Kihabe/Nxuu Polymetallic Project

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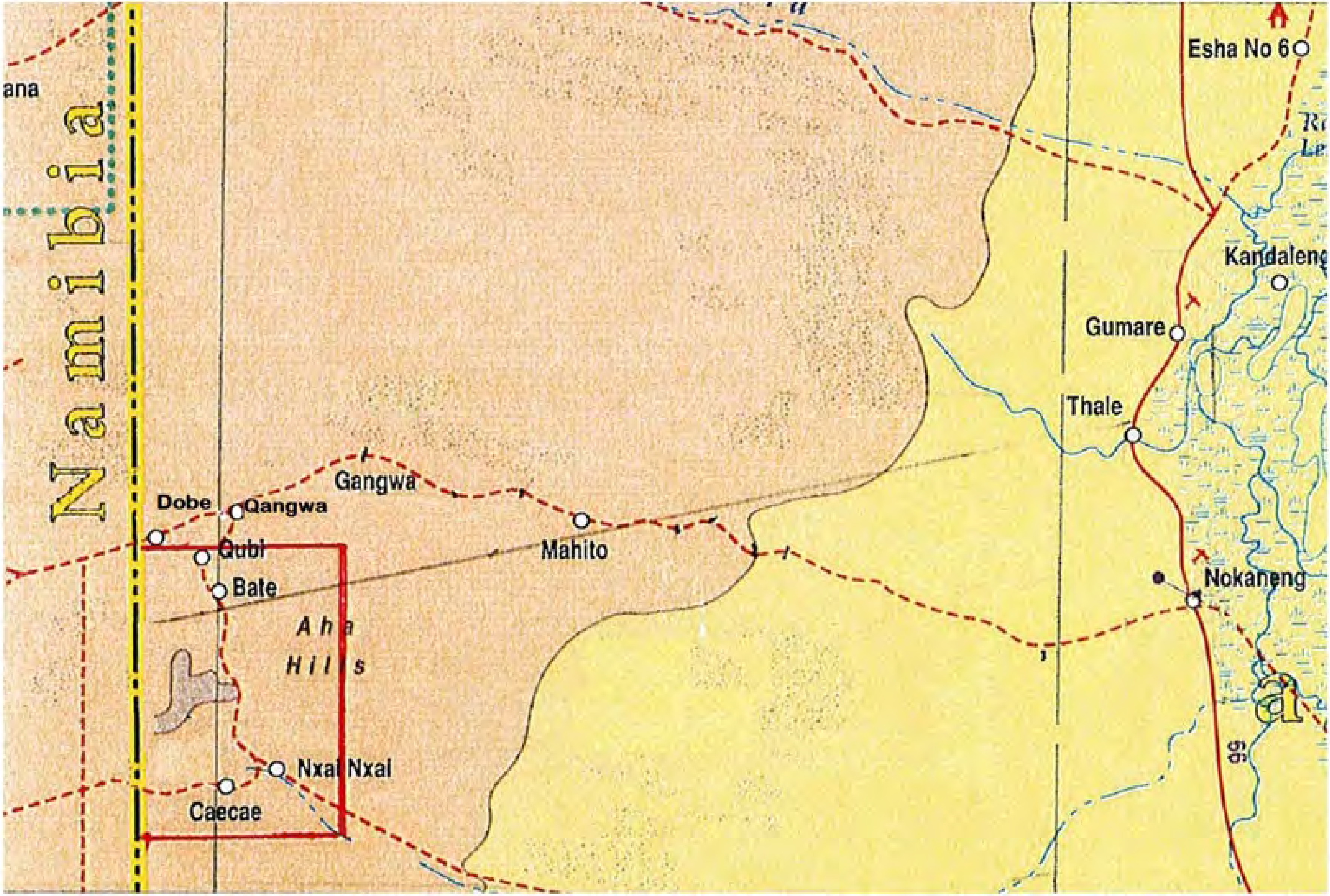
PL43/2016 – Location



Google Earth Image showing Kihabe and Nxuu Deposits and Gossan Anomaly

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PL 43/2016 Extension applied for:

An application to extend PL 43/2016, an area covering 1,000 sq km, has recently been submitted to the Department of Mines. Maintaining the original licence area allows for potential further discoveries of minerals such as Gallium, Germanium and Vanadium Pentoxide, which occur outside the known Zinc, Lead, Silver domains. Gallium, particularly has shown to occur as significant isolated intersections.

Project Development Progress

Since being granted Prospecting Licence PL43/2016, project development has progressed.

However, during the COVID pandemic, in-field operations were delayed due to restrictions imposed by both Botswana and Australia.

From April 2020 to March 2022 travelling from Western Australia overseas was forbidden.

Work conducted during COVID

Restrictions during the COVID pandemic, impacting in-field operations, allowed for time to be diverted to in-depth, in-house assessment of both the main Kihabe and Nxuu, primarily Zinc, Lead, Silver, SEDEX Deposits, to determine the best way forward for the project.

As they say, “Every cloud has a silver lining”. During the COVID pandemic, significant increases occurred in the prices of Vanadium Pentoxide, Gallium and Germanium, highlighting potential additional credits for the project.

Additional metallurgical test work will be conducted to validate the current process flowsheet. Emphasis will be on taking full advantage of grade and recovery of each individual mineral of the project. The purpose being to maximise revenue generated from beneficiation within Botswana.

NXUU Deposit

In-house assessment concluded that attention should be focused on developing the totally oxidised Nxuu Deposit first:

- It presents as a low risk, shallow basin shaped Deposit, with a maximum depth of 64m to base of mineralisation.

- The average depth to the base of mineralisation of 51 holes drilled and assayed to date is only 41m.

- Mineralisation occurs in a totally oxidised Quartz Wacke, situated within a barren Dolostone basin.

- Being a totally oxidised Deposit, on-site extraction and beneficiation of metals can be more easily achieved compared to sulphide deposits.

Nxuu Deposit (cont'd)

- Mineralogical and Metallurgical test work conducted to date , for the purpose of maximising beneficiation within Botswana, has confirmed that:

    - 93% Zinc, hosted in Smithsonite and 93% Lead, hosted in Cerussite, can be recovered on site through acid leaching.

    - Vanadium is hosted in the oxide mineral Descloizite, in which Vanadium Pentoxide is 1.785 times the volume of Vanadium.

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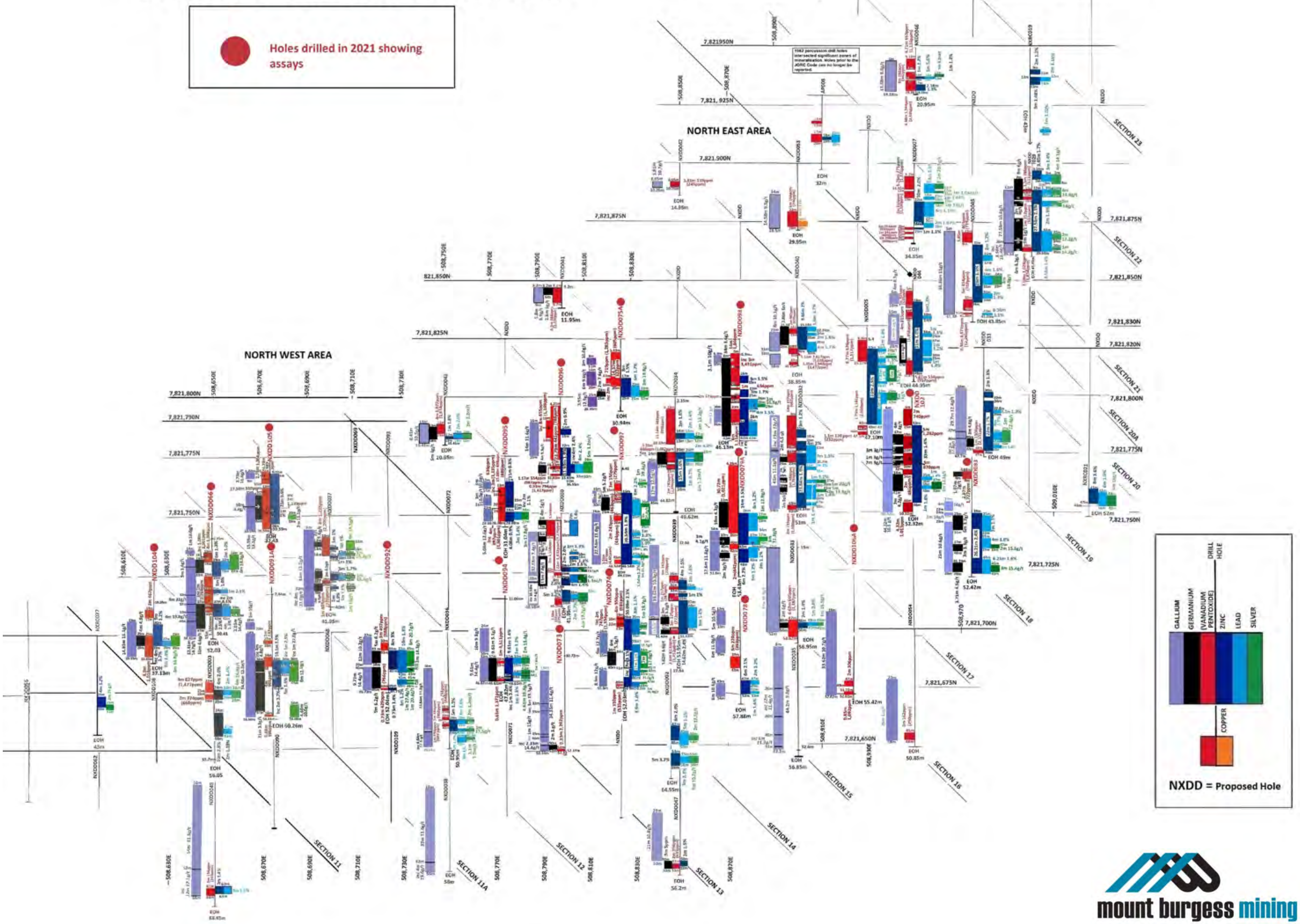
Nxuu Deposit (cont'd)

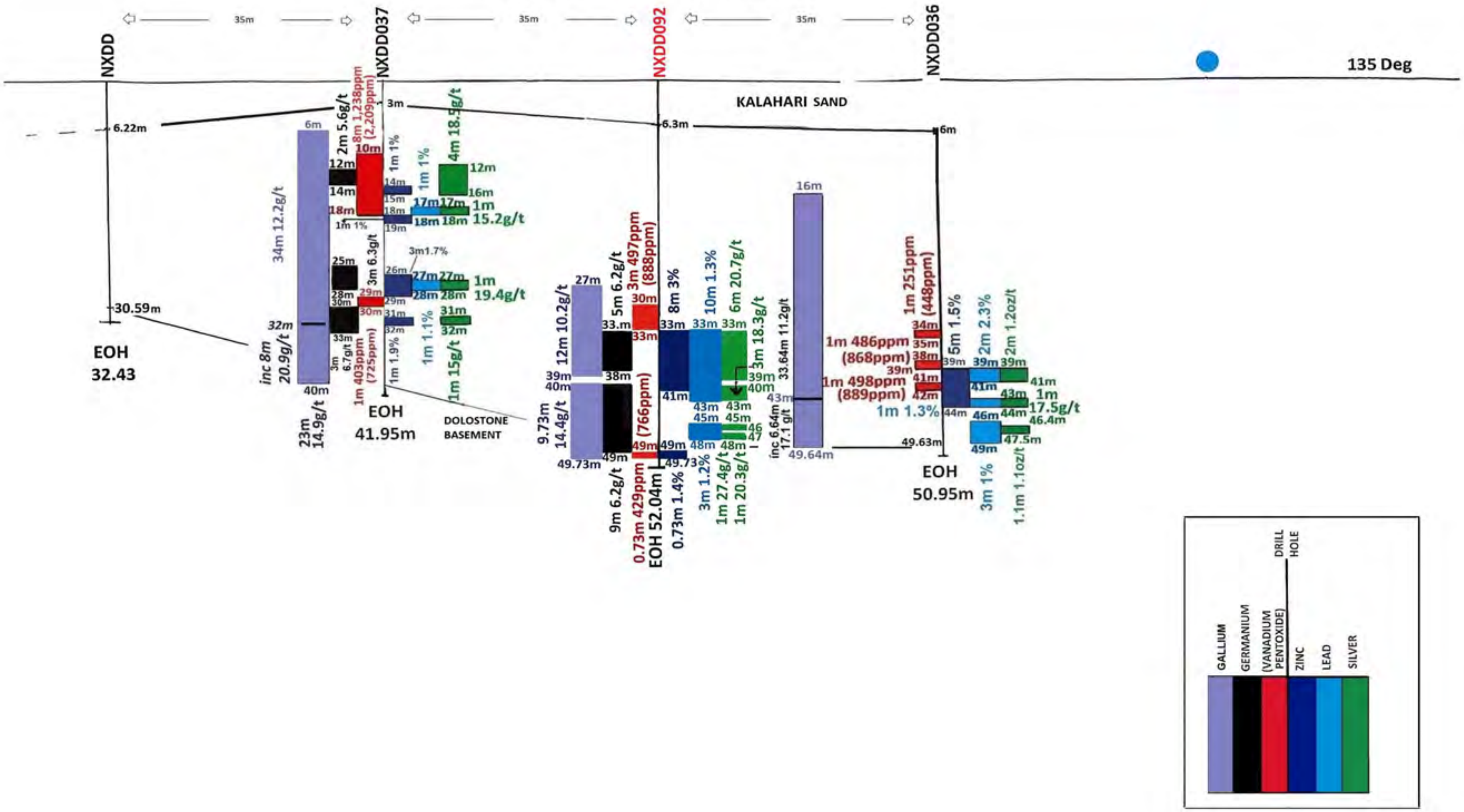
- 81% Vanadium Pentoxide can be recovered on site through gravity separation, then subjecting the tail to flotation using a hydroximate acid for recovery.

- Both Gallium and Germanium occur in micas, which can be subject to flotation to produce a concentrate. This should then enable on-site metal extraction. Metallurgical test work is required to confirm this.

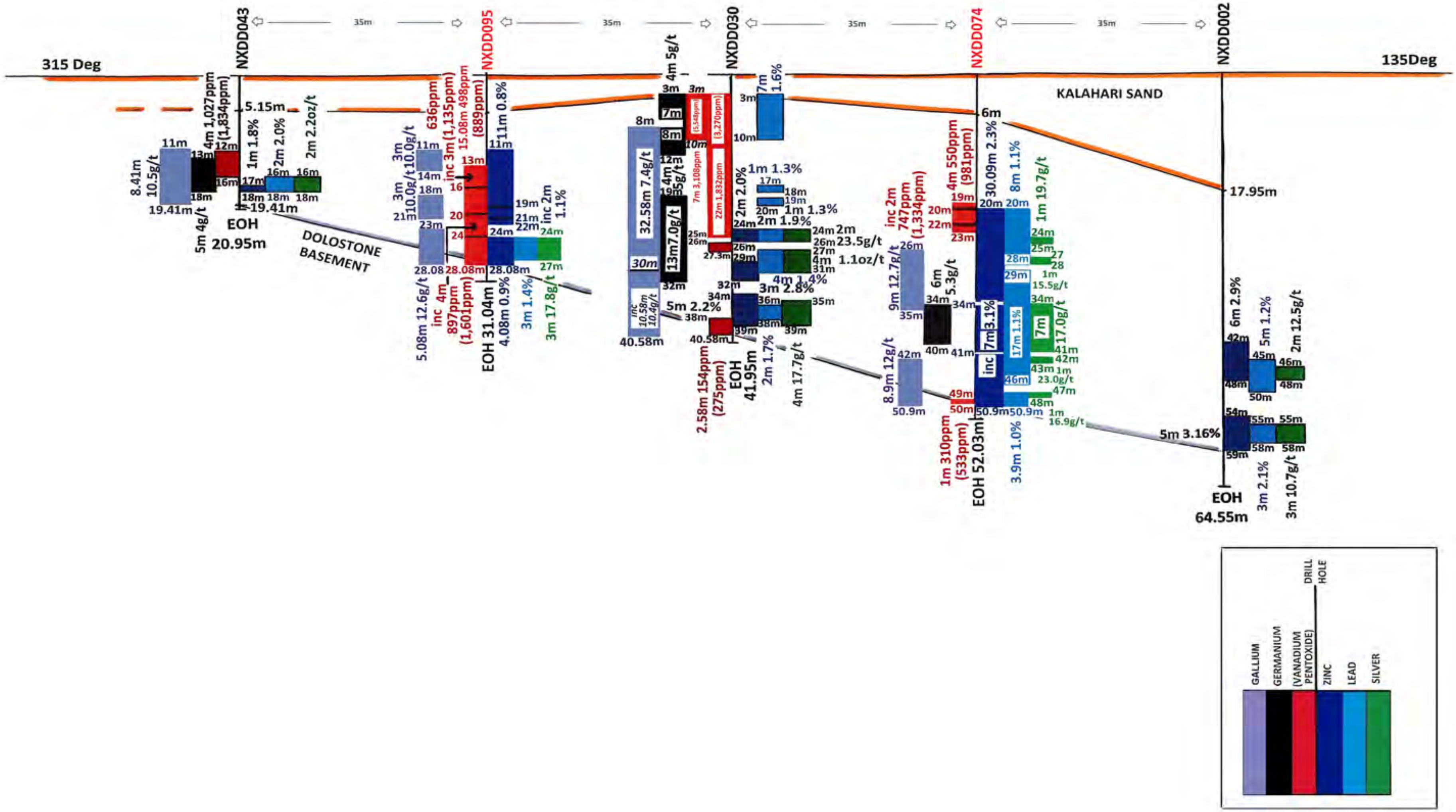
NXUU DEPOSIT DRILL HOLE MAP



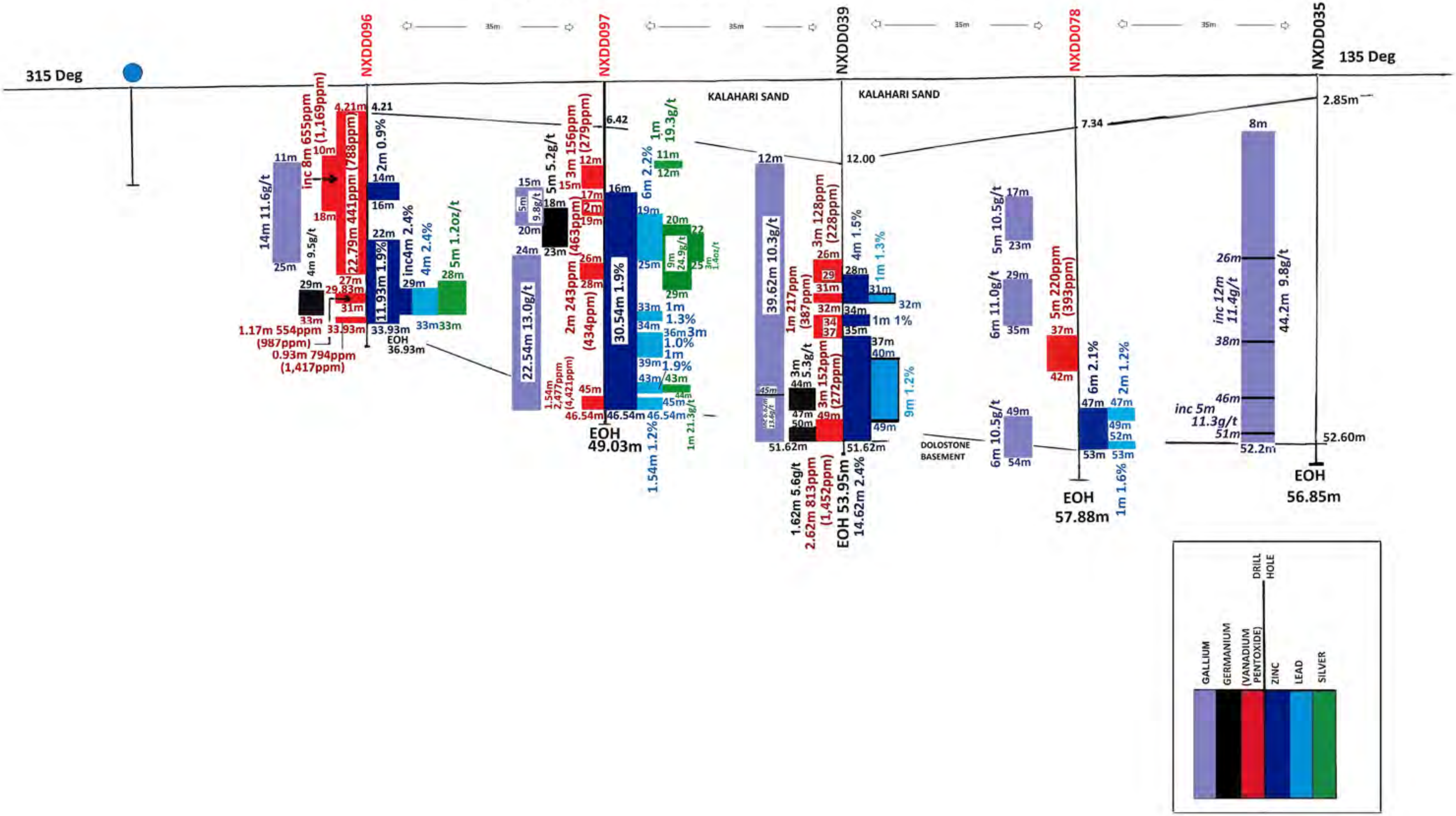
NXUU DEPOSIT SECTION 13



NXUU DEPOSIT SECTION 15



NXUU DEPOSIT SECTION 16



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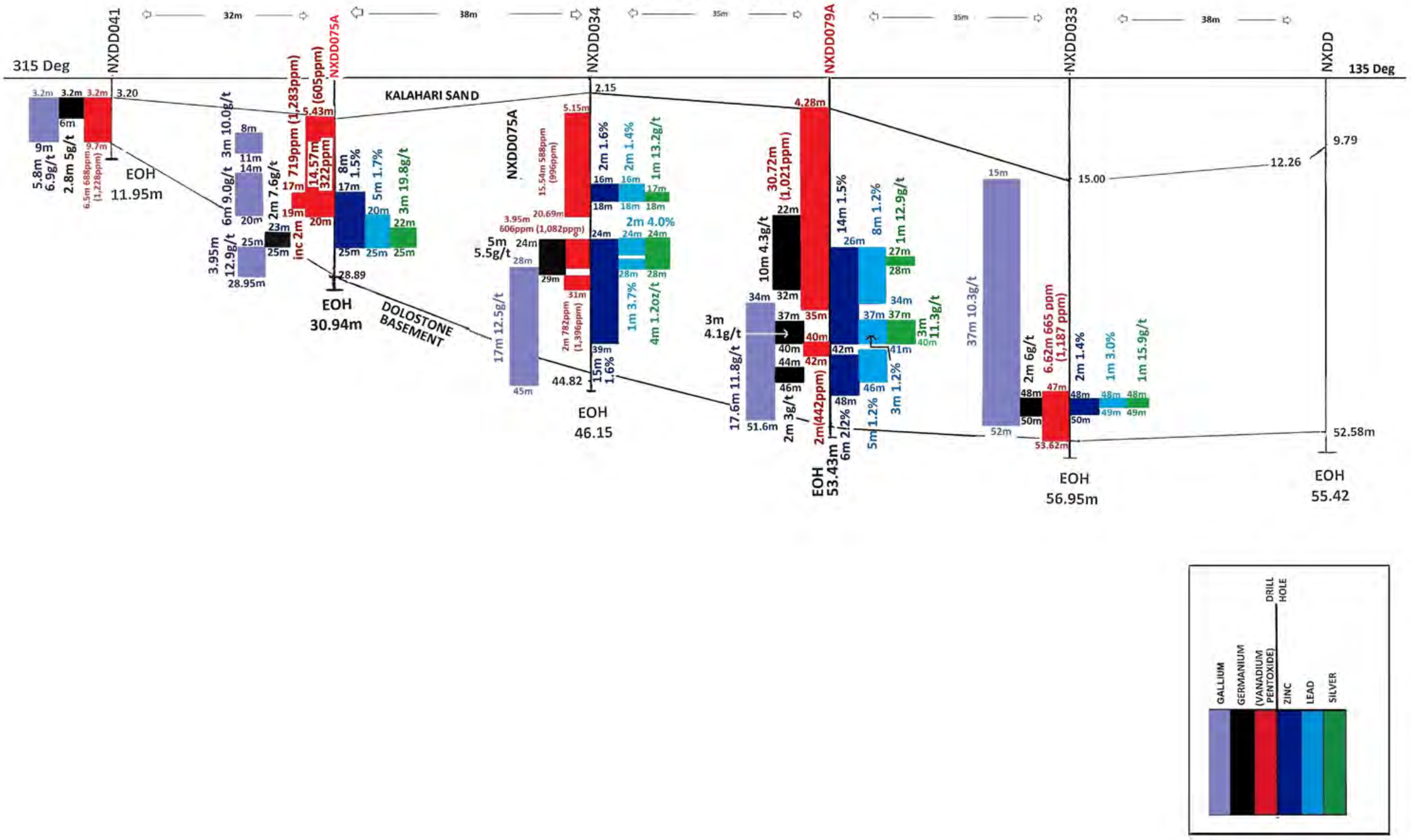
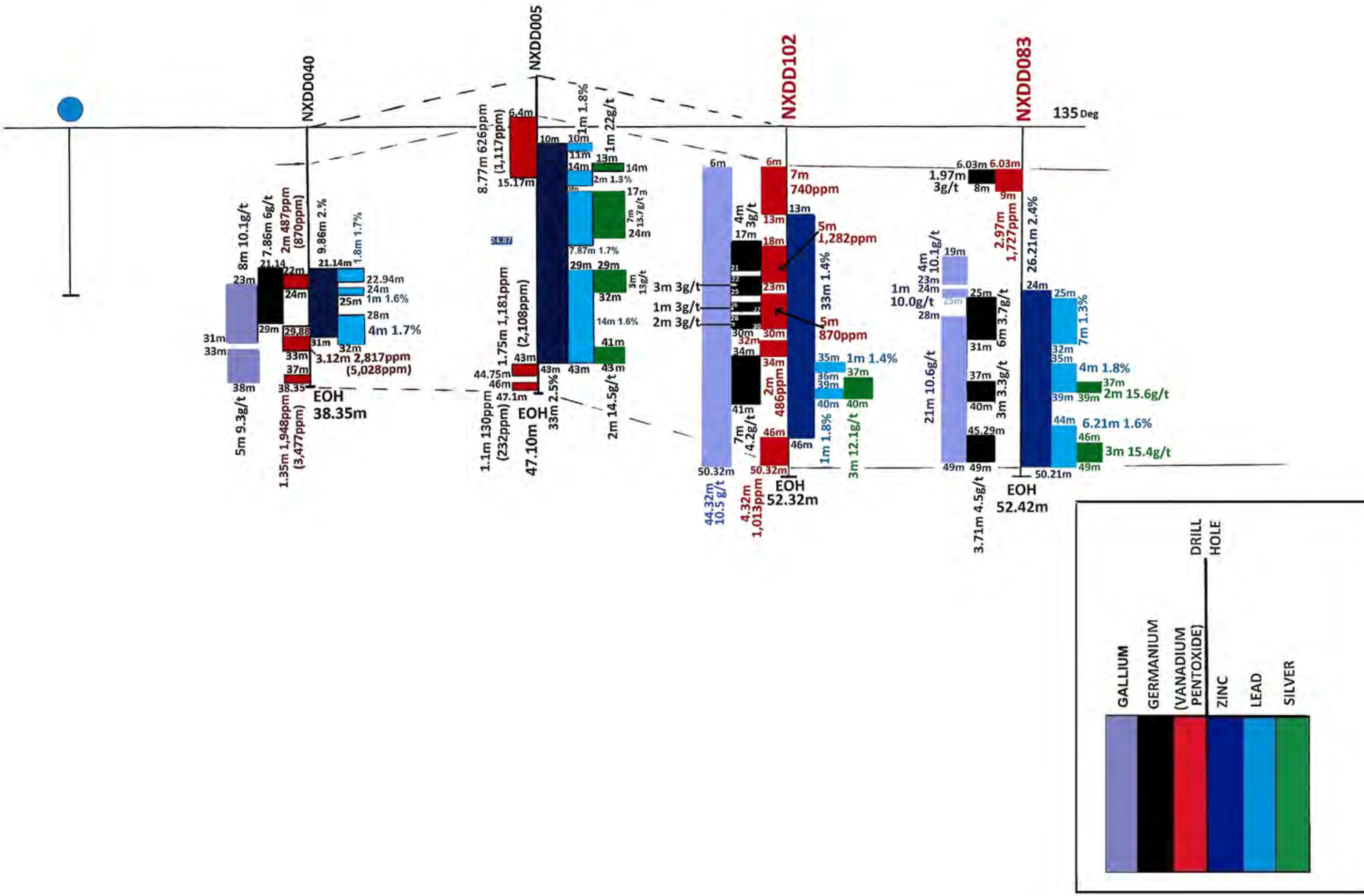
NXUU DEPOSIT SECTION 17



NXUU DEPOSIT SECTION 19



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Kihabe Deposit

The Kihabe Deposit consists of an upper oxide zone, a transitional zone and a lower sulphide zone.

Whilst attention was focused on developing the totally oxidised Nxuu Deposit first, the oxide zone of the oxide/sulphide Kihabe Deposit was assessed to confirm the content of Vanadium Pentoxide, Gallium and Germanium.

This assessment confirmed that :

Assay results from seven holes drilled in Nov/Dec 2017, contained significant intersections of Vanadium, Gallium and Germanium in the oxide and transitional zones.

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Kihabe Deposit (cont'd)

Mineralogical and metallurgical test work conducted for the purpose of maximising beneficiation within Botswana confirmed that in the oxide and transitional zones:

- Vanadium is hosted in the oxide mineral Descloizite, in which Vanadium Pentoxide is 1.785 times the volume of Vanadium.
- 81% Vanadium Pentoxide can be recovered on site through gravity separation, then subjecting the tail to flotation using a hydroximate acid for recovery.
- Both Gallium and Germanium occur in micas which can be subject to flotation to produce a concentrate. This should then enable on-site metal extraction. Metallurgical test work is required to confirm this.

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Kihabe Deposit (cont'd)

Mineralogical and metallurgical test work conducted to date, for the purpose of maximising beneficiation within Botswana, has confirmed that in the oxide and upper transitional zones:

- 97% Zinc hosted in the oxide mineral Baileychlore, can be recovered on site through solvent extraction and electro/winning (SX/EW)

- 92% Lead hosted in the sulphide mineral Galena can be recovered from flotation concentrates, containing 76% Lead, which and can be transported from site to a smelter.

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Kihabe Deposit (cont'd)

- 94% Zinc hosted in the sulphide mineral Sphalerite, within the lower transitional zone and sulphide zone can be recovered from flotation concentrates, containing 58% Zinc, transported from site to a smelter.

- 84% Lead hosted in the sulphide mineral Galena, within the lower transitional zone and sulphide zone can be recovered from flotation concentrates containing 76% Lead, transported from site to a smelter.

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Kihabe Deposit (cont'd)

- 96% Silver hosted within the lower portions of the transitional zone and the sulphide zone can be recovered from flotation concentrates transported from site to a smelter.

- Mineralogical and metallurgical test work still needs to be conducted on Silver in the oxide and upper transitional zone and on Copper in the oxide, transitional and sulphide zones.

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An Indicated/Inferred Resource Estimate compliant with the 2012 JORC Code has recently been compiled for the Kihabe Deposit

Kihabe Polymetallic Deposit
July 2022 Mineral Resource Estimate (0.5% ZnEq Cut-off)

Type	Indicated Mineral Resource										
	Tonnage Mt	ZnEq* %	Zn %	Pb %	Ag g/t	V2O5 %	ZnEq* kt	Zn kt	Pb kt	Ag Moz	V2O5 kt
Oxide	1.1	1.6	0.9	0.8	8.8	0.04	18	10	8	0.3	1
Transitional	3.1	1.8	1.4	0.7	9.0	0.01	57	43	20	0.9	1
Fresh	7.5	2.1	1.6	0.8	8.9	0.01	160	122	57	2.1	2
Total	**11.7Mt**	**2.0**	**1.5**	**0.7**	**8.9**	**0.01**	**234kt**	**176kt**	**86kt**	**3.3Moz**	**5kt**

Type	Inferred Mineral Resource										
	Tonnage Mt	ZnEq* %	Zn %	Pb %	Ag g/t	V2O5 %	ZnEq* kt	Zn kt	Pb kt	Ag Moz	V2O5 kt
Oxide	0.8	1.4	0.9	0.6	6.0	0.04	11	7	4	0.1	1
Transitional	1.9	1.7	1.3	0.6	5.4	0.02	33	25	11	0.3	1
Fresh	6.6	2.3	1.7	0.8	7.7	0.01	151	114	53	1.6	3
Total	**9.3Mt**	**2.1**	**1.6**	**0.7**	**7.1**	**0.02**	**194kt**	**146kt**	**68kt**	**2.1Moz**	**5kt**

Type	Total Mineral Resource										
	Tonnage Mt	ZnEq* %	Zn %	Pb %	Ag g/t	V2O5 %	ZnEq* kt	Zn kt	Pb kt	Ag Moz	V2O5 kt
Oxide	1.9	1.5	0.9	0.7	7.7	0.04	28	17	13	0.5	2
Transitional	5.0	1.8	1.4	0.6	7.6	0.01	90	68	31	1.2	2
Fresh	14.1	2.2	1.7	0.8	8.3	0.01	310	237	110	3.8	5
Total	**21.0Mt**	**2.0**	**1.5**	**0.7**	**8.1**	**0.01**	**429kt**	**321kt**	**154kt**	**5.4Moz**	**10kt**

Zinc Equivalent grade calculated on 30 June 2022 closing prices

Mt = Million tonnes
kt = thousand tonnes
Moz = Million ounces

Zn - 1.5% x US$ 3,410/t (LME)	US$ 51.15
Pb - 0.7% x US$1,955/t (LME)	US$ 13.70
Ag - 8.1g/t x US$20.37/Oz (Kitco)	US$ 5.30
V2O5 – 0.01% x US$20,720/t (Vanadium Price)	US$ 2.10
TOTAL	US$ 72.75

US$72.25 divided by US$34.1 per 1% Zn = 2.12% ZnEq

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KIHABE RESOURCE METAL CONTENT

As can be seen, the Kihabe Indicated/Inferred Resource Estimate contains:

- **321,000 tonnes of Zinc**
- **154,000 tonnes of Lead**
- **5,400,000 ounces of Silver**
- **10,000 tonnes of Vanadium Pentoxide**

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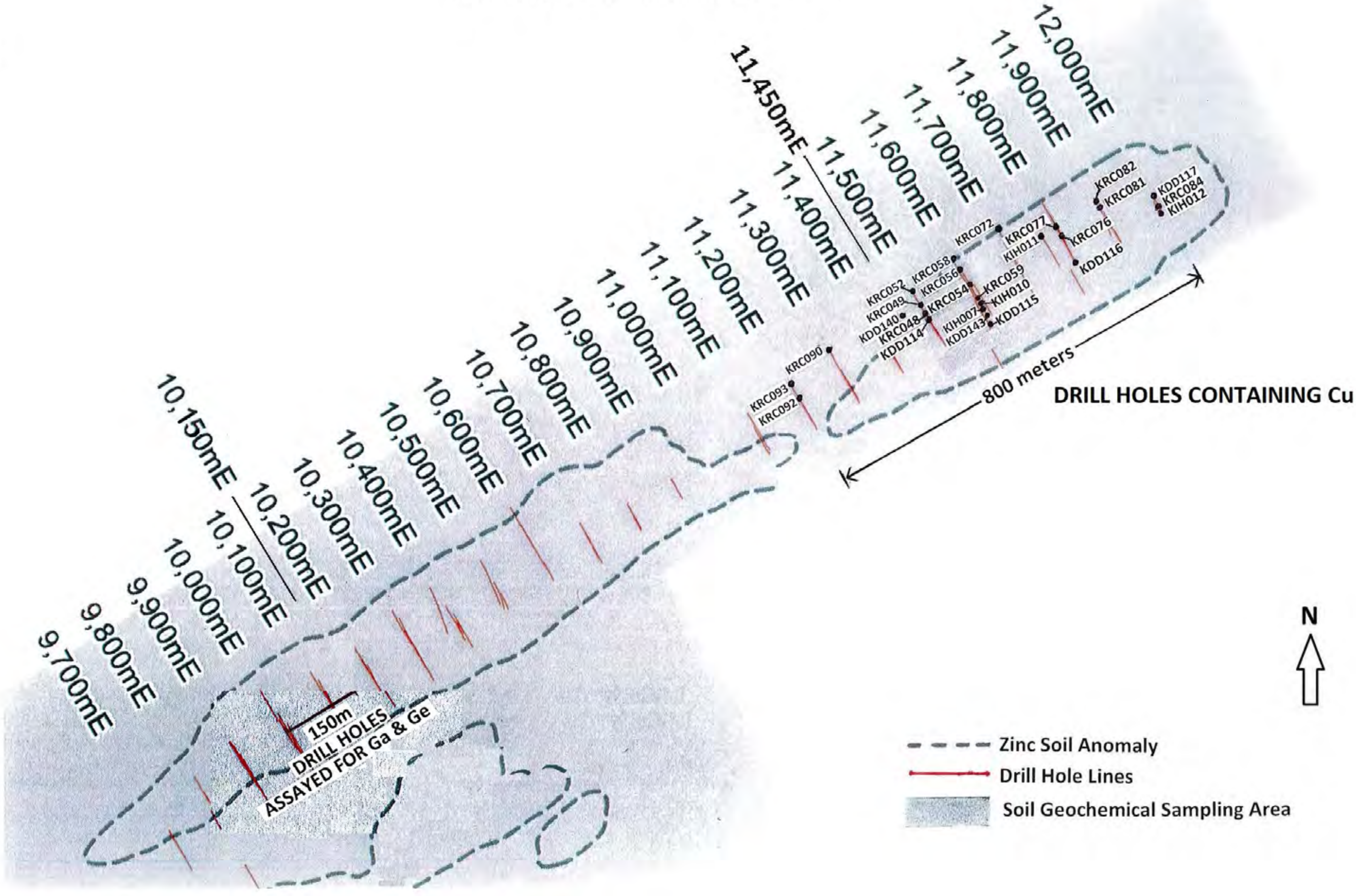
LOCATION OF DRILL HOLES CONTAINING GALLIUM, GERMANIUM AND COPPER



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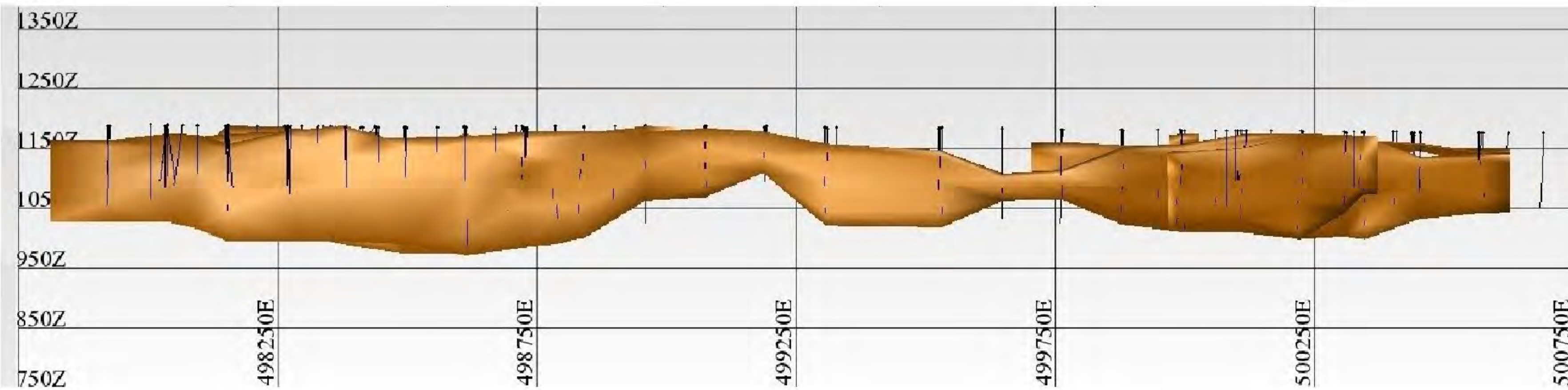
Kihabe Deposit Long Section of the Resource Estimate for Zinc, Lead, Silver and Vanadium Pentoxide



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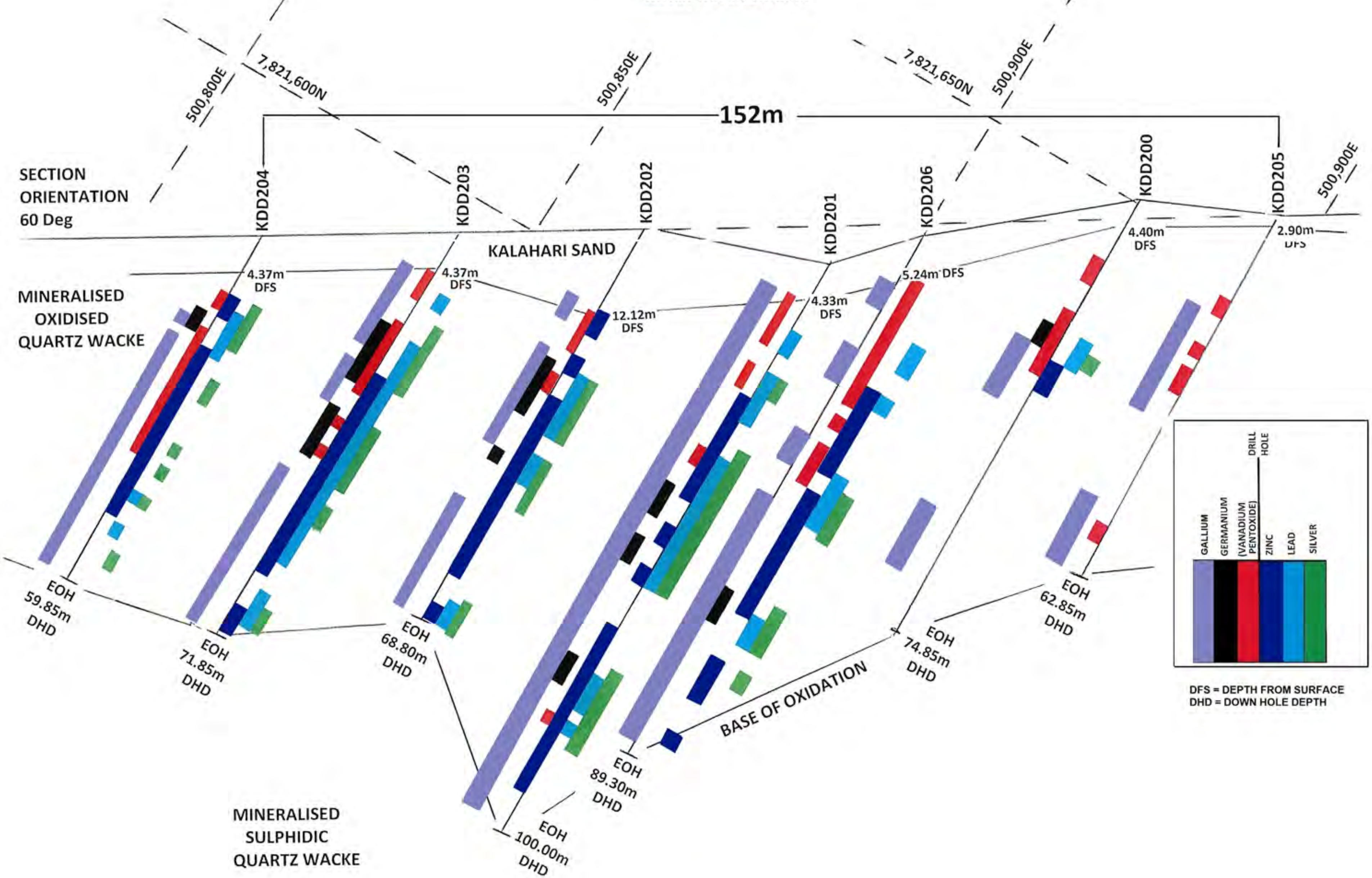
KIHABE DEPOSIT ZONE 1 SECTION 8
SHOWING INDIVIDUAL INTERSECTIONS FOR
Zn, Pb, Ag, V, (V2O5), Ge, Ga
WITHIN THE OXIDE ZONE



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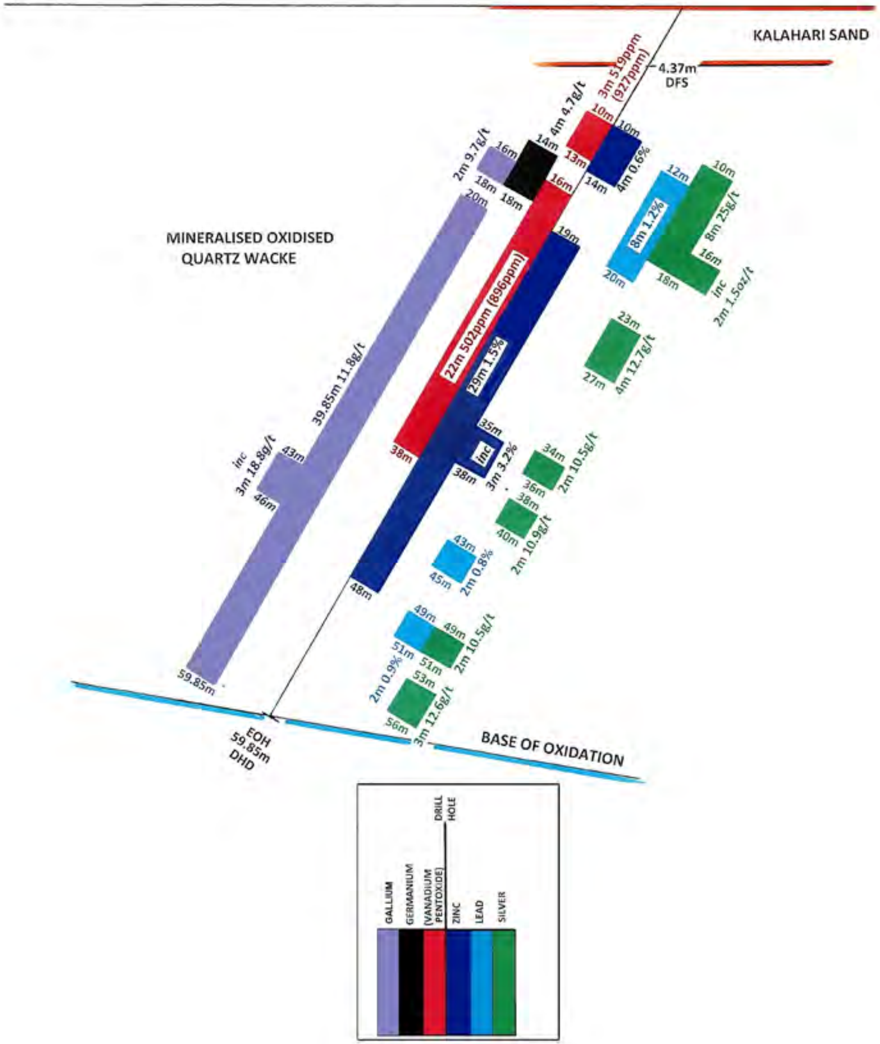
SECTION
ORIENTATION
60 Deg →

KIHABE DEPOSIT ZONE 1 SECTION 8



DFS = DEPTH FROM SURFACE
DHD = DOWN HOLE DEPTH

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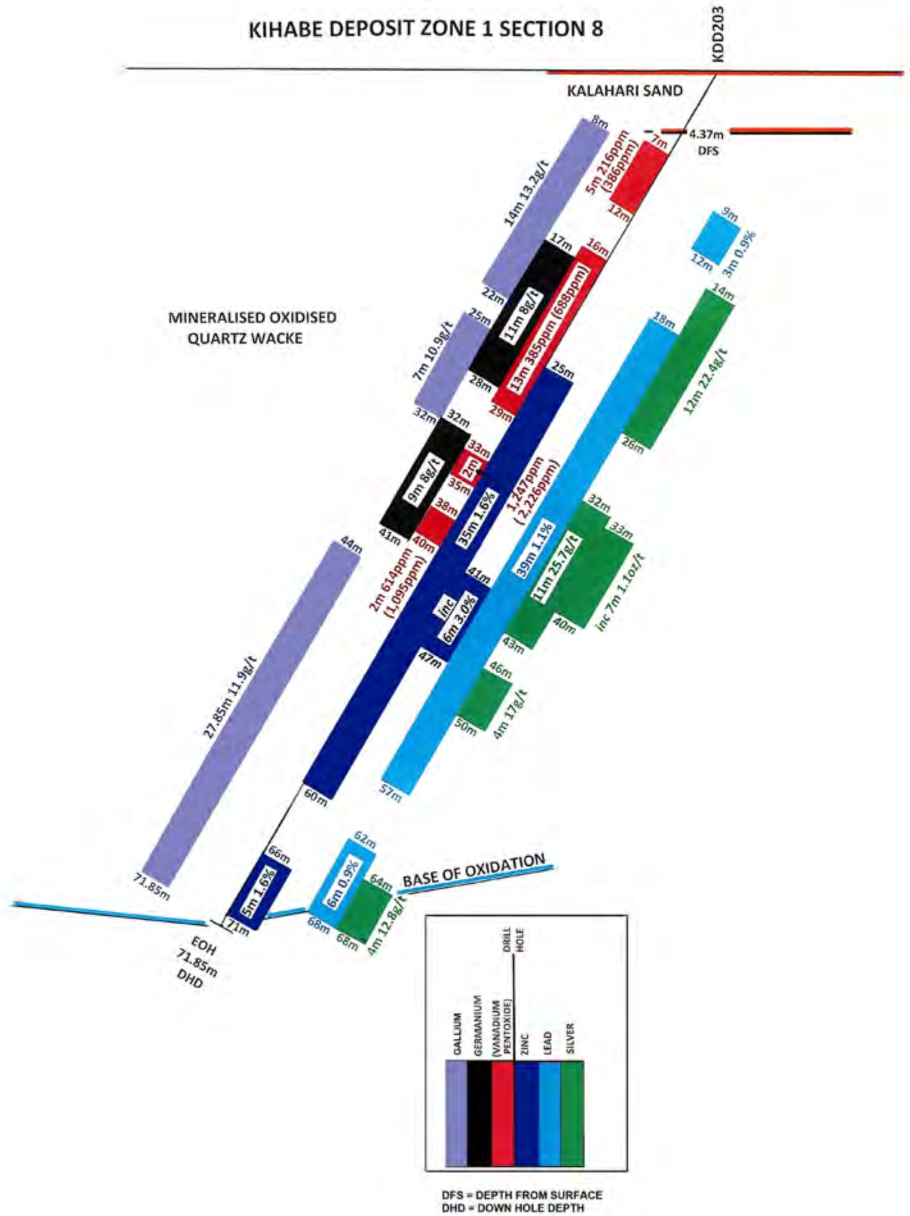
KIHABE DEPOSIT ZONE 1 SECTION 8



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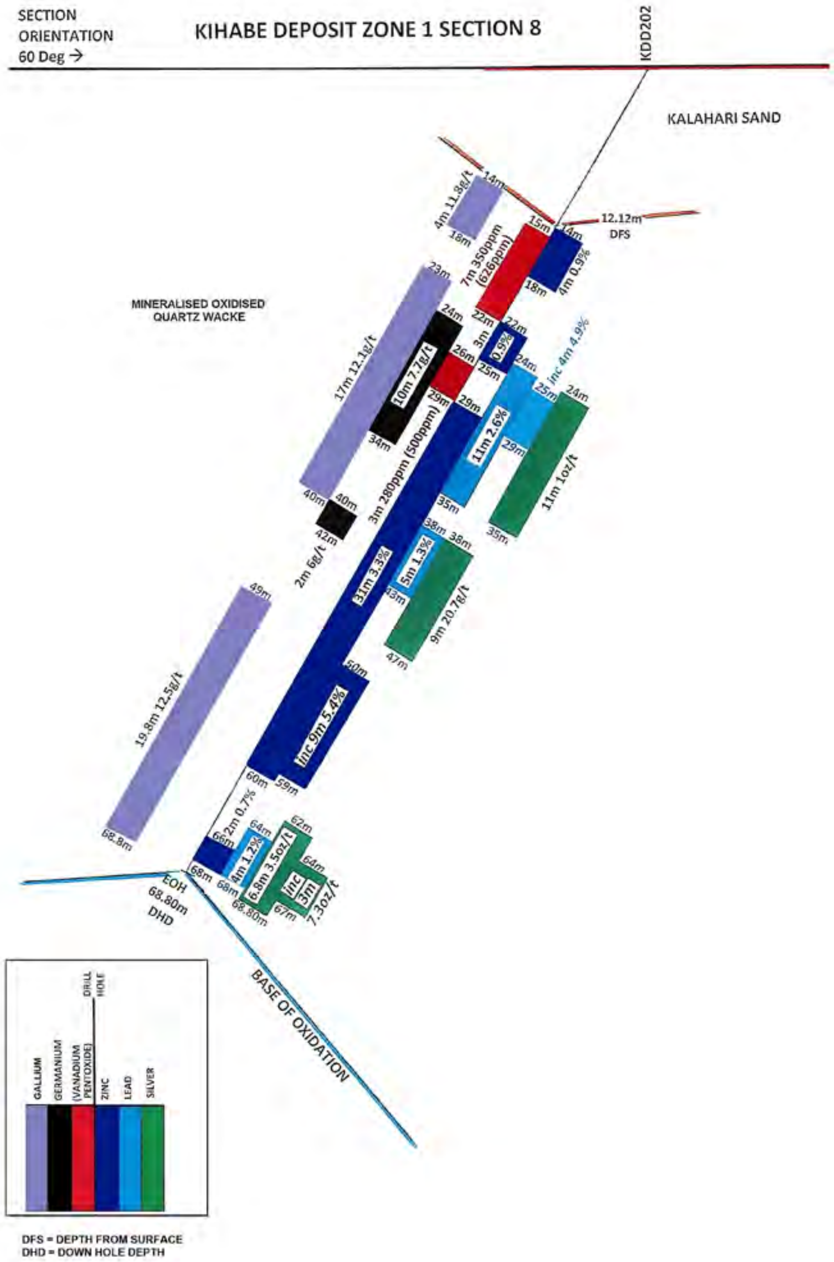
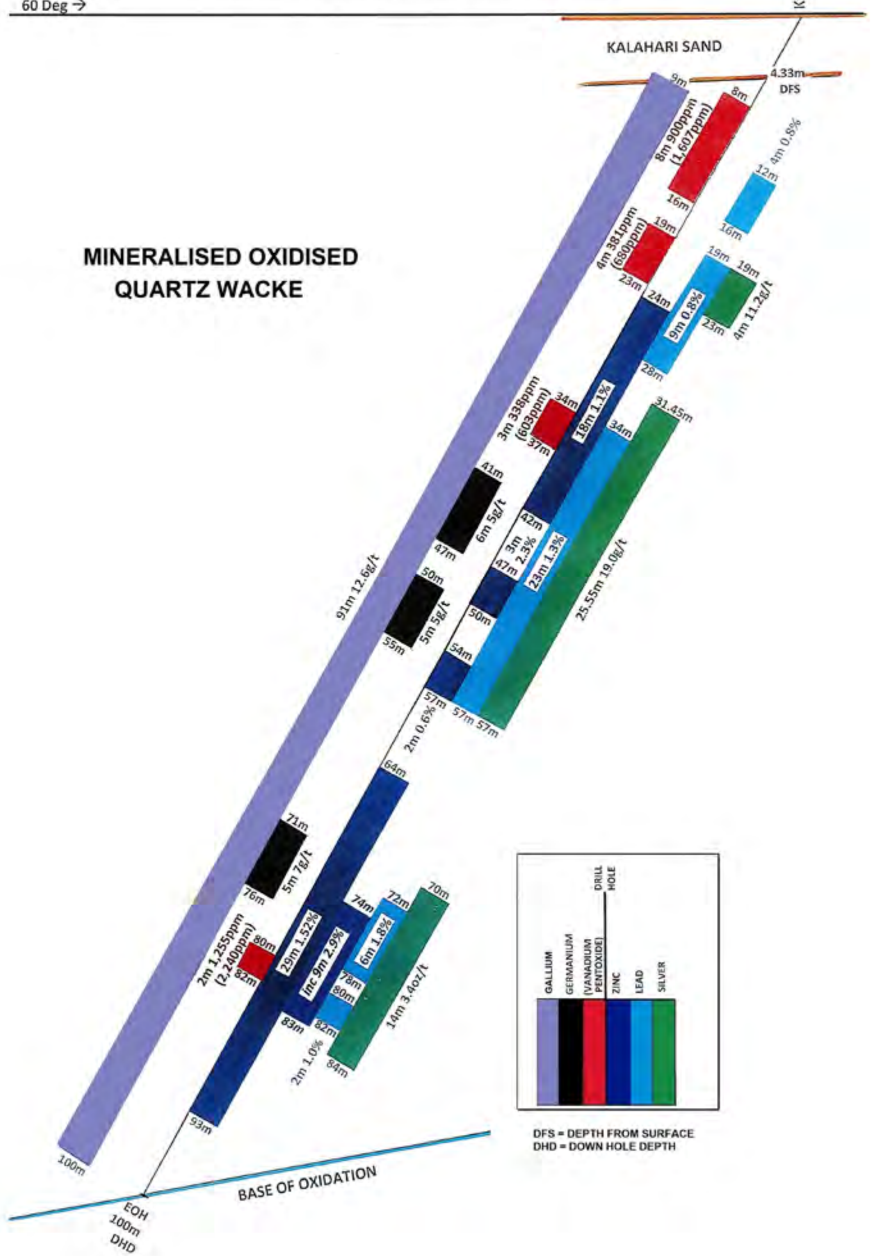
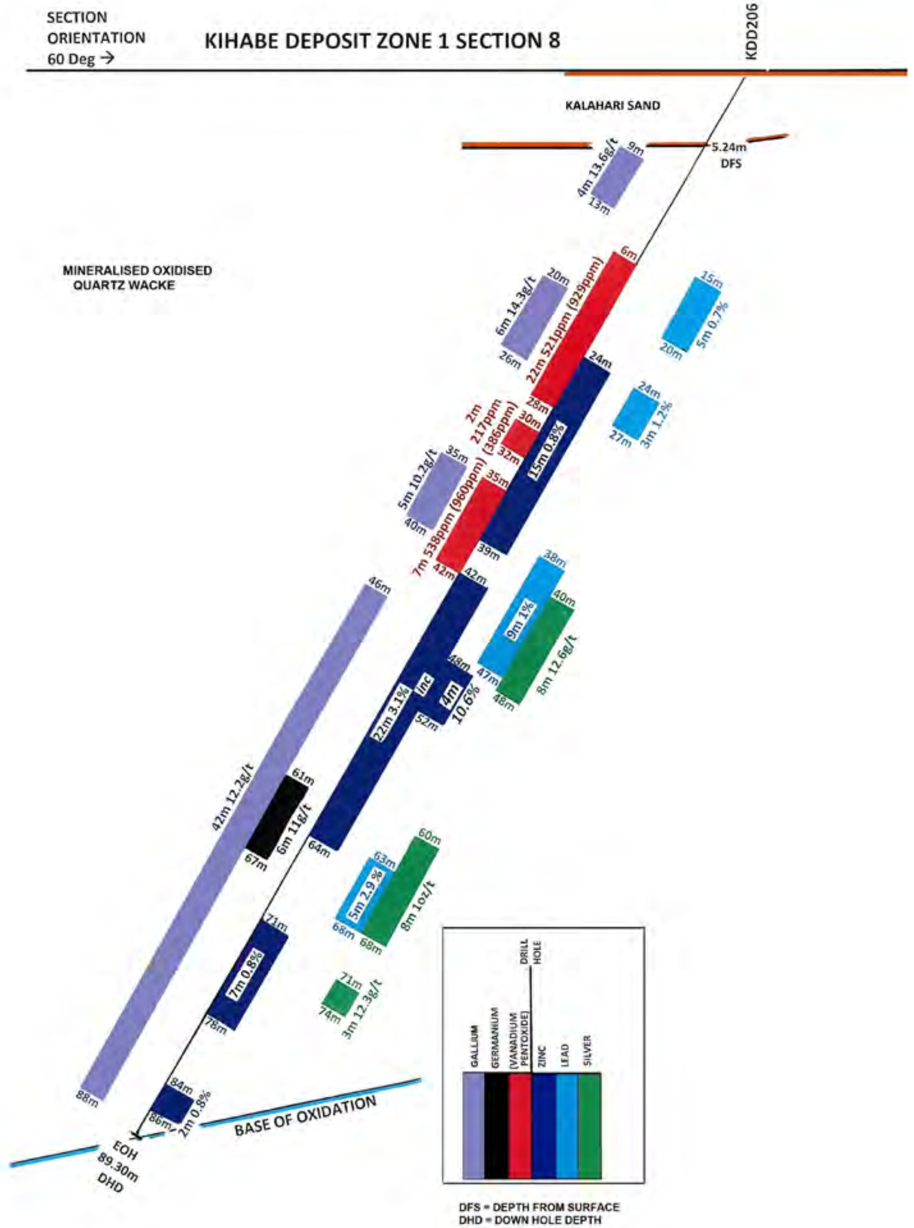

SECTION ORIENTATION 60 Deg →
KIHABE DEPOSIT ZONE 1 SECTION 8
KDD202
KALAHARI SAND
12.12m DFS
MINERALISED OXIDISED QUARTZ WACKE
4m 11.8g/t
14m
18m
7m 350ppm (626ppm)
15m
22m
4m 0.9%
14m
18m
23m
17m 12.1g/t
40m
24m
10m 7.7g/t
34m
26m
29m
3m 0.9%
22m
25m
inc 4m 4.9%
24m
25m
29m
11m 2.6%
35m
24m
11m 1oz/t
35m
3m 280ppm (500ppm)
40m
42m
2m 6g/t
31m 3.3%
38m
5m 1.3%
43m
38m
9m 20.7g/t
47m
49m
19.8m 12.5g/t
68.8m
60m
inc 9m 5.4%
60m
59m
2m 0.7%
66m
68m
64m
4m 1.2%
68m
62m
6.8m 3.5oz/t
68.80m
64m
inc 3m 7.3oz/t
67m
EOH 68.80m DHD
BASE OF OXIDATION
GALLIUM
GERMANIUM
(VANADIUM PENTOXIDE)
DRILL HOLE
ZINC
LEAD
SILVER
DFS = DEPTH FROM SURFACE
DHD = DOWN HOLE DEPTH

SECTION
ORIENTATION
60 Deg →

KIHABE DEPOSIT ZONE 1 - SECTION 8



KIHABE DEPOSIT ZONE 1 SECTION 8



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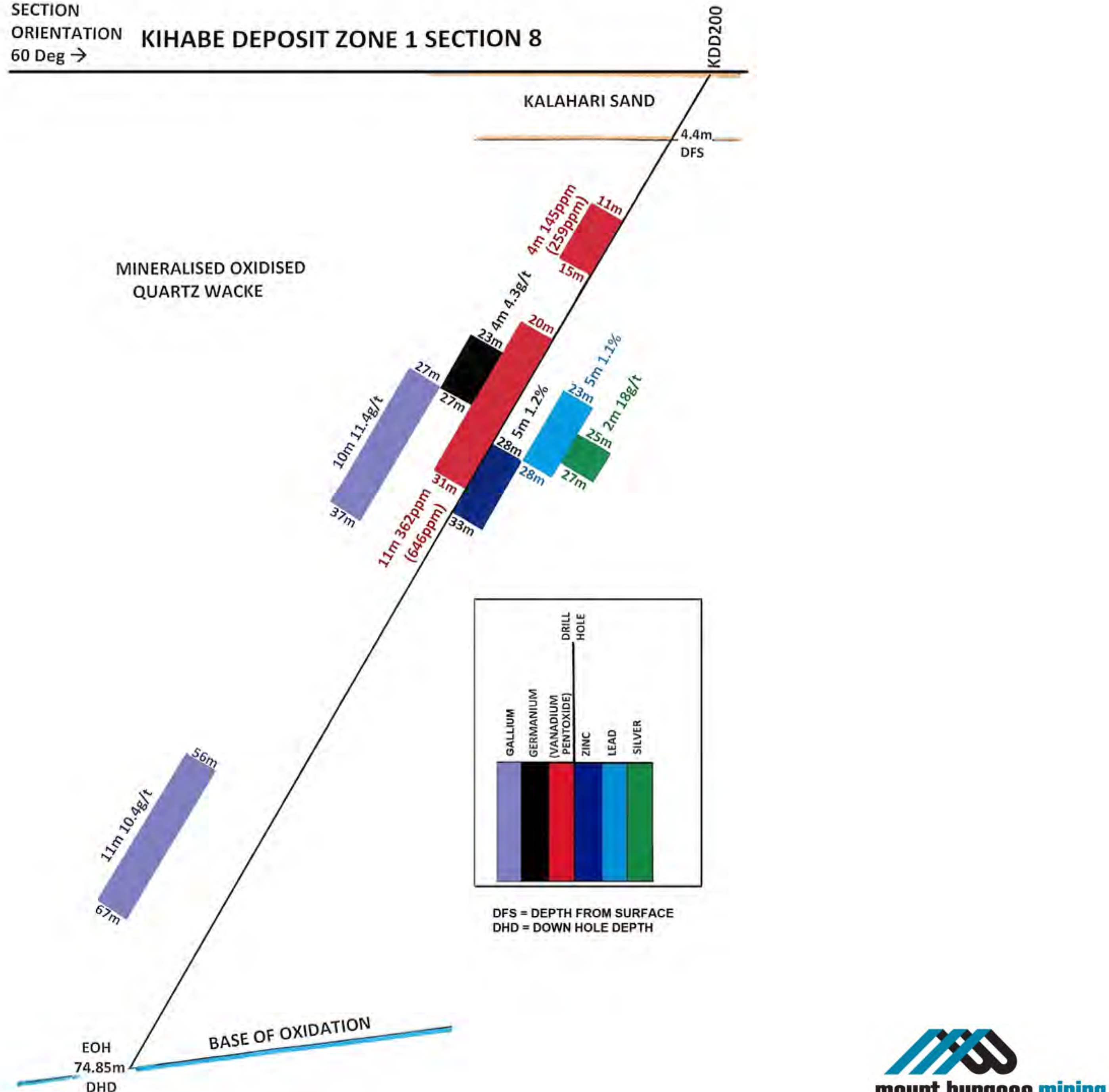
SECTION
ORIENTATION
60 Deg →
KIHABE DEPOSIT ZONE 1 SECTION 8
KDD200
KALAHARI SAND
4.4m
DFS
MINERALISED OXIDISED
QUARTZ WACKE
4m 145ppm
(259ppm)
11m
15m
4m 4.3g/t
23m
27m
20m
10m 11.4g/t
27m
37m
31m
11m 362ppm
(646ppm)
5m 1.2%
28m
33m
5m 1.1%
23m
28m
2m 18g/t
25m
27m
11m 10.4g/t
56m
67m
DRILL
HOLE
GALLIUM
GERMANIUM
(VANADIUM
PENTOXIDE)
ZINC
LEAD
SILVER
DFS = DEPTH FROM SURFACE
DHD = DOWN HOLE DEPTH
BASE OF OXIDATION
EOH
74.85m
DHD
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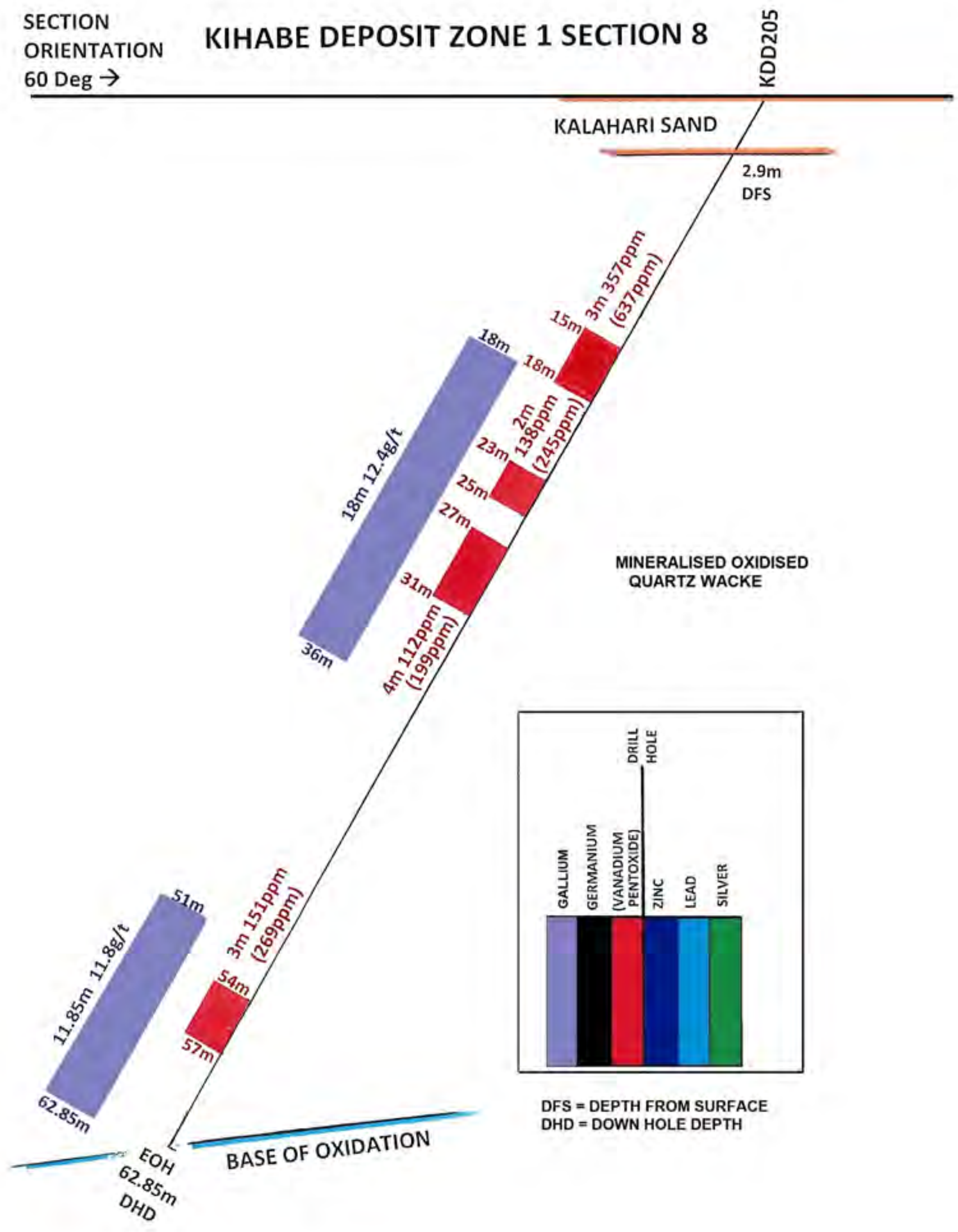
SECTION
ORIENTATION
60 Deg →
KIHABE DEPOSIT ZONE 1 SECTION 8
KDD205
KALAHARI SAND
2.9m
DFS
3m 357ppm
(637ppm)
15m
18m
18m
18m 12.4g/t
2m
138ppm
(245ppm)
23m
25m
27m
31m
36m
4m 112ppm
(199ppm)
MINERALISED OXIDISED
QUARTZ WACKE
DRILL
HOLE
GALLIUM
GERMANIUM
(VANADIUM
PENTOXIDE)
ZINC
LEAD
SILVER
51m
11.85m 11.8g/t
3m 151ppm
(269ppm)
54m
57m
62.85m
DFS = DEPTH FROM SURFACE
DHD = DOWN HOLE DEPTH
EOH
62.85m
DHD
BASE OF OXIDATION
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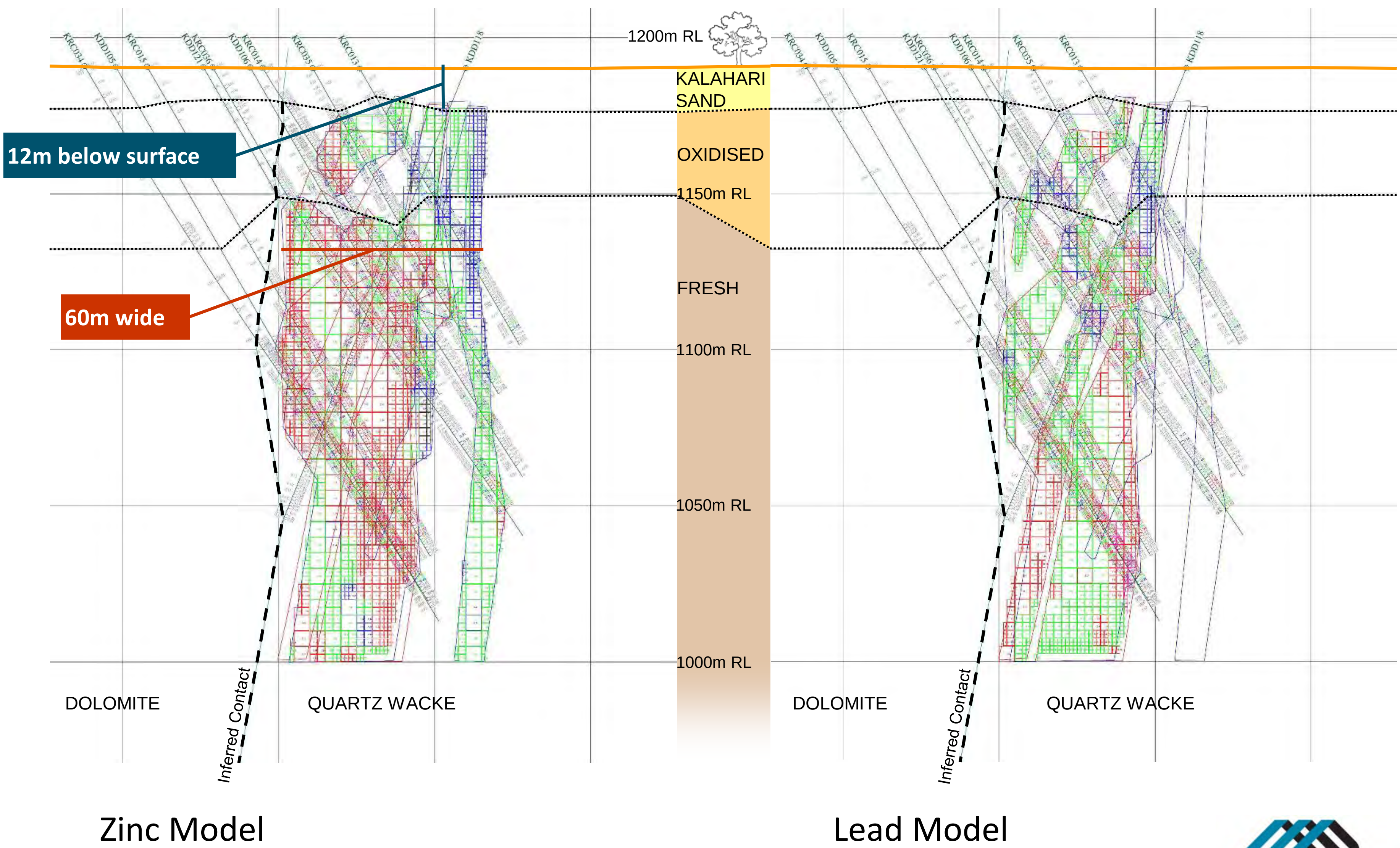
Kihabe Resource – Section 9900m
Zinc and Lead Mineralisation



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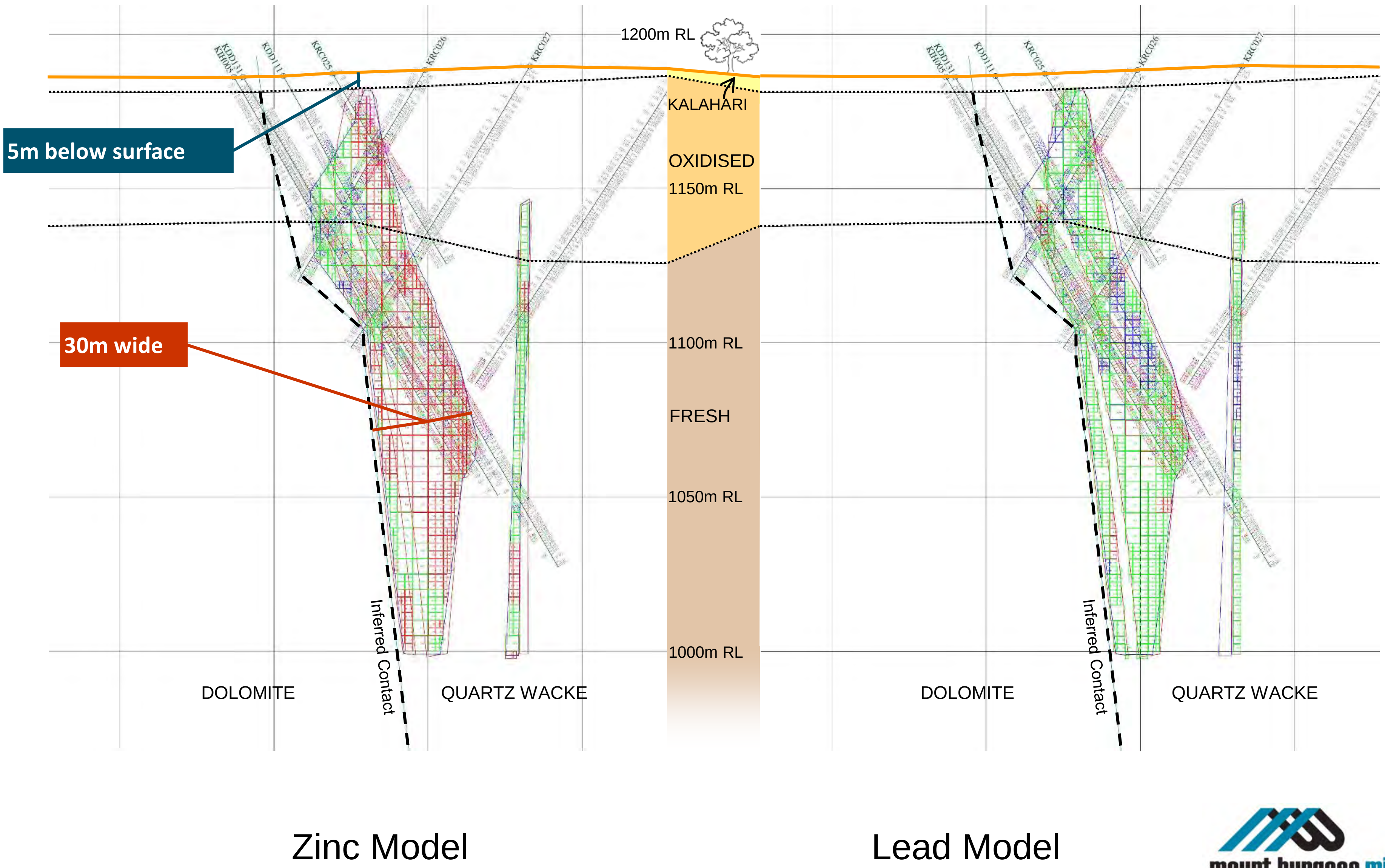
Kihabe Resource – Section 10400mE
Zinc and Lead Mineralisation



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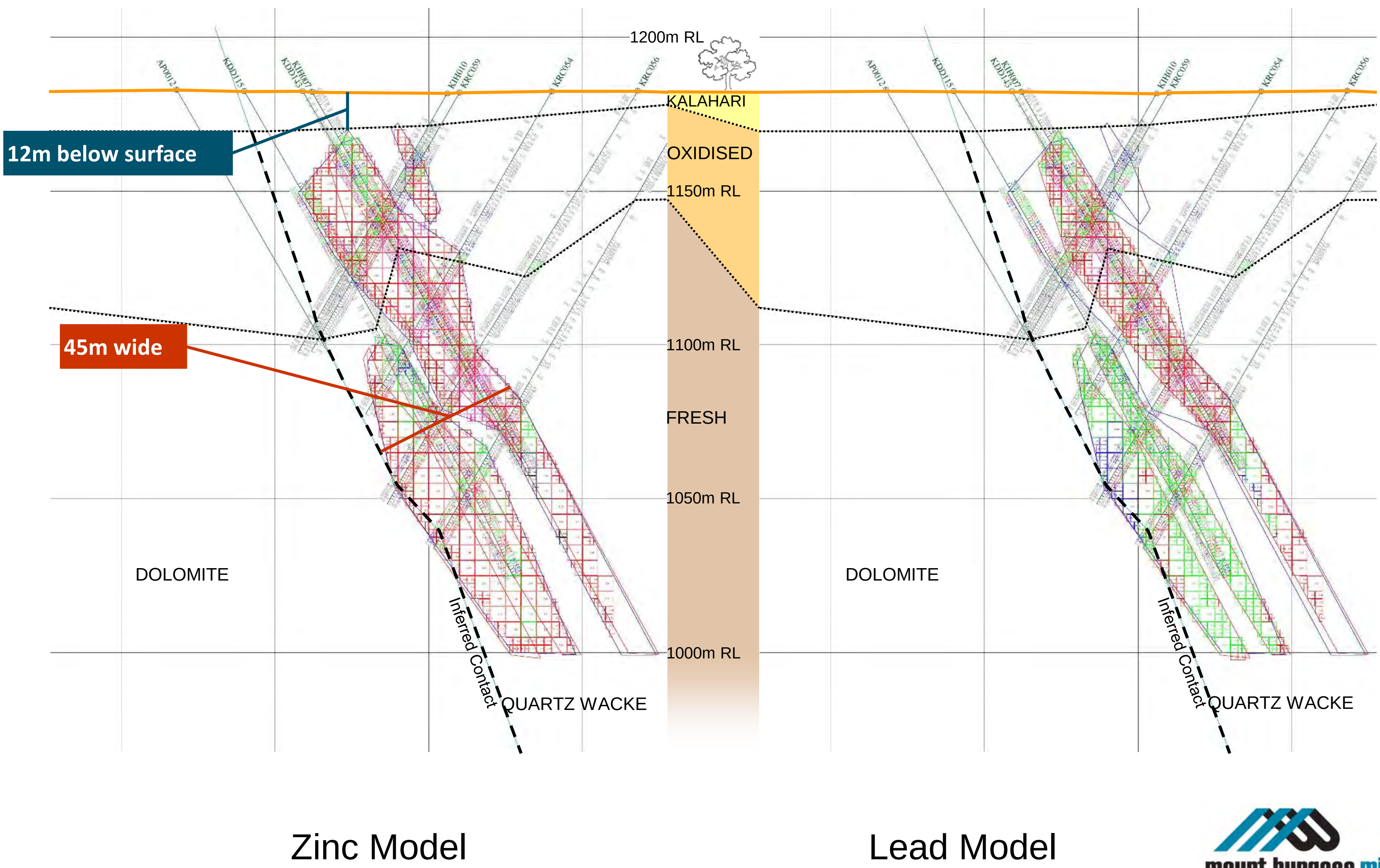
Kihabe Resource – Section 11600mE
Zinc and Lead Mineralisation



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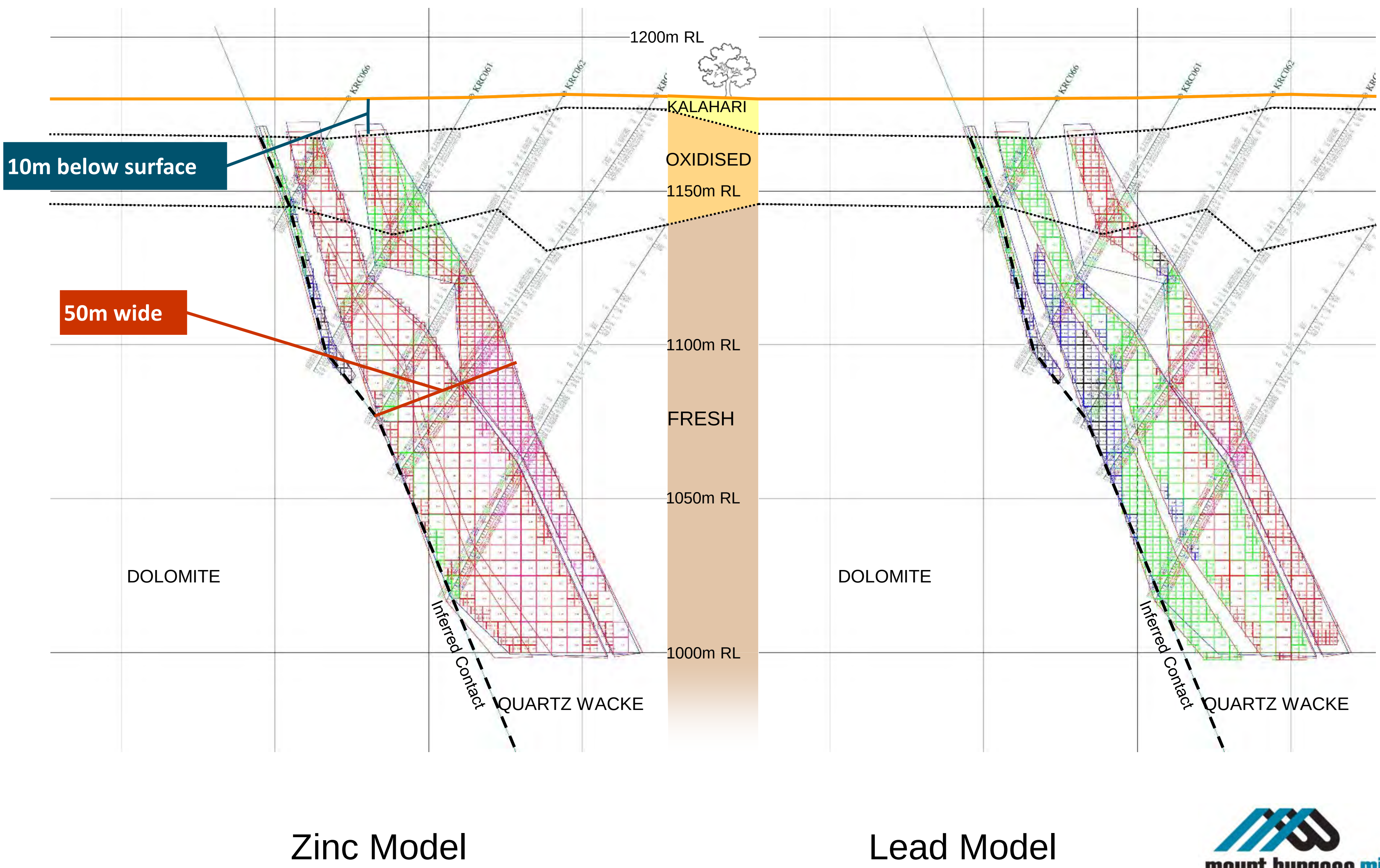
Kihabe Resource – Section 11700mE
Zinc and Lead Mineralisation



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Kihabe - Copper Resource

An Initial Inferred Resource was estimated as shown below

Mineral Resource Statement – 16 March 2007
(2004 JORC Code) – Kihabe Base Metals
Deposit – Cu Mineralisation – Inferred
Resource – Reported at % Cu lower cut-offs

Lower Cut-Off (%Cu)	Tonnes (t)	Grade Cu (%)	Metal Cu (t)
0.00	3,135,800	0.12	3,610
0.05	2,562,800	0.13	3,400
0.10	1,371,800	0.18	2,520
0.15	616,400	0.26	1,590
0.20	329,900	0.33	1,100
0.25	191,300	0.41	790
0.30	136,400	0.47	640
0.40	92,100	0.53	490
0.60	19,800	0.66	130

Further drilling and assaying will be required to determine the overall content of:

- **Copper**
- **Gallium**
- **Germanium**

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Potential for Further Discoveries

Several other anomalies have been generated in the project area by geochemical soil sampling and assaying for Zinc, Lead, Silver and Vanadium. These all have the potential for adding to the Project's resource base in the future. Further drilling will be required to develop any of the anomalies into resources.

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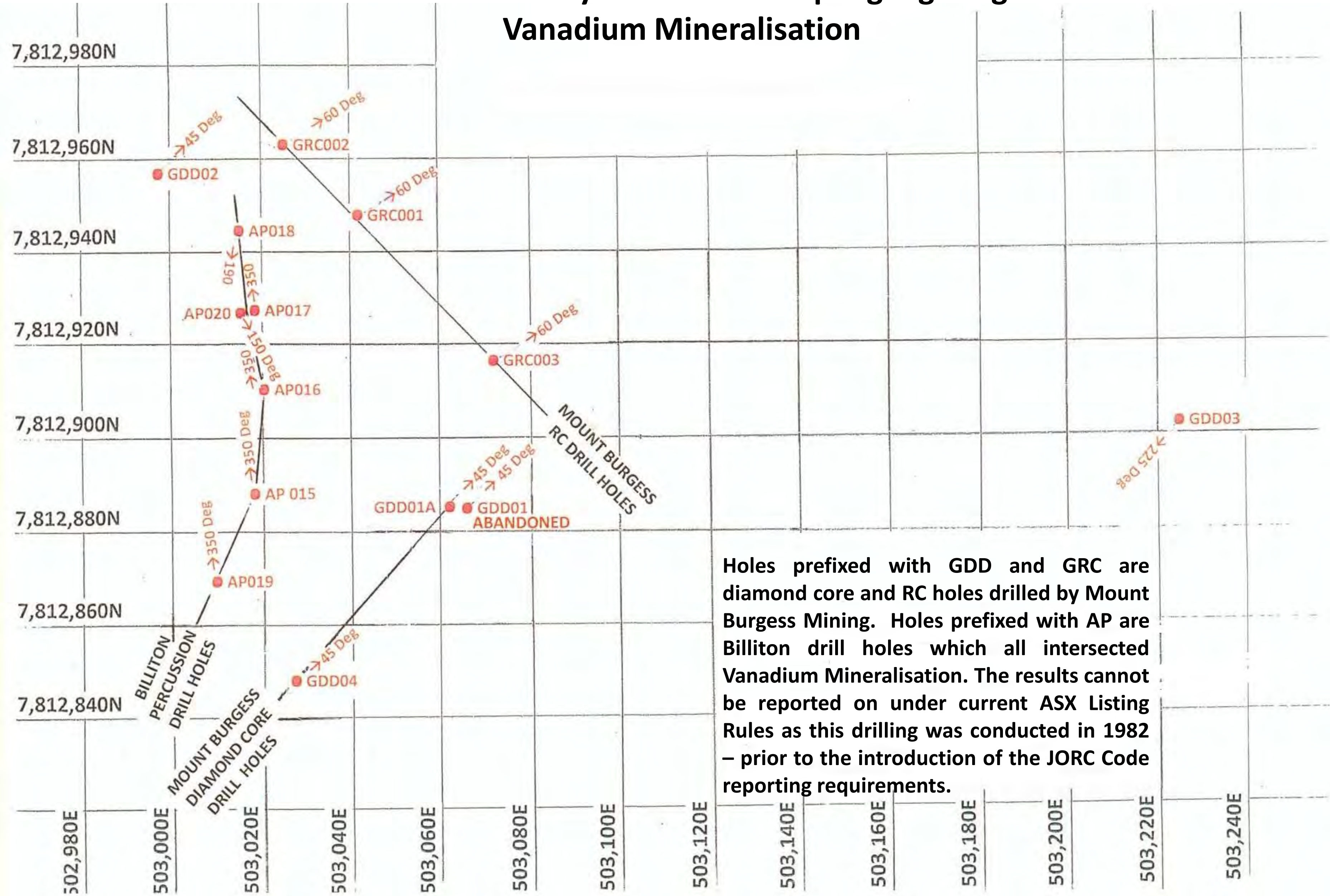
The Gossan Anomaly

One of these anomalies is the Gossan Anomaly, shown to contain Zinc, Lead, Silver and Vanadium. Individual selected samples also show the presence of Gallium and Germanium.

Gossan Anomaly – Drill Hole Map highlighting Vanadium Mineralisation



Holes prefixed with GDD and GRC are diamond core and RC holes drilled by Mount Burgess Mining. Holes prefixed with AP are Billiton drill holes which all intersected Vanadium Mineralisation. The results cannot be reported on under current ASX Listing Rules as this drilling was conducted in 1982 – prior to the introduction of the JORC Code reporting requirements.

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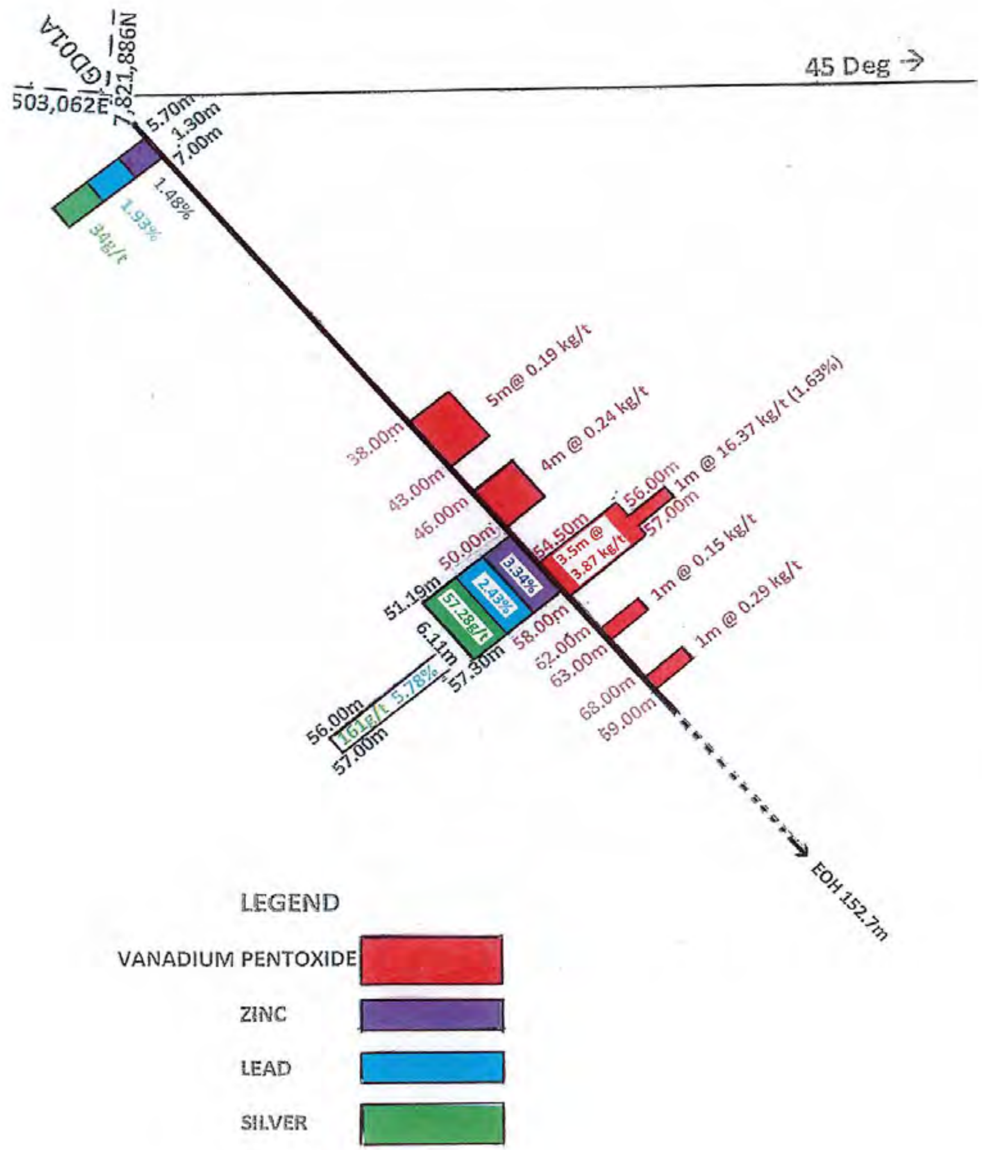
Gossan Anomaly – Mount Burgess Mining Diamond Core Hole
Recoverable Vanadium Pentoxide Grades



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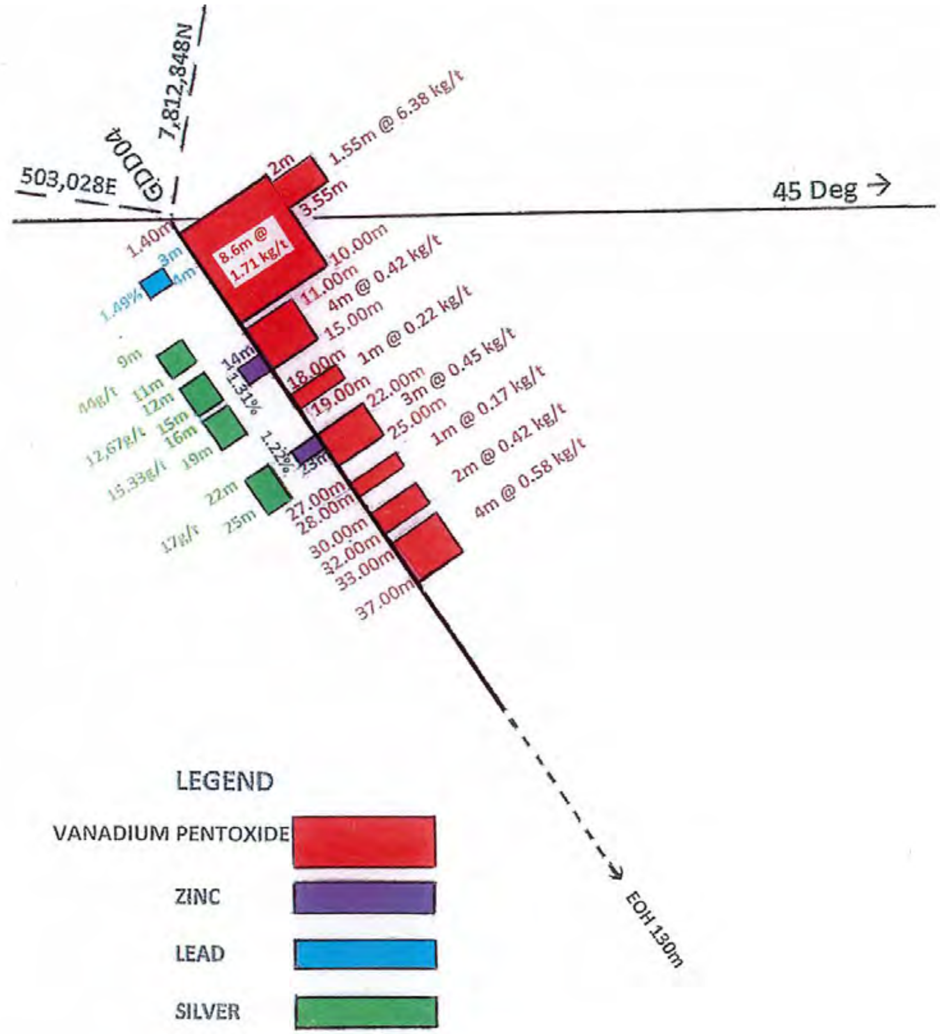
Gossan Anomaly – Mount Burgess Mining Diamond Core Hole – Recoverable Vanadium Pentoxide Grades



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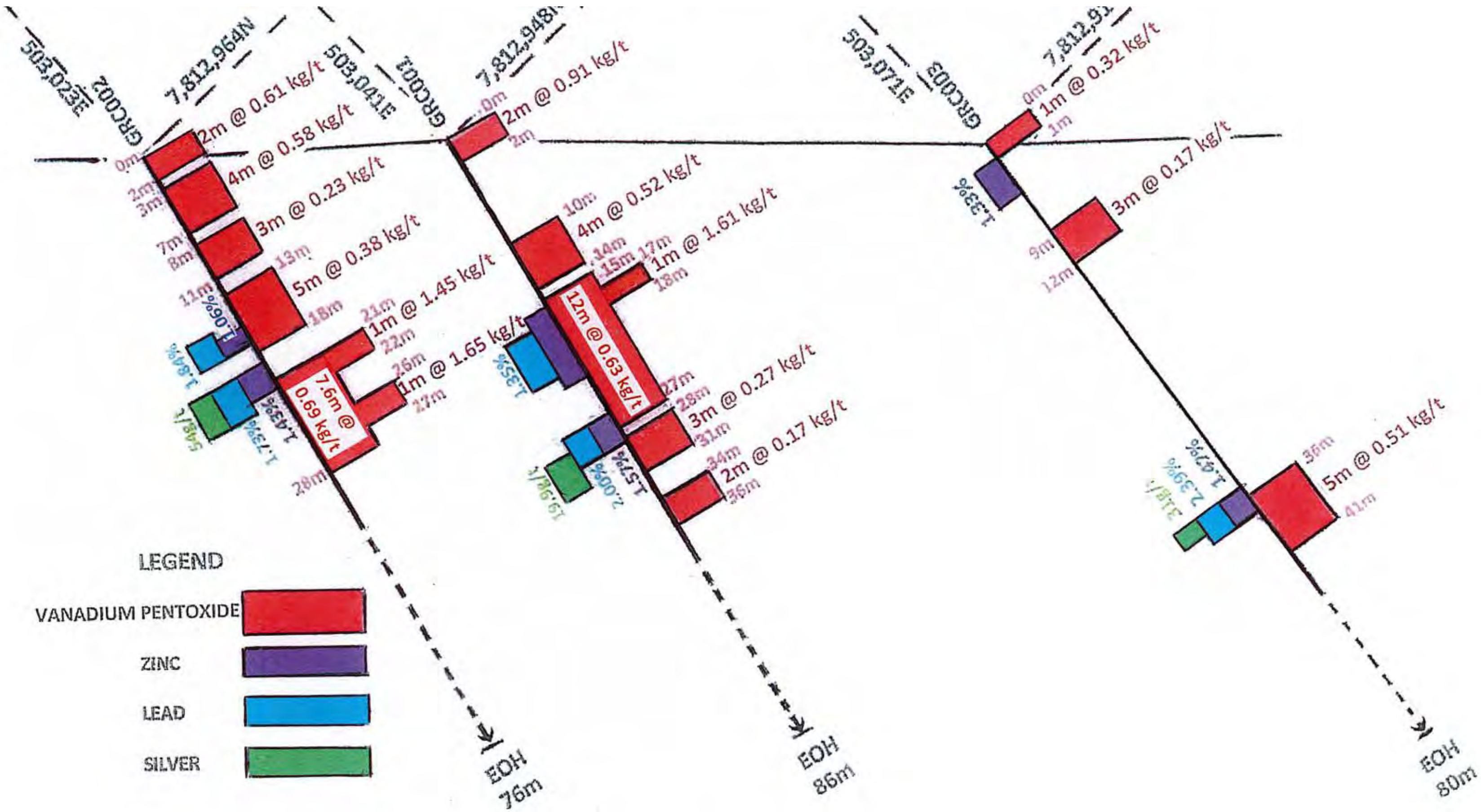
Gossan Anomaly – Mount Burgess Mining RC Drill Holes
Recoverable Vanadium Pentoxide Grades



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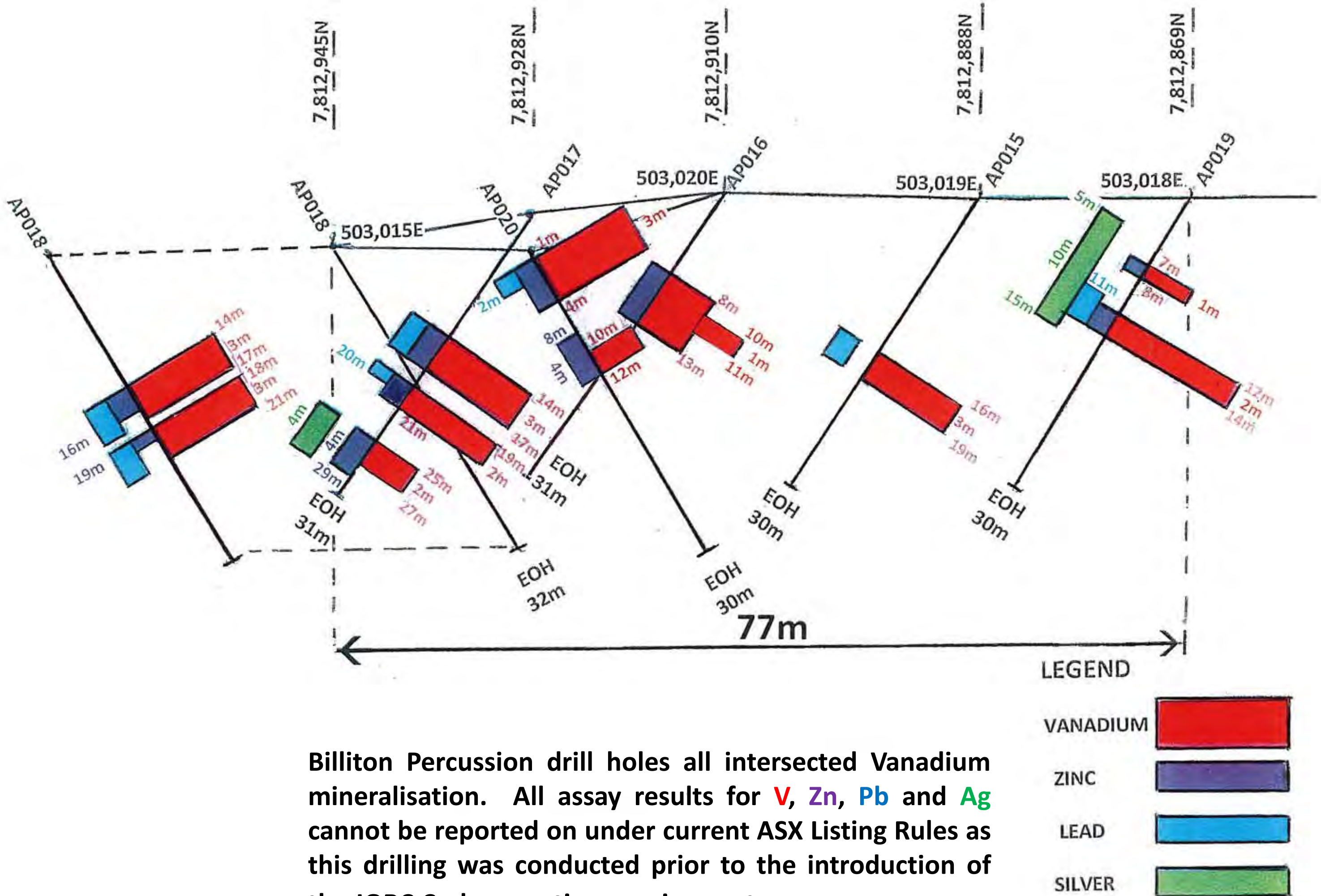
Gossan Anomaly – Billiton Percussion Drill Holes highlighting Vanadium Mineralisation



Billiton Percussion drill holes all intersected Vanadium mineralisation. All assay results for V, Zn, Pb and Ag cannot be reported on under current ASX Listing Rules as this drilling was conducted prior to the introduction of the JORC Code reporting requirements.

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Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

GALLIUM

Gallium, a soft metallic element, is currently used for semi-conductors, blue ray technology, light emitting diodes (LEDs), pressure sensors for touch switches, as an additive to produce low melting-point alloys and in mobile phones.

The recent upgrade of cellular networks to 5th generation (5G) has created high volumes of international data transmission. These increased volumes generate extremely high temperatures which can be effectively controlled through the use of Gallium computer chips that are more efficient at higher temperatures than traditional silicon-based chips.

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Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

GALLIUM (cont'd)

The Fraunhofer Institute System and Innovation Research, expects that by 2030, the worldwide demand for Gallium will be six times higher than the current production rate of around 720 tonnes per annum.

Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

GERMANIUM

Germanium is used in fibre optics, infra-red optics, high brightness LEDs used in automobile head lights and in semi-conductors for transistors in thousands of electronic applications. Recently declared as a strategic metal by the US Government, it is also used for night vision and targeting at night.

Germanium is now the most efficient energy generator in solar panels which can convert more than 40% of sunlight into electricity. Silicon base solar cells have a maximum capacity of 20%.

Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

VANADIUM PENTOXIDE (V2O5 **)**

V2O5 is a key component for a clean energy future and future energy storage requirements. Given a recent push to replace petrol and diesel with electric power, V2O5 has an exceptionally important part in power storage requirements.

Vanadium redox flow (VRF) batteries manufactured to incorporate V2O5 **,** can store huge amounts of power, generated from wind and solar, for long periods of time. VRF batteries can be subject to radical changes in power storage levels within short spaces of time with little impact on battery deterioration. Power storage in Li-ion batteries must be maintained at constant levels to avoid battery deterioration.

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Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

ZINC

Zinc, which in February 2022 was added to the list of critical minerals by the U.S. Geological Survey, Department of the Interior, has primarily been used for generations in zinc plating for corrosion resistance as with galvanised iron. Zinc is alloyed with copper to make brass, a metal which is harder than its constituents.

Zinc-ion batteries for energy storage offer improved intrinsic safety over Lithium-ion batteries as the electrolyte is water, making them significantly safer. Zinc is more abundant than Lithium, resulting in Zinc batteries being cheaper, less harmful for the environment and less susceptible to supply chain issues.

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Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

ZINC (cont'd)

In September 2021, researchers from the University College of London published a paper on new Zinc based batteries that can be charged directly by light. Vanadium dioxide (VO2) is used as a photocathode for Zinc-ion batteries. This increases photo-conversion efficiency whilst reducing the battery light-charging time by two-thirds.

Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

LEAD

Lead, which is corrosion free, is used for lead-acid car batteries, roofing, radiation protection, solders, ammunition and weights.

Large-format lead-acid batteries, often referred to as battery banks, are used as storage facilities for power generated from wind, solar and diesel. The battery banks can then provide large and continual power supply to facilities such as cell towers, hospitals and other individual large buildings.

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Worldwide Demand for Metals of the Kihabe -Nxuu Polymetallic Deposits

SILVER

Silver has primarily been used for generations for the manufacture of jewellery and domestic utensils. It is currently used as a significant material for alternative energy generation in the manufacture of photovoltaic panels. Solar companies load a silver-based paste onto silicon wafers in the panels which produce electricity when exposed to sunlight. Having a low electrical resistance, the silver efficiently transmits an electrical current to buildings or battery storage facilities.

Corporate Details

Listed on ASX since 1985

ASX Code MTB

Shares on Issue **859,171,119** (as at 30 June 2022)

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