

# Heron Resources Limited

The 6th Annual World Nickel Congress, 30 September 2003

## NORTH KALGOORLIE NICKEL PROJECT A WORLD CLASS NICKEL ASSET



**GOOD MORNING**

**I'LL BE DISCUSSING NORTH KALGOORLIE NICKEL PROJECT, AND HOW A SMALL CAP EXPLORER SUCH AS HERON PUTS TOGETHER AND DEVELOPS A PROJECT OF THIS SCALE.**

**THE NKN PROJECT IS LOCATED 70KM NORTHWEST OF KALGOORLIE.**

**THE NICKEL LATERITE RESOURCES ARE BASED ON A VERY EXTENSIVE LATERITISED ULTRAMAFIC UNIT TERMED THE WALTER WILLIAMS FORMATION, WHICH OCCURS OVER AN AREA OF 150X35KM, AND IS UP TO 600M THICK. THIS IS A VAST VOLUME OF NICKEL-ENRICHED PROTORE TO WEATHER AND THUS DEVELOP THE ECONOMIC LATERITE DEPOSITS.**

**THE NKN PROJECT AIMS TO BE A 40,000TPA NICKEL-IN-INTERMEDIATE PRODUCT PRODUCER, USING GOETHITE AND SILICEOUS ORE LEACHED BY CONVENTIONAL PRESSURE ACID LEACH ("PAL") TECHNOLOGY. THE CURRENT NKN PROJECT RESOURCE IS 130MT AT 1.3% NI AND 0.1% CO.**

**THE NKN PROJECT IS THE LARGEST UNDEVELOPED HIGH GRADE NICKEL LATERITE RESOURCE IN AUSTRALIA. THE ORE TYPE HAS SIGNIFICANT METALLURGICAL BENEFITS WHEN COMPARED TO OPERATING WESTERN AUSTRALIA PAL PROJECTS, AND AUSTRALIA PROVIDES A LOW SOVEREIGN RISK DEVELOPMENT ENVIRONMENT WHEN COMPARED TO SIMILAR PROJECTS UNDER REVIEW INTERNATIONALLY.**

## Case study of a small cap explorer operating in the Nickel Laterite sector

- ◆ **Introduce Heron Resources Limited**  
**Corporate Structure & Ownership**  
**Unencumbered Assets**  
**Granted Mining Leases**
- ◆ **World-class Nickel Asset**  
**North Kalgoorlie Nickel Project**
- ◆ **The way forward for the Asset**  
**Strategic Partnership**



### **CORPORATE PROFILE OF HERON**

**HERON LISTED ON ASX IN AUGUST 1996, AND SINCE 1997 HAS FOCUSED ON THE ACQUISITION AND DEVELOPMENT OF NICKEL LATERITE RESOURCES.**

**NICKEL ASSETS ARE MAINLY 100% OWNED, UNENCUMBERED AND OCCUR ON GRANTED MINING LEASES.**

### **WORLD-CLASS NICKEL ASSET**

**RESOURCE BASE IS 130MT AT 1.3% NI AND 0.1% CO, FOR 1.7MT CONTAINED NICKEL METAL, OCCURRING AS PREMIUM METALLURGICAL QUALITY GOETHITE AND SILICEOUS ORE.**

### **STRATEGIC PARTNERSHIP**

**HERON HAVING COMPLETED RESOURCE ACQUISITION, RESOURCE DRILL-OUT AND PRELIMINARY METALLURGICAL TESTING, NOW SEEKS A COMMITTED NICKEL INDUSTRY PARTNER TO HELP MOVE THE NKN PROJECT TO THE NEXT LEVEL, THROUGH THE COMPLETION OF A BANKABLE FEASIBILITY STUDY.**

## Heron is an Emerging Nickel Company

◆ Issued Shares	110 million
◆ Market Cap	A\$20 million
◆ Major Shareholders	
Buchhorn	31.3%
OMG Cawse	14.4%
Chaos Investment	4.0%
Resource Cap	3.7%
◆ Exploration expend	A\$3m pa



**HERON HAS 110 MILLION SHARES ON ISSUE TRADING AT \$0.18 AT 1 SEPTEMBER 2003, FOR A MARKET CAPITALISATION OF A\$20 MILLION.**

**HERON'S MAJOR SHAREHOLDERS ARE IAN BUCHHORN WITH 31%, OMG CAUSE WITH 14%, CHAOS INVESTMENTS WITH 4%. THERE IS A STRONG LOCAL KALGOORLIE AND SYDNEY RETAIL SHAREHOLDER BASE.**

**HERON IS AN EXTREMELY ACTIVE MINERAL EXPLORER, AND HAS AMONGST THE HIGHEST PERCENTAGE DRILLING BUDGET, AND LOWEST PERCENTAGE ADMINISTRATION BUDGET FOR AN AUSTRALIAN MINERAL EXPLORER (LARGE OR SMALL).**

**DURING 2003, THE EMPHASIS HAS BEEN ON THE PURCHASE OF DRILLED OUT RESOURCES.**

**BEING BASED IN KALGOORLIE, HERON HAS COMPETITIVE ADVANTAGE IN PROJECT ACQUISITION, AND SEEKS TO LEVERAGE THIS SKILL TO INCREASE SHAREHOLDER WEALTH THROUGH DEALING NON-CORE TENEMENTS TO IMPROVE THE NICKEL LATERITE ASSET BASE.**

## Within an Expanding World Nickel Industry

- ◆ World nickel demand 1.2mtpa, growth is at 4-5%pa
- ◆ Demand driven China stainless steel
- ◆ Tight nickel sulphide refinery feed
- ◆ NI LATERITE IS A FUTURE SUPPLY  
Inco Goro oxide laterite  
BHPBilliton Ravensthorpe oxide



**NICKEL IS A COMMODITY DERIVING MAXIMUM BENEFIT FROM CHINA'S ECONOMIC GROWTH. THE NICKEL GROWTH IS RELATED TO THE BUILDING BOOM IN CHINA, AND THE RESULTANT DEMAND FOR STAINLESS STEEL. WORLD NICKEL DEMAND HAS A CURRENT PROJECTED GROWTH RATE OF 50,000TPA.**

**THE PROPOSED SCALE OF THE NKN PROJECT IS 40,000TPA NICKEL, BEING ONE YEAR OF NEW NICKEL DEMAND.**

**THERE IS A WORLD-WIDE SHORTAGE OF NICKEL SULPHIDE REFINERY FEEDSTOCK, BEING THE CONVENTIONAL NICKEL FEEDSTOCK. NICKEL LATERITE IS A GENUINE LONG TERM SOURCE OF NICKEL SUPPLY TO MEET EXPANDING WORLD DEMAND.**

### **NICKEL LATERITE**

**THERE ARE NOW THREE SUCCESSFULLY OPERATING PAL PLANTS:**

- MOA BAY, CUBA.
- MURRIN MURRIN, NORTHERN KALGOORLIE GOLDFIELDS.
- CAWSE, CENTRAL KALGOORLIE GOLDFIELDS.

**TWO NEW PAL PROJECTS ARE AT ADVANCED BFS STAGE:**

- INCO GORO IN NEW CALEDONIA.
- BHP BILLITON RAVENSTHORPE IN THE SOUTHERN KALGOORLIE GOLDFIELDS OF WA.

**THE CRITICAL ISSUE FOR NICKEL LATERITE IS RESOURCE QUALITY, BEING A REQUIREMENT IDEALLY FOR GOETHITE ORE STYLES AND LEACH FEED GRADES OF 1.3% NI.**

## There is competitive advantage for WA Nickel Laterites

- ◆ **World's best Nickel infrastructure**  
Rail link with nickel refineries  
Ports at Esperance and Kwinana  
Goldfields Gas Transmission
- ◆ **World's best security of mine tenure**  
25 year extended mine life  
Nil sovereign risk
- ◆ **World's best Ni Laterites through**  
Screen upgrade Siliceous Ore  
Vast resource base, held by Heron



### **WORLD'S BEST NICKEL INFRASTRUCTURE**

- **POLITICAL STABILITY.**
- **ESTABLISHED ROAD,RAIL, GAS, PORT INFRASTRUCTURE.**

### **SECURE TENURE**

**WA MINING ACT PROVIDES:**

- **EXCELLENT TENURE FOR 25 YEAR OPERATIONS**
- **ABILITY TO SAFELY MAINTAIN RESOURCES UNTIL REQUIRED**

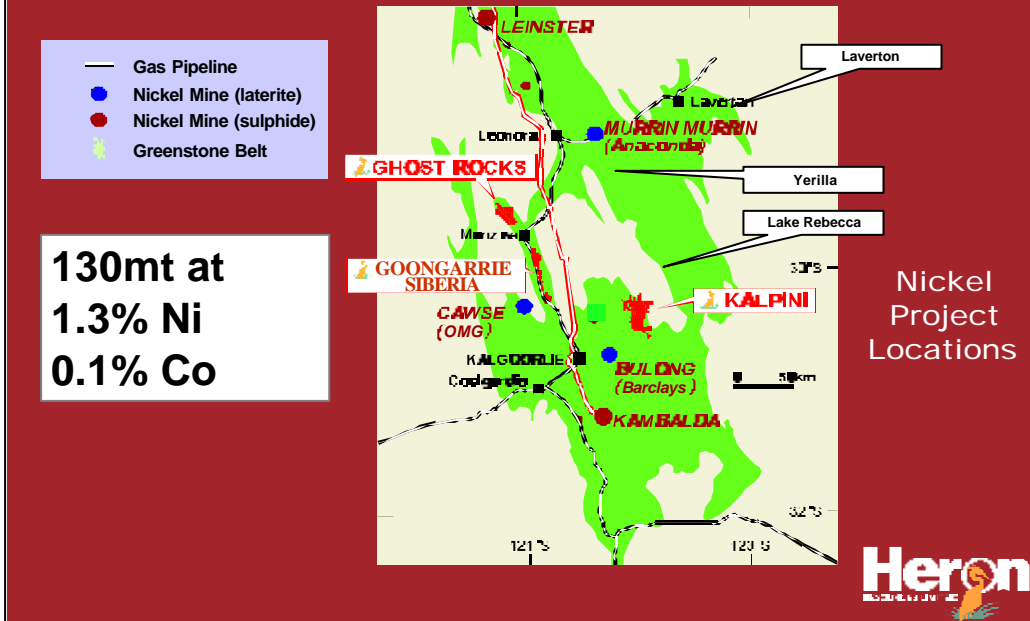
### **RESOURCES**

**NICKEL LATERITE ONLY FORMS FROM WEATHERING OF OLIVINE-RICH ROCKS. THE SIGNATURE ROCK OF THE KALGOORLIE GOLDFIELDS IS AN ULTRAMAFIC ROCK TERMED KOMATIITE, WHICH IS AN OLIVINE-RICH LAVA FLOW OF VAST AREAL EXTENT.**

**IT IS THESE KOMATIITES, OR A BASAL FLOW UNIT TERMED THE WALTER WILLIAMS FORMATION, WHICH PROVIDES NORTH KALGOORLIE WITH ITS SUBSTANTIAL NICKEL LATERITE RESOURCE BASE. THE WEATHERED WWF TYPICALLY ASSAYS 0.5% NI AS A BACKGROUND, AND FORMS SILICEOUS ORE. IN ZONES OF MORE INTENSE WEATHERING, RELATED TO FAULTING, ORE GRADES ARE GENERATED. HERON HOLDS 570MT AT 0.8% NI.**

**THE COMPETITIVE ADVANTAGE OF THE WESTERN AUSTRALIA NICKEL LATERITE INDUSTRY RELATES FIRST TO INFRASTRUCTURE, THEN TO SECURITY OF MINERAL TENURE, AND FINALLY TO THE SCREEN UPGRADE POTENTIAL OF THE KALGOORLIE GOLDFIELDS SILICEOUS GOETHITE ORE.**

# North Kalgoorlie Nickel Project Regional Infrastructure is at its best



**NORTH KALGOORLIE NICKEL PROJECT HAS EXCELLENT RAIL, ROAD AND GAS PIPELINE INFRASTRUCTURE.**

<b>MURRIN MURRIN</b>	<b>40,000TPA</b>	<b>NONTRONITE MARKET RE-RATING</b>
<b>CAWSE</b>	<b>7,000TPA</b>	<b>SILICEOUS, TECHNICAL SUCCESS</b>
<b>BULONG</b>	<b>7,000TPA</b>	<b>NONTRONITE RECEIVERSHIP</b>

**THE KEY ADVANTAGE OF THE NORTH KALGOORLIE NICKEL PROJECT OVER OTHER WORLD PROJECTS IS THE EXCELLENT REGIONAL INFRASTRUCTURE OF THE KALGOORLIE GOLDFIELDS.**

## North Kalgoorlie Nickel Project utilises proven technology & refineries

- ◆ **Pressure Acid Leach (“PAL”)**  
**Goethite Ore oxide laterite**  
**Dissolve at high Pressure-Temp**  
**Precipitate Ni-Co Sulphide or OH**
- ◆ **Intermediate Product to refinery**  
**Australia Kwinana, Murrin, Yabulu**  
**Discussions Jinchuan of China**
- ◆ **NKN production target Murrin scale**  
**40,000tpa Ni and 4,000tpa Co**



### **PAL KEY ISSUES:**

- **PROCESS GOETHITE ORE, LOW ACID CONSUMPTION, GOOD RHEOLOGY, AS FOR CAWSE AND MOA BAY.**
- **HIGH GRADE ORE FEED, PARTLY ACHIEVE THROUGH SCREENING SILICEOUS ORE, AS FOR CAWSE AND PROPOSED RAVENSTHORPE.**
- **ENSURE FULLY DE-COUPLED FLOWSHEET (AVOID BULONG DOWNTIME ISSUES).**

### **INTERMEDIATE PRODUCT**

- **AVOID OVER-CAPITALISATION, ADDRESS THROUGH OFF-SITE REFINING, AS FOR PROPOSED RAVENSTHORPE, AND CAWSE SINCE 2002.**

### **PRODUCTION TARGET**

- **NEED CRITICAL MASS OF AROUND 40,000TPA, AS FOR MURRIN AND PROPOSED RAVENSTHORPE.**

**HERON'S RISK -MINIMISATION STRATEGIES AIM TO AVOID THE PROBLEMS OF THE FIRST GENERATION KALGOORLIE GOLDFIELDS NICKEL LATERITE PAL PLANTS.**

## **North Kalgoorlie Nickel Project Has a World Class Resource Inventory**

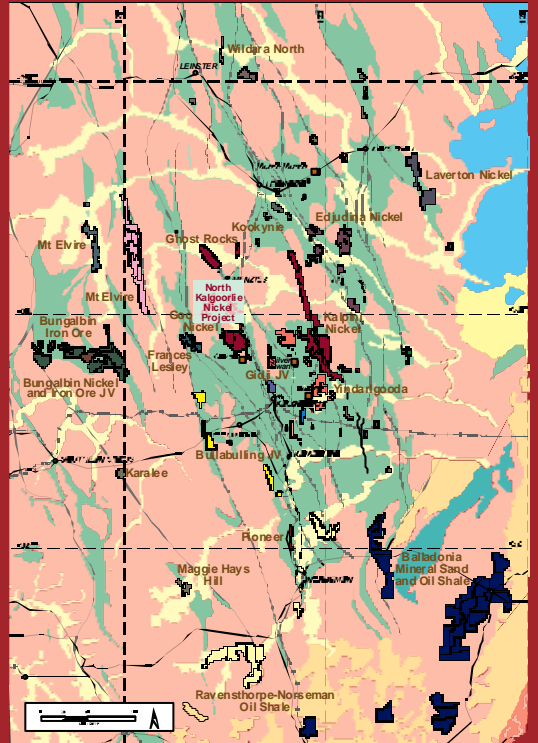
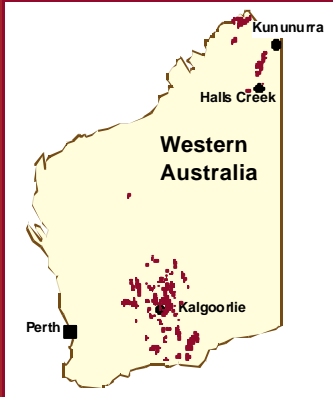
**THE NKN PROJECT HAS 1.7 MILLION TONNE CONTAINED NICKEL,  
BEING COMPARABLE TO:**

- **MT KEITH WITH 2.6 MT NICKEL (475MT AT 0.55% NI)**
- **KAMBALDA 1.4 MT NICKEL (45MT AT 3.2% NI).**

**AS A POINT OF INTEREST, THESE THREE PROJECTS ARE ALL  
LOCATED ON A SINGLE N-S TRENDING KALGOORLIE GOLDFIELDS  
GEOLOGICAL STRUCTURE (TERMED BOULDER LEFROY FAULT IN  
THE SOUTH, KEITH LINEAMENT IN THE NORTH).**



**Heron's 100% owned tenure covers >80% of the oxide laterite stratigraphy Kalgoorlie Nickel Province, located up to 100km N and E of Kalgoorlie**



**HERON SUCCESSFULLY MANAGES A 100% OWNED UNENCUMBERED TENEMENT PORTFOLIO, COVERING AN AREA IN WESTERN AUSTRALIA OF 18,500KM<sup>2</sup>.**

**HERON'S WA DEPARTMENT OF INDUSTRY AND RESOURCES ("DOIR") EXPENDITURE COMMITMENT ON NICKEL LATERITE IS LESS THAN \$1MPA.**

**HERON PROJECTS ARE TYPICALLY LOCATED ON MAJOR GEOLOGICAL STRUCTURES, ARE CONTIGUOUS AND >400KM<sup>2</sup> AREA, AND ARE ONLY PEGGED IF KNOWN DRILLING TARGETS ARE AVAILABLE.**

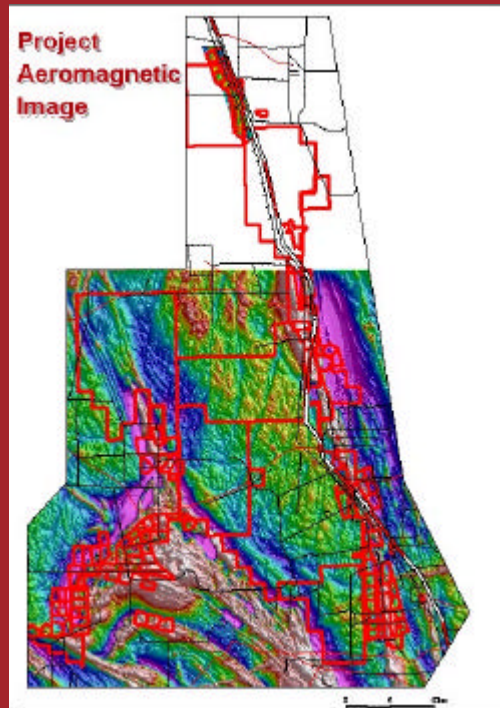
**A LARGE LAND HOLDING IS REQUIRED TO SUPPORT A NICKEL LATERITE PROJECT, DUE TO:**

- **CASH FLOW ADVANTAGES OF HIGH GRADING THE ORE BODIES THROUGH SCREENING.**
- **FLEXIBILITY TO BLEND TO MAINTAIN A CONSTANT PLANT FEED.**

**AS A SMALL CAP EXPLORER, HERON HAS SINCE 1999 SYSTEMATICALLY PEGGED OR PURCHASED MOST OF THE AVAILABLE OXIDE LATERITE STRATIGRAPHY IN THE NORTH KALGOORLIE AREA, SUCH THAT SOME 80% OF THE PROSPECTIVE NORTH KALGOORLIE NICKEL LATERITE STRATIGRAPHY IS NOW CONTROLLED BY HERON.**

**Walter Williams Fm,  
high intensity  
magnetics,  
defines Nickel Laterite**

**Heron has dominant  
land holding on  
high magnetic WWF,  
being high grade  
Nickel Laterite  
mineralisation**



**THE NKN PROJECT AREA IS REPRESENTED BY A VIRTUALLY CONTINUOUS BELT OF WALTER WILLIAMS FORMATION OLIVINE ADCUMULATE ROCK.**

**FOLLOWING ACQUISITIONS DURING 2003, HERON NOW CONTROLS IN EXCESS OF 100KM OF PROSPECTIVE WWF STRATIGRAPHY, FROM SIBERIA TO GOONGARRIE TO MENZIES TO GHOST ROCKS, WITH CAUSE NICKEL OPERATION THE ONLY SIGNIFICANT RESOURCE EXCISION.**

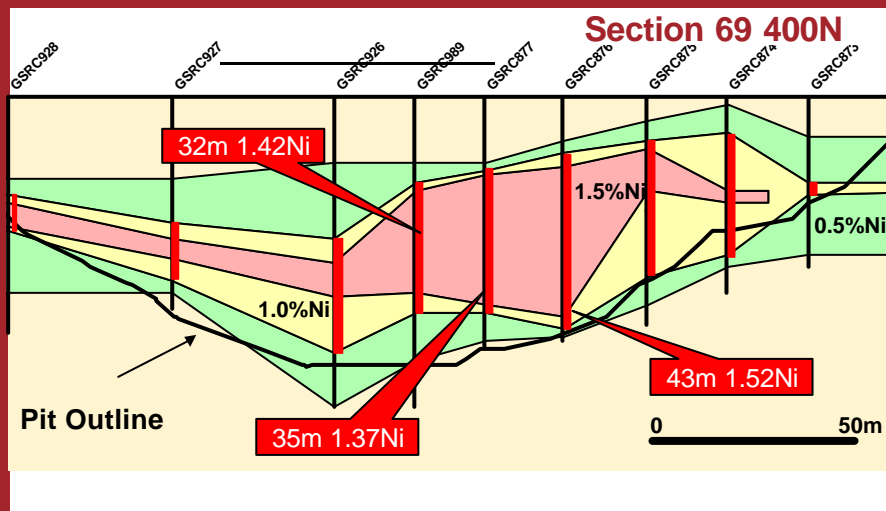
**THE NORTH KALGOORLIE NICKEL PROJECT OREBODY, PARTICULARLY AT GOONGARRIE, IS A VERY “SIMPLE” OREBODY:**

- **GRADING UNIFORMLY 1.0-1.6% NI AND 0.1-0.2% CO.**
- **EXCEPTIONALLY LARGE, GOONGARRIE LOW GRADE IS 30KM LONG AND 100-400M WIDE.**
- **SHALLOW OVERBURDEN, WITH A BARREN COVER OF 15-35M.**
- **EXCEPTIONALLY CONTINUOUS.**
- **CONSISTENT MINERALOGY CONSISTING OF **GOETHITE, KAOLINITE AND MAGHEMITE.****
- **VISUALLY PREDICTABLE (DISTINCTIVE DARK YELLOW CLAY IS ALWAYS HIGH GRADE ORE).**

**THE NICKEL GRADES IN THIS FUTURE OPENCUT EXCEED SOME OF THE WORLD’S UNDERGROUND NICKEL MINES, AND ARE DOUBLE THE GRADE OF AUSTRALIA’S PREMIER NICKEL SULPHIDE OPENCUT MINE, MOUNT KEITH.**

**AT THE PAMELA JEAN DEEPS, NICKEL LATERITE INTERCEPTS OCCUR TO 160M DEPTH IN GOETHITE, WITH NICKEL LATERITE GRADES UP TO 4.0% IN THE “DEEPS” GOETHITE.**

## Run-of-Mine Sections contain thick continuous high grade ore



**Heron**  
POWER AND MINES

### TYPICAL CROSS-SECTION THROUGH THE GOONGARRIE HIGH GRADE MINERALISATION:

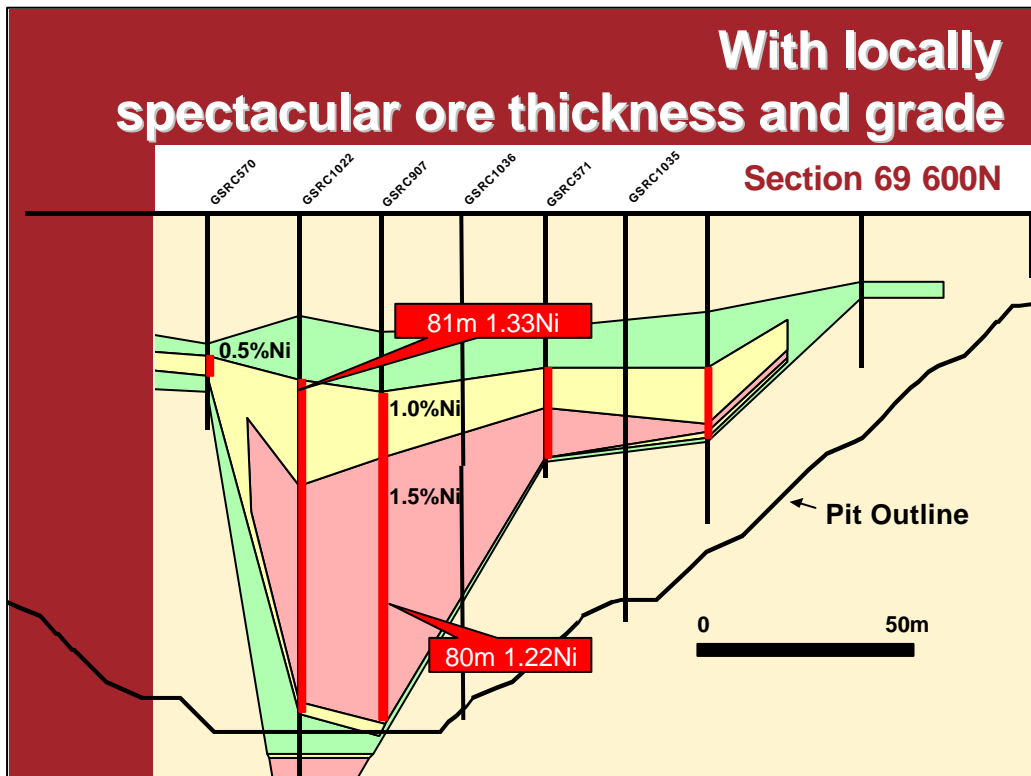
- ORE WIDTHS ARE 120-240M
- STRIPPING RATIOS ARE AROUND 4:1
- HIGH COBALT CREDIT TYPICALLY 0.1-0.2%

*FOR COMPARISON, A LARGE SPORTS STADIUM SUCH AS THE MELBOURNE CRICKET GROUND AND ENCLOSING GRANDSTANDS WOULD FIT COMFORTABLY INTO THE MIDDLE 69,400N ORE SECTION ABOVE.*

*THE THICKNESS OF THE ORE ZONES TYPICALLY AVERAGES 20M (A MAST HEIGHT ON A TALL SHIP OR HEIGHT OF A FOUR STORY BUILDING).*

*THE STRIKE LENGTH OF INDIVIDUAL ORE SUCCESSIONS AT A 0.5% NI CUT-OFF GRADE IS UP TO 30KM, ABOUT THE WIDTH OF THE ENGLISH CHANNEL BETWEEN DOVER AND CALAIS.*

**GOONGARRIE IS AN EXCEPTIONALLY LARGE HIGH GRADE ORE BODY UNEQUALLED IN THE KALGOORLIE GOLDFIELDS NICKEL PROVINCE.**



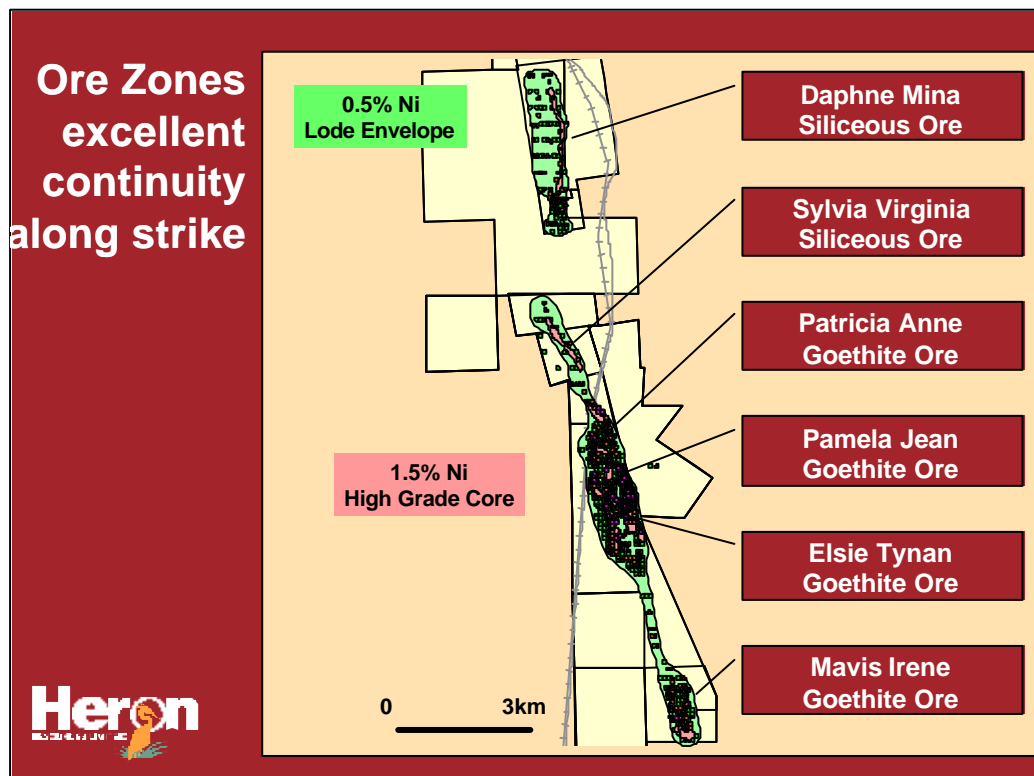
**TYPICAL CROSS-SECTION THROUGH THE GOONGARRIE PAMELA JEAN DEEPS HIGH GRADE MINERALISATION:**

- **ORE WIDTHS ARE 120-240M**
- **BASE OF ORE DEPTH TYPICALLY 100M**
- **STRIPPING RATIOS ARE AROUND 4:1**
- **HIGH COBALT CREDIT TYPICALLY 0.15-0.3%**

***THE THICKNESS OF THE ORE ZONE IS UP TO 100M (TWENTY STORY BUILDING).***

**NEED DETAILED DRILL EXPLORATION TO LOCATE THE DEEPS, 40X40M. RELATED TO DISCRETE STRUCTURAL ZONES.**

**GOONGARRIE IS AN EXCEPTIONALLY DEEP HIGH GRADE ORE BODY UNEQUALLED IN THE KALGOORLIE GOLDFIELDS NICKEL PROVINCE.**



**IN DRILLING, 0.5% NI DEFINES THE HOST OLIVINE ADCUMULATE KOMATIITE LAVA FLOW, WITH VERY CONTINUOUS MINERALISATION AT THE 0.5% NI CUT-OFF GRADE.**

**ZONES WITH 1.5% NI DOMINANTLY OCCUR ON THE EASTERN CONTACT OF THE GOONGARRIE KOMATIITE LAVA CHANNEL, REFLECTING THE MOST INTENSE FRACTURING (BTZ) AND WEATHERING, AND HENCE HIGHEST GRADES.**

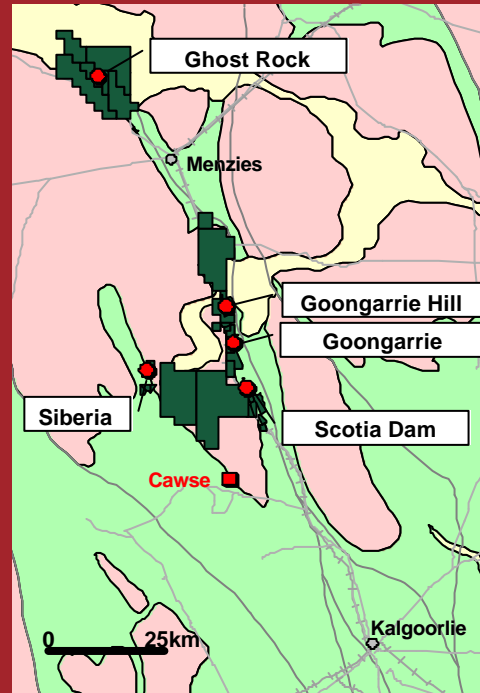
**HERON USES AN INDEX CALLED “NI4CO.M%” AT A 0.75% NI CUT-OFF (NI GRADE PLUS 4X CO GRADE MULTIPLY BY THICKNESS IN METRES) AS A GUIDE TO CONTAINED METAL VALUE. IN MOST WWF NICKEL LATERITES, 10 NI4CO.M% IS CONSIDERED AN ADEQUATE RESULT TO DEFINE ORE ZONES (EG 10M AT 0.8% NI AND 0.05% CO). IN A NORTH TO SOUTH LONGITUDINAL SECTION THROUGH THE PAMELA JEAN DEEPS, RESULTS IN ADJOINING HOLES ARE:**

<b>GSRC 1030</b>	<b>175 NI4CO.M%</b>
<b>GSRC 1020</b>	<b>118 NI4CO.M%</b>
<b>GSRC 1025</b>	<b>213 NI4CO.M%</b>
<b>GSRC 1022</b>	<b>183 NI4CO.M%</b>

## North Kalgoorlie Nickel Project World Class Resource

PROSPECT	ORE TYPE	MT	% Ni	% Co
Ghost Rocks	Siliceous	12.4	1.29	0.07
Goongarrie Hill	Siliceous	20.2	1.33	0.06
Goongarrie	Goethite	23.1	1.29	0.13
Scotia Dam	Goethite	2.3	1.26	0.15
Siberia	Siliceous	34.4	1.30	0.07
Kalpini, Other	Nontronite	37.9	1.28	0.12

**Total 130mt 1.3%Ni 0.1%Co**



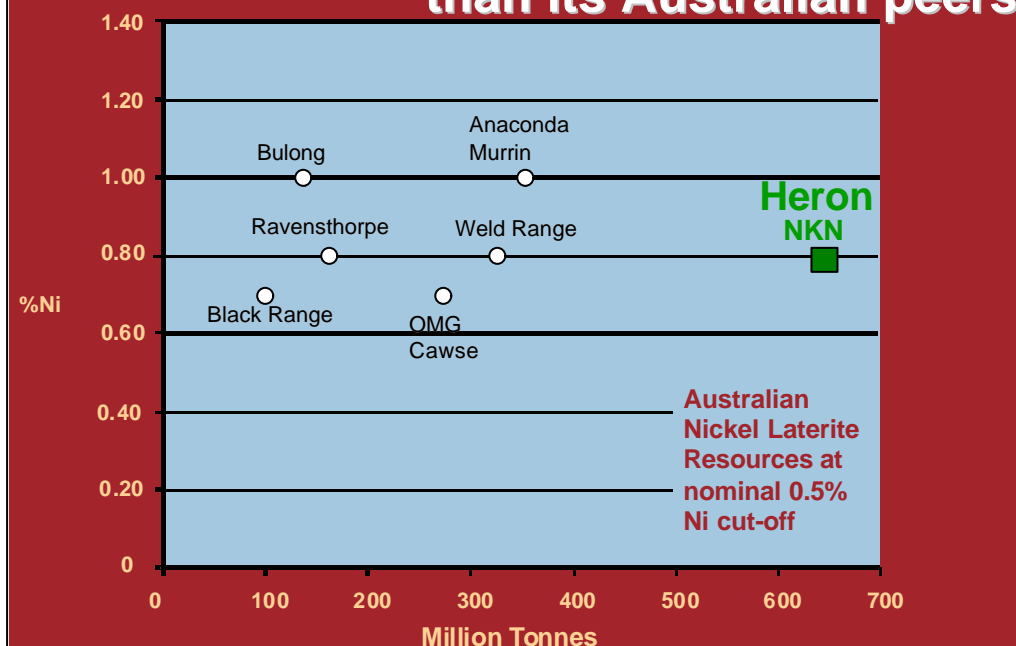
**THE RESOURCE IS CONCENTRATED IN THE SIBERIA-GOONGARRIE REGION, WITH 92.4 MT OF RESOURCE.**

**THE HERON NKN PROJECT STRATEGY IS A CENTRAL PROCESSING FACILITY LOCATED WEST OF GOONGARRIE ON THE GOONGARRIE DOME GRANITE (NON-PROSPECTIVE ROCK). THE RESOURCES ARE ALL WITHIN HAULING DISTANCE OF THE PROPOSED CENTRAL FACILITY.**

**HERON STILL AIMS TO INCREASE THE SIBERIA-GOONGARRIE RESOURCE BASE THROUGH DRILL EXPLORATION OF THE TENEMENT HOLDING, TO DISPLACE OUTER LYING KALPINI ORE. THE KALPINI ORE TENDS TO BE OF LOWER METALLURGICAL QUALITY THAN SIBERIA-GOONGARRIE, HAVING SOME SIMILARITY TO THE BULONG NONTRONITIC METALLURGICAL STYLE.**

**THE MAINSTAY ORE TYPE FOR THE LIFE-OF-MINE NKN PROJECT IS SILICEOUS ORE, WITH THE PAMELA JEAN ZONE HIGH GRADE NI-CO GOETHITE ORE TARGETED FOR EARLY PROJECT PAY-BACK.**

## NKN Project has more resource tonnes than its Australian peers



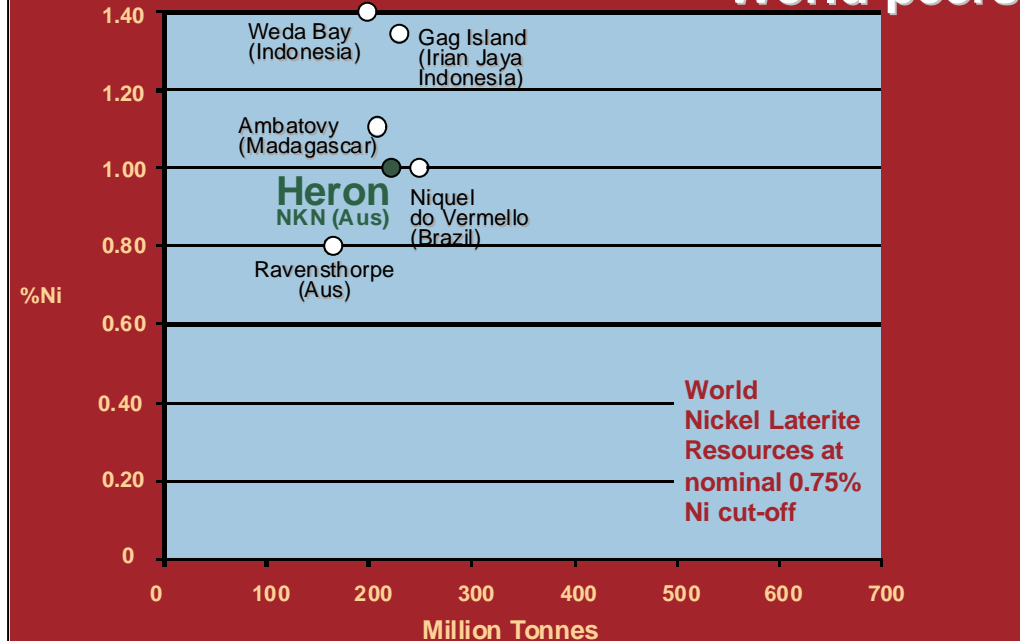
### HERON RESOURCE INVENTORY 0.5% Ni cut-off grade (non-screened)

Project	Ore Type	million tonne	% Ni	% Co
Goongarrie	Goethite	97.0	0.84	0.07
Goongarrie	Siliceous	111.3	0.73	0.04
Siberia	Siliceous	121.1	0.73	0.04
Siberia	Nontronite	22.7	0.77	0.11
Ghost Rocks	Siliceous	39.7	0.75	0.05
Kalpini	Siliceous	79.9	0.81	0.05
Kalpini	Nontronite	16.1	0.74	0.05
<b>NORTH KALGOORLIE</b>		<b>487.9</b>	<b>0.77</b>	<b>0.05</b>
Gindalbie	Siliceous	14.6	0.64	0.05
Lake Rebecca	Nontronite	21.6	0.94	0.05
Yerilla	Nontronite	23.0	0.81	0.06
Laverton	Siliceous	22.2	0.70	0.05
<b>OTHER</b>		<b>81.3</b>	<b>0.78</b>	<b>0.05</b>
<b>TOTAL</b>		<b>569.2</b>	<b>0.77</b>	<b>0.05</b>

**4.4 million tonne contained Nickel**

Slide now out of date (2001), Heron has acquired some of other company assets.

## and Grade comparable to World peers



### HERON RESOURCE INVENTORY 0.75% Ni cut-off grade (non-screened)

Project	Ore Type	million tonne	% Ni	% Co
Goongarrie	Goethite	50.6	1.07	0.10
Goongarrie	Siliceous	27.0	1.05	0.07
Siberia	Siliceous	44.5	0.99	0.06
Siberia	Nontronite	9.6	1.01	0.16
Ghost Rocks	Siliceous	15.3	1.01	0.07
Kalpini	Siliceous	34.3	1.08	0.07
Kalpini	Nontronite	6.3	0.94	0.08
<b>NORTH KALGOORLIE</b>		<b>187.6</b>	<b>1.04</b>	<b>0.08</b>
Gindalbie	Siliceous	4.1	0.88	0.08
Lake Rebecca	Nontronite	13.6	1.13	0.07
Yerilla	Nontronite	12.1	0.99	0.08
Laverton	Siliceous	7.5	0.84	0.05
<b>OTHER</b>		<b>37.4</b>	<b>1.00</b>	<b>0.07</b>
<b>TOTAL</b>		<b>224.9</b>	<b>1.03</b>	<b>0.08</b>

2.3 million tonne contained Nickel



## **North Kalgoorlie Nickel Project has Tested and Proven Metallurgy**

**NKN PROJECT HAS A METALLURGICAL FOCUS ON GOETHITE AND SILICEOUS ORE, WHICH ARE THE PREMIUM PAL ORE FEED.**

**CLAY-RICH MINERALISATION SUCH AS AT BULONG AND MURRIN MURRIN ARE MORE DIFFICULT TO HANDLE AND HAVE HIGHER ACID CONSUMPTION (MAIN COST INPUT IN PAL PROCESSING).**

**ALL NKN METALLURGICAL TESTWORK TO DATE CONFIRMS PREMIUM QUALITY ORES.**

## NKN Project has consistent Mineralogy analogous to Iron Ore and Bauxite

Ore Cycle	Ore Type	XRD Mineralogy
Upper Carbonate Cycle	not applicable	calcite-ankertite-quartz
Middle Ferricrete Cycle	Laterite Ferruginous	goethite-alunite-kaolin
Lower Goethite Cycle	Clay Upper	gibbsite-goethite
	Clay Upper Pyrolusitic	goethite-gibbsite
	Clay Upper Ferruginous	goethite-kaolin-maghm
	Clay Upper Siliceous	quartz-maghm-goethite
Magnesia Discontinuity	Clay Lower Siliceous	antigor-chlorite-talc-qtz
	Clay Lower Magnesitic	antig-chlor-magnesite

### **NKN PROJECT HAS EXTREMELY CONSISTENT MINERALOGY:**

- **GOETHITE (HYDRATED IRON OXIDE).**
- **GIBBSITE-KAOLINITE (ALUMINUM OXIDE AND CLAY, EFFECTIVELY “BAUXITE”).**
- **MAGHEMITE (IRON OXIDE).**

**HERON’S FOCUS IS ON GOETHITE ORE, WHICH HAS THE PREMIUM LEACH FEED METALLURGY, AND SILICEOUS ORE WHICH GENERATES A GOETHITIC LEACH FEED THROUGH SCREENING.**

## with high Nickel Recoveries and low Reagent Consumption

Ore Type	% Screen Upgrade	% Ni Recovery	% Co Recovery	Acid Consumption Kg/tonne	Pulp Density W/W %	Settling Rate Minutes
CUP	Nil	97.5	95.0	283	31	2.15
CUF	Nil	96.7	82.9	285	28	84.50
CUS	55	95.9	92.3	389	32	10.83
CLS	28	92.5	78.5	616	32	27.35

**CLAY UPPER PYROLUSITIC (CUP):** THE ORE CONSISTS OF GOETHITE-MAGNETITE-GIBBSITE-KAOLIN. HIGH-GRADE NICKEL-COBALT ORE BLOCKS (1.25% NI CUT-OFF FOR 1.5% NI HEAD GRADE) ARE UBIQUITOUS IN CUP. THE HIGH GRADES ARE A COMBINATION OF RESIDUAL LATERITIC NICKEL WITH AN ADDITIONAL “SUPERGENE” NI-CO OVERPRINT.

**CLAY UPPER FERRUGINOUS (CUF):** ROM ORE, FREE-SILICA DEPLETED END MEMBER OF THE CUF-CUS SERIES, AND THEREFORE IS UNLIKELY TO SYSTEMATICALLY UPGRADE BY SCREENING. CUF FORMS A SECOND SERIES WITH CUP (CLAY UPPER PYROLUSITIC), AS THE HYDROMORPHIC MANGANESE CONTENT INCREASES ABOVE 0.8% MN.

## With Screen Upgrade for high grade Leach Feed

	%Ni	%Co
Initial Head Grade	0.97	0.05
Grade after Screening	1.35	0.07
Screened Mass Recovery	57.8	57.8
Metal Upgrade	39.0	38.6
Metal Recovered	77.8	77.1



**CLAY UPPER SILICEOUS (CUS) ORE CONSISTS OF QUARTZ-GOETHITE-MAGNETITE/MAGHEMITE AND KAOLINITE. CUS IS BROWN-YELLOW-RED MASSIVE CLAY WITH CHALCEDONY, FORMED AS BANDS AND CELLULAR BOXWORKS.**

**BY SCREENING OUT THE COARSE BARREN FREE SILICA, A “BENEFICIATED” PRODUCT IS GENERATED WITH A HIGHER NI AND CO GRADE (“UPGRADE ORE”). THE RESULTANT PRODUCT GRADE IS COMMONLY 1.2-1.6%NI, DEPENDING ON FINENESS OF SCREEN SIZE (AND PREPAREDNESS TO LOSE METAL THROUGH SCREEN REJECT LOSSES).**

## **North Kalgoorlie Nickel Project Indicative Financials are robust**

**THESE DATA ARE INDICATIVE ONLY, AND SHOULD NOT BE INTERPRETED AS QUANTITATIVE ESTIMATES OF THE FUTURE CASH FLOW POTENTIAL OF THE NKN PROJECT.**

### **MINING**

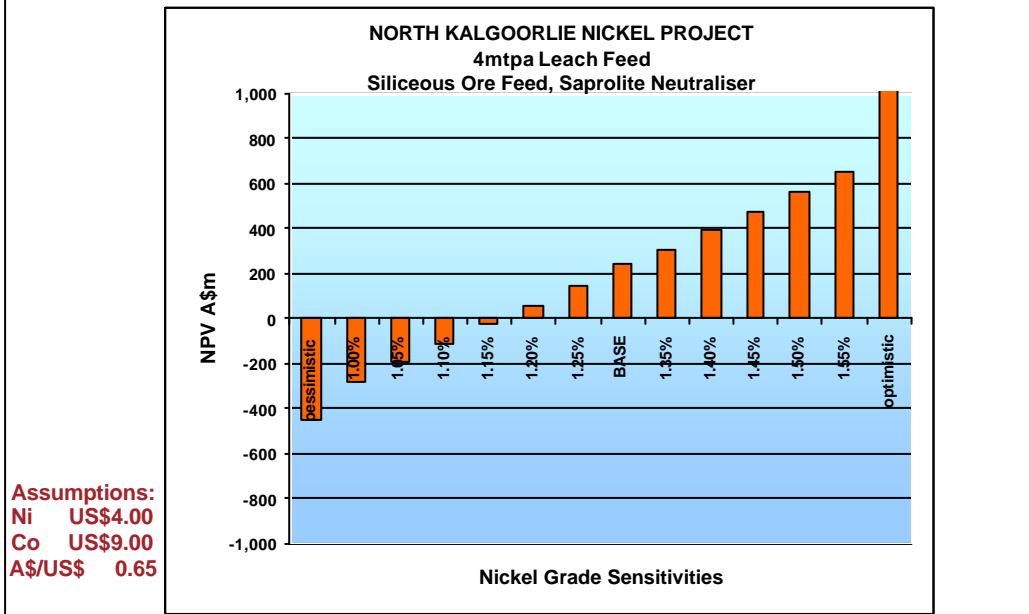
- **THE GOETHITE ORE IS UNEQUIVOCALLY “FREE-DIGGING”; SILICEOUS ORE WILL REQUIRE “PADDOCK” BLAST.**
- **AT A 2M BENCH HEIGHT, THE ORE IS UNIFORM AND CONSISTENT GOETHITE/SILICEOUS ORE AND IS AMENABLE TO MASS EXCAVATION.**
- **THE ORE IS VERY POROUS, AND SHOULD DRY OUT THROUGH CAPILLARITY BENCH-BY-BENCH AHEAD OF MINING.**
- **OPTIMUM GRADE CONTROL WILL BE A DITCHWITCH 2M FULL PROFILE CHAINTRENCHER.**

### **PROCESSING**

**THE HERON NKN PROJECT OBJECTIVE IS A HYDROMETALLURGICAL PLANT USING “OFF-THE-SHELF” AND PROVEN MOA BAY AND CAUSE “FRONT-END” NICKEL LATERITE TECHNOLOGY, INCLUDING AN ORE SCREENING CIRCUIT, PRESSURE ACID LEACH USING AN AUTOCLAVE REACTION VESSEL, SOLUTION NEUTRALISATION AND NICKEL SULPHIDE OR HYDROXIDE PRECIPITATION FOR THE SALE PRODUCT (DEPENDING ON OFF-TAKE PURCHASER).**

**PLANT CAPEX IS LIKELY TO BE UP TO A\$1,000M.**

## NKN Project is grade sensitive requiring >1.2% Ni Leach Feed

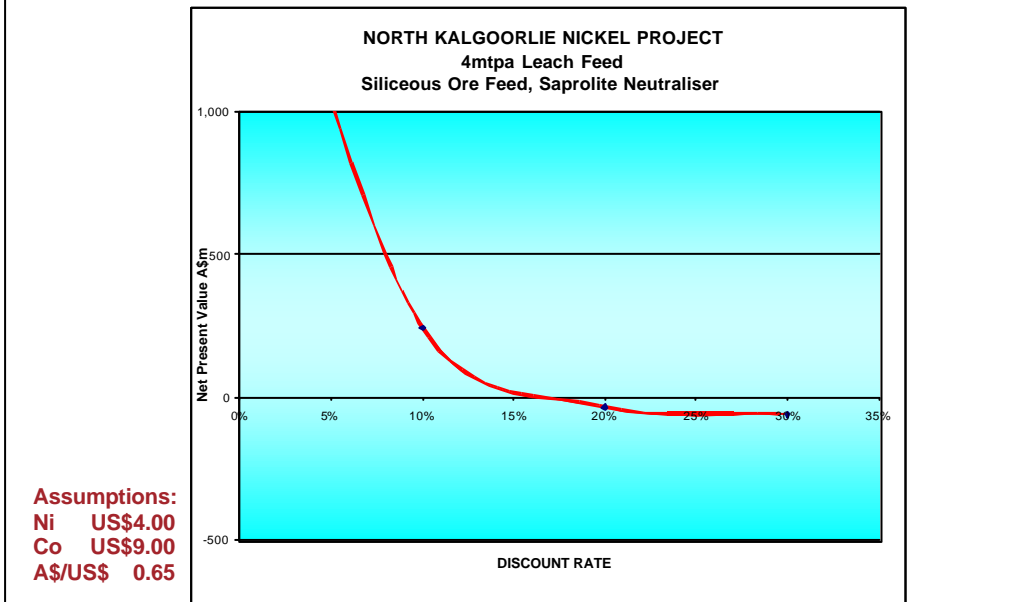


**AS FOR ALL NICKEL LATERITES, THE NKN PROJECT IS HIGHLY GRADE SENSITIVE.**

**WITH ITS SUBSTANTIAL SILICEOUS ORE RESOURCE BASE, HERON HAS GREAT FLEXIBILITY TO FINE SCREEN THE ORE TO INCREASE THE NICKEL LEACH FEED GRADE.**

**THE SUBSTANTIAL NKN PROJECT TONNAGE ALLOWS HERON THE SCREENING LUXURY.**

# NKN Project Base case IRR 17%



**IRR TYPICALLY EXCEED 15% FOR SCOPING STUDY FINANCIAL MODELS.**

**PROJECT REQUIRES A **A\$5M PFS**, TO CONFIRM RESOURCE ESTIMATES AND QUANTIFY COSTS.**

**IF POSITIVE PFS, REQUIRE **A\$25M BFS**.**

## **Heron has a tight Project Focus directed to Nickel Laterite**

- ◆ **North Kalgoorlie Nickel Laterite**  
**Finalise resource estimation**  
**Ore Supply to Murrin and Cawse**  
**North Kalgoorlie Nickel BFS**
- ◆ **Pioneer Nickel Limited**  
**IPO, list December 2003**  
**Develop Heron Ni sulphide assets**  
**Crystallise value for Shareholders**



### **SUMMING UP:**

**NICKEL LATERITE IS THE ENTIRE HERON FOCUS,**

**SPECIFICALLY ACQUIRING ALL AVAILABLE WWF ORE:**

- **HERON IS IN DISCUSSION WITH ANACONDA NICKEL LIMITED TO SUPPLY ORE TO THE MURRIN MURRIN NICKEL LATERITE PROCESSING OPERATION, TARGETING 1.5% NI GOETHITE ORE FROM THE NKN PROJECT.**

**THIS WILL PROVIDE METALLURGICAL OPERATING DATA FOR THE FUTURE NKN PROJECT BFS, AND INTERIM CASH FLOW FOR HERON.**

- **COMMISSIONING THE NKN PROJECT IS THE LONGER TERM OBJECTIVE, BEING A 40,000TPA NICKEL-IN-INTERMEDIATE PRODUCT OPERATION.**

### **PIONEER NICKEL LIMITED, NICKEL SULPHIDE IPO**

**PIONEER IPO, IN SPECIE SHARE DISTRIBUTION FOR HERON SHAREHOLDERS.**

**WITH HERON BEING COMMITTED TO DEVELOPING SUCH AN AMBITIOUS PROJECT AS THE NKN PROJECT , PROVIDING IN SPECIE SHARES IN PIONEER NICKEL LIMITED IS A MEANS TO REWARD HERON SHAREHOLDERS.**

**EVERY CORPORATE AND TECHNICAL DECISION THAT HERON AS SMALL CAP EXPLORER MAKES IS ULTIMATELY GEARED TOWARDS STRENGTHENING THE NICKEL LATERITE ASSETS.**



## So the North Kalgoorlie Nickel Project is World Class

### ◆ It's a great Asset

Highest Australian nickel grades  
Ore zones consistent chemistry  
Thickest Australian nickel ore zones

### ◆ In a great Place

Excellent regional infrastructure  
Political stability, no sovereign risk  
Stable, skilled mining work force



### **GRADE ADVANTAGE**

**IN NICKEL LATERITE, GRADE IS KING, AND GRADE IS THE DOMINANT SENSITIVITY IN CASH FLOWS.**

### **CONSISTENT LEACH FEED**

**NICKEL LATERITE PROCESSING IS A CHEMICAL ENGINEERING EXERCISE, REQUIRING A UNIFORM ORE FEED (ACHIEVABLE FOR GOETHITE ORE, BUT VERY DIFFICULT IN SAPROLITE AND CLAY ORES, DUE TO VARIABILITY OF WEATHERING AND CONSEQUENT HETEROGENEOUS ORES).**

### **WORLD'S BEST INFRASTRUCTURE**

**INFRASTRUCTURE, POLITICAL STABILITY AND ACCESS TO AN EDUCATED STABLE WORK FORCE ARE THE KEY PARAMETERS OF THE NKN PROJECT THAT FAVOUR ITS FUTURE DEVELOPMENT AHEAD OF WET TROPICAL PROJECTS IN HIGH SOVEREIGN RISK LOCATIONS.**

**WHEN CONSIDERING THE HIGH CAPEX REQUIREMENT FOR NICKEL LATERITE PAL PROJECTS, THE NORTH KALGOORLIE NICKEL PROJECT ACHIEVES INTERNATIONAL COMPETITIVE ADVANTAGE THROUGH ITS EXCELLENT LOCATION.**

**Heron, an emerging Nickel Company  
with a World Class Asset  
NORTH KALGOORLIE NICKEL PROJECT**



**THANK YOU FOR ALLOWING ME TO SHARE HERON'S NICKEL LATERITE STRATEGY, A CASE STUDY OF A SMALL CAPITALISATION MINERAL EXPLORER OPERATING IN THE NICKEL LATERITE SECTOR.**

**HERON ACKNOWLEDGES IT HAS AN AMBITIOUS STRATEGY, BUT IT HAS ACQUIRED THE HIGHEST QUALITY ASSETS IN A COUNTER-CYCLICAL MARKET, AND THIS IS A WELL PROVEN BUSINESS STRATEGY.**

**THE NKN PROJECT IS COMPARABLE IN SCALE, RESOURCE STYLE, METALLURGICAL STYLE AND CAPEX TO A "GREENFIELDS" DARLING RANGE BAUXITE PROJECT, BEING A CHEMICAL ENGINEERING PROJECT WITH EXCELLENT INFRASTRUCTURE, BUT LOWER GRADE COMPARED TO COMPETITOR PROJECTS IN HIGH SOVEREIGN RISK-POOR INFRASTRUCTURE LOCATIONS.**

**HERON SEEKS A PARTNER WITH PROJECT MANAGEMENT/FUNDING SKILLS AND A DEMONSTRATED COMMITMENT TO THE WORLD NICKEL INDUSTRY TO COMPLETE A BANKABLE FEASIBILITY STUDY FOR THE NKN PROJECT (COST A\$30M).**

**THANK YOU**