

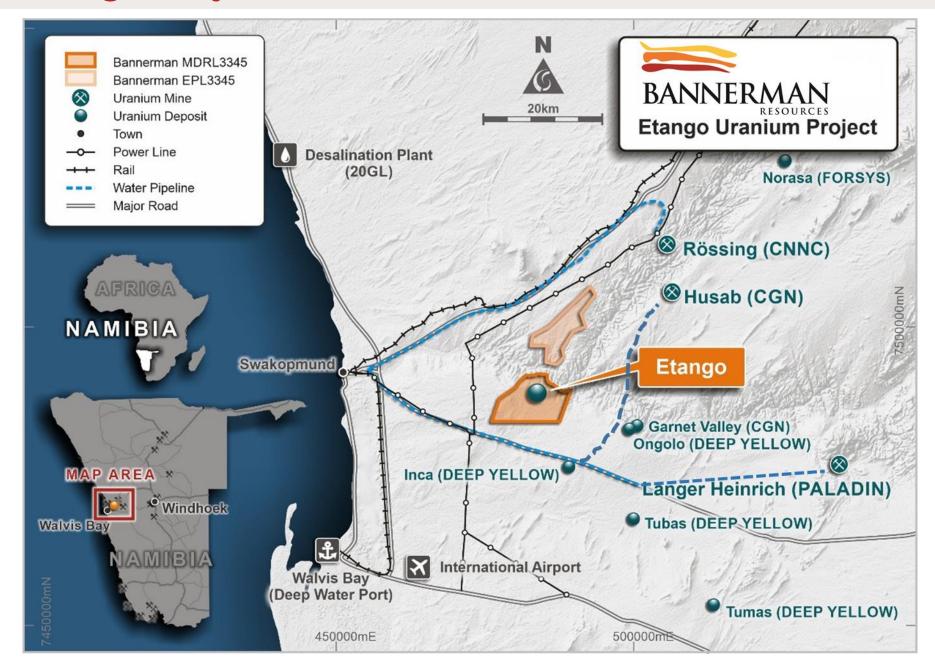
# **Etango Project Update**

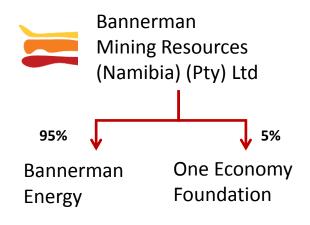
Werner Ewald
1 September 2021



### **Etango Project Location**



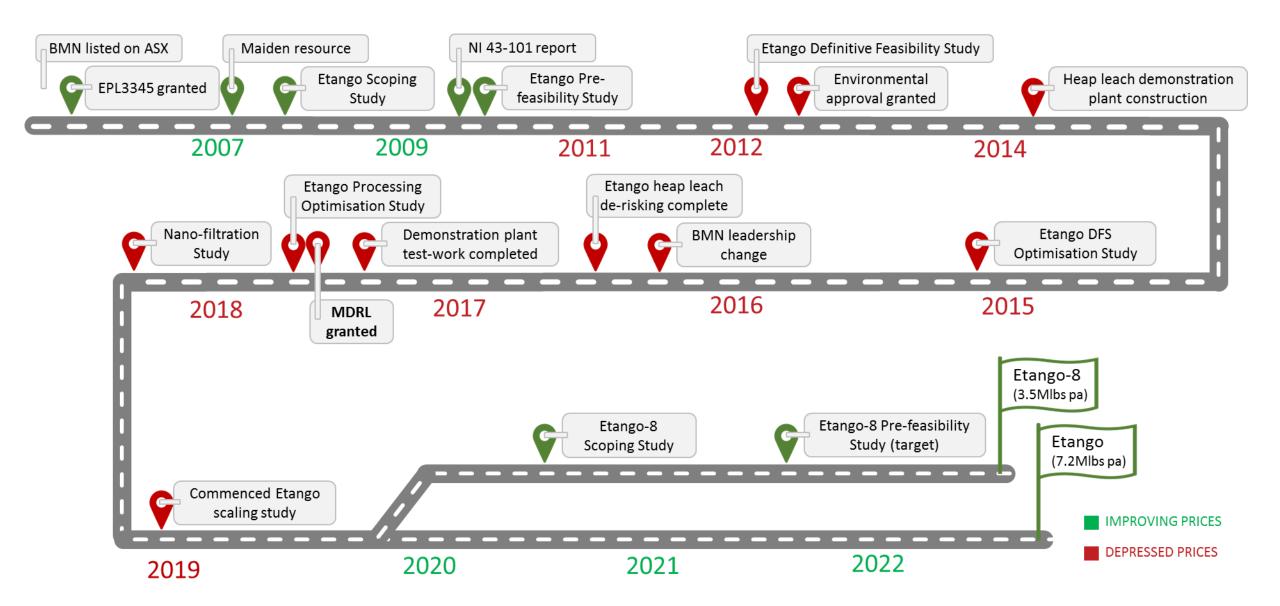






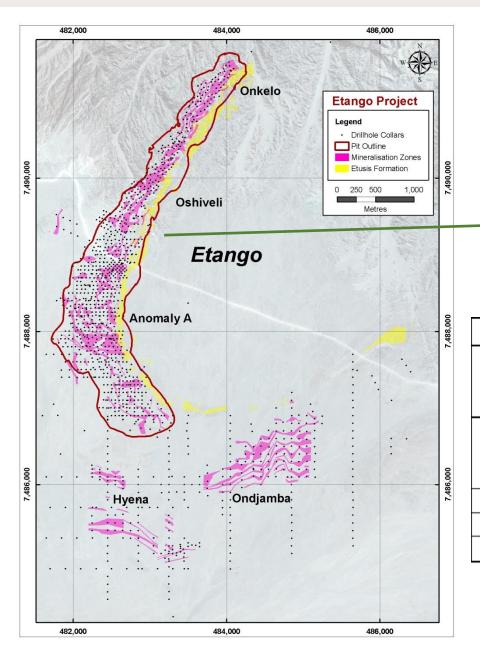
### **Etango Project - Background**





### **Etango - Background**





- 239,032 m of drilling
- 105 DD collars
- 834 RC collars

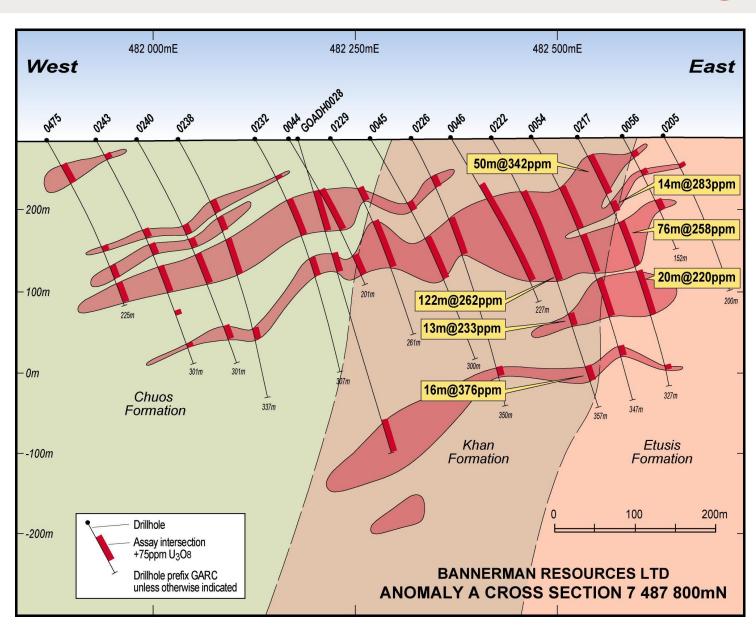
#### Etango June 2021 Mineral Resource, reported within a US\$75 pit shell and 100 ppm $U_3O_8$ cut-off

### Etango Project Mineral Resource Estimate June 2021

Reported at a cut-off grade of 100 ppm U<sub>3</sub>O<sub>8</sub>, Constrained within the resource pit shell

Resource Category	Tonnes (Mt)	Grade (U₃O <sub>8</sub> ppm)	Contained U <sub>3</sub> O <sub>8</sub> Mlbs
Measured	27.6	219	13.3
Indicated	286.1	217	137.1
Inferred	115.0	226	57.4
Total	428.7	220	207.8

- Uranium mineralisation predominantly hosted by a stacked sequence of leucogranitic bodies (alaskite);
- Uranium defined within an approximately +5km long zone trending south-east to north-east that dips moderately (30°to 50°) to the west;
- Dominant primary uranium mineral is uraninite (UO<sub>2</sub>);
- Approximately 90% of logged mineralised intervals (>50 ppm U<sub>3</sub>O<sub>8</sub>) at the Etango Project occur within alaskite;
- Minor uranium mineralisation is also found in the metasediment sequences;



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### **Etango- Heap Leach Demonstration Plant**

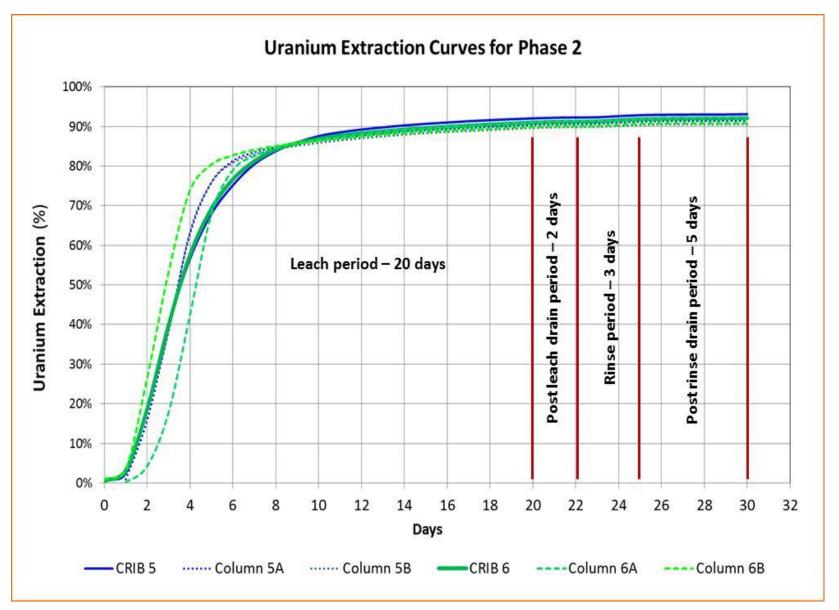


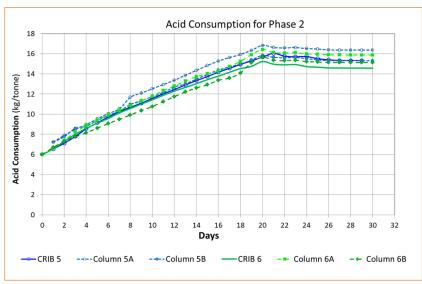
- Commissioned March 2015;
- Demonstrating leach parameters at different particle size distributions;
- Reagent consumptions;
- SX; IX and nano-filtration test work.





### **Etango- Heap Leach Demonstration Plant**







### Etango - Many community relationships developed

















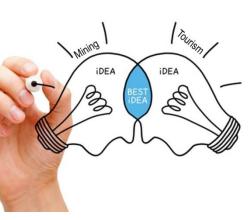


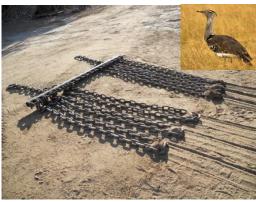


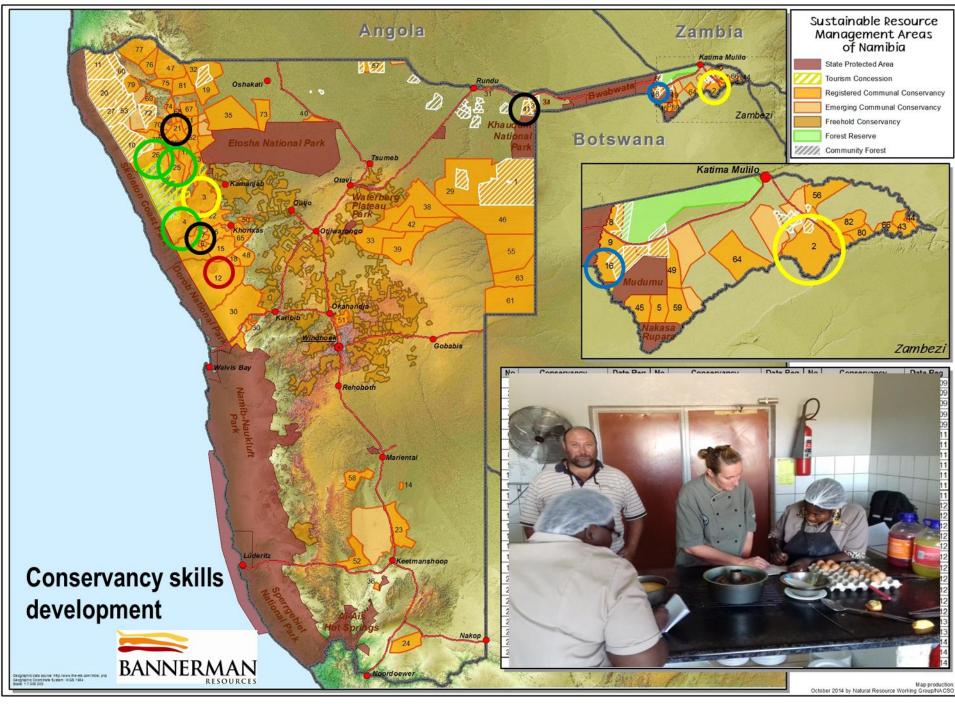


#### **Tourism**









### Education – Early Learner Assistance Program







#### Etango Project advanced study history

- Definitive Feasibility Study 2012 (DFS 2012); 20Mtpa throughput; estimation accuracy of ±15%.
- Heap Leach Demonstration Plant at site (operated from 2015); industrial scale plant that validated metallurgical parameters
- Etango-8 Scoping Study (August 2020); 8Mtpa throughput; estimation accuracy of ±30%

# Etango-8 PFS completed in August 2021; 8Mtpa throughput; estimation accuracy of ±20%

- Heavily informed by detailed study work undertaken as part of the DFS 2012 and OS 2015
- Maintains the real option of eventual expansion; potentially to the 20Mtpa scale evaluated in the DFS 2012 and OS 2015

# **Etango-8 PFS**

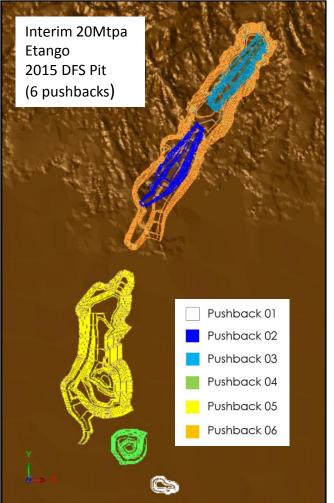
Key External Contributors and Consultants			
Wood plc - RSA	Process plant design and related infrastructure, plant capital and operating cost estimate		
Qubeka Mining Consultants - Nam	Geology review, pit inventory estimates, mine planning and financial analysis;		
A. Speiser Environmental Consultants - Nam	Environmental and social impacts and management; Community and stakeholder liaison		
Genis Business Consulting - Nam	External Water supply infrastructure		
Addiza Power Consultants - Nam	External Electrical supply infrastructure and site substation		
Windhoek Consulting Engineers - Nam	Sulphuric Acid Infrastructure: rail siding & port		
WML Coast Consulting Engineers - Nam	Access Road design and costing		
Fivemark Partners - Aus	Commercial and financial model		

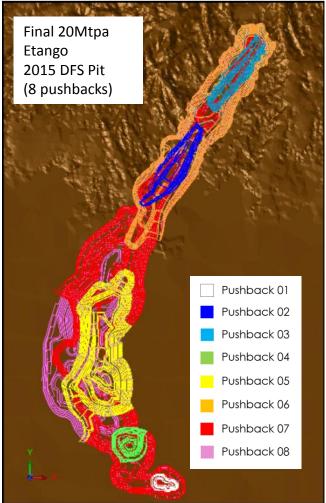
### **Etango-8 Pre-feasibility Study**

8Mtpa development retains flexibility to expand to larger throughput

Potentially up to 20Mtpa throughput once in production

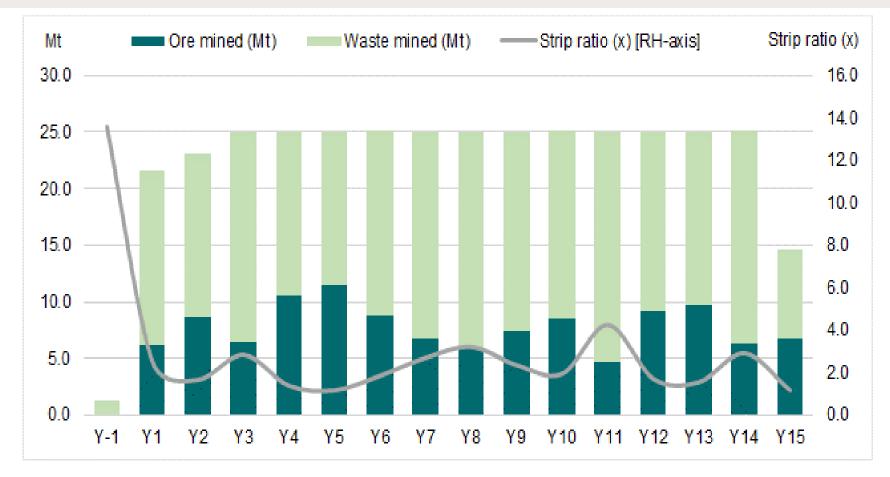






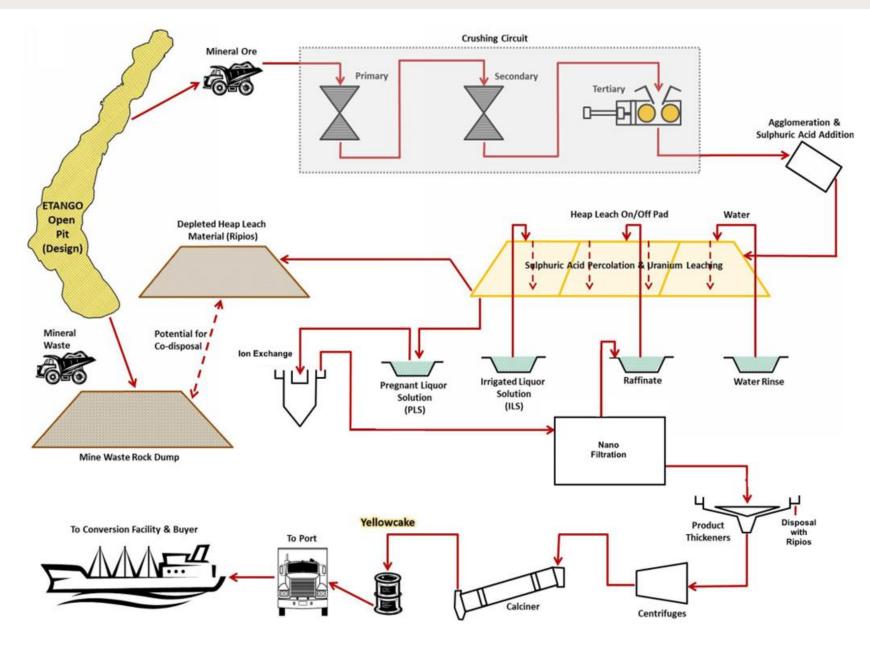
### **Etango-8** Mine schedule

- Total ore mined of 117.6Mt at 232 ppm U<sub>3</sub>O<sub>8</sub>
- Approx. 15 year initial life of mining operations
- Average strip ratio of 2.07
- Maiden Etango-8 Ore Reserve estimate
- Still delivers real optionality for potential future phases of expansion, including up to 20Mtpa throughput production rate and scheduled pit pushbacks laid out in the OS 2015



JORC (2012) Ore Reserve estimate for Etango-8 Project (30 April 2021)	Tonnes (Mt)	Grade (ppm U3O8)	Contained metal (Mlb)
Proven	16.2	232	8.3
Probable	101.5	233	52.0
Total Ore Reserve	117.6	232	60.3

### **Etango-8 PFS Flowsheet**



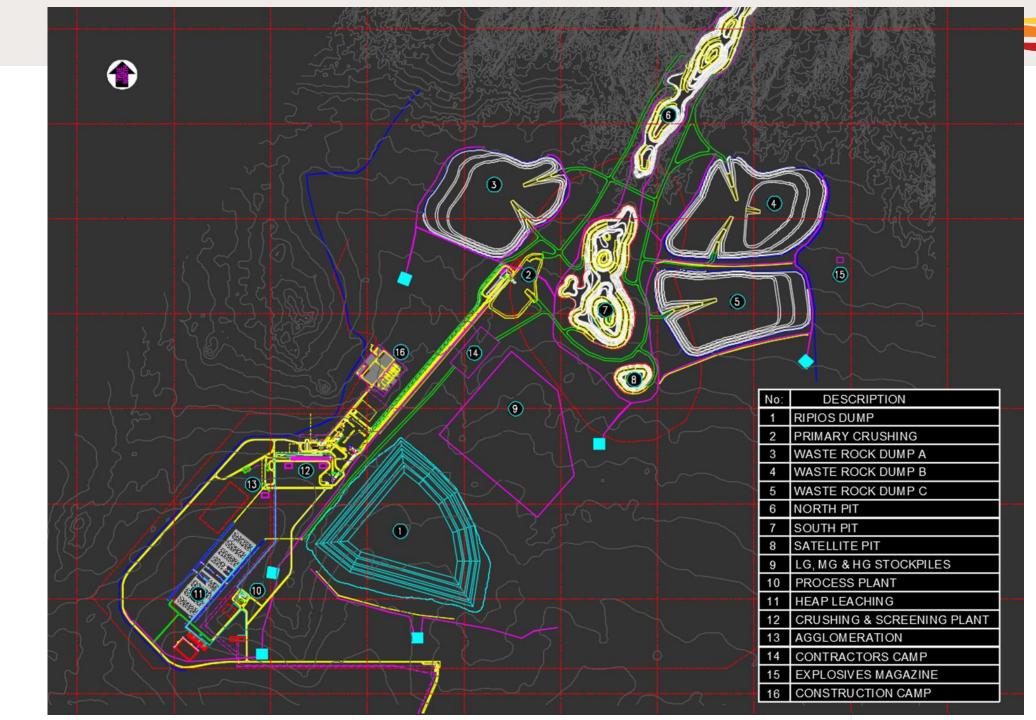
### Etango-8 Metallurgy and process inputs

- DFS-standard met testwork programs previously conducted at both ALS Ammtech and Bureau Veritas;
- Comminution, heap leach column and cribs, acid usage, SX, lon Exchange (IX) and Nano-Filtration (NF) testwork all conducted;
- Construction and operation of Heap Leach Demonstration Plant at Etango also demonstrated, at scale, the robustness of the process assumptions used in Scoping Study;
- Average acid consumption of 14.7kg/t was achieved at the Heap Leach Demonstration Plant;
- Taking into account scale-up factors, and downstream acid consumption, a final acid consumption input of 18.0 kg/t has been utilised; clear potential for this to be further optimised;
- Membrane Study testwork completed in early 2020 confirmed substantial advantages of IX followed by NF; design of the NF plant has already been completed to definitive level

Key Process Design Parameters			
Leach duration	32 days		
U <sub>3</sub> O <sub>8</sub> Recovery	87.8%		
Acid consumption	18kg/t		
Heap leach pad height	5m		
Heap irrigation rate	15 L/m²/hr		

Etango-8 Layout

Open Pit and Processing Plant



### **Etango-PFS Key Outcomes**

3

15 Years

Initial mine life

2.07

Strip ratio

US\$65/lb

LOM U<sub>3</sub>O<sub>8</sub> Price

**US\$222M** 

Post-tax NPV<sub>8%</sub>

8Mtpa

Plant throughput

87.8%

Processing yield

20.3%

Post-tax IRR

3.8 Years

Payback (Post-tax)

3.5Mlb U<sub>3</sub>O<sub>8</sub>

Average Annual Production

53Mlb U<sub>3</sub>O<sub>8</sub>

**Total Production** 

**US\$274M** 

Pre-production Capex

US\$39/lb

Cash opex (incl. royalties)

- Etango-8 Definitive Feasibility Study (DFS) has commenced with targeted completion in September 2022 quarter;
- No further exploration/resource drilling planned given over 150Mlb U<sub>3</sub>O<sub>8</sub> already in Measured & Indicated resource classification;
- Some further metallurgical test work to be done at the Demonstration Plant;
- Some more detailed geotechnical work for the Open Pit and Process Plant;

### **Etango-8 Thank You**

