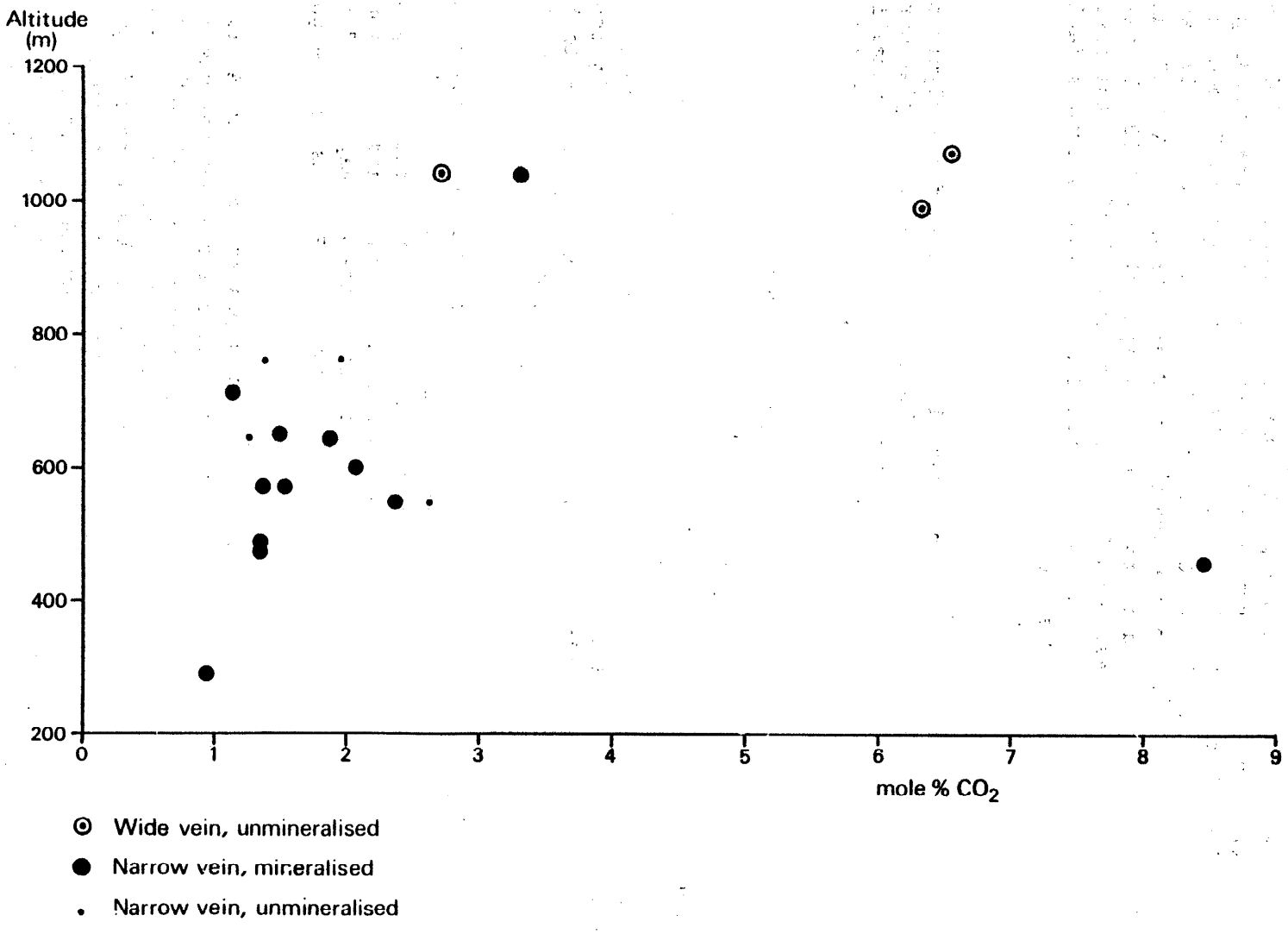

Fig. 11. Mole percent CO_2 in fluid inclusions plotted against altitude.

Miscellaneous rock samples

Chemical data for twelve rock samples are presented in Appendix 1. XDR 314-7, 361 and 398 are boulders collected from stream courses within the Central Starav Granite and probably represent Central Starav Granite and/or mineralised vein material. They include some highly mineralised rocks: XDR 314 (12% Ba, 13 ppm Ag, 1750 ppm Sr, 150 ppm V), XDR 316 (1.5% Cu, 18 ppm Ag, 35 ppm Mo, 41 ppm Co, 22 ppm Bi), XDR 317 (0.3% Cu, 35 ppm Sn, 200 ppm Pb, 11 ppm Ag, 520 ppm Mo), XDR 361 (300 ppm Mo, 71 ppm Cu), and XDR 398 (300 ppm Mo, 70 ppm Cu, 60 ppm Pb, 128 ppm Bi). XDR 377 and 378 are from a fault zone in the Porphyritic Starav Granite. XDR 379 and 380 are boulders of leucocratic rock (possibly aplite). XDR 383 is also possibly an aplite; it showed anomalously high gamma radiation in the field (50 μ R/hr) and contains 13 ppm U and 34 ppm Th. XDR 414 is from a fault zone in the Central Starav Granite.

FLUID INCLUSION STUDIES

Nineteen samples of quartz vein material were selected for analysis of fluid inclusion gas. Their localities are shown on Figure 2. Samples were taken from the narrow veinlets both containing and lacking visible metallic minerals and from the wide veins of milky quartz. Sample numbers (XDR) are:

Wide quartz veins, unmineralised:	350, 404, 407
Narrow veins, with metallic mineral:	306, 308, 334, 339, 357, 371, 381, 384, 406, 408, 409, 411
Narrow veins, no metallic mineral:	345, 401, 402, 441

A characteristic feature of all the samples analysed was a low level of non-condensable gases (nitrogen, methane, hydrogen etc). In only four of the nineteen samples analysed was there sufficient N_2, CH_4 or H_2 to be above the detection threshold (5 x $10^{-4}cm^3$ at STP), as presented in Table 7.

Generally the fluid inclusion gases were composed exclusively of carbon dioxide and water, with a variation in the abundance of inclusions corresponding to an approximate range of 0.50 to 1.10 mg of fluid per g of quartz. The mole percentage of carbon dioxide within the fluid inclusions is a parameter independent of fluid inclusion abundance and may be used to characterise the fluids in this two-component system. Results of the gas analysis are shown in Table 8.

Unpublished data for porphyry molybdenum deposits in North America suggest that the level of CO_2 in the ore solutions increases towards the ore zone. In the Etive sample set the mineralised veins do not yield significantly higher CO_2 values than unmineralised veins (Figure 11) nor do higher CO_2 values correspond to the more strongly mineralised areas (Figure 2). The data, therefore, do not help to identify an emanative centre or the possible location of a central core of high-grade mineralisation. However, the CO_2 values show some correlation with altitude (Figure 11); there is no clear explanation for this, though proximity to the roof of the pluton and therefore to the pore fluids in the Dalradian country rocks is one possibility.

It is suggested that fluid inclusion data from a larger suite of samples would be necessary in order to establish whether any significant association exists between the fluid inclusion composition and the mineralisation or altitude.

CONCLUSIONS AND RECOMMENDATIONS

The presence of Mo mineralisation, with subordinate Cu and W, has been established in the central part of the Central Starav Granite. Molybdenite and pyrite are the principal ore minerals, with less common chalcopyrite and scheelite. The mineralisation is mostly associated with quartz veinlets. The accompanying alteration is of limited intensity and extent. Most of the observed mineralisation lies in an area about 3 km across. Even in the best mineralised localities the tenor of potentially valuable metals is far below that which would be required to define a deposit of ore grade. There is a generally good correspondence between areas containing high Mo_s values and areas in which the most abundant Mo mineralisation was seen in bedrock, so it is unlikely that any mineralised body of substantial size and significantly higher grade than the observed mineralisation occurs at outcrop or contributes metal to the sediment of a stream sampled during the drainage survey.

It is considered that the observed mineralisation is part of a large mass of sparsely mineralised granite. The scarcity of mineralisation at altitudes greater than 650 m suggests that present-day exposures are near the top of the mineralised body, the roof zone possibly acting as a barrier to the further migration of mineralising fluids. A hydrothermal system comparable to those that give rise to porphyry Mo deposits could account for the Mo-Cu-W mineralisation but, as at Ballachulish where Cu-Mo-(W) mineralisation occurs in a very similar geological setting (Haslam and Kimbell, 1981), the mineralising capacity of the system must have been weak, resulting in only sparse deposition of metallic minerals, hydrothermal alteration of low intensity and restricted distribution, and a very low degree of metasomatism.

The Etive plutonic complex is large (some 20 km across) and the Central Starav Granite, within which the mineralisation occurs, measures about 10 x 8 km at outcrop. Neither ground study nor examination of air photographs (by Dr B J Amos and Mr F Habgood) have identified any structure that could serve as a trap, restricting the movement of the mineralising solutions. In the absence of any such constraint, the mineralisation was consequently widely dispersed.

The survey thus provides no evidence for the existence of potentially economic mineral deposits at surface or in depth. If such exist, they are likely to occur at depths in excess of several hundred metres, detectable only by drilling. On present evidence, the only logical site for a borehole to depth would be in Choire Dhuibh at [1455 4330], near the middle of the central mineralised area and in the area of best-developed exposed mineralisation.

However, the justification for exploration by drilling is at present so tenuous that additional surface investigations would have to provide stronger evidence in order for it to be valid. The alternative is very much a 'wild-cat' approach. As sub-drift sampling would not be practicable because of the bouldery nature of the moraine, there appear to be two approaches to any further attempt to delineate a primary drill target: systematic collection of rock samples from outcrop for more detailed

geochemical and fluid-inclusion studies, and an induced polarisation survey. Either of these might detect evidence of near-surface mineralisation, or, more likely, might reveal a faint pattern of concentric zoning, leading to the identification of a drilling target at depth. It is emphasised, however, that the information obtained to date on this occurrence provides little incentive for further, more costly exploration.

Outside the central mineralised area, two areas are indicated from the results of the drainage survey as deserving some further limited investigation:

1. The eastern slopes of Beinn Trilleachan, where molybdenum and tungsten values suggest similar mineralisation to that found in the Ben Starav area;

2. The area around Glen Ceitlein and Allt a'Chaoruinn, where several high values of barium in panned concentrate should be explained.

ACKNOWLEDGEMENTS

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SAMPNUMB	EASTING	NORTHING	CEP XRF	P&P XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
101.	21404.	74659.	661.00	372.00	4.00	11.00	27.00	42.00	5.00
102.	21396.	74503.	173.00	243.00	4.00	3.50	36.00	30.00	12.00
103.	21408.	74521.	200.00	405.00	4.00	3.50	35.00	49.00	14.00
104.	21414.	74550.	97.00	375.00	4.00	3.50	28.00	22.00	1.00
105.	21407.	74570.	601.00	298.00	4.00	15.00	52.00	74.00	24.00
106.	21391.	74600.	227.00	442.00	8.00	7.00	16.00	28.00	2.00
107.	21544.	74379.	292.00	240.00	4.00	14.00	54.00	69.00	9.00
108.	21546.	74372.	146.00	199.00	4.00	3.50	44.00	37.00	7.00
109.	21547.	74367.	109.00	244.00	4.00	7.00	36.00	29.00	3.00
110.	21522.	74391.	173.00	240.00	4.00	9.00	35.00	40.00	6.00
111.	21402.	74505.	165.00	251.00	4.00	11.00	37.00	40.00	4.00
112.	21404.	74511.	151.00	260.00	4.00	8.00	21.00	35.00	1.00
113.	21356.	74401.	142.00	197.00	4.00	11.00	30.00	26.00	1.00
114.	21360.	74424.	92.00	164.00	4.00	7.00	26.00	12.00	1.00
115.	21362.	74390.	56.00	338.00	4.00	3.50	27.00	28.00	12.00
116.	21344.	74354.	62.00	321.00	4.00	3.50	31.00	10.00	4.00
117.	21374.	74302.	72.00	288.00	4.00	9.00	29.00	18.00	5.00
118.	21390.	74295.	90.00	261.00	4.00	3.50	120.00	40.00	42.00
119.	21372.	74382.	56.00	301.00	4.00	3.50	38.00	64.00	38.00
120.	21382.	74484.	124.00	287.00	4.00	10.00	64.00	87.00	68.00
121.	21430.	74424.	78.00	329.00	4.00	16.00	65.00	50.00	34.00
122.	21437.	74438.	70.00	251.00	4.00	3.50	35.00	25.00	3.00
123.	21460.	74436.	151.00	322.00	4.00	7.00	34.00	37.00	6.00
124.	21471.	74438.	370.00	202.00	4.00	14.00	50.00	69.00	17.00
125.	21452.	74350.	53.00	439.00	4.00	3.50	43.00	49.00	43.00
126.	21465.	74332.	93.00	312.00	4.00	3.50	27.00	28.00	5.00
127.	21462.	74326.	200.00	1428.00	4.00	14.00	90.00	75.00	51.00
128.	21468.	74308.	131.00	461.00	4.00	11.00	67.00	75.00	69.00
129.	21465.	74305.	82.00	479.00	4.00	3.50	55.00	46.00	104.00
130.	21466.	74302.	123.00	347.00	4.00	3.50	67.00	40.00	96.00
131.	21414.	74486.	56.00	218.00	4.00	11.00	23.00	22.00	1.00
132.	21486.	74482.	77.00	239.00	4.00	7.00	32.00	34.00	14.00
133.	21414.	74533.	323.00	238.00	4.00	22.00	43.00	63.00	1.00
134.	21414.	74561.	208.00	361.00	4.00	7.00	23.00	33.00	4.00
135.	21408.	74576.	579.00	307.00	4.00	12.00	28.00	56.00	10.00
136.	21396.	74638.	392.00	461.00	4.00	10.00	26.00	18.00	1.00
137.	21563.	74363.	117.00	273.00	4.00	3.50	28.00	32.00	1.00
138.	21572.	74365.	125.00	238.00	4.00	3.50	25.00	22.00	1.00
139.	21506.	74402.	23.00	502.00	4.00	3.50	24.00	20.00	3.00
140.	21496.	74407.	29.00	225.00	4.00	3.50	26.00	14.00	1.00
141.	21491.	74423.	74.00	246.00	4.00	3.50	23.00	19.00	1.00
142.	21436.	74463.	43.00	235.00	4.00	3.50	20.00	23.00	1.00
143.	21156.	74468.	66.00	128.00	4.00	3.50	21.00	16.00	1.00
144.	21162.	74468.	59.00	161.00	4.00	3.50	23.00	15.00	3.00
145.	21192.	74493.	75.00	299.00	4.00	3.50	24.00	20.00	1.00
146.	21194.	74494.	108.00	224.00	4.00	3.50	29.00	25.00	4.00
147.	21257.	74524.	480.00	107.00	4.00	25.00	67.00	94.00	29.00
148.	21322.	74556.	44.00	125.00	4.00	7.00	20.00	8.00	1.00
149.	21352.	74566.	79.00	189.00	4.00	3.50	22.00	12.00	1.00
150.	21764.	74694.	87.00	646.00	4.00	3.50	22.00	35.00	1.00
151.	21728.	74636.	308.00	527.00	4.00	7.00	40.00	35.00	1.00
152.	21730.	74640.	188.00	593.00	8.00	3.50	35.00	38.00	1.00
153.	21733.	74649.	603.00	593.00	4.00	12.00	72.00	52.00	3.00
154.	21805.	74620.	219.00	698.00	4.00	3.50	30.00	34.00	1.00
155.	21784.	74592.	183.00	598.00	4.00	3.50	32.00	16.00	1.00
156.	21774.	74574.	315.00	554.00	4.00	11.00	50.00	69.00	3.00

SAMPNUMB	CAP XRF	NIP XRF	AGP XRF	UP XRF	RBP XRF	THP XRF	MBP XRF	SRP XRF	ZRP XRF
101.	14900.00	12.00	1.50	15.00	77.00	89.00	140.00	215.00	2407.00
102.	3440.00	4.00	3.00	18.00	121.00	65.00	140.00	101.00	822.00
103.	4990.00	10.00	1.50	9.00	112.00	43.00	137.00	174.00	369.00
104.	4510.00	2.00	1.50	4.00	116.00	22.00	113.00	156.00	332.00
105.	11820.00	20.00	8.00	18.00	64.00	94.00	205.00	131.00	1125.00
106.	7100.00	4.00	1.50	4.00	91.00	33.00	60.00	238.00	141.00
107.	4020.00	7.00	4.00	27.00	92.00	67.00	453.00	82.00	788.00
108.	2730.00	3.00	1.50	23.00	116.00	37.00	205.00	81.00	394.00
109.	2600.00	2.00	1.50	11.00	120.00	30.00	129.00	92.00	423.00
110.	3670.00	3.00	1.50	18.00	102.00	35.00	205.00	90.00	442.00
111.	3300.00	2.00	1.50	20.00	112.00	47.00	332.00	97.00	489.00
112.	3940.00	2.00	1.50	16.00	96.00	36.00	358.00	108.00	511.00
113.	2330.00	0.50	1.50	19.00	130.00	69.00	233.00	80.00	448.00
114.	2230.00	0.50	1.50	19.00	132.00	30.00	156.00	74.00	243.00
115.	2570.00	2.00	1.50	1.50	143.00	11.00	81.00	117.00	136.00
116.	3110.00	0.50	1.50	5.00	138.00	24.00	65.00	130.00	344.00
117.	2260.00	0.50	1.50	7.00	153.00	27.00	96.00	105.00	312.00
118.	2100.00	2.00	1.50	12.00	151.00	34.00	111.00	89.00	285.00
119.	1530.00	2.00	1.50	6.00	199.00	28.00	43.00	129.00	179.00
120.	2220.00	4.00	3.00	16.00	156.00	59.00	164.00	119.00	369.00
121.	2880.00	4.00	3.00	7.00	127.00	53.00	180.00	110.00	230.00
122.	2540.00	0.50	1.50	7.00	130.00	21.00	78.00	100.00	196.00
123.	3910.00	3.00	1.50	15.00	118.00	41.00	129.00	136.00	309.00
124.	4250.00	10.00	3.00	43.00	110.00	118.00	318.00	94.00	1630.00
125.	2810.00	2.00	1.50	4.00	150.00	35.00	59.00	141.00	306.00
126.	3040.00	1.00	1.50	7.00	141.00	24.00	82.00	123.00	542.00
127.	3940.00	19.00	5.00	21.00	97.00	100.00	303.00	110.00	709.00
128.	3180.00	6.00	1.50	12.00	135.00	63.00	115.00	122.00	584.00
129.	2860.00	2.00	3.00	7.00	162.00	37.00	71.00	130.00	326.00
130.	2510.00	5.00	1.50	10.00	124.00	80.00	161.00	93.00	727.00
131.	2410.00	0.50	1.50	6.00	84.00	10.00	176.00	90.00	45.00
132.	3570.00	2.00	1.50	22.00	100.00	19.00	162.00	87.00	253.00
133.	6830.00	2.00	1.50	38.00	95.00	63.00	587.00	101.00	1207.00
134.	6190.00	3.00	1.50	10.00	91.00	28.00	199.00	173.00	171.00
135.	10110.00	11.00	1.50	16.00	75.00	77.00	107.00	163.00	513.00
136.	10390.00	5.00	1.50	6.00	86.00	34.00	99.00	261.00	996.00
137.	3480.00	2.00	1.50	7.00	114.00	26.00	121.00	117.00	342.00
138.	3380.00	1.00	1.50	14.00	105.00	45.00	223.00	102.00	547.00
139.	3570.00	1.00	1.50	1.50	142.00	4.00	20.00	180.00	62.00
140.	1270.00	1.00	1.50	4.00	125.00	7.00	48.00	77.00	50.00
141.	2350.00	0.50	1.50	12.00	115.00	26.00	106.00	93.00	246.00
142.	2330.00	0.50	1.50	7.00	110.00	8.00	54.00	97.00	66.00
143.	1510.00	0.50	1.50	12.00	102.00	19.00	136.00	62.00	113.00
144.	1860.00	0.50	1.50	9.00	131.00	25.00	138.00	89.00	142.00
145.	3530.00	2.00	1.50	11.00	117.00	23.00	135.00	179.00	199.00
146.	2270.00	2.00	1.50	10.00	136.00	42.00	141.00	114.00	265.00
147.	3360.00	11.00	1.00	56.00	91.00	172.00	605.00	63.00	623.00
148.	1200.00	0.50	1.50	9.00	103.00	13.00	122.00	59.00	152.00
149.	2340.00	0.50	1.50	5.00	95.00	22.00	139.00	80.00	322.00
150.	11040.00	10.00	1.50	1.50	55.00	6.00	53.00	374.00	579.00
151.	10030.00	7.00	1.50	6.00	150.00	36.00	69.00	276.00	586.00
152.	7430.00	4.00	1.50	6.00	95.00	25.00	48.00	287.00	660.00
153.	16340.00	15.00	1.50	16.00	69.00	43.00	138.00	282.00	713.00
154.	9940.00	8.00	1.50	5.00	81.00	15.00	54.00	351.00	552.00
155.	8600.00	3.00	1.50	5.00	89.00	18.00	49.00	324.00	1281.00
156.	8820.00	8.00	1.50	7.00	91.00	29.00	73.00	243.00	516.00

SAMPNUMB	YP XRF	MOP XRF	FEP XRF	MNP XRF	TIP XRF	VP XRF	CRP XRF	COP XRF	LAP XRF
101.	177.00	3.00	88000.00	590.00	14660.00	200.00	60.00	22.00	240.00
102.	32.00	0.00	49900.00	1700.00	10130.00	90.00	20.00	11.00	110.00
103.	48.00	2.00	55300.00	1610.00	11430.00	80.00	20.00	21.00	110.00
104.	30.00	1.00	24600.00	1670.00	9130.00	50.00	10.00	5.00	50.00
105.	129.00	5.00	230000.00	2270.00	20940.00	440.00	130.00	67.00	290.00
106.	60.00	1.00	21000.00	440.00	6120.00	50.00	10.00	5.00	150.00
107.	53.00	5.00	83200.00	5750.00	31440.00	110.00	20.00	20.00	160.00
108.	31.00	3.00	44900.00	2220.00	11340.00	60.00	10.00	11.00	80.00
109.	18.00	7.00	25700.00	1430.00	8640.00	40.00	10.00	6.00	70.00
110.	37.00	5.00	42200.00	3600.00	18900.00	60.00	10.00	9.00	90.00
111.	31.00	5.00	42700.00	4500.00	21210.00	40.00	10.00	8.00	90.00
112.	41.00	1.00	27600.00	4610.00	21950.00	30.00	5.00	6.00	80.00
113.	28.00	5.00	12400.00	3130.00	13170.00	20.00	5.00	2.00	90.00
114.	23.00	3.00	6400.00	2030.00	8610.00	10.00	5.00	1.00	60.00
115.	12.00	28.00	12000.00	710.00	5000.00	20.00	10.00	3.00	20.00
116.	15.00	13.00	8300.00	530.00	4750.00	20.00	10.00	1.00	20.00
117.	13.00	12.00	8000.00	640.00	5200.00	10.00	5.00	1.00	30.00
118.	15.00	39.00	45900.00	700.00	7030.00	70.00	20.00	10.00	40.00
119.	12.00	12.00	15500.00	420.00	2090.00	30.00	10.00	3.00	20.00
120.	26.00	10.00	52200.00	1100.00	9500.00	70.00	20.00	13.00	60.00
121.	16.00	37.00	39900.00	1590.00	12230.00	60.00	10.00	11.00	40.00
122.	13.00	1.00	14200.00	900.00	5210.00	30.00	10.00	3.00	40.00
123.	34.00	1.00	26600.00	1400.00	8590.00	50.00	10.00	8.00	80.00
124.	64.00	5.00	157100.00	3710.00	18700.00	220.00	60.00	39.00	170.00
125.	12.00	18.00	21100.00	500.00	4210.00	50.00	10.00	5.00	30.00
126.	15.00	8.00	8500.00	730.00	4790.00	20.00	5.00	1.00	30.00
127.	44.00	47.00	107400.00	2920.00	22730.00	160.00	40.00	28.00	120.00
128.	23.00	45.00	52500.00	1000.00	8930.00	90.00	20.00	13.00	80.00
129.	16.00	55.00	24700.00	590.00	5350.00	40.00	10.00	6.00	50.00
130.	24.00	35.00	53100.00	1520.00	11590.00	90.00	20.00	13.00	80.00
131.	24.00	1.00	8600.00	2520.00	11510.00	10.00	5.00	1.00	30.00
132.	24.00	11.00	24300.00	2130.00	11500.00	30.00	5.00	6.00	40.00
133.	76.00	3.00	53600.00	7990.00	37690.00	50.00	10.00	10.00	150.00
134.	57.00	1.00	41900.00	2840.00	16070.00	80.00	20.00	9.00	120.00
135.	131.00	3.00	103800.00	1920.00	17440.00	210.00	60.00	28.00	200.00
136.	40.00	2.00	19100.00	380.00	9850.00	60.00	20.00	5.00	140.00
137.	27.00	2.00	18400.00	1650.00	9110.00	30.00	10.00	5.00	60.00
138.	34.00	1.00	15300.00	3240.00	14780.00	20.00	5.00	2.00	70.00
139.	7.00	2.00	5200.00	240.00	1670.00	10.00	5.00	2.00	10.00
140.	4.00	1.00	5600.00	370.00	2480.00	10.00	5.00	1.00	20.00
141.	21.00	2.00	7200.00	1330.00	6550.00	10.00	10.00	2.00	50.00
142.	14.00	3.00	5900.00	570.00	3130.00	10.00	5.00	2.00	20.00
143.	13.00	3.00	7300.00	1360.00	8270.00	10.00	10.00	1.00	30.00
144.	11.00	3.00	7400.00	1230.00	6860.00	10.00	10.00	1.00	30.00
145.	19.00	2.00	12900.00	1310.00	8230.00	20.00	10.00	2.00	30.00
146.	25.00	6.00	15800.00	1190.00	7010.00	20.00	10.00	3.00	40.00
147.	61.00	15.00	156900.00	6040.00	32490.00	180.00	40.00	39.00	190.00
148.	10.00	2.00	3700.00	1340.00	7130.00	5.00	10.00	1.00	20.00
149.	14.00	1.00	5700.00	1850.00	9030.00	5.00	5.00	1.00	40.00
150.	24.00	2.00	22400.00	1220.00	16440.00	50.00	30.00	8.00	40.00
151.	77.00	1.00	40400.00	350.00	6970.00	100.00	40.00	9.00	120.00
152.	53.00	1.00	20600.00	310.00	5090.00	60.00	20.00	6.00	60.00
153.	153.00	12.00	60800.00	920.00	18920.00	170.00	70.00	18.00	230.00
154.	57.00	1.00	18700.00	500.00	7590.00	60.00	30.00	6.00	80.00
155.	55.00	1.00	17700.00	270.00	5680.00	60.00	20.00	4.00	80.00
156.	76.00	2.00	45800.00	420.00	8240.00	110.00	40.00	12.00	130.00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
157.	22176.	74716.	32.00	568.00	4.00	3.50	20.00	9.00	1.00
158.	22186.	74712.	99.00	610.00	4.00	3.50	43.00	80.00	9.00
159.	22170.	74744.	53.00	651.00	4.00	3.50	18.00	20.00	1.00
160.	22161.	74734.	110.00	649.00	4.00	3.50	41.00	74.00	5.00
161.	20994.	74174.	335.00	249.00	4.00	17.00	61.00	68.00	19.00
162.	20996.	74216.	44.00	324.00	4.00	3.50	25.00	13.00	1.00
163.	21016.	74224.	87.00	574.00	4.00	8.00	30.00	24.00	1.00
164.	21023.	74233.	39.00	354.00	4.00	3.50	27.00	23.00	1.00
165.	21042.	74252.	77.00	206.00	4.00	10.00	27.00	22.00	1.00
166.	21058.	74272.	55.00	371.00	4.00	3.50	22.00	17.00	1.00
167.	21690.	74636.	515.00	386.00	4.00	11.00	48.00	48.00	6.00
168.	21700.	74627.	467.00	229.00	4.00	10.00	46.00	109.00	15.00
169.	21697.	74660.	260.00	385.00	4.00	3.50	31.00	95.00	20.00
170.	21674.	74672.	396.00	371.00	4.00	7.00	47.00	39.00	6.00
171.	21441.	74459.	20.00	215.00	4.00	3.50	18.00	5.00	1.00
172.	21667.	74294.	24.00	220.00	4.00	3.50	28.00	13.00	1.00
173.	21089.	74299.	8.50	240.00	4.00	3.50	22.00	12.00	1.00
174.	21091.	74349.	39.00	168.00	4.00	3.50	27.00	10.00	1.00
175.	21098.	74360.	119.00	1121.00	4.00	3.50	63.00	60.00	16.00
176.	21112.	74390.	41.00	161.00	4.00	3.50	35.00	25.00	4.00
177.	21116.	74405.	20.00	115.00	4.00	3.50	14.00	13.00	1.00
178.	21142.	74452.	174.00	206.00	4.00	8.00	44.00	28.00	9.00
179.	21576.	74795.	56.00	992.00	4.00	3.50	43.00	86.00	6.00
180.	21600.	74788.	117.00	897.00	4.00	3.50	25.00	56.00	8.00
181.	21737.	74694.	167.00	870.00	4.00	3.50	25.00	43.00	1.00
182.	21733.	74699.	159.00	711.00	4.00	3.50	27.00	104.00	13.00
183.	21691.	74699.	377.00	757.00	4.00	3.50	25.00	53.00	6.00
184.	21681.	74695.	111.00	864.00	4.00	9.00	23.00	52.00	6.00
185.	21657.	74696.	178.00	626.00	4.00	3.50	29.00	52.00	2.00
186.	21656.	74719.	113.00	1359.00	4.00	3.50	21.00	37.00	2.00
187.	22183.	74929.	130.00	674.00	4.00	3.50	42.00	66.00	15.00
188.	22260.	74948.	79.00	762.00	4.00	3.50	31.00	53.00	10.00
189.	22127.	74943.	60.00	223.00	4.00	3.50	51.00	42.00	17.00
190.	22082.	74947.	51.00	2611.00	4.00	7.00	50.00	247.00	20.00
191.	22118.	74784.	127.00	661.00	4.00	3.50	21.00	30.00	4.00
192.	22110.	74780.	110.00	909.00	4.00	3.50	38.00	96.00	13.00
193.	22247.	74872.	80.00	568.00	4.00	3.50	24.00	34.00	1.00
194.	22244.	74869.	97.00	673.00	4.00	3.50	33.00	66.00	7.00
195.	22214.	74898.	71.00	612.00	4.00	3.50	10.00	17.00	1.00
196.	22196.	74917.	65.00	566.00	4.00	3.50	24.00	16.00	1.00
197.	22202.	74913.	93.00	649.00	4.00	3.50	27.00	52.00	1.00
198.	21186.	74398.	112.00	279.00	8.00	3.50	39.00	32.00	20.00
199.	21208.	74366.	166.00	275.00	4.00	3.50	40.00	34.00	24.00
200.	21211.	74353.	175.00	925.00	4.00	3.50	41.00	36.00	44.00
201.	21641.	74694.	469.00	450.00	4.00	11.00	28.00	37.00	1.00
202.	21631.	74699.	429.00	418.00	4.00	10.00	37.00	71.00	4.00
203.	21628.	74708.	257.00	526.00	4.00	7.00	29.00	34.00	3.00
204.	21588.	74732.	540.00	456.00	4.00	3.50	42.00	84.00	10.00
205	21881.	74808.	78.00	24400.00	4.00	3.50	81.00	171.00	17.00
206.	21845.	74802.	58.00	823.00	4.00	3.50	22.00	25.00	2.00
207.	21812.	74790.	65.00	665.00	4.00	3.50	20.00	26.00	1.00
208.	21844.	74797.	51.00	796.00	4.00	3.50	23.00	20.00	1.00
209.	21835.	74840.	68.00	700.00	4.00	3.50	24.00	62.00	6.00
210.	21852.	74843.	71.00	718.00	4.00	3.50	15.00	23.00	2.00
211.	22262.	75226.	177.00	692.00	4.00	3.50	70.00	105.00	31.00
212.	21222.	74330.	293.00	2456.00	4.00	8.00	401.00	58.00	29.00

SAMPNUMB	CAP	XRF	MIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	THP	XRF	MBP	XRF	SRP	XRF	ZRP	XRF
157.	5570.	00	2.	00	1.	50	1.	50	107.	00	7.	00	9.	00	299.	00	110.	00
158.	9780.	00	26.	00	1.	50	4.	00	104.	00	22.	00	21.	00	359.	00	208.	00
159.	8640.	00	7.	00	1.	50	1.	50	104.	00	0.	00	10.	00	426.	00	145.	00
160.	9510.	00	19.	00	1.	50	6.	00	107.	00	27.	00	25.	00	358.	00	201.	00
161.	4570.	00	11.	00	1.	50	41.	00	104.	00	123.	00	261.	00	105.	00	598.	00
162.	3830.	00	1.	00	1.	50	1.	50	102.	00	10.	00	56.	00	181.	00	123.	00
163.	4380.	00	5.	00	1.	50	13.	00	119.	00	29.	00	160.	00	206.	00	344.	00
164.	3210.	00	1.	00	1.	50	5.	00	132.	00	10.	00	78.	00	181.	00	182.	00
165.	1890.	00	1.	00	1.	50	15.	00	138.	00	38.	00	154.	00	89.	00	229.	00
166.	3470.	00	3.	00	1.	50	8.	00	139.	00	10.	00	59.	00	138.	00	210.	00
167.	11180.	00	12.	00	6.	00	14.	00	79.	00	73.	00	104.	00	172.	00	1233.	00
168.	12450.	00	30.	00	10.	00	28.	00	64.	00	204.	00	106.	00	197.	00	2533.	00
169.	8400.	00	16.	00	5.	00	13.	00	104.	00	85.	00	60.	00	158.	00	644.	00
170.	9150.	00	11.	00	3.	00	12.	00	77.	00	75.	00	65.	00	164.	00	1185.	00
171.	1660.	00	0.	50	1.	50	1.	50	99.	00	3.	00	55.	00	84.	00	36.	00
172.	1920.	00	0.	50	1.	50	8.	00	115.	00	10.	00	122.	00	102.	00	57.	00
173.	1420.	00	0.	50	1.	50	1.	50	131.	00	5.	00	60.	00	97.	00	51.	00
174.	1310.	00	0.	50	1.	50	7.	00	126.	00	14.	00	75.	00	73.	00	82.	00
175.	2860.	00	5.	00	1.	50	10.	00	147.	00	43.	00	72.	00	142.	00	201.	00
176.	1660.	00	3.	00	1.	50	9.	00	133.	00	14.	00	76.	00	67.	00	74.	00
177.	1450.	00	0.	50	1.	50	1.	50	111.	00	7.	00	46.	00	66.	00	25.	00
178.	2630.	00	2.	00	4.	00	20.	00	139.	00	52.	00	151.	00	93.	00	211.	00
179.	10359.	00	13.	00	1.	50	1.	50	97.	00	18.	00	16.	00	462.	00	190.	00
180.	13400.	00	16.	00	1.	50	4.	00	73.	00	11.	00	45.	00	395.	00	475.	00
181.	12960.	00	12.	00	3.	00	5.	00	59.	00	14.	00	67.	00	376.	00	235.	00
182.	13698.	00	20.	00	3.	00	4.	00	71.	00	14.	00	43.	00	371.	00	628.	00
183.	20960.	00	15.	00	5.	00	9.	00	86.	00	29.	00	77.	00	449.	00	2744.	00
184.	11899.	00	12.	00	1.	50	1.	50	86.	00	10.	00	30.	00	412.	00	742.	00
185.	7650.	00	9.	00	1.	50	4.	00	101.	00	44.	00	42.	00	200.	00	315.	00
186.	10840.	00	6.	00	3.	00	3.	00	93.	00	13.	00	49.	00	500.	00	1124.	00
187.	9160.	00	21.	00	1.	50	7.	00	110.	00	23.	00	26.	00	383.	00	570.	00
188.	9560.	00	17.	00	1.	50	5.	00	107.	00	12.	00	13.	00	439.	00	194.	00
189.	5260.	00	8.	00	1.	50	14.	00	120.	00	42.	00	35.	00	162.	00	310.	00
190.	3790.	00	13.	00	1.	50	8.	00	159.	00	33.	00	18.	00	332.	00	326.	00
191.	8500.	00	12.	00	1.	50	3.	00	114.	00	17.	00	27.	00	377.	00	299.	00
192.	9040.	00	32.	00	7.	00	6.	00	90.	00	44.	00	20.	00	319.	00	342.	00
193.	8280.	00	9.	00	1.	50	3.	00	118.	00	18.	00	18.	00	356.	00	149.	00
194.	7920.	00	12.	00	3.	00	7.	00	119.	00	21.	00	17.	00	332.	00	183.	00
195.	8370.	00	8.	00	1.	50	1.	50	107.	00	12.	00	20.	00	362.	00	203.	00
196.	7910.	00	5.	00	1.	50	1.	50	111.	00	12.	00	20.	00	365.	00	317.	00
197.	7360.	00	11.	00	1.	50	3.	00	117.	00	27.	00	18.	00	393.	00	281.	00
198.	2630.	00	1.	00	1.	50	20.	00	153.	00	52.	00	32.	00	182.	00	149.	00
199.	3960.	00	1.	00	3.	00	57.	00	207.	00	82.	00	118.	00	98.	00	230.	00
200.	2670.	00	3.	00	3.	00	22.	00	160.	00	72.	00	79.	00	133.	00	300.	00
201.	11950.	00	6.	00	1.	50	12.	00	92.	00	48.	00	103.	00	254.	00	1704.	00
202.	11250.	00	13.	00	5.	00	15.	00	87.	00	78.	00	92.	00	222.	00	1193.	00
203.	8670.	00	7.	00	3.	00	8.	00	99.	00	36.	00	50.	00	258.	00	1326.	00
204.	13190.	00	15.	00	4.	00	22.	00	78.	00	68.	00	22.	00	240.	00	1186.	00
205.	5760.	00	24.	00	6.	00	12.	00	213.	00	4.	00	26.	00	528.	00	627.	00
206.	8230.	00	7.	00	1.	50	1.	50	89.	00	4.	00	13.	00	403.	00	215.	00
207.	7370.	00	7.	00	1.	50	1.	50	76.	00	5.	00	20.	00	352.	00	484.	00
208.	7620.	00	6.	00	1.	50	3.	00	86.	00	6.	00	28.	00	388.	00	2040.	00
209.	9780.	00	15.	00	1.	50	1.	50	78.	00	15.	00	25.	00	359.	00	828.	00
210.	7330.	00	8.	00	1.	50	4.	00	96.	00	7.	00	17.	00	435.	00	617.	00
211.	16850.	00	45.	00	1.	50	5.	00	76.	00	41.	00	35.	00	503.	00	301.	00
212.	5850.	00	12.	00	4.	00	41.	00	136.	00	127.	00	156.	00	132.	00	526.	00

SAMPNUMB	YP XRF	MOP XRF	FEP XRF	ZNP XRF	TIP XRF	VP XRF	CRP XRF	COP XRF	LAP XRF
157.	12.00	1.00	3600.00	180.00	1750.00	10.00	10.00	1.00	20.00
158.	27.00	1.00	49700.00	470.00	4110.00	120.00	100.00	17.00	50.00
159.	10.00	4.00	6800.00	270.00	2430.00	30.00	10.00	3.00	30.00
160.	20.00	2.00	41300.00	450.00	4060.00	110.00	80.00	14.00	50.00
161.	50.00	8.00	122700.00	3220.00	17170.00	170.00	50.00	30.00	100.00
162.	10.00	1.00	7600.00	660.00	4050.00	10.00	5.00	1.00	20.00
163.	27.00	4.00	17600.00	1760.00	11340.00	30.00	10.00	4.00	50.00
164.	16.00	1.00	7200.00	900.00	5230.00	10.00	5.00	2.00	30.00
165.	14.00	2.00	21000.00	1760.00	8860.00	50.00	10.00	5.00	50.00
166.	15.00	1.00	10400.00	740.00	4140.00	40.00	10.00	3.00	30.00
167.	119.00	3.00	137600.00	470.00	11550.00	290.00	110.00	33.00	210.00
168.	160.00	7.00	269600.00	890.00	19260.00	610.00	190.00	90.00	240.00
169.	58.00	2.00	104700.00	580.00	8610.00	230.00	80.00	31.00	130.00
170.	92.00	1.00	128000.00	450.00	9200.00	260.00	160.00	33.00	160.00
171.	6.00	1.00	2500.00	590.00	3320.00	5.00	5.00	1.00	10.00
172.	5.00	1.00	5800.00	1180.00	7030.00	10.00	10.00	1.00	10.00
173.	6.00	1.00	4700.00	670.00	4190.00	10.00	5.00	1.00	10.00
174.	10.00	2.00	5400.00	570.00	3850.00	10.00	5.00	1.00	10.00
175.	21.00	13.00	23200.00	810.00	4490.00	40.00	20.00	7.00	50.00
176.	11.00	3.00	13000.00	640.00	3830.00	20.00	20.00	4.00	10.00
177.	3.00	1.00	2500.00	540.00	2720.00	5.00	5.00	1.00	1.50
178.	29.00	9.00	32600.00	1690.00	9080.00	50.00	10.00	7.00	90.00
179.	14.00	4.00	25000.00	490.00	4100.00	70.00	40.00	10.00	30.00
180.	39.00	4.00	50700.00	790.00	9230.00	110.00	70.00	21.00	60.00
181.	49.00	4.00	35900.00	1330.00	10460.00	100.00	50.00	13.00	70.00
182.	36.00	1.00	101900.00	1160.00	13110.00	290.00	70.00	36.00	80.00
183.	100.00	3.00	67300.00	1210.00	22960.00	200.00	50.00	22.00	160.00
184.	30.00	3.00	55500.00	1040.00	13690.00	160.00	50.00	17.00	60.00
185.	43.00	1.00	34300.00	390.00	5610.00	90.00	40.00	10.00	100.00
186.	41.00	3.00	23900.00	900.00	15130.00	60.00	20.00	7.00	60.00
187.	35.00	2.00	55800.00	470.00	4620.00	140.00	100.00	18.00	50.00
188.	25.00	1.00	30200.00	450.00	3470.00	90.00	60.00	16.00	40.00
189.	16.00	4.00	31000.00	590.00	3310.00	60.00	40.00	9.00	30.00
190.	19.00	1.00	42300.00	370.00	2990.00	100.00	70.00	11.00	30.00
191.	35.00	1.00	35100.00	340.00	4520.00	90.00	70.00	10.00	60.00
192.	32.00	4.00	125000.00	540.00	5460.00	310.00	200.00	42.00	60.00
193.	25.00	3.00	17400.00	350.00	2990.00	50.00	30.00	5.00	30.00
194.	27.00	1.00	24000.00	400.00	3650.00	70.00	50.00	8.00	40.00
195.	25.00	1.00	10700.00	340.00	3500.00	40.00	30.00	4.00	30.00
196.	27.00	2.00	9000.00	300.00	3260.00	30.00	20.00	3.00	30.00
197.	26.00	1.00	24000.00	380.00	3480.00	70.00	50.00	8.00	40.00
198.	17.00	9.00	24100.00	1250.00	5400.00	40.00	10.00	5.00	70.00
199.	35.00	15.00	20300.00	1120.00	5320.00	30.00	20.00	5.00	70.00
200.	46.00	34.00	25000.00	640.00	4940.00	40.00	20.00	7.00	70.00
201.	130.00	3.00	25000.00	340.00	8860.00	80.00	30.00	7.00	140.00
202.	106.00	1.00	106700.00	460.00	9930.00	240.00	110.00	26.00	190.00
203.	65.00	1.00	54700.00	330.00	5320.00	130.00	60.00	14.00	100.00
204.	114.00	2.00	113700.00	660.00	11160.00	200.00	140.00	31.00	180.00
205.	27.00	2.00	53900.00	480.00	5600.00	170.00	100.00	18.00	80.00
206.	13.00	1.00	10600.00	350.00	3060.00	30.00	10.00	5.00	35.00
207.	18.00	1.00	11400.00	420.00	4660.00	30.00	20.00	5.00	40.00
208.	22.00	2.00	19600.00	630.00	7610.00	30.00	10.00	4.00	40.00
209.	30.00	1.00	33900.00	630.00	6820.00	90.00	70.00	18.00	40.00
210.	21.00	1.00	12600.00	320.00	3710.00	40.00	30.00	5.00	30.00
211.	46.00	1.00	113100.00	780.00	8260.00	280.00	200.00	43.00	70.00
212.	43.00	16.00	74900.00	1960.00	10240.00	110.00	50.00	22.00	180.00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
213.	21175.	74390.	123.00	647.00	4.00	5.50	51.00	75.00	80.00
214.	22200.	75180.	113.00	597.00	4.00	3.50	30.00	58.00	2.00
215.	22124.	75150.	106.00	650.00	4.00	3.50	30.00	60.00	7.00
216.	22106.	75139.	243.00	658.00	4.00	10.00	40.00	186.00	10.00
217.	22067.	75114.	105.00	562.00	4.00	3.50	24.00	47.00	2.00
218.	21956.	75097.	70.00	774.00	4.00	3.50	20.00	44.00	8.00
219.	21770.	75099.	50.00	960.00	4.00	3.50	41.00	61.00	10.00
220.	21734.	75096.	67.00	878.00	4.00	3.50	35.00	66.00	15.00
221.	21625.	74738.	244.00	755.00	4.00	4.00	27.00	72.00	6.00
222.	21611.	74722.	193.00	474.00	4.00	3.50	26.00	31.00	1.00
223.	21584.	74727.	163.00	568.00	4.00	3.50	44.00	51.00	1.00
224.	21508.	74740.	32.00	969.00	4.00	3.50	20.00	22.00	1.00
225.	21552.	74764.	144.00	861.00	4.00	3.50	31.00	69.00	10.00
226.	22114.	74653.	28.00	553.00	4.00	3.50	32.00	50.00	1.00
227.	22106.	74651.	40.00	630.00	4.00	3.50	21.00	32.00	2.00
228.	22053.	74758.	23.00	632.00	4.00	3.50	24.00	54.00	1.00
229.	22048.	74764.	27.00	826.00	4.00	3.50	13.00	69.00	2.00
230.	22080.	74813.	23.00	920.00	4.00	3.50	27.00	59.00	3.00
231.	22064.	74960.	162.00	458.00	4.00	3.50	61.00	79.00	25.00
232.	22060.	74968.	71.00	309.00	4.00	3.50	34.00	43.00	7.00
233.	22357.	74753.	140.00	601.00	4.00	3.50	45.00	64.00	7.00
234.	22423.	74740.	106.00	633.00	4.00	3.50	35.00	53.00	4.00
235.	22426.	74734.	174.00	580.00	4.00	3.50	20.00	45.00	10.00
236.	22442.	74730.	78.00	642.00	4.00	3.50	19.00	20.00	1.00
237.	22529.	74774.	273.00	565.00	4.00	11.00	28.00	46.00	1.00
238.	22531.	74783.	135.00	582.00	4.00	3.50	32.00	44.00	4.00
239.	22661.	74815.	242.00	530.00	4.00	8.00	40.00	120.00	7.00
240.	21805.	74312.	498.00	145.00	4.00	19.00	96.00	117.00	24.00
241.	21888.	74918.	79.00	729.00	4.00	3.50	14.00	45.00	2.00
242.	22017.	74865.	246.00	611.00	4.00	3.50	37.00	48.00	3.00
243.	22001.	74877.	123.00	643.00	4.00	8.00	31.00	40.00	1.00
244.	21986.	74923.	187.00	587.00	4.00	3.50	34.00	69.00	7.00
245.	21937.	74950.	111.00	5891.00	4.00	3.50	53.00	147.00	17.00
246.	21935.	74962.	67.00	753.00	4.00	3.50	21.00	45.00	1.00
247.	21996.	74147.	103.00	317.00	4.00	3.50	226.00	73.00	20.00
248.	21217.	74166.	117.00	152.00	4.00	9.00	69.00	30.00	11.00
249.	21203.	74164.	89.00	175.00	4.00	8.00	72.00	28.00	19.00
250.	22195.	75206.	81.00	960.00	4.00	3.50	50.00	110.00	2.00
251.	21962.	74955.	58.00	591.00	4.00	3.50	26.00	69.00	3.00
252.	21979.	74993.	44.00	1370.00	4.00	3.50	25.00	85.00	35.00
253.	21997.	75001.	123.00	447.00	4.00	11.00	49.00	75.00	23.00
254.	21900.	75011.	20.00	651.00	4.00	3.50	19.00	29.00	1.00
255.	21979.	75065.	75.00	894.00	4.00	3.50	41.00	114.00	10.00
256.	22350.	74738.	104.00	690.00	4.00	3.50	27.00	56.00	1.00
257.	22324.	74766.	59.00	704.00	4.00	3.50	32.00	47.00	4.00
258.	22330.	74783.	27.00	647.00	4.00	3.50	24.00	37.00	1.00
259.	22409.	74818.	43.00	592.00	4.00	3.50	36.00	64.00	2.00
260.	22423.	74824.	39.00	609.00	4.00	3.50	37.00	63.00	2.00
261.	22136.	75184.	119.00	820.00	8.00	3.50	34.00	60.00	11.00
262.	22112.	75167.	35.00	859.00	4.00	3.50	34.00	59.00	10.00
263.	22040.	75141.	161.00	626.00	4.00	3.50	25.00	39.00	6.00
264.	22025.	75140.	80.00	582.00	4.00	8.00	26.00	35.00	1.00
265.	21962.	75126.	33.00	722.00	4.00	3.50	20.00	33.00	2.00
266.	21938.	75119.	92.00	1107.00	4.00	3.50	46.00	89.00	25.00
267.	21863.	75112.	98.00	729.00	4.00	3.50	19.00	38.00	1.00
268.	21844.	75112.	99.00	857.00	4.00	3.50	26.00	44.00	4.00

SAMPNUMB	YP	XRF	MOP	XRF	FEP	XRF	MNP	XRF	TIP	XRF	VP	XRF	CRP	XRF	COP	XRF	LAP	XRF
325.	84.00		1.00		106500.00		2060.00		6940.00		110.00		60.00		40.00		70.00	
326.	84.00		1.00		108500.00		2340.00		11070.00		150.00		110.00		35.00		50.00	
327.	161.00		3.00		244000.00		3800.00		7380.00		150.00		60.00		93.00		50.00	
328.	31.00		1.00		95400.00		1410.00		23880.00		280.00		110.00		32.00		50.00	
329.	10.00		1.00		8900.00		1680.00		7730.00		10.00		5.00		2.00		20.00	
330.	15.00		1.00		7900.00		1940.00		9610.00		5.00		10.00		1.00		30.00	
331.	117.00		2.00		80830.00		820.00		15750.00		220.00		110.00		24.00		100.00	
332.	9.00		4.00		6900.00		390.00		2370.00		10.00		10.00		1.00		20.00	
333.	20.00		10.00		25000.00		1560.00		7760.00		30.00		5.00		5.00		30.00	
334.	10.00		2.00		8400.00		930.00		4420.00		10.00		5.00		2.00		20.00	
335.	10.00		1.00		5700.00		810.00		4140.00		10.00		5.00		1.00		20.00	
336.	8.00		4.00		3300.00		190.00		1410.00		10.00		5.00		1.00		10.00	
337.	10.00		2.00		2600.00		300.00		2010.00		5.00		5.00		1.00		10.00	
338.	10.00		1.00		5900.00		1100.00		5940.00		10.00		5.00		1.00		40.00	
339.	18.00		3.00		7200.00		1080.00		8070.00		10.00		10.00		1.00		60.00	
340.	22.00		4.00		6300.00		1030.00		6020.00		10.00		5.00		1.00		30.00	
341.	16.00		2.00		19300.00		1220.00		6386.00		50.00		10.00		6.00		30.00	
342.	17.00		2.00		13730.00		820.00		4410.00		20.00		5.00		3.00		40.00	
343.	33.00		3.00		16500.00		2150.00		9030.00		30.00		10.00		4.00		60.00	
344.	16.00		2.00		8900.00		1800.00		7810.00		10.00		5.00		1.00		30.00	
345.	25.00		1.00		18300.00		1130.00		4010.00		40.00		10.00		4.00		40.00	
346.	35.00		4.00		20000.00		1120.00		7180.00		40.00		20.00		5.00		50.00	
347.	33.00		1.00		21500.00		1090.00		7590.00		40.00		20.00		4.00		70.00	
348.	16.00		1.00		8110.00		1050.00		6450.00		10.00		10.00		1.00		30.00	
349.	35.00		1.00		51800.00		1130.00		8220.00		90.00		30.00		11.00		60.00	
350.	13.00		1.00		5900.00		1000.00		4670.00		10.00		5.00		1.00		10.00	
351.	38.00		1.00		19300.00		1370.00		8620.00		50.00		20.00		6.00		50.00	
352.	22.00		16.00		21700.00		2110.00		8550.00		40.00		60.00		5.00		40.00	
353.	16.00		1.00		5200.00		1470.00		5260.00		5.00		5.00		1.00		20.00	
354.	48.00		1.00		16600.00		640.00		4050.00		40.00		10.00		4.00		50.00	
355.	113.00		1.00		14300.00		590.00		9550.00		50.00		20.00		4.00		120.00	
356.	36.00		1.00		13200.00		320.00		4210.00		40.00		30.00		3.00		40.00	
357.	76.00		3.00		241000.00		1610.00		13770.00		500.00		160.00		69.00		130.00	
358.	25.00		1.00		9400.00		380.00		3170.00		30.00		10.00		2.00		30.00	
359.	23.00		1.00		18200.00		830.00		4450.00		40.00		10.00		5.00		40.00	
360.	27.00		1.00		6200.00		590.00		3890.00		20.00		10.00		1.00		30.00	
361.	10.00		2.00		6800.00		790.00		4050.00		10.00		10.00		1.00		20.00	
362.	23.00		1.00		16800.00		1340.00		6030.00		30.00		10.00		3.00		50.00	
363.	9.00		1.00		6200.00		180.00		2740.00		10.00		10.00		1.00		20.00	
364.	28.00		1.00		44600.00		1960.00		10220.00		80.00		30.00		10.00		100.00	
365.	22.00		2.00		17700.00		1720.00		8600.00		30.00		10.00		4.00		50.00	
366.	11.00		1.00		8800.00		440.00		2950.00		20.00		5.00		2.00		30.00	
367.	29.00		2.00		11700.00		3120.00		14690.00		10.00		10.00		2.00		90.00	
368.	30.00		1.00		31600.00		580.00		5240.00		70.00		50.00		11.00		40.00	
369.	98.00		1.00		13300.00		510.00		9350.00		50.00		20.00		5.00		110.00	
370.	84.00		2.00		60700.00		500.00		9060.00		160.00		70.00		18.00		130.00	
371.	26.00		2.00		13000.00		3160.00		13850.00		10.00		10.00		2.00		70.00	
372.	16.00		1.00		6200.00		790.00		4260.00		10.00		5.00		1.00		30.00	
373.	24.00		1.00		2900.00		550.00		4060.00		10.00		10.00		1.00		20.00	
374.	48.00		1.00		19500.00		420.00		5230.00		50.00		30.00		6.00		50.00	
375.	44.00		1.00		26000.00		390.00		4800.00		70.00		30.00		7.00		50.00	
376.	8.00		4.00		15500.00		430.00		3000.00		30.00		10.00		3.00		20.00	
377.	15.00		6.00		12100.00		870.00		5310.00		20.00		5.00		2.00		50.00	
378.	9.00		6.00		11300.00		480.00		3310.00		20.00		10.00		2.00		20.00	
379.	9.00		3.00		3200.00		290.00		2180.00		10.00		5.00		1.00		30.00	
380.	19.00		6.00		13100.00		1590.00		9190.00		20.00		10.00		3.00		60.00	

SAMPNUMB	CAP XRF	MIP XRF	AGP XRF	UP XRF	RBP XRF	TMP XRF	MBP XRF	SRP XRF	ZRP XRF
213.	2520.00	3.00	1.50	22.00	162.00	72.00	60.00	116.00	212.00
214.	11270.00	16.00	1.50	6.00	95.00	19.00	27.00	363.00	343.00
215.	9940.00	18.00	1.50	5.00	104.00	14.00	25.00	408.00	269.00
216.	11720.00	27.00	3.00	15.00	109.00	82.00	49.00	340.00	474.00
217.	11140.00	14.00	1.50	3.00	90.00	9.00	22.00	363.00	361.00
218.	13310.00	23.00	1.50	1.50	86.00	11.00	21.00	448.00	275.00
219.	11210.00	24.00	1.50	1.50	90.00	8.00	19.00	508.00	539.00
220.	10330.00	30.00	1.50	3.00	92.00	16.00	30.00	402.00	1402.00
221.	10310.00	19.00	1.50	6.00	50.00	10.00	74.00	339.00	880.00
222.	6590.00	3.00	1.50	1.50	92.00	11.00	37.00	240.00	291.00
223.	9440.00	6.00	1.50	5.00	87.00	23.00	40.00	304.00	356.00
224.	6030.00	6.00	1.50	1.50	95.00	8.00	12.00	422.00	173.00
225.	12620.00	19.00	1.50	1.50	66.00	13.00	52.00	366.00	524.00
226.	5850.00	7.00	1.50	5.00	117.00	7.00	10.00	322.00	134.00
227.	6870.00	10.00	1.50	4.00	120.00	16.00	12.00	358.00	167.00
228.	6040.00	9.00	1.50	5.00	122.00	10.00	7.00	363.00	120.00
229.	5250.00	10.00	5.00	1.50	121.00	4.00	12.00	320.00	144.00
230.	5890.00	9.00	1.50	1.50	110.00	4.00	11.00	355.00	126.00
231.	10850.00	21.00	4.00	7.00	94.00	39.00	45.00	333.00	417.00
232.	6220.00	12.00	1.50	6.00	120.00	21.00	26.00	243.00	174.00
233.	12750.00	17.00	1.50	10.00	91.00	35.00	30.00	417.00	366.00
234.	10620.00	15.00	1.50	3.00	86.00	7.00	20.00	453.00	228.00
235.	11470.00	16.00	1.50	6.00	91.00	36.00	36.00	391.00	494.00
236.	9250.00	9.00	1.50	1.50	86.00	4.00	19.00	425.00	188.00
237.	15810.00	14.00	1.50	6.00	62.00	19.00	75.00	422.00	638.00
238.	10820.00	14.00	1.50	6.00	89.00	17.00	30.00	410.00	227.00
239.	14620.00	32.00	5.00	4.00	53.00	10.00	73.00	358.00	1791.00
240.	7310.00	20.00	10.00	41.00	47.00	195.00	260.00	60.00	2043.00
241.	10990.00	13.00	1.50	4.00	92.00	5.00	21.00	429.00	990.00
242.	9920.00	35.00	6.00	8.00	72.00	34.00	40.00	284.00	1857.00
243.	9870.00	21.00	1.50	3.00	93.00	21.00	25.00	317.00	497.00
244.	9570.00	25.00	5.00	7.00	93.00	50.00	32.00	384.00	743.00
245.	9240.00	33.00	5.00	6.00	104.00	32.00	32.00	396.00	714.00
246.	9810.00	13.00	1.50	3.00	88.00	7.00	16.00	447.00	531.00
247.	6940.00	32.00	4.00	10.00	139.00	40.00	78.00	138.00	205.00
248.	2180.00	3.00	1.50	14.00	152.00	52.00	131.00	72.00	253.00
249.	1990.00	2.00	1.50	16.00	174.00	60.00	60.00	76.00	269.00
250.	15100.00	35.00	7.00	6.00	98.00	37.00	30.00	628.00	360.00
251.	7180.00	12.00	1.50	1.50	116.00	11.00	16.00	366.00	153.00
252.	6950.00	16.00	1.50	1.50	127.00	11.00	13.00	348.00	170.00
253.	9270.00	21.00	3.00	10.00	104.00	34.00	32.00	305.00	255.00
254.	8670.00	9.00	1.50	1.50	97.00	3.00	6.00	412.00	127.00
255.	7470.00	20.00	1.50	11.00	118.00	13.00	24.00	345.00	246.00
256.	8160.00	11.00	4.00	1.50	107.00	24.00	19.00	410.00	293.00
257.	7980.00	10.00	4.00	3.00	116.00	16.00	12.00	413.00	159.00
258.	7760.00	8.00	1.50	4.00	103.00	11.00	16.00	419.00	193.00
259.	7440.00	14.00	1.50	3.00	105.00	9.00	11.00	317.00	158.00
260.	5540.00	12.00	1.50	4.00	128.00	7.00	11.00	336.00	142.00
261.	15020.00	25.00	1.50	5.00	74.00	21.00	31.00	533.00	611.00
262.	12670.00	35.00	1.50	4.00	77.00	19.00	31.00	436.00	854.00
263.	12680.00	19.00	1.50	6.00	94.00	24.00	30.00	416.00	469.00
264.	9590.00	17.00	4.00	1.50	90.00	10.00	21.00	391.00	377.00
265.	7150.00	7.00	1.50	1.50	119.00	8.00	12.00	383.00	102.00
266.	14420.00	35.00	6.00	5.00	92.00	14.00	19.00	539.00	392.00
267.	11840.00	15.00	1.50	4.00	84.00	11.00	25.00	480.00	539.00
268.	14910.00	21.00	1.50	1.50	81.00	11.00	21.00	584.00	1160.00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
381.	20826.	73809.	273.00	434.00	4.00	3.50	22.00	16.00	1.00
382.	20822.	73853.	123.00	660.00	4.00	3.50	25.00	25.00	1.00
383.	21762.	74239.	100.00	432.00	4.00	3.50	37.00	33.00	1.00
384.	21754.	74235.	103.00	440.00	4.00	3.50	31.00	33.00	1.00
385.	21716.	74179.	41.00	177.00	4.00	3.50	19.00	9.00	1.00
386.	21704.	74158.	55.00	253.00	4.00	3.50	34.00	33.00	4.00
387.	21748.	74142.	149.00	979.00	4.00	3.50	37.00	32.00	1.00
388.	21862.	74040.	72.00	483.00	4.00	3.50	20.00	18.00	1.00
389.	20440.	73206.	267.00	1055.00	4.00	3.50	19.00	60.00	2.00
390.	20446.	73232.	433.00	861.00	4.00	3.50	17.00	122.00	12.00
391.	21359.	73957.	45.00	224.00	4.00	7.00	66.00	24.00	1.00
392.	21372.	73884.	84.00	271.00	4.00	3.50	33.00	27.00	1.00
393.	21370.	73856.	231.00	416.00	4.00	8.00	30.00	42.00	1.00
394.	21378.	73849.	90.00	483.00	4.00	3.50	19.00	45.00	2.00
395.	21492.	73861.	91.00	373.00	4.00	3.50	23.00	13.00	1.00
396.	21435.	73825.	49.00	430.00	4.00	3.50	34.00	17.00	1.00
397.	21429.	73800.	369.00	454.00	4.00	11.00	37.00	95.00	4.00
398.	21375.	73754.	562.00	830.00	4.00	16.00	53.00	77.00	16.00
399.	21621.	73986.	83.00	342.00	4.00	3.50	30.00	16.00	1.00
400.	21625.	73992.	101.00	359.00	4.00	3.50	48.00	44.00	2.00
401.	21530.	74179.	139.00	244.00	4.00	3.50	41.00	29.00	2.00
402.	21602.	74172.	361.00	247.00	4.00	27.00	67.00	76.00	10.00
403.	21917.	74084.	101.00	492.00	4.00	3.50	22.00	27.00	2.00
404.	21836.	74050.	358.00	210.00	4.00	14.00	43.00	39.00	2.00
405.	21874.	73998.	338.00	450.00	4.00	12.00	18.00	16.00	1.00
406.	21860.	73979.	346.00	566.00	4.00	3.50	21.00	16.00	1.00
407.	21858.	73946.	266.00	549.00	4.00	3.50	23.00	32.00	5.00
408.	21596.	73758.	187.00	591.00	4.00	3.50	24.00	46.00	1.00
409.	21582.	73745.	247.00	553.00	4.00	8.00	16.00	95.00	8.00
410.	21551.	73734.	136.00	536.00	4.00	10.00	18.00	26.00	1.00
411.	21603.	74009.	60.00	427.00	4.00	3.50	32.00	39.00	1.00
412.	21705.	73996.	42.00	410.00	4.00	3.50	18.00	10.00	1.00
413.	21782.	73945.	85.00	444.00	4.00	3.50	21.00	44.00	1.00
414.	21697.	73938.	87.00	429.00	4.00	3.50	32.00	60.00	1.00
415.	21715.	73897.	140.00	679.00	4.00	3.50	42.00	63.00	5.00
416.	21708.	73880.	81.00	439.00	4.00	3.50	22.00	29.00	1.00
417.	20450.	73293.	486.00	868.00	4.00	7.00	15.00	87.00	6.00
418.	20457.	73330.	440.00	1018.00	4.00	13.00	23.00	117.00	10.00
419.	20458.	73388.	455.00	709.00	4.00	7.00	19.00	113.00	13.00
420.	20999.	73222.	364.00	1178.00	4.00	3.50	25.00	76.00	4.00
421.	20630.	73371.	429.00	912.00	4.00	3.50	18.00	83.00	6.00
422.	20609.	73381.	1018.00	667.00	4.00	20.00	27.00	94.00	6.00
423.	20585.	73384.	574.00	787.00	4.00	12.00	26.00	93.00	6.00
424.	20575.	73392.	428.00	394.00	4.00	3.50	15.00	124.00	5.00
425.	20890.	73214.	685.00	669.00	4.00	14.00	44.00	173.00	10.00
426.	20896.	73218.	836.00	769.00	4.00	18.00	24.00	1335.00	16.00
427.	20855.	73234.	1077.00	650.00	4.00	20.00	21.00	105.00	5.00
428.	20856.	73240.	633.00	891.00	4.00	11.00	24.00	106.00	10.00
429.	20842.	73263.	645.00	461.00	4.00	10.00	23.00	150.00	12.00
430.	20837.	73270.	467.00	827.00	4.00	14.00	24.00	105.00	11.00
431.	21728.	73846.	254.00	669.00	4.00	3.50	22.00	41.00	3.00
432.	21692.	73823.	134.00	591.00	4.00	3.50	22.00	52.00	5.00
433.	21691.	73819.	92.00	644.00	4.00	16.00	21.00	22.00	1.00
434.	21644.	73799.	173.00	649.00	4.00	3.50	23.00	51.00	1.00
435.	20827.	73734.	333.00	628.00	30.00	3.50	21.00	31.00	1.00
436.	20902.	73693.	311.00	528.00	4.00	3.50	22.00	35.00	2.00

SAMPNUMB	YP	XRF	MOP	XRF	FEP	XRF	MNP	XRF	TIP	XRF	VP	XRF	CRP	XRF	COP	XRF	LAP	XRF
213.	26.	00	27.	00	30200.	00	1020.	00	5090.	00	40.	00	10.	00	9.	00	90.	00
214.	33.	00	1.	00	23100.	00	580.	00	5000.	00	90.	00	70.	00	10.	00	50.	00
215.	31.	00	1.	00	43200.	00	490.	00	4600.	00	120.	00	80.	00	13.	00	60.	00
216.	61.	00	3.	00	94700.	00	650.	00	6670.	00	210.	00	150.	00	26.	00	100.	00
217.	30.	00	9.	00	27100.	00	520.	00	4620.	00	80.	00	50.	00	10.	00	50.	00
218.	26.	00	3.	00	36800.	00	610.	00	4730.	00	90.	00	70.	00	13.	00	40.	00
219.	30.	00	3.	00	41900.	00	670.	00	6560.	00	80.	00	60.	00	22.	00	40.	00
220.	20.	00	1.	00	63300.	00	860.	00	12870.	00	120.	00	90.	00	34.	00	50.	00
221.	65.	00	4.	00	52000.	00	1320.	00	15470.	00	150.	00	70.	00	18.	00	100.	00
222.	42.	00	1.	00	14300.	00	260.	00	4330.	00	40.	00	20.	00	4.	00	80.	00
223.	47.	00	2.	00	25600.	00	440.	00	5360.	00	70.	00	30.	00	7.	00	90.	00
224.	14.	00	1.	00	11000.	00	240.	00	2290.	00	20.	00	10.	00	4.	00	20.	00
225.	37.	00	1.	00	19400.	00	920.	00	12400.	00	200.	00	100.	00	30.	00	70.	00
226.	13.	00	2.	00	14800.	00	280.	00	2940.	00	40.	00	30.	00	6.	00	20.	00
227.	15.	00	1.	00	15300.	00	280.	00	2500.	00	50.	00	50.	00	6.	00	20.	00
228.	8.	00	2.	00	12200.	00	280.	00	1950.	00	30.	00	30.	00	5.	00	20.	00
229.	12.	00	1.	00	14000.	00	290.	00	2190.	00	50.	00	40.	00	6.	00	20.	00
230.	10.	00	1.	00	15900.	00	300.	00	2150.	00	40.	00	50.	00	6.	00	20.	00
231.	75.	00	4.	00	81900.	00	570.	00	6040.	00	190.	00	160.	00	25.	00	60.	00
232.	24.	00	3.	00	25800.	00	440.	00	3700.	00	60.	00	50.	00	10.	00	30.	00
233.	44.	00	1.	00	39500.	00	570.	00	5960.	00	110.	00	80.	00	14.	00	70.	00
234.	29.	00	3.	00	36200.	00	470.	00	4780.	00	160.	00	120.	00	15.	00	50.	00
235.	51.	00	1.	00	52600.	00	540.	00	7090.	00	140.	00	100.	00	15.	00	70.	00
236.	24.	00	2.	00	19000.	00	270.	00	3690.	00	50.	00	30.	00	6.	00	20.	00
237.	105.	00	2.	00	22000.	00	380.	00	13990.	00	90.	00	60.	00	10.	00	90.	00
238.	40.	00	1.	00	23000.	00	380.	00	5540.	00	90.	00	70.	00	9.	00	60.	00
239.	81.	00	2.	00	19700.	00	1200.	00	25170.	00	390.	00	200.	00	40.	00	110.	00
240.	80.	00	10.	00	33700.	00	3500.	00	27620.	00	700.	00	230.	00	115.	00	200.	00
241.	23.	00	1.	00	24300.	00	750.	00	5830.	00	70.	00	30.	00	10.	00	40.	00
242.	60.	00	1.	00	23600.	00	540.	00	10370.	00	410.	00	330.	00	46.	00	100.	00
243.	33.	00	2.	00	24100.	00	510.	00	5670.	00	150.	00	120.	00	18.	00	80.	00
244.	47.	00	3.	00	19300.	00	490.	00	6590.	00	250.	00	200.	00	31.	00	80.	00
245.	30.	00	3.	00	18300.	00	570.	00	7370.	00	240.	00	200.	00	40.	00	70.	00
246.	21.	00	1.	00	20900.	00	530.	00	4370.	00	70.	00	50.	00	10.	00	30.	00
247.	18.	00	7.	00	63900.	00	530.	00	6790.	00	130.	00	70.	00	2.	00	70.	00
248.	18.	00	10.	00	42400.	00	1370.	00	7400.	00	60.	00	10.	00	9.	00	70.	00
249.	17.	00	9.	00	33100.	00	570.	00	3690.	00	40.	00	10.	00	6.	00	60.	00
250.	30.	00	2.	00	23700.	00	950.	00	8170.	00	170.	00	120.	00	25.	00	70.	00
251.	18.	00	1.	00	23300.	00	340.	00	2820.	00	60.	00	40.	00	7.	00	40.	00
252.	15.	00	1.	00	23100.	00	390.	00	3090.	00	60.	00	50.	00	9.	00	30.	00
253.	37.	00	2.	00	31200.	00	590.	00	5520.	00	250.	00	120.	00	21.	00	60.	00
254.	13.	00	1.	00	11200.	00	570.	00	2070.	00	30.	00	20.	00	4.	00	20.	00
255.	20.	00	2.	00	41700.	00	440.	00	5180.	00	90.	00	60.	00	14.	00	30.	00
256.	30.	00	1.	00	28300.	00	350.	00	4000.	00	90.	00	60.	00	9.	00	40.	00
257.	19.	00	1.	00	24700.	00	340.	00	3600.	00	70.	00	60.	00	7.	00	30.	00
258.	22.	00	1.	00	21900.	00	320.	00	3000.	00	70.	00	60.	00	7.	00	30.	00
259.	17.	00	1.	00	21700.	00	370.	00	2600.	00	60.	00	50.	00	7.	00	30.	00
260.	13.	00	1.	00	15500.	00	370.	00	2360.	00	50.	00	50.	00	6.	00	20.	00
261.	35.	00	1.	00	19900.	00	860.	00	6330.	00	160.	00	110.	00	26.	00	60.	00
262.	40.	00	3.	00	30900.	00	770.	00	7760.	00	270.	00	210.	00	35.	00	60.	00
263.	49.	00	2.	00	31500.	00	570.	00	6600.	00	150.	00	110.	00	16.	00	70.	00
264.	20.	00	3.	00	24500.	00	460.	00	3730.	00	80.	00	50.	00	8.	00	30.	00
265.	14.	00	4.	00	19700.	00	390.	00	2350.	00	30.	00	20.	00	4.	00	20.	00
266.	23.	00	2.	00	26200.	00	820.	00	7860.	00	230.	00	170.	00	37.	00	50.	00
267.	32.	00	1.	00	33300.	00	690.	00	6410.	00	90.	00	60.	00	10.	00	50.	00
268.	22.	00	2.	00	33700.	00	710.	00	6310.	00	90.	00	60.	00	14.	00	50.	00

SAMPNUMBR	CAP	XRF	NIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	TMP	XRF	NBP	XRF	SRP	XRF	ZRP	XRF
381.	9050.	00	4.	00	1.	50	1.	50	77.	00	19.	00	85.	00	243.	00	1315.	00
382.	9170.	00	5.	00	1.	50	4.	00	94.	00	25.	00	71.	00	309.	00	621.	00
383.	4530.	00	3.	00	1.	50	6.	00	117.	00	32.	00	49.	00	190.	00	387.	00
384.	3610.	00	3.	00	1.	50	4.	00	124.	00	52.	00	36.	00	173.	00	183.	00
385.	2090.	00	0.	50	1.	50	1.	50	115.	00	5.	00	40.	00	79.	00	83.	00
386.	2770.	00	1.	00	1.	50	4.	00	124.	00	16.	00	157.	00	113.	00	121.	00
387.	4840.	00	3.	00	1.	50	13.	00	109.	00	69.	00	80.	00	169.	00	524.	00
388.	10320.	00	8.	00	1.	50	3.	00	58.	00	3.	00	23.	00	301.	00	1048.	00
389.	22520.	00	14.	00	1.	50	1.	50	44.	00	17.	00	55.	00	614.	00	900.	00
390.	31300.	00	41.	00	6.	00	5.	00	37.	00	23.	00	71.	00	549.	00	741.	00
391.	3240.	00	2.	00	1.	50	10.	00	122.	00	11.	00	106.	00	92.	00	63.	00
392.	2630.	00	2.	00	1.	50	7.	00	114.	00	27.	00	83.	00	105.	00	95.	00
393.	7110.	00	9.	00	1.	50	5.	00	78.	00	21.	00	150.	00	188.	00	399.	00
394.	2420.	00	5.	00	1.	50	9.	00	136.	00	62.	00	32.	00	149.	00	262.	00
395.	5090.	00	2.	00	1.	50	3.	00	88.	00	15.	00	68.	00	174.	00	269.	00
396.	3020.	00	1.	00	1.	50	1.	50	96.	00	6.	00	53.	00	191.	00	163.	00
397.	10320.	00	19.	00	1.	50	21.	00	85.	00	82.	00	96.	00	210.	00	490.	00
398.	10490.	00	22.	00	6.	00	11.	00	64.	00	126.	00	265.	00	141.	00	788.	00
399.	4280.	00	2.	00	1.	50	4.	00	116.	00	22.	00	37.	00	164.	00	142.	00
400.	4440.	00	14.	00	1.	50	10.	00	105.	00	64.	00	60.	00	161.	00	223.	00
401.	2230.	00	2.	00	1.	50	12.	00	117.	00	62.	00	237.	00	90.	00	375.	00
402.	3870.	00	7.	00	5.	00	29.	00	102.	00	130.	00	512.	00	101.	00	874.	00
403.	15250.	00	14.	00	1.	50	3.	00	60.	00	13.	00	36.	00	343.	00	864.	00
404.	4510.	00	4.	00	1.	50	36.	00	94.	00	147.	00	319.	00	105.	00	1095.	00
405.	11500.	00	6.	00	1.	50	5.	00	50.	00	27.	00	87.	00	290.	00	2702.	00
406.	10270.	00	4.	00	1.	50	5.	00	66.	00	21.	00	65.	00	329.	00	1763.	00
407.	11300.	00	13.	00	4.	00	3.	00	56.	00	24.	00	59.	00	275.	00	1027.	00
408.	13610.	00	18.	00	1.	50	7.	00	50.	00	15.	00	49.	00	319.	00	1471.	00
409.	19700.	00	34.	00	4.	00	8.	00	50.	00	20.	00	61.	00	295.	00	1699.	00
410.	12860.	00	10.	00	1.	50	8.	00	57.	00	21.	00	71.	00	275.	00	4124.	00
411.	3310.	00	2.	00	1.	50	8.	00	120.	00	24.	00	36.	00	167.	00	273.	00
412.	3330.	00	1.	00	1.	50	5.	00	110.	00	13.	00	37.	00	180.	00	207.	00
413.	3310.	00	2.	00	1.	50	4.	00	125.	00	17.	00	29.	00	170.	00	89.	00
414.	4440.	00	10.	00	1.	50	7.	00	125.	00	54.	00	37.	00	180.	00	184.	00
415.	5480.	00	12.	00	1.	50	10.	00	110.	00	73.	00	56.	00	174.	00	377.	00
416.	4140.	00	3.	00	1.	50	5.	00	102.	00	16.	00	33.	00	194.	00	460.	00
417.	28740.	00	27.	00	4.	00	3.	00	35.	00	25.	00	87.	00	489.	00	1338.	00
418.	26150.	00	21.	00	1.	50	5.	00	43.	00	21.	00	76.	00	605.	00	900.	00
419.	30520.	00	36.	00	5.	00	1.	50	36.	00	20.	00	66.	00	470.	00	704.	00
420.	25940.	00	11.	00	4.	00	1.	50	37.	00	22.	00	63.	00	822.	00	1185.	00
421.	22670.	00	23.	00	3.	00	3.	00	44.	00	21.	00	87.	00	559.	00	871.	00
422.	39720.	00	27.	00	5.	00	6.	00	30.	00	58.	00	180.	00	492.	00	3886.	00
423.	31700.	00	29.	00	3.	00	8.	00	31.	00	30.	00	91.	00	527.	00	1353.	00
424.	26710.	00	45.	00	9.	00	5.	00	21.	00	25.	00	85.	00	325.	00	1089.	00
425.	27090.	00	22.	00	9.	00	5.	00	36.	00	30.	00	107.	00	391.	00	1340.	00
426.	29630.	00	19.	00	6.	00	10.	00	35.	00	38.	00	127.	00	458.	00	1402.	00
427.	35600.	00	19.	00	1.	50	9.	00	26.	00	47.	00	166.	00	419.	00	3187.	00
428.	27610.	00	16.	00	1.	50	4.	00	30.	00	20.	00	93.	00	527.	00	1167.	00
429.	26790.	00	23.	00	12.	00	3.	00	19.	00	29.	00	111.	00	301.	00	2126.	00
430.	23960.	00	19.	00	8.	00	3.	00	31.	00	20.	00	124.	00	419.	00	1571.	00
431.	12170.	00	9.	00	1.	50	5.	00	80.	00	23.	00	63.	00	361.	00	659.	00
432.	12750.	00	25.	00	3.	00	1.	50	64.	00	9.	00	31.	00	301.	00	960.	00
433.	9590.	00	7.	00	1.	50	1.	50	65.	00	3.	00	24.	00	346.	00	1163.	00
434.	16770.	00	18.	00	1.	50	3.	00	60.	00	18.	00	46.	00	359.	00	771.	00
435.	13930.	00	10.	00	4.	00	4.	00	65.	00	13.	00	74.	00	315.	00	577.	00
436.	13010.	00	11.	00	1.	50	4.	00	66.	00	26.	00	69.	00	319.	00	1181.	00

SAMPNUM	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
269.	21766.	75115.	48.00	764.00	4.00	3.50	17.00	26.00	3.00
270.	21008.	74347.	378.00	425.00	4.00	9.00	50.00	75.00	19.00
271.	20969.	74260.	322.00	290.00	4.00	3.50	246.00	74.00	21.00
272.	20984.	74293.	132.00	251.00	4.00	3.50	34.00	28.00	1.00
273.	21020.	74383.	931.00	215.00	4.00	20.00	113.00	100.00	25.00
274.	21052.	74429.	208.00	142.00	4.00	15.00	60.00	101.00	17.00
275.	21086.	74517.	216.00	377.00	4.00	3.50	24.00	90.00	4.00
276.	20988.	74101.	261.00	391.00	4.00	3.50	32.00	84.00	11.00
277.	20906.	74160.	139.00	303.00	4.00	17.00	27.00	44.00	1.00
278.	20922.	74189.	73.00	276.00	4.00	3.50	19.00	17.00	1.00
279.	20926.	74202.	70.00	275.00	4.00	3.50	50.00	42.00	5.00
280.	20928.	74213.	95.00	322.00	4.00	3.50	24.00	25.00	1.00
281.	22101.	74012.	166.00	623.00	4.00	3.50	28.00	42.00	5.00
282.	22020.	74044.	154.00	830.00	4.00	3.50	61.00	103.00	8.00
283.	22019.	74061.	100.00	772.00	4.00	3.50	30.00	34.00	3.00
284.	22402.	74780.	50.00	649.00	4.00	3.50	35.00	72.00	1.00
285.	20908.	74604.	102.00	527.00	4.00	3.50	24.00	10.00	1.00
286.	20979.	74705.	153.00	838.00	4.00	3.50	10.00	37.00	2.00
287.	21047.	74677.	170.00	768.00	4.00	3.50	10.00	43.00	1.00
288.	21076.	74672.	43.00	814.00	4.00	3.50	10.00	19.00	1.00
289.	21142.	74683.	504.00	515.00	4.00	12.00	23.00	22.00	1.00
290.	21173.	74685.	50.00	731.00	4.00	3.50	14.00	10.00	1.00
291.	21786.	75089.	82.00	797.00	4.00	3.50	26.00	64.00	13.00
292.	21678.	75035.	75.00	749.00	4.00	3.50	104.00	117.00	17.00
293.	21660.	75071.	86.00	735.00	4.00	3.50	108.00	140.00	27.00
294.	21677.	74988.	57.00	774.00	4.00	3.50	23.00	64.00	9.00
295.	21532.	74879.	100.00	697.00	4.00	3.50	33.00	90.00	21.00
296.	21482.	74769.	416.00	356.00	4.00	13.00	39.00	102.00	11.00
297.	21451.	74732.	102.00	488.00	4.00	3.50	26.00	14.00	1.00
298.	21449.	74731.	100.00	484.00	4.00	3.50	19.00	20.00	1.00
299.	21422.	74678.	100.00	484.00	4.00	3.50	29.00	18.00	1.00
300.	21414.	74670.	100.00	484.00	4.00	3.50	44.00	74.00	23.00
301.	20929.	74322.	100.00	484.00	4.00	3.50	27.00	17.00	1.00
302.	20960.	74350.	262.00	351.00	4.00	13.00	51.00	64.00	14.00
303.	21378.	74210.	64.00	365.00	4.00	3.50	35.00	16.00	5.00
304.	21380.	74197.	101.00	365.00	4.00	16.00	42.00	17.00	3.00
305.	21408.	74131.	130.00	330.00	4.00	16.00	50.00	45.00	9.00
306.	21382.	74181.	83.00	306.00	4.00	8.00	46.00	21.00	20.00
307.	21399.	74102.	135.00	132.00	4.00	14.00	30.00	16.00	1.00
308.	21398.	74034.	110.00	102.00	4.00	3.50	28.00	13.00	1.00
309.	21366.	74015.	20.00	97.00	4.00	11.00	44.00	40.00	5.00
310.	21377.	73992.	70.00	300.00	4.00	3.50	26.00	16.00	1.00
311.	21181.	74899.	63.00	305.00	4.00	3.50	21.00	76.00	5.00
312.	21134.	74904.	65.00	649.00	4.00	3.50	17.00	72.00	9.00
313.	21156.	74901.	64.00	423.00	4.00	3.50	17.00	86.00	8.00
314.	21192.	74872.	57.00	439.00	4.00	3.50	15.00	88.00	9.00
315.	21200.	74854.	161.00	809.00	4.00	3.50	29.00	91.00	9.00
316.	21217.	74833.	139.00	760.00	4.00	3.50	17.00	73.00	5.00
317.	21246.	74778.	90.00	973.00	4.00	3.50	25.00	41.00	1.00
318.	21293.	74781.	84.00	772.00	4.00	3.50	22.00	65.00	1.00
319.	21190.	73973.	61.00	320.00	4.00	3.50	13.00	19.00	1.00
320.	21205.	73982.	65.00	280.00	4.00	3.50	17.	34.00	1.00
321.	21350.	74978.	66.00	610.00	4.00	3.50	20.	60.00	4.00
322.	21330.	74970.	39.00	706.00	4.00	3.50	40.00	80.00	6.00
323.	21346.	74941.	50.00	752.00	4.00	3.50	19.00	90.00	12.00
324.	21362.	74930.	42.00	126.00	4.00	3.50	13.00	100.00	20.00

SAMPNUMB	YP	XRF	MOP	XRF	FEP	XRF	MNP	XRF	TIP	XRF	VP	XRF	CRP	XRF	COP	XRF	LAP	XRF
381.	83.00		1.00		14800.00		660.00		8450.00		50.00		30.00		4.00		100.00	
382.	41.00		2.00		21400.00		880.00		7530.00		60.00		20.00		6.00		60.00	
383.	36.00		1.00		18500.00		550.00		4700.00		40.00		10.00		5.00		50.00	
384.	25.00		2.00		17600.00		510.00		3770.00		40.00		10.00		5.00		50.00	
385.	11.00		1.00		4900.00		400.00		2760.00		10.00		5.00		1.00		10.00	
386.	12.00		2.00		14800.00		2100.00		10430.00		20.00		5.00		4.00		70.00	
387.	48.00		2.00		36900.00		970.00		7850.00		80.00		20.00		9.00		80.00	
388.	31.00		1.00		14100.00		470.00		4630.00		30.00		30.00		5.00		30.00	
389.	71.00		1.00		31000.00		1390.00		13070.00		110.00		40.00		16.00		120.00	
390.	91.00		2.00		142600.00		1500.00		26640.00		390.00		230.00		49.00		180.00	
391.	11.00		9.00		13300.00		1270.00		6730.00		20.00		5.00		3.00		30.00	
392.	22.00		1.00		13600.00		1050.00		6360.00		20.00		10.00		3.00		60.00	
393.	59.00		1.00		53900.00		2070.00		14040.00		110.00		60.00		13.00		120.00	
394.	26.00		1.00		26200.00		990.00		4050.00		60.00		20.00		8.00		40.00	
395.	33.00		1.00		12500.00		890.00		6510.00		30.00		10.00		3.00		40.00	
396.	19.00		1.00		8600.00		850.00		5000.00		20.00		10.00		2.00		20.00	
397.	90.00		1.00		76800.00		720.00		10640.00		160.00		60.00		10.00		150.00	
398.	104.00		2.00		207700.00		4140.00		24510.00		400.00		160.00		55.00		320.00	
399.	28.00		1.00		9800.00		390.00		3720.00		20.00		20.00		2.00		50.00	
400.	27.00		10.00		42700.00		630.00		5350.00		70.00		50.00		10.00		50.00	
401.	19.00		7.00		33500.00		2320.00		13700.00		50.00		10.00		7.00		70.00	
402.	47.00		13.00		95200.00		5840.00		31690.00		120.00		40.00		21.00		180.00	
403.	44.00		1.00		26300.00		670.00		5740.00		70.00		60.00		10.00		50.00	
404.	69.00		3.00		56800.00		3580.00		19500.00		90.00		30.00		12.00		160.00	
405.	114.00		2.00		18700.00		470.00		10230.00		60.00		30.00		5.00		120.00	
406.	79.00		1.00		17900.00		350.00		7740.00		50.00		20.00		5.00		100.00	
407.	76.00		1.00		70900.00		510.00		8630.00		160.00		80.00		19.00		110.00	
408.	57.00		2.00		67200.00		600.00		8690.00		170.00		110.00		20.00		80.00	
409.	67.00		2.00		118400.00		940.00		12940.00		300.00		230.00		39.00		100.00	
410.	89.00		1.00		33400.00		650.00		9920.00		80.00		40.00		10.00		110.00	
411.	23.00		2.00		15000.00		470.00		3260.00		30.00		10.00		4.00		30.00	
412.	21.00		2.00		6900.00		470.00		3400.00		20.00		13.00		2.00		20.00	
413.	17.00		1.00		10700.00		480.00		2940.00		20.00		10.00		3.00		60.00	
414.	22.00		1.00		29300.00		510.00		3990.00		60.00		30.00		8.00		70.00	
415.	33.00		3.00		66300.00		840.00		6300.00		120.00		60.00		18.00		90.00	
416.	24.00		1.00		19000.00		380.00		3610.00		50.00		20.00		4.00		30.00	
417.	107.00		1.00		116700.00		1940.00		30280.00		310.00		80.00		39.00		190.00	
418.	93.00		3.00		98200.00		1390.00		24150.00		280.00		90.00		35.00		180.00	
419.	86.00		3.00		168700.00		1520.00		24500.00		470.00		190.00		61.00		180.00	
420.	93.00		1.00		52100.00		1130.00		21260.00		160.00		30.00		16.00		150.00	
421.	71.00		3.00		129600.00		1820.00		28850.00		330.00		140.00		43.00		170.00	
422.	237.00		5.00		93300.00		3100.00		55400.00		250.00		80.00		33.00		370.00	
423.	120.00		4.00		129700.00		1710.00		29220.00		360.00		160.00		44.00		220.00	
424.	86.00		2.00		200800.00		2370.00		41010.00		870.00		330.00		101.00		190.00	
425.	140.00		3.00		214000.00		2040.00		37300.00		580.00		110.00		70.00		260.00	
426.	178.00		4.00		166300.00		2270.00		41750.00		460.00		70.00		55.00		310.00	
427.	224.00		3.00		166000.00		3170.00		56000.00		440.00		50.00		51.00		400.00	
428.	131.00		1.00		140700.00		1900.00		34720.00		380.00		60.00		43.00		250.00	
429.	124.00		4.00		289900.00		3060.00		53000.00		800.00		110.00		100.00		290.00	
430.	98.00		4.00		159300.00		2980.00		44450.00		490.00		90.00		59.00		210.00	
431.	73.00		1.00		30600.00		500.00		8160.00		80.00		30.00		10.00		110.00	
432.	40.00		1.00		72200.00		700.00		7760.00		190.00		150.00		23.00		50.00	
433.	31.00		1.00		10800.00		360.00		4150.00		30.00		20.00		4.00		30.00	
434.	53.00		1.00		23200.00		660.00		6870.00		70.00		40.00		10.00		70.00	
435.	73.00		1.00		28400.00		920.00		10560.00		110.00		40.00		22.00		130.00	
436.	83.00		1.00		60800.00		550.00		9320.00		150.00		70.00		17.00		120.00	

SAMPNUMBR	CAP	XRF	NIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	THP	XRF	NBP	XRF	SRP	XRF	ZRP	XRF
269.	11000.	00	12.	00	1.	50	1.	50	82.	00	3.	00	10.	00	502.	00	277.	00
270.	9350.	00	18.	00	9.	00	25.	00	72.	00	111.	00	259.	00	165.	00	1156.	00
271.	4650.	00	13.	00	7.	00	45.	00	91.	00	137.	00	296.	00	100.	00	1092.	00
272.	3140.	00	0.	50	1.	50	24.	00	118.	00	51.	00	168.	00	122.	00	652.	00
273.	14800.	00	23.	00	8.	00	79.	00	65.	00	407.	00	494.	00	117.	00	3444.	00
274.	8050.	00	28.	00	15.	00	20.	00	39.	00	92.	00	151.	00	73.	00	2227.	00
275.	8600.	00	19.	00	6.	00	14.	00	66.	00	57.	00	143.	00	197.	00	1210.	00
276.	13810.	00	35.	00	5.	00	23.	00	59.	00	64.	00	213.	00	164.	00	1078.	00
277.	4810.	00	2.	00	1.	50	15.	00	93.	00	27.	00	295.	00	164.	00	513.	00
278.	3120.	00	0.	50	1.	50	8.	00	100.	00	19.	00	110.	00	132.	00	420.	00
279.	4730.	00	12.	00	1.	50	16.	00	113.	00	27.	00	99.	00	170.	00	437.	00
280.	3030.	00	2.	00	1.	50	21.	00	110.	00	37.	00	137.	00	126.	00	761.	00
281.	9000.	00	14.	00	1.	50	10.	00	114.	00	59.	00	40.	00	365.	00	338.	00
282.	9160.	00	26.	00	3.	00	7.	00	90.	00	43.	00	30.	00	308.	00	322.	00
283.	7120.	00	13.	00	3.	00	3.	00	100.	00	13.	00	25.	00	362.	00	651.	00
284.	6690.	00	16.	00	1.	50	1.	50	100.	00	13.	00	15.	00	341.	00	171.	00
285.	6210.	00	1.	00	1.	50	3.	00	84.	00	9.	00	27.	00	298.	00	195.	00
286.	11340.	00	10.	00	1.	50	1.	50	73.	00	15.	00	41.	00	453.	00	114.	00
287.	13310.	00	11.	00	1.	50	5.	00	72.	00	12.	00	46.	00	470.	00	327.	00
288.	9520.	00	5.	00	1.	50	1.	50	77.	00	5.	00	16.	00	488.	00	114.	00
289.	14250.	00	7.	00	3.	00	9.	00	71.	00	49.	00	124.	00	283.	00	2542.	00
290.	2740.	00	5.	00	1.	50	1.	50	70.	00	4.	00	19.	00	425.	00	133.	00
291.	15270.	00	36.	00	5.	00	1.	50	68.	00	58.	00	31.	00	460.	00	879.	00
292.	8210.	00	25.	00	1.	50	1.	50	101.	00	13.	00	22.	00	307.	00	550.	00
293.	9180.	00	39.	00	5.	00	4.	00	87.	00	15.	00	25.	00	279.	00	656.	00
294.	10460.	00	17.	00	1.	50	4.	00	101.	00	0.	00	12.	00	386.	00	276.	00
295.	14000.	00	38.	00	6.	00	1.	50	66.	00	9.	00	31.	00	376.	00	196.	00
296.	14560.	00	32.	00	10.	00	14.	00	47.	00	63.	00	102.	00	140.	00	1991.	00
297.	8360.	00	2.	00	1.	50	8.	00	91.	00	27.	00	49.	00	255.	00	1225.	00
298.	11330.	00	5.	00	1.	50	5.	00	77.	00	38.	00	90.	00	209.	00	1627.	00
299.	12160.	00	6.	00	1.	50	18.	00	82.	00	50.	00	101.	00	262.	00	7566.	00
300.	10160.	00	53.	00	8.	00	22.	00	58.	00	134.	00	65.	00	136.	00	1133.	00
301.	3170.	00	1.	00	1.	50	13.	00	115.	00	27.	00	71.	00	122.	00	436.	00
302.	4380.	00	13.	00	9.	00	29.	00	78.	00	73.	00	273.	00	117.	00	944.	00
303.	3250.	00	0.	50	1.	50	7.	00	137.	00	38.	00	65.	00	138.	00	633.	00
304.	3350.	00	1.	00	1.	50	5.	00	122.	00	33.	00	108.	00	133.	00	1127.	00
305.	3820.	00	2.	00	1.	50	12.	00	125.	00	78.	00	138.	00	114.	00	1042.	00
306.	2730.	00	2.	00	1.	50	8.	00	116.	00	29.	00	115.	00	110.	00	470.	00
307.	1700.	00	0.	50	1.	50	10.	00	129.	00	64.	00	162.	00	63.	00	221.	00
308.	2130.	00	0.	50	1.	50	15.	00	127.	00	40.	00	162.	00	80.	00	296.	00
309.	2000.	00	2.	00	1.	50	32.	00	104.	00	90.	00	322.	00	50.	00	412.	00
310.	3890.	00	1.	00	1.	50	5.	00	119.	00	22.	00	74.	00	158.	00	356.	00
311.	5740.	00	16.	00	1.	50	1.	50	141.	00	16.	00	20.	00	232.	00	234.	00
312.	15240.	00	19.	00	5.	00	3.	00	63.	00	7.	00	65.	00	291.	00	396.	00
313.	18790.	00	21.	00	9.	00	3.	00	35.	00	7.	00	105.	00	229.	00	1356.	00
314.	17810.	00	25.	00	9.	00	1.	50	36.	00	3.	00	80.	00	232.	00	701.	00
315.	14890.	00	29.	00	6.	00	8.	00	64.	00	12.	00	50.	00	371.	00	633.	00
316.	16670.	00	23.	00	4.	00	4.	00	59.	00	12.	00	50.	00	304.	00	816.	00
317.	14360.	00	14.	00	1.	50	1.	50	73.	00	7.	00	30.	00	545.	00	514.	00
318.	19630.	00	23.	00	1.	50	1.	50	55.	00	11.	00	38.	00	414.	00	834.	00
319.	3460.	00	1.	00	1.	50	1.	50	97.	00	12.	00	66.	00	123.	00	103.	00
320.	6810.	00	24.	00	1.	50	6.	00	125.	00	15.	00	71.	00	154.	00	196.	00
321.	9640.	00	15.	00	1.	50	4.	00	100.	00	6.	00	17.	00	283.	00	138.	00
322.	13840.	00	13.	00	3.	00	3.	00	105.	00	9.	00	11.	00	202.	00	346.	00
323.	7730.	00	15.	00	1.	50	3.	00	125.	00	11.	00	16.	00	300.	00	205.	00
324.	17280.	00	34.	00	11.	00	1.	50	29.	00	8.	00	17.	00	52.	00	216.	00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
437.	20939.	73680.	170.00	569.00	4.00	3.50	30.00	27.00	1.00
438.	21087.	73665.	734.00	414.00	4.00	15.00	34.00	48.00	1.00
439.	21034.	73658.	553.00	464.00	4.00	13.00	19.00	43.00	4.00
440.	21110.	73650.	133.00	613.00	4.00	3.50	29.00	47.00	2.00
441.	21535.	73699.	222.00	543.00	4.00	8.00	23.00	46.00	1.00
442.	21535.	73608.	160.00	342.00	4.00	8.00	19.00	25.00	1.00
443.	21495.	73664.	146.00	442.00	4.00	3.50	21.00	24.00	1.00
444.	21462.	73615.	217.00	695.00	4.00	3.50	31.00	92.00	13.00
445.	21432.	73590.	170.00	549.00	4.00	3.50	20.00	84.00	7.00
446.	21400.	73571.	165.00	601.00	4.00	3.50	26.00	92.00	16.00
447.	21348.	73546.	203.00	761.00	4.00	3.50	38.00	104.00	16.00
448.	21302.	73562.	385.00	359.00	4.00	35.00	30.00	112.00	9.00
449.	21246.	73554.	310.00	485.00	4.00	3.50	24.00	63.00	7.00
450.	21226.	73558.	289.00	559.00	4.00	7.00	29.00	98.00	2.00
451.	21146.	73639.	800.00	360.00	4.00	14.00	24.00	50.00	2.00
452.	21248.	73612.	598.00	430.00	4.00	3.50	33.00	63.00	11.00
453.	21262.	73609.	242.00	649.00	4.00	12.00	29.00	52.00	6.00
454.	21301.	73592.	350.00	617.00	4.00	3.50	32.00	78.00	3.00
455.	21326.	73584.	625.00	611.00	4.00	15.00	32.00	66.00	4.00
456.	21382.	73597.	405.00	570.00	4.00	9.00	38.00	86.00	6.00
457.	21416.	73616.	726.00	392.00	4.00	16.00	32.00	66.00	8.00
458.	21502.	73703.	124.00	519.00	4.00	3.50	20.00	23.00	1.00
459.	21549.	73764.	345.00	476.00	4.00	7.00	31.00	57.00	3.00
460.	21565.	73775.	527.00	419.00	4.00	7.00	28.00	40.00	2.00
461.	21216.	73556.	146.00	945.00	4.00	10.00	31.00	64.00	7.00
462.	21061.	73638.	254.00	605.00	4.00	3.50	26.00	41.00	2.00
463.	21012.	73639.	225.00	651.00	4.00	3.50	15.00	39.00	1.00
464.	20952.	73660.	289.00	570.00	4.00	10.00	27.00	59.00	3.00
465.	20954.	73676.	301.00	617.00	4.00	8.00	25.00	46.00	1.00
466.	20493.	73401.	549.00	721.00	4.00	11.00	24.00	89.00	6.00
467.	20521.	73398.	574.00	829.00	4.00	16.00	15.00	84.00	2.00
468.	20525.	73399.	537.00	959.00	4.00	7.00	27.00	73.00	3.00
469.	20654.	73569.	125.00	127.00	11.00	8.00	33.00	123.00	17.00
470.	20750.	73535.	194.00	507.00	4.00	7.00	35.00	104.00	9.00
471.	20999.	73227.	476.00	1015.00	4.00	9.00	32.00	78.00	8.00
472.	20998.	73234.	813.00	895.00	4.00	15.00	30.00	76.00	7.00
473.	20992.	73245.	810.00	488.00	4.00	14.00	17.00	124.00	16.00
474.	20983.	73256.	627.00	458.00	4.00	16.00	14.00	131.00	16.00
475.	20945.	73244.	814.00	392.00	4.00	12.00	14.00	114.00	22.00
476.	21600.	73794.	221.00	506.00	4.00	7.00	27.00	23.00	1.00
477.	21638.	73722.	203.00	432.00	4.00	3.50	28.00	39.00	2.00
478.	21621.	73868.	212.00	426.00	4.00	8.00	33.00	91.00	6.00
479.	21619.	73866.	187.00	432.00	4.00	7.00	42.00	63.00	3.00
480.	21614.	73863.	224.00	376.00	4.00	3.50	36.00	201.00	12.00
481.	20858.	73521.	577.00	575.00	4.00	8.00	27.00	77.00	4.00
482.	21049.	73468.	174.00	947.00	4.00	3.50	83.00	217.00	10.00
483.	21032.	73466.	371.00	747.00	4.00	7.00	22.00	90.00	12.00
484.	21002.	73486.	208.00	792.00	4.00	8.00	18.00	85.00	15.00
485.	20928.	73513.	174.00	761.00	8.00	3.50	25.00	72.00	2.00
486.	20930.	73234.	538.00	733.00	4.00	11.00	18.00	129.00	19.00
487.	20668.	73355.	591.00	727.00	4.00	15.00	30.00	75.00	2.00
488.	21980.	74552.	133.00	670.00	4.00	3.50	22.00	55.00	4.00
489.	21986.	74555.	126.00	740.00	4.00	3.50	18.00	29.00	3.00
490.	22008.	74539.	72.00	654.00	4.00	3.50	19.00	31.00	1.00
491.	20844.	73276.	425.00	379.00	8.00	15.00	19.00	145.00	20.00
492.	20806.	73203.	801.00	740.00	4.00	3.50	21.00	99.00	10.00

SAMPNUMB	YP XRF	MOP XRF	FEP XRF	MNP XRF	TIP XRF	VP XRF	CRP XRF	COP XRF	LAP XRF
269.	12.00	1.00	11900.00	410.00	3250.00	30.00	30.00	5.00	30.00
270.	71.00	9.00	195700.00	3840.00	24310.00	340.00	110.00	53.00	210.00
271.	66.00	78.00	173900.00	3860.00	21650.00	290.00	80.00	46.00	190.00
272.	31.00	1.00	11300.00	2350.00	10690.00	10.00	5.00	3.00	70.00
273.	201.00	30.00	216000.00	6100.00	41850.00	350.00	80.00	70.00	470.00
274.	67.00	14.00	356000.00	2570.00	17970.00	800.00	260.00	125.00	160.00
275.	51.00	1.00	191900.00	2240.00	14830.00	380.00	160.00	54.00	110.00
276.	59.00	1.00	193700.00	3290.00	21490.00	370.00	250.00	52.00	140.00
277.	35.00	1.00	26700.00	4500.00	20430.00	30.00	10.00	6.00	70.00
278.	15.00	1.00	11300.00	1770.00	7020.00	20.00	10.00	2.00	40.00
279.	19.00	7.00	41500.00	1490.00	7770.00	90.00	40.00	11.00	40.00
280.	31.00	3.00	19500.00	1780.00	9950.00	30.00	10.00	4.00	50.00
281.	49.00	1.00	46100.00	420.00	5770.00	110.00	80.00	13.00	80.00
282.	30.00	4.00	102300.00	560.00	5040.00	240.00	190.00	31.00	70.00
283.	34.00	1.00	31400.00	330.00	4450.00	90.00	70.00	10.00	40.00
284.	23.00	1.00	24200.00	470.00	3210.00	70.00	50.00	9.00	30.00
285.	31.00	1.00	6500.00	170.00	2840.00	20.00	10.00	1.00	40.00
286.	40.00	3.00	18100.00	480.00	5550.00	60.00	30.00	7.00	50.00
287.	44.00	1.00	31200.00	560.00	5660.00	100.00	50.00	11.00	70.00
288.	17.00	1.00	9800.00	310.00	2490.00	30.00	10.00	3.00	20.00
289.	153.00	1.00	20200.00	640.00	14390.00	70.00	20.00	6.00	170.00
290.	19.00	1.00	8000.00	340.00	2890.00	20.00	10.00	3.00	20.00
291.	26.00	1.00	101600.00	1180.00	15780.00	250.00	140.00	50.00	60.00
292.	37.00	3.00	29300.00	740.00	7530.00	110.00	60.00	38.00	40.00
293.	42.00	8.00	143700.00	1010.00	10560.00	200.00	90.00	77.00	50.00
294.	25.00	1.00	25300.00	570.00	3800.00	50.00	30.00	12.00	30.00
295.	29.00	4.00	76300.00	920.00	8260.00	170.00	150.00	42.00	40.00
296.	93.00	3.00	201400.00	1440.00	24820.00	460.00	250.00	98.00	220.00
297.	59.00	1.00	11600.00	380.00	5000.00	30.00	10.00	3.00	70.00
298.	124.00	2.00	26500.00	440.00	10080.00	80.00	30.00	7.00	150.00
299.	149.00	2.00	20300.00	590.00	12460.00	60.00	20.00	6.00	150.00
300.	68.00	8.00	313200.00	750.00	10690.00	670.00	200.00	98.00	180.00
301.	17.00	1.00	19200.00	1080.00	5230.00	40.00	10.00	4.00	40.00
302.	42.00	8.00	173600.00	4130.00	21930.00	300.00	100.00	42.00	160.00
303.	16.00	7.00	8300.00	600.00	5500.00	20.00	10.00	2.00	40.00
304.	23.00	9.00	15060.00	1200.00	8750.00	30.00	10.00	3.00	70.00
305.	25.00	11.00	33000.00	1460.00	10180.00	60.00	20.00	7.00	70.00
306.	21.00	5.00	25100.00	1290.00	8470.00	50.00	10.00	5.00	50.00
307.	16.00	1.00	10200.00	2170.00	9110.00	10.00	5.00	2.00	90.00
308.	22.00	1.00	7500.00	2240.00	9090.00	10.00	5.00	1.00	60.00
309.	30.00	2.00	60300.00	4020.00	19100.00	80.00	20.00	14.00	140.00
310.	27.00	1.00	13000.00	960.00	5290.00	30.00	5.00	2.00	40.00
311.	30.00	1.00	42400.00	500.00	4950.00	70.00	50.00	15.00	40.00
312.	26.00	3.00	96500.00	2160.00	41940.00	290.00	80.00	34.00	40.00
313.	23.00	3.00	136000.00	3360.00	81080.00	330.00	70.00	53.00	40.00
314.	25.00	4.00	179100.00	2830.00	65400.00	620.00	100.00	66.00	50.00
315.	40.00	2.00	137200.00	1280.00	20010.00	390.00	220.00	42.00	80.00
316.	44.00	3.00	81100.00	1360.00	16460.00	200.00	130.00	26.00	60.00
317.	24.00	2.00	33200.00	750.00	7790.00	90.00	60.00	12.00	40.00
318.	33.00	1.00	38400.00	1240.00	11320.00	80.00	60.00	16.00	40.00
319.	21.00	3.00	8200.00	850.00	3480.00	20.00	5.00	2.00	40.00
320.	17.00	1.00	15000.00	990.00	5720.00	30.00	70.00	6.00	30.00
321.	73.00	1.00	68000.00	1860.00	4960.00	60.00	30.00	22.00	50.00
322.	26.00	12.00	25000.00	650.00	3910.00	40.00	30.00	11.00	30.00
323.	43.00	1.00	33700.00	790.00	4230.00	50.00	30.00	14.00	30.00
324.	159.00	3.00	330700.00	4220.00	8130.00	220.00	70.00	153.00	40.00

SAMPNUMB	CAP	XRF	NIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	THP	XRF	MBP	XRF	SRP	XRF	ZRP	XRF
437.	10440.	00	8.	00	1.	50	6.	00	73.	00	15.	00	47.	00	344.	00	783.	00
438.	19680.	00	15.	00	3.	00	13.	00	61.	00	44.	00	146.	00	264.	00	1316.	00
439.	21530.	00	16.	00	3.	00	14.	00	53.	00	31.	00	156.	00	302.	00	1118.	00
440.	6300.	00	8.	00	1.	50	1.	50	105.	00	15.	00	25.	00	307.	00	153.	00
441.	17160.	00	15.	00	5.	00	7.	00	58.	00	23.	00	95.	00	286.	00	2004.	00
442.	8760.	00	6.	00	1.	50	20.	00	92.	00	32.	00	142.	00	216.	00	1485.	00
443.	7730.	00	6.	00	1.	50	8.	00	76.	00	19.	00	99.	00	204.	00	1430.	00
444.	15650.	00	34.	00	5.	00	6.	00	52.	00	21.	00	51.	00	236.	00	1051.	00
445.	34200.	00	29.	00	3.	00	5.	00	36.	00	14.	00	42.	00	249.	00	900.	00
446.	15400.	00	34.	00	4.	00	1.	50	40.	00	16.	00	52.	00	248.	00	2200.	00
447.	21240.	00	46.	00	7.	00	4.	00	43.	00	12.	00	40.	00	362.	00	1761.	00
448.	37940.	00	43.	00	8.	00	8.	00	19.	00	26.	00	89.	00	240.	00	3332.	00
449.	20430.	00	24.	00	7.	00	11.	00	45.	00	31.	00	120.	00	260.	00	3254.	00
450.	27120.	00	31.	00	5.	00	5.	00	38.	00	23.	00	77.	00	325.	00	2327.	00
451.	19270.	00	12.	00	1.	50	15.	00	83.	00	69.	00	168.	00	270.	00	1667.	00
452.	21780.	00	30.	00	6.	00	14.	00	44.	00	59.	00	120.	00	246.	00	3673.	00
453.	10830.	00	14.	00	1.	50	7.	00	75.	00	24.	00	46.	00	344.	00	763.	00
454.	12820.	00	18.	00	3.	00	9.	00	80.	00	64.	00	75.	00	307.	00	1094.	00
455.	24840.	00	28.	00	1.	50	11.	00	58.	00	46.	00	148.	00	361.	00	1590.	00
456.	13240.	00	19.	00	3.	00	15.	00	78.	00	94.	00	84.	00	267.	00	1307.	00
457.	18660.	00	24.	00	7.	00	18.	00	55.	00	74.	00	139.	00	212.	00	1420.	00
458.	2130.	00	8.	00	1.	50	3.	00	60.	00	15.	00	57.	00	256.	00	1676.	00
459.	12880.	00	12.	00	3.	00	13.	00	77.	00	29.	00	106.	00	235.	00	1390.	00
460.	14270.	00	10.	00	1.	50	11.	00	75.	00	44.	00	128.	00	230.	00	851.	00
461.	13600.	00	22.	00	1.	50	3.	00	66.	00	17.	00	38.	00	395.	00	474.	00
462.	16960.	00	12.	00	3.	00	1.	50	59.	00	21.	00	69.	00	391.	00	830.	00
463.	16970.	00	12.	00	1.	50	1.	50	54.	00	17.	00	60.	00	489.	00	638.	00
464.	24070.	00	19.	00	4.	00	7.	00	47.	00	41.	00	136.	00	368.	00	2739.	00
465.	19990.	00	14.	00	3.	00	9.	00	57.	00	27.	00	108.	00	405.	00	3071.	00
466.	31770.	00	26.	00	5.	00	4.	00	29.	00	31.	00	104.	00	479.	00	4620.	00
467.	32880.	00	26.	00	1.	50	8.	00	30.	00	31.	00	106.	00	492.	00	5005.	00
468.	29890.	00	20.	00	1.	50	6.	00	37.	00	32.	00	96.	00	607.	00	3253.	00
469.	11740.	00	54.	00	18.	00	6.	00	2.	00	33.	00	47.	00	50.	00	3242.	00
470.	30950.	00	84.	00	3.	00	6.	00	27.	00	21.	00	40.	00	385.	00	2936.	00
471.	27060.	00	12.	00	7.	00	4.	00	29.	00	21.	00	70.	00	483.	00	1706.	00
472.	35560.	00	13.	00	6.	00	6.	00	32.	00	30.	00	121.	00	479.	00	1718.	00
473.	41190.	00	33.	00	7.	00	6.	00	21.	00	37.	00	131.	00	394.	00	2534.	00
474.	35040.	00	32.	00	11.	00	3.	00	21.	00	29.	00	97.	00	351.	00	1723.	00
475.	41120.	00	36.	00	9.	00	11.	00	19.	00	39.	00	132.	00	391.	00	2023.	00
476.	10320.	00	5.	00	1.	50	6.	00	83.	00	23.	00	61.	00	305.	00	825.	00
477.	8320.	00	11.	00	1.	50	11.	00	74.	00	42.	00	78.	00	202.	00	2622.	00
478.	5940.	00	18.	00	3.	00	19.	00	109.	00	117.	00	66.	00	142.	00	994.	00
479.	5140.	00	12.	00	3.	00	19.	00	90.	00	80.	00	100.	00	133.	00	721.	00
480.	24210.	00	70.	00	3.	00	12.	00	69.	00	57.	00	61.	00	179.	00	580.	00
481.	25520.	00	25.	00	4.	00	9.	00	56.	00	35.	00	122.	00	305.	00	452.	00
482.	27620.	00	48.	00	5.	00	1.	50	36.	00	10.	00	45.	00	562.	00	980.	00
483.	29690.	00	45.	00	4.	00	7.	00	37.	00	19.	00	63.	00	467.	00	702.	00
484.	24880.	00	38.	00	1.	50	7.	00	46.	00	15.	00	54.	00	494.	00	733.	00
485.	25180.	00	33.	00	5.	00	5.	00	37.	00	17.	00	48.	00	515.	00	1589.	00
486.	26150.	00	19.	00	10.	00	1.	50	29.	00	28.	00	79.	00	488.	00	1260.	00
487.	32330.	00	18.	00	5.	00	8.	00	29.	00	34.	00	155.	00	580.	00	7052.	00
488.	7580.	00	14.	00	6.	00	6.	00	87.	00	18.	00	29.	00	353.	00	496.	00
489.	8500.	00	10.	00	1.	50	4.	00	99.	00	16.	00	32.	00	368.	00	291.	00
490.	4000.	00	5.	00	1.	50	4.	00	104.	00	9.	00	24.	00	279.	00	247.	00
491.	29140.	00	31.	00	12.	00	4.	00	14.	00	19.	00	70.	00	324.	00	2622.	00
492.	31180.	00	17.	00	2.	00	4.	00	27.	00	32.	00	117.	00	497.	00	1064.	00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
325.	21370.	74926.	92.00	625.00	10.00	3.50	20.00	83.00	9.00
326.	21405.	74024.	91.00	630.00	4.00	3.50	17.00	76.00	6.00
327.	21427.	74046.	78.00	263.00	4.00	7.00	26.00	95.00	16.00
328.	21395.	74746.	103.00	742.00	4.00	3.50	12.00	74.00	5.00
329.	20965.	74127.	29.00	234.00	4.00	3.50	26.00	16.00	1.00
330.	20967.	74116.	41.00	280.00	4.00	3.50	23.00	15.00	1.00
331.	21110.	74628.	477.00	598.00	4.00	7.00	39.00	49.00	2.00
332.	21379.	74098.	31.00	234.00	4.00	7.00	31.00	13.00	1.00
333.	21374.	74108.	42.00	143.00	4.00	9.00	54.00	26.00	7.00
334.	21392.	74116.	27.00	127.00	4.00	3.50	26.00	10.00	1.00
335.	21403.	74102.	45.00	180.00	4.00	3.50	35.00	10.00	1.00
336.	21377.	74104.	23.00	333.00	4.00	3.50	30.00	26.00	4.00
337.	21394.	74088.	19.00	109.00	4.00	3.50	23.00	6.00	1.00
338.	21382.	74072.	74.00	119.00	4.00	3.50	30.00	9.00	1.00
339.	21404.	74058.	109.00	197.00	4.00	3.50	30.00	11.00	1.00
340.	21366.	73958.	81.00	355.00	4.00	3.50	27.00	16.00	1.00
341.	21201.	73990.	49.00	262.00	4.00	3.50	35.00	31.00	4.00
342.	21184.	73980.	61.00	274.00	4.00	3.50	22.00	24.00	1.00
343.	21162.	73978.	125.00	241.00	4.00	3.50	25.00	19.00	1.00
344.	21155.	73970.	154.00	354.00	4.00	7.00	26.00	14.00	1.00
345.	21150.	73966.	1.00	400.00	4.00	3.50	26.00	27.00	1.00
346.	21197.	73963.	94.00	368.00	4.00	3.50	30.00	23.00	1.00
347.	21144.	73972.	197.00	266.00	4.00	3.50	24.00	22.00	1.00
348.	21144.	73968.	173.00	243.00	4.00	3.50	32.00	16.00	1.00
349.	21045.	73978.	109.00	268.00	4.00	3.50	33.00	22.00	1.00
350.	21053.	73983.	32.00	313.00	4.00	3.50	26.00	35.00	1.00
351.	20950.	74004.	99.00	318.00	4.00	3.50	32.00	42.00	1.00
352.	20956.	74069.	64.00	309.00	4.00	3.50	25.00	40.00	1.00
353.	20949.	74044.	50.00	262.00	4.00	3.50	19.00	10.00	1.00
354.	20917.	73980.	114.00	274.00	4.00	3.50	25.00	15.00	1.00
355.	20876.	73932.	383.00	311.00	4.00	3.50	23.00	12.00	1.00
356.	20961.	73821.	122.00	452.00	4.00	3.50	14.00	13.00	1.00
357.	21052.	73956.	312.00	204.00	4.00	11.00	63.00	66.00	7.00
358.	21078.	73954.	72.00	417.00	4.00	3.50	30.00	10.00	1.00
359.	21098.	73961.	84.00	398.00	4.00	3.50	34.00	51.00	1.00
360.	21114.	73963.	79.00	349.00	4.00	3.50	24.00	15.00	1.00
361.	21534.	74164.	47.00	279.00	4.00	3.50	30.00	10.00	1.00
362.	21529.	74162.	72.00	267.00	4.00	3.50	34.00	63.00	1.00
363.	21530.	74158.	37.00	262.00	4.00	3.50	27.00	13.00	1.00
364.	21546.	74164.	171.00	1000.00	4.00	3.50	30.00	45.00	3.00
365.	21556.	74162.	92.00	274.00	4.00	3.50	31.00	10.00	1.00
366.	21579.	74167.	41.00	295.00	4.00	3.50	28.00	21.00	6.00
367.	21610.	74181.	161.00	262.00	4.00	7.00	27.00	29.00	1.00
368.	21830.	73926.	70.00	639.00	4.00	3.50	28.00	35.00	3.00
369.	21824.	73910.	325.00	355.00	4.00	9.00	22.00	21.00	1.00
370.	21738.	73859.	334.00	670.00	4.00	7.00	22.00	37.00	3.00
371.	21352.	73962.	136.00	134.00	4.00	13.00	31.00	19.00	1.00
372.	21248.	73931.	64.00	204.00	4.00	3.50	31.00	12.00	1.00
373.	21246.	73924.	44.00	402.00	4.00	3.50	22.00	7.00	1.00
374.	21188.	73898.	154.00	482.00	4.00	8.00	32.00	32.00	1.00
375.	21219.	73858.	139.00	480.00	4.00	3.50	35.00	32.00	1.00
376.	21455.	74190.	47.00	240.00	4.00	3.50	33.00	18.00	2.00
377.	21484.	74174.	83.00	231.00	4.00	3.50	29.00	11.00	1.00
378.	21483.	74176.	55.00	269.00	4.00	3.50	29.00	13.00	1.00
379.	21514.	74176.	78.00	213.00	4.00	3.50	26.00	9.00	2.00
380.	21538.	74182.	126.00	280.00	4.00	3.50	40.00	26.00	2.00

SAMPNUMB	YP XRF	MOP XRF	FEP XRF	MNP XRF	TIP XRF	VP XRF	CRP XRF	COP XRF	LAP XRF
437.	50.00	1.00	20040.00	470.00	6600.00	60.00	30.00	6.00	70.00
438.	170.00	2.00	79400.00	750.00	10100.00	200.00	90.00	22.00	260.00
439.	186.00	3.00	60900.00	1500.00	19760.00	160.00	70.00	18.00	210.00
440.	26.00	1.00	24000.00	490.00	3740.00	60.00	30.00	8.00	60.00
441.	71.00	2.00	31600.00	1330.00	11230.00	70.00	40.00	12.00	80.00
442.	63.00	1.00	13000.00	1930.00	11840.00	30.00	30.00	4.00	80.00
443.	40.00	1.00	21000.00	1430.00	9530.00	50.00	20.00	6.00	50.00
444.	61.00	5.00	150600.00	1000.00	14360.00	370.00	200.00	57.00	90.00
445.	61.00	3.00	70100.00	1110.00	10910.00	220.00	100.00	29.00	70.00
446.	44.00	1.00	145800.00	1270.00	17970.00	400.00	270.00	46.00	70.00
447.	48.00	6.00	169400.00	1360.00	19240.00	450.00	270.00	60.00	90.00
448.	85.00	3.00	230000.00	1970.00	32330.00	600.00	320.00	61.00	170.00
449.	90.00	5.00	113700.00	1700.00	23010.00	370.00	140.00	35.00	130.00
450.	70.00	1.00	119400.00	1400.00	22150.00	320.00	160.00	41.00	120.00
451.	193.00	1.00	62700.00	560.00	10630.00	160.00	70.00	17.00	300.00
452.	130.00	3.00	204000.00	770.00	16140.00	430.00	250.00	62.00	240.00
453.	52.00	1.00	101900.00	400.00	6600.00	220.00	120.00	25.00	100.00
454.	79.00	3.00	114000.00	520.00	9770.00	280.00	120.00	31.00	150.00
455.	154.00	2.00	63800.00	950.00	10910.00	180.00	100.00	21.00	240.00
456.	97.00	2.00	131300.00	850.00	11570.00	290.00	140.00	37.00	180.00
457.	153.00	3.00	192500.00	830.00	18440.00	450.00	210.00	56.00	270.00
458.	50.00	1.00	11600.00	750.00	6500.00	30.00	50.00	5.00	60.00
459.	93.00	1.00	86400.00	1590.00	11610.00	190.00	80.00	24.00	190.00
460.	135.00	1.00	48100.00	730.00	13640.00	130.00	50.00	14.00	210.00
461.	58.00	1.00	77700.00	730.00	9170.00	210.00	130.00	25.00	70.00
462.	69.00	1.00	23700.00	700.00	9330.00	70.00	40.00	9.00	110.00
463.	61.00	1.00	21400.00	720.00	7990.00	60.00	30.00	9.00	90.00
464.	136.00	3.00	62000.00	1070.00	15930.00	160.00	80.00	21.00	200.00
465.	109.00	3.00	32000.00	950.00	12710.00	90.00	40.00	12.00	150.00
466.	127.00	1.00	91100.00	2530.00	39260.00	220.00	80.00	33.00	210.00
467.	143.00	1.00	59000.00	2540.00	37420.00	130.00	50.00	23.00	210.00
468.	126.00	4.00	49600.00	2010.00	32500.00	130.00	40.00	18.00	200.00
469.	27.00	7.00	446300.00	1740.00	36390.00	2030.00	710.00	217.00	160.00
470.	52.00	8.00	142000.00	1490.00	10960.00	360.00	310.00	56.00	90.00
471.	90.00	2.00	130500.00	1020.00	34130.00	350.00	40.00	41.00	200.00
472.	190.00	2.00	126200.00	1900.00	39800.00	350.00	30.00	39.00	320.00
473.	172.00	7.00	214300.00	2550.00	49210.00	620.00	110.00	78.00	310.00
474.	126.00	4.00	241700.00	2270.00	40150.00	710.00	160.00	91.00	260.00
475.	166.00	8.00	236300.00	2540.00	56900.00	720.00	90.00	90.00	320.00
476.	64.00	1.00	15800.00	570.00	6940.00	40.00	20.00	5.00	90.00
477.	60.00	1.00	114400.00	900.00	8760.00	230.00	100.00	29.00	80.00
478.	53.00	2.00	126000.00	990.00	8000.00	240.00	80.00	33.00	100.00
479.	44.00	3.00	143400.00	1440.00	10440.00	270.00	90.00	36.00	90.00
480.	45.00	1.00	63600.00	1110.00	9060.00	200.00	360.00	29.00	110.00
481.	126.00	6.00	91300.00	960.00	16520.00	250.00	100.00	32.00	210.00
482.	47.00	2.00	114100.00	1520.00	21020.00	310.00	210.00	42.00	80.00
483.	80.00	3.00	116000.00	1500.00	25320.00	330.00	170.00	43.00	140.00
484.	56.00	2.00	75900.00	1400.00	16400.00	200.00	160.00	30.00	90.00
485.	49.00	5.00	78300.00	1410.00	17550.00	210.00	110.00	28.00	80.00
486.	185.00	5.00	231000.00	1740.00	34720.00	670.00	90.00	75.00	240.00
487.	145.00	4.00	72200.00	3530.00	50300.00	140.00	30.00	27.00	220.00
488.	34.00	1.00	51800.00	390.00	4790.00	150.00	100.00	15.00	60.00
489.	40.00	1.00	22200.00	320.00	5030.00	70.00	50.00	7.00	60.00
490.	29.00	1.00	14000.00	200.00	3300.00	50.00	40.00	4.00	40.00
491.	92.00	5.00	311000.00	2100.00	39300.00	1010.00	160.00	115.00	190.00
492.	172.00	3.00	205500.00	2020.00	39940.00	560.00	60.00	65.00	310.00

SAMPNUMB	CAP	XRF	NIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	THP	XRF	UBP	XRF	SRP	XRF	ZRP	XRF
325.	13790.	00	25.	00	1.	50	6.	00	101.	00	14.	00	17.	00	317.	00	293.	00
326.	19960.	00	24.	00	1.	50	3.	00	64.	00	12.	00	36.	00	355.	00	503.	00
327.	17210.	00	27.	00	7.	00	1.	50	46.	00	9.	00	16.	00	121.	00	225.	00
328.	16070.	00	21.	00	5.	00	4.	00	73.	00	15.	00	46.	00	360.	00	239.	00
329.	2600.	00	1.	00	1.	50	5.	00	110.	00	7.	00	113.	00	112.	00	164.	00
330.	2450.	00	1.	00	1.	50	4.	00	100.	00	11.	00	129.	00	117.	00	249.	00
331.	10170.	00	10.	00	3.	00	7.	00	52.	00	30.	00	109.	00	302.	00	758.	00
332.	1060.	00	0.	50	1.	50	9.	00	142.	00	16.	00	32.	00	81.	00	134.	00
333.	1820.	00	1.	00	1.	50	21.	00	130.	00	27.	00	166.	00	58.	00	176.	00
334.	1000.	00	0.	50	1.	50	7.	00	130.	00	14.	00	90.	00	59.	00	85.	00
335.	1740.	00	0.	50	1.	50	12.	00	134.	00	17.	00	79.	00	74.	00	71.	00
336.	1930.	00	0.	50	1.	50	3.	00	141.	00	5.	00	21.	00	113.	00	44.	00
337.	1660.	00	0.	50	1.	50	7.	00	141.	00	12.	00	44.	00	72.	00	81.	00
338.	1650.	00	0.	50	1.	50	19.	00	128.	00	32.	00	121.	00	52.	00	192.	00
339.	2270.	00	0.	50	1.	50	6.	00	104.	00	34.	00	124.	00	75.	00	200.	00
340.	3540.	00	1.	00	1.	50	3.	00	102.	00	12.	00	77.	00	143.	00	174.	00
341.	5020.	00	14.	00	1.	50	5.	00	122.	00	19.	00	82.	00	130.	00	166.	00
342.	[illegible]		1.	00	1.	50	4.	00	119.	00	19.	00	50.	00	120.	00	133.	00
343.	3320.	00	1.	00	1.	50	10.	00	139.	00	32.	00	130.	00	106.	00	733.	00
344.	2740.	00	0.	50	4.	00	9.	00	110.	00	12.	00	117.	00	107.	00	211.	00
345.	3650.	00	2.	00	1.	50	4.	00	114.	00	21.	00	54.	00	157.	00	300.	00
346.	3990.	00	3.	00	3.	00	13.	00	119.	00	30.	00	96.	00	150.	00	420.	00
347.	4130.	00	1.	00	1.	50	6.	00	111.	00	20.	00	100.	00	127.	00	251.	00
348.	2910.	00	0.	50	1.	50	8.	00	92.	00	11.	00	97.	00	97.	00	271.	00
349.	3780.	00	3.	00	1.	50	12.	00	98.	00	18.	00	114.	00	116.	00	317.	00
350.	2360.	00	0.	50	1.	50	4.	00	117.	00	5.	00	33.	00	126.	00	129.	00
351.	10900.	00	14.	00	1.	50	8.	00	100.	00	16.	00	97.	00	187.	00	266.	00
352.	6080.	00	6.	00	1.	50	10.	00	101.	00	15.	00	149.	00	149.	00	233.	00
353.	3040.	00	0.	50	1.	50	2.	00	20.	00	5.	00	162.	00	117.	00	98.	00
354.	4900.	00	2.	00	1.	50	5.	00	80.	00	16.	00	51.	00	174.	00	351.	00
355.	9860.	00	3.	00	1.	50	7.	00	80.	00	16.	00	106.	00	200.	00	1920.	00
356.	7040.	00	4.	00	1.	50	1.	50	79.	00	7.	00	37.	00	251.	00	386.	00
357.	7130.	00	21.	00	5.	00	22.	00	63.	00	105.	00	131.	00	113.	00	1522.	00
358.	3930.	00	1.	00	1.	50	5.	00	102.	00	10.	00	37.	00	174.	00	282.	00
359.	3230.	00	2.	00	1.	50	1.	50	100.	00	26.	00	47.	00	155.	00	339.	00
360.	3160.	00	0.	50	1.	50	1.	50	100.	00	14.	00	48.	00	157.	00	288.	00
361.	2600.	00	0.	50	1.	50	6.	00	120.	00	15.	00	65.	00	139.	00	121.	00
362.	2190.	00	2.	00	1.	50	13.	00	133.	00	37.	00	99.	00	131.	00	212.	00
363.	2820.	00	0.	50	1.	50	3.	00	126.	00	11.	00	41.	00	136.	00	75.	00
364.	3640.	00	4.	00	1.	50	22.	00	123.	00	60.	00	160.	00	134.	00	323.	00
365.	3930.	00	3.	00	1.	50	10.	00	116.	00	26.	00	132.	00	156.	00	215.	00
366.	2220.	00	1.	00	3.	00	5.	00	162.	00	33.	00	42.	00	115.	00	120.	00
367.	2660.	00	0.	50	1.	50	17.	00	103.	00	72.	00	224.	00	96.	00	591.	00
368.	9620.	00	16.	00	1.	50	3.	00	79.	00	0.	00	23.	00	373.	00	557.	00
369.	12050.	00	6.	00	1.	50	5.	00	59.	00	17.	00	77.	00	389.	00	828.	00
370.	15000.	00	12.	00	1.	50	6.	00	67.	00	24.	00	71.	00	336.	00	1221.	00
371.	2000.	00	0.	50	1.	50	26.	00	102.	00	48.	00	235.	00	66.	00	441.	00
372.	2630.	00	0.	50	1.	50	9.	00	127.	00	22.	00	68.	00	102.	00	224.	00
373.	3450.	00	1.	00	1.	50	8.	00	104.	00	14.	00	46.	00	169.	00	519.	00
374.	6730.	00	6.	00	1.	50	6.	00	101.	00	29.	00	49.	00	234.	00	696.	00
375.	6710.	00	6.	00	1.	50	8.	00	103.	00	35.	00	48.	00	233.	00	1850.	00
376.	2110.	00	2.	00	1.	50	5.	00	148.	00	22.	00	46.	00	91.	00	18[illegible].	00
377.	2440.	00	0.	50	1.	50	18.	00	139.	00	40.	00	98.	00	105.	00	247.	00
378.	2000.	00	1.	00	1.	50	4.	00	150.	00	23.	00	55.	00	104.	00	214.	00
379.	2120.	00	0.	50	1.	50	1.	50	157.	00	29.	00	35.	00	113.	00	263.	00
380.	2850.	00	0.	50	1.	50	14.	00	137.	00	64.	00	150.	00	113.	00	677.	00

SAMPNUMB	EASTING	NORTHING	CEP XRF	BAP XRF	SBP XRF	SNP XRF	PBP XRF	ZNP XRF	CUP XRF
493.	20732.	73329.	326.00	260.00	4.00	3.50	29.00	84.00	6.00
494.	22028.	74512.	138.00	661.00	4.00	3.50	25.00	32.00	3.00
495.	22034.	74488.	140.00	642.00	4.00	3.50	7.00	30.00	4.00
496.	22030.	74491.	266.00	563.00	4.00	7.00	29.00	56.00	3.00
497.	22039.	74449.	118.00	74000.00	4.00	3.50	34.00	41.00	20.00
498.	22042.	74409.	239.00	644.00	4.00	3.50	15.00	42.00	1.00
499.	22031.	74397.	472.00	527.00	4.00	7.00	23.00	22.00	1.00
500.	22027.	74354.	157.00	1138.00	4.00	3.50	18.00	34.00	1.00
501.	20895.	73512.	205.00	519.00	4.00	3.50	17.00	86.00	4.00
502.	22031.	74343.	296.00	603.00	4.00	3.50	20.00	38.00	1.00
503.	22050.	74301.	229.00	626.00	4.00	3.50	18.00	24.00	1.00
504.	21852.	74412.	247.00	444.00	4.00	3.50	35.00	39.00	4.00
505.	21854.	74414.	412.00	508.00	4.00	10.00	37.00	35.00	6.00
506.	21866.	74404.	419.00	253.00	4.00	7.00	22.00	94.00	12.00
507.	21893.	74390.	382.00	268.00	10.00	10.00	12.00	69.00	13.00
508.	21960.	74366.	252.00	109.00	4.00	7.00	36.00	100.00	15.00
509.	22012.	74335.	358.00	470.00	4.00	3.50	36.00	56.00	2.00
510.	21937.	74220.	272.00	459.00	4.00	7.00	20.00	12.00	1.00
511.	20784.	73527.	215.00	1545.00	4.00	7.00	15.00	71.00	8.00
512.	21910.	74173.	69.00	491.00	4.00	3.50	25.00	11.00	1.00
513.	22039.	74126.	58.00	718.00	4.00	3.50	18.00	49.00	6.00
514.	22024.	74126.	401.00	550.00	4.00	3.50	15.00	27.00	1.00
515.	21998.	74109.	529.00	606.00	4.00	7.00	14.00	29.00	1.00
516.	21985.	74101.	238.00	643.00	4.00	3.50	16.00	25.00	2.00
517.	20623.	73155.	425.00	902.00	4.00	3.50	27.00	115.00	9.00
518.	20667.	73188.	447.00	895.00	4.00	9.00	18.00	109.00	14.00
519.	20690.	73172.	339.00	862.00	4.00	3.50	34.00	97.00	13.00
520.	20684.	73181.	397.00	869.00	4.00	3.50	40.00	80.00	66.00
521.	21334.	73421.	148.00	1050.00	4.00	3.50	24.00	92.00	14.00
522.	21339.	73416.	261.00	607.00	4.00	7.00	33.00	141.00	19.00
523.	21380.	73432.	94.00	708.00	4.00	3.50	26.00	131.00	10.00
524.	21445.	73485.	173.00	682.00	4.00	3.50	31.00	146.00	16.00
525.	21554.	73594.	72.00	716.00	4.00	7.00	22.00	59.00	3.00
526.	21558.	73603.	217.00	3102.00	4.00	3.50	30.00	166.00	17.00
527.	21525.	73591.	216.00	301.00	4.00	3.50	23.00	110.00	25.00
528.	21493.	73599.	206.00	628.00	4.00	3.50	11.00	53.00	1.00
-1.	-1.	-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

SAMPNUMB	CAP	XRF	NIP	XRF	AGP	XRF	UP	XRF	RBP	XRF	THP	XRF	NBP	XRF	SRP	XRF	ZRP	XRF
493.	22030.	00	10.	00	3.	00	1.	50	47.	00	12.	00	68.	00	538.	00	503.	00
494.	8180.	00	11.	00	3.	00	5.	00	110.	00	26.	00	27.	00	350.	00	283.	00
495.	9200.	00	14.	00	1.	50	5.	00	87.	00	20.	00	25.	00	350.	00	410.	00
496.	10770.	00	24.	00	4.	00	13.	00	79.	00	32.	00	47.	00	294.	00	707.	00
497.	10060.	00	19.	00	8.	00	5.	00	57.	00	30.	00	48.	00	1078.	00	61 .	00
498.	11370.	00	17.	00	1.	50	7.	00	77.	00	25.	00	48.	00	335.	00	7 .	00
499.	13610.	00	0.	00	1.	50	7.	00	74.	00	33.	00	69.	00	324.	00	209.	00
500.	9210.	00	11.	00	1.	50	1.	50	91.	00	21.	00	37.	00	300.	00	125.	00
501.	30530.	00	43.	00	6.	00	1.	50	25.	00	25.	00	54.	00	815.	00	170.	00
502.	13280.	00	17.	00	3.	00	5.	00	74.	00	20.	00	50.	00	361.	00	650.	00
503.	12320.	00	9.	00	1.	50	1.	50	76.	00	21.	00	56.	00	391.	00	1001.	00
504.	8040.	00	13.	00	1.	50	14.	00	86.	00	55.	00	65.	00	205.	00	916.	00
505.	10960.	00	11.	00	6.	00	9.	00	86.	00	40.	00	86.	00	230.	00	1004.	00
506.	14460.	00	31.	00	9.	00	15.	00	48.	00	79.	00	72.	00	153.	00	4027.	00
507.	14470.	00	30.	00	9.	00	12.	00	46.	00	39.	00	69.	00	170.	00	2048.	00
508.	9920.	00	38.	00	15.	00	16.	00	19.	00	73.	00	55.	00	61.	00	3601.	00
509.	10530.	00	15.	00	3.	00	7.	00	70.	00	40.	00	76.	00	229.	00	1253.	00
510.	8920.	00	5.	00	4.	00	6.	00	69.	00	11.	00	50.	00	250.	00	1360.	00
511.	22620.	00	22.	00	4.	00	4.	00	53.	00	10.	00	58.	00	610.	00	675.	00
512.	3480.	00	0.	50	1.	50	1.	50	107.	00	23.	00	42.	00	200.	00	403.	00
513.	14530.	00	19.	00	1.	50	1.	50	75.	00	6.	00	17.	00	495.	00	367.	00
514.	20710.	00	19.	00	1.	50	1.	00	53.	00	26.	00	81.	00	450.	00	000.	00
515.	22640.	00	20.	00	3.	00	1.	00	51.	00	35.	00	106.	00	495.	00	364.	00
516.	46980.	00	17.	00	1.	50	1.	00	52.	00	17.	00	51.	00	404.	00	495.	00
517.	18970.	00	18.	00	1.	00	1.	00	52.	00	17.	00	81.	00	430.	00	730.	00
518.	20320.	00	25.	00	1.	00	1.	00	32.	00	14.	00	94.	00	349.	00	700.	00
519.	20390.	00	26.	00	1.	00	1.	00	47.	00	25.	00	62.	00	304.	00	960.	00
520.	19470.	00	15.	00	4.	00	3.	00	44.	00	21.	00	84.	00	382.	00	970.	00
521.	20970.	00	49.	00	6.	00	1.	50	55.	00	13.	00	36.	00	403.	00	1038.	00
522.	22940.	00	40.	00	7.	00	6.	00	41.	00	14.	00	54.	00	372.	00	1500.	00
523.	17010.	00	67.	00	3.	00	1.	50	61.	00	10.	00	32.	00	360.	00	501.	00
524.	16790.	00	34.	00	5.	00	1.	50	53.	00	15.	00	61.	00	249.	00	1018.	00
525.	8400.	00	12.	00	1.	50	1.	50	83.	00	7.	00	26.	00	291.	00	419.	00
526.	19500.	00	48.	00	5.	00	1.	50	57.	00	15.	00	79.	00	557.	00	782.	00
527.	18120.	00	47.	00	7.	00	5.	00	47.	00	18.	00	69.	00	186.	00	1132.	00
528.	22750.	00	19.	00	5.	00	1.	50	50.	00	10.	00	63.	00	256.	00	1462.	00
-1.	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00

SAMPNUMB	YP	XRF	MOP	XRF	FEP	XRF	MNP	XRF	TIP	XRF	VP	XRF	CRP	XRF	COP	XRF	LAP	XRF
493.	70.	00	1.	00	106600.	00	1610.	00	23100.	00	290.	00	100.	00	35.	00	150.	00
494.	41.	00	1.	00	20900.	00	320.	00	4550.	00	60.	00	50.	00	8.	00	50.	00
495.	40.	00	2.	00	33300.	00	380.	00	5090.	00	100.	00	80.	00	12.	00	50.	00
496.	68.	00	1.	00	110300.	00	580.	00	9050.	00	300.	00	210.	00	35.	00	120.	00
497.	56.	00	4.	00	81300.	00	370.	00	7100.	00	290.	00	130.	00	23.	00	100.	00
498.	64.	00	3.	00	62600.	00	500.	00	7060.	00	170.	00	130.	00	19.	00	100.	00
499.	125.	00	2.	00	25100.	00	390.	00	11070.	00	80.	00	40.	00	8.	00	170.	00
500.	45.	00	1.	00	35400.	00	380.	00	5320.	00	100.	00	70.	00	10.	00	70.	00
501.	56.	00	2.	00	101900.	00	1610.	00	14650.	00	240.	00	150.	00	36.	00	90.	00
502.	74.	00	1.	00	91900.	00	440.	00	8750.	00	220.	00	140.	00	28.	00	140.	00
503.	67.	00	1.	00	27500.	00	420.	00	7130.	00	80.	00	50.	00	9.	00	100.	00
504.	66.	00	1.	00	80300.	00	440.	00	6700.	00	170.	00	60.	00	20.	00	110.	00
505.	96.	00	1.	00	92400.	00	410.	00	9420.	00	200.	00	100.	00	24.	00	100.	00
506.	90.	00	4.	00	304800.	00	720.	00	11110.	00	710.	00	310.	00	107.	00	190.	00
507.	88.	00	5.	00	311300.	00	620.	00	10690.	00	760.	00	350.	00	103.	00	190.	00
508.	60.	00	4.	00	430300.	00	920.	00	9300.	00	1250.	00	520.	00	106.	00	160.	00
509.	84.	00	1.	00	127100.	00	530.	00	8200.	00	270.	00	110.	00	33.	00	150.	00
510.	76.	00	1.	00	42500.	00	220.	00	6490.	00	110.	00	70.	00	11.	00	100.	00
511.	56.	00	2.	00	61600.	00	550.	00	11100.	00	160.	00	70.	00	24.	00	90.	00
512.	26.	00	1.	00	4700.	00	430.	00	4070.	00	10.	00	5.	00	1.	00	20.	00
513.	25.	00	1.	00	26000.	00	670.	00	4300.	00	70.	00	60.	00	12.	00	30.	00
514.	116.	00	1.	00	22500.	00	600.	00	11870.	00	80.	00	70.	00	9.	00	150.	00
515.	161.	00	37.	00	26100.	00	830.	00	15670.	00	90.	00	70.	00	11.	00	210.	00
516.	69.	00	13.	00	25700.	00	650.	00	8430.	00	80.	00	70.	00	9.	00	90.	00
517.	84.	00	9.	00	124900.	00	1960.	00	26210.	00	310.	00	70.	00	42.	00	180.	00
518.	84.	00	4.	00	256400.	00	2850.	00	42870.	00	600.	00	140.	00	90.	00	210.	00
519.	60.	00	4.	00	156000.	00	1610.	00	23000.	00	370.	00	140.	00	56.	00	170.	00
520.	77.	00	4.	00	97000.	00	1900.	00	24400.	00	230.	00	60.	00	33.	00	180.	00
521.	35.	00	1.	00	132500.	00	1170.	00	14130.	00	340.	00	230.	00	46.	00	80.	00
522.	55.	00	3.	00	208900.	00	1760.	00	26220.	00	570.	00	210.	00	71.	00	120.	00
523.	30.	00	1.	00	88100.	00	1230.	00	12930.	00	210.	00	210.	00	37.	00	50.	00
524.	53.	00	3.	00	117400.	00	3210.	00	19960.	00	290.	00	210.	00	46.	00	90.	00
525.	27.	00	1.	00	28400.	00	540.	00	7820.	00	70.	00	40.	00	10.	00	40.	00
526.	66.	00	4.	00	160000.	00	1000.	00	13700.	00	450.	00	360.	00	63.	00	100.	00
527.	69.	00	7.	00	244300.	00	1540.	00	19110.	00	430.	00	300.	00	120.	00	100.	00
528.	59.	00	2.	00	67900.	00	1160.	00	16670.	00	170.	00	90.	00	21.	00	90.	00
11.	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00	-1.	00

MAKE TEMPFILE

SAMPNUMB	EASTING	NORTHING	CER XRF	BAR XRF	SBR XRF	SNR XRF	PBR XRF	ZNR XRF	CUR XRF
301.	21360.	74597.	42.00	562.00	2.50	2.00	29.00	31.00	2.00
303.	21384.	74495.	34.00	154.00	2.50	2.00	37.00	22.00	1.00
306.	21403.	74405.	20.00	117.00	2.50	2.00	33.00	12.00	21.00
307.	21403.	74400.	31.00	167.00	5.00	2.00	36.00	23.00	5.00
308.	21403.	74350.	27.00	67.00	2.50	2.00	36.00	7.00	19.00
309.	21415.	74310.	32.00	602.00	2.50	4.00	30.00	26.00	14.00
310.	21428.	74329.	19.00	83.00	2.50	4.00	34.00	13.00	27.00
311.	21431.	74327.	31.00	91.00	2.50	2.00	46.00	10.00	16.00
318.	21420.	74670.	16.00	368.00	7.00	4.00	14.00	19.00	3.00
319.	21425.	74625.	34.00	789.00	2.50	2.00	26.00	62.00	11.00
320.	21430.	74620.	39.00	692.00	2.50	2.00	13.00	34.00	3.00
321.	21350.	74505.	15.00	346.00	2.50	2.00	59.00	3.00	18.00
326.	21624.	74325.	30.00	633.00	6.00	2.00	35.00	36.00	26.00
327.	21620.	74320.	24.00	765.00	2.50	2.00	31.00	47.00	224.00
333.	21453.	74350.	45.00	425.00	2.50	2.00	39.00	34.00	59.00
334.	21456.	74331.	32.00	321.00	6.00	7.00	48.00	31.00	622.00
335.	21454.	74326.	29.00	443.00	2.50	6.00	36.00	22.00	57.00
336.	21454.	74319.	17.00	320.00	2.50	7.00	56.00	13.00	398.00
337.	21464.	74308.	15.00	84.00	2.50	2.00	79.00	20.00	29.00
338.	21471.	74294.	20.00	70.00	2.50	2.00	43.00	11.00	17.00
339.	21452.	74289.	5.50	140.00	10.00	2.00	31.00	11.00	120.00
341.	21127.	74575.	19.00	188.00	2.50	2.00	38.00	22.00	1.00
344.	21158.	74164.	29.00	184.00	2.50	2.00	32.00	20.00	14.00
345.	21205.	74170.	15.00	119.00	2.50	2.00	41.00	11.00	5.00
347.	21210.	74162.	28.00	336.00	2.50	2.00	216.00	41.00	5.00
348.	21222.	74167.	24.00	91.00	2.50	4.00	43.00	15.00	3.00
349.	21297.	74199.	16.00	12.00	9.00	4.00	41.00	7.00	6.00
353.	21374.	74303.	47.00	485.00	2.50	2.00	54.00	43.00	110.00
354.	21374.	74303.	27.00	518.00	2.50	5.00	33.00	27.00	43.00
355.	21373.	74302.	41.00	532.00	2.50	2.00	36.00	23.00	43.00
356.	21372.	74300.	22.00	521.00	2.50	5.00	39.00	22.00	14.00
357.	21371.	74298.	52.00	67.00	2.50	12.00	85.00	9.00	17.00
358.	21370.	74297.	26.00	141.00	2.50	2.00	47.00	12.00	16.00
359.	21343.	74285.	34.00	606.00	2.50	2.00	34.00	42.00	102.00
360.	21359.	74334.	13.00	51.00	2.50	2.00	51.00	10.00	14.00
362.	21350.	74361.	27.00	123.00	2.50	2.00	44.00	13.00	10.00
363.	21350.	74361.	16.00	111.00	2.50	2.00	49.00	11.00	175.00
364.	21350.	74361.	31.00	91.00	2.50	2.00	39.00	11.00	4.00
365.	21350.	74361.	17.00	122.00	2.50	2.00	45.00	12.00	8.00
366.	21350.	74361.	27.00	92.00	2.50	2.00	36.00	12.00	9.00
367.	21342.	74350.	36.00	217.00	2.50	2.00	36.00	20.00	45.00
368.	21322.	74348.	22.00	185.00	2.50	2.00	62.00	15.00	84.00
369.	21307.	74300.	46.00	723.00	2.50	2.00	31.00	33.00	1.00
370.	21310.	74300.	30.00	55.00	2.50	2.00	43.00	36.00	12.00
372.	21338.	74351.	22.00	101.00	2.50	2.00	40.00	14.00	15.00
381.	21443.	74434.	17.00	177.00	6.00	6.00	44.00	51.00	60.00
382.	21525.	74371.	31.00	236.00	2.50	2.00	38.00	19.00	9.00
384.	21360.	73968.	14.00	276.00	12.00	2.00	582.00	1656.00	20.00
385.	21321.	74049.	33.00	158.00	7.00	5.00	40.00	20.00	1.00
386.	21316.	74070.	19.00	125.00	2.50	2.00	42.00	18.00	7.00
387.	21221.	74095.	5.50	68.00	2.50	2.00	39.00	11.00	3.00
388.	21248.	74099.	5.50	63.00	2.50	2.00	43.00	22.00	2.00
389.	21256.	74109.	18.00	59.00	2.50	2.00	47.00	9.00	12.00
390.	21270.	74136.	23.00	64.00	2.50	2.00	48.00	25.00	10.00
391.	21286.	74152.	16.00	73.00	2.50	4.00	29.00	53.00	6.00
392.	21299.	74168.	23.00	139.00	2.50	2.00	37.00	12.00	1.00

AMPNUMB	CAR XRF	NIR XRF	AGR XRF	UR XRF	RBR XRF	THR XRF	NBR XRF	SRR XRF	ZFR XRF
301.	4930.00	2.00	2.00	3.00	155.00	13.00	13.00	21.00	132.00
303.	3030.00	1.00	1.00	7.00	195.00	20.00	13.00	9.00	88.00
306.	2400.00	1.00	1.00	8.00	173.00	12.00	14.00	68.00	69.00
307.	3450.00	1.00	1.00	8.00	225.00	18.00	19.00	95.00	87.00
308.	1080.00	1.00	1.00	9.00	254.00	27.00	18.00	38.00	76.00
309.	4820.00	2.00	2.00	1.00	154.00	10.00	10.00	242.00	109.00
310.	2720.00	1.00	1.00	5.00	214.00	19.00	17.00	62.00	83.00
311.	890.00	1.00	1.00	6.00	267.00	17.00	17.00	47.00	89.00
318.	540.00	1.00	1.00	2.00	122.00	8.00	3.00	69.00	51.00
319.	3150.00	7.00	1.00	3.00	116.00	9.00	12.00	214.00	212.00
320.	1590.00	3.00	1.00	1.00	145.00	12.00	12.00	141.00	121.00
321.	590.00	1.00	1.00	2.00	224.00	6.00	12.00	85.00	82.00
326.	3600.00	3.00	2.00	2.00	186.00	15.00	12.00	255.00	130.00
327.	3790.00	3.00	1.00	1.00	188.00	10.00	16.00	282.00	133.00
333.	2520.00	2.00	2.00	7.00	225.00	15.00	17.00	169.00	131.00
334.	1160.00	1.00	2.00	7.00	201.00	12.00	23.00	72.00	76.00
335.	1720.00	1.00	1.00	4.00	226.00	11.00	14.00	136.00	110.00
336.	540.00	1.00	4.00	4.00	273.00	16.00	8.00	90.00	103.00
337.	630.00	1.00	2.00	10.00	279.00	26.00	30.00	24.00	67.00
338.	2320.00	1.00	1.00	6.00	234.00	22.00	18.00	53.00	81.00
339.	510.00	1.00	1.00	6.00	202.00	13.00	14.00	24.00	55.00
341.	3540.00	1.00	1.00	7.00	202.00	19.00	13.00	105.00	87.00
344.	3280.00	1.00	1.00	6.00	201.00	16.00	15.00	104.00	83.00
345.	3090.00	1.00	1.00	4.00	169.00	16.00	12.00	70.00	55.00
347.	2290.00	1.00	6.00	8.00	241.00	21.00	21.00	109.00	80.00
348.	2840.00	1.00	1.00	9.00	229.00	20.00	18.00	58.00	85.00
349.	1550.00	1.00	1.00	13.00	307.00	32.00	21.00	10.00	78.00
353.	3570.00	2.00	1.00	6.00	229.00	17.00	19.00	173.00	138.00
354.	4690.00	1.00	1.00	7.00	233.00	16.00	13.00	200.00	122.00
355.	4530.00	2.00	1.00	6.00	221.00	16.00	16.00	196.00	125.00
356.	3090.00	2.00	1.00	5.00	248.00	16.00	14.00	188.00	129.00
357.	350.00	1.00	1.00	6.00	147.00	19.00	10.00	25.00	64.00
358.	1420.00	1.00	1.00	7.00	270.00	19.00	22.00	32.00	80.00
359.	4350.00	2.00	1.00	4.00	183.00	23.00	14.00	221.00	144.00
360.	1810.00	1.00	1.00	7.00	236.00	24.00	17.00	43.00	81.00
362.	2510.00	1.00	1.00	9.00	219.00	16.00	21.00	73.00	86.00
363.	2110.00	1.00	1.00	10.00	216.00	17.00	18.00	66.00	82.00
364.	2530.00	1.00	1.00	11.00	214.00	18.00	16.00	59.00	79.00
365.	1970.00	1.00	1.00	8.00	222.00	20.00	16.00	66.00	84.00
366.	1350.00	1.00	1.00	7.00	221.00	20.00	15.00	65.00	85.00
367.	2840.00	1.00	1.00	4.00	233.00	23.00	15.00	100.00	116.00
368.	990.00	1.00	1.00	4.00	233.00	18.00	12.00	80.00	81.00
369.	4850.00	3.00	1.00	1.00	161.00	12.00	13.00	257.00	117.00
370.	2270.00	3.00	1.00	1.00	185.00	10.00	9.00	170.00	119.00
372.	2460.00	1.00	1.00	5.00	233.00	17.00	14.00	65.00	86.00
381.	1120.00	1.00	1.00	4.00	206.00	13.00	9.00	61.00	78.00
382.	2380.00	1.00	1.00	9.00	223.00	11.00	18.00	101.00	108.00
384.	3520.00	2.00	8.00	2.00	245.00	14.00	8.00	53.00	81.00
385.	2750.00	1.00	1.00	8.00	210.00	21.00	16.00	96.00	93.00
386.	590.00	1.00	1.00	3.00	246.00	18.00	16.00	41.00	71.00
387.	1420.00	1.00	1.00	9.00	217.00	26.00	18.00	37.00	70.00
388.	2800.00	1.00	1.00	8.00	222.00	24.00	14.00	40.00	67.00
389.	1710.00	1.00	1.00	4.00	211.00	17.00	18.00	49.00	78.00
390.	2080.00	1.00	1.00	8.00	239.00	23.00	23.00	44.00	85.00
391.	630.00	1.00	1.00	5.00	237.00	25.00	9.00	29.00	80.00
392.	2650.00	1.00	1.00	10.00	199.00	20.00	13.00	71.00	88.00

SAMPNUMB	YR XRF	MOR XRF	FER XRF	MNR XRF	TIR XRF	VR XRF	CRR XRF	COR XRF	LAR XRF
301.	9.00	1.00	8400.00	330.00	1370.00	20.00	10.00	3.00	30.00
303.	9.00	2.00	5000.00	300.00	760.00	10.00	10.00	1.00	20.00
306.	5.00	196.00	4000.00	250.00	640.00	5.00	5.00	1.00	10.00
307.	8.00	1.00	5100.00	320.00	820.00	10.00	5.00	1.00	20.00
308.	5.00	171.00	3500.00	80.00	580.00	5.00	5.00	1.00	10.00
309.	10.00	4.00	7500.00	280.00	1290.00	10.00	5.00	3.00	30.00
310.	9.00	29.00	4500.00	230.00	700.00	10.00	10.00	1.00	10.00
311.	7.00	844.00	5800.00	150.00	720.00	5.00	10.00	1.00	10.00
318.	3.00	1.00	4600.00	100.00	580.00	10.00	10.00	1.00	10.00
319.	9.00	4.00	19400.00	599.00	2990.00	30.00	20.00	9.00	30.00
320.	8.00	13.00	9400.00	330.00	1490.00	20.00	80.00	4.00	20.00
321.	3.00	3505.00	5100.00	40.00	970.00	10.00	60.00	1.00	10.00
326.	8.00	7.00	8600.00	360.00	1590.00	20.00	10.00	3.00	20.00
327.	9.00	146.00	9300.00	420.00	1580.00	20.00	5.00	3.00	30.00
333.	11.00	11.00	8200.00	300.00	1250.00	10.00	5.00	2.00	30.00
334.	13.00	327.00	3700.00	170.00	770.00	10.00	5.00	1.00	20.00
335.	9.00	485.00	6900.00	240.00	1080.00	10.00	5.00	2.00	20.00
336.	7.00	8713.00	7600.00	130.00	850.00	10.00	5.00	2.00	10.00
337.	16.00	32.00	3000.00	80.00	460.00	5.00	10.00	1.00	10.00
338.	10.00	32.00	3900.00	210.00	660.00	10.00	10.00	1.00	10.00
339.	5.00	827.00	4500.00	60.00	450.00	5.00	10.00	1.00	1.50
341.	8.00	1.00	4700.00	280.00	780.00	5.00	5.00	1.00	20.00
344.	7.00	2.00	4700.00	250.00	770.00	5.00	5.00	1.00	20.00
345.	8.00	8.00	3300.00	180.00	520.00	5.00	5.00	1.00	10.00
347.	13.00	7.00	4400.00	240.00	670.00	10.00	5.00	1.00	20.00
348.	13.00	1.00	4500.00	260.00	650.00	5.00	5.00	1.00	20.00
349.	5.00	2.00	2800.00	100.00	300.00	5.00	5.00	1.00	10.00
353.	14.00	2.00	8300.00	340.00	1290.00	10.00	5.00	3.00	30.00
354.	11.00	179.00	7800.00	440.00	1200.00	10.00	5.00	2.00	20.00
355.	13.00	10.00	7400.00	400.00	1170.00	10.00	5.00	2.00	20.00
356.	10.00	1019.00	6000.00	320.00	1130.00	10.00	10.00	2.00	20.00
357.	7.00	72.00	3600.00	160.00	240.00	30.00	10.00	1.00	1.50
358.	11.00	57.00	4900.00	140.00	560.00	5.00	5.00	1.00	10.00
359.	10.00	4.00	9500.00	440.00	1590.00	20.00	5.00	4.00	40.00
360.	11.00	4.00	4100.00	200.00	620.00	5.00	10.00	1.00	10.00
362.	11.00	40.00	4200.00	230.00	700.00	5.00	10.00	1.00	10.00
363.	9.00	375.00	4500.00	200.00	640.00	10.00	10.00	1.00	10.00
364.	10.00	1.00	4000.00	200.00	610.00	10.00	5.00	1.00	20.00
365.	8.00	7.00	4400.00	230.00	670.00	5.00	10.00	1.00	20.00
366.	8.00	1.00	4400.00	190.00	680.00	10.00	10.00	1.00	10.00
367.	10.00	39.00	5200.00	320.00	820.00	5.00	10.00	1.00	20.00
368.	10.00	1771.00	5600.00	130.00	680.00	5.00	10.00	1.00	20.00
369.	9.00	2.00	8000.00	390.00	1340.00	10.00	30.00	3.00	30.00
370.	6.00	6.00	7900.00	240.00	1480.00	20.00	30.00	3.00	10.00
372.	9.00	6.00	4600.00	230.00	680.00	5.00	20.00	1.00	10.00
381.	8.00	457.00	4100.00	140.00	700.00	10.00	20.00	1.00	10.00
382.	16.00	31.00	5600.00	220.00	890.00	10.00	10.00	1.00	30.00
384.	6.00	2.00	7100.00	480.00	1100.00	30.00	10.00	2.00	20.00
385.	6.00	1.00	4900.00	300.00	810.00	10.00	30.00	1.00	20.00
386.	5.00	1.00	3900.00	170.00	860.00	20.00	10.00	1.00	10.00
387.	5.00	1.00	3100.00	140.00	520.00	5.00	20.00	1.00	10.00
388.	5.00	2.00	3600.00	250.00	470.00	5.00	10.00	1.00	10.00
389.	8.00	182.00	3700.00	160.00	650.00	5.00	5.00	1.00	10.00
390.	6.00	1.00	4300.00	290.00	630.00	5.00	10.00	1.00	20.00
391.	2.00	6.00	3800.00	110.00	550.00	10.00	20.00	1.00	10.00
392.	4.00	2.00	4900.00	150.00	730.00	10.00	5.00	1.00	10.00

SAMPNUMB	EASTING	NORTHING	CER XRF	BAR XRF	SBR XRF	SNR XRF	PBR XRF	ZNR XRF	CUR XRF
393.	21300.	74172.	5.50	10.00	2.50	2.00	39.00	9.00	1.00
399.	21397.	74231.	37.00	586.00	2.50	2.00	41.00	31.00	32.00
400.	21386.	74246.	45.00	648.00	7.00	5.00	35.00	34.00	5.00
405.	21312.	74265.	32.00	198.00	2.50	2.00	44.00	20.00	1.00
406.	21312.	74265.	24.00	195.00	2.50	2.00	33.00	16.00	25.00
408.	21357.	74211.	5.50	186.00	2.50	5.00	36.00	2.00	97.00
409.	21391.	74286.	19.00	17.00	2.50	2.00	37.00	4.00	23.00
410.	21391.	74286.	18.00	23.00	2.50	2.00	37.00	5.00	17.00
411.	21391.	74286.	13.00	20.00	2.50	2.00	23.00	27.00	35.00
415.	21393.	74280.	15.00	22.00	2.50	13.00	11.00	282.00	68.00
416.	21424.	74233.	43.00	746.00	2.50	2.00	36.00	34.00	20.00
417.	21477.	74255.	40.00	617.00	2.50	4.00	30.00	33.00	35.00
418.	21515.	74278.	22.00	249.00	2.50	2.00	37.00	19.00	22.00
419.	21529.	74300.	21.00	276.00	2.50	2.00	28.00	20.00	2.00
421.	21441.	74142.	41.00	177.00	2.50	2.00	58.00	23.00	1.00
422.	21436.	74161.	17.00	4.00	5.00	2.00	45.00	12.00	1.00
424.	21591.	74168.	19.00	280.00	5.00	2.00	76.00	19.00	17.00
425.	21591.	74168.	23.00	212.00	2.50	2.00	35.00	19.00	3.00
426.	21550.	74168.	34.00	394.00	2.50	2.00	54.00	21.00	10.00
427.	21550.	74168.	25.00	405.00	2.50	4.00	68.00	27.00	28.00
428.	21550.	74168.	27.00	389.00	2.50	2.00	33.00	21.00	10.00
429.	21550.	74168.	26.00	470.00	2.50	2.00	79.00	26.00	15.00
430.	21539.	74172.	26.00	249.00	2.50	2.00	47.00	18.00	1.00
431.	21484.	74173.	26.00	406.00	2.50	2.00	35.00	29.00	9.00
432.	21137.	74033.	41.00	583.00	2.50	2.00	27.00	29.00	1.00
433.	21130.	73964.	30.00	658.00	2.50	2.00	26.00	31.00	1.00
434.	21361.	73973.	26.00	645.00	2.50	2.00	34.00	29.00	1.00
436.	21834.	74044.	25.00	542.00	2.50	2.00	47.00	33.00	1.00
438.	21464.	74310.	29.00	80.00	2.50	2.00	36.00	9.00	1.00
439.	21464.	74326.	31.00	500.00	2.50	2.00	32.00	25.00	5.00
440.	21428.	74368.	20.00	674.00	2.50	6.00	31.00	28.00	89.00
442.	21428.	74308.	43.00	613.00	2.50	2.00	28.00	38.00	64.00
-1.	-1.	-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

SAMPNUMB	CAR XRF	NIR XRF	AGR XRF	UR XRF	RBR XRF	THR XRF	NBR XRF	SRR XRF	ZRR XRF
393.	2680.00	1.00	1.00	5.00	151.00	30.00	15.00	21.00	57.00
399.	3310.00	2.00	1.00	3.00	181.00	13.00	15.00	210.00	124.00
400.	5050.00	3.00	1.00	2.00	166.00	15.00	12.00	236.00	121.00
405.	3140.00	1.00	1.00	5.00	186.00	16.00	14.00	106.00	97.00
406.	2410.00	1.00	1.00	6.00	212.00	16.00	10.00	100.00	83.00
408.	140.00	1.00	1.00	1.00	107.00	6.00	2.00	47.00	27.00
409.	1120.00	1.00	1.00	4.00	168.00	16.00	12.00	16.00	44.00
410.	1710.00	1.00	1.00	3.00	231.00	23.00	19.00	18.00	58.00
411.	530.00	1.00	1.00	3.00	225.00	22.00	13.00	13.00	49.00
415.	1210.00	1.00	2.00	4.00	226.00	18.00	11.00	10.00	45.00
416.	4030.00	3.00	1.00	1.00	172.00	14.00	14.00	251.00	139.00
417.	5260.00	4.00	2.00	1.00	164.00	11.00	10.00	233.00	129.00
418.	2020.00	1.00	1.00	3.00	177.00	16.00	12.00	114.00	99.00
419.	3460.00	1.00	1.00	3.00	181.00	17.00	12.00	109.00	97.00
421.	3160.00	1.00	1.00	7.00	192.00	25.00	16.00	104.00	100.00
422.	2110.00	1.00	1.00	10.00	317.00	22.00	21.00	8.00	40.00
424.	2380.00	1.00	1.00	10.00	208.00	15.00	19.00	121.00	97.00
425.	2790.00	1.00	1.00	5.00	206.00	15.00	13.00	105.00	96.00
426.	1140.00	1.00	1.00	3.00	249.00	13.00	11.00	125.00	106.00
427.	4130.00	1.00	1.00	7.00	192.00	12.00	12.00	177.00	120.00
428.	2440.00	1.00	1.00	5.00	224.00	11.00	18.00	153.00	119.00
429.	4380.00	1.00	1.00	6.00	202.00	18.00	13.00	187.00	111.00
430.	3960.00	1.00	1.00	5.00	187.00	16.00	12.00	114.00	81.00
431.	4710.00	1.00	1.00	5.00	199.00	14.00	14.00	184.00	121.00
432.	4730.00	3.00	1.00	2.00	147.00	15.00	11.00	267.00	132.00
433.	4950.00	3.00	1.00	2.00	150.00	10.00	10.00	294.00	120.00
434.	4710.00	2.00	1.00	4.00	150.00	8.00	9.00	263.00	115.00
436.	5420.00	3.00	1.00	1.00	145.00	12.00	11.00	314.00	132.00
438.	2200.00	1.00	1.00	9.00	242.00	24.00	18.00	33.00	68.00
439.	4720.00	2.00	1.00	5.00	212.00	18.00	14.00	199.00	130.00
440.	2050.00	2.00	1.00	1.00	242.00	7.00	12.00	169.00	104.00
442.	4260.00	3.00	1.00	1.00	199.00	14.00	15.00	208.00	127.00
-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

SAMPNUMBER	YC XRF	MOC XRF	FEC XRF	MNC XRF	TIC XRF	VC XRF	CRC XRF	COC XRF	LAC XRF
157.	14.00	3.00	8200.00	350.00	3930.00	40.00	20.00	4.00	30.00
158.	21.00	6.00	30600.00	1610.00	4970.00	90.00	50.00	17.00	50.00
159.	19.00	21.00	24300.00	770.00	5790.00	90.00	50.00	13.00	40.00
160.	21.00	4.00	30400.00	1350.00	5210.00	90.00	50.00	16.00	50.00
161.	17.00	6.00	19100.00	500.00	3850.00	40.00	20.00	6.00	50.00
162.	15.00	6.00	23400.00	3110.00	2540.00	40.00	10.00	11.00	40.00
163.	26.00	15.00	22000.00	3530.00	3400.00	60.00	20.00	9.00	70.00
164.	14.00	3.00	8700.00	350.00	2300.00	20.00	10.00	2.00	40.00
165.	12.00	30.00	58300.00	730.00	1810.00	40.00	5.00	14.00	40.00
166.	15.00	7.00	23300.00	650.00	3210.00	50.00	30.00	7.00	40.00
167.	12.00	9.00	24900.00	1400.00	4150.00	60.00	20.00	11.00	70.00
168.	15.00	11.00	24200.00	710.00	4630.00	70.00	20.00	10.00	60.00
169.	17.00	6.00	26100.00	400.00	4190.00	70.00	20.00	9.00	50.00
170.	20.00	3.00	23730.00	960.00	4530.00	60.00	20.00	10.00	60.00
171.	19.00	65.00	55400.00	400.00	2090.00	60.00	5.00	11.00	100.00
172.	16.00	16.00	17000.00	950.00	3030.00	30.00	20.00	6.00	60.00
173.	18.00	43.00	18106.00	1780.00	2510.00	30.00	10.00	5.00	60.00
174.	11.00	13.00	16200.00	1800.00	2030.00	30.00	5.00	8.00	50.00
175.	20.00	15.00	23800.00	830.00	3320.00	50.00	25.00	9.00	60.00
176.	18.00	19.00	31400.00	2320.00	4030.00	80.00	40.00	17.00	50.00
177.	14.00	29.00	27700.00	7300.00	1850.00	30.00	5.00	15.00	60.00
178.	20.00	5.00	15600.00	430.00	1950.00	30.00	5.00	4.00	70.00
179.	22.00	1.00	42400.00	1870.00	6300.00	120.00	70.00	24.00	50.00
180.	26.00	1.00	42400.00	990.00	6630.00	100.00	70.00	28.00	50.00
181.	20.00	6.00	33700.00	400.00	5950.00	70.00	50.00	18.00	40.00
182.	20.00	2.00	43000.00	1180.00	7000.00	120.00	50.00	20.00	50.00
183.	22.00	8.00	48900.00	1360.00	6800.00	90.00	40.00	21.00	40.00
184.	19.00	7.00	39800.00	1270.00	6110.00	90.00	40.00	19.00	40.00
185.	19.00	3.00	25100.00	800.00	4300.00	60.00	25.00	9.00	50.00
186.	38.00	3.00	23200.00	696.00	8520.00	60.00	30.00	10.00	60.00
187.	16.00	3.00	23600.00	900.00	4440.00	70.00	40.00	11.00	40.00
188.	18.00	4.00	28700.00	990.00	6770.00	80.00	50.00	14.00	30.00
189.	11.00	7.00	15200.00	700.00	2680.00	40.00	20.00	6.00	40.00
190.	17.00	1.00	23500.00	1410.00	3590.00	70.00	30.00	12.00	40.00
191.	27.00	4.00	28000.00	400.00	3990.00	70.00	50.00	9.00	40.00
192.	30.00	4.00	37300.00	840.00	4990.00	100.00	70.00	15.00	50.00
193.	14.00	6.00	25400.00	2110.00	4730.00	80.00	30.00	16.00	40.00
194.	18.00	2.00	26600.00	2730.00	5160.00	80.00	50.00	19.00	60.00
195.	22.00	3.00	15500.00	500.00	4440.00	50.00	30.00	7.00	30.00
196.	14.00	19.00	15300.00	400.00	5150.00	60.00	40.00	6.00	40.00
197.	17.00	6.00	27400.00	2550.00	5630.00	90.00	40.00	18.00	50.00
198.	21.00	46.00	18100.00	3510.00	2220.00	30.00	5.00	7.00	80.00
199.	27.00	20.00	15100.00	940.00	2870.00	30.00	5.00	5.00	70.00
200.	19.00	40.00	16200.00	800.00	2420.00	30.00	5.00	5.00	60.00
201.	17.00	7.00	24100.00	920.00	7600.00	100.00	30.00	11.00	60.00
202.	21.00	4.00	26000.00	1140.00	4760.00	70.00	20.00	11.00	60.00
203.	13.00	10.00	28700.00	960.00	5150.00	70.00	20.00	10.00	50.00
204.	15.00	4.00	24700.00	1860.00	5100.00	80.00	30.00	13.00	80.00
205.	21.00	2.00	28400.00	810.00	5360.00	90.00	40.00	14.00	60.00
206.	13.00	5.00	54700.00	2320.00	5040.00	100.00	50.00	25.00	40.00
207.	15.00	2.00	27900.00	1430.00	4630.00	60.00	30.00	15.00	30.00
208.	14.00	8.00	20200.00	520.00	5940.00	100.00	50.00	9.00	50.00
209.	19.00	4.00	27200.00	1230.00	5240.00	70.00	60.00	16.00	30.00
210.	17.00	1.00	45500.00	760.00	4700.00	90.00	40.00	16.00	40.00
211.	19.00	1.00	37900.00	1090.00	5260.00	100.00	80.00	18.00	50.00
212.	23.00	15.00	24300.00	940.00	3720.00	60.00	40.00	11.00	70.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
213.	21175.	74390.	117.00	581.00	4.00	3.50	107.00	113.00	67.00
214.	22200.	75180.	63.00	693.00	4.00	3.50	71.00	93.00	2.00
215.	22124.	75150.	69.00	485.00	4.00	3.50	132.00	156.00	16.00
216.	22106.	75139.	65.00	640.00	4.00	3.50	105.00	405.00	16.00
217.	22067.	75114.	42.00	759.00	4.00	3.50	91.00	121.00	4.00
218.	21856.	75097.	70.00	659.00	4.00	3.50	58.00	86.00	17.00
219.	21778.	75099.	49.00	1012.00	4.00	3.50	42.00	65.00	3.00
220.	21734.	75096.	80.00	782.00	4.00	3.50	57.00	141.00	23.00
221.	21625.	74738.	43.00	800.00	4.00	3.50	56.00	131.00	6.00
222.	21611.	74722.	87.00	534.00	4.00	3.50	120.00	132.00	1.00
223.	21584.	74727.	57.00	427.00	4.00	3.50	120.00	156.00	3.00
224.	21588.	74740.	45.00	813.00	4.00	3.50	23.00	52.00	3.00
225.	21552.	74764.	74.00	888.00	4.00	3.50	39.00	96.00	7.00
226.	22114.	74653.	56.00	502.00	4.00	8.00	130.00	162.00	5.00
227.	22106.	74651.	47.00	790.00	4.00	3.50	40.00	64.00	1.00
228.	22053.	74758.	65.00	559.00	4.00	7.00	132.00	192.00	4.00
229.	22048.	74764.	50.00	615.00	8.00	3.50	92.00	223.00	2.00
230.	22080.	74813.	67.00	550.00	4.00	3.50	160.00	214.00	4.00
231.	22064.	74960.	67.00	588.00	4.00	3.50	90.00	140.00	16.00
232.	22060.	74968.	57.00	494.00	4.00	7.00	63.00	92.00	9.00
233.	22357.	74735.	71.00	581.00	4.00	3.50	106.00	143.00	15.00
234.	22423.	74740.	102.00	457.00	4.00	3.50	123.00	68.00	4.00
235.	22426.	74734.	55.00	589.00	4.00	3.50	86.00	90.00	2.00
236.	22442.	74730.	44.00	497.00	4.00	3.50	96.00	89.00	4.00
237.	22529.	74774.	62.00	672.00	4.00	3.50	52.00	69.00	1.00
238.	22531.	74783.	56.00	744.00	4.00	3.50	64.00	107.00	5.00
239.	22661.	74815.	58.00	790.00	4.00	3.50	59.00	90.00	5.00
240.	21805.	74312.	62.00	422.00	4.00	3.50	94.00	109.00	18.00
241.	21888.	74918.	71.00	634.00	4.00	3.50	88.00	140.00	3.00
242.	22017.	74865.	70.00	850.00	4.00	9.00	44.00	66.00	0.00
243.	22001.	74877.	49.00	707.00	4.00	3.50	66.00	87.00	2.00
244.	21988.	74923.	71.00	640.00	4.00	3.50	50.00	[illegible]	8.00
245.	21937.	74950.	72.00	1123.00	4.00	3.50	57.00	[illegible]	8.00
246.	21935.	74962.	63.00	694.00	4.00	3.50	56.00	[illegible]	8.00
247.	21196.	74147.	75.00	385.00	4.00	3.50	160.00	165.00	60.00
248.	21217.	74166.	82.00	201.00	4.00	7.00	95.00	48.00	17.00
249.	21203.	74164.	70.00	236.00	4.00	3.50	114.00	57.00	28.00
250.	22195.	75206.	47.00	993.00	4.00	3.50	71.00	93.00	7.00
251.	21962.	74955.	74.00	736.00	4.00	3.50	80.00	180.00	9.00
252.	21979.	74993.	60.00	869.00	4.00	3.50	61.00	156.00	5.00
253.	21927.	75001.	67.00	541.00	4.00	3.50	90.00	166.00	17.00
254.	21980.	75011.	49.00	701.00	4.00	3.50	132.00	75.00	1.00
255.	21979.	75065.	64.00	739.00	4.00	3.50	89.00	211.00	14.00
256.	22350.	74738.	65.00	674.00	4.00	3.50	69.00	91.00	5.00
257.	22324.	74766.	91.00	803.00	4.00	3.50	117.00	131.00	5.00
258.	22330.	74783.	112.00	704.00	4.00	3.50	42.00	75.00	4.00
259.	22409.	74810.	90.00	681.00	4.00	3.50	271.00	447.00	17.00
260.	22423.	74824.	64.00	569.00	4.00	3.50	129.00	221.00	12.00
261.	22136.	75184.	34.00	904.00	4.00	3.50	53.00	59.00	3.00
262.	22112.	75167.	48.00	856.00	4.00	3.50	63.00	62.00	3.00
263.	22040.	75141.	60.00	625.00	4.00	3.50	79.00	83.00	10.00
264.	22025.	75140.	48.00	550.00	4.00	3.50	102.00	66.00	11.00
265.	21962.	75126.	51.00	712.00	4.00	3.50	79.00	66.00	13.00
266.	21936.	75119.	42.00	846.00	4.00	3.50	86.00	70.00	9.00
267.	21867.	75112.	49.00	820.00	4.00	3.50	50.00	48.00	4.00
268.	21844.	75112.	40.00	847.00	4.00	3.50	44.00	51.00	4.00

SAMPNUMB	YR	XRF	MOR	XRF	FER	XRF	MNR	XRF	TIN	XRF	VR	XRF	CRR	XRF	COR	XRF	LAR	XRF
393.		4.00		2.00		2500.00		120.00		420.00		5.00		10.00		1.00		10.00
399.		7.00		134.00		9000.00		330.00		1490.00		20.00		10.00		3.00		20.00
400.		7.00		1.00		8400.00		310.00		1470.00		20.00		30.00		3.00		30.00
405.		7.00		2.00		5500.00		270.00		910.00		10.00		20.00		2.00		20.00
406.		4.00		13.00		4800.00		230.00		840.00		10.00		10.00		1.00		20.00
408.		1.00		481.00		4600.00		40.00		310.00		10.00		70.00		1.00		1.50
409.		5.00		8.00		2500.00		60.00		320.00		5.00		5.00		1.00		10.00
410.		7.00		4.00		3000.00		120.00		390.00		5.00		5.00		1.00		10.00
411.		6.00		4.00		3600.00		160.00		360.00		10.00		5.00		1.00		10.00
415.		4.00		1.00		3600.00		160.00		280.00		40.00		20.00		1.00		10.00
416.		10.00		1.00		9000.00		310.00		1660.00		20.00		10.00		3.00		30.00
417.		8.00		4.00		8900.00		320.00		1510.00		20.00		50.00		4.00		20.00
418.		4.00		1.00		4800.00		160.00		830.00		10.00		10.00		1.00		20.00
419.		5.00		1.00		4700.00		210.00		830.00		10.00		10.00		2.00		20.00
421.		10.00		1.00		5400.00		320.00		870.00		10.00		20.00		2.00		20.00
422.		7.00		1.00		2800.00		250.00		430.00		5.00		10.00		1.00		10.00
424.		8.00		477.00		5700.00		230.00		900.00		10.00		10.00		1.00		10.00
425.		10.00		1.00		5100.00		230.00		830.00		10.00		10.00		1.00		20.00
426.		7.00		557.00		8100.00		220.00		930.00		10.00		10.00		3.00		20.00
427.		11.00		656.00		7600.00		330.00		1060.00		10.00		20.00		2.00		20.00
428.		10.00		47.00		8500.00		270.00		1040.00		10.00		5.00		3.00		20.00
429.		11.00		10.00		9200.00		290.00		1030.00		10.00		5.00		3.00		20.00
430.		7.00		2.00		4700.00		220.00		740.00		10.00		10.00		1.00		20.00
431.		9.00		11.00		7100.00		350.00		1110.00		10.00		20.00		2.00		20.00
432.		7.00		1.00		8300.00		290.00		1320.00		10.00		20.00		3.00		30.00
433.		9.00		1.00		8800.00		310.00		1440.00		20.00		20.00		3.00		30.00
434.		8.00		1.00		8100.00		310.00		1350.00		10.00		10.00		3.00		30.00
436.		7.00		1.00		9500.00		320.00		1440.00		20.00		10.00		4.00		30.00
438.		13.00		8.00		3400.00		100.00		470.00		5.00		10.00		1.00		10.00
439.		13.00		1.00		7300.00		340.00		1170.00		10.00		20.00		2.00		20.00
440.		5.00		445.00		7400.00		290.00		1220.00		10.00		20.00		2.00		20.00
442.		8.00		51.00		10000.00		400.00		1500.00		10.00		30.00		3.00		30.00
-1.		-1.00		-1.00		-1.00		-1.00		-1.00		-1.00		-1.00		-1.00		-1.00

MAKE TEMPFILE

SAMPNUMB	CAC XRF	MIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	MBC XRF	SRC XRF	ZRC XRF
213.	2750.00	6.00	1.50	22.00	252.00	73.00	41.00	124.00	502.00
214.	10680.00	14.00	1.50	33.00	93.00	17.00	18.00	378.00	683.00
215.	9800.00	28.00	1.50	34.00	96.00	24.00	16.00	331.00	524.00
216.	8740.00	22.00	1.50	10.00	110.00	20.00	19.00	324.00	626.00
217.	8690.00	17.00	1.50	16.00	112.00	15.00	17.00	393.00	552.00
218.	11360.00	26.00	1.50	2.00	80.00	10.00	14.00	393.00	329.00
219.	10660.00	29.00	1.50	3.00	81.00	8.00	13.00	500.00	370.00
220.	7860.00	29.00	1.50	4.00	109.00	13.00	17.00	299.00	344.00
221.	16930.00	21.00	1.50	10.00	76.00	16.00	23.00	427.00	3308.00
222.	8390.00	9.00	1.50	32.00	117.00	32.00	29.00	305.00	1162.00
223.	8400.00	11.00	1.50	60.00	91.00	21.00	26.00	280.00	523.00
224.	9900.00	15.00	1.50	4.00	86.00	15.00	24.00	385.00	1824.00
225.	13100.00	26.00	1.50	7.00	83.00	11.00	21.00	398.00	2107.00
226.	9400.00	20.00	1.50	37.00	108.00	20.00	14.00	364.00	418.00
227.	11400.00	25.00	1.50	13.00	131.00	21.00	18.00	415.00	694.00
228.	9330.00	24.00	1.50	19.00	112.00	20.00	16.00	335.00	295.00
229.	7870.00	23.00	1.50	16.00	104.00	16.00	18.00	336.00	424.00
230.	8190.00	22.00	1.50	27.00	109.00	17.00	13.00	316.00	274.00
231.	7890.00	16.00	1.50	16.00	129.00	27.00	18.00	340.00	524.00
232.	7120.00	24.00	1.50	15.00	145.00	31.00	17.00	293.00	431.00
233.	9020.00	21.00	1.50	28.00	110.00	21.00	17.00	369.00	460.00
234.	9960.00	16.00	1.50	10.00	76.00	15.00	12.00	324.00	526.00
235.	12540.00	22.00	1.50	15.00	92.00	15.00	13.00	472.00	361.00
236.	9250.00	16.00	1.50	15.00	94.00	17.00	15.00	338.00	371.00
237.	11160.00	20.00	1.50	5.00	87.00	10.00	17.00	397.00	1229.00
238.	12140.00	21.00	1.50	1.50	113.00	20.00	15.00	505.00	765.00
239.	10090.00	22.00	1.50	1.50	82.00	10.00	15.00	477.00	7.00
240.	9110.00	13.00	1.50	34.00	142.00	35.00	27.00	190.00	653.00
241.	10570.00	23.00	1.50	10.00	66.00	11.00	13.00	327.00	652.00
242.	9940.00	19.00	1.50	10.00	122.00	19.00	20.00	400.00	1943.00
243.	9670.00	19.00	1.50	17.00	100.00	19.00	17.00	391.00	631.00
244.	8770.00	15.00	1.50	0.00	119.00	29.00	21.00	372.00	1014.00
245.	9430.00	25.00	1.50	5.00	127.00	18.00	18.00	348.00	722.00
246.	10640.00	17.00	1.50	3.00	75.00	9.00	14.00	408.00	751.00
247.	8923.00	144.00	1.50	20.00	170.00	30.00	32.00	171.00	242.00
248.	2260.00	3.00	1.50	22.00	225.00	47.00	27.00	89.00	342.00
249.	2450.00	5.00	1.50	27.00	229.00	44.00	32.00	105.00	393.00
250.	6940.00	18.00	1.50	3.00	100.00	9.00	11.00	417.00	343.00
251.	9480.00	25.00	1.50	10.00	129.00	24.00	21.00	377.00	547.00
252.	9573.00	25.00	1.50	7.00	123.00	22.00	21.00	361.00	635.00
253.	8020.00	22.00	1.50	15.00	131.00	32.00	21.00	315.00	346.00
254.	10800.00	15.00	1.50	6.00	83.00	7.00	12.00	375.00	450.00
255.	8590.00	29.00	1.50	11.00	131.00	23.00	18.00	326.00	381.00
256.	10110.00	21.00	1.50	8.00	114.00	20.00	19.00	412.00	635.00
257.	10390.00	21.00	1.50	14.00	98.00	17.00	18.00	381.00	640.00
258.	9670.00	17.00	1.50	8.00	122.00	31.00	25.00	388.00	1121.00
259.	10380.00	28.00	1.50	21.00	88.00	21.00	13.00	378.00	427.00
260.	10920.00	27.00	1.50	30.00	102.00	21.00	19.00	387.00	616.00
261.	9390.00	17.00	1.50	0.00	82.00	12.00	13.00	473.00	478.00
262.	7840.00	16.00	1.50	11.00	88.00	15.00	15.00	442.00	327.00
263.	10060.00	17.00	1.50	22.00	91.00	19.00	20.00	367.00	449.00
264.	9510.00	15.00	1.50	39.00	91.00	13.00	14.00	362.00	334.00
265.	9060.00	17.00	1.50	32.00	91.00	13.00	15.00	399.00	319.00
266.	7990.00	15.00	1.50	11.00	85.00	11.00	14.00	386.00	372.00
267.	9350.00	16.00	1.50	6.00	63.00	10.00	13.00	433.00	437.00
268.	10710.00	26.00	1.50	5.00	75.00	15.00	19.00	498.00	305.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
101.	21404.	74659.	53.00	496.00	4.00	7.00	65.00	96.00	5.00
102.	21396.	74563.	71.00	359.00	4.00	7.00	82.00	51.00	31.00
103.	21408.	74521.	107.00	477.00	4.00	3.50	93.00	106.00	6.00
104.	21414.	74550.	41.00	438.00	4.00	3.50	80.00	53.00	2.00
105.	21407.	74570.	61.00	553.00	4.00	8.00	62.00	83.00	13.00
106.	21391.	74600.	75.00	537.00	4.00	3.50	56.00	138.00	3.00
107.	21544.	74379.	71.00	399.00	4.00	3.50	50.00	50.00	1.00
108.	21546.	74372.	54.00	331.00	4.00	9.00	93.00	60.00	5.00
109.	21547.	74367.	49.00	287.00	4.00	3.50	96.00	69.00	8.00
110.	21522.	74391.	43.00	291.00	4.00	7.00	105.00	57.00	4.00
111.	21402.	74505.	75.00	338.00	4.00	3.50	73.00	45.00	8.00
112.	21404.	74511.	62.00	256.00	4.00	3.50	131.00	57.00	1.00
113.	21356.	74401.	70.00	254.00	4.00	3.50	71.00	108.00	32.00
114.	21360.	74424.	49.00	193.00	4.00	3.50	80.00	38.00	11.00
115.	21362.	74390.	52.00	373.00	8.00	7.00	105.00	84.00	51.00
116.	21344.	74354.	44.00	338.00	4.00	3.50	75.00	32.00	25.00
117.	21373.	74302.	91.00	336.00	4.00	3.50	103.00	81.00	75.00
118.	21390.	74295.	70.00	304.00	4.00	3.50	95.00	120.00	105.00
119.	21372.	74382.	67.00	277.00	4.00	3.50	71.00	229.00	145.00
120.	21382.	74484.	84.00	292.00	4.00	3.50	86.00	229.00	94.00
121.	21438.	74424.	66.00	404.00	4.00	7.00	116.00	104.00	91.00
122.	21437.	74438.	63.00	312.00	4.00	3.50	87.00	67.00	5.00
123.	21460.	74436.	67.00	340.00	4.00	3.50	116.00	157.00	5.00
124.	21471.	74438.	100.00	308.00	4.00	3.50	52.00	28.00	7.00
125.	21452.	74358.	73.00	472.00	4.00	3.50	99.00	129.00	120.00
126.	21465.	74332.	57.00	422.00	4.00	3.50	83.00	123.00	25.00
127.	21462.	74326.	108.00	542.00	9.00	10.00	145.00	143.00	85.00
128.	21468.	74308.	59.00	490.00	4.00	3.50	116.00	240.00	226.00
129.	21465.	74305.	61.00	501.00	4.00	3.50	82.00	116.00	204.00
130.	21466.	74302.	49.00	241.00	4.00	3.50	100.00	58.00	74.00
131.	21414.	74406.	81.00	339.00	4.00	3.50	105.00	135.00	6.00
132.	21406.	74402.	51.00	366.00	4.00	3.50	95.00	84.00	19.00
133.	21414.	74533.	69.00	410.00	4.00	3.50	47.00	31.00	3.00
134.	21414.	74561.	39.00	479.00	4.00	3.50	71.00	60.00	2.00
135.	21408.	74576.	73.00	507.00	4.00	3.50	79.00	142.00	4.00
136.	21396.	74638.	72.00	485.00	4.00	3.50	95.00	99.00	3.00
137.	21563.	74363.	48.00	500.00	4.00	3.50	62.00	110.00	20.00
138.	21572.	74365.	51.00	356.00	4.00	3.50	93.00	80.00	10.00
139.	21506.	74402.	67.00	356.00	4.00	3.50	91.00	157.00	3.00
140.	21496.	74407.	59.00	294.00	4.00	3.50	133.00	183.00	5.00
141.	21491.	74423.	51.00	391.00	4.00	8.00	87.00	103.00	3.00
142.	21436.	74463.	65.00	322.00	4.00	3.50	48.00	29.00	2.00
143.	21156.	74468.	85.00	154.00	4.00	3.50	136.00	35.00	1.00
144.	21162.	74468.	52.00	204.00	8.00	3.50	96.00	49.00	4.00
145.	21198.	74493.	40.00	192.00	4.00	3.50	93.00	59.00	1.00
146.	21196.	74494.	63.00	294.00	4.00	3.50	69.00	69.00	22.00
147.	21257.	74524.	120.00	232.00	4.00	7.00	66.00	43.00	12.00
148.	21322.	74556.	26.00	216.00	4.00	3.50	50.00	22.00	1.00
149.	21362.	74566.	59.00	347.00	4.00	3.50	34.00	9.00	5.00
150.	21764.	74694.	52.00	817.00	4.00	3.50	96.00	73.00	4.00
151.	21728.	74636.	48.00	540.00	4.00	3.50	144.00	79.00	4.00
152.	21738.	74648.	64.00	529.00	4.00	3.50	137.00	119.00	1.00
153.	21733.	74649.	58.00	576.00	4.00	3.50	167.00	158.00	1.00
154.	21805.	74628.	54.00	605.00	4.00	3.50	129.00	134.00	1.00
155.	21784.	74582.	58.00	520.00	4.00	3.50	59.00	64.00	1.00
156.	21774.	74574.	79.00	531.00	4.00	3.50	222.00	283.00	7.00

SAMPNUMB	YC	XRF	DOC	XRF	FEC	XRF	MNC	XRF	TIC	XRF	VC	XRF	CRC	XRF	COC	XRF	LAC	XRF
213.	23.	00	36.	00	10780.	00	1060.	00	2830.	00	30.	00	10.	00	7.	00	80.	00
214.	17.	00	6.	00	4730.	00	1630.	00	4620.	00	80.	00	30.	00	20.	00	40.	00
215.	21.	00	10.	00	2490.	00	1340.	00	4660.	00	80.	00	50.	00	14.	00	50.	00
216.	21.	00	16.	00	5220.	00	2530.	00	5140.	00	80.	00	40.	00	26.	00	50.	00
217.	12.	00	34.	00	9090.	00	1250.	00	5330.	00	80.	00	30.	00	15.	00	30.	00
218.	14.	00	11.	00	7390.	00	550.	00	5990.	00	120.	00	70.	00	23.	00	40.	00
219.	15.	00	4.	00	5260.	00	660.	00	5860.	00	80.	00	70.	00	16.	00	30.	00
220.	24.	00	1.	00	5110.	00	1080.	00	5780.	00	70.	00	60.	00	18.	00	40.	00
221.	20.	00	9.	00	4930.	00	1460.	00	7030.	00	100.	00	60.	00	22.	00	50.	00
222.	19.	00	8.	00	4960.	00	2030.	00	5130.	00	90.	00	30.	00	19.	00	60.	00
223.	15.	00	5.	00	2640.	00	1490.	00	5650.	00	80.	00	30.	00	13.	00	70.	00
224.	25.	00	3.	00	2670.	00	570.	00	5800.	00	60.	00	50.	00	10.	00	40.	00
225.	26.	00	2.	00	4020.	00	1030.	00	6410.	00	100.	00	70.	00	19.	00	40.	00
226.	16.	00	5.	00	2750.	00	1070.	00	5710.	00	80.	00	40.	00	12.	00	40.	00
227.	19.	00	5.	00	3180.	00	660.	00	6190.	00	80.	00	60.	00	15.	00	30.	00
228.	15.	00	3.	00	3330.	00	3560.	00	6280.	00	90.	00	50.	00	26.	00	40.	00
229.	18.	00	1.	00	2940.	00	2630.	00	5350.	00	90.	00	50.	00	21.	00	50.	00
230.	15.	00	3.	00	5690.	00	3640.	00	5460.	00	100.	00	50.	00	23.	00	40.	00
231.	21.	00	6.	00	2420.	00	1620.	00	3930.	00	60.	00	40.	00	15.	00	40.	00
232.	15.	00	2.	00	2540.	00	1010.	00	3900.	00	60.	00	50.	00	12.	00	40.	00
233.	21.	00	1.	00	2920.	00	1630.	00	5410.	00	90.	00	40.	00	17.	00	50.	00
234.	24.	00	1.	00	4530.	00	4250.	00	4440.	00	120.	00	50.	00	24.	00	80.	00
235.	17.	00	3.	00	4630.	00	1790.	00	5980.	00	120.	00	50.	00	24.	00	40.	00
236.	18.	00	1.	00	2630.	00	1590.	00	4850.	00	90.	00	40.	00	14.	00	60.	00
237.	29.	00	1.	00	3930.	00	740.	00	5990.	00	80.	00	40.	00	15.	00	40.	00
238.	23.	00	1.	00	3060.	00	1170.	00	5150.	00	90.	00	40.	00	17.	00	40.	00
239.	23.	00	1.	00	3310.	00	1100.	00	5570.	00	80.	00	50.	00	16.	00	30.	00
240.	15.	00	10.	00	2640.	00	1170.	00	4680.	00	70.	00	50.	00	13.	00	50.	00
241.	18.	00	4.	00	6060.	00	3770.	00	5390.	00	100.	00	40.	00	90.	00	40.	00
242.	26.	00	2.	00	2620.	00	620.	00	5110.	00	80.	00	50.	00	11.	00	40.	00
243.	19.	00	4.	00	3720.	00	740.	00	4770.	00	80.	00	40.	00	14.	00	30.	00
244.	24.	00	1.	00	2710.	00	510.	00	4110.	00	70.	00	30.	00	10.	00	40.	00
245.	20.	00	2.	00	3540.	00	1000.	00	5000.	00	90.	00	60.	00	18.	00	50.	00
246.	19.	00	2.	00	3940.	00	1150.	00	4650.	00	70.	00	40.	00	15.	00	30.	00
247.	18.	00	21.	00	3400.	00	1540.	00	6320.	00	160.	00	140.	00	25.	00	70.	00
248.	19.	00	13.	00	1180.	00	470.	00	1760.	00	20.	00	10.	00	4.	00	60.	00
249.	18.	00	11.	00	1200.	00	440.	00	2060.	00	20.	00	20.	00	4.	00	60.	00
250.	14.	00	1.	00	3370.	00	740.	00	3990.	00	60.	00	40.	00	11.	00	40.	00
251.	19.	00	2.	00	3240.	00	1430.	00	5150.	00	80.	00	50.	00	18.	00	40.	00
252.	23.	00	1.	00	3360.	00	1430.	00	4990.	00	80.	00	50.	00	18.	00	50.	00
253.	15.	00	5.	00	2720.	00	1620.	00	4470.	00	70.	00	40.	00	17.	00	40.	00
254.	18.	00	6.	00	5150.	00	3940.	00	4210.	00	80.	00	30.	00	26.	00	30.	00
255.	18.	00	3.	00	3650.	00	2080.	00	5440.	00	90.	00	50.	00	23.	00	50.	00
256.	14.	00	1.	00	2800.	00	1230.	00	5360.	00	90.	00	50.	00	14.	00	50.	00
257.	15.	00	4.	00	4020.	00	3280.	00	5500.	00	100.	00	50.	00	23.	00	50.	00
258.	16.	00	1.	00	3830.	00	630.	00	4670.	00	100.	00	70.	00	13.	00	60.	00
259.	19.	00	9.	00	5970.	00	1710.	00	6620.	00	120.	00	40.	00	25.	00	60.	00
260.	22.	00	1.	00	3130.	00	1460.	00	5630.	00	80.	00	50.	00	16.	00	40.	00
261.	14.	00	1.	00	2870.	00	1120.	00	5040.	00	70.	00	40.	00	12.	00	40.	00
262.	13.	00	3.	00	2710.	00	600.	00	5740.	00	80.	00	40.	00	11.	00	40.	00
263.	17.	00	8.	00	5270.	00	5060.	00	5040.	00	90.	00	40.	00	25.	00	40.	00
264.	13.	00	30.	00	3040.	00	1260.	00	5240.	00	80.	00	30.	00	14.	00	40.	00
265.	16.	00	23.	00	2390.	00	670.	00	4490.	00	70.	00	40.	00	11.	00	50.	00
266.	14.	00	9.	00	5850.	00	1730.	00	4590.	00	80.	00	40.	00	24.	00	50.	00
267.	13.	00	5.	00	6780.	00	470.	00	5150.	00	80.	00	40.	00	20.	00	30.	00
268.	14.	00	5.	00	1990.	00	540.	00	7030.	00	100.	00	70.	00	10.	00	40.	00

SAMPNUMB	CAC XRF	NIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	NBC XRF	SRC XRF	ZRC XRF
101.	8810.00	9.00	1.50	[illegible]	111.00	24.00	24.00	301.00	764.00
102.	3700.00	2.00	1.50	[illegible]	178.00	32.00	25.00	148.00	540.00
103.	4420.00	5.00	1.50	[illegible]	154.00	43.00	25.00	210.00	771.00
104.	4640.00	4.00	1.50	[illegible]	146.00	25.00	22.00	192.00	625.00
105.	4970.00	5.00	1.50	1[illegible].00	168.00	20.00	29.00	239.00	597.00
106.	8270.00	9.00	1.50	20.00	110.00	26.00	27.00	248.00	510.00
107.	3600.00	2.00	1.50	40.00	170.00	35.00	29.00	161.00	1592.00
108.	3080.00	2.00	1.50	29.00	197.00	29.00	24.00	143.00	401.00
109.	3410.00	2.00	1.50	33.00	164.00	24.00	21.00	142.00	527.00
110.	3470.00	2.00	1.50	26.00	144.00	23.00	16.00	130.00	679.00
111.	3960.00	2.00	1.50	12.00	181.00	34.00	25.00	161.00	577.00
112.	3580.00	1.00	1.50	18.00	180.00	22.00	18.00	117.00	625.00
113.	6390.00	1.00	1.50	191.00	181.00	35.00	26.00	163.00	442.00
114.	3810.00	0.50	1.50	45.00	175.00	30.00	28.00	119.00	403.00
115.	3610.00	2.00	1.50	27.00	174.00	25.00	21.00	147.00	382.00
116.	4550.00	1.00	1.50	13.00	157.00	28.00	28.00	182.00	550.00
117.	4300.00	2.00	1.50	39.00	180.00	40.00	31.00	155.00	627.00
118.	2300.00	4.00	1.50	24.00	242.00	31.00	25.00	112.00	294.00
119.	1920.00	5.00	1.50	21.00	284.00	43.00	34.00	138.00	332.00
120.	2300.00	3.00	1.50	25.00	249.00	43.00	33.00	139.00	384.00
121.	3710.00	4.00	1.50	18.00	173.00	34.00	25.00	155.00	465.00
122.	3340.00	2.00	1.50	33.00	176.00	28.00	26.00	141.00	728.00
123.	5140.00	4.00	1.50	119.00	145.00	27.00	22.00	165.00	598.00
124.	3930.00	2.00	1.50	15.00	179.00	38.00	31.00	158.00	931.00
125.	3540.00	2.00	1.50	18.00	183.00	36.00	27.00	167.00	636.00
126.	4960.00	2.00	1.50	24.00	172.00	36.00	28.00	196.00	734.00
127.	4190.00	3.00	1.50	24.00	167.00	44.00	29.00	163.00	866.00
128.	3490.00	4.00	1.50	22.00	189.00	33.00	27.00	150.00	411.00
129.	3530.00	3.00	3.00	17.00	208.00	30.00	27.00	167.00	533.00
130.	3000.00	1.00	1.50	26.00	147.00	32.00	23.00	117.00	465.00
131.	5200.00	3.00	1.50	21.00	152.00	24.00	24.00	176.00	567.00
132.	3720.00	3.00	1.50	24.00	188.00	31.00	26.00	171.00	530.00
133.	4850.00	1.00	1.50	9.00	161.00	34.00	28.00	215.00	804.00
134.	5040.00	5.00	1.50	14.00	137.00	26.00	25.00	218.00	523.00
135.	7110.00	8.00	1.50	36.00	131.00	32.00	31.00	254.00	541.00
136.	8640.00	6.00	1.50	18.00	97.00	18.00	21.00	278.00	611.00
137.	5270.00	5.00	1.50	9.00	178.00	29.00	26.00	266.00	509.00
138.	3060.00	2.00	1.50	30.00	203.00	26.00	23.00	151.00	387.00
139.	5200.00	2.00	1.50	174.00	188.00	26.00	26.00	185.00	649.00
140.	4500.00	3.00	1.50	78.00	165.00	30.00	25.00	156.00	504.00
141.	4680.00	3.00	1.50	50.00	169.00	30.00	22.00	182.00	746.00
142.	3560.00	0.50	1.50	13.00	160.00	30.00	24.00	159.00	893.00
143.	3050.00	0.50	1.50	50.00	137.00	32.00	18.00	94.00	547.00
144.	2820.00	1.00	1.50	22.00	166.00	35.00	24.00	112.00	244.00
145.	2970.00	1.00	1.50	20.00	139.00	28.00	23.00	119.00	441.00
146.	2910.00	3.00	1.50	36.00	177.00	31.00	22.00	148.00	251.00
147.	3160.00	3.00	1.50	20.00	190.00	68.00	35.00	114.00	719.00
148.	2840.00	1.00	1.50	7.00	194.00	19.00	21.00	126.00	260.00
149.	3680.00	0.50	1.50	17.00	173.00	19.00	23.00	170.00	495.00
150.	15250.00	16.00	1.50	5.00	65.00	9.00	15.00	511.00	579.00
151.	7370.00	10.00	1.50	22.00	127.00	23.00	26.00	353.00	639.00
152.	8070.00	7.00	1.50	24.00	107.00	21.00	20.00	335.00	1122.00
153.	11570.00	10.00	1.50	23.00	79.00	17.00	19.00	413.00	606.00
154.	12240.00	16.00	1.50	22.00	83.00	14.00	20.00	451.00	934.00
155.	9870.00	6.00	1.50	9.00	110.00	14.00	25.00	439.00	767.00
156.	7010.00	8.00	1.50	33.00	112.00	21.00	25.00	302.00	807.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SNC XRF	SMC XRF	PBC XRF	ZNC XRF	CUC XRF
269.	21766.	75115.	52.00	668.00	4.00	3.50	52.00	51.00	6.00
270.	21008.	74347.	75.00	498.00	4.00	3.50	57.00	44.00	5.00
271.	20969.	74261.	64.00	510.00	4.00	3.50	86.00	64.00	22.00
272.	20904.	74293.	42.00	238.00	4.00	3.50	174.00	50.00	4.00
273.	21020.	74383.	66.00	462.00	4.00	3.50	105.00	46.00	6.00
274.	21052.	74429.	120.00	332.00	4.00	3.50	77.00	68.00	6.00
275.	21086.	74517.	74.00	446.00	4.00	0.00	85.00	94.00	2.00
276.	20888.	74101.	87.00	478.00	4.00	3.50	42.00	89.00	8.00
277.	20906.	74160.	74.00	238.00	4.00	3.50	150.00	135.00	1.00
278.	20922.	74189.	59.00	273.00	0.00	3.50	29.00	40.00	1.00
279.	20926.	74202.	61.00	568.00	4.00	3.50	167.00	120.00	12.00
280.	20928.	74213.	62.00	302.00	4.00	3.50	104.00	92.00	1.00
281.	22101.	74812.	78.00	641.00	4.00	3.50	60.00	110.00	13.00
282.	22020.	74866.	84.00	642.00	4.00	3.50	77.00	131.00	8.00
283.	22019.	74861.	52.00	773.00	0.00	3.50	53.00	93.00	3.00
284.	22482.	74708.	76.00	535.00	4.00	3.50	158.00	295.00	8.00
285.	20988.	74884.	33.00	461.00	4.00	3.50	97.00	92.00	3.00
286.	20979.	74903.	69.00	546.00	4.00	0.00	135.00	153.00	8.00
287.	21047.	74677.	77.00	783.00	4.00	3.50	69.00	111.00	2.00
288.	21076.	74672.	52.00	733.00	4.00	3.50	63.00	77.00	1.00
289.	21082.	74683.	47.00	651.00	0.00	3.50	50.00	36.00	1.00
290.	21173.	74685.	32.00	769.00	4.00	3.50	50.00	47.00	1.00
291.	21706.	75089.	48.00	862.00	4.00	3.50	40.00	86.00	11.00
292.	21678.	75096.	54.00	803.00	4.00	3.50	80.00	153.00	16.00
293.	21668.	75071.	66.00	750.00	4.00	3.50	83.00	139.00	16.00
294.	21602.	74980.	56.00	491.00	0.00	3.50	60.00	117.00	7.00
295.	21532.	74979.	60.00	613.00	4.00	3.50	82.00	176.00	20.00
296.	21482.	74769.	68.00	805.00	4.00	3.50	52.00	104.00	6.00
297.	21451.	74732.	29.00	534.00	4.00	3.50	70.00	39.00	1.00
298.	21449.	74731.	35.00	529.00	4.00	3.50	77.00	57.00	1.00
299.	21422.	74682.	26.00	594.00	4.00	3.50	54.00	31.00	1.00
300.	21414.	74670.	99.00	652.00	4.00	3.50	51.00	170.00	50.00
301.	21929.	74222.	58.00	269.00	4.00	10.00	87.00	40.00	1.00
302.	21960.	74250.	52.00	343.00	4.00	3.50	77.00	32.00	10.00
303.	21978.	74210.	45.00	337.00	4.00	3.50	58.00	185.00	31.00
304.	21300.	74197.	51.00	311.00	4.00	11.00	112.00	39.00	20.00
305.	21488.	74131.	47.00	240.00	4.00	3.50	138.00	78.00	45.00
306.	21982.	74181.	65.00	371.00	4.00	0.00	104.00	52.00	22.00
307.	21399.	74102.	111.00	160.00	4.00	3.50	256.00	119.00	9.00
308.	21390.	74034.	42.00	161.00	4.00	3.50	120.00	127.00	3.00
309.	21366.	74015.	24.00	143.00	4.00	7.00	140.00	33.00	5.00
310.	21377.	73992.	45.00	276.00	4.00	3.50	93.00	65.00	1.00
311.	21181.	74099.	95.00	665.00	4.00	3.50	68.00	119.00	10.00
312.	21134.	74904.	94.00	777.00	4.00	3.50	35.00	129.00	9.00
313.	21156.	74901.	49.00	654.00	4.00	3.50	34.00	94.00	14.00
314.	21192.	74872.	53.00	656.00	4.00	3.50	54.00	115.00	10.00
315.	21200.	74854.	81.00	884.00	4.00	3.50	45.00	190.00	19.00
316.	21217.	74833.	58.00	765.00	4.00	3.50	62.00	92.00	5.00
317.	21246.	74778.	68.00	690.00	4.00	3.50	77.00	74.00	1.00
318.	21293.	74781.	63.00	801.00	4.00	3.50	54.00	106.00	3.00
319.	21190.	73973.	74.00	333.00	4.00	3.50	300.00	155.00	1.00
320.	21205.	73982.	56.00	395.00	4.00	3.50	185.00	153.00	16.00
321.	21350.	74978.	84.00	698.00	4.00	3.50	52.00	81.00	1.00
322.	21338.	74970.	64.00	1027.00	4.00	3.50	59.00	126.00	7.00
323.	21346.	74941.	77.00	722.00	0.00	3.50	42.00	82.00	6.00
324.	21362.	74930.	38.00	642.00	4.00	3.50	87.00	152.00	4.00

SAMP	NUM	YC	XRF	MOC	XRF	FEC	XRF	MNC	XRF	TIC	XRF	VC	XRF	CRC	XRF	COC	XRF	LAC	XRF
	101.		18.00		8.00		26400.00		1900.00		4590.00		60.00		20.00		10.00		50.00
	102.		17.00		24.00		13900.00		600.00		2230.00		30.00		10.00		6.00		50.00
	103.		23.00		1.00		20100.00		1330.00		3370.00		50.00		10.00		10.00		80.00
	104.		13.00		2.00		13200.00		440.00		2010.00		40.00		10.00		5.00		40.00
	105.		15.00		1.00		20400.00		670.00		3370.00		40.00		10.00		8.00		50.00
	106.		16.00		18.00		74000.00		1300.00		4526.00		90.00		10.00		21.00		60.00
	107.		20.00		9.00		20700.00		570.00		2790.00		40.00		10.00		6.00		50.00
	108.		12.00		7.00		11400.00		940.00		1950.00		20.00		10.00		4.00		30.00
	109.		11.00		21.00		11400.00		640.00		2200.00		30.00		10.00		4.00		40.00
	110.		10.00		19.00		17600.00		1010.00		2330.00		40.00		5.00		6.00		50.00
	111.		14.00		15.00		13700.00		780.00		2060.00		20.00		5.00		5.00		40.00
	112.		13.00		23.00		117500.00		660.00		2590.00		70.00		5.00		25.00		70.00
	113.		26.00		21.00		4800.00		720.00		1860.00		10.00		5.00		2.00		70.00
	114.		15.00		24.00		4600.00		450.00		2210.00		10.00		5.00		2.00		50.00
	115.		14.00		53.00		12900.00		750.00		2560.00		30.00		10.00		5.00		50.00
	116.		12.00		74.00		9900.00		420.00		2710.00		20.00		5.00		3.00		40.00
	117.		19.00		100.00		10200.00		750.00		2550.00		20.00		5.00		4.00		60.00
	118.		13.00		31.00		13100.00		690.00		1910.00		20.00		5.00		5.00		40.00
	119.		26.00		15.00		15800.00		990.00		2600.00		30.00		10.00		6.00		40.00
	120.		21.00		21.00		16000.00		1140.00		2540.00		30.00		10.00		7.00		40.00
	121.		14.00		78.00		17300.00		820.00		2540.00		30.00		10.00		7.00		40.00
	122.		14.00		12.00		11700.00		930.00		2120.00		20.00		10.00		4.00		50.00
	123.		16.00		8.00		19800.00		1770.00		2440.00		40.00		10.00		9.00		50.00
	124.		19.00		2.00		18000.00		480.00		2770.00		40.00		10.00		4.00		50.00
	125.		17.00		69.00		14400.00		760.00		2450.00		30.00		10.00		6.00		40.00
	126.		14.00		66.00		9800.00		760.00		2300.00		20.00		10.00		4.00		40.00
	127.		19.00		90.00		17900.00		2390.00		2450.00		40.00		10.00		16.00		50.00
	128.		16.00		77.00		15600.00		1280.00		2410.00		30.00		10.00		7.00		50.00
	129.		19.00		106.00		13900.00		790.00		2250.00		30.00		10.00		5.00		40.00
	130.		13.00		68.00		10600.00		280.00		2400.00		30.00		10.00		3.00		40.00
	131.		15.00		12.00		19700.00		2540.00		2790.00		40.00		5.00		13.00		50.00
	132.		5.00		23.00		14100.00		1000.00		2430.00		30.00		5.00		5.00		40.00
	133.		8.00		1.00		8300.00		410.00		2740.00		20.00		5.00		2.00		40.00
	134.		8.00		4.00		25100.00		550.00		3011.00		50.00		10.00		8.00		50.00
	135.		7.00		9.00		39100.00		1710.00		5114.00		70.00		10.00		17.00		70.00
	136.		6.00		7.00		40600.00		3030.00		4590.00		70.00		10.00		22.00		50.00
	137.		11.00		29.00		20000.00		700.00		3390.00		40.00		5.00		7.00		30.00
	138.		11.00		28.00		12900.00		1120.00		2100.00		30.00		5.00		5.00		30.00
	139.		11.00		25.00		17700.00		1240.00		2720.00		30.00		5.00		6.00		50.00
	140.		12.00		12.00		15300.00		2240.00		2400.00		30.00		5.00		9.00		50.00
	141.		13.00		8.00		15400.00		1010.00		2340.00		30.00		5.00		6.00		40.00
	142.		13.00		5.00		8300.00		430.00		2230.00		20.00		5.00		2.00		40.00
	143.		14.00		18.00		6100.00		500.00		1800.00		10.00		5.00		2.00		70.00
	144.		12.00		41.00		14700.00		1520.00		2060.00		20.00		5.00		5.00		40.00
	145.		14.00		23.00		8300.00		2190.00		1800.00		10.00		5.00		3.00		40.00
	146.		15.00		21.00		12100.00		620.00		2220.00		20.00		10.00		4.00		50.00
	147.		20.00		7.00		19700.00		660.00		2590.00		40.00		10.00		6.00		80.00
	148.		9.00		1.00		3300.00		280.00		1560.00		10.00		5.00		1.00		30.00
	149.		10.00		1.00		2300.00		190.00		1700.00		10.00		5.00		1.00		40.00
	150.		15.00		5.00		40400.00		1080.00		5010.00		80.00		30.00		24.00		40.00
	151.		14.00		4.00		24900.00		580.00		4530.00		70.00		20.00		9.00		40.00
	152.		17.00		1.00		19900.00		1370.00		4536.00		60.00		20.00		9.00		50.00
	153.		17.00		1.00		34800.00		3150.00		5000.00		90.00		40.00		24.00		60.00
	154.		19.00		3.00		30900.00		2820.00		4060.00		80.00		40.00		21.00		60.00
	155.		16.00		1.00		21700.00		570.00		4600.00		60.00		10.00		8.00		40.00
	156.		14.00		2.00		26600.00		3960.00		4730.00		70.00		20.00		19.00		50.00

SAMPNUMB	CAC XRF	MIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	NBC XRF	SRC XRF	ZRC XRF
269.	12510.00	24.00	1.50	1.50	43.00	4.00	12.00	419.00	352.00
270.	6310.00	7.00	1.50	24.00	137.00	33.00	29.00	246.00	951.00
271.	6020.00	14.00	4.00	20.00	154.00	24.00	24.00	231.00	409.00
272.	5250.00	2.00	1.50	41.00	104.00	22.00	19.00	141.00	381.00
273.	5650.00	3.00	1.50	21.00	120.00	46.00	25.00	199.00	1342.00
274.	5740.00	5.00	1.50	47.00	119.00	35.00	27.00	192.00	1020.00
275.	8490.00	9.00	1.50	49.00	90.00	24.00	24.00	270.00	750.00
276.	14910.00	56.00	1.50	13.00	97.00	20.00	25.00	207.00	1115.00
277.	7280.00	9.00	1.50	113.00	77.00	13.00	13.00	159.00	235.00
278.	5330.00	5.00	1.50	9.00	108.00	16.00	20.00	173.00	470.00
279.	7500.00	33.00	1.50	35.00	110.00	23.00	20.00	206.00	406.00
280.	3840.00	4.00	1.50	52.00	126.00	31.00	32.00	148.00	716.00
281.	9070.00	23.00	1.50	12.00	143.00	31.00	22.00	314.00	473.00
282.	9240.00	22.00	1.50	14.00	123.00	31.00	18.00	358.00	827.00
283.	7030.00	20.00	1.50	12.00	130.00	18.00	17.00	390.00	507.00
284.	10050.00	27.00	1.50	28.00	83.00	19.00	15.00	341.00	242.00
285.	8059.00	11.00	4.00	16.00	86.00	11.00	18.00	303.00	184.00
286.	11220.00	29.00	1.50	12.00	93.00	15.00	24.00	348.00	261.00
287.	16410.00	18.00	1.50	13.00	74.00	14.00	24.00	454.00	1714.00
288.	13460.00	16.00	1.50	3.00	78.00	12.00	18.00	474.00	570.00
289.	9660.00	8.00	1.50	3.00	89.00	15.00	23.00	398.00	2230.00
290.	13810.00	12.00	1.50	10.00	74.00	12.00	16.00	425.00	905.00
291.	12370.00	38.00	1.50	3.00	70.00	10.00	14.00	461.00	359.00
292.	8750.00	32.00	1.50	3.00	129.00	10.00	10.00	295.00	366.00
293.	8830.00	32.00	4.00	3.00	125.00	14.00	17.00	292.00	429.00
294.	17586.00	22.00	1.50	8.00	83.00	7.00	15.00	282.00	322.00
295.	11980.00	32.00	1.50	9.00	82.00	11.00	14.00	329.00	434.00
296.	10440.00	15.00	1.50	11.00	119.00	21.00	28.00	402.00	1134.00
297.	7600.00	4.00	1.50	15.00	117.00	13.00	25.00	381.00	865.00
298.	8220.00	5.00	3.00	21.00	100.00	15.00	23.00	354.00	1506.00
299.	5960.00	3.00	1.50	6.00	100.00	12.00	22.00	443.00	1100.00
300.	10020.00	111.00	1.50	27.00	106.00	29.00	34.00	263.00	970.00
301.	3870.00	4.00	1.50	27.00	140.00	23.00	19.00	149.00	332.00
302.	4850.00	5.00	1.50	17.00	132.00	30.00	26.00	178.00	527.00
303.	3280.00	2.00	1.50	13.00	176.00	26.00	23.00	161.00	1284.00
304.	3810.00	3.00	1.50	19.00	147.00	26.00	20.00	173.00	541.00
305.	2950.00	6.00	1.50	29.00	134.00	26.00	18.00	113.00	392.00
306.	4040.00	2.00	1.50	19.00	163.00	26.00	25.00	176.00	821.00
307.	3460.00	2.00	1.50	167.00	124.00	25.00	16.00	73.00	240.00
308.	2740.00	2.00	1.50	27.00	131.00	25.00	16.00	87.00	208.00
309.	3220.00	3.00	1.50	52.00	157.00	26.00	17.00	78.00	194.00
310.	3600.00	3.00	1.50	27.00	123.00	22.00	19.00	143.00	445.00
311.	7060.00	25.00	1.50	1.50	135.00	18.00	21.00	225.00	338.00
312.	15170.00	38.00	1.50	4.00	106.00	10.00	24.00	379.00	480.00
313.	10230.00	30.00	1.50	5.00	74.00	10.00	17.00	308.00	649.00
314.	17390.00	44.00	1.50	1.50	70.00	8.00	21.00	353.00	493.00
315.	15370.00	37.00	4.00	3.00	94.00	15.00	26.00	307.00	1020.00
316.	14290.00	22.00	1.50	3.00	73.00	11.00	20.00	403.00	907.00
317.	14200.00	10.00	1.50	3.00	62.00	9.00	19.00	411.00	1004.00
318.	15206.00	23.00	1.50	5.00	74.00	14.00	15.00	429.00	442.00
319.	4710.00	7.00	1.50	39.00	123.00	16.00	23.00	166.00	422.00
320.	10420.00	119.00	3.00	22.00	84.00	12.00	32.00	296.00	303.00
321.	6990.00	22.00	1.50	3.00	150.00	11.00	20.00	252.00	303.00
322.	11870.00	21.00	1.50	1.50	143.00	11.00	15.00	249.00	474.00
323.	6200.00	20.00	1.50	4.00	160.00	11.00	25.00	171.00	338.00
324.	7710.00	19.00	1.50	4.00	100.00	9.00	16.00	230.00	546.00

SAMPNUMB	EASTING	NORTHING	CEC	XRF	BAC	XRF	SBC	XRF	SNC	XRF	PBC	XRF	ZNC	XRF	CUC	XRF
157.	22176.	74716.	31.	00	544.	00	4.	00	3.	00	56.	00	24.	00	1.	00
158.	22186.	74712.	78.	00	591.	00	4.	00	7.	00	133.	00	164.	00	11.	00
159.	22178.	74744.	44.	00	643.	00	4.	00	3.	00	82.	00	67.	00	3.	00
160.	22161.	74734.	76.	00	560.	00	4.	00	3.	00	106.	00	171.	00	14.	00
161.	20994.	74174.	63.	00	416.	00	4.	00	3.	00	47.	00	42.	00	0.	00
162.	20996.	74116.	69.	00	541.	00	4.	00	3.	00	135.	00	49.	00	1.	00
163.	21016.	74284.	103.	00	511.	00	4.	00	3.	00	131.	00	52.	00	3.	00
164.	21023.	74293.	58.	00	474.	00	4.	00	3.	00	56.	00	24.	00	1.	00
165.	21042.	74352.	49.	00	266.	00	4.	00	3.	00	117.	00	48.	00	1.	00
166.	21058.	74373.	45.	00	381.	00	4.	00	3.	00	83.	00	37.	00	1.	00
167.	21698.	74636.	91.	00	459.	00	4.	00	3.	00	88.	00	153.	00	7.	00
168.	21700.	74627.	81.	00	397.	00	4.	00	3.	00	140.	00	60.	00	7.	00
169.	21697.	74660.	82.	00	440.	00	4.	00	3.	00	93.	00	64.	00	6.	00
170.	21674.	74672.	66.	00	472.	00	4.	00	3.	00	73.	00	119.	00	6.	00
171.	21441.	74459.	108.	00	333.	00	4.	00	3.	00	106.	00	40.	00	7.	00
172.	21067.	74294.	93.	00	340.	00	4.	00	3.	00	88.	00	40.	00	1.	00
173.	21089.	74299.	88.	00	316.	00	4.	00	3.	00	91.	00	53.	00	3.	00
174.	21091.	74349.	54.	00	220.	00	4.	00	3.	00	91.	00	43.	00	1.	00
175.	21098.	74360.	90.	00	1169.	00	4.	00	3.	00	117.	00	137.	00	36.	00
176.	21112.	74390.	93.	00	406.	00	10.	00	3.	00	117.	00	139.	00	23.	00
177.	21116.	74405.	111.	00	187.	00	4.	00	3.	00	265.	00	149.	00	2.	00
178.	21142.	74452.	108.	00	282.	00	4.	00	3.	00	44.	00	24.	00	2.	00
179.	21576.	74795.	64.	00	695.	00	4.	00	10.	00	104.	00	244.	00	9.	00
180.	21608.	74788.	75.	00	935.	00	4.	00	3.	00	44.	00	100.	00	13.	00
181.	21737.	74694.	59.	00	878.	00	4.	00	3.	00	57.	00	91.	00	3.	00
182.	21733.	74699.	82.	00	799.	00	4.	00	3.	00	46.	00	160.	00	11.	00
183.	21691.	74699.	77.	00	898.	00	4.	00	3.	00	48.	00	89.	00	5.	00
184.	21681.	74695.	56.	00	900.	00	4.	00	3.	00	51.	00	85.	00	3.	00
185.	21657.	74696.	81.	00	537.	00	4.	00	3.	00	91.	00	101.	00	7.	00
186.	21656.	74719.	90.	00	1277.	00	4.	00	3.	00	89.	00	63.	00	12.	00
187.	22103.	74929.	55.	00	249.	00	4.	00	3.	00	77.	00	113.	00	15.	00
188.	22260.	74948.	61.	00	744.	00	4.	00	3.	00	111.	00	141.	00	24.	00
189.	22127.	74943.	42.	00	316.	00	4.	00	3.	00	111.	00	44.	00	27.	00
190.	22082.	74947.	89.	00	637.	00	4.	00	3.	00	57.	00	40.	00	4.	00
191.	22118.	74784.	100.	00	717.	00	4.	00	11.	00	67.	00	120.	00	1.	00
192.	22110.	74788.	104.	00	670.	00	4.	00	3.	00	67.	00	124.	00	11.	00
193.	22247.	74872.	62.	00	520.	00	4.	00	3.	00	56.	00	240.	00	1.	00
194.	22244.	74869.	62.	00	540.	00	4.	00	10.	00	150.	00	39.	00	1.	00
195.	22214.	74898.	54.	00	616.	00	4.	00	3.	00	48.	00	41.	00	3.	00
196.	22196.	74917.	30.	00	555.	00	4.	00	3.	00	63.	00	153.	00	7.	00
197.	22202.	74913.	67.	00	551.	00	4.	00	3.	00	124.	00	64.	00	6.	00
198.	21186.	74398.	103.	00	453.	00	4.	00	3.	00	32.	00	53.	00	1.	00
199.	21200.	74346.	126.	00	402.	00	4.	00	3.	00	58.	00	115.	00	1.	00
200.	21212.	74353.	85.	00	643.	00	4.	00	3.	00	77.	00	64.	00	1.	00
201.	21240.	74694.	72.	00	428.	00	4.	00	3.	00	84.	00	115.	00	1.	00
202.	21634.	74697.	73.	00	444.	00	4.	00	3.	00	116.	00	155.	00	4.	00
203.	21626.	74700.	73.	00	445.	00	4.	00	3.	00	99.	00	55.	00	1.	00
204.	21580.	74732.	68.	00	343.	00	4.	00	3.	00	136.	00	140.	00	2.	00
205.	21861.	74808.	76.	00	1126.	00	4.	00	3.	00	89.	00	151.	00	6.	00
206.	21843.	74802.	37.	00	622.	00	4.	00	3.	00	69.	00	66.	00	2.	00
207.	21802.	74796.	66.	00	620.	00	4.	00	3.	00	45.	00	57.	00	1.	00
208.	21844.	74797.	62.	00	633.	00	4.	00	3.	00	47.	00	44.	00	1.	00
209.	21835.	74840.	47.	00	606.	00	4.	00	3.	00	70.	00	113.	00	5.	00
210.	21852.	74843.	54.	00	665.	00	4.	00	3.	00	59.	00	131.	00	3.	00
211.	22262.	75226.	62.	00	837.	00	4.	00	3.	00	121.	00	139.	00	15.	00
212.	21222.	74330.	115.	00	598.	00	4.	00	9.	00	132.	00	99.	00	34.	00

SAMPNUMBER	YC XRF	MOC XRF	FEC XRF	MNC XRF	TIC XRF	VC XRF	CRC XRF	COC XRF	LAC XRF
269.	13.00	5.00	25000.00	560.00	4700.00	70.00	20.00	11.00	0.00
270.	19.00	11.00	28000.00	580.00	3610.00	60.00	30.00	9.00	60.00
271.	19.00	10.00	21900.00	520.00	3420.00	50.00	30.00	9.00	40.00
272.	10.00	43.00	23000.00	3700.00	2140.00	40.00	10.00	10.00	30.00
273.	18.00	19.00	49100.00	990.00	3410.00	50.00	10.00	13.00	50.00
274.	10.00	20.00	25500.00	1510.00	3800.00	60.00	20.00	11.00	80.00
275.	17.00	4.00	33100.00	1550.00	4620.00	80.00	30.00	13.00	60.00
276.	22.00	2.00	45000.00	1370.00	6870.00	120.00	100.00	20.00	50.00
277.	9.00	14.00	30400.00	5710.00	3150.00	60.00	30.00	15.00	60.00
278.	10.00	3.00	20400.00	710.00	3650.00	40.00	30.00	6.00	50.00
279.	13.00	10.00	33900.00	2310.00	6350.00	100.00	100.00	22.00	50.00
280.	14.00	10.00	24400.00	1560.00	3310.00	50.00	30.00	10.00	50.00
281.	26.00	1.00	37700.00	1120.00	4610.00	80.00	30.00	13.00	60.00
282.	25.00	4.00	34730.00	1130.00	4910.00	90.00	60.00	17.00	50.00
283.	16.00	3.00	24700.00	1050.00	6500.00	90.00	50.00	13.00	40.00
284.	16.00	3.00	30000.00	3670.00	6170.00	150.00	50.00	25.00	50.00
285.	11.00	33.00	153000.00	880.00	5150.00	170.00	20.00	19.00	50.00
286.	14.00	6.00	78500.00	3290.00	8580.00	130.00	50.00	37.00	50.00
287.	25.00	2.00	49400.00	1950.00	6430.00	100.00	50.00	24.00	50.00
288.	14.00	4.00	52000.00	1400.00	5470.00	90.00	30.00	19.00	30.00
289.	18.00	1.00	34700.00	488.00	4300.00	60.00	20.00	9.00	30.00
290.	13.00	2.00	40900.00	880.00	4610.00	70.00	20.00	16.00	30.00
291.	18.00	3.00	38000.00	900.00	6390.00	90.00	70.00	20.00	30.00
292.	26.00	2.00	34300.00	830.00	5370.00	80.00	50.00	19.00	40.00
293.	27.00	2.00	35300.00	820.00	5540.00	80.00	70.00	19.00	40.00
294.	27.00	6.00	28300.00	1060.00	5080.00	70.00	60.00	16.00	40.00
295.	23.00	4.00	35500.00	570.00	5240.00	90.00	70.00	24.00	50.00
296.	21.00	2.00	36000.00	720.00	5530.00	80.00	40.00	15.00	50.00
297.	9.00	5.00	23600.00	410.00	4220.00	50.00	10.00	7.00	20.00
298.	15.00	4.00	22200.00	890.00	4000.00	50.00	10.00	8.00	30.00
299.	14.00	3.00	18000.00	360.00	2750.00	40.00	10.00	5.00	30.00
300.	20.00	4.00	66500.00	1240.00	9230.00	150.00	170.00	41.00	80.00
301.	12.00	13.00	12500.00	830.00	2300.00	30.00	10.00	5.00	50.00
302.	15.00	17.00	23700.00	970.00	3950.00	50.00	20.00	8.00	50.00
303.	14.00	26.00	7400.00	270.00	2700.00	30.00	10.00	2.00	40.00
304.	9.00	34.00	9600.00	510.00	2780.00	30.00	10.00	3.00	40.00
305.	13.00	32.00	13100.00	970.00	2480.00	40.00	20.00	5.00	60.00
306.	13.00	18.00	12400.00	1030.00	2400.00	30.00	10.00	5.00	40.00
307.	31.00	24.00	66700.00	360.00	1650.00	40.00	5.00	17.00	90.00
308.	10.00	5.00	15800.00	250.00	2270.00	30.00	10.00	3.00	50.00
309.	14.00	10.00	13400.00	320.00	1890.00	30.00	10.00	4.00	50.00
310.	11.00	9.00	13300.00	510.00	3120.00	40.00	10.00	3.00	50.00
311.	40.00	2.00	61800.00	1350.00	6250.00	90.00	50.00	28.00	60.00
312.	32.00	2.00	52100.00	1330.00	8050.00	120.00	80.00	28.00	50.00
313.	27.00	1.00	48500.00	1300.00	9150.00	130.00	90.00	28.00	40.00
314.	23.00	1.00	42500.00	2390.00	9410.00	170.00	110.00	47.00	40.00
315.	23.00	3.00	57700.00	1690.00	8660.00	130.00	80.00	30.00	60.00
316.	19.00	3.00	55400.00	1700.00	6640.00	100.00	60.00	24.00	40.00
317.	19.00	2.00	52000.00	1750.00	5600.00	90.00	50.00	23.00	40.00
318.	17.00	1.00	72600.00	1370.00	5700.00	90.00	50.00	30.00	40.00
319.	12.00	9.00	41500.00	6510.00	3410.00	80.00	10.00	30.00	60.00
320.	14.00	6.00	61500.00	3160.00	10270.00	160.00	300.00	45.00	40.00
321.	36.00	3.00	56400.00	760.00	6300.00	90.00	50.00	21.00	50.00
322.	28.00	9.00	32900.00	1060.00	5000.00	70.00	50.00	17.00	40.00
323.	39.00	1.00	44500.00	850.00	6390.00	70.00	50.00	20.00	40.00
324.	25.00	6.00	41200.00	2330.00	5500.00	80.00	50.00	29.00	40.00

SAMPNUMB	CAC XRF	MIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	NBC XRF	SRC XRF	ZRC XRF
157.	11090.00	9.00	1.50	6.00	92.00	12.00	16.00	404.00	981.00
158.	9320.00	22.00	5.00	20.00	116.00	23.00	19.00	359.00	654.00
159.	15100.00	30.00	1.50	9.00	87.00	15.00	14.00	426.00	609.00
160.	9400.00	23.00	1.50	16.00	116.00	25.00	20.00	353.00	532.00
161.	5200.00	7.00	1.50	16.00	179.00	49.00	32.00	193.00	997.00
162.	5440.00	5.00	1.50	9.00	137.00	27.00	19.00	220.00	477.00
163.	6340.00	8.00	1.50	17.00	132.00	25.00	25.00	265.00	592.00
164.	4000.00	2.00	1.50	15.00	145.00	25.00	25.00	201.00	618.00
165.	2560.00	1.00	1.50	17.00	144.00	20.00	17.00	106.00	202.00
166.	4360.00	9.00	1.50	14.00	142.00	30.00	21.00	189.00	382.00
167.	5290.00	9.00	1.50	20.00	150.00	34.00	28.00	213.00	643.00
168.	5640.00	6.00	1.50	41.00	119.00	25.00	23.00	226.00	1013.00
169.	5190.00	6.00	1.50	22.00	128.00	27.00	27.00	257.00	1002.00
170.	5150.00	7.00	1.50	26.00	162.00	35.00	29.00	222.00	1247.00
171.	4350.00	1.00	4.00	29.00	146.00	30.00	23.00	166.00	501.00
172.	4620.00	7.00	1.50	10.00	162.00	36.00	28.00	191.00	573.00
173.	3650.00	2.00	1.50	28.00	165.00	37.00	26.00	140.00	552.00
174.	2710.00	1.00	1.50	19.00	153.00	26.00	22.00	95.00	344.00
175.	8810.00	8.00	1.50	22.00	221.00	56.00	36.00	167.00	744.00
176.	8910.00	20.00	1.50	35.00	175.00	36.00	31.00	147.00	260.00
177.	4000.00	3.00	1.50	38.00	154.00	20.00	23.00	99.00	278.00
178.	3190.00	1.00	1.50	15.00	195.00	55.00	35.00	121.00	674.00
179.	13800.00	27.00	1.50	9.00	77.00	15.00	21.00	352.00	1081.00
180.	13170.00	29.00	1.50	3.00	94.00	16.00	18.00	399.00	1096.00
181.	15910.00	22.00	1.50	5.00	67.00	11.00	16.00	510.00	1210.00
182.	12500.00	23.00	1.50	4.00	101.00	12.00	16.00	396.00	621.00
183.	18210.00	10.00	1.50	6.00	62.00	8.00	19.00	541.00	1199.00
184.	13280.00	17.00	1.50	8.00	76.00	11.00	18.00	464.00	1179.00
185.	6060.00	8.00	1.50	16.00	136.00	30.00	20.00	270.00	1221.00
186.	12200.00	12.00	1.50	4.00	105.00	22.00	26.00	406.00	3460.00
187.	7710.00	18.00	1.50	14.00	121.00	25.00	19.00	364.00	421.00
188.	10050.00	20.00	1.50	9.00	122.00	18.00	19.00	456.00	494.00
189.	5870.00	10.00	1.50	48.00	180.00	41.00	18.00	200.00	315.00
190.	4640.00	15.00	3.00	50.00	199.00	29.00	18.00	207.00	533.00
191.	10240.00	15.00	1.50	9.00	121.00	23.00	18.00	410.00	1380.00
192.	10780.00	23.00	1.50	15.00	120.00	29.00	27.00	395.00	1109.00
193.	10190.00	15.00	1.50	17.00	125.00	22.00	20.00	437.00	418.00
194.	8420.00	20.00	1.50	24.00	105.00	21.00	16.00	311.00	392.00
195.	11870.00	15.00	1.50	6.00	109.00	16.00	18.00	447.00	1193.00
196.	10360.00	14.00	1.50	14.00	107.00	18.00	19.00	395.00	629.00
197.	9270.00	19.00	1.50	12.00	102.00	21.00	18.00	333.00	355.00
198.	8250.00	5.00	1.50	44.00	211.00	52.00	28.00	104.00	343.00
199.	8250.00	4.00	1.50	32.00	175.00	43.00	25.00	89.00	509.00
200.	8270.00	4.00	1.50	20.00	215.00	55.00	34.00	145.00	608.00
201.	8250.00	11.00	1.50	71.00	185.00	34.00	33.00	204.00	868.00
202.	6000.00	7.00	1.50	63.00	114.00	24.00	25.00	267.00	758.00
203.	6060.00	6.00	1.50	48.00	103.00	24.00	27.00	252.00	482.00
204.	7820.00	9.00	1.50	67.00	84.00	19.00	19.00	240.00	512.00
205.	6440.00	22.00	1.50	9.00	260.00	18.00	15.00	210.00	618.00
206.	10420.00	22.00	3.00	4.00	71.00	10.00	12.00	341.00	500.00
207.	9330.00	15.00	1.50	3.00	83.00	6.00	14.00	356.00	937.00
208.	9640.00	17.00	1.50	6.00	72.00	11.00	16.00	379.00	517.00
209.	8600.00	20.00	1.50	7.00	83.00	9.00	13.00	278.00	526.00
210.	11200.00	17.00	1.50	5.00	72.00	10.00	11.00	377.00	604.00
211.	10600.00	28.00	5.00	9.00	95.00	16.00	16.00	478.00	662.00
212.	5500.00	13.00	1.50	25.00	193.00	64.00	35.00	143.00	572.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
325.	21370.	74926.	60.00	666.00	4.00	3.50	35.00	91.00	7.00
326.	21405.	74824.	76.00	785.00	4.00	3.50	48.00	148.00	5.00
327.	21427.	74846.	53.00	676.00	4.00	3.50	26.00	80.00	7.00
328.	21395.	74746.	73.00	840.00	4.00	10.00	44.00	118.00	14.00
329.	20965.	74127.	60.00	376.00	4.00	3.50	232.00	79.00	1.00
330.	20967.	74116.	36.00	440.00	4.00	3.50	92.00	53.00	1.00
331.	21118.	74628.	50.00	656.00	4.00	3.50	86.00	87.00	1.00
332.	21370.	74098.	80.00	349.00	4.00	3.50	92.00	62.00	12.00
333.	21374.	74100.	62.00	221.00	4.00	3.50	110.00	54.00	45.00
334.	21392.	74116.	89.00	280.00	4.00	3.50	94.00	35.00	9.00
335.	21403.	74102.	80.00	182.00	4.00	10.00	147.00	105.00	15.00
336.	21397.	74104.	67.00	335.00	4.00	3.50	98.00	60.00	27.00
337.	21394.	74088.	36.00	154.00	4.00	3.50	149.00	83.00	13.00
338.	21382.	74072.	39.00	143.00	4.00	3.50	141.00	70.00	9.00
339.	21404.	74058.	77.00	291.00	4.00	3.50	139.00	38.00	1.00
340.	21366.	73958.	44.00	435.00	4.00	3.50	146.00	74.00	2.00
341.	21381.	73990.	49.00	260.00	4.00	3.50	120.00	91.00	12.00
342.	21184.	73980.	74.00	334.00	4.00	3.50	213.00	73.00	5.00
343.	21162.	73970.	71.00	275.00	4.00	3.50	106.00	31.00	2.00
344.	21158.	73970.	65.00	245.00	4.00	3.50	157.00	68.00	1.00
345.	21150.	73965.	70.00	422.00	4.00	3.50	92.00	119.00	1.00
346.	21157.	73963.	42.00	414.00	4.00	3.50	168.00	86.00	1.00
347.	21136.	73972.	101.00	298.00	4.00	3.50	150.00	117.00	1.00
348.	21101.	73968.	130.00	271.00	4.00	3.50	240.00	90.00	1.00
349.	21045.	73978.	80.00	285.00	4.00	3.50	188.00	79.00	1.00
350.	21032.	73983.	82.00	289.00	4.00	3.50	306.00	256.00	1.00
351.	20958.	74084.	60.00	377.00	4.00	3.50	62.00	21.00	1.00
352.	20956.	74069.	50.00	391.00	4.00	3.50	150.00	92.00	1.00
353.	20940.	74044.	59.00	516.00	4.00	7.00	111.00	206.00	10.00
354.	20917.	73988.	20.00	563.00	4.00	3.50	62.00	139.00	3.00
355.	20876.	73932.	43.00	566.00	4.00	3.50	34.00	52.00	1.00
356.	20941.	73821.	59.00	491.00	4.00	3.50	70.00	69.00	3.00
357.	21052.	73956.	74.00	482.00	4.00	3.50	76.00	103.00	7.00
358.	21078.	73954.	56.00	411.00	4.00	3.50	129.00	145.00	5.00
359.	21098.	73961.	72.00	397.00	4.00	3.50	163.00	274.00	4.00
360.	21118.	73963.	75.00	449.00	9.00	3.50	103.00	122.00	1.00
361.	21538.	74164.	51.00	215.00	4.00	3.50	135.00	32.00	2.00
362.	21529.	74162.	66.00	367.00	4.00	3.50	140.00	253.00	11.00
363.	21530.	74158.	69.00	354.00	4.00	3.50	85.00	57.00	8.00
364.	21546.	74164.	74.00	477.00	4.00	3.50	129.00	154.00	9.00
365.	21556.	74162.	57.00	342.00	4.00	3.50	92.00	37.00	3.00
366.	21579.	74167.	61.00	338.00	4.00	3.50	92.00	101.00	16.00
367.	21610.	74181.	47.00	360.00	4.00	3.50	116.00	110.00	5.00
368.	21130.	73926.	140.00	696.00	4.00	3.50	146.00	87.00	4.00
369.	21024.	73918.	61.00	700.00	4.00	3.50	132.00	68.00	1.00
370.	21738.	73859.	64.00	643.00	4.00	3.50	115.00	85.00	2.00
371.	21352.	73962.	48.00	161.00	4.00	3.50	152.00	29.00	1.00
372.	21248.	73931.	68.00	265.00	4.00	3.50	160.00	47.00	1.00
373.	21346.	73924.	52.00	310.00	4.00	3.50	137.00	144.00	3.00
374.	21188.	73890.	47.50	213.00	4.00	3.50	124.00	73.00	51.00
375.	21219.	73858.	55.00	369.00	4.00	3.50	89.00	37.00	1.00
376.	21455.	74190.	58.00	329.00	4.00	8.00	136.00	146.00	3.00
377.	21484.	74174.	44.00	155.00	4.00	8.00	135.00	35.00	12.00
378.	21483.	74176.	55.00	262.00	4.00	3.50	94.00	50.00	24.00
379.	21514.	74176.	49.00	232.00	4.00	3.50	137.00	40.00	25.00
380.	21538.	74182.	51.00	336.00	4.00	11.00	151.00	106.00	24.00

SAMPNUMB	CAC XRF	NIC XRF	AGC XRF	UC XRF	RBC XRF	TMC XRF	NBC XRF	SRC XRF	ZRC XRF
325.	10320.00	30.00	1.50	1.50	119.00	10.00	23.00	311.00	327.00
326.	15360.00	29.00	1.50	5.00	69.00	7.00	16.00	407.00	717.00
327.	9080.00	24.00	1.50	1.50	132.00	11.00	23.00	230.00	360.00
328.	14070.00	32.00	1.50	1.50	98.00	13.00	25.00	402.00	805.00
329.	4840.00	3.00	1.50	21.00	131.00	18.00	20.00	183.00	403.00
330.	5330.00	4.00	1.50	18.00	143.00	11.00	17.00	232.00	331.00
331.	13080.00	16.00	1.50	14.00	86.00	15.00	29.00	431.00	1037.00
332.	3840.00	4.00	1.50	26.00	207.00	43.00	29.00	115.00	429.00
333.	2390.00	0.50	3.00	47.00	244.00	45.00	33.00	83.00	209.00
334.	2980.00	0.50	3.00	33.00	201.00	45.00	39.00	90.00	376.00
335.	2620.00	2.00	1.50	102.00	172.00	60.00	26.00	91.00	251.00
336.	3480.00	2.00	1.50	56.00	162.00	26.00	26.00	135.00	421.00
337.	2360.00	3.00	1.50	50.00	139.00	27.00	19.00	78.00	133.00
338.	2600.00	4.00	1.50	37.00	149.00	32.00	19.00	72.00	209.00
339.	4380.00	3.00	1.50	25.00	150.00	40.00	23.00	162.00	697.00
340.	5810.00	4.00	1.50	23.00	136.00	21.00	25.00	233.00	494.00
341.	10570.00	59.00	1.50	36.00	110.00	20.00	21.00	190.00	388.00
342.	3810.00	5.00	1.50	26.00	125.00	27.00	20.00	132.00	508.00
343.	4150.00	2.00	1.50	19.00	129.00	24.00	29.00	141.00	1020.00
344.	3910.00	2.00	1.50	37.00	120.00	17.00	20.00	131.00	421.00
345.	4390.00	7.00	1.50	21.00	159.00	22.00	29.00	193.00	472.00
346.	4190.00	5.00	1.50	14.00	169.00	24.00	24.00	174.00	470.00
347.	5250.00	3.00	1.50	50.00	120.00	20.00	20.00	149.00	480.00
348.	4120.00	2.00	1.50	151.00	112.00	16.00	20.00	145.00	673.00
349.	4060.00	2.00	1.50	61.00	117.00	20.00	23.00	125.00	571.00
350.	5510.00	4.00	1.50	97.00	114.00	12.00	17.00	114.00	342.00
351.	5600.00	2.00	1.50	5.00	119.00	11.00	22.00	217.00	634.00
352.	6300.00	7.00	1.50	27.00	102.00	17.00	20.00	203.00	441.00
353.	26120.00	83.00	1.50	22.00	82.00	12.00	33.00	396.00	525.00
354.	8900.00	29.00	1.50	12.00	135.00	13.00	18.00	293.00	338.00
355.	8260.00	9.00	1.50	8.00	121.00	15.00	18.00	322.00	902.00
356.	9560.00	27.00	1.50	10.00	89.00	12.00	22.00	303.00	1141.00
357.	5190.00	9.00	1.50	19.00	136.00	22.00	21.00	192.00	855.00
358.	4940.00	4.00	1.50	20.00	112.00	10.00	20.00	173.00	259.00
359.	4620.00	6.00	1.50	21.00	117.00	23.00	19.00	170.00	647.00
360.	4560.00	3.00	1.50	17.00	120.00	20.00	24.00	185.00	969.00
361.	3340.00	3.00	1.50	35.00	113.00	20.00	14.00	124.00	261.00
362.	3580.00	5.00	1.50	40.00	190.00	30.00	24.00	133.00	313.00
363.	4930.00	5.00	1.50	15.00	170.00	29.00	24.00	195.00	488.00
364.	4360.00	5.00	1.50	25.00	180.00	32.00	25.00	171.00	339.00
365.	5810.00	7.00	1.50	13.00	161.00	27.00	23.00	220.00	419.00
366.	4400.00	5.00	1.50	20.00	241.00	36.00	27.00	116.00	269.00
367.	5190.00	2.00	1.50	25.00	146.00	36.00	27.00	189.00	666.00
368.	9380.00	26.00	4.00	7.00	107.00	12.00	20.00	331.00	1018.00
369.	9510.00	8.00	1.50	84.00	87.00	11.00	19.00	398.00	912.00
370.	9950.00	12.00	1.50	14.00	101.00	14.00	22.00	359.00	654.00
371.	3480.00	3.00	1.50	41.00	120.00	23.00	18.00	181.00	330.00
372.	4240.00	4.00	1.50	35.00	143.00	29.00	29.00	139.00	562.00
373.	7460.00	27.00	1.50	39.00	83.00	23.00	24.00	190.00	373.00
374.	2630.00	9.00	1.50	35.00	104.00	27.00	15.00	94.00	194.00
375.	4570.00	3.00	1.50	49.00	104.00	21.00	24.00	176.00	793.00
376.	7378.00	31.00	1.50	29.00	86.00	17.00	21.00	206.00	482.00
377.	2590.00	3.00	1.50	42.00	131.00	29.00	15.00	92.00	240.00
378.	2870.00	4.00	1.50	18.00	191.00	35.00	19.00	124.00	404.00
379.	2870.00	2.00	1.50	18.00	163.00	33.00	21.00	128.00	318.00
380.	4080.00	2.00	1.50	116.00	139.00	29.00	21.00	136.00	439.00

SAMPNUMB	YC XRF	MOC XRF	FEC XRF	MNC XRF	YIC XRF	VC XRF	CRC XRF	COC XRF	LAC XRF
325.	34.00	2.00	51500.00	1070.00	6980.00	90.00	70.00	24.00	50.00
326.	22.00	1.00	46000.00	1470.00	6210.00	100.00	70.00	26.00	40.00
327.	37.00	1.00	48400.00	990.00	6450.00	80.00	60.00	22.00	40.00
328.	27.00	2.00	51600.00	1330.00	7540.00	120.00	70.00	27.00	50.00
329.	10.00	33.00	34800.00	5010.00	2250.00	50.00	10.00	17.00	40.00
330.	8.00	28.00	25500.00	870.00	2260.00	30.00	5.00	7.00	30.00
331.	18.00	6.00	49800.00	1450.00	6520.00	100.00	40.00	20.00	50.00
332.	16.00	25.00	13900.00	700.00	2330.00	50.00	10.00	4.00	60.00
333.	14.00	37.00	15000.00	350.00	1410.00	20.00	5.00	3.00	30.00
334.	17.00	38.00	15200.00	1090.00	1750.00	20.00	5.00	4.00	50.00
335.	21.00	14.00	12900.00	590.00	2350.00	30.00	10.00	4.00	60.00
336.	16.00	68.00	59300.00	600.00	2240.00	40.00	5.00	13.00	50.00
337.	11.00	25.00	12300.00	300.00	1940.00	30.00	10.00	3.00	40.00
338.	11.00	12.00	17200.00	440.00	2550.00	40.00	20.00	5.00	40.00
339.	13.00	46.00	23600.00	570.00	2920.00	50.00	10.00	6.00	50.00
340.	11.00	10.00	28500.00	1470.00	3200.00	50.00	10.00	11.00	40.00
341.	12.00	14.00	32600.00	970.00	5210.00	90.00	120.00	15.00	60.00
342.	15.00	17.00	79600.00	5050.00	2570.00	70.00	10.00	36.00	70.00
343.	15.00	36.00	27700.00	1210.00	2710.00	30.00	10.00	9.00	50.00
344.	14.00	20.00	24100.00	1650.00	2210.00	50.00	10.00	8.00	70.00
345.	11.00	2.00	25700.00	2170.00	4440.00	60.00	20.00	12.00	40.00
346.	9.00	3.00	22200.00	2710.00	3610.00	50.00	10.00	14.00	30.00
347.	16.00	17.00	46700.00	2100.00	2540.00	50.00	10.00	15.00	100.00
348.	16.00	22.00	16000.00	5960.00	2240.00	30.00	10.00	11.00	120.00
349.	12.00	7.00	45500.00	6300.00	2170.00	50.00	10.00	22.00	60.00
350.	9.00	7.00	55400.00	10730.00	2440.00	70.00	5.00	30.00	60.00
351.	12.00	3.00	32000.00	350.00	2280.00	60.00	10.00	6.00	50.00
352.	11.00	1.00	34400.00	5700.00	3620.00	60.00	10.00	20.00	40.00
353.	17.00	10.00	52900.00	1340.00	8690.00	130.00	240.00	29.00	40.00
354.	11.00	7.00	18500.00	890.00	3930.00	50.00	70.00	10.00	30.00
355.	18.00	3.00	30600.00	420.00	3610.00	60.00	20.00	9.00	40.00
356.	16.00	3.00	84300.00	600.00	6570.00	150.00	90.00	27.00	40.00
357.	13.00	1.00	28800.00	2250.00	3720.00	60.00	20.00	12.00	40.00
358.	9.00	2.00	34400.00	6760.00	3190.00	60.00	10.00	17.00	50.00
359.	13.00	1.00	28400.00	8100.00	3060.00	50.00	10.00	16.00	50.00
360.	17.00	2.00	34800.00	6220.00	2840.00	40.00	10.00	13.00	40.00
361.	13.00	45.00	28500.00	300.00	2040.00	50.00	10.00	7.00	50.00
362.	15.00	6.00	14100.00	1530.00	2410.00	30.00	10.00	7.00	50.00
363.	16.00	11.00	15900.00	630.00	2520.00	40.00	10.00	5.00	40.00
364.	12.00	21.00	16200.00	1510.00	2610.00	40.00	10.00	9.00	40.00
365.	14.00	13.00	22400.00	450.00	2990.00	50.00	20.00	7.00	40.00
366.	13.00	15.00	21300.00	1210.00	3330.00	40.00	10.00	8.00	30.00
367.	15.00	12.00	13600.00	1850.00	2720.00	20.00	10.00	7.00	40.00
368.	39.00	4.00	41000.00	5400.00	6260.00	90.00	60.00	36.00	70.00
369.	17.00	5.00	54000.00	2330.00	5180.00	80.00	20.00	21.00	30.00
370.	20.00	1.00	33200.00	2040.00	6200.00	80.00	30.00	20.00	40.00
371.	13.00	10.00	11000.00	330.00	2300.00	50.00	10.00	2.00	50.00
372.	13.00	6.00	17000.00	830.00	2740.00	40.00	10.00	6.00	60.00
373.	10.00	4.00	47200.00	1660.00	7260.00	120.00	60.00	21.00	60.00
374.	17.00	35.00	17400.00	590.00	3320.00	40.00	40.00	8.00	60.00
375.	14.00	7.00	12000.00	510.00	5220.00	80.00	20.00	4.00	60.00
376.	13.00	6.00	46200.00	1700.00	7400.00	110.00	60.00	22.00	50.00
377.	17.00	30.00	13100.00	270.00	2000.00	30.00	10.00	3.00	50.00
378.	16.00	28.00	12000.00	400.00	2400.00	30.00	20.00	4.00	40.00
379.	19.00	97.00	20700.00	270.00	2270.00	40.00	10.00	5.00	50.00
380.	17.00	120.00	17000.00	5010.00	2300.00	30.00	10.00	8.00	50.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
381.	20826.	73889.	65.00	480.00	4.00	3.50	68.00	119.00	1.00
382.	20822.	73853.	84.00	471.00	4.00	3.50	100.00	109.00	3.00
383.	21762.	74239.	53.00	592.00	4.00	3.50	147.00	107.00	4.00
384.	21754.	74235.	52.00	395.00	8.00	8.00	116.00	85.00	11.00
385.	21716.	74179.	30.00	289.00	4.00	3.50	75.00	48.00	2.00
386.	21704.	74158.	53.00	512.00	4.00	3.50	145.00	161.00	12.00
387.	21748.	74142.	55.00	509.00	4.00	7.00	112.00	84.00	7.00
388.	21862.	74040.	27.00	680.00	4.00	3.50	51.00	46.00	1.00
389.	20440.	73266.	63.00	651.00	4.00	8.00	65.00	208.00	3.00
390.	20446.	73232.	60.00	743.00	4.00	3.50	66.00	387.00	26.00
391.	21359.	73957.	41.00	267.00	4.00	3.50	163.00	249.00	15.00
392.	21372.	73884.	67.00	252.00	4.00	10.00	163.00	223.00	17.00
393.	21370.	73856.	66.00	374.00	4.00	8.00	142.00	157.00	1.00
394.	21378.	73849.	104.00	779.00	4.00	3.50	43.00	139.00	15.00
395.	21406.	73861.	65.00	467.00	4.00	3.50	102.00	57.00	2.00
396.	21435.	73825.	77.00	462.00	4.00	3.50	101.00	97.00	2.00
397.	21429.	73808.	85.00	492.00	4.00	3.50	71.00	384.00	13.00
398.	21535.	73754.	75.00	597.00	4.00	3.50	79.00	121.00	9.00
399.	21621.	73986.	50.00	426.00	4.00	3.50	115.00	85.00	2.00
400.	21625.	73992.	65.00	348.00	4.00	9.00	133.00	198.00	9.00
401.	21530.	74179.	67.00	269.00	4.00	3.50	135.00	70.00	20.00
402.	21602.	74172.	54.00	278.00	4.00	3.50	211.00	137.00	18.00
403.	21917.	74004.	48.00	674.00	4.00	3.50	65.00	43.00	1.00
404.	21836.	74058.	63.00	366.00	4.00	3.50	105.00	58.00	5.00
405.	21874.	73990.	52.00	559.00	4.00	3.50	119.00	54.00	1.00
406.	21861.	73979.	65.00	587.00	4.00	3.50	89.00	57.00	1.00
407.	21856.	73946.	74.00	793.00	4.00	3.50	67.00	66.00	1.00
408.	21596.	73758.	48.00	592.00	4.00	3.50	56.00	96.00	4.00
409.	21582.	73745.	73.00	548.00	8.00	3.50	134.00	239.00	9.00
410.	21551.	73734.	48.00	454.00	4.00	3.50	62.00	37.00	4.00
411.	21683.	74002.	77.00	423.00	4.00	3.50	202.00	259.00	11.00
412.	21703.	73976.	27.00	399.00	4.00	3.50	203.00	158.00	4.00
413.	21702.	73945.	83.00	417.00	4.00	3.50	234.00	274.00	8.00
414.	21697.	73930.	69.00	395.00	4.00	9.00	146.00	264.00	9.00
415.	21715.	73897.	86.00	535.00	4.00	3.50	133.00	224.00	8.00
416.	21708.	73880.	48.00	444.00	4.00	3.50	152.00	142.00	1.00
417.	20450.	73293.	75.00	747.00	4.00	3.50	43.00	156.00	5.00
418.	20457.	73330.	89.00	723.00	4.00	3.50	61.00	285.00	11.00
419.	20458.	73308.	91.00	866.00	4.00	3.50	42.00	189.00	17.00
420.	20999.	73222.	50.00	700.00	4.00	3.50	83.00	152.00	5.00
421.	20630.	73371.	80.00	1008.00	4.00	3.50	47.00	149.00	11.00
422.	20609.	73381.	80.00	770.00	4.00	3.50	47.00	92.00	7.00
423.	20585.	73384.	75.00	975.00	4.00	3.50	36.00	97.00	8.00
424.	20575.	73392.	97.00	933.00	4.00	3.50	28.00	111.00	18.00
425.	20090.	73214.	59.00	932.00	4.00	3.50	131.00	139.00	10.00
426.	20896.	73210.	120.00	1148.00	4.00	3.50	46.00	133.00	7.00
427.	20855.	73234.	98.00	1054.00	4.00	3.50	46.00	75.00	4.00
428.	20856.	73240.	64.00	801.00	4.00	7.00	114.00	122.00	7.00
429.	20842.	73263.	130.00	1088.00	4.00	3.50	67.00	115.00	8.00
430.	20837.	73270.	127.00	1207.00	4.00	3.50	42.00	100.00	7.00
431.	21720.	73846.	70.00	668.00	4.00	3.50	102.00	143.00	3.00
432.	21692.	73823.	60.00	728.00	4.00	3.50	36.00	50.00	2.00
433.	21691.	73819.	51.00	692.00	4.00	11.00	73.00	61.00	5.00
434.	21644.	73799.	56.00	719.00	4.00	3.50	76.00	111.00	6.00
435.	20827.	73734.	79.00	662.00	4.00	3.50	42.00	72.00	4.00
436.	20902.	73693.	76.00	459.00	4.00	3.50	90.00	87.00	2.00

SAMPNUMB	CAC XRF	NIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	NBC XRF	SRC XRF	ZRC XRF
381.	8110.00	10.00	1.50	23.00	93.00	11.00	17.00	272.00	1000.00
382.	10720.00	12.00	4.00	13.00	59.00	12.00	15.00	225.00	897.00
383.	5460.00	4.00	1.50	21.00	157.00	24.00	25.00	268.00	1143.00
384.	3760.00	6.00	1.50	14.00	162.00	29.00	25.00	192.00	383.00
385.	3760.00	2.00	1.50	19.00	175.00	23.00	24.00	150.00	551.00
386.	4600.00	8.00	1.50	22.00	164.00	29.00	21.00	164.00	339.00
387.	3870.00	6.00	1.50	17.00	152.00	26.00	23.00	193.00	286.00
388.	7850.00	11.00	1.50	6.00	90.00	10.00	18.00	306.00	1176.00
389.	16300.00	15.00	1.50	9.00	47.00	7.00	12.00	512.00	793.00
390.	10860.00	84.00	1.50	3.00	47.00	3.00	22.00	540.00	474.00
391.	3840.00	16.00	1.50	31.00	188.00	29.00	24.00	134.00	225.00
392.	4030.00	11.00	1.50	39.00	148.00	31.00	28.00	115.00	276.00
393.	6430.00	16.00	1.50	41.00	96.00	22.00	24.00	222.00	1072.00
394.	2920.00	10.00	1.50	13.00	260.00	29.00	26.00	135.00	292.00
395.	7780.00	8.00	1.50	17.00	112.00	16.00	21.00	275.00	685.00
396.	7300.00	6.00	1.50	33.00	130.00	22.00	28.00	206.00	823.00
397.	9030.00	54.00	1.50	51.00	108.00	28.00	31.00	287.00	1823.00
398.	5740.00	15.00	1.50	23.00	147.00	34.00	29.00	216.00	844.00
399.	5670.00	10.00	1.50	16.00	175.00	31.00	29.00	220.00	800.00
400.	6190.00	36.00	1.50	18.00	223.00	31.00	28.00	151.00	793.00
401.	8200.00	3.00	1.50	23.00	155.00	29.00	17.00	126.00	977.00
402.	9200.00	5.00	1.50	33.00	157.00	28.00	19.00	127.00	335.00
403.	10000.00	16.00	1.50	4.00	92.00	12.00	18.00	317.00	1681.00
404.	4370.00	4.00	1.50	17.00	149.00	30.00	24.00	172.00	627.00
405.	9460.00	8.00	1.50	16.00	77.00	13.00	16.00	372.00	1326.00
406.	9310.00	7.00	1.50	20.00	73.00	9.00	18.00	359.00	1172.00
407.	10070.00	12.00	1.50	13.00	98.00	12.00	22.00	378.00	1097.00
408.	11700.00	24.00	1.50	44.00	88.00	16.00	23.00	326.00	882.00
409.	10330.00	32.00	1.50	18.00	46.00	9.00	10.00	162.00	477.00
410.	7680.00	10.00	3.00	3.00	52.00	9.00	11.00	223.00	744.00
411.	4090.00	6.00	1.50	27.00	165.00	27.00	25.00	167.00	584.00
412.	5050.00	8.00	1.50	29.00	159.00	23.00	23.00	181.00	376.00
413.	3830.00	7.00	1.50	27.00	203.00	28.00	24.00	143.00	414.00
414.	4940.00	28.00	1.50	22.00	186.00	27.00	30.00	161.00	351.00
415.	5540.00	21.00	1.50	13.00	173.00	32.00	29.00	194.00	701.00
416.	4920.00	7.00	1.50	30.00	141.00	15.00	23.00	221.00	469.00
417.	19030.00	21.00	1.50	1.50	43.00	12.00	16.00	520.00	371.00
418.	16280.00	23.00	1.50	4.00	49.00	9.00	15.00	541.00	965.00
419.	27300.00	45.00	3.00	1.50	54.00	12.00	20.00	562.00	606.00
420.	18480.00	13.00	1.50	1.50	39.00	10.00	11.00	578.00	1643.00
421.	28130.00	25.00	4.00	1.50	56.00	14.00	20.00	602.00	1809.00
422.	23610.00	23.00	1.50	1.50	40.00	8.00	16.00	567.00	1517.00
423.	24730.00	25.00	1.50	1.50	48.00	8.00	14.00	682.00	1501.00
424.	24000.00	54.00	3.00	3.00	54.00	11.00	19.00	540.00	998.00
425.	17270.00	13.00	1.50	3.00	56.00	10.00	17.00	551.00	1022.00
426.	21670.00	16.00	1.50	1.50	59.00	14.00	22.00	696.00	2302.00
427.	23460.00	13.00	1.50	1.50	50.00	11.00	17.00	709.00	2365.00
428.	16270.00	13.00	1.50	1.50	47.00	7.00	12.00	460.00	665.00
429.	22300.00	15.00	3.00	3.00	53.00	11.00	21.00	676.00	2676.00
430.	21310.00	15.00	1.50	5.00	54.00	11.00	21.00	684.00	3255.00
431.	9800.00	14.00	1.50	10.00	127.00	16.00	24.00	347.00	1006.00
432.	10510.00	22.00	1.50	4.00	81.00	8.00	21.00	307.00	3767.00
433.	9800.00	14.00	1.50	6.00	93.00	12.00	21.00	303.00	1360.00
434.	11560.00	21.00	1.50	15.00	112.00	15.00	21.00	446.00	709.00
435.	13520.00	15.00	3.00	9.00	85.00	21.00	28.00	396.00	2813.00
436.	10740.00	14.00	1.50	17.00	66.00	20.00	22.00	292.00	786.00

SAMPNUMB	YC XRF	MOC XRF	FEC XRF	MNC XRF	TIC XRF	VC XRF	CRC XRF	COC XRF	LAC XRF
381.	16.00	6.00	49500.00	3350.00	3480.00	60.00	20.00	20.00	40.00
382.	20.00	19.00	160400.00	770.00	4080.00	130.00	40.00	41.00	90.00
383.	15.00	6.00	17900.00	1670.00	2800.00	40.00	10.00	0.00	30.00
384.	9.00	7.00	18900.00	790.00	4110.00	50.00	10.00	3.00	40.00
385.	11.00	10.00	11400.00	520.00	2090.00	20.00	5.00	3.00	30.00
386.	14.00	23.00	17100.00	2320.00	2720.00	40.00	20.00	10.00	40.00
387.	10.00	8.00	20300.00	920.00	3920.00	50.00	10.00	0.00	40.00
388.	21.00	3.00	26600.00	670.00	4780.00	50.00	30.00	10.00	20.00
389.	14.00	3.00	53200.00	3100.00	8460.00	130.00	40.00	34.00	50.00
390.	17.00	3.00	75000.00	1810.00	10200.00	180.00	140.00	46.00	70.00
391.	13.00	17.00	18400.00	1460.00	3860.00	50.00	20.00	0.00	50.00
392.	12.00	14.00	22200.00	1640.00	3310.00	60.00	20.00	10.00	50.00
393.	20.00	7.00	31500.00	3520.00	4470.00	80.00	40.00	23.00	60.00
394.	19.00	1.00	24100.00	880.00	4240.00	50.00	10.00	10.00	70.00
395.	17.00	3.00	25600.00	1540.00	3720.00	60.00	20.00	13.00	70.00
396.	18.00	3.00	24800.00	1770.00	3970.00	50.00	10.00	15.00	40.00
397.	26.00	4.00	53000.00	2290.00	6990.00	100.00	80.00	29.00	60.00
398.	19.00	5.00	31800.00	1100.00	4130.00	70.00	30.00	15.00	50.00
399.	14.00	10.00	25500.00	920.00	4680.00	60.00	40.00	9.00	30.00
400.	16.00	5.00	31200.00	2120.00	4440.00	70.00	80.00	16.00	50.00
401.	15.00	7.00	14600.00	1540.00	2030.00	30.00	10.00	6.00	50.00
402.	14.00	46.00	15240.00	3860.00	1990.00	30.00	10.00	11.00	50.00
403.	27.00	2.00	26600.00	1000.00	5530.00	60.00	40.00	13.00	30.00
404.	13.00	21.00	19100.00	830.00	3030.00	40.00	20.00	6.00	50.00
405.	16.00	9.00	72290.00	2020.00	3950.00	70.00	20.00	28.00	40.00
406.	20.00	8.00	56500.00	1530.00	4050.00	70.00	20.00	18.00	50.00
407.	25.00	3.00	29800.00	1810.00	5240.00	70.00	30.00	14.00	40.00
408.	25.00	7.00	41100.00	1590.00	7530.00	100.00	60.00	18.00	60.00
409.	18.00	10.00	137500.00	5350.00	6090.00	160.00	90.00	74.00	60.00
410.	15.00	16.00	151100.00	510.00	5260.00	100.00	40.00	49.00	50.00
411.	12.00	24.00	25000.00	5440.00	3770.00	60.00	10.00	16.00	40.00
412.	11.00	5.00	25000.00	4710.00	4170.00	60.00	20.00	16.00	40.00
413.	14.00	11.00	23900.00	7310.00	3570.00	50.00	10.00	19.00	40.00
414.	14.00	3.00	26700.00	2040.00	5100.00	70.00	60.00	18.00	50.00
415.	16.00	4.00	20500.00	2670.00	4540.00	70.00	50.00	17.00	40.00
416.	9.00	1.00	24200.00	2000.00	4300.00	60.00	10.00	13.00	30.00
417.	14.00	3.00	67360.00	2360.00	9330.00	140.00	40.00	35.00	60.00
418.	16.00	4.00	59700.00	2670.00	9190.00	150.00	40.00	37.00	60.00
419.	26.00	3.00	61000.00	1560.00	9560.00	140.00	80.00	36.00	60.00
420.	16.00	3.00	60700.00	2100.00	11600.00	180.00	30.00	29.00	70.00
421.	19.00	2.00	78500.00	1590.00	8390.00	140.00	60.00	33.00	60.00
422.	21.00	2.00	52200.00	1120.00	9620.00	140.00	60.00	24.00	70.00
423.	24.00	3.00	56000.00	950.00	8370.00	130.00	60.00	25.00	50.00
424.	24.00	2.00	67700.00	1510.00	8460.00	160.00	140.00	40.00	60.00
425.	17.00	5.00	67300.00	1400.00	7720.00	150.00	30.00	28.00	70.00
426.	29.00	1.00	54000.00	960.00	10200.00	140.00	40.00	23.00	70.00
427.	27.00	2.00	40700.00	1000.00	10070.00	140.00	30.00	20.00	60.00
428.	13.00	5.00	139000.00	2340.00	7370.00	150.00	20.00	61.00	70.00
429.	30.00	2.00	74400.00	1430.00	10130.00	190.00	40.00	34.00	70.00
430.	30.00	3.00	68300.00	1060.00	10820.00	160.00	50.00	26.00	70.00
431.	20.00	3.00	45500.00	3220.00	5550.00	80.00	30.00	26.00	50.00
432.	34.00	3.00	36500.00	960.00	6800.00	70.00	70.00	15.00	30.00
433.	20.00	4.00	48900.00	590.00	6140.00	80.00	30.00	15.00	30.00
434.	23.00	10.00	34000.00	790.00	6970.00	90.00	50.00	15.00	40.00
435.	36.00	2.00	39300.00	1020.00	5780.00	80.00	40.00	15.00	50.00
436.	17.00	1.00	79900.00	2790.00	6720.00	120.00	40.00	31.00	60.00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
437.	20939.	73680.	60.00	568.00	4.00	7.00	61.00	110.00	1.00
438.	21007.	73665.	85.00	473.00	4.00	3.50	97.00	114.00	1.00
439.	21034.	73658.	64.00	694.00	4.00	3.50	43.00	69.00	1.00
440.	21110.	73650.	90.00	695.00	4.00	3.50	99.00	225.00	4.00
441.	21535.	73699.	50.00	550.00	4.00	3.50	79.00	68.00	1.00
442.	21535.	73688.	54.00	495.00	4.00	3.50	44.00	58.00	1.00
443.	21495.	73684.	30.00	459.00	4.00	3.50	00.00	59.00	2.00
444.	21462.	73615.	80.00	700.00	4.00	3.50	57.00	144.00	10.00
445.	21432.	73590.	63.00	604.00	4.00	3.50	37.00	116.00	8.00
446.	21400.	73571.	84.00	815.00	4.00	3.50	53.00	149.00	18.00
447.	21348.	73546.	65.00	809.00	4.00	3.50	87.00	168.00	22.00
448.	21302.	73562.	97.00	700.00	4.00	3.50	65.00	94.00	9.00
449.	21246.	73554.	63.00	805.00	4.00	3.50	51.00	97.00	5.00
450.	21226.	73558.	75.00	725.00	4.00	3.50	58.00	140.00	5.00
451.	21146.	73639.	96.00	459.00	4.00	3.50	87.00	154.00	1.00
452.	21248.	73612.	116.00	626.00	4.00	3.50	57.00	127.00	5.00
453.	21262.	73609.	105.00	569.00	4.00	3.50	81.00	177.00	4.00
454.	21301.	73592.	121.00	625.00	4.00	3.50	73.00	163.00	6.00
455.	21326.	73584.	118.00	836.00	4.00	3.50	70.00	177.00	7.00
456.	21382.	73597.	101.00	775.00	4.00	3.50	100.00	326.00	6.00
457.	21416.	73616.	63.00	600.00	4.00	3.50	72.00	116.00	4.00
458.	21502.	73765.	58.00	681.00	4.00	3.50	53.00	49.00	1.00
459.	21549.	73764.	97.00	421.00	4.00	3.50	125.00	169.00	1.00
460.	21565.	73775.	121.00	344.00	4.00	3.50	146.00	249.00	1.00
461.	21216.	73554.	32.00	471.00	4.00	3.50	64.00	64.00	1.00
462.	21061.	73638.	73.00	763.00	4.00	3.50	54.00	147.00	8.00
463.	21012.	73639.	60.00	625.00	4.00	3.50	53.00	54.00	1.00
464.	20952.	73660.	45.00	510.00	4.00	3.50	60.00	56.00	1.00
465.	20854.	73676.	64.00	695.00	4.00	3.50	55.00	69.00	1.00
466.	20493.	73401.	53.00	676.00	4.00	3.50	43.00	73.00	1.00
467.	20521.	73390.	51.00	655.00	4.00	3.50	51.00	80.00	1.00
468.	20525.	73399.	53.00	734.00	4.00	4.00	44.00	82.00	3.00
469.	20654.	73569.	94.00	823.00	4.00	3.50	37.00	100.00	8.00
470.	20750.	73535.	89.00	588.00	4.00	3.50	85.00	195.00	22.00
471.	20999.	73227.	95.00	905.00	4.00	3.50	94.00	108.00	15.00
472.	20998.	73234.	103.00	810.00	4.00	3.50	82.00	96.00	14.00
473.	20992.	73245.	121.00	885.00	4.00	3.50	55.00	108.00	23.00
474.	20983.	73256.	70.00	774.00	4.00	3.50	39.00	322.00	10.00
475.	20945.	73244.	99.00	965.00	4.00	3.50	22.00	81.00	19.00
476.	21600.	73794.	88.00	479.00	4.00	3.50	177.00	144.00	3.00
477.	21638.	73722.	59.00	474.00	4.00	3.50	99.00	112.00	1.00
478.	21621.	73868.	121.00	518.00	4.00	3.50	74.00	207.00	9.00
479.	21619.	73866.	75.00	528.00	4.00	7.00	78.00	108.00	4.00
480.	21614.	73865.	75.00	423.00	4.00	3.50	134.00	502.00	20.00
481.	20858.	73521.	112.00	614.00	4.00	3.50	136.00	139.00	5.00
482.	21046.	73460.	56.00	588.00	4.00	3.50	140.00	316.00	18.00
483.	21032.	73466.	70.00	755.00	4.00	3.50	60.00	194.00	21.00
484.	21002.	73486.	69.00	633.00	4.00	3.50	88.00	107.00	17.00
485.	20920.	73513.	80.00	602.00	4.00	3.50	87.00	106.00	9.00
486.	20930.	73234.	106.00	784.00	4.00	3.50	97.00	232.00	13.00
487.	20668.	73355.	67.00	610.00	4.00	3.50	65.00	81.00	5.00
488.	21980.	74552.	70.00	646.00	4.00	3.50	103.00	150.00	3.00
489.	21986.	74555.	102.00	726.00	4.00	3.50	73.00	95.00	8.00
490.	22008.	74539.	91.00	683.00	4.00	3.50	83.00	122.00	3.00
491.	20844.	73276.	125.00	1017.00	4.00	3.50	38.00	129.00	15.00
492.	20806.	73203.	83.00	1062.00	4.00	3.50	62.00	88.00	8.00

SAMPNUMB	CAC XRF	NIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	MBC XRF	SRC XRF	ZRC XRF
437.	13480.00	24.00	3.00	21.00	77.00	18.00	27.00	364.00	1064.00
438.	10080.00	12.00	1.50	27.00	73.00	17.00	22.00	307.00	1714.00
439.	11496.00	18.00	1.50	13.00	99.00	18.00	24.00	391.00	618.00
440.	10488.00	32.00	1.50	23.00	131.00	25.00	30.00	325.00	653.00
441.	9186.00	13.00	1.50	3.00	82.00	9.00	18.00	291.00	486.00
442.	8060.00	13.00	1.50	5.00	107.00	19.00	22.00	262.00	842.00
443.	7660.00	11.00	1.50	0.00	85.00	9.00	15.00	221.00	426.00
444.	11598.00	27.00	1.50	6.00	101.00	10.00	22.00	320.00	1865.00
445.	24338.00	33.00	1.50	4.00	57.00	12.00	20.00	349.00	815.00
446.	15390.00	37.00	1.50	6.00	80.00	11.00	22.00	333.00	1549.00
447.	18040.00	46.00	1.50	7.00	71.00	10.00	15.00	421.00	751.00
448.	20790.00	28.00	1.50	1.50	46.00	9.00	21.00	411.00	2029.00
449.	12460.00	25.00	1.50	7.00	98.00	12.00	19.00	390.00	906.00
450.	17220.00	26.00	1.50	3.00	75.00	9.00	18.00	386.00	970.00
451.	11280.00	14.00	1.50	95.00	105.00	32.00	33.00	315.00	2149.00
452.	17100.00	17.00	1.50	66.00	76.00	29.00	34.00	444.00	2554.00
453.	11778.00	19.00	1.50	20.00	84.00	25.00	29.00	331.00	1184.00
454.	11298.00	19.00	3.00	27.00	90.00	27.00	26.00	295.00	1483.00
455.	16518.00	24.00	1.50	42.00	77.00	17.00	29.00	439.00	1982.00
456.	11628.00	29.00	1.50	24.00	106.00	29.00	35.00	317.00	835.00
457.	10618.00	15.00	1.50	23.00	87.00	21.00	31.00	346.00	1090.00
458.	10160.00	15.00	1.50	9.00	96.00	21.00	28.00	401.00	669.00
459.	8098.00	9.00	1.50	82.00	85.00	20.00	23.00	255.00	1160.00
460.	11138.00	9.00	1.50	89.00	76.00	26.00	25.00	291.00	971.00
461.	9413.00	15.00	1.50	11.00	73.00	14.00	16.00	284.00	527.00
462.	14700.00	30.00	1.50	6.00	87.00	16.00	26.00	493.00	752.00
463.	13350.00	13.00	1.50	1.50	63.00	16.00	19.00	434.00	1448.00
464.	13690.00	12.00	1.50	7.00	60.00	16.00	26.00	400.00	1755.00
465.	13000.00	16.00	1.50	1.50	70.00	11.00	15.00	466.00	485.00
466.	19090.00	18.00	1.50	1.50	36.00	5.00	12.00	505.00	1043.00
467.	19450.00	17.00	1.50	1.50	35.00	6.00	10.00	529.00	1543.00
468.	20390.00	19.00	1.50	1.50	42.00	9.00	12.00	559.00	1191.00
469.	21070.00	43.00	1.50	5.00	50.00	14.00	24.00	464.00	2419.00
470.	21470.00	76.00	1.50	1.50	49.00	11.00	15.00	333.00	376.00
471.	21400.00	13.00	3.00	1.50	41.00	12.00	13.00	692.00	2082.00
472.	20030.00	13.00	1.50	1.50	39.00	10.00	15.00	561.00	1432.00
473.	25530.00	25.00	1.50	3.00	44.00	10.00	17.00	685.00	1944.00
474.	28720.00	27.00	1.50	1.50	41.00	9.00	18.00	663.00	1341.00
475.	28190.00	25.00	1.50	3.00	42.00	10.00	19.00	828.00	1037.00
476.	10620.00	7.00	4.00	46.00	62.00	15.00	17.00	247.00	884.00
477.	7670.00	6.00	1.50	36.00	103.00	17.00	25.00	316.00	1327.00
478.	4290.00	8.00	1.50	26.00	105.00	32.00	27.00	176.00	745.00
479.	4570.00	8.00	1.50	22.00	150.00	44.00	29.00	194.00	1331.00
480.	13980.00	131.00	1.50	33.00	82.00	16.00	23.00	267.00	310.00
481.	17520.00	27.00	1.50	4.00	74.00	19.00	30.00	400.00	904.00
482.	10120.00	67.00	3.00	21.00	54.00	9.00	14.00	301.00	283.00
483.	26400.00	53.00	3.00	1.00	56.00	14.00	17.00	455.00	485.00
484.	21840.00	43.00	1.50	3.00	45.00	15.00	19.00	356.00	922.00
485.	20430.00	32.00	7.00	4.00	44.00	9.00	18.00	491.00	839.00
486.	19160.00	17.00	3.00	3.00	46.00	6.00	14.00	554.00	1505.00
487.	17260.00	15.00	1.50	4.00	35.00	11.00	16.00	446.00	2760.00
488.	10930.00	21.00	1.50	13.00	93.00	19.00	23.00	403.00	572.00
489.	13000.00	27.00	1.50	21.00	88.00	20.00	17.00	405.00	709.00
490.	9570.00	18.00	1.50	22.00	103.00	19.00	18.00	343.00	707.00
491.	27240.00	22.00	1.50	1.50	41.00	10.00	17.00	783.00	1875.00
492.	21880.00	14.00	1.50	1.50	47.00	8.00	17.00	700.00	1916.00

SAMPNUMB	YC	XRF	MOC	XRF	FEC	XRF	MNC	XRF	TIC	XRF	VC	XRF	CRC	XRF	COC	XRF	LAC	XRF
437.		21.00		3.00	57200.	00	1240.	00	7360.	00	120.	00	60.	00	25.	00	50.	00
438.		21.00		4.00	50600.	00	1320.	00	6200.	00	90.	00	40.	00	21.	00	60.	00
439.		19.00		2.00	31600.	00	660.	00	6120.	00	90.	00	50.	00	12.	00	40.	00
440.		20.00		3.00	45500.	00	3080.	00	6600.	00	100.	00	60.	00	27.	00	60.	00
441.		12.00		9.00	73300.	00	740.	00	6010.	00	90.	00	40.	00	21.	00	40.	00
442.		19.00		5.00	17200.	00	590.	00	5070.	00	60.	00	40.	00	8.	00	40.	00
443.		14.00		8.00	54200.	00	960.	00	4990.	00	80.	00	30.	00	17.	00	30.	00
444.		37.00		3.00	39100.	00	1500.	00	6790.	00	90.	00	70.	00	21.	00	60.	00
445.		29.00		3.00	39400.	00	940.	00	7290.	00	120.	00	90.	00	20.	00	50.	00
446.		34.00		3.00	45100.	00	1240.	00	7870.	00	120.	00	100.	00	24.	00	50.	00
447.		26.00		4.00	56200.	00	2110.	00	7400.	00	140.	00	110.	00	35.	00	50.	00
448.		29.00		2.00	63100.	00	1060.	00	8450.	00	150.	00	90.	00	25.	00	60.	00
449.		22.00		3.00	46500.	00	700.	00	6320.	00	90.	00	50.	00	20.	00	40.	00
450.		23.00		2.00	61200.	00	1500.	00	7450.	00	130.	00	60.	00	32.	00	50.	00
451.		25.00		1.00	48900.	00	1330.	00	6340.	00	100.	00	40.	00	19.	00	70.	00
452.		31.00		4.00	55000.	00	1360.	00	7000.	00	120.	00	60.	00	23.	00	80.	00
453.		21.00		1.00	46700.	00	1620.	00	6930.	00	110.	00	60.	00	21.	00	70.	00
454.		22.00		3.00	109100.	00	890.	00	6300.	00	130.	00	60.	00	34.	00	80.	00
455.		20.00		2.00	66600.	00	1680.	00	8250.	00	130.	00	60.	00	30.	00	70.	00
456.		21.00		1.00	47000.	00	2740.	00	7650.	00	110.	00	60.	00	27.	00	80.	00
457.		18.00		2.00	43500.	00	1170.	00	7000.	00	120.	00	50.	00	18.	00	60.	00
458.		15.00		5.00	41700.	00	230.	00	7740.	00	100.	00	50.	00	14.	00	40.	00
459.		16.00		6.00	45600.	00	351[illegible].	00	5720.	00	90.	00	30.	00	22.	00	50.	00
460.		21.00		2.00	41700.	00	5910.	00	5400.	00	90.	00	30.	00	23.	00	80.	00
461.		17.00		3.00	33400.	00	710.	00	6020.	00	80.	00	50.	00	13.	00	40.	00
462.		21.00		4.00	47700.	00	1360.	00	7410.	00	110.	00	60.	00	20.	00	50.	00
463.		19.00		3.00	30600.	00	520.	00	5070.	00	70.	00	30.	00	13.	00	40.	00
464.		23.00		1.00	35400.	00	890.	00	6970.	00	100.	00	40.	00	14.	00	50.	00
465.		17.00		3.00	53400.	00	620.	00	4910.	00	90.	00	30.	00	10.	00	50.	00
466.		16.00		1.00	73300.	00	1930.	00	8010.	00	120.	00	40.	00	27.	00	50.	00
467.		18.00		1.00	61000.	00	750.	00	8010.	00	120.	00	50.	00	19.	00	50.	00
468.		18.00		1.00	46500.	00	800.	00	8540.	00	120.	00	40.	00	19.	00	50.	00
469.		29.00		3.00	77000.	00	1300.	00	8990.	00	190.	00	130.	00	36.	00	70.	00
470.		18.00		2.00	86300.	00	3940.	00	7850.	00	150.	00	100.	00	56.	00	60.	00
471.		21.00		4.00	90900.	00	890.	00	9040.	00	170.	00	20.	00	31.	00	70.	00
472.		19.00		3.00	78100.	00	750.	00	10110.	00	210.	00	30.	00	29.	00	80.	00
473.		27.00		2.00	75700.	00	1910.	00	10070.	00	200.	00	50.	00	33.	00	70.	00
474.		24.00		1.00	55000.	00	2390.	00	8970.	00	150.	00	40.	00	40.	00	60.	00
475.		25.00		2.00	56000.	00	840.	00	9170.	00	160.	00	30.	00	27.	00	60.	00
476.		18.00		55.00	142100.	00	9460.	00	3940.	00	90.	00	20.	00	49.	00	80.	00
477.		15.00		3.00	33400.	00	3700.	00	4460.	00	60.	00	20.	00	20.	00	40.	00
478.		20.00		2.00	25200.	00	1430.	00	3690.	00	50.	00	30.	00	11.	00	60.	00
479.		21.00		3.00	29600.	00	950.	00	3360.	00	60.	00	30.	00	13.	00	40.	00
480.		15.00		3.00	44000.	00	2770.	00	6450.	00	120.	00	200.	00	40.	00	50.	00
481.		26.00		3.00	82700.	00	2140.	00	8130.	00	150.	00	90.	00	49.	00	60.	00
482.		15.00		2.00	97800.	00	4010.	00	8960.	00	200.	00	160.	00	76.	00	60.	00
483.		21.00		2.00	71500.	00	2660.	00	9110.	00	150.	00	120.	00	48.	00	50.	00
484.		18.00		3.00	100100.	00	7290.	00	7900.	00	160.	00	120.	00	80.	00	60.	00
485.		20.00		2.00	85600.	00	2780.	00	7750.	00	140.	00	80.	00	50.	00	50.	00
486.		17.00		2.00	130100.	00	4000.	00	11230.	00	220.	00	20.	00	82.	00	80.	00
487.		19.00		4.00	183000.	00	910.	00	10060.	00	140.	00	30.	00	32.	00	70.	00
488.		19.00		4.00	32400.	00	1850.	00	5020.	00	80.	00	50.	00	17.	00	50.	00
489.		26.00		5.00	61500.	00	1980.	00	5490.	00	110.	00	50.	00	28.	00	50.	00
490.		22.00		3.00	44800.	00	2380.	00	4720.	00	90.	00	40.	00	22.	00	40.	00
491.		28.00		2.00	68100.	00	1420.	00	9800.	00	160.	00	30.	00	36.	00	70.	00
492.		22.00		4.00	77600.	00	960.	00	9520.	00	180.	00	30.	00	30.	00	70.	00

SAMPNUMB	EASTING	NORTHING	CEC XRF	BAC XRF	SBC XRF	SNC XRF	PBC XRF	ZNC XRF	CUC XRF
493.	20732.	73329.	89.00	1007.00	4.00	15.00	52.00	106.00	8.00
494.	22028.	74512.	53.00	621.00	4.00	3.50	81.00	83.00	4.00
495.	22034.	74488.	59.00	790.00	4.00	3.50	39.00	69.00	9.00
496.	22030.	74491.	100.00	671.00	4.00	3.50	76.00	93.00	7.00
497.	22039.	74449.	73.00	1001.00	4.00	3.50	85.00	139.00	15.00
498.	22042.	74409.	84.00	567.00	4.00	3.50	80.00	123.00	6.00
499.	22031.	74397.	69.00	624.00	4.00	3.50	70.00	64.00	2.00
500.	22027.	74354.	57.00	603.00	4.00	3.50	80.00	105.00	4.00
501.	20095.	73512.	87.00	584.00	4.00	3.50	109.00	105.00	7.00
502.	22031.	74343.	100.00	609.00	4.00	3.50	58.00	75.00	3.00
503.	22050.	74301.	66.00	634.00	4.00	3.50	43.00	52.00	1.00
504.	21852.	74412.	58.00	479.00	4.00	3.50	91.00	90.00	10.00
505.	21854.	74414.	78.00	448.00	4.00	3.50	130.00	76.00	1.00
506.	21866.	74404.	79.00	566.00	4.00	3.50	71.00	105.00	1.00
507.	21893.	74390.	96.00	527.00	4.00	3.50	43.00	58.00	1.00
508.	21960.	74366.	96.00	512.00	4.00	3.50	113.00	152.00	7.00
509.	22012.	74335.	67.00	477.00	4.00	3.50	125.00	106.00	1.00
510.	21937.	74220.	38.00	464.00	4.00	8.00	76.00	32.00	1.00
511.	20784.	73527.	129.00	1985.00	4.00	3.50	54.00	106.00	12.00
512.	21918.	74179.	55.00	417.00	4.00	3.50	128.00	51.00	1.00
513.	22039.	74126.	84.00	702.00	4.00	7.00	83.00	120.00	10.00
514.	22024.	74126.	58.00	609.00	4.00	3.50	47.00	45.00	3.00
515.	21998.	74109.	68.00	785.00	4.00	3.50	27.00	48.00	1.00
516.	21985.	74101.	61.00	755.00	4.00	3.50	47.00	42.00	1.00
517.	20633.	73155.	77.00	932.00	4.00	3.50	60.00	103.00	8.00
518.	20667.	73188.	113.00	1293.00	4.00	3.50	24.00	100.00	12.00
519.	20690.	73172.	86.00	749.00	4.00	10.00	116.00	113.00	17.00
520.	20684.	73181.	72.00	709.00	4.00	7.00	95.00	71.00	7.00
521.	21334.	73421.	84.00	917.00	4.00	3.50	60.00	149.00	18.00
522.	21339.	73416.	90.00	603.00	4.00	3.50	104.00	244.00	25.00
523.	21380.	73432.	76.00	563.00	4.00	3.50	82.00	297.00	20.00
524.	21445.	73485.	83.00	813.00	4.00	3.50	74.00	267.00	17.00
525.	21554.	73594.	68.00	622.00	4.00	3.50	56.00	134.00	7.00
526.	21550.	73603.	101.00	722.00	4.00	3.50	88.00	253.00	11.00
527.	21525.	73591.	93.00	690.00	9.00	8.00	62.00	129.00	6.00
528.	21493.	73599.	82.00	700.00	4.00	3.50	42.00	84.00	5.00
-1.	-1.	-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

SAMPNUMB	CAC XRF	NIC XRF	AGC XRF	UC XRF	RBC XRF	THC XRF	NBC XRF	SRC XRF	ZRC XRF
493.	19600.00	19.00	1.50	1.50	62.00	0.00	20.00	663.00	1461.00
494.	10080.00	20.00	1.50	16.00	106.00	22.00	17.00	388.00	534.00
495.	12930.00	26.00	1.50	12.00	89.00	18.00	15.00	459.00	462.00
496.	10440.00	20.00	3.00	35.00	84.00	16.00	13.00	370.00	438.00
497.	11960.00	25.00	1.50	22.00	84.00	16.00	18.00	395.00	393.00
498.	12240.00	27.00	1.50	25.00	83.00	24.00	20.00	374.00	697.00
499.	12270.00	22.00	1.50	12.00	95.00	19.00	29.00	397.00	1174.00
500.	10490.00	22.00	1.50	15.00	91.00	19.00	18.00	395.00	588.00
501.	25940.00	40.00	1.50	14.00	50.00	9.00	28.00	695.00	624.00
502.	11240.00	15.00	1.50	14.00	92.00	20.00	23.00	423.00	974.00
503.	10300.00	14.00	1.50	8.00	83.00	14.00	19.00	404.00	834.00
504.	6590.00	24.00	1.50	21.00	111.00	27.00	28.00	249.00	819.00
505.	6140.00	7.00	1.50	22.00	100.00	29.00	21.00	228.00	622.00
506.	9100.00	8.00	1.50	36.00	103.00	28.00	25.00	319.00	420.00
507.	9030.00	9.00	1.50	32.00	96.00	25.00	22.00	285.00	986.00
508.	8080.00	14.00	3.00	24.00	94.00	29.00	26.00	261.00	1666.00
509.	7460.00	11.00	4.00	19.00	94.00	24.00	22.00	265.00	1089.00
510.	7410.00	3.00	1.50	12.00	91.00	17.00	22.00	312.00	844.00
511.	24540.00	30.00	1.50	3.00	46.00	10.00	37.00	475.00	1591.00
512.	3830.00	4.00	1.50	15.00	116.00	22.00	23.00	221.00	602.00
513.	12460.00	28.00	1.50	1.50	90.00	11.00	15.00	344.00	608.00
514.	15500.00	25.00	1.50	4.00	61.00	9.00	14.00	453.00	1496.00
515.	17260.00	28.00	1.50	21.00	59.00	9.00	11.00	511.00	1002.00
516.	13410.00	22.00	3.00	7.00	67.00	5.00	16.00	443.00	1326.00
517.	14100.00	13.00	1.50	5.00	78.00	8.00	19.00	579.00	971.00
518.	17500.00	19.00	1.50	4.00	71.00	10.00	22.00	594.00	1307.00
519.	13110.00	19.00	1.50	6.00	69.00	16.00	20.00	402.00	1335.00
520.	13110.00	0.00	1.50	8.00	62.00	12.00	18.00	435.00	1549.00
521.	19310.00	56.00	1.50	5.00	77.00	7.00	21.00	509.00	1090.00
522.	20720.00	41.00	1.50	1.50	67.00	10.00	15.00	414.00	1715.00
523.	17610.00	116.00	1.50	7.00	83.00	9.00	16.00	326.00	1150.00
524.	13830.00	37.00	1.50	7.00	100.00	13.00	21.00	321.00	1265.00
525.	9600.00	20.00	1.50	4.00	103.00	16.00	25.00	293.00	1262.00
526.	10820.00	31.00	1.50	6.00	92.00	12.00	22.00	336.00	985.00
527.	11060.00	24.00	1.50	4.00	103.00	16.00	19.00	296.00	2731.00
528.	14090.00	23.00	1.50	4.00	103.00	12.00	23.00	365.00	675.00
-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

SAMPNUMB	YC XRF	MOC XRF	FEC XRF	MNC XRF	TIC XRF	VC XRF	CRC XRF	COC XRF	LAC XRF
493.	21.00	3.00	50700.00	1220.00	8230.00	120.00	40.00	24.00	50.00
494.	18.00	6.00	36500.00	1310.00	4590.00	80.00	40.00	18.00	40.00
495.	17.00	7.00	67700.00	1470.00	4980.00	80.00	40.00	27.00	40.00
496.	20.00	26.00	15200.00	1200.00	5020.00	120.00	60.00	36.00	80.00
497.	21.00	11.00	64000.00	4100.00	5250.00	100.00	50.00	30.00	70.00
498.	24.00	6.00	50600.00	5300.00	6090.00	120.00	60.00	29.00	70.00
499.	19.00	7.00	40700.00	610.00	6360.00	100.00	60.00	15.00	40.00
500.	19.00	8.00	49800.00	2730.00	5590.00	100.00	50.00	26.00	40.00
501.	19.00	2.00	87400.00	4900.00	6060.00	150.00	80.00	60.00	50.00
502.	20.00	3.00	37600.00	1310.00	4650.00	100.00	60.00	17.00	60.00
503.	18.00	6.00	69600.00	750.00	5360.00	90.00	40.00	20.00	50.00
504.	16.00	3.00	25900.00	740.00	5800.00	80.00	60.00	12.00	50.00
505.	16.00	4.00	35100.00	1500.00	4300.00	80.00	20.00	13.00	70.00
506.	17.00	4.00	68500.00	1640.00	4920.00	90.00	20.00	23.00	70.00
507.	22.00	8.00	99000.00	1100.00	4710.00	100.00	40.00	30.00	70.00
508.	21.00	4.00	79400.00	2920.00	4040.00	110.00	50.00	30.00	80.00
509.	17.00	4.00	48600.00	1590.00	4460.00	90.00	40.00	18.00	60.00
510.	12.00	3.00	15300.00	300.00	4700.00	50.00	20.00	5.00	40.00
511.	40.00	2.00	83000.00	2760.00	10000.00	170.00	70.00	54.00	80.00
512.	10.00	3.00	19800.00	400.00	4750.00	60.00	10.00	6.00	40.00
513.	27.00	3.00	41200.00	3460.00	5800.00	90.00	60.00	31.00	40.00
514.	24.00	1.00	37100.00	900.00	5230.00	80.00	60.00	17.00	40.00
515.	26.00	8.00	35900.00	720.00	4940.00	100.00	60.00	16.00	40.00
516.	22.00	4.00	46000.00	720.00	4640.00	70.00	50.00	17.00	30.00
517.	14.00	3.00	35200.00	940.00	6010.00	90.00	30.00	15.00	50.00
518.	23.00	2.00	69400.00	1130.00	8950.00	160.00	60.00	27.00	70.00
519.	21.00	5.00	48700.00	900.00	7860.00	140.00	60.00	21.00	70.00
520.	17.00	9.00	33200.00	740.00	7610.00	100.00	20.00	12.00	70.00
521.	27.00	3.00	54100.00	1730.00	8320.00	140.00	140.00	36.00	60.00
522.	28.00	2.00	73800.00	2790.00	8990.00	170.00	110.00	50.00	60.00
523.	30.00	2.00	49000.00	1960.00	6920.00	120.00	210.00	36.00	50.00
524.	36.00	4.00	37900.00	1530.00	7200.00	100.00	90.00	24.00	50.00
525.	40.00	3.00	39200.00	1490.00	7180.00	90.00	60.00	21.00	40.00
526.	39.00	3.00	40600.00	2280.00	7730.00	110.00	80.00	25.00	60.00
527.	41.00	8.00	37400.00	1680.00	6660.00	90.00	70.00	21.00	50.00
528.	29.00	5.00	40500.00	1180.00	8620.00	80.00	70.00	19.00	50.00
-1.	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

MAKE TEMPFILE

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
101.		5.00		7.00		1.00
102.		7.00		22.00		3.00
103.		9.00		13.00		1.00
104.		7.00		9.00		1.00
105.		5.00		8.00		1.00
106.		6.00		10.00		1.00
107.		4.00		17.00		1.00
108.		5.00		11.00		1.00
109.		11.00		16.00		1.00
110.		12.00		21.00		1.00
111.		5.00		22.00		1.00
112.		23.00		13.00		2.00
113.		1.00		24.00		1.00
114.		6.00		32.00		1.00
115.		10.00		15.00		3.00
116.		6.00		8.00		2.00
117.		6.00		33.00		1.00
118.		6.00		33.00		1.00
119.		5.00		19.00		3.00
120.		3.00		16.00		2.00
121.		8.00		33.00		2.00
122.		5.00		13.00		2.00
123.		7.00		13.00		1.00
124.		3.00		14.00		3.00
125.		5.00		30.00		3.00
126.		6.00		26.00		2.00
127.		8.00		25.00		6.00
128.		8.00		32.00		11.00
129.		4.00		20.00		4.00
130.		12.00		20.00		5.00
131.		13.00		29.00		3.00
132.		4.00		10.00		2.00
133.		5.00		10.00		1.00
134.		9.00		11.00		1.00
135.		7.00		17.00		1.00
136.		10.00		7.00		1.00
137.		3.00		16.00		1.00
138.		7.00		8.00		1.00
139.		12.00		24.00		1.00
140.		8.00		20.00		1.00
141.		4.00		20.00		1.00
142.		7.00		16.00		1.00
143.		6.00		4.00		1.00
144.		3.00		9.00		1.00
145.		6.00		5.00		1.00
146.		8.00		7.00		1.00
147.		3.00		12.00		1.00
148.		5.00		4.00		1.00
149.		1.00		9.00		1.00
150.		12.00		4.00		1.00
151.		12.00		5.00		1.00
152.		9.00		3.00		1.00
153.		14.00		3.00		1.00
154.		13.00		4.00		1.00
155.		8.00		1.50		1.00
156.		15.00		4.00		1.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
157.		4.00		6.00		1.00
158.		11.00		4.00		1.00
159.		6.00		5.00		1.00
160.		9.00		1.50		3.00
161.		1.00		16.00		1.00
162.		10.00		3.00		1.00
163.		10.00		5.00		1.00
164.		4.00		1.50		1.00
165.		23.00		8.00		1.00
166.		11.00		7.00		1.00
167.		8.00		8.00		1.00
168.		19.00		5.00		1.00
169.		13.00		6.00		1.00
170.		9.00		6.00		2.00
171.		10.00		18.00		1.00
172.		6.00		5.00		1.00
173.		7.00		11.00		1.00
174.		11.00		13.00		1.00
175.		2.00		32.00		2.00
176.		4.00		4.00		1.00
177.		15.00		5.00		1.00
178.		1.00		17.00		1.00
179.		9.00		1.50		1.00
180.		4.00		6.00		1.00
181.		6.00		5.00		2.00
182.		5.00		5.00		1.00
183.		4.00		3.00		1.00
184.		5.00		6.00		1.00
185.		7.00		5.00		1.00
186.		1.00		7.00		1.00
187.		6.00		8.00		1.00
188.		6.00		1.50		1.00
189.		6.00		19.00		1.00
190.		7.00		5.00	12.	2.00
191.		3.00		4.00		1.00
192.		3.00		6.00		1.00
193.		10.00		5.00		1.00
194.		14.00		1.50		1.00
195.		5.00		8.00		1.00
196.		2.00		6.00		1.00
197.		11.00		3.00		1.00
198.		2.00		10.00	4.	0.00
199.		3.00		26.00		2.00
200.		3.00		16.00		1.00
201.		5.00		7.00		1.00
202.		12.00		5.00		1.00
203.		11.00		5.00		1.00
204.		17.00		5.00		1.00
205.		3.00		8.00		1.00
206.		11.00		1.50		1.00
207.		5.00		1.50		1.00
208.		4.00		7.00		1.00
209.		11.00		5.00		1.00
210.		10.00		5.00		1.00
211.		9.00		1.50		1.00
212.		3.00		20.00		2.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
213.		1.00		29.00		4.00
214.		10.00		4.00		1.00
215.		13.00		9.00		1.00
216.		9.00		5.00		1.00
217.		7.00		4.00		1.00
218.		13.00		3.00		1.00
219.		6.00		1.50		1.00
220.		6.00		4.00		2.00
221.		4.00		3.00		1.00
222.		9.00		5.00		1.00
223.		13.00		6.00		1.00
224.		4.00		6.00		1.00
225.		4.00		7.00		1.00
226.		13.00		4.00		1.00
227.		2.00		4.00		1.00
228.		13.00		1.50		1.00
229.		10.00		4.00		1.00
230.		12.00		5.00		1.00
231.		6.00		8.00		2.00
232.		5.00		6.00		1.00
233.		11.00		4.00		2.00
234.		14.00		1.50		1.00
235.		9.00		3.00		1.00
236.		10.00		5.00		1.00
237.		6.00		3.00		1.00
238.		4.00		1.50		2.00
239.		4.00		3.00		1.00
240.		6.00		1.50		1.00
241.		8.00		5.00		1.00
242.		1.00		6.00		1.00
243.		9.00		6.00		1.00
244.		5.00		8.00		1.00
245.		4.00		1.50		1.00
246.		5.00		4.00		1.00
247.		4.00		24.00		2.00
248.		4.00		43.00		4.00
249.		6.00		32.00		2.00
250.		4.00		5.00		1.00
251.		3.00		5.00		2.00
252.		4.00		6.00		1.00
253.		8.00		9.00		1.00
254.		16.00		5.00		1.00
255.		7.00		11.00		2.00
256.		4.00		1.50		1.00
257.		8.00		4.00		1.00
258.		2.00		4.00		1.00
259.		9.00		3.00		1.00
260.		8.00		1.50		1.00
261.		9.00		4.00		1.00
262.		9.00		4.00		1.00
263.		8.00		3.00		1.00
264.		13.00		7.00		1.00
265.		11.00		4.00		1.00
266.		11.00		7.00		2.00
267.		6.00		7.00		1.00
268.		3.00		3.00		1.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
269.		8.00		6.00		1.00
270.		2.00		6.00		1.00
271.		4.00		5.00		1.00
272.		10.00		3.00		1.00
273.		5.00		4.00		1.00
274.		6.00		5.00		1.00
275.		10.00		5.00		1.00
276.		4.00		3.00		1.00
277.		19.00		1.50		1.00
278.		11.00		4.00		1.00
279.		17.00		5.00		1.00
280.		12.00		5.00		1.00
281.		6.00		3.00		1.00
282.		5.00		5.00		2.00
283.		5.00		6.00		1.00
284.		16.00		1.50		1.00
285.		27.00		3.00		1.00
286.		15.00		1.50		1.00
287.		6.00		5.00		1.00
288.		9.00		1.50		1.00
289.		8.00		4.00		2.00
290.		8.00		1.50		1.00
291.		6.00		3.00		1.00
292.		6.00		4.00		1.00
293.		4.00		7.00		2.00
294.		11.00		6.00		1.00
295.		9.00		4.00		1.00
296.		3.00		6.00		1.00
297.		8.00		5.00		1.00
298.		9.00		5.00		1.00
299.		5.00		7.00		1.00
300.		4.00		5.00		1.00
301.		9.00		7.00		1.00
302.		6.00		4.00		1.00
303.		3.00		14.00		5.00
304.	13.	00		19.00		3.00
305.	21.	00		17.00		7.00
306.		8.00		21.00		4.00
307.	10.	00		20.00		1.00
308.	20.	00		20.00		1.00
309.	19.	00		17.00		1.00
310.	10.	00		27.00		1.00
311.		9.00		5.00		1.00
312.		4.00		1.50		1.00
313.		4.00		7.00		1.00
314.		7.00		1.50		1.00
315.		3.00		3.00		3.00
316.		8.00		4.00		2.00
317.		9.00		7.00		1.00
318.		8.00		3.00		1.00
319.	17.	00		17.00		1.00
320.		8.00		7.00		1.00
321.		6.00		4.00		1.00
322.		9.00		5.00		1.00
323.		3.00		6.00		1.00
324.	11.	00		3.00		1.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
325.		3.00		3.00		1.00
326.		6.00		3.00		1.00
327.		2.00		3.00		1.00
328.		2.00		5.00		1.00
329.		11.00		3.00		1.00
330.		13.00		6.00		2.00
331.		9.00		7.00		1.00
332.		11.00		26.00		1.00
333.		3.00		30.00		6.00
334.		6.00		26.00		3.00
335.		12.00		53.00		9.00
336.		0.00		18.00		5.00
337.		17.00		24.00		1.00
338.		19.00		14.00		2.00
339.		10.00		41.00		1.00
340.		14.00		15.00		1.00
341.		8.00		19.00		1.00
342.		0.00		21.00		1.00
343.		0.00		20.00		1.00
344.		23.00		9.00		1.00
345.		10.00		10.00		1.00
346.		14.00		10.00		1.00
347.		12.00		10.00		1.00
348.		9.00		6.00		1.00
349.		15.00		8.00		1.00
350.		20.00		1.50		1.00
351.		13.00		2.00		1.00
352.		13.00		4.00		1.00
353.		6.00		1.50		1.00
354.		3.00		2.00		1.00
355.		4.00		4.00		1.00
356.		18.00		5.00		1.00
357.		9.00		5.00		2.00
358.		17.00		5.00		1.00
359.		14.00		7.00		1.00
360.		15.00		6.00		2.00
361.		23.00		16.00		1.00
362.		13.00		16.00		1.00
363.		7.00		16.00		2.00
364.		11.00		10.00		1.00
365.		18.00		14.00		1.00
366.		9.00		16.00		1.00
367.		7.00		20.00		1.00
368.		14.00		5.00		1.00
369.		9.00		3.00		1.00
370.		11.00		7.00		1.00
371.		16.00		20.00		1.00
372.		7.00		20.00		1.00
373.		14.00		8.00		1.00
374.		15.00		24.00		9.00
375.		5.00		21.00		1.00
376.		12.00		9.00		1.00
377.		24.00		20.00		3.00
378.		10.00		20.00		7.00
379.		8.00		20.00		4.00
380.		9.00		33.00		3.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
381.	15.	00		1.50		1.00
382.	36.	00		1.50		1.00
383.	8.	00	14.	00		1.00
384.	13.	00	10.	00		1.00
385.	6.	00	14.	00		1.00
386.	11.	00	19.	00		1.00
387.	15.	00	14.	00		1.00
388.	8.	00	1.	50		1.00
389.	16.	00	3.	00		1.00
390.	11.	00	3.	00		1.00
391.	14.	00	23.	00		1.00
392.	22.	00	24.	00		2.00
393.	16.	00	6.	00		1.00
394.	1.	00	10.	00		1.00
395.	15.	00	4.	00		1.00
396.	11.	00	7.	00		1.00
397.	6.	00	6.	00		1.00
398.	5.	00	11.	00		1.00
399.	15.	00	14.	00		1.00
400.	9.	00	12.	00		1.00
401.	14.	00	22.	00		3.00
402.	17.	00	22.	00		4.00
403.	5.	00	4.	00		1.00
404.	7.	00	19.	00		1.00
405.	15.	00	1.	50		1.00
406.	13.	00	5.	00		1.00
407.	7.	00	4.	00		2.00
408.	5.	00	7.	00		1.00
409.	24.	00	3.	00		1.00
410.	13.	00	3.	00		1.00
411.	14.	00	11.	00		1.00
412.	13.	00	9.	00		1.00
413.	14.	00	7.	00		1.00
414.	13.	00	9.	00		1.00
415.	7.	00	11.	00		1.00
416.	14.	00	6.	00		1.00
417.	9.	00	3.	00		3.00
418.	13.	00	5.	00		1.00
419.	4.	00	2.	00		1.00
420.	12.	00	2.	00		1.00
421.	8.	00	3.	00		1.00
422.	11.	00	9.	00		1.00
423.	6.	00	4.	00		1.00
424.	7.	00	1.	50		1.00
425.	29.	00	1.	50		1.00
426.	3.	00	6.	00		1.00
427.	5.	00	4.	00		1.00
428.	15.	00	3.	00		1.00
429.	7.	00	1.	50		1.00
430.	5.	00	4.	00		2.00
431.	7.	00	6.	00		1.00
432.	3.	00	8.	00		2.00
433.	8.	00	5.	00		1.00
434.	6.	00	15.	00		1.00
435.	5.	00	1.	50		1.00
436.	17.	00	5.	00		1.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
437.		5.00		5.00		1.00
438.		12.00		5.00		1.00
439.		5.00		6.00		1.00
440.		7.00		3.00		1.00
441.		11.00		4.00		1.00
442.		5.00		8.00		1.00
443.		17.00		5.00		1.00
444.		5.00		5.00		1.00
445.		5.00		6.00		1.00
446.		4.00		7.00		1.00
447.		11.00		3.00		1.00
448.		11.00		6.00		1.00
449.		8.00		5.00		2.00
450.		7.00		5.00		1.00
451.		6.00		3.00		1.00
452.		4.00		5.00		1.00
453.		10.00		3.00		1.00
454.		7.00		7.00		1.00
455.		5.00		1.50		1.00
456.		9.00		7.00		1.00
457.		9.00		5.00		1.00
458.		6.00		5.00		1.00
459.		11.00		5.00		1.00
460.		20.00		3.00		1.00
461.		11.00		7.00		1.00
462.		4.00		6.00		1.00
463.		6.00		4.00		2.00
464.		8.00		3.00		1.00
465.		9.00		4.00		1.00
466.		10.00		4.00		1.00
467.		13.00		5.00		1.00
468.		11.00		1.50		1.00
469.		6.00		5.00		2.00
470.		14.00		7.00		2.00
471.		13.00		3.00		2.00
472.		14.00		6.00		2.00
473.		7.00		7.00		2.00
474.		6.00		7.00		2.00
475.		5.00		1.50		1.00
476.		15.00		6.00		3.00
477.		13.00		5.00		1.00
478.		7.00		9.00		1.00
479.		6.00		7.00		1.00
480.		9.00		3.00		1.00
481.		16.00		5.00		1.00
482.		20.00		1.50		1.00
483.		8.00		5.00		1.00
484.		16.00		3.00		1.00
485.		14.00		1.50		1.00
486.		15.00		5.00		2.00
487.		16.00		1.50		1.00
488.		6.00		5.00		1.00
489.		6.00		8.00		1.00
490.		8.00		8.00		1.00
491.		5.00		5.00		1.00
492.		12.00		7.00		1.00

SAMPNUMB	ASC	XRF	WC	XRF	BIC	XRF
493.		9.00		7.00		2.00
494.		8.00		7.00		1.00
495.		4.00		3.00		1.00
496.		6.00		11.00		1.00
497.		7.00		6.00		1.00
498.		9.00		8.00		1.00
499.		9.00		7.00		1.00
500.		8.00		10.00		1.00
501.		14.00		4.00		1.00
502.		6.00		5.00		1.00
503.		4.00		6.00		1.00
504.		9.00		5.00		1.00
505.		14.00		5.00		1.00
506.		12.00		7.00		1.00
507.		7.00		6.00		1.00
508.		11.00		4.00		1.00
509.		10.00		3.00		2.00
510.		14.00		6.00		1.00
511.		10.00		5.00		1.00
512.		11.00		10.00		1.00
513.		10.00		6.00		1.00
514.		11.00		7.00		1.00
515.		2.00		36.00		1.00
516.		4.00		5.00		1.00
517.		11.00		4.00		1.00
518.		2.00		3.00		1.00
519.		22.00		7.00		1.00
520.		21.00		7.00		1.00
521.		6.00		4.00		1.00
522.		13.00		4.00		1.00
523.		11.00		6.00		1.00
524.		5.00		8.00		2.00
525.		6.00		5.00		1.00
526.		10.00		9.00		1.00
527.		4.00		6.00		3.00
528.		4.00		7.00		1.00
-1.		-1.00		-1.00		-1.00