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TECK COMINCO LIMITED

EXPLORATION
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CANADA

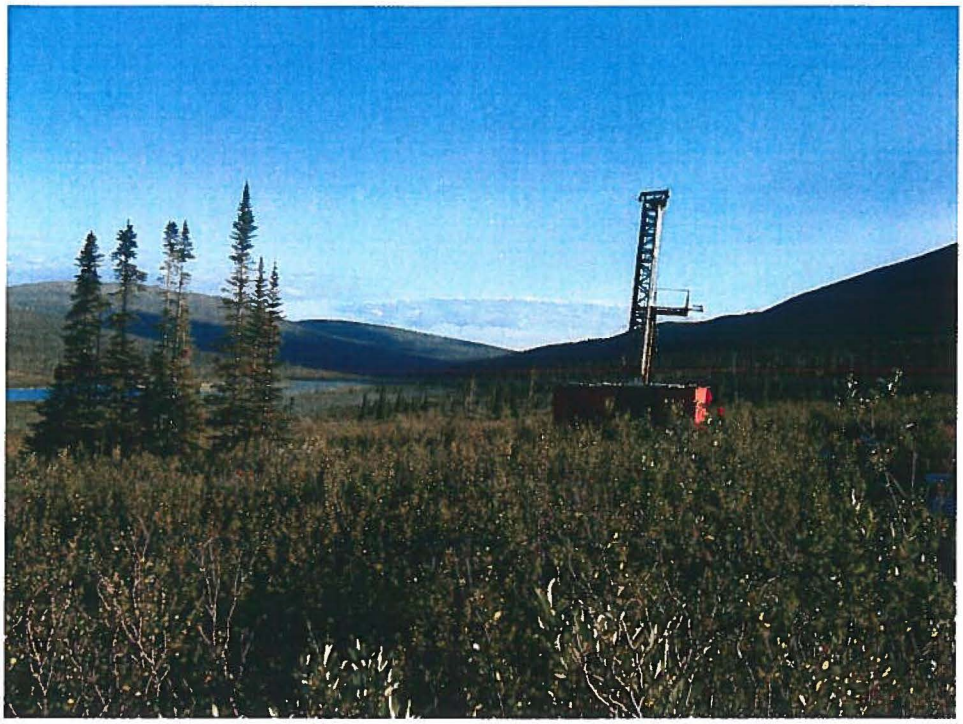
2004 SUMMARY REPORT

R-15 OPTION (KZK PROJECT)

LINECUTTING, GRID GROUND GEOPHYSICAL SURVEYS (UTEM/MAG), DIAMOND DRILLING, and MINOR GEOLOGICAL MAPPING

FOR

KASKA MINERALS CORPORATION
and
YUKON TERRITORIAL GOVERNMENT



WORK PERIOD

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Teck Cominco Limited

Exploration
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2004 SUMMARY REPORT
R-15 OPTION (KZK PROJECT), YUKON TERRITORY

1.0 SUMMARY

The Kudz Ze Kayah Project area is located on the northern flank of the Pelly Mountain range, 135 km south of Ross River, Yukon, in what has been referred to as the Finlayson massive sulphide district. The project comprises Teck Cominco Limited's contiguous TAG, On and ON JV properties and the adjoining R-15 block. The R-15 block was optioned by Teck Cominco from Kaska Minerals Corporation in late 2003, subsequent to a negotiated lease agreement signed between Kaska Minerals and the Yukon Government.

The R-15 block and adjoining TAG property is predominantly underlain by favourable, late Devonian to early Mississippian felsic metavolcanics and tuffaceous metasedimentary rocks of the Kudz Ze Kayah Formation, Grass Lakes Group, Yukon Tanana Terrane. These rocks host all the known felsic volcanic associated VHMS deposits in the Finlayson Lake district.

The 2004 program was focussed to follow-up previously identified airborne anomalies thought to represent the continuation of the GP4F Zone onto the R-15 block.

The 2004 field program involved both a spring phase of linecutting and geophysical surveys in mid-April to early May and a summer phase of work (completion of linecutting, geophysical surveys, mapping and diamond drilling) in late June to late September. The work was focussed on the R-15 option and consisted of :

- a total of 91.1 lkms of linecutting,
- ground geophysical surveys comprised 63.6 lkms of UTEM and 55.1 lkms of MAG,
- minor detailed geological mapping, and,
- diamond drilling comprising 8 DDHs (totaling 1,726.5 metres) that tested a total of 4 targets (7 DDHs are located on the R-15 block).

The 2004 exploration program was successful in identifying a new massive sulphide zone thought to be the southeast extension of the GP4F Zone onto the R15 ground.

Ground geophysical surveys (UTEM/Mag) identified a significant channel-2 to channel-4 conductor, across a 700 metre strike length, and a second, slightly weaker conductor, which appears to be the faulted offset of the first conductor, extending for another 700 metres to the east. These conductors correspond to the original airborne R15A anomaly. Both conductors have a direct ground magnetic response.

Diamond drilling of the best portions of this UTEM/Mag anomaly resulted in the discovery the high grade R-15, massive sulphide zone. The zone has an average grade of 0.32% Cu, 7.17% Pb, 14.87% Zn, 88 g/t Ag, 283 ppb Au and 7 ppm Se. The zone was intersected in 4 diamond drill holes over a 200x250 m area. Drilling indicates the zone to be a near surface, shallow (15^0 to near flat) north dipping, sheet-like sulphide body varying between 1.3 to 3.4 metres in thickness (2.7 metre average). The zone remains open in all directions. As suggested by the geophysics, the R-15 Zone horizon is again offset to the south along a NE-trending dextral fault. The offset portion of the conductor has lower conductivity and drill testing the best part of this anomaly encountered only narrow intervals of strong alteration and relatively weaker sulphide mineralization (i.e. 1.9 metres grading 0.11% Cu, 4.15% Pb, 6.13% Zn and 43.3 g/t Ag).

Although a significant discovery, the presence of a significant large tonnage resource is unlikley in the immediate R-15 Zone area. The best portions of the UTEM/Mag anomaly have been tested. Where intersected, the zone appears to have a relatively consistent thickness of about 3 metres. The up-dip or southern edge is well defined by the UTEM. The ground magnetics indicates the source of the magnetic anomaly is limited a few 100 metres down-dip to the north of R04-007 and to the east and west. Alteration and sulphide thickness vectoring both point up-dip and to the west, toward DDH R04-006.

There is, however, considerable potential for a smaller, yet accessible, high grade massive sulphide deposit. The EM responses do not appear to limit the down-dip extent of the massive sulphide zone. In addition, the zone does thicken in DDH R04-007 (alteration is weaker) relative to the intersection in DDH R04-001.

As a smaller target, additional drilling is warranted west of R04-006 and down-dip of R04-005 and R04-007 to test for continuations and thickening of the zone. Drill testing the area between the GP4F and R-15 Zones should also be considered.

Other UTEM/Mag anomalies were indentified and tested but do not appear to be of interest.

2.0 LOCATION AND ACCESS

The Kudz Ze Kayah Project area is located on the northern flank of the Pelly Mountain range, 135 km south of Ross River, Yukon, in what has been referred to as the Finlayson massive sulphide district (Figure 1).

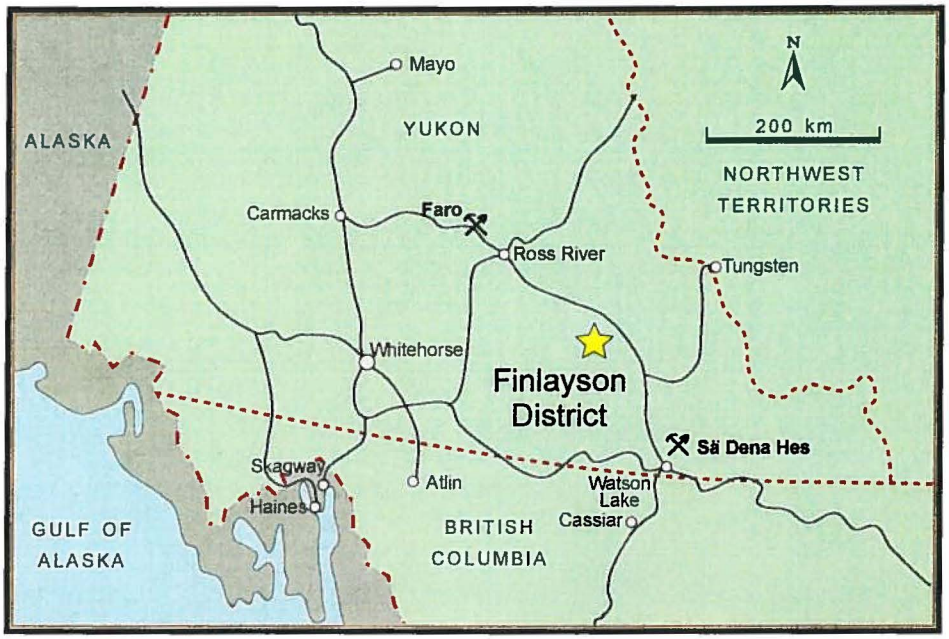


Figure 1. Location of the Finlayson massive sulphide district in southeast Yukon.

The ABM VHMS Deposit is located in the upper end of the Geona Creek valley 23 km south of Finlayson Lake and 25 kms west of Yukon Zinc's Wolverine VHMS Deposit. The area is accessed by the gravel, all-weather Robert Campbell Highway which links the towns of Watson Lake and Ross River and a 24 km long, 4m wide all weather tote road which connects the deposit and base camp to the Robert Campbell Highway (Figure 2).

3.0 PROPERTIES AND OWNERSHIP

Kudz Ze Kayah Project is a contiguous property comprising 1,453 mineral claims in the Tag Property, 88 mineral claims in the Cobb Property and 210 mineral claims in the On and ON JV Properties. The project area encompasses an area of about 36,600 ha (Figure 2). Claims are owned 100% by Teck Cominco Limited.

The R-15 block is an adjoining, 4304 ha parcel of land reserved by the Ross River Kaska First Nations. This block was optioned by Teck Cominco from Kaska Minerals Corporation in late 2003 subsequent to a negotiated lease agreement signed between Kaska Minerals and the Yukon Government.

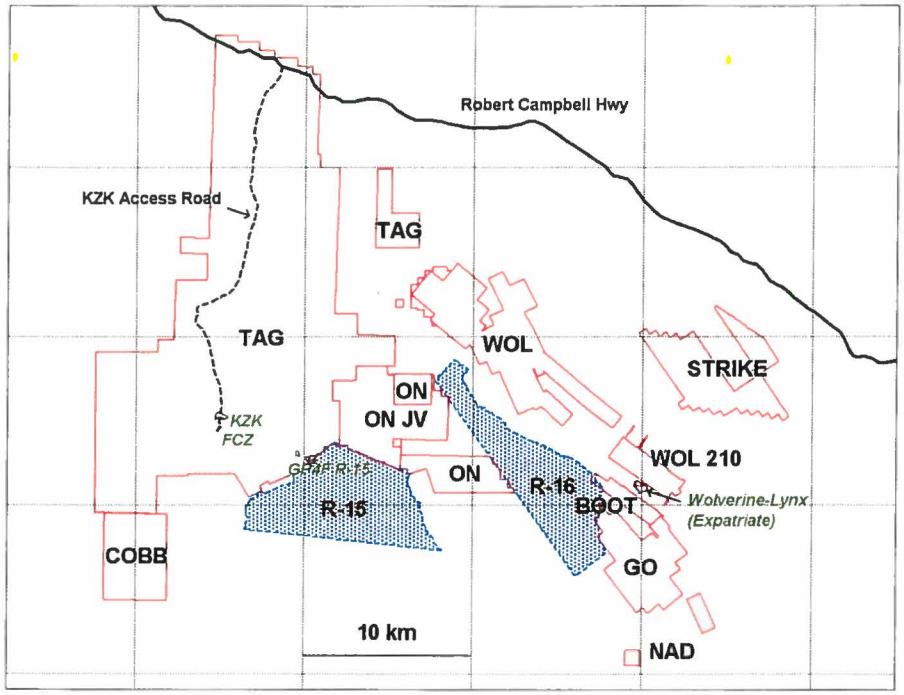


Figure 2. Location of Teck Cominco properties, the R-15 and R-16 reserved blocks and known VHMS deposits (KZK, GP4F, R-15 and Wolverine-Lynx).

Teck Cominco can earn a 85-94% interest in the YTG lease by completeing the following schedule of cash payments and cumulative exploration expenditures:

Year	Cash Payments	LUI Supplement*	Cumulative Expenditures
On signing	$25,000 (paid)		
2004	$35,000 (paid Apr 15/04)	$70,000 (paid)	$ 200,000 (completed)
2005	$45,000 (Apr 15)	$70,000	$ 600,000 (completed)
2006	$55,000 (Apr 15)	$70,000	$1,200,000
2007	$65,000 (Apr 15)	$70,000	$2,000,000
2008	$65,000 (Apr 15)	$70,000	
2009	$75,000 (Apr 15)	$70,000	
2010	$85,000 (Apr 15)	$70,000	

and by 2013 delivering to Kaska Minerals a Preliminary Study as outlined in a Memorandum of Understanding.

* payable as 2 equal payments (Apr 15, Oct 15) in each year that Teck Cominco is actively working on the project.

Exploration expenditures for 2004 are outlined in Appendix 1.

4.0 PREVIOUS WORK

Teck Cominco Limited's interest in the area was heightened in 1992 when soil and silt geochemical sample results from a Cominco reconnaissance program that year confirmed and expanded upon an anomalous silt sample released in the Geological Survey of Canada's regional geochemistry silt survey for NTS mapsheet 105G, Open File 1648.

In 1993, a small follow-up program within the anomalous drainage resulted in the location of a well mineralized,

layered sulphide cobble by A.B.Mawer. At the same time potential host rocks for the mineralized float were recognized. A reconnaissance UTEM geophysical survey was immediately implemented over the projected trace of the prospective units where they disappear beneath quaternary cover in the valley floor. This survey identified an EM feature representing a possible source for the mineralized float. The first TAG claims were subsequently staked and recorded August 20, 1993 to cover the geophysically responsive feature; a Magnetics survey was also carried out during staking. Further Mag/HLEM and soil surveys were completed later that fall and successfully defined a drill target.

The target was drilled in April, 1994, with the first hole completed on April 20 intersecting 22.5 m of sulphide rock in two zones. Three additional holes were drilled in April; each intersecting mineralization over significant widths. The weighted average grade of sulphides in the discovery hole is 0.5% Cu, 2.8% Pb, 10.0% Zn, 278 g/t Ag and 2.9 g/t Au. The sulphide body was named the ABM zone by Exploration in recognition of A.B.Mawer's contribution towards the discovery and distinguished career with Cominco. In total, 52 DDHs, totalling 8,485 m, were completed in 1994 along with ground and airborne geophysical surveys, detailed mapping in the vicinity of the deposit, regional and detailed exploration geochemistry and baseline environmental sampling.

In 1995, an additional 133 DDHs, totalling 16,178 m, were completed at the deposit and on regional targets. Additional exploration soil sampling, minor geological mapping and ground geophysical surveys were completed. Geotechnical investigations, detailed engineering/mine planning, bulk metalurgical sampling, environmental monitoring and archaeological studies were well underway or completed, as well as the construction of a 22 km all-weather tote road from the Robert Campbell Highway. A pre-feasibility engineering study was completed in July 1995.

The 1996 program involved regional,1:20,000 scale geological mapping outside the immediate ABM Deposit area, minor linecutting, ground geophysical surveys and soil geochemistry over the NE part of the TAG Property. Diamond drilling of 1 DDH (K96-171, totalling 99 m) was completed on the GP3L grid located north of the COBB Property. Minor structural mapping and core logging was completed at the ABM Deposit.

The 1997 program consisted on 2 main components: linecutting/ground geophysical surveys and diamond drilling. Large ground geophysical surveys (UTEM/MAG) were conducted over the newly cut extension of the Main Grid to the east of the deposit. Minor HLEM/MAG and Gravity were conducted over existing EM/MAG targets proximal to ABM. A total of 17 DDHs (K97-172 to 187, totaling 3,566 m) were completed; 7 DDHs tested the down dip/plunge and fault offset margins of the ABM Deposit, 2 DDHs tested regional targets and 8 DDHs were completed in the Fault Creek Zone area. Discovery of the small (~50,000 t) Fault Creek Zone (K97-181; 6.4 m grading 5.2% Cu, 1.0% Pb, 5.6% Zn, 141 g/t Ag and 2.4 g/t Au) was significant, representing the first occurrence of significant sulphides south of the Fault Creek Fault.

To the end of 1997, a total of 168 exploration DDHs and 15 metallurgical DDHs have been completed in the immediate ABM Deposit area and another 20 DDHs were completed elsewhere on the property, including 8 DDHs into the immediate Fault Creek Zone area.

Environmental studies, metallurgical testing and permitting activites were ongoing.

In 1998, additional linecutting, soil sampling and limited ground geophysical surveys were completed in several areas. A total of 11 DDHs (K98-188 to 198, totaling 1,755 m) were completed; 9 DDHs tested the immediate GP4F area and 2 DDHs tested a UTEM/HLEM/MAG feature NE of the GP4F Zone. The most significant result was the discovery of the GP4F Zone (1.5 Mt grading 0.1% Cu, 3.1% Pb, 6.4% Zn, 89.7 g/t Ag and 2.0 g/t Au; Se is low, averaging 8 ppm) located 5 kms southeast of the ABM Deposit. Additional airborne EM/Mag over the eastern half of the R-15 block resulted identified several excellent AEM/AMAG targets in the GP4F area.

The discovery of the GP4F Zone was significant in that it represents a new center of VMS mineralization and alteration. The low Se content of the zone suggests that additional low-Se VMS mineralization can be discovered in the KZK area. The discovery of significant additional tonnage of low-Se ores, proximal to KZK, would not only positively effect the projects economics, but may also significantly improve the projects metallurgical problems.

In 1999, a small geophysical program including an In-Loop UTEM survey over the GP4F Zone and minor HLEM/MAG in the GP4F Zone area was completed.

In 2000, the KZK project and properties in the Wolverine Lake area were optioned to Expatriate Resources Ltd. (Yukon Zinc Corporation). Work by Expatriate included linecutting and ground geophysical surveys (UTEM/Mag) in the area south of the main ABM deposit and extending south of the Fault Creek Zone. Due to a down-turn in the markets, the properties were returned to Teck Cominco in late 2001.

The property was idle until negotiations between the Kaska Dene First Nations in Ross River and the Yukon

Government lead to the formation of Kaska Minerals Corporation and the signing of a "lease of mining rights" agreement in late 2003 between Kaska Minerals and Yukon Government for the R-15 block. Teck Cominco subsequently optioned the R-15 block from Kaska Minerals in early 2004.

5.0 REGIONAL GEOLOGY

The Finlayson Lake area of southeastern Yukon hosts a number of recently discovered volcanic-hosted massive sulphide (VHMS) deposits (Figure 3). Teck Cominco's KZK (R-15) Project includes the KZK (ABM), the Fault Creek Zone and the GP4F and newly discovered R-15 VHMS deposits; all hosted within felsic metavolcanic rocks of the Kudz Ze Kayah Formation, Grass Lakes Group, Yukon Tanana Terrane.

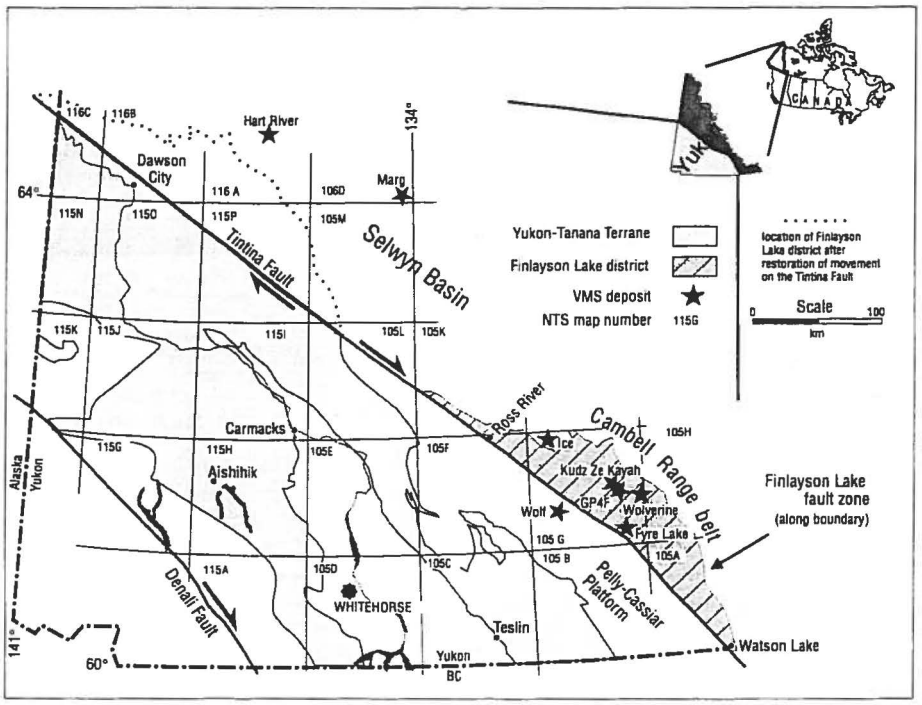


Figure 3. Location of the Kudz Ze Kayah Project and other significant VHMS deposits in Yukon. Also shown is the location of the Yukon Tanana Terrane and the approximate location of the Finlayson Lake district after restoration of movement along the Tintina fault. (from Hunt, 2002)

The rocks underlying this part of the southeastern Yukon have been assigned to two pericratonic terranes: the **Yukon Tanana Terrane (YTT)** and the **Slide Mountain Terrane (SMT)** (Mortensen, 1983a; Mortensen and Jilson, 1985). These terranes represent 2 of the innermost terranes which evolved adjacent to the ancestral margin of North America and were subsequently accreted to the craton during the Mesozoic (Jurassic) and early Cenozoic (Colpron et al., 2003 and 2001).

All felsic volcanic associated VHMS deposits in the Finlayson Lake district occur in the Big Campbell thrust sheet at structurally low positions in the imbricated YTT (Figure 4). Internal YTT thrust stacking of the Cleaver Lake thrust sheet over the Money Creek thrust sheet and onto the Big Campbell thrust sheet occurred during the Early Permian. Final thrusting of the rock package onto North America occurred along the Big Campbell and Inconnu thrusts in Late Triassic to Early Jurassic time (Figure 5).

Rocks of the Money Creek and Cleaver Lake Trust sheets are described by Murphy (2004) and not further discussed here.

Stratigraphy in the Big Campbell thrust sheet comprises at least 3 unconformity bounded successions: the pre-

Devonian to Lower Mississippian *Grass Lakes Group*, the Mississippian *Wolverine Lake Group* and the Early Permian Campbell Range Formation (Figures 5 and 6).

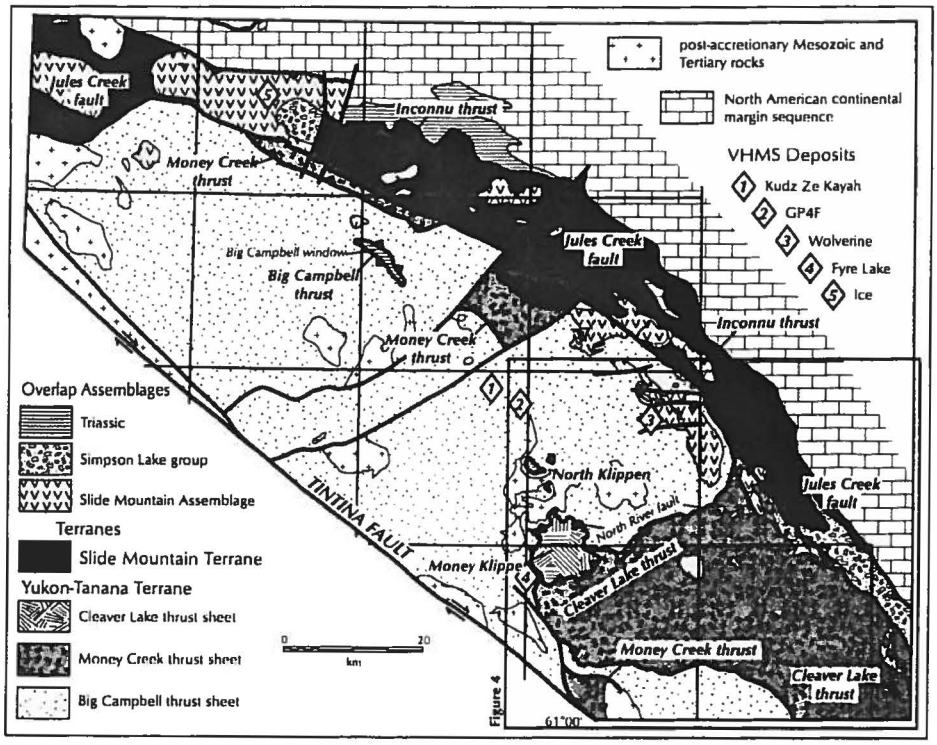


Figure 4. Terrane and assemblages of the Finlayson Lake massive sulphide district. The lowermost Big Campbell thrust sheet is thrust onto miogeoclinal, North American rocks along the post-late Triassic Big Campbell and Inconnu thrusts. (from Murphy, 2004).

The ***Grass Lakes Group*** has been subdivided into 4 formations.

The lowermost sequence comprises a mixed package dominated by micaceous quartzite, quartzose psammite and quartz-muscovite-biotite metapelite with minor biotitic muscovite-feldspar-quartz schist (felsic metavolcanic), calcareous schist/metapelite and marble members of the ***North River Formation***. Upper marble members form a prominent regional marker. Felsic metavolcanic members locally host minor sulphide (py±sp-ga-cpy) occurrences. The sequence is strongly sheared and metamorphosed up to amphibolite grade. The age of this unit is uncertain, but presumed to be pre-Devonian. This unit would correlate with the pre-Devonian (?) "*lower unit*" as described by Mortensen (1983a), Unit 1 described by Murphy (1997, 1998), Hunt and Murphy (1998) and Murphy and Piercey (1999) and unit Dq of Murphy and Piercey (2000) and Murphy et al. (2001).

The North River Formation is conformably overlain by the Upper Devonian ***Fire Lake Formation*** which comprises 30 to >200 metre thick sequence of mafic metavolcanic, chloritic schist and phyllite with very minor carbonaceous phyllite, quartzite and rare marble and felsic metavolcanic quartz-muscovite schist. Locally significant meta-gabbro, meta-pyroxenite and meta-ultramafic bodies are present representing comagmatic intrusions. Geochemically, the Fire Lake Formation mafic metavolcanics have primitive arc (boninitic) signatures reflecting a transition from arc to non-arc volcanism (Piercey at al., 1999 and 2000). This unit correlates with Unit 2 described by Murphy (1997, 1998), Hunt and Murphy (1998) and Murphy and Piercey (1999) and units DMF of Murphy and Piercey (2000) and DF of Murphy et al. (2001).

The Fire Lake Formation is host to the Fyre Lake Deposit which s a significant besshi-type, Cu-Co-Au VMS deposit (resource of 15.4 Mt with 8.2 Mt grading 2.1% Cu, 0.11% Co, 0.73 g/t Au) hosted by mafic metavolcanics at the top of this sequence.

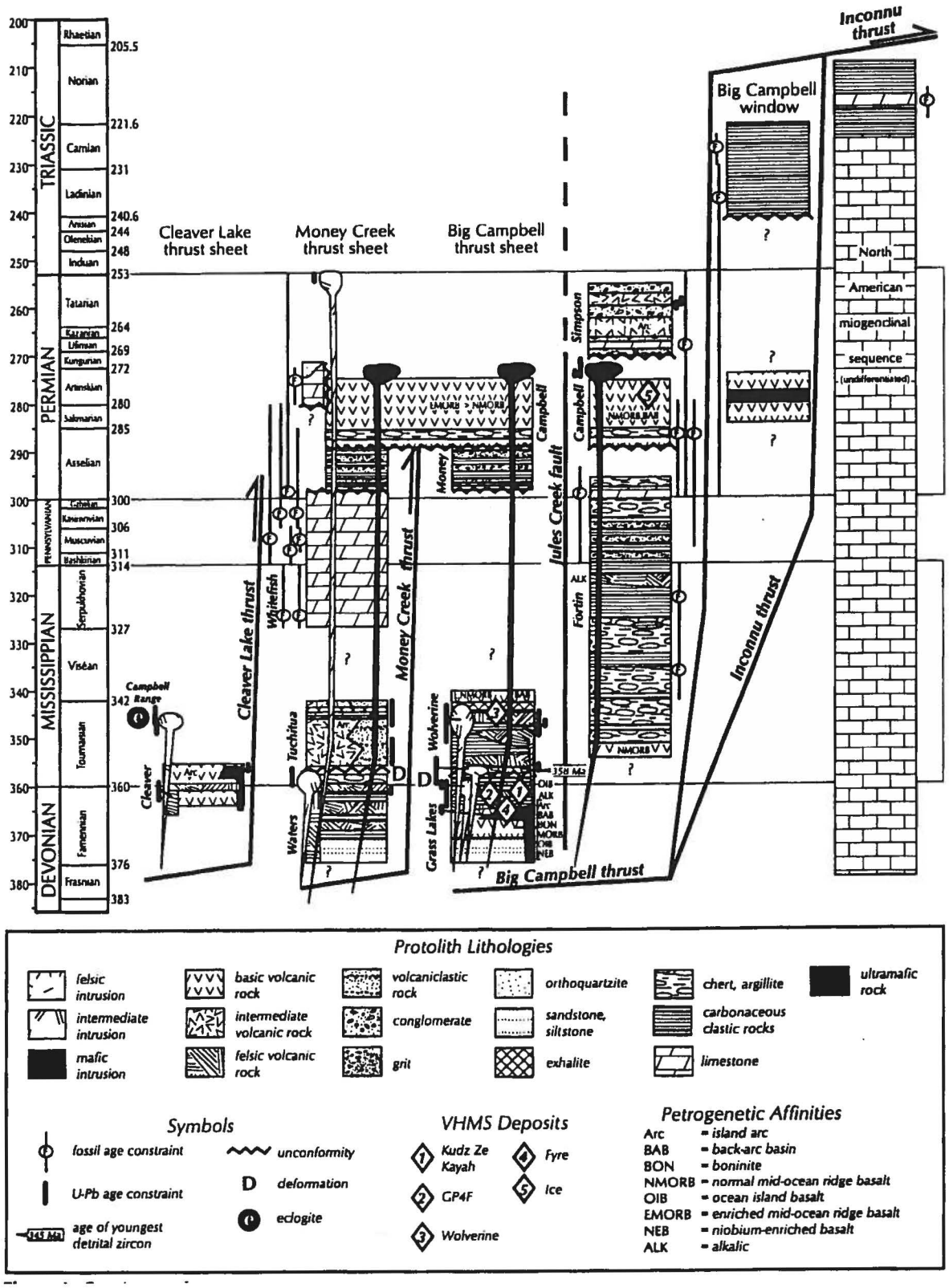


Figure 5. Stratigraphic and structural summary of Yukon Tanana and Slide Mountain Terranes, Finlayson Lake massive sulphide district. (from Murphy, 2004).

Conformably overlying the Fire Lake Formation is a mixed sequence of predominantly felsic metavolcanic rocks of the Devono-Mississippian ***Kudz Ze Kayah Formation***. The Kudz Ze Kayah Formation comprises planar laminated and strongly sheared, siliceous and variably carbonaceous and tuffaceous metasedimentary rocks and lesser biotite-muscovite-feldspar-quartz felsic metavolcanic schist that grade upwards and laterally into more massive granular to aphyric, sericite-quartz felsic metavolcanic schists (meta-ash/crystal tuff) and lesser, more massive to foliated aphyric (locally amygdaloidal) felsic cryptodomes/sills and feldspar±quartz augened schists (meta-porphyries) with minor calcareous psammite, mafic metavolcanic schists and black, carbonaceous phyllite. This unit correlates with Unit 3 described by Murphy (1997, 1998) and units MK of Murphy and Piercey (2000) and DK of Murphy et al. (2001).

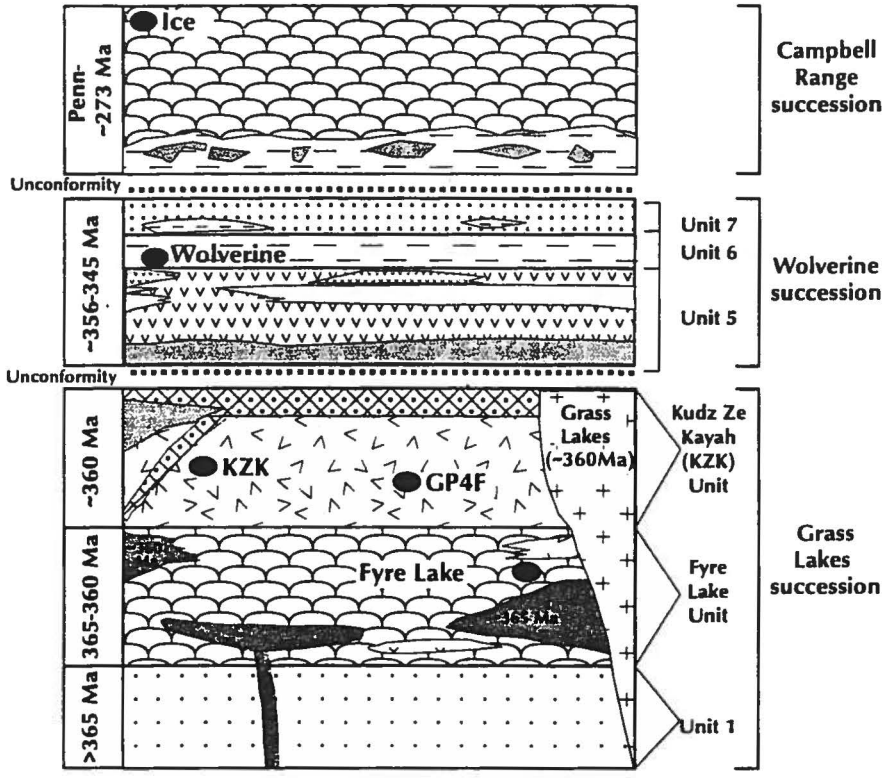


Figure 6. Simplified regional stratigraphic column for the Big Campbell thrust sheet (from Bradshaw et al., 2001).

The Kudz Ze Kayah Formation is host to 4 of the 5 known felsic VHMS deposits in the Finlayson Lake district, including the ABM deposit (potential insitu resource 13.7 Mt of 6.1% Zn, 0.9% Cu, 1.6% Pb, 139 g/t Ag and 1.4 g/t Au), the GP4F deposit (potential insitu resource 1.5 Mt of 6.4% Zn, 0.1% Cu, 3.1% Pb, 90 g/t Ag and 2.0 g/t Au), the small Fault Creek Zone (potential insitu resource 50 Kt of 7.1% Zn, 4.7% Cu, 1.0% Pb, 130 g/t Ag and 2.0 g/t Au) and the newly discovered R-15 Zone. Geochemically, the felsic metavolcanic rocks show HFSE-enriched (high temperature) signatures typical of extensional back-arc basin settings (Piercey et al., 2001).

The Kudz Ze Kayah Formation grades conformably upwards into a thick, poorly exposed sequence of grey to black, carbonaceous to locally calcareous phyllite and lesser siltstone and mafic metavolcanic phyllite/schist with minor blue quartz-bearing grits, conglomerate, psammite and quartzite of the Early Mississippian aged ***Wind Lake Formation*** (Murphy, 2004). This formation extends over a large area to the north of the ABM Deposit and represents the youngest sequence in the Grass Lakes Group. This unit correlates with Unit 4 described by Murphy (1997, 1998) and units Mu of Murphy and Piercey (2000) and DMcp of Murphy et al. (2001).

The Grass Lakes Group is intruded by the Lower Mississippian, peraluminous, commonly feldspar augened

granitoids of the Grass Lakes Plutonic Suite and by relatively young, Cretaceous peraluminous granitoids.

The Grass Lakes Group is unconformably overlain by rocks of the ***Wolverine Lake Group***. The interpreted unconformable nature of the contact is based on the presence of a coarse feldspathic grit/conglomerate unit (CWcl) containing eroded detrital feldspars and intrusive fragments at the base of the Wolverine Lake Group and the interpretation that the Grass Lakes Group have undergone 2 phases of deformation (including a Lower to Middle Mississippian (?) deformation event) while the Wolverine Lake Group has been deformed by only 1 phase of deformation (Murphy and Piercey, 1998, 2000).

The **Wolverine Lake Group** has been subdivided into either 3 or 4 subunits (Bradshaw et al., 2001). A lower package (Unit 1 of Bradshaw et al., 2001) comprising mixed conglomerate and carbonaceous phyllite with lesser coarse feldspathic sandstone and grits and an increasing proportion up-section of felsic metavolcanic, feldspar-quartz crystal-bearing phyllite/schist (felsic tuff) and lesser, localized felsic feldspar porphyritic porphyry occur south and east of Wolverine Lake. This unit correlates with Unit 5 described by Murphy (1997, 1998; Figure 6) and subunits Cwcl, Cwf, Cwq and Cwcp of Murphy and Piercey (2000) and MWcl, MWf and MWcp of Murphy et al. (2001).

The lower package is overlain conformably by interbedded carbonaceous phyllite, siliceous aphyric felsic metavolcanics and exhalative siliceous, magnetite Fe-formation, barite, local carbonate exhalite and massive sulphides. This unit correlates with Unit 2 of Bradshaw et al (2001), Unit 6 described by Murphy (1997, 1998; Figure 6) and subunits Cwt of Murphy and Piercey (2000) and MWt of Murphy et al. (2001).

The Wolverine-Lynx deposit (total resource 5.8Mt of 13.2% Zn, 1.4% Cu, 1.6% Pb, 373 g/t Ag and 1.8 g/t Au; Yukon Zinc Corporation) occurs as multiple massive sulphide lenses at the contact between Units 1 and 2 and appears to represent a transitional style of mineralization between VHMS and SEDEX styles of massive sulphide mineralization (Bradshaw et al., 2003). The footwall felsic metavolcanic rocks show HFSE-enriched (high temperature) signatures typical of extensional back-arc basin settings, identical to felsic rocks of the KZK Formation (Piercey et al., 2001). The siliceous hangingwall felsic rocks have lower HFSE contents possibly indicative of lower temperature melts.

The upper Wolverine Lake Group comprises a distinctive felsic fragmental unit (Unit 3) and a mixed sequence (Unit 4) of carbonaceous phyllite/argillite and greywacke with minor mafic metavolcanic flows and tuffs and minor thin, felsic fragmentals - Units 3 and 4 here correlate to Unit 7 on Figure 6. Locally developed diamictites and volcanic breccias contain both mafic and felsic fragments and may reflect local sub-basin development. Unit 4 correlates with Unit 6 described by Murphy (1997, 1998) and subunits Cwt of Murphy and Piercey (2000) and MWp and MWt of Murphy et al. (2001). Murphy et al. (2004) correlates this package with the Lower Permian ***Money Creek Formation*** (PCl of Murphy et al., 2001), which represents the uppermost sequence of layered Yukon Tanana Terrane rocks.

The Money Creek Formation (Unit 7 in Figure 6) of the Wolverine Lake Group appears to represent a conformable transition into a thick overlying sequence of mafic metavolcanic breccias and pillowed and massive mafic flows with minor intrusive gabbro/diabase and lesser maroon chert and argillite of the Lower Permian ***Campbell Range Formation*** of the Slide Mountain Assemblage (PCb and PCl of Murphy et al., 2001). This mafic metavolcanic sequence is thought to onlap both YTT rocks and Fortin Creek Group (SMT; Slide Mountain Terrane) metasedimentary rocks and the Jules Creek Fault. The Jules Creek Fault would represent a "leaky" transform fault (Murphy, 2004) that separates YTT rocks from the SMT. The Campbell Range Formation was previously referred to as the Campbell Range Succession by Murphy and Piercey (1999) and as SMT equivalents by Plint (199), Mortensen and Jilson (1985) and Mortensen (1983a). Geochemically, the mafic metavolcanics are oceanic tholeiitic MORB and minor back-arc basin basalts and host the mafic-type (Cyprus-type) Ice VHMS deposit (4.6 Mt of 1.5% Cu; Hunt, 2002), located approximately 50 kms northwest of KZK.

A sub-horizontal to moderately steep north to northeast dipping, penetrative ductile deformation fabric and locally preserved isoclinal folding with associated middle greenschist facies (chlorite-biotite grade) metamorphism affects all YTT rocks, but is particularly well developed in the Grass Lakes Group and less prominent moving up section into Wolverine Lake Group. Axial planar isoclinal folding is typically verging to the south-southwest suggestive of low angle back thrusting. As mentioned above, these fabrics and metamorphism likely reflect 2 phases of deformation; an early Mississippian event and a Late Permian to early Triassic event related to a continent-arc collision.

Mid-Permian to Triassic aged immature clastics, comprising micaceous argillites, siltstones and sandstones of the ***Simpson Lake Group*** (Murphy, 2004) unconformably overlie the deformed and metamorphosed YTT and SMT rocks.

6.0 2004 FIELD WORK

The 2004 field program involved both a spring phase of linecutting and geophysical surveys in mid-April to early May and a summer phase of work (completion of linecutting, geophysical surveys, mapping and diamond drilling) in late June to late September. The work was focussed on the R-15 block and consisted of the following:

- Linecutting, totaling 91.1 lkms (73.05 lkms cut and chained, 18.05 lkms cut), was completed between the period April 17-May 2, 2004 and June 18-July 16, 2004. Portions of Grids 1, 2 and 6 (9.39 lkms total) are located on the adjoining TAG property.
- Ground geophysical surveys comprising 63.6 lkms of UTEM and 55.1 lkms of MAG were conducted between April 23-May 2, 2004 and from June 29-July 17, 2004. Of this total, 6.82 lkms of UTEM and 0.4 lkms of Mag were conducted on the TAG property.
- Minor detailed (1:10,000) geological mapping between July 8-17, 2004 was confined to hills and ridges on and surrounding the R-15 option. Several days were spent on the geophysical grids but did not result in the finding of outcrop.
- Diamond drilling comprised 8 DDHs totaling 1,726.5 metres testing a total of 4 targets:
    - 7 DDHs (R04-001 to R04-007; totaling 1,480.5 m) were completed on the R-15 option (Grids 2 and 5),
        - 4 DDHs (R04-001 and R04-005 to 007) were completed on Grid 2 in the immediate R-15 Zone area,
        - 1 DDH (R04-002) was completed on the east end of Grid 2 to test a UTEM/MAG feature representing the southeast extension of the R-15 Zone, and,
        - 2 DDHs (R04-003 and 004) were completed on Grid 5 to test a linear, weak UTEM/Mag anomaly to the southeast of the R-15 Zone.
    - 1 DDH (K04-199; totaling 246.0 m) was completed on the TAG Property (Grid 2) to test a UTEM feature north of the newly discovered R-15 Zone.

This report summarizes and discusses work completed on the R-15 block.

6.1 LINECUTTING

The 2004 program involved 91.1 line kms of linecutting (73.05 lkms cut and chained, 18.05 lkms cut as loops) on 8 contiguous geophysical grids and was performed by Kaska Minerals of Ross River, Yukon (Figure 7). Of the total 91.1 line kms of linecutting completed, only 9.39 line kms were cut off the R-15 option on the TAG property.

Cutting was initially planned for completion in the spring, prior to "breakup" . However delays and an early "breakup" resulted in the necessity of a second phase of work to complete the grids. Linecutting during the second phase of work was also conducted by Kaska Minerals and was based out of a small fly camp located on the R-15 block. Portions of Grid 2 survey and base lines required re-cutting to enable the surveying of Grids 6 and 7 during the second phase of work.

6.2 GROUND GEOPHYSICAL SURVEYS

The 2004 program involved UTEM and magnetics surveys to test for the southeastern extension of the immediately adjacent GP4F Zone. The geophysical program on R-15 got underway in late-April; however, due to a late start, only two UTEM loops were surveyed before "break-up" conditions caused a halt to the spring program. The bulk of the program was surveyed in the late-June to early-July period. UTEM profiles are shown in Appendix 2.

The geophysical program outlined several encouraging conductors, particularily the main R15A airborne EM/Mag anomaly on Grid 2 (Figure 8). The corresponding ground anomaly consists of a significant channel-2 to channel-4 conductor, identified across a 700 metre strike length, and a second conductor, which appears to be the faulted offset of the first conductor, extending for another 700 metres to the east. This second conductor is slightly less conductive, producing channel-3 and channel-4 responses. Both conductors have a direct ground magnetic response.

To provide a better interpretation of the dip and position of the conductors, an additional transmitter loop (Grid 6) was positioned to the north of the R15A conductors. Both the UTEM and magnetic responses suggest a shallow north dip. Interestingly the magnetics extend further to the south than the up-dip edge of the conductors and suggest a deeper magnetic horizon than that directly associated with the conductors (i.e. altered footwall felsic metavolcanics).

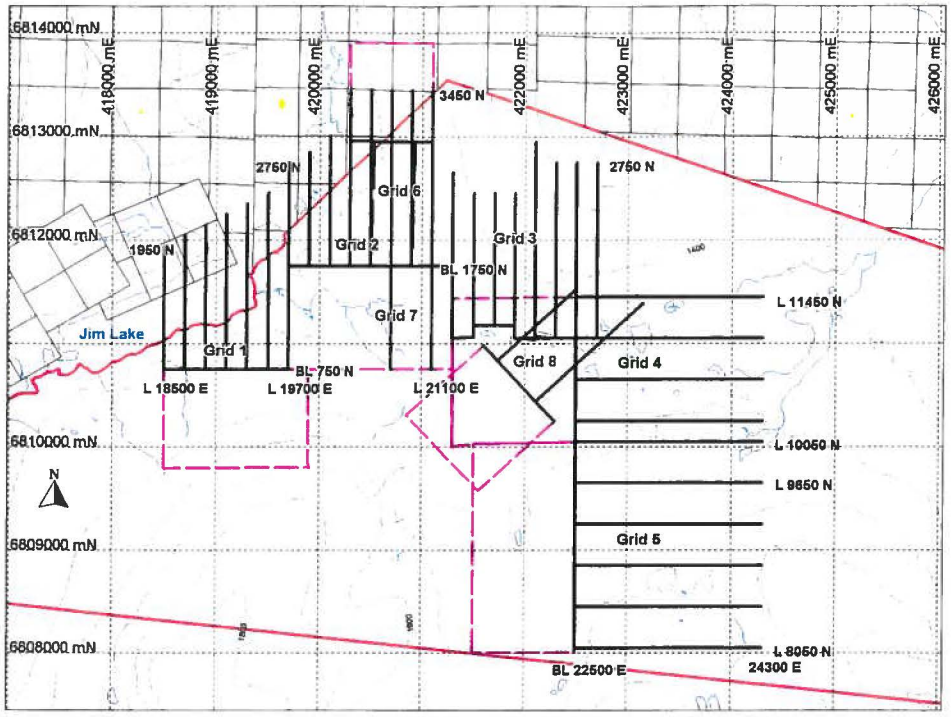


Figure 7. Location of 2004 geophysical grids with UTEM loops (pink dash) on the R-15 Block.

The 2004 Grid 2 conductors are more continuous than GP4F and thus were considered high priority targets. Initial magnetic modeling showed a thick conductive horizon associated with the R15A conductor, though the magnetic susceptibility logging of 2004 drill core indicates that there are several magnetic intervals over this section, with the conductor related to only one magnetic horizon. Subsequent drilling of 5 drill holes (R04-001, 002, and 005-007) into these conductors discovered the R-15 Zone. To the west the conductor is traceable, but weaker, extending towards the GP4F zone, which is only about 600 metres to the west. The faulted eastern edge of the GP4F Zone along a NE-trending fault is recognizable as offset magnetics and weak localized conductors near the R15 boundary.

To the southwest of R15A, the UTEM survey covered airborne conductors within North Lake (Jim Lake) and in general showed responses typical of conductive lake bottom sediments. However on two lines, the conductors are significantly stronger and have a direct and localized magnetic signature. With its short strike length and position under the lake, further testing of this conductor would only be warranted if positive results came from testing other targets which have more significant strike length. These targets remain untested.

To the southeast of R15A, another conductor was identified. Though much weaker than R15A, this conductor shows only channel-5 responses and appears to be situated slightly south of a long magnetic feature. This conductor was traced over 3 lines on Grid 2, though the western limit was not defined as it extends beyond the grid in that direction. However its weak EM signature, short strike length and lack of a direct magnetic correlation make this a lower priority target. No drilling was carried out on this target.

In the eastern portion of the 2004 grids (Grids 4 and 5), lines were run east-west (400 metre spacing) to test a portion of the favourable stratigraphy that trends approximately north-south, reflecting folding and the effects of the large Cretaceous intrusive to the southwest. The target stratigraphy appeared to be traced with the magnetics, and a weak to moderate conductor was identified, extending for more than 2200 metres and beyond the southern limit of the grid. The conductor produced channel-4 responses over most of its length; locally with associated magnetic responses. The strongest portions of the conductor were coincident with high magnetics. Though this conductor is a long way from known mineralization, and had a rather formational appearance, it was drill tested not only to evaluate the conductor, but to gain stratigraphic information in this overburden covered area. Two drill holes (R04-003 and 004) were completed.

6.3 GEOLOGICAL MAPPING

Minor detailed geological mapping was confined to 3 areas of hills and ridges on and surrounding the R-15 option (Figure 9). Outcrop exposure low on the mountain slopes, in the area of the 2004 grids, is very poor. Several days were spent on the geophysical grids but did not result in any outcrop.

Rocks of the North River Formation were first noted immediately south of Jim Lake (northeastern North Lakes) by Murphy (1998). Murphy and Piercey (1999) describe the North River Formation as comprising tan to brown weathering micaceous quartzite, quartzose psammite and biotite-muscovite-quartz metapelite with minor biotite-muscovite-feldspar-quartz schist (felsic metavolcanic) and calcareous schist/metapelite. The sequence is relatively flat to shallow N-dipping and is marked at its top by a thin, poorly exposed, interval of thin banded to strongly contorted, light grey carbonate/marble, particularly well developed on the northern dip-slope south of Jim Lake.

Overlying the North River Formation, in this area, is a relatively thin package of pale to medium green, weakly calcareous actinolite-feldspar-biotite-chlorite schists of the Fire Lake Formation which outcrop along the ridgeline (Murphy and Timmerman, 1997; Murphy and Piercey, 1999). Mafic metavolcanic schists in this area typically show well developed (0.5-2.0 cm) red garnet +-biotite porphyroblasts developed in the thermal aureole of the Cretaceous granitic intrusion, located immediately to the east. Rocks of the North River and Fire Lake Formations are intruded by a number of strongly foliated, feldspar-augened orthogneiss sills/dykes of the Grass Lakes Suite.

To the east, on two mountains along the southeastern corner of the R-15 block and extending to the south onto the Goal Net claims of Yukon Zinc, are cliffs and well exposed dip-slopes exposing a several hundred meter thick, shallow SSW and NNE-dipping, sequence of lower Kudz Ze Kayah Formation tuffaceous metaclastic facies. Thes rocks help define a shallow NW-plunging anticline (Figure 9). This metaclastic package comprises a mixed, fine-grained, strongly foliated and laminated (near mylonitic with evidence of minor isoclinal intrafolial folds) to interbanded sequence of dark grey to brown weathering chloritic muscovite-feldspar-biotite-quartz schists, thought to represent tuffaceous wacke and argillaceous wacke, and lesser fine-grained, grey to rusty weathering siliceous biotite-muscovite-sericite-feldspar-quartz schists (felsic metavolcanic tuff). Occasional feldspar crystals (<3 mm, up to 15-20%) are present suggestive of reworked felsic tuff. Minor biotite-chlorite+-calcite mafic sills/dykes are locally present. At the base of the cliffs, above 3 small lakes south of R-15, possible mafic metavolcanic rocks, dark variably carbonaceous and siliceous phyllite and minor carbonate (Fire Lake Formation?) occur as the stratigraphically lowermost exposed units.

Dip-slope exposures to the northeast contain numerous intervals of feldspar and feldspar-quartz porphyry sills/dykes (possible felsic tuff) in the area of the eastern part of Grid 5. Further east along the slope, a more coherent package of slabby, fine-grained biotite-muscovite-feldspar-quartz schists with 3-25% feldspar crystals and trace fine disseminated pyrite representing felsic metavolcanic porphyry(?), tuff and crystal tuff (more typical of the upper/proximal volcanic facies of the Kudz Ze Kayah Formation) is found towards the base of the sequence, in an area on strike with Yukon Zinc's Redline property. Minor disseminated fine-grained pyrite is present throughout; thin banded fine pyrite+-sphalerite in sericitic felsic metavolcanics was noted at one locality off the R block.

As mentioned, the 2004 grid areas contain no outcrop exposure; however, the 2004 diamond drilling does indicate the presence of typical "proximal" felsic metavolcanic units (tuffs, lapilli tuff, porphyry) of the Kudz Ze Kayah Formation that host the ABM and GP4F deposits, in addition to tuffaceous and variably carbonaceous metaclastic sequences more typical of the "distal" and/or lower Kudz Ze Kayah Formation.

The mountain slope on the northern part of the R-15 block (Grid 3 area) appears to be underlain by poorly exposed distal metavolcanic and biotitic, tuffaceous metaclastic units of the Kudz Ze Kayah Formation. Lithologies here include strongly sheared, fine-grained biotite-quartz-feldspar schists containing trace-20% coarse feldspar augen (possible augen orthogneiss?) and locally abundant 3-4 cm siliceous lapilli (representing tuffaceous wacke and re-sedimented tuff/lapilli tuff/crystal tuff) and darker more biotitic, metaclastic schists (argillaceous wacke) with occasional feldspar augen and lapilli. This sequence is interpreted as the upper Kudz Ze Kayah Formation in this area, above the more proximal felsic metavolcanic facies seen in drilling at the newly discovered R-15 Zone. Due to this more distal, mixed re-worked metavolcanic and metaclastic setting, the transition from Kudz Ze Kayah Formation into the overlying Wind Lake Formation in this area is not well defined.

LITHOGEOCHEMISTRY

A total of 45 drill core samples from the R-15 Zone were collected and analyzed for whole rock and trace element geochemistry (Appendix 4).

In this environment, Al_2O_3, TiO_2 and the high field strength elements (HFSE) Zr, Y and Nb are considered to be

immobile during alteration and metamorphism. Based on the immobile element geochemistry, the felsic metavolcanic rocks of the KZK Formation from the R-15 Zone are classified as alkaline (to subalkaline) rhyolite-dacite of calc-alkalic to transitional affinities. The felsic metavolcanic rocks also plot within the field for within-plate felsic rocks with predominantly A-type affinities. Elevated HFSE content is reflected by high (>500 ppm) Zr contents typical of peralkaline rocks. Mafic metavolcanic rocks are classified as subalkaline to alkaline basalt of calc-alkalic to transitional affinities.

Felsic metavolcanic rocks are similar geochemically to favourable KZK Formation, HFSE-enriched (high temperature) felsic volcanics described by Piercey et al. (2001).

6.4 DIAMOND DRILLING

In 2004, 8 DDHs were completed on the project. A total of 7 DDHs (R04-001 to 007; Table 1), totaling 1,480.5 metres, were completed on the R-15 block between July 25-September 23, 2004 (Figure 9).

Drill hole logs, runs and recoveries and geophysical property measurements are in Appendix 3.

All drilling was conducted by E. Caron Diamond Drilling Ltd. of Whitehorse, Yukon, using a Fly-38 drill supported by an Astar 350B from Trans North Helicopters Ltd. of Whitehorse, Yukon. Drill core for all holes are stored at the KZK camp core facility.

TABLE 1. 2004 R-15 DRILL HOLE SUMMARY

HOLE #	PROPERTY, GRID	UTM COORD (NAD27)	GRID COORD	COLLAR AZIMUTH	COLLAR DIP	HOLE LENGTH (m)
R04-001	R-15, Grid 2	420501E 6812634N	L20+500E 2+635N	180	-75	260.9
R04-002	R-15, Grid 2	420905E 6812419N	L20+900E 2+420N	180	-60	245.7
R04-003	R-15, Grid 5	423197E 6809645N	3+200E L9+650N	270	-60	187.8
R04-004	R-15, Grid 5	423280E 6809237N	3+275E L9+250N	270	-70	233.5
R04-005	R-15, Grid 2	420300E 6812651N	L20+300E 2+650N	180	-60	229.7
R04-006	R-15, Grid 2	420300E 6812565N	L20+300E 2+565N	180	-70	135.2
R04-007	R-15, Grid 2	420526E 6812775N	L20+500E 2+775N	-	-90	223.4

A total of 113 core samples were collected and were analyzed for Cu, Pb, Zn, Ag, As, Cd, Co, Ni, Fe, Mo, Cr, Bi, Sb, V, Sn, W, Sr, Y, La, Mn, Mg, Ti, Al, Ca, Na and K by ICP, Au by Aqua Regia decomposition/AAS and Se by Multi-acid digestion/ICP at Global Discovery Labs in Vancouver. Intervals with greater than 1% Pb, Zn or Cu were assayed for Cu, Pb, Zn and Fe (total) by Assay and Ag by Acid decomposition/AAS. All data is presented in Appendix 4. An additional 45 samples were collected and analyzed for major/minor oxides and Zr, Y and Nb by XRF. This whole rock data can also be found in Appendix 4.

The most significant result of the 2004 program was the discovery of the R-15 Zone.

Drilling in the R-15 Zone area on Grid 2 was conducted along 3 grid lines: L20900E, 20500E and 20300E (Figure 11). The UTEM survey of Grid 2 was completed in the spring. The subsequent ground Mag was conducted over re-cut grid lines in July. Holes R04-001 and R04-002 are located along their respective original spring-cut lines, off the re-cut lines which deviated away from the original lines. Hole R04-007, located on L20+500E as was R04-001, is located on the re-cut line as it was primarily targeting a ground magnetic anomaly.

R-15 ZONE GEOLOGY

The following brief description of the R-15 Zone geology as summarized from 5 DDH logs and the 3 cross sections.

The R-15 Zone stratigraphy can be subdivided into 2 broad units; the upper unit locally containing a distinctive 3rd subunit:

1. Upper Felsic Metavolcanic Sequence
   a. Upper Metaclastic Sequence
2. Lower Tuffaceous Metaclastic Sequence

This broad stratigraphy is consistent from hole to hole, but shows considerable internal lithological/facies/alteration variability.

The entire sequence is cut by abundant, thin, fine-grained, dark brown green grey calcite-chlorite-biotite schists interpreted as mafic dykes/sills (MD, MS). These dyke/sills are typically quartz-calcite veined and unmineralized, but can contain up to 2-3% fine disseminated pyrite±pyrrhotite.

The **Upper Felsic Metavolcanic Sequence** was intersected in all DDHs and comprises a package of strongly foliated, yet relatively massive, light green grey felsic metavolcanic schists including fine-grained, granular felsic tuffs (FTG, FT) and locally significant intervals of lapilli tuff (FTL) and quartz-phyric crystal tuff (FTCZ, FTC) intruded by several, thin, variably feldspar porphyritic felsic intrusive sills (FP) and numerous thin mafic dyke/sills. Minor intervals logged as variably biotitic epiclastic tuff (ET) and tuffaceous wacke (TSK) are locally present.

The felsic tuffs comprise 3 basic varieties: fine-grained tuff, crystal-bearing tuff and lapilli tuff. Fine-grained felsic tuffs (FT) are typically fine-grained, aphyric, light to medium green grey coloured, carbonate-chlorite-muscovite-sericite-quartz schists. These tuffs grade into very similar, fine-grained, granular textured schists (FTG). Both fine and granular tuffs can grade into crystal-rich tuffs (FTCZ, FTC) containing <5-10%, light bluish grey quartz crystals (<1-5 mms) set in a fine granular carbonate-chlorite-muscovite-sericite-quartz matrix. Both granular tuffs and quartz crystal bearing tuffs can contain occasional light grey, siliceous,aphyric quartzo-feldspathic lithic lapilli and grade into intervals of lapilli tuff (FTL) containing 10-40% stretched lapilli up to 2-30 mm in size. Minor feldspar crystal fragments are locally present. These units are typically moderate to strongly muscovite-sericite altered and contain trace to locally 10% fine disseminated, wispy to blebby pyrrhotite-pyrite throughout. More significant mineralization comprises increased fine disseminated sulphides (<5-10% sphalerite-galena-pyrite-pyrrhotite+-arsenopyrite) and sulphide-calcite-chlorite-bearing quartz veinlets related to increasing sericite-chlorite alteration. Thin intervals of heavy disseminated (25-40%) sulphides to semi-massive (40-60%) sulphides within more intense, proximal albite-Fecarbonate-sericite-biotite-chlorite alteration is present in R04-002 and R04-007.

Thin intervals of relatively massive, homogenous, fine to medium-grained, feldspar-biotite-chlorite-sericite-quartz schists containing rare to abundant (20-60%) cloudy white subhedral feldspar (+-silica) phenocrysts with diffuse edges and rare quartz phenocrysts are interpreted as subvolcanic, feldspar porphyry intrusive/sills (FP). These units are found in the lower part of the sequence and contain trace-3% fine disseminated pyrrhotite-pyrite.

Minor thin intervals of medium brownish grey, fine-grained biotitic (5-15%), epiclastic tuff (ET) and variably silica-biotite-chlorite altered(!?), dark to medium brownish grey, thin banded to laminated garnet-chlorite-feldspar-quartz-biotite tuffaceous wacke (TSK?) are locally present high in the sequence in holes R04-005 and R04-007. These intervals, particularily in R04-005, likely reflect more intense alteration and weak mineralization of FTG and FTCZ lithologies.

Three of the four R-15 Zone holes intersected an **Upper Metaclastic Sequence**, occurring towards the base of the Upper Felsic Metavolcanic Sequence. This metaclastic unit varies between 7-54 m thick and consists of a dark grey to black, mixed package of metasediments comprising thinly interbanded (contorted crude banding/bedding; now transposed parallel to S_2) siliceous siltstone, mudstone and wacke. Mudstone occurs as minor thin, black argillaceous to weakly graphitic+-biotite seams (not carbonaceous). Medium to dark greenish grey to brownish grey wackes are typically chlorite-biotite-quartz-rich and variably calcareous; cleaner siltstone interbeds are finer-grained, medium-dark grey and more quartz-dominant (siliceous). Rare coarser grained biotite-quartz intervals may represent coarse sandstone to grits? Rare thin interbanded, medium grey marble is locally present. Abundant evidence of tight isoclinal folding is evident throughout. Sulphides comprise 3-5% (up to 10% locally) wispy disseminated to blebby pyrrhotite+-pyrite-chlorite and as late calcite-quartz veinlet/fracture fillings and S_2 parallel seams. Pervasive to irregular patchy calcite-chlorite alteration commonly overprints originally more biotitic lithologies.

The R-15 Zone occurs below the Upper Metaclastic Sequence, at or near the base of the Upper Felsic Metavolcanic Sequence.

The immediate hangingwall of the sulphide zone comprises a medium to dark brownish green grey, mixed interval of fine granular to lapilli-bearing felsic tuff and minor biotitic/epiclastic(?) tuff that is increasingly silica-biotite-calcite-chlorite altered and mineralized with bands/stringers(?) of bright green feldspar(albite?)-quartz-chlorite with

trace-5% fine disseminated to blebby, S2 parallel, sphalerite-pyrrhotite-chalcopyrite and rare arsenopyrite. Thin zones of crudely banded, fine-grained sulphides possibly representing a favorable hangingwall horizon was noted in R04-007.

The **R-15 Zone** (averaging 0.32% Cu, 7.17% Pb, 14.87% Zn, 88 g/t Ag, 283 ppb Au and 7 ppm Se) was intersected in 4 DDHs over a 200x250 m area and varies from 1.3-3.4 metres in thickness. The zone comprises 2 main styles of very high grade Zn-Pb mineralization (Figure 10; see below intercepts). The entire intercept in R04-001 comprises approximately 80% very fine, eutectic-like to graphically intergrown (recrystallized) mixture of pyrrhotite-sphalerite+-chalcopyrite and minor pyrite with floating (matrix-supported), rounded porphyroblastic alteration gangue (plagioclase+-magnetite-calcite-biotite) and subrounded lithic fragments (tuffaceous metasediments and quartz vein material). This style of mineralization grades into more typical, fine to medium-grained massive sulphides comprising buckshot-textured pyrite with intergrown sphalerite-galena+-pyrrhotite+-magnetite+-chalcopyrite with minor silica-plagioclase+-chlorite-biotite gangue. This style is much more akin to the OB style of mineralization at the ABM and GP4F deposits. The R-15 zone remains open down-dip and on strike. The up-dip edge is defined by UTEM, but its nature is unknown. Unlike to GP4F Zone, the R-15 Zone appears to be up-right.

The immediate structural, and presumed stratigraphic, footwall to the R-15 Zone comprises a variably chlorite-biotite+-silica-muscovite altered crystal-rich tuff (FTCZ) containing distinctive <5-15%, <1-3 mms opalescent bluish white quartz crystals. Rare feldspar crystals were observed locally. This unit is typically well mineralized with heavy sulphide disseminations and veinlets/veins associated with strong proximal feldspar-silica-biotite-chlorite alteration and porphyroblastic magnetite+-garnet.

The thickness and intensity of footwall mineralization and quartz-phyric tuff is thought to provide the best vector toward mineralization and seem to suggest improving mineralization and alteration up-dip and toward the west, and toward the GP4F Zone. The exception is R04-007 in which massive sulphides and thickness of the footwall unit thicken down-dip; although footwall alteration is relatively weaker than that in R04-001. The UTEM data suggests the presence of a sulphide sheet with no apparent down-dip edge. Unfortunately, the EM conductor to the north of the R-15 Zone interferes with the R-15 conductor to the north making any northern edge difficult to interpret.

The zones near surface, shallow north dipping (5-17^0) geometry and relatively consistant thickness of about 3 metres suggest that the zone could be easily accessed and mined from a short decline.

The **Lower Tuffaceous Metaclastic Sequence** comprises a thick lower package of strongly foliated, mixed lithologies interpreted to represent a sequence of interbedded tuffaceous wacke, mafic metavolcanic rocks and lesser metaclastic rocks. Tuffaceous wackes are represented as medium to dark brown grey, thin banded to laminated quartz-biotite schist which are variably overprinted by weak to strong, medium green chlorite+-amphibole-calcite-epidote alteration and veining. Mafic metavolcanic tuffs are present as light to medium green, thin banded to massive, fine-grained biotite-chlorite schist with lesser quartz-amphibole-feldspar. Thin interbanded intervals of medium brown grey to dark grey, thin banded (local bedding is evident) biotite-quartz schist, siliceous wacke/sandstone and minor mudstone/siltstone are also present. The entire package is intruded by minor fine-grained to locally feldspar porphyritic felsic dyke/sills of the Grass Lakes Suite.

This lower sequence is very similar to and correlated with the thin banded, tuffaceous metaclastic sequence mapped on surface over much of the southeastern part of R-15 and extending to the south onto Yukon Zinc's property.

The following descriptions of the R-15 Zone geology is based on drill logs and sections.

The R-15 Zone drilling was completed on 3 sections; from west to east, L20300E, L20500E and L20900E.

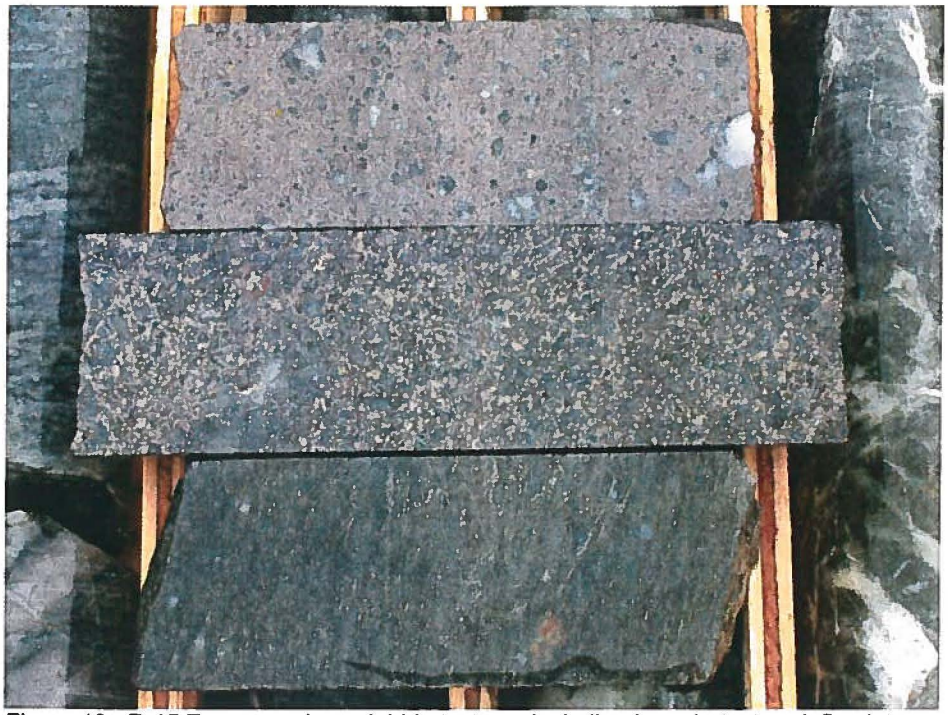


Figure 10. R-15 Zone massive sulphide textures including breccia-textured, fine intergrown sphalerite-pyrrhotite (top), buckshot-textured, pyritic massive sulphides (middle) and footwall chlorite-silica altered quartz-phyric felsic tuff (bottom) (DDH R04-005).

SECTION L20300E : DDH R04-005, R04-006

Two drill holes (R04-005 and R04-006) were completed on this section to test a channel 3 UTEM conductor and a coincident MAG anomaly picked at 2500N on Grid 2, L20300E (Figure 11). The EM/MAG target is seen across 600 metres strike length on 4 lines. Lines 20300E and 20500E represented the strongest portions of the geophysical target. R04-001 on L20500E was the first hole drilled to test the strongest conductivity (Channel 2; see below).

DDH R04-005 (-60^0; 229.7 m) was collared at 2650N to test approximately 100 metres down dip of the interpreted up-dip edge of the UTEM conductor.

This hole intersected the Upper Felsic Metavolcanic Sequence including a relatively thick (19 m) upper, sericite-muscovite-rich quartz crystal-bearing felsic tuff (FTCZ; felsic lapilli are present and increase in proportion down hole) and a thinned (8 m) but distinctive Upper Metaclastic Sequence. Below the upper metaclastic unit, alteration and mineralization increase. Massive sulphides were intersected between 79.9-83.0 m, including very fine intergrown mixture of pyrrhotite-sphalerite+-galena and minor pyrite (79.9-80.6 m), buckshot-textured massive sulphides (80.6-81.3 m) and semi-massive sulphides in FTCZ (81.3-83.0 m). Pyrrhotite and minor porphyroblastic magnetite is reflected by the strong magnetic susceptibility readings from the massive sulphide.

The following is a summary of significant mineralized intervals.

	FROM	TO	INTERVAL	Cu %	Pb %	Zn %	Ag g/t	Au ppb	Se ppm	As ppm
OMS	**79.9**	**83.0**	**3.1**	**0.39**	**7.47**	**14.97**	**95.8**	**380**	**<5**	**2**
including	79.9	80.8	0.9	0.55	9.05	20.98	123.2	242	<5	2
	80.8	81.9	1.1	0.29	7.55	13.97	96.3	308	<5	3
	81.9	83.0	1.1	0.37	6.09	11.04	73.0	566	<5	<2
FTCZ	83.0	100.2	17.2	0.11	1.01	1.85	7			

Bi values for massive sulphides are below detection; Sb averages 23 ppm.

The footwall from 83.0-96.7 metres comprises strongly altered quartz-bearing felsic tuff (FTCZ) containing 1-3%, <3 mm subrounded to rounded light bluish grey opalescent quartz crystals scattered throughout; locally grades into lapilli tuff. Fine porphyroblastic biotite and minor magnetite is also present throughout. Mineralization consists of 5% veinlets and wispy disseminations of sphalerite-pyrite-pyrrhotite; minor very fine-grained galena and trace chalcopyrite. Alteration is reflected in the high magnetic susceptibility readings collected from the footwall FTCZ.

Initial EM interpretations suggested the conductor to be deeper than that indicated by R04-005. This coupled with uncertain dips and uncertainty regarding the nature of the up-dip edge of the conductor lead to the drilling of DDH R04-006.

R04-006 (-70^0; 135.2 m) which was collared at 2565N and intersected a similar sequence of lithologies to that of R04-005. The upper, quartz crystal-bearing felsic tuff (FTCZ) is present but is moderate-strongly chlorite-biotite altered (logged as TSK – tuffaceous wacke?). The Upper Metaclastic Sequence has thickened to approximately 15 m. Massive and semi-massive high grade sulphides were intersected between 68.5-71.9 m comprising buckshot textured, fine to medium-grained sulphides with only minor thin intervals of very fine intergrown pyrrhotite-sphalerite.

The following is a summary of significant mineralized intervals.

	FROM	TO	INTERVAL	Cu %	Pb %	Zn %	Ag g/t	Au ppb	Se ppm	As ppm
OMS	68.5	71.9	3.4	0.20	7.09	15.84	68.0	268	16	12
Including	68.5	70.6	2.1	0.16	8.14	18.91	78.1	318	14	13
	70.6	71.9	1.3	0.26	5.40	10.87	51.7	188	19	10
FTCZ	71.9	100.8	28.9	0.08	1.35	2.36	6.0	<10	12	<2

Bi (11 ppm) and Sb (21 ppm) values for the massive sulphide are low.

The footwall FTCZ unit from 71.9-100.8 metres is thicker and more intensely altered and mineralized relative to the footwall in R04-005. The unit comprises medium to dark grey green, fine-grained chlorite-quartz tuff with trace-8%, distinctive light grey to slight blue grey, <1mm quartz crystals. Magnetite porphyroblasts (1-4%, 1-3 mm) are present throughout; garnet porphyroblasts are rare. Trace-8% fine disseminated pyrite-pyrrhotite and occasional pyrrhotite-galena-sphalerite veinlets are present throughout. As with R04-005, alteration is reflected in the even higher magnetic susceptibility readings collected than in R05-006. In addition, a thin lower grade horizon of pyrrhotitic massive to semi-massive sulphides and altered tuff is present at 87.2-88.1 m, within the FTCZ and is reflected by very high magnetic susceptibility readings.

The Lower Tuffaceous Metaclastic Sequence is recognizable in both holes as a darker, thin banded (strongly sheared), mixed package of biotitic quartz schist (tuffaceous wacke?) and lesser dark metasiltstone/mudstone and minor mafic metavolcanic tuff cut by minor variably feldspar porphyritic felsic dykes/sills.

The UTEM anomaly on L20300E is clearly due to the R-15 Zone. The R-15 Zone is located at 65 metres depth, below 20 metres of overburden, and has a consistent +-3 metre thickness over the 100 metre dip length. The zone is surprisingly, relatively flat, dipping 5^0 to the north. The coincident MAG anomaly reflects both the sulphide zone and alteration within the immediate footwall unit. The nature of the up-dip UTEM conductor edge remains uncertain; one possibility, a sheared isoclinally folded hinge, is depicted on the cross section.

Alteration and thickness vectoring point up-dip toward R04-006; although only 2 intercepts are present on the section. The UTEM conductor and associated MAG both weaken to the west on L20100E, suggesting limited room for improvement in this direction. Although there is no apparent down dip edge to the EM conductor, the ground MAG anomaly appears to weaken approximately 100 metres down dip from R04-005.

A weaker MAG anomaly is seen to extend 520 metres to the south of the conductor edge on L20300E; this anomaly is thought to reflect the altered footwall unit. This southern edge may mark the subsurface contact of the Lower Tuffaceous Metaclastic Sequence.

SECTION L20500E : DDH R04-001, R04-007

Two hundred metres to the east, on L20500E of Grid 2, two more drill holes were drilled into the R-15 Zone.

R04-001 was drilled to test approximately 125 metres down dip of the up-dip edge of a channel 2 UTEM conductor located at 2475N (Figure 12). A close examination of the MAG suggests a "weaker" response coincident with the EM conductor and a stronger flanking MAG feature to the north of R04-001. This EM conductor represented the strongest conductivity associated from the 2004 UTEM survey. It was therefore selected as the initial target to be drilled.

DDH R04-001 (-75^0; 260.9 m) was collared at 2650N and intersected a thick package of Upper Felsic Metavolcanic Sequence tuffs. The package above the upper metaclastics comprises light to medium green grey, moderate to strongly sericite-muscovite altered lapilli tuff and lesser, fine granular tuffs; minor trace-20% whitish feldspar and trace-5% quartz crystals were noted locally. A higher proportion of felsic lapilli tuffs (FTL) are present in this hole relative to R04-005 and 006. Sulphides comprise 2-10% very fine to fine-grained, streaky and blebby disseminated pyrrhotite+-pyrite and as thin bands of sulphide (+-sphalerite) with silica (vein material?) increasing in intervals of increasing sericite-biotite-chlorite alteration. The interval 37.3-37.65 metres, comprises several thin (1-4 cm) silica-sulphide bands (veins/stringers?) with heavy (30-40%) disseminations of fine to medium-grained, recrystallized galena-pyrrhotite-sphalerite-pyrite in tuff and a 15 cm wide quartz-sulphide vein containing 30% remobilized sulphides as large massive clots of dark grey, fine-grained galena and dark greenish grey sulphosalts with minor arsenopyrite and chalcopyrite. Pyrite and light honey brown sphalerite occur near the vein margins. This interval assayed 5.8 g/t Au and 1491.3 g/t Ag. Mineralization is characterized as containing high As values ranging between 305-32610 ppm. The high pyrrhotite content is reflected by high magnetic susceptibility readings.

The Upper Metaclastic Sequence in R04-001 (54 metres; 75.2-129.5 m) is notably thicker than on section 20300E. In addition to the typical dark, thin banded metasiltstone, mudstone and wacke, this interval contains intervals of medium to dark greenish grey, weakly calcareous chlorite-calcite-biotite-quartz wacke and locally abundant interbanded medium grey marble. This unit is thinly interbedded/banded but is strongly deformed and transposed parallel to S2. Sulphides comprise trace-2% pyrrhotite. Minor lapilli tuff and feldspar porphyry sills/dykes are noted in the package.

Below the metaclastic sequence, the felsic metavolcanics are increasingly chlorite-biotite-silica+-carbonate altered. The R-15 Zone was intersected at 136.0-137.3 metres and consists of massive fine, intergrown pyrrhotite-sphalerite with minor very fine, patchy disseminated/intergrown chalcopyrite. Floating (sulphide-supported) in the sulphides are rounded albite (20-25%, <1-7 mm), biotite, quartz and rounded white quartz vein material and dark biotitic lithic metasedimentary fragments. Buckshot-textured sulphides are not present in this intercept.

The following is a summary of significant assays.

	FROM	TO	INTERVAL	Cu %	Pb %	Zn %	Ag g/t	Au ppb	Se ppm	As ppm
	37.3	37.65	0.4	1.63	0.64	2.95	1491.3	5820	22	19790
OMS	136.0	137.3	1.3	0.46	5.74	12.96	87.2	114	17	15
FTCZ	137.3	141.3	4.0	0.18	0.35	1.55	7.8	<10	8	2

Bi and Sb values for the massive sulphide are below detection.

The high proportion of pyrrhotite in the massive sulphide zone likely is responsible for the higher conductivity of the zone reflected by the channel 2 UTEM response.

The footwall FTCZ unit is relatively thin but strongly silica/albite-biotite-chlorite+-calcite altered. Mineralization is slightly weaker than that on section 20300E.

Hole R04-007 (-90^0; 2223.4 m) was collared at 2775N to test a strong MAG anomaly and to test stratigraphy approximately 200 metres down dip of the intercept in R04-001.

The hole intersected a thick package of sericite-muscovite altered, Upper Felsic Metavolcanic fine tuff, lapilli tuff and quartz crystal-bearing felsic tuff. Interestingly, the thick Upper Metaclastic Sequence is missing. In its stead, the felsic package is thickened and shows thick intervals with high magnetic susceptibility reflecting the presence of 2-10% wispy fine to blebby disseminated pyrrhotite+-pyrite and pyrrhotite in biotite-quartz+-feldspar veins throughout. Quartz crystal-bearing (5-10%, <1-3 mm light bluish grey) felsic tuff near the top of the hole can be

correlated to the upper FTCZ units on section 20300E.

Silica-biotite-chlorite alteration and mineralization increases down hole toward the R-15 Zone. Of note is a thin (25 cm; 147.4-147.65 m) of moderately chlorite+-biotite altered, fine-grained felsic tuff that is well mineralized with thin (2-15 mm), S2 parallel bands of heavily disseminated sphalerite-pyrrhotite-galena+-chalcopyrite+-pyrite. This interval occurs near several distinctive thin feldspar porphyry sills/dykes an may represent another favourable horizon for VMS mineralization.

The R-15 Zone was intersected between 181.2-184.2 metres. Massive sulphides comprise 5-15% buckshot textured pyrite set in 20-50% fine, intergrown sphalerite-pyrrhotite and lesser 2-15% galena and trace-1% chalcopyrite with fragmental textured silica+-albite gangue and lithic fragments and crudely banded buckshot pyrite with intergranular sphalerite-pyrrhotite-galena and lesser chalcopyrite and trace arsenopyrite with albite+-chlorite-silica gangue. Minor thin interbanded, altered tuff intervals with disseminated magnetite grains are locally present. The high pyrrhotite (+-magnetite) content is reflected by high susceptibility readings.

The following is a summary of significant assays.

	FROM	TO	INTERVAL	Cu %	Pb %	Zn %	Ag g/t	Au ppb	Se ppm	As ppm
	147.4	147.7	0.3	0.16	1.82	4.48	17.6	<10	24	<2
OMS	181.2	184.2	3.0	0.32	7.58	14.51	103.5	273	<5	272
including	181.2	182.7	1.5	0.28	8.27	17.40	112.6	316	<5	221
	182.7	184.2	1.5	0.36	6.88	11.61	94.4	230	<5	323
FTCZ	184.2	185.5	1.3	0.03	0.46	1.05	16.8	<10	11	235

Bi (9 ppm) and Sb (38 ppm) values for the massive sulphide are low.

The footwall FTCZ unit from 184.2-195.5 metres is thicker but less altered and mineralized relative to the footwall in R04-001. The unit comprises medium grey to light green grey, fine-grained granular, variably quartz-crystal bearing tuff with trace-3%, light grey to slight bluish grey, <1-3 mm quartz crystals throughout. Thin siliceous intervals with trace-5%, <1-5 mm, white subhedral feldspar crystals and stretched white-grey quartzo-feldspathic lapilli and occasional quartz are present as a minor component throughout. The unit is weakly chlorite-biotite+-sericite altered. Mineralization comprises trace-3% fine disseminated pyrrhotite-pyrite and veinlets/bands of quartz-chlorite-sphalerite-pyrrhotite+-galena-chalcopyrite; especially near the massive sulphides and extending to 185.5 m.

The Lower Tuffaceous Metaclastic Sequence is recognizable in both holes.

The UTEM anomaly on L20500E is clearly due to the R-15 Zone. The R-15 Zone is located at 130 metres depth, below 25 metres of overburden, and thickens from 1.3 to 3.0 metres over a 200 metre dip length. The zone dips 17^0 to the north. The MAG anomaly associated with the conductor and the large MAG anomaly targeted by hole R04-007, reflect pyrrhotite-rich felsic metavolcanics in the hangingwall of the zone. As with section 20300E, the nature of the up-dip UTEM conductor edge remains uncertain.

Alteration vectoring points up-dip while sulphide and FTCZ thickness vector down dip toward R07-007. Both holes vector towards section 20300E. The UTEM conductor and associated MAG both weaken to the east on L20700E suggesting limited room for improvement in this direction (note: a late cross structure is present in the area of 20700E that may cause a weakened UTEM response on this line). Although there is no apparent down dip edge to the EM conductor, the ground MAG anomaly appears to weaken approximately 100 metres further down dip (note: the R-15 Zone is presumably getting progressively deeper in this direction).

SECTION L20900E : DDH R04-002

Hole R04-002 (-60^0, 245.7 m) was collared at 2420N on L20900E to test approximately 100 metres down dip of a channel 3 UTEM conductor and coincident MAG anomaly located at 2270N (Figure 13). The EM/MAG anomaly is a faulted offset portion of the R-15 Zone and is seen across 700 metres strike length on 4 lines. The target on Line 20900E represented the strongest EM/MAG response of the geophysical target in this area.

The hole was successful in intersecting the Upper Felsic Metavolcanic Sequence tuff and lapilli tuff and the Lower Metaclastic Sequence, but was disappointing in that only thin intervals of moderate to strong sulphide

mineralization and related proximal alteration is present. Weaker mineralization consists of chlorite-sericite altered tuff with <1-3 mm light pink/red garnets and fine, discontinuous galena-sphalerite-pyrite-garnet-quartz sheared "veinlets" and matrix replacements with 2-10% sulphides. Significant mineralization at 78.0-78.5 m comprises semi-massive to heavily disseminated (25-40%) recrystallized buckshot pyrite (<1-2 mm) with fine intergranular sphalerite-pyrrhotite-galena with foliated granular biotite-chlorite-muscovite-carbonate gangue. Minor felsic tuff (quartz crystal-bearing tuff) and wispy laminated fine-grained pyrrhotitic massive sulphides (after buckshot pyrite??) is also present. A second interval at 80.6-82.5 m consists of mixed semi-massive pyrrhotitic sulphides, weakly and strongly mineralized siliceous tuff and moderate chlorite-biotite+-carbonate alteration gangue. Weak conductivity was noted in these intervals. Several other intervals of more intense alteration was also noted.

The following is a summary of significant assays.

FROM	TO	INTERVAL	Cu %	Pb %	Zn %	Ag g/t	Au ppb	Se ppm	As ppm
78.0	78.5	0.5	0.09	3.75	6.33	55.9	194	<5	146
80.6	82.5	1.9	0.11	4.15	6.13	43.3	48	<5	27

Several thin siliceous, fine-grained feldspar porphyry sills/dykes are present and contain 30-60% distinctive, cloudy white (intergrown with quartz), subrounded feldspar phenocrysts with diffuse edges. Sulphide content is relatively low (trace-3%) disseminated pyrrhotite.

The base of the sequence is marked by a fine-grained granular sericite-muscovite altered, quartz crystal (1-3 mm; grey to bluish grey) bearing felsic tuff with rare <2 mm whitish feldspar crystals. This tuff grades light brownish grey crystal tuff containing intervals with 25-35% subrounded grey quartz crystals (2-7 mms) in a quartz-biotite+chlorite-sericite matrix. Local feldspars are whitish and up to 2 mm in size. Sulphide content is low (tr-2% pyrrhotite locally). Although the stratigraphic position is correct, the coarse crystal size and coloration is distinct from the immediate R-15 Zone footwall unit.

A mixed package of thin banded dark biotitic lithologies representing the Lower Tuffaceous Metaclastic Sequence is present to the bottom of the hole.

The R-15 Zone is not present. The UTEM conductor is caused by sulphide mineralization higher in the section. The associated MAG anomaly reflects the pyrrhotite content of the tuffs and alteration as seen in the magnetic susceptibility readings. The weaker EM and MAG responses on the adjacent lines suggest the mineralization weakens on strike. As with the other sections, the MAG anomaly also weakens in the down dip direction constraining mineralization in that direction.

GRID 5 TARGETS

Drill holes R04-003 and R04-004 were collared SE of the R-15 Zone on Grid 5 to test a weak, NNW-trending linear (800-1000 m strike length), channel 4 UTEM conductor and "associated" magnetic anomaly. The conductor is interpreted to be shallowly E-NE dipping based the holes location on the north limb of a NW-trending anticlinal structure.

SECTION L9250N : DDH R04-004

Hole R04-004 is interpreted to have drilled entirely within the Lower Metaclastic Sequence (Figure 14). The hole intersected a sequence of medium to dark grey, thin banded (contorted/folded and transposed) quartz-biotite+-chlorite and biotite-quartz schist (tuffaceous wacke?) and intervals of light to medium green, laminated to thin banded, fine-grained, calc-silicate (epidote-amphibole-calcite) altered, chloritic mafic tuff(?) locally containing 1-8% fine blebby pyrrhotite. The metasediments show evidence of contact amphibolite-grade metamorphism (hornfelsing) reflected by the presence of 10-35%, 1-3 mm porphyroblastic biotite, abundant amphibole and tr-5% fine to coarse-grained (up to 8 mm) pink garnet throughout. The entire package is intruded by variably magnetic, fine equigranular (chilled?) to weakly feldspar porphyritic (microporphyry) to coarse feldspar porphyry (5-30%, 2-10 mm) felsic sills/dykes containing tr-2% fine disseminated pyrhhotite+-pyrite, and minor thin mafic sills/dykes.

Ohm meter indicated conductivity was only seem from a 20 cm interval of green to dark grey, argillaceous mafic tuff and with minor dark siliceous argillite, containing tr-10% fine blebby pyrrhotite+-pyrite seams and disseminations at 160.4 m. No other conductivity was indicated in the entire hole. It is possible minor pyrrhotite mineralization and perhaps elevated carbon content is responsible for the weak conductor. The magnetic anomaly likely reflects the presence of pyrrhotite-bearing felsic intrusives and/or mafic metavolcanics.

SECTION L9650N : DDH R04-003

Hole R04-003 intersected a very similar stratigraphic sequence as R04-004 (Figure 15). This hole has a higher proportion of medium green, laminated to thin banded, fine-grained, calc-silicate (epidote-amphibole-calcite) altered, chloritic mafic tuff(?) relative to tuffaceous metaclastic rocks. Also there is strong evidence of more intense hornfelsing, recrystallization and moderate to strong chlorite+-amphibole-calcite-epidote ("calc-silicate") alteration interpreted to be due to the effects of contact metamorphism around an increasing volume of felsic dykes (possible Cretaceous intrusives??) below about 140 m. The proportion of equigranular to feldspar microporphyry felsic sills/dykes increases down hole.

A thin black graphitic gouge (fault) zone was intersected at 129.3 m. The ohm meter indicated good conductivity across the core. No other conductivity was noted in the hole.

6.8 CONCLUSIONS AND RECOMMENDATIONS

The 2004 exploration program was successful in identifying the southeast extension of the GP4F Zone onto the R15 ground.

A NE-trending fault zone appears to break up the GP4F Zone over a strike length of about 200 metres, leaving perhaps only small rafts of mineralization reflected by elevated magnetics and weak EM reposnses. To the east of this fault , diamond drilling of the best portions of the 2004 UTEM/Mag anomaly resulted in the discovery the high grade R-15 massive sulphide zone that averages 0.32% Cu, 7.17% Pb, 14.87% Zn, 88 g/t Ag, 283 ppb Au and 7 ppm Se. The zone was intersected in 4 diamond drill holes over a 200x250 m area. Drilling indicates the zone to be a near surface, shallow (15^0 to near flat) north dipping, sheet-like sulphide body varying between 1.3 to 3.4 metres in thickness. The zone remains open in all directions.

The R-15 Zone horizon is again offset to the south along a NE-trending structure and is traceable for another 700 metres. This portion of the conductor has lower conductivity and drill testing the best part of the anomaly encountered only narrow intervals of strong alteration and relatively weak mineralization (i.e. 1.9 metres grading 0.11% Cu, 4.15% Pb, 6.13% Zn and 43.3 g/t Ag).

Although a significant discovery, the presence of a significant large tonnage resource is unlikley in the immediate R-15 Zone area. The best portions of the UTEM/Mag anomaly have been tested. Where intersected, the zone appears to have a relatively consistent thickness of about 3 metres. The up-dip or southern edge is well defined by the UTEM. The ground magnetics indicates the source of the magnetic anomaly is limited a few 100 metres down-dip to the north of R04-007 and to the east and west. Alteration and sulphide thickness vectoring both point up-dip and to the west, toward DDH R04-006.

There is, however, considerable potential for a smaller, yet accessible, high grade massive sulphide deposit. The EM responses do not appear to limit the down-dip extent of the massive sulphide zone. In addition, the zone does thicken in DDH R04-007 (alteration is weaker) relative to the intersection in DDH R04-001.

As a smaller target, additional drilling is warranted west of R04-006 and down-dip of R04-005 and R04-007 to test for continuations and thickening of the zone. Drill testing the area between the GP4F and R-15 Zones should also be considered.

Other UTEM/Mag anomalies (Grid 5) were indentified and tested but do not appear to be of interest.

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APPENDIX 1

2004 EXPENDITURES

Teck Cominco Limited
Exploration Project Expenditures - R-15 (KZK) Project
For the year ended December 31, 2004

		YTD	TAG Costs*	R-15 Costs*	R-15 Costs* Including admin
		2004	2004	2004	2004
		$	$	$	$
	Salaries (Permanent Staff)				
4003	Drafting & Computers	300	30	270	297
4007	General Labour	54,761	5,476	49,285	54,213
4009	Geology	67,101	6,710	60,391	66,430
4010	Geophysics	34,074	3,646	30,428	33,471
4013	Safety	1,148	115	1,033	1,137
4014	Supervision	5,204	520	4,684	5,152
	Total Salaries (Permanent Staff)	162,588	16,259	146,329	160,700
	Direct Costs				
4001	Assaying	11,793	746	11,047	12,151
4004	Drilling	153,846	18,304	135,542	147,320
4007	General Labour	20,195	2,020	18,176	19,993
4012	Land Management	14,612	1,461	13,151	14,466
4013	Safety	1,173	117	1,056	1,161
4015	Surveying (Linecutting)**	108,302	11,163	97,139	106,853
5007	Computer - Hardware	276	28	248	273
5009	Computer Costs - Other	55	6	50	54
5010	Courier, Postage & Freight	9,918	992	8,926	9,819
5012	Environmental & Reclamation Costs	496	50	446	491
5013	Financial Fees	141	14	127	140
5014	Field Costs & Supplies, Fuel, Road	201,905	20,191	181,715	199,886
5015	Gov't Fees, Licenses, Permits & Land Tenure	1,428	352	1,076	1,184
5018	Meals and Entertainment	1,701	170	1,531	1,684
5019	Maps & Prints	43	4	39	43
5020	Office & Drafting - Costs & Supplies	489	49	440	484
5023	Rentals & Leases - Equipment	8,032	803	7,229	7,952
5024	Repairs & Maintenance	757	76	681	749
5026	Royalty, Operator & Option Payments	105,000		105,000	105,000
5029	Telecommunications**	12,974	1,297	11,677	12,844
5030	Training Costs	227	23	204	225
5031	Travel - Chartered Aircraft - Helicopter	233,214	20,123	213,091	228,746
5032	Travel - Commercial Aircraft	17,316	1,732	15,584	17,143
5033	Travel - Other	4,193	419	3,774	4,151
5035	Utilities & Hydro	3,391	339	3,052	3,357
5036	Vehicle - Rental/Capital Costs	8,614	861	7,753	8,528
5037	Vehicle - Operating/Maintenance Costs	1,560	156	1,404	1,544
5048	Accommodation	2,619	262	2,357	2,593
5049	Remote Camp & Living (Groceries)	29,359	2,936	26,423	29,065
		953,629	84,693	868,936	937,898
	Total KZK R Block Project Costs	**$ 1,116,217**	**$ 100,951**	**$ 1,015,266**	**$ 1,098,598**

* cost break down - where actual costs are not used, a ratio of 1:9 (TAG:R-15) is used to divide related costs. 1:9 ratio based on approximate 9 days out of total 90 field days spent on TAG property work in the 2nd phase of work.

** includes Jan and Feb 2005 charges relating to 2004 linecutting and telecommunications.

APPENDIX 2

2004 GRID GEOPHYSICAL SURVEY DATA


KZK 2004 Loop1.pdf


KZK 2004 Loop2.pdf


KZK 2004 Loop3.pdf


KZK 2004 Loop4.pdf


KZK 2004 Loop5.pdf


KZK 2004 Loop6.pdf


KZK 2004 Loop7.pdf


KZK 2004 Loop8.pdf

EQUIPMENT AND PROCEDURES – GEOPHYSICAL SURVEYS

UTEM SURVEY

A description of the equipment used in the program, field surveying and data processing procedures are given below.

"UTEM" is an acronym for "University of Toronto Electromagnetometer". The system was developed by Dr. Y. Lamontagne while he was a graduate student at the University of Toronto.

The field procedure consists of first laying out a large loop of single strand insulated wire and energising it with current from a transmitter loop which is powered by a 2 kW motor generator. Survey lines are generally oriented perpendicular to one side of the loop and surveying performed outside the loop.

The transmitter loop is energised with a precise triangular waveform at a carefully controlled frequency (30.974 Hz for this survey). The receiver system includes a sensor coil and backpack portable receiver, which has an internal recording facility. The time synchronisation between transmitter and receiver is achieved through quartz crystal clocks in both units, which must be accurate to within about one second in fifty years.

The receiver sensor typically measures the vertical component of the electromagnetic field and responds to its time derivative. Since the transmitter current waveform is triangular, the receiver coil will sense a perfect square wave in the absence of geological conductors. Deviations from the perfect square wave are caused by electrical conductors that may be geologic or cultural in origin. The receiver stacks any pre-set number of cycles in order to increase the signal to noise ratio.

The UTEM receivers were configured to gather and record 10 channels of information at each station. The higher number channels (7,8,9) correspond to short time or high frequency while the lower number channels (1,2,3) correspond to long time or low frequency. Therefore, poor or weak conductors will respond on channels 10,9,8,7, and 6, while better conductors will produce anomalous responses on progressively lower number channels. For example, massive, highly conducting sulphides or graphite will produce a response on all channels.

The digitally recorded data from the receiver's memory is dumped to a computer at the base camp, processed, and, after initial screen previewing, hard copy plots are produced. Data are presented on data sections as profiles of each of the nine channels, one section for each survey line, though in some cases several normalising schemes may be utilised to further analyse the data, resulting in two or more profile plots per line.

The magnetic field amplitudes from both the transmitter loop (primary field) and from those induced in the ground (secondary field) vary considerably with distance from the loop. To present such data, a normalising scheme must be used. In this survey, the calculated primary field from the transmitter loop is used to normalise the data according to the following schemes:

1. Continuously normalised plots-
   The standard normalisation scheme is:

   a) For channel 1:

   $$\%\text{Ch.1 anomaly} = \frac{\text{Ch.1} - P}{P} \times 100\%$$

   where P is the primary field from the loop at the station and Ch.1 is the observed

amplitude for channel 1.

b) The remaining channels (n = 2 to 9) are channel 1 reduced and channel 1 normalised:

$$\%Ch.n\ anomaly = \frac{Ch.n - Ch.1}{Ch.1} \times 100\%$$

where Ch.n is the observed amplitude of channel n (n = 2 to 9).

2. Point normalised plots-

These plots display an arrow at the top of the section indicating the station to which all data on the line is normalised.

a) For channel 1:

$$\%Ch.1\ anomaly = \frac{Ch.1 - P_{pn}}{P_{pn}} \times 100\%$$

where P_{pn} is the primary field from the loop at the station of normalisation, i.e., point normalised station, and Ch.1 is the observed amplitude for Channel 1.

b) The remaining channels (n = 2 to 9) are channel 1 reduced and channel 1 normalised:

$$\%Ch.n\ anomaly = \frac{Ch.1 - Ch.1_{pn}}{Ch.1_{pn}} \times 100\%$$

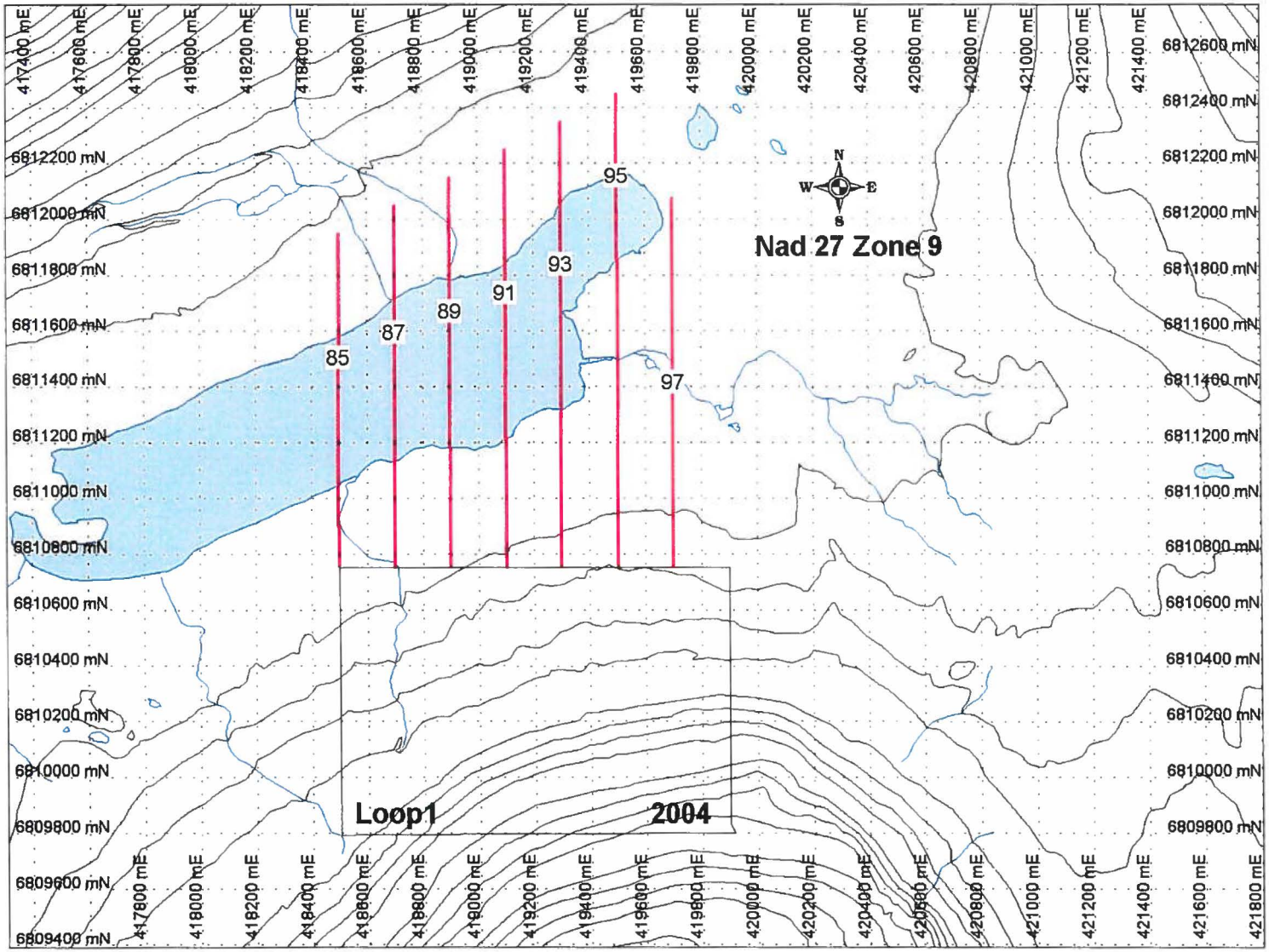
where Ch.n is the observed amplitude of Channel n and $Ch.1_{pn}$ is the observed channel 1 amplitude at the point normalised station.

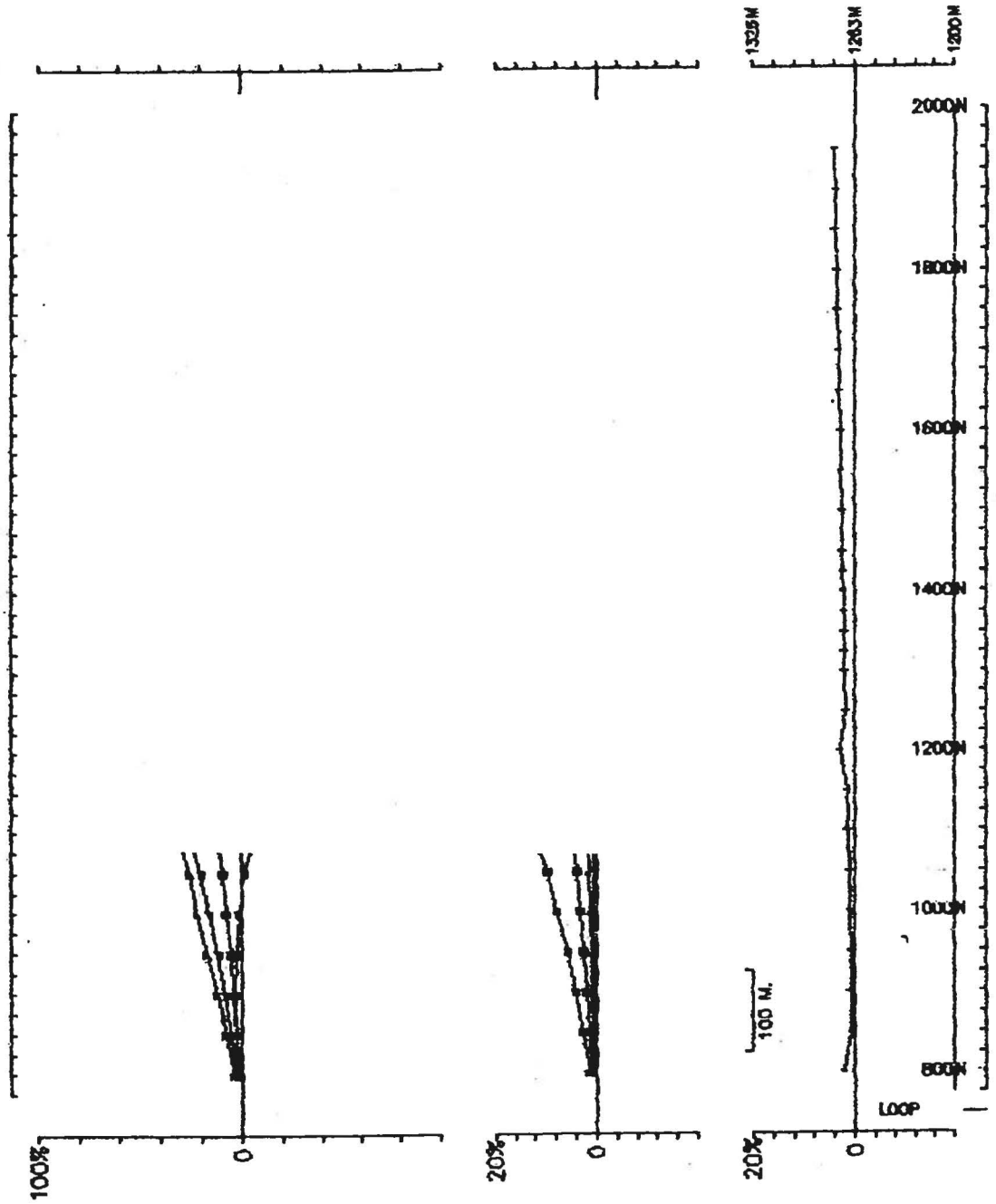
The results of the UTEM surveys are presented as profile plots of Hz (vertical component of secondary field) for each line, at a scale of 1:10,000. Crossover anomaly locations are indicated at the bottom of the section by an "X". In the upper right of the "X" the latest channel response is shown and the depth symbol S, M, or D (S-shallow, M-mid, D-deep) is positioned in the upper right. Contacts are denoted by a TRIANGLE right or left and the latest channel response is posted inside the triangle.

MAGNETICS

Two GEM GSM-19 magnetometers were used to collect the magnetometer survey data. One was set up as a recording base station and the other was used as a moving field unit. At the end of a survey day the two are connected together and drift corrected data is rapidly obtained. Reading accuracy is generally within a few nanoTeslas.

Total magnetic intensity data is presented in contour form at a scale of 1:10,000

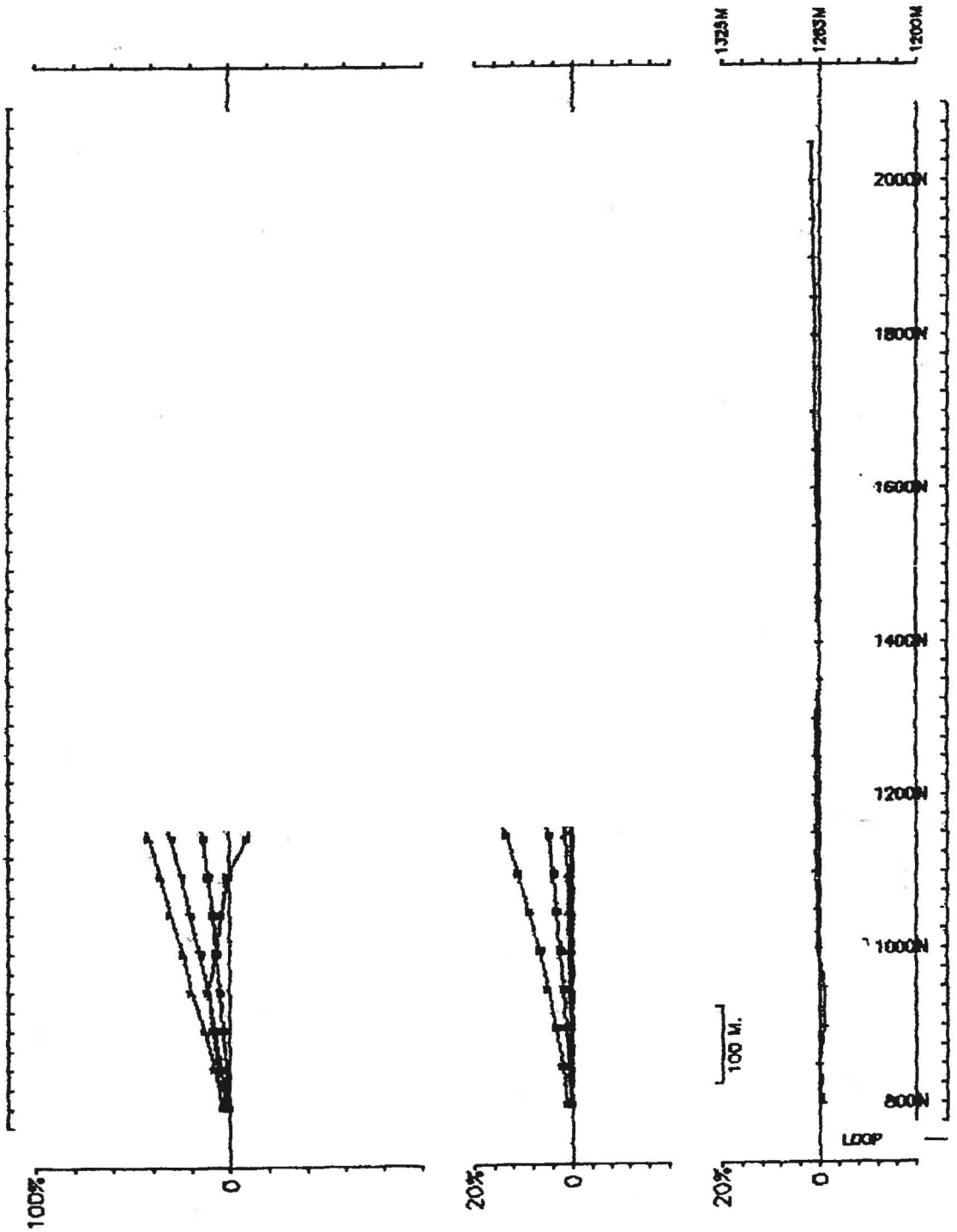

Nad 27 Zone 9
N
W
E
S
85
87
89
91
93
95
97
Loop1
2004
417400 mE
417600 mE
417800 mE
418000 mE
418200 mE
418400 mE
418600 mE
418800 mE
419000 mE
419200 mE
419400 mE
419600 mE
419800 mE
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
6810200 mN
6810000 mN
6809800 mN
6809600 mN
6809400 mN



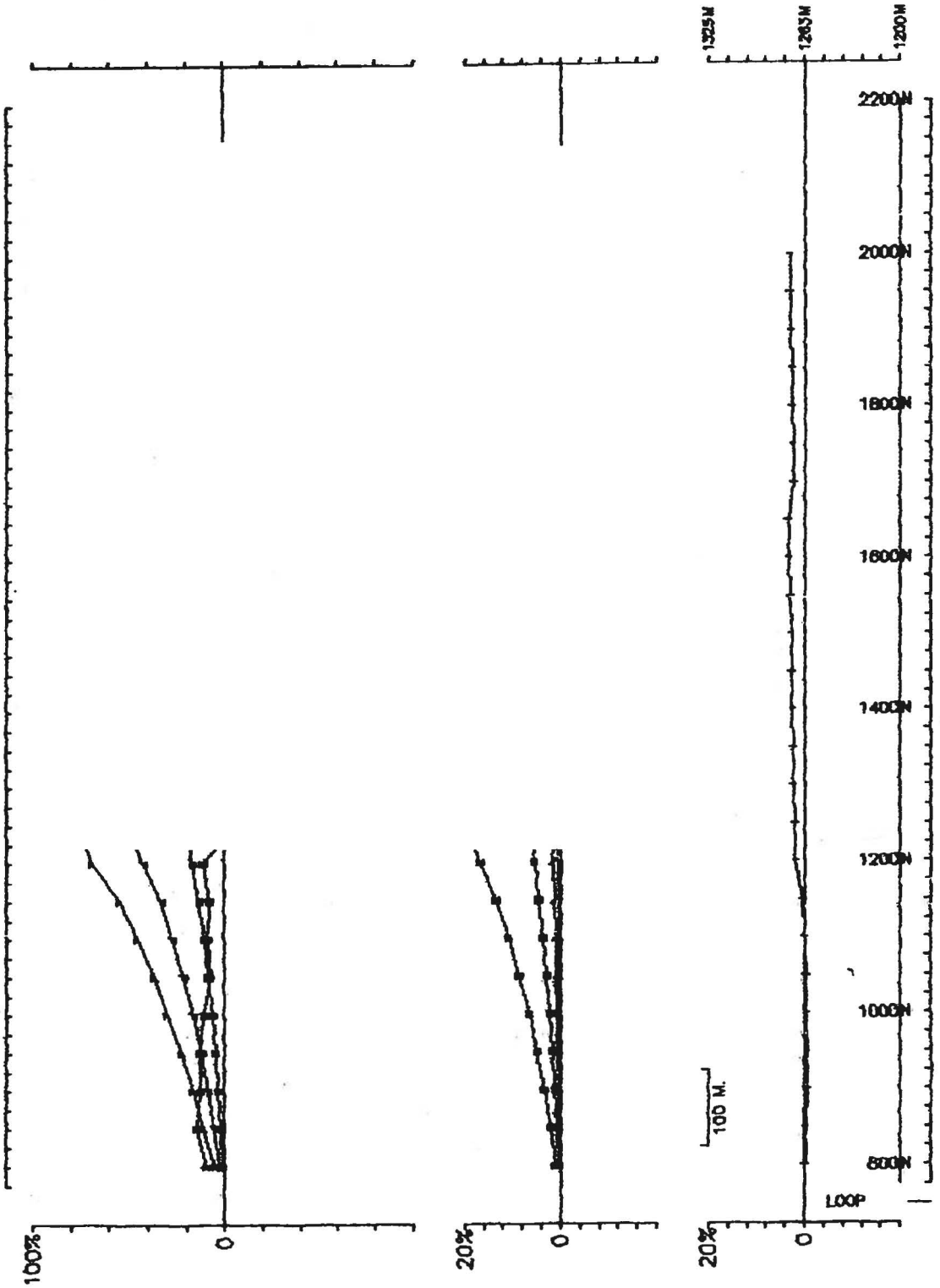
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, DM Freq(Hz): 30.974 #Stns: 27 Loop: 1 Line: 418500E DS:

Ch1 reduced. Ch1 normalized. Totals:P- 1150M /L- 1225M. Line Azim.: 0 . Rx Label: 85



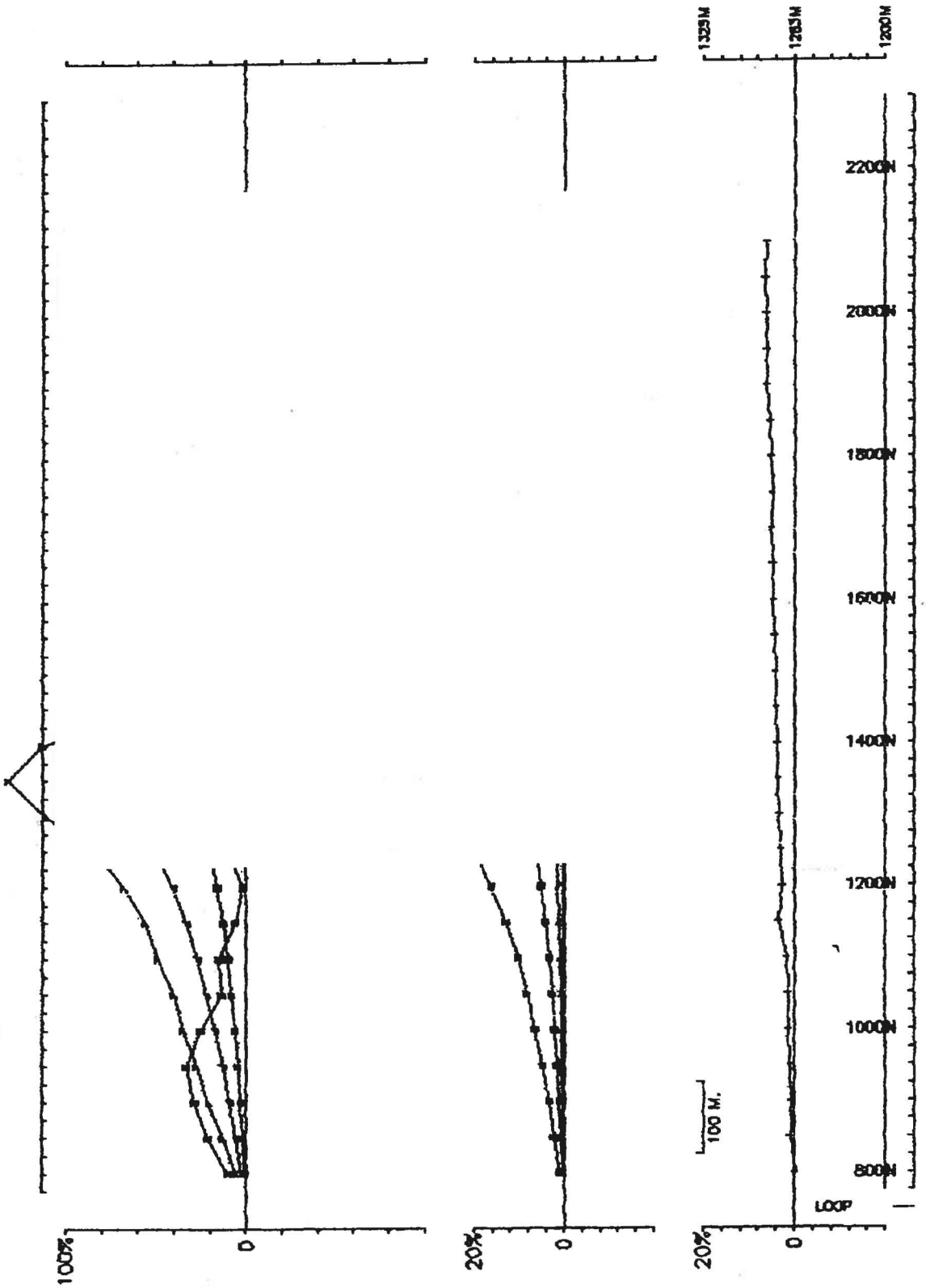
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 25 Loop: 1 Line: 418700E DS:
Chl reduced. Chl normalized. Totals:P- 1250M./L- 1325M. Line Azim.: 0 . Rx Label: 87



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Dp: KMB, OM Freq(Hz): 30.974 #Stns: 25 Loop: 1 Line: 4188900E DS:

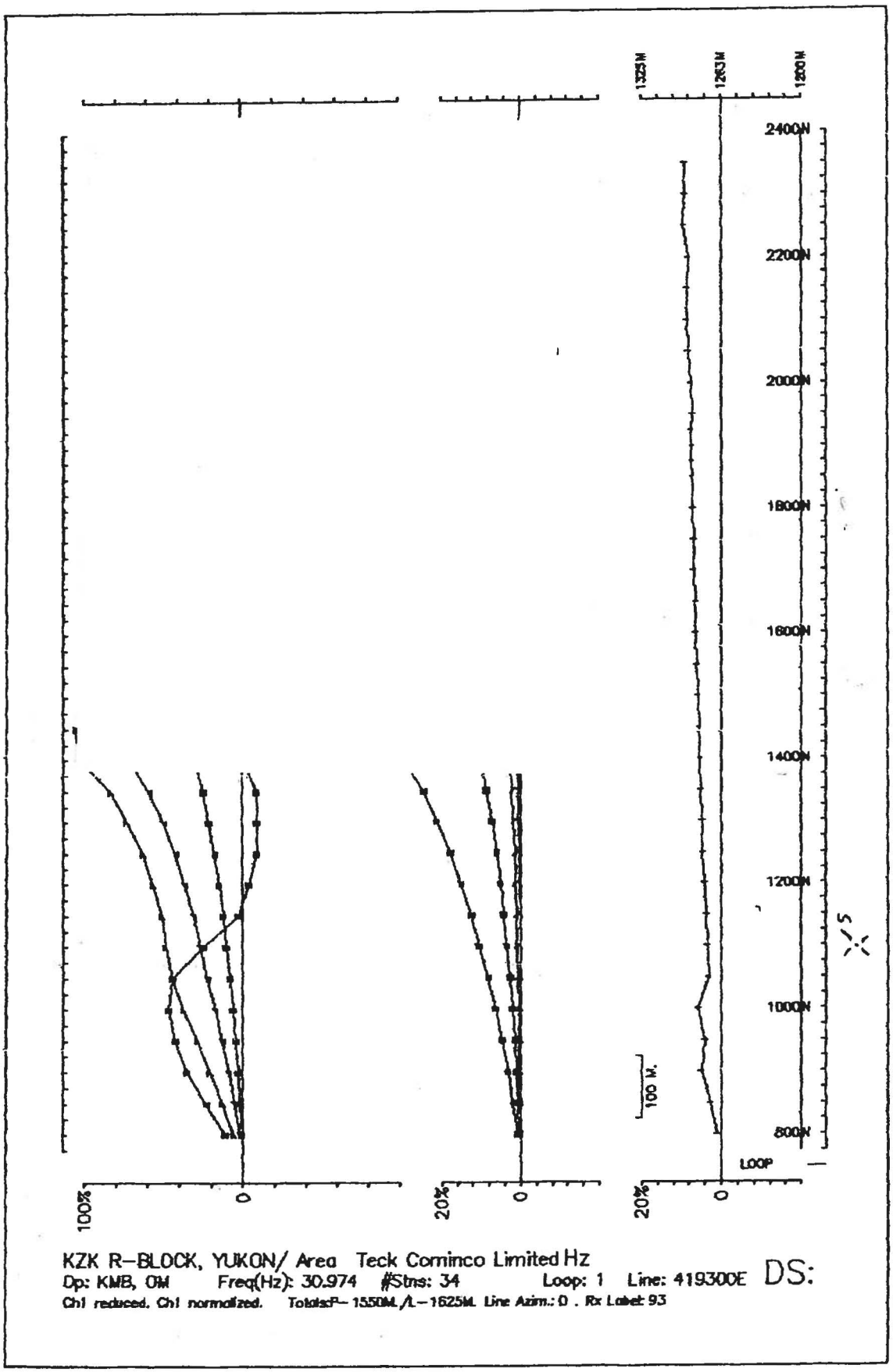
Ch1 reduced. Ch1 normalized. Totals:P- 1200M./L- 1425M. Line Azim.: 0 . Rx Label: 89



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 27 Loop: 1 Line: 419100E DS:

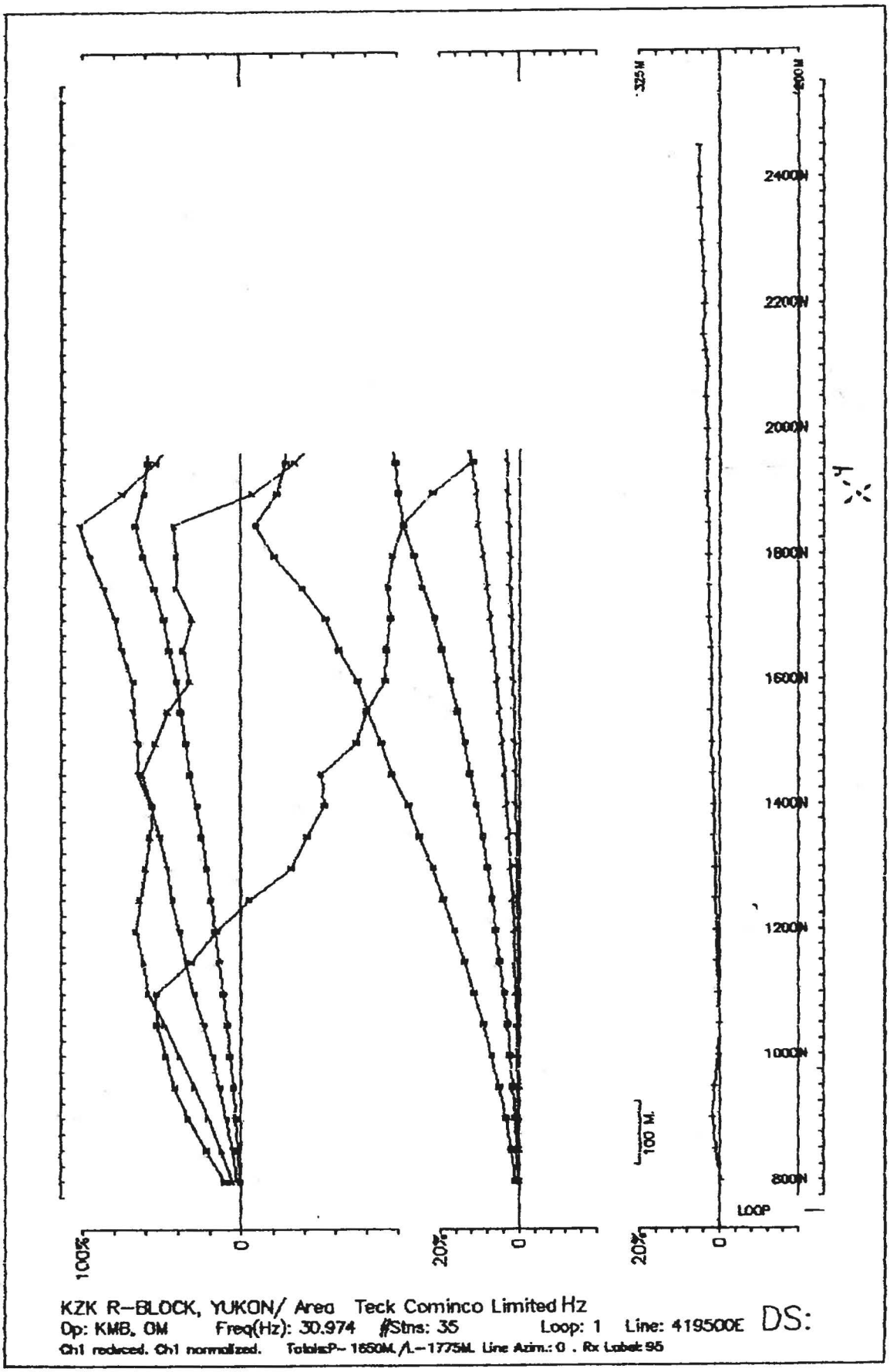
Ch1 reduced. Ch1 normalized. Totals:P- 1300M./L- 1525M. Line Azim.: 0 . Rx Label: 91



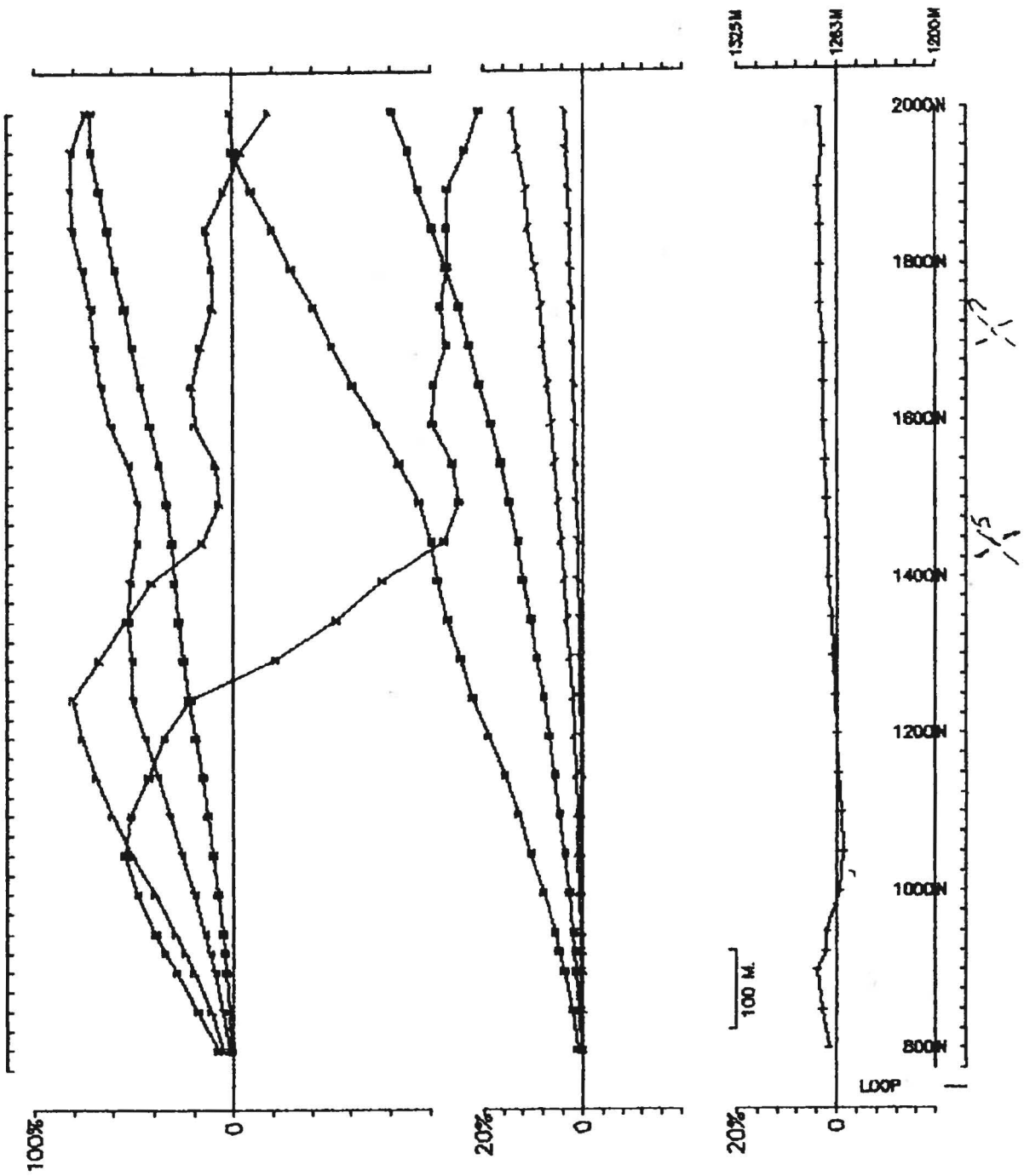
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Dp: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 1 Line: 419300E DS:

Chl reduced. Chl normalized. Totals:P-1550M./L-1625M. Line Azim.: 0 . Rx Label: 93



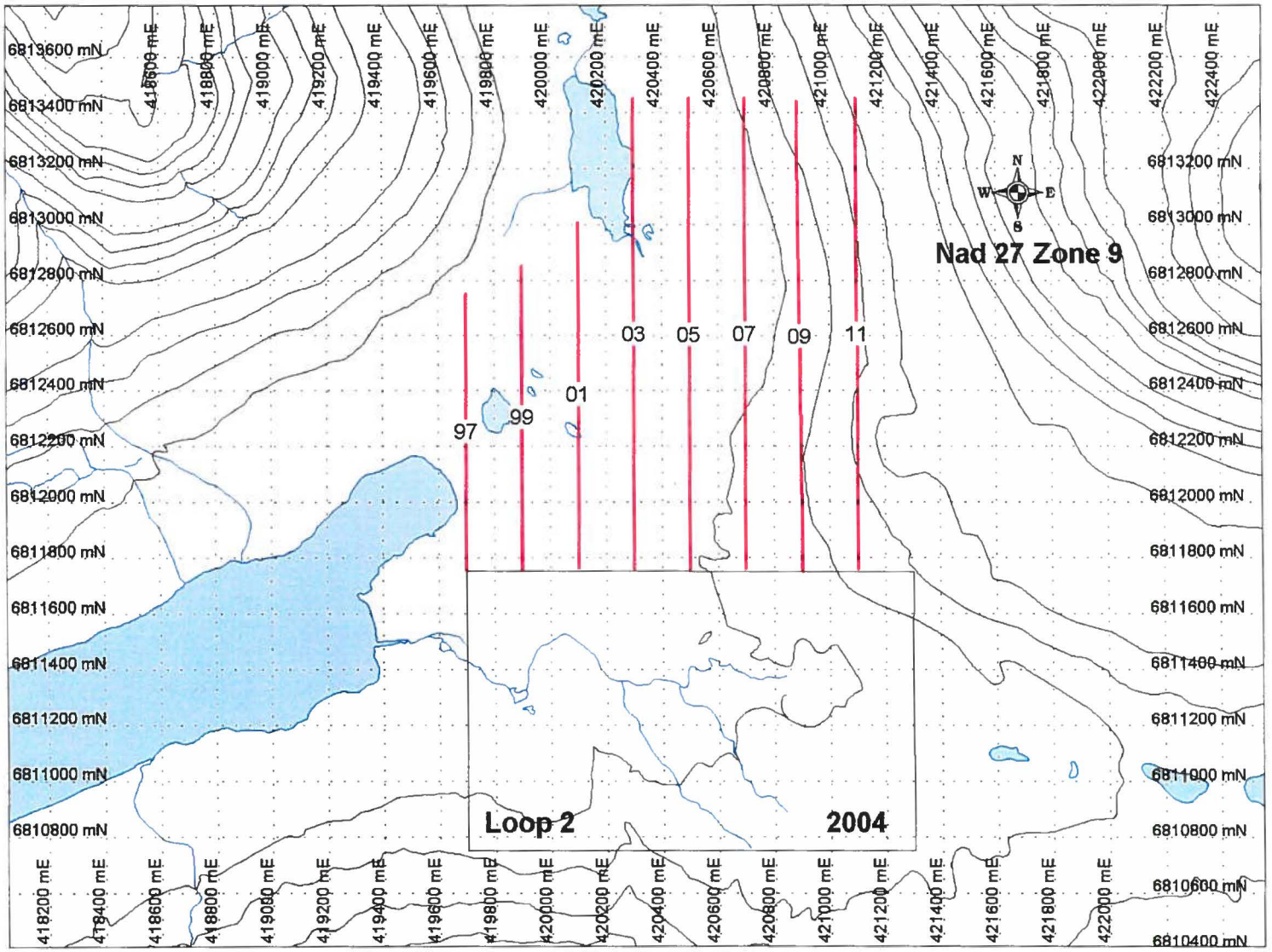
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 35 Loop: 1 Line: 419500E DS:
Ch1 reduced. Ch1 normalized. Totals:P- 1650M./L-1775M. Line Azim.: 0 . Rx Label: 95

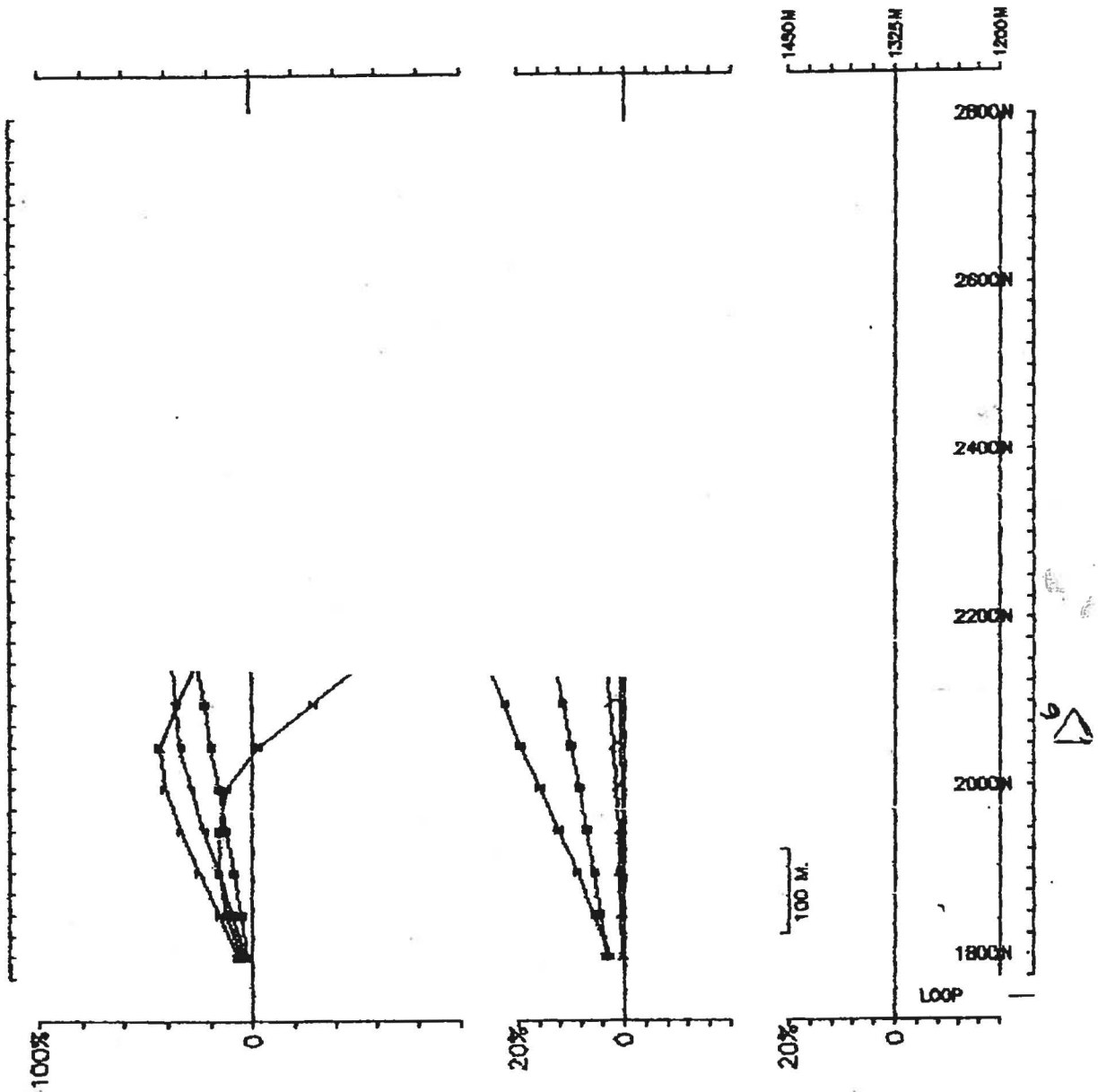


KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 1 Line: 419700E DS:

Ch1 reduced. Ch1 normalized. Totals:P-1200M./L-1225M. Line Azim.: 0 . Rx Label: 97

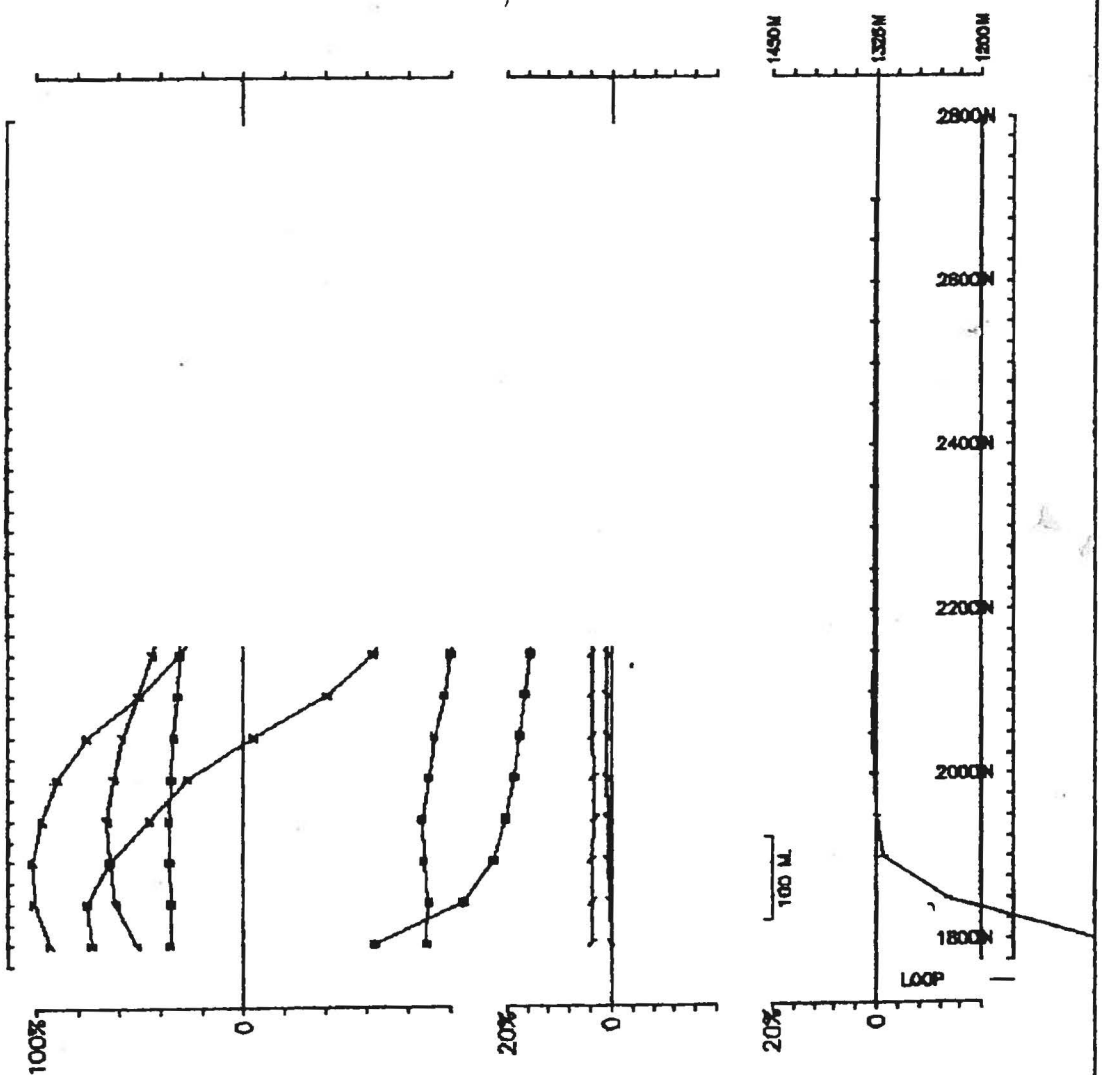

6813600 mN
6813400 mN
6813200 mN
6813000 mN
6812800 mN
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
418200 mE
418400 mE
418600 mE
418800 mE
419000 mE
419200 mE
419400 mE
419600 mE
419800 mE
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
6813200 mN
6813000 mN
6812800 mN
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
N
W
E
S
Nad 27 Zone 9
97
99
01
03
05
07
09
11
Loop 2
2004



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, GM Freq(Hz): 30.974 #Stns: 19 Loop: 2 Line: 419700E DS:

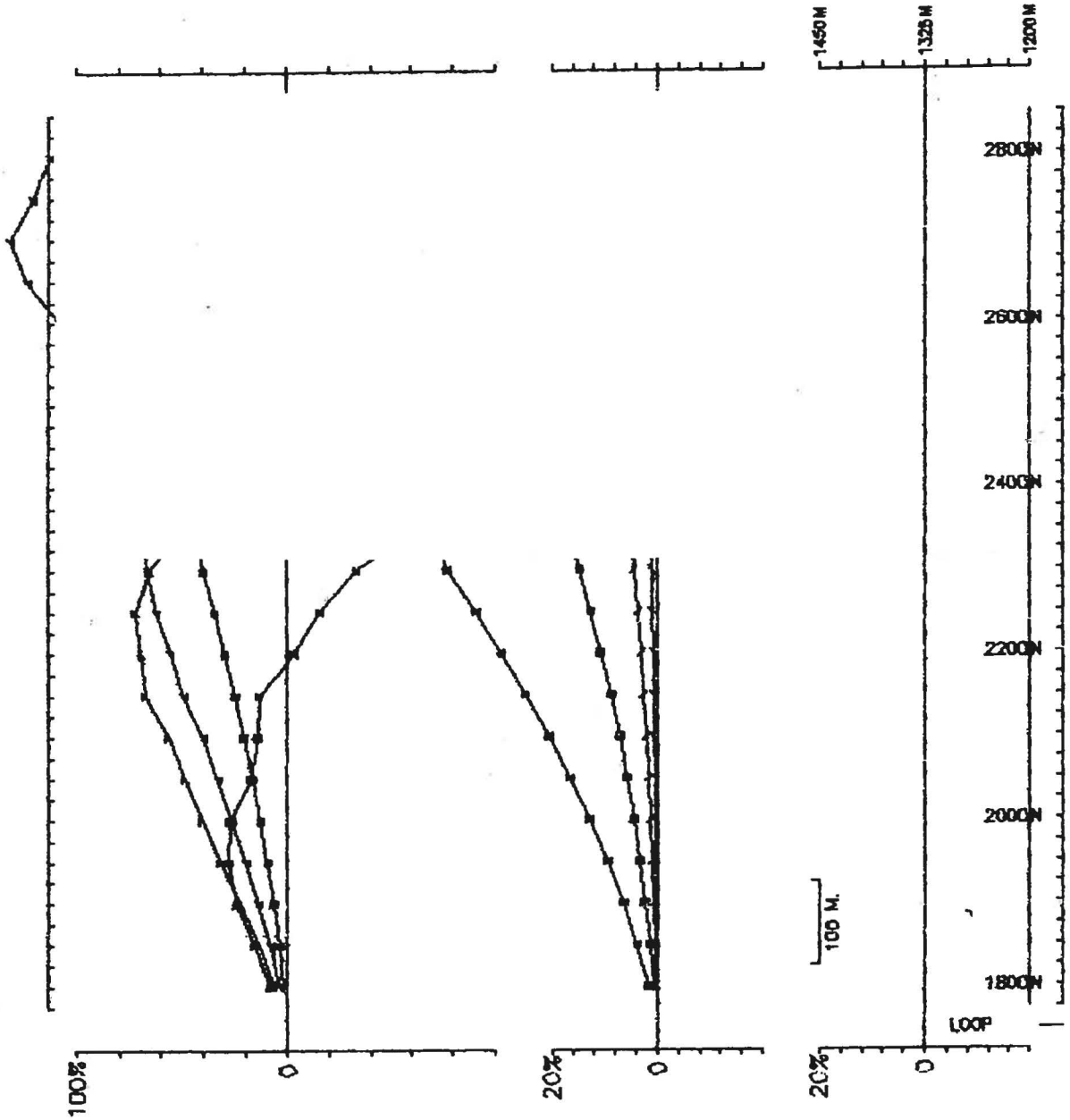
Ch1 reduced. Ch1 normalized. Totals:P-900M. /L-1025M. Line Azim.: 0 . Rx Label: 97



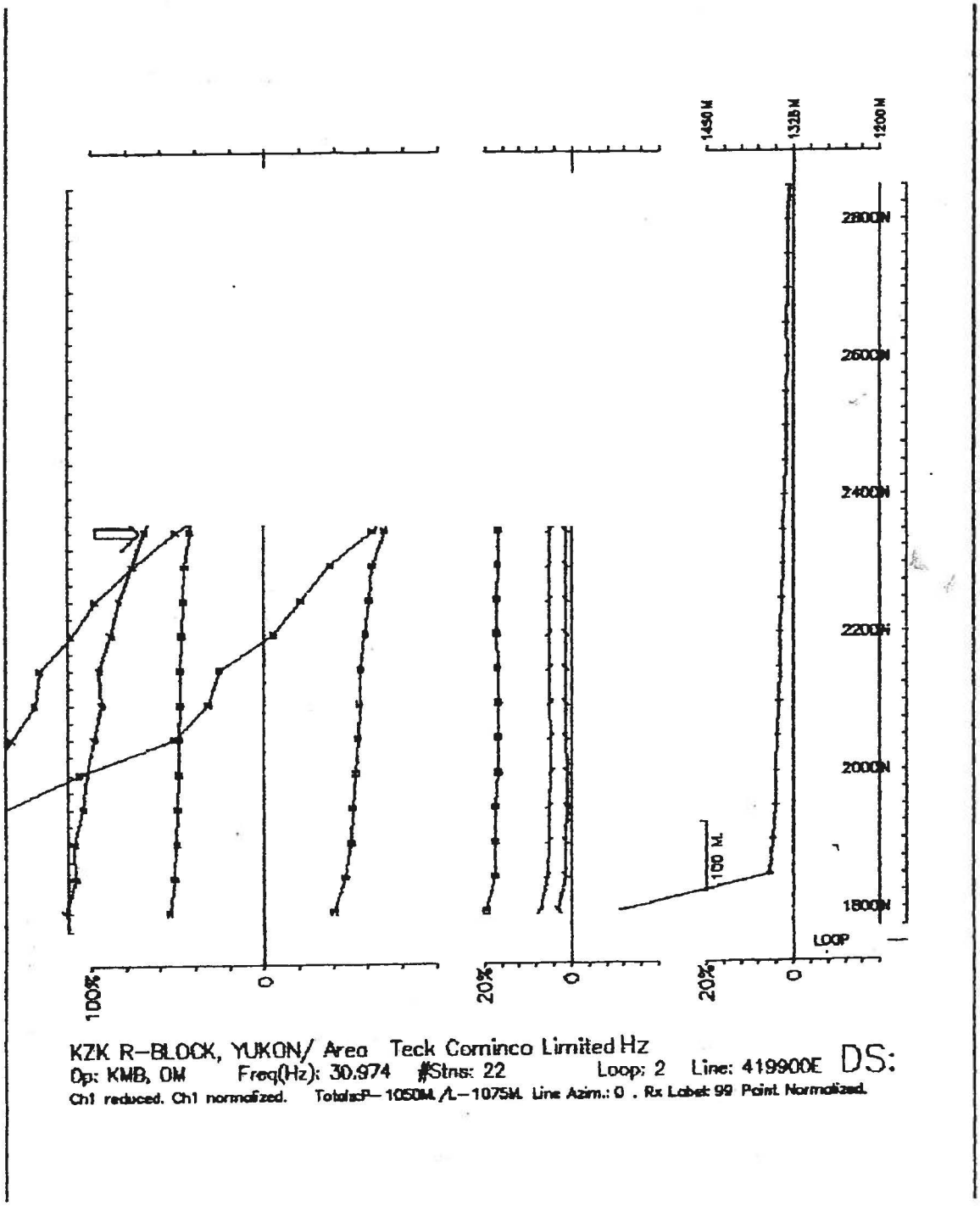
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 19 Loop: 2 Line: 419700E DS:

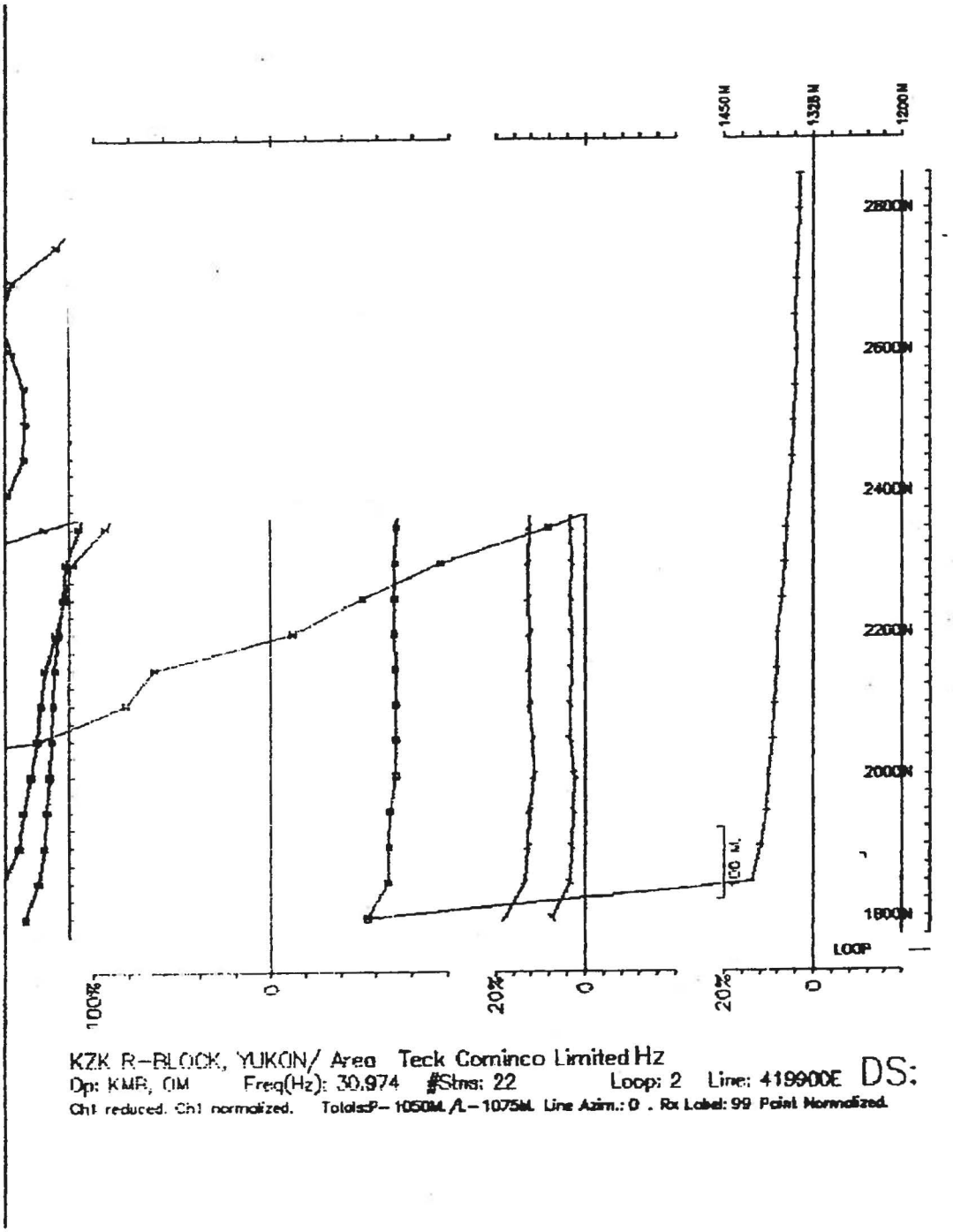
Ch1 reduced. Ch1 normalized. Totals:P-900M. /L-1025M. Line Azim.: 0 . Rx Label: 97 Point Normalized.



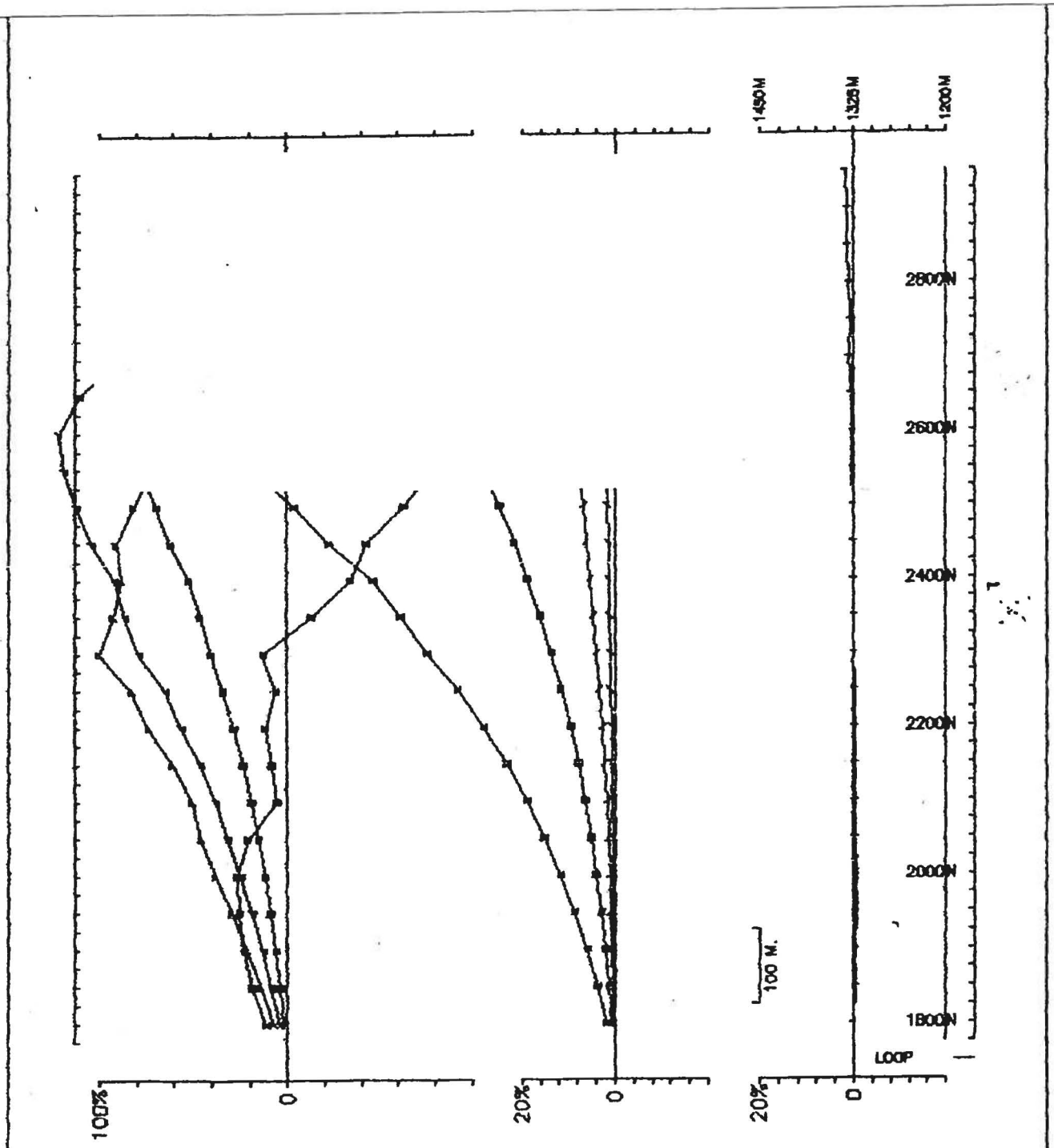
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Dp: KMB, OM Freq(Hz): 30.974 #Stns: 22 Loop: 2 Line: 419900E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1050M./L-1075M. Line Azim.: 0 . Rx Label: 99



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 22 Loop: 2 Line: 419900E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1050M /L-1075M. Line Azim.: 0 . Rx Label: 99 Point Normalized.



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 22 Loop: 2 Line: 419900E DS:
Ch1 reduced. Ch1 normalized. TotalsP-1050M A-1075M Line Azim.: 0 . Rx Label: 99 Point Normalized.

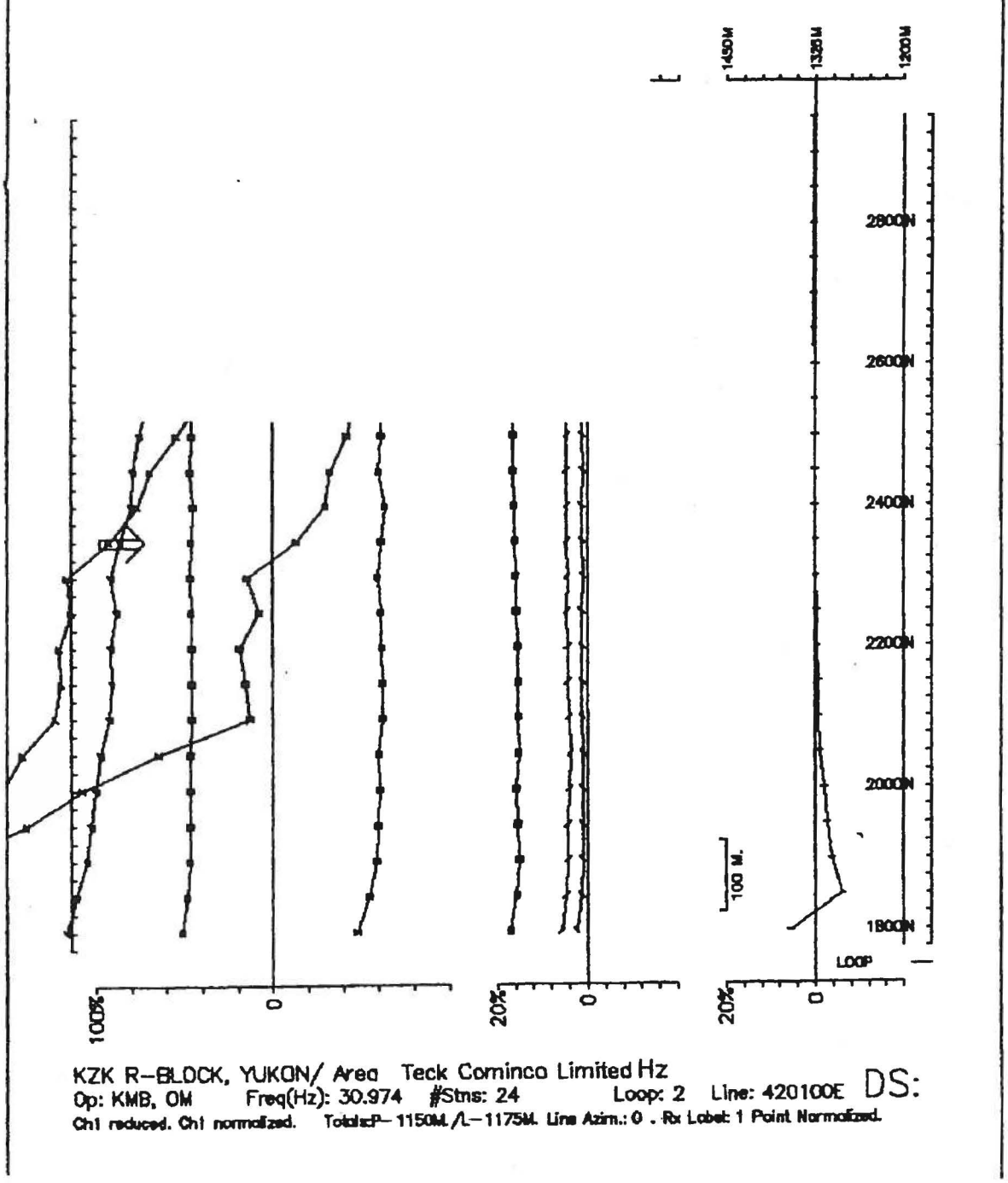


KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

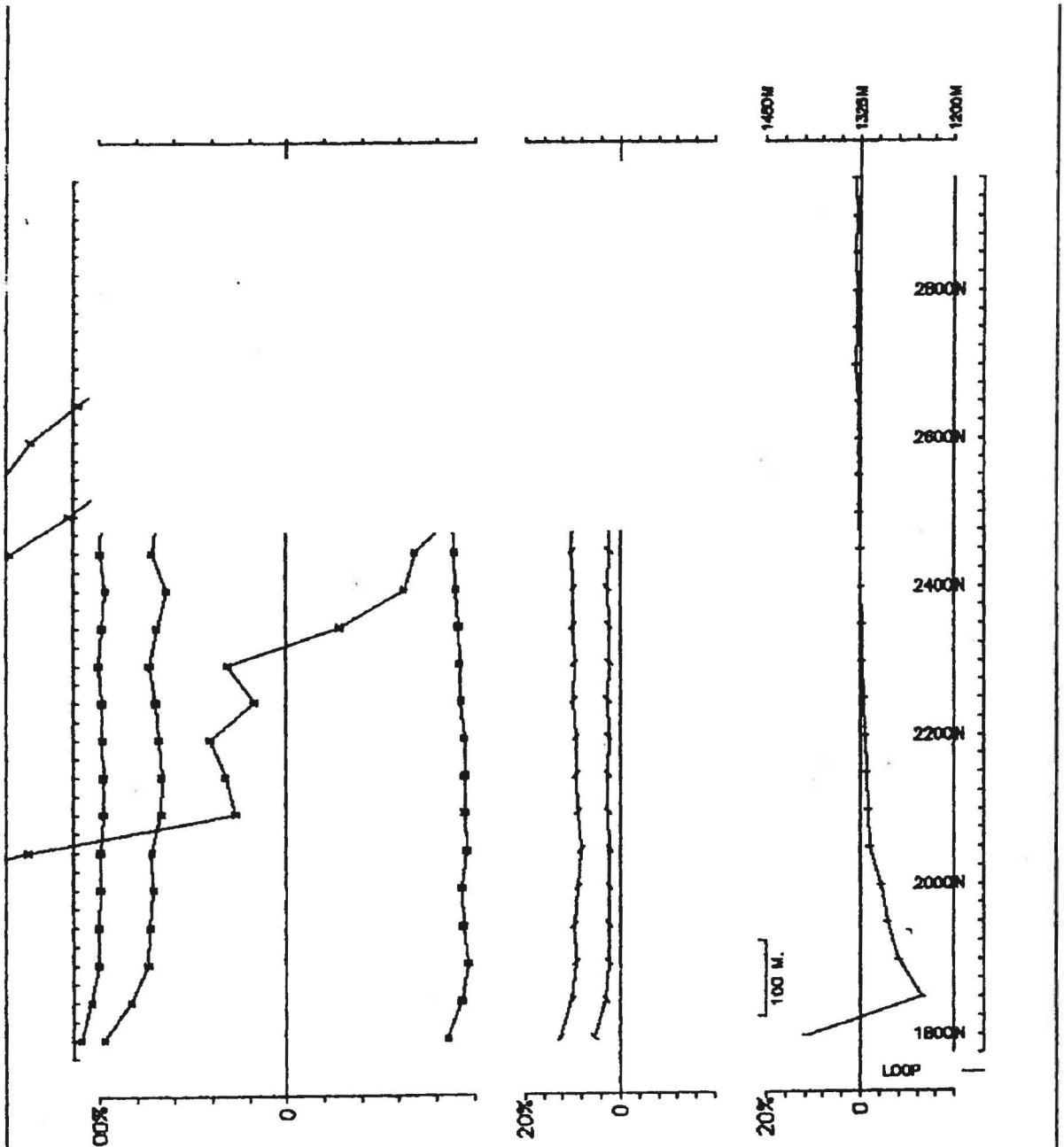
Op: KMB, OM Freq(Hz): 30.974 #Stns: 24 Loop: 2 Line: 420100E DS:

Ch1 reduced. Ch1 normalized. Totals:P-1150M /L-1175M. Line Azim.: 0 . Rx Label: 1

0542



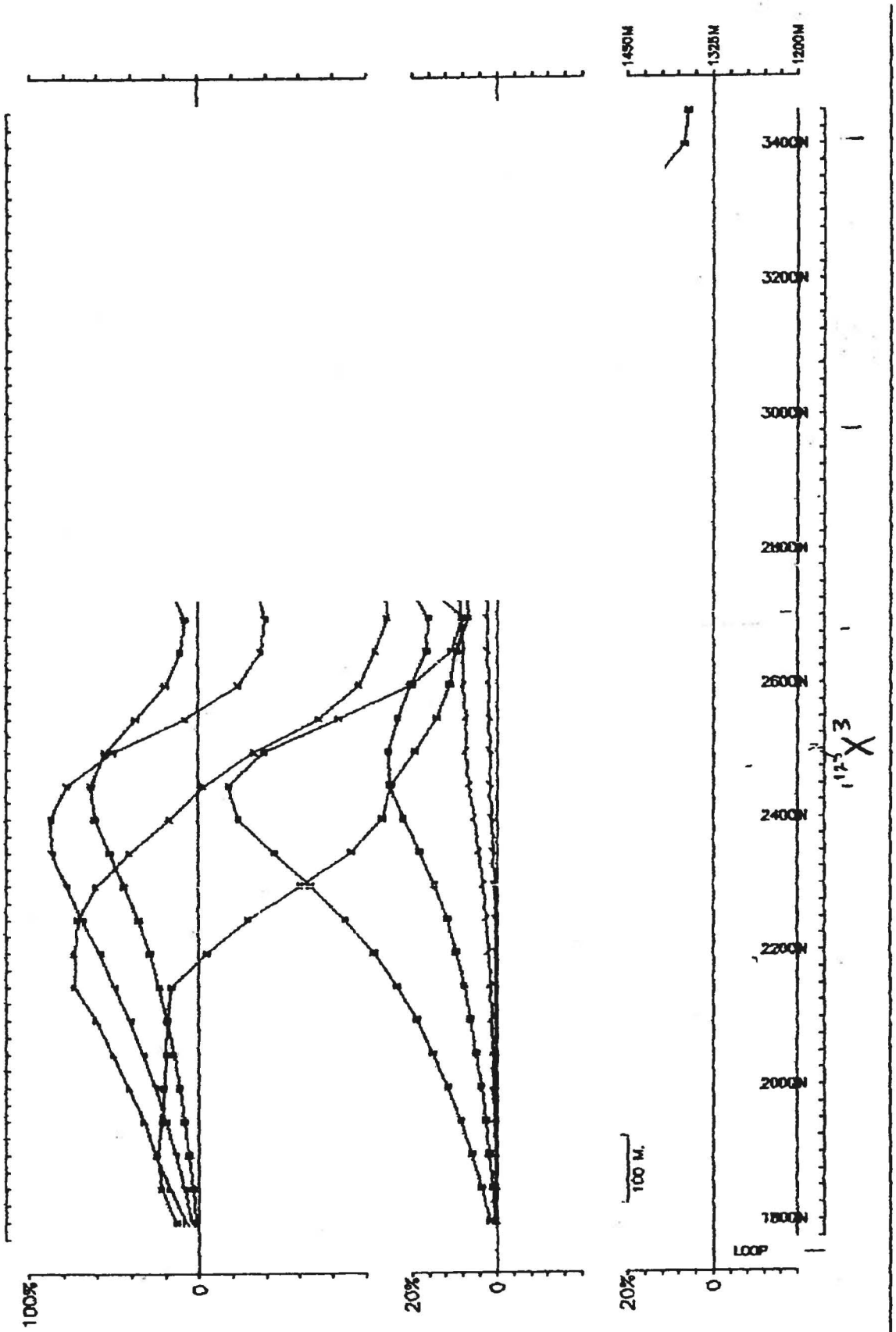
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 24 Loop: 2 Line: 420100E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1150M./L-1175M. Line Azim.: 0 . Rx Label: 1 Point Normalized.



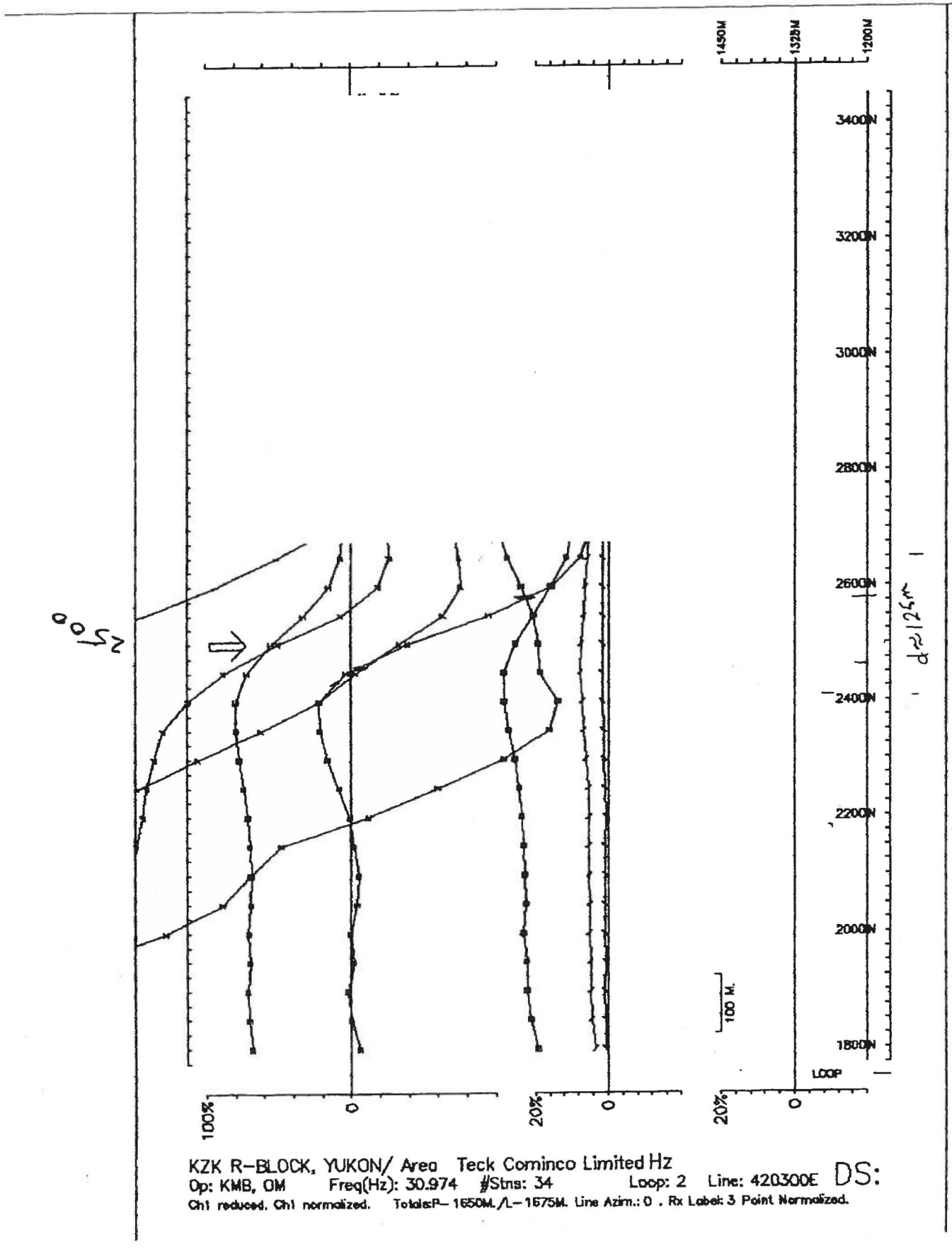
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 24 Loop: 2 Line: 420100E DS:

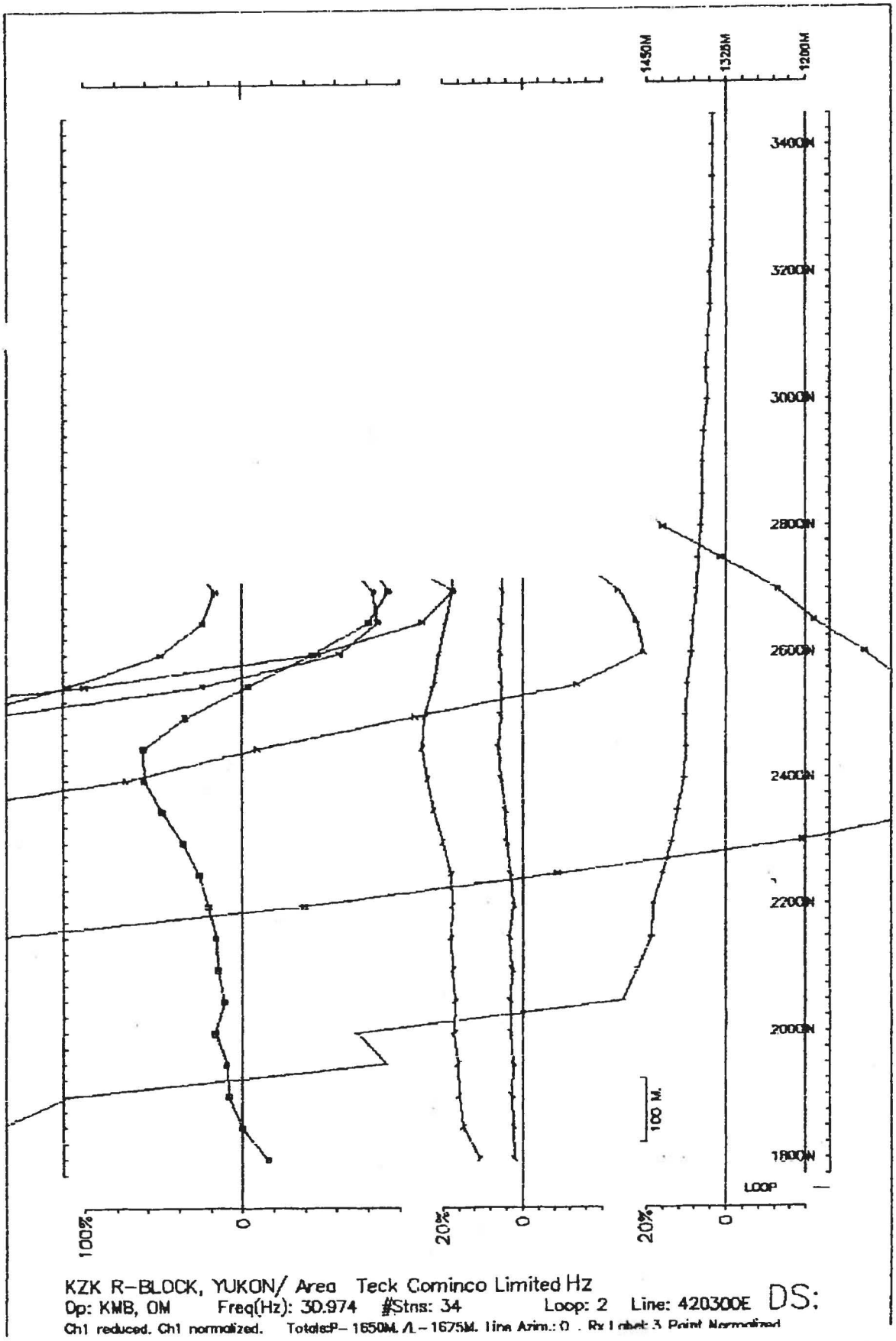
Chl reduced. Chl normalized. Totals:P- 1150M./L-1175M. Line Azim.: 0 . Rx Label: 1 Point Normalized.



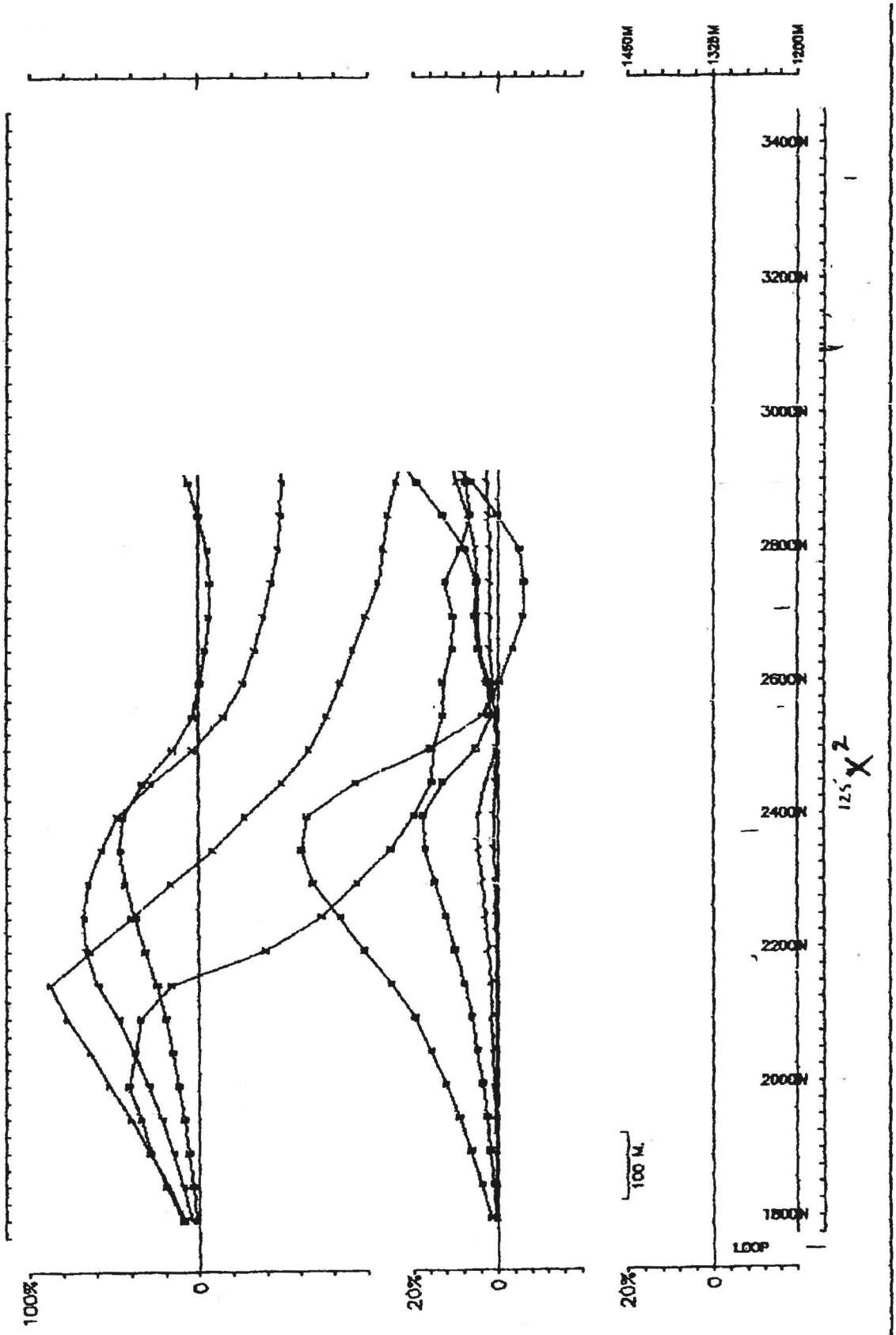
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420300E DS:
Ch1 reduced. Ch1 normalized. TotalsP- 1650M./L- 1675M. Line Azim.: 0 . Rx Label: 3



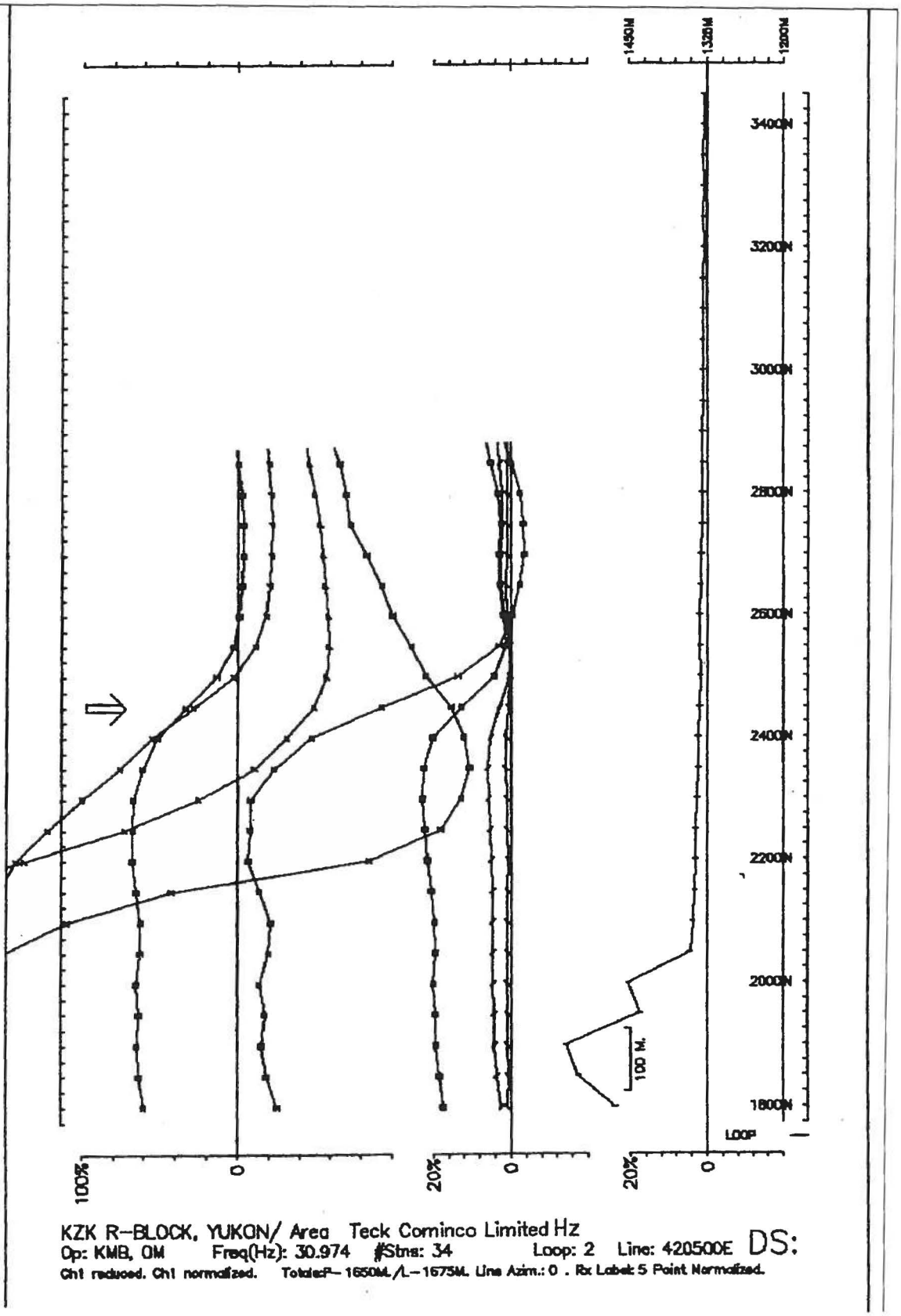
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420300E DS:
Ch1 reduced. Ch1 normalized. Totals:R- 1650M./L- 1675M. Line Azim.: 0 . Rx Label: 3 Point Normalized.



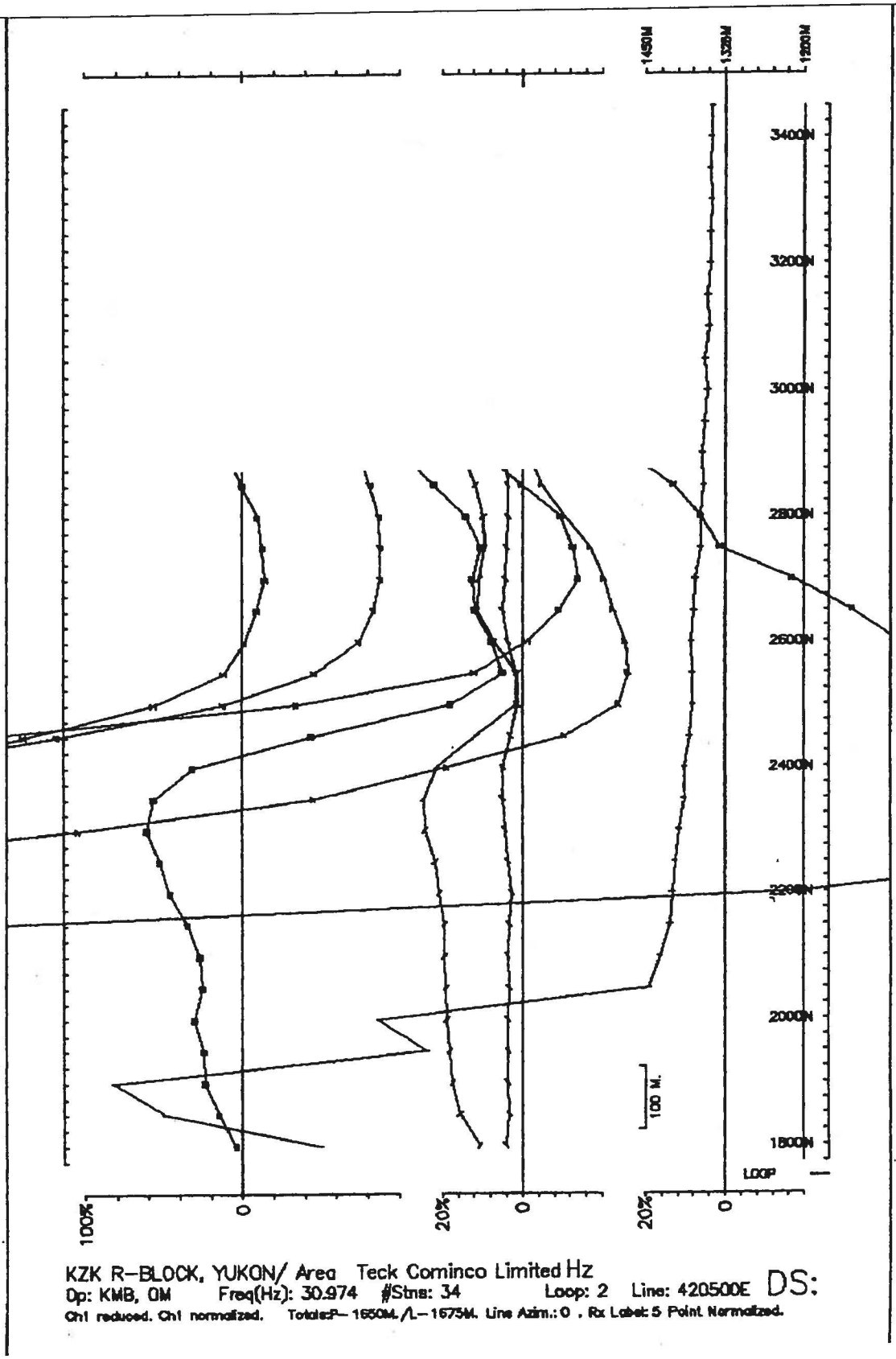
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420300E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1650M /L-1675M. Line Azim.: 0 . Rx Label: 3 Point Normalized



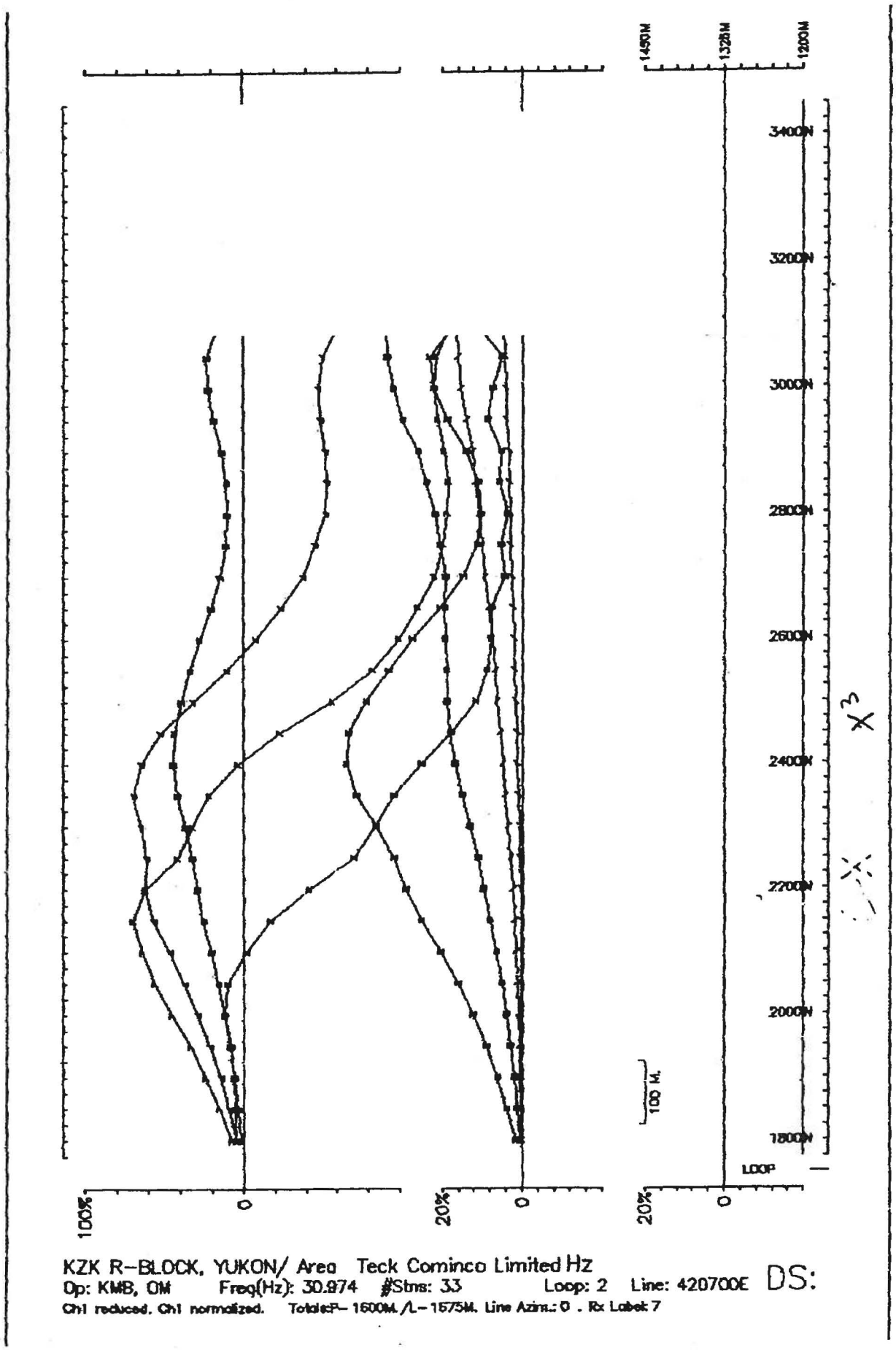
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Dp: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1650M./L-1675M. Line Azim.: 0 . Rx Label: 5



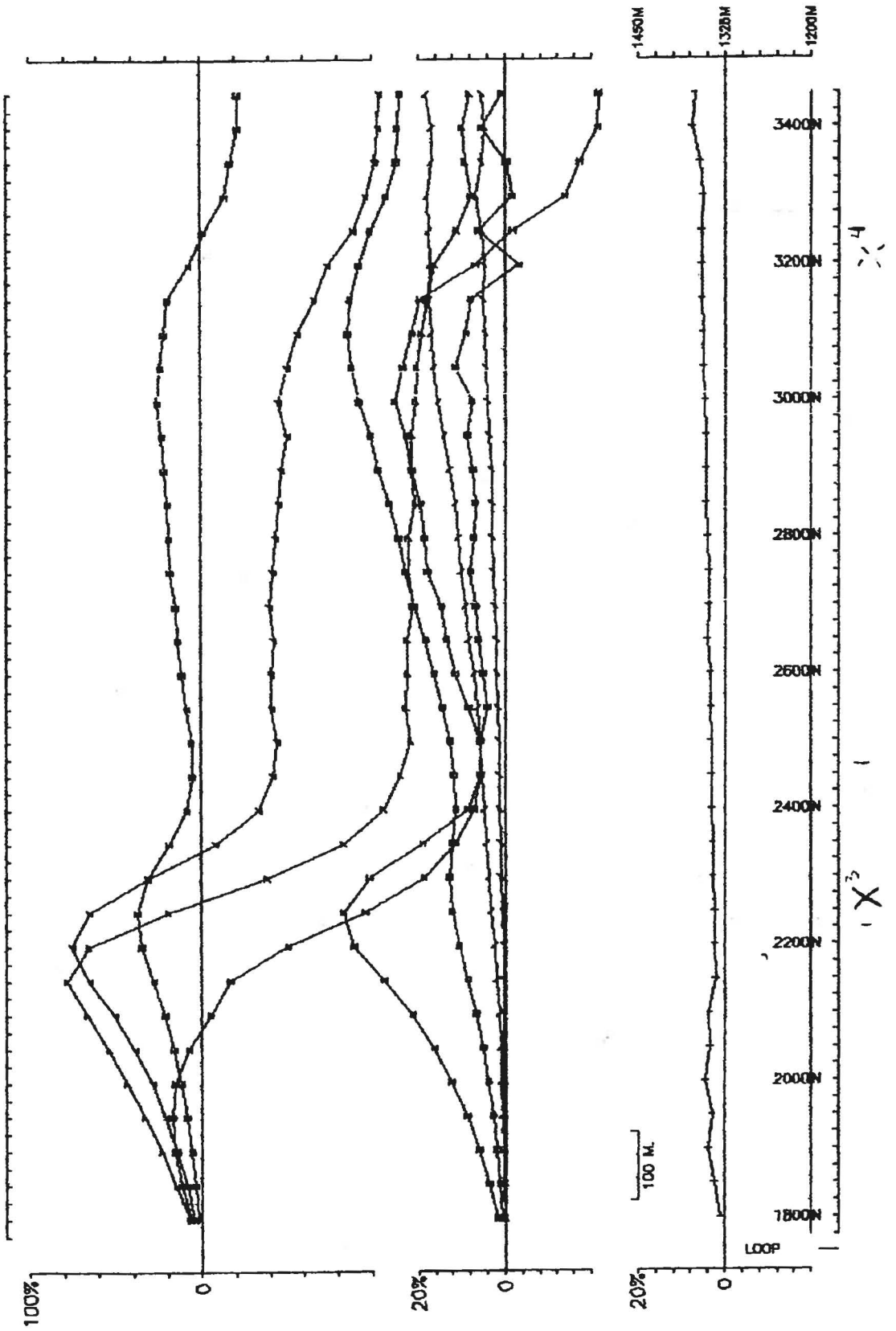
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1650M./L-1675M. Line Azim.: 0 . Rx Label: 5 Point Normalized.



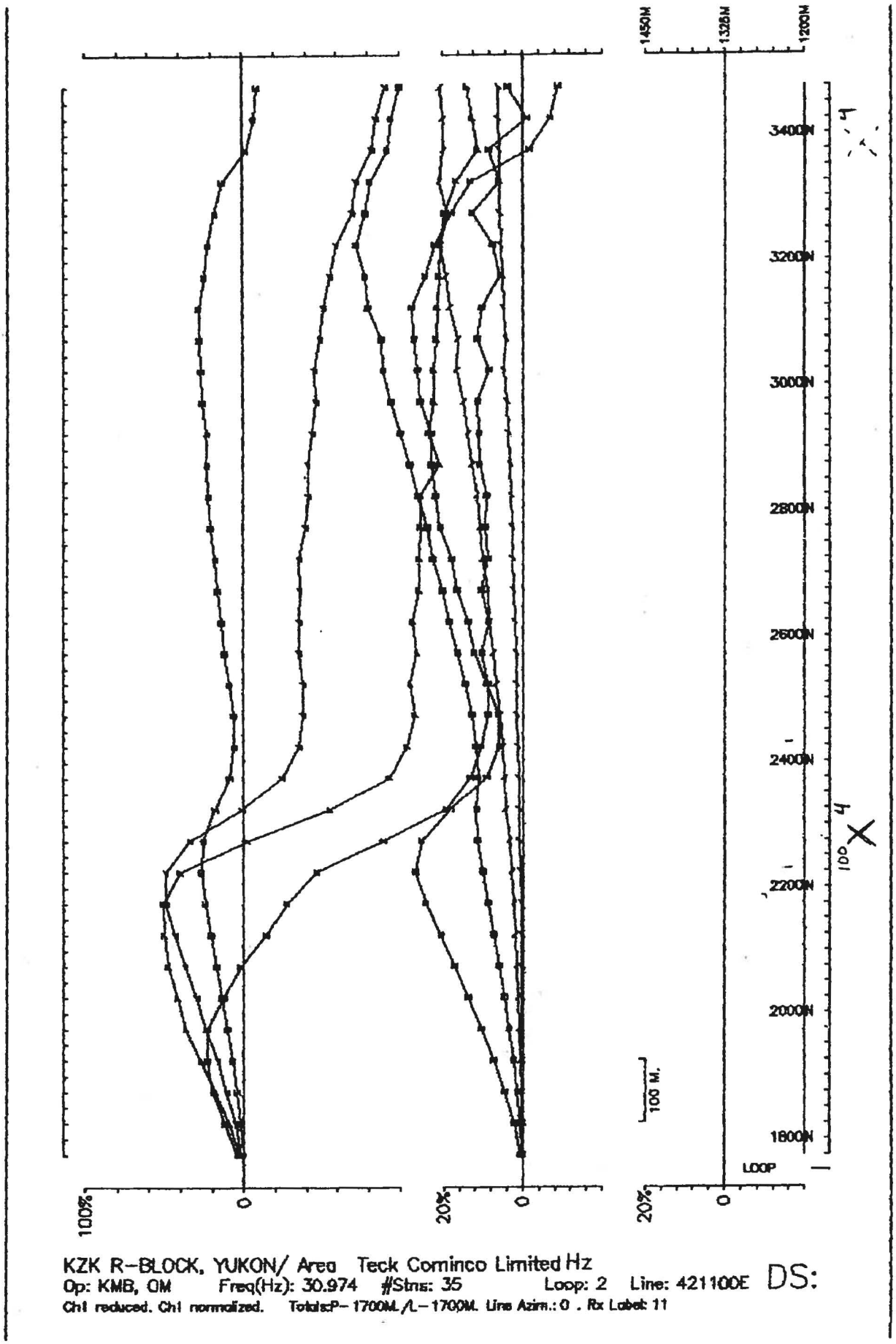
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, GM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1650M./L-1675M. Line Azim.: 0 . Rx Label: 5 Point Normalized.



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 33 Loop: 2 Line: 420700E DS:
Chl reduced. Chl normalized. TotalsP- 1600M. /L- 1575M. Line Azim.: 0 . Rx Label: 7



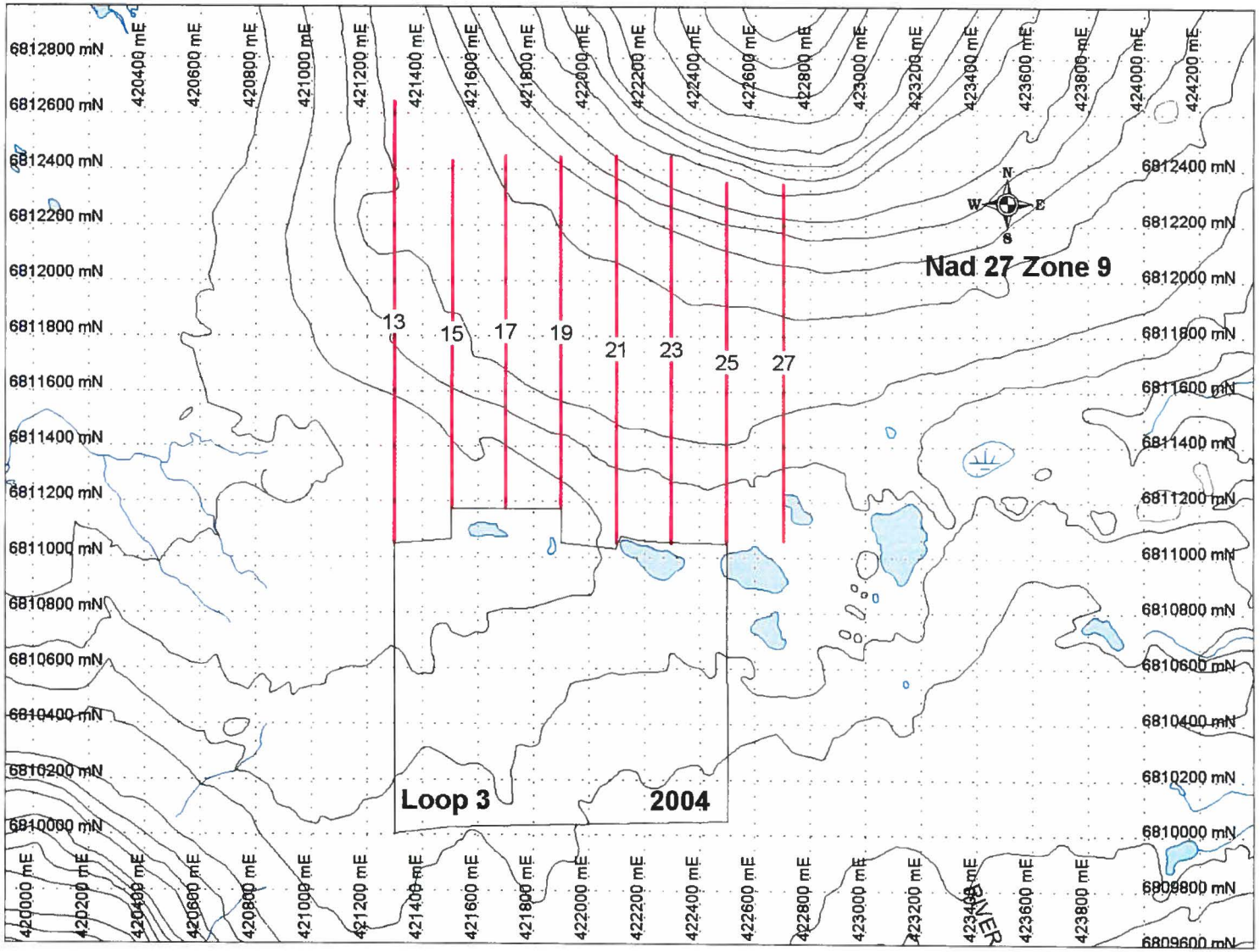
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 34 Loop: 2 Line: 420900E DS:
Ch1 reduced. Ch1 normalized. Totals:P-- 1650M./L-- 1675M. Line Azim.: 0 . Rx Label: 9

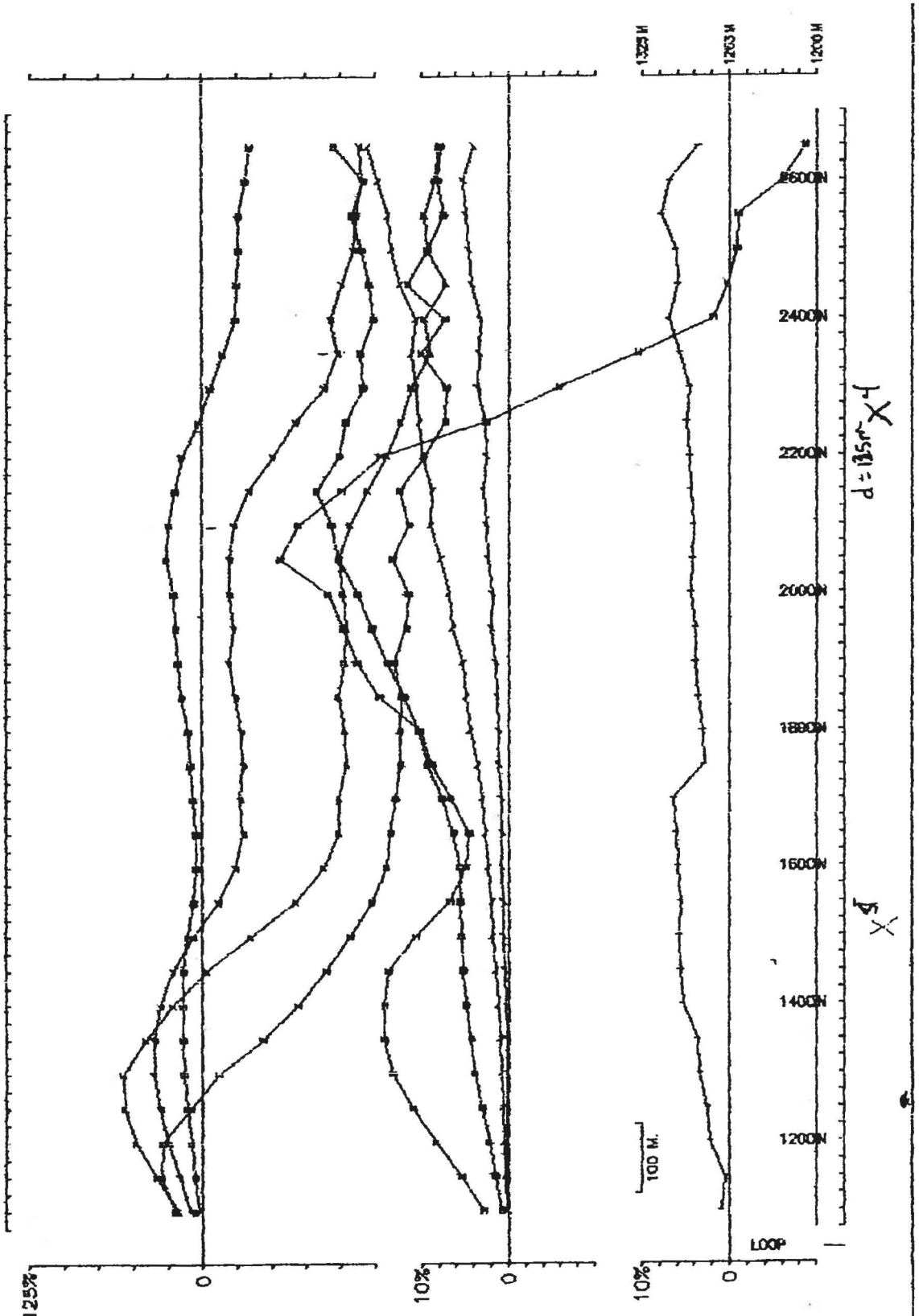


KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 35 Loop: 2 Line: 421100E DS:

Chl reduced. Chl normalized. Totals:P-1700M./L-1700M. Line Azim.: 0 . Rx Label: 11

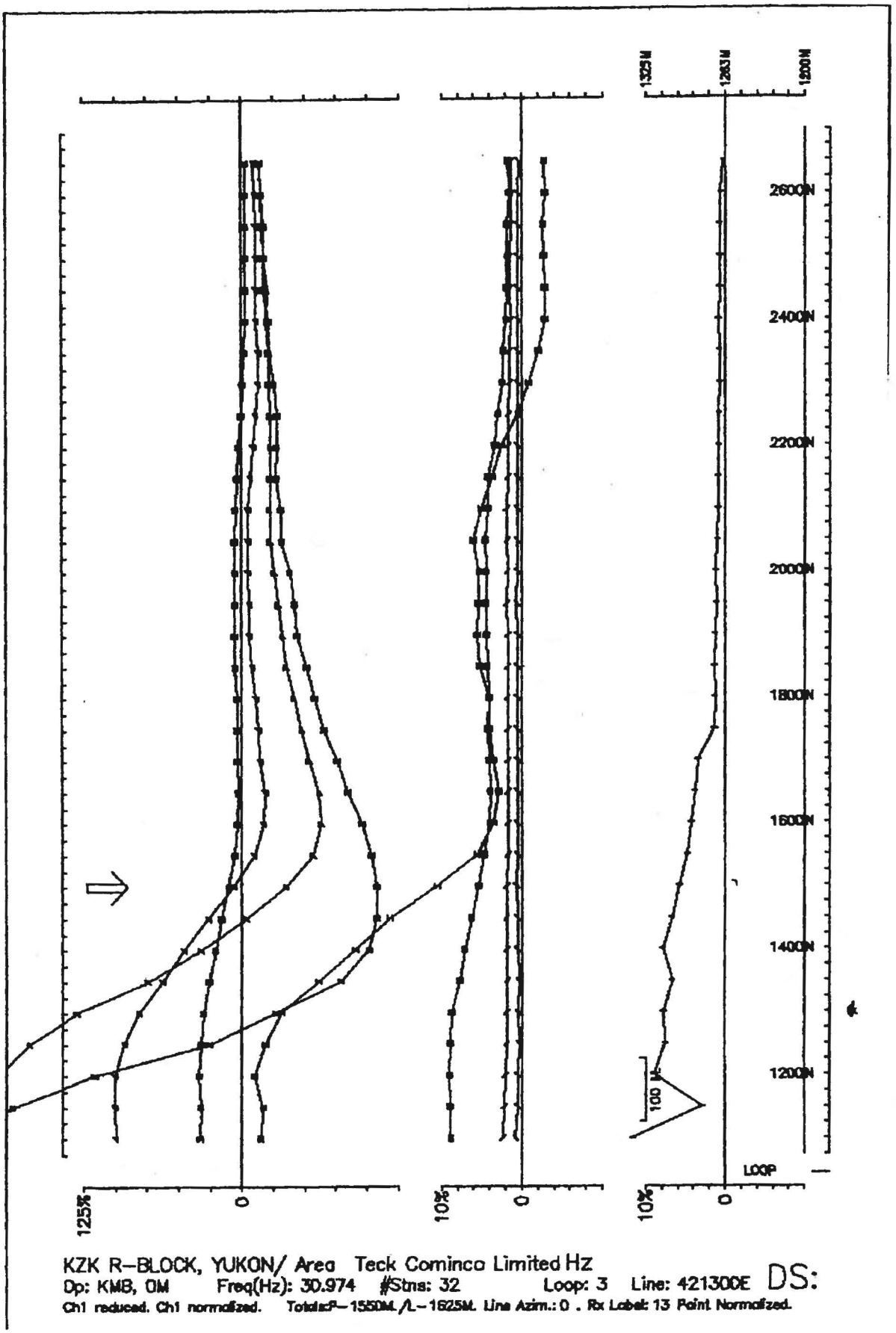

Nad 27 Zone 9
Loop 3
2004
13
15
17
19
21
23
25
27
N
W
E
S
6812800 mN
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
6810200 mN
6810000 mN
6809800 mN
6809600 mN
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE
423400 mE
423600 mE
423800 mE
424000 mE
424200 mE



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

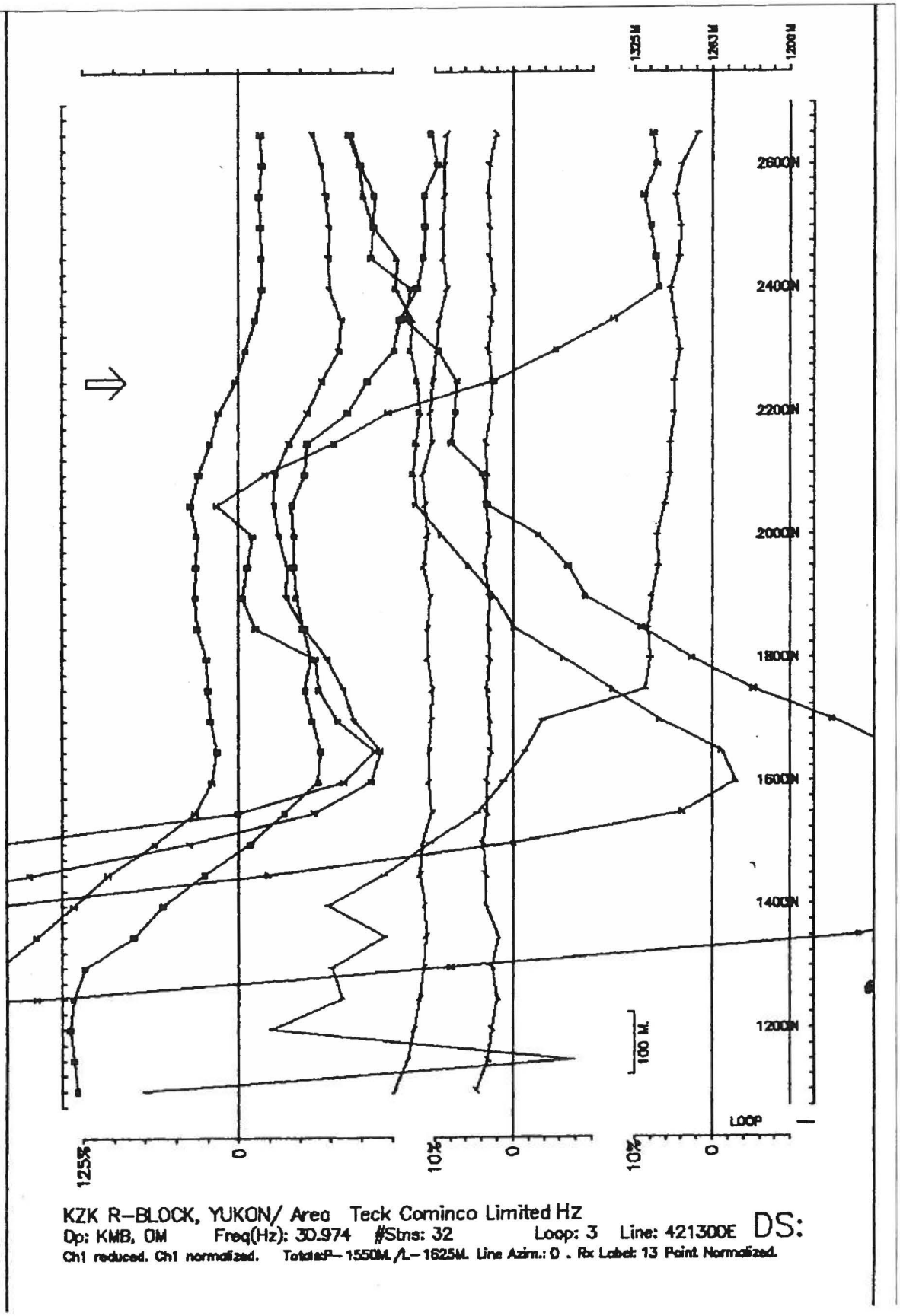
Op: KMB, OM Freq(Hz): 30.974 #Stns: 32 Loop: 3 Line: 421300E DS:

Ch1 reduced. Ch1 normalized. Tele:sP- 1550M. /L- 1625M. Line Azim.: 0 . Rx Label: 13

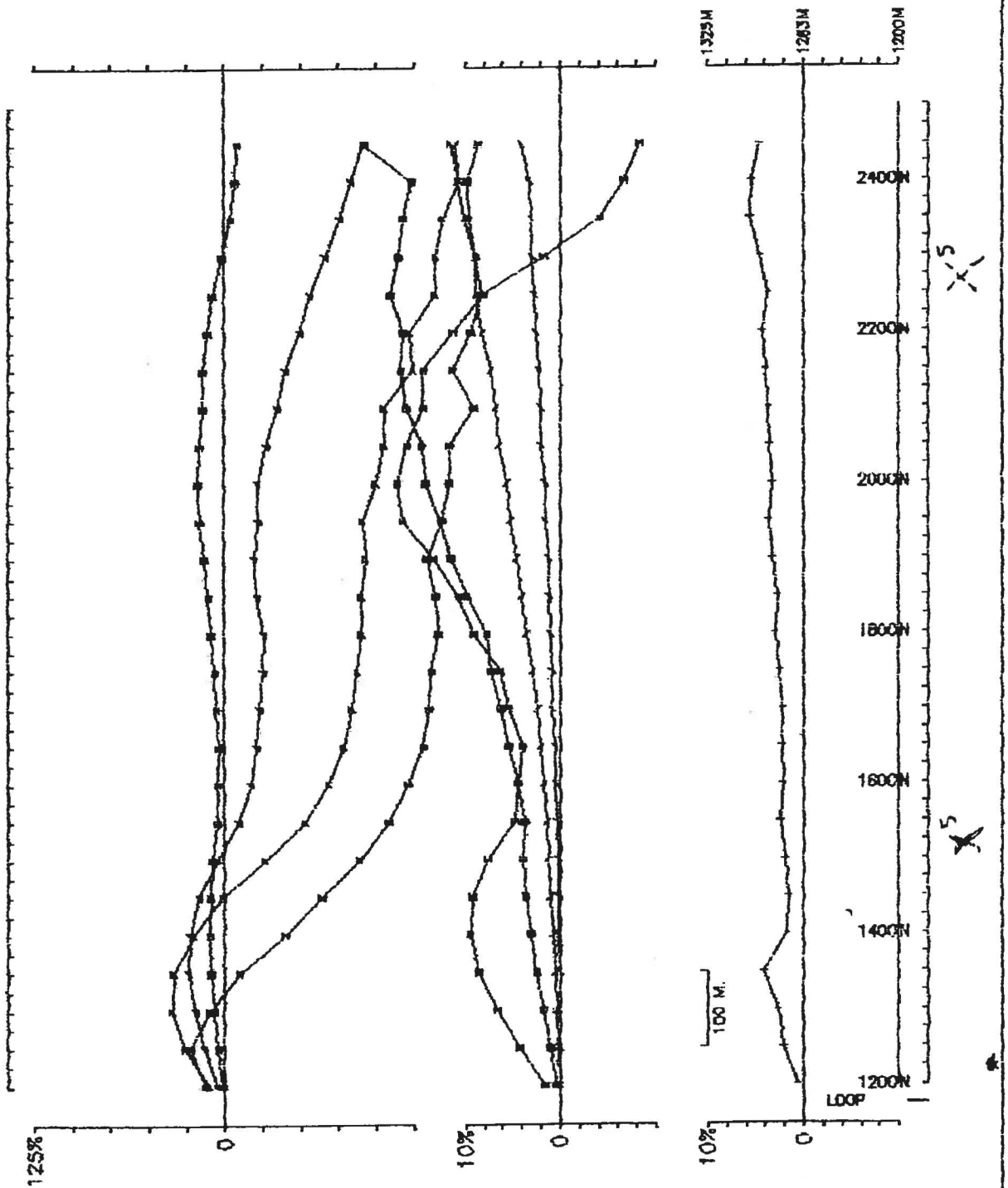


KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Dp: KMB, 0M Freq(Hz): 30.974 #Stns: 32 Loop: 3 Line: 421300E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1550M./L-1625M. Line Azim.: 0 . Rx Label: 13 Point Normalized.

1500



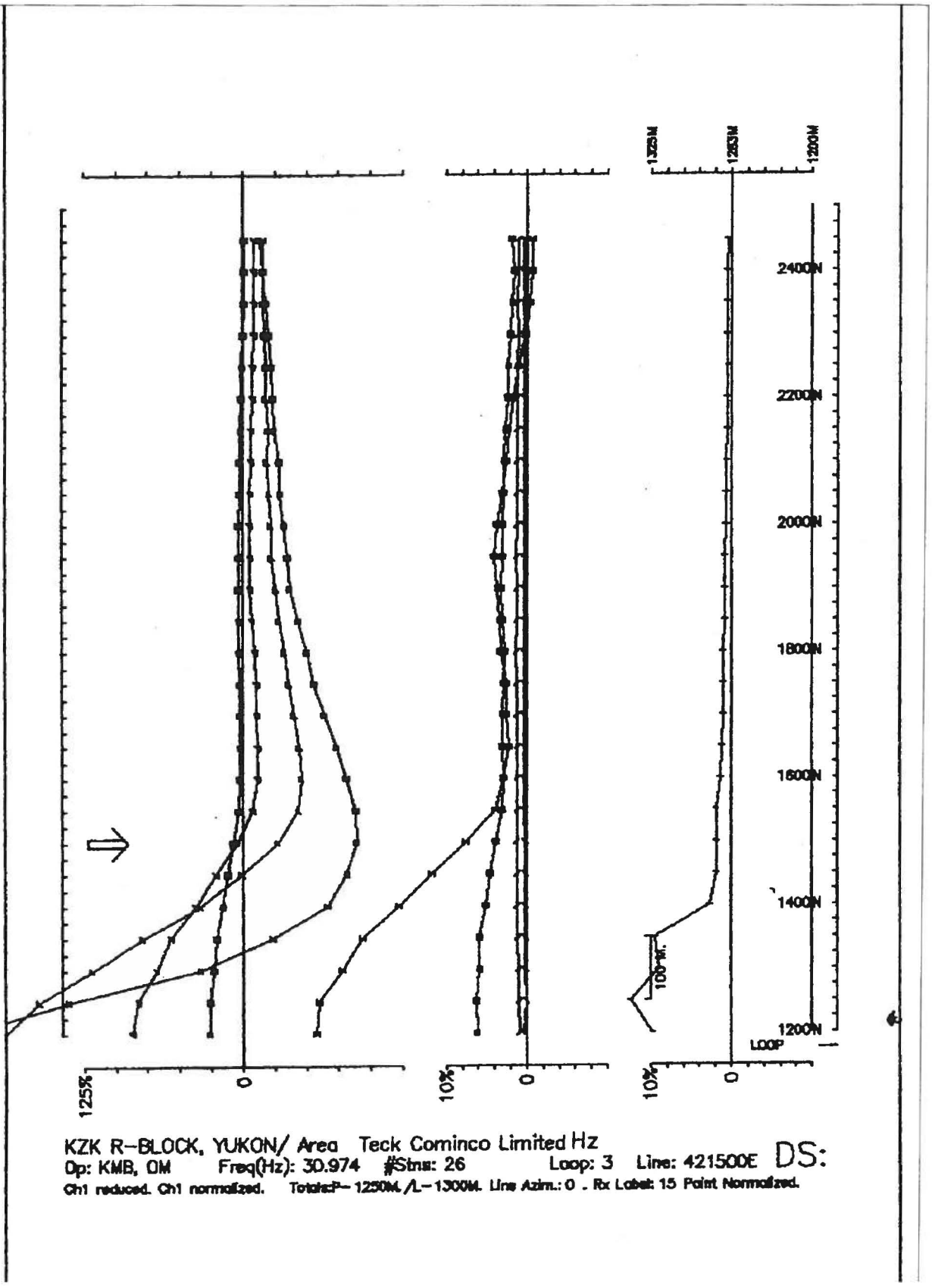
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Dp: KMB, 0M Freq(Hz): 30.974 #Stns: 32 Loop: 3 Line: 421300E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1550M./L-1625M. Line Azim.: 0 . Rx Label: 13 Point Normalized.



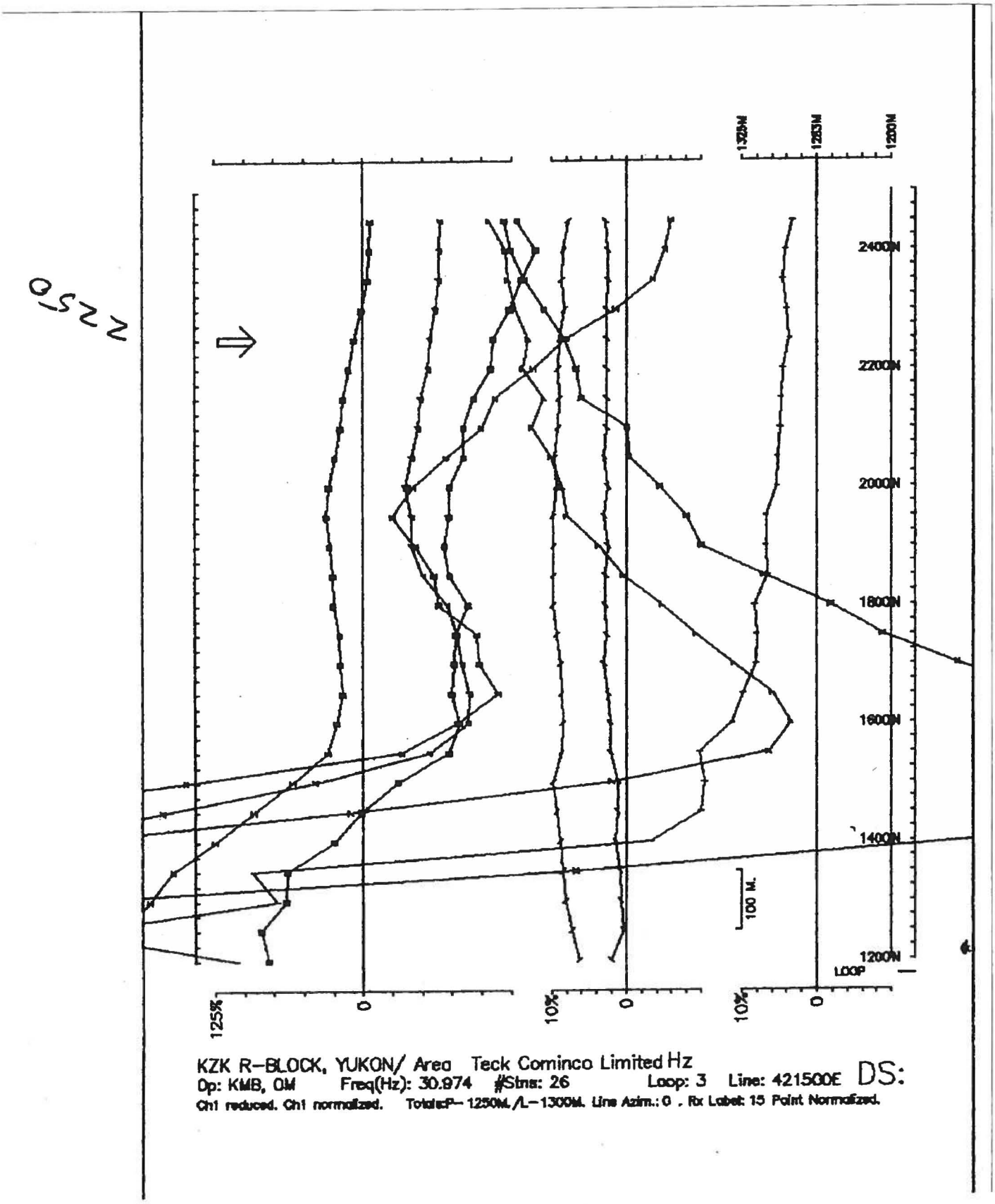
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

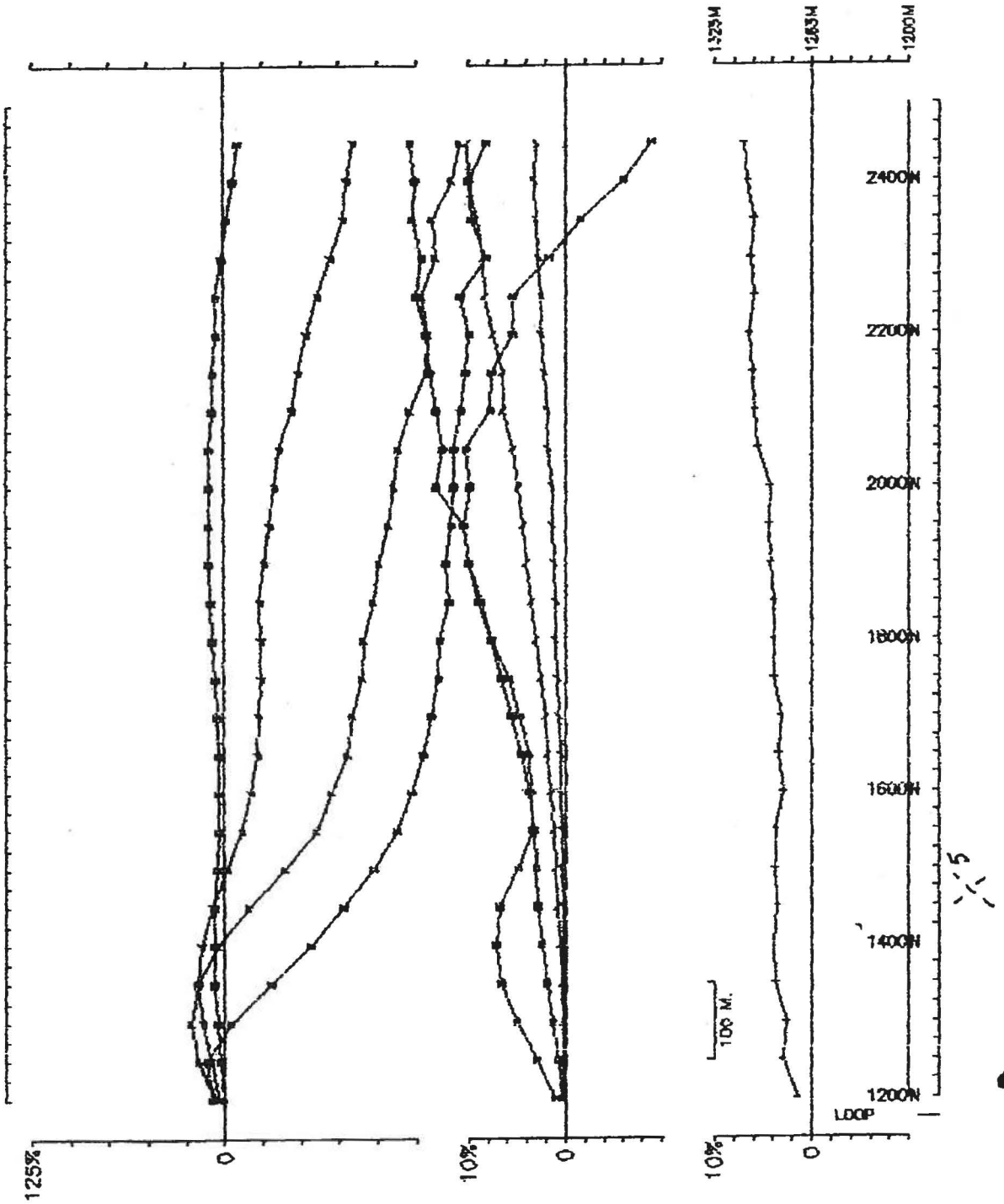
Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421500E DS:

Ch1 reduced. Ch1 normalized. Totals:P- 1250M /L- 1300M. Line Azim.: 0 . Rx Label: 15



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1250M./L-1300M. Line Azim.: 0 . Rx Label: 15 Point Normalized.

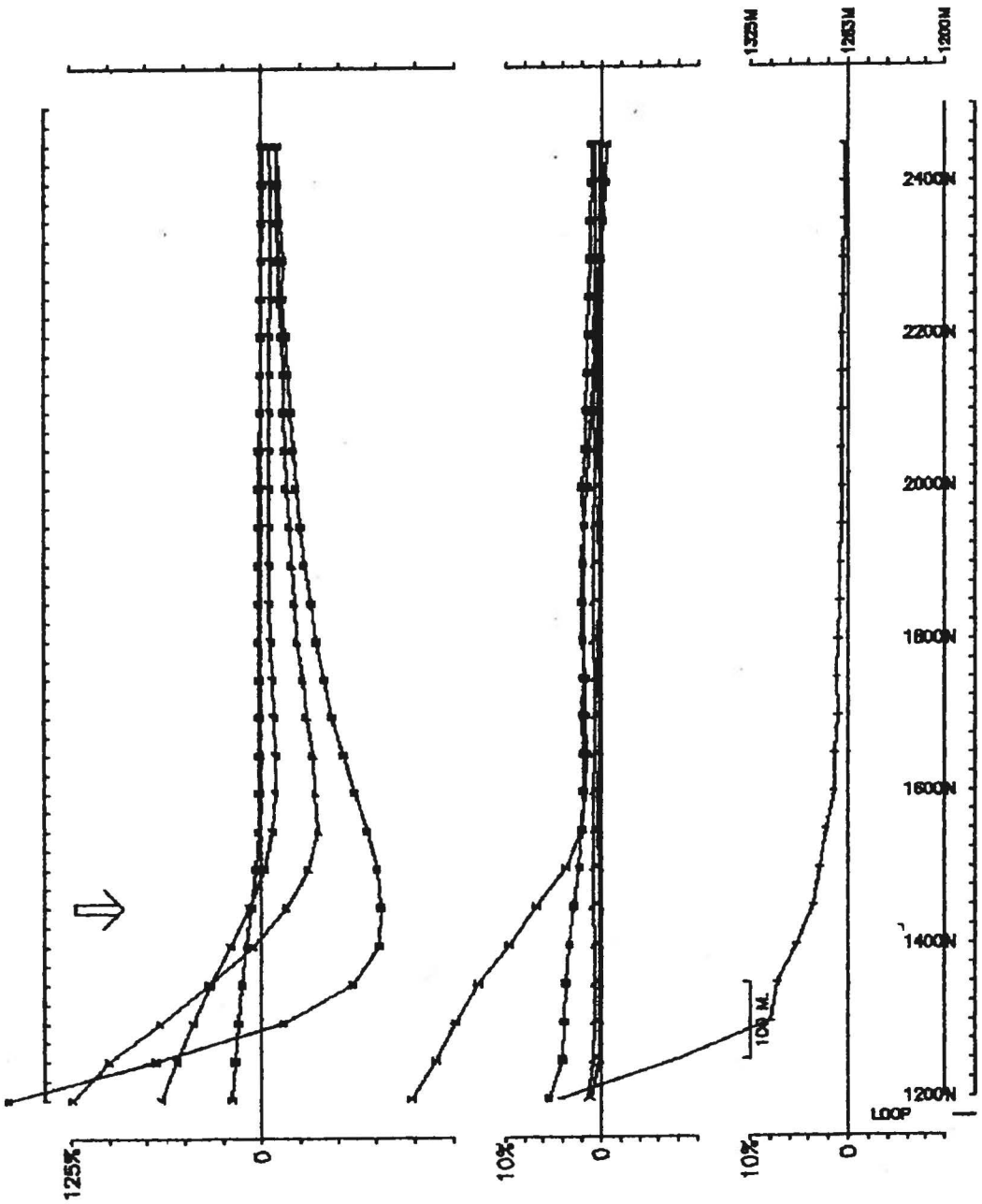

N 250
1325N
1263N
1200N
2400N
2200N
2000N
1800N
1600N
1400N
1200N
100 M.
LOOP
125%
0
10%
0
10%
0
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1250M./L-1300M. Line Azim.: 0 . Rx Label: 15 Point Normalized.



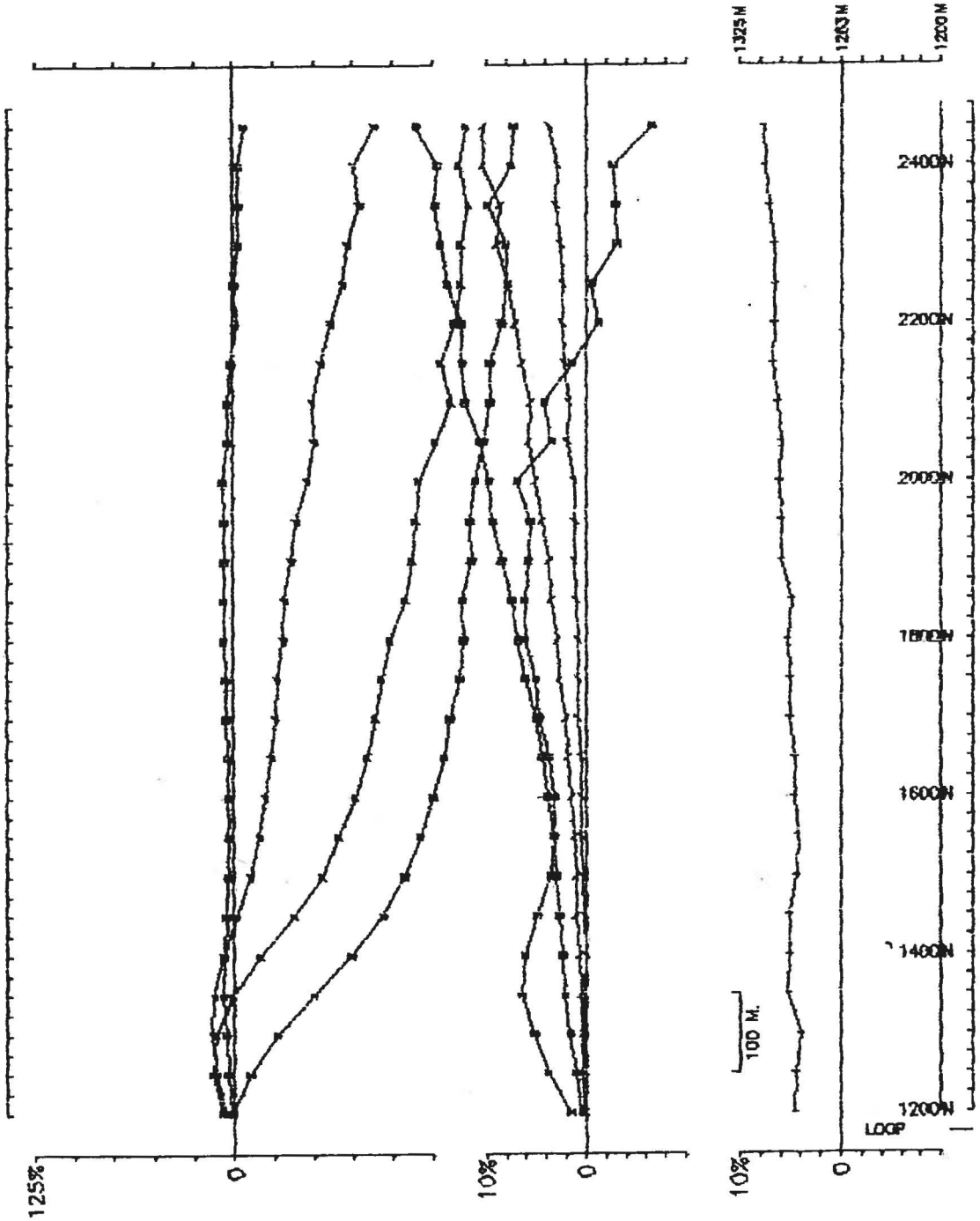
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Dp: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421700E DS:

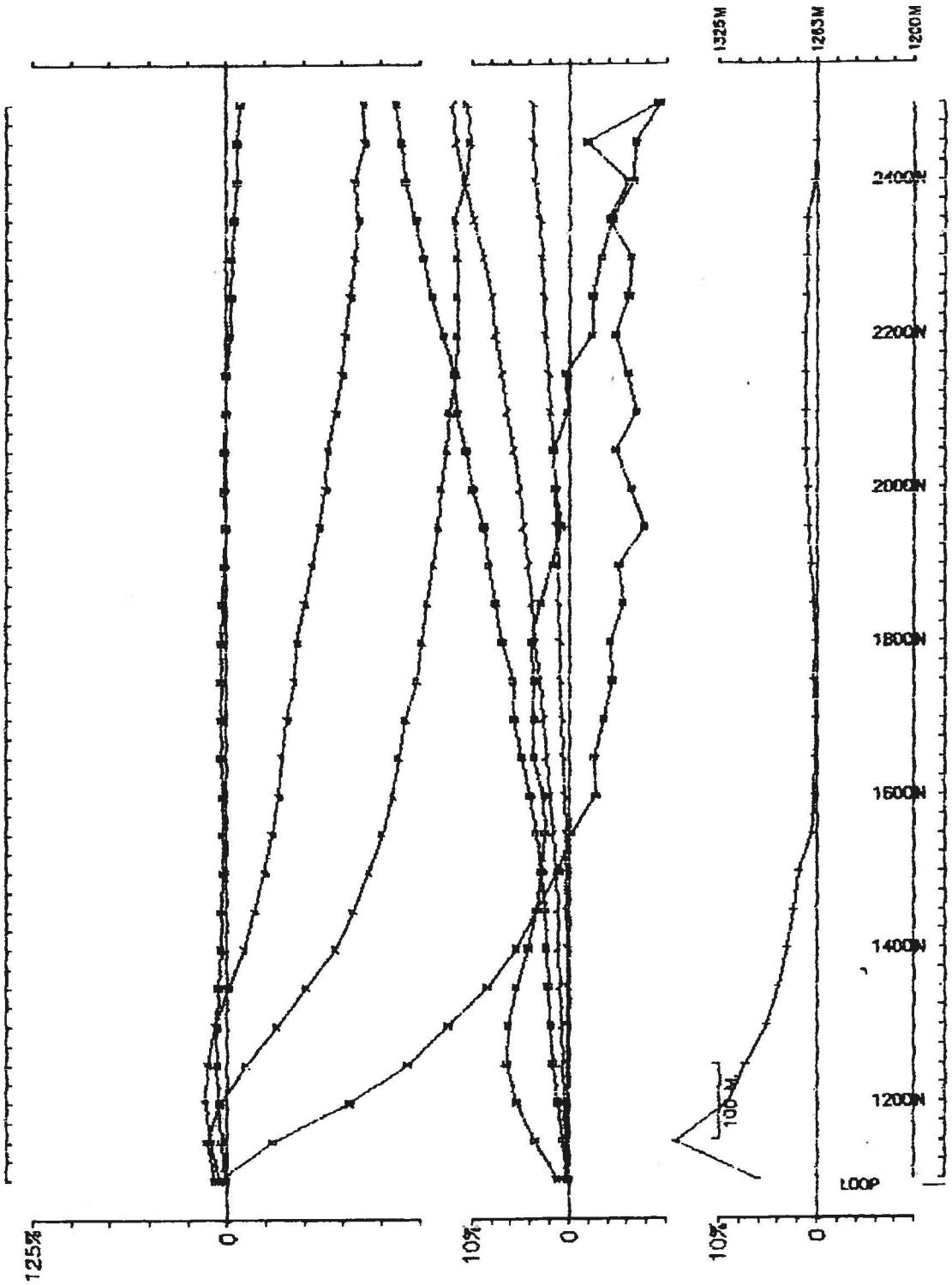
Ch1 reduced. Ch1 normalized. Totals:P- 1250M. /L- 1300M. Line Azim.: 0 . Rx Label: 17



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, GM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421700E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1250M./L-1300M. Line Azim.: 0 . Rx Label: 17 Point Normalized.



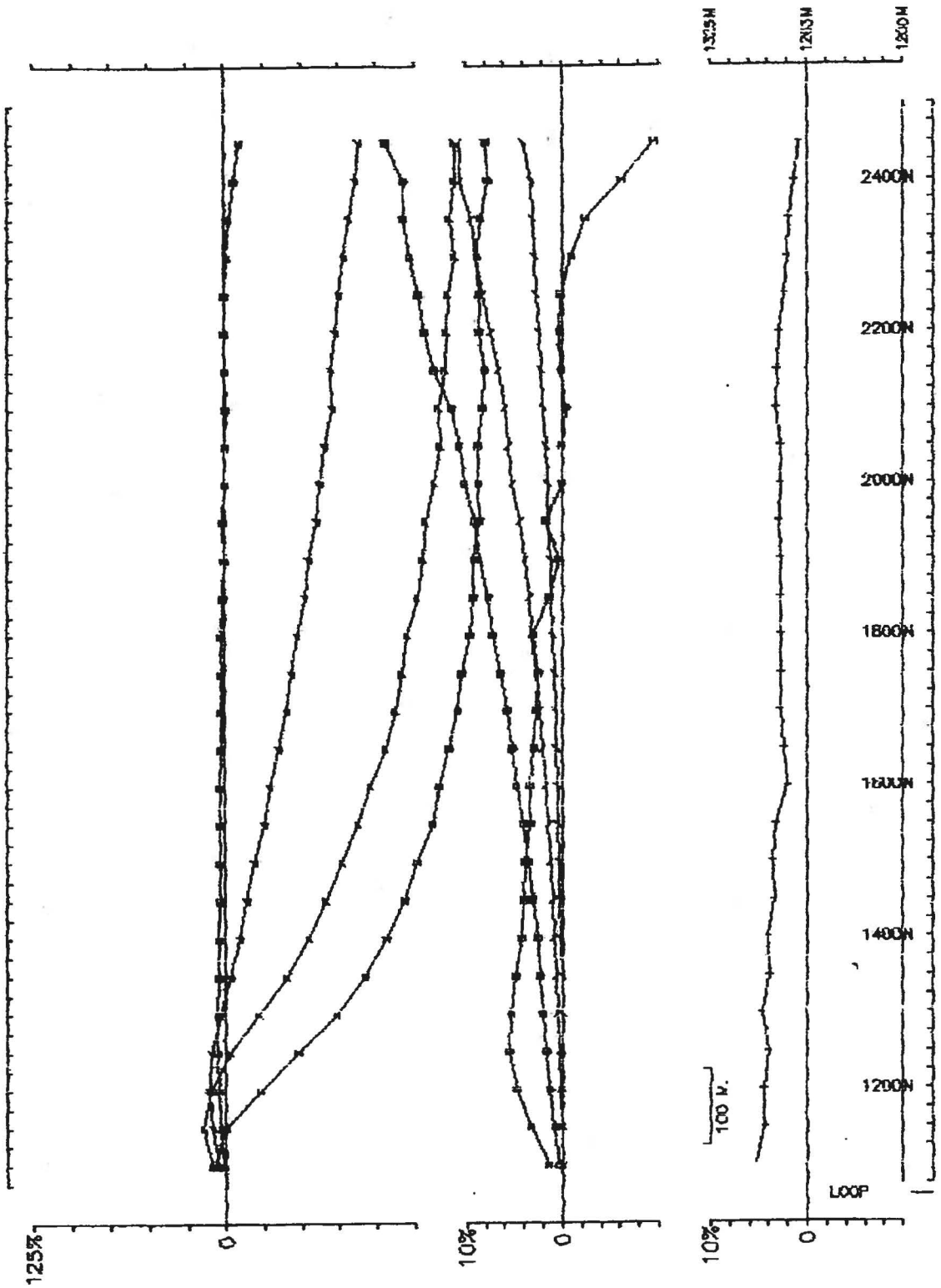
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 421900E DS:
Ch1 reduced. Ch1 normalized. Totals:P- 1250M. /L- 1275M. Line Azim.: 0 . Rx Label: 19



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 29 Loop: 3 Line: 422100E DS:

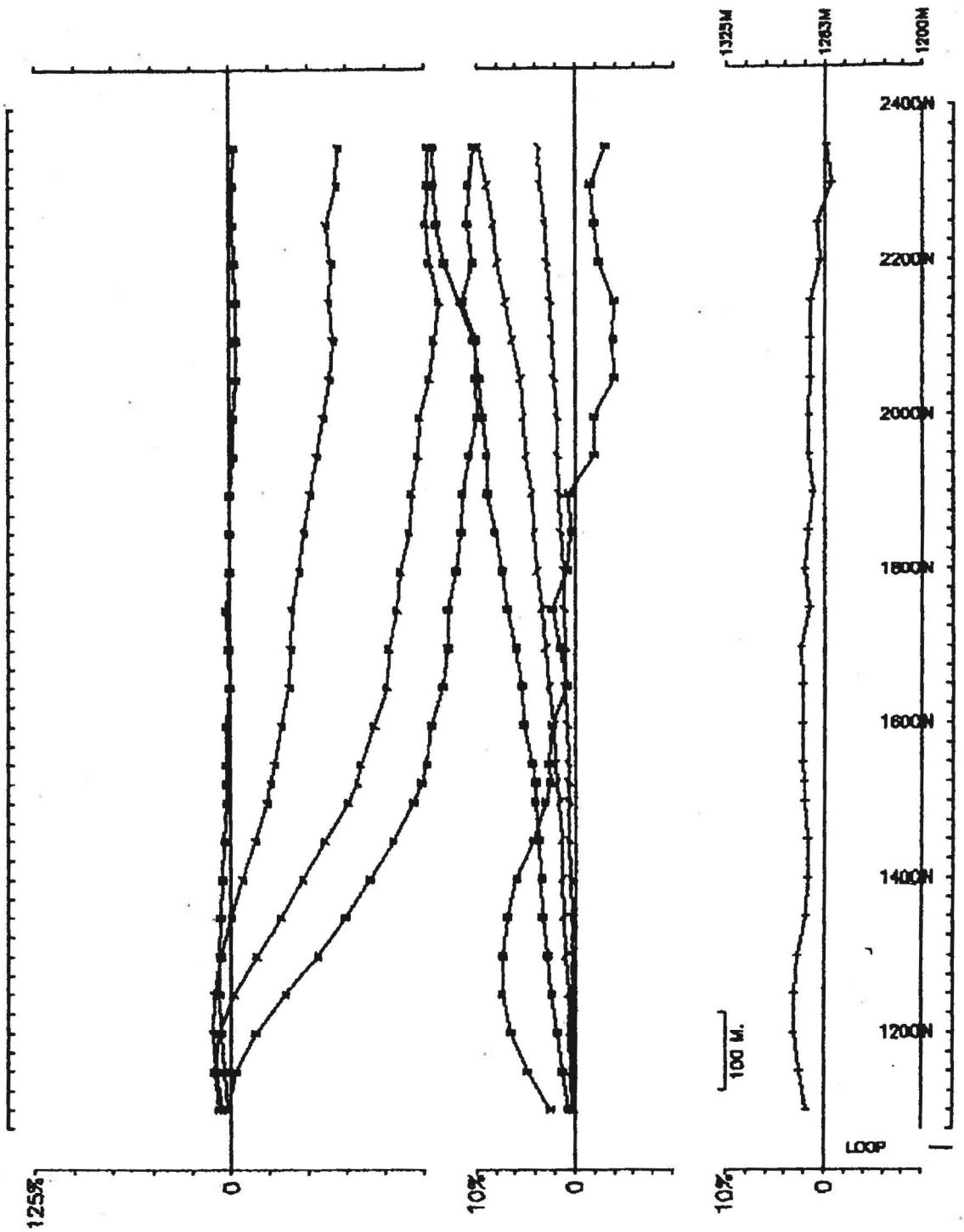
Chi reduced. Chi normalized. Totals:P-1400M /L-1400M. Line Azim.: 0 . Rx Label: 21



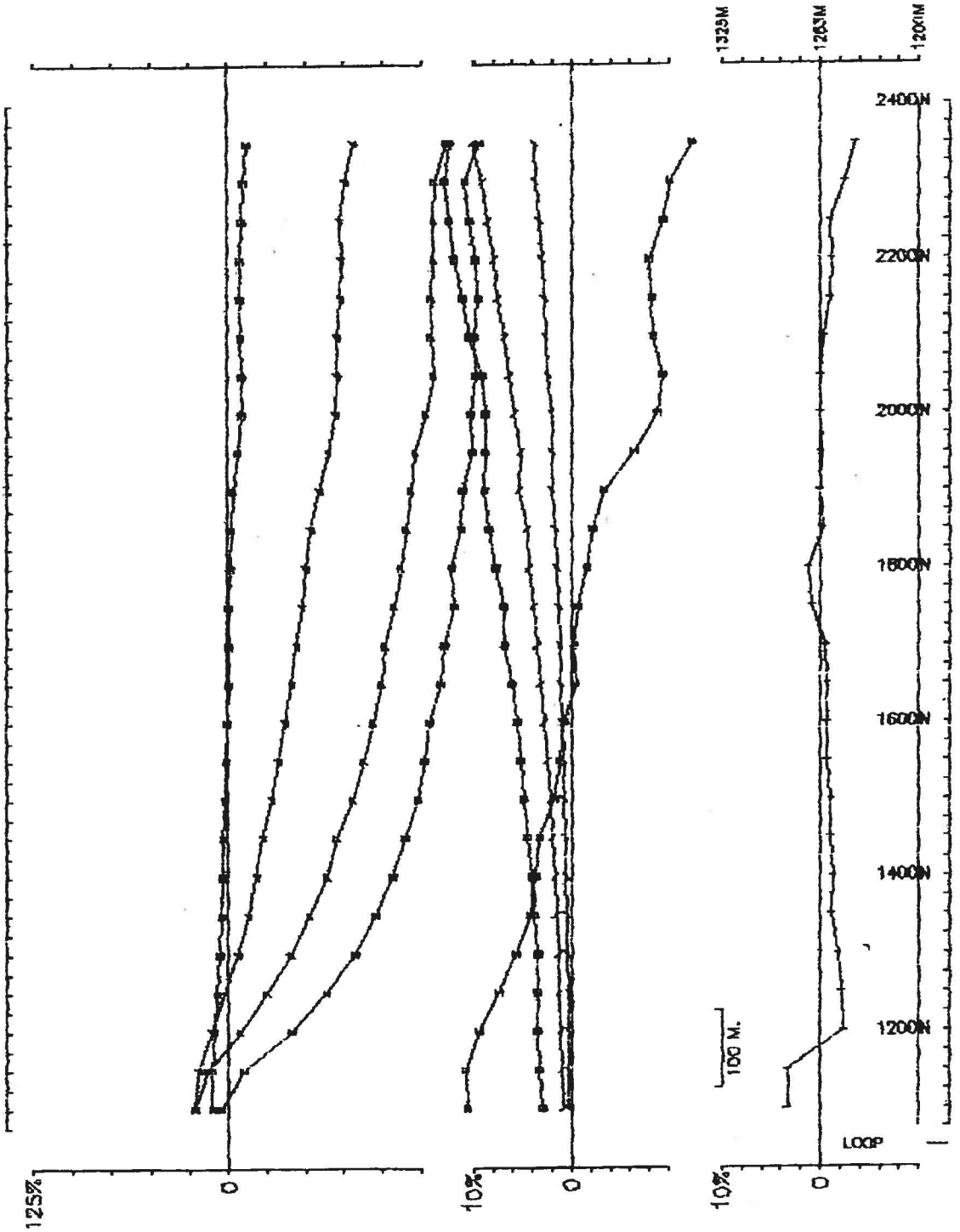
KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 28 Loop: 3 Line: 422300E DS:

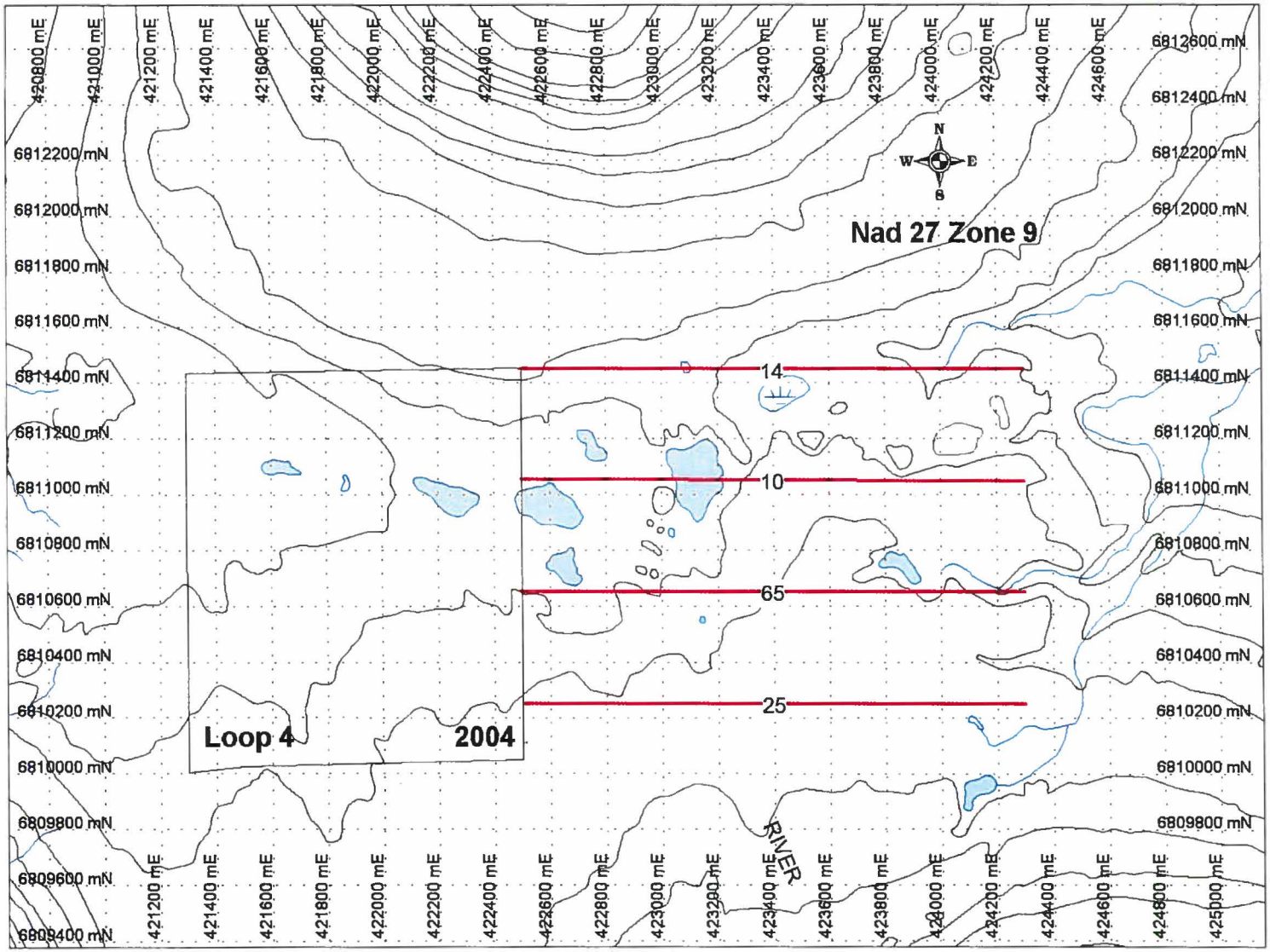
Ch1 reduced. Ch1 normalized. Totals:P-1350M./L-1425M. Line Azim.: 0 . Rx Label: 23

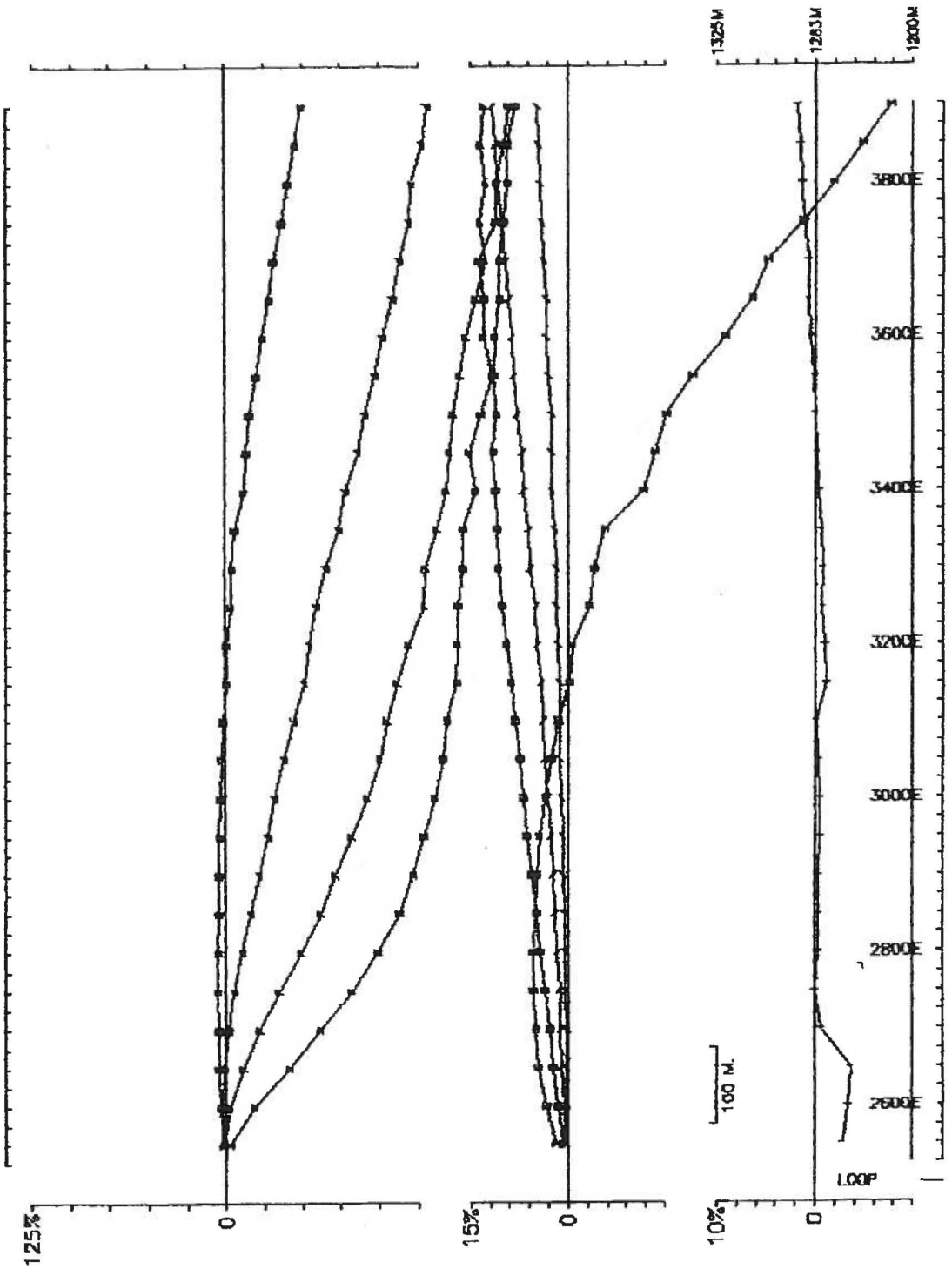


KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 27 Loop: 3 Line: 422500E DS:
Ch1 reduced. Ch1 normalized. Totals:P-1250ML/L-1325M. Line Azim.: 0 . Rx Label: 25



KZK R-BLOCK, YUKON/ Area Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 3 Line: 422700E DS:
Chl reduced. Chl normalized. Totals:P-1250M./L-1325M. Line Azim.: 0 . Rx Label: 27

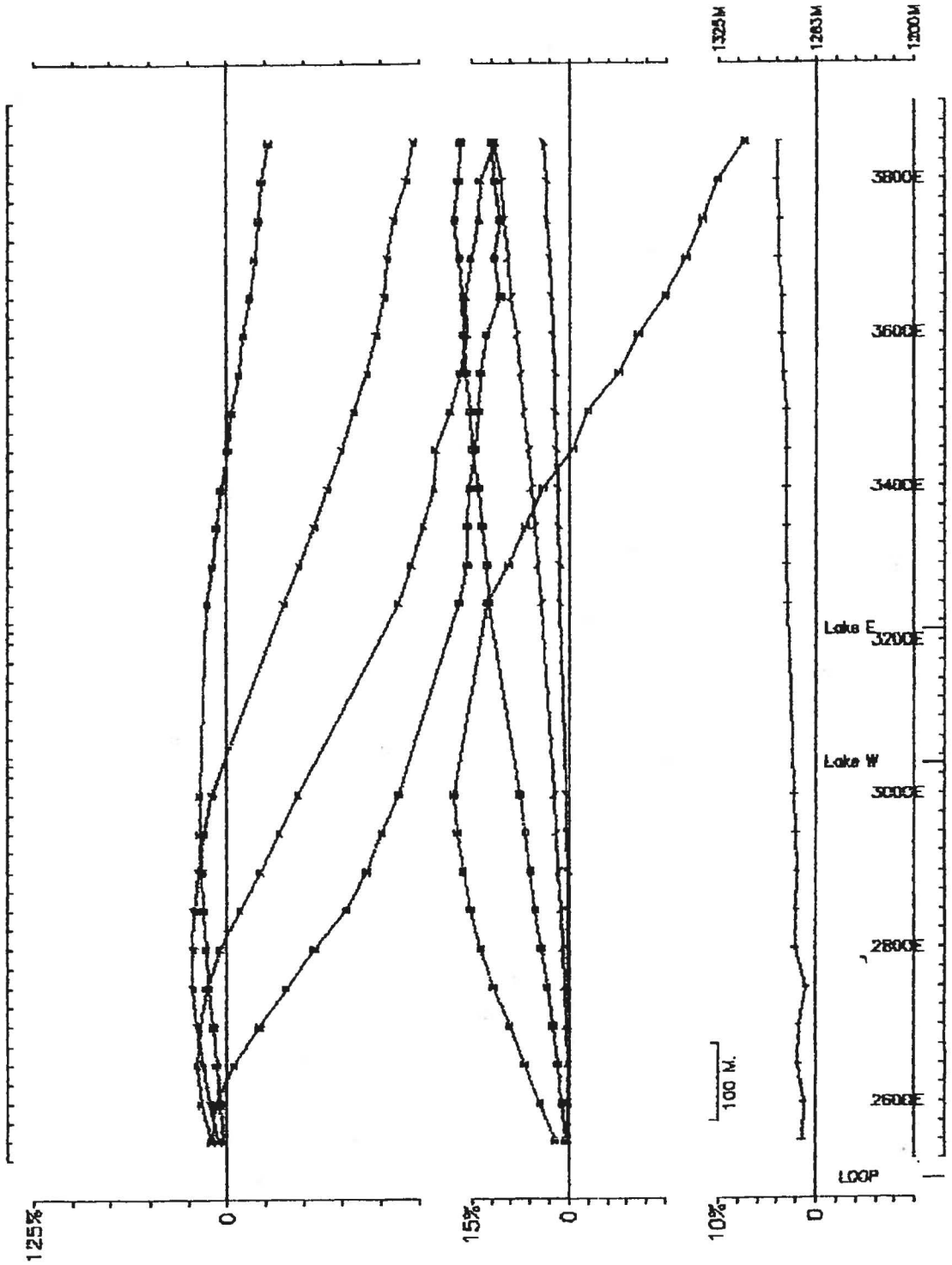

Nad 27 Zone 9
N
W
E
S
14
10
65
25
Loop 4
2004
RIVER
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE
423400 mE
423600 mE
423800 mE
424000 mE
424200 mE
424400 mE
424600 mE
424800 mE
425000 mE
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
6810200 mN
6810000 mN
6809800 mN
6809600 mN
6809400 mN



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 26 Loop: 4 Line: 6811450N DS:

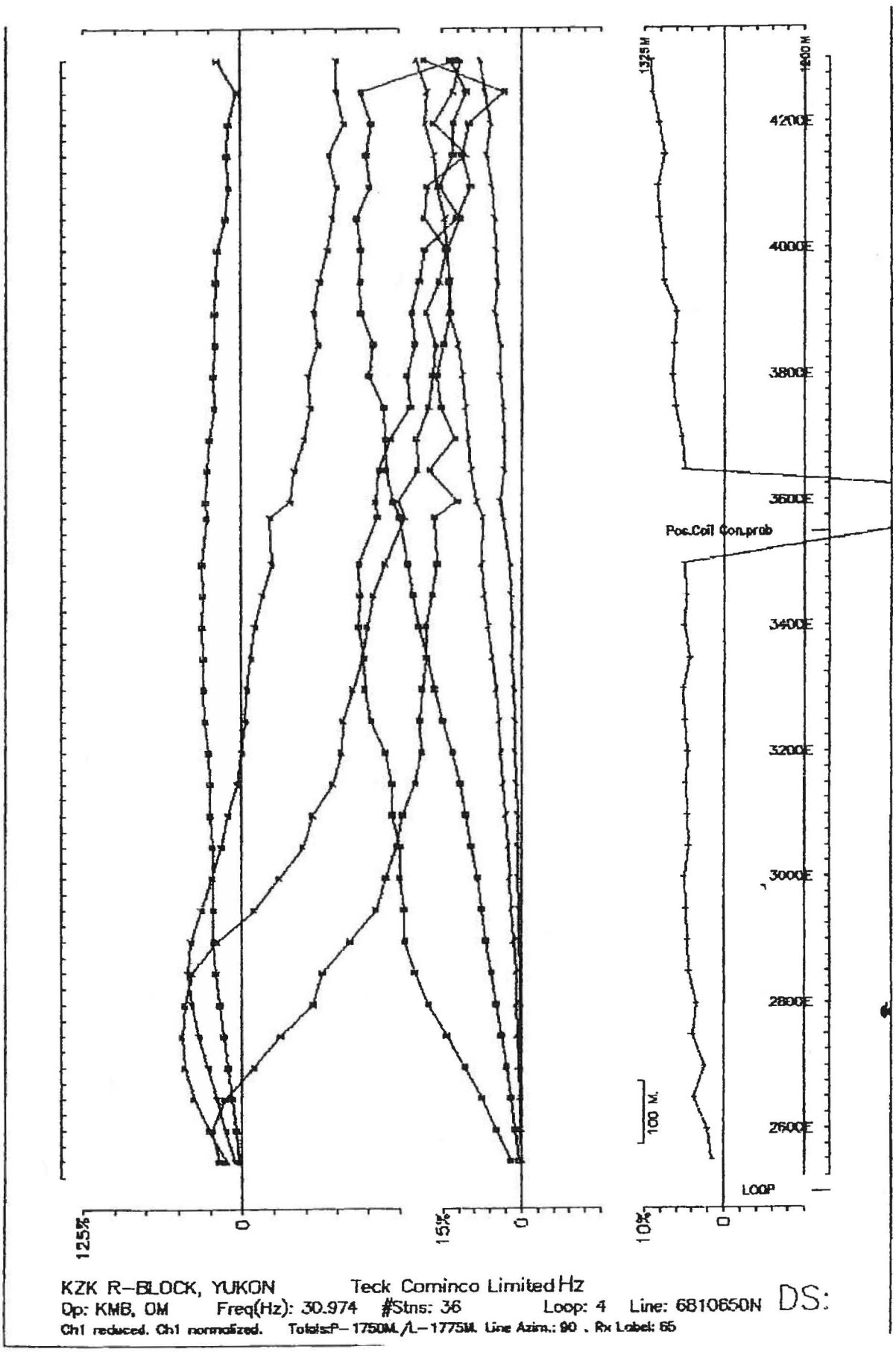
Ch1 reduced. Ch1 normalized. Totals:P-1350M./L-1375M. Line Azim.: 90 . Rx Label: 14



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 23 Loop: 4 Line: 6811050N DS:

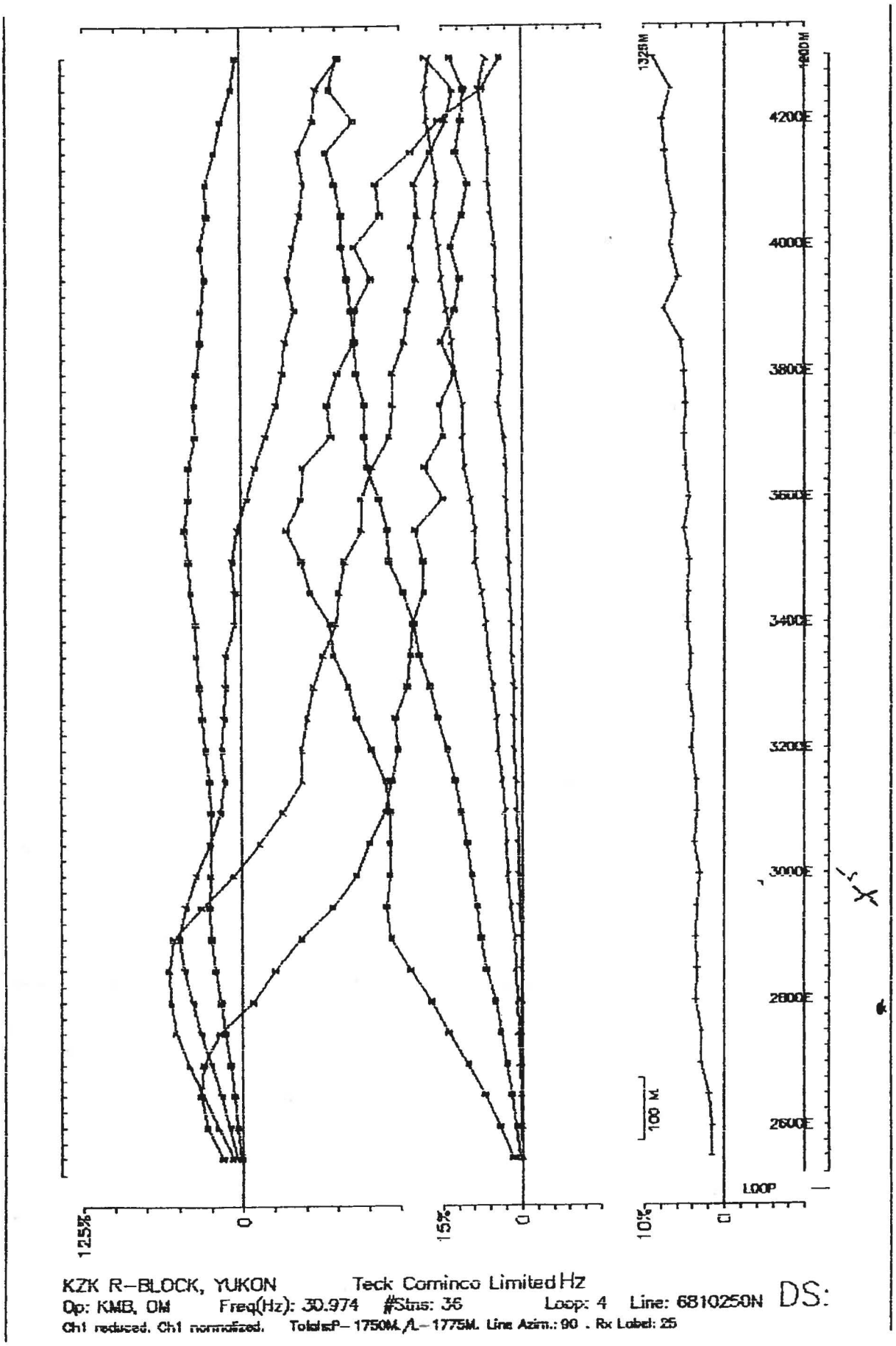
Ch1 reduced. Ch1 normalized. Totals:P-1300M./L-1375M. Line Azim.: 90 . Rx Label: 10



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 36 Loop: 4 Line: 6810650N DS:

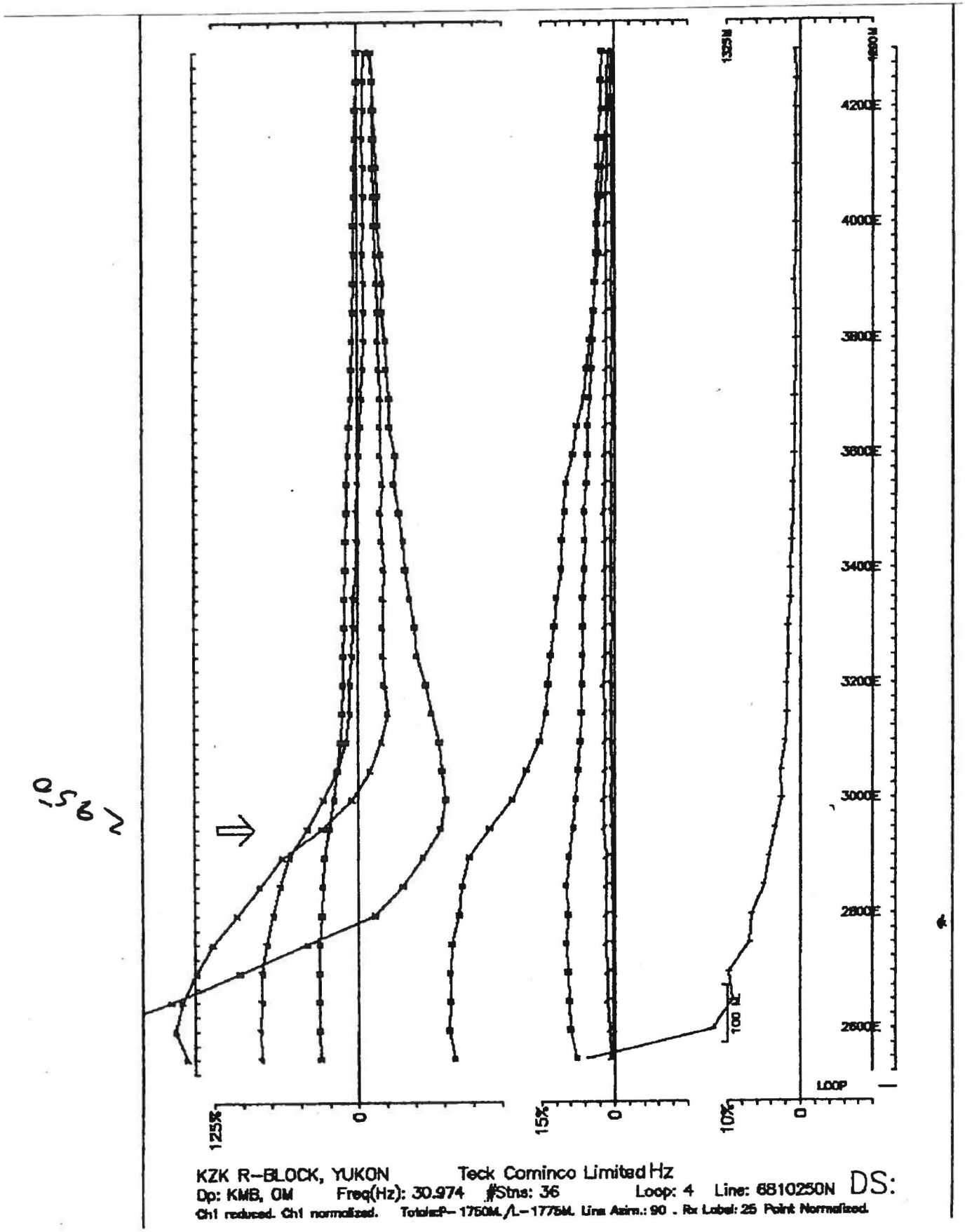
Ch1 reduced. Ch1 normalized. Totals:P-1750M./L-1775M. Line Azim.: 90 . Rx Label: 65

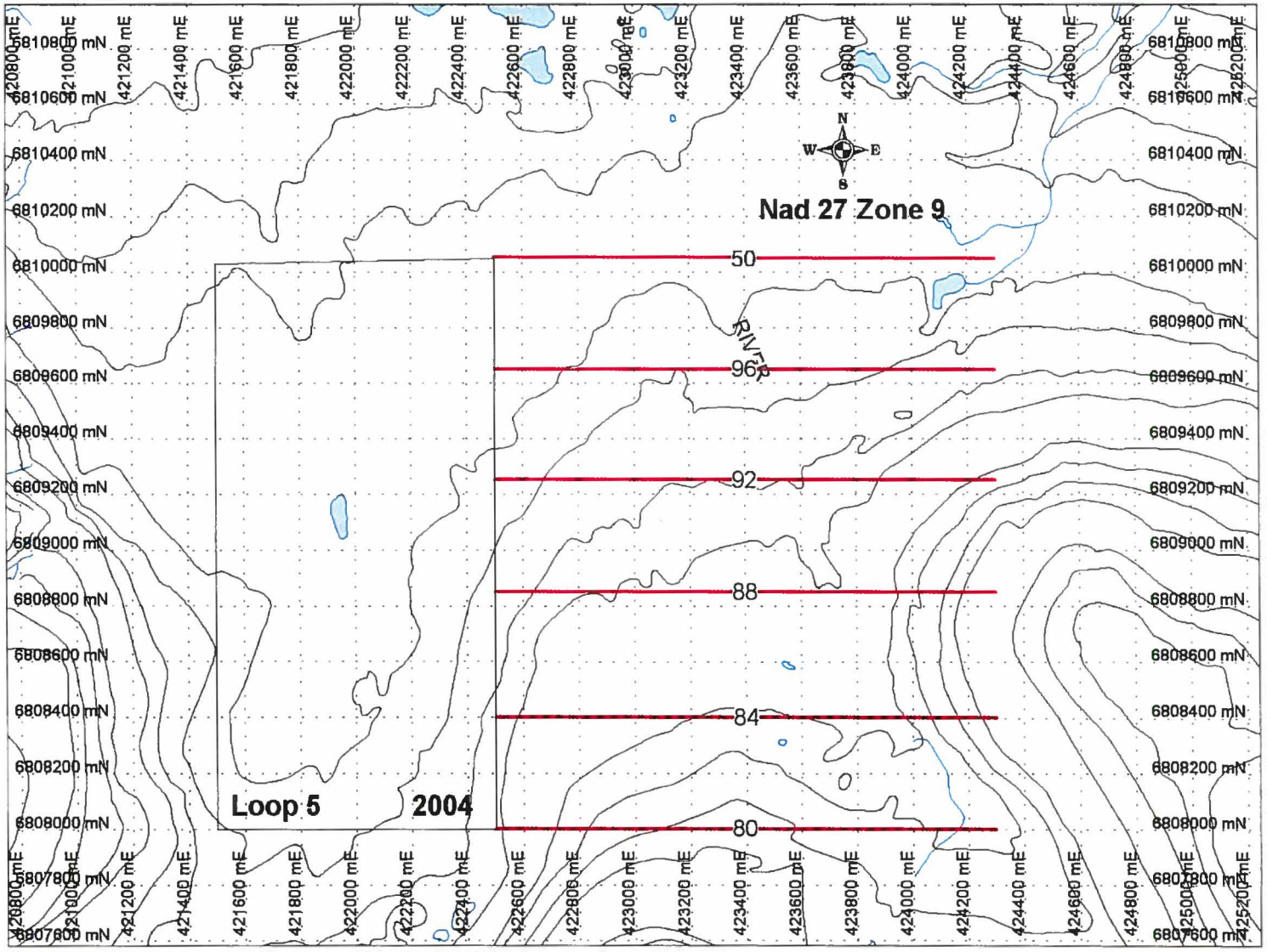


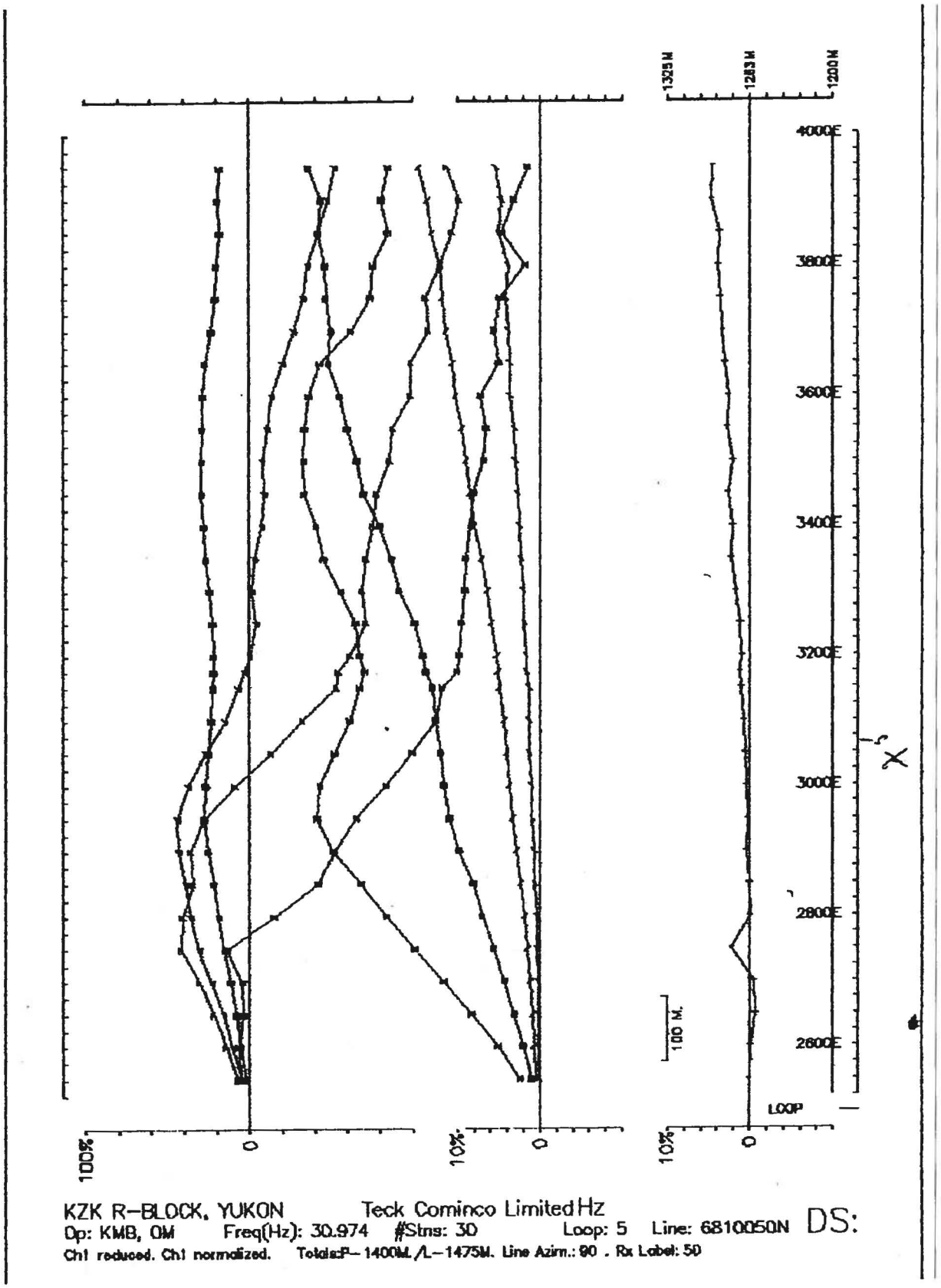
KZK R-BLOCK, YUKON Teck Cominco Limited Hz

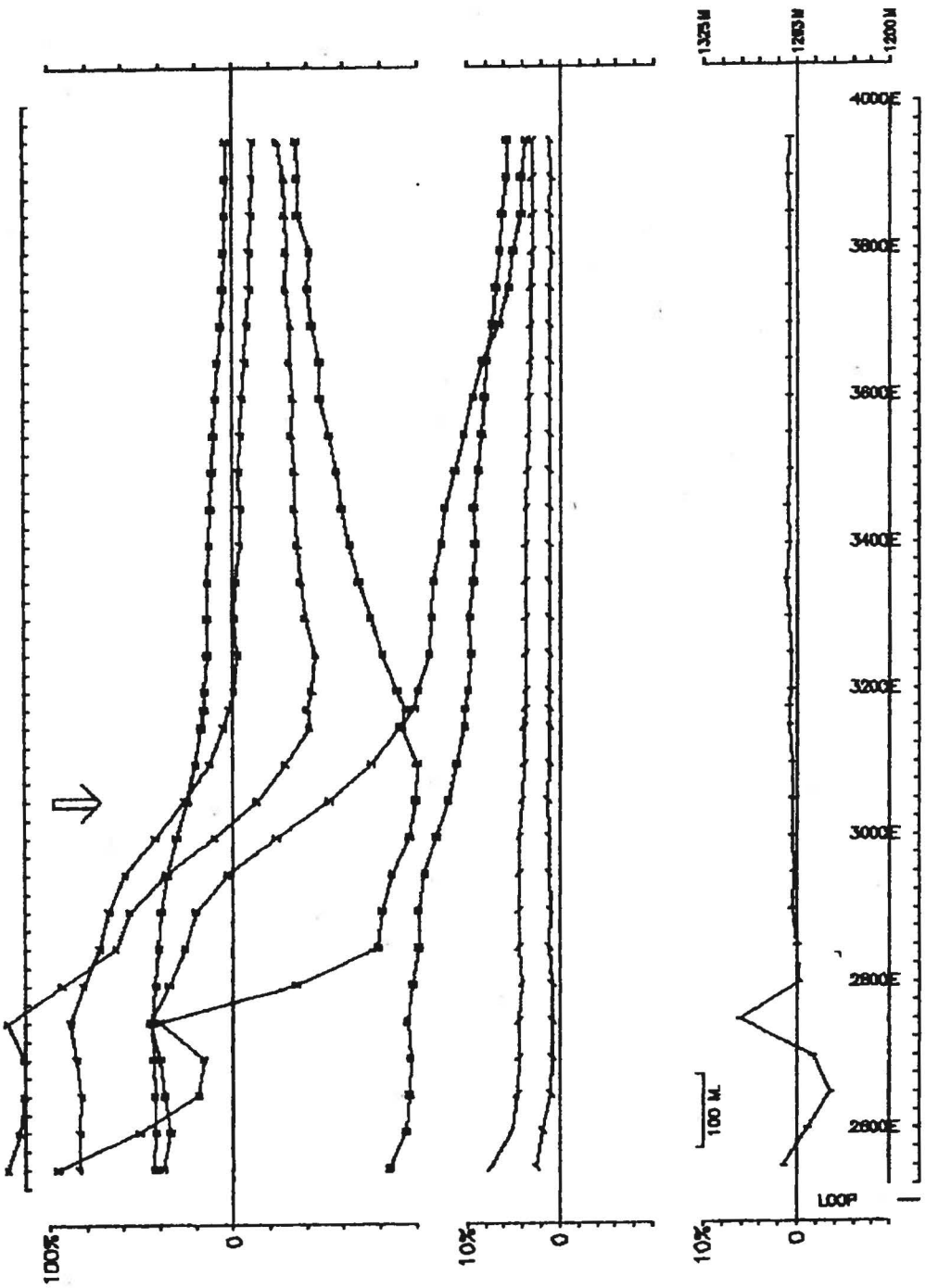
Op: KMB, OM Freq(Hz): 30.974 #Stns: 36 Loop: 4 Line: 6810250N DS:

Ch1 reduced. Ch1 normalized. TotalsP- 1750M, /L- 1775M. Line Azim.: 90 . Rx Label: 25


4200E
4000E
3800E
3600E
3400E
3200E
3000E
2800E
2600E
1325N
125%
15%
10%
0
LOOP
KZK R-BLOCK, YUKON
Teck Cominco Limited
Hz
Dp: KMB, OM
Freq(Hz): 30.974
#Stns: 36
Loop: 4
Line: 6810250N
DS:
Ch1 reduced. Ch1 normalized.
Totals:P-1750M./L-1775M. Line Azim.: 90 . Rx Label: 25 Point Normalized.


Nad 27 Zone 9
N
W
E
S
50
96
92
88
84
80
RIVER
Loop 5
2004
6810800 mN
6810600 mN
6810400 mN
6810200 mN
6810000 mN
6809800 mN
6809600 mN
6809400 mN
6809200 mN
6809000 mN
6808800 mN
6808600 mN
6808400 mN
6808200 mN
6808000 mN
6807800 mN
6807600 mN
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE
423400 mE
423600 mE
423800 mE
424000 mE
424200 mE
424400 mE
424600 mE
424800 mE
425000 mE
425200 mE


1325N
1250N
1200N
4000E
3800E
3600E
3400E
3200E
3000E
2800E
2600E
100%
0
10%
0
10%
0
100 M.
LOOP
KZK R-BLOCK, YUKON
Teck Cominco Limited
Hz
Dp: KMB, OM
Freq(Hz): 30.974
#Stns: 30
Loop: 5
Line: 6810050N
DS:
Ch1 reduced. Ch1 normalized.
Totals:P-1400M./L-1475M. Line Azim.: 90 . Rx Label: 50

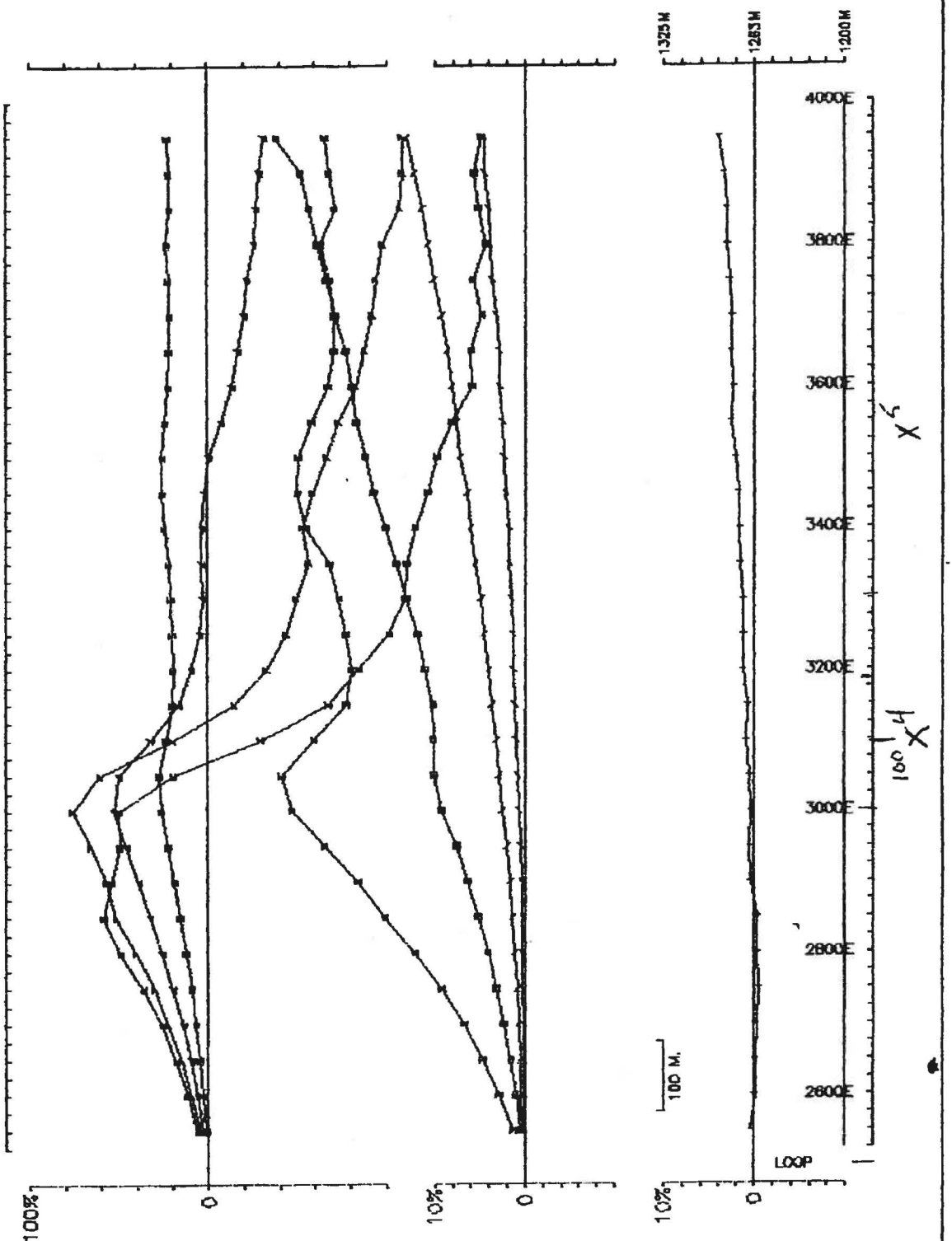


KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 30 Loop: 5 Line: 6810050N DS:

Ch1 reduced. Ch1 normalized. Totals:P-1400M./L-1475M. Line Azim.: 90 . Rx Label: 50 Point Normalized.

1050



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, DM Freq(Hz): 30.974 #Stns: 29 Loop: 5 Line: 6809650N DS:

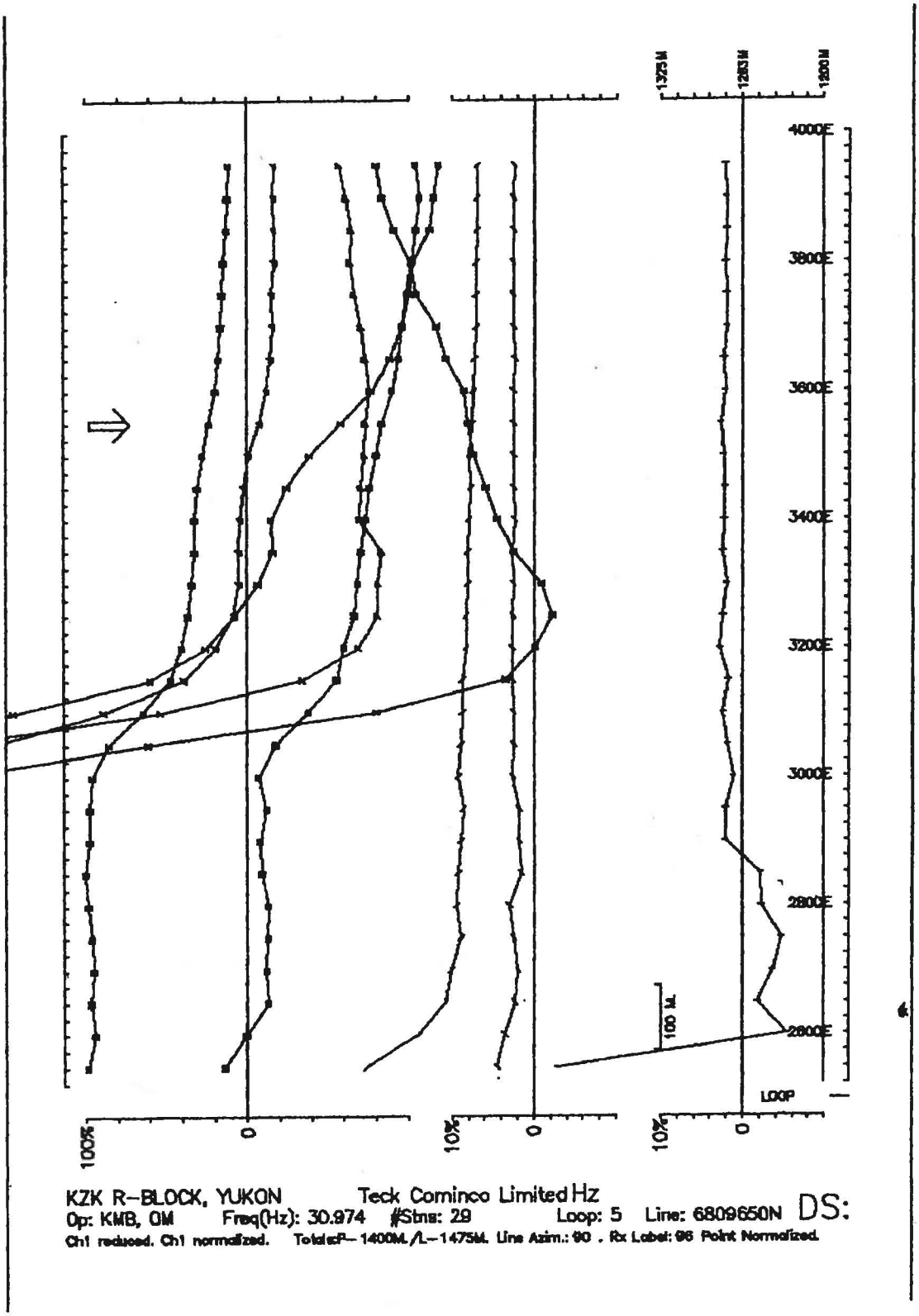
Ch1 reduced. Ch1 normalized. Totals:P-1400M./L-1475M. Line Azim.: 90 . Rx Label: 96

KZK R-BLOCK, YUKON Teck Cominco Limited Hz

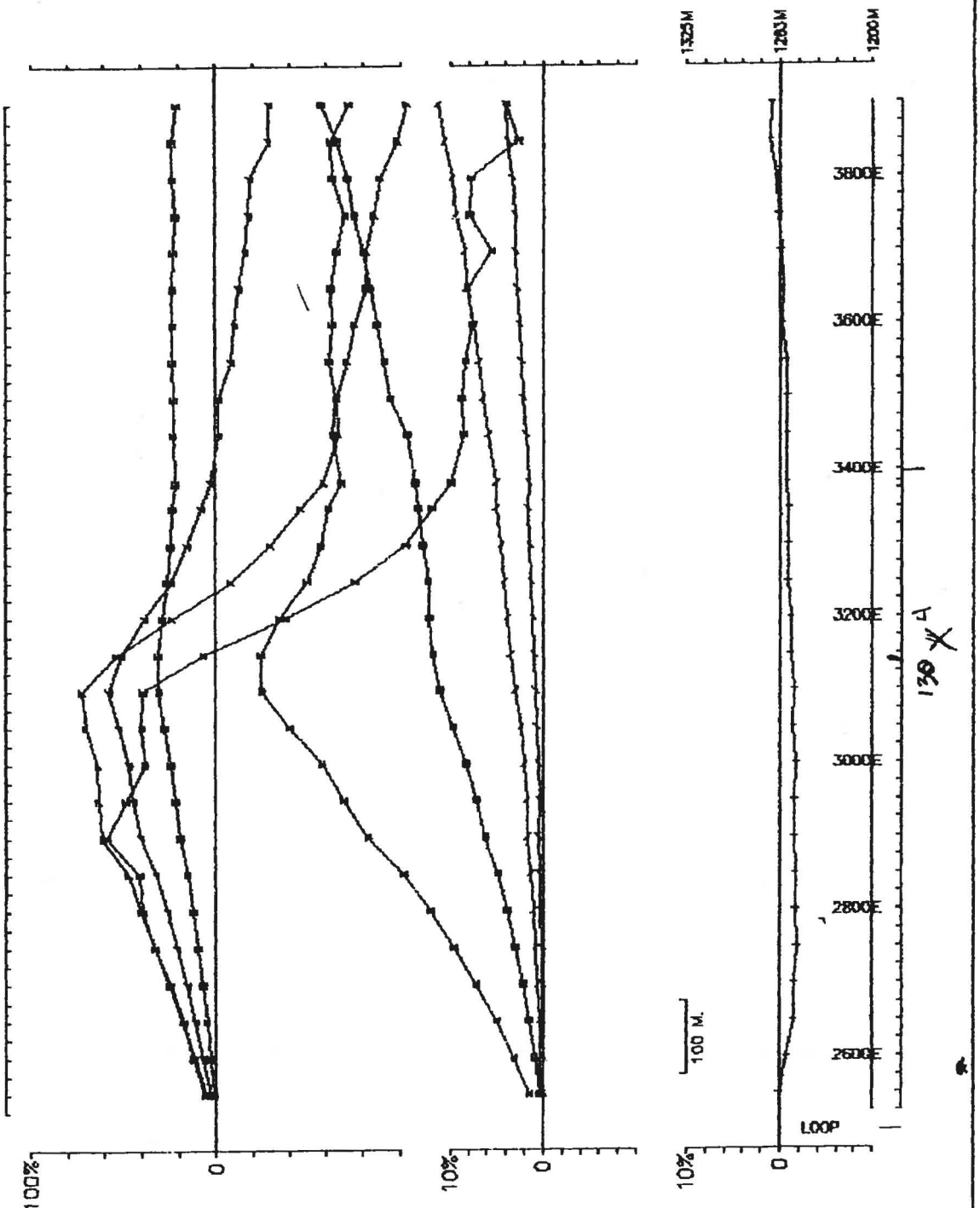
Op: KMB, OM Freq(Hz): 30.974 #Stns: 29 Loop: 5 Line: 6809650N DS:

Ch1 reduced. Ch1 normalized. Totals:P-1400M./L-1475M. Line Azim.: 90 . Rx Label: 96 Point Normalized.

0556



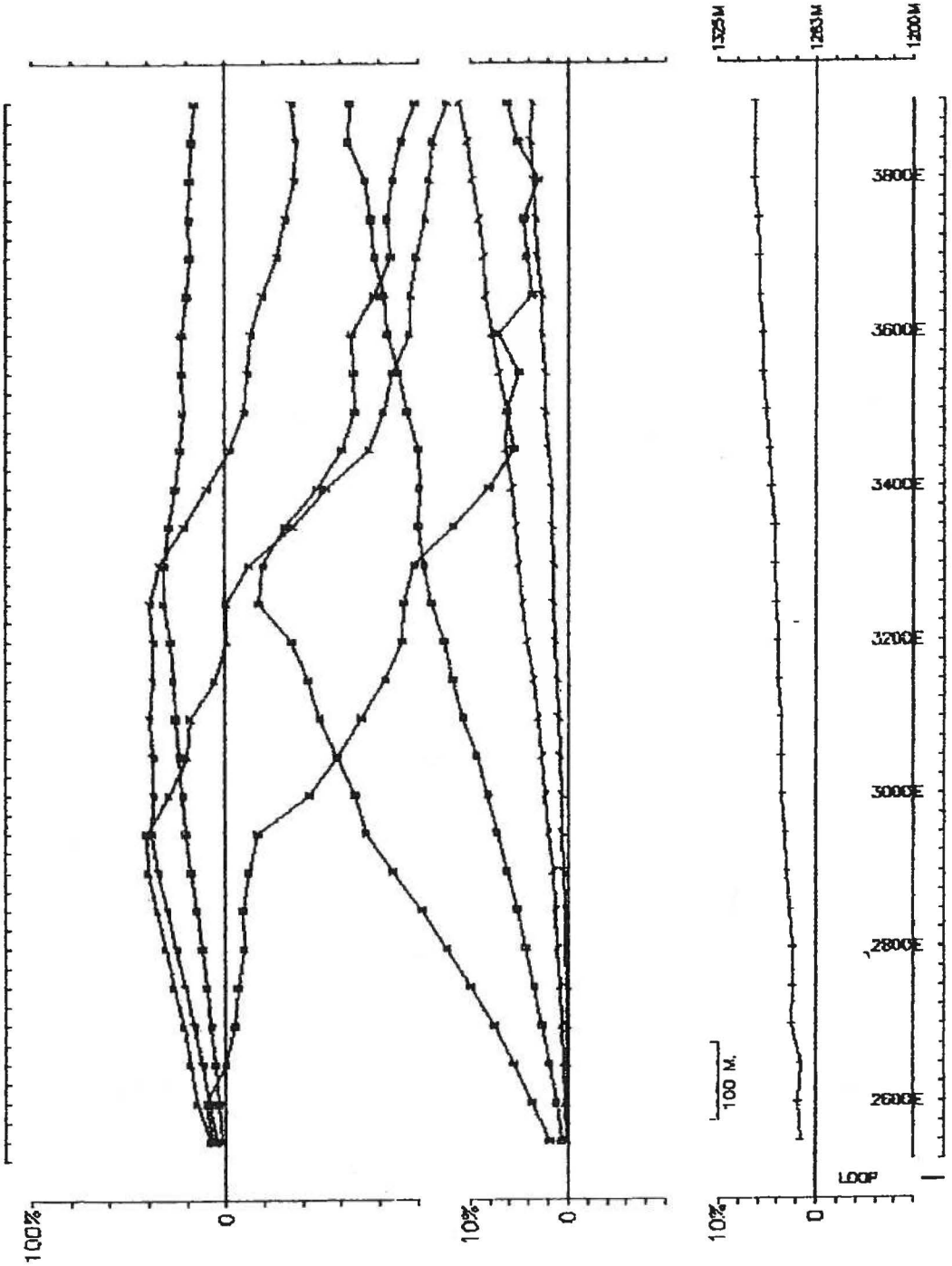
KZK R-BLOCK, YUKON Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 29 Loop: 5 Line: 6809650N DS:
Ch1 reduced. Ch1 normalized. Totals:P-1400M./L-1475M. Line Azim.: 90 . Rx Label: 96 Point Normalized.



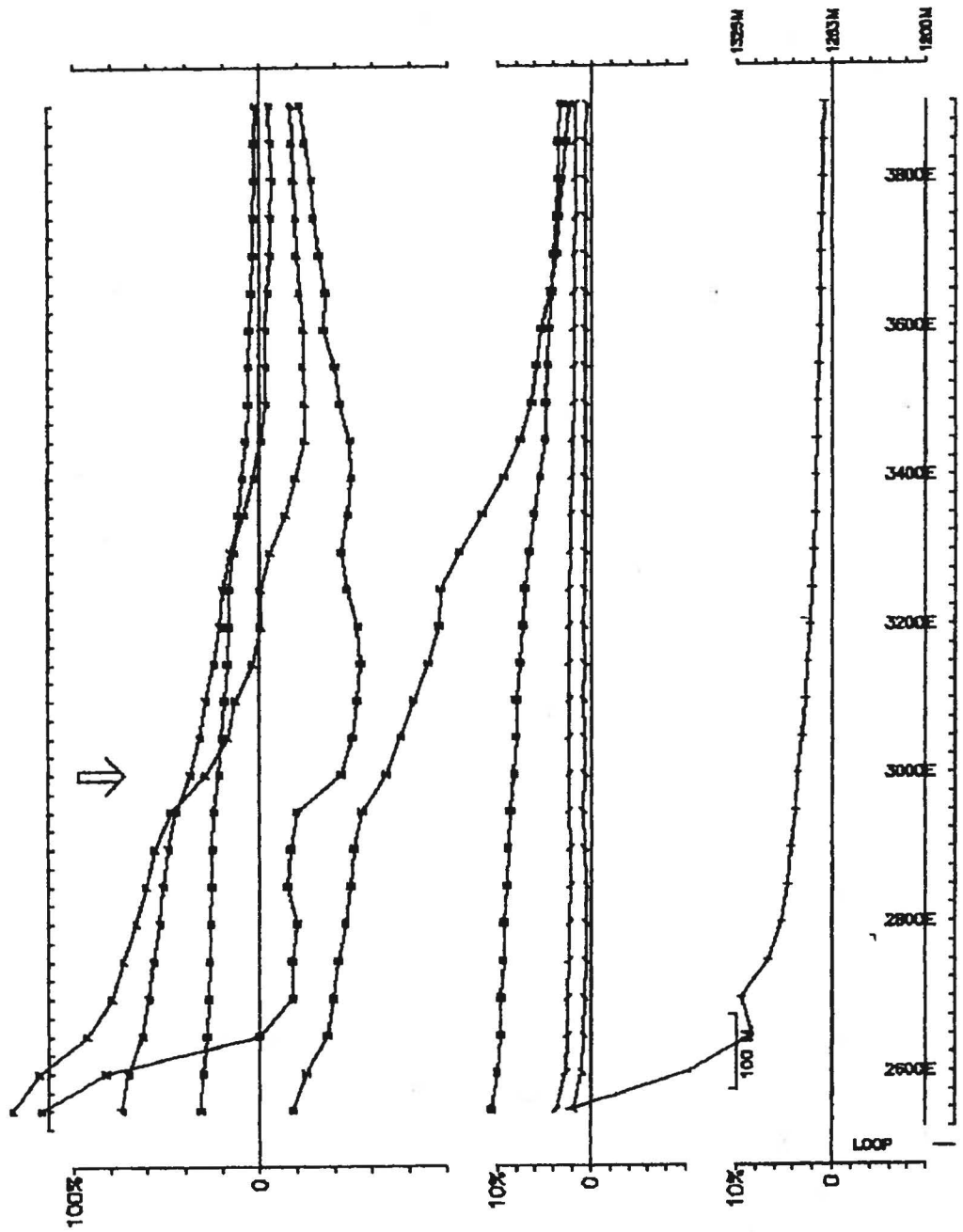
KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 28 Loop: 5 Line: 6809250N DS:

Chl reduced. Chl normalized. Totals:P-1350M./L-1375M. Line Azim.: 90 . Rx Label: 92

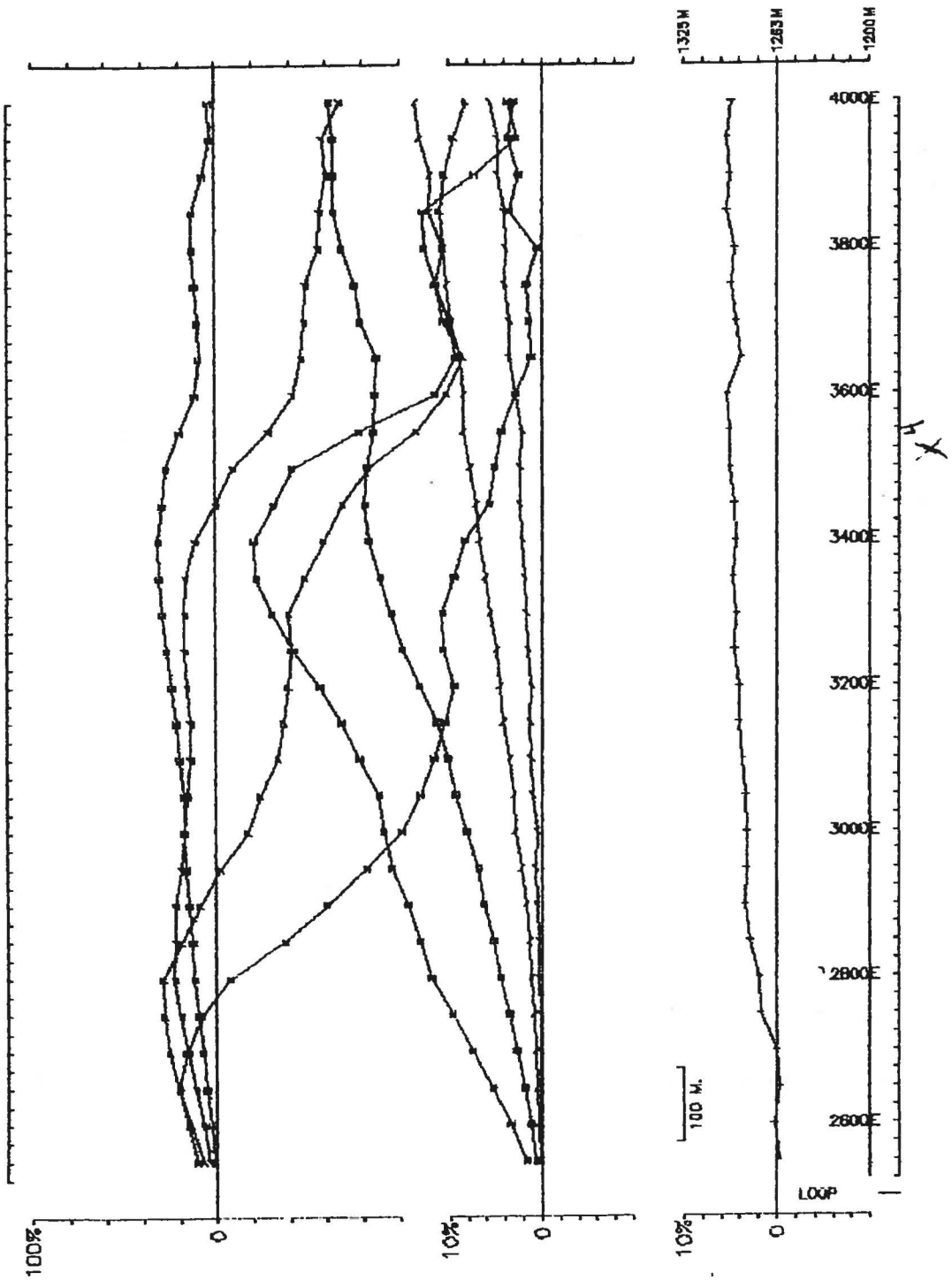


KZK R-BLOCK, YUKON Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 28 Loop: 5 Line: 6808850N DS:
Chl reduced. Chl normalized. Totals:P-1350M./L-1375M. Line Azim.: 90 . Rx Label: 88



KZK R--BLOCK, YUKON Teck Cominco Limited Hz
Op: KMB, OM Freq(Hz): 30.974 #Stns: 28 Loop: 5 Line: 6808850N DS:
Ch1 reduced. Ch1 normalized. Totals:P--1350M./L--1375M. Line Azim.: 90 . Rx Label: 88 Point Normalized.

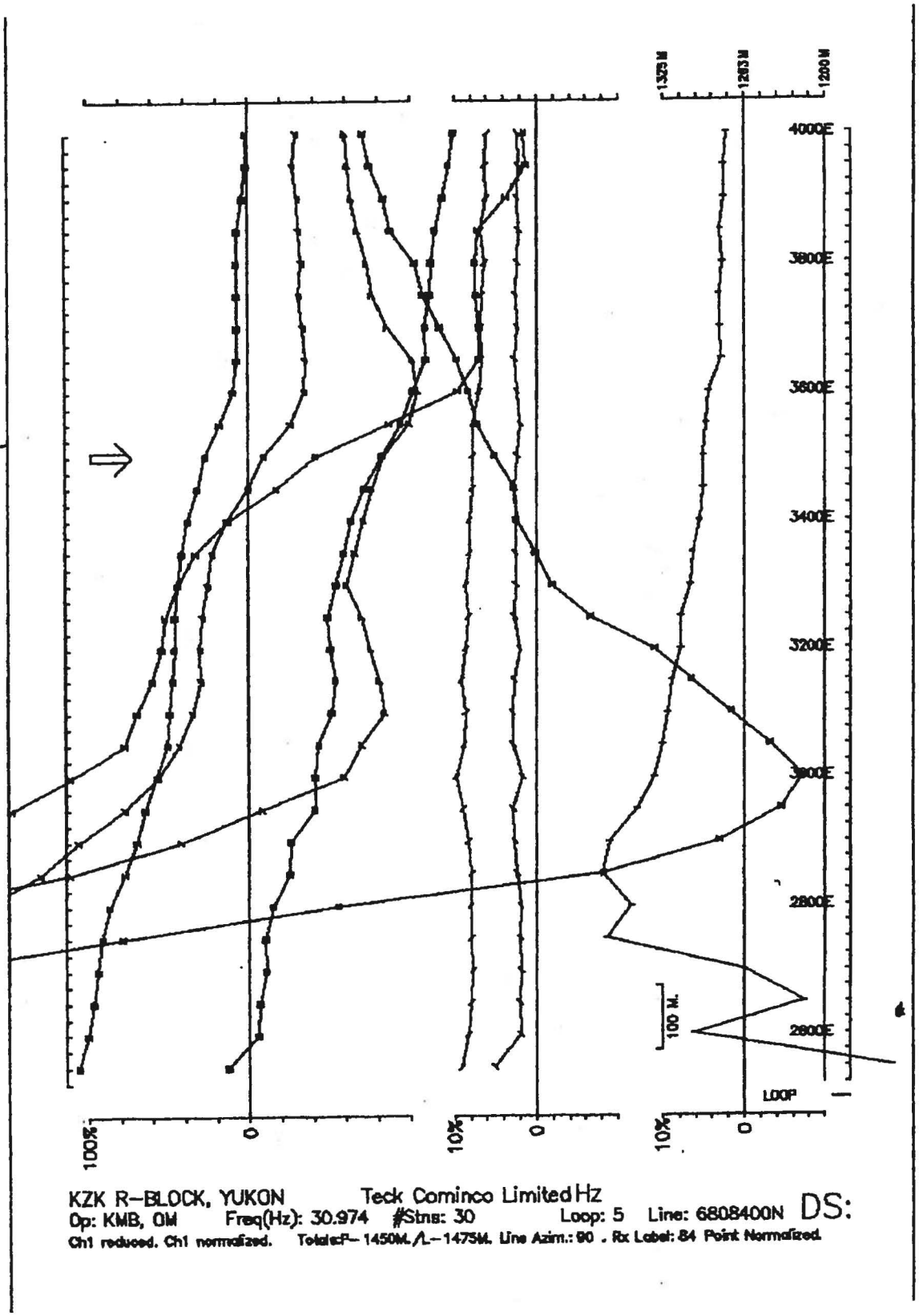
1350N
1300N
3800E
3600E
3400E
3200E
3000E
2800E
2600E
100 M.
LOOP
100%
0
10%
0
10%
0
KZK R-BLOCK, YUKON
Teck Cominco Limited Hz
Op: KMB, OM
Freq(Hz): 30.974
#Stns: 28
Loop: 5
Line: 6808850N
DS:
Ch1 reduced. Ch1 normalized.
Totals:P-1350M, /L-1375M. Line Azim.: 90 . Rx Label: BB Point Normalized.



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 30 Loop: 5 Line: 6808400N DS:

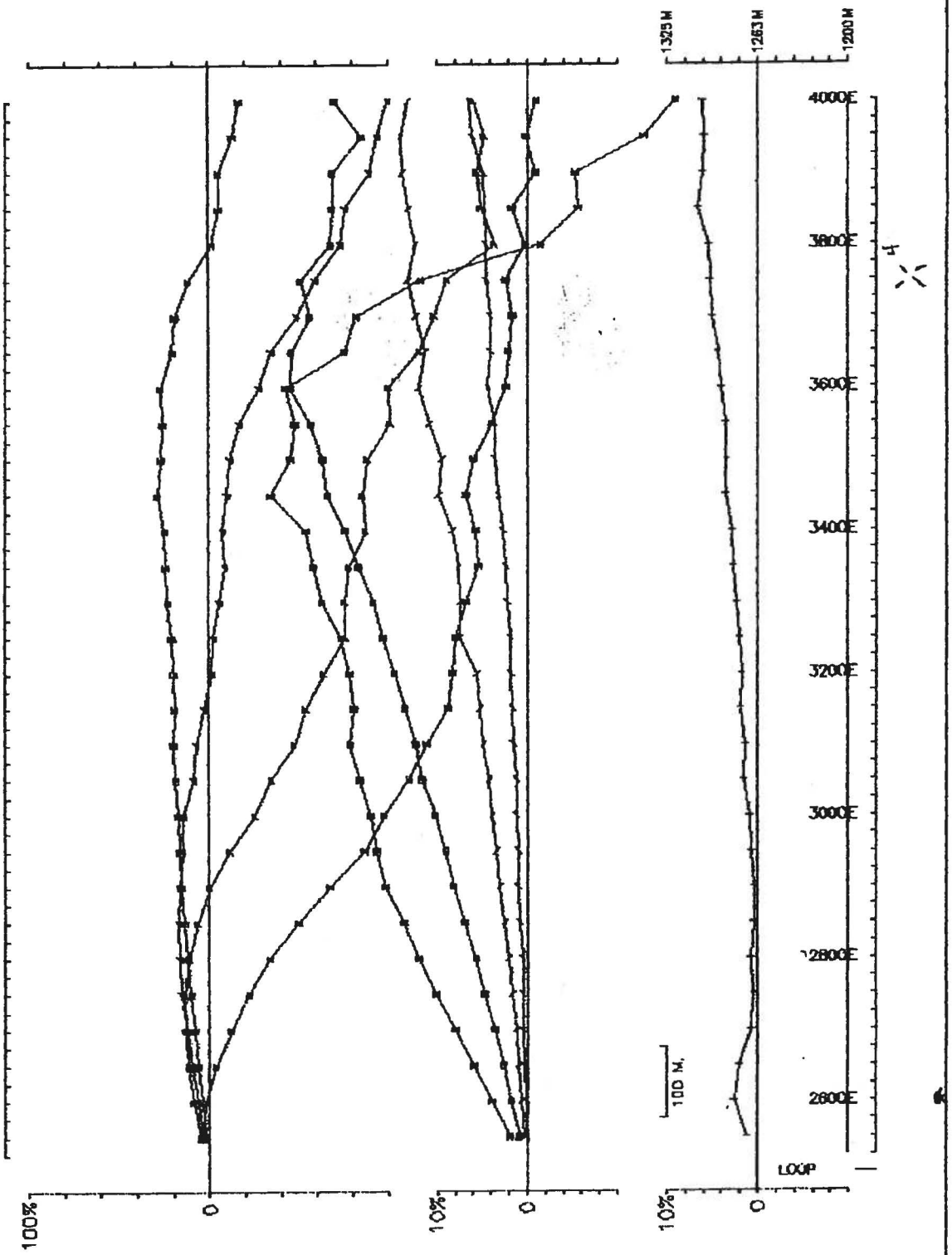
Ch1 reduced. Ch1 normalized. Totals:P-1450M./L-1475M. Line Azim.: 90 . Rx Label: 84



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 30 Loop: 5 Line: 6808400N DS:

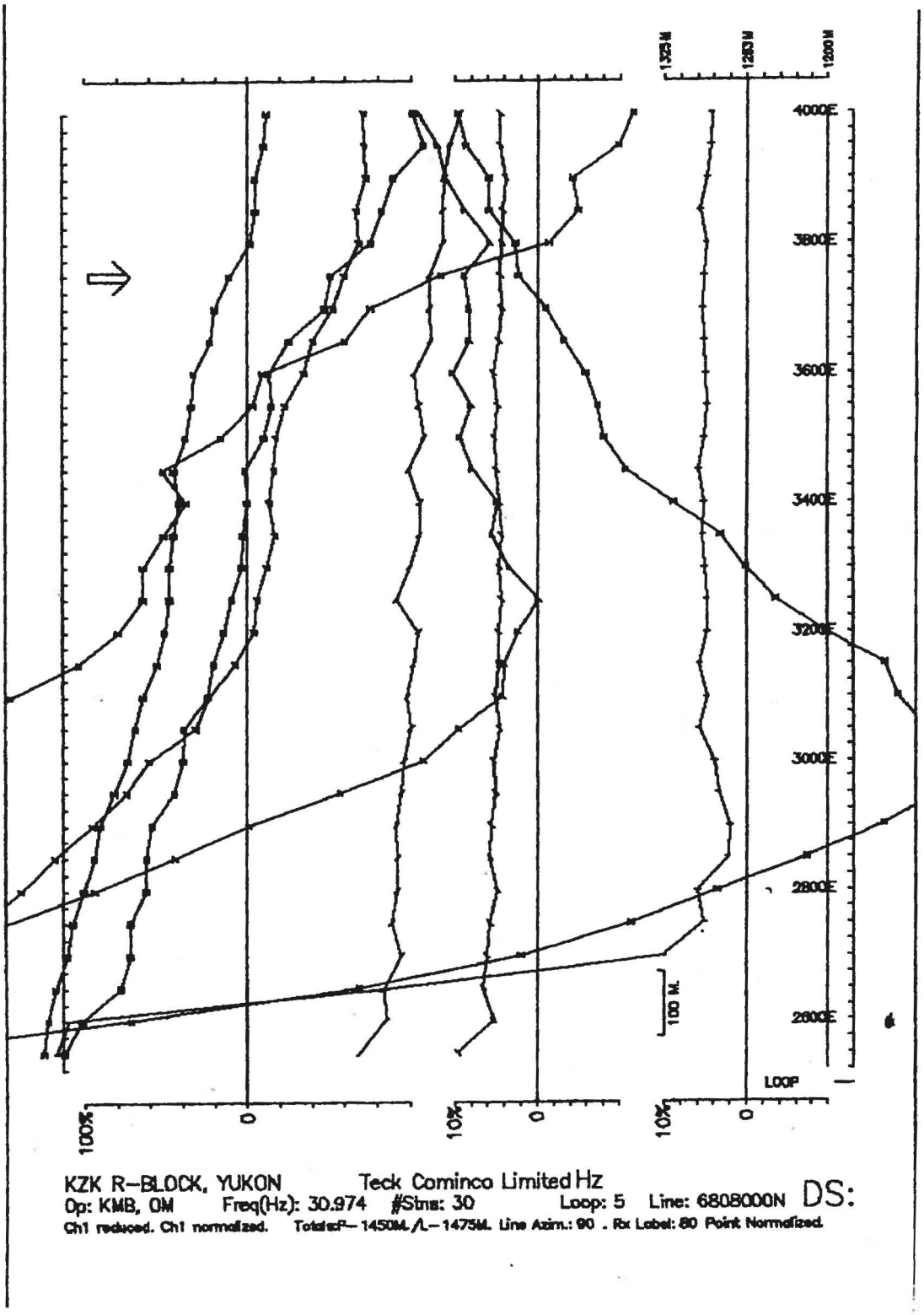
Ch1 reduced. Ch1 normalized. Totals:P-1450M./L-1475M. Line Azim.: 90 . Rx Label: 84 Point Normalized.

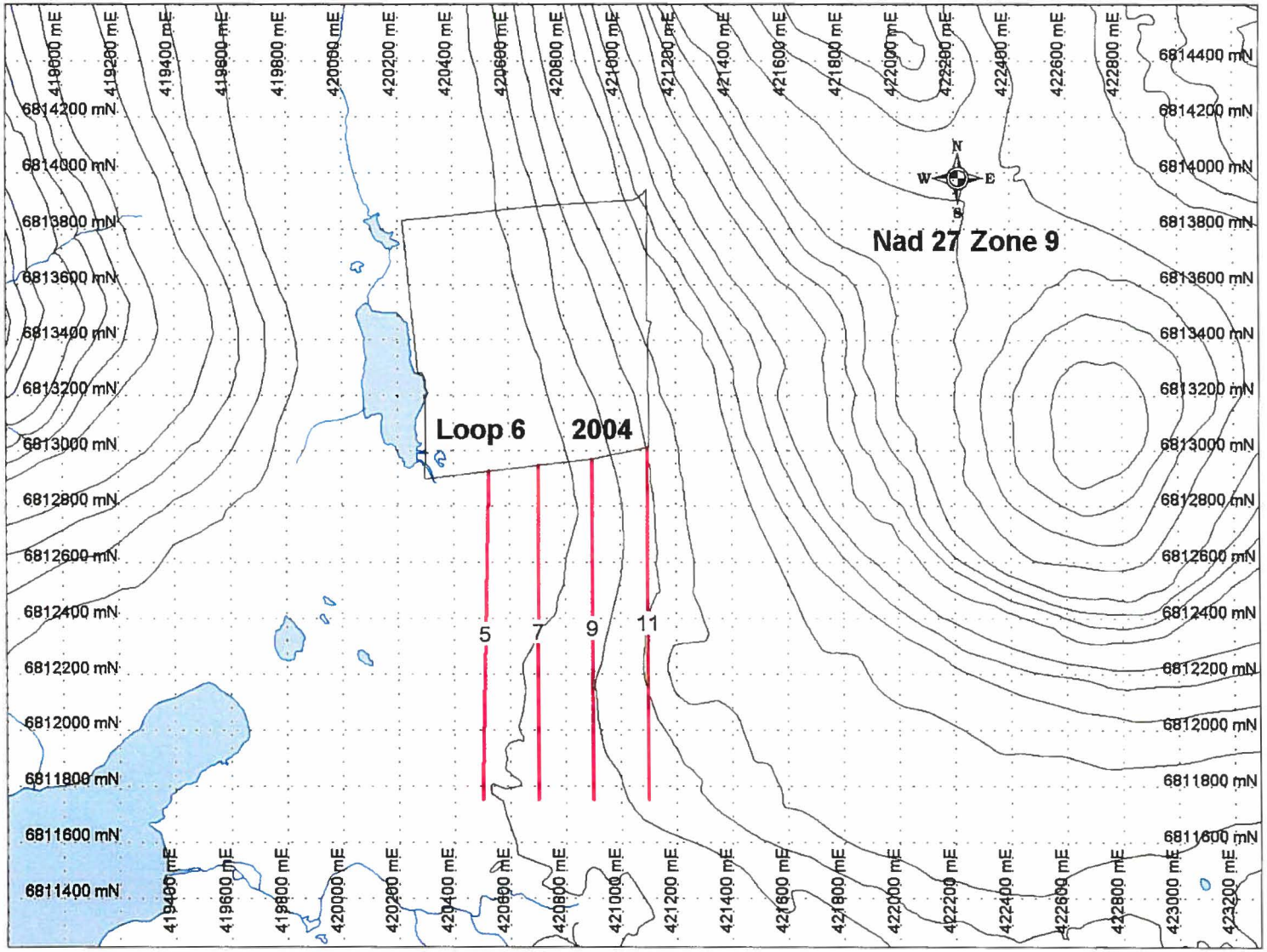


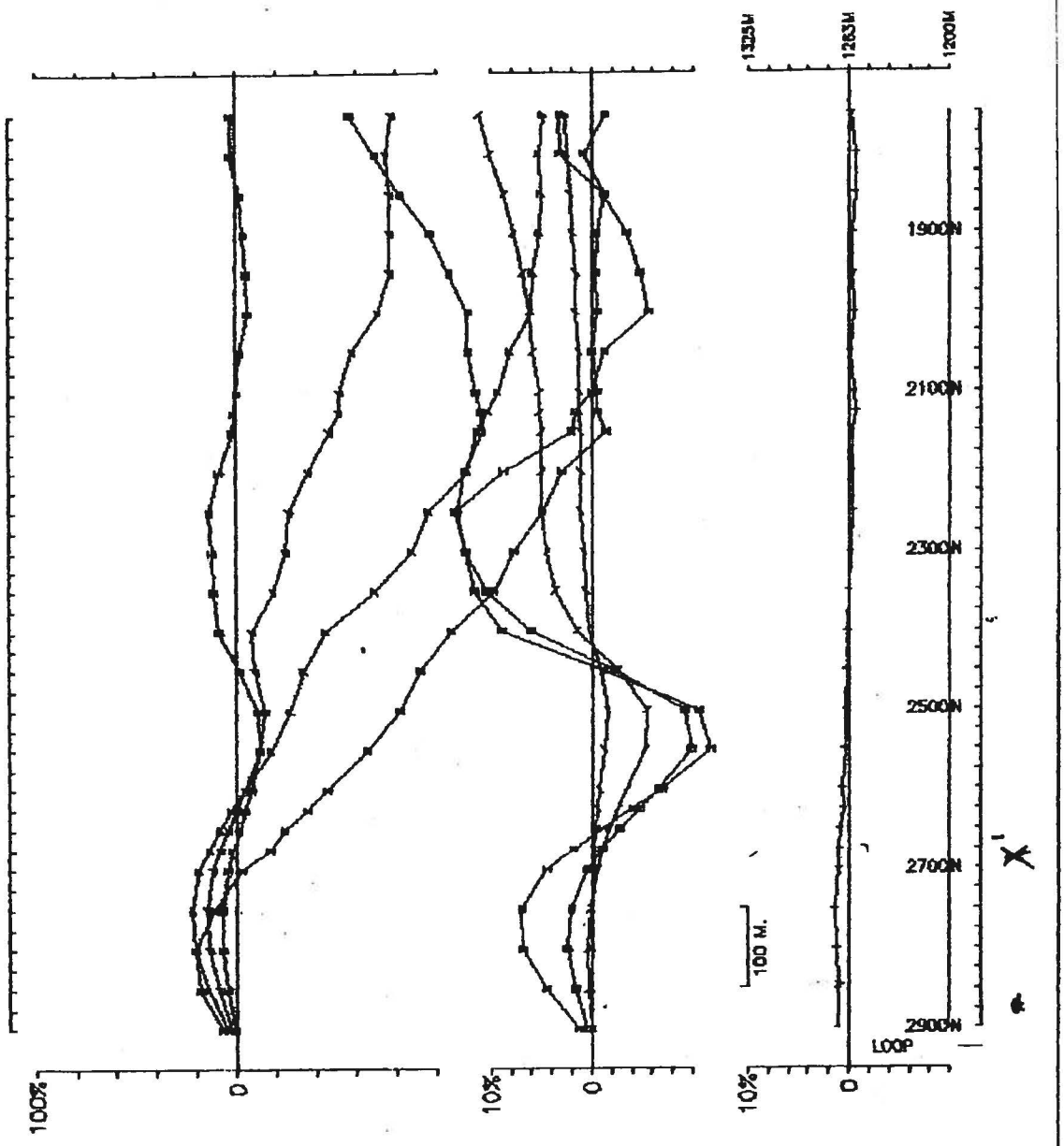
KZK R-BLOCK, YUKON Teck Cominco Limited-Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 30 Loop: 5 Line: 6808000N DS:

Ch1 reduced. Ch1 normalized. Tolals:P-1450M./L-1475M. Line Azim.: 90 . Rx Label: 80


1325 M
1250 M
1200 M
4000E
3800E
3600E
3400E
3200E
3000E
2800E
2600E
100 M.
LOOP
100%
0
10%
0
10%
0
KZK R-BLOCK, YUKON
Teck Cominco Limited Hz
Op: KMB, OM
Freq(Hz): 30.974
#Stns: 30
Loop: 5
Line: 6808000N
DS:
Ch1 reduced. Ch1 normalized.
Totals:P-1450M./L-1475M. Line Azim.: 90 . Rx Label: 80 Point Normalized.

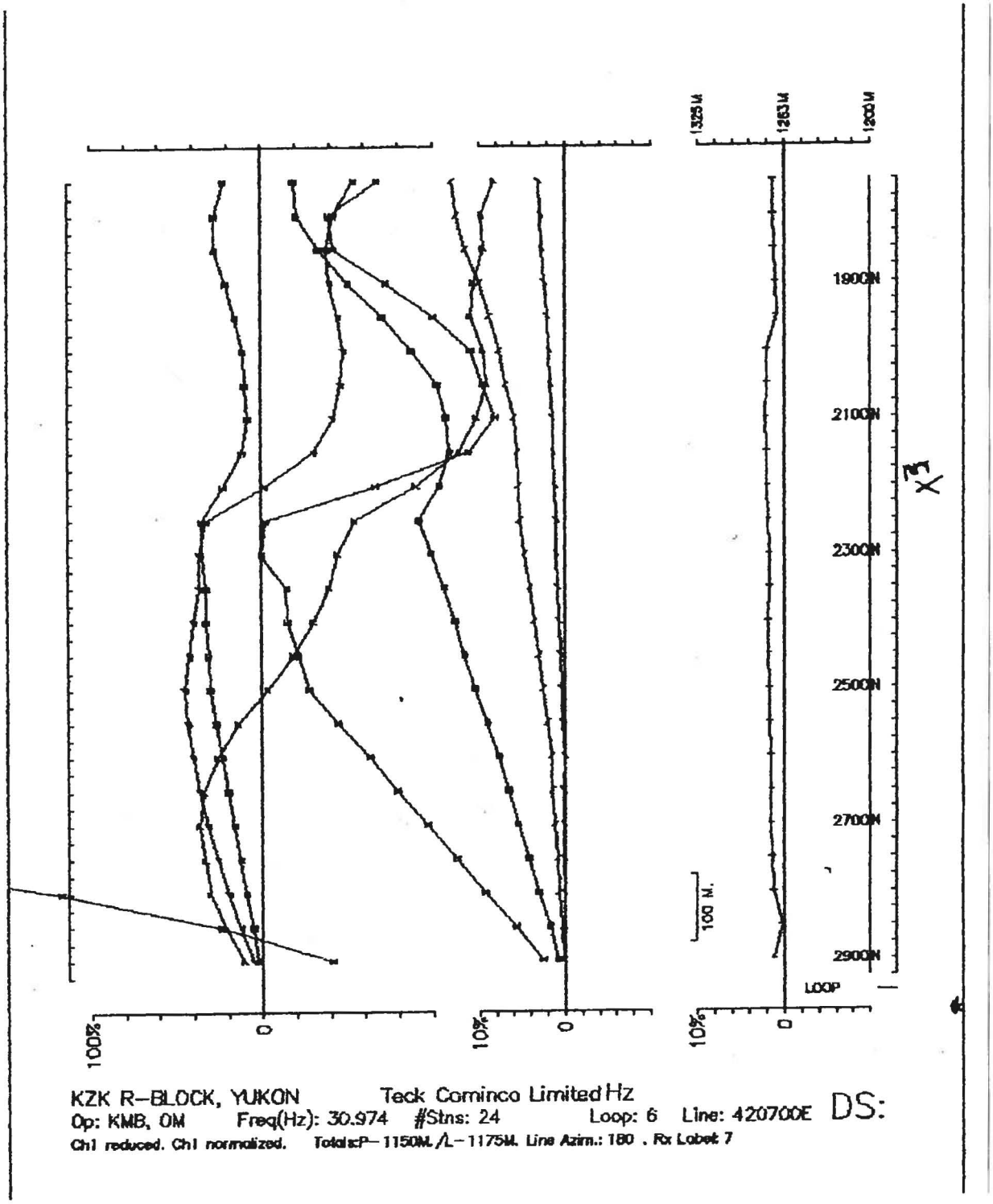

Loop 6 2004
Nad 27 Zone 9
N
W
E
S
5
7
9
11
419400 mE
419600 mE
419800 mE
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE
6814400 mN
6814200 mN
6814000 mN
6813800 mN
6813600 mN
6813400 mN
6813200 mN
6813000 mN
6812800 mN
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 27 Loop: 6 Line: 420500E DS:

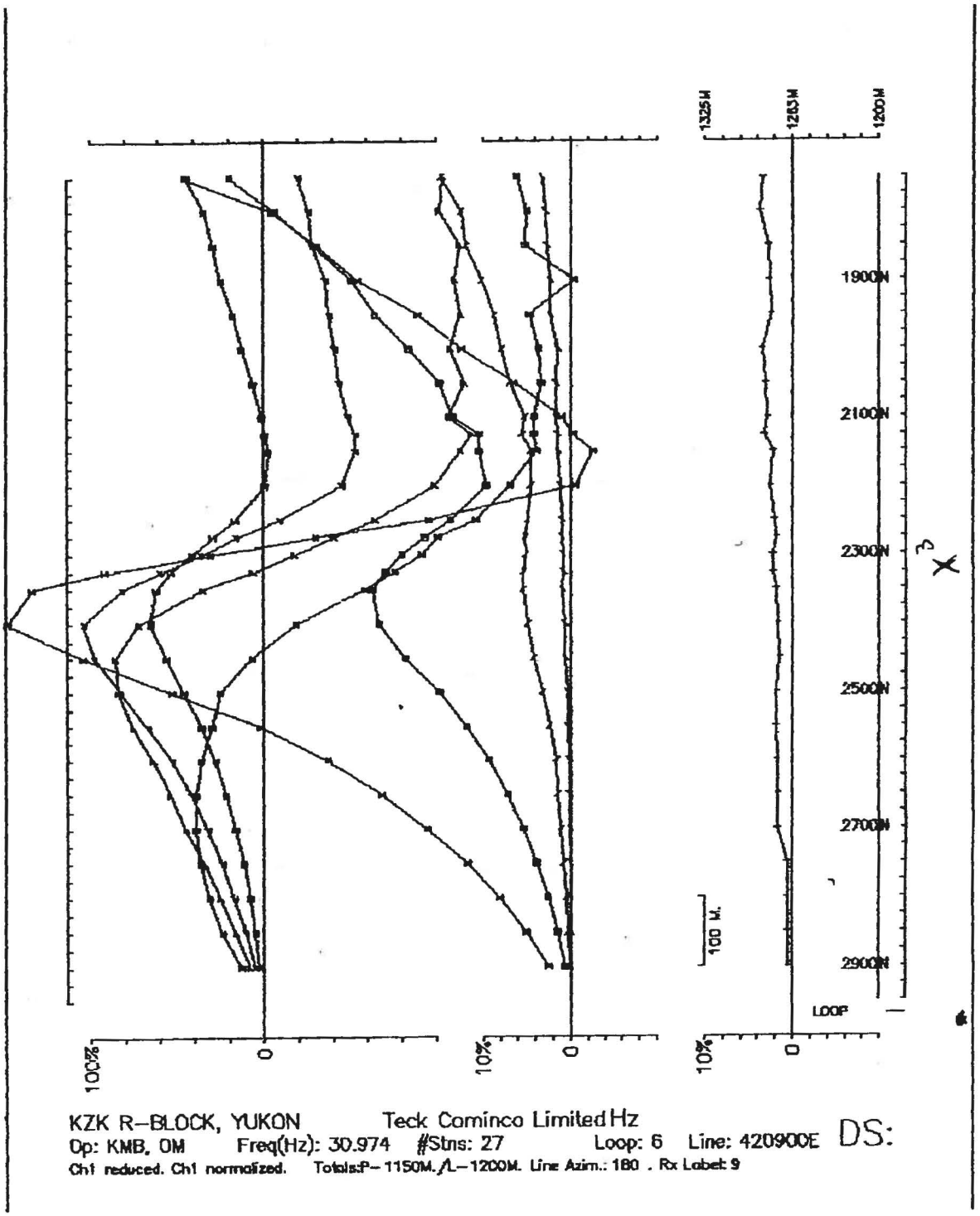
Ch1 reduced. Ch1 normalized. Totals:P-1150ML/L-1150ML Line Azim.: 180 . Rx Label: 5



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 24 Loop: 6 Line: 420700E DS:

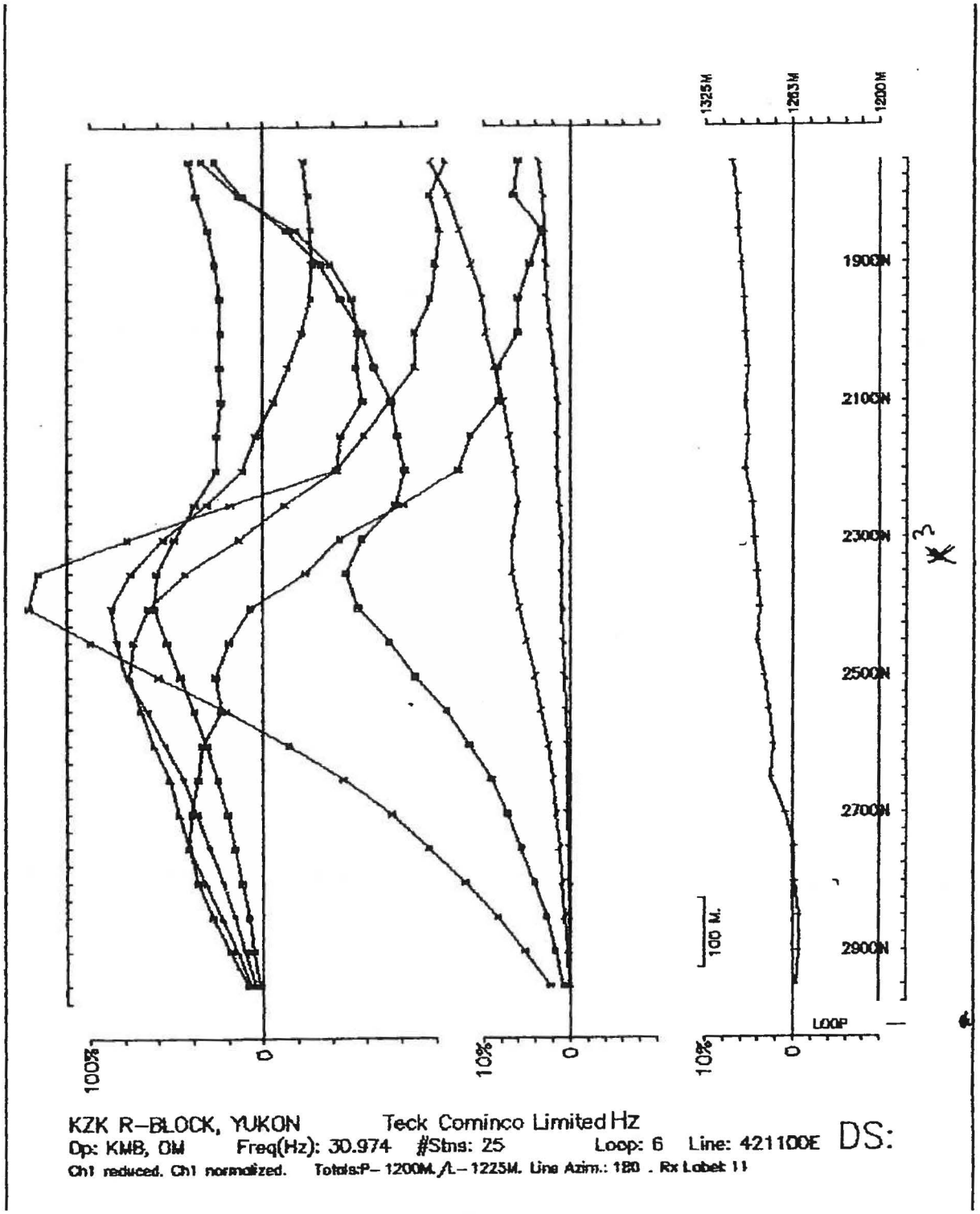
Chl reduced. Chl normalized. Totals:P-1150M./L-1175M. Line Azim.: 180 . Rx Lobe: 7



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 27 Loop: 6 Line: 4209000E DS:

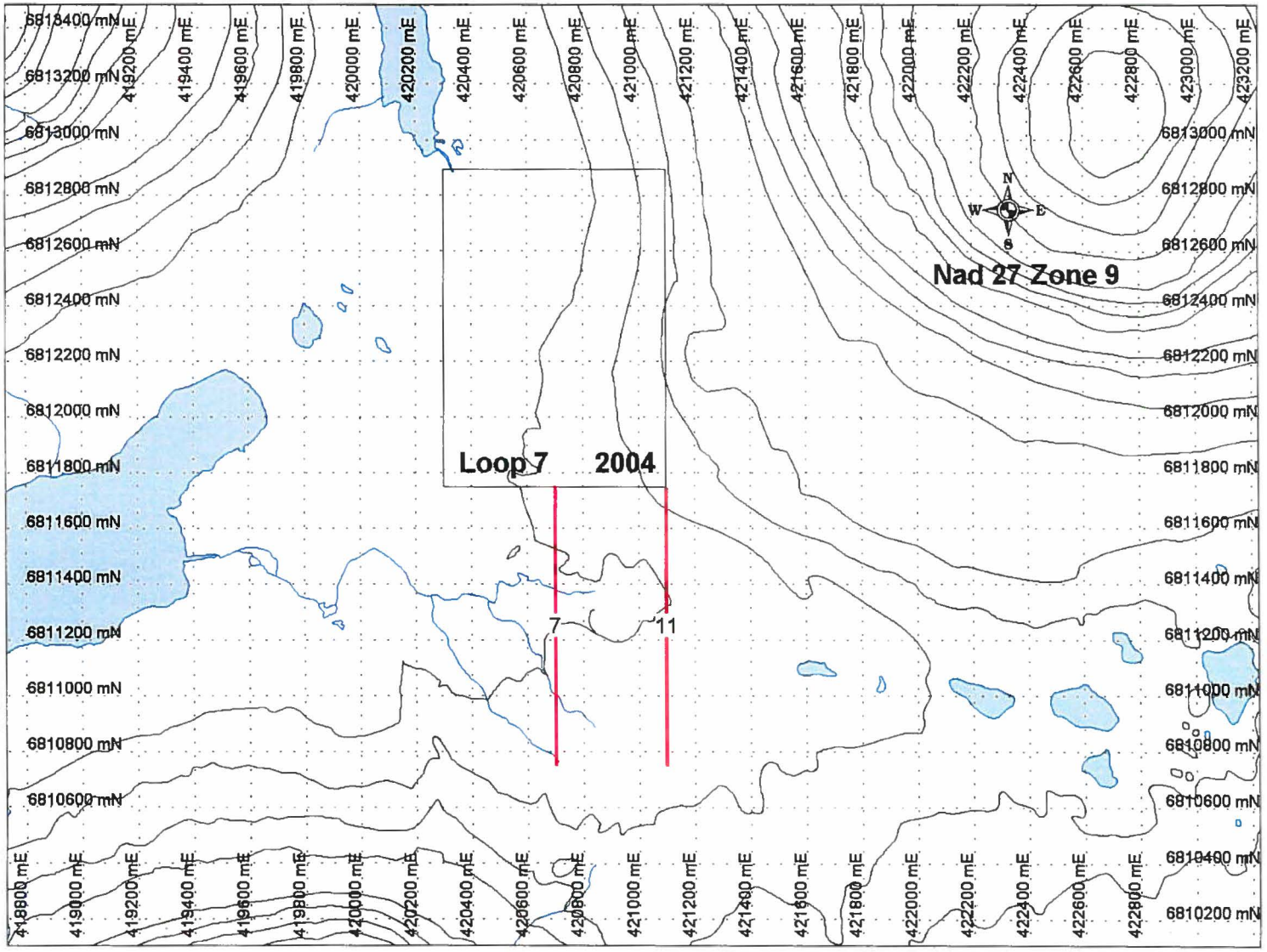
Ch1 reduced. Ch1 normalized. Totals:P-1150M./L-1200M. Line Azim.: 180 . Rx Label: 9

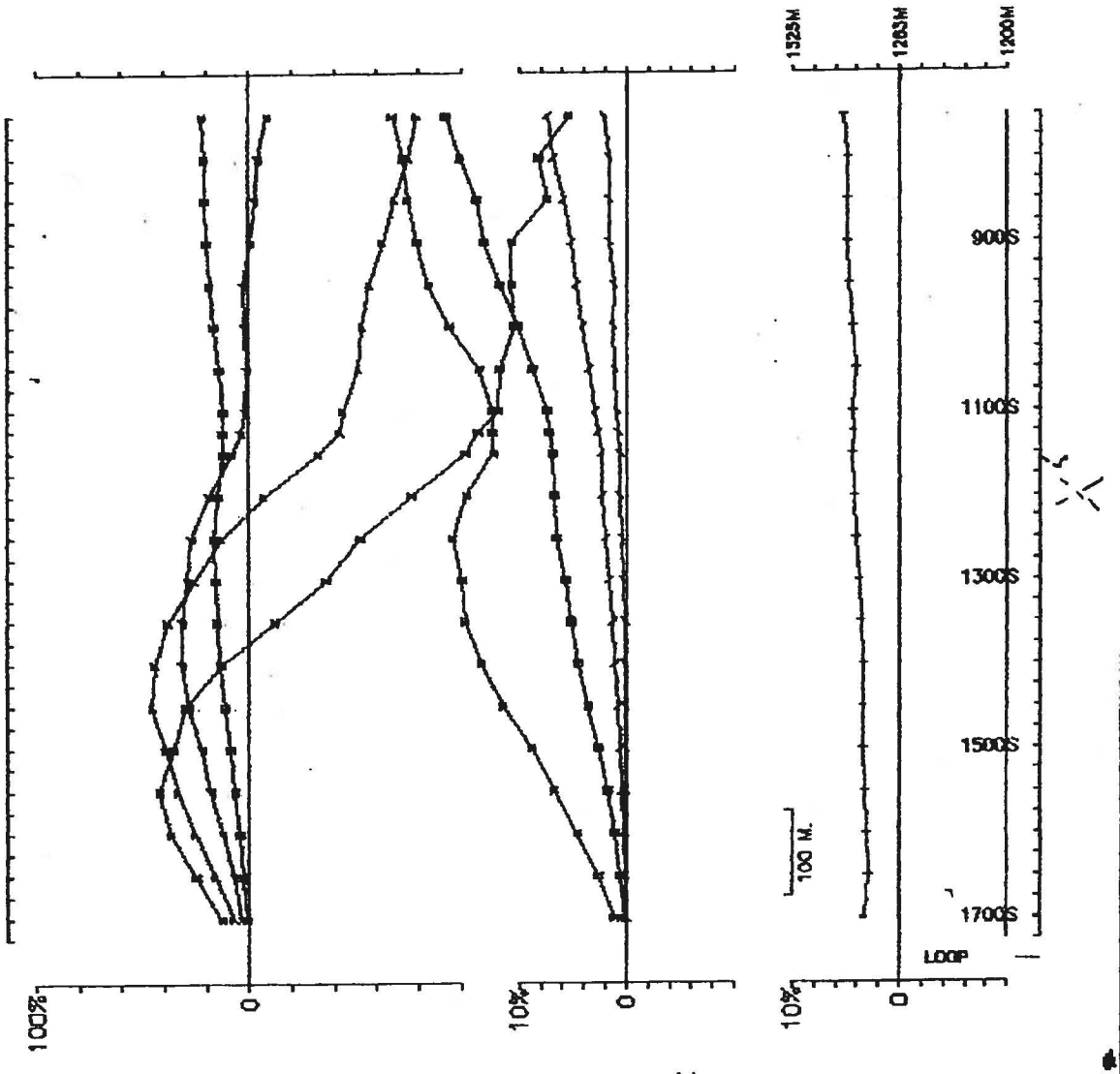


KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 25 Loop: 6 Line: 421100E DS:

Ch1 reduced. Ch1 normalized. Totals:P- 1200M. /L- 1225M. Line Azim.: 180 . Rx Label: 11

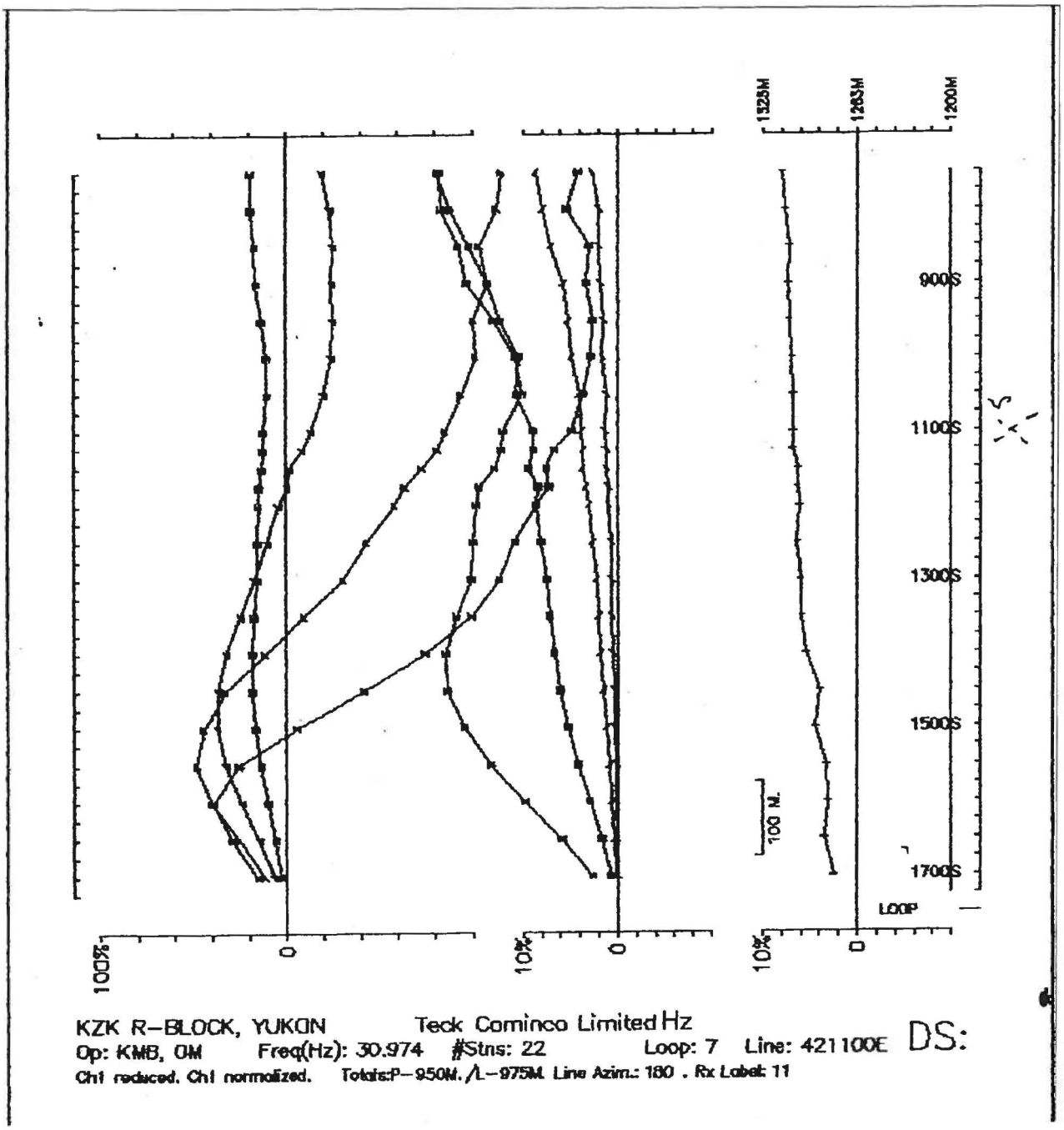

Loop 7 2004
7
11
Nad 27 Zone 9
N
W
E
S
6813400 mN
6813200 mN
6813000 mN
6812800 mN
6812600 mN
6812400 mN
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
6810200 mN
418800 mE
419000 mE
419200 mE
419400 mE
419600 mE
419800 mE
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 21 Loop: 7 Line: 420700E DS:

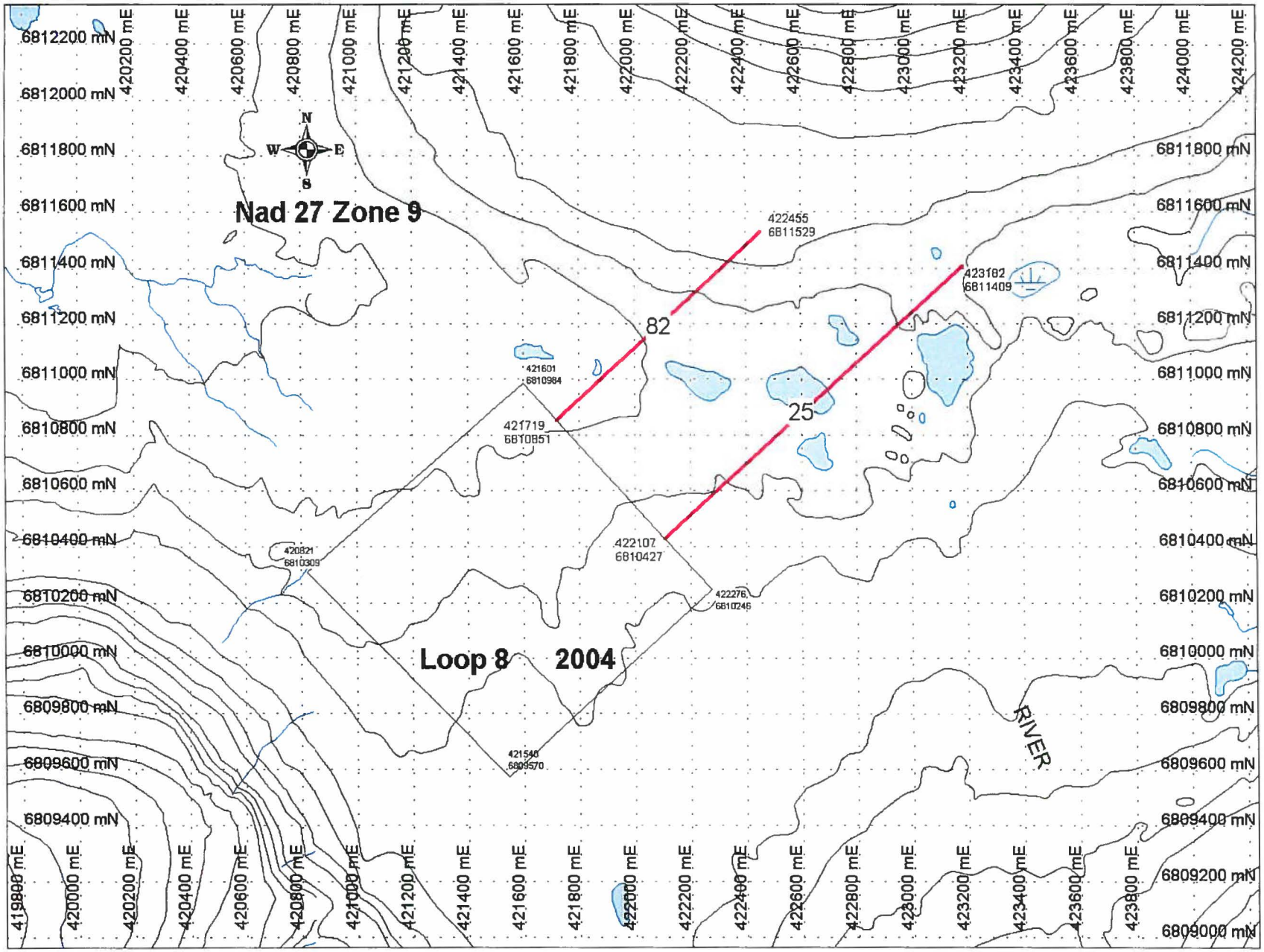
Ch1 reduced. Ch1 normalized. Totals:P-950M. /L-975M. Line Azim.: 180 . Rx Label: 7

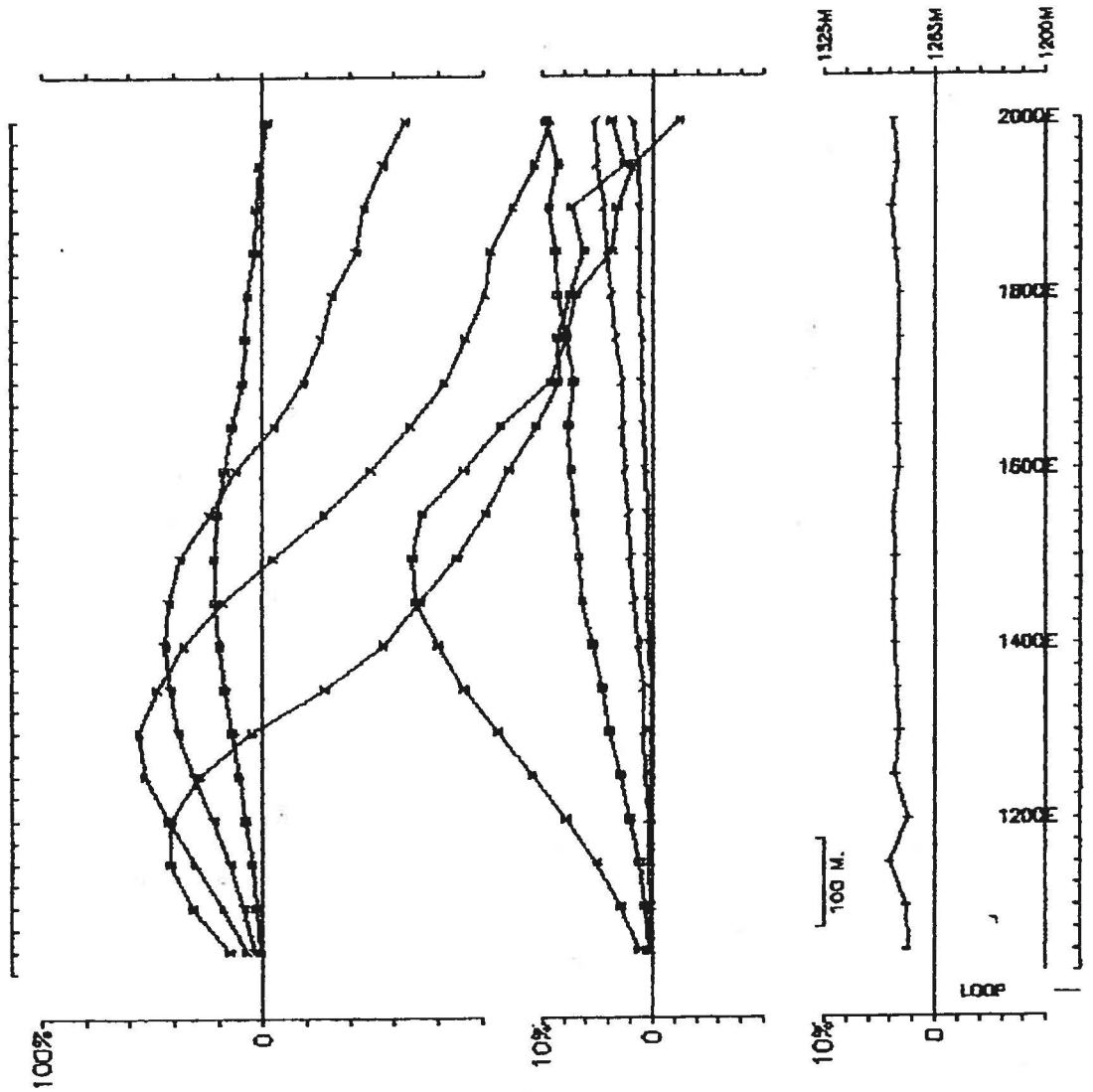


KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 22 Loop: 7 Line: 421100E DS:

Ch1 reduced. Ch1 normalized. Totals:P-950M. /L-975M. Line Azim.: 180 . Rx Label: 11

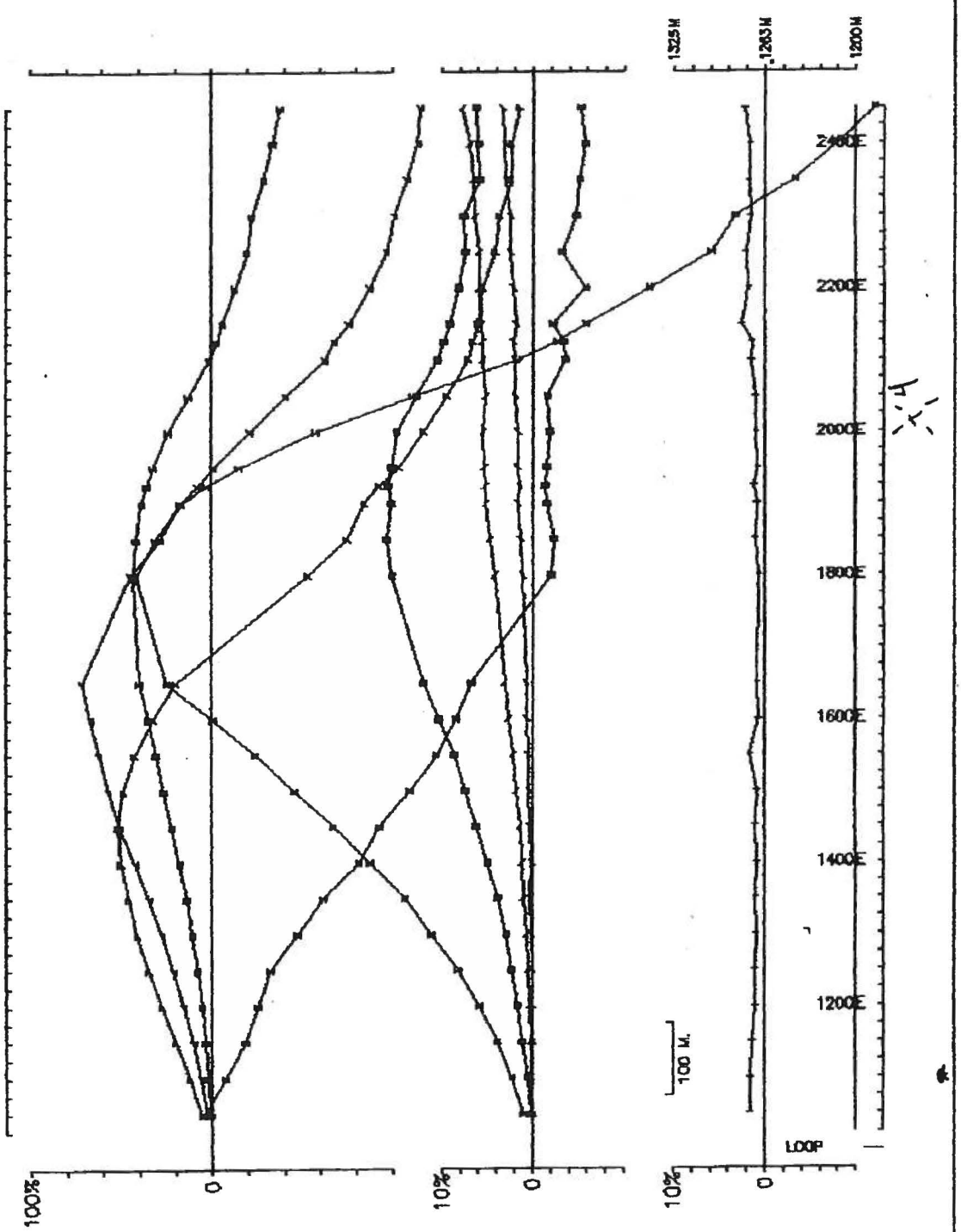

Nad 27 Zone 9
N
W
E
S
Loop 8 2004
82
25
422455
6811529
423182
6811409
421601
6810984
421719
6810851
422107
6810427
422276
6810246
420821
6810309
421548
6809570
RIVER
6812200 mN
6812000 mN
6811800 mN
6811600 mN
6811400 mN
6811200 mN
6811000 mN
6810800 mN
6810600 mN
6810400 mN
6810200 mN
6810000 mN
6809800 mN
6809600 mN
6809400 mN
6809200 mN
6809000 mN
419800 mE
420000 mE
420200 mE
420400 mE
420600 mE
420800 mE
421000 mE
421200 mE
421400 mE
421600 mE
421800 mE
422000 mE
422200 mE
422400 mE
422600 mE
422800 mE
423000 mE
423200 mE
423400 mE
423600 mE
423800 mE
424000 mE
424200 mE



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Op: KMB, OM Freq(Hz): 30.974 #Stns: 20 Loop: 8 Line: 825N DS:

Ch1 reduced. Ch1 normalized. Totals:P-950M. /L-975M. Line Azim.: 47 . Rx Label: B2



KZK R-BLOCK, YUKON Teck Cominco Limited Hz

Dp: KMB, 0M Freq(Hz): 30.974 #Stns: 29 Loop: 8 Line: 250N DS:

Ch1 reduced. Ch1 normalized. Totals:P- 1400M. /L- 1575M. Line Azim.: 47 . Rx Label: 25

APPENDIX 3

2004 DIAMOND DRILL HOLE LOGS AND CORE GEOCHEMISTRY DATA

Logging Dictionaries

Codes	Description
Mineralogy:	
bi	biotite
bo	bornite
carb	carbonate
cc	calcite
ch	chalcocite
chl	chlorite
cpy	chalocopyrite
fsp	feldspar
ga	galena
hem	hematite
mus	muscovite
po	pyrrhotite
py	pyrite
qtz	quartz
ser	sericite
sil	silica
sp	sphalerite
ss	sulphosalts
tour	tourmaline

Codes	Description
Lithology:	
ACS	Strong Proximal Alteration (Chlorite-Biotite-Carbonate-Sulphides)
AP	Porphyroblastic (Albite) Strong Proximal Alteration
AT	Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
ATM	Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
ATS	Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
ATW	Weak Proximal Alteration
AY	Outer Yellow Sericite-Muscovite Alteration
BAS	Basalt
BD	Alt-Feldspar
BG	Alt-Grey Mica
BL	Alt-Carbonate
BO	Alt-Chlorite
CSA	Carbonaceous Argillite
CSB	Carbonaceous Argillitic Fragmental (Debris Flow)
CSC	Carbonaceous Meta-Chert
CSI	Carbonaceous Meta-Siltstone
CSK	Carbonaceous Wacke
CSS	Carbonaceous Meta-Sandstone
ET	Re-sedimented/Epiclastic Tuff
FD	Felsic Dyke or Sill
FF	Felsic Flow or Sub-volcanic Dome/Sill
FFB	Felsic Flow Breccia
FLT	Fault
FP	Feldspar Porphyry
FPXZ	Felsic Porphyry (Quartz Crystal Phyric)
FQP	Feldspar-Quartz Porphyry
FS	Felsic Sill
FT	Felsic Tuff
FTA	Aphyric Felsic Tuff
FTC	Felsic Crystal Tuff
FTCZ	Quartz Crystal-bearing Felsic Tuff
FTG	Granular Felsic Tuff
FTL	Felsic Lapilli Tuff
FTLC	Coarse Augened Felsic Crystal Tuff
FTLZ	Coarse Quartz Augened Felsic Crystal Tuff
FTM	Mottled Felsic Tuff
FTXR	Siliceous Ribboned Felsic Tuff
FW	Quartz-Sericite Schist with Calcite Bands
FX	Quartz-Sericite Schist with minor Chlorite-Biotite-Calcite
FXCZ	Quartz-Sericite Schist with Quartz Crystals
FXX3	Quartz-Sericite Schist - Feldspar Porphyroblastic
FXXF	Fragmental Quartz-Sericite Schist
FXXG	Granular Quartz-Sericite Schist
FXXR	Ribboned Quartz-Sericite Schist
FXXZ	Quartz Phyric Quartz-Sericite Schist

Codes	Description	Codes	Description
		FY	Quartz-Sericite-Graphite/Chlorite Schist (Epiclastic Tuff)
		FYXB	Banded Quartz-Sericite-Graphite/Chlorite Schist (Epiclastic Tuff)
		FYXR	Ribbon Banded Quartz-Sericite-Graphite/Chlorite Schist (Epiclastic Tuff)
		FZ	Outer Sericite-Muscovite Altered Quartz-Sericite Schist
		FZXB	Banded Sericite-Muscovite Altered Quartz-Sericite Schist
		FZXF	Fragmental Sericite-Muscovite Altered Quartz-Sericite Schist
		FZXG	Granular Sericite-Muscovite Altered Quartz-Sericite Schist
		FZXR	Ribboned Sericite-Muscovite Altered Quartz-Sericite Schist
		FZXZ	Quartz Phyric, Sericite-Muscovite Altered Quartz-Sericite Schist
		GSC	Grey Chert
		HAS	Siliceous or Cherty Argillite
		HFT	Cherty or Siliceous Felsic Tuff
		HFTA	Hanging-wall Marker, Aphyric Pyritic Tuff
		HMBX	Hematitic, Heterolithic (Epiclastic) Mafic Volcanic Breccia
		HSA	Siliceous/Cherty Argillite
		HSC	Hematitic Chert
		IF	Felsic Intrusive
		LGB	Leuco Gabbro
		LMBX	Heterolithic (Epiclastic) Mafic Volcanic Breccia
		LSI	Limy Siltstone (Variably Argillaceous)
		LSI/SA	Mixed Limy Argillaceous Siltstone and Argillite
		LSI/SA/SL	Mixed Limy Argillaceous Siltstone, Argillite and Limestone
		LWK/LST	Interbanded Calcareous Wacke and Limestone/Marble
		LWK/QWK	Interbanded Calcareous Wacke and Quartz Wacke
		MBX	Mafic Volcanic Breccia
		MD	Mafic Dyke or Sill
		MF	Mafic Volcanic Flow
		MI	Mafic Sill/Intrusive
		MM	Chlorite Schist
		MN	Biotite-Chlorite-Calcite Schist
		MO	Chlorite-Calcite-Biotite Schist
		MS	Mafic Sill
		MT	Mafic Ash Tuff/Hyalotuff
		MTAB	Banded Mafic Ash Tuff
		MU	Chlorite-Calcite Schist (ACS)
		MUD	Chlorite-Calcite Dyke
		MUX2	Chlorite-Calcite Schist (ACS) - Fecarbonate Porphyroblasts (AP)
		MV	Chlorite-Sericite-Calcite Schist
		MW	Sericite-Chlorite-Calcite Schist
		MY	Chlorite-Sericite-Quartz Schist
		MZ	Pistachio Muscovite(Sericite)-Quartz Schist (AY)
		OA	Laminated Magnetite-bearing Massive Sulphides
		OB	Crudely Banded, Buckshot Textured Massive Sulphides

Codes	Description
OC	Chalcopyrite-Pyrrhotite Network Massive Sulphides
OD	Recrsytallized Porphyroblastic Massive Sulphides
OF	Massive Pyrrhotite Rock
OG	Massive Chalcopyrite Rock
OH	Massive Pyritic Rock
OI	Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist
OIXB	Heavily Disseminated Sulphides in Sericite-Muscovite Altered, Banded Quartz-Sericite Schist
OJ	Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration
OMS	Massive Sulphides (>60%)
OS	Massive Sphalerite-Galena-Pyrrhotite Sulphides
OSM	Semi-Massive Sulphides (40-60%)
OVB	Overburden
QFP	Quartz Feldspar Porphyry
QP	Quartz Porphyry
QTVN	Quartz Tourmaline Vein
QVN	Quartz Vein
QZVN	Quartz Vein
RHY	Rhyolite
SA	Argillite/Phyllitic Argillite
SAC	Seds
SAXC	argillite with crystals??
SC	Chert
SH	Chert
SI	Siltstone
SI/MST/WK	Interbanded Siltstone, Mudstone and Wacke
SI/SS	Interbanded Siltstone, Sandstone
SI/TSK	Interbanded Siltstone and Tuffaceous Wacke
SK	Wacke/Arkose
SKXZ	Quartz Phyric, Tuffaceous Wacke
SL	Limestone/Marble
SQ	Quartzite
SQC	Quartzite
SS	Sandstone
SV	Chlorite-Sericite-Calcite-Biotite Schist
SW	Sercite-Chlorite-Quartz Schist
SX	Biotite-rich Calcitic (Quartz) Schist
SY	Biotite-Chlorite-Sericite Schist
SZ	Biotite-Sericite-Quartz-Chlorite Schist
TSA	Tuffaceous Argillite/Argillaceous Tuff
TSK	Tuffaceous Wacke
UM	Serpentinite/Ultramafic
VEIN	Vein
VN	Vein
WK/SS	Interbedded Wacke, Sandstone
ZX	ZX

Alteration:

ACS	Strong Proximal Alteration (Chlorite-Biotite-Carbonate-Sulphides)
AP	Porphyroblastic (Albite-Fecarbonate) Strong Proximal Alteration

Texture:

1	net-textured
10	Replacement
2	Disseminated Sulphides (<40%)

Codes	Description
AT	Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
ATC	Proximal Alteration (Carbonate-Chlorite-Biotite-Muscovite)
ATM	Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
ATS	Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
ATW	Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
AY	Marginal Yellow Sericite-Muscovite Alteration
AYW	Marginal Grey Muscovite (Sericite) Alteration
OI	Heavily Disseminated Sulphides (25-40%)
OJ	Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration

Codes	Description
3	Open space filling
4	Breccia cement
5	Massive Sulphide Rock (>60%)
6	Semi-massive Sulphide Rock (40-60%)
7	Veins/Veinlets
8	Stringer
9	Relict
U1	Chlorite Porphyroblastic
U2	Carbonate Porphyroblastic
U3	Feldspar (Albite) Porphyroblastic
U4	Biotite Porphyroblastic
UB	Banded
UC	Carbonaceous
UD	Feldspar Phyric
UE	Graded
UF	Fragmental Texture
UG	Granular Texture
UH	Cherty
UL	Calcareous
UO	Chloritic
UP	Fe-Sulphidic
UR	Ribboned
US	Spherulitic
UZ	Quartz Phyric
VA	Ash
VB	Bomb
VC	Crystal
VL	Lapilli
ZA	Magnetite Bearing
ZF	Pyrrhotite>10%
ZG	Chalcopyrite>3%
ZI	Interbanded Quartz-Sericite Schist
ZO	Chlorite Bearing

Breccia:	
CRBR	Crackle Packbreccia
D	Dissolution Packbreccia
E	Sedimentary Breccia
H	Hydrologic Breccia
L	Collapse Breccia
M	Mosaic Packbreccia
N	Neptunian Breccia
R	Rubble Packbreccia
T	Tectonic/Fault Breccia

Unit:	
D	Dolmicrite
DW	Dolwackestone
FZ	Fault Zone
HB	Hematite Breccia
OVB	Overburden/Rubble
SR	Sulphide Rock
SSR	Semi-Sulphide Rock
U	Unconsolidated

Summary Log R04-001

Project: R-15

AT: 420501 E 6812634 N **Azimuth** 180 **Dip:** -75 **Total Length** 260.9 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	25.8	Overburden			
25.8	42.3	Granular Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
42.3	56.3	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
56.3	57.5	Felsic Dyke or Sill			
57.5	60.0	Re-sedimented/Epiclastic Tuff			
60.0	61.2	Felsic Lapilli Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
61.2	64.3	Re-sedimented/Epiclastic Tuff			
64.3	65.3	Tuffaceous Wacke			
65.3	66.5	Aphyric Felsic Tuff			
66.5	68.7	Mafic Dyke or Sill			
68.7	75.2	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
75.2	83.8	Interbanded Siltstone, Mudstone and Wacke			
83.8	86.8	Interbanded Calcareous Wacke and Quartz Wacke			
86.8	89.9	Felsic Lapilli Tuff			
89.9	93.9	Interbanded Calcareous Wacke and Quartz Wacke			
93.9	97.8	Felsic Lapilli Tuff			
97.8	98.3	Quartz Vein			
98.3	99.3	Interbanded Siltstone, Mudstone and Wacke			
99.3	102.5	Mafic Dyke or Sill			
102.5	108.5	Interbanded Siltstone, Mudstone and Wacke			
108.5	111.0	Feldspar Porphyry			
111.0	114.4	Interbedded Wacke, Sandstone			
114.4	121.8	Interbanded Calcareous Wacke and Limestone/Marble			
121.8	129.5	Interbanded Siltstone, Mudstone and Wacke			
129.5	132.1	Re-sedimented/Epiclastic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
132.1	136.0	Felsic Tuff			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)

136.0	137.3	Massive Sulphides (>60%)	pyrrhotite			Porphyroblastic (Albite-Fecarbonate) Strong Proximal Alteration
137.3	142.1	Quartz Crystal-bearing Felsic Tuff				Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
142.1	145.5	Mafic Dyke or Sill				
145.5	155.1	Felsic Tuff				Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
155.1	157.0	Mafic Dyke or Sill				
157.0	160.3	Felsic Tuff				Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
160.3	164.9	Re-sedimented/Epiclastic Tuff				Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
164.9	168.2	Interbanded Siltstone, Sandstone				
168.2	177.4	Tuffaceous Wacke				
177.4	183.0	Interbanded Siltstone, Sandstone				
183.0	186.8	Tuffaceous Wacke				
186.8	188.4	Felsic Dyke or Sill				
188.4	192.5	Interbanded Siltstone, Sandstone				
192.5	193.0	Felsic Dyke or Sill				
193.0	205.4	Tuffaceous Wacke				
205.4	211.5	Interbanded Siltstone, Sandstone				
211.5	214.6	Mafic Dyke or Sill				
214.6	239.4	Tuffaceous Wacke				
239.4	241.9	Mafic Dyke or Sill				
241.9	243.7	Fault				
243.7	260.9	Interbanded Siltstone, Sandstone				

Hole_ID	**R04-001**	**Hole_Type**	Diamond	***Purpose/Comments***
x	420501	**Survey_Type**	Sperry Sun	strong Channel 2 UTEM conductor located at 2475 N on L 20500. Conductor is near coincident with a similar sized Amag/ground Mag anomaly. Conductor is interpreted to be dipping 30 degrees to the north. Initial hole collared at -60 was abandoned due to lost rods in overburden. Hole is located approx. 15 m west of newly brushed line on the winter grid line.
y	6812634	**Drill_Type**	Fly 38	
z	1298	**Hole_Diamete**	NQ	
Azimuth	180	**Drill_Operator**	E Caron	
Dip	-75			
Total Length	260.9			
Location	Yukon	**StartDate**	28-Jul-04	
Grid	Grid 2	**EndDate**	03-Aug-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	180	-75.0
259.7	191	-69.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*
0.0	25.8	**OVB** **Overburden** Boulder/cobble till becoming more a gravel till towards bedrock contact. Drilling was very tight.
25.8	42.3	**FTG** **Granular Felsic Tuff** Light to medium grey coloured, fine-grained sericite-muscovite-quartz felsic tuff and lapilli tuff. Textures range from fine-grained granular to lapilli dominant intervals containing 70-80%, 3-7 mm quartz dominant lapilli. Locally minor, very fine-grained, creamy grey feldspar crystals are present. Matrix is light grey to slightly greenish grey, schistose sericite-muscovite-quartz defining a strong S2 foliation. 25.8 26.1 Felsic Lapilli Tuff Light grey to slight greenish grey coloured chlorite-sericite-muscovite-quartz fine-grain matrix with 60-80%, 4-15 mm white to light grey and greenish grey aphyric felsic flow fragments (very fine intergrown quartz-feldspar?) with diffuse clast edges. Matrix is we foliated and fragments are elongated/flattened parallel S2. Unit contains 3-8%, very fi grained to streaky disseminated pyrrhotite-pyrite. 26.1 30.1 Granular Felsic Tuff Slightly more greenish grey coloured due to predominance of matrix material and perh slightly more chlorite development. Groundmass still muscovite-sericite-rich and well parallel S2. Unit contains 2-10% very fine-grained to streaky and blebby dissemination pyrite-pyrrhotite and as thin bands of sulphide with silica (vein material?) - pyrite>>pyr below 26.1 m. Possible fine (<1.5 mm) whitish feldspar-quartz crystals are present de minor, thin crystal-rich (up to 15-20%) intervals. Otherwise the unit is generally fine gr and homogenous.

Lab #	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
R0419559	30.30	33.30	3.00					
R0419560	33.30	34.60	1.30					
R0419561	34.60	35.80	1.20					
R0419562	35.80	37.30	1.50					
R0419563	37.30	37.65	0.35	1.63	0.64	2.95	1491	
R0419564	37.65	38.85	1.20	0.01	0.07	0.2	13.8	
R0419565	38.85	39.05	0.20	0.04	0.2	2.57	29	
R0419566	39.05	40.60	1.55	0.01	0.13	0.37	27.5	
R0419567	40.60	42.10	1.50					

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		27.0 27.2 Fault minor gouge zone.									
		30.1 30.6 Felsic Lapilli Tuff Light grey to slight greenish grey coloured chlorite-sericite-muscovite-quartz fine-grain matrix with 60-80%, 4-15 mm aphyric felsic flow fragments (as above). Matrix is well f and fragments are elongated/flattened parallel S2. Unit contains 3-10%, very fine-grai streaky disseminated pyrrhotite-pyrite and trace dark reddish brown sphalerite.									
		30.4 0.0 Quartz Vein Deformed/folded quartz vein (2 cm wide) with 2-3% very fine-grained disseminated py sphalerite. Adjacent to the vein are thin bands with 15-20% fine-grained, disseminate blebby sulphides (pyrite-sphalerite-galena.									
		30.6 35.8 Felsic Crystal Tuff As above granular textured tuff with very fine-grained to granular textured groundmass trace-5% <1.5 mm white to creamy white feldspar-quartz crystals (often with some associated chlorite); see 31.1 and 31.3 m. Locally streaked appearance may reflect presence of lapilli. Occasional siliceous lapilli are present. Both pyrite-pyrrhotite occu fine disseminations and streaky disseminations - often with silica and chlorite-sericite. reddish brown sphalerite and trace galena are present locally.									
		31.1 31.3 Quartz Vein Folded quartz vein with 10% pyrite-sphalerite-pyrrhotite occurring as very fine-grained and streaky disseminations and blebs.									
		32.7 32.9 Fault Thin gouge zone.									
		33.4 33.6 Minor thin banded to disseminated dark reddish brown sphalerite-pyrite and trace gale Interval contains siliceous lapilli and contorted/boudined(?) quartz vein material									
		33.9 0.0 Thin (1-15 mm) folded band (vein?) with silica and 15-20% disseminated sphalerite-py pyrite-galena and trace chalcopyrite. Trace arsenopyrite present									
		34.5 0.0 Quartz Vein Thin deformed quartz vein (1-2 cm) with coarse blebby pyrite (trace sphalerite-galena)									
42.3	56.3	**FTL** **Felsic Lapilli Tuff** Intervals of lapilli tuff containing light grey to greenish grey, dense, siliceous, aphyric felsic flow fragments(?) set in a foliated light greenish grey, muscovite-sericite-quartz matrix and									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

minor more granular tuff. Lapilli tuff intervals locally become very siliceous, massive and take on an augened appearance. Sulphides comprise 2-8% very fine to fine-grained disseminated pyrrhotite+-pyrite.

42.3 44.1 Felsic Lapilli Tuff

Thin banded light grey to greenish grey, dense, siliceous, aphyric felsic flow fragments in a foliated light greenish grey, muscovite-sericite-quartz matrix and containing 2-5% fine to fine-grained disseminated pyrite. Minor thin quartz veins with minor blebby disseminated sphalerite+-pyrite-pyrrhotite are present.

44.1 44.7 Granular Felsic Tuff

Granular fine-grained tuff; as above, with 5% very fine-grained disseminated pyrite-pyrrhotite. Several 2-4 cm thick creamy grey ash(?) interbeds/bands with minor greeni chloritic seams are present and contain coarse-grained pyrite and quartz/silica (vein?) fragments(??).

44.7 56.3 Felsic Lapilli Tuff

Similar to above; distinctive light to medium grey and green grey, fine-grained siliceou flow fragments (<3 mms to several cms) with somewhat vague/diffuse edges are prese Grades into a siliceous, augened porphyritic appearing unit between 45.4-47.0 and 48. m where 4mm to 1 cm lapilli are common. Sulphides comprise 3-5% pyrrhotite (trace as fine disseminations and minor quartz veinlets/fracture fillings. Below 49.9 m, light greenish grey fragments predominate in a muscovite-chlorite-quartz matrix; biotitic sea and clots are locally developed. Locally more banded character at 52.7 m. Unit conta 8% very fine-grained disseminated pyrrhotite (trace pyrite).

46.5 46.6 Mafic Dyke or Sill

Dark biotitic-chloritic(+-sericite) mafic dyke with minor calcite-quartz veinlets.

47.0 48.0 Felsic Flow or Sub-volcanic Dome/Sill

Massive felsic flow/sill containing 5% fine disseminated pyrrhotite with gradational upp lower contacts into lapilli tuff.

54.2 55.1

Increasing pyrrhotite content (5-10%) as disseminations, veinlets and fracture fillings. Increased muscovite-sericite (+-chlorite) alteration. Local thin bands of 30-40% fine-g pyrrhotite-quartz with sericite-chlorite+-biotite present. Pyrite-chlorite is present along margins to some bands (remobilized veins?). Thin intervals with siliceous felsic lapilli present.

56.3 57.5 **FD** **Felsic Dyke or Sill**

Medium to dark brownish grey, siliceous massive fine-grained chlorite-biotite-quartz bearing felsic-intermediate dyke/sill with very fine whitish mineral disseminated throughout (leucoxene?); 1-3% very fine disseminated pyrrhotite and chilled finer grained more biotitic-chloritic margins(?). Possible epiclastic tuff?

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
57.5	60.0	**ET** **Re-sedimented/Epiclastic Tuff** Medium to dark greenish grey, fine-grained massive biotite-quartz-chlorite epiclastic felsic tuff with trace-3% fine disseminated pyrrhotite. More biotite-calcite bearing from 57.5-59.0 m. 57.5 60.2 Broken interval									
60.0	61.2	**FTL** **Felsic Lapilli Tuff** Light to medium grey and green grey, fine-grained siliceous felsic flow fragments (<3 mms to several cms) with somewhat vague/diffuse edges are present. Sulphides comprise 3-5% pyrrhotite (trace pyrite) as fine disseminations associated with minor chlorite-muscovite.									
61.2	64.3	**ET** **Re-sedimented/Epiclastic Tuff** Medium to dark greenish grey, fine-grained massive biotite-quartz-chlorite epiclastic tuff and minor biotitic tuffaceous wacke with trace-2% fine disseminated pyrrhotite; as above. Upper and lower contacts are sharp. Locally massive and siliceous, foliated, chlorite-biotite-quartz-bearing unit appears as poosible felsic dyke/sill(?). 65.2 65.8 Fault Broken and minor gouge zone.									
64.3	65.3	**TSK** **Tuffaceous Wacke** Thin banded and folded/transposed fine-grained biotite+-quartz wacke/epiclastic.									
65.3	66.5	**FTA** **Aphyric Felsic Tuff** Medium to dark grey, green grey and brownish grey, very fine-grained, massive and siliceous chlorite-biotite-quartz felsic ash tuff interval (perhaps epiclastic mixed with some pelitic metasedimentary material). Strong S2 defined by muscovite-sericite-biotite seams									
66.5	68.7	**MD** **Mafic Dyke or Sill** Strongly sheared, banded unit comprising thin (<1-3 cm) dark to medium brown calcite-chlorite-biotite-rich bands and lighter coloured biotite-chlorite-calcite bands.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
68.7	75.2	**FTL Felsic Lapilli Tuff** Light grey muscovite-sericite+-chlorite quartz schistose tuff with light grey to whitish siliceous felsic lapilli and several narrow quartz+-pyrrhotite veinlets. 69.4 70.1 Mafic Dyke or Sill As above. 70.1 74.9 Felsic Lapilli Tuff As above. Slightly more siliceous and containing 2-5% disseminated fine-grained pyrr 74.9 75.2 Mafic Dyke or Sill As above.									
75.2	83.8	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Dark grey to black, mixed package of metasediments comprising thinly interbedded (contorted crude banding/bedding now transposed parallel to S2) siliceous siltstone, mudstone and wacke. Mudstone occurs as minor thin, black chloritic to weakly graphitic+-biotite seams (not carbonaceous). Wackes are typically chlorite-biotite-quartz-rich while siltstone are finer-grained, medium-dark grey (cleaner) and more quartz-dominant. Rare coarser grained quartz-biotite intervals may represent coarse sandstone to grits? Sulphides comprise 3-5% (up to 10% locally) wispy disseminated to blebby pyrrhotite and trace pyrite and as late fracture fillings and S2 parallel seams. 77.7 77.9 Interbedded Wacke, Sandstone Fine-grained biotite-chlorite-quartz interval thought to be a metawacke/sandstone as opposed to a mafic dyke. 77.7 0.0 Fault Thin fault gouge. 78.2 81.8 Sandstone More siliceous interval of medium to light grey quartz-rich (cherty) fine-grained sandstc Bedding/banding is contorted/folded and transposed parallel to S2. Unit contains 1-5% fine-grained disseminated to streaky blebby pyrrhotite. 81.8 82.0 Felsic Tuff Fine-grained, light grey sericite-muscovite-quartz felsic tuff.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		82.0 82.2 Mafic Dyke or Sill									
		Very fine-grained, crudely banded/foliated chlorite-quartz-biotite and biotite-calcite rich becoming increasingly chlorite-biotite-rich towards lower contact with the quartz vein.									
		82.2 83.2 Quartz Vein									
		Broken interval; quartz vein with minor calcite-chlorite-biotite occurring as clots along fractures/seams.									
		83.2 83.8 Felsic Tuff									
		Light to medium grey, siliceous, fine-grained felsic tuff (dyke?) with minor biotite-chlorit 1-2% fine disseminated pyrrhotite. Sharp lower contact.									
83.8	86.8	**LWK/QWK Interbanded Calcareous Wacke and Quartz Wacke** Mixed interval of medium to dark greenish grey to brownish grey, crudely banded/bedded (transposed parallel S2) weakly calcareous chlorite-calcite-biotite-quartz wacke, biotite-quartz wacke and lesser cleaner quartz wacke. Possible mafic dyke/sill(?). Chlorite-calcite patches and bands appear to be an alteration overprinting originally more biotitic lithologies. Quartz-calcite veinlets with minor clots of pyrrhotite-chlorite are locally present. Relatively sharp lower contact.									
86.8	89.9	**FTL Felsic Lapilli Tuff** Light grey, crudely laminated to banded, fine-grained aphanitic tuff becoming more siliceous/massive with vague 4-7 mm lapilli and occasional 3-5 mm whitish feldspar phenocrysts (possible felsic FP dyke/sill?). Upper contact marked by irregular/contorted silica ("chilled"/peperitic contact?). Several early deformed quartz+calcite veins with minor biotite-chlorite are present.									
		89.6 89.9 Quartz Vein									
		Quartz; minor feldspar-chlorite+calcite vein with late pyrrhotite-biotite fracture/veinlets.									
89.9	93.9	**LWK/QWK Interbanded Calcareous Wacke and Quartz Wacke** Mixed interval of dark brown biotite-quartz-calcite-chlorite wacke. Possible mafic dyke/sill intervals and medium grey, more siliceous quartz wacke, sandstone; as above. Several late low angle calcite fractures with pyrrhotite-pyrite. Several early quartz+-pyrrhotite-pyrite veins.									
		90.6 91.1 Mafic Dyke or Sill									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
93.9	97.8	**FTL Felsic Lapilli Tuff** Light grey, siliceous/massive with vague 4-7 mm lapilli and intervals of more foliated, crudely banded micaceous quartz tuff Possible occasional 3-5 mm whitish feldspar (quartz?) phenocrysts (possible felsic FP dyke/sill?). Sulphides comprise 2-3% pyrite-pyrrhotite and trace very fine-grained disseminated sphalerite at 94.6 m.									
97.8	98.3	**QZVN Quartz Vein**									
98.3	99.3	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Medium to dark grey siliceous siltstone with trace graphite and lesser brown grey biotitic wacke. Thin mafic dyke/sill at 99.1 m. Strong sericite+_chlorite-biotite adjacent to quartz vein.									
99.3	102.5	**MD Mafic Dyke or Sill** Medium to dark grey, fine-grained, massive/homogenous biotite-quartz intrusive(?) with 3% pyrrhotite-pyrite and abundant S2 parallel quartz veinlets. 100.4 100.6 Felsic Lapilli Tuff Felsic lapilli tuff (possible felsic intrusive?); as above. 100.6 100.8 Quartz Vein 100.8 101.4 Interbanded Siltstone, Sandstone Similar to above. Possibly includes minor siliceous grits.									
102.5	108.5	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Dark grey laminated to thin bedded/banded, strongly folded (transposed parallel to S2 foliation) siliceous sandstone, siltstone and biotitic quartz wacke with local dark grey non carbonaceous mudstone partings. Becomes more calcareous and chloritic/biotitic (mafic tuffaceous?/dyke?) below 106.2 m. Trace-3% pyrrhotite+pyrite occurs throughout. 102.7 103.3 Quartz Vein Quartz vein with calcite-chlorite-biotite seams and late fractures. Also at 105.4-105.6 n									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
108.5	111.0	**FP** **Feldspar Porphyry** Light grey foliated and crudely banded, massive fine-grained felsic dyke/sill(?) with occasional feldspar phenocrysts/glomerocrysts intergrown with quartz. Banding is defined by S2 parallel biotite seams and fractures. Unit contains trace-1% pyrrhotite-pyrite. Thin mafic dykes at 108.9-109.1 and 110.6-110.7 m.									
111.0	114.4	**WK/SS** **Interbedded Wacke, Sandstone** Dark brown to light greenish grey unit comprising dark brown coloured biotite seams/bands and biotite-quartz wacke and lighter sandstone overprinted by irregular to patchy discontinuous chlorite+quartz (feldspar?)+calcite alteration giving the unit a mottled/banded (cm scale) appearance. Unit contains trace-1% pyrrhotite-pyrite.									
114.4	121.8	**LWK/LST** **Interbanded Calcareous Wacke and Limestone/Marble** Mixed interval of medium to dark grey, calcareous biotitic quartz wacke and dark mudstone with locally abundant interbanded medium grey marble. Unit is thinly interbedded/banded but is strongly deformed and transposed parallel to S2. Unit contains trace-2% pyrrhotite.									
121.8	129.5	**SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke** Dark grey to near black, thin bedded/banded contorted, siliceous sandstone, siltstone and non calcareous biotitic quartz wacke with local dark grey non carbonaceous mudstone partings. Trace-2% wispy disseminated pyrrhotite+pyrite is present. Trace disseminated arsenopyrite is present below 127.5 m. 129.1 129.5 Quartzite Thin banded very siliceous quartzite with trace-1% pyrrhotite and trace disseminated arsenopyrite.									
129.5	132.1	**ET** **Re-sedimented/Epiclastic Tuff** Mixed interval of biotitic/epiclastic(?) felsic tuff and minor siliceous felsic tuff that is weak to moderately chlorite-calcite-biotite altered associated with bands/stringers of bright green chlorite-quartz-feldspar (albite?) alteration with trace-3% fine disseminated to blebby, S2 parallel, chalcopyrite-pyrrhotite-sphalerite. Locally overprinted by creamy tan, fine-grained sericite/Fecarbonate(?). Some late low angle calcite-quartz veinlets are present. Alteration is not typical in that it appears to be very vein controlled and fine-grained as opposed to the typical pervasive proximal alteration. 131.5 131.6 Quartz Vein White quartz vein with sericitic/Fecarbonate(?) alteration containing dark 1-2 mm porphyroblastic metallic mineral rimmed by biotite (not magnetite - other Fe-oxide?)									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
132.1	136.0	**FT** **Felsic Tuff** Similar to above. Mixed interval of more siliceous fine felsic tuff and minor biotitic/epiclastic(?) tuff that is increasingly chlorite-calcite-biotite-silica altered associated with bands/stringers(?) of bright green chlorite-quartz-feldspar (albite?) with trace-3% fine disseminated to blebby, S2 parallel, chalcopyrite-pyrrhotite-sphalerite and rare arsenopyrite (i.e. at 135.0 m). Locally overprinted by creamy tan, fine-grained sericite/Fecarbonate(?). Some late low angle calcite-quartz veinlets are present. Alteration is not typical in that it appears to be very vein controlled and fine-grained as opposed to the typical coarse-grained pervasive proximal alteration. 132.2 0.0 Trace very fine-grained galena with pyrrhotite disseminated in siliceous tuff. 132.8 132.9 Mafic Dyke or Sill 133.2 134.7 Unit shows increasing sericitic/Fecarbonate(?) alteration and presence of abundant, gr quartz-chlorite-albite(?)+calcite-biotite veins/bands with trace-3% pyrrhotite-chalcopyrite+pyrite. 134.7 135.8 Trace sphalerite (Fe-oxide?) occur with pyrrhotite-chalcopyrite-pyrite disseminations; increasing sphalerite(?) toward contact with massive pyrrhotite unit. 135.8 136.0 Increasingly siliceous with fine intergranular sulphide disseminations.	R0419569 R0419570	133.00 134.50	134.50 136.00	1.50 1.50					
136.0	137.3	**OMS** **Massive Sulphides (>60%)** First few cms marked by medium to coarse-grained greenish-light grey albite porphyroblasts (up to ~7mm) with lesser chlorite-calcite-biotite intergranular material and 10-15% disseminated to blebby recrystallized chalcopyrite-sphalerite-pyrrhotite and trace-1% galena. This grades quickly into massive fine-grained pyrrhotite with minor very fine, patchy disseminated/intergrown chalcopyrite. Floating (sulphide-supported) in the sulphides are rounded albite (20-25%, <1-7 mm), biotite and rounded white quartz vein material, dark biotitic fragments and lithic metasedimentary fragments. Pyrrhotite does not a appear to be sheared although it is fine-grained; perhaps some Fe-oxides?	R0419571	136.00	137.30	1.30	0.46	5.74	13	87.2

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
137.3	142.1	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Dark interval comprising variably silica-chlorite+biotite-calcite altered, crudely banded felsic tuff with rare very fine (typically <0.5 mm) light grey to light opalescent bluish grey quartz crystals (see footwall to intercept in K04-200) . Trace-15% fine-grained to blebby vein/patchy alteration related sulphide mineralization. 137.3 138.4 Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides) Strong mottled chlorite-silica/albite?-biotite+calcite overprint on possible felsic, crudely banded tuff(?) with trace light grey quartz and variably sized whitish feldspar crystals. Alteration is associated with abundant chlorite-quartz veins with clotty galena and minc sphalerite-pyrrhotite-chalcopyrite-pyrite. Adjacent to veins are seams of sphalerite-bio and lesser galena-pyrrhotite-chalcopyrite-pyrite; 5-10% throughout. 138.4 139.1 Felsic Tuff More siliceous, thin banded felsic tuff with posiible feldspar-quartz crystal fragments, a above at 133.6 m.. 139.1 139.5 Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides) As above, mottled chlorite-biotite+quartz+-albite; appears as irregular/disrupted alterat veins/bands. Possible quartz-feldspar crystal fragments. 139.5 139.9 Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides) Increased veining and porphyroblastic albite(?)-chlorite alteration with associated 10-3 fine intergranular pyrrhotite-chalcopyrite-sphalerite-galena. 139.9 142.0 Quartz Crystal-bearing Felsic Tuff As above, mottled to fragmental appearing, strongly altered tuff containing rare-1%, <(mm light bluish grey opalescent quartz crystal fragments in a siliceous altered matrix. unit as footwall to intercept in K04-200.	R0419572	137.30	138.40	1.10	0.07	0.91	1.92	11
			R0419573	138.40	139.05	0.65	0.01	0.02	0.03	0.2
			R0419574	139.05	139.40	0.35	0.03	0.16	0.42	1.5
			R0419575	139.40	139.90	0.40	0.16	0.44	5.29	10.2
			R0419576	139.90	140.80	0.90	0.05	0.04	0.36	1.5
			R0419577	140.80	141.30	0.50	1.04	0.14	1.91	23.4
			R0419578	141.30	142.80	1.50				
142.1	145.5	**MD** **Mafic Dyke or Sill** Dark brown grey, crudely banded to massive, fine-grained granular biotite-chlorite+-quartz dyke(?) very similar to the hangingwall MD in K04-200. Although relatively unaltered and mineralized, this unit is overprinted by irregular patchy to banded greenish coloured chlorite-calcite-quartz+biotite banded/veined(?) alteration. Unit contains trace-2% very fine disseminated pyrrhotite and possible Fe-oxides (not magnetite).									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
145.5	155.1	**FT** **Felsic Tuff** Dark brown grey to grey, crudely banded, moderately to strongly altered interval with an appearance similar to the adjacent MD. Interval is fine-grained granular to banded with porphyroblastic coarse (1-7 mms) garnets and is cut by irregular patchy/mottled to banded (vein?), greenish coloured chlorite-calcite-quartz+biotite alteration(?). Increased white mica alteration with minor disseminated chalcopyrite-pyrrhotite is present at 145.5-145.7 m and at 153.2-153.3 m.									
155.1	157.0	**MD** **Mafic Dyke or Sill** As above 142.1-145.5 m interval. Slightly more massive; possible epiclastic tuff(?)									
157.0	160.3	**FT** **Felsic Tuff** Mottled to crudely banded, dark to medium green grey to brown grey interval of mixed chlorite-quartz-calcite-biotite (tuff or alteration or both). Generally 1-5% fine to streaky disseminated pyrrhotite-pyrite-chalcopyrite; up to 5-10% locally. Gradational lower contact	R0419579	158.00	159.10	1.10					
			R0419580	159.10	160.20	1.10					
			R0419581	160.20	161.30	1.10	0.04	0.02	0.94	0.2	
160.3	164.9	**ET** **Re-sedimented/Epiclastic Tuff** Medium to dark green grey banded interval comprising biotitic/epiclastic(?) felsic tuff/tuffaceous wacke with fine chlorite+-biotite alteration and cut by chlorite-quartz+calcite bands (alteration?). Minor light reddish garnets porphyroblasts are present. This grades into intervals of more siliceous, light to medium brown grey quartz felsic tuff(?). Unit contains trace-1% very fine-grained disseminated pyrrhotite-pyrite.	R0419582	161.30	161.70	0.40	0.15	0.5	3.54	8.6	
			R0419583	161.70	163.20	1.50	0.05	0.02	0.56	0.5	
		160.2 161.0 Mafic looking interval (dyke?) cut by several quartz-carbonate veins with narrow halos containing 5-15% fine sphalerite-pyrite-chalcopyrite.									
		161.4 0.0 1-3% fine disseminated galena adjacent to late fractures.									
		161.5 161.6 strong alteration; as above, with chlorite-biotite+quartz bands and abundant late fractu with pyrrhotite.									
		161.7 0.0 Aphyric Felsic Tuff Isoclinally folded laminated cherty felsic ash tuff (quartzite?) with trace disseminated p chalcopyrite.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

163.9 164.6 Quartz Vein

164.9 168.2 **SI/SS** **Interbanded Siltstone, Sandstone**

Dark to medium grey thin bedded/banded siliceous quartzite, siltstone and possible grits (fragmental/clastic textures?) with interbanded chloritic-biotitic tuff/wacke?. Garnet porphyroblasts are locally present. Sulphides consist of trace-2% very fine pyrrhotite-chalcopyrite disseminations. Gradational lower contact.

168.2 177.4 **TSK** **Tuffaceous Wacke**

More biotitic siltstone/wacke overprinted by irregular/discontinuous patchy to banded spotted biotite-chlorite-quartz and light greenish chlorite-quartz-calcite alteration. Tight isoclinal folding is evident suggesting thin interbedded sequence that has been transposed parallel to S2. Trace-3% fine pyrrhotite-pyrite.

177.4 183.0 **SI/SS** **Interbanded Siltstone, Sandstone**

Dark to medium grey, laminated to thin bedded/banded siliceous quartzite, sandstone, siltstone with minor chloritic intervals.

178.4 178.8

Broken zone.

180.3 180.4 Fault

Thin fault gouge.

183.0 186.8 **TSK** **Tuffaceous Wacke**

Mixed interval with more biotitic siltstone/wacke, siliceous siltstone/sandstone and biotite-chlorite-quartz and minor light greenish chlorite-quartz-calcite alteration.

183.0 184.6 Mafic Dyke or Sill

186.8 188.4 **FD** **Felsic Dyke or Sill**

Fine-grained massive siliceous homogenous unit with sheared margins comprising equigranular quartz-feldspar and spotted biotite. Trace-1% pyrite-pyrrhotite.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
188.4	192.5	**SI/SS** **Interbanded Siltstone, Sandstone** Medium to dark grey interval with massive to thin bedded quartz-rich siltstone/sandstone and minor biotitic quartz wacke. 188.5 188.7 Broken interval with quartz veins. 190.8 191.2 Mafic Dyke or Sill 192.2 192.5 Quartz Vein White quartz vein with abundant chlorite-carbonate.									
192.5	193.0	**FD** **Felsic Dyke or Sill** As above.									
193.0	205.4	**TSK** **Tuffaceous Wacke** Medium brown to light green grey unit consisting predominantly of dark biotite-quartz wacke overprinted by irregular patchy to banded fine-grained chlorite+calcite-sericite alteration. Locally medium grained biotite appears as a late alteration phase within chlorite-calcite. Minor dark grey silicic sandstone/quartzite interbeds appear at 198.8 m. 194.1 194.7 Quartz Vein 199.7 200.5 Mafic Dyke or Sill Massive biotitic interval with whitish Fecarbonate(?) porphyroblasts and mottled to pat chlorite+calcite-quartz alteration. Minor calcite-quartz veinlets are present. 202.5 202.7 Mafic Dyke or Sill 202.7 203.0 Coarse quartz vein with calcite fractures.									
205.4	211.5	**SI/SS** **Interbanded Siltstone, Sandstone** Dark grey, laminated to thin bedded/banded siliceous quartz wacke, sandstone and quartzite with S2 parallel biotitic seams and trace-3% fine disseminated pyrrhotite-pyrite									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		(local remobilized chalcopyrite in late veinlets). Increasingly chloritic+calcite below 207.4 m. Local coarse garnets developed. 210.4 210.8 Mafic Dyke or Sill									
211.5	214.6	**MD** **Mafic Dyke or Sill**									
214.6	239.4	**TSK** **Tuffaceous Wacke** Similar to 205.4-211.5 interval but more biotitic+chlorite. Mixed interval including some dark grey metasediments and possible chloritic mafic tuff; as above. Late chlorite-calcite alteration/veins/irregular patches are locally developed. 216.6 218.3 Broken interval with late quartz veins and chloritic alteration halos with white diamond crystal (Fecarbonate??) 225.7 225.9 Fault Thin fault gouge and strong chlorite alteration. 235.9 236.5 Strong chlorite alteration and quartz veining. Also at 237.3-237.6 m. 238.0 239.4 Quartz veins and broken interval.									
239.4	241.9	**MD** **Mafic Dyke or Sill** Possible strong chlorite-calcite alteration(?) with trace-5% fine pyrrhotite									
241.9	243.7	**FLT** **Fault** Abundant quartz veins (broken and sheared zone) and chlorite-biotite alteration.									
243.7	260.9	**SI/SS** **Interbanded Siltstone, Sandstone** Dark grey sequence of laminated to thin bedded/banded (strongly contorted parallel S2) siliceous quartz wacke, sandstone and quartzite with minor patchy chlorite-calcite									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

alteration bands and irregular patches. Trace-3% fine disseminated pyrrhotite-pyrite.

243.7 244.2

Broken zone with lost core.

250.3 251.3 Mafic Dyke or Sill

251.5 251.6 Feldspar Porphyry

Thin with diffuse contacts; see below.

253.0 254.3 Feldspar Porphyry

Light grey massive, very siliceous with 10-15% white ghostly 2-4 mm feldspars gradinç
253.7 m into darker more biotitic porphyry with 10-15% 3-10 mm white feldspars and tr
fine pyrrhotite.

258.3 259.6 Mafic Dyke or Sill

Very fine-grained , dark green grey massive dyke.

Assay Report

HOLE #: R04-001

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
30.30	33.30	R0419	5001	3.00	600	267					
33.30	34.60	R0419	5002	1.30	1298	790					
34.60	35.80	R0419	5003	1.20	2557	681					
35.80	37.30	R0419	5004	1.50	2567	1165					
37.30	37.65	R0419	5005	0.35	37220	6429	1.63	0.64	2.95	1491.3	
37.65	38.85	R0419	5006	1.20	1873	658	0.01	0.07	0.2	13.8	
38.85	39.05	R0419	5007	0.20	33130	1974	0.04	0.2	2.57	29	
39.05	40.60	R0419	5008	1.55	4244	1324	0.01	0.13	0.37	27.5	
40.60	42.10	R0419	5009	1.50	655	231					
133.00	134.50	R0419	5011	1.50	949	64					
134.50	136.00	R0419	5012	1.50	6430	147					
136.00	137.30	R0419	5013	1.30	1E+05	19820	0.46	5.74	12.96	87.2	
137.30	138.40	R0419	5014	1.10	20770	9825	0.07	0.91	1.92	11	
138.40	139.05	R0419	5015	0.65	99	20	0.01	0.02	0.03	0.2	
139.05	139.40	R0419	5016	0.35	5273	1446	0.03	0.16	0.42	1.5	
139.40	139.90	R0419	5017	0.40	59790	4273	0.16	0.44	5.29	10.2	
139.90	140.80	R0419	5018	0.90	4058	233	0.05	0.04	0.36	1.5	
140.80	141.30	R0419	5019	0.50	23700	1270	1.04	0.14	1.91	23.4	
141.30	142.80	R0419	5020	1.50	236	51					
158.00	159.10	R0419	5021	1.10	317	39					
159.10	160.20	R0419	5022	1.10	327	40					
160.20	161.30	R0419	5023	1.10	11510	112	0.04	0.02	0.94	0.2	
161.30	161.70	R0419	5024	0.40	41950	4731	0.15	0.5	3.54	8.6	
161.70	163.20	R0419	5025	1.50	6310	118	0.05	0.02	0.56	0.5	

Mag Susceptibility Log

Collar_Hole_ID	R04-001	**Project**	R-15	**Total Length**	260.9
Azimuth	180	**Dip**	-75.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
25.80	0.05		64.60	5.06	
27.90	2.45		66.20	3.82	
28.40	0.91		67.30	4.06	
31.00	2.23		69.90	11.90	
33.00	3.82		70.80	31.40	
34.50	1.53		71.00	8.39	
36.10	2.37		73.00	6.84	
37.10	2.48		74.50	13.30	
37.50	10.30		75.10	8.31	
38.50	2.86		76.10	12.90	
39.90	1.88		77.00	9.66	
42.40	1.81		78.40	6.78	
42.80	0.03		79.70	12.60	
44.50	0.69		81.20	8.56	
46.00	12.80		82.10	13.40	
46.90	3.62		84.20	3.45	
47.40	6.75		85.60	0.76	
49.00	10.40		87.10	5.92	
50.40	19.30		88.30	5.52	
51.70	8.32		89.80	36.40	
52.70	10.50		91.20	2.56	
54.50	26.10		92.90	0.45	
55.00	99.60		94.40	5.72	
56.80	5.47		95.90	18.90	
58.20	0.42		96.60	10.90	
59.60	0.53		98.60	7.46	
60.60	5.91		99.70	1.70	
61.80	1.77		100.90	10.20	
63.00	3.23		102.50	6.22	

Meters	Susceptibility	Notes
103.90	0.54	
105.40	0.78	
107.10	0.23	
108.10	0.31	
109.20	0.12	
110.00	0.10	
111.70	0.27	
113.10	1.17	
113.90	0.32	
114.80	1.70	
117.00	0.36	
118.50	0.27	
119.40	3.66	
120.80	4.50	
122.20	2.19	
123.90	3.16	
125.30	1.61	
127.00	0.65	
128.50	2.26	
129.90	10.30	
131.40	6.67	
133.00	2.89	
134.40	13.40	
135.60	4.99	
136.10	20.50	
136.90	36.40	
138.30	1.33	
139.80	2.58	
140.70	12.00	
142.10	1.04	
143.10	0.58	
144.60	1.11	
145.70	7.24	

Meters	Susceptibility	Notes
147.90	0.32	
149.50	0.96	
151.40	0.38	
152.70	6.16	
154.30	3.40	
155.70	0.82	
157.40	0.43	
158.40	4.64	
159.50	22.60	
160.10	1.48	
161.50	8.08	
162.00	2.36	
163.50	0.78	
164.60	0.24	
166.30	0.40	
167.50	0.65	
169.20	1.40	
170.70	0.49	
172.30	0.29	
173.30	0.42	
175.40	0.43	
176.60	0.60	
178.00	0.31	
178.70	2.72	
180.20	1.40	
181.90	0.86	
183.40	0.18	
184.40	0.87	
186.50	0.12	
187.50	1.29	
189.30	0.42	
190.90	1.48	
192.30	0.53	

Meters	Susceptibility	Notes
193.80	0.75	
195.30	1.39	
196.80	0.80	
198.40	1.06	
200.00	3.87	
201.40	2.04	
202.60	5.10	
204.20	0.58	
205.90	0.20	
207.00	0.47	
208.40	0.84	
210.20	0.47	
210.90	0.43	
212.40	0.84	
213.80	2.37	
215.50	0.69	
216.40	0.71	
218.30	1.04	
219.70	0.67	
221.50	4.06	
222.80	2.14	
224.40	1.99	
226.00	0.45	
227.40	6.09	
229.10	5.39	
230.00	0.74	
231.80	5.43	
233.10	0.78	
234.50	0.82	
236.60	1.84	
238.50	1.46	
239.50	0.23	
240.60	6.84	

Meters	Susceptibility	Notes
242.40	0.09	
244.20	0.45	
245.40	0.64	
246.50	0.54	
248.00	0.54	
249.30	0.34	
250.40	1.04	
251.20	0.51	
253.30	0.23	
254.70	0.32	
256.70	7.33	
258.00	0.43	
259.40	1.07	
260.80	0.42	

Recovery for: R04-001

From	To	Meters	Meters Rec.	% Recovered	Comments
0.00	18.00	18.00	0.20	1.11	
18.00	23.20	5.20	1.25	24.04	
23.20	25.80	2.60	0.45	17.31	
25.80	27.70	1.90	1.70	89.47	
27.70	30.30	2.60	2.20	84.62	
30.30	33.40	3.10	2.30	74.19	
33.40	35.80	2.40	2.35	97.92	
35.80	38.40	2.60	2.50	96.15	
38.40	41.30	2.90	2.85	98.28	
41.30	44.30	3.00	3.05	101.67	
44.30	47.50	3.20	3.25	101.56	
47.50	50.60	3.10	3.10	100.00	
50.60	53.60	3.00	3.00	100.00	
53.60	56.70	3.10	3.05	98.39	
56.70	59.40	2.70	2.20	81.48	
59.40	60.20	0.80	0.75	93.75	
60.20	62.80	2.60	2.60	100.00	
62.80	65.80	3.00	2.85	95.00	
65.80	68.90	3.10	3.10	100.00	
68.90	71.90	3.00	3.00	100.00	
71.90	75.00	3.10	3.10	100.00	
75.00	78.00	3.00	3.00	100.00	
78.00	81.10	3.10	3.10	100.00	
81.10	82.40	1.30	1.30	100.00	
82.40	84.10	1.70	1.50	88.24	
84.10	87.20	3.10	3.10	100.00	
87.20	90.20	3.00	3.00	100.00	
90.20	93.30	3.10	3.00	96.77	
93.30	96.30	3.00	3.00	100.00	
96.30	99.40	3.10	3.10	100.00	
99.40	102.40	3.00	3.00	100.00	
102.40	105.50	3.10	3.10	100.00	
105.50	108.50	3.00	3.00	100.00	
108.50	111.60	3.10	3.10	100.00	
111.60	114.60	3.00	3.00	100.00	
114.60	117.70	3.10	3.05	98.39	
117.70	120.70	3.00	3.00	100.00	
120.70	123.70	3.00	3.00	100.00	
123.70	126.80	3.10	3.10	100.00	
126.80	129.80	3.00	2.95	98.33	
129.80	132.90	3.10	2.95	95.16	
132.90	135.90	3.00	3.10	103.33	
135.90	139.00	3.10	3.10	100.00	
139.00	142.00	3.00	3.00	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
142.00	145.10	3.10	3.10	100.00	
145.10	148.10	3.00	3.00	100.00	
148.10	151.20	3.10	3.10	100.00	
151.20	154.20	3.00	3.00	100.00	
154.20	157.30	3.10	3.10	100.00	
157.30	160.30	3.00	3.00	100.00	
160.30	163.40	3.10	3.10	100.00	
163.40	166.40	3.00	3.00	100.00	
166.40	169.50	3.10	3.10	100.00	
169.50	172.50	3.00	3.00	100.00	
172.50	175.60	3.10	3.10	100.00	
175.60	178.60	3.00	3.00	100.00	
178.60	180.30	1.70	1.65	97.06	
180.30	181.80	1.50	1.50	100.00	
181.80	184.70	2.90	2.85	98.28	
184.70	187.70	3.00	3.00	100.00	
187.70	190.80	3.10	3.05	98.39	
190.80	193.90	3.10	3.10	100.00	
193.90	196.90	3.00	3.00	100.00	
196.90	199.90	3.00	3.00	100.00	
199.90	203.00	3.10	3.05	98.39	
203.00	206.00	3.00	3.00	100.00	
206.00	209.10	3.10	3.10	100.00	
209.10	212.10	3.00	3.00	100.00	
212.10	215.20	3.10	3.10	100.00	
215.20	218.20	3.00	3.00	100.00	
218.20	221.30	3.10	3.10	100.00	
221.30	224.30	3.00	3.00	100.00	
224.30	227.40	3.10	3.10	100.00	
227.40	230.40	3.00	3.00	100.00	
230.40	233.50	3.10	3.10	100.00	
233.50	236.20	2.70	2.70	100.00	
236.20	239.30	3.10	3.00	96.77	
239.30	242.30	3.00	3.00	100.00	
242.30	244.00	1.70	1.50	88.24	
244.00	245.10	1.10	1.00	90.91	
245.10	246.30	1.20	1.10	91.67	
246.30	248.70	2.40	2.30	95.83	
248.70	251.80	3.10	3.10	100.00	
251.80	254.80	3.00	3.00	100.00	
254.80	257.90	3.10	3.10	100.00	
257.90	260.90	3.00	3.00	100.00	
	Total:		233.5		

Summary Log R04-002

Project: R-15

AT: 420905 E 6812419 N **Azimuth** 180 **Dip:** -60 **Total Length** 245.7 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	38.6	Overburden			
38.6	72.3	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
72.3	75.2	Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
75.2	76.8	Felsic Crystal Tuff			Marginal Grey Muscovite (Sericite) Alteration
76.8	78.0	Quartz Crystal-bearing Felsic Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
78.0	78.5	Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
78.5	80.6	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
80.6	82.5	Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
82.5	84.0	Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
84.0	84.5	Felsic Tuff			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
84.5	85.7	Felsic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
85.7	87.3	Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
87.3	94.4	Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
94.4	97.1	Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
97.1	102.5	Granular Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
102.5	110.2	Felsic Lapilli Tuff			
110.2	111.6	Granular Felsic Tuff			
111.6	119.8	Granular Felsic Tuff			
119.8	127.1	Re-sedimented/Epiclastic Tuff			
127.1	130.1	Feldspar Porphyry			
130.1	131.7	Re-sedimented/Epiclastic Tuff			
131.7	138.7	Feldspar Porphyry			
138.7	153.8	Felsic Lapilli Tuff			
153.8	163.2	Felsic Crystal Tuff			

163.2	166.8	Quartz Crystal-bearing Felsic Tuff		
166.8	169.8	Mafic Sill/Intrusive		
169.8	174.0	Quartz Crystal-bearing Felsic Tuff		
174.0	175.4	Interbanded Siltstone, Mudstone and Wacke		
175.4	181.9	Tuffaceous Wacke		
181.9	192.1	Interbanded Siltstone and Tuffaceous Wacke		
192.1	196.6	Tuffaceous Wacke		
196.6	197.7	Re-sedimented/Epiclastic Tuff		
197.7	202.9	Tuffaceous Wacke		
202.9	208.7	Interbanded Siltstone and Tuffaceous Wacke		
208.7	212.7	Tuffaceous Wacke		
212.7	218.4	Mafic Ash Tuff/Hyalotuff		
218.4	221.0	Tuffaceous Wacke		
221.0	230.2	Mafic Ash Tuff/Hyalotuff		
230.2	234.7	Tuffaceous Wacke		
234.7	241.7	Interbanded Siltstone and Tuffaceous Wacke		
241.7	243.4	Mafic Sill/Intrusive		
243.4	244.2	Interbanded Siltstone, Mudstone and Wacke		
244.2	245.7	Mafic Ash Tuff/Hyalotuff		

Hole_ID	**R04-002**	**Hole_Type**	Diamond	***Purpose/Comments***
x	420905	**Survey_Type**	Sperry Sun	strong Channel 3 UTEM conductor located at 2270 N on L 20900. Hole collared at 20900E 2419N. Conductor is part of a 700 meter strike length Ch3-5 conductor and is near coincident with a similar sized Amag/ground Mag anomaly. Conductor is interpreted to be dipping 30 degrees to the north.
y	6812419	**Drill_Type**	Fly 38	
z	1337	**Hole_Diamete**	NQ	
Azimuth	180	**Drill_Operator**	E Caron	
Dip	-60			
Total Length	245.7			
Location	Yukon	**StartDate**	05-Aug-04	
Grid	Grid 2	**EndDate**	08-Aug-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	180	-60.0
245.1	189	-56.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*	*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	38.6	**OVB** **Overburden** Boulder and cobble rich gravel till.									
38.6	72.3	**FTL** **Felsic Lapilli Tuff** Light grey, mixed interval of strongly foliated, muscovite-sericite-quartz granular tuff and lapilli tuff with trace-1% fine disseminated pyrite. Fine-grained granular tuff with occasional feldspar crystals (<2 mm) and more siliceous lapilli tuff with light grey to whitish quartz-feldspar? Lapilli set in a micaceous quartz matrix . Lapilli up to 7 mm flattened. Occasional quartz-feldspar crystals also.	R0422975	44.00	45.20	1.20					
			R0422976	45.20	46.70	1.50					
			R0422977	61.40	62.90	1.50					
			R0422978	65.80	67.30	1.50					
			R0422979	69.50	70.90	1.40					
			R0422980	70.90	72.30	1.40					

38.6 39.8 Granular Felsic Tuff

Light grey foliated granular felsic tuff with occasional whitish feldspar crystals (<2 mm) Foliation defined by quartz-rich bands and sericite-muscovite partings. Trace-2% fine disseminated pyrite.

39.5 0.0

Thin fault gouge and broken interval.

39.8 41.3 Felsic Lapilli Tuff

More siliceous foliated thin banded interval with abundant small <7 mm light grey to wh lapilli set in micaceous seams. Trace-2% disseminated pyrite and as late low angle fra fillings. Trace disseminated galena locally.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		39.8 0.0 Thin fault gouge.									
		41.3 43.9 Slightly more banded tuff with intervals of more siliceous lapilli-rich material and notice increasing fine biotite with sericite-muscovite bands and partings. Trace disseminated pyrite.									
		41.8 42.1 Broken and thin fault gouge.									
		43.9 44.0 Mafic Dyke or Sill Dark brown fine-grained biotite–calcite-quartz. Well foliated with sharp contacts.									
		44.0 44.8 Granular Felsic Tuff As above, but more micaceous and contains minor biotite. Trace sulphides; local thin "veinlets" sheared with disseminated pyrite-reddish sp and trace galena. ((sheared vei									
		44.6 44.8 Quartz chlorite-biotite-pyrite veins with 1-3% fine galena-sphalerite. Margins are musc altered with 1-2 mm biotite porphyroblasts and fine silica blebs with intergrown sp-ga-p									
		44.8 46.7 Felsic Lapilli Tuff Mixed granular tuff and lapilli-bearing tuff. Groundmass is fine-grained granular micas minor biotite with <1-3 mm light pink/red garnets developed throughout. Lapilli compri: grey to whitish flatted fragments <1 cm. Fine discontinuous quartz-garnet-pyrite-sphal galena sheared "veinlets" and matrix replacements are present locally with increased (sericite alteration and garnet development (i.e. 45.6-46.7 m). Sulphide content ranges 10%. Coarse siliceous lapilli present at 45.7-46.1 m with sulphide "veinlets and replac of matrix.									
		46.7 46.9 Mafic Dyke or Sill As above, biotite-calcite rich fine grained foliated with sharp contacts.									
		46.9 47.3 Granular Felsic Tuff Very siliceous banded to laminated and granular tuff with occasional fine whitish feldsp crystals up to 1.5 mm. Trace pyrite.									
72.3	75.2	**FT** **Felsic Tuff** Light grey to brownish grey, fine-grained granular, locally weakly calcareous (calcitic and patchy Fecarbonate alteration?) and biotitic felsic tuff with local quartz crystals (possibly									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		epiclastic tuff?). Unit is cut by thin quartz-calcite veins/veinlets and locally by late calcite veinlets with associated chlorite and minor fine blebby pyrite. Fine spotted (<1mm) chlorite porphyroblasts are present throughout. Unit contains trace-2% fine disseminated and occasional thin bands (veinlets) of pyrite and minor pyrrhotite. 75.2 76.8 Felsic Tuff									
75.2	76.8	**FTC Felsic Crystal Tuff** Gradational contact into light brownish grey non-calcareous and less biotitic fine tuff containing 5-15%, <1-1.5 mm light grey crystals (quartz?) in a muscovite-chlorite(?)+-biotite matrix with fine spotted (<1mm) chlorite porphyroblasts are present throughout. Unit contains trace-5% fine wispy/disseminated and occasional thin bands (veinlets) of pyrite and minor pyrrhotite. Gradational contact into...	R0422981	76.50	78.00	1.50					
76.8	78.0	**FTCZ Quartz Crystal-bearing Felsic Tuff** Light grey to brownish grey, sheared, soft, very fine-grained sericitic/muscovite-biotite+chlorite-quartz tuff with 10-25%, 1-4 mm rounded quartz crystals throughout. Sharp lower contact. 77.9 78.0 Increasing chlorite-biotite(randomly oriented - porphyroblastic?) alteration with dissemi sp-ga-po-py increasing towards 76.8 m.									
78.0	78.5	**OJ Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration** Semi-massive buckshot recrystallized pyrite (25-40%, <1-2 mm) with fine intergranular sphalerite-pyrrhotite and trace galena in a foliated granular biotite-chlorite-muscovite groundmass. Includes minor felsic tuff (quartz crystal-bearing tuff) and wispy laminated fine-grained pyrrhotitic massive sulphides (after buckshot pyrite??). Sharp lower contact. 78.2 78.3 Felsic Tuff Thin banded siliceous material with only minor-15% fine to medium-grained, S2 paralle 78.3 78.4 Wispy laminated, fine-grained pyrrhotite with relict pyrite (replacement after buckshot p subrounded indistinct chlorite (after albite porphyroblasts?) and minor contorted quartz chlorite vein sweats containing fine sphalerite-galena. 78.4 78.5 Semi-Massive Sulphides (40-60%) Back into buckshot textured semi-massive pyrite with lesser-trace galena-sphalerite.	R0422982	78.00	78.50	0.50	0.09	3.75	6.33	55.9	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
78.5	80.6	**FTL** **Felsic Lapilli Tuff** Similar to 61.4-63.8 m interval. Light grey unit comprising mottled to irregular light grey to whitish siliceous (felsic flow?) fragments set in a more foliated, fine-grained micaceous (muscovite-sericite-Fecarbonate(?)-biotite) quartz matrix. Between 5-10% medium to coarse-grained pyrite occurs as coarse disseminations with associated biotitic rims and wispy seams. Light grey to clear siliceous fragments (deformed quartz vein??) contains fine-medium-grained sphalerite(2-3%)+galena(tr-1%)-pyrite. Pyrrhotite appears near lower contact; sulphides occur more as vague stringer-type mineralization (10-15% sp-ga-py) over 80.1-80.6 m. Conductivity drops off sharply with distance between wisp po bands.	R0422984	78.50	80.60	2.10	0.02	0.95	1.17	12.5
80.6	82.5	**OJ** **Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration** Mixed interval including semi-massive pyrrhotitic sulphides, weakly and strongly mineralized siliceous tuff, moderate chlorite-biotite alteration (possible patchy sericite-Fecarbonate? Alteration), quartz chlorite-biotite veins and minor chlorite-biotite gouge. Conductivity drops off sharply with increased distance along core axis.	R0422985	80.60	82.50	1.90	0.11	4.15	6.13	43.3
		80.6 80.9 Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration Semi-massive fine-grained pyrrhotite(sphalerite?) with disseminated sphalerite-galena set in a strongly chlorite(after albite porphyroblasts?)-biotite groundmass with occasior small (<1-3 mm) garnet porphyroblasts.								
		80.9 81.1 Felsic Tuff Banded siliceous felsic tuff cut by a thin (3.5 cm) biotite vein containing few % fine pyr Tuff is granular, siliceous with disseminated S2 parallel biotite and 3-20% fine dissemi to streaky bands (veinlets) of pyrrhotite-pyrite-galena-sphalerite-chlorite-biotite.								
		81.1 81.2 Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist Similar to above; very fine streaky to fracture and S2 parallel intergrown pyrrhotite(sphalerite?) impregnating zone of strong chlorite-biotite alteration with heavy disseminated sphalerite-galena+pyrite(pyrrhotite is replacing buckshot pyrite).								
		81.2 81.3 Fault Dark green to brown gouged chlorite-biotite altered rock. Sharp contacts.								

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		81.3 81.7 Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration As above; but crudely banded defined by fine-medium-grained strong biotite-chlorite al rock and heavily disseminated sulphides to fine semi-massive pyrrhotitic sulphides.									
		81.7 81.9 Quartz Vein Thin quartz+chlorite veins with strong biotitic margins and remobilized minor blebby sphalerite-pyrrhotite-galena.									
		81.9 82.2 Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration As above; includes buckshot pyrite with sphalerite-galena and seams of very fine inter pyrrhotite(sphalerite?) with strong chlorite-biotite alteration.									
		82.2 82.5 Felsic Tuff Granular to thin banded micaceous quartz tuff with abundant S2 parallel sulphide-silica bands (veins?) and heavy disseminations. Sulphides comprise 20-35% buckshot pyri sphalerite-galena and lesser pyrrhotite Possible rare white feldspar crystals (<1.5 mm present locally. Sharp lower contact.									
82.5	84.0	**FT** **Felsic Tuff** Light greenish grey laminated to thin banded, sericite+chlorite altered granular felsic tuff to lapilli tuff with trace-5% disseminated fine to medium-grained pyrite. Contains siliceous lapilli near base. Conductivity drops off sharply over centimetric intervals between py grains.	R0422986	82.50	84.00	1.50					
84.0	84.5	**FT** **Felsic Tuff** Strongly sheared/foliated and biotite-chlorite altered interval with 5-10% streaky pyrite-pyrrhotite+chalcopyrite+sphalerite-galena and siliceous "lenses"/patches (bands/vein fragments?) with remobilized chalcopyrite and minor galena.	R0422987	84.00	84.50	0.50					
84.5	85.7	**FT** **Felsic Tuff** Moderate to strongly muscovite-sericite altered tuff overprinted by chlorite-feldspar-silica-calcite patchy/irregular veins with biotitic margins and remobilized pyrite-pyrrhotite-chalcopyrite. Unit becomes increasingly pyrrhotitic+pyritic towards lower contact.	R0422988	84.50	85.70	1.20					
85.7	87.3	**OI** **Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist**									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Strongly chlorite-biotite altered (local chlorite after porphyroblastic albite?) tuff with S2 parallel streaky pyrrhotite-pyrite and fine to blebby sphalerite-galena often associated with more siliceous intervals/patches. Thin intervals of very fine intergrown pyrrhotite(sphalerite?) with chalcopyrite-pyrite streaky disseminations at 87.2 m. Rare quartz crystals at 86.9 m	R0422989	85.70	87.30	1.60	0.25	2.47	3.27	19.6	
87.3	94.4	**FT** **Felsic Tuff** Similar to 82.5-84.0 m interval. Light greenish grey laminated to thin banded, sericite-muscovite-(chlorite?)-quartz granular felsic tuff (possible lapilli locally) containing trace-20% fine wispy disseminated pyrrhotite-pyrite and minor galena-sphalerite-rare chalcopyrite. Thin silica-pyrite-sphalerite-galena bands (veinlets?) present throughout. Few quartz-calcite-chlorite veins with remobilized pyrrhotite-pyrite are present. Locally, where fine-grained, unit has the appearance of the GP4F hanging wall pyritic tuff. More biotitic and slightly calcareous over lower 60 cms. 87.8 87.9 Mafic Dyke or Sill As above. Unmineralized, biotitic+calcitic-chlorite and sharp contacts. 89.6 92.0 Possible felsic lapilli tuff interval. 92.0 94.4 Thin banded, darker sericite-chlorite altered felsic tuff with 10-20% fine disseminated a stringer sulphides. 92.8 93.5 Mafic Dyke or Sill White calcite veins and dark biotitic mafic dyke with sharp contacts.	R0422990 R0422991 R0422992 R0422993	87.30 88.80 90.80 93.50	88.80 90.80 92.80 95.50	1.50 2.00 2.00 2.00					
94.4	97.1	**OI** **Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist** Similar to above felsic tuff. Fine granular quartz-chlorite-biotite+sericite-calcite tuff with 10-35% fine to medium-grained pyrrhotite (minor pyrite) and minor disseminated to blebby remobilized chalcopyrite-galena. Local strong conductivityover decimetric intervals. 94.4 95.5 Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist Fine granular quartz-chlorite-biotite+sericite-calcite tuff with 10-35% fine to medium-gr pyrrhotite (minor pyrite) and minor disseminated to blebby remobilized chalcopyrite-ga Strong conductivity over decimetric intervals near the 95 m mark.	R0422994	96.40	97.10	0.70	0.13	0.55	2.58	8.8	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		95.5 96.4 Felsic Tuff									
		Fine-grained granular tuff to siliceous tuff (lapilli tuff?) with 3-8% fine disseminated pyrrhotite+chalcopyrite.									
		96.4 97.1 Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist									
		As above. Granular, slightly coarser grained, weakly biotitic and calcareous and conta heavy pyrrhotite disseminations and semi-massive streaky mineralization with lesser sphalerite+galena-chalcopyrite over lower 30 cms. Strong sericite-chlorite+biotite alte									
97.1	102.5	**FTG Granular Felsic Tuff**									
		Thick package of light greenish grey to light grey, fine-grained granular tuff and siliceous ribboned tuff (locally strongly folded/contorted and disrupted to form "lapilli"??). Tuffs contain 3-5% pyrrhotite and tr-2% pyrite disseminations throughout. Local thin pyrite-silica-sphalerite veinlets are present, as are thin late massive pyrrhotite veinlets with lesser sphalerite+galena-chalcopyrite (i.e. 102.2, 102.4 m). Thin mafic dyke at 100.0 m.									
102.5	110.2	**FTL Felsic Lapilli Tuff**									
		Similar to above siliceous ribboned tuffs but more fragmental textures (increasingly deformed?) throughout. Similar 3-5% pyrrhotite and tr-2% pyrite disseminations throughout. Local thin pyrite-silica-sphalerite veinlets are present, as are thin late massive pyrrhotite veinlets with lesser sphalerite+galena-chalcopyrite (i.e. 102.6 m).									
110.2	111.6	**FTG Granular Felsic Tuff**									
		As above; thin banded granular felsic tuff; locally broken.									
111.6	119.8	**FTG Granular Felsic Tuff**									
		Similar to above, but dominated by fine-grained granular tuff. Local intervals of more siliceous ribboned tuff, as above. Sulphide content (pyrrhotite=pyrite) decreases to tr-3% below ~113.6 m.									
		116.9 117.2 Fault									
		Broken zone with thin fault gouge.									
119.8	127.1	**ET Re-sedimented/Epiclastic Tuff**									
		Fine-grained medium greenish grey to light brownish grey, generally massive sericite-quartz-chlorite-biotite re-sedimented tuff to felsic tuff with rare feldspar crystals and									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

occasional quartz-calcite veinlets/bands.

120.9 121.2 Mafic Dyke or Sill

Also 123.2-123.4 m.

121.2 122.5

Increased pyrrhotite content as 10-15% disseminations.

122.9 123.1 Mafic Dyke or Sill

As above.

124.4 126.3

Increased sericite+-chlorite alteration due to irregular deformed quartz+calcite vein wit 20% sphalerite-pyrrhotite. Quartz-pyrrhotite veins also at 125.7 and 126.0 m.

126.3 126.8 Feldspar Porphyry

see below.

127.0 127.1 Mafic Dyke or Sill

127.1 130.1 **FP** **Feldspar Porphyry**

Siliceous, massive, light grey to white porphyry with muscovite-sericite+biotite partings defining S2 foliation. Feldspars comprise 30-60% of the rock and are cloudy white (intergrown with quartz) subrounded with diffuse edges - only minor feldspars appear as good euhedral phenocrysts. Sulphide content is relatively low (trace-3%) disseminated pyrrhotite. Thin quartz-pyrrhotite vein at 128.5 m. Thin mafic dyke/sill at 129.7 m. Lower contact is a sheared vein.

128.4 129.0 Quartz Crystal-bearing Felsic Tuff

Quartz bearing felsic tuff containing 15-25%, 2-4 mm light grey to slightly bluish grey q crystals in a fine-grained muscovite-sericite-quartz+biotite matrix.

130.1 131.7 **ET** **Re-sedimented/Epiclastic Tuff**

As above. Medium grey, fine-grained massive, granular, sericite-quartz-chlorite-biotite re-sedimented tuff (possible quartz wacke) with trace-1% fine disseminated pyrrhotite.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
131.7	138.7	**FP** **Feldspar Porphyry** As above. Light grey to white, very siliceous porphyry with vague/diffuse phenocrysts. Rare smaller quartz phenocrysts. Porphyry becomes more muscovite-rich over lower 1.5 m with slight increase in Pyrrhotite content. Occasional thin silica-pyrrhotite veinlets. 132.4 132.9 Re-sedimented/Epiclastic Tuff Fine-grained epiclastic tuff, as above, and thin biotitic dyke. Lower contact is a 10 cm vein. 135.8 136.4 Re-sedimented/Epiclastic Tuff As above.									
138.7	153.8	**FTL** **Felsic Lapilli Tuff** Massive, light to medium brown grey felsic lapilli tuff (epiclastic tuff?) containing 5-25% light grey, siliceous lapilli (2-12 mm, flattened) in a fine granular quartz-biotite-sericite+chlorite matrix. Sulphides comprise trace-3% fine disseminated to streaky pyrrhotite. Unit is cut by locally abundant calcite+quartz veins and biotite-chlorite-quartz veins/alteration "bands". Lower contact is gradational over 10 cms. 146.3 146.8 Quartz Vein White quartz-calcite+chlorite-biotite veins. 146.8 148.9 Re-sedimented/Epiclastic Tuff Mixed interval of finer-grained epiclastic tuff, as above, and broken white quartz veins · biotitic wacke (mafic dykes/sills). 148.4 148.9 Mafic Dyke or Sill 148.9 149.4 Feldspar Porphyry Light grey to white siliceous feldspar porphyry, as above.									
153.8	163.2	**FTC** **Felsic Crystal Tuff** Light greenish grey, fine-grained granular sericite-muscovite-quartz (fine quartz crystal fragment-rich) felsic tuff containing trace-2% fine disseminated pyrrhotite. Occasional fine (1-2 mm) grey to bluish grey quartz crystals appear at about 155.7 m; local thin crystal-rich interbeds/bands and increasing crystal size to 3 mm towards gradational contact into underlying quartz crystal tuff; rare <2 mm whitish feldspar crystals also. 155.0 155.4 Mafic Sill/Intrusive									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

Thin zone of banded fine to medium-grained quartz-chlorite(locally after mafic mineral: biotite grading into more massive fine to medium intergrown biotite-chlorite rock with tr 2% fine pyrrhotite. Mafic tuff?? Or metasediments?? Sharp biotitic lower contact.

156.5 157.3 Mafic Sill/Intrusive

As above, medium to locally coarse-grained chlorite after amphibole(??) intergrown wi coarse biotite - almost a gabbroic textured rock. Margins are finer grained biotitic and foliated. Unit itself is relatively unfoliated of foliated but metamorphic overprinted? Sha upper and lower contacts.

163.2 166.8 **FTCZ** **Quartz Crystal-bearing Felsic Tuff**

Tan to light brownish grey, biotitic quartz crystal tuff (epiclastic tuff?) containing intervals with 25-35% subrounded grey quartz crystals 2-7 mms in size in a quartz-biotite+chlorite-sericite matrix. Locally grades in and out with more massive granular quartz-feldspar-crystal bearing tuffs. Feldspars are whitish and up to 2 mm in size. Unit is a coarser version of the overlying granular tuff noted above. Low sulphide content (tr-1% pyrrhotite locally).

163.8 164.5 Mafic Dyke or Sill

Dark brownish green coloured intergrown to banded biotite-chlorite+quartz-calcite mafi dyke/sill with sharp upper and lower biotitic margins.

166.8 169.8 **MI** **Mafic Sill/Intrusive**

Medium green, massive, homogenous medium-grained chlorite-biotite+quartz mafic intrusive sill; as noted above. Trace-nil sulphides.

169.8 174.0 **FTCZ** **Quartz Crystal-bearing Felsic Tuff**

As above. Upper contact is folded and weakly sheared/gouged with mafic sill. Unit is more light pinkish brown coloured and more feldspathic. Locally cut by narrow calcite veinlets and quartz+calcite veins with trace-1% galena-sphalerite (i.e. 171.5 m).

173.6 173.8 Quartz Vein

White quartz veins with strong chlorite-biotite alteration margins and trace-1% very fine blebby disseminated galena-sphalerite.

173.8 174.0

Chlorite-biotite alteration and associated diffuse quartz veins with 1-3% fine-grained disseminated galena-sphalerite.

174.0 175.4 **SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke**

Medium (to dark) grey, thin interbanded/bedded fine-grained sandstone/siltstones with minor argillaceous biotitic partings/seams (wackes?). Unit is cut by several quartz veins with chlorite-biotite alteration halos. Gradational but sharp lower and upper contacts.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

Trace sulphides.

175.4 181.9 **TSK** **Tuffaceous Wacke**

Medium to light brown to green, relatively massive granular, fine-grained biotitic wacke/tuffaceous wacke overprinted by banded to discontinuous patchy chlorite+calcite-quartz+feldspar(?) giving the unit a strongly mottled appearance. Do not think this is a mafic dyke/sill - relatively quartz-rich - possibly feldspathic(?).

181.9 192.1 **SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke**

Medium (to dark) grey, thin interbanded/bedded fine-grained sandstone/siltstones with minor argillaceous biotitic partings/seams; as above. Local intervals of more biotitic quartz wacke and possible mafic tuffaceous intervals.

183.7 184.9 Quartzite

Several thin the medium bedded massive, laminated quartzite with occasional <1 mm spots and trace pyrrhotite disseminations.

186.6 187.2 Felsic Tuff

Silceous banded and weakly biotitic tuff/epiclastic tuff with possible crystals.

187.2 188.8 Mafic Ash Tuff/Hyalotuff

Mixed chloritic-biotitic interval (MD??).

189.2 0.0

Possible thin quartz grit interbed with trace-3% fine pyrrhotite adjacent to quartz+calcit

189.5 190.6 Felsic Tuff

Light greenish grey fine-grained tuff (quartzite to grit) with possible lapilli near base.

190.9 191.5 Mafic Sill/Intrusive

Mafic intrusive, as above, or mottled chlorite-biotite-rich mafic tuff??

191.5 192.1 Felsic Tuff

Light grey siliceous feldspar-bearing tuffaceous sandstone (arkose??). White feldspar <2 mm.

192.1 196.6 **TSK** **Tuffaceous Wacke**

As above. Medium to dark brown biotitic wacke/tuffaceous wacke to slight greyish, more siliceous quartz tuff (wacke/sandstone?) overprinted by banded to discontinuous patchy

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

chlorite+calcite-quartz+feldspar(?) giving the unit a strongly mottled appearance.

196.6 197.7 **ET** **Re-sedimented/Epiclastic Tuff**

Similar to above unit; medium grey to brownish grey, but more massive and siliceous (less biotitic) epiclastic re-sedimented tuff. Gradational upper and lower contacts.

197.7 202.9 **TSK** **Tuffaceous Wacke**

As above. Medium to dark brown biotitic wacke to slight greyish, more siliceous quartz wacke/sandstone(?) overprinted by banded to discontinuous patchy chlorite+calcite-quartz giving the unit a strongly mottled appearance. Gradational lower contact.

202.9 208.7 **SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke**

As above, more thin banded/bedded(?) in character; local isoclinal folding of thin bedded sediments is evident (i.e. 206.7, 207.1 m). Still medium grey borwnsih grey and siliceous. Thin chloritic mafic tuffaceous intervals are present.

205.7 206.5 Mafic Ash Tuff/Hyalotuff

Dark to medium green chlorite+calcite, strongly foliated, relatively massive mafic tuff(? Local biotitic bands and siliceous sediments between 206.0-206.3 m.

208.7 212.7 **TSK** **Tuffaceous Wacke**

Similar to above. Less patchy chlorite-calcite+quartz+feldspar(?) overprint but occasional quartz-calcite-chlorite+bitoite-pyrrhotite veins/veinlets are present. Gradational contacts.

208.3 208.8 Felsic Dyke or Sill

Fine-grained , massive siliceous, weakly porphyritic quartz-feldspar+-biotite dyke.

212.7 218.4 **MT** **Mafic Ash Tuff/Hyalotuff**

Thin banded to more massive fine-grained chloritic mafic metavolcanic (flow/tuff?) with distinctive fine black biotite porphyroblasts. Minor biotitic tuffaceous wacke.

217.8 218.4 Banded Mafic Ash Tuff

Thin laminated mafic tuffaceous material with some siliceous clastic component. Brok interval.

218.4 221.0 **TSK** **Tuffaceous Wacke**

As above.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
221.0	230.2	**MT Mafic Ash Tuff/Hyalotuff** Banded to more massive mottled mafic metavolcanic (tuff or flow?) comprising fine-grained intergrown chlorite-biotite-possible mafic mineral(?)-quartz(?)-trace epidote(??) overprinted by late medium-coarse biotite replacing earlier chlorite+calcite-biotite alteration. Quartz-calcite+pyrrhotite-biotite veins are present as are possible dark green grey-black amphibole(?) prorphyroblasts. Spotted fine biotite porphyroblasts are found throughout. Low sulphide content; tr-1% disseminated pyrrhotite; blebby pyrrhotite in veins/veinlets.									
230.2	234.7	**TSK Tuffaceous Wacke** Mixed interval of more siliceous and biotitic wacke and quartz wacke and chloritic mafic intervals (tuff?) with biotitie porpyroblasts (as seen above). Locally abundant quarzt veins and minor late, thin calcite veinlets.									
234.7	241.7	**SI/TSK Interbanded Siltstone and Tuffaceous Wacke** Medium brown grey to dark grey, more banded interval comprising predominantly biotitic to siliceous siltstone/sandstone(?) and mixed wacke/quartz wacke with lesser mafic tuffaceous material(?). Trace-5% fine to wispy disseminated pyrrhotite throughout.									
241.7	243.4	**MI Mafic Sill/Intrusive** Dark green, massive fine-grained intergrown chlorite-biotite- quartz(?) mafic dyke/sill cut by several narrow light grey felsic dykes(?) at 241.7, 242.1-242.3, 243.0 m.									
243.4	244.2	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Dark grey, thin bedded/banded folded/sheared siliceous siltstone, similar to above.									
244.2	245.7	**MT Mafic Ash Tuff/Hyalotuff** Similar to above, biotitic and chloritic crudely banded mafic tuffaceous material.									

Assay Report

HOLE #: R04-002

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
44.00	45.20	R0422	5026	1.20	2812	2865					
45.20	46.70	R0422	5027	1.50	7114	5179					
61.40	62.90	R0422	5028	1.50	6575	3078					
65.80	67.30	R0422	5029	1.50	9770	3643					
69.50	70.90	R0422	5030	1.40	4012	2250					
70.90	72.30	R0422	5031	1.40	2044	1332					
76.50	78.00	R0422	5032	1.50	2663	1312					
78.00	78.50	R0422	5033	0.50	65040	32460	0.09	3.75	6.33	55.9	
78.50	80.60	R0422	5035	2.10	17710	11180	0.02	0.95	1.17	12.5	
80.60	82.50	R0422	5036	1.90	64400	40430	0.11	4.15	6.13	43.3	
82.50	84.00	R0422	5037	1.50	1274	524					
84.00	84.50	R0422	5038	0.50	4035	4594					
84.50	85.70	R0422	5039	1.20	8003	256					
85.70	87.30	R0422	5040	1.60	33930	26790	0.25	2.47	3.27	19.6	
87.30	88.80	R0422	5041	1.50	2370	1372					
88.80	90.80	R0422	5042	2.00	3392	2219					
90.80	92.80	R0422	5043	2.00	6312	3353					
93.50	95.50	R0422	5044	2.00	6360	2400					
96.40	97.10	R0422	5045	0.70	27150	5329	0.13	0.55	2.58	8.8	

Mag Susceptibility Log

Collar_Hole_ID	R04-002	**Project**	R-15	**Total Length**	245.7
Azimuth	180	**Dip**	-60.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
39.00	0.05		102.00	7.55	
42.20	0.98		104.00	0.93	
43.50	0.43		106.00	5.18	
45.00	0.10		108.00	1.24	
47.50	0.21		110.00	2.92	
50.00	0.36		112.00	2.19	
52.10	0.58		114.00	2.94	
55.50	1.04		116.00	0.12	
58.20	0.84		118.00	0.64	
60.00	3.33		120.00	0.96	
62.00	1.97		122.00	22.60	
64.00	12.60		124.00	0.49	
66.00	0.10		126.00	0.07	
68.00	1.00		128.00	0.58	
70.00	4.30		130.00	2.65	
72.00	1.24		132.00	0.43	
74.00	1.97		134.00	0.20	
76.00	0.36		136.00	0.20	
78.00	6.00		138.00	0.96	
80.00	0.01		140.00	0.60	
82.00	11.20		142.00	2.42	
84.00	11.90		144.00	0.07	
88.00	20.70		146.00	1.07	
90.00	6.27		148.00	9.07	
92.00	3.91		150.00	0.14	
94.00	22.80		152.00	1.35	
96.00	12.00		154.00	0.91	
98.00	10.00		156.00	0.80	
100.00	3.67		158.00	1.68	

Meters	Susceptibility	Notes
160.00	0.49	
162.00	0.62	
164.00	0.40	
166.00	0.01	
168.00	0.49	
170.00	0.03	
172.00	0.01	
174.00	0.27	
176.00	2.83	
178.00	0.12	
180.00	0.10	
182.00	0.18	
184.00	0.21	
186.00	0.20	
188.00	0.36	
190.00	0.07	
192.00	1.37	
194.00	0.16	
196.00	0.12	
198.00	0.25	
200.00	0.43	
202.00	0.12	
204.00	0.10	
206.00	0.29	
208.00	0.71	
210.00	0.38	
212.00	0.84	
214.00	1.50	
216.00	0.31	
218.00	0.58	
220.00	0.36	
222.00	0.62	
224.00	0.42	
226.00	0.40	
228.00	0.42	
230.00	0.96	
232.00	0.31	
234.00	1.42	
236.00	1.06	
238.00	1.39	
240.00	0.58	
242.00	0.31	
244.00	0.18	
245.70	0.34	

Recovery for: R04-002

From	To	Meters	Meters Rec.	% Recovered	Comments
0.00	38.10	38.10			
38.10	39.80	1.70	0.60	35.29	
39.80	41.00	1.20	0.90	75.00	
41.00	42.10	1.10	0.60	54.55	
42.10	43.10	1.00	0.75	75.00	
43.10	44.80	1.70	1.60	94.12	
44.80	47.50	2.70	2.70	100.00	
47.50	50.60	3.10	3.10	100.00	
50.60	53.60	3.00	3.00	100.00	
53.60	56.70	3.10	3.10	100.00	
56.70	59.70	3.00	3.00	100.00	
59.70	62.80	3.10	3.10	100.00	
62.80	65.80	3.00	3.00	100.00	
65.80	68.90	3.10	3.10	100.00	
68.90	71.90	3.00	3.00	100.00	
71.90	75.00	3.10	3.10	100.00	
75.00	78.00	3.00	3.00	100.00	
78.00	81.10	3.10	3.10	100.00	
81.10	84.10	3.00	3.00	100.00	
84.10	87.20	3.10	3.10	100.00	
87.20	90.20	3.00	3.00	100.00	
90.20	93.30	3.10	3.10	100.00	
93.30	95.70	2.40	2.30	95.83	
95.70	96.30	0.60	0.50	83.33	
96.30	99.40	3.10	3.00	96.77	
99.40	102.40	3.00	3.00	100.00	
102.40	105.50	3.10	3.10	100.00	
105.50	108.50	3.00	3.00	100.00	
108.50	111.60	3.10	3.10	100.00	
111.60	114.60	3.00	3.00	100.00	
114.60	115.10	0.50	0.50	100.00	
115.10	117.70	2.60	2.50	96.15	
117.70	120.70	3.00	3.00	100.00	
120.70	123.70	3.00	3.00	100.00	
123.70	126.80	3.10	3.10	100.00	
126.80	129.80	3.00	3.00	100.00	
129.80	132.90	3.10	3.10	100.00	
132.90	135.90	3.00	3.00	100.00	
135.90	139.00	3.10	3.10	100.00	
139.00	142.00	3.00	3.00	100.00	
142.00	145.10	3.10	3.10	100.00	
145.10	148.10	3.00	3.00	100.00	
148.10	151.20	3.10	3.10	100.00	
151.20	154.20	3.00	3.00	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
154.20	157.30	3.10	3.10	100.00	
157.30	160.30	3.00	3.00	100.00	
160.30	163.40	3.10	3.10	100.00	
163.40	166.40	3.00	3.00	100.00	
166.40	169.50	3.10	3.10	100.00	
169.50	172.50	3.00	3.00	100.00	
172.50	175.60	3.10	3.10	100.00	
175.60	178.60	3.00	3.00	100.00	
178.60	181.70	3.10	3.10	100.00	
181.70	185.20	3.50	3.50	100.00	
185.20	187.80	2.60	2.60	100.00	
187.80	190.80	3.00	3.00	100.00	
190.80	193.90	3.10	3.10	100.00	
193.90	196.90	3.00	3.00	100.00	
196.90	199.90	3.00	3.10	103.33	
199.90	203.00	3.10	3.00	96.77	
203.00	206.00	3.00	3.10	103.33	
206.00	209.10	3.10	3.00	96.77	
209.10	210.50	1.40	1.40	100.00	
210.50	213.40	2.90	1.90	65.52	
213.40	215.20	1.80	1.80	100.00	
215.20	218.10	2.90	2.90	100.00	
218.10	221.30	3.20	3.20	100.00	
221.30	224.30	3.00	3.00	100.00	
224.30	227.40	3.10	3.10	100.00	
227.40	230.40	3.00	3.00	100.00	
230.40	233.50	3.10	3.10	100.00	
233.50	236.50	3.00	3.00	100.00	
236.50	239.60	3.10	3.10	100.00	
239.60	242.60	3.00	3.00	100.00	
242.60	245.70	3.10	3.10	100.00	
	Total:		203.95		

Summary Log R04-003

Project: R-15

AT: 423197 E 6809645 N **Azimuth** 270 **Dip:** -60 **Total Length** 187.8 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	55.5	Overburden			
55.5	67.8	Mafic Ash Tuff/Hyalotuff			
67.8	72.1	Mafic Dyke or Sill			
72.1	73.5	Felsic Dyke or Sill			
73.5	74.3	Mafic Dyke or Sill			
74.3	80.1	Mafic Ash Tuff/Hyalotuff			
80.1	83.1	Mafic Dyke or Sill			
83.1	89.3	Mafic Ash Tuff/Hyalotuff			
89.3	92.3	Felsic Dyke or Sill			
92.3	94.4	Mafic Ash Tuff/Hyalotuff			
94.4	104.6	Mafic Ash Tuff/Hyalotuff			
104.6	107.5	Quartz Vein			
107.5	110.8	Mafic Ash Tuff/Hyalotuff			
110.8	115.1	Felsic Dyke or Sill			
115.1	120.8	Tuffaceous Wacke			
120.8	123.2	Interbanded Siltstone, Mudstone and Wacke			
123.2	123.7	Tuffaceous Wacke			
123.7	124.6	Mafic Dyke or Sill			
124.6	124.8	Tuffaceous Wacke			
124.8	125.5	Re-sedimented/Epiclastic Tuff			
125.5	127.0	Mafic Dyke or Sill			
127.0	127.4	Re-sedimented/Epiclastic Tuff			
127.4	129.3	Interbanded Siltstone, Mudstone and Wacke			
129.3	129.6	Fault			
129.6	129.9	Argillite/Phyllitic Argillite			
129.9	148.4	Interbanded Siltstone, Mudstone and Wacke			
148.4	154.3	Felsic Intrusive			
154.3	164.3	Tuffaceous Wacke			
164.3	165.9	Felsic Intrusive			
165.9	170.4	Tuffaceous Wacke			
170.4	187.8	Felsic Intrusive			

Hole_ID	**R04-003**	**Hole_Type**	Diamond	***Purpose/Comments***
x	423197	**Survey_Type**	Sperry Sun	1000m+ long Channel 4 UTEM conductor located at 3090E at L9650N. Hole collared at 9650N 3200E. Conductor is interpreted to be dipping E. Outcrops to the east indicate a north dip but an anticlinal structure is present that may cause eastern dips in the area of the drill hole. The conductor parallels and is locally associated with a linear magnetic high.
y	6809645	**Drill_Type**	Fly 38	
z	1437	**Hole_Diamete**	NQ	
Azimuth	270	**Drill_Operator**	E Caron	
Dip	-60			
Total Length	187.8			
Location	Yukon	**StartDate**	07-Sep-04	
Grid	Grid 5	**EndDate**	13-Sep-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	270	-60.0
187.1	273	-59.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*	*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	55.5	**OVB** **Overburden** Triconed to 55.5 m.									
55.5	67.8	**MT** **Mafic Ash Tuff/Hyalotuff** Medium to dark green, fine-grained, massive to weakly banded (transposed S1 parallel S2) chloritic mafic tuff and possible flow with trace-15% very fine disseminated (seams) to weakly porphyroblastic biotite throughout. Unit is non to very weakly calcareous and cut by occasional late calcite+-quartz veinlets. Trace-1% fine pyrite disseminations and on late fractures. Several thin felsic dykes cut the unit above 60.2 m.									
		55.6 56.0 Felsic Dyke or Sill Very fine-grained, light grey, siliceous and crudely thin banded massive felsic dyke wit quartzofeldspathic groundmass and minor biotite+-chlorite disseminations appearing a vague wispy bands and intergranular "spots". Cut by occasional calcite-quartz fracture Sharp contacts. Trace-nil very fine pyrite.									
		56.0 56.2 Fault Thin gouged mafic volcanic with biotite developed adjacent to felsic dykes.									
		56.2 56.4 Felsic Dyke or Sill As above.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

56.4 60.5 Mafic Dyke or Sill

Relatively massive, fine-grained chloritic mafic dyke/sill or flow/tuff(?) with fine biotite porphyroblasts.

56.9 57.0 Felsic Dyke or Sill

As above.

57.3 57.9 Felsic Dyke or Sill

Light to medium grey, siliceous massive very fine-grained aphanitic felsic dyke (very m biotite-chlorite), as above, but with 1-2% light pinky red garnets (<3 mm) and 1-3% ver diiseminated pyrite. Rare whitish feldspar phenocrysts (<1 mm) are locally present. L contact is weakly sheared with minor quartz-calcite veinlets and is notably more chlorit biotitic over lower 20 cms (porphyroblastic to altering prior mafic phenocrysts??).

58.3 58.7 Felsic Dyke or Sill

Similar to previous banded aphanitic dykes with no garnet porphyroblasts. Trace-nil p

58.8 59.0 Felsic Dyke or Sill

Masive siliceous aphanitic dyke with sharp contacts, as above.

59.3 60.2 Felsic Dyke or Sill

As above, siliceous aphanitic felsic dyke with chilled sharp margins. Cut by late quartz veinlets and a quartz-chlorite-biotite vein.

60.5 62.9 Mafic Ash Tuff/Hyalotuff

Slightly finer grained, less massive to vaguely banded, more chloritic interval with minc disseminated to weakly bnaded biotite. Trace-minor fine calcite. Gradtional lower con into...

62.9 66.7 Mafic Ash Tuff/Hyalotuff

Slightly more massive and coarser grained tuff with possible light yellow-greenish grey (weakly epidotized) lapilli fragments (and/or altered feldspar crystals?) up to 1 cm. Loc still fine banded to laminated tuff. Locally cut by abundant calcite-quartz veinlets and overprinted by irregular patchy chlorite-quartz-calcite alteration between 65.9-66.4 m.

66.7 67.8 Mafic Ash Tuff/Hyalotuff

As above, crudely banded finer grained mafic tuff.

67.8 72.1 **MD** **Mafic Dyke or Sill**

Massive fine-grained homogenous mafic dyke/sill or flow(?) with trace-1% fine to patchy fine disseminated pyrite; and also in late calcite-pyrite fractures. Becomes coarser grained and biotite rich adjacent to felsic dykes.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		68.9 69.4 Felsic Dyke or Sill As above, banded aphanitic to vaguely porphyritic textures with sharp contacts. Late chalcopyrite-pyrite vienlets and vein-related disseminations (3-8%) over 1-2 cms at up contact.									
		69.4 72.1 As above. Mafic flow/dyke(?) becomes coarser grained with increased calcitic and bio spots toward the felsic dyke contact.									
72.1	73.5	**FD** **Felsic Dyke or Sill** Light to medium grey, siliceous massive very fine-grained aphanitic felsic dyke with minor biotite (+-chlorite) and trace-1% light pinky red garnets (<3 mm). Trace-2% very fine diiseminated pyritei spresent; also in fractures. Rare whitish feldspar phenocrysts (<2 mm) are locally present. Contacts are sharp.									
73.5	74.3	**MD** **Mafic Dyke or Sill** As above, becoming coarser grained, quartz+-calcite veined and biotite porphyroblastic adjacent to the upper dyke contact. Gradational, vague lower contact.									
74.3	80.1	**MT** **Mafic Ash Tuff/Hyalotuff** Medium to dark green, fine-grained, massive to weakly banded, very chloritic mafic tuff (as above) and possible flow/dyke. Crude banding defined by varying biotite content and grain size. Trace-2% throughout. Unit is non to very weakly calcareous and cut by abundant late calcite+-quartz veinlets. Trace-1% fine pyrite disseminations and on late fractures. Unit also cut by several thin felsic dykes. Fine chlorite+-biotite, massive biotite and patchy/vein-related chlorite-calcite+-quartz overprinting appear related to the felsic dykes.									
		76.5 76.6 Felsic Dyke or Sill Light to medium grey, aphanitic siliceous felsic dyke, as above.									
		76.7 77.0 Felsic Dyke or Sill As above.									
		77.1 77.3 Felsic Dyke or Sill As above.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

77.4 77.5 Felsic Dyke or Sill

As above. Abundant calcitic fractures with thin bleached halos.

77.7 77.8 Felsic Dyke or Sill

As above.

80.1 83.1 **MD** **Mafic Dyke or Sill**

Massive, fine-grained homogenous mafic dyke/sill or flow(?) or more massive tuff(?) with biotitic porphyroblasts throughout and trace-1% fine to wispy disseminated pyrite. Cut by occasional late calcitic fractures.

83.1 89.3 **MT** **Mafic Ash Tuff/Hyalotuff**

Well banded to laminated interval comprising chlorite+-calcite-quartz-biotite, mafic tuffaceous (to vein-like and alteration bands) intervals and biotite+-quartz tuffaceous wacke. Banding as often near aprallel to CA (Fold hinge area). Locally the biotitic wacke/tuffaceous wacke are overprinted by chlorite+-calcite+-biotite veins/bands - tuffaceous wacke/metasediments may predominate over true mafic tuff?

84.6 84.7 Felsic Dyke or Sill

Medium grey siliceous aphanitic dyke.

85.4 85.6 Felsic Dyke or Sill

As above. Contorted sheared upper contact.

89.3 92.3 **FD** **Felsic Dyke or Sill**

Disrupted interval with strong patchy chlorite+-calcite+-biotite and biotite overprinting alteration and calcite veins related to numerous, thin, light greenish grey siliceous aphanitic dykes/veins that appear to include altered wall rock(?). Intervening rock is banded biotitic-chloritic tuffaceous wacke/mafic tuff(?).

92.3 94.4 **MT** **Mafic Ash Tuff/Hyalotuff**

Banded/sheared chlorite-calcite-biotite mafic tuff (possible local dyke/flow?) with patchy overprinting chlorite-calcite alteration on biotitic tuff/wackes (?), as above. Cut by several thin felsic dykes.

92.3 92.8 Felsic Dyke or Sill

Medium to light grey, aphanitic and siliceous felsic dyke.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		93.4 93.5 Felsic Dyke or Sill									
		As above.									
		93.7 94.4 Felsic Dyke or Sill									
		As above, light to medium grey siliceous, crudely banded felsic dyke.									
94.4	104.6	**MT Mafic Ash Tuff/Hyalotuff**									
		More massive interval of chlorite-biotite+-calcite schistose mafic tuff(?) with thin intervals of banded to thin banded tuff and containing several thin felsic dykes. Locally abundant calcite+-quartz veinlets and fractures.									
		97.3 97.8 Felsic Dyke or Sill									
		Several 10-15 cm wide, light to medium grey, siliceous aphanitic dykes with sharp con Minor pyrite in late fractures.									
		98.0 98.9 Felsic Dyke or Sill									
		Wider siliceous aphanitic felsic dyke, as above. Internal 35 cm wide interval of thinly b siliceous dyke(?) with banding defined by streaky biotite+-chlorite (with minor <4 mm g porphyroblasts) within quartzofeldspathic groundmass - FT-ET(?)..									
		99.5 99.9									
		Interval of laminated to banded (contorted/isoclinally folded) mafic tuff to tuffaceous wa with strong chlorite+-calcite and medium-grained biotite overprinting alteration related discontinuous/deformed calcite-quartz+-chlorite veinlets. Altered tuffaceous wacjke or altered mafic tuff?									
		101.3 101.7 Felsic Dyke or Sill									
		Light grey massive siliceous aphanitic felsic dyke with lesser biotite and no garnets developed.									
		101.9 102.2 Felsic Dyke or Sill									
		Light grey massive siliceous aphanitic felsic dyke with lesser biotite and no garnets developed; as above.									
		102.2 104.6									
		Becomes well banded and perhaps less chloritic and more siliceous - possible wackes									
104.6	107.5	**QZVN Quartz Vein**									
		White late bull quartz vein with minor included altered/sheared mafic tuff at 105.8-106.2 m.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
107.5	110.8	**MT** **Mafic Ash Tuff/Hyalotuff** Banded/sheared to more massive chlorite-quartz-calcite-biotite altered mafic tuff (?) interval with increased silica content related to numerous felsic dykes and the quartz vein? Cut by several thin felsic dykes. 109.6 109.8 Felsic Dyke or Sill Light grey fine-grained aphanitic siliceous dyke, as above. Sharp contacts. 110.2 110.5 Felsic Dyke or Sill As above.									
110.8	115.1	**FD** **Felsic Dyke or Sill** Medium to light grey, sheared, fine aphanitic felsic dyke (possible rare fine quartzofeldspathic phenocrysts?) with locally well developed shear bands and isoclinal folded banding (flow banding?). Minor pyrite occurs in late fractures and in quartz-feldspar-pyrite veins with weakly bleached halos (i.e. at 114.5 m). Adjacent/included tuff are strongly biotite altered.									
115.1	120.8	**TSK** **Tuffaceous Wacke** Dark brown massive fine to locally medium-grained biotite+-quartz wacke (or mafic dyke?) with local 1-2% light pink garnet porphyroblasts (<1.5 mm) and overprinted by weak patchy chlorite+-calcite. Also cut by quartz-feldspar+-pyrite vein. Becomes banded and medium-grained adjacent to minor felsic dyke; also cut by calcitic veinlets with trace-1% po-py (rare trace cpy) from 117.8-120.75 m. 116.5 116.7 Broken interval. 116.9 117.5 Felsic Dyke or Sill Sheared, light to medium grey, fine aphanitic felsic dyke (as above) with locally well developed shear bands and isoclinal folded banding (flow banding?). Minor pyrite occ late fractures and in quartz-feldspar-pyrite veins. 117.5 117.8 Interbanded Siltstone, Mudstone and Wacke Dark brown grey interval of strongly sheared fine-grained dark quartz+-biotite+-chlorite siltstone and abundant biotitic wacke partings cut/altered by medium green chlorite-qu calcite patches/bands.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		119.3 119.9 Felsic Dyke or Sill									
		Sheared light to medium grey, fine aphanitic felsic dyke with rare fine (<1.5 mm) feldsp phenocrysts, similar to above. Altered and cut by calcite and quartz-calcite veinlets wi bleached halos. Sharp isoclinally folded contacts.									
120.8	123.2	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke**									
		Dark grey, thin bedded to laminated (strongly contorted/folded) siliceous and argillaceous siltsone and muddy siltstone/mudstone with 1-2% very fine-grained wispy pyrite and as fine disseminations and within minor late fractures. Minor-nil wacke in this interval. Cut by several thin mafic dykes. Gradational upper and lower contacts.									
		121.3 121.4 Mafic Dyke or Sill									
		Thin light green grey fine-grained mafic(?) dyke with 1-2% fine po disseminations and veinlets.									
		122.4 122.9 Mafic Dyke or Sill									
		Fine-grained, homogenous equigranular chlorite-biotite+-calcite mafic dyke with fine bi porphyroblats throughout. Contains 1-3% very fine disseminated py and also in late discontinuous fractures.									
123.2	123.7	**TSK Tuffaceous Wacke**									
		Dark to medium greenish grey, crudely banded interval comprising biotite-chlorite+-quartz wackes and lesser siltstone with 1-3% fine wispy po and minor pyrite..									
123.7	124.6	**MD Mafic Dyke or Sill**									
		Fine to medium-grained, massive chlorite-biotite+-calcite-quartz mafic dyke cut by occasional massive coarse chlorite+-calcite-pyrite veins. Contains trace-1% fine disseminated py+-po.									
124.6	124.8	**TSK Tuffaceous Wacke**									
		As above.									
124.8	125.5	**ET Re-sedimented/Epiclastic Tuff**									
		Dark to medium grey, fine siliceous argillaceous (fine biotitic) epiclastic tuff (felsic dyke?) with occasioanl fine (,1 mm) feldspar+-quartz phenocrysts throughout. Strongly sheared and isoclinally folded. Trace-1% fine disseminated py+-po.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
125.5	127.0	**MD** **Mafic Dyke or Sill** Fine-grained dark massive biotite+-chlorite-calcite mafic dyke with minor calcitic fractures.									
127.0	127.4	**ET** **Re-sedimented/Epiclastic Tuff** As above.									
127.4	129.3	**SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke** Mixed interval similar to above comprising fine-grained wacke and siliceous mudstone siltstone containing trace-1% fine pyrite and quartz+-chlorite-pyrite veinlets 128.3 128.9 Felsic Dyke or Sill Altered and broken sheared felsic dyke with irregular chloritic veinlets with bleached h Trace-3% fine to clotty pyrite+-po dissemianted throughout related to chlkoritic fracture									
129.3	129.6	**FLT** **Fault** Black graphitic fault gouge with some lost core. Ohm meter indicates good conductivity across the core.									
129.6	129.9	**SA** **Argillite/Phyllitic Argillite** Dark grey to black fine laminated mudstone with trace-1% local wispy pyritic disseminations.									
129.9	148.4	**SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke** Mixed package of well banded medium to dark greenish grey chloritic mafic tuffaceous intervals with dark siliceous siltstone and fine-grained to coarser grained interbanded biotitic (porphyroblastic) wacke cut by fine-grained chloritic mafic dykes and minor late calcite+-quartz veinlets with occasional pyrite. Unit contains trace-3% fine wispy to spotted disseminated pyrite+-pyrrhotite throughout; occasional S2 parallel pyritic seams/fractures and also in late low angle fractures. 130.9 131.4 Mafic Dyke or Sill Fine-grained chloritic mafic dyke with local biotite porphyroblasts and 1-3% spotty disseminated py and lesser pyrrhotite; indistinct contacts. 134.4 135.1 Tuffaceous wacketo quartz-biotite wacke interval with minor <1-3 mm garnet porphyrol developed.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		137.9 138.7 Fault Broken interval with fault gouge at 138.5-138.7 m.									
		139.6 141.6 Mafic Dyke or Sill Possible fine-grained massive chloritic (biotitic) mafic dyke (tuff?) with local biotite porphyroblasts and trace-2% fine disseminated pyrrhotite+-pyrite.									
		141.6 148.4 Increasing contact metamorphism and hornfelsing marked by increasing garnet develc and grain size towards the intrusive contact and presence of minor thin quartz-feldspai chlorite pegmatitic veins; often with trace-1% blebby disseminated po-py. Green chlor biotite is deveoped as alteration halos									
148.4	154.3	**IF** **Felsic Intrusive** Light to medium to dark pinkish grey to greenish grey, banded to foliated siliceous feldspar microporphyry (trace-5% <1-2 mm indistinct phenocrysts) with a fine-grained, quartzofeldspathic-biotite+-chlorite groundmass. Intrusive is cut by numerous low angle late calcite-pyrite-chlorite fractures and minor related breccia veins and by higher angle quartz veins/veinlets containing trace-5% pyrite. Trace magnetite is present associated with fine chlorite alteration at 151.7 and 152.0 m. Contacts are sharp.									
154.3	164.3	**TSK** **Tuffaceous Wacke** Medium grey to pinkish grey, well banded to more massive, hornfelsed/contact metamorphosed (recrystallized to fine porphyroblastic) biotite-sericite/muscovite+-chlorite-garnet-quartz tuffaceous wackes(?) and metasediments with 1-5% fine patchy (fracture related) disseminations of pyrite and pyritic fractures.									
		156.2 156.4 Felsic Dyke or Sill Narrow feldspar microporphyry dyke with associated quartz veins.									
		156.4 156.7 Mafic Dyke or Sill Fine to medium-equigranular mafic dyke with trace disseminated py-po.									
		160.2 160.9 Mafic Dyke or Sill AS above.									
		162.5 162.8 Fault Broken interval with minor fault gouge at contact with a thin mafic (biotitic) dyke.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		163.1 163.3 Vein									
		Pegmatitic quartz-feldspar vein with 5% blebby and fracture related pyrite and minor p trace bright grey mineral - galena?									
		163.3 164.3									
		Dark siliceous interval of strongly recrystallized metasediments with 2-5% disseminate fracture related pyrrhotite+-pyrite.									
164.3	165.9	**IF** **Felsic Intrusive**									
		Medium grey, fine to medium equigranular to microporphyry, as above, with abundant clear grey quartz veins and 1-3% pyrite+-pyrrhotite associated with veins/veinlets/fractures and as minor disseminations. .									
165.9	170.4	**TSK** **Tuffaceous Wacke**									
		Dark siliceous interval of strongly recrystallized (contact metamorphosed) metasediments (wackes?) with 2-5% disseminated and fracture related pyrrhotite+-pyrite. Interval is cut by several quartz veins and thin felsic dykes. Fine pyrrhotite-pyrite mineralization appears spatially associated with veining and margins to felsic dykes.									
		167.8 168.3 Felsic Intrusive									
		As above.									
		168.3 170.4									
		Dark brown strongly biotitic and weakly porphroblastic metamorphosed metasediment									
170.4	187.8	**IF** **Felsic Intrusive**									
		Dark fine-grained microporphyry to medium grey, medium equigranular quartz-feldspar-biotite+-chlorite granite.									
		170.4 171.8 Felsic Intrusive									
		Dark fine-grained microporphyry with 3-8% disseminated and fracture filling pyrite-pyrr cut by numerous pegmatoidal veins.									
		171.8 173.3									
		Dark brown, banded (bedded) strongly biotitic and strongly porphroblastic metamorphc metasediments. Porphyroblasts are 2-7 mm, equant and retrograded to chlorite-calcit Xenolith or not?									
		173.3 174.7 Felsic Intrusive									
		Dark siliceous microporphyry with abundant late calcite-pyrite fractures.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
	174.7	177.1									
		Dark brown, strongly biotitic and strongly porphroblastic metamorphosed metasedimer									
	177.1	187.8 Felsic Intrusive									
		Medium-grained more equigranular granite with occasional pegmatitic veins. Minor metasediment xenoliths at 178.4 and 180.8-181.1 m. Contains trace-1% fine dissemir pyrite and pyrite in late calcitic fractures.									

Assay Report

HOLE #:

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au

Mag Susceptibility Log

Collar_Hole_ID	R04-003	**Project**	R-15	**Total Length**	187.8
Azimuth	270	**Dip**	-60.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
55.80	0.34		97.40	0.43	
57.40	1.29		98.00	0.78	
59.00	0.71		98.80	0.01	
60.00	0.73		100.00	0.80	
61.10	0.80		101.40	0.01	
63.00	0.67		102.50	0.60	
65.10	0.93		103.90	2.25	
66.70	1.02		105.50	0.03	
68.00	0.75		106.00	0.40	
69.20	0.14		107.20	0.00	
70.50	0.80		108.60	0.43	
71.70	0.67		110.00	3.55	
72.70	0.23		111.00	0.25	
74.00	0.73		113.00	0.71	
75.70	0.76		114.00	0.07	
76.80	0.16		115.80	1.66	
78.80	0.60		117.20	0.09	
80.70	0.73		118.00	3.75	
81.60	0.86		119.50	0.49	
84.00	0.40		121.00	1.09	
85.20	0.73		122.20	0.34	
87.10	0.51		122.70	1.06	
88.60	0.65		124.30	0.60	
89.80	0.67		125.40	0.56	
90.80	0.20		126.30	0.67	
92.70	0.07		127.60	2.36	
93.80	0.14		128.80	0.36	
94.60	0.53		129.50	0.29	
95.70	0.53		131.00	1.07	

Meters	Susceptibility	Notes
132.50	3.86	
133.80	3.42	
135.20	1.42	
136.30	2.01	
138.50	2.23	
140.00	4.00	
141.30	0.58	
142.90	1.42	
144.30	5.19	
145.60	0.47	
146.90	0.47	
149.20	4.00	
151.30	0.38	
152.10	16.20	
153.70	0.05	
155.30	0.40	
156.80	0.54	
158.40	0.87	
159.70	0.67	
160.60	0.82	
163.20	0.95	
165.40	2.58	
166.90	1.88	
168.40	9.38	
169.70	0.64	
171.00	0.23	
173.00	0.71	
174.60	0.38	
176.00	0.64	
176.80	0.91	
178.30	2.25	
179.90	1.44	
181.30	1.24	
183.00	2.56	
184.90	0.80	
186.40	0.34	

Recovery for: R04-003

From	To	Meters	Meters Rec.	% Recovered	Comments
0.00	55.50	55.50	0.00	0.00	
55.50	56.40	0.90	0.85	94.44	
56.40	59.40	3.00	3.05	101.67	
59.40	62.50	3.10	3.05	98.39	
62.50	64.90	2.40	2.40	100.00	
64.90	67.70	2.80	2.60	92.86	
67.70	70.40	2.70	2.70	100.00	
70.40	71.30	0.90	0.90	100.00	
71.30	72.50	1.20	1.20	100.00	
72.50	74.20	1.70	1.70	100.00	
74.20	77.00	2.80	2.75	98.21	
77.00	78.60	1.60	1.60	100.00	
78.60	81.10	2.50	2.40	96.00	
81.10	83.70	2.60	2.60	100.00	
83.70	86.70	3.00	3.00	100.00	
86.70	89.80	3.10	3.10	100.00	
89.80	93.00	3.20	3.10	96.87	
93.00	93.90	0.90	0.90	100.00	
93.90	96.30	2.40	2.40	100.00	
96.30	97.10	0.80	0.60	75.00	
97.10	99.40	2.30	2.30	100.00	
99.40	102.40	3.00	3.00	100.00	
102.40	105.30	2.90	2.70	93.10	
105.30	105.90	0.60	0.60	100.00	
105.90	106.80	0.90	0.80	88.89	
106.80	107.30	0.50	0.35	70.00	
107.30	108.50	1.20	1.20	100.00	
108.50	110.50	2.00	1.90	95.00	
110.50	111.70	1.20	1.20	100.00	
111.70	112.80	1.10	0.65	59.09	
112.80	114.30	1.50	1.50	100.00	
114.30	115.00	0.70	0.65	92.86	
115.00	116.60	1.60	1.60	100.00	
116.60	117.00	0.40	0.40	100.00	
117.00	119.30	2.30	2.20	95.65	
119.30	120.70	1.40	1.25	89.29	
120.70	122.50	1.80	1.95	108.33	
122.50	125.30	2.80	2.80	100.00	
125.30	126.20	0.90	0.90	100.00	
126.20	128.20	2.00	1.90	95.00	
128.20	129.20	1.00	1.00	100.00	
129.20	131.40	2.20	2.10	95.45	
131.40	133.70	2.30	2.30	100.00	
133.70	135.00	1.30	1.30	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
135.00	137.00	2.00	1.90	95.00	
137.00	138.20	1.20	0.95	79.17	
138.20	139.60	1.40	1.20	85.71	
139.60	142.60	3.00	3.00	100.00	
142.60	144.60	2.00	2.00	100.00	
144.60	147.40	2.80	2.70	96.43	
147.40	150.60	3.20	3.10	96.88	
150.60	153.60	3.00	3.00	100.00	
153.60	156.10	2.50	2.50	100.00	
156.10	159.00	2.90	2.90	100.00	
159.00	160.20	1.20	1.10	91.67	
160.20	162.20	2.00	1.65	82.50	
162.20	165.20	3.00	3.00	100.00	
165.20	167.60	2.40	2.40	100.00	
167.60	170.70	3.10	3.10	100.00	
170.70	174.60	3.90	2.90	74.36	
174.60	176.80	2.20	2.20	100.00	
176.80	179.80	3.00	3.00	100.00	
179.80	182.90	3.10	3.10	100.00	
182.90	185.90	3.00	3.00	100.00	
185.90	187.80	1.90	1.90	100.00	
	Total:		128.05		

Summary Log R04-004

Project: R-15

AT: 423280 E 6809237 N **Azimuth** 270 **Dip:** -70 **Total Length** 233.5 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	58.4	Overburden			
58.4	65.8	Mafic Ash Tuff/Hyalotuff			
65.8	68.4	Re-sedimented/Epiclastic Tuff			
68.4	80.0	Felsic Dyke or Sill			
80.0	94.6	Tuffaceous Wacke			
94.6	98.3	Felsic Intrusive			
98.3	100.1	Siltstone			
100.1	102.5	Felsic Intrusive			
102.5	106.1	Tuffaceous Wacke			
106.1	107.1	Felsic Intrusive			
107.1	110.0	Mafic Dyke or Sill			
110.0	115.1	Tuffaceous Wacke			
115.1	117.5	Interbanded Siltstone, Mudstone and Wacke			
117.5	118.5	Mafic Dyke or Sill			
118.5	122.7	Interbanded Siltstone, Mudstone and Wacke			
122.7	125.4	Tuffaceous Wacke			
125.4	130.6	Felsic Intrusive			
130.6	135.1	Interbanded Siltstone, Mudstone and Wacke			
135.1	137.7	Felsic Intrusive			
137.7	146.0	Tuffaceous Wacke			
146.0	161.1	Banded Mafic Ash Tuff			
161.1	162.8	Interbanded Siltstone, Mudstone and Wacke			
162.8	163.3	Mafic Dyke or Sill			
163.3	165.9	Mafic Ash Tuff/Hyalotuff			
165.9	167.1	Fault			
167.1	169.0	Feldspar Porphyry			
169.0	170.3	Mafic Ash Tuff/Hyalotuff			
170.3	170.4	Fault			
170.4	173.3	Mafic Ash Tuff/Hyalotuff			
173.3	179.1	Feldspar Porphyry			
179.1	184.8	Re-sedimented/Epiclastic Tuff			
184.8	187.7	Felsic Intrusive			
187.7	191.7	Re-sedimented/Epiclastic Tuff			

191.7	193.5	Felsic Intrusive		
193.5	195.0	Re-sedimented/Epiclastic Tuff		
195.0	195.3	Fault		
195.3	198.8	Tuffaceous Wacke		
198.8	200.5	Mafic Dyke or Sill		
200.5	210.8	Feldspar Porphyry		
210.8	219.0	Tuffaceous Wacke		
219.0	221.1	Feldspar Porphyry		
221.1	224.5	Mafic Dyke or Sill		
224.5	225.0	Fault		
225.0	229.3	Re-sedimented/Epiclastic Tuff		
229.3	233.5	Feldspar Porphyry		

Hole_ID	**R04-004**	**Hole_Type**	Diamond	***Purpose/Comments***
x	423280	**Survey_Type**	Sperry Sun	1000m+ long Channel 4 UTEM conductor located at 3150E at L9250N. Hole collared at 9250N and 3275E. Conductor is interpreted to be dipping E. Outcrops to the east indicate a north dip but an anticlinal structure is present that may cause eastern dips in the area of the drill hole. The conductor parallels and is locally associated with a linear magnetic high.
y	6809237	**Drill_Type**	Fly 38	
z	1458	**Hole_Diamete**	NQ	
Azimuth	270	**Drill_Operator**	E Caron	
Dip	-70			
Total Length	233.5			
Location	Yukon	**StartDate**	26-Aug-04	
Grid	Grid 5	**EndDate**	02-Sep-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	270	-70.0
232.9	268	-77.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*	*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	58.4	**OVB** **Overburden** Boulder and cobble tills becoming perhaps more sandy towards base.									
58.4	65.8	**MT** **Mafic Ash Tuff/Hyalotuff** Strongly oxidized and broken interval with poor core recovery. Interval comprises dark green grey, relatively massive, fine-grained, oxidized and soft, chlorite-biotite schist with conspicuous biotite-phylogopite porphyroblasts.									
65.8	68.4	**ET** **Re-sedimented/Epiclastic Tuff** Medium to dark grey, interval comprising predominantly argillaceous (biotitic) tuff with interbanded grey epiclastic tuff composed of quartz-biotite+-chlorite. Trace-1% fine-grained disseminated py-po is present. Patchy to vein (folded/contorted) quartz-chlorite+-bitoite and trace-1% locally of blebby po.									
68.4	80.0	**FD** **Felsic Dyke or Sill** Massive, siliceous, light grey quartz-feldspar-biotite (trace chlorite) felsic dyke with thin banded (gneissic?) to more of a medium-grained, equigranular textured (porphyritic?) felsic intrusive-feldspar porphyry. Locally sericite-muscovite altered adjacent to late extensional grey to pink fine to coarse-grained carbonate+-quartz veins; locally with trace tourmaline - also with oxidized fractures . Possible chilled margins against the mafic dyke/sill. Sharp, broken oxidized contacts.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

75.7 76.4 Mafic Dyke or Sill

Fine to medium-grained, brownish grey biotite-chlorite-calcite-quartz schistose mafic d with sharp S2 parallel contacts.

76.4 80.2

Broken interval with abundant oxidized fractures and late extensional, laminated, pinki fine-grained carbonate+-quartz veins. Minor quartz-feldspar+-tourmaline veins locally present.

78.6 79.2 Mafic Ash Tuff/Hyalotuff

Medium greenish brown weak to strongly (patchy) sericite+-carbonate+-pyrite-arsenop altered biotite porphyroblastic (medium-grained?) mafic tuff or dyke/sill(?). Trace sulpl associated with fine veinlets and strong patchy alteration.

79.2 80.0 Vein

Interval is broken and oxidized and comprises more pegmatitic to vein-like quartz-felds with patchy silicification and pyrite-bearing fractures (locally with trace tourmaline).

80.0 94.6 **TSK** **Tuffaceous Wacke**

Mixed interval of laminated to medium banded (contorted/folded to transposed), hornfelsed biotite-quartz+-chlorite and quartz-biotite tuffaceous metasediments (local possible mafic intervals with <2 mm porphyroblastic carbonate spots) with variable overprinting late sericite/muscovite-carbonate-pyrite alteration associated with quartz-muscovite+-tourmaline and late pinkish carbonte-quartz veins. Unit is generally broken with several thin fault/gouge zones. Strongly biotite (thin massive biotite banded) altered sharp lower contact. Hornfelsing (contact metamorphism?) indicated by porphyroblastic biotite and pinkish garnets (tr-5%) up to 8 mm throughout.

80.0 80.3 Mafic Ash Tuff/Hyalotuff

As above.

82.1 82.6 Felsic Intrusive

Possible granite/granodiorite intrusive dyke; more massive, weakly foliated unit cut by vein suite and overprinted by associated alteration.

83.6 84.3

Broken zone of increased late carbonate-quartz veining and sericite-carbonate-pyrite+ chlorite alteration; minor gouge. Also at 86.5-87.9, 89.3-91.2, 91.7-92.4 and 93.8-94.1

84.3 84.4 Fault

Dark grey milled gouge zone with carbonaceous partings and 2-5% blebby pyrite. Ohr meter registers only weak conductivity.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		87.0 87.3 Fault									
		90.7 91.2 Fault									
		91.2 91.5 Felsic Dyke or Sill Possible feldspar-phyric dyke/sill; not quite feldspar porphyry. Sericitic and gouged up contact. Also at 93.0-93.8 m.									
94.6	98.3	**IF** **Felsic Intrusive** Possible granite/granodiorite intrusive dyke; more Massive, siliceous, weakly to moderately foliated medium-grained quartz-feldspar-biotite granite/granodiorite (mid Cretaceous?) intrusive dykes (locally becoming feldspar porphyritic) with trace-1% disseminated pyrite-pyrrhotite and containing fine-grained massive biotitite xenoliths of altered/contact metamorphosed metasediments.									
98.3	100.1	**SI** **Siltstone** Medium to dark grey and greenish grey, thin banded to laminated (strongly folded - hinge zone perhaps) quartz-sericite+-biotite and biotite-quartz siltstone/argillaceous siltstone(?). Strongly biotitic at contacts with the felsic intrusive dykes. Possible mafic dyke as below?									
100.1	102.5	**IF** **Felsic Intrusive** As above. Also with metasedimentary xenoliths. Sharp contacts.									
102.5	106.1	**TSK** **Tuffaceous Wacke** Strongly foliated but weakly banded and more homogenous fine-grained throughout. Quartz-biotite-rich; strongly biotite-chlorite+-calcite upper contact minor at lower contact. Possible mafic dyke with banded margins??									
106.1	107.1	**IF** **Felsic Intrusive** As above.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
107.1	110.0	**MD Mafic Dyke or Sill** Fine-grained massive biotite+-chlorite-calcite-quartz mafic dyke, as above. Appears folded at low angle to the core axis. Several thin folded felsic dykes.									
110.0	115.1	**TSK Tuffaceous Wacke** Crudely banded, medium grey interval characterised by 10-35% medium-grained (1-3 mm) biotite porphyroblasts developed throughout. Banding defined by lighter quartz+-feldspar-muscovite/sericite-biotite+-chlorite and darker biotite-quartz-chlorite+-muscovite/sericite-feldspar dominant bands. Minor pinkish garnets are present locally. Minor thin mafic dykes are present. Hornfelsing (contact metamorphism?) indicated by porphyroblastic biotite and pinkish garnets (tr-5%) up to 8 mm throughout. Gradational lower contact. 111.6 112.0 Mafic Dyke or Sill Fine-grained massive, dark green grey chlorite-biotite+-calcite dyke with sharp contact 112.8 113.6 Mafic Dyke or Sill As above.									
115.1	117.5	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Dark grey, crudely banded, fine argillaceous/siliceous metasediments (locally tuffaceous?) with minor thin intervals of felsic dyke and feldspar porphyry.									
117.5	118.5	**MD Mafic Dyke or Sill** Fine-grained, massive biotite+-chlorite-calcite-quartz mafic dyke, as above.									
118.5	122.7	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Similar to above interval but cut by abundant 10-70 cm wide felsic intrusive dykes comprising weak to moderately foliated granodiorite and feldspar microporphyry (as above). Intrusives and metasediments are deformed and transposed - difficult to determine what is a xenolith and what is in-folded. 118.5 119.0 Felsic Intrusive Felsic intrusive with trace disseminated fine-grained pyrrhotite-pyrite.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		119.7 120.5 Felsic Intrusive									
		As above; intrusive is cut by a quartz vein with minor clotty pyrite-pyrrhotite; but intrusi quartz vein are truncated (tectonically?) by metasediements.									
122.7	125.4	**TSK Tuffaceous Wacke** As above, crudely banded, medium grey, hornfelsed tuffaceous wacke interval characterised by 10-35% medium-grained (1-3 mm) biotite porphyroblasts developed throughout. Banding defined by lighter sericite/muscovite-quartz-biotite+-chlorite and darker biotite-sericite/muscovite-quartz-chlorite dominant bands. Increasing hornfels marked by biotite porphyroblasts and minor fine-grained pinkish garnet porphyroblasts present locally as bands; local garnet rich seams (fractures?); often associated with trace-1% fine disseminated pyrite. Medium grey siliceous siltstone/quartzite(?)/(vein??) fragments (disrupted layers?) are locally present.									
125.4	130.6	**IF Felsic Intrusive** Medium to dark grey, siliceous and massive feldspar microporphyry (feldspar phyric epiclastic tuff?) containing vague 1-3 mm feldspar phenocrysts (quartz-feldspar altered) in a quartz-biotite+-feldspar-sericite groundmass. Possible crystal-phyric tuff but appears more like an intrusive. Unit contains trace-1% fine disseminated pyrite-pyrrhotite and occasional quartz-feldspar-chlorite+-calcite-pyrite veins (pegmatitic locally).									
130.6	135.1	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Similar to above; mixed interval of dark recrystallized (hornfelsed?) metasediments cut by numerous thin felsic dykes with trace-3% fine disseminated pyrrhotite-pyrite. Metasediments are locally pyritic-pyrrhotitic (trace-2%) adjacent to dykes. Also cut by several decimeter scale mafic dykes often containing trace-2% fine disseminated pyrrhotite-pyrite.									
		133.4 134.3 Felsic Intrusive									
		Fine-grained microporphyry becoming carser grained to pegmatitic at lower contact wit associated quartz-feldspar-chlorite-pyrrhotite-biotite veins.									
135.1	137.7	**IF Felsic Intrusive** Medium to light grey feldspar porphyry to microporphyry containing 10-30%, 1-2 mm feldspar(quartz) phenocrysts in a siliceous quartz-feldspar-biotite groundmass contining trace-1% fine disseminated magnetite and minor pinkish garnet. Sharp contacts.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
137.7	146.0	**TSK** **Tuffaceous Wacke** As above, crudely banded, medium grey hornfelsed interval characterised by 10-35% medium-grained (1-4 mm) biotite porphyroblasts developed throughout. Banding defined by lighter sericite/muscovite-quartz-biotite+-chlorite and darker biotite-sericite/muscovite-quartz-chlorite dominant bands. Hornfelsed interval again marked by minor fine-grained pinkish garnet porphyroblasts present throughout, but local intervals/bands are garnet-rich. Blebby pyrite+-pyrrhotite (trace-1%) occurs with late calcitic fractures. Minor feldspar microporphyry dykes/veins (folded) are present locally. 142.5 142.8 Mafic Dyke or Sill Thin fine-grained chlorite-biotite dykes up to 10 cms. 144.8 145.1 Mafic Dyke or Sill Similar to above dyke; chlorite-biotite-quartzmatted textured dyke. 145.4 146.0 Felsic Intrusive Fine-grained microporphyry, as above. Contains trace-3% fine pyrrhotite; possible fine magnetite locally. 145.8 0.0 Fault Thin crushed/gouged zone.									
146.0	161.1	**MTAB** **Banded Mafic Ash Tuff** Medium to light green grey, laminated to thin banded, epidote+-silica altered (hornfelsed) mafic(?) tuff to more massive tuff with intervals of strong silica-calcite-chlorite brecciation, veining and alteration; veins/alteration patches locally contain minor blebby pyrrhotite. Fine porphyroblastic chlorite spots are developed throughout. 146.0 146.9 Mafic Dyke or Sill As above. Relatively homogenous, fine to medium-grained intergrown chlorite-biotite+ quartz-muscovite. 146.9 150.4 Relatively more massive, silica-calcite-epidote altered and veined mafic(?); calcitic net textured alteration/veining present. Locally contains 3-8% fine-blebby pyrrhotite disseminations (ie 149.5-150.35). 148.3 148.5 Mafic Dyke or Sill As above.	R0431090	160.40	160.60	0.20					

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

149.4 149.5 Vein

Low angle extensional bladed calcite vein (20-30 degrees to CA).

150.4 150.8 Mafic Dyke or Sill

As above.

150.8 158.7

Laminated to thin banded, epidotized mafic tuff. Minor intervals (2-10 cms) where silic calcite veins are present containing blebby pyrrhotite and 3-8% pyrrhotite disseminatio halos to veins? (ie at 152.1, 154.5, 154.9 m). Ohm meter does not suggest connected sulphides. Unit beomes increasingly siliceous (veined) between ~155.8 to 156.9 m.

156.9 157.4 Felsic Intrusive

As above.

157.4 158.7

Laminated to thin banded (contorted/disrupted/folded), epidotized mafic tuff, as above.

158.7 160.4 Mafic Dyke or Sill

As above with 2 FD intervals.

160.4 160.6 Tuffaceous
Argillite/Argillaceous Tuff

Green to dark grey laminated to thin banded interval comprising chloritic (+-epidote-ca silica) mafic tuffaceous "argillite" and lesser dark argillaceous, variably siliceous seam: Interval contains trace-8% fine to blebby, banding (S2) parallel pyrrhotite disseminatio seams (minor pyrite). "Heavy" pyrrhotite only across 1-3 cms; ohm meter does show ç conductivity across the "bands".

160.6 161.1 Mafic Dyke or Sill

As above.

161.1 162.8 **SI/MST/WK Interbanded Siltstone, Mudstone and Wacke**

Medium grey, siliceous banded interval with locally abundant feldspar microporphyry reflecting either thin dykes/sills or sedimented crystal tuff. Interbanded material is darker fine-grained biotite-quartz. Trace-1% pyrite is found within and adjacent to late calcite fractures.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
162.8	163.3	**MD** **Mafic Dyke or Sill** As above.									
163.3	165.9	**MT** **Mafic Ash Tuff/Hyalotuff** Variablely carbonate+-chlorite+-epidote altered massive to banded mafic(?) tuff (mafic dyke?), tuffaceous siltstone or fine metasediments cut and brecciated by numerous calcite veins. Lower contact is faulted at about 166.0 m.									
165.9	167.1	**FLT** **Fault** Broken and gouges zone with poor core recovery; rock is felsic dyke.									
167.1	169.0	**FP** **Feldspar Porphyry** Varianbly sericite altered feldspar porphyry (felsic intrusive) cut by numerous calcite+-pyrite veinlets and fractures.									
169.0	170.3	**MT** **Mafic Ash Tuff/Hyalotuff** Variablely carbonate+-chlorite+-epidote altered massive to banded mafic(?) tuff, tuffaceous siltstone or fine metasediments locally cut by numerous calcite vein/veinlets. Unit becomes more siliceous towards the lower faulted contact. Somewhat similar to 163.3-165.9 m.									
170.3	170.4	**FLT** **Fault** Low angle calcitic vein and fault breccia zone at 25 degrees to CA.									
170.4	173.3	**MT** **Mafic Ash Tuff/Hyalotuff** Variably carbonate+-chlorite altered massive mafic(?) tuff/flow(?) with strongly altered/brecciated zones with calcitic net-textured veining and alteration, similar to interval at 146.85-150.35 m. Unit is also cut by numerous calcite vein/veinlets and quartz-feldspar-calcite veins; both contain local blebby pyrrhotite+-pyrite.. 172.5 172.8 Banded Mafic Ash Tuff Thin interval containingweakly epidotized laminated to thin banded tuff; similar to that s above.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		172.8 173.3 Mafic Dyke or Sill									
173.3	179.1	**FP** **Feldspar Porphyry** Light to medium grey feldspar microporphyry/porphyry and more equigranular felsic intrusive; similar to units seen above. Trace-1% fine disseminated and fracture related pyrrhotite-pyrite. 176.5 177.3 Intrusive is cut by several 0.5-2 cm wide bands/veins of fine porphyroblastic pink garne blebby epidote+-chlorite. Local weak bleaching+-chlorite adjacent to these bands; no sulphides. 177.4 178.1 Mafic Ash Tuff/Hyalotuff Xenolith(?) of medium green, relatively massive mafic tuff/flow brecciated by quartz-ca vein network; similar to that seen between 146.85-150.35 m. Minor banded tuffaceous metasediments and possible thin mafic dyke also present.									
179.1	184.8	**ET** **Re-sedimented/Epiclastic Tuff** Dark to medium grey, relatively massive (perhaps crude/vague thin banding at low and to CA that has been transposed parallel S2), quartz-feldspar porpyroblastic hornfelsed/metamorphosed crystal-bearing epiclastic tuff (mafic?) or metasediments? Crystals range from <1-2 mm and comprise trace to up to 20% of the rock over short intervals. Crystals appear to be grey quartz-feldspar (quartz or after feldspar??) and lesser good whitish feldspar. Matrix is very fine-grained to granular bitoite-quartz-chlorite. Fine <1 mm porphyroblastic chlorite spots are developed throughout. Trace pyrite+-pyrrhotite disseminations are present.									
184.8	187.7	**IF** **Felsic Intrusive** Light to medium pinkish grey massive feldspar porphyry containing 3-8%, 2-10 mm light (pinkish) white feldspar set in a fine-grained quartz-feldspar groundamass with intergranular biotite+-chlorite. 185.1 186.2 Broken interval due to low angle and S2 parallel quartz-caclite fractures/veinlets.									
187.7	191.7	**ET** **Re-sedimented/Epiclastic Tuff** Similar to above, dark to medium greenish grey, relatively massive (perhaps crude/vague thin banded), quartz-feldspar crystal bearing epiclastic tuff. Crystals range from <1-6 mm and comprise trace to up to 20% of the rock over short intervals. Crystals appear to be									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

grey quartz-feldspar (quartz or after feldspar??) and good whitish feldspar. Matrix is very fine-grained to granular, felted textured bitoite-chlorite-quartz; possible altered mafic? Fine <1 mm porphyroblastic chlorite spots are developed throughout. Locally contains thin siliceouis FP bands/dykes. Trace pyrite+-pyrrhotite disseminations are present.

191.7 193.5 **IF** **Felsic Intrusive**

Medium grey, fine-grained siliceous intrusive with occasional whitish feldspars (1-5 mm) throughout and local internal bands containing abundant 2-10 mm feldspars (as above porphyry). Sharp contacts with quartz-feldspar(pegmatitic/intrusive)+-chlorite-biotite-epidote veins.

193.5 195.0 **ET** **Re-sedimented/Epiclastic Tuff**

Thin banded to strongly contorted/folded and quartz-feldspar veined epiclastic (crystal bearing?) tuff/metasediments locally injected by FP dyke. Veins and vein fragments contain trace-2% fine to blebby disseminated pyrite-pyrrhotite and have biotitic/chloritic margins.

194.4 195.0

Broken interval with poor recovery.

195.0 195.3 **FLT** **Fault**

Broken zone with fault gouge. Poor core recovery.

195.3 198.8 **TSK** **Tuffaceous Wacke**

As above, crudely banded, medium grey, hornfelsed/metamorphosed interval characterised by 10-35% medium-grained (1-4 mm) biotite porphyroblasts developed throughout. Banding defined by lighter sericite/muscovite-quartz-biotite+-chlorite and darker biotite-sericite/muscovite-quartz-chlorite dominant bands. Minor fine-grained pinkish garnet porphyroblasts are present throughout, but local intervals/bands are garnet-rich. Blebby fine-grained pyrite+-pyrrhotite (trace-1%) occurs as late discontinuous seams locally associated with late calcite-chlorite fractures. Minor feldspar microporphyry dykes and siliceous epiclastic crystal tuff (dykes?) are present locally.

196.6 196.9 Felsic Intrusive

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		198.2 198.8 Siltstone Medium grey banded siliceous metasediments with lesser porphyroblastic biotite and t seams.									
198.8	200.5	**MD** **Mafic Dyke or Sill** Dark grey massive fine to medium-grained felted/intergrown biotite-chlorite with intergranular quartz+-feldspar-calcite(?). Irregular upper contact and chilled finer grained lower contact marked by diffuse subrounded epidote-silica spots (amygdules??). Unit is cut by quartz+-chlorite-biotite veinlets and thin veins containing minor to abundant pyrrhotite-pyrite; trace-2% throughout.									
200.5	210.8	**FP** **Feldspar Porphyry** Medium to dark grey siliceous massive crudely banded feldspar porphyry with 20-30%, 3-10 mm white (to slightly pinkish) feldspar phenocrysts throughout. Groundmassis fine-grained quartz-feldspar-biotite+-chlorite. Trace-1% fine disseminated pyrite+-pyrrhotite are present. Locally contains tuffaceous wacke xenoliths. Minor "pegmetitic" veins and quartz-calcite fractures with associated pyrite. 205.8 206.2 Vein Coarse quartz-feldspar+-chlorite-biotite-pyrite vein. Low angle crush at upper contact.									
210.8	219.0	**TSK** **Tuffaceous Wacke** Similar to above, mixed interval of crudely banded, medium grey, hornfelsed/metamorphosed wacke and other metasediments characterised by 10-35% medium-grained (1-4 mm) biotite porphyroblasts developed throughout. Banding defined by lighter sericite/muscovite-quartz-biotite+-chlorite and darker biotite-sericite/muscovite-quartz-chlorite dominant bands. Minor very fine-grained pinkish garnet porphyroblasts are only locally present. Minor dark siliceous metasediments (siltstone?) and/or quartz-feldspar phyric epiclastic tuff(?) intervals are present as are several mafic dykes. 211.8 212.0 Felsic Dyke or Sill Light grey siliceous fine-grained felsic dyke. 212.0 212.2 Siltstone Dark grey siliceous, banded interval with local quartz-feldspar crystals - either silty metasediments or epiclastic crystal tuff (aphanitic dyke?). 212.2 212.9 Mafic Dyke or Sill Sharp contacts; similar to dykes above. Trace-5% disseminated and fracture related pyrrhotite-pyrite is present.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		212.9 213.1 Siltstone As above. Trace-1% pyrite+-pyrrhotite in fractures/seams.									
		213.1 213.3 Mafic Dyke or Sill Sharp contacts; similar to dykes above.									
		213.3 213.7 Trace-5% disseminated and fracture related pyrrhotite-pyrit in finer grained metasedim Minor calcite-quartz vein with local blebby pyrite near dyke contact.									
		215.4 215.7 Fault Broken and weakly gouged zone. Also thin zone at 215.2 m.									
		216.3 219.0 Re-sedimented/Epiclastic Tuff Mixed interval with medium to dark grey, siliceous and massive quartz/feldspar phyric epiclastic tuff (feldspar microporphyry dyke?) containing vague 1-3 mm quartz (after fe phenocrysts in a dark siliceous quartz-biotite+-feldspar-sericite groundmass with lesse interbanded tuffaceous wacke and siltstone. Possible crystal-phyric tuff but maybe an intrusive(?). Unit contains trace-1% fine disseminated pyrite-pyrrhotite Two pegmatiti are present.									
219.0	221.1	**FP** **Feldspar Porphyry** As above. 219.5 220.0 Fault Weak fault; crush and breccia zone with calcitic fracturing veinlets at low angle to CA. at 220.4-220.5 m.									
221.1	224.5	**MD** **Mafic Dyke or Sill** Medium to dark green massive fine to medium-grained felted/intergrown chlorite-biotite with minor intergranular quartz+-feldspar-calcite(?) and cut by thin biotitic fractures. Dyke cuts banded metasedimentary rocks - possible mafic tuffaceous rocks and possibly cut by thin feldspar porphyritic dyklets?									
224.5	225.0	**FLT** **Fault** Minor fault gouged, crushed zone in metasediments.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
225.0	229.3	**ET** **Re-sedimented/Epiclastic Tuff** Similar to above units; dark to medium grey, siliceous, relatively massive to banded recrystallized (hornfelsed?) quartz-feldspar crystal-bearing epiclastic tuff (possible intrusive?). Crystals range from <1-2 mm and comprise trace to up to 20% of the rock over short intervals. Crystals appear to be grey quartz-feldspar (quartz or after feldspar??) and lesser good whitish feldspar. Matrix is very fine-grained to granular bitoite-quartz-chlorite. Trace pyrite+-pyrrhotite disseminations are present. 228.8 229.3 Siltstone Dark grey more banded interval lacking quartz-feldspar crystals.									
229.3	233.5	**FP** **Feldspar Porphyry** Dark to medium grey more massive to banded and siliceous feldspar-bearing unit. Contains 5-20%, 2-10 mm whitish to slightly pink feldspar phenocrysts in a fine quartz-feldspar-biotite+-chlorite groundmass. Possible epiclastic crystal tuff but appears more intrusive									

Assay Report

HOLE #: R04-004

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
160.40	160.60	R0431	5078	0.20	69	18					

Mag Susceptibility Log

Collar Hole_ID	R04-004	**Project**	R-15	**Total Length**	233.5
Azimuth	270	**Dip**	-70.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
67.00	0.69		121.00	0.25	
68.80	0.01		123.00	0.54	
70.60	0.03		125.40	0.34	
72.00	0.31		128.70	0.96	
75.30	0.24		129.70	1.79	
76.20	0.64		131.30	2.28	
77.00	0.16		132.70	0.82	
79.00	0.56		133.70	4.17	
81.40	0.45		135.90	0.25	
83.30	0.18		137.40	5.92	
85.70	0.09		138.20	0.45	
88.70	0.29		140.00	0.85	
90.40	0.03		141.30	0.32	
94.40	0.71		143.00	0.43	
97.00	0.32		144.30	0.47	
98.90	0.14		145.50	1.73	
100.80	0.36		146.40	0.71	
102.00	0.54		147.00	1.92	
102.80	0.53		148.60	3.29	
105.60	0.21		150.00	5.16	
106.80	1.55		151.40	0.49	
108.40	1.07		155.00	0.45	
110.40	0.01		157.20	1.88	
112.10	0.01		158.00	2.59	
113.20	0.75		160.00	17.70	
114.60	0.31		161.00	0.84	
116.60	0.34		162.80	0.76	
118.00	0.76		163.70	0.47	
119.80	0.25		165.60	0.31	

Meters	Susceptibility	Notes
167.10	0.13	
168.20	0.38	
169.70	0.54	
171.00	3.89	
172.30	1.20	
174.00	2.06	
175.10	9.05	
175.80	7.48	
176.50	9.13	
178.60	5.03	
180.50	0.62	
181.80	1.62	
183.00	1.57	
184.80	0.09	
186.10	0.07	
187.20	0.09	
190.00	3.60	
191.40	3.16	
192.90	0.05	
194.50	16.10	
196.00	1.79	
197.40	0.51	
199.50	3.93	
201.00	0.20	
203.10	15.20	
205.00	20.10	
206.60	0.21	
208.20	0.75	
209.40	4.95	
211.00	0.51	
212.30	1.17	
213.60	1.99	
216.20	0.93	
218.40	0.51	
220.10	0.21	
221.80	0.53	
222.80	0.49	
225.10	0.18	
227.00	0.38	
229.00	0.34	
230.60	0.18	
233.20	0.25	

Recovery for: R04-004

From	To	Meters	Meters Rec.	% Recovered	Comments
0.00	38.40	38.40	0.70	1.82	
38.40	39.00	0.60	0.20	33.33	
39.00	52.90	13.90	1.65	11.87	
52.90	58.80	5.90	0.60	10.17	
58.80	60.40	1.60	1.00	62.50	
60.40	61.00	0.60	0.50	83.33	
61.00	62.30	1.30	0.45	34.62	
62.30	63.90	1.60	0.45	28.13	
63.90	66.30	2.40	0.50	20.83	
66.30	68.60	2.30	1.65	71.74	
68.60	71.00	2.40	2.30	95.83	
71.00	71.90	0.90	0.90	100.00	
71.90	74.40	2.50	2.25	90.00	
74.40	76.50	2.10	2.05	97.62	
76.50	78.00	1.50	1.45	96.67	
78.00	80.00	2.00	1.90	95.00	
80.00	83.20	3.20	3.10	96.87	
83.20	84.30	1.10	0.85	77.27	
84.30	86.00	1.70	1.25	73.53	
86.00	87.30	1.30	0.70	53.85	
87.30	89.00	1.70	1.55	91.18	
89.00	90.80	1.80	1.15	63.89	
90.80	91.90	1.10	0.85	77.27	
91.90	93.40	1.50	0.95	63.33	
93.40	94.30	0.90	0.70	77.78	
94.30	96.30	2.00	1.50	75.00	
96.30	99.40	3.10	3.10	100.00	
99.40	102.40	3.00	2.90	96.67	
102.40	105.50	3.10	2.90	93.55	
105.50	108.50	3.00	2.90	96.67	
108.50	110.60	2.10	2.50	119.05	
110.60	113.70	3.10	3.10	100.00	
113.70	116.40	2.70	2.70	100.00	
116.40	119.50	3.10	3.10	100.00	
119.50	122.50	3.00	2.80	93.33	
122.50	125.30	2.80	3.00	107.14	
125.30	127.60	2.30	2.20	95.65	
127.60	129.80	2.20	2.30	104.55	
129.80	132.90	3.10	3.10	100.00	
132.90	135.90	3.00	2.70	90.00	
135.90	137.60	1.70	1.70	100.00	
137.60	140.50	2.90	2.90	100.00	
140.50	142.80	2.30	2.30	100.00	
142.80	145.10	2.30	2.30	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
145.10	146.90	1.80	1.80	100.00	
146.90	150.00	3.10	3.10	100.00	
150.00	151.60	1.60	1.60	100.00	
151.60	154.20	2.60	2.80	107.69	
154.20	157.30	3.10	2.90	93.55	
157.30	160.20	2.90	2.90	100.00	
160.20	160.90	0.70	0.80	114.29	
160.90	162.60	1.70	1.70	100.00	
162.60	165.80	3.20	3.20	100.00	
165.80	166.70	0.90	0.80	88.89	
166.70	169.50	2.80	2.70	96.43	
169.50	172.50	3.00	3.00	100.00	
172.50	175.60	3.10	3.10	100.00	
175.60	178.60	3.00	3.00	100.00	
178.60	181.70	3.10	3.10	100.00	
181.70	184.70	3.00	3.00	100.00	
184.70	185.80	1.10	1.10	100.00	
185.80	187.10	1.30	1.50	115.38	
187.10	190.20	3.10	2.90	93.55	
190.20	193.20	3.00	3.00	100.00	
193.20	195.40	2.20	1.45	65.91	
195.40	198.40	3.00	3.00	100.00	
198.40	201.60	3.20	3.20	100.00	
201.60	204.70	3.10	3.00	96.77	
204.70	207.70	3.00	3.00	100.00	
207.70	210.80	3.10	3.10	100.00	
210.80	213.80	3.00	3.00	100.00	
213.80	216.00	2.20	1.90	86.36	
216.00	218.20	2.20	2.20	100.00	
218.20	221.00	2.80	2.80	100.00	
221.00	223.00	2.00	2.00	100.00	
223.00	226.00	3.00	3.00	100.00	
226.00	229.10	3.10	3.10	100.00	
229.10	232.10	3.00	3.00	100.00	
232.10	233.50	1.40	1.40	100.00	
	Total:		166.8		

Summary Log R04-005

Project: R-15

AT: 420300 E 6812651 N **Azimuth** 180 **Dip:** -60 **Total Length** 229.7 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	24.4	Overburden			
24.4	25.9	Felsic Lapilli Tuff			
25.9	27.6	Mafic Dyke or Sill			
27.6	31.7	Felsic Tuff			
31.7	35.5	Mafic Dyke or Sill			
35.5	36.8	Felsic Lapilli Tuff			
36.8	56.2	Quartz Crystal-bearing Felsic Tuff			
56.2	64.3	Interbanded Siltstone, Mudstone and Wacke			
64.3	66.5	Felsic Lapilli Tuff			
66.5	69.0	Re-sedimented/Epiclastic Tuff	chlorite		
69.0	70.1	Felsic Lapilli Tuff	sericite		Marginal Grey Muscovite (Sericite) Alteration
70.1	71.7	Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)	chlorite		Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
71.7	74.3	Felsic Tuff	chlorite		Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
74.3	75.6	Felsic Tuff	chlorite		Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
75.6	79.1	Mafic Dyke or Sill			
79.1	79.9	Felsic Lapilli Tuff	chlorite		Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
79.9	83.0	Massive Sulphides (>60%)			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
83.0	92.7	Quartz Crystal-bearing Felsic Tuff	chlorite		Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
92.7	94.2	Quartz Vein			
94.2	96.7	Quartz Crystal-bearing Felsic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
96.7	100.2	Granular Felsic Tuff	chlorite		Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
100.2	101.3	Interbanded Siltstone, Mudstone and Wacke			
101.3	103.8	Granular Felsic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
103.8	104.1	Mafic Dyke or Sill			

104.1	106.6	Felsic Tuff	sericite			Marginal Grey Muscovite (Sericite) Alteration
106.6	109.0	Tuffaceous Wacke	chlorite			
109.0	110.2	Mafic Dyke or Sill				
110.2	113.8	Interbanded Siltstone, Mudstone and Wacke	chlorite			
113.8	119.9	Tuffaceous Wacke				
119.9	135.9	Interbanded Siltstone, Mudstone and Wacke				
135.9	141.8	Re-sedimented/Epiclastic Tuff				
141.8	144.5	Mafic Ash Tuff/Hyalotuff				
144.5	145.9	Tuffaceous Wacke				
145.9	147.6	Cherty or Siliceous Felsic Tuff				
147.6	148.8	Interbanded Siltstone, Mudstone and Wacke				
148.8	153.4	Tuffaceous Wacke				
153.4	156.9	Interbanded Siltstone and Tuffaceous Wacke				
156.9	158.4	Tuffaceous Wacke				
158.4	160.4	Feldspar Porphyry				
160.4	166.1	Tuffaceous Wacke				
166.1	168.8	Mafic Ash Tuff/Hyalotuff				
168.8	170.1	Feldspar Porphyry				
170.1	179.6	Interbanded Siltstone and Tuffaceous Wacke				
179.6	186.0	Mafic Ash Tuff/Hyalotuff				
186.0	187.6	Tuffaceous Wacke				
187.6	188.1	Felsic Dyke or Sill				
188.1	188.7	Tuffaceous Wacke				
188.7	190.3	Re-sedimented/Epiclastic Tuff				
190.3	191.1	Mafic Dyke or Sill				
191.1	192.9	Tuffaceous Wacke				
192.9	194.2	Mafic Ash Tuff/Hyalotuff				
194.2	195.7	Tuffaceous Wacke				
195.7	201.9	Tuffaceous Wacke				
201.9	206.1	Interbanded Siltstone and Tuffaceous Wacke				
206.1	207.6	Tuffaceous Wacke				
207.6	209.9	Mafic Dyke or Sill				
209.9	213.9	Interbanded Siltstone and Tuffaceous Wacke				
213.9	225.1	Tuffaceous Wacke				

225.1	227.3	Interbanded Siltstone, Mudstone and Wacke		
227.3	229.7	Tuffaceous Wacke		

Hole_ID	**R04-005**	**Hole_Type**	Diamond	***Purpose/Comments***
x	420300	**Survey_Type**	Sperry Sun	Channel 3 UTEM conductor located at 2500 N on L 10300, targeted as a potential extension of the GP4F mineralization. Conductor is interpreted to be dipping 25-30 degrees to the north. Conductor is coincident with a local magnetic high. Core boxes labelled as K04-200.
y	6812651	**Drill_Type**	Fly 38	
z	1294	**Hole_Diamete**	NQ	
Azimuth	180	**Drill_Operator**	E Caron	
Dip	-60			
Total Length	229.7			
Location	Yukon	**StartDate**	19-Aug-04	
Grid	Grid 2	**EndDate**	24-Aug-04	
Project	R-15	**Loggedby**	JHH	
Claim		**Sampledby**	JHH	
MapSheet	105G 7,8	**Reloggedby**	PAM	

Survey Data

Depth	*Azimuth*	*Dip*
0.0	180	-60.0
229.0	194	-58.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*		*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	24.4	**OVB**	**Overburden**									
24.4	25.9	**FTL**	**Felsic Lapilli Tuff**									
		Light grey-green (weakly sericitized), well defined stretched aphyric quartzofeldspathic fragments (3:1, 5:1) are at 60-70 degrees BCA and lie in a more strongly sericitized groundmass.										
25.9	27.6	**MD**	**Mafic Dyke or Sill**									
		Dark grey green, medium grained, well foliated and depicted by bands more rich in coarser grained biotite.										
27.6	31.7	**FT**	**Felsic Tuff**									
		Likely a sericitized fine lapillistone tuff, light grey green, rare >2cm vague lapilli fragments, moderately sericitized in foliation concentrated as wispy groundmass laminations surrounding lapilli fragments. Occasional to rare quartz-feldspar crystals <2-3 mms. Trace-2% wispy concs of fg po and py.										
		31.1 31.7 Quartz Vein										
			white and green qtz-c seam.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
31.7	35.5	**MD Mafic Dyke or Sill** Dark grey-brown to green, fine and medium grained, vaguely banded (biotite rich and amphibole/chlorite rich), 5-10% calcareous stringers and pods aligned with foliation(70 degree BCA), minor qtz stringers and veins locally contain fracture concentrated vfg py. 33.1 33.9 Quartz Vein 33.5 33.9 Quartz Vein fibrous to bladed amphibole (tourmaline) is present as masses and individual bladed tc prismatic crystals through section, 5-10% massive vfg py concs are associated with thi mineralization									
35.5	36.8	**FTL Felsic Lapilli Tuff** Light grey-green (weakly sericitized), well defined stretched aphyric quartzofeldspathic fragments (3:1, 5:1) are at 70 degrees BCA and lie in a more strongly sericitized groundmass. 36.5 36.7 Felsic Tuff Chill contact, Light yellow-green tinted section is aphanitic, highly siliceous and sericiti									
36.8	56.2	**FTCZ Quartz Crystal-bearing Felsic Tuff** Medium to light grey green, well foliated as depicted by granular tetxured, sericitic groundmass enveloping light quatz-feldspar lithic fragments. Light blue 2-5mm light blue qtz eyes present sparsely throughout section. Foliation at 50-70 degrees BCA At 53.7 qtz eyes are more abundant over a 20cm interval. Proportion of lapilli increase towards the lower contact. 38.4 38.6 Mafic Dyke or Sill 45.9 46.0 Fault sericitic and clay rich with abundant felsic fragments.									
56.2	64.3	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Medium to dark grey, banded (lenticular) to thin laminated (contorted/folded and transposed) siltstone, cherty siltstone with biotitic partings and biotite+-chlorite tuffaceous wacke. Minor calcareous sediments/limestone interbands are present locally. Lower contact is sharp. 56.2 58.0 Tuffaceous Wacke									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Predominantly dark brownish biotitic wacke with patchy to bandedc chlorite+-feldspar- overprinting alteration.									
		58.0 64.3 Interbanded Siltstone, Mudstone and Wacke									
		Dark grey to brown grey, cherty banded/stretched fragment appearance, highly siliceo includes dark grey vfg tuffaceous bands and coarser grained biotite rich bands and laminations. Locally has a ribboned appearance.									
		58.8 0.0									
		Vague quartzofeldspathic stretched fragments present in a vfg aphanitic intermediate volcanic.									
		59.8 59.9									
		Thin banded limy siltstone to limestone interband. Also at 61.0-61.1 m.									
64.3	66.5	**FTL Felsic Lapilli Tuff** Light grey-green, silica rich stretched fragments (70 degrees BCA for bands/lenses) in a moderate to strong sericitized qtz-feldspar matrix, minor qtz eyes(2-4mm)									
66.5	69.0	**ET Re-sedimented/Epiclastic Tuff** Medium to brownish grey, vaguely banded tuff with locally abundant biotitic partings. Variably altered (sericite, chlorite, and biotite), 5-10% lamination concentrations of fg py(locally xcut foliation) one meter below main fault, unit grades to a lapilli tuff towards base.									
		66.6 66.8 Fault									
		sericitized fault gouge									
69.0	70.1	**FTL Felsic Lapilli Tuff** Fine-grained granular textured to locally quartz0feldspathic lapilli-ric, as above. Possible feldspar and qtz crystals noted, strong sericite-muscovite along partings.	R0423000	69.00	70.10	1.10					
70.1	71.7	**ATS Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)** Medium to dark green grey, strong alteration composed of coarse-grained chlorite with lesser random oriented medium to coarse grained dark grey-black fibrous biotite (anthophyllite-tourmaline?) and up to 5%, 1-15 mm porphyroblastic garnets. Sulphides consist of 5-10% lenticular clots of po, trace-3% stringer concentrated cpy, trace sph.	R0423001	70.10	70.80	0.70	0.25	0.07	2.87	5.6	
		70.1 70.8	R0423002	70.80	72.50	1.70	0.06	0.05	2.03	4.1	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Strong chlorite-biotite alteration and 5-10% lenticular clots of po, trace-3% stringer concentrations of cpy-sp.									
		70.8 71.7 Felsic Tuff									
		Unit becomes more siliceous with crystal tuff character.									
71.7	74.3	**FT Felsic Tuff** Moderate to strongly chlorite-biotite altered, medium to dark green grey felsic tuff. Similar to above, but slightly less altered and mineralized.	R0423003	72.50	73.70	1.20	0.03	0.01	0.34	0.2
			R0423004	73.70	74.20	0.50	0.11	0.08	4.24	7.1
			R0423005	74.20	75.60	1.40	0.02	0.01	0.52	0.9
74.3	75.6	**FT Felsic Tuff** Medium to dark greenish grey, granular felsic tuff with minor siliceous lapillil fragments, weakly chloritic and sericitized. Becomes more sericitic towards base. S1 at 80 degrees to BCA.									
75.6	79.1	**MD Mafic Dyke or Sill** Medium to dark brownish grey, fine grained biotite+-chlorite schist with 5% qtz-calcite "stringers" (oriented near parallel to internal banding) imparting a well banded (tightly folded) appearance. Unit is relatively un-altered and unmineralized containing 2% disseminated wispy py.									
		76.9 79.1									
		Medium to dark grey banded interval as above, but more siliceous (possible tuffaceous wacke??)									
		77.4 77.6									
		light grey-green colour (sericitized), aphanitic chill?									
		79.0 0.0									
		possible feldspar porphyritic textures.									
79.1	79.9	**FTL Felsic Lapilli Tuff** Dark to medium green grey, chloritic, siliceous interval with vaguely banded with stretched lapilli-locally imparting a ribbony texture. Locally bands contain <3 mm whitish feldspar and light grey quartz crystals. Contains trace-5% py-po and lesser sp+-galena.	R0423006	79.10	79.90	0.80	0.03	0.15	1.61	2.9
		79.8 79.9									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Becomes more siliceous/cherty with 5% fine green chloritic porphyroblasts and 10% fi intergranular sphalerite-po-py+-ga-cpy.									
79.9	83.0	**OMS** **Massive Sulphides (>60%)** Interval comprises 70 % networked, very fine-grained intergrown po+-sp with coarse, subrounded quartz and minor feldspathic and/or albite(?) fragments grading into down hole into generally 30-60% sulphides comprising 5-20% coarse disseminated "buckshot" py and 3-15% sp, 5 % vfg ga (aspy?), 1-3% stringer wisp cpy associated with po and qtz veins. Clotty coarse sphalerite-galena also associated wth qtz veins.	R0423007	79.90	80.80	0.90	0.55	9.05	21	123.2	
			R0423008	80.80	81.90	1.10	0.29	7.55	14	96.3	
			R0423009	81.90	83.00	1.10	0.37	6.09	11.0	73	
		79.9 80.6 Massive Sulphides (>60%)									
		High grade massive sulphides comprising 70% very fine intergrown po-sph, 5-10% py 5% very fine disseminated cpy. Trace-2% galena, minor vfg aspy(?) at base.									
		80.6 83.0									
		up to 5-10%, fg to vfg steely blue metallic mineral (needles apparent in cut section) is present - likely galena (possible aspy?).									
		80.6 81.3 Crudely Banded, Buckshot Textured Massive Sulphides									
		High grade, generally not internally banded massive sulphides but with 10-30%, well developed buckshot textured < 2 mm pyrite and trace-3% magnetite grains with 20-50' intergranular sp-ga-cpy. Intergranular matrix comprises clear quartz and possible clea greenish grey albite(?).									
		81.3 83.0 Quartz Crystal-bearing Felsic Tuff									
		High grade semi-massive sulphide interval due to increased clotty quartz-feldspar. Loc blue grey quartz crystals are present in tuff intervals. Sulphides comprise 20-30% po i irregular bands and quartz stringers, 10-15% "buckshot" py in sp+-ga semi-massive to massive sulphide bands containing tr-5% cpy-wispy to network textured. Trace-5% magnetite porphyroblasts are present.									
83.0	92.7	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Strongly altered quartz-bearing felsic tuff containing 1-3%, <3 mm subrounded to rounded light bluish grey opalescent quartz crystals scattered throughout. Fine porphyroblastic biotite is also present throughout. Tuff grades locally to lapilli tuff. Mineralization consists of 5% po-py and sp wisps, minor vfg ga-aspy(?), trace-2% cpy.	R0423010	83.00	83.55	0.55	0.12	1.89	2.65	19.3	
			R0423011	83.55	85.00	1.45	0.41	1.25	3.12	20.3	
			R0423012	85.00	86.25	1.25	0.1	0.58	0.71	5.8	
			R0423013	86.25	86.75	0.50	0.03	1.42	2.14	10	
			R0423014	86.75	88.50	1.75					
			R0423015	88.50	90.70	2.20					
			R0423016	90.70	91.20	0.50	0.2	1.25	2.13	8.4	
			R0423017	91.20	92.00	0.80					
			R0423018	92.00	92.70	0.70					
		83.0 83.6 Felsic Crystal Tuff									
		chloritic felsic crystal tuff-lapilli tuff with 20 cm qtz vein and stringers to disseminated p galena (aspy?) and sph mineralization									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		83.6 84.1 Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides) Heavy (15-30%) disseminated and stringer 10-20% po, buchshot py and minor sp and (aspy?). Trace cpy in localized network stringer concentrations.									
		86.3 89.6 Felsic Tuff coarse grained sericite and chlorite alteration, 5-10% cg py, trace sph(86.25-86.75), pc cordierite									
		86.8 87.2 Banded Sericite-Muscovite Altered Quartz-Sericite Schist increased muscovite (still chloritic) alteration associated with veining.									
		87.2 0.0 Quartz Vein 5 cm quartz vein with coarse-grained galena.									
		88.5 89.1 Fault highly schistose and rubbly									
		90.2 91.9 Quartz Crystal-bearing Felsic Tuff Quartz crystal bearing tuff (QFP?) containing 10-20% quartz crystals in crude banded interval. 20-30% banded po, 10% py, tr cpy									
92.7	94.2	**QZVN Quartz Vein** Numerous folded/disrupted quartz veins and stringers with sericitic/muscovitic margins in a brecciated quartz crystal bearing tuff unit. 20-30% po-py and clots of coarse chalcocite/covellite (sphalerite?) and minor cpy-ga(sulphosalts?)-sp occr witin the veins.	R0423019	92.70	94.20	1.50	0.17	2.69	4.82	15.8	
94.2	96.7	**FTCZ Quartz Crystal-bearing Felsic Tuff** Dark green grey interval, similar to overlying crystal tuff, but more siliceous with 5-25% quartz-feldspar and lesser light grey quartz crystals (occasional opalescent blue grey quartz) - possible QFP? - crowded QFP textures at 96.1-96.65 m. Contains 10-20% po, 5% py, tr cpy(banded and stringer concs), trace vfg asp, vague banded texture may indicate that this is a lapilli tuff. Between 96.1 to 96.65 - a more typical qfp texture.	R0423020 R0423021	94.20 95.65	95.65 96.65	1.45 1.00	0.17 0.07	2.75 0.19	3.53 2.13	14.8 1.5	
96.7	100.2	**FTG Granular Felsic Tuff** Granular felsic tuff with occasional light blue grey, opalescent quartz crystals and locally vague lapilli-laminated textures. Alteration includes chlorite-biotite, minor garnet	R0423022	96.65	97.85	1.20	0.03	0.51	1.81	3.4	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		porphyroblasts near top of section, 2-5% laminated py, minor po.	R0423023	97.89	99.10	1.25	0.04	0.44	1.5	3.2	
		At 99.75 a 2cm qtz str carrying py, po, cpy min	R0423024	99.10	100.20	1.10	0.08	0.35	1.74	3.3	
		99.8 0.0 Quartz Vein									
		2 cm quartz stringer vein with py-po-cpy.									
		100.2 101.3 Re-sedimented/Epiclastic Tuff									
		very siliceous, vague laminations-bands at 45 degrees BCA.									
		101.8 102.9 Quartz Vein									
100.2	101.3	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Medium to dark grey, laminated to well banded (45 degrees to BCA), clean/siliceous siltstone/cherty felsic tuff with minor muscovite-biotite partings and cut by late thin quartz-sulphide veinlets.									
101.3	103.8	**FTG Granular Felsic Tuff** As above.	R0423025	101.80	102.90	1.10	0.06	0.13	0.92	6.3	
103.8	104.1	**MD Mafic Dyke or Sill**									
104.1	106.6	**FT Felsic Tuff** Medium grey, sericitic fine ash tuff/epiclastic tuff(?) with local chlorite and biotite rich bands, minor qtz eyes below 105 m.									
		104.1 104.5 Siltstone									
		medium grey siliceous banded tuff/siliceous siltstone (metasediments), as above.									
		104.5 105.0 Aphyric Felsic Tuff									
		very fine-grained siliceous with sericitic partings.									
		105.0 106.6									
		Mixed felsic ash tuff/crystal tuff and epiclastic tuff with biotitic partings.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

106.0 106.2 Quartz Vein

106.4 106.4 Quartz Tourmaline Vein

106.6 109.0 **TSK** **Tuffaceous Wacke**

Medium to dark brownish grey, biotitic-chloritic tuffaceous wacke and medium to dark grey siliceous siltstone.

106.7 106.8 Fault

minor fault gouge.

107.5 108.0 Siltstone

Thin banded siliceous metasediments.

108.0 108.4 Mafic Dyke or Sill

dark green, medium grained, fg biotite imparts foliation at 60 degrees BCA.

108.4 109.0 Siltstone

Thin banded siltstone/tuffaceous wacke.

109.0 110.2 **MD** **Mafic Dyke or Sill**

Coarse grained biotite and chlorite/amphibole schist, sericitic chill at top, more biotite rich at base.

110.2 113.8 **SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke**

Dark to medium grey, banded, siliceous to locally dark argillaceous siltstone and tuffaceous siltstone/wacke overprinted by patchy chlorite+-quartz-calcite-biotite alteration.

113.8 119.9 **TSK** **Tuffaceous Wacke**

Medium to dark grey, vfg, soft aphanitic chlorite-biotite schist with distinctive biotite porphyroblasts and weak chlorite+-biotite alteration. This grades into mixed biotitic tuffaceous wacke and siliceous siltstone. Vague well stretched lapilli (70 degrees BCA,5:1)

115.0 116.9

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		More chloritic biotitic wackes with abundant disrupted/folded quartz+-calcite-chlorite patchy/banded alteration overprinting the biotitic schists.									
		116.9 119.9 Mixed metasediments (biotitic tuffaceous wacke and light-medium grey siliceous siltstc minor light green sericitic alteration, localized calcite stringers.									
119.9	135.9	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Medium to dark grey, siliceous, strongly S2 transposed metasediments (siltstone, wacke and minor mudstone) producing a highly stretched vfg-aphanitic fragmental texture. S1 80 degrees BCA strongly imparted by vague biotite rich lamellae. Unit is cut by numerous thin mafic dykes.	R0423026	130.20	130.75	0.55					
		122.4 126.5 Tuffaceous Wacke Mixed interval of silicous, fine-grained crudely banded biotitic tuffaceous wacke, epicla and siliceous fine felsic tuff									
		123.0 123.4 Mafic Dyke or Sill medium to dark green, coarse grained biotite-amphibole-feldspar intrusive.									
		125.2 126.2 Mafic Dyke or Sill As above.									
		126.5 127.0 Interbanded Siltstone, Mudstone and Wacke Dark grey thin banded cherty, argillaceous siltstone									
		126.9 131.1 Fault Crushed and gouged dark grey argillaceous metasediments (possible weak conductivi to minor carbon). Local interval of creamy grey sericite+-Fecarbonate alteration with n quartz-py veinlets.									
		127.0 127.7 Tuffaceous Wacke relatively more massive, biotitic siliceous unit with patchy chlorite/sericite-calcite+-quar overprinting alteration.									
		127.7 129.6 Interbanded Siltstone, Mudstone and Wacke As above.									
		129.4 131.0 Fault autobrecciated and recrystallized wavy fault, minor 1-2 cm py frags in light clay.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		130.2 130.8 Felsic Tuff sericite									
		sericite altered band foliation 20 degrees BCA with abundant py stringers linked to a m band abutting against a qtz vein at base.									
		131.1 131.9 Interbanded Siltstone, Mudstone and Wacke									
		As above.									
		131.9 132.8 Mafic Dyke or Sill									
		ada, coarse grained, moderate to weak foliation 70 degrees BCA.									
		132.8 133.2									
		More massive to weakly banded tuffaceous wacke/epiclstic felsic tuff.									
		133.2 135.9 Interbanded Siltstone, Mudstone and Wacke									
		medium to dark grey brown, locally biotite rich, heterolithic fragments/clasts (ie black c conglomeratic or tectonic?); minor calcite lenses and stringers.									
135.9	141.8	**ET Re-sedimented/Epiclastic Tuff** Light to dark brownish grey, siliceous thin banded to ribboned epiclastic tuff (lapilli tuff?) with occasional quartz crystals and light yellow-green centimetric to decimetric scale sericite/chlorite+-calcite alteration bands (distinct boundaries) associated with quartz-sericite/chlorite+-calcite veinlets. 139.9 141.8 increasing biotite content.									
141.8	144.5	**MT Mafic Ash Tuff/Hyalotuff** banded dark green chloritic rock with fibrous amphibole (biotite?) and overprinting light greenish sericitic-feldspathic-calcitic bands interbanded alteration with 2% wispy py.									
144.5	145.9	**TSK Tuffaceous Wacke** banded unit as described in 135.9 - 141.8, > biotite and greater sericite and chlorite alteration									
145.9	147.6	**HFT Cherty or Siliceous Felsic Tuff** Thin banded, light biege to green grey cherty flesic tuff with minor feldspar crystal tuff (FP?) intervals									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		146.0 146.2 Felsic Crystal Tuff									
		146.7 147.1 Felsic Crystal Tuff light green grey, aphanitic, sericitically altered, possibly a chill suggesting intrusive orig									
		147.1 147.5 Medium grey, granular to vaguely laminated cherty tuff/siltstone - 70 degrees to BCA.									
		147.5 147.6 Fault Disrupted faulted zone with chlorite and cherty black siliceous fragments/lamellae.									
147.6	148.8	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Minor cherty laminations/fragments in a chlorite-biotite-feldspar+-calcite schist									
148.8	153.4	**TSK Tuffaceous Wacke** Quartz-biotite wackes with light grey green, sericitized-lenticular to mottled appearance due to patchy sericite/chlorite+-calcite alteration associated with quartz+-feldspar-calcite veinlets.. At 52.6 foliation is at 50 to 60 degrees BCA 149.3 149.6 Mafic Dyke or Sill coarse grained chlorite-amphibole rich 149.6 151.1 Granular Felsic Tuff minor vfg disseminated biotite 150.2 150.8 Cherty or Siliceous Felsic Tuff 152.6 0.0 Foliation is at 50-60 degrees to BCA. 152.9 153.4 Mafic Dyke or Sill Vaguely banded amphibole/chlorite-biotite and biotite+-chlorite, coarse grained schist; possible tuffaceous wacke?									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
153.4	156.9	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Medium to dark grey, finely laminated, minor cherty laminations. 154.2 154.9 sericite altered bands or fragments-locally with feldspar porphyritic textures									
156.9	158.4	**TSK** **Tuffaceous Wacke** Medium grey, well foliated, highly variable textures including vague fragmental-xtal tuff textures, decimetric scale bands of chlorite or sericite alteration, wavy laminated appearance with locally dark grey-black cherty fragments. 157.3 157.6 Mafic Dyke or Sill At 157.1 amygdaloidal texture in chlorite schist??									
158.4	160.4	**FP** **Feldspar Porphyry** Light to medium grey, fine-grained aphanitic siliceous intrusive with up to 1 cm quartz and feldspar phenocrysts with increasing phenocrysts towards the lower contact. Well foliated, vaguely banded textured and very siliceous.									
160.4	166.1	**TSK** **Tuffaceous Wacke** As above. 161.8 162.0 Quartz Vein 164.0 164.6 highly strained hinge zone to large scale fold. S1 at low angle to BCA and high angle 165.0 165.4 Mafic Ash Tuff/Hyalotuff dark green, vfg chloritic mafic tuff, minor sericitic bands, minor bands richer in coarse biotite.									
166.1	168.8	**MT** **Mafic Ash Tuff/Hyalotuff** Light to medium grey green mafic tuff/tuffaceous wacke with alternating bands of chloritic schist and overprinting centimetric to decimetric sericite/chlorite bands, 5% wispy po concentrations, basal 1/2 metre more biotite rich sericitic alteration									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
168.8	170.1	**FP** **Feldspar Porphyry** Medium grey, well foliated, moderately to vaguely banded, stretched feldspars form augen (FP or possible feldspar crystal tuff?) porphyritic banded concentrations ie coarse grained feldspathic zones host most phenocrysts. Still locally biotitic bands (wacke) with patchy sericite/chlorite+-calcite alteration patches.									
170.1	179.6	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Siltstone and tuffaceous wacke irregularly interbedded, finely laminated and irregular lenses of qtz, chlorite and biotite, biotite and chlorite dominate lower metre. At 173.5 lamination BCA is at 60 degrees 171.4 172.0 Granular Felsic Tuff granular textured felsic tuff with minor qtz eyes 175.7 179.7 greater banded concentrations of irregular fragments									
179.6	186.0	**MT** **Mafic Ash Tuff/Hyalotuff** Thin interbanded chloritic and chlorite-biotite schist +-calcite representing mafic tuffs or epiclastic mafic tuff?; possible MD? 185.0 185.3 Felsic Dyke or Sill vaguely banded siliceous feldspathic dyke. 185.5 186.0 Mafic Dyke or Sill biotite rich, moderately calcareous.									
186.0	187.6	**TSK** **Tuffaceous Wacke** Dark grey-green with irregular light grey green bands and lenses, 186.7 186.8 Feldspar Porphyry feldpar porphyritic fragment or a dyke 186.8 187.2 Mafic Dyke or Sill									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		187.2 187.2 Feldspar Porphyry ada									
187.6	188.1	**FD** **Felsic Dyke or Sill** Medium grey, fine-medium grained with sharp contacts; , minor < 5mm garnets									
188.1	188.7	**TSK** **Tuffaceous Wacke** Dark grey green, medium grained, vaguely compositionally banded, chloritic and biotitic rock.									
188.7	190.3	**ET** **Re-sedimented/Epiclastic Tuff** Vaguely banded, very siliceous lapilli tuff (coarse epiclastic tuff/wacke??) with local biotite and chlorite rich bands									
190.3	191.1	**MD** **Mafic Dyke or Sill** Dark green, medium grained									
191.1	192.9	**TSK** **Tuffaceous Wacke** Mixed interval with irregular qtz and feldspar lenses in a well foliated biotite rich matrix with variable chlorite/sericite+-calcite overprinting alteration.									
192.9	194.2	**MT** **Mafic Ash Tuff/Hyalotuff** As above; irregularly banded, biotite and chlorite rich bands with strong overprinting light green quartz-feldspar-chlorite+-calcite patches and bands, tr py									
194.2	195.7	**TSK** **Tuffaceous Wacke** Very siliceous cherty fine-grained tuffaceous biotite chlorite feldspar schist, generally medium grained but varying locally to fine grained and distinctly compositionally banded units. 194.7 194.8 Mafic Dyke or Sill									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
195.7	201.9	**TSK** **Tuffaceous Wacke** Interbanded tuffaceous wacke and hyalotuff, chloritic+-calcite bands with irregular light green felsic crystalline bands are locally separated by tuffaceous wacke.									
201.9	206.1	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Medium to dark grey tuffaceous wacke and siltstone, lacks the chlorite-sericite alteration banding of surrounding units.									
206.1	207.6	**TSK** **Tuffaceous Wacke** Rubbly, highly chloritic and biotitic; as above.									
207.6	209.9	**MD** **Mafic Dyke or Sill** Dark green, fine to medium equigranular; fine biotite imparts foliation at 60 degrees BCA									
209.9	213.9	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Dark grey-brown, banded (biotite) and green (chlorite) banded siliceous interval, minor thin hyalotuff (alteration?) bands									
213.9	225.1	**TSK** **Tuffaceous Wacke** Mixed interval including predominantly weakly banded, biotite and biotite-chlorite-quartz tuffaceous wacke cut by numerous mafic dykes.oarser grained dark grey green wacke 214.8 216.0 Mafic Dyke or Sill Dark grey, fg, late (moderately foliated) intermediate dyke, mn 1-2mm light grey-biege-porphyroblasts (garnet?), but appear weakly hexagonal. 217.1 217.3 Equigranular tuffaceous wacke band 218.3 218.4 Mafic Ash Tuff/Hyalotuff Dark grey green, vfg, well foliated chloritic band 218.8 219.2 Mafic Dyke or Sill Fine to medium grained, dark green									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		220.9 221.3 Mafic Dyke or Sill As above.									
		221.3 224.5 Granular textured, dark grey brown and green, rubbly towards base									
225.1	227.3	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Cherty bands and laminations, rare cherty fragments at base in cg biotite rich rock.									
227.3	229.7	**TSK Tuffaceous Wacke** Irregularly and vaguely banded dark grey-brown (biotite content(and green(chlorite content), rubbly at base									

Assay Report

HOLE #: R04-005

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
69.00	70.10	R0423	5051	1.10	119	13					
70.10	70.80	R0423	5052	0.70	29330	588	0.25	0.07	2.87	5.6	
70.80	72.50	R0423	5053	1.70	19650	468	0.06	0.05	2.03	4.1	
72.50	73.70	R0423	5054	1.20	2860	63	0.03	0.01	0.34	0.2	
73.70	74.20	R0423	5055	0.50	43110	788	0.11	0.08	4.24	7.1	
74.20	75.60	R0423	5056	1.40	4885	120	0.02	0.01	0.52	0.9	
79.10	79.90	R0423	5057	0.80	15800	1425	0.03	0.15	1.61	2.9	
79.90	80.80	R0423	5058	0.90	1E+05	1E+05	0.55	9.05	20.98	123.2	
80.80	81.90	R0423	5059	1.10	1E+05	83280	0.29	7.55	13.97	96.3	
81.90	83.00	R0423	5060	1.10	1E+05	66370	0.37	6.09	11.04	73	
83.00	83.55	R0423	5061	0.55	26850	21170	0.12	1.89	2.65	19.3	
83.55	85.00	R0423	5062	1.45	31580	12860	0.41	1.25	3.12	20.3	
85.00	86.25	R0423	5063	1.25	7893	5948	0.1	0.58	0.71	5.8	
86.25	86.75	R0423	5064	0.50	24070	18560	0.03	1.42	2.14	10	
86.75	88.50	R0423	5065	1.75	5023	5194					
88.50	90.70	R0423	5066	2.20	3046	2408					
90.70	91.20	R0423	5067	0.50	20900	12830	0.2	1.25	2.13	8.4	
91.20	92.00	R0423	5068	0.80	7834	4474					
92.00	92.70	R0423	5069	0.70	406	38					
92.70	94.20	R0423	5070	1.50	49570	29100	0.17	2.69	4.82	15.8	
94.20	95.65	R0423	5071	1.45	36370	29520	0.17	2.75	3.53	14.8	
95.65	96.65	R0423	5072	1.00	19820	1458	0.07	0.19	2.13	1.5	
96.65	97.85	R0423	5073	1.20	17120	4575	0.03	0.51	1.81	3.4	
97.89	99.10	R0423	5074	1.25	14740	4243	0.04	0.44	1.5	3.2	
99.10	100.20	R0423	5075	1.10	16520	3488	0.08	0.35	1.74	3.3	
101.80	102.90	R0423	5076	1.10	9770	1291	0.06	0.13	0.92	6.3	
130.20	130.75	R0423	5077	0.55	203	45					

Mag Susceptibility Log

Collar_Hole_ID	R04-005	**Project**	R-15	**Total Length**	229.7
Azimuth	180	**Dip**	-60.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
26.00	1.73		84.00	58.90	
28.00	1.22		86.00	17.50	
30.00	0.25		88.00	4.35	
32.00	3.14		90.00	2.34	
34.00	2.56		92.00	1.46	
36.00	0.03		93.30	37.10	
38.00	0.76		94.00	0.20	
40.00	0.40		96.00	9.82	
42.00	0.30		98.00	0.43	
44.00	0.73		100.00	0.16	
46.00	0.03		102.00	3.68	
48.00	0.05		104.00	0.29	
50.00	0.87		106.00	0.03	
52.00	2.04		108.00	0.14	
54.00	0.43		110.00	1.06	
56.00	0.01		112.00	0.10	
58.00	2.06		114.00	1.88	
60.00	0.18		116.00	0.20	
62.00	0.09		118.00	0.03	
64.00	0.29		120.00	5.83	
66.00	0.12		122.00	0.16	
68.00	0.43		124.00	0.18	
70.00	2.15		126.00	1.37	
72.00	0.20		128.00	1.09	
74.00	0.56		130.00	0.09	
76.00	0.43		132.00	0.87	
78.00	0.40		134.00	0.07	
80.00	17.20		136.00	0.05	
82.00	53.60		138.00	2.01	

Meters	Susceptibility	Notes
140.00	1.24	
142.00	2.96	
144.00	4.28	
146.00	0.10	
148.00	0.20	
150.00	0.20	
152.00	0.16	
154.00	0.21	
156.00	0.12	
158.00	0.47	
160.00	0.21	
162.00	0.10	
164.00	0.10	
166.00	9.71	
168.00	0.76	
170.00	0.10	
172.00	0.05	
174.00	0.21	
176.00	0.23	
178.00	0.84	
180.00	0.40	
182.00	0.29	
184.00	0.38	
186.00	0.29	
188.00	0.14	
190.00	0.34	
192.00	3.05	
194.00	1.35	
196.00	0.89	
198.00	0.32	
200.00	0.01	
202.00	0.05	
204.00	0.07	
206.00	0.09	
208.00	0.89	
210.00	0.10	
212.00	0.34	
214.00	0.32	
216.00	0.23	
218.00	0.29	
220.00	0.38	
222.00	0.47	
224.00	0.58	
226.00	2.63	
228.00	0.29	
229.70	0.43	

Recovery for: R04-005

From	To	Meters	Meters Rec.	% Recovered	Comments
24.40	26.20	1.80	1.80	100.00	
26.20	29.30	3.10	3.10	100.00	
29.30	32.30	3.00	3.00	100.00	
32.30	34.50	2.20	3.10	140.91	
34.50	38.40	3.90	3.10	79.49	
38.40	40.20	1.80	1.80	100.00	
40.20	43.30	3.10	3.10	100.00	
43.30	46.30	3.00	3.00	100.00	
46.30	47.50	1.20	1.20	100.00	
47.50	50.60	3.10	3.10	100.00	
50.60	53.60	3.00	3.00	100.00	
53.60	56.70	3.10	3.10	100.00	
56.70	59.70	3.00	3.00	100.00	
59.70	62.80	3.10	3.10	100.00	
62.80	64.00	1.20	1.00	83.33	
64.00	64.90	0.90	0.80	88.89	
64.90	65.80	0.90	0.90	100.00	
65.80	68.90	3.10	3.10	100.00	
68.90	71.90	3.00	3.00	100.00	
71.90	75.00	3.10	3.10	100.00	
75.00	78.00	3.00	3.00	100.00	
78.00	79.20	1.20	1.20	100.00	
79.20	81.10	1.90	1.80	94.74	
81.10	84.10	3.00	3.00	100.00	
84.10	87.20	3.10	3.00	96.77	
87.20	87.60	0.40	0.35	87.50	
87.60	89.00	1.40	0.75	53.57	
89.00	89.30	0.30	0.25	83.33	
89.30	90.20	0.90	0.80	88.89	
90.20	93.10	2.90	2.90	100.00	
92.10	96.00	3.90	2.70	69.23	
96.00	99.10	3.10	2.90	93.55	
99.10	99.70	0.60	0.55	91.67	
99.70	101.80	2.10	2.10	100.00	
101.80	102.70	0.90	0.80	88.89	
102.70	105.50	2.80	2.80	100.00	
105.50	108.50	3.00	3.00	100.00	
108.50	110.00	1.50	1.50	100.00	
110.00	112.50	2.50	2.00	80.00	
112.50	113.20	0.70	0.50	71.43	
113.20	114.60	1.40	1.40	100.00	
114.60	116.40	1.80	1.70	94.44	
116.40	119.50	3.10	3.10	100.00	
119.50	122.50	3.00	3.00	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
122.50	123.70	1.20	1.30	108.33	
123.70	125.00	1.30	1.20	92.31	
125.00	125.60	0.60	0.50	83.33	
125.60	126.80	1.20	1.10	91.67	
126.80	129.80	3.00	3.00	100.00	
129.80	132.90	3.10	3.10	100.00	
132.90	135.90	3.00	3.10	103.33	
135.90	137.30	1.40	1.40	100.00	
137.30	139.00	1.70	1.70	100.00	
139.00	142.00	3.00	3.00	100.00	
142.00	145.10	3.10	3.10	100.00	
145.10	147.10	2.00	1.85	92.50	
147.10	148.70	1.60	1.60	100.00	
148.70	151.20	2.50	2.40	96.00	
151.20	154.10	2.90	2.90	100.00	
154.10	157.10	3.00	3.00	100.00	
157.10	159.60	2.50	2.40	96.00	
159.60	162.00	2.40	2.20	91.67	
162.00	165.00	3.00	3.00	100.00	
165.00	168.10	3.10	3.10	100.00	
168.10	169.50	1.40	1.40	100.00	
169.50	172.50	3.00	3.00	100.00	
172.50	175.60	3.10	3.20	103.23	
175.60	177.50	1.90	1.90	100.00	
177.50	180.60	3.10	2.90	93.55	
180.60	183.50	2.90	2.90	100.00	
183.50	184.70	1.20	1.20	100.00	
184.70	185.30	0.60	0.60	100.00	
185.30	187.80	2.50	2.45	98.00	
187.80	190.80	3.00	3.00	100.00	
190.80	193.80	3.00	3.00	100.00	
193.80	196.90	3.10	3.10	100.00	
196.90	199.90	3.00	3.00	100.00	
199.90	203.00	3.10	3.10	100.00	
203.00	206.00	3.00	3.00	100.00	
206.00	207.40	1.40	1.40	100.00	
207.40	209.10	1.70	1.70	100.00	
209.10	211.80	2.70	2.70	100.00	
211.80	214.90	3.10	3.10	100.00	
214.90	218.10	3.20	3.20	100.00	
218.10	221.10	3.00	3.00	100.00	
221.10	223.30	2.20	1.90	86.36	
223.30	225.70	2.40	2.40	100.00	
225.70	226.60	0.90	0.80	88.89	
226.60	229.70	3.10	3.10	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
	Total:		201.5		

Summary Log R04-006

Project: R-15

AT: 420300 E 6812565 N **Azimuth** 180 **Dip:** -70 **Total Length** 135.2 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	22.2	Overburden			
22.2	24.6	Mafic Dyke or Sill			
24.6	25.7	Felsic Lapilli Tuff			
25.7	26.2	Re-sedimented/Epiclastic Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
26.2	26.5	Felsic Tuff			
26.5	26.8	Tuffaceous Wacke			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
26.8	27.2	Felsic Tuff			
27.2	34.8	Tuffaceous Wacke			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
34.8	36.4	Quartz Crystal-bearing Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
36.4	38.9	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
38.9	42.0	Quartz Crystal-bearing Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
42.0	43.4	Felsic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
43.4	44.1	Felsic Tuff			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
44.1	58.9	Interbanded Siltstone, Mudstone and Wacke			
58.9	59.6	Granular Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
59.6	61.1	Re-sedimented/Epiclastic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
61.1	65.7	Granular Felsic Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
65.7	66.5	Mafic Dyke or Sill			
66.5	67.4	Felsic Tuff			
67.4	67.6	Quartz Vein			
67.6	68.5	Granular Felsic Tuff			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
68.5	70.6	Massive Sulphides (>60%)			

70.6	71.9	Semi-Massive Sulphides (40-60%)		Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration
71.9	87.2	Quartz Crystal-bearing Felsic Tuff		Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
87.2	88.1	Semi-Massive Sulphides (40-60%)		Semi-Massive Sulphide Disseminations/Veins (40-60%) in Strong Proximal Alteration
88.1	94.2	Quartz Crystal-bearing Felsic Tuff		Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
94.2	96.3	Re-sedimented/Epiclastic Tuff		
96.3	100.8	Quartz Crystal-bearing Felsic Tuff		Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
100.8	102.1	Interbanded Siltstone, Mudstone and Wacke		
102.1	105.1	Cherty or Siliceous Felsic Tuff		
105.1	107.8	Interbanded Siltstone, Mudstone and Wacke		
107.8	109.8	Re-sedimented/Epiclastic Tuff		
109.8	110.6	Interbanded Siltstone and Tuffaceous Wacke		
110.6	123.1	Tuffaceous Wacke		
123.1	125.6	Interbanded Siltstone and Tuffaceous Wacke		
125.6	128.4	Tuffaceous Wacke		
128.4	129.6	Re-sedimented/Epiclastic Tuff		
129.6	132.2	Tuffaceous Wacke		
132.2	135.2	Felsic Dyke or Sill		

Hole_ID	**R04-006**	**Hole_Type**	Diamond	***Purpose/Comments***
x	420300	**Survey_Type**	Sperry Sun	Drill test up-dip of the 3.1 metre massive sulphide intercept in K04-200 and to test the UTEM interpretation (possible fold repetition to depth or shallow dipping sheet?). Core boxes labelled as K04-201.
y	6812565	**Drill_Type**	Fly 38	
z	1295	**Hole_Diamete**	NQ	
Azimuth	180	**Drill_Operator**	E Caron	
Dip	-70			
Total Length	135.2			
Location	Yukon	**StartDate**	14-Sep-04	
Grid	Grid 2	**EndDate**	17-Sep-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	180	-70.0
134.1	172	-68.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*		*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	22.2	**OVB**	**Overburden**									
22.2	24.6	**MD**	**Mafic Dyke or Sill**									
		Medium green to brown coloured, fine to medium-grained chlorite-biotite+-calcite, well foliated mafic dyke/sill cut by quartz-calcite veins and veinlets. Broken towards lower contact.										
24.6	25.7	**FTL**	**Felsic Lapilli Tuff**									
		Medium to light grey, siliceous fine-grained quartzo+-feldspathic+-sericte-biotite felsic lapilli tuff (felsic porphyry dyke/sill?) with trace-5%, 1-3 mm grey quartz and vague feldspar crystals throughout. Elsewhere streaky to fine lensoidal fragments appear more like quartzofeldspathic lapilli. Broken at contacts.										
25.7	26.2	**ET**	**Re-sedimented/Epiclastic Tuff**									
		Medium greenish grey siliceous epiclastic felsic tuff/felsic tuff overprinted by chlorite-quartz+-sericite alteration and containing trace-5% fine wispy disseminated pyrrhotite-pyrite.										

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
26.2	26.5	**FT Felsic Tuff** Similar to above with higher biotite content and finer (<1-2 mm) quartz crystals (felsic crystal bearing tuff) and occasional siliceous lapilli. Contains trace-1% very fine pyrrhotite-pyrite.									
26.5	26.8	**TSK Tuffaceous Wacke** Dark brownish grey, thin banded to near laminated biotite-quartz tuffaceous wacke (felsic tuff?) altered by chlorite-biotite and containing 2-5% fine disseminated pyrrhotite and streaky disseminations and veinlet and blebby pyrite associated with dark green-black chlorite alteration. Several vague quartz-chlorite veins are present with possible fine sphalerite in biotitic margins?									
26.8	27.2	**FT Felsic Tuff** As above; locally cut by vague silica-chlorite+-pyrrhotite veins. Also late pyritic fractures at low angle to CA.									
27.2	34.8	**TSK Tuffaceous Wacke** Dark brownish grey, thin banded to near laminated biotite-quartz tuffaceous wacke (felsic tuff?) altered by chlorite-biotite and containing 2-5% fine disseminated pyrrhotite and streaky disseminations and veinlet and blebby pyrite associated with dark green-black chlorite+-silica-biotite-calcite alteration. Trace-1% fine galena and sphalerite also found as disseminations and within silica-chlorite+-calcite bands/veins. Late pyritic fractures are locally abundant. Minor intervals of quartz+-feldspar phyric siliceous felsic tuff. Sharp lower contact. 30.5 30.7 Felsic Crystal Tuff Thin medium to light grey, siliceous felsic crystal tuff (QFP?), as above, with 1-2%, <1-bluish grey quartz and 5%, 1-3 mm whitish feldspar crystals. 30.9 31.2 Felsic Crystal Tuff As above. Increased crystal content.									
34.8	36.4	**FTCZ Quartz Crystal-bearing Felsic Tuff** Light grey sericitic felic tuff (crystal tuff?) with 2-5%, <1-4 mm subrounded, light blue grey quartz crystals and 2-5%, <1-3 mm white feldspar crystals in a fine-grained quartzofeldspathic+-sericite matrix. Contains trace-2% fine disseminated pyrite+-pyrrhotite and pyritic fractures; occasional quartz-pyrite+-po veinlet. Sharp lower contact.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
36.4	38.9	**FTL Felsic Lapilli Tuff** Light grey sericitic felsic lapilli tuff to felsic tuff containing localy abundant whitish fine-grained quartzofeldspathic lapilli (up to few cms - stretched/flattened) in a siliceous and sericitic fine, granular matrix. Appears to have a normally graded top. Contains occasional quartz-pyritte+-pyrrhotite deformed veinlets and trace-1% po-py disseminations. Becomes slightly biotitic towards lower contact.									
38.9	42.0	**FTCZ Quartz Crystal-bearing Felsic Tuff** Light to medium grey, biotitic silcieous felsic tuff (crystal tuff) with abundant <1-2 mm light bluish grey quartz and grey quartz in a siliceous sericite-biotite matrix. Crudely banded reflecting varying proportions of crystals. Local siliceous lapilli are also present. Increasing biotite and related patchy pyrite-pyrrhotite disseminations towards base. Pyrite with medium-grained biotite-chlorite alteration at 41.9 m.									
42.0	43.4	**FT Felsic Tuff** Broken interval (poor core recovery) of dark brownish grey, medium-grained intergranular chlorite-biotite+-sericite with disrupted/deformed quartz-calcite veinlets throughout. Locally appears to be overprinting granular crystal-bearing tuff (above unit). Sulphide content (pyrrhotite-pyrite) is low.									
43.4	44.1	**FT Felsic Tuff** Fine grained, medium to dark greenish grey, soft, felted chlorite+-biotite altered tuff with 5-10% wispy to fine blebby pyrrhotite+-pyrite disseminations. Pyrite also occurs as late S2 parallel seams and in late fractures.									
44.1	58.9	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Mixed interval comprising medium to dark grey thin banded (strongly folded and transposed parallel to S2 - numerous isoclinal fold hinge zones with S0 very evident) cherty siltstone, argillaceous siltstone and lesser biotitic tuffaceous and calcareous wacke and minor thin felsic tuff intervals. Unit contains 1-8% fine to blebby disseminated pyrrhotite+-pyrite (often in finer clastic intervals) and is cut by thin, silica-pyrrhotite+-pyrite veinlets and locally abundant pyritic fractures. Sharp conformable lower contact. 45.5 46.4 Interbanded Calcareous Wacke and Limestone/Marble Interval contains abundant medium to bluish grey marble bandsinterbanded with biotiti pyrrhotitic (2-5%) tuffaceous wacke/epiclastic tuff.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		47.7 48.3 Felsic Tuff Light to medium grey, thin banded felsic tuff (quartzite?) comprising fine granular quart calcite and sericite. Dark bands/laminations are localy argillaceous and/or trace-1%, fi sphalerite+-pyrite on banding parallel fractures. Trace-1% pyrrhotite also.									
		49.9 50.3 Fault Broken and poor core recovery. Fault breccia and minor gouge.									
		52.1 52.3 Interbanded Calcareous Wacke and Limestone/Marble Medium brown, biotitic and calcareous chlorite-quartz tuffaceous wacke.									
		52.8 53.1 Interbanded Calcareous Wacke and Limestone/Marble As above. Locally almost a biotitic marble.									
58.9	59.6	**FTG** **Granular Felsic Tuff** Light to medium grey, massive to crudely banded fine granular tuff with no apparent crystals. Darker laminations/bands contain biotite+-pyrrhotite (possible rare very fine sphalerite?). Trace-5% fine to blebby pyrrhotite disseminations are present.									
59.6	61.1	**ET** **Re-sedimented/Epiclastic Tuff** Medium to dark brownish grey, biotite+-chlorite altered granular felsic tuff to epiclastic tuff with thin intervals of quartz crystal-bearing tuff. Unit also contains distinctive, fine (<1-1.5 mm) magnetite grains and trace-3% fine disseminated pyrrhotite throughout. Thin greenish chlorite-calcite-pyrrhotite veinlets/bands are locally abundant. Sharp upper contact and gradational lower contact.									
61.1	65.7	**FTG** **Granular Felsic Tuff** Similar to above granular felsic tuff (minor quartz crystals near top. Intervals with increasing felted fine-grained sericitic and local strong chlorite alteration (local fine magnetite and garnets) with 2-10% fine disseminated pyrrhotite-pyrite+-spahlerite-rare chalcopyrite increasing down hole below 63.3 m. Pyritic+-pyrrhotite+-chalcopyrite seams and fractures also present.	R0431091	61.10	63.30	2.20					
			R0431092	63.30	65.70	2.40	0.09	0.1	1.19	2.8	
		63.3 65.7 Increasing sericitic/muscovite and patchy strong chlorite alteration. Mineralization incr to 2-15% sulphides.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
65.7	66.5	**MD** **Mafic Dyke or Sill** Thin banded, medium brownish grey, fine-grained biotite+-calcite-quartz interval (epiclastic tuff? or possible hangingwall mafic dyke as in R04-001 and K04-200) cut by irregual swirled quartz-chlorite-calcite+-biotite "veins"(?) with biotitic margins. Possible faulted/broken at 66.3-66.5 m.	R0431093	65.70	66.50	0.80					
66.5	67.4	**FT** **Felsic Tuff** Similar to above mafic dyke(?), but appears more like a banded felsic tuff; still calcareous and biotitic, but with trace-1% fine disseminated pyrrhotite+-rare chalcopyrite. 67.1 67.2 Quartz Vein Bull quartz vein with 5-10% late fracture filling pyrrhotite-pyrite.	R0431094	66.50	67.60	1.10					
67.4	67.6	**QZVN** **Quartz Vein** Bull quartz and greenish feldspar vein with trace-1% pyrrhotite-galena and rare chalcopyrite as blebby disseminations and on fractures.									
67.6	68.5	**FTG** **Granular Felsic Tuff** Medium green grey, moderately chlorite+-calcite altered siliceous granular tuff with 3-25% (adjacent to quartz vein) sulphides comprising disseminated fine to medium grained sphalerite and pyrrhotite with lesser intergranular galena-chlacopyrite-pyrite. Sulphide content increases towards lower contact - banded 30-50% sulphides (sp-py-ga) over basal 10 cms. Sharp lower contact.	R0431095	67.60	68.50	0.90	0.11	0.55	6.17	8.7	
68.5	70.6	**OMS** **Massive Sulphides (>60%)** High grade massive sulphides comprising 30-40% sphalerite(+-pyrrhotite) and 10-15% buckshot pyrite with lesser 5-10% intergranular galena and trace-1% chalcopyrite in a siliceous+-calcite-albite(?) matrix and only minor thin intervals of massive very fine-grained intergrown sphalerite-pyrrhotite. Matrix is granular to subrounded ("fragmental"-textured) crystals of silica+-clear greenish grey albite(?).	R0431096	68.50	70.60	2.10	0.16	8.14	18.9	78.1	
70.6	71.9	**OSM** **Semi-Massive Sulphides (40-60%)** Continued, high grade, semi-massive, buckshot textured sulphides (as above) and fine to medium-grained intergranular (network) pyrite-pyrrhotite-sphalerite-galena within strong albite-silica-chlorite+-biotite (magnetite porphyroblasts also present) alteration. Thin, weakly mineralized bands (up to 10 cms) of moderately chlorite+-biotite altered tuffs are also present. Chalcopyrite content is higher, associated with higher pyrrhotite content.	R0431097	70.60	71.90	1.30	0.26	5.4	10.9	51.7	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
71.9	87.2	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Medium to dark grey green, fine-grained granular quartz-chlorite tuff with spaced, chlorite-biotite, S2 parallel, foliation seams and 2-8%, distinctive light grey to slight blue grey, <1-3mm quartz crystals. Local more silceous feldspar-quartz crystal tuff intervals. Magnetite porphyroblasts (trace-2%, 1-3 mm) are present; garnet porphyroblasts are rare. Mineralization is in the 2-6% Zn range over narrow intervals and comprises 1-5%, fine disseminated pyrite-pyrrhotite+-sphalerite throughout, thin pyrrhotite+-sphalerite-pyrite and sphalerite-galena veins/veinlets associated with strong chlorite+-biotite-amphibole(?), and bands of semi-massive granular sulphides in strong chlorite-albite+-biotite alteration. Late thin pyrite-pyrrhotite-quartz-chlorite veinlets and fracture fillings are present throughout.	R0431098	71.90	73.60	1.70	0.13	1.71	3.22	14.2
			R0431099	73.60	76.00	2.40	0.08	1.99	2.77	8.1
			R0431100	76.00	77.85	1.85	0.04	0.77	1.9	3.3
			R0431101	77.85	79.75	1.90	0.11	2.2	3.37	9.2
			R0431102	79.75	81.70	1.95	0.08	3.96	2.29	10
			R0431103	81.70	82.90	1.20	0.11	1.48	1.99	5.8
			R0431104	82.90	84.90	2.00	0.03	0.55	0.71	1.8
			R0431105	84.90	87.20	2.30	0.03	0.59	1.68	1.6
		72.8 73.6 Broken chloritic interval with poor core recovery; no apparent gouge.									
		76.0 76.7 Felsic Crystal Tuff Slightly more siliceous interval with 10-15% light grey quartzofeldspathic altered feldsp crystals (1-4 mm) and occasional light (bluish) grey quartz crystals (<1-2 mm).									
		77.7 77.9 Felsic Crystal Tuff As above.									
		79.8 81.7 Fault Broken interval of moderate to strongly chlorite-albite+-biotite-quartz altered tuff with p core recovery and several gouge zones. Pyrite-pyrrhotite+-sphalerite-galena present a blebby disseminations and clots associated with alteration. Thin galena-rich veinlets a locally present.									
		81.7 82.9 Increased sphalerite+-galena with pyrite-pyrrhotite as disseminations and bands/seam									
		82.9 87.2 Felsic Crystal Tuff As above.									
		83.5 83.8 Re-sedimented/Epiclastic Tuff Thin fine equigranular biotite-chlorite-calcite-quartz interval - possible MD or ET/TSK? weakly mineralized suggesting epiclastic tuff/wacke.									
87.2	88.1	**OSM** **Semi-Massive Sulphides (40-60%)** Moderate grade, massive to semi-maasive, fine network to intergranular textured pyrrhotitte and minor chalcopyrite-sphalerite-galena-pyrite sulphides in strongly chlorite-	R0431106	87.20	88.10	0.90	0.36	2.86	4.25	12.9

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		albite-quartz altered tuff with minor magnetite porphyroblasts. Thin intervals/bands of less minmeralized altered tuff are also present.									
88.1	94.2	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Medium to dark green grey, fine-grained granular quartz-chlorite tuff, as above, with spaced, chlorite-biotite, S2 parallel, foliation seams and 1-8%, distinctive light grey to slight blue grey, generally <1mm quartz crystals. Magnetite porphyroblasts (1-4%, 1-3 mm) are present throughout; garnet porphyroblasts are rare. 88.1 88.2 Thin broken (weak-nil gouge) interval; some late quartz-calcite fractures and lower ang foliations to CA. 90.6 92.5 Thin quartz veins at 90.6-90.7 m with blebby and fracture filling pyrite+-galena-pyrrhoti chalcopyrite-sphalerite. Increased heavy fine disseminated to crude bands of pyrrhotit dominant sulphide mineralization. High grade band of massive sphalerite-pyrrhotite-g at 92.35-92.5 m. 92.5 94.2 Felsic Crystal Tuff Similar to above intervals. Mineralization ranges form 2-15% po-py-sp+-ga disseminat clotty coarse-grained sulphides associated with quartz-chlaorite veins and alteration; a po+-cpy remobilized in late fractures/veins..	R0431107	88.10	90.10	2.00	0.07	0.69	1.26	3.9
			R0431108	90.10	91.60	1.50	0.2	1.8	3.98	9.8
			R0431109	91.60	92.50	0.90	0.15	3.89	5.86	13.1
			R0431110	92.50	94.60	2.10	0.08	0.59	3.56	3.6
94.2	96.3	**ET** **Re-sedimented/Epiclastic Tuff** Dark brownish green, fine-grained equigranular biotite-chlorite+-calcite-quartz grading into medium-grained chlorite-quartz+-biotite-calcite (veining/alteration) - possible mafic dyke/sill with chilled biotitic margins, but is weakly mineralized and altered; possible epiclastic biotitic tuff/wacke(?). Contains 1-3% fine disseminated pyrrhotite+-pyrite throughout. Center of unit appears cut by medium-grained chlorite-quartz+-pyrrhotite alteration bands and is later cut by pyrite+-pyrrhotite (trace chalcopyrite - see lower contact) fracture fillings and S2 parallel seams.	R0431111	94.60	96.25	1.65					
96.3	100.8	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Dark grey green, strongly green chlorite+-biotite altered (local black chlorite porphyroblasts) tuff with trace-1%, <1 mm light grey to blue grey quartz crystals, similar to above unit. Unit is broken and locally sheared reflecting strong foliated chloritic nature. Trace-2% fine disseminated pyrite-pyrrhotite and occasional sphalerite-galena-pyrrhotite veinlets; also contains occasional deformed quartz-chlorite-pyrite+-pyrrhotite+-chalcopyrite and sphalerite-galena veins. Heavy to semi-massive sulphides at upper contact. 96.3 96.4	R0431113	98.60	100.80	2.20	0.04	0.64	1.96	3.4

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

Bands of semi-massive pyrrhotite-sphalerite-pyrite-galena+-chalcopyrite at contact.

96.4 96.9 Fault

Strongly sheared chloritic tuff and gouge; poor core recovery.

98.6 99.1 Fault

Strongly sheared and gouged interval with poor core recovery.

99.7 100.4 Felsic Tuff

More siliceous, banded to fine-grained, granular felsic tuff with 1-10% sulphide disseminations and numerous thin sphalerite-galena-pyrrhotite+-pyrite veinlets and de quartz-chlorite veins with blebby dissemoanted and S2 parallel galena-sphalerite-chalc

100.4 100.8 Quartz Vein

Several bull quartz veins with marginal galena-sphalerite-pyrrhotite+-pyrite-chalcopyrit

100.8 102.1 **SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke**

Dark to medium grey, very siliceous, weakly chloritic, thin banded siltstone, cherty argillaceous siltstone and mudstone (S0 strongly folded with hinges evident - transposed parallel S2) containing trace-2% very fine disseminated pyrrhotite-chalcopyrite+-galena. Late pyritic fractures +-chlacopyrite-po are common. Sphalerite-pyrrhotite-chalcopyrite-pyrite-galena associated with quartz+-calcite-chlorite vein at 101.9 m.

102.1 105.1 **HFT** **Cherty or Siliceous Felsic Tuff**

Medium to brownish grey, thin banded to more massive very fine-grained granular cherty tuff (siltstone-quartzite?) with trace-2% fine disseminated pyrrhotite+-chalcopyrite (rare magnetite). Patchy green/bl;ack chlorite-calcite-quartz+-pyrrhotite altertaion appears associate with disrupted/deformed quartz-chlorite-calcite+-sulphide veining.

104.2 105.1 Quartz Crystal-bearing Felsic Tuff

Well foliated very fine-grained siliceous+-sericitic/chloritic felsic tuff with distinctive gre quartz crystals (<1-3 mm, 2-8%).

105.1 107.8 **SI/MST/WK** **Interbanded Siltstone, Mudstone and Wacke**

Similar to above, medium to dark siliceous laminated metasediments (siltstone, argillaceous siltstone) with thin felsic tuff intervals and trace-1% very fine diseminated pyrrhotite-sphalerite+galena-pyrite. Late pyritic fractures present.

106.7 107.3 Felsic Tuff

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Fine-grained siliceous felsic tuff (granular but no quartz crystals) with sericitic/chloritic partings.									
		107.4 107.6									
		Narrow, healed fault breccia zone.									
107.8	109.8	**ET** **Re-sedimented/Epiclastic Tuff**									
		Mixed interval of siliceous banded felsic tuff, similar to above, bitotitic tuffaceous wacke and dark siltstone/argillaceous siltstone.with local patchy weak bleached chlorite-quartz+-calcite-feldspar alteration (related to veining/fracturing) with trace-5% fine dissemianted pyrrhotite+-sphalerite-galena. Occasional quartz-calcite+-pyrrhotite-pyrite veinlet is present.									
		108.3 109.4 Quartz Tourmaline Vein									
		Bull white quartz+-tourmaline vein and halo of chlorite+-tormaline alteration cross cut t bladed calcite vein.									
109.8	110.6	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke**									
		Similar to above. Less argillaceous and mixed with tuffaceous muscovitic-biotitic wacke with 1-3% fine disseminated pyrrhotite-pyrite (trace chalcopyrite). Patchy to banded quartz-chlorite+-calcite+-pyrrhotite alteration locaaly developed.									
110.6	123.1	**TSK** **Tuffaceous Wacke**									
		More massive, strongly foliated brown grey biotitic quartzose tuffaceous wacke (epiclastic tuff) with strong patchy overprinting chlorite-cream carbonate-silica and coarse dark biotite alteration. Unit is cut by late low angle quartz-calcite veinlets. Mineralization comprises trace-1% fine disseminated pyrrhotite-pyrite. Minor more clastic metasedimentarty intervals.									
		112.4 113.3 Interbanded Siltstone, Mudstone and Wacke									
		Slightly darker more siliceous thin banded interval of siltstone and tuffaceous wacke.									
		118.9 119.6 Re-sedimented/Epiclastic Tuff									
		Siliceous thin banded epiclastic tuff and minor siltstone.									
		119.6 120.0									
		Strong calcitic+-chlorite overprinting alteration. Also at 120.2-120.5 m. Trace-1% blet pyrrhotite.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		122.5 122.9 Strong calcite+-chlorite alteration cut by late quartz-calcite vein.									
123.1	125.6	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Mixed interval with dark to medium grey, fine-grained granular siltstone (possible epiclastic tuff?) with biotitic partings. Trace sulphides.									
125.6	128.4	**TSK** **Tuffaceous Wacke** Similar to above tuffaceous wacke. Patchy alteration present and quartz-chlorite-calcite veining with biotitic alteration halos. 125.6 126.0 Quartz Vein Grey quartz+-chlorite vein with fine chlorite+-biotitic alteration halos. 126.5 126.8 Quartz Vein As above, but with patchy chlorite-pyrrhotite within the vein.									
128.4	129.6	**ET** **Re-sedimented/Epiclastic Tuff** Thin banded siliceous medium brownish grey felsic epiclastic tuff with common thin discontinuous, quartz-calcite S2 parallel fracture veinlets and late, low angle quartz-calcite veinlets. No apparent crystals.									
129.6	132.2	**TSK** **Tuffaceous Wacke** Well foilated biotitic quartz wacke (mafic dyke/sill?) with locally abundant quartz-chlorite-calcite veining anfd related alteration overprint.									
132.2	135.2	**FD** **Felsic Dyke or Sill** Light to medium grey, siliceous very fine-grained massive to crudely banded felsic dyke/sill with 1-5% vague feldspar phenocrysts (quartzofeldspathic). 134.1 135.0 Tuffaceous Wacke Tuffaceous wacke and abundant quartz-chlorite+-pyrrhotite veins. Broken from 134.7-m.									

Assay Report

HOLE #: R04-006

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
61.10	63.30	R0431	5079	2.20	388	209					
63.30	65.70	R0431	5080	2.40	10510	821	0.09	0.1	1.19	2.8	
65.70	66.50	R0431	5081	0.80	484	33					
66.50	67.60	R0431	5082	1.10	2005	84					
67.60	68.50	R0431	5083	0.90	58000	4494	0.11	0.55	6.17	8.7	
68.50	70.60	R0431	5084	2.10	2E+05	10630	0.16	8.14	18.91	78.1	
70.60	71.90	R0431	5085	1.30	1E+05	13170	0.26	5.4	10.87	51.7	
71.90	73.60	R0431	5086	1.70	30130	16490	0.13	1.71	3.22	14.2	
73.60	76.00	R0431	5087	2.40	25540	18330	0.08	1.99	2.77	8.1	
76.00	77.85	R0431	5088	1.85	19440	6428	0.04	0.77	1.9	3.3	
77.85	79.75	R0431	5089	1.90	31930	20800	0.11	2.2	3.37	9.2	
79.75	81.70	R0431	5090	1.95	20150	34140	0.08	3.96	2.29	10	
81.70	82.90	R0431	5091	1.20	17280	13510	0.11	1.48	1.99	5.8	
82.90	84.90	R0431	5092	2.00	8058	4679	0.03	0.55	0.71	1.8	
84.90	87.20	R0431	5093	2.30	15160	5181	0.03	0.59	1.68	1.6	
87.20	88.10	R0431	5094	0.90	36990	23260	0.36	2.86	4.25	12.9	
88.10	90.10	R0431	5095	2.00	11260	5690	0.07	0.69	1.26	3.9	
90.10	91.60	R0431	5096	1.50	37530	17170	0.2	1.8	3.98	9.8	
91.60	92.50	R0431	5097	0.90	53750	32640	0.15	3.89	5.86	13.1	
92.50	94.60	R0431	5098	2.10	30410	4699	0.08	0.59	3.56	3.6	
94.60	96.25	R0431	5099	1.65	478	86					
98.60	100.80	R0431	5101	2.20	20250	5746	0.04	0.64	1.96	3.4	

Mag Susceptibility Log

Collar_Hole_ID	R04-006	**Project**	R-15	**Total Length**	135.2
Azimuth	180	**Dip**	-70.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
22.70	7.44		66.50	1.11	
25.00	1.02		68.00	2.79	
27.00	0.33		69.00	46.50	
28.10	0.71		70.50	81.80	
29.60	6.62		71.80	48.70	
30.70	0.09		73.60	17.20	
32.50	8.98		75.60	53.20	
32.80	6.84		78.20	38.60	
34.50	2.08		80.20	4.00	
35.50	0.93		83.10	3.31	
37.20	0.71		84.70	2.87	
38.50	0.23		85.60	33.90	
40.60	0.53		87.30	137.00	
41.90	0.31		88.50	6.56	
43.10	4.02		90.00	46.60	
45.00	20.30		91.40	55.10	
46.20	4.41		92.90	11.30	
48.00	0.10		94.90	1.13	
49.00	0.67		96.20	0.75	
51.50	0.42		97.30	4.33	
52.00	2.41		100.20	6.86	
53.70	3.09		102.00	0.01	
54.90	4.62		103.80	0.87	
57.80	0.38		107.00	0.18	
58.70	2.23		108.50	3.62	
60.20	6.56		110.00	0.76	
62.00	0.23		111.70	4.41	
64.10	2.06		113.00	1.29	
65.30	0.84		114.70	0.96	

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
116.00	0.20				
117.70	0.98				
119.00	0.09				
120.50	0.54				
123.20	0.34				
125.20	0.96				
128.30	0.69				
130.00	1.68				
131.80	0.67				
133.50	0.34				

Recovery for: R04-006

From	To	Meters	Meters Rec.	% Recovered	Comments
22.20	22.70	0.50	0.45	90.00	
22.70	24.70	2.00	1.65	82.50	
24.70	25.10	0.40	0.35	87.50	
25.10	25.80	0.70	0.55	78.57	
25.80	27.00	1.20	1.05	87.50	
27.00	28.00	1.00	0.90	90.00	
28.00	29.30	1.30	1.05	80.77	
29.30	32.30	3.00	2.90	96.67	
32.30	34.10	1.80	1.65	91.67	
34.10	35.40	1.30	1.25	96.15	
35.40	38.40	3.00	3.00	100.00	
38.40	41.50	3.10	3.10	100.00	
41.50	44.50	3.00	2.35	78.33	
44.50	46.50	2.00	1.85	92.50	
46.50	48.00	1.50	1.50	100.00	
48.00	50.60	2.60	2.45	94.23	
50.60	53.60	3.00	3.00	100.00	
53.60	56.70	3.10	3.10	100.00	
56.70	59.70	3.00	3.00	100.00	
59.70	62.80	3.10	3.10	100.00	
62.80	65.20	2.40	2.35	97.92	
65.20	67.80	2.60	2.50	96.15	
67.80	70.00	2.20	2.20	100.00	
70.00	72.40	2.40	2.35	97.92	
72.40	73.30	0.90	0.75	83.33	
73.30	75.00	1.70	1.60	94.12	
75.00	77.90	2.90	2.90	100.00	
77.90	80.00	2.10	1.95	92.86	
80.00	80.60	0.60	0.50	83.33	
80.60	82.10	1.50	0.90	60.00	
82.10	84.10	2.00	2.00	100.00	
84.10	87.20	3.10	2.90	93.55	
87.20	88.40	1.20	1.10	91.67	
88.40	90.10	1.70	1.65	97.06	
90.10	91.10	1.00	0.95	95.00	
91.10	93.30	2.20	2.20	100.00	
93.30	95.10	1.80	2.80	155.56	
95.10	96.30	1.20	1.15	95.83	
96.30	97.40	1.10	0.75	68.18	
97.40	98.10	0.70	0.60	85.71	
98.10	99.10	1.00	0.80	80.00	
99.10	99.50	0.40	0.40	100.00	
99.50	100.60	1.10	1.10	100.00	
100.60	102.40	1.80	1.80	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
102.40	103.30	0.90	0.85	94.44	
103.30	105.60	2.30	2.30	100.00	
105.60	106.70	1.10	0.75	68.18	
106.70	108.50	1.80	1.75	97.22	
108.50	109.30	0.80	0.60	75.00	
109.30	111.60	2.30	2.40	104.35	
111.60	114.60	3.00	3.00	100.00	
114.60	117.70	3.10	3.10	100.00	
117.70	120.70	3.00	3.00	100.00	
120.70	123.70	3.00	3.00	100.00	
123.70	126.80	3.10	3.10	100.00	
126.80	129.80	3.00	3.00	100.00	
129.80	132.90	3.10	3.10	100.00	
132.90	135.20	2.30	2.15	93.48	
	Total:		108.55		

Summary Log R04-007

Project: R-15

AT: 420526 E 6812775 N **Azimuth** 0 **Dip:** -90 **Total Length** 223.4 m

From	To	Lithology	Mineralogy	Est.	Alteration
0.0	25.3	Overburden			
25.3	27.0	Felsic Tuff			
27.0	28.5	Re-sedimented/Epiclastic Tuff			
28.5	30.0	Interbanded Siltstone and Tuffaceous Wacke			
30.0	30.9	Mafic Dyke or Sill			
30.9	33.9	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
33.9	47.3	Quartz Crystal-bearing Felsic Tuff			Marginal Grey Muscovite (Sericite) Alteration
47.3	47.9	Mafic Dyke or Sill			
47.9	54.2	Felsic Lapilli Tuff			Marginal Grey Muscovite (Sericite) Alteration
54.2	55.5	Mafic Dyke or Sill			
55.5	57.2	Quartz Crystal-bearing Felsic Tuff			
57.2	68.6	Granular Felsic Tuff			Marginal Yellow Sericite-Muscovite Alteration
68.6	70.7	Tuffaceous Wacke			
70.7	73.9	Granular Felsic Tuff			Marginal Yellow Sericite-Muscovite Alteration
73.9	80.2	Tuffaceous Wacke			
80.2	87.9	Granular Felsic Tuff			Marginal Yellow Sericite-Muscovite Alteration
87.9	89.9	Re-sedimented/Epiclastic Tuff			
89.9	103.1	Granular Felsic Tuff			Marginal Yellow Sericite-Muscovite Alteration
103.1	107.7	Re-sedimented/Epiclastic Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
107.7	108.6	Mafic Dyke or Sill			
108.6	111.0	Granular Felsic Tuff			Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
111.0	127.2	Granular Felsic Tuff			Marginal Yellow Sericite-Muscovite Alteration
127.2	133.7	Felsic Lapilli Tuff			
133.7	138.5	Felsic Lapilli Tuff			Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
138.5	147.4	Felsic Tuff	feldspar		
147.4	147.6	Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist			Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)

147.6	148.7	Feldspar Porphyry	feldspar			
148.7	150.6	Felsic Tuff				Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
150.6	151.8	Feldspar Porphyry	feldspar			
151.8	161.9	Granular Felsic Tuff				Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
161.9	165.2	Mafic Dyke or Sill				
165.2	169.6	Re-sedimented/Epiclastic Tuff				Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
169.6	170.5	Mafic Dyke or Sill				
170.5	179.1	Granular Felsic Tuff				Moderate Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
179.1	181.2	Granular Felsic Tuff				Strong Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate-Sulphides)
181.2	184.2	Massive Sulphides (>60%)				
184.2	191.0	Quartz Crystal-bearing Felsic Tuff				Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
191.0	192.2	Re-sedimented/Epiclastic Tuff				
192.2	195.5	Quartz Crystal-bearing Felsic Tuff				Weak Proximal Alteration (Chlorite-Biotite-Muscovite-Carbonate)
195.5	200.0	Felsic Tuff				
200.0	201.7	Interbanded Siltstone and Tuffaceous Wacke				
201.7	211.7	Tuffaceous Wacke				
211.7	214.9	Interbanded Siltstone and Tuffaceous Wacke				
214.9	216.1	Mafic Dyke or Sill				
216.1	217.9	Tuffaceous Wacke				
217.9	223.4	Interbanded Siltstone, Mudstone and Wacke				

Hole_ID	**R04-007**	**Hole_Type**	Diamond	***Purpose/Comments***
x	420526	**Survey_Type**	Sperry Sun	large magnetic anomaly and stratigraphy 180 down-dip of the 1.3 m massive sulphide intercept (11.7% Zn, 2.0% Pb, 0.4% Cu and 83 g/t Ag) in DDH R04-001. Survey did not work. Core boxes labelled as K04-202.
y	6812775	**Drill_Type**	Fly 38	
z	1297	**Hole_Diamete**	NQ	
Azimuth	0	**Drill_Operator**	E Caron	
Dip	-90			
Total Length	223.4			
Location	Yukon	**StartDate**	19-Sep-04	
Grid	Grid 2	**EndDate**	23-Sep-04	
Project	R-15	**Loggedby**	PAM	
Claim		**Sampledby**		
MapSheet	**105 G 7, 8**	**Reloggedby**		

Survey Data

Depth	*Azimuth*	*Dip*
0.0	0	-90.0

teck

From (m)	*To (m)*	*Geological Description* / *Formation Name / Unit Name*	*Lab #*	*FROM*	*TO*	*INT. (m)*	*Cu %*	*Pb %*	*Zn %*	*Ag g/t*	*Au ppb*
0.0	25.3	**OVB** **Overburden** Boulder till.									
25.3	27.0	**FT** **Felsic Tuff** Medium grey, thinnly banded to laminated felsic tuff/epiclastic tuff with 2-8% very fine, disseminated (S2 parallel) biotite+-chlorite defining banding and trace-1% very fine disseminated pyrrhotite-pyrite throughout. Trace-1% fine black mineral (magnetite?) also throughout. Unit is fine-grained, granular to massive; no crystals evident. Local minor thin quartz-calcite veinlets. Gradational lower contact.									
27.0	28.5	**ET** **Re-sedimented/Epiclastic Tuff** Medium brownish grey, fine-grained granular epiclastic felsic tuff with 5-15% biotite and 1-2%, <1-2 mm biotite porphyroblasts throughout. Crudely banded and cut by local quartz-calcite veinlets, as above unit. Unit interbanded with laminated fine-grained biotitic tuffaceous wacke/siltstone near base. Trace-1% fine disseminated pyrite+-pyrrhotite.									
28.5	30.0	**SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke** Medium to dark grey, laminated to thin banded very fine-grained siliceous interbands (mixed siltstone/tuffaceous wacke and epiclastic tuff) and minor biotitite (argillaceous wacke/siltsone?) seams. Trace-1% fine disseminated pyrite+-pyrrhotite.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
30.0	30.9	**MD** **Mafic Dyke or Sill** Dark brown biotite-rich mafic dyke/sill with occasioanl quartz-calcite+-pyrite veinlets and trace-2% fine wispy pyrrhotite+-pyrite disseminations throughout.									
30.9	33.9	**FTL** **Felsic Lapilli Tuff** Light to medium greenish grey, moderate to strongly muscovite/sericite altered, mixed felsic lapilli tuff with quartz crystals and felsic crystal tuff. Lapilli tuffs comprise 25-35%, 3-15 mm light grey to whitish quratzofeldspathic fragments and 2-5%, 2-5 mm light grey to bluish grey quartz crystals set in a micaceous (muscovite/sericite) groundmass. Crystal-rich tuff intervals comprise fewer lapilli and 5-20%, <2-5mm subrounded light grey to blue grey quartz set in a fine granular micaceous matrix. Trace-2% very fine pyrrhotite+-pyrite found dissemianted throughout.	R0431114	31.90	33.90	2.00	0.02	0.36	0.77	4.4	
		31.9 34.0 Increased sericitic alteration and mineralization comprising 2-10% fine-grained dissem pyrite-sphalerite+-galena-pyrrhotite in fine intergranular sericite-quartz bands and thin veinlets.									
		33.7 33.9 Felsic Dyke or Sill Thin interval with very fine-grained, aphanitic siliceous felsic sills/dykes with trace-5% f disseminated sphalerite-pyrite+-pyrrhotite.									
33.9	47.3	**FTCZ** **Quartz Crystal-bearing Felsic Tuff** Light to medium greenish grey, fine-grained tuff with 5-10%, <1-3 mm light bluish grey quartz crystals set in a fine granular micaceous matrix, similar to above intervals within overlying lapilli tuff. Light greyish white quartzo-feldspathic lapilli become more abundant below 38.6 m. Trace-3% fine disseminated pyrite-pyrrhotite and rare fine sphalerite; also occasional thin pyritic bands/veinlets.									
		34.3 34.7 Mafic Dyke or Sill As above. Interval is broken with some lost core and is cut by local calcite-quartz vein									
		35.2 35.7 Felsic Dyke or Sill Light grey to brownish grey, thin banded siliceous aphanitic felsic sill/dyke with fine fels quartz phenocrysts in a quartzofeldspathic groundmass with minor biotite+-sericite arti Trace-3% fine disseminated pyrrhoitte-pyrite+-sphalerite throughout. Lower contact is									
		35.7 35.8 Mafic Dyke or Sill Thin biotitic mafic dyke/sill.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		36.1 37.4 Mafic Dyke or Sill As above. Broken and lost core; some gouge?									
		38.6 42.3 Felsic Lapilli Tuff Quartz crystal-bearing lapilli tuff with 5-35%, 3-15 mm light grey to whitish quratzofelds fragments; as above.									
		39.6 39.8 Mafic Dyke or Sill As above.									
		39.9 40.6 Mafic Dyke or Sill As above, cut by bull quartz veins and with a gouged sharp lower contact.									
		43.5 43.6 Mafic Dyke or Sill Thin biotitic fine-grained mafic sill/dyke.									
		44.1 44.3 Mafic Dyke or Sill As above.									
		44.5 44.9 Felsic Lapilli Tuff increased quartzo-feldspathic lapilli; as above.									
		44.9 46.9 Increased sulphide content to 3-8% pyrite-pyrrhotite as fine disseminations and S2 par bands and as quartz-pyrite veinlets.									
47.3	47.9	**MD** **Mafic Dyke or Sill** Dark brown coloured, biotite-rich, fine-grained mafic dyke/sill cut by abundant thin calcite veinlets.									
47.9	54.2	**FTL** **Felsic Lapilli Tuff** As above intervals, light greenish grey micaeous tuff with 10-40%, 2-15 mm, light whitish grey quartzo-feldspathic lapilli and minor, 2-5%, light bluish grey to grey quartz crystals. Below 49.8 m, interval contains local coarse feldspar augen and thin interbanded FTCZ and FTC intervals. Trace-2% very fine-grained disseminated pyrite+-pyrrhotite. 47.9 48.5 Fault Broken interval with 20 cm gouged fault zone at 48.2-48.3 and at 48.4 m.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		50.4 50.5 Mafic Dyke or Sill Thin biotitic mafic dyke with wispy calcite.									
		52.2 52.5 Mafic Dyke or Sill Thin biotitic and calcareous mafic dyke cut by a 10 cm quartz-calcite vein.									
54.2	55.5	**MD Mafic Dyke or Sill** Dark brown, fine-grained biotitic, calcareous mafic dyke cut by numerous thin calcite+-quartz veinlets, parallel S2.									
55.5	57.2	**FTCZ Quartz Crystal-bearing Felsic Tuff** Light to medium brownish grey, fine-grained tuff with 5-10%, <1-3 mm light bluish grey quartz crystals set in a fine granular sericite-biotite matrix, similar to above. Trace-2% fine dissemianted pyrite+-pyrrhotite throughout. Gradational lower contact marked by loss of distinct bluish quartz crystals and increased pyrrhotite content. 56.5 56.8 Mafic Dyke or Sill As above.									
57.2	68.6	**FTG Granular Felsic Tuff** Light to medium grey green, fine-grained, sericite/muscovite altered (not yellow but apple green) granular felsic tuff and lesser quartz-bearing crystal tuff and possible lapilli tuff. Quartz crystals, where present, are grey and indistinct sometimes wioth vague outlines that begin to look like lapilli and/or deformed/stretched vein fragments. Rare light grey to whitish feldspars are present locally. Intervals of more fragmental appearing lapillil tuff contain 20-35%, 2-8 mm, clear grey to whitish quartz / quartzo-feldspathic lithic/crystal fragments(?). Unit contains 2-10% wispy fine to blebby disseminated pyrrhotite; often within quartz crystal or lithic fragments (vein fragments?). Trace-5% disseminated pyrite also present locally. Several 2-15 cm quartz-biotite+-feldspar veins with clots/blebs of pyrrhotite are present throughout. 58.6 58.9 Mafic Dyke or Sill As above, fine to medium grained, biotitic and cut by several calcite veins.	R0431115	62.30	64.90	2.60	0.005	0.71	0.82	24.6

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		62.3 64.9 Increased sulphide content (10-20%) as 5-10% pyrrhotite-pyrite disseminations and th sphalerite-galena-pyrrhotite-silica, S2 parallel, bands/veins corresponding to increasec sericite+-chlorite alteration. Between 64.65-64.9 m, thin 5 cm galena-pyrrhotite-sphale rich band and several 1-7 cm semi-massive pyrrhotite+-spahlerite-galena bands in ser (weakly chloritic) tuff. 64.6 0.0 Some lost core and thin gouge present; possible thin fault. 67.0 0.0 Fault Thin fault gouge.									
68.6	70.7	**TSK** **Tuffaceous Wacke** Massive, fine-grained, biotite+-quartz wacke (mafic dyke/sill?) with 1-3% light pinkish garnet porphyroblasts (2-7 mm) and cut by irregular dark green, chlorite veinlets with quartz-calcite rims/alteration halos. Several thin white calcitic veinlets also present. Sulphides comprise trace-2% fine pyrrhotite throughout.									
70.7	73.9	**FTG** **Granular Felsic Tuff** Light to medium grey green, fine-grained, sericite/muscovite altered (not yellow but apple green) felsic tuff with granular (crystal-rich?) to vague siliceous lapilli textures and 3-8% fine to blebby disseminated pyrrhotite, as above unit. Minor fine disseminated sphalerite with pyrrhotite and a late pyrite-spahlerite veinlet at 71.6 m. 71.9 72.7 Tuffaceous Wacke As above, with trace-1% fine garnet porpyroblasts and slightly less biotitic, more felsic tuffaceous component. Minor chloritic veinlets. Still trace-1% fine disseminated pyrrh									
73.9	80.2	**TSK** **Tuffaceous Wacke** Dark to medium brownish to greenish grey and green grey, thinnly banded, fine-grained interval of mixed biotitic tuffaceous wackes, as above, with 1-3% fine to coarse garnet porphyroblasts and chlorite-silica veining, grading into greenish grey, siliceous and less biotitic, finely banded epiclastic tuff and minor light to medium green grey felsic tuff, as above, intervals. Sulphides comprise 1-5% fine disseminated pyrrhotite; locally as crude bands and S2 parallel seams. Minor late low angle pyrite veinlets/fractures. Trace very magnetite was noted within a garnet porphyroblast at 75.4 m. 77.3 78.0 Granular Felsic Tuff As abov. Increased sericite-chlorite alteration and 5-15% pyrrhotite and pyrite as netw fractue fillings/S2 paralel veinlets; trace galena in quartz-pyrrhotite+-pyrite veinlet.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		77.7 77.9 Fault Calcite-quartz veins and gouged altered tuff.									
		79.1 79.4 Granular Felsic Tuff Granular to lapili (stretched/flattened siliceous fragments; almost ribboned) textured tu 1-5% fine pyrrhotite.									
80.2	87.9	**FTG Granular Felsic Tuff** Light to medium grey green, fine-grained, sericite/muscovite+-chlorite altered (not yellow but apple green) felsic tuff with very fine-grained granular (crystal-rich?) to massive fine foliated ash tuff. Contains trace-3%, <1-2 mm black chlorite porphyroblasts throughout. Sulphides consist of 2-10% fine to blebby disseminated and veinlet pyrrhotite. Trace sphalerite-galena locally associated with thin intervals of increased chloritic alteration. Several bull quartz veins with blebby pyrrhotite. 81.4 82.6 Fault Broken zone with bull quartz+-pyrrhotite veins, poor core recovery and fault gouge. 82.9 83.5 Fault Crushed and gouge zone.									
87.9	89.9	**ET Re-sedimented/Epiclastic Tuff** Mixed fine-grained darker, biotitic interval comprised predominantly of variably siliceous and biotitic epiclastic tuff with possible trace quartz crystals. More massive, less banded than the tuffaceous wacke/epiclastic tuff intervals higher in the hole. Patchy to irregular chlorite+-quartz-calcite alteration is present as is trace-3% fine pyrrhotite+-pyrite.									
89.9	103.1	**FTG Granular Felsic Tuff** Light to medium grey green, fine-grained, sericite/muscovite altered fine granular felsic tuff; locally becoming ribbon-textured. Cut by several 5-20 cm wide quartz+-biotite-chlorite-pyrrhotite+-galena veins and locally massive pyrrhotite+-quartz veins. Contains 3-10% fine blebby pyrrhotite disseminations and rimming and within silica ribbons (vein fragments??) and trace-10% fine pyrite disseminations. Occasional quartz-calcite deformed patchy "veins". 91.5 92.8 Siliceous Ribboned Felsic Tuff Siliceous ribbon-textured fine granular tuff. Siliceous "fragments"(?) contain dissemina and/or rimming pyrrhotite - deformed veins??; elsewhere grade into coarser thin flow b textured tuff. Lithic lapilli vs vein fragments?									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		94.6 95.7 Siliceous Ribboned Felsic Tuff As above.									
		96.6 97.0 Quartz Vein Bull quartz with minor calcite and coarse blebby pyrrhotite.									
		97.0 97.5 Mafic Dyke or Sill Fine-grained biotite-calcitre mafic dyke/sill. Lower contact is quartz-calcite vein.									
		98.3 98.7 Mafic Dyke or Sill As above. Sharp contacts.									
		98.7 100.1 Felsic Dyke or Sill Light grey to white, very fine-grained aphanitic felsic dyke/flow with minor sericite-musc partings and trace-1% very fine disseminated py-po+-sp.									
		100.2 100.6 Mafic Dyke or Sill As above. Sharp contacts.									
		100.6 102.4 Siliceous Ribboned Felsic Tuff Similar to above intervals. Sericitic granular tuff with ribboned to isoclinal folded silica with trace ga-py) lenses in micaeous groundmass.									
103.1	107.7	**ET Re-sedimented/Epiclastic Tuff** Medium brownish grey biotitic felsic epiclastic tuff/granular tuff with increased chloritic alteration marked by 2-5% fine black chlorite porphyroblasts developed throughout and trace-3% fine wispy disseminated pyrrhotite+-pyrite. Unit is cut by several thin quartz-calcite+-chlorite-pyrrhotite veins and several large bull quartz+-biotite+-chlorite-pyrrhotite and locally with trace sp-py-cpy; often with sericitic alteration halos.									
107.7	108.6	**MD Mafic Dyke or Sill** Fine-grained, biotite-calcite+-quartz mafic dyke/sill with abundant wispy quartz-calcite veinlets.									
108.6	111.0	**FTG Granular Felsic Tuff** Medium grey green, strong to moderately chlorite+-biotite (garnet porphyroblastic) altered granular tuff with seams and bands of intergrown chlorite-biotite with 5-20% disseminated	R0431116 R0431117	108.60 109.80	109.80 111.00	1.20 1.20	0.02 0.02	0.94 0.91	1.12 0.81	4 4.2	

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

fine-grained pyrrhotite-sphalerite-galena-pyrite. Local 1-5 mm garnets.

110.9 111.0 Fault

Strong chloritic fault gouge.

111.0 127.2 **FTG** **Granular Felsic Tuff**

Light to medium grey green, massive fine-grained, sericite/muscovite altered fine granular felsic tuff containing fine granular quartz crystal fragments (no good quartz crystals) in a micaceous matrix. Local silica ribbons, as above. Generally contains 2-10% fine disseminated pyrite and/or locally abundant pyrrhotite associated with patchy silica-chlorite+-garnet alteration veinlets. Areas of slightly increased chlorite alteration often contan trace-1% fine disseminated sphalerite with pyrrhotite+-galena. Thin wispy quartz-pyrrhotite+-pyrite-trace chalcopyrite veinlets are locally present.

116.7 117.0 Mafic Dyke or Sill

Thin biotite-calcite fine-grained mafic dyke/sill. Sharp contacts.

118.1 118.4 Mafic Dyke or Sill

As above.

119.2 119.3 Mafic Dyke or Sill

As above. Lower contact is a 10 cm sericitic sheared zone - fault.

119.3 119.7 Felsic Dyke or Sill

Light to medium grey, fine-grained siliceous aphanitic with vague fine quartzo-feldspatl phenocrysts(?) and intergranular biotite-chlorite+-pyrrhotite.

119.7 120.2 Mafic Dyke or Sill

As above.

121.3 121.6 Quartz Tourmaline Vein

Quartz-tourmaline+-pyyrhotite vein with bleached halo.

122.4 122.9 Mafic Dyke or Sill

As above.

122.9 126.8

Occasional 2-30 mm, quartz-pyrite-pyrrhotite-sphalerite-galena and trace chalcopyrite veinlets throughout.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
127.2	133.7	**FTL Felsic Lapilli Tuff** Light to medium grey (slightly brownish), weakly biotitic, relatively massive, felsic lapilli tuff containing 5-20% grey quartzo-feldspathic lapilli (4-10 mm, possible occasional feldspar augen?) set is a sericitic-muscovite-rich granular groundmass. Cut by occasional quartz-calcite and quartz+-biotite veins. Minor late quartz-tourmaline veins. Sulphide content is low; trace-2% fine pyrite+-pyrrhotite. 133.4 133.7 Vein Brecciated chlorite-calcite+-quartz vein with blebby pyrite and local patchy fine dissem sphalerite. Faulted lower contact, altered upper contect with lapilli tuff.									
133.7	138.5	**FTL Felsic Lapilli Tuff** Mixed interval comprising weak to moderately chlorite altered, mottled sercitic felsic lapilli tuff, as above, with patchy quartz-calcite alteration cut by several thin banded, black mafic fine-grained biotite-tourmaline(?)-chlorite-calcite tuff intervals with 3-8% fine blebby pyrrhotite+-trace chalcopyrite and sphalerite disseminations. Banding in both felsic and mafic tuffs indicate a hinge zone with tight folding perpendicular to S2 evident (possible fold repetition of tuffs and some po-sp veins). Thin 1-3 cm biotite-pyrrhotite+-sphalerite-chalcopyrite-galena veins/bands are locally present within the felsic tuff intervals. 134.1 134.6 Mafic Ash Tuff/Hyalotuff Thin banded black mafic tuff with banding defined by lighter coloured quartz-calcite-ch bands (deformed veins??) and dark biotite+-tourmaline/amphibole(?)+-calcite bands. chalcopyrite-pyrrhotite-sphalerite+-pyrite in dark biotitic veins at 134.6 m. 136.8 137.2 Quartz Vein Bull quartz with minor blebby pyrrhotite and trace chalcopyrite with bleached sericitic h 137.7 138.5 Mafic Ash Tuff/Hyalotuff Similar to above. Cut by black biotitie-tourmaline(?) vein with 5% pyrrhotite-sphalerite-disseminations at 138.2 m and in quartz-chlorite-biotite veins at lower contact									
138.5	147.4	**FT Felsic Tuff** Relatively massive, mottled to deformed banded, light to medium grey to brown grey altered felsic tuff with distinctive, 2-10%, 1-5 mm white feldspar crystals throughout. Not a feldspar porphyry. Feldspar crystals and grey silica+-feldspar and silica-calcite+-chlorite deformed bands/veins are rimmed by fine biotite and set in a fine-grained granular quartzo-felspathic-sericite-biotite groundmass. Banding seams are at low angle to CA from 138.5-143.6 m - hinge zone. Generally contains trace-1% fine disseminated sulphides. 143.9 147.4	R0431118 R0431119	143.90 145.60	145.60 147.35	1.70 1.75	0.07	0.11	0.6	3.4

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		Interval is cut by minor thin pyrrhotite-sphalerite-chalcopyrite+-galena-pyrite veinlets ai fractures. Occasional quartz-chlorite+-calcite-biotite vein with bleeby pyrrhotite is also present. Trace-1% fine disseminated sphalerite-pyrrhotite+-galena associated with ve									
147.4	147.6	**OI** **Heavily Disseminated Sulphides (25-40%) in Sericite-Muscovite Altered Quartz-Sericite Schist** Medium grey, moderately chlorite+-biotite altered, fine-grained felsic tuff, as above, but without the feldspar crystals. Interval is well mineralized with thin (2-15 mm), S2 parallel bands of heavily disseminated sphalerite-pyrrhotite+-chalcopyrite+-pyrite-galena.	R0431120	147.35	147.65	0.30	0.16	1.82	4.48	17.6	
147.6	148.7	**FP** **Feldspar Porphyry** More massive, siliceous white feldspar bearing unit, as above, but possible feldspar porphyry sill between 147.65-148.3 m becoming crystal-bearing felsic tuff below 148.3 m. Feldspar crystals are more distinct and euhedral in aphanitic matix. Sulphide (pyrrhotite-spahlerite+-galena-chalcopyrite) veinlets locally cut the porphyry. Below 148.3 m, the tuff contains 1-3% very fine dissemianted spahlerite+-pyrrhotite and trace galena. Occasional white quartz-calcite veinlets present.	R0431121	147.65	148.70	1.05	0.03	0.56	1.14	4.4	
148.7	150.6	**FT** **Felsic Tuff** Medium grey, moderately chlorite+-biotite altered, fine-grained felsic tuff and intervals of feldspar-bearing crystal tuff, as above. Unit is locally well mineralized with S2 parallel, heavily disseminated sphalerite-pyrite+-galena-pyrrhotite-chalcopyrite bands and wispy disseminations in a fine-grained, moderately chlorite-sericite+-biotite ashy matrix. Occasional white quartz-calcite veinlets present.	R0431122	148.70	150.60	1.90	0.1	1.03	2.8	9.4	
150.6	151.8	**FP** **Feldspar Porphyry** More massive, light grey, siliceous white feldspar-bearing, possible feldspar porphyry sill or crystal-bearing tuff(?), as above. Locally fragmental textured with siliceous quartzo-feldspathic fragments(?), locally with trace-2% fine to blebby spahlerite, and feldspar crystals set in a micaeous matrix. Rare thin sulphide veinlets.	R0431123	150.60	151.80	1.20	0.05	0.03	0.88	1.3	
151.8	161.9	**FTG** **Granular Felsic Tuff** Medium to light brownish grey, fine-grained granular to locally mottled, weakly chlorite-biotite altered felsic tuff with light grey siliceous lapilli-bearing intervals, becoming more sericitic below 154.7 m. Low sulphide content, but occasional thin quartz-calcite-sphalerite-pyrrhotite+-chalcopyrite-galena veinlets are present. 153.0 153.2 Fault Narrow sericitic gouge zone with poor core recovery.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		154.3 154.5 Mafic Dyke or Sill Thin fine-grained biotite-calcite mafic dyke/sill with minor calcitic veinlets. Sheared qu calcite vein at lower contact.									
		154.5 154.8 Felsic Dyke or Sill Siliceous, aphanitic interval with trace-1% fine blebby spahlerite.									
		156.7 157.1 Mafic Dyke or Sill									
		159.7 161.3 Re-sedimented/Epiclastic Tuff Slightly more biotitic and banded, epiclastic felsic tuff with trace-1% very fine dissemin chalcopyrite+-pyrrhotite throughout. Occasional 1-2 mm quartz crystal.									
		160.8 161.0 Fault Two thin sericitic gouge zones with quartz+-calcite-biotite-pyrrhotite+-sphalerite veins.									
		161.0 161.9 Moderately chlorite+-biuotite-sericite altered tuff with several quart+z-calcite-biotite+- pyrrhotite-chalcopyrite+-sphalerite-galena veins and late chalcopyrite-pyrrhotite-rich fra and veinlets.									
161.9	165.2	**MD** **Mafic Dyke or Sill** Dark brown grey, fine equigranular massive interval. Either mafic dyke/sill or tuffaceous wacke? Contains trace-2% very fine wispy pyrrhotite disseminations throughout. Cut by occasional quartz-calcite and quartz-calcite-chlorite veinlets..									
165.2	169.6	**ET** **Re-sedimented/Epiclastic Tuff** Medium grey, fine-grained to granular and lapilli-textured epiclastic tuff/felsic tuff weak to moderately altered by chlorite+-biotiteand sericite. Characterized by presence of fine <1.5 mm black chloritic porphyroblasts throughout more tuffaceous intervals. Unit contains trace-2% fine disseminated pyrrhotite-chalcopyrite and is cut by locally abundant late chalcopyrite+-pyrrhotite+-pyrite-sphalerite veinlets/fractures.									
169.6	170.5	**MD** **Mafic Dyke or Sill** Similar to above.									

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
170.5	179.1	**FTG Granular Felsic Tuff** Medium to light grey, weak to moderately chlorite+-biotite and sericite altered fine-grained granular tuff with local lapilli-rich intervals and rare local 1-2 mm grey quartz crystals. Alteration imparts a mottles appearance increasing down hole. Trace-5% very fine disseminated pyrrhotite+-pyrite and chalcopyrite is found throughout; increased disseminated and vein sulphides is found below 174.8 m. Gradational lower contact. 170.5 174.8 Sericitic to weakly chloritic granular and lapilli tuff with minor disseminated sulphides a occasional quartz-chlorite-calcite veinlets with biotitic margins. 174.8 179.1 Slight increase in alteration and increased sulphide mineralization to 2-8% as fine disseminated bands and veinlets of sphalerite-chalcopyrite+-pyrrhotite (see 174.8-175									
179.1	181.2	**FTG Granular Felsic Tuff** Similar to above but increased chlorite+-biotite alteration as fine dark chlorite+-biotite bands and white muscovite becoming more massive, felted fine to medium-grained chlorite+-biotite and minor fine <2 mm garnet with mottled textures down hole. Sulphides comprise 5-15% pyrrhotite and trace-1% chalcopyrite and trace arsenopyrite as bands of wispy disseminations and in minor late fractures with pyrite. Sphalerite+-galena occur with minor pyrite-chalcopyrite as siliceous bands/veins and disseminations. Sharp contact with sulphides.	R0431124	179.45	181.20	1.75	0.1	0.18	0.2	9.9
181.2	184.2	**OMS Massive Sulphides (>60%)** Massive sulphides comprising 5-15% buckshot textured pyrite set in 20-50% fine, intergrown sphalerite-pyrrhotite and lesser 2-15% galena and trace-1% chalcopyrite with fragmental textured silica+-albite gangue and lithic fragments and crudely banded buckshot pyrite with intergranular sphalerite-pyrrhotite-galena and lesser chalcopyrite.and trace arsenopyrite with albite+-chlorite-silica gangue. Interval will be high grade 11-13% Zn, 5-10% Pb. Minor thin interbanded, altered tuff intervals with disseminated magnetite grains are locally present. .	R0431125 R0431126	181.20 182.70	182.70 184.20	1.50 1.50	0.28 0.36	8.27 6.88	17.4 11.6	112.6 94.4
184.2	191.0	**FTCZ Quartz Crystal-bearing Felsic Tuff** Medium grey to light green grey, fine-grained granular, variably quartz-crystal bearing, feldspar crystal and lapilli tuff. Typically contains trace-3%, light grey to slight bluish grey, <1-3 mm quartz crystals throughout. Thin siliceous intervals with trace-5%, <1-5 mm, white subhedral feldspar crystals and stretched white-grey quartzo-feldspathic lapilli in an aphanitic groundmass with occasional quartz are present as a minor component throughout. The unit is weakly chlorite+-biotite altered and locally sericitic. Mineralization	R0431127	184.20	185.50	1.30	0.03	0.46	1.05	16.8

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb

comprises trace-3% fine disseminated pyrrhotite and veinlets/bands of quartz-chlorite-sphalerite-pyrrhotite+-galena-chalcopyrite; especially near the massive sulphides and extending to 185.5 m. Cut by localy abundant quartz-chlorite+-pyrrhotite vienlets and minor late quartz-calcite veins/veinlets.

191.0 192.2 **ET** **Re-sedimented/Epiclastic Tuff**

Thinly banded medium grey epiclastic granular felsic tuff with no apparent quartz crystals. Interval contains 5% biotite throughout and is cut by local quartz-chlorite+-pyrrhotite-sphalerite and trace chalcopyrite veinlets. Trace disseminated pyrrhotite-pyrite.

192.2 195.5 **FTCZ** **Quartz Crystal-bearing Felsic Tuff**

Relatively massive, medium to light green brown grey felsic tuff with trace-2% <1-2 mm light grey and slight blue grey quartz crystals; occasional feldspar and felsic lapilli are present, as in above unit. Patchy to vein related quartz-chlorite+-calcite alteration is common. Minor late calcitic veinlets. Trace disseminated sulphides.

195.5 200.0 **FT** **Felsic Tuff**

More mottled and variably silica-chlorite+-calcite altered siliceous felsic tuff with rare to nil quartz or feldspar crystals.

195.9 196.2

Dark green massive fine to coarse-grained chlorite with fine intergranular calcite and s large garnet porphyroblasts containing 5-8% fine disseminated pyrrhotite ad 2-10% fin blebby to late fracture-related pyrite.

199.6 200.0 Fault

Rubbley core; poor core recovery.

200.0 201.7 **SI/TSK** **Interbanded Siltstone and Tuffaceous Wacke**

Mixed banded biotitic tuffaceous wacke, dark grey argillaceous siltstone and light greenish grey epiclastic tuff/felsic tuff. Gradational lower contact.

200.0 200.4

dark argillaceous siltstone with 3-8%, fine wispy S2 parallel pyrrhotite+-pyrite dissemin and late veinlets.

200.4 201.0 Quartz Crystal-bearing Felsic Tuff

Thin green grey fine-grained quartzphyric tuff cut by a bull quartz+-biotite vein with trac fine blebby chlacopyrite+-pyrite.

From (m)	To (m)	Geological Description Formation Name / Unit Name	Lab #	FROM	TO	INT. (m)	Cu %	Pb %	Zn %	Ag g/t	Au ppb
		201.0 201.7 Mixed siltstone and tuffaceous wackes.									
201.7	211.7	**TSK Tuffaceous Wacke** Relatively more massive, fine to medium-grained biotitic tuffaceous wacke (localy possible crystal bearing) strongly overprinted by massiv eto irregular patchy light silica-chlorite-calcite (locally associated with coarse grey-white quartz vein material) alteration resulting a mottled irregular patchy appearing unit. Low sulphide content.									
211.7	214.9	**SI/TSK Interbanded Siltstone and Tuffaceous Wacke** Mixed thin banded (contorted/folded) tuffaceous wacke, possible mafic (chloritized?) tuff and minor dark grey cherty mudstone, siltstone. Patchy chlorite-calcite alteration and low sulphide content.									
214.9	216.1	**MD Mafic Dyke or Sill** More massive medium grey green, equigranular fine to medium-grained intergrown chlorite-biotite+-calcite mafic dyke/sill.									
216.1	217.9	**TSK Tuffaceous Wacke** Mixed biotitic tuffaceous wacke and biotitic felsic epiclastic tuff with local fine lapilli. Low sulphide content.									
217.9	223.4	**SI/MST/WK Interbanded Siltstone, Mudstone and Wacke** Medium grey to black, thin to medium banded siliceous argillaceous mudstone/siltstone. Minor tuffaceous material and possible quartzite interval. Becomes more biotitic below 221.9 m. Contains trace-5% local pyrite+-calcite fractures and veinlet fillings 218.5 219.4 Fault Broken zone; possible minor fault 222.6 222.7 Fault Thin sericitic-biotitic fault gouge.									

Assay Report

HOLE #: R04-007

From	To	Lab#	Field#	Interval	Zn ppm	Pb ppm	Assay Cu	Assay Pb	Assay Zn	Assay Ag	Assay Au
31.90	33.90	R0431	5102	2.00	9112	3207	0.02	0.36	0.77	4.4	
62.30	64.90	R0431	5103	2.60	9392	6121	0.005	0.71	0.82	24.6	
108.60	109.80	R0431	5104	1.20	12410	8190	0.02	0.94	1.12	4	
109.80	111.00	R0431	5105	1.20	9423	7692	0.02	0.91	0.81	4.2	
143.90	145.60	R0431	5106	1.70	6901	874	0.07	0.11	0.6	3.4	
145.60	147.35	R0431	5107	1.75	920	168					
147.35	147.65	R0431	5108	0.30	41820	16320	0.16	1.82	4.48	17.6	
147.65	148.70	R0431	5109	1.05	12810	4891	0.03	0.56	1.14	4.4	
148.70	150.60	R0431	5110	1.90	27480	9369	0.1	1.03	2.8	9.4	
150.60	151.80	R0431	5111	1.20	9882	237	0.05	0.03	0.88	1.3	
179.45	181.20	R0431	5112	1.75	2120	1480	0.1	0.18	0.2	9.9	
181.20	182.70	R0431	5113	1.50	2E+05	17570	0.28	8.27	17.4	112.6	
182.70	184.20	R0431	5114	1.50	1E+05	22210	0.36	6.88	11.61	94.4	
184.20	185.50	R0431	5115	1.30	11976	3854	0.03	0.46	1.05	16.8	

Mag Susceptibility Log

Collar_Hole_ID	R04-007	**Project**	R-15	**Total Length**	223.4
Azimuth	0	**Dip**	-90.0		

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
25.50	0.18		78.70	4.17	
26.30	0.05		80.30	4.61	
28.00	0.32		84.40	24.30	
28.60	1.28		87.10	9.77	
30.40	1.02		88.60	12.90	
32.10	0.36		91.70	4.55	
33.10	1.00		94.30	17.60	
35.20	0.10		97.80	10.80	
38.00	1.97		99.50	4.55	
39.40	0.86		102.30	0.32	
40.70	0.80		103.80	13.00	
43.70	2.10		105.70	9.38	
45.00	2.67		108.90	16.50	
46.20	3.44		110.30	2.50	
47.50	0.69		112.20	0.14	
49.40	0.09		114.70	1.50	
52.00	0.09		117.60	3.67	
53.60	1.22		120.60	9.77	
55.40	3.95		122.00	3.05	
58.00	17.60		125.20	0.65	
59.70	12.70		128.30	0.18	
62.70	19.40		133.00	0.25	
64.80	44.60		134.50	2.94	
66.10	2.67		137.80	2.90	
67.70	17.40		139.80	0.27	
69.90	11.10		141.40	3.31	
71.20	15.10		142.80	3.34	
74.30	10.20		144.50	0.25	
76.20	4.26		146.90	0.75	

Meters	Susceptibility	Notes	Meters	Susceptibility	Notes
148.40	0.07				
150.20	14.30				
154.00	0.20				
157.20	0.51				
159.70	4.77				
161.70	13.30				
163.50	0.76				
166.00	9.60				
169.10	1.11				
171.70	0.34				
174.60	1.51				
177.50	5.39				
180.10	10.80				
181.90	24.10				
183.40	37.30				
185.20	1.46				
189.30	0.47				
193.70	1.29				
196.80	0.29				
199.20	0.31				
201.50	0.23				
203.80	2.96				
205.80	0.29				
208.60	0.18				
210.20	0.19				
211.90	0.18				
214.50	0.34				
216.50	0.32				
218.40	0.01				
222.10	0.25				

Recovery for: R04-007

From	To	Meters	Meters Rec.	% Recovered	Comments
25.30	26.20	0.90	0.75	83.33	
26.20	27.00	0.80	0.65	81.25	
27.00	27.90	0.90	0.80	88.89	
27.90	28.50	0.60	0.60	100.00	
28.50	29.90	1.40	1.25	89.29	
29.90	32.30	2.40	2.40	100.00	
32.30	34.40	2.10	2.10	100.00	
34.40	34.70	0.30	0.25	83.33	
34.70	35.40	0.70	0.55	78.57	
35.40	38.40	3.00	1.80	60.00	driller lost 3 feet
38.40	40.80	2.40	2.40	100.00	
40.80	42.20	1.40	1.40	100.00	
42.20	44.50	2.30	2.25	97.83	
44.50	47.50	3.00	3.00	100.00	
47.50	50.60	3.10	2.90	93.55	
50.60	53.30	2.70	2.80	103.70	
53.30	56.50	3.20	3.00	93.75	
56.50	59.60	3.10	3.00	96.77	
59.60	61.60	2.00	1.90	95.00	
61.60	62.80	1.20	1.15	95.83	
62.80	64.90	2.10	1.90	90.48	
64.90	68.00	3.10	3.10	100.00	
68.00	71.00	3.00	3.10	103.33	
71.00	74.20	3.20	3.10	96.87	
74.20	77.30	3.10	3.10	100.00	
77.30	80.50	3.20	3.10	96.87	
80.50	82.60	2.10	1.30	61.90	fault
82.60	83.70	1.10	0.75	68.18	fault
83.70	84.60	0.90	1.00	111.11	
84.60	86.00	1.40	1.15	82.14	fault
86.00	87.20	1.20	1.20	100.00	
87.20	88.50	1.30	1.25	96.15	
88.50	90.20	1.70	1.70	100.00	
90.20	91.10	0.90	0.75	83.33	
91.10	93.30	2.20	2.05	93.18	
93.30	96.30	3.00	3.00	100.00	
96.30	99.40	3.10	3.00	96.77	
99.40	102.40	3.00	3.10	103.33	
102.40	105.50	3.10	3.10	100.00	
105.50	108.50	3.00	3.00	100.00	
108.50	110.00	1.50	1.45	96.67	
110.00	112.00	2.00	1.95	97.50	
112.00	114.60	2.60	2.60	100.00	
114.60	117.70	3.10	3.10	100.00	

From	To	Meters	Meters Rec.	% Recovered	Comments
117.70	120.70	3.00	3.00	100.00	
120.70	123.70	3.00	3.10	103.33	
123.70	126.80	3.10	3.00	96.77	
126.80	129.80	3.00	3.00	100.00	
129.80	132.90	3.10	3.10	100.00	
132.90	135.90	3.00	3.00	100.00	
135.90	138.20	2.30	2.30	100.00	
138.20	141.30	3.10	3.10	100.00	
141.30	144.30	3.00	3.00	100.00	
144.30	147.10	2.80	2.80	100.00	
147.10	148.70	1.60	1.60	100.00	
148.70	151.20	2.50	2.50	100.00	
151.20	153.90	2.70	2.70	100.00	
153.90	157.00	3.10	3.10	100.00	
157.00	159.00	2.00	2.00	100.00	
159.00	161.40	2.40	2.40	100.00	
161.40	163.40	2.00	1.80	90.00	
163.40	166.10	2.70	2.70	100.00	
166.10	168.90	2.80	2.80	100.00	
168.90	171.90	3.00	3.00	100.00	
171.90	174.70	2.80	2.80	100.00	
174.70	177.70	3.00	3.00	100.00	
177.70	178.60	0.90	1.10	122.22	
178.60	181.70	3.10	3.00	96.77	
181.70	184.70	3.00	3.00	100.00	
184.70	186.50	1.80	1.70	94.44	
186.50	189.60	3.10	3.10	100.00	
189.60	192.60	3.00	3.00	100.00	
192.60	193.80	1.20	1.20	100.00	
193.80	196.90	3.10	3.00	96.77	
196.90	199.90	3.00	2.80	93.33	
199.90	203.00	3.10	3.10	100.00	
203.00	203.60	0.60	0.60	100.00	
203.60	205.70	2.10	2.10	100.00	
205.70	208.80	3.10	3.10	100.00	
208.80	211.80	3.00	3.00	100.00	
211.80	214.90	3.10	3.10	100.00	
214.90	217.90	3.00	3.00	100.00	
217.90	219.30	1.40	1.00	71.43	
219.30	219.90	0.60	0.60	100.00	
219.90	221.00	1.10	1.05	95.45	
221.00	223.40	2.40	2.30	95.83	
	Total:		192.45		

APPENDIX 4

2004 CORE GEOCHEMISTRY DATA

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0419559	5001	R04-001	30.30	33.30	3.00	<10	5	<5						23	267	600	4.4	305	21	5
R0419560	5002	R04-001	33.30	34.60	1.30	<10	5	<5						59	790	1298	11.0	744	39	15
R0419561	5003	R04-001	34.60	35.80	1.20	<10	5	<5						27	681	2557	7.2	1205	27	10
R0419562	5004	R04-001	35.80	37.30	1.50	42	5	<5						54	1165	2567	16.1	1751	27	11
R0419563	5005	R04-001	37.30	37.65	0.35	5820	5	22	1.63	0.64	2.95	1491.3	6.10	16300	6429	37220	389.0	19790	10	163
R0419564	5006	R04-001	37.65	38.85	1.20	24	5	<5	0.01	0.07	0.20	13.8	3.86	47	658	1873	13.5	1765	32	9
R0419565	5007	R04-001	38.85	39.05	0.20	582	5	17	0.04	0.20	2.57	29.0	8.88	313	1974	33130	30.4	32610	12	113
R0419566	5008	R04-001	39.05	40.60	1.55	64	5	5	0.01	0.13	0.37	27.5	4.22	86	1324	4244	27.3	4263	27	17
R0419567	5009	R04-001	40.60	42.10	1.50	<10	5	<5						8	231	655	7.6	42	41	2
R0419569	5011	R04-001	133.00	134.50	1.50	<10	5	<5						391	64	949	1.4	6	127	3
R0419570	5012	R04-001	134.50	136.00	1.50	<10	5	<5						769	147	6430	1.6	<2	89	18
R0419571	5013	R04-001	136.00	137.30	1.30	114	5	7	0.46	5.74	12.96	87.2	15.69	4464	19820	116600	82.7	15	18	438
R0419572	5014	R04-001	137.30	138.40	1.10	<10	5	5	0.07	0.91	1.92	11.0	3.40	641	9825	20770	11.1	10	52	67
R0419573	5015	R04-001	138.40	139.05	0.65	<10	5	<5	0.01	0.02	0.03	<0.4	1.82	47	20	99	0.4	4	71	<1
R0419574	5016	R04-001	139.05	139.40	0.35	<10	5	<5	0.03	0.16	0.42	1.5	3.82	292	1446	5273	1.6	<2	120	14
R0419575	5017	R04-001	139.40	139.90	0.50	<10	5	21	0.16	0.44	5.29	10.2	5.35	1637	4273	59790	9.9	<2	23	197
R0419576	5018	R04-001	139.90	140.80	0.90	<10	5	5	0.05	0.04	0.36	1.5	3.83	432	233	4058	1.7	<2	155	13
R0419577	5019	R04-001	140.80	141.30	0.50	<10	5	26	1.04	0.14	1.91	23.4	6.41	10770	1270	23700	23.1	<2	33	75
R0419578	5020	R04-001	141.30	142.80	1.50	<10	5	6						195	51	236	0.6	<2	134	<1
R0419579	5021	R04-001	158.00	159.10	1.10	<10	5	<5						1209	39	317	1.0	<2	151	<1
R0419580	5022	R04-001	159.10	160.20	1.10	<10	5	<5						436	40	327	0.5	<2	230	<1
R0419581	5023	R04-001	160.20	161.30	1.10	<10	5	7	0.04	0.02	0.94	<0.4	4.85	326	112	11510	0.8	17	177	43
R0419582	5024	R04-001	161.30	161.70	0.40	<10	5	58	0.15	0.50	3.54	8.6	7.27	1405	4731	41950	9.1	<2	43	124
R0419583	5025	R04-001	161.70	163.20	1.50	<10	5	10	0.05	0.02	0.56	0.5	4.74	414	118	6310	0.7	<2	185	22

ANALYTICAL METHODS

Au Aqua regia decomposition / solvent extraction / AAS

Wt Au The weight of sample taken to analyse for gold (geochem)

Se Multi-acid digestion / I.C.P. analysis

Cu(A) Assay

Pb(A) Assay

Zn(A) Assay

Ag(2) Acid decomposition / AAS

Fe(T) Assay / Total Iron

ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co ppm	Ni ppm	Fe %	Mo ppm	Cr ppm	Bi ppm	Sb ppm	V ppm	Sn ppm	W ppm	Sr ppm	Y ppm	La ppm	Mn ppm	Mg %	Ti %	Al %	Ca %	Na %	K %	P ppm
7	10	4.02	3	20	<5	13	5	<2	3	23	7	26	159	0.03	<.01	0.20	0.63	0.02	0.12	480
6	10	4.10	3	49	<5	12	<2	<2	<2	17	23	117	124	0.04	<.01	0.29	0.39	0.02	0.18	480
6	6	4.07	3	42	<5	12	2	<2	<2	13	20	103	123	0.03	<.01	0.28	0.29	0.02	0.19	381
5	7	4.26	6	51	<5	18	2	<2	<2	16	7	66	130	0.01	<.01	0.24	0.35	0.02	0.16	441
3	7	6.71	4	60	<5	299	<2	<2	<2	11	10	57	522	0.02	<.01	0.17	0.26	0.02	0.12	186
4	6	3.92	3	35	<5	16	<2	<2	<2	12	20	87	117	<.01	<.01	0.23	0.27	0.02	0.16	252
4	9	9.77	5	31	<5	275	2	<2	<2	9	13	64	493	0.01	<.01	0.22	0.25	0.02	0.15	210
6	6	4.73	7	27	<5	36	<2	<2	<2	15	31	114	245	0.01	<.01	0.27	0.42	0.02	0.19	396
4	6	2.71	4	48	<5	6	<2	<2	<2	11	9	73	101	<.01	<.01	0.24	0.22	0.02	0.18	412
7	11	3.64	2	66	<5	<5	41	2	<2	37	14	55	621	0.83	0.12	1.94	1.80	0.09	0.85	924
4	9	6.68	2	38	<5	<5	25	<2	<2	53	22	56	1515	1.50	0.16	2.76	3.51	0.08	1.40	692
13	52	16.42	32	40	<5	<5	47	<2	<2	17	8	17	1015	0.53	0.10	0.82	1.89	0.07	0.55	360
6	13	3.98	9	95	5	<5	23	3	4	15	7	10	598	0.80	0.06	1.00	1.17	0.07	0.55	514
3	5	1.78	3	72	<5	<5	23	<2	<2	11	12	30	349	0.49	0.09	0.96	1.17	0.06	0.48	473
9	13	3.90	2	104	<5	<5	36	<2	3	12	5	10	509	1.29	0.10	1.72	0.75	0.07	0.93	548
27	17	6.31	5	101	15	<5	27	<2	7	5	4	21	543	0.42	0.05	0.82	0.34	0.07	0.36	293
10	13	4.08	<2	101	<5	<5	49	<2	<2	21	7	16	535	1.02	0.14	2.61	0.94	0.15	1.08	665
42	18	7.32	<2	131	<5	<5	79	11	<2	21	6	9	481	0.97	0.14	2.32	0.92	0.14	0.83	693
20	11	3.25	2	100	<5	<5	99	<2	4	28	13	26	540	1.13	0.22	3.33	1.80	0.21	1.35	1370
38	12	6.01	5	59	<5	<5	72	<2	<2	36	7	25	693	1.25	0.20	3.78	1.66	0.20	1.42	1080
27	14	5.23	2	63	<5	<5	88	<2	3	48	8	21	688	1.40	0.21	3.74	1.89	0.19	1.51	1444
13	16	5.04	<2	92	<5	<5	36	3	22	24	10	33	853	1.10	0.12	2.23	3.10	0.08	0.86	454
29	27	7.14	2	108	44	<5	63	<2	4	26	7	13	643	1.30	0.14	2.67	0.93	0.11	1.12	579
21	28	4.85	4	106	<5	<5	75	<2	<2	51	8	15	639	1.34	0.14	2.69	1.67	0.07	1.07	773

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0422975	5026	R04-002	44.00	45.20	1.20	<10	5	<5						31	2865	2812	2.9	5	83	9
R0422976	5027	R04-002	45.20	46.70	1.50	<10	5	<5						138	5179	7114	4.5	8	54	20
R0422977	5028	R04-002	61.40	62.90	1.50	222	5	<5						77	3078	6575	80.3	1523	28	16
R0422978	5029	R04-002	65.80	67.30	1.50	184	5	6						195	3643	9770	13.1	1058	42	25
R0422979	5030	R04-002	69.50	70.90	1.40	78	5	<5						47	2250	4012	14.4	36	38	9
R0422980	5031	R04-002	70.90	72.30	1.40	<10	5	<5						62	1332	2044	11.9	13	48	5
R0422981	5032	R04-002	76.50	78.00	1.50	22	5	<5						53	1312	2663	4.8	56	65	6
R0422982	5033	R04-002	78.00	78.50	0.50	194	5	<5	0.09	3.75	6.33	55.9	17.54	857	32460	65040	59.4	146	7	205
R0422984	5035	R04-002	78.50	80.60	2.10	32	5	5	0.02	0.95	1.17	12.5	5.87	109	11180	17710	14.31	57	72	42
R0422985	5036	R04-002	80.60	82.50	1.90	48	5	<5	0.11	4.15	6.13	43.3	14.16	1095	40430	64400	44.8	27	10	212
R0422986	5037	R04-002	82.50	84.00	1.50	<10	5	<5						157	524	1274	0.8	16	62	4
R0422987	5038	R04-002	84.00	84.50	0.50	<10	5	11						1746	4594	4035	5.6	<2	26	13
R0422988	5039	R04-002	84.50	85.70	1.20	<10	5	<5						825	256	8003	0.5	<2	24	28
R0422989	5040	R04-002	85.70	87.30	1.60	<10	5	36	0.25	2.47	3.27	19.6	14.09	2754	26790	33930	20.2	<2	10	122
R0422990	5041	R04-002	87.30	88.80	1.50	<10	5	7						543	1372	2370	2.1	<2	36	8
R0422991	5042	R04-002	88.80	90.80	2.00	<10	5	7						322	2219	3392	2.3	<2	64	13
R0422992	5043	R04-002	90.80	92.80	2.00	<10	5	12						480	3353	6312	2.9	<2	49	22
R0422993	5044	R04-002	93.50	95.50	2.00	<10	5	33						1596	2400	6360	5.4	<2	17	28
R0422994	5045	R04-002	96.40	97.10	0.70	<10	5	46	0.13	0.55	2.58	8.8	13.60	1397	5329	27150	9.3	<2	13	105

ANALYTICAL METHODS
Au Aqua regia decomposition / solvent extraction / AAS
Wt Au The weight of sample taken to analyse for gold (geochem)
Se Multi-acid digestion / I.C.P. analysis
Cu(A) Assay
Pb(A) Assay
Zn(A) Assay
Ag(2) Acid decomposition / AAS
Fe(T) Assay / Total Iron
ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co ppm	Ni ppm	Fe %	Mo ppm	Cr ppm	Bi ppm	Sb ppm	V ppm	Sn ppm	W ppm	Sr ppm	Y ppm	La ppm	Mn ppm	Mg %	Ti %	Al %	Ca %	Na %	K %	P ppm
5	5	2.54	2	48	<5	<5	3	<2	<2	17	21	90	563	0.56	0.06	1.03	0.80	0.03	0.55	747
5	5	3.25	<2	54	<5	<5	<2	<2	<2	9	17	85	392	0.27	0.04	0.69	0.39	0.03	0.38	720
6	7	4.66	4	40	<5	78	<2	<2	<2	5	11	48	338	0.10	<.01	0.34	0.18	0.04	0.18	531
4	5	2.52	2	63	<5	216	<2	<2	<2	6	19	78	244	0.04	<.01	0.29	0.23	0.02	0.17	463
6	7	4.35	4	40	<5	6	<2	<2	<2	17	22	77	435	0.47	0.04	0.89	0.52	0.03	0.41	1098
5	7	4.88	5	38	<5	<5	<2	<2	<2	22	30	87	522	0.46	0.02	0.89	0.93	0.03	0.37	862
8	10	3.90	3	37	<5	11	<2	<2	<2	16	9	44	586	1.75	0.06	1.60	0.43	0.05	1.15	1014
11	9	19.62	5	42	<5	25	<2	<2	<2	5	5	20	1614	3.34	0.10	2.83	0.21	0.08	1.64	567
4	18	7.39	3	59	<5	<5	3	<2	2	4	9	10	372	0.88	0.04	1.01	0.35	0.05	0.72	1548
13	9	15.81	4	37	<5	<5	5	<2	<2	6	9	26	1760	3.84	0.16	3.57	0.27	0.08	1.92	553
4	5	3.05	4	49	<5	<5	<2	<2	<2	10	16	59	298	0.59	0.04	0.83	0.39	0.03	0.52	812
14	8	12.10	3	39	<5	<5	<2	<2	<2	10	16	52	1691	3.03	0.20	3.48	0.40	0.04	2.38	742
12	6	6.97	3	13	<5	<5	<2	<2	<2	20	33	96	295	0.37	0.03	0.86	0.62	0.03	0.39	1127
29	10	16.01	5	29	<5	<5	<2	<2	<2	10	10	28	1635	3.31	0.21	4.32	0.46	0.06	2.93	631
14	20	6.91	2	71	<5	<5	51	<2	<2	18	15	46	578	1.31	0.17	1.84	0.97	0.04	1.06	1089
10	9	5.23	4	34	<5	<5	5	<2	<2	16	14	47	236	0.37	0.01	0.64	0.58	0.04	0.25	943
9	9	6.37	6	48	<5	<5	10	<2	<2	34	15	50	388	0.52	0.06	0.90	1.61	0.03	0.42	968
16	18	13.23	5	46	<5	<5	<2	<2	<2	10	11	45	289	0.62	0.07	1.06	0.35	0.03	0.61	666
33	14	15.57	3	44	5	<5	<2	<2	<2	12	15	47	297	0.56	0.08	1.08	0.46	0.03	0.62	644

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0431090	5078	R04-004	160.40	160.60	0.20	44	5	<5						372	18	69	0.6	<2	75	<1

ANALYTICAL METHODS
Au Aqua regia decomposition / solvent extraction / AAS
Wt Au The weight of sample taken to analyse for gold (geochem)
Se Multi-acid digestion / I.C.P. analysis
Cu(A) Assay
Pb(A) Assay
Zn(A) Assay
Ag(2) Acid decomposition / AAS
Fe(T) Assay / Total Iron
ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co	Ni	Fe	Mo	Cr	Bi	Sb	V	Sn	W	Sr	Y	La	Mn	Mg	Ti	Al	Ca	Na	K	P
ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	%	%	%	%	%	ppm
67	34	7.91	<2	55	<5	<5	49	<2	<2	60	2	7	505	1.99	0.24	2.08	1.05	0.06	1.29	634

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0423000	5051	R04-005	69.00	70.10	1.10	<10	5	<5						67	13	119	<.4	4	109	<1
R0423001	5052	R04-005	70.10	70.80	0.70	<10	5	69	0.25	0.07	2.87	5.6	16.49	3090	588	29330	6.0	<2	23	141
R0423002	5053	R04-005	70.80	72.50	1.70	<10	5	16	0.06	0.05	2.03	4.1	6.67	650	468	19650	4.5	<2	85	88
R0423003	5054	R04-005	72.50	73.70	1.20	<10	5	<5	0.03	0.01	0.34	<0.4	5.92	223	63	2860	<.4	<2	659	12
R0423004	5055	R04-005	73.70	74.20	0.50	<10	5	45	0.11	0.08	4.24	7.1	8.81	1217	788	43110	7.7	<2	26	197
R0423005	5056	R04-005	74.20	75.60	1.40	<10	5	7	0.02	0.01	0.52	0.9	3.41	110	120	4885	<.4	<2	259	16
R0423006	5057	R04-005	79.10	79.90	0.80	<10	5	5	0.03	0.15	1.61	2.9	4.31	230	1425	15800	2.6	<2	129	61
R0423007	5058	R04-005	79.90	80.8	0.90	242	5	<5	0.55	9.05	20.98	123.2	12.75	6410	100240	146100	136.0	2	<5	732
R0423008	5059	R04-005	80.80	81.90	1.10	308	5	<5	0.29	7.55	13.97	96.3	10.77	3424	83280	125000	106.0	3	<5	544
R0423009	5060	R04-005	81.90	83.00	1.10	566	5	<5	0.37	6.09	11.04	73.0	16.00	4293	66370	100500	77.4	<2	5	416
R0423010	5061	R04-005	83.00	83.55	0.55	42	5	10	0.12	1.89	2.65	19.3	8.64	1363	21170	26850	20.1	6	9	94
R0423011	5062	R04-005	83.55	85.00	1.45	1058	5	12	0.41	1.25	3.12	20.3	11.72	4528	12860	31580	19.0	<2	23	104
R0423012	5063	R04-005	85.00	86.25	1.25	<10	5	11	0.10	0.58	0.71	5.8	6.62	1066	5948	7893	5.9	<2	70	28
R0423013	5064	R04-005	86.25	86.75	0.50	22	5	12	0.03	1.42	2.14	10.0	9.07	382	18560	24070	10.2	26	18	92
R0423014	5065	R04-005	86.75	88.50	1.75	<10	5	<5						75	5194	5023	4.4	17	40	18
R0423015	5066	R04-005	88.50	90.70	2.20	<10	5	<5						353	2408	3046	1.4	<2	75	10
R0423016	5067	R04-005	90.70	91.20	0.50	20	5	9	0.20	1.25	2.13	8.4	16.77	2345	12830	20900	8.2	<2	14	86
R0423017	5068	R04-005	91.20	92.00	0.80	<10	5	7						240	4474	7834	2.7	<2	103	31
R0423018	5069	R04-005	92.00	92.70	0.70	<10	5	<5						236	38	406	<.4	<2	152	<1
R0423019	5070	R04-005	92.70	94.20	1.50	<10	5	13	0.17	2.69	4.82	15.8	10.35	2006	29100	49570	16.3	<2	13	186
R0423020	5071	R04-005	94.20	95.65	1.45	<10	5	<5	0.17	2.75	3.53	14.8	12.11	1952	29520	36370	14.7	<2	13	133
R0423021	5072	R04-005	95.65	96.65	1.00	<10	5	<5	0.07	0.19	2.13	1.5	8.63	719	1458	19820	1.4	<2	58	75
R0423022	5073	R04-005	96.65	97.85	1.20	<10	5	9	0.03	0.51	1.81	3.4	6.66	267	4575	17120	3.0	<2	89	63
R0423023	5074	R04-005	97.85	99.10	1.25	<10	5	8	0.04	0.44	1.50	3.2	6.66	439	4243	14740	3.4	<2	98	53
R0423024	5075	R04-005	99.10	100.20	1.10	<10	5	15	0.08	0.35	1.74	3.3	6.42	863	3488	16520	3.0	<2	77	63
R0423025	5076	R04-005	101.80	102.90	1.10	<10	5	9	0.06	0.13	0.92	6.3	4.01	660	1291	9770	6.2	<2	83	37
R0423026	5077	R04-005	130.20	130.75	0.55	<10	5	<5						96	45	203	<.4	4	23	<1

ANALYTICAL METHODS

Au Aqua regia decomposition / solvent extraction / AAS

Wt Au The weight of sample taken to analyse for gold (geochem)

Se Multi-acid digestion / I.C.P. analysis

Cu(A) Assay

Pb(A) Assay

Zn(A) Assay

Ag(2) Acid decomposition / AAS

Fe(T) Assay / Total Iron

ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co ppm	Ni ppm	Fe %	Mo ppm	Cr ppm	Bi ppm	Sb ppm	V ppm	Sn ppm	W ppm	Sr ppm	Y ppm	La ppm	Mn ppm	Mg %	Ti %	Al %	Ca %	Na %	K %	P ppm
12	22	3.01	3	73	<5	<5	8	<2	<2	31	19	49	531	0.72	0.06	1.80	1.63	0.08	0.50	893
61	12	18.45	6	20	<5	<5	<2	2	<2	20	18	68	1320	2.84	0.09	4.99	1.26	0.10	2.23	655
19	6	7.30	3	43	<5	<5	<2	<2	<2	17	16	59	852	1.46	0.09	3.08	0.88	0.09	1.27	646
5	6	6.44	3	45	<5	<5	<2	<2	<2	38	16	66	1356	1.65	0.11	4.05	1.86	0.16	1.88	671
38	8	9.01	4	54	15	<5	<2	<2	<2	17	13	31	1072	1.16	0.05	2.09	1.02	0.07	0.36	772
3	6	3.84	4	50	<5	<5	<2	<2	<2	46	14	70	883	1.22	0.08	3.45	2.33	0.17	1.03	778
5	6	5.03	5	55	<5	<5	35	<2	2	48	19	51	1385	1.65	0.12	2.57	4.63	0.10	1.44	574
14	33	15.05	25	43	<5	42	9	<2	5	31	2	9	1076	0.36	<.01	0.13	1.20	0.06	0.02	127
7	28	13.43	26	59	<5	29	13	<2	<2	7	<2	7	574	0.12	<.01	0.13	0.31	0.05	0.04	116
4	38	19.20	52	57	<5	<5	65	<2	<2	9	3	11	973	0.75	0.07	1.18	0.68	0.10	0.63	420
4	12	9.64	3	94	<5	<5	2	<2	<2	3	2	9	544	0.69	0.03	1.25	0.14	0.04	0.77	334
6	21	12.47	<2	67	7	<5	6	<2	<2	2	2	8	350	0.40	0.02	0.78	0.08	0.03	0.42	295
<1	7	6.33	<2	76	<5	<5	<2	<2	2	4	4	12	507	1.14	0.01	1.43	0.10	0.03	0.26	344
5	6	11.81	2	35	<5	<5	<2	<2	7	13	2	10	696	2.20	0.03	1.48	0.29	0.05	0.74	315
6	11	6.48	<2	53	<5	<5	6	<2	<2	11	3	5	401	2.58	0.02	1.73	0.13	0.04	0.45	326
4	11	6.62	3	69	<5	<5	<2	<2	<2	5	4	20	525	1.98	0.03	2.14	0.13	0.04	0.44	351
27	16	18.82	2	55	<5	<5	5	<2	<2	4	4	15	535	0.84	0.05	1.83	0.20	0.04	0.69	329
7	9	7.58	2	67	<5	<5	31	<2	<2	12	7	16	604	1.27	0.19	2.97	0.78	0.06	1.71	950
16	11	6.72	3	42	<5	<5	88	<2	<2	41	14	11	562	1.45	0.13	2.50	1.73	0.08	0.69	3691
28	14	11.68	2	64	<5	<5	16	<2	<2	17	6	21	572	0.49	0.02	0.97	0.93	0.03	0.29	335
28	14	13.85	2	56	<5	<5	55	<2	<2	12	8	12	798	1.10	0.10	1.83	0.87	0.04	0.80	931
13	17	8.95	5	112	<5	<5	94	<2	<2	31	10	22	1244	1.84	0.26	3.27	1.47	0.09	1.86	1627
15	27	6.86	3	128	<5	<5	40	<2	<2	34	7	18	988	1.93	0.17	3.70	1.34	0.10	2.00	493
7	11	6.52	2	70	<5	<5	9	<2	<2	19	9	33	908	1.96	0.07	3.19	0.63	0.05	1.05	460
17	21	6.03	2	71	<5	<5	42	<2	<2	23	9	24	464	1.62	0.04	2.42	0.67	0.04	0.37	817
18	25	4.15	<2	101	16	<5	29	2	2	12	9	18	337	0.71	0.02	1.34	0.70	0.03	0.30	458
5	31	3.95	2	92	<5	<5	31	<2	4	36	8	22	473	0.55	<.01	0.14	3.07	0.03	0.09	157

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0431091	5079	R04-006	61.10	63.30	2.20	<10	5	<5						112	209	388	1.8	<2	116	1
R0431092	5080	R04-006	63.30	65.70	2.40	<10	5	5	0.09	0.1	1.19	2.8	7.05	857	821	10510	3	<2	50	47
R0431093	5081	R04-006	65.70	66.50	0.80	<10	5	<5						72	33	484	<.4	<2	933	<1
R0431094	5082	R04-006	66.50	67.60	1.10	<10	5	<5						242	84	2005	<.4	<2	291	5
R0431095	5083	R04-006	67.60	68.50	0.90	44	5	8	0.11	0.55	6.17	8.7	4.21	1062	4494	58000	7.7	<2	61	228
R0431096	5084	R04-006	68.50	70.60	2.10	318	5	14	0.16	8.14	18.91	78.1	13.57	1548	10630	188700	77.2	13	<5	634
R0431097	5085	R04-006	70.60	71.90	1.30	188	5	19	0.26	5.40	10.87	51.7	17.23	2577	13170	109900	49	10	<5	353
R0431098	5086	R04-006	71.90	73.60	1.70	58	5	17	0.13	1.71	3.22	14.2	7.79	1287	16490	30130	14	<2	22	104
R0431099	5087	R04-006	73.60	76.00	2.40	<10	5	9	0.08	1.99	2.77	8.1	9.41	734	18330	25540	8.1	<2	21	86
R0431100	5088	R04-006	76.00	77.85	1.85	<10	5	7	0.04	0.77	1.90	3.3	6.13	313	6428	19440	3.7	<2	42	64
R0431101	5089	R04-006	77.85	79.75	1.90	<10	5	23	0.11	2.20	3.37	9.2	10.93	1107	20800	31930	10.2	<2	8	118
R0431102	5090	R04-006	79.75	81.70	1.95	<10	5	16	0.08	3.96	2.29	10.0	10.57	729	34140	20150	10.2	<2	22	83
R0431103	5091	R04-006	81.70	82.90	1.20	<10	5	14	0.11	1.48	1.99	5.8	12.63	1110	13510	17280	6.1	<2	25	65
R0431104	5092	R04-006	82.90	84.90	2.00	<10	5	<5	0.03	0.55	0.71	1.8	5.30	234	4679	8058	2.1	<2	76	24
R0431105	5093	R04-006	84.90	87.20	2.30	<10	5	<5	0.03	0.59	1.68	1.6	5.33	314	5181	15160	1.9	<2	57	52
R0431106	5094	R04-006	87.20	88.10	0.90	<10	5	9	0.36	2.86	4.25	12.9	27.35	3295	23260	36990	13.2	<2	15	127
R0431107	5095	R04-006	88.10	90.10	2.00	<10	5	<5	0.07	0.69	1.26	3.9	7.40	686	5690	11260	4.2	<2	56	45
R0431108	5096	R04-006	90.10	91.60	1.50	<10	5	22	0.20	1.80	3.98	9.8	12.80	2014	17170	37530	10	<2	25	150
R0431109	5097	R04-006	91.60	92.50	0.90	<10	5	28	0.15	3.89	5.86	13.1	9.91	1441	32640	53750	13.4	<2	36	212
R0431110	5098	R04-006	92.50	94.60	2.10	<10	5	18	0.08	0.59	3.56	3.6	8.16	834	4699	30410	3.8	<2	34	127
R0431111	5099	R04-006	94.60	96.25	1.65	<10	5	<5						93	86	478	0.4	<2	1251	<1
R0431112	5100	R04-006	96.25	98.60	2.35	<10	5	6	0.05	0.36	1.94	4.7	8.30	538	2955	19520	5	<2	85	70
R0431113	5101	R04-006	98.60	100.80	2.20	<10	5	13	0.04	0.64	1.96	3.4	7.67	448	5746	20250	3.7	<2	80	68

ANALYTICAL METHODS

Au Aqua regia decomposition / solvent extraction / AAS

Wt Au The weight of sample taken to analyse for gold (geochem)

Se Multi-acid digestion / I.C.P. analysis

Cu(A) Assay

Pb(A) Assay

Zn(A) Assay

Ag(2) Acid decomposition / AAS

Fe(T) Assay / Total Iron

ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co ppm	Ni ppm	Fe %	Mo ppm	Cr ppm	Bi ppm	Sb ppm	V ppm	Sn ppm	W ppm	Sr ppm	Y ppm	La ppm	Mn ppm	Mg %	Ti %	Al %	Ca %	Na %	K %	P ppm
6	10	2.96	2	82	<5	<5	9	2	<2	24	18	44	433	0.64	0.06	1.74	1.22	0.13	0.51	433
15	13	6.92	<2	62	<5	<5	<2	<2	<2	19	16	58	923	1.20	0.07	2.47	1.09	0.09	1.16	661
21	20	5.88	<2	68	<5	<5	211	<2	<2	76	21	18	1766	2.82	0.39	4.82	7.77	0.21	2.96	1464
7	16	3.90	<2	113	<5	<5	86	<2	<2	35	16	35	1109	1.31	0.19	1.80	4.27	0.08	0.93	967
9	20	4.53	<2	80	7	<5	13	<2	<2	60	16	18	1076	0.75	0.03	0.73	4.11	0.06	0.40	172
23	33	14.43	18	33	10	28	32	<2	<2	27	5	4	1108	0.25	0.01	0.29	1.67	0.04	0.12	219
7	49	18.22	24	33	13	10	20	<2	<2	12	4	3	1189	0.71	0.03	0.81	0.87	0.06	0.53	221
7	19	8.46	<2	61	7	<5	4	<2	<2	15	4	<2	935	2.44	0.03	1.79	0.79	0.06	0.72	253
10	11	9.64	<2	59	6	<5	5	<2	<2	10	4	<2	946	2.85	0.03	2.35	0.34	0.05	0.50	322
4	15	6.25	<2	72	5	<5	9	<2	<2	12	4	<2	663	1.14	0.03	1.45	0.40	0.06	0.53	259
19	30	12.22	<2	74	7	<5	7	<2	<2	11	3	<2	728	1.39	0.02	1.62	0.42	0.05	0.32	217
30	12	11.42	<2	56	9	<5	21	<2	<2	25	7	2	956	1.44	0.04	2.16	1.42	0.05	0.41	418
14	17	13.94	<2	57	8	<5	35	<2	<2	15	6	<2	831	1.41	0.08	1.94	0.90	0.05	0.61	515
6	7	5.52	<2	93	<5	<5	37	<2	<2	12	5	5	730	0.98	0.09	1.53	1.34	0.08	0.84	499
4	7	5.75	<2	80	<5	<5	2	<2	<2	14	4	4	835	0.89	0.03	1.26	0.80	0.07	0.49	277
39	26	27.60	<2	24	16	<5	22	<2	<2	12	2	<2	1088	0.88	0.03	1.39	0.56	0.04	0.35	147
7	11	7.70	<2	61	8	<5	16	<2	<2	17	5	6	930	1.57	0.07	2.41	0.75	0.06	0.79	326
26	34	14.39	<2	54	17	<5	18	<2	<2	19	5	15	1290	1.21	0.05	1.73	1.78	0.05	0.61	203
22	36	10.71	<2	56	18	<5	14	<2	<2	42	9	18	1683	1.03	0.04	1.36	3.52	0.05	0.43	287
15	20	7.93	<2	63	7	<5	30	<2	<2	23	6	16	1153	1.22	0.08	2.09	1.90	0.11	0.98	294
12	11	5.40	2	61	<5	<5	85	<2	<2	48	13	9	748	1.55	0.25	3.12	1.49	0.14	1.37	2456
12	15	7.44	<2	73	16	<5	24	<2	<2	13	8	12	910	2.68	0.03	3.20	0.47	0.04	0.20	436
15	25	7.79	<2	97	17	<5	70	<2	<2	18	11	23	934	2.53	0.04	3.35	0.89	0.03	0.29	719

2004 R-15 Drilling - DDH Geochemistry Data

LAB NO	FIELD NO	DDH	From	To	Interval	Au ppb	Wt Au gram	Se ppm	Cu(A) %	Pb(A) %	Zn(A) %	Ag(2) g/t	Fe(T) %	Cu ppm	Pb ppm	Zn ppm	Ag ppm	As ppm	Ba ppm	Cd ppm
R0431114	5102	R04-007	31.90	33.90	2.00	<10	5	<5	0.02	0.36	0.77	4.4	2.85	189	3207	9112	4.6	<2	37	25
R0431115	5103	R04-007	62.30	64.90	2.60	<10	5	<5	<0.01	0.71	0.82	24.6	6.60	104	6121	9392	28.2	126	31	24
R0431116	5104	R04-007	108.60	109.80	1.20	<10	5	<5	0.02	0.94	1.12	4.0	11.43	229	8190	12410	4.3	<2	62	36
R0431117	5105	R04-007	109.80	111.00	1.20	<10	5	<5	0.02	0.91	0.81	4.2	10.58	239	7692	9423	4.7	<2	75	27
R0431118	5106	R04-007	143.90	145.60	1.70	<10	5	5	0.07	0.11	0.60	3.4	4.00	705	874	6901	3.6	<2	137	21
R0431119	5107	R04-007	145.60	147.35	1.75	<10	5	<5						74	168	920	0.6	<2	183	2
R0431120	5108	R04-007	147.35	147.65	0.30	<10	5	24	0.16	1.82	4.48	17.6	12.30	1619	16320	41820	18.1	<2	18	144
R0431121	5109	R04-007	147.65	148.70	1.05	<10	5	<5	0.03	0.56	1.14	4.4	3.18	278	4891	12810	5.2	<2	77	41
R0431122	5110	R04-007	148.70	150.60	1.90	<10	5	<5	0.10	1.03	2.80	9.4	8.86	1121	9369	27480	10.1	<2	18	89
R0431123	5111	R04-007	150.60	151.80	1.20	<10	5	<5	0.05	0.03	0.88	1.3	2.55	535	237	9882	1.2	<2	112	33
R0431124	5112	R04-007	179.45	181.20	1.75	104	5	<5	0.10	0.18	0.20	9.9	13.62	1003	1480	2120	11.0	244	67	1
R0431125	5113	R04-007	181.20	182.70	1.50	316	5	<5	0.28	8.27	17.40	112.6	16.93	2789	17570	152100	114.0	221	<5	512
R0431126	5114	R04-007	182.70	184.20	1.50	230	5	<5	0.36	6.88	11.61	94.4	21.14	3848	22210	115500	106.0	323	<5	367
R0431127	5115	R04-007	184.20	185.50	1.30	<10	5	11	0.03	0.46	1.05	16.8	3.70	288	3854	11976	18.1	235	103	41

ANALYTICAL METHODS

Au Aqua regia decomposition / solvent extraction / AAS

Wt Au The weight of sample taken to analyse for gold (geochem)

Se Multi-acid digestion / I.C.P. analysis

Cu(A) Assay

Pb(A) Assay

Zn(A) Assay

Ag(2) Acid decomposition / AAS

Fe(T) Assay / Total Iron

ICP PACKAGE :0.5 gram sample digested in hot reverse aqua regia (soil, silt) or hot Aqua Regia (rocks).

Co ppm	Ni ppm	Fe %	Mo ppm	Cr ppm	Bi ppm	Sb ppm	V ppm	Sn ppm	W ppm	Sr ppm	Y ppm	La ppm	Mn ppm	Mg %	Ti %	Al %	Ca %	Na %	K %	P ppm
3	4	2.93	<2	55	5	<5	<2	<2	<2	2	9	14	65	0.01	<.01	0.23	0.08	0.05	0.17	293
11	16	6.67	<2	46	<5	<5	8	<2	<2	38	11	47	1118	0.56	0.02	1.22	1.08	0.08	0.26	653
6	10	10.85	<2	35	<5	<5	4	<2	<2	14	17	37	1516	3.60	0.18	4.24	0.40	0.09	1.91	840
5	8	9.99	<2	39	<5	<5	<2	<2	<2	19	17	51	1782	4.05	0.15	4.50	0.63	0.09	1.80	727
7	6	3.92	<2	57	<5	<5	<2	2	<2	45	10	23	804	0.77	0.08	2.24	2.52	0.09	0.61	555
1	4	2.40	2	44	<5	<5	3	<2	<2	61	12	19	1004	0.88	0.10	2.02	4.42	0.06	0.62	604
8	29	11.68	<2	32	15	<5	3	<2	<2	26	8	16	1027	0.87	0.09	1.43	2.49	0.04	0.68	370
5	10	3.32	<2	63	<5	<5	<2	<2	<2	34	15	21	431	0.37	0.01	0.64	1.90	0.04	0.22	415
10	23	9.04	<2	46	12	<5	<2	<2	<2	34	10	16	774	0.50	0.06	1.09	2.06	0.04	0.51	441
4	5	2.52	<2	53	<5	<5	<2	<2	<2	61	15	33	523	0.31	0.01	0.74	3.00	0.04	0.24	592
3	20	13.47	<2	20	<5	<5	<2	<2	<2	2	8	4	2187	5.26	0.28	6.38	0.26	0.10	5.46	666
12	38	16.71	<2	42	6	45	32	<2	<2	10	4	2	1018	0.49	0.06	0.75	1.28	0.07	0.50	247
19	48	21.64	4	38	12	30	47	<2	<2	8	5	<2	1127	0.37	0.05	0.59	1.04	0.06	0.33	365
8	10	3.77	13	62	36	<5	28	<2	<2	23	15	34	775	0.88	0.06	1.33	2.11	0.08	0.51	480

2004 R-15 LITHOGEOCHEMISTRY

Lab No	Field No	DDH	From	Geo Code ZKLithoge GP4F Code Litho Co notes	SiO2 %	TiO2 %	Al2O3 %	Fe2O3 %	FeO %	MnO %	MgO %	CaO %	Na2O %	K2O %	P2O5 %	Ba %	LOI %	TOTAL %
R0420647	LITHO-01	R04-001	28.10	FTG	67.51	0.68	16.12	3.94		0.01	1.08	0.30	0.76	4.65	0.07	0.09	3.99	99.20
R0420648	LITHO-02	R04-001	33.70	FTCZ hw	61.04	0.75	18.79	5.48		0.01	1.32	0.46	0.28	5.80	0.11	0.13	5.05	99.22
R0420649	LITHO-03	R04-001	45.50	FTL	65.66	0.68	17.19	4.05		0.01	1.37	0.69	1.07	5.30	0.15	0.24	2.85	99.26
R0420650	LITHO-04	R04-001	51.70	FTL	70.69	0.61	14.55	2.98		0.01	0.74	0.61	4.36	2.73	0.07	0.15	1.67	99.17
R0420651	LITHO-05	R04-001	56.80	FD	63.90	1.16	13.77	7.32		0.05	1.95	2.05	5.80	0.40	0.25	0.02	2.27	98.94
R0420652	LITHO-06	R04-001	68.00	MD	48.43	0.73	17.22	5.94		0.15	4.71	7.59	0.46	5.65	0.10	0.22	5.84	97.04
R0420653	LITHO-07	R04-001	73.40	FTL	54.72	0.87	22.20	6.30		0.01	1.80	0.73	1.24	7.03	0.09	0.32	4.05	99.36
R0420655	LITHO-09	R04-001	109.80	FP	75.02	0.31	12.78	1.50		0.01	0.74	0.85	5.05	1.76	0.12	0.20	0.87	99.21
R0420658	LITHO-01	R04-001	143.00	MD?	55.34	3.27	17.37	6.84		0.14	2.68	6.65	1.69	4.34	0.56	0.13	0.73	99.74
R0420659	LITHO-01	R04-001	153.70	FT	64.79	0.40	11.31	7.34		0.18	3.18	7.09	0.60	3.49	0.10	0.11	0.77	99.36
R0420661	LITHO-01	R04-001	163.50	ET	51.59	2.55	13.27	12.68		0.18	5.11	6.32	0.49	5.09	0.37	0.14	1.73	99.52
R0420664	LITHO-01	R04-001	187.60	FD	70.30	0.56	14.02	3.84		0.02	0.58	1.19	6.46	1.12	0.07	0.06	1.25	99.47
R0431129	LITHO-23	R04-004	108.30	MD	46.18	3.36	13.57	18.37		0.28	4.82	6.69	1.87	2.81	0.52	0.05	1.14	99.66
R0431130	LITHO-24	R04-004	114.60	TSK	54.70	1.48	18.36	11.64		0.09	3.01	0.97	0.58	5.67	0.18	0.12	2.85	99.65
R0431131	LITHO-25	R04-004	129.00	IF	55.38	1.44	16.82	7.98		0.14	2.07	4.94	6.38	2.23	0.40	0.06	1.87	99.71
R0431132	LITHO-26	R04-004	152.50	MT	51.06	1.89	14.00	7.69		0.10	5.82	13.81	3.07	1.08	0.23	0.19	0.80	99.74
R0431133	LITHO-27	R04-004	181.70	ET	55.15	1.62	16.36	10.31		0.15	2.24	5.17	4.55	2.88	0.68	0.09	0.68	99.88
R0431134	LITHO-28	R04-004	189.00	ET MT?	53.75	1.92	16.04	10.50		0.18	2.72	5.78	3.45	3.53	0.80	0.09	0.94	99.70
R0431135	LITHO-29	R04-005	29.20	FT	73.19	0.31	14.47	1.84		0.01	0.51	0.49	3.69	2.88	0.18	0.09	1.90	99.56
R0431136	LITHO-30	R04-005	50.60	FTCZ hw	73.70	0.33	14.39	1.48		0.01	0.79	0.60	3.19	3.25	0.18	0.07	1.72	99.71
R0431137	LITHO-31	R04-005	73.30	FT	67.62	0.43	12.76	6.92		0.17	2.27	3.59	1.16	2.50	0.10	0.11	1.91	99.54
R0431138	LITHO-32	R04-005	77.10	MD TSK?	54.29	2.63	16.51	7.75		0.15	3.05	6.42	1.59	3.24	0.37	0.07	3.04	99.11
R0431139	LITHO-33	R04-005	85.90	FTCZ fw	74.19	0.15	6.48	9.09		0.15	5.51	0.27	0.01	0.09	0.01	0.01	3.25	99.21
R0431140	LITHO-34	R04-005	98.10	FTG	71.43	0.31	9.76	7.11		0.10	2.71	1.53	0.34	2.82	0.05	0.18	2.44	98.78
R0431141	LITHO-35	R04-005	138.10	ET? FS?	75.51	0.31	9.90	2.90		0.05	0.89	5.03	1.33	2.11	0.02	0.10	0.93	99.08
R0431142	LITHO-36	R04-005	183.60	MT	46.36	2.02	13.01	12.02		0.15	11.71	8.80	0.62	2.90	0.25	0.12	1.50	99.46
R0431143	LITHO-37	R04-005	209.10	MD	51.59	3.26	13.56	13.85		0.15	4.46	7.03	2.76	1.49	0.47	0.04	0.98	99.64
R0431144	LITHO-38	R04-001	147.30	FT	65.75	0.51	10.94	10.93		0.18	2.99	3.63	0.28	2.60	0.05	0.07	1.47	99.40
R0431145	LITHO-39	R04-001	158.50	FT	43.79	1.67	15.10	15.19		0.28	4.78	11.56	0.34	4.32	0.20	0.10	1.92	99.25
R0431146	LITHO-40	R04-002	45.80	FTL	66.37	0.50	13.97	6.26		0.11	0.85	0.47	1.52	4.53	0.10	0.16	3.32	98.16
R0431147	LITHO-41	R04-002	77.40	FTCZ hw	51.86	0.87	22.75	5.61		0.05	3.49	1.15	0.31	7.28	0.21	0.36	5.36	99.30
R0431148	LITHO-42	R04-002	78.80	FTL	69.81	0.47	12.72	4.75		0.01	1.04	1.12	2.58	2.44	0.25	0.15	3.25	98.59
R0431149	LITHO-43	R04-002	89.10	FT	62.20	0.69	17.38	5.76		0.01	0.89	0.69	3.76	4.15	0.15	0.38	2.46	98.52
R0431150	LITHO-44	R04-002	105.40	FTL	66.41	0.62	15.90	4.05		0.03	1.69	1.34	0.21	5.53	0.15	0.19	3.00	99.12
R0431151	LITHO-45	R04-002	158.80	FTCZ fw	64.97	0.40	18.12	2.54		0.01	2.06	1.05	0.18	5.71	0.52	0.13	3.58	99.27
R0431152	LITHO-46	R04-002	226.10	MT	40.40	2.56	16.98	14.96		0.17	10.89	5.71	0.82	3.31	0.56	0.13	2.58	99.07
R0431153	LITHO-47	K04-199	49.00	FT	61.81	0.56	13.81	5.34		0.15	2.09	3.94	0.01	4.94	0.12	0.06	4.46	97.29
R0431154	LITHO-48	K04-199	58.70	FT	54.27	2.10	14.93	11.47		0.18	5.96	4.03	1.16	2.05	0.36	0.03	3.07	99.61
R0431155	LITHO-49	K04-199	78.10	FT	69.19	0.62	14.38	4.15		0.03	1.12	1.80	2.45	3.61	0.14	0.06	1.78	99.33
R0431156	LITHO-50	K04-199	113.50	FT	63.43	0.70	16.37	4.90		0.07	1.85	2.44	1.59	4.94	0.23	0.07	2.75	99.34
R0431157	LITHO-51	K04-199	155.20	FF	76.13	0.20	11.97	1.57		0.01	0.40	1.00	3.88	2.56	0.01	0.06	1.33	99.12
R0431158	LITHO-52	R04-003	71.00	MD	52.65	3.00	13.59	12.72		0.18	4.42	6.34	2.64	2.59	0.38	0.11	0.87	99.49
R0431159	LITHO-53	R04-003	78.30	MT	50.77	2.06	14.09	12.22		0.15	5.90	8.07	3.54	1.08	0.37	0.04	1.48	99.77
R0431160	LITHO-54	R04-003	100.40	MT	45.27	2.23	15.07	14.92		0.17	7.51	9.11	1.79	2.06	0.23	0.09	0.99	99.44
R0431162	LITHO-14	R04-001	161.70	FT	68.37	0.40	6.94	11.72		0.11	4.05	1.39	0.27	1.45	0.05	0.03	2.31	97.09

ANALYTICAL METHODS

FeO determined by acid digestion /volumetric.LOI determined gravimetrically

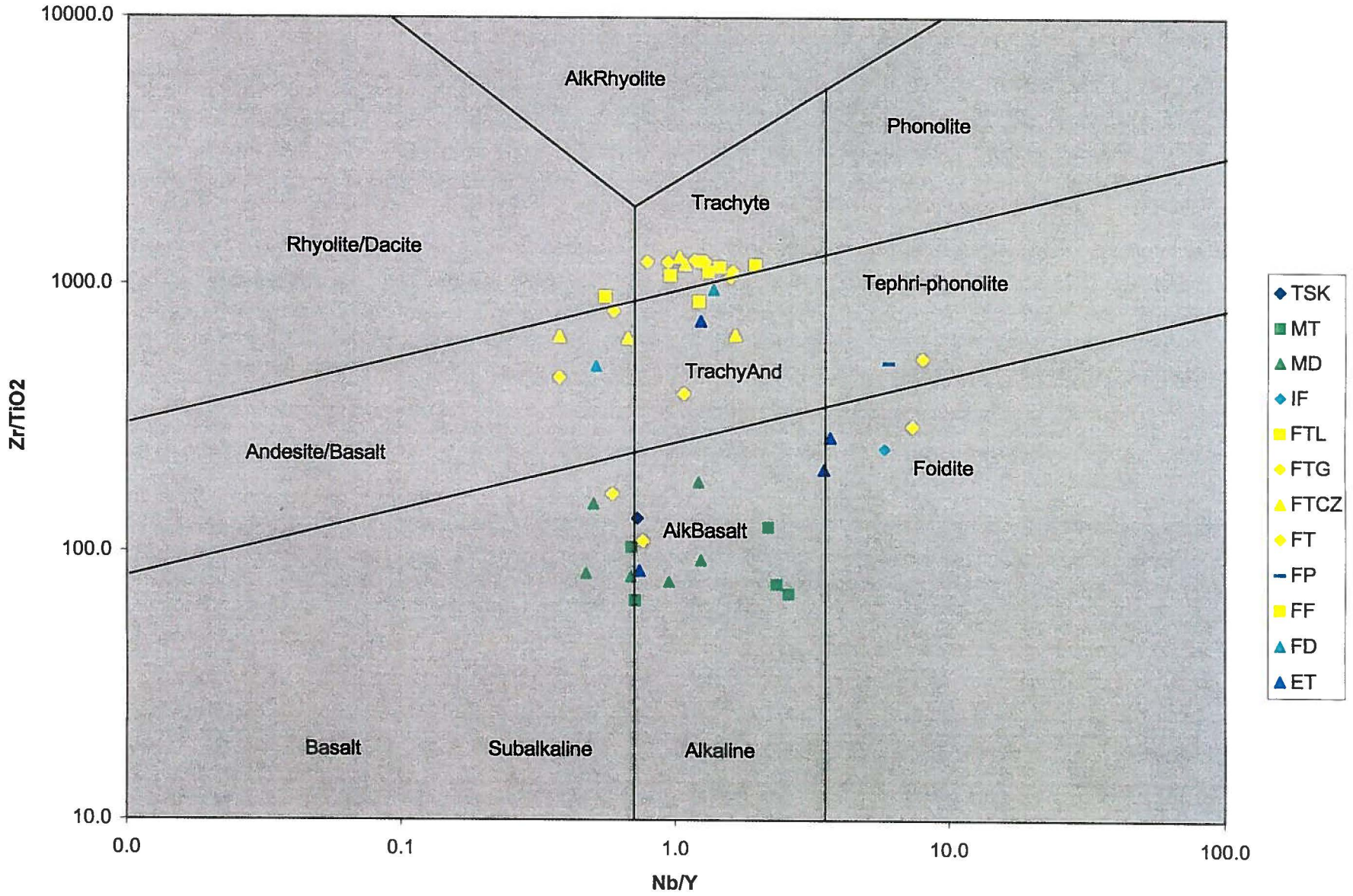
Other elements by Li borate fusion/XRF .Where no FeO value shown 'Fe2O3' is total Fe as Fe2O3

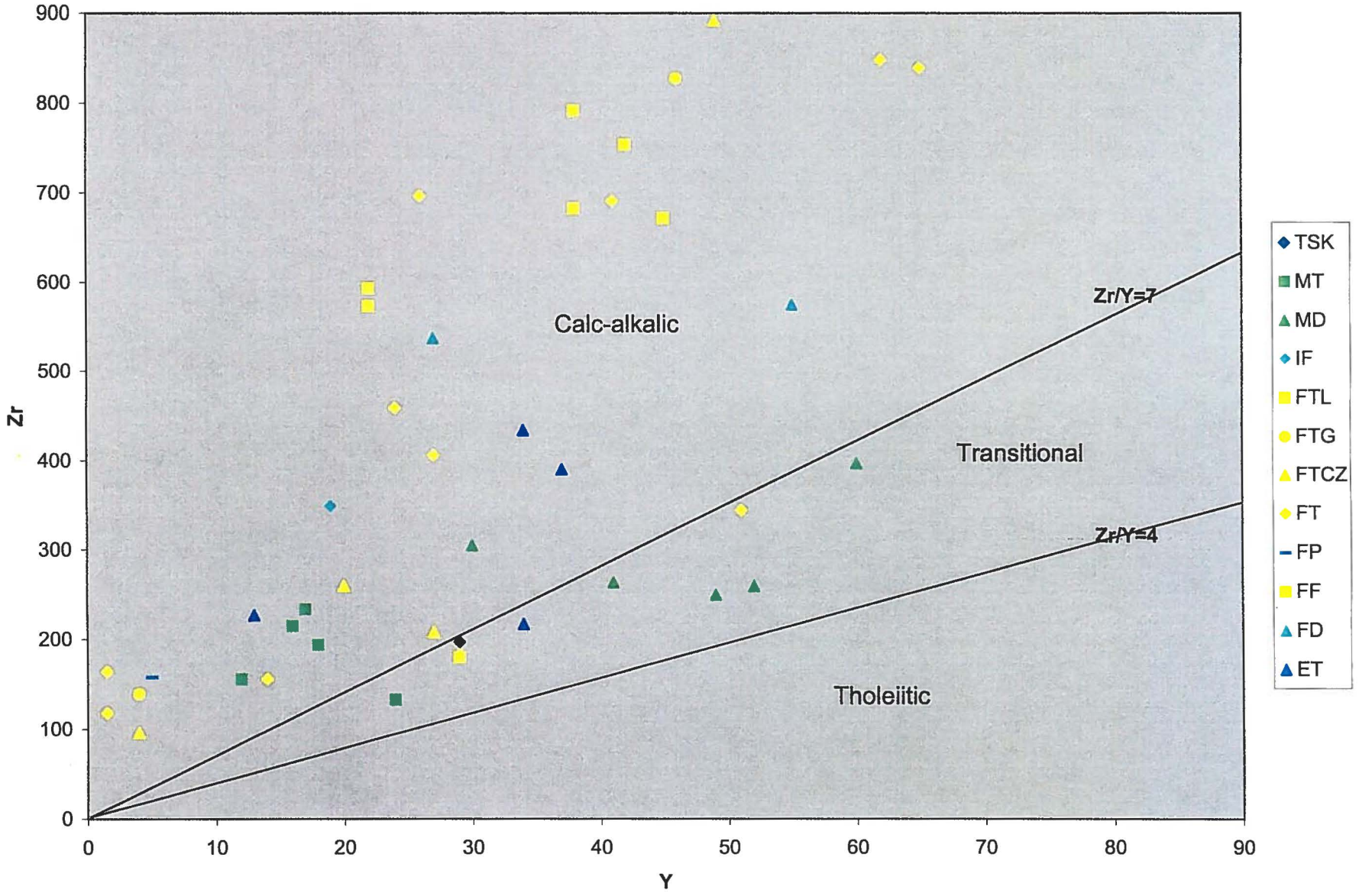
Zr(P) X-Ray fluorescence / pressed pellet

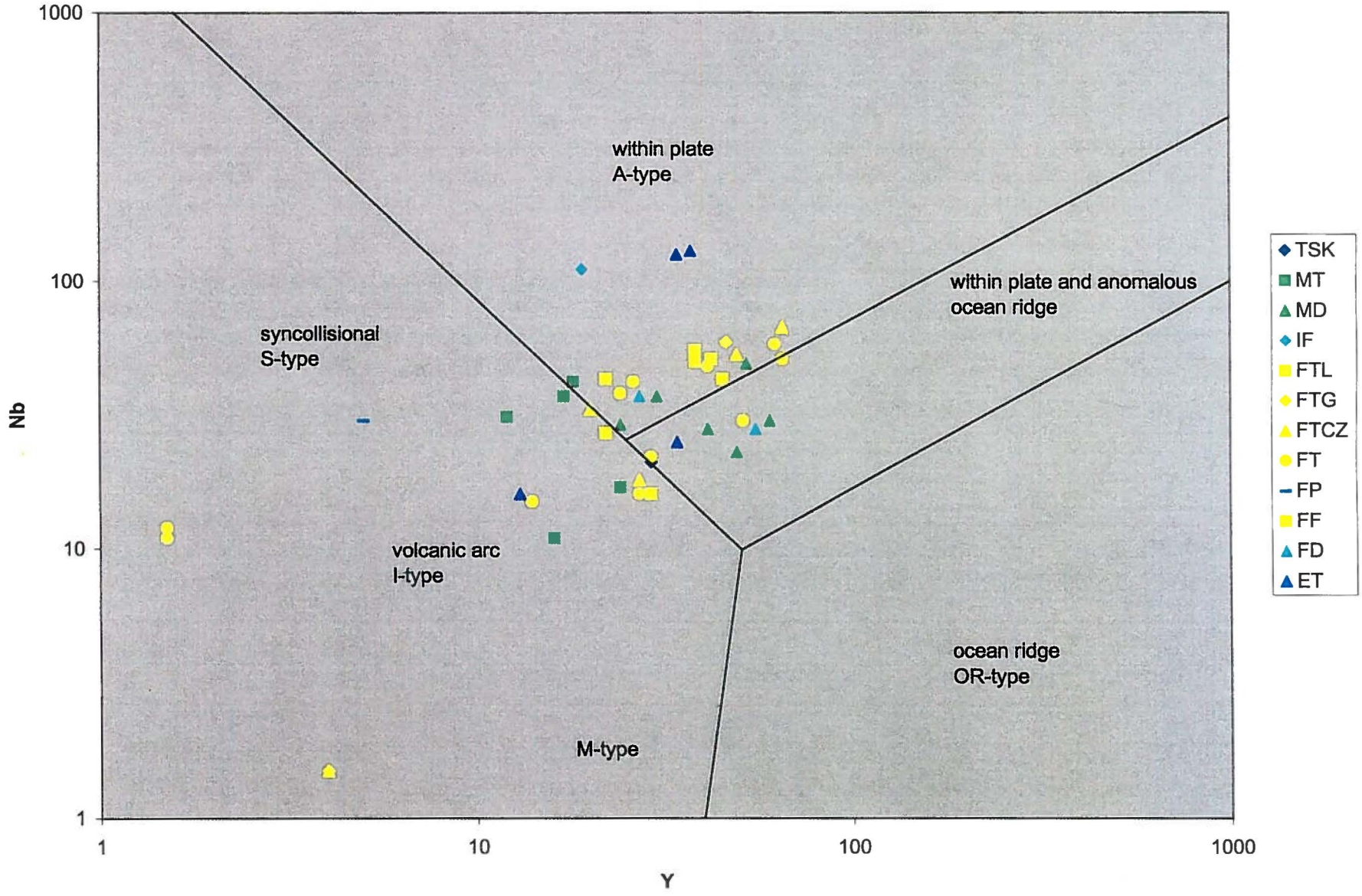
Y(P) X-Ray fluorescence / pressed pellet

Nb(P) X-Ray fluorescence / pressed pellet

Y(4) ppm	Zr(4) ppm	Nb(4) ppm	Zr/Y	Zr/Nb	Nb/Y	TiO2/Zr	Zr/TiO2	Al2O3/TiO	Al2O3/Zr	Zr/Al2O3	NaK Na2O + K2	Na/K Na2O/K2O	FeMg/NaK (FeO+MgO	A/CNK Al2O3/(CaO	A/NK Al2O3/(Na2	Hashl-l/Al 100*((MgO	Ser-l 100*(K2O/(K2O+	CCP-I 100*((MgO+FeO)/(MgO+FeO+K2O+Na2O))
46	827	59	18.0	14.0	1.3	0.001	1216.2	23.7	0.019	51.3	5.41	0.16	0.93	2.82	2.98	84.39	0.86	48.13
49	892	53	18.2	16.8	1.1	0.001	1189.3	25.1	0.021	47.5	6.08	0.05	1.12	2.87	3.09	90.59	0.95	52.80
38	791	55	20.8	14.4	1.4	0.001	1163.2	25.3	0.022	46.0	6.37	0.20	0.85	2.43	2.70	79.12	0.83	45.97
38	682	50	17.9	13.6	1.3	0.001	1118.0	23.9	0.021	46.9	7.09	1.60	0.52	1.89	2.05	41.11	0.39	34.41
55	574	28	10.4	20.5	0.5	0.002	494.8	11.9	0.024	41.7	6.20	14.50	1.50	1.67	2.22	23.04	0.06	59.92
24	133	29	5.5	4.6	1.2	0.005	182.2	23.6	0.129	7.7	6.11	0.08	1.74	1.26	2.82	56.27	0.92	63.54
42	753	51	17.9	14.8	1.2	0.001	865.5	25.5	0.029	33.9	8.27	0.18	0.98	2.47	2.68	81.76	0.85	49.48
5	158	30	31.6	5.3	6.0	0.002	509.7	41.2	0.081	12.4	6.81	2.87	0.33	1.67	1.88	29.76	0.26	24.75
30	305	37	10.2	8.2	1.2	0.011	93.3	5.3	0.057	17.6	6.03	0.39	1.58	1.37	2.88	45.70	0.72	61.22
14	156	15	11.1	10.4	1.1	0.003	390.0	28.3	0.073	13.8	4.09	0.17	2.57	1.01	2.77	46.45	0.85	72.01
34	217	25	6.4	8.7	0.7	0.012	85.1	5.2	0.061	16.4	5.58	0.10	3.19	1.12	2.38	59.98	0.91	76.12
27	537	37	19.9	14.5	1.4	0.001	958.9	25.0	0.026	38.3	7.58	5.77	0.58	1.60	1.85	18.18	0.15	36.83
52	260	49	5.0	5.3	0.9	0.013	77.4	4.0	0.052	19.2	4.68	0.67	4.96	1.19	2.90	47.13	0.60	83.21
29	197	21	6.8	9.4	0.7	0.008	133.1	12.4	0.093	10.7	6.25	0.10	2.34	2.54	2.94	84.85	0.91	70.10
19	349	110	18.4	3.2	5.8	0.004	242.4	11.7	0.048	20.7	8.61	2.86	1.17	1.24	1.95	27.53	0.26	53.86
17	234	37	13.8	6.3	2.2	0.008	123.8	7.4	0.060	16.7	4.15	2.84	3.26	0.78	3.37	29.02	0.26	76.50
34	434	125	12.8	3.5	3.7	0.004	267.9	10.1	0.038	26.5	7.43	1.58	1.69	1.30	2.20	34.50	0.39	62.81
37	390	.129	10.5	3.0	3.5	0.005	203.1	8.4	0.041	24.3	6.98	0.98	1.89	1.26	2.30	40.37	0.51	65.45
1.5	164	12	109.3	13.7	8.0	0.002	529.0	46.7	0.088	11.3	6.57	1.28	0.36	2.05	2.20	44.78	0.44	26.35
27	208	18	7.7	11.6	0.7	0.002	630.3	43.6	0.069	14.5	6.44	0.98	0.35	2.04	2.23	51.60	0.50	26.06
24	459	38	19.1	12.1	1.6	0.001	1067.4	29.7	0.028	36.0	3.66	0.46	2.51	1.76	3.49	50.11	0.68	71.52
60	397	30	6.6	13.2	0.5	0.007	151.0	6.3	0.042	24.0	4.83	0.49	2.24	1.47	3.42	43.99	0.67	69.10
4	96	1.5	24.0	64.0	0.4	0.002	640.0	43.2	0.068	14.8	0.10	0.11	146.00	17.51	64.80	95.24	0.90	99.32
4	139	1.5	34.8	92.7	0.4	0.002	448.4	31.5	0.070	14.2	3.16	0.12	3.11	2.08	3.09	74.73	0.89	75.65
13	227	16	17.5	14.2	1.2	0.001	732.3	31.9	0.044	22.9	3.44	0.63	1.10	1.17	2.88	32.05	0.61	52.42
24	133	17	5.5	7.8	0.7	0.015	65.8	6.4	0.098	10.2	3.52	0.21	6.74	1.06	3.70	60.80	0.82	87.08
41	264	28	6.4	9.4	0.7	0.012	81.0	4.2	0.051	19.5	4.25	1.85	4.31	1.20	3.19	37.80	0.35	81.16
27	406	16	15.0	25.4	0.6	0.001	796.1	21.5	0.027	37.1	2.88	0.11	4.83	1.68	3.80	58.84	0.90	82.86
29	183	22	6.3	8.3	0.8	0.009	109.6	9.0	0.083	12.1	4.66	0.08	4.29	0.93	3.24	43.33	0.93	81.08
22	593	43	27.0	13.8	2.0	0.001	1186.0	27.9	0.024	42.4	6.05	0.34	1.18	2.14	2.31	73.00	0.75	54.03
65	1102	67	17.0	16.4	1.0	0.001	1266.7	26.1	0.021	48.4	7.59	0.04	1.20	2.60	3.00	88.06	0.96	54.52
22	573	27	26.0	21.2	1.2	0.001	1219.1	27.1	0.022	45.0	5.02	1.06	1.15	2.07	2.53	48.47	0.49	53.56
65	839	51	12.9	16.5	0.8	0.001	1215.9	25.2	0.021	48.3	7.91	0.91	0.84	2.02	2.20	53.11	0.52	45.67
45	671	43	14.9	15.6	1.0	0.001	1082.3	25.6	0.024	42.2	5.74	0.04	1.00	2.25	2.77	82.33	0.96	50.00
20	260	33	13.0	7.9	1.7	0.002	650.0	45.3	0.070	14.3	5.89	0.03	0.78	2.61	3.08	86.33	0.97	43.85
18	194	42	10.8	4.6	2.3	0.013	75.8	6.6	0.088	11.4	4.13	0.25	6.26	1.73	4.11	68.50	0.80	86.22
41	690	48	16.8	14.4	1.2	0.001	1232.1	24.7	0.020	50.0	4.95	0.00	1.50	1.55	2.79	64.03	1.00	60.02
51	344	30	6.7	11.5	0.6	0.006	163.8	7.1	0.043	23.0	3.21	0.57	5.43	2.06	4.65	60.68	0.64	84.45
26	696	42	26.8	16.6	1.6	0.001	1122.6	23.2	0.021	48.4	6.06	0.68	0.87	1.83	2.37	52.67	0.60	46.51
62	848	58	13.7	14.6	0.9	0.001	1211.4	23.4	0.019	51.8	6.53	0.32	1.03	1.82	2.51	62.75	0.76	50.83
29	180	16	6.2	11.3	0.6	0.001	900.0	59.9	0.067	15.0	6.44	1.52	0.31	1.61	1.86	37.76	0.40	23.42
49	250	23	5.1	10.9	0.5	0.012	83.3	4.5	0.054	18.4	5.23	1.02	3.28	1.17	2.60	43.84	0.50	76.62
16	215	11	13.4	19.5	0.7	0.010	104.4	6.8	0.066	15.3	4.62	3.28	3.92	1.11	3.05	37.55	0.23	79.68
12	156	31	13.0	5.0	2.6	0.014	70.0	6.8	0.097	10.4	3.85	0.87	5.83	1.16	3.91	46.75	0.54	85.35
1.5	118	11	78.7	10.7	7.3	0.003	295.0	17.4	0.059	17.0	1.72	0.19	9.17	2.23	4.03	76.82	0.84	90.17


10000.0
1000.0
100.0
10.0
Zr/TiO2
0.0
0.1
1.0
10.0
100.0
Nb/Y
AlkRhyolite
Phonolite
Trachyte
Rhyolite/Dacite
Tephri-phonolite
TrachyAnd
Andesite/Basalt
Foidite
AlkBasalt
Basalt
Subalkaline
Alkaline
TSK
MT
MD
IF
FTL
FTG
FTCZ
FT
FP
FF
FD
ET


900
800
700
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500
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300
200
100
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Zr
0
10
20
30
40
50
60
70
80
90
Y
Calc-alkalic
Transitional
Tholeiitic
Zr/Y=7
Zr/Y=4
TSK
MT
MD
IF
FTL
FTG
FTCZ
FT
FP
FF
FD
ET


1000
100
10
1
Nb
1
10
100
1000
Y
within plate
A-type
within plate and anomalous
ocean ridge
syncollisional
S-type
volcanic arc
I-type
ocean ridge
OR-type
M-type
TSK
MT
MD
IF
FTL
FTG
FTCZ
FT
FP
FF
FD
ET

Teck Cominco Limited
Exploration Project Expenditures - R-15 (KZK) Project
For the year ended December 31, 2004

		YTD	TAG Costs*	R-15 Costs*	R-15 Costs* including admin
		2004	2004	2004	2004
		$	$	$	$
	Salaries (Permanent Staff)				
4003	Drafting & Computers	300	30	270	297
4007	General Labour	54,761	5,476	49,285	54,213
4009	Geology	67,101	6,710	60,391	66,430
4010	Geophysics	34,074	3,646	30,428	33,471
4013	Safety	1,148	115	1,033	1,137
4014	Supervision	5,204	520	4,684	5,152
	Total Salaries (Permanent Staff)	162,588	16,259	146,329	160,700
	Direct Costs				
4001	Assaying	11,793	746	11,047	12,151
4004	Drilling	153,846	18,304	135,542	147,320
4007	General Labour	20,195	2,020	18,176	19,993
4012	Land Management	14,612	1,461	13,151	14,466
4013	Safety	1,173	117	1,056	1,161
4015	Surveying (Linecutting)**	108,302	11,163	97,139	106,853
5007	Computer - Hardware	276	28	248	273
5009	Computer Costs - Other	55	6	50	54
5010	Courier, Postage & Freight	9,918	992	8,926	9,819
5012	Environmental & Reclamation Costs	496	50	446	491
5013	Financial Fees	141	14	127	140
5014	Field Costs & Supplies, Fuel, Road	201,905	20,191	181,715	199,886
5015	Gov't Fees, Licenses, Permits & Land Tenure	1,428	352	1,076	1,184
5018	Meals and Entertainment	1,701	170	1,531	1,684
5019	Maps & Prints	43	4	39	43
5020	Office & Drafting - Costs & Supplies	489	49	440	484
5023	Rentals & Leases - Equipment	8,032	803	7,229	7,952
5024	Repairs & Maintenance	757	76	681	749
5026	Royalty, Operator & Option Payments	105,000		105,000	105,000
5029	Telecommunications**	12,974	1,297	11,677	12,844
5030	Training Costs	227	23	204	225
5031	Travel - Chartered Aircraft - Helicopter	233,214	20,123	213,091	228,746
5032	Travel - Commercial Aircraft	17,316	1,732	15,584	17,143
5033	Travel - Other	4,193	419	3,774	4,151
5035	Utilities & Hydro	3,391	339	3,052	3,357
5036	Vehicle - Rental/Capital Costs	8,614	861	7,753	8,528
5037	Vehicle - Operating/Maintenance Costs	1,560	156	1,404	1,544
5048	Accommodation	2,619	262	2,357	2,593
5049	Remote Camp & Living (Groceries)	29,359	2,936	26,423	29,065
		953,629	84,693	868,936	937,898
	Total KZK R Block Project Costs	$ 1,116,217	$ 100,951	$ 1,015,266	$ 1,098,598

* cost break down - where actual costs are not used, a ratio of 1:9 (TAG:R-15) is used to divide related costs. 1:9 ratio based on approximate 9 days out of total 90 field days spent on TAG property work in the 2nd phase of work.

** includes Jan and Feb 2005 charges relating to 2004 linecutting and telecommunications.

Jim Lake

K04-199

R04-007

R04-005

R04-001

R04-006

R04-002

R04-003

R04-004

1400

1600

1800

Tag 1461 Tag 1460 Tag 1477 Tag 1476 Tag 1489 Tag 1488
Tag 1459 Tag 1458 Tag 1475 Tag 1474 Tag 1487 Tag 1486
Tag 1457 Tag 1456 Tag 1473 Tag 1472 Tag 1485 Tag 1484
Tag 1455 Tag 1454 Tag 1471 Tag 1470
Tag 1453 Tag 1452 Tag 1469 Tag 1468
Tag 1451 Tag 1450
Tag 1449

Tag 134 Tag 135 Tag 158 Tag 159 Tag 182 Tag 183
Plate 11
Tag 1091 Tag 1090 Tag 1103 Tag 1104 Tag 1113 Tag 1114
Plate 10
Tag 1089 Tag 1088 Tag 1101 Tag 1102 Tag 1111 Tag 1112
Tag 1094 Tag 1087 Tag 1086 Tag 1099 Tag 1100 Tag 1109 Tag 1110
Tag 1092 Tag 1085 Tag 1084 Tag 1097 Tag 1098 Tag 1107 Tag 1108
242
Tag 1079 Fr. Tag 1083 Tag 1082 Tag 1095 Tag 1096 Tag 1105 Fr.
Tag 240 Tag 1080 Tag 1081 Tag 253 Tag 264 Tag 266 Tag 268 Tag 1106
Tag 238 Tag 252 Tag 251 Tag 265 Tag 267 Tag 269
Tag 237 Tag 250 Tag 236 Tag 235 Tag 234 Tag 233

On 25 On 26 On 69 On 68 On 47 On 46 On 91 On 90 On 107 On 106 On 119
On 23 On 24 On 67 On 66 On 45 On 44 On 89 On 88 On 105 On 104 On 117
On 21 On 22 On 65 On 64 On 43 On 42 On 87 On 86
On 162 On 163 On 165 On 167 On 169 On 171 On 173
On 164 On 166 On 168 On 170 On 172 On 174 On 176 On 178
On 197 On 198 On 199 On 201 On 203
On 200 On 202

6814000 mN
6812000 mN
6810000 mN
6808000 mN

415000 mE 420000 mE 422000 mE 424000 mE 426000 mE

TMI nT
58761
58210
58180
58160
58150
58140
58130
58120
58110
58100
58090
58080
58070
58060
58050
58040
58030
58020
58010
58000
57980
57970
57940
57843

UTEM Responses

Crossover-type

4 ← latest channel response
strong response
moderate response
weak response

Contact-type

Teck Cominco Limited

Date:16/3/2005	R-15 (KZK) Project, Yukon 2004 Grids, Ground magnetics and UTEM Conductors with DDH Locations
Author: pam	
Office: vancouver	
Drawing: Figure 8 SR	
Scale: 1:10000	Projection: UTM Zone 9 (NAD 27 for Canada)

0 125 250 500 metres

Yukon Tanana Terrane

Late Devonian Grass Lakes Group

Wind Lake Formation

- Carbonaceous Argillite/Phyllite; Quartzite
- Mafic-Intermediate Flow/Dyke/Sill

Kudz Ze Kayah Formation

- Felsic Crystal-rich to Aphyric Tuff
- Felsic Flow/Sill
- Tuffaceous Feldspar-Muscovite-Quartz Schist (Augen Schist); Biotitic Metapelites

Fire Lake Formation

- Mafic Flow/Dyke/Sill
- Metapelite - Metasandstone Sequence

North River Formation

- Marble
- Quartzose Metaclastics and Pelitic Schist

Mid Cretaceous

- Muscovite-Biotite Granite

Grass Lakes Plutonic Suite

- Feldspar+Quartz Porphyry Augened Porphyry
- Quartz-Feldspar Porphyry

Jim Lake

1400

1600

1800

K04-199

R04-007

R04-005

R04-001

R04-006

R04-002

R04-003

R04-004

UTEM Responses

Crossover-type

- 4 ⟵ latest channel response
- strong response
- moderate response
- weak response

Contact-type

Teck Cominco Limited

R-15 (KZK) Project, Yukon
2004 Grids, UTEM Conductors and DDH Locations with Simplified Geology

Date: 16/3/2005
Author: pam
Office: vancouver
Drawing: Figure 8 SR
Scale: 1:10000
Projection: UTM Zone 9 (NAD 27 for Canada)

0 125 250 500 metres

6812250 mE
6812300 mE
6812350 mE
6812400 mE
6812450 mE
6812500 mE
6812550 mE
6812600 mE
6812650 mE
6812700 mE
6812750 mE
6812800 mE
6812850 mE
6812900 mE
6812950 mE
6813000 mE

1400 mN
1350 mN
1300 mN
1250 mN
1200 mN
1150 mN
1100 mN
1050 mN
1000 mN
950 mN

Legend

- Equigranular Felsic Intrusive Dyke/Sills
- UPPER FELSIC METAVOLCANIC SEQUENCE
  - Hangingwall Tuffaceous Wacke
  - Felsic Metavolcanic Tuff
  - Felsic Metavolcanic Lapilli Tuff
- UPPER METACLASTIC SEQUENCE
  Variably Carbonaceous and Calcareous Metaclastic (Tuffaceous) Unit
- Proximal Alteration and Heavily Disseminated Sulphides
- Massive and Semi-massive Sulphides
- Felsic Metavolcanic Quartz(+-Feldspar)-phyric Tuff/Crystal Tuff
- Felsic Feldspar Porphyry Dikes/Sills
- LOWER TUFFACEOUS METACLASTIC SEQUENCE

UTEM conductor

2

R-15 boundary

1.3 m (136.0-137.3 m)
0.46% Cu, 5.74% Pb, 12.96% Zn, 87.2 g/t Ag, 114 ppb Au

4.0 m (137.3-141.3 m)
0.18% Cu, 0.35% Pb, 1.55% Zn, 7.8 g/t Ag

3.0 m (181.2-184.2 m)
0.32% Cu, 7.58% Pb, 14.51% Zn, 103.5 g/t Ag, 273 ppb Au

1.3 m (184.2-185.5 m)
0.03% Cu, 0.46% Pb, 1.05% Zn, 16.8 g/t Ag

R04-001
260.8m

R04-007
223.4m

Legend for Lithocode (see drill log dictionary for lithocode rock types)

OVB	FTM	QFP	ACS	FZXZ	OH	SV
SI	FF	FLT	ATS	FXOZ	OD	SW
SK	FT	QVN	AP	FXCZ	OF	SX
SA	FTL	VN	ATM	FTLZ	OG	SY
CSA	FTAO	QZVN	AT	FTLC	OJ	SZ
HAS	FD	LWK/LST	ATC	FXX3	OI	TSK
SQ	FP	LWK/QWK	ATW	FTL	OXB	TSA
TSK	FQP	SI/MST/WK	AY	FXXF	SA	
LSI/SA/SL	FTC	SWSS	AYW	FZXF	CSA	
ET	HFTA	OMS	OJ	FTG	CSB	
MD	HFT	OSM	OI	FXXG	SC	
MI	FTA	FTCZ		FZXG	SI	
MT	ATS	SI/TSK		FTM	SK	
MF	OJ	IF		FTXR	SKXZ	
SX	OB	MTAB		FXXR	SL	
FTG	QP	WK/SS		FZXR	SQ	

Teck Cominco Limited

Date:1/3/2005	R-15 (KZK) Project, Yukon DDHs R04-001, R04-007 Cross Section L 20500 E (looking west)
Author: pam	
Office: vancouver	
Drawing: Figure 12	SR
Scale: 1:1000	Projection: Non-Earth (meters)

0 25 50
metres

6812150 mE 6812200 mE 6812250 mE 6812300 mE 6812350 mE 6812400 mE 6812450 mE 6812500 mE 6812550 mE 6812600 mE 6812650 mE 6812700 mE 6812750 mE 6812800 mE 6812850 mE 6812900 mE

1400 mN 1350 mN 1300 mN 1250 mN 1200 mN 1150 mN 1100 mN 1050 mN 1000 mN 950 mN

Legend

- Equigranular Felsic Intrusive Dyke/Sills
- UPPER FELSIC METAVOLCANIC SEQUENCE
  - Hangingwall Tuffaceous Wacke
  - Felsic Metavolcanic Tuff
  - Felsic Metavolcanic Lapilli Tuff
- UPPER METACLASTIC SEQUENCE Variably Carbonaceous and Calcareous Metaclastic (Tuffaceous) Unit
- Proximal Alteration and Heavily Disseminated Sulphides
- Massive and Semi-massive Sulphides
- Felsic Metavolcanic Quartz(+-Feldspar)-phyric Tuff/Crystal Tuff
- Felsic Feldspar Porphyry Dikes/Sills
- LOWER TUFFACEOUS METACLASTIC SEQUENCE

R-15 boundary

UTEM conductor

3

3.1 m (79.9-83.0 m)
0.39% Cu, 7.47% Pb, 14.97% Zn, 95.8 g/t Ag, 380 ppb Au

17.2 m (83.0-100.2 m)
0.11% Cu, 1.01% Pb, 1.85% Zn, 7.4 g/t Ag

3.4 m (68.5-71.9 m)
0.20% Cu, 7.09% Pb, 15.84% Zn, 68.0 g/t Ag, 268 ppb Au

28.9 m (71.9-100.8 m)
0.08% Cu, 1.35% Pb, 2.36% Zn, 6.0 g/t Ag

R04-006
135.2m

R04-005
229.7m

Legend for Lithocode (see drill log dictionary for lithocode rock types)

OVB	FTM	QFP	ACS	FZXZ	OH	SV
SI	FF	FLT	ATS	FXXZ	OD	SW
SK	FT	QVN	AP	FXCZ	OF	SX
SA	FTL	VN	ATM	FTLZ	OG	SY
CSA	FTAO	QZVN	AT	FTLC	OJ	SZ
HAS	FD	LWK/LST	ATC	FXXG	OI	TSK
SQ	FP	LWK/QWK	ATW	FTL	OXB	TSA
TSK	FQP	S/MST/WK	AY	FXXF	SA	
LSI/SA/SL	FTC	SVSS	AYW	FZXF	CSA	
ET	HFTA	OMS	OJ	FTG	CSB	
MD	HFT	OSM	OI	FXXG	SC	
MI	FTA	FTCZ		FZXG	SI	
MT	ATS	SVTSK		FTM	SK	
MF	OJ	IF		FTXR	SKXZ	
SX	OB	MTAB		FXXR	SL	
FTG	QP	WK/SS		FZXR	SQ	

Au ppm Tool
Ag_ppm Tool
Zn_ppm Tool
Pb_ppm Tool
Cu_ppm Tool
Mag_float Lmagmgh 1 mm/unit at 1:1000
HoleID
LithoCode Tool
LithoCode Trace Shade
LithoCode Trace Shade
LithoCode Trace Shade
LithoCode Trace Shade
EOH

Teck Cominco Limited

N

Date:1/3/2005	R-15 (KZK) Project, Yukon DDHs R04-005 and R04-006 Cross Section L 20300 E (looking west)
Author: pam	
Office: vancouver	
Drawing: Figure 11	SR
Scale: 1:1000	Projection: Non-Earth (meters)

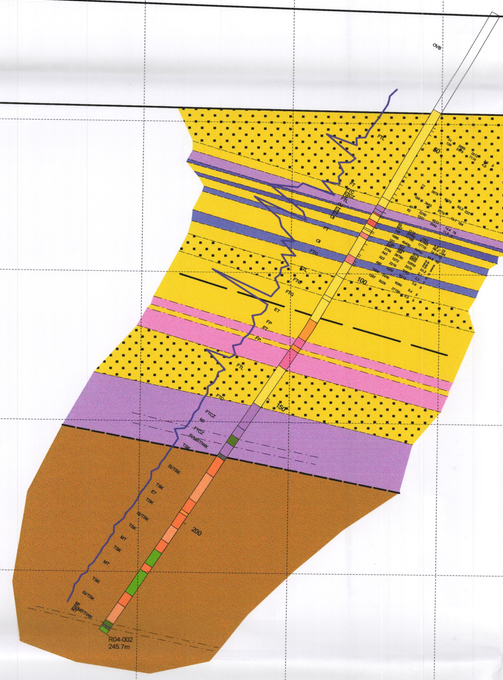
0 25 50
metres

6812050 mE
6812100 mE
6812150 mE
6812200 mE
6812250 mE
6812300 mE
6812350 mE
6812400 mE
6812450 mE
6812500 mE
6812550 mE
6812600 mE
6812650 mE
6812700 mE
6812750 mE
6812800 mE

1450 mN
1400 mN
1350 mN
1300 mN
1250 mN
1200 mN
1150 mN
1100 mN
1050 mN
1000 mN

UTEM
conductor

3



0.5 m (78.0-78.5 m)
0.09% Cu, 3.75% Pb, 6.33% Zn, 55.9 g/t Ag, 194 ppb Au

1.9 m (80.6-82.5 m)
0.11% Cu, 4.15% Pb, 6.13% Zn, 43.3 g/t Ag

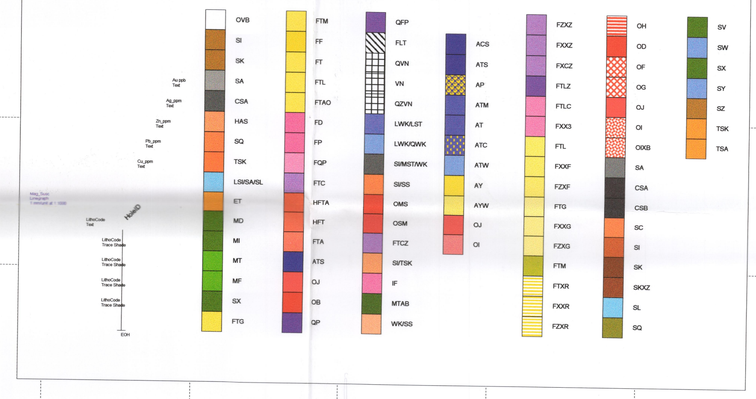
Legend

- Equigranular Felsic Intrusive Dyke/Sills

UPPER FELSIC METAVOLCANIC SEQUENCE

- Hangingwall Tuffaceous Wacke
- Felsic Metavolcanic Tuff
- Felsic Metavolcanic Lapilli Tuff
- UPPER METACLASTIC SEQUENCE
  Variably Carbonaceous and Calcareous Metaclastic (Tuffaceous) Unit
- Proximal Alteration and Heavily Disseminated Sulphides
- Massive and Semi-massive Sulphides
- Felsic Metavolcanic Quartz(+-Feldspar)-phyric Tuff/Crystal Tuff
- Felsic Feldspar Porphyry Dikes/Sills
- LOWER TUFFACEOUS METACLASTIC SEQUENCE

Legend for Lithocode (see drill log dictionary for lithocode rock types)



Teck Cominco Limited	
Date:1/3/2005	R-15 (KZK) Project, Yukon DDH R04-002 Cross Section L 20900 E (looking west)
Author: pam	
Office: vancouver	
Drawing: Figure 13 SR	
Scale: 1:1000	Projection: Non-Earth (meters)

0 25 50
metres

422950 mE | 423000 mE | 423050 mE | 423100 mE | 423150 mE | 423200 mE | 423250 mE | 423300 mE | 423350 mE | 423400 mE

1500 mN | 1450 mN | 1400 mN | 1350 mN | 1300 mN | 1250 mN | 1200 mN | 1150 mN

UTEM
conductor

4

OVB
MT
MD
MI
FD
GDVN
SC
TSK
SMMTWK
IF
50
100
150
R04-003
187.8m

Legend

- Equigranular Felsic Intrusive Dyke/Sills

UPPER FELSIC METAVOLCANIC SEQUENCE

- Hangingwall Tuffaceous Wacke
- Felsic Metavolcanic Tuff
- Felsic Metavolcanic Lapilli Tuff
- UPPER METACLASTIC SEQUENCE
  Variably Carbonaceous and Calcareous
  Metaclastic (Tuffaceous) Unit
- Proximal Alteration and Heavily Disseminated Sulphides
- Massive and Semi-massive Sulphides
- Felsic Metavolcanic Quartz(+-Feldspar)-phyric Tuff/Crystal Tuff
- Felsic Feldspar Porphyry Dikes/Sills
- LOWER TUFFACEOUS METACLASTIC SEQUENCE

Legend for Lithocode (see drill log dictionary for lithocode rock types)

OVB	SI	SK	SA	CSA	HAS	SQ	TSK	LSI/SA/SL	ET	MD	MI	MT	MF	SX	FTG	FTM	FF	FT	FTL	FTAO	FD	FP	FQP
FTC	HFTA	HFT	FTA	ATS	OJ	OB	QP	QFP	FLT	QVN	VN	QZVN	LWK/LST	LWK/QWK	SI/MST/WK	SI/SS	OMS	OSM	FTCZ	SI/TSK	IF	MTAB	WK/SS
ACS	ATS	AP	ATM	AT	ATC	ATW	AY	AYW	OJ	OI	FZXZ	FXXZ	FXCZ	FTLZ	FTLC	FXX3	FTL	FXXF	FZXF	FTG	FXXG	FZXG	FTM
FTXR	FXXR	FZXR	OH	OD	OF	OG	OJ	OI	OIXB	SA	CSA	CSB	SC	SI	SK	SKXZ	SL	SQ	SV	SW	SX	SY	SZ
TSK	TSA																						

Au ppb Text
Ag_ppm Text
Zn_ppm Text
Pb_ppm Text
Cu_ppm Text
Mag_Susc Lowgraph 1 overlund at 1:1000
LithoCode Text
HoleID
LithoCode Trace Shade
LithoCode Trace Shade
LithoCode Trace Shade
LithoCode Trace Shade
EOH

1150 mN

422950 mE | 423000 mE | 423050 mE | 423100 mE | 423150 mE | 423200 mE | 423250 mE | 423300 mE

Teck Cominco Limited

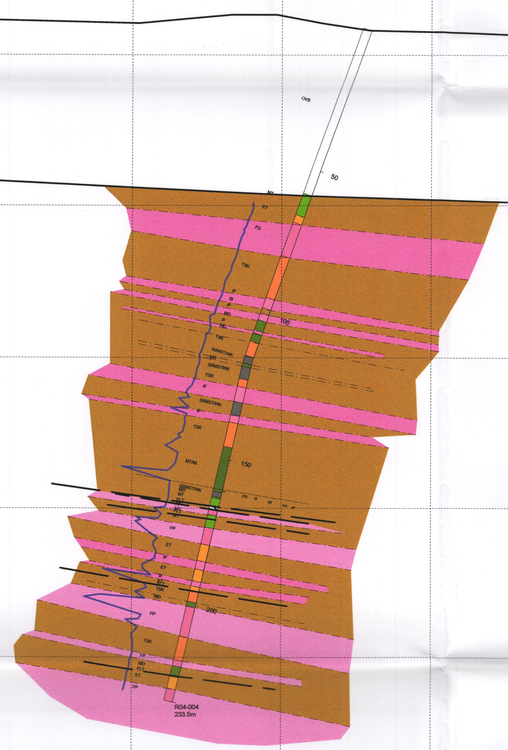
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	R-15 (KZK) Project, Yukon DDH R04-003 Cross Section L 9650 N (looking north)
Date:1/3/2005	
Author: pam	
Office: vancouver	
Drawing: Figure 15	SR
Scale: 1:1000	Projection: Non-Earth (meters)

0 25 50
metres

UTEM
conductor

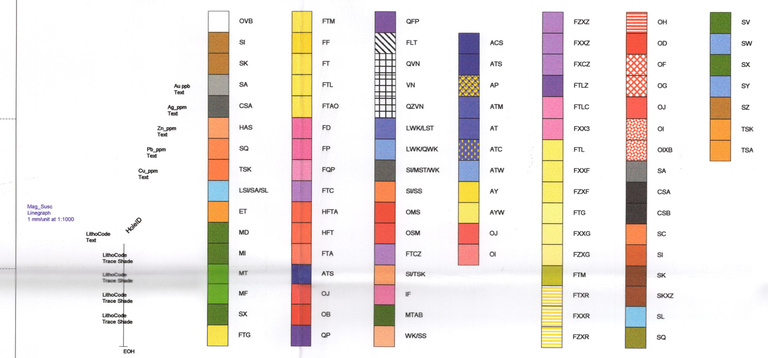
4



Legend

- Equigranular Felsic Intrusive Dyke/Sills
- UPPER FELSIC METAVOLCANIC SEQUENCE
- Hangingwall Tuffaceous Wacke
- Felsic Metavolcanic Tuff
- Felsic Metavolcanic Lapilli Tuff
- UPPER METACLASTIC SEQUENCE Variably Carbonaceous and Calcareous Metaclastic (Tuffaceous) Unit
- Proximal Alteration and Heavily Disseminated Sulphides
- Massive and Semi-massive Sulphides
- Felsic Metavolcanic Quartz(+-Feldspar)-phyric Tuff/Crystal Tuff
- Felsic Feldspar Porphyry Dikes/Sills
- LOWER TUFFACEOUS METACLASTIC SEQUENCE

Legend for Lithocode (see drill log dictionary for lithocode rock types)



Teck Cominco Limited	
Date:1/3/2005	R-15 (KZK) Project, Yukon DDH R04-004 Cross Section L 9250 N (looking north)
Author: pam	
Office: vancouver	
Drawing: Figure 14	SR
Scale: 1:1000	Projection: Non-Earth (meters)

0 25 50
metres