Lance Projects Low pH Feasibility Study

Shareholder Meetings | September 2018

PENINSULA ENERGY LIMITED

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Please note that Production Targets within this presentation are based on a proportion of inferred resources. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration work will result in the determination of indicated mineral resource or that the production target itself will be realised.

Competent Person Statement

The information in this presentation that relates to Exploration Results, Mineral Resources or Ore Reserves and Metallurgical Results at Peninsula’s Lance Projects is based on information compiled by Mr. Jim Guilinger. Mr. Guilinger is a Member of a Recognised Overseas Professional Organisation included in a list promulgated by the ASX (Member of Mining and Metallurgy Society of America and SME Registered Member of the Society of Mining, Metallurgy and Exploration Inc). Mr. Guilinger is Principal of independent consultants World Industrial Minerals. Mr. Guilinger has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which they are undertaking as a Competent Person as defined in the 2012 Edition of the ‘Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves’. Mr. Guilinger consents to the inclusion in the presentation of the matters based on his information in the form and context in which it appears.

Cautionary & Inferred Resources Notice

The Feasibility Study completed for the Lance Projects includes measured and indicated resources and an assumed resource conversion of 60% (inferred to indicated or greater). The purpose of the Feasibility Study is to demonstrate the Lance Projects economic viability and the robustness of the planned low pH operations over an extended mine life beyond the existing Ross production area.

The Feasibility Study itself is based on various assumptions, including homogeneity of the delineated ore body contained within the Lance Projects. This is considered reasonable by the Company's technical consultants, competent persons and independent external consultants. The Company believes that it has a reasonable basis upon which to prepare and release these Feasibility Study results, particularly given that the Lance Projects have been in operation since December 2015. Whilst the Company considers that all the material assumptions underpinning the Feasibility Study are based on reasonable grounds, there is no certainty that they will prove to be correct or that the outcomes indicated by the Feasibility Study will be achieved.

The Company believes it has a reasonable basis for providing the forward-looking statements and production targets included in this announcement. The material assumptions are included in Appendix 1 of this announcement and in the JORC table disclosures appended. The detailed assumptions regarding the resources are outlined in the ASX announcement released on 17 September 2018.

Investors should also note that there is no certainty that the Company will be able to raise the amount of funding for the Lance Projects when it is required or on terms that are not overly dilutive or that are favourable to the value of the Company's existing shares.

This announcement has been prepared in accordance with the JORC Code (2012) and the ASX Listing Rules. There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realised. Financial information contained in this announcement is preliminary in nature and is in-part based on low-level technical and economic assessments and is insufficient to support the estimation of reserves or to provide assurance of economic development.

Under the Feasibility Study mine plan, the first 5 years production can be sourced almost entirely from Measured and Indicated Resources. If the Inferred Resources are excluded from the Feasibility Study, the economic analysis still forecasts a positive financial performance. Therefore, the Company is satisfied that the use of Inferred Resources is not a determining factor in overall Project viability and that it is reasonable to include Inferred Resources in the Feasibility Study, particularly given that the Lance Projects is an operating project that has been producing uranium for over two years.

In accordance with the relevant regulations governing the disclosure of mineral projects, readers are cautioned that mineable resources based on inferred resource material are considered too speculative geologically to enable them to be classified as reserves.

Agenda

1. Feasibility Study Summary	6. Value Enhancement Opportunities
2. Lance Projects Historical Context	7. Alternative Development Plan
3. Basis of Feasibility Study	8. FS Conclusion
4. Financial & Technical Outcomes	9. Next Steps for Peninsula
5. Feasibility Study Inputs	10. Why Invest in Peninsula

1 . Executive Summary

LOM Production

- 33.4m lbs U_3O_8
- 17 year minelife

Financial Metrics

- LOM AISC of $31.77/lb U_3O_8
- NPV8 (Real) $157m at avg sales price of $49/lb U_3O_8
- NPV8 (Real) $254m at avg sales price of $57/lb U_3O_8

Three Stage Expansion Plan

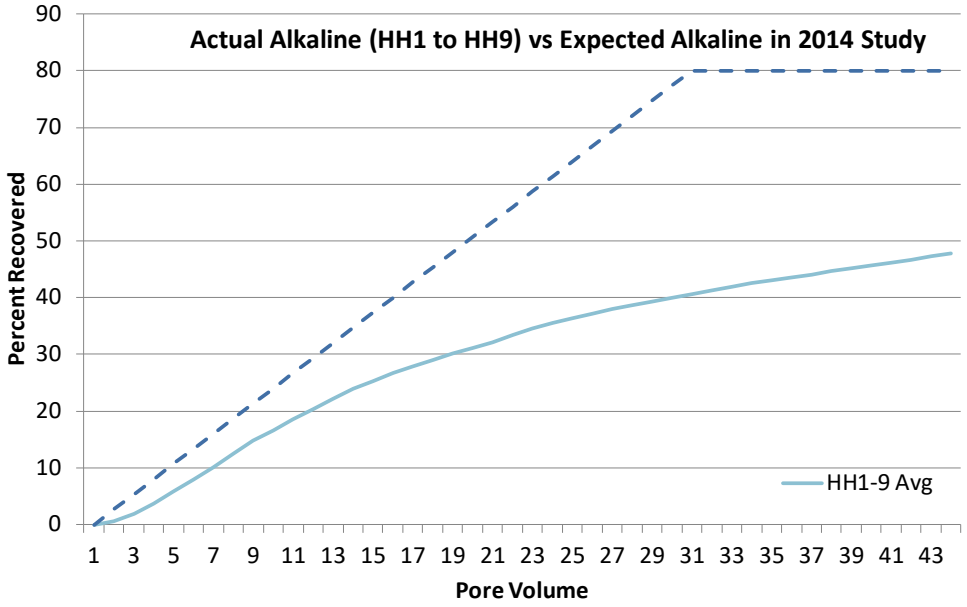
Stage	Year	Expansion CAPEX	Production Cost $/lb.	AISC $/lb.	Capacity mlbs/yr
Stage 1	2019	$5.3m	$14.67	$40.58	1.15
Stage 2	2024	$43.1m	$8.93	$31.52	2.3
Stage 3	2026	$70.3m	$9.16	$30.36	3.0

There is a low level of geological confidence associated with inferred mineral resources and there is no certainty that further exploration and delineation work will result in the determination of indicated mineral resources or that the production target itself will be realised.

1. Highlights

- **Break-even price of $34/lb U_3O_8**
  - Low direct OPEX costs drive competitive cost structure
- **NPV8 (Real) $157 million; IRR of 30%**
- **Cost Estimates +/- 5 to 10% range of accuracy**
  - Comprehensive cost analysis based on knowledge gained from current production operations at the Lance Projects
  - Existing facilities & infrastructure
- **Extensive technical support for key assumptions**
  - Laboratory research
  - Mineralogy study
  - Geochemical modelling
  - Global experience of key contributors

2. Lance Projects Operating History



- Production commenced Dec-2015
- Current mining operations use an alkaline lixiviant
- Just over 350,000 lbs U_3O_8 mined since production started
- Uranium recoveries using alkaline not meeting pre-mining targets

Our response

Mineralogy and leach chemistry research initiative

Amendment requests to permit use of low pH lixiviants

Low pH Feasibility Study

3. Basis of Feasibility Study

Chemistry

- Change from alkaline (bicarbonate + oxidant) to low pH
- Low pH lixiviant will be mild concentration of sulfuric acid

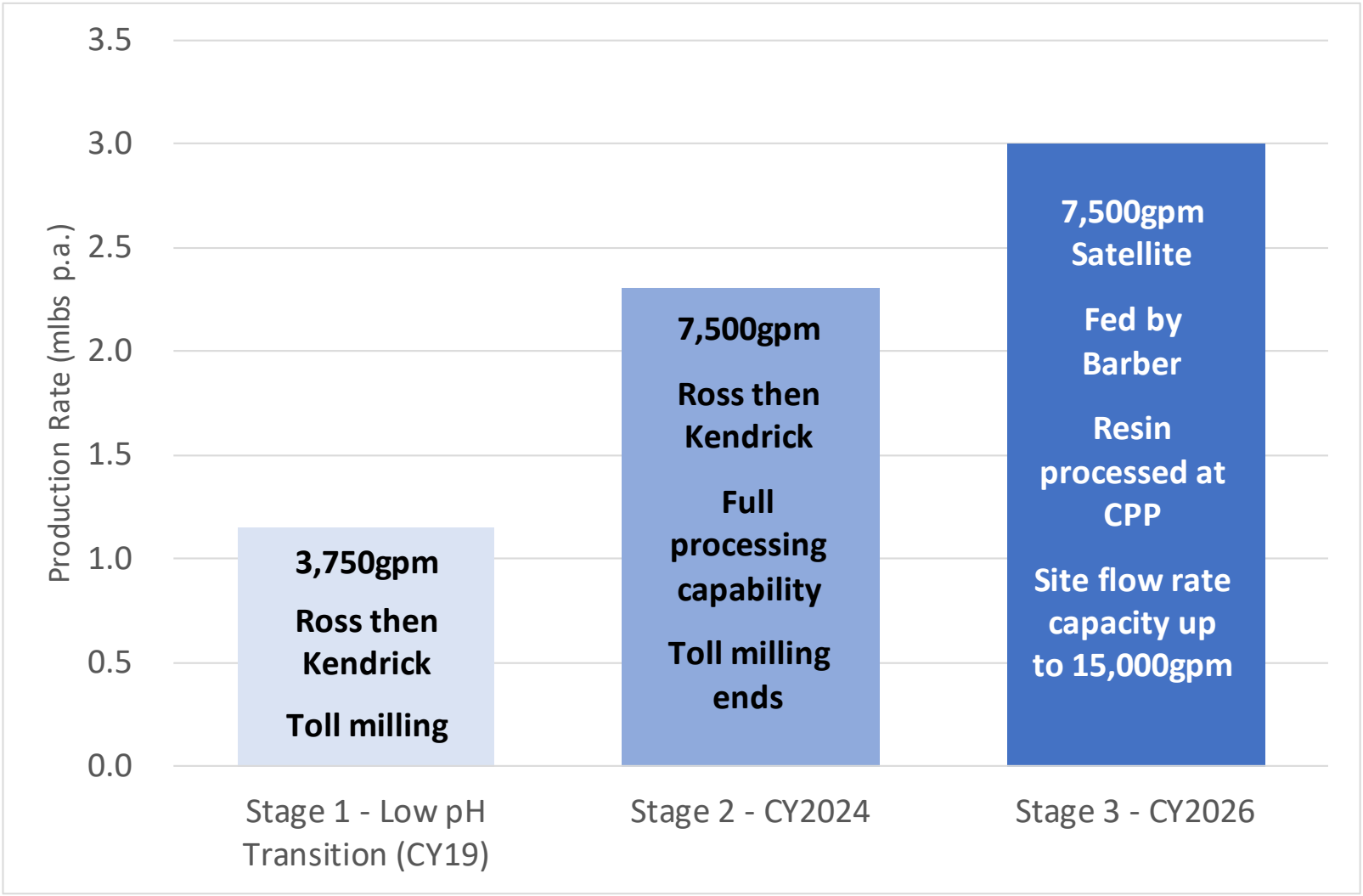
Plant & Wellfields

- FS uses lower average head grade than test results
- FS confirms modifications will be low cost
- Current flow rate capacity of 3,750 gpm
- Stage 1 (low CAPEX) production up to 1.15m lbs U_3O_8 p.a.

Regulatory

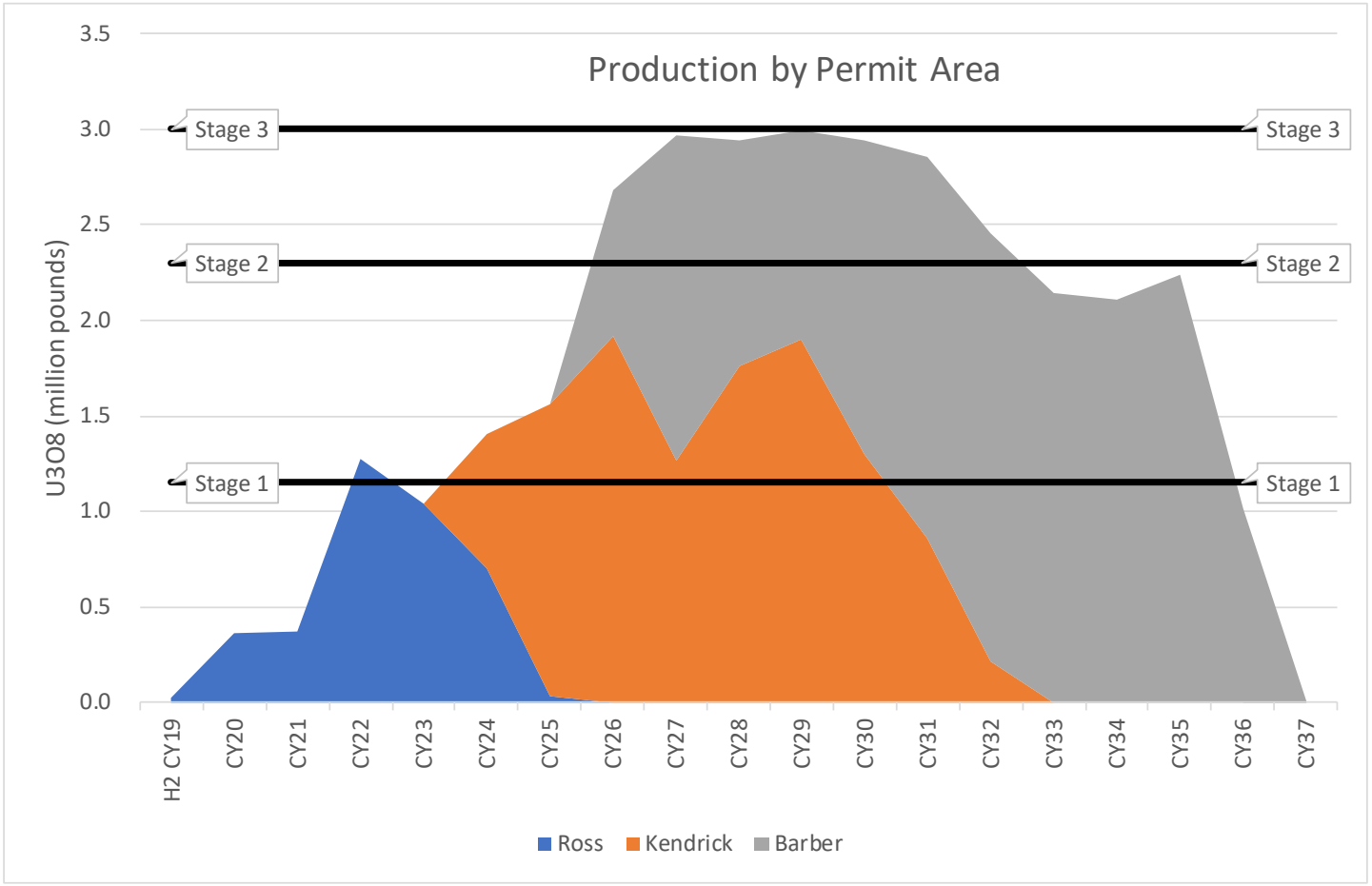
- Approval from regulators is required to change process chemistry
- Permit to Mine amendment application submitted April 2018
- Regulatory review is ongoing & progressing as planned

3. Basis of FS – Stages & Expansions



Production rates determined using average head grade of 70ppm U3O8; timing of expansions indicative and subject to final investment decision for each stage

4. FS Outcomes – LOM Production Profile



- Higher head grade = higher production rate from same production facilities

4. FS Outcomes – LOM OPEX

Operating Costs (+/-5%)	US$ Per lb U_3O_8
Wellfield	6.08
Processing Costs	3.04
Site and US G&A	3.32
Restoration & Rehabilitation	2.80
Contingencies	0.36
Total	**15.59**

- Tight +/- 5% range of accuracy*
- Sulfuric acid cost assumption - $162/t landed at site
- Toll milling ends when Stage 2 is commissioned
- Includes all site and US operations G&A costs
- Includes average contingency of 2.4%

**** Cost estimates are based on knowledge gained from operations at the Lance Projects – not estimates of what might happen when operations commence in the future***

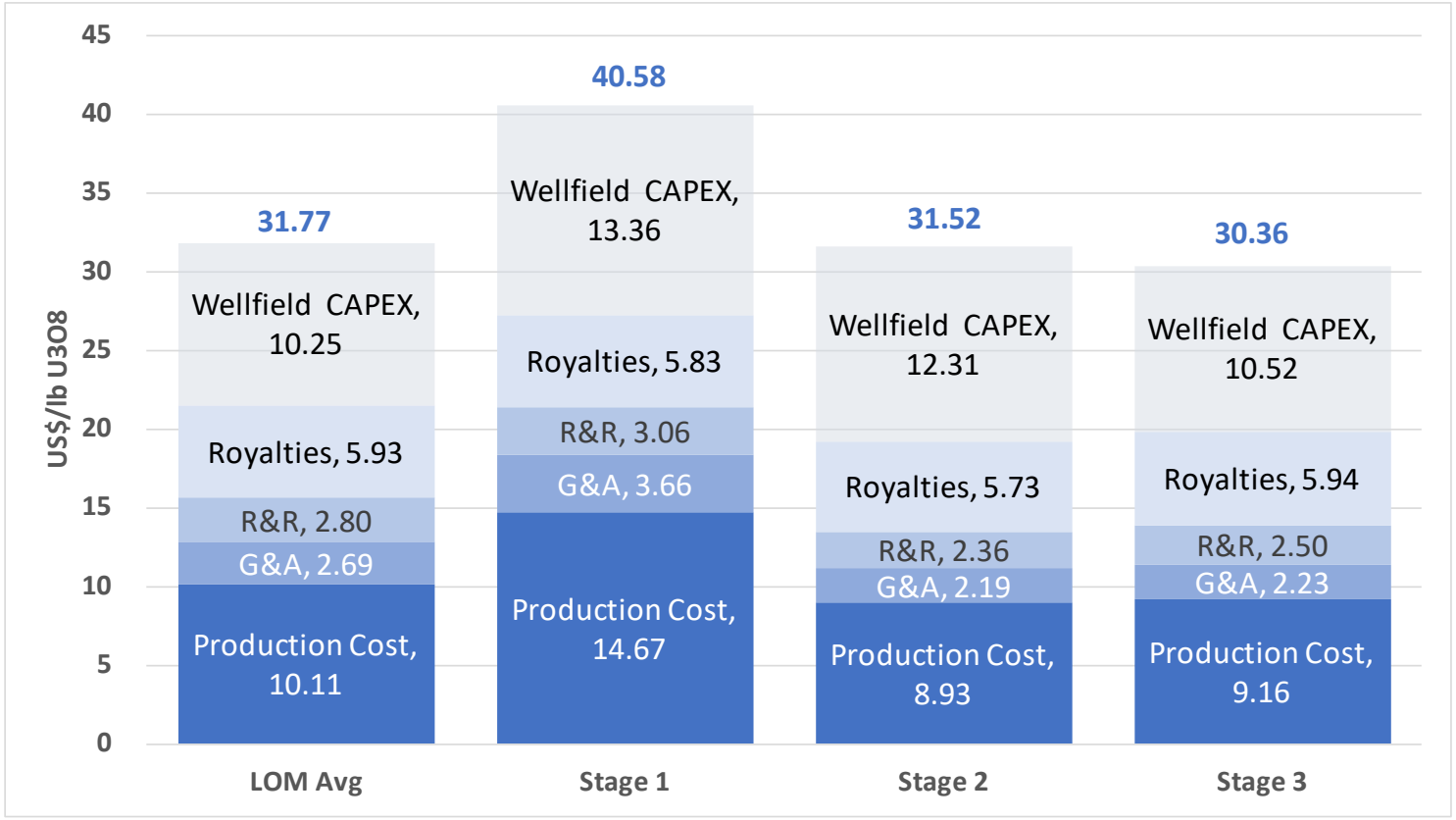
4. FS Outcomes – LOM CAPEX

Capital Costs	$USM	$US/lb
Low pH – Transition	5.3	0.16
Stage 2 - Plant & Wellfield Expansion	43.1	1.29
Stage 3 – Barber Satellite & Wellfield Expansion	70.3	2.10
Wellfield Replacement & Sustaining CAPEX	342.4	10.25
Total	**461.2**	**13.81**

CAPEX cost estimates maintain an element of conservatism – opportunities to reduce LOM wellfield development costs continue to be explored

- Tight +/- 5 to 10% range of accuracy
- Incl. resource definition & delineation costs over LOM
- Incl. costs to complete Kendrick and Barber / Satellite permits
- Scope to reduce Wellfield Development costs through bulk drilling campaigns
- Incl. average contingency of 5.8%

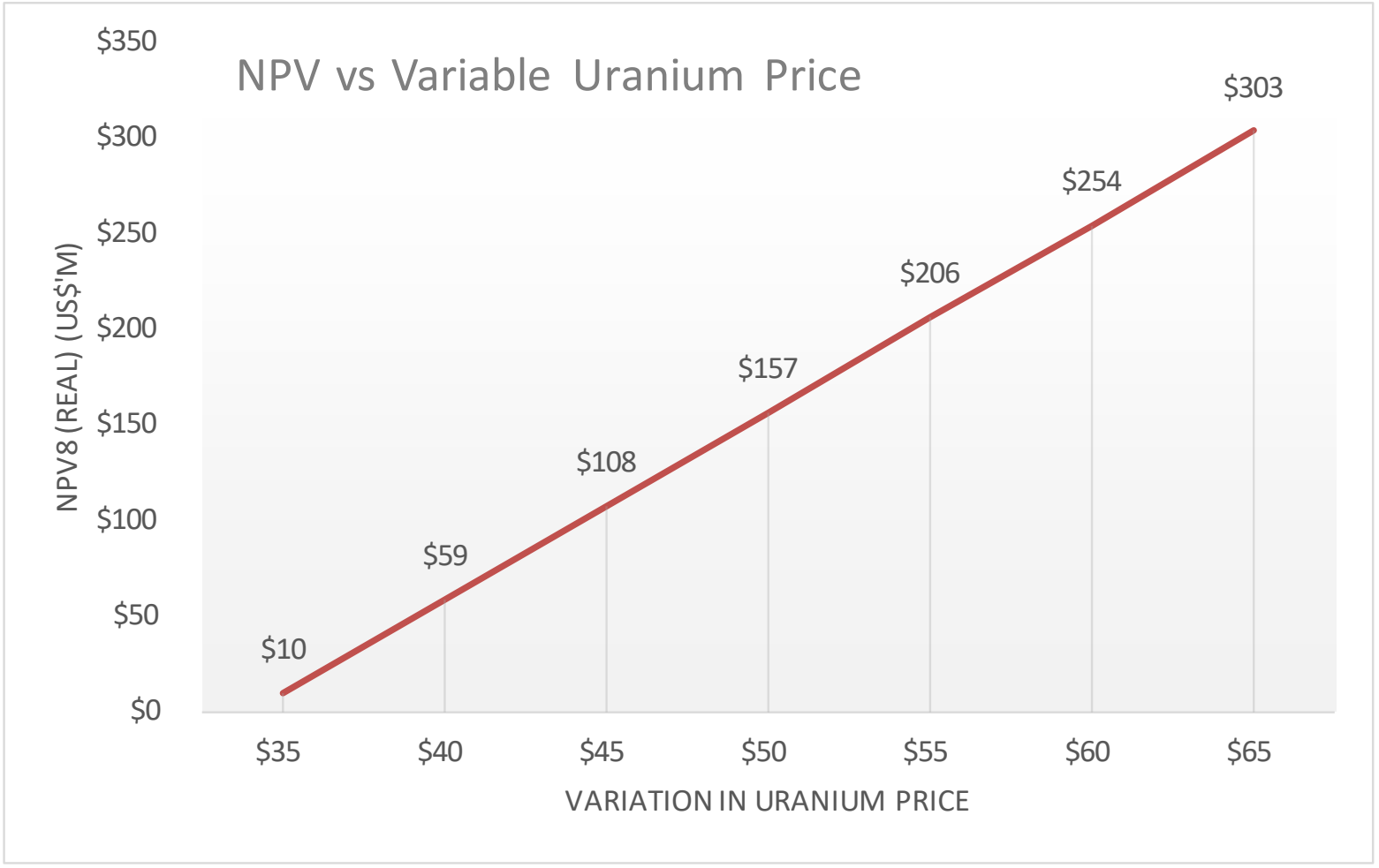
4. FS Outcomes - All-in Sustaining Cash Costs



- Comparative basis to Kazakhstan type low pH ISR (ie, exclude royalties & local taxes, rest. & rehab, DDWs for rest. & rehab and permitting/regulatory costs)
  - Stage 1: \$28.87/lb U_3O_8; Stage 2: \$21.03/lb U_3O_8; Stage 3: \$19.60/lb U_3O_8

Note: All-in sustaining cash costs exclude CAPEX for low pH transition, Stage 2 expansion and Stage 3 expansion and are calculated as at the steady state production rate for each respective stage

4. FS Outcomes – Uranium Price Upside



A $10/lb increase in uranium price assumption for currently uncontracted production increases NPV8 value by almost $100 million

5. FS Inputs – Mineral Resources[1]

(million lbs U3O8)	Resource at start of low pH	% under Wellfield Pattern*	% Recovered	Target Percentage Extracted	Amount Extracted*
Measured & Indicated	15.5	90%	90%	81%	12.8
Inferred	38.1	60%	90%	54%	20.6
Total	**53.6**			**62%**	**33.4**

- Resource increased to 53.9m lbs U_3O_8 (effective as at 31 Dec 17)[1]
  - Update based on development drilling in Mine Units 1 & 2
  - 56.9m lbs U_3O_8 forecast to remain when low pH mining commences
- Conservative 62% of overall resource assumed to be extracted in FS
- Each 10 percentage point extraction increase of inferred resources **equals $60m additional NPV8** (at base case price assumptions)

* Amount Extracted for M&I will not equate to simple multiplication of factors due to 100% of remaining resource in Mine Units 1 & 2 being under pattern and due to rounding

5. FS Inputs – Metallurgical Tests

- **Advancing Understanding Through Laboratory Research**

- Rigorous scientific effort
  - Systematic research methods
- Advanced microscopy techniques
- Low pH leach testing
  - 6 bottle roll extraction tests
  - 2 column tests
- Groundwater restoration simulations
- Ion exchange resin testing
- Provides technical basis for FS models

Column Leach Test Apparatus at Lance

5. FS Inputs – Metallurgical Tests

6 Mild Acid Agitated Leach Tests

>90% recovery in 30 Pore Volumes (PV)

Average grade of 228mg/L U_3O_8

Column Test #1

65% recovery in 10 PV

Average grade 80mg/L U_3O_8; peak 298mg/L

Groundwater restoration demonstration

Column Test #2

80% recovery in 13.5 PV

Average grade 105mg/L U_3O_8; peak 694mg/L

Validated acid consumption model

Confirms geochemical model conclusions

Additional Column Tests

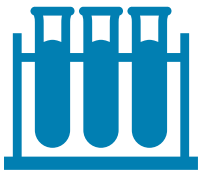
Grade & recovery in mining phase confirm FS assumptions

Tests currently in restoration phase

Core from Ross & Kendrick

5. FS Inputs – Metallurgical Tests (Mild Sulfuric Acid)

Target a pH level of approx. 2.0 Standard Units during mining



Acid requirement assumptions for FS determined by 2 methods

- Mass balance calc for consuming host rock carbonates
- Controlled addition during lab leach testing

Both methods confirmed requirement for 58 lbs per pound of U_3O_8

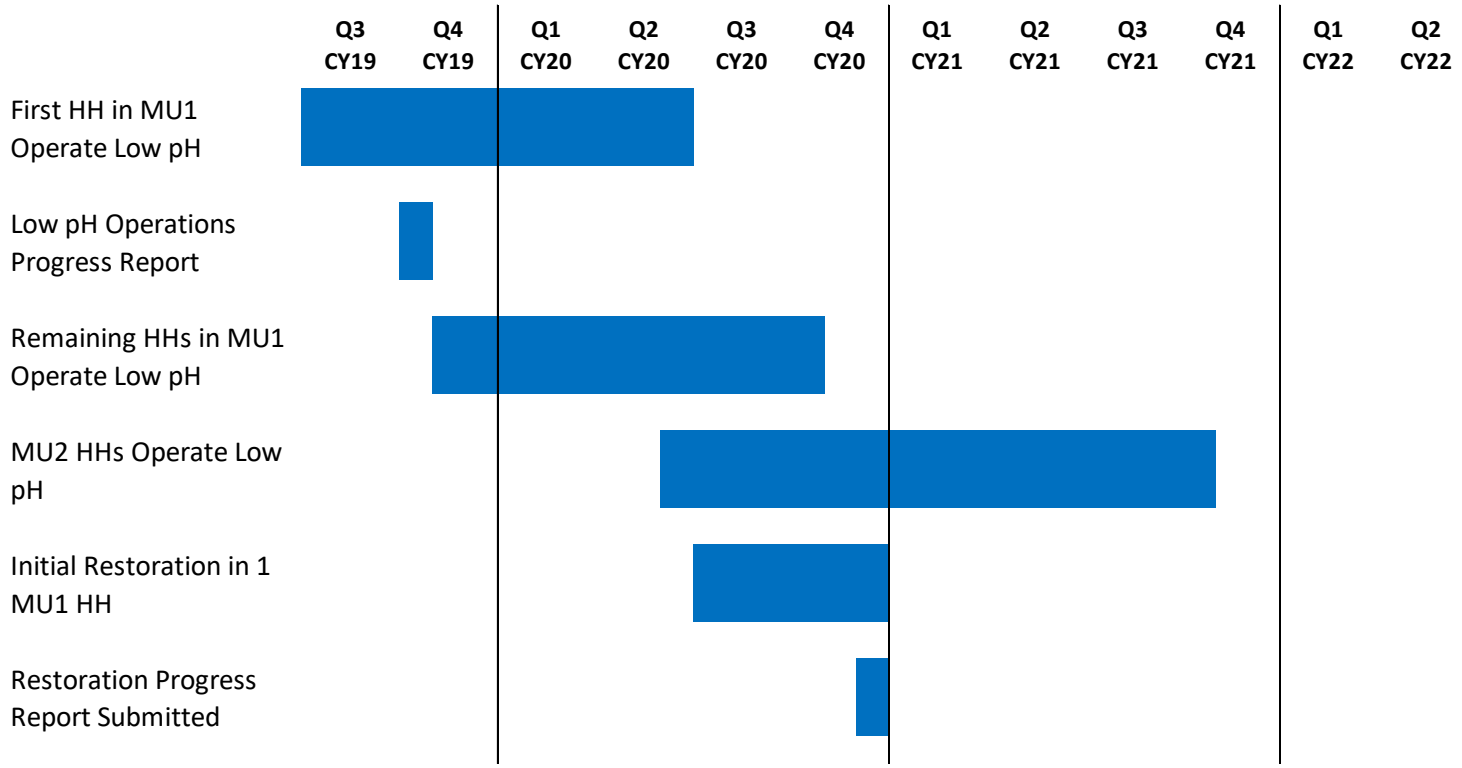
- Modelling higher for alkaline mined HHs - 84 lbs per pound of U_3O_8

Price assumptions confirmed through vendor quotes and industry price projections

- $4.30 acid cost per pound of U_3O_8 over LOM

Results from 17 core tests average carbonate content 1.64% - carbonate content less than 2.0% favourable for mild acid lixiviant

5. FS Inputs – Low pH Transformation



- Wyoming Agreement State transfer scheduled for 1 Oct 18
- Staged low pH implementation proposed to regulator – review & discussions ongoing; approvals targeted for July 2019
- ***Transformation comprises***: minor HH modifications; acid storage & distribution; re-coat IX column internals; replace DDW injection stringer; RO capacity increase

6. Value Enhancement Opportunities

Wellfield Costs

- No efficiency gains built into FS
- Possible owner-operator drilling
- Leverage buying power for bulk development campaigns

OPEX

- FS uses lower average head grade than test results
- Higher head grade = faster recovery & lower LOM OPEX
- Lower acid consumption/costs = lower $/lb U_3O_8 produced

Plant CAPEX Costs

- Stage 2 & 3 review plant designs as low pH database advances
- Process plant equipment can be optimised & resized

Stage 2 & 3 Timing

- Existing plant capacity can produce up to 1.150m lbs U_3O_8 p.a.
- Time expansions to improve value as uranium market improves to reward investment in additional low cost production

7. An Alternative Development Plan

- Run at Stage 1 capacity rates for LOM (3,750gpm flow rate)
- No expansion or enhancement to existing process plant
- No Barber or Satellite Plant
- Low CAPEX option for sustainable free cash flow generation
- Provides expansion timing discretion and optionality

Key FS Outcomes	Base Case FS	An Alternate Plan
LOM Production (mlbs U_3O_8)	33.4	15.3
Base Case NPV_8 at $49/lb Avg Price (Real) (US$m)	156.5	33.9
NPV_8 at $57/lb Avg Price (Real) (US$m)	254.0	66.6
Avg Annual Net Cash Flow at $49/lb Avg Price (Real) (US$m)	26.9	9.5
Avg Annual Net Cash Flow at $57/lb Avg Price (Real) (US$m)	40.4	15.2

Conclusion

8. Feasibility Study Take-Away Points

Technical Basis	• Over 12 months of laboratory tests completed • More rigorous test basis than prior alkaline FS • Almost 50% of global uranium mined using this method
Favourable Ore Body	• Carbonate content <2.0% - great for use of mild acid • 53.9m lbs U_3O_8 resource – largest resource being mined in US today • Staged expansion plan to align to uranium market needs
Regulatory Pathway	• Clear pathway ahead • Amendment application submitted in Apr'18 – review progressing
Cost Competitive	• \$31.77 / lb U_3O_8 LOM all-in sustaining cash cost • \$34.00 / lb U_3O_8 break-even price • \$5.3m low pH transition cost
Existing Contracts	• 20% of LOM production already under contract • Contracted revenue stream to assist financing activities

9. Next Steps for Peninsula

Amendment Progression

- Wyoming Agreement State 1 October 2018
- Source material license amendment application
- Finalise implementation plan with WDEQ

Strategic Review

- Engage independent advisor to review financing options
- Encompass review & advice on balance sheet structure
- Existing Con Note debt to be included in review

Customer Base

- Continue to engage with our existing & potential new customers
- Seek opportunities for new long term contracts – at acceptable prices

Testing & Planning

- Continue to refine low pH mining plans through ongoing testwork
- Further develop implementation plans
- Continue alkaline based mining at reduced rates until low pH approved
- Additional delineation drilling & carbonate content sampling

10. Why Invest in Peninsula

- **Robust low pH FS outcome at conservative price assumptions**
  - Current market value does not reflect our potential
  - Ability to improve a number of cost areas
- **Low technical risk transformation of an operating project**
  - Not changing mining method
  - Only changing leach kinetics to industry leading method
  - Low cost to transition to low pH
- **Operating mine located in a favourable jurisdiction**
  - Wyoming is a “can do” state
  - Benefit from any Section 232 outcomes favouring US producers
- **Existing sale contracts and relationships with major utilities**
  - 100% of production under contract until 2022
  - 20% of LOM production under contract – provides downside protection
  - Ability to expand production as new sale contracts are entered

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FURTHER INFORMATION

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Appendix 1 – Resources & Competent Person Statement

Lance Projects Resource Estimate as at 31 December 2017

Classification	Tonnes (million)	U3O8(kg)	Grade (ppm U3O8)	U3O8(lbs)
Measured	3.7	1.8	489	3.9
Indicated	9.1	5.4	466	11.9
Inferred	36.1	17.3	463	38.1
Total	**48.9**	**24.5**	**473**	**53.9**

1) *JORC Table 1 included in an announcement to the ASX released on 17 September 2018: "Lance Projects JORC Compliant Resource Update". Peninsula confirms that it is not aware of any new information or data that materially affects the information included in this announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.*

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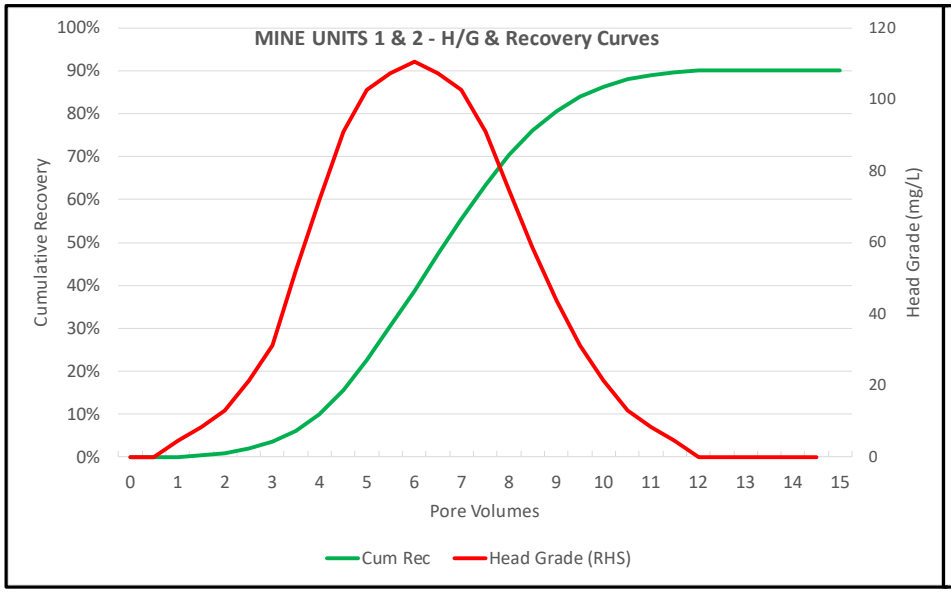
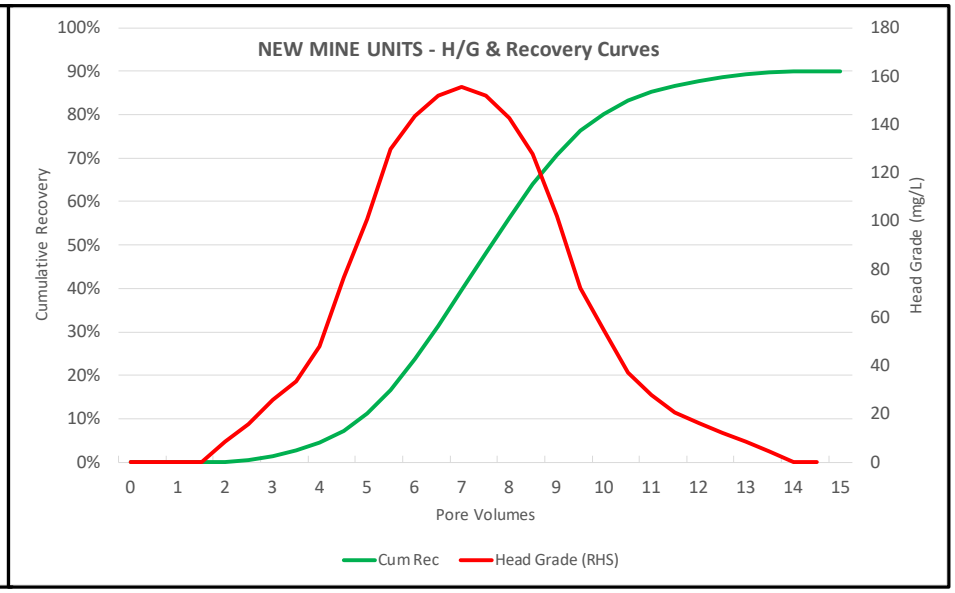
Appendix 2 – Recovery Curves





- Grade and recovery curves derived from 6 agitation leach tests and 2 column leach test data
- Recovery rate of 90% supported by lab tests and analogue information from other low pH ISR mines
- For all new HHs (MU3 +), average production grade result is 70 mg/L U_3O_8

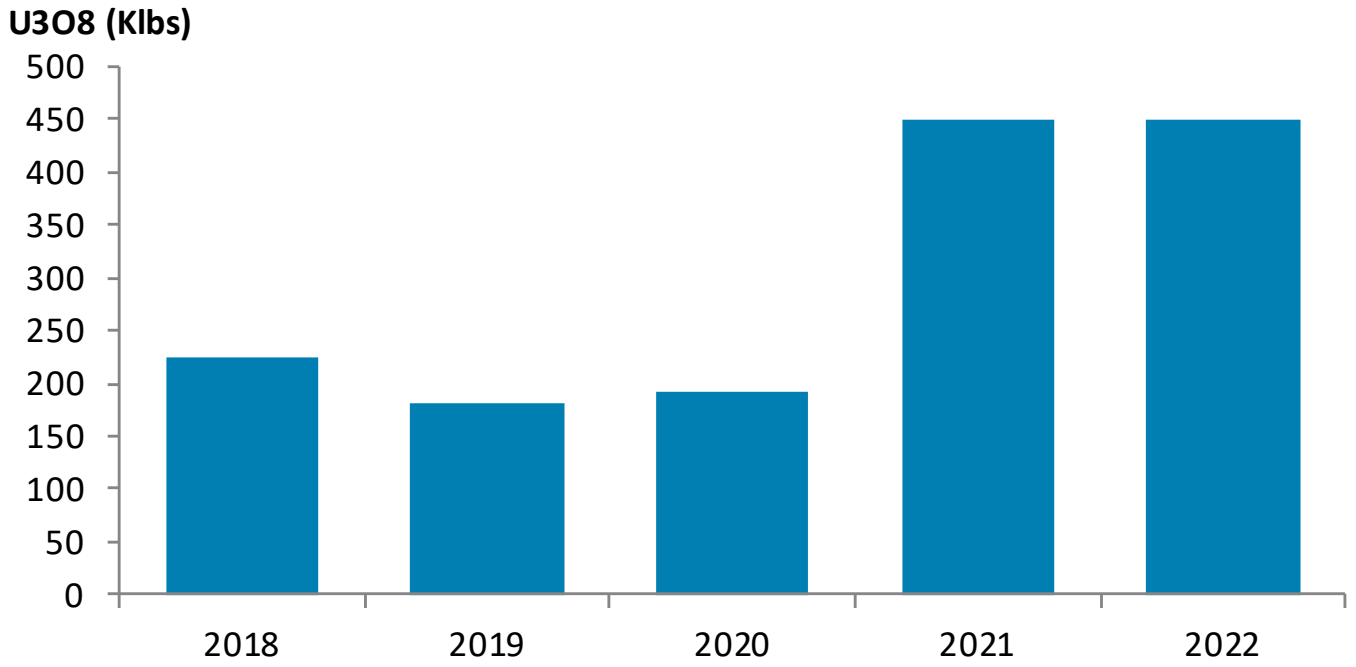
Appendix 3 – PEN as a Uranium Investment Opportunity

	Peninsula
Current active uranium mining company	✓
Existing long term contracts	✓
Conservative FS price assumptions	✓
Low initial CAPEX	✓
Tight cost estimate ranges	✓
Low CAPEX expansion capability	✓
Direct exposure to s232 outcomes	✓

Appendix 4 – Substantial Long Term Sales Contracts

- **Long term sales contracts underpin Peninsula's business**
- **CY2018 forecast deliveries of 225,000 lbs of U3O8**

5-Year Sales Profile (*)

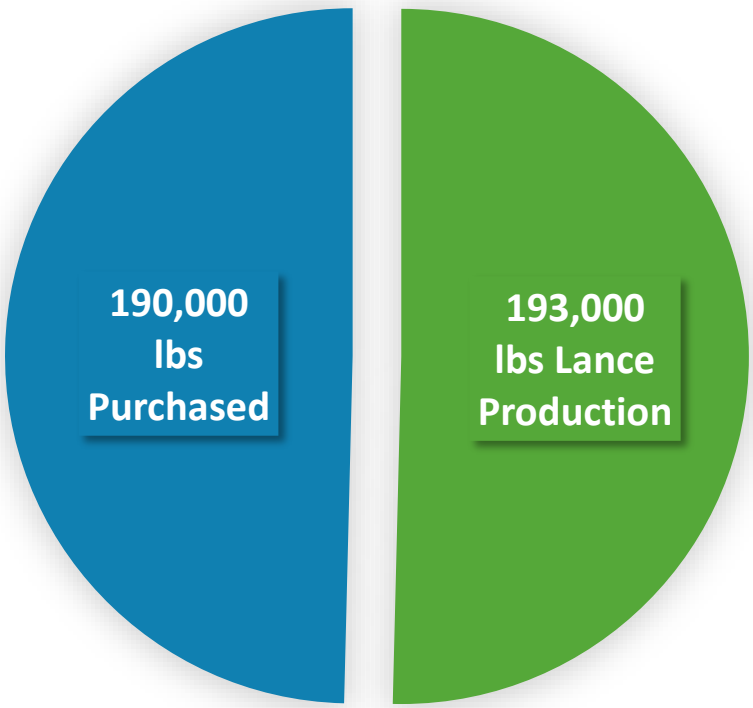


(*) Committed deliveries only and excludes optional delivery quantities that customers may elect from 2021 onwards.

Appendix 5 – Flexible Sales Strategy

- **Maximising returns by blending production with spot purchases**
  - **2017 deliveries were filled by Lance production and purchases**
- **Remaining deliveries for 2018 through 2020 have flexible origin clauses allowing seller optionality**

2017 Sales Composition



2018-2020 Planned Sales Composition