

# THE DISCOVERY OF BUSANG, INDONESIA

## THE “WORLD’S LARGEST GOLD DEPOSIT”


Before, during and after the Bre-X gold scandal



JOSEPH OGIERMAN



SYDNEY MINERAL EXPLORATION DISCUSSION GROUP – Oct 2023  
Sydney NSW 2000



“A mine is a hole in the ground. The discoverer of it is a natural liar. The hole in the ground and the liar combine and issue shares and trap fools”

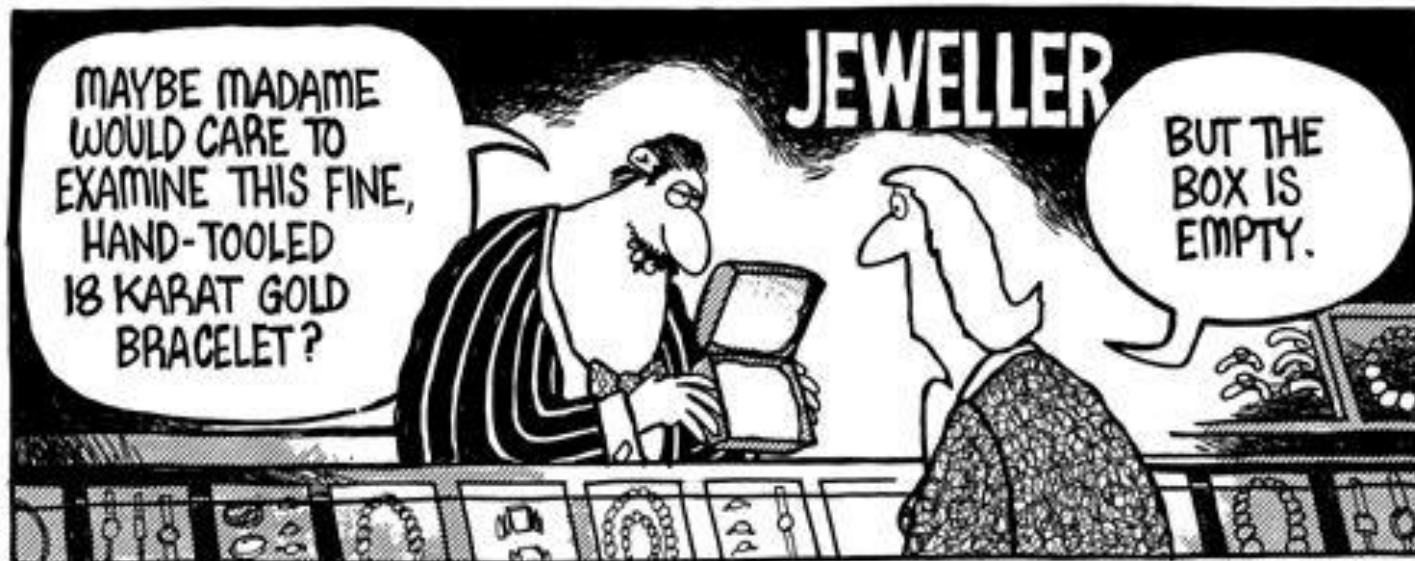
- Detroit Free Press (1881)  
+  
BreX Shareholders (?) March 1997

*“Exploring for minerals was never meant to be a comfortable experience, but a vocation for those motivated solely by the spirit of adventure and thrill of the chase.”*

Graeme Chuck ( Exploration Manager - Westralian Minerals )

"If (Busang) was the biggest oil discovery, so what? More oil. But gold is different...brings up more emotions. Clouds the minds of people."

Luc Lavoie (Barrick Gold spokesman - 1997)



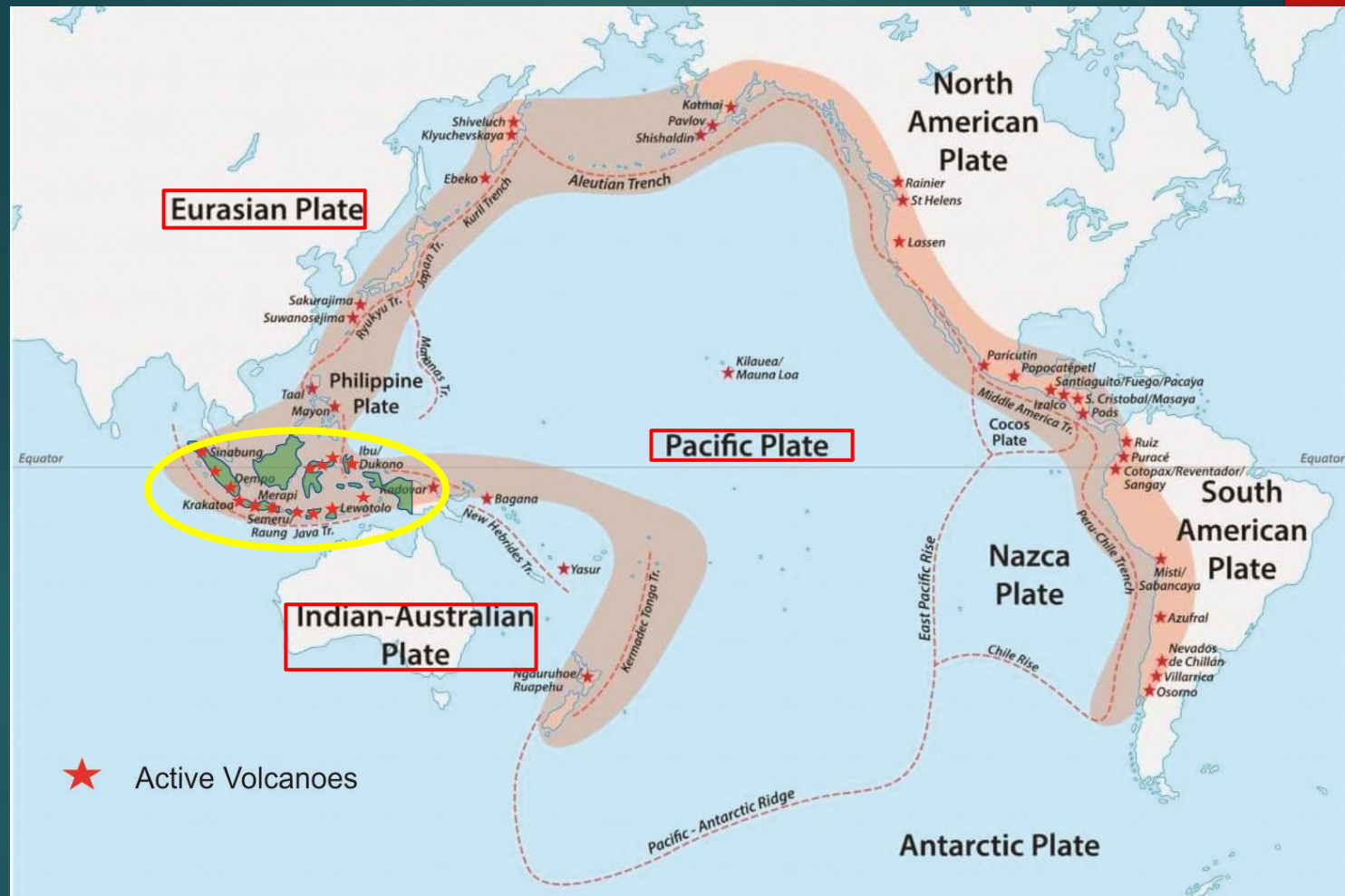
(Cartoon by Adrian Raeside)

# BUSANG vs Bre-X ?

- Busang is a geologically interesting gold prospect on the island of Borneo, Indonesia. Bre-X is the Canadian Junior mining company that ruined the interesting prospect when they undertook the greatest gold fraud in history.
- This fraud is the most significant event to affect the exploration industry
- Changed the way ALL exploration is undertaken globally
- Directly contributed to implementation of reporting standards in many jurisdictions – JORC (Australasia), SAMREC Code (South Africa), PERC Reporting Standard (Europe), CIM Guidelines (Canada), SME Guide (USA), KCMI (Indonesia) etc etc

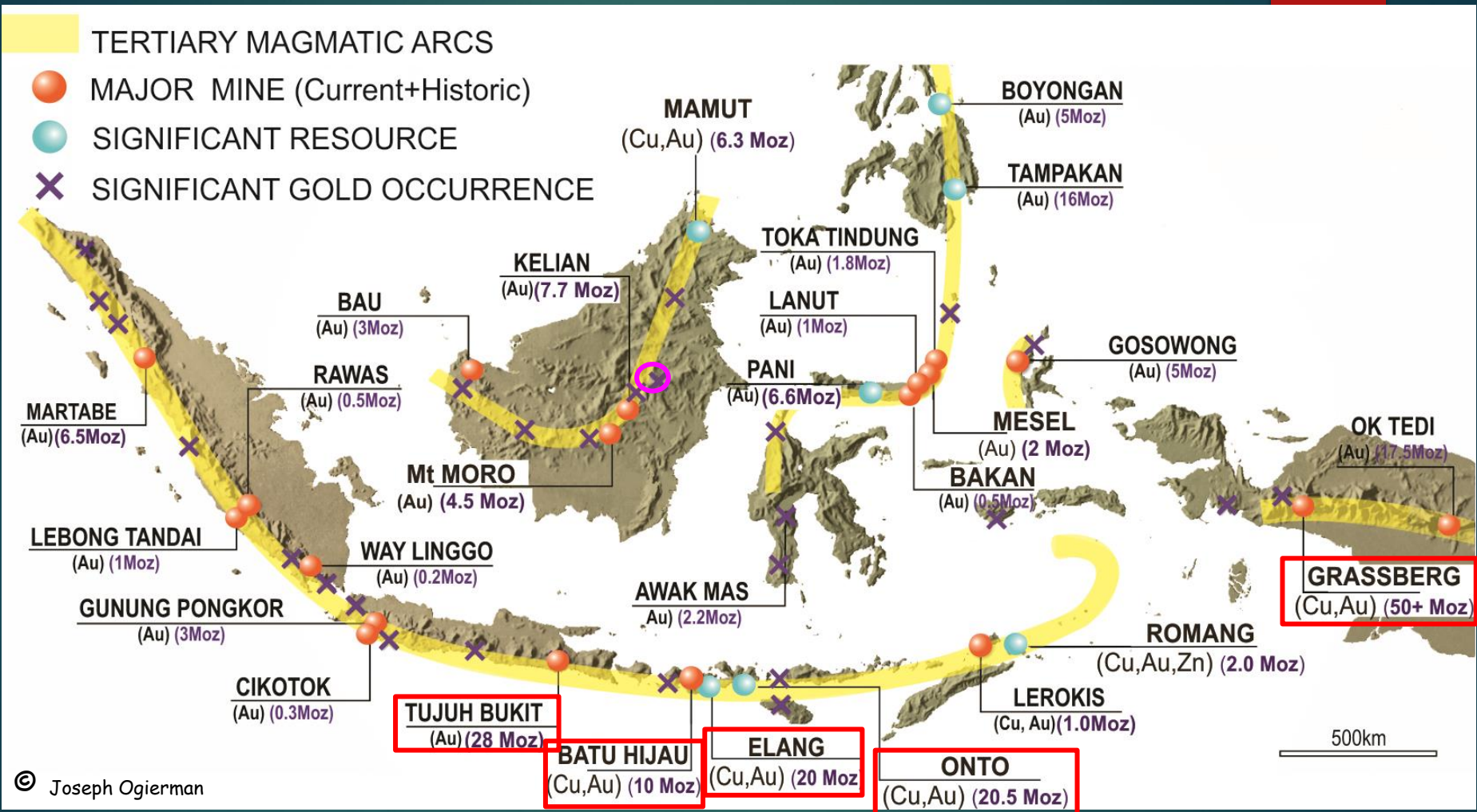


# “RING OF FIRE”



On a regional scale Indonesia lies at the meeting of three major tectonic plates – the Eurasian, Australian and Pacific Plates.

# WHY INDONESIA?



Because its “ELEPHANT COUNTRY”



0 100 500  
(km)

## BORNEO

- Third largest island on earth
- Divided amongst 3 countries
- Indonesian part is divided into 5 Provinces



# WHY BORNEO?

Formed by Mesozoic accretion of microcontinents, ophiolite terranes and island arcs, onto Palaeozoic continental core.

NE–SW trending Tertiary magmatic belt, bisecting central Kalimantan, formed by superimposed periods of subduction from NW to SE during Eocene to Miocene.

This calc-alkaline magmatic zone known as Borneo's 'gold belt'.

All major gold mines (including several multi-Mozs deposits) located along it.



## CENOZOIC

Flysch

## MESOZOIC

Turbiditic melange rocks

Meta-volcanic and meta-sedimentary rocks

Granitic Intrusions

Volcanic Arc and Ophiolite Sequence

0 100 500  
(km)

© Joseph Ogierman

NW

SE

CENTRAL KALIMANTAN  
MAGMATIC BELT

ACCRETIONARY  
PRISM



## CENOZOIC

Flysch

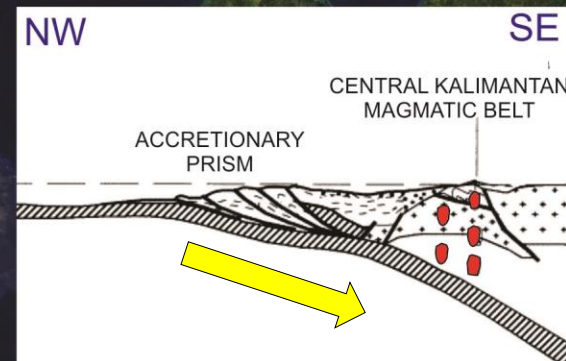
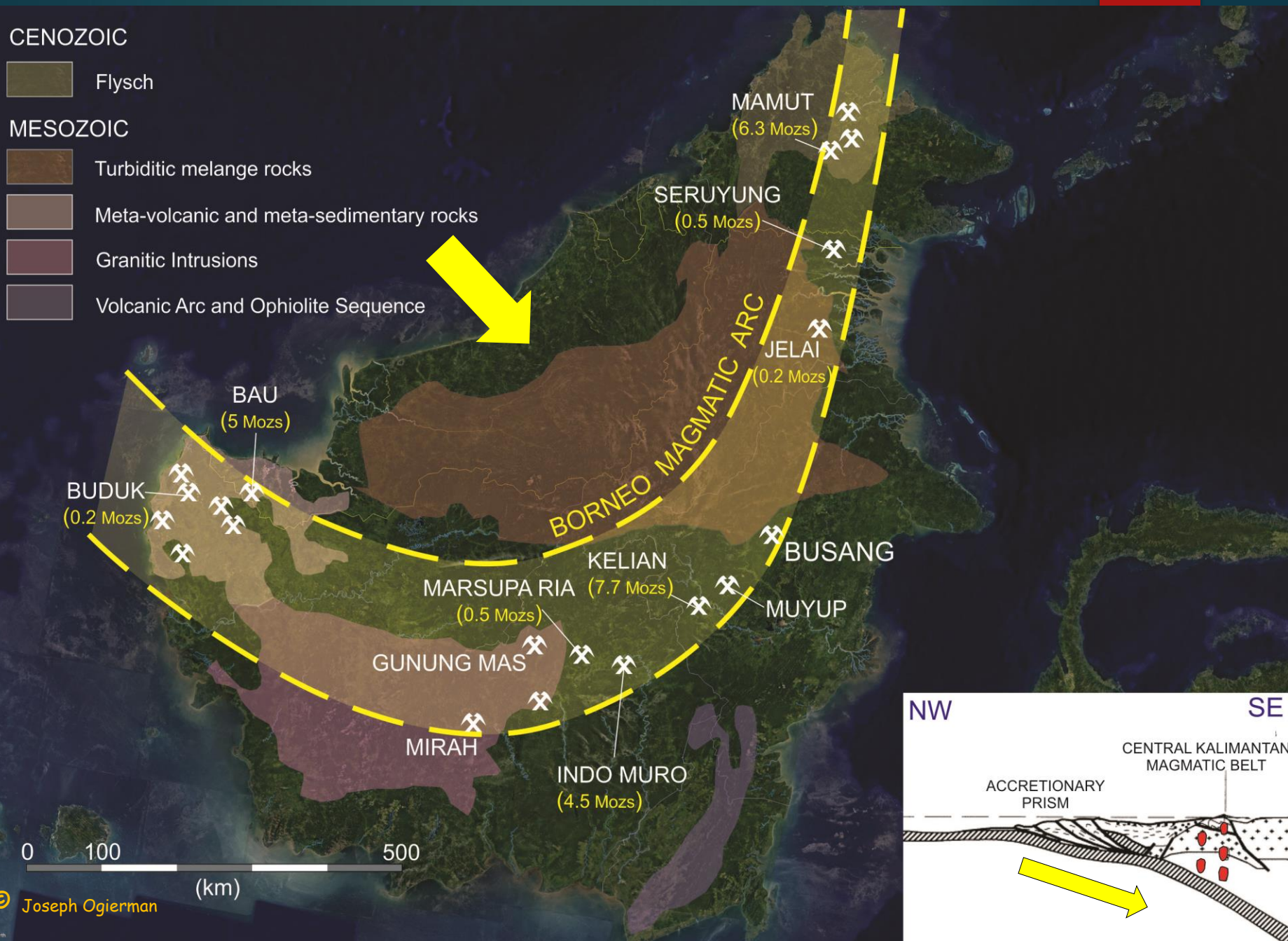
## MESOZOIC

Turbiditic melange rocks

Meta-volcanic and meta-sedimentary rocks

Granitic Intrusions

Volcanic Arc and Ophiolite Sequence





## CENOZOIC

Flysch

## MESOZOIC






Turbiditic melange rocks

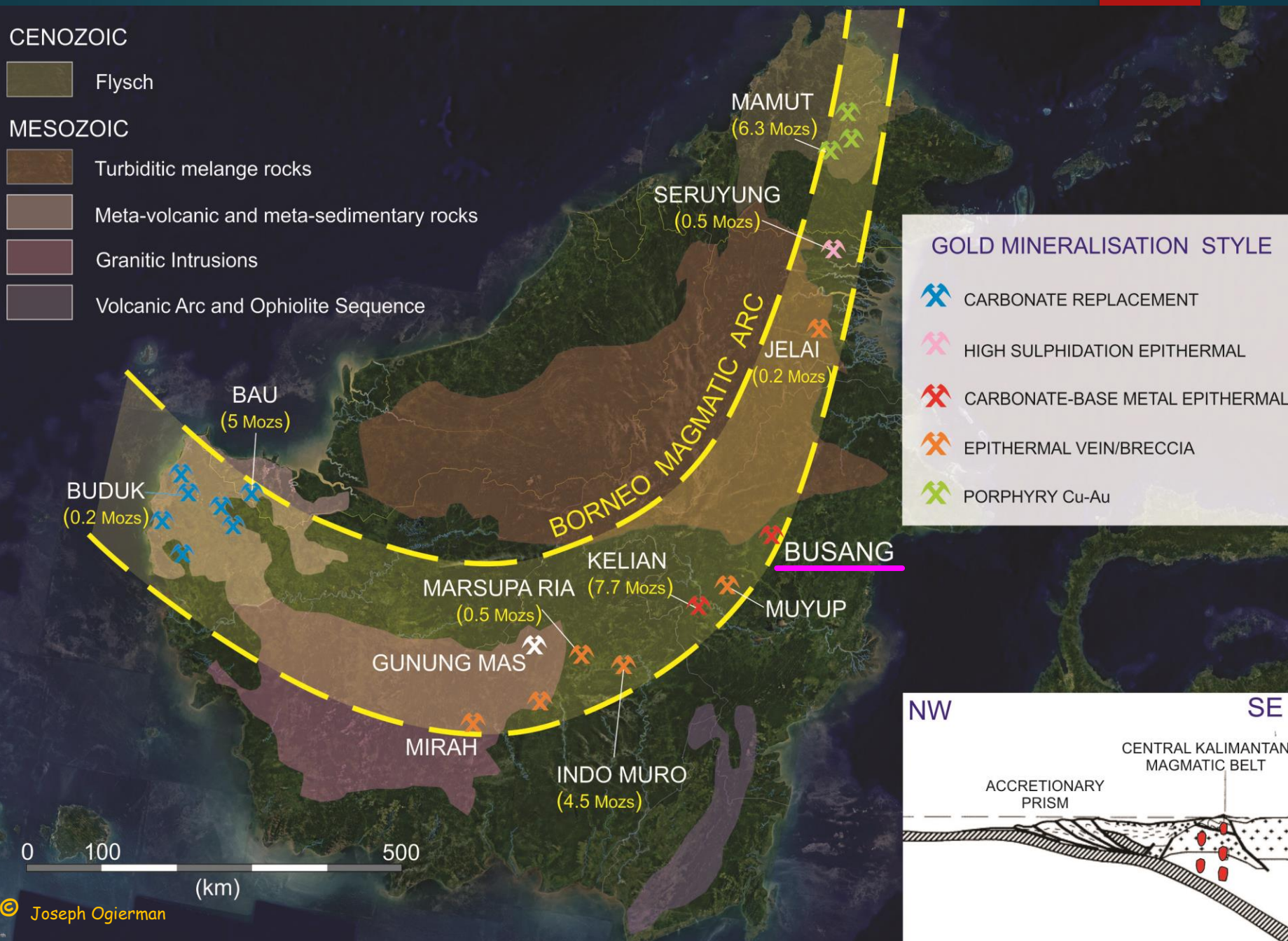
Meta-volcanic and meta-sedimentary rocks

Granitic Intrusions

Volcanic Arc and Ophiolite Sequence

## GOLD MINERALISATION STYLE

-  CARBONATE REPLACEMENT
-  HIGH SULPHIDATION EPITHERMAL
-  CARBONATE-BASE METAL EPITHERMAL
-  EPITHERMAL VEIN/BRECCIA
-  PORPHYRY Cu-Au





# BUSANG – PART 1

1988 – 1989

WESTRALIAN RESOURCES  
PT WAM (PT WESTRALIAN ATAN MINERALS)



# BUSANG

– the journey begins (June 1988)



I was working in the red heart of Australia when I received the call to leave the dry climate, wide vistas and dramatic colours and travel north, to humid climates, claustrophobic jungles and mute green colours

# WHO WAS PT WAM?

Perth-based Westralian Resources floated on the ASX in 1987

80% interest in two Indonesian Prospects –

- PT WAM (Westralian Atan Minerals = Busang)
- PT WKM.

CEO – Peter Beckwith (pictured)



Exploration Manager - Graeme Chuck

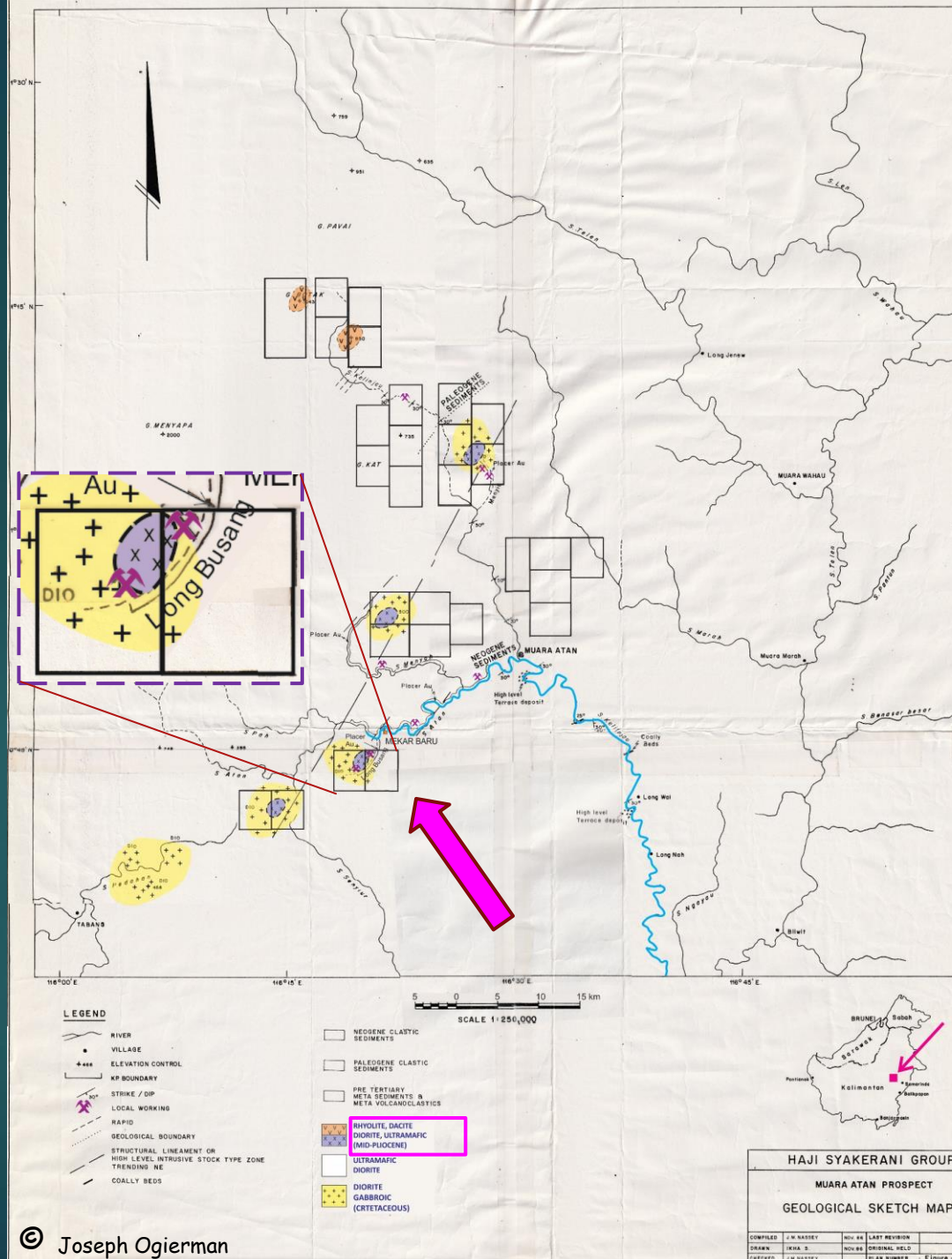
Exploration managed by Adelaide-based Murray Rogers & Associates (MRA) – John Levings and Joseph Ogierman

# 1986

First reconnaissance geology map of the “Muara Atan” tenements in Kalimantan by geologist Johnathon Nassey, (pre-PT WAM)

Focus on Tertiary-age intrusives and volcanics with associated alluvial gold workings

First map to record alluvial gold working associated with Diorite in Busang Creek





0 100 500  
(km)



Helicopters were  
not in the budget  
so how did we  
travel to Busang?





The journey by boat and then on foot took nearly two days, even though only 200km in a straight line.

0 100  
(km)

# WHY DID THE BOAT TRIP TAKE SO LONG?



27km in straight line v 71km along river



The interior of  
our “*African  
Queen*”



# MAHAKAM RIVER LIFE



A Dayak  
longhouse

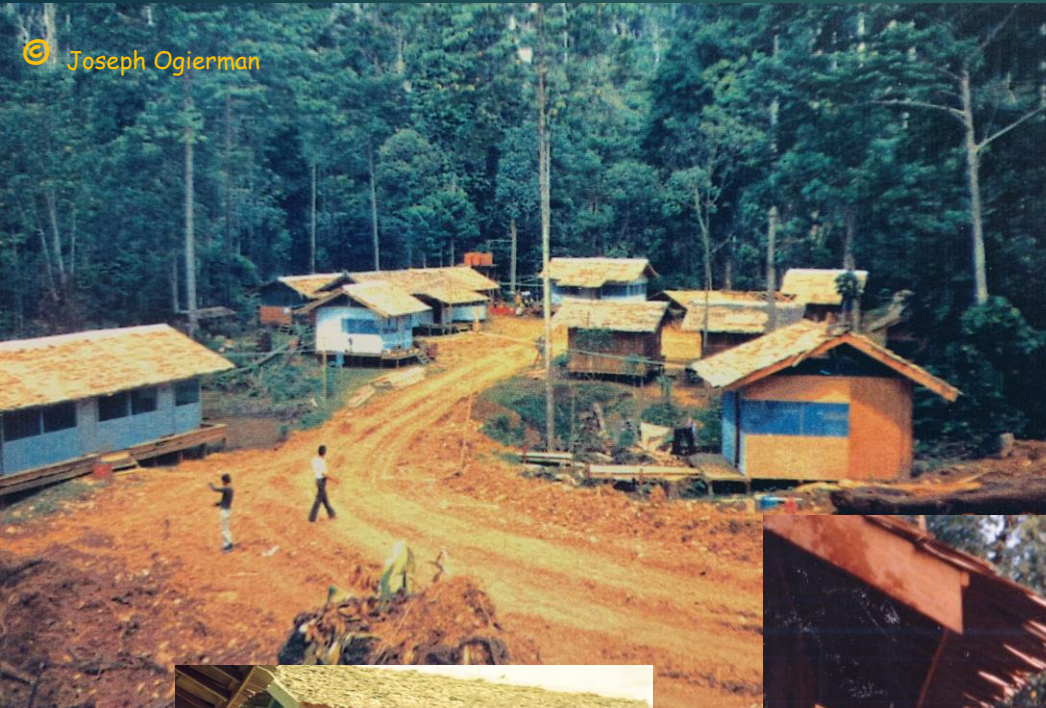


Fresh river prawns,  
grilled on the boat  
and washed down  
with a nice Clare  
Valley white wine

*Setia Etam*, the pet  
crocodile







## BUSANG BASE CAMP - 1988





# INITIAL RECONNAISSANCE

*“Here we observed mining of alluvial gold shedding northwards off .. the Busang (Intrusive) Complex. A brief inspection of this intrusive revealed altered and unaltered andesites, including breccias, which, together with associated gold mineralization invited comparisons with the geological of the Kelian gold deposit to the south-west”*

Graeme Chuck, 1988  
PT WAM Exploration Manager

From the beginning, comparisons were noted in the geological setting and alteration style between Busang and the largest gold deposit in Borneo – Rio Tinto’s KELIAN Deposit (7 Moz.)



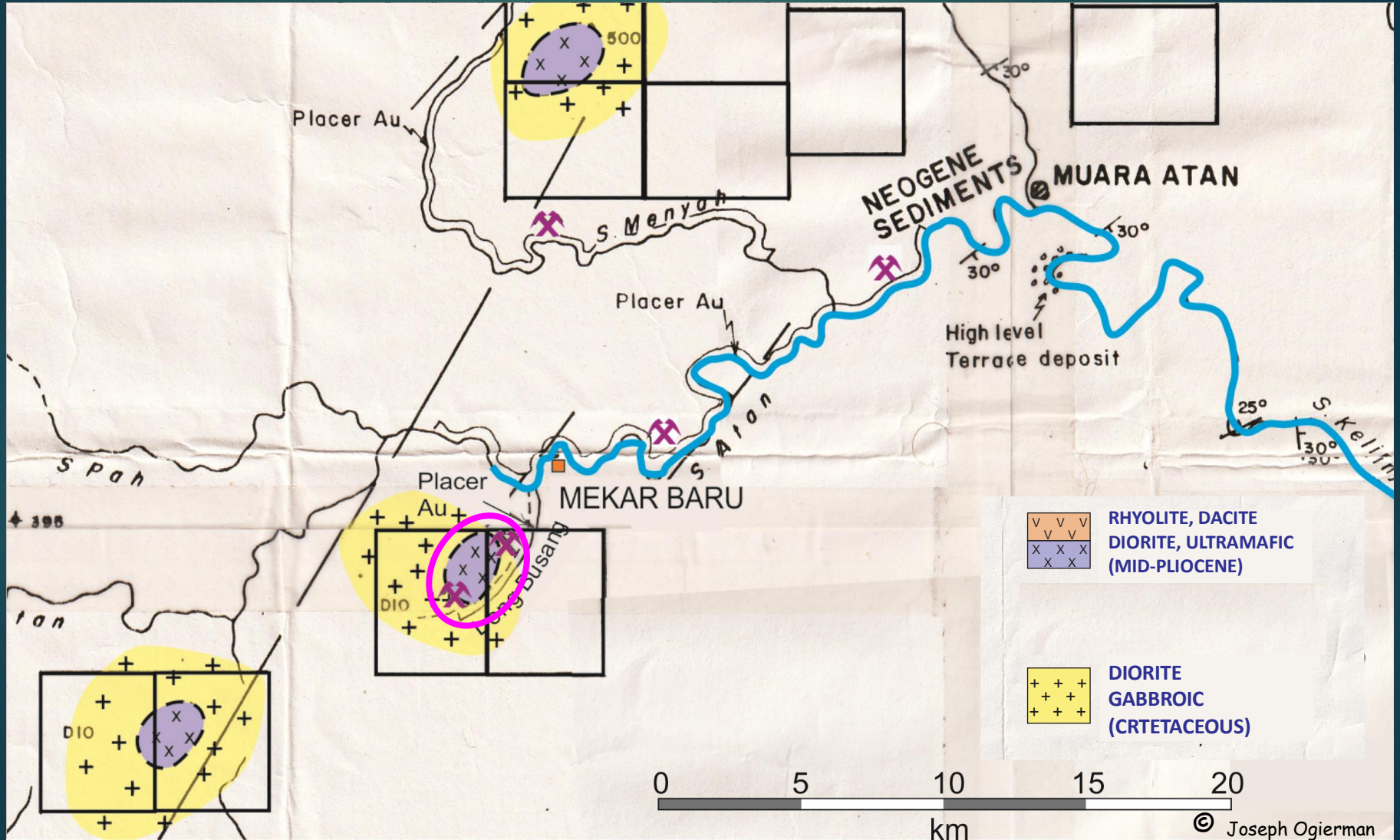
Where does one obtain a wooden gold pan (dulang) ?



A Dulang Tree of course



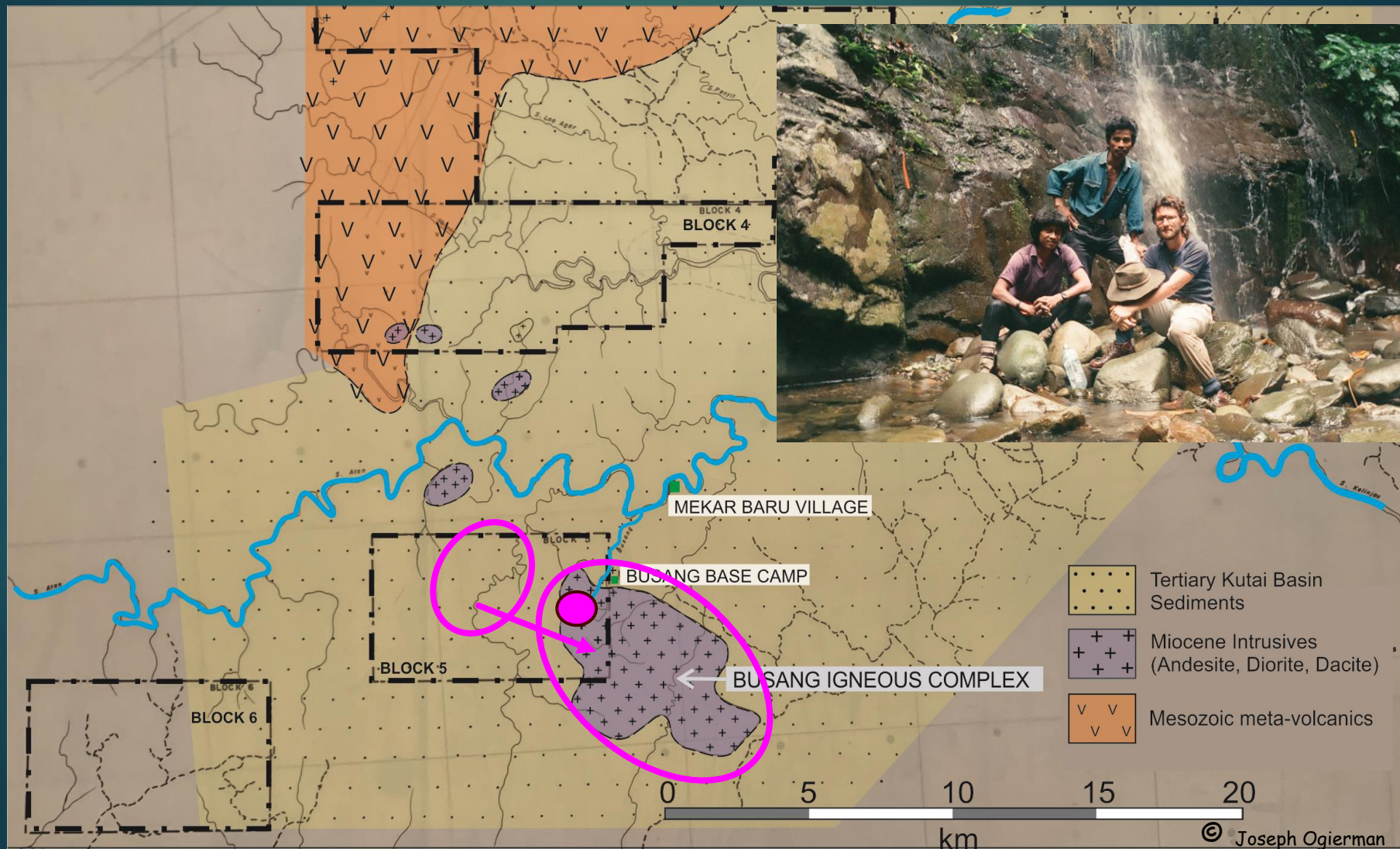
# BUSANG INTRUSIVE – 1986 pre – Westralian mapping



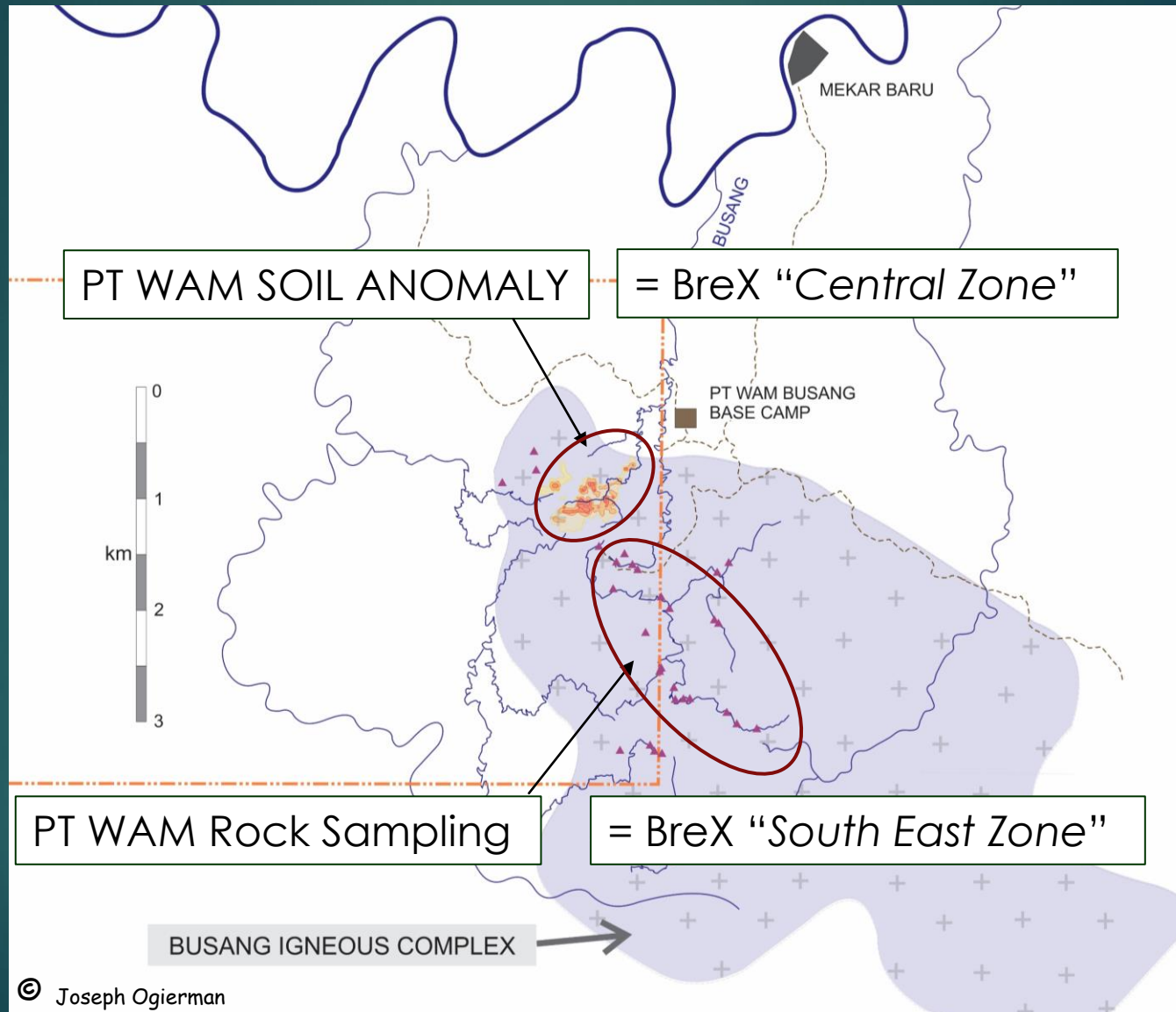


# BUSANG INTRUSIVE – 1988

## post – 1<sup>st</sup> phase Westralian mapping

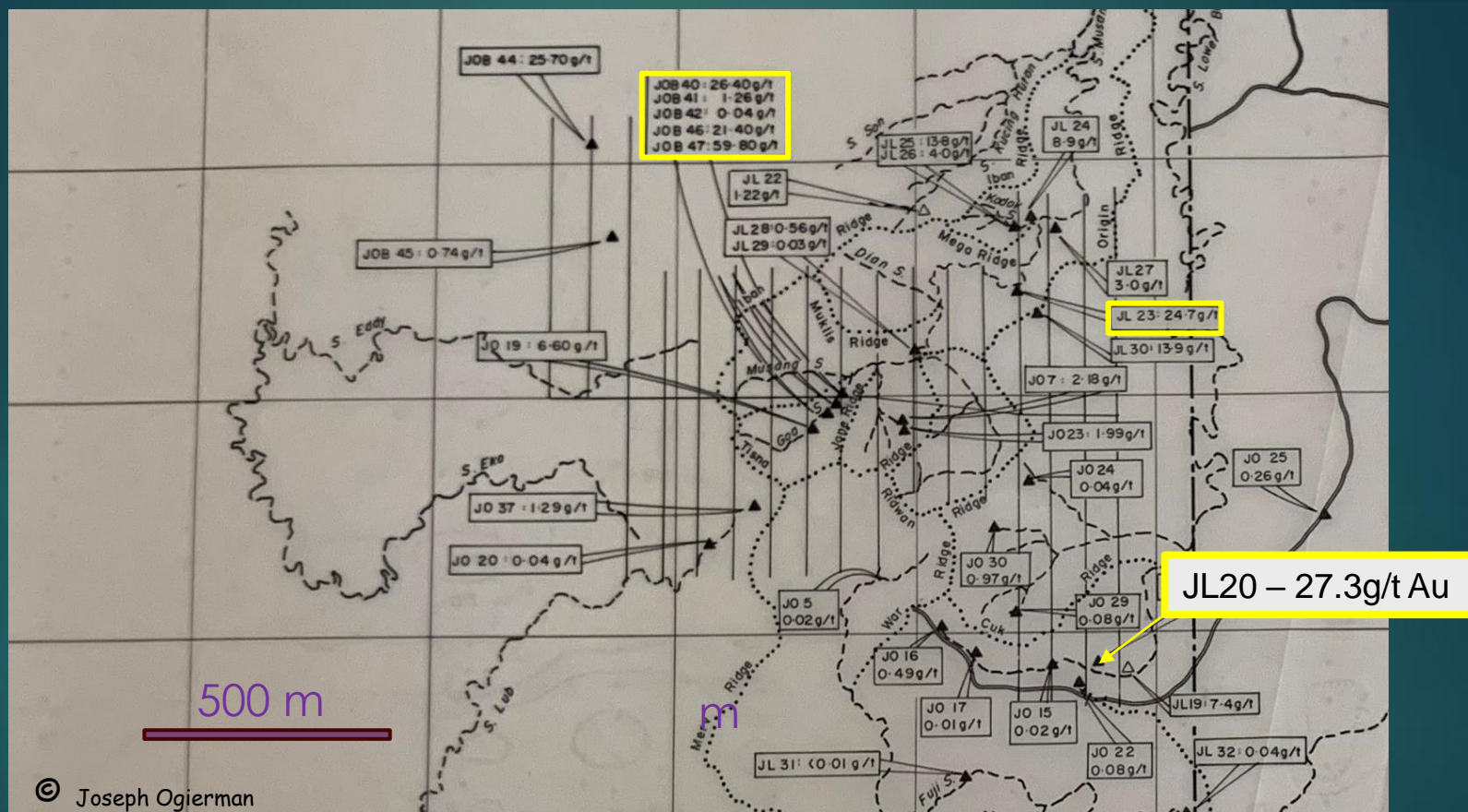


# PT WAM – FIRST PHASE RECONNAISSANCE EXPLORATION





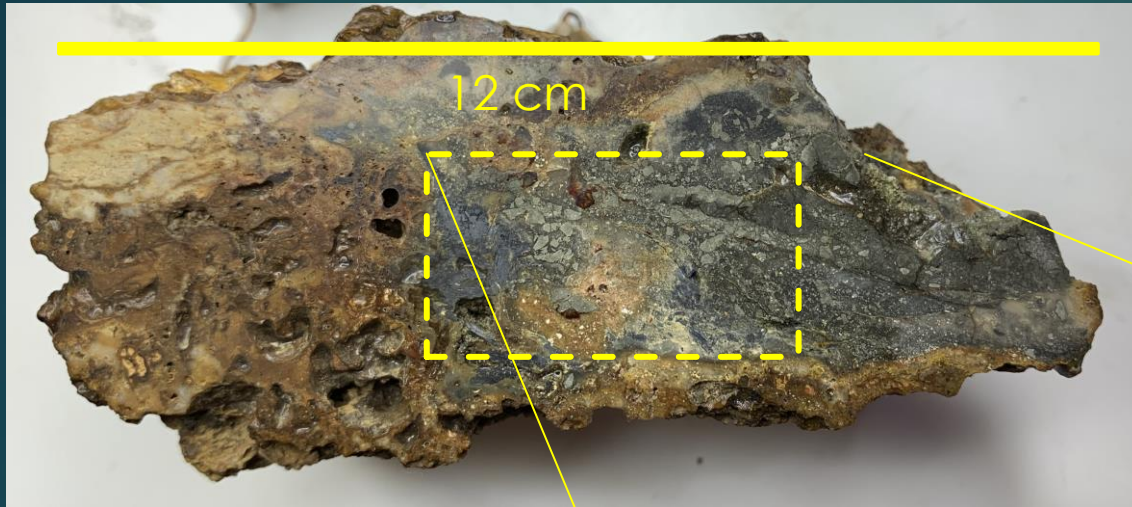
# PT WAM – CENTRAL ZONE - FIRST PHASE EXPLORATION RESULTS



Rock outcrop and rock float sampling producing some very high gold values from zones of intense alteration and quartz veining across an area just over 1km<sup>2</sup>



# BUSANG CENTRAL ZONE – Sample JL20

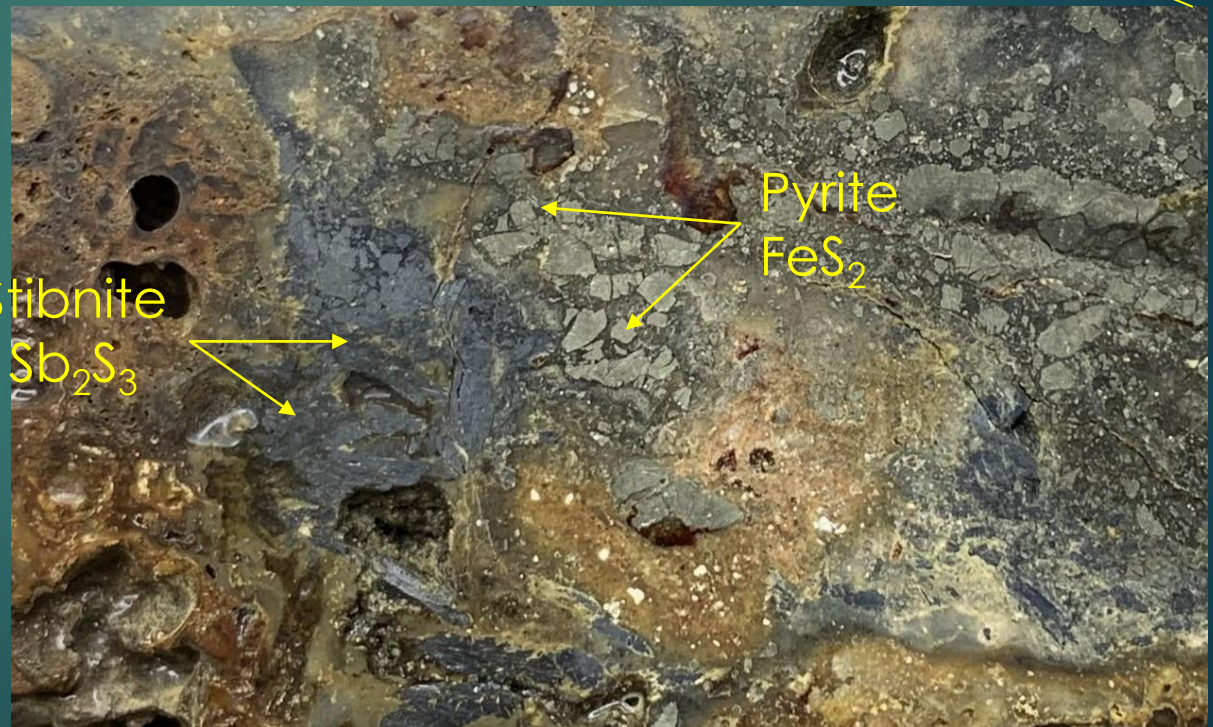


Epithermal  
silica-sulphide  
vein in outcrop

27.3 g/t Au, 66 g/t Ag



Stibnite  
 $\text{Sb}_2\text{S}_3$



Pyrite  
 $\text{FeS}_2$



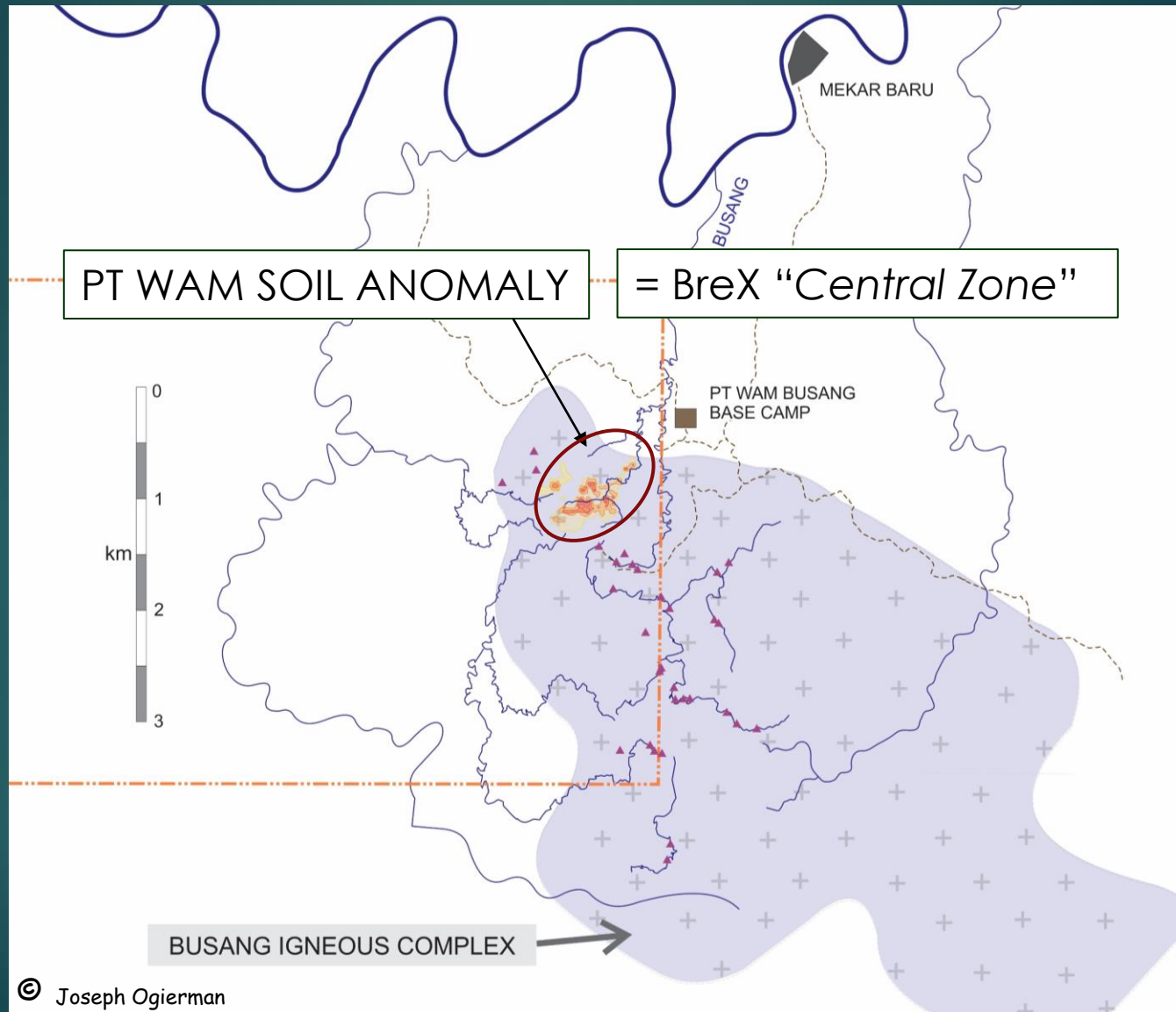


Base-metal vein in soft, argillic-altered diorite

Hydrothermal brecciated andesite/diorite



# PT WAM – FIRST PHASE RECONNAISSANCE EXPLORATION



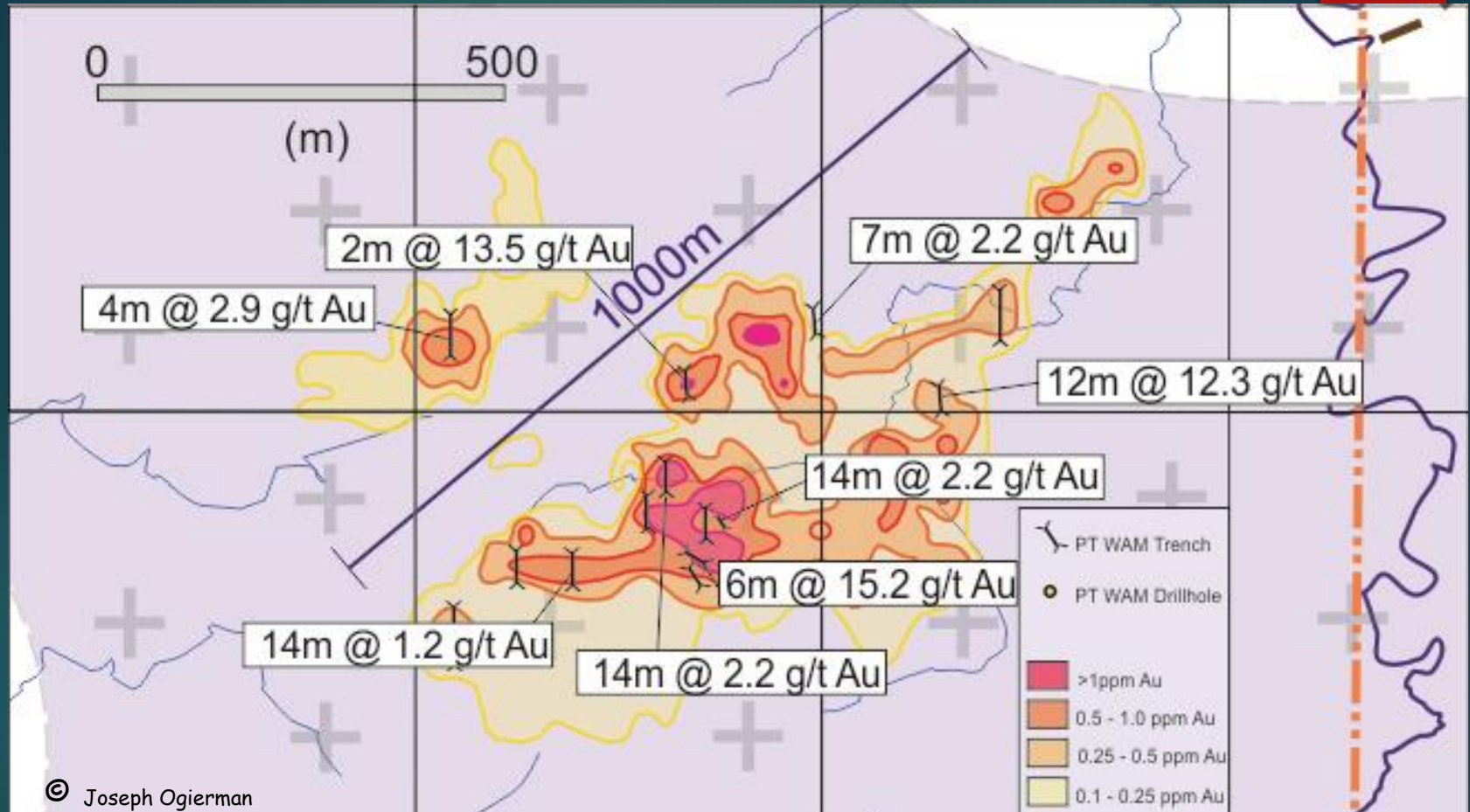


## PT WAM – FIRST PHASE TRENCHING





# PT WAM – FIRST PHASE TRENCHING



Trench and soil sampling assay announcements on the ASX brought a claim by a neighbouring tenement (Magnum) that the main Busang Prospect was in their tenement (CoW)

An American survey company in Jakarta was engaged to provide clarity, they offered to use a new surveying technique – “Global Positioning System” – using satellites!



# HOW TO MAKE A GPS ANTENNA

- first find a nice tall tree



higher.....

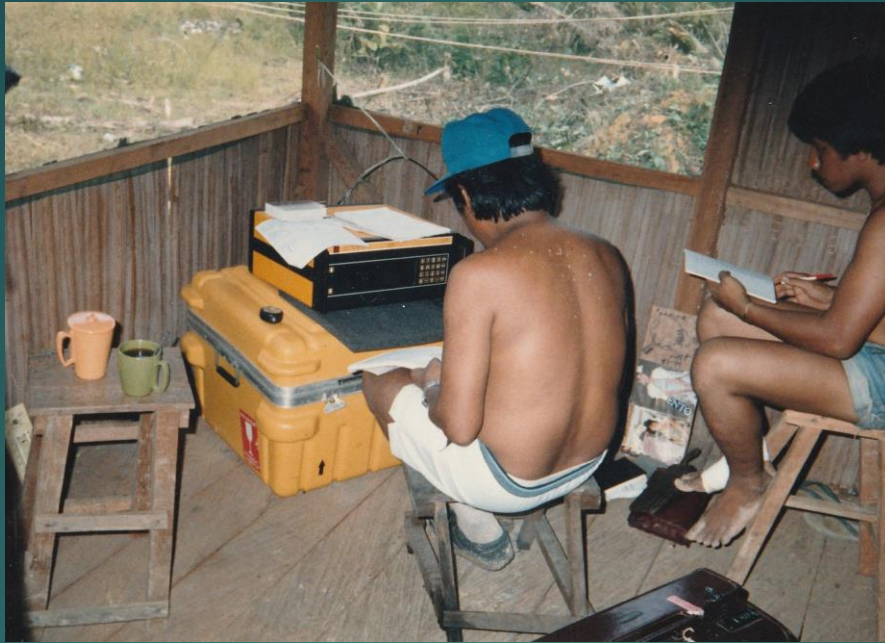


Finally!

Start to climb.....(note rigorous adherence to PPE regulations)



Next, bring the cable down and attach to the GPS unit, sit down and wait.....  
and wait.....



and wait.....

Until finally.... The next morning, after many hours of anticipation, a SINGLE coordinate point is obtained, to great relief because it is confirmed the Central Zone is within the PT WAM tenement

Then the bill arrives - \$30,000!!!! – for ONE gps point only





# Exploration Life in a tropical jungle

## - Challenges and risks

**Tropical diseases** – Busang base camp hit by an outbreak of Dengue Fever, affecting >90% of personnel (including me), 2 deaths

Malaria an ever present threat – everyone at Busang contracted malaria at some stage (including me!)



© Joseph Ogierman

**Poisonous animals** – complacency by Australians can be an issue – “call that a snake? That’s not a snake!”

Just when, geologically, things started looking very promising, enter the “spoiler”



While John and I focussed on other prospects and making plans for a Busang drill program...ex-employee Doug Pickard snuck into Mekar Baru, Nov 1988, starting a local mining co-operative with the village chief. He commenced hydraulic sluicing in areas covered by our best soil anomalies and trench intersections



I returned to Busang Dec 1<sup>st</sup> to find illegal mining operations in full swing



One major benefit was extensive bedrock exposure as a result of the sluicing operations






# BUSANG CREEK SLUICING OPERATIONS

The only “official” gold mine in Busang’s history



© Joseph Ogierman



- 
- Doug P's activities show Busang was “tainted”, that it had a history of being affected by scams, even before Bre-X entered the picture!
  - Doug was “removed” from site by police/army. We will never know how much was mined but he left in a hurry with \$10,000 debt in the village
  - Planning recommenced for the first drill program at Busang in March/April 1989
  - Expectations were high after encouraging trench/rock sample results and recognition of complex alteration systems.

# PT WAM – FIRST PHASE DRILLING

A Longyear 38 diamond drill rig, operated by PT Mintekindo Utama of Jakarta mobilised to Busang, April 12, 1989. Drilling commenced April 14 and was completed May 17<sup>th</sup>.

19 diamond drill holes were completed for a total of 1,490 metres (~50m/day)





# BUD001 - SUMMARY GEOLOGICAL LOG

## PT WESTRALIAN ATAN MINERALS DESCRIPTION

FROM (m)	TO (m)	LITH	DESCRIPTION
0	6.8	ANDESITE	Totally weathered PORPHYRITIC ANDESITE. Intense argillic alteration
6.8	11	ANDESITE	Partially Weathered PORPHYRITIC ANDESITE. Intense pervasive argillic alteration. 2% disseminated pyrite.
11	14.6	ANDESITE	Intense Propylitic Argillic alteration. 3% disseminated pyrite
14.6	15.5	FAULT BXA	Clasts of carbonaceous shale and altered andesite.
15.5	17.5	BASALT	Amygdaloidal BASALT. Propylitic core with sericitised +pyritic margins. Common pyrite veinlets with minor galena
17.5	19.3	HYDROTHERMAL BXA	Clasts dominantly of altered andesite plus minor shale. Matrix of pyrite, sphalerite, galena, quartz, sericite.
19.3	28.9	ANDESITE	Intense sericite altered; minor chlorite. 2% - 8% disseminated pyrite, subordinate pyrite + sphalerite + galena veining. Rare quartz + sphalerite veinlets and space fillings.
28.9	32.6	ANDESITE	Mod propylitic alt to almost fresh. Occasional sericite pyrite selvage along fractures.
32.6	37.5	BXA	Altered andesite and siltstone clasts. Matrix contains 5% - 8% pyrite, trace galena and up to 2% sphalerite.
37.5	39.7	SILTSONE	Bleached and moderately brecciated and veined. Trace silicification
39.7	42.3	ANDESITE	Intensely sericitised and mildly brecciated. Fine disseminated and veinlet pyrite
42.3	45.6	ANDESITE	Sericite chlorite pyrite altered, with minor calcite veinlets.
45.6	53.5	ANDESITE	Intensely sericite altered. 2% -3% disseminated & veinlet pyrite with minor, late-stage carbonate-sphalerite -galena veinlets. Rare brecciation.
53.5	65.5	ANDESITE	Intense to moderate sericite-chlorite-pyrite alteration. Minor, late calcite- sphalerite-galena-chalcopryrite veinlets
65.5	66.95	BASALT	Propylitic alteration. Euhedral chloritised mafics

From (m)	To (m)	Interval (m)	Gold Value (g/t)
18.0	20.0	2.0	3.31
37.0	40.0	3.0	1.33
51.0	56.0	5.0	4.29

The first drill hole was very encouraging, intersecting mineralised zones of intense alteration and mineralisation hosted by andesite and hydrothermal breccia, supporting our proposed model of “Kelian-style” mineralisation

# PT WAM – FIRST PHASE DRILLING

Busang – drill core storage and core sampling (no gold jewellery allowed)



May, 1989



# PT WAM – FIRST PHASE DRILLING RESULTS

As with most first pass drill programs assay results were mixed, some surprising, some disappointing. Of the 19 holes completed, 16 returned assays with at least one interval of 1m > 1 g/t Au.

However, in summary, drill results did not replicate values from trenches above, indicating some degree of supergene enrichment. Best intersections include;

DH No.	FROM (m)	TO (m)	INTERVAL (m)	Au g/t
BUD-1	51	56	5	4.29
BUD-4	41	48	7	2.05
BUD-7	23	28	5	2.00
BUD-10	32	38	6	2.68
BUD-12	19	21	2	6.10
BUD-16	35	40	5	1.01
BUD-18	78	82	4	3.37



*“Wow, great looking core Joe”* - Chris Giles (geologist visiting Balikpapan)

*“yes it is, trouble is, there’s bugger all gold!”* - Joseph Ogierman

Conversation in a café, Balikpapan April 1989

*“microscopic and geochemical analysis of the samples indicated signs of mineralization-associated hydrothermal alteration typical of lode gold systems - except with an absence of gold”*

Pofessor George C. Milligan, Nova Scotia, Canada – one of the only recorded scientific analysis of BreX’s core from Busang, February 1997 (just one month prior to the debacle)



# 1<sup>st</sup> DRILL PROGRAM – THE WASHUP

Unfortunately, although there were some very encouraging intersections, the first drilling program did not provide immediate vectors to the “next Kelian” and Montague Minerals decided to step away from Indonesia citing high costs.

An abrupt end to an exciting exploration program full of high promise.

Most geos and staff still on site when decision filtered through to stop work and demob all equipment to Busang,

Our faithful houseboat had one more task to fulfil





# TIME TO GO HOME



Westralian decided to stop all work as they hoped there was still enough “sex appeal” to attract a buyer or JV partner,

Three majors mining companies in Jakarta inspected the prospect but recommended to their head offices not to be involved.

These geos felt **very uncomfortable** as drill intersections from BreX were announced in coming years

To his credit, CRA’s Roger Norris was adamant his initial evaluation was correct even as the Busang hype ramped up several years later

# WHAT DID WAM DISCOVER AT BUSANG

- ▶ CARBONATE-BASE METAL EPITHERMAL Gold mineralisation associated with hydrothermally altered tertiary-age DIORITE/ANDESITE intrusives
- ▶ Zones of potentially economic gold grades at surface and depth
- ▶ But zones are thin and drilling highlighted supergene enrichment upgrades gold values at surface





# BUSANG – PART 2

1993 – 1997

BreX MINERALS Ltd

# BreX – Chief Protagonists



A 1996 photo taken at Busang, Kalimantan, Indonesia. From L to R – **Jerry Alo**, project metallurgist (?!); **John Felderhof**, VP Exploration; **Michael de Guzman**, exploration manager; Cesar Puspos, geologist

Missing – **David Walsh** - President/CEO Bre-X



# BreX Timeline

- 1989 David Walsh founds Bre-X Minerals Ltd, in Canada as subsidiary of Bresea Resources Ltd
- 1993 On the advice of Felderhof, Bre-X buys Busang Prospect from Montague, drilling commences
- 1993 First 2 DHs show little. Threat to shut down the program but "luckily" the 3<sup>rd</sup> DH hits significant Au.
- 1994 Drilling continues and news starts to filter in Canada of a significant find. Felderhof, claims a **2 million oz** resource. Bre-X acquires tenement immediately east of Busang – known as Busang II
- 1995 Oct Bre-X announces Busang could contain **>30 million oz** of gold, most in the Southeast Zone (Busang II)
- 1995 Dec Graeme Chuck calls Joseph asking him to return to Indonesia (on crutches if need be)

# St Barbara



Patron saint of miners

and patron of a monthly beer drinking and exploration gossip session  
at any pub nominated by Indonesian Mining Association



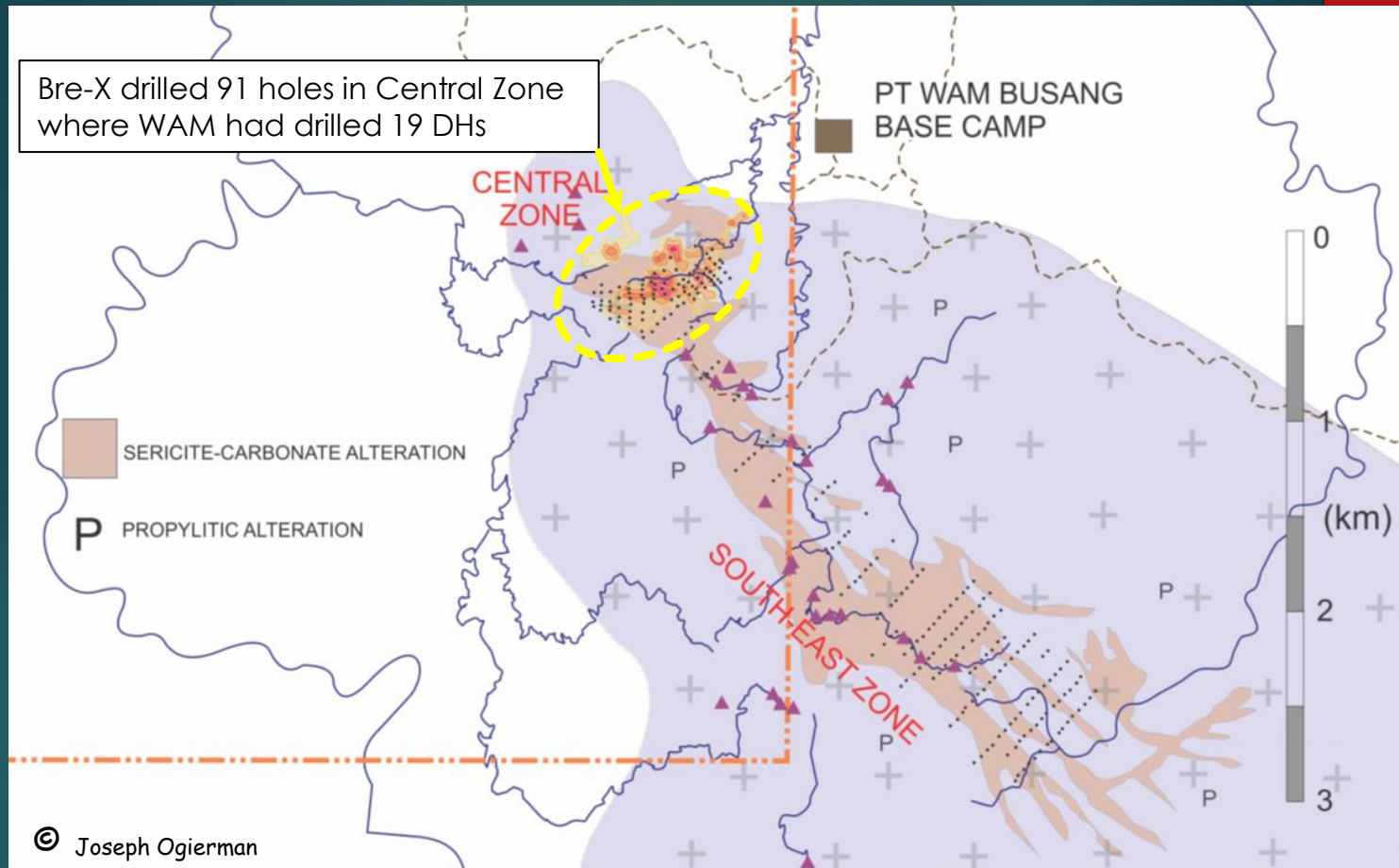
# St Barbara “Homecoming”

- After an absence from Indonesia, during which I was involved in a serious car crash in Tanzania, I looked forward to a return to the tropics, even if I was still in rehabilitation, walking with crutches.
- My first week back coincided with the monthly, mining fraternity drinks otherwise known as *St Barbara's Night*
- I was looking forward to catching up with friends and colleagues over a cold beer but to my surprise was greeted by jeers, finger pointing and comments of derision for having missed “one of the greatest gold discoveries ever”!! So much for old friends and colleagues
- I countered by saying that I missed nothing and that it's all a hoax after which the derisive laughter just got louder with comments such as “you're just saying that because you're embarrassed you missed it!!!”
- The next month's St Barbara's drinks were no better so I requested to be relocated to a jungle camp somewhere, anywhere!

# BreX Timeline

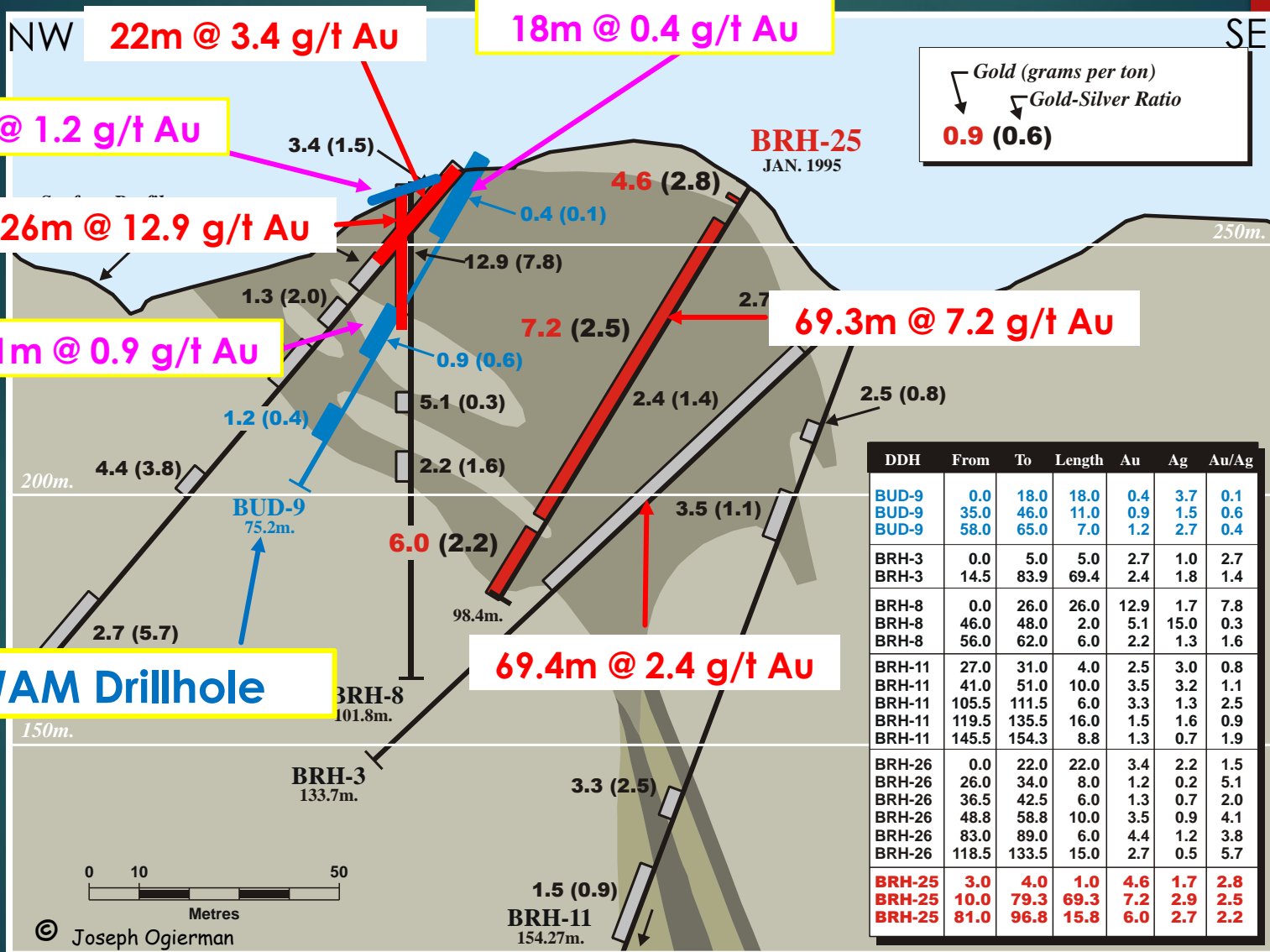
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  - 1996 Apr 23 Bre-X list on TSX. Price rises from to C\$192.50 within minutes of opening
- ▶ Joseph escapes to Jungle camp as far away from Jakarta and St Barbara as possible



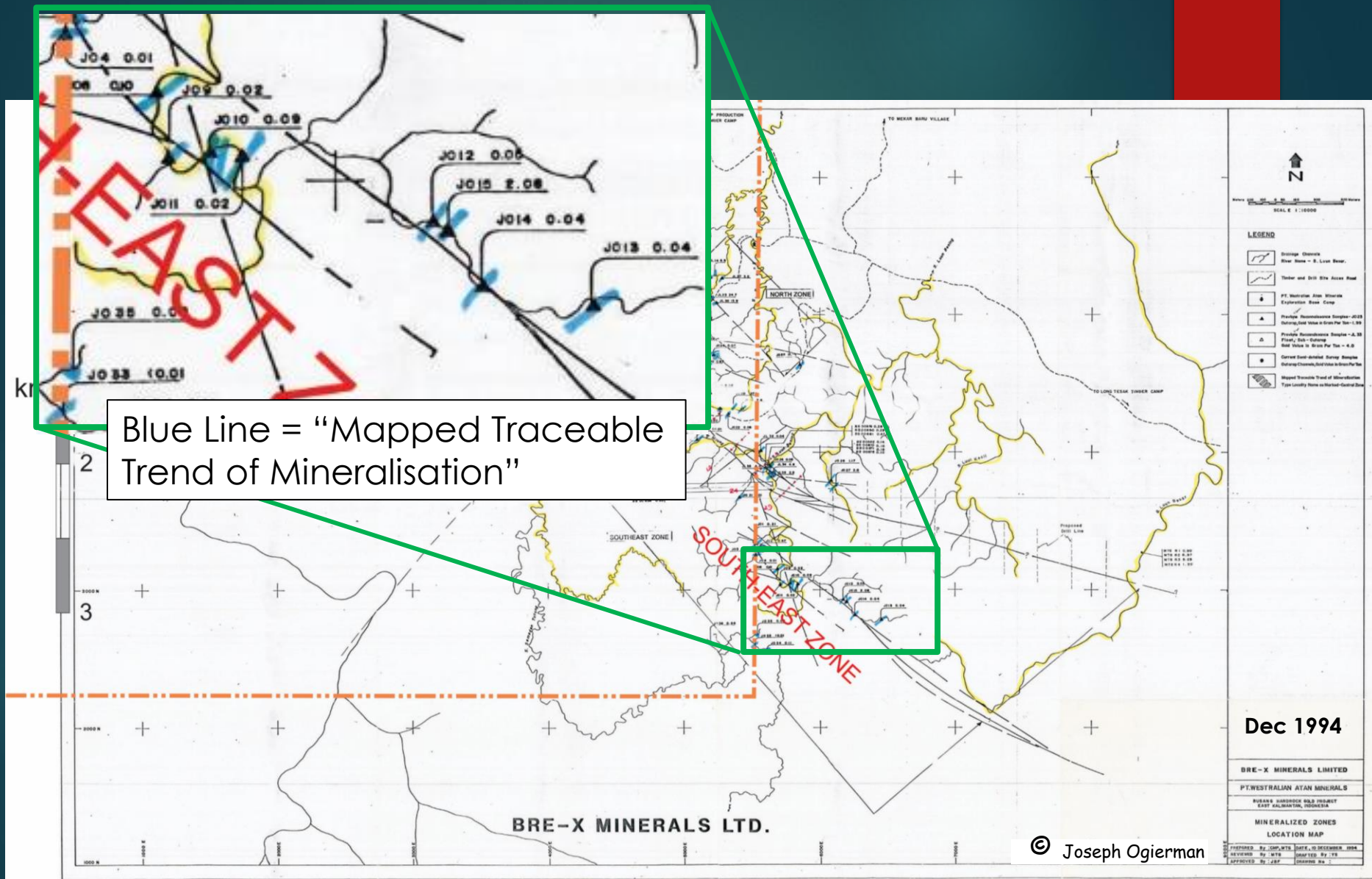


Time in the jungle camp, away from Jakarta, presented opportunities for reflection on what I remember of Busang, what I had heard of BreX's activities and what I had seen of their exploration results. I conferred with the other members the contracting firm I worked for, such as John Levings and Graeme Chuck, and our suspicions only increased but it seems whomever we talked to, with a few rare exceptions, was not interested to hear what we had to say.

# Busang – Central Zone

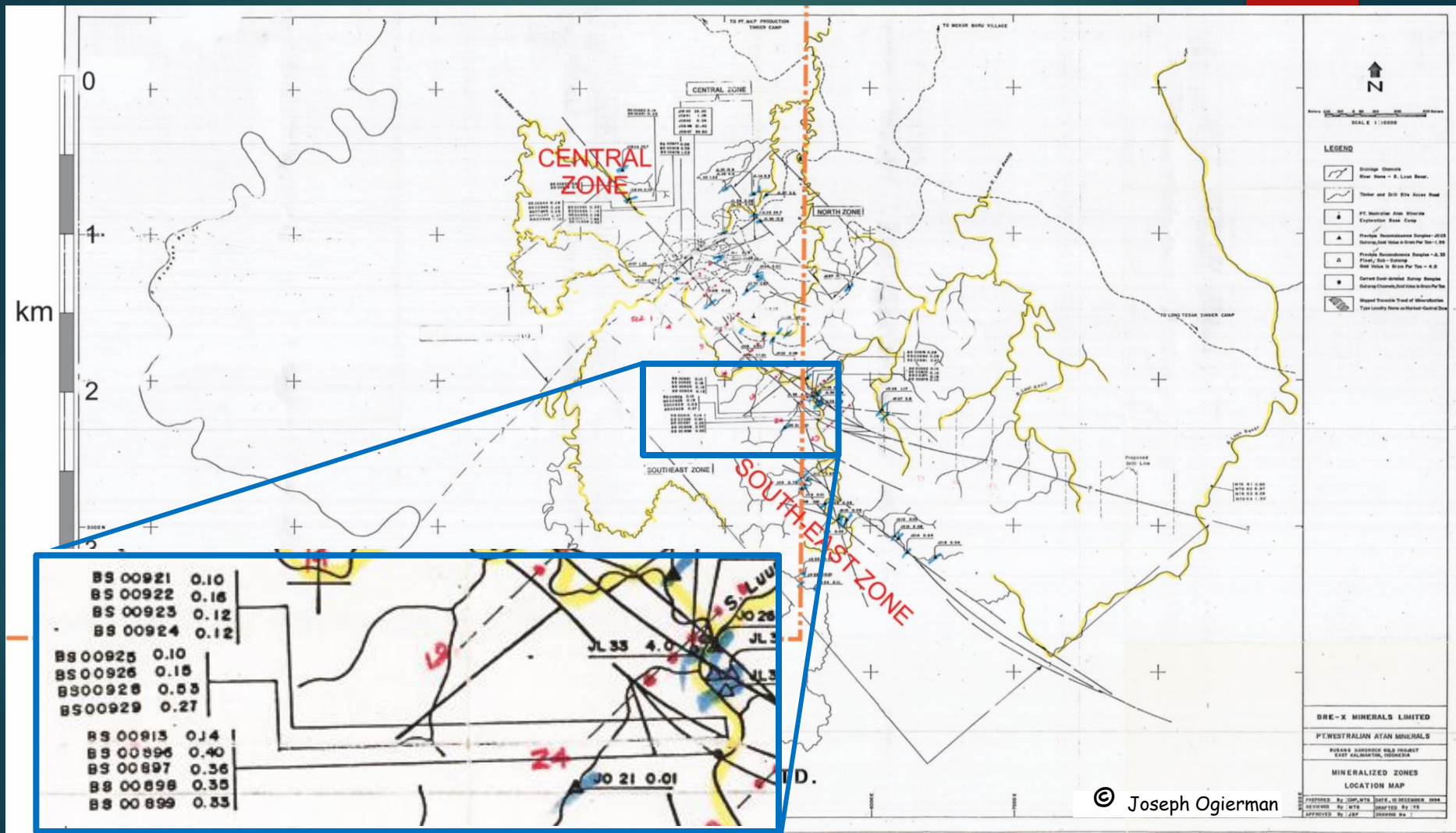






Bre-X Map – Majority of Rock samples from 1988-89 (pre- Bre-X)

# Bre-X Map – all new samples (1994) only contain low Au values



Ironically all new samples prefixed by “BS” - a portent of things to come



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- 1996 May10 Bre-X hits \$286.5 on TSX. Stock splits 10-for-1. Company market value **\$6 Billion**
- 1996 July Busang estimate is now **47 million oz** of gold
- 1996 Dec 3 Bre-X estimates now at **57.33 million oz** Lehman Brothers Inc strongly recommend a buy on "the gold discovery of the century." (5 months drilling = 10Moz increase ). Suharto makes his move
- 1997 Jan 23 Suspicious fire at Busang destroys all drill logs, reports and core processing. Site was bulldozed before investigation team arrived (beginning of the end?)

# Suharto shuffles the deck chairs

Everyone wanted a piece of the Busang pie;

The President's children fought each other to be "The 10%"

Suharto told BreX he would arrange a major mining company to help develop the project (and enrich himself + friends) - Barrick Gold, Placer Dome, Freeport McMoRan all jockeyed for position,

Barrick enlisted former U.S. President George Bush to lobby Suharto

Freeport most likely won because Jim Bob Moffet (Chairman/CEO Freeport) was Suharto's close friend.

I watched with amusement from the safety of a Jungle camp at Buduk, Western Kalimantan as Freeport announced a program of Due Diligence Drilling



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- 1997 Feb 16 Agreement signed to develop Busang, giving Indonesia 40%, Bre-X 45%, Freeport 15%
- 1997 Feb 17 BreX announce estimate of **71 million oz**
- 1997 Feb 19 Felderhof “comfortable” with **200 million oz** as a resource - “lots of blue sky” (not the Balikpapan Hotel)
- 1997 Mar 1 Freeport begins due diligence at Busang, drilling verification holes
- 1997 Mar 19 de Guzman and pilot leave Balikpapan in helicopter to meet Freeport due diligence team at Busang, only pilot arrives in Busang. Police deem it is suicide
- 1997 Mar 22 de Guzman's body is found and brought to Balikpapan for identification/autopsy

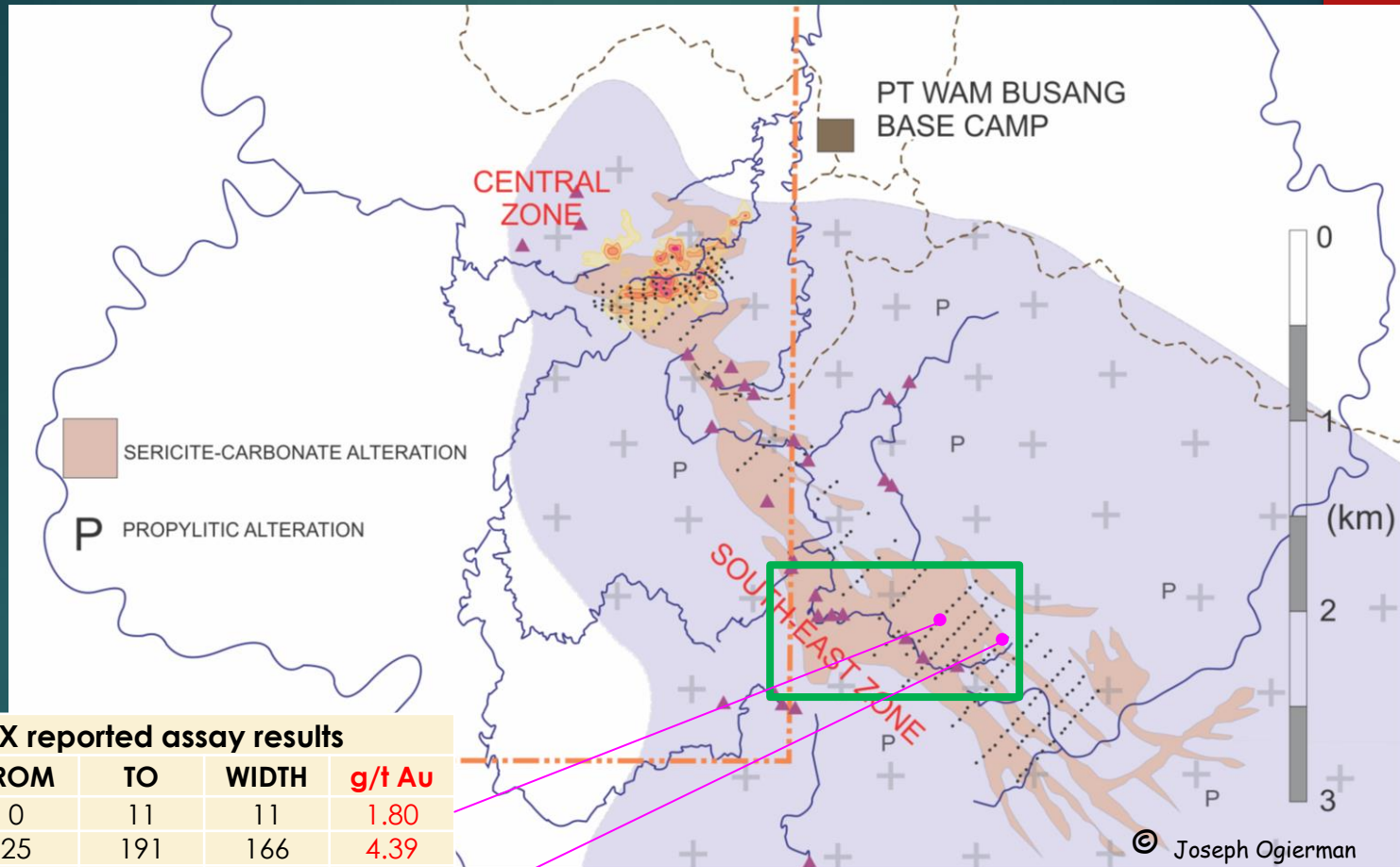
# The Rumour Mill Churns

## (St Barbara became fun again)

- Michael de Guzman commits suicide by jumping out of a helicopter allegedly due to contracting Hepatitis (his Hepatitis was treatable) and a “sore back”
- Helicopter pilot was a new guy, ex-military, and this was his first flight for BreX
- Body recovered in the jungle only 3-4 days after jumping (1980s a commercial flight nearby disappeared with military son on board, plane could not be found for days even with the air force looking)
- Body in autopsy heavily disfigured/mauled & did not have penis – “due to wild animals”
- According to journalist John McBeth, a body went missing from Balikpapan's morgue. The body being autopsied was reported as having hands & feet surgically removed.
- Some of de Guzman's ex-wives still received money from unknown source years after his disappearance



# Freeport Due Diligence Drilling



Bre-X reported assay results

HOLE	FROM	TO	WIDTH	g/t Au
BSSE-63	0	11	11	1.80
	25	191	166	4.39
	211	253	42	3.71
BSSE-173	5	145	140	1.33

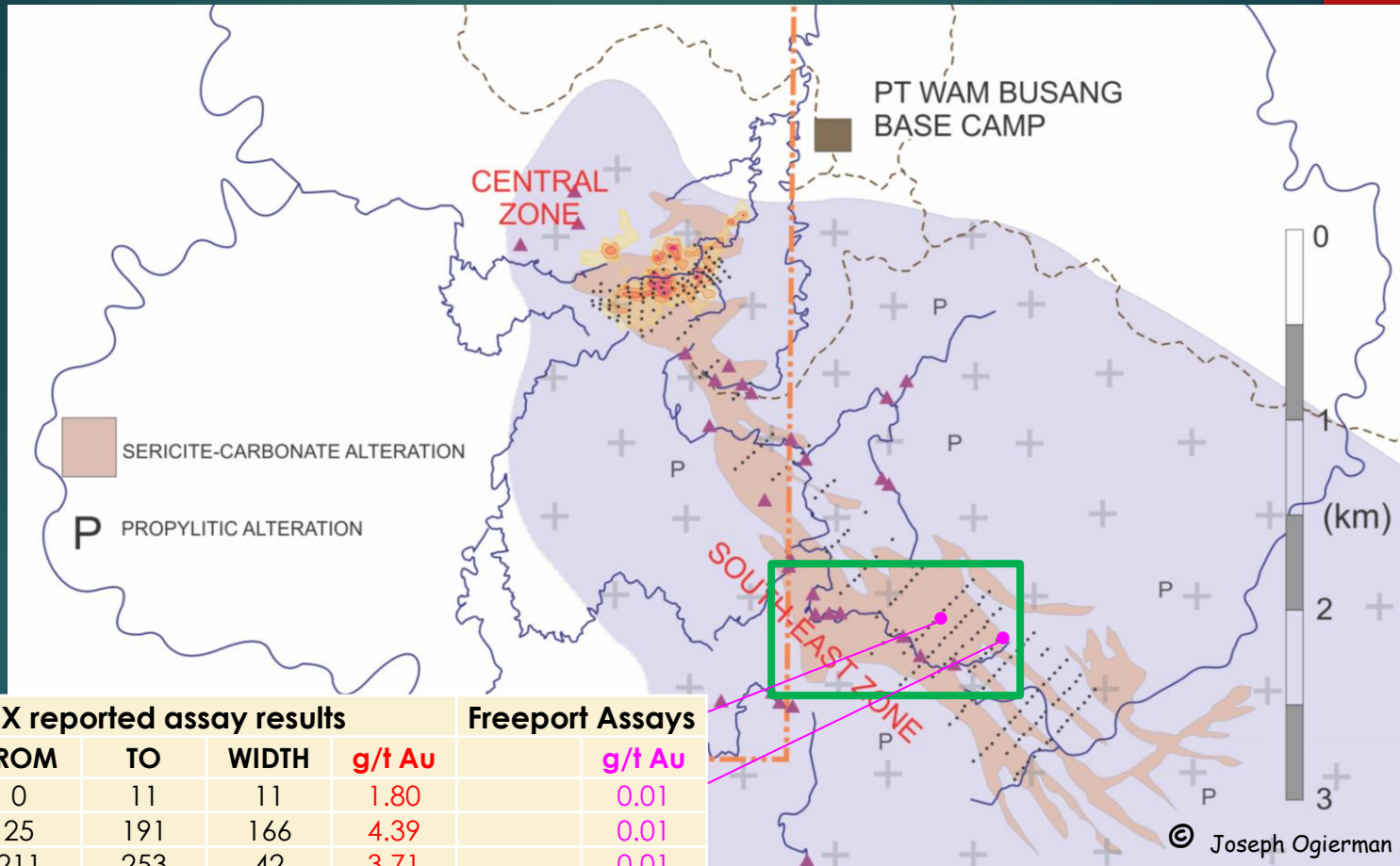
Freeport chose to duplicate two BreX drillholes from the *South East Zone* for their Due Dilligence drill program

# BreX Timeline

- 1989 David Walsh founded Bre-X Minerals Ltd, in Canada as subsidiary of Bresea Resources Ltd
- 1993 On the advice of Felderhof, Bre-X buys Busang Prospect, a drilling program commences
- 1993 First 2 DHs show little, threat to shut down the program but “luckily” the 3<sup>rd</sup> DH hits significant Au
- 1994 Drilling continues and news starts to filter into Canada of a significant find. Felderhof, claims a **2 million oz** resource. Bre-X acquires tenement immediately east of Busang – known as Busang II
- 1995 Oct Bre-X announces Busang could contain more than **30 million oz** of gold, most in the Southeast Zone
- 1996 Jan Graeme Chuck calls Joseph asking him to return to Indonesia (on crutches if need be)
- 1996 Apr 23 Bre-X list on TSX. Price rises from to C\$192.50 within minutes of opening
- Joseph escapes to Jungle camp as far away from Jakarta and St Barbara as possible
- 1996 May 10 Bre-X hits \$286.5 on TSX. Stock splits 10-for-1. Company market value **\$6 Billion**
- 1996 July Busang estimate is now **47 million oz** of gold
- 1996 Dec 3 Bre-X estimates now at **57.33 million oz** (5 months drilling = 10 Moz resource increase )  
Lehman Brothers Inc strongly recommend a buy on “the gold discovery of the century”
- 1997 Jan 27 Suspicious fire at Busang destroys all drill logs, reports and core processing. Site was bulldozed before investigation team arrived (beginning of the end?)
- 1997 Feb 16 Agreement signed to develop Busang, giving Indonesia 40%, Bre-X 45%, Freeport 15%
- 1997 Feb 17 BreX announce estimate of **71 million oz** (2.5 months drilling = 14 Moz resource increase )
- 1997 Feb 19 Felderhof “comfortable” with **200 million oz** as a resource - “lots of blue sky” (not the Balikpapan Hotel)
- 1997 Mar 1 Freeport begins due diligence on deposit, drilling verification holes
- 1997 Mar 16 Freeport JKT receive preliminary assay results showing there is no gold in the first duplicate DH
- 1997 Mar 16 Felderhof receives “Explorer of the year” Award at PDAC, Toronto with Freeport geologist watching -  
2 hours after receiving assay results from Jakarta lab showing no gold in the 2 due diligence drillholes



# Freeport Due Diligence Drilling



Bre-X reported assay results				Freeport Assays	
HOLE	FROM	TO	WIDTH	g/t Au	g/t Au
BSSE-63	0	11	11	1.80	0.01
	25	191	166	4.39	0.01
	211	253	42	3.71	0.01
BSSE-173	5	145	140	1.33	0.01

Assay results returned no gold values for the duplicate drillholes

# BreX Timeline

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- 1997 Mar 16 Freeport JKT receive preliminary assay results showing there is no gold in the first duplicate DH
- 1997 Mar 16 Felderhof receives "Explorer of the year" Award at PDAC, Toronto with Freeport geologist watching - 2 hours after receiving assay results from Jakarta lab showing no gold in the 2 due diligence drillholes
- 1997 Mar 19 de Guzman and pilot leave Balikpapan in helicopter to meet Freeport due diligence team, only pilot arrives in Busang. Police deem it is suicide
- 1997 Mar Freeport drills additional holes to be sent to Freeport Laboratory in USA for analysis to avoid possible "issues" with using a Jkt laboratory
- 1997 Mar 26 Freeport announces due diligence of core returned "insignificant amounts of gold" "
- 1997 Mar 26 Shares of Bre-X crash.
- 1997 Mar Strathcona Mineral Services retained by Bre-X to audit both Bre-X program and Freeport DD programs



# Accusations of un-professionalism

Felderhof and de Guzman were interviewed by RICHARD BEHAR for Fortune Magazine in Feb 1997, weeks before Felderhof was due to receive the PDAC **Explorer of the Year** award in Toronto the following month

The previous operator (WAM) drilled 19 holes, but "they were all in the wrong places," (Felderhof). Or they were "too shallow." Or "the workers used a wet-drilling method" that, ironically, washed away whatever gold they did strike

"Geology wasn't on their minds," added Felderhof. "They were spending all their time in town chasing girls and naming creeks after them." De Guzman, who, as it turns out, had at least four wives simultaneously, laughed as he recalled the various creeks - "Karen, Jenny, Martha, Ann, Sue."

RICHARD BEHAR (FORTUNE Magazine - June 9, 1997)

I did indeed name the creeks but using names from my family, friends in Australia and various family members of my survey crew!!!!

"Aha, the creek-namer! At last. Very nice to hear from you, Joseph.

RICHARD BEHAR (email exchange – Feb 4, 2021)

# St Barbara



Patron saint of miners

and patron of a monthly beer drinking session, redemption and retrospective irony at any pub nominated by Indonesian Mining Association

APRIL 1<sup>st</sup>, 1997 – APRIL FOOLS DAY



# A 2<sup>nd</sup> St Barbara “Homecoming”

- Now that BreX was exposed I looked forward to going to the next St Barbara’s gathering - the taste of vindication was strong.
- I had been working on the Buduk Project on the western side of Borneo Island
- On flight back to Jakarta, 3 days before next St Barbara drinks, I started chatting with a CNN reporter sitting next to me who had been covering a story on cultural conflicts in West Kalimantan. She asked what I did, and I replied I was a geologist
- With a flicker of interest in her eyes as she hastily asked, “Have you heard of Busang”? Off went, describing my original involvement and long-held suspicions of BreX. She offered to interview me on camera. I regrettably declined as my managers asked not to mention Busang to anyone for fear of guilt by association.
- “However”, I mischievously replied, “why don’t you come with a cameraman to the gathering of mining people at Friday’s St Barbara’s drinks”. “Would they mind?” She asked “Of course not, they’re miners and geos, come after 9pm when they’ve had a few beers and they’ll talk to anyone about anything”
- I regret not taking up her offer to be interviewed on camera as the next time I saw the journalist.....



2018

2021



# BreX Timeline

- 1997 Mar 1 Freeport begins due diligence on deposit, drilling verification holes
- 1997 Mar 16 Freeport JKT receive preliminary assay results showing there is no gold in the first duplicate DH
- 1997 Mar 16 Felderhof receives “Explorer of the year” Award at PDAC, Toronto with Freeport geologist watching
- 1997 Mar 19 de Guzman and pilot leave Balikpapan in helicopter to meet Freeport due diligence team, only pilot arrives in Busang. Police deem it is suicide
- 1997 Mar Freeport drills additional holes to be sent to Freeport Laboratory in USA for analysis to avoid possible “issues” with using a Jkt laboratory
  - “Men in Black” squad arrives at Freeport office – any item associated with Busang removed from office
- 1997 Mar 26 Freeport announces due diligence of core returned “insignificant amounts of gold”
- 1997 Mar 26 Shares of Bre-X crash.
- 1997 Mar Strathcona Mineral Services retained by Bre-X to audit both Bre-X program and Freeport DD programs
- 1997 May 5 Strathcona Report confirms that there is no gold at Busang, claiming samples were tampered with
- 1997 Nov BreX files for bankruptcy





# Favourite Busang Quotes

- *"If our aggressive development assumptions come close to future reality, in five years Busang may be the largest-producing gold mine in the world."*  
*(Lehman Brothers, NY-1997)*
- "Like others in the investment community, he accepted Felderhof's decision to have pieces of whole core crushed for sampling. Felderhof's explanation, that splitting the core meant losing too much of the gold, seems not to have alarmed any of the analysts"
- "This can't be a scam!" Munk screamed at his deputies. "Do some more tests! Figure it out! I know it's there, okay? You confirm it's there." (P Munk, Barrick CEO)
- "I don't believe those guys salted the mine...you couldn't have fooled that many analysts for that long." When Freeport reported "insignificant" gold, Munk suggested Freeport was scheming to lower the stock price
- Even the pros got burned in this tale of greed. Doug MacIntosh of J.P. Morgan (Bre-X banker), a mining engineer with 30 years experience, "I believed the gold mine would be the most lucrative in the world"

NUMBER - NUMÉRO

C15111

C 15111



BRE-X MINERALS LTD.

INCORPORATED UNDER THE BUSINESS CORPORATIONS ACT (ALBERTA)  
CONSTITUÉE EN VERTU DE LA LOI INTITULÉE «BUSINESS CORPORATIONS ACT» (ALBERTA)

CUSIP 10625K 10 9

10625K 10 9

SHARES - ACTIONS

\*\*\*500\*\*\*

This certifies that  
La présente atteste queNORTH YORK ON  
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est le porteur inscrit de\*500\*\*\*\*\*  
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## BRE-X MINERALS LTD.

transferable only on the books of the Corporation by the holder hereof in person or by attorney, upon surrender of this Certificate properly endorsed. This Certificate is not valid until countersigned and registered by the Transfer Agent and Registrar of the Corporation.

In Witness Whereof the Corporation has caused this Certificate to be signed by its duly authorized officer.

transferable dans les registres de la société seulement par son porteur en personne ou agissant par l'intermédiaire d'un fondé de pouvoir, sur remise de ce certificat dûment endossé. Le présent certificat n'est valable que s'il est contresigné et enregistré par l'agent des transferts et l'agent chargé de la tenue des registres de la société.

En foi de quoi la société a fait signer ce certificat par son dirigeant dûment autorisé.

Dated / Fait le

20 AUG 1997

Countersigned and Registered - Contresigné et enregistré  
MONTREAL TRUST COMPANY OF CANADA  
COMPAGNIE MONTRÉAL TRUST DU CANADA  
Transfer Agent and Registrar  
Agent des transferts et agent chargé de la tenue des registres

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THE SHARES REPRESENTED BY THIS CERTIFICATE ARE TRANSFERABLE AT THE  
PRINCIPAL OFFICES OF MONTREAL TRUST COMPANY OF CANADA IN CALGARY,  
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PRESIDENT - PRÉSIDENT

SECRETARY - SECRÉTAIRE



# How was it Done?

*"What has been difficult has been acceptance of the evidence this tampering occurred for so long, on such a scale, and with such accuracy as to give the assay values, and subsequent interpretation of those values, the appearance of being plausible."*

Strathcona Mineral Services Ltd. 1997

Most widely accepted theory (from published info and St Barbara's gossip) is that at first, one or several of the geological team used fine shavings from wedding rings and other jewellery to salt core. This was done to stop the project from closing down after disappointing results from the first 2 BreX DHs but, as the scam took on its own momentum, they was forced to obtain gold from other sources, most likely alluvial gold miners in the Busang and nearby areas.

Undetected because whole process very tightly controlled from the drill rig, to on-site core shed to Bre-X's own sample prep lab at Samarinda – it is here that the salting most likely took place.

The pulps were then sent to Indo Assay lab in Balikpapan who were none the wiser

## WHAT WAS THE END GAME?

Was de Guzman the main player or just part of a larger group. Perhaps he was the "Fall Guy" (*apologies for very poor pun*) who offered to take the blame and disappear by faking his suicide ?





# How was it Done?

Forensic Investigative Associates Inc. were retained by Price Waterhouse to investigate how salting of Busang core occurred. Over 150 witnesses on 4 continents were interviewed resulting in a 430-page report. FIA concluded that

- “Tampering of Bre-X samples began in Dec 1993”
- “We believe Michael de Guzman and Cesar Puspos orchestrated purchase of alluvial gold from a gold panner at Busang throughout the period of tampering”
- “reasonable and probable grounds to believe Michael de Guzman and Cesar Puspos conspired together with Jerry Alo, Bobby Ramirez and Manny Puspos and others to defraud Bre-X and the public”
- The report states that tampering took place in Bre-X’s Samarinda facility where de Guzman and Puspos directed samples bags to be systematically opened after which “samples were salted with alluvial gold”
- FIA claimed to have found “no evidence” that the David Walsh, John Irvine (Indo Assay Labs) and others, “were either involved or had knowledge of any of the illegal activities with respect to tampering”
- FIA also stated “The issue of John Felderhof’s participation or knowledge is still an open question”

# How and Why ?

We know the how, what about “Why”

What was the end game?

Case of getting in too deep and not knowing how to get out

Was de Guzman capable of faking own suicide? – He could certainly afford it, Bre-X records show he exercised \$4.5M worth of shares

# Were there any Red Flags?

(aside from discrepancies between WAM and Bre-X drilling results)

So, how was Bre-X able to sustain such a scam at that scale and for such a length of time (**3 1/2 years**) especially with so many red flags? – This is THE question

- ❑ Why did nobody (with rare exceptions) listen to MRA geologists when they claimed, from experience, the reported assay results are highly implausible?
- ❑ Why was Bre-X's insistence of assaying whole core and not keeping at least some ½ core accepted for so long?
- ❑ March 1996 Normet Pty allegedly identified alluvial gold in core sample. Normet approached Felderhof - he said "oxidizing agents" in the soil create a situation "similar to a riverbed", creating what seems like alluvial gold. Normet were not obliged to make its findings public
- ❑ Sample prep equipment on site not used - samples unnecessarily sent downriver to Samarinda for processing by BreX personnel at a secretive, stand-alone facility
- ❑ Site geology office and part of core shed destroyed with all records, logging etc lost
- ❑ Visit by Maptek (at request of Freeport) to Jakarta raised alarms when de Guzman did not want to see his orebody being modelled in 3D – the "ultrasound" principle"



And the Winner of the RED FLAG  
Award goes to.....





# The “Volcanic Pool Theory”

“Some Independent auditors, sent by large institutional investors, found gold had rounded edges. De Guzman explained it was because of *Volcanic Pool Theory*“

Pre-BreX, De Guzman proposed when a volcano "collapses back onto itself," gold is created from "massive buildup of heat and pressure."

He argued “volcanic pressure” causes non-uniform distribution of gold across the core sample, therefore requiring the entire sample to be tested for accuracy.

The "*Volcanic Pool Theory*" motivated Bre-X's selection of Busang and justified their unorthodox exploration practices ie. assaying whole core and not ½ core.

The “Theory” was accepted by many investors (and geologists?)

# LEGAL CONSEQUENCES

Nobody was ever convicted for the Bre-X scam

Felderhof and Walsh “moved” to the Caymans and Bahamas respectively soon after the scam was exposed

They had raised suspicion for selling \$25 million in stock prior to De Guzman's suicide.


The courts ruled in their favor, claiming they "acted with their normal professionalism, which by its very nature bestows credibility”

The Judge further believed "Felderhof has proven he took all reasonable care”

Nasdaq released a statement claiming Bre-X passed the SEC's filing and financial requirements



# Where are they now? Bre-X

- When BreX's share price was still high, David Walsh sold several \$Ms worth of stock but was never able to enjoy the benefit as he died suddenly of an aneurysm in the Bahamas in June 1998, only three months after the fraud was exposed
  - Felderhoff escaped to the Caymans until he was acquitted of fraud, after which he moved to Bali where he married a Philippine woman, Maria, and then moved to the Philippines where he settled into a peaceful, simple (right), running a small convenience store, where he died in 2019
- 
- A photograph of a middle-aged man with short grey hair, smiling at the camera. He is wearing a white short-sleeved button-down shirt. He is standing in a garden or greenhouse area, with various plants and a wooden trellis structure visible in the background. The lighting is bright, suggesting it is daytime.
- Photo by Trish Saywell – The Northern Miner.
- De Guzman died in Borneo, or did he? Is he in Brazil, Indonesia, Philippines?
  - Most of the Philippine geologists seem to be living in obscurity
  - John Irvine, who ran the Balikpapan assay lab retired very soon after the scam broke and moved home to Australia

# Where are they now? Busang Prospect

What about the Busang Prospect? MRA left it in good stead in 1989 only for its reputation to be forever sullied

What if there is something there? Over 300 holes drilled by BreX - assays are fake and no record of what was found, no archival core and all logs destroyed by fire.

Plenty of “smoke” in the Central Zone, what if Bre-X drilling intersected zones of alteration / mineralisation which could have been vectors to something larger?

Rio Tinto geos report that core from Busang shown to them by BreX had “Kelian-like appearance”

Barrick was interested to explore further at the end of 1997 but were told in no uncertain terms by the Indonesian Mines Dept that it would not happen (language warning)

Since 1997 Busang has slowly slipped back into obscurity, Google Earth shows the site reclaimed by jungle while at the same time, palm oil plantations creep ever closer from the east


Indonesian miners pour mercury into a drum to separate the gold at a rudimentary mine in 2007 near the old Bre-X site.

Photo by TED RHODES /Postmedia Network



Photo by TED RHODES /Postmedia Network





Canadian Pension funds were among the biggest losers when Bre-X shares tanked. A sampling of funds and their losses:

- ▶ Ontario Teachers' Pension Plan Board:.....\$100 million
- ▶ Caisse de dépôt et placement du Québec:.....\$70 million
- ▶ Ontario Municipal Employees Retirement Board:. . . \$45 million
- ▶ Newfoundland Public Sector Pension Plan:.....\$5 million
- ▶ Halifax Regional Municipality pension fund:.....\$1.5 million
- ▶ Edmonton Telephone Endowment Fund .....\$750,000

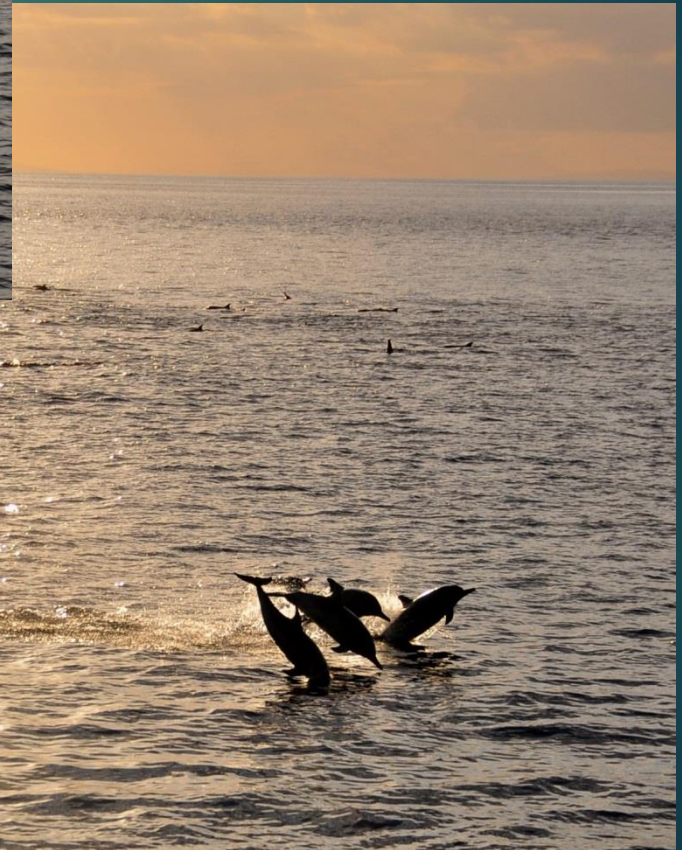


# WORKING IN POST BRE-X INDONESIA

# Field Work using GPS (Geologist Protection Squad)









# Another Hard Day at the Office



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