Cypress Development Announces Positive Prefeasibility Study for Clayton Valley Lithium Project, Nevada

19.05.2020 | GlobeNewswire

VANCOUVER, May 19, 2020 - Cypress Development Corp. (TSX-V: CYP) (OTCQB: CYDVF) (Frankfurt: C1Z1) (“Cypress” or “the Company”) is pleased to announce positive results from a Prefeasibility Study (PFS) of the Company’s Clayton Valley Lithium Project in Nevada, U.S.A. The PFS was prepared by Continental Metallurgical Services (CMS) and Global Resource Engineering (GRE). Todd Fayram (CMS), Terre Lane (GRE), and Daniel Kalmbach are the authors.

Highlights:

- Average production rate of 15,000 tonnes per day to produce 27,400 tonnes lithium carbonate equivalent (LCE) annually over a +40-year mine life.
- Capital cost estimate of US$493 million, pre-production, and operating cost estimate averaging US$3,392 per tonne LCE.
- After-tax net present value (NPV-8%) of US$1.052 billion at 8% discount rate and 25.8% internal rate of return (IRR).
- Production based on Probable Mineral Reserve of 222 million tonnes averaging 1,141 ppm Li (1.353 Mt LCE).
- Reserves and production plan derived from Measured and Indicated Mineral Resources of 593 million tonnes averaging 1,073 ppm Li (3.387 Mt LCE).

Cypress CEO Dr. Bill Willoughby stated, "This PFS is a major milestone for Cypress. These positive results take us closer to our goal of developing a world-class lithium deposit. Cypress’ land position and resources afford us the opportunity for a long-life project with low operating costs and potential to be a significant source of lithium for the United States.”

The key features of the claystone deposit include its large size, surface exposure and flat-lying nature. These features allow mining with negligible strip ratio due to minimal overburden and no interbedded waste, and no drilling or blasting in excavation. Metallurgical testing indicates low cost processing can be achieved by leaching with low acid consumption and high lithium recovery. Self-generated power from a 2,500 tpd acid plant is included in the project’s costs.

The project’s large resource allows the mineral resources and reserves to be derived from a portion of the property. All resources and reserves are pit-constrained by property and geologic boundaries, and are based on a cut-off grade of 900 ppm Li.

Results for the PFS are:

- Average annual production of 27,400 tonnes per year LCE
- Mine life for PFS of 40 years
- Industry-low cash cost of US$3,329 per tonne LCE
- US$1.052 billion NPV at 8% discount rate, after-tax basis
- After-tax internal rate of return (IRR) of 25.8%
- Payback period of 4.4 years

The economic evaluation is reported in terms of LCE using an average price of US$9,500 per tonne. The price assumption reflects variations expected over time due to start-up and pricing for lithium products.

Sensitivity* to Price, Capex, and Opex

Variation	60%	Base Case	150%
Price /t LCE	$9,500		$14,250
NPV-8%	$1,352 billion		$2.173 billion
IRR	26.8%		41.1%
Capital Cost	$296 million		$740 million
NPV-8%	$1.052 billion		$673 million
IRR	30.8%		20.0%
Operating Cost	$3,327/t LCE		$4,993/t LCE
NPV-8%	$1.239 billion		$828 million
IRR	29.6%		17.9%

** NPV and IRR calculated on an after-tax basis.*

Mineral Resources

The Mineral Resource Estimate is based on all drilling results from the project, including six holes drilled in 2019.

The reported Mineral Resource is pit constrained by an “ultimate” pit that extends to the property boundaries and uses slope angles determined from geotechnical study.

The Mineral Resources total 432.4 million tonnes averaging 1,088 ppm lithium (Li) in the Measured Resource and 160.9 million tonnes at 1,032 ppm Li in the Indicated Resource, for a total of 593.3 million tonnes at 1,073 ppm Li in Measured and Indicated Resources. The constrained pit shell contains mostly Measured and Indicated tonnes, with only 2.3 million tonnes of Inferred Resource averaging 1,005 ppm Li.

Mineral Resource Estimate (May 19, 2020)

Domain	Resource Mt	Li (ppm)
Measured		
Tuffaceous mudstone	19.6	1,062
Claystone all zones	412.0	1,089
Siltstone	0.9	974
Total	432.4	1,088
Indicated		
Tuffaceous mudstone	14.5	1,043
Claystone all zones	146.2	1,031
Siltstone	0.20	963
Total	160.9	1,032
Measured + Indicated		
Tuffaceous mudstone	34.1	1,054
Claystone all zones	558.2	1,074
Siltstone	1.1	972
Total	593.3	1,073
Inferred		
Tuffaceous mudstone	0.1	933
Claystone all zones	2.2	1,009
Siltstone	0.0	0
Total	2.3	1,005

Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the Mineral Resources will be converted into Mineral Reserves. Inferred Mineral Resources are that part of a Mineral Resource for which quantity and grade or quality are estimated on the basis of limited geological evidence and sampling. Geological evidence is sufficient to imply but not verify geological and grade or quality continuity.

Mineral Reserves

The Mineral Reserves were derived from the Measured and Indicated Resources. Within the resource shell, the first eight of 16 designed production phases were used to construct a mine schedule with 40 years. The cumulative result for the production schedule forms the Mineral Reserves.

Mineral Reserve Estimate (May 19, 2020)

Classification

Probable Reserves (*Note 8)
Total

1. *The effective date of the Mineral Reserve Estimate is May 1, 2020. The QP for the estimate is Ms. Terre Lane of*
2. *The Mineral Reserve estimate was prepared with reference to the 2014 Canadian Institute of Mining, Metallurgy*
3. *Mineral Reserves are reported within the pit design at a mining cutoff of 900 ppm.*
4. *The cutoff of 900ppm is an optimized cutoff selected for the mine production schedule.*
5. *The Mineral Reserves are included in and derived from the Mineral Resources.*
6. *Reserves are estimated based on delivery to the mill stockpile.*
7. *No inferred resources are included in the Mineral Reserves or given value in the economic analysis.*
8. *All Measured and Indicated Mineral Resources within the mine production schedule are classified as Probable R*

Production Plan

Mining and processing are based on a daily rate of 15,000 tpd of mill feed. Material will be mined by a track excavator and transported using semi-mobile feeder-breaker and conveyors. The stripping ratio is 0.15:1.

Lithium in the deposit is associated with illite and smectite clays. The lithium is amenable to leaching with dilute sulfuric acid leach followed by filtration, solution purification, concentration, and electrolysis to produce lithium hydroxide.

Metallurgical work by CMS determined optimum conditions for leaching including time, acid concentration, and temperature. Tests show only minor differences occur with respect to sample depth, oxidation, or weathering state of the clays.

Large leach tests were performed on samples to provide slurry for rheology, filtration, and lithium recovery testing. The tests yielded average results of 86.5% extraction of lithium into solution and 126.5 kg/tonne for acid consumption.

Testing was conducted to determine a commercial means of solid-liquid separation. Specific conditions and equipment were identified. Solids from filtration tests simulating the final circuit were generated. The solids following single stage washing are suitable for handling by conveyor to a conventional dry-stack tailings facility.

NORAM Engineering and Constructors Ltd. and CMS designed and tested the flowsheet for recovering the lithium from solution. Testing was completed in March 2020 and report received on May 14, 2020. The NORAM-CMS test program was successful in yielding concentrated lithium solution suitable for producing lithium hydroxide.

Capital and Operating Costs

Capital and operating costs were estimated from vendor quotes, internal data and public information. The initial capital costs are estimated at US$493 million, including US$95 million in contingency (at 20%) plus working capital. Operating costs are estimated to average US$16.78/tonne, or $3,392/tonne LCE.

Capital Cost Estimate

Area	US$ x 1000

Facilities	5,891
Mine	34,757
Plant	306,855
Infrastructure	25,907
Owners Costs	24,992
Contingency	94,883
Total Capital Cost	493,284

Operating Cost Estimate

Area	Avg Annual US$ x 1000	Mill feed US$/t
Mining	9,932	1.83
Processing	77,735	14.3
G & A	3,550	0.65
Total Operating Cost	91,218	16.78

Acid plant operations are a major component in the operating costs and account for one third of the total operating cost based on a delivered cost of US$145 per tonne for sulfur. The acid plant has capacity to generate 93% of the power required by the operation and will have surplus power available when the operation is running. No allowances are made in the operating cost estimates for potential power sales or offsets.

The project has the potential to recover other by-products in addition to lithium, including rare earth elements and alkali salts. No values are given in the PFS for any by-product elements as these are still conceptual in nature.

Project Advancement:

The PFS report supports further work on the project with the recommendation to conduct a pilot plant study prior to initiating a feasibility study and permitting. Cost of the program is estimated to be US$6.75 million. Cypress is continuing testing and planning in preparation for the pilot plant, has begun baseline environmental studies, and is engaged in sourcing funds for the further studies.

Dr. Bill Willoughby commented, “Cypress’ perseverance and team effort has steadily worked to increase our understanding and find ways to advance the project. We are pleased with the results of the PFS and look forward to the next steps in demonstrating the value of our project.”

The PFS will be posted on the Company’s website and SEDAR within 45 days.

Qualified Persons:

Todd Fayram, MMSA-QP, of Continental Metallurgical Services, LLC., Terre Lane, MMSA-QP, of Global Resource Engineering, and Daniel Kalmbach, CPG, are the qualified persons as defined by National Instrument 43-101 and have approved the technical information in this release.

About Cypress Development Corp.:

Cypress Development Corp. is a publicly traded exploration company focused on developing the Company's 100%-owned Clayton Valley Lithium Project, located immediately east of Albemarle's Silver Peak mine, North America's only lithium brine operation. Exploration by Cypress has discovered an extensive deposit of lithium-bearing claystone adjacent to the brine field. The size of the resource makes the Clayton Valley Project a premier target with the potential to impact the future supply of lithium for the fast-growing global

lithium-ion battery market.

Cypress Development Corp. has approx. 90.1 million shares issued and outstanding.

To find out more about Cypress Development Corp. (TSX-V: CYP), visit our website at www.cypressdevelopmentcorp.com.

Cypress Development Corp.

“Dr. Bill Willoughby”

WILLIAM WILLOUGHBY, PhD., PE
Chief Executive Officer

For further information contact myself or:
Don Myers
Cypress Development Corp.
Director, Corporate Communications
Telephone: 604-639-3851
Toll Free: 800-567-8181
Facsimile: 604-687-3119
Email: info@cypressdevelopmentcorp.com

NEITHER THE TSX VENTURE EXCHANGE NOR ITS REGULATION SERVICES PROVIDER ACCEPTS RESPONSIBILITY FOR THE ADEQUACY OR ACCURACY OF THE CONTENT OF THIS NEWS RELEASE.

This release includes certain statements that may be deemed to be "forward-looking statements". All statements in this release, other than statements of historical facts, that address events or developments that management of the Company expects, are forward-looking statements. Although management believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance, and actual results or developments may differ materially from those in the forward-looking statements. The Company undertakes no obligation to update these forward-looking statements if management's beliefs, estimates or opinions, or other factors, should change. Factors that could cause actual results to differ materially from those in forward-looking statements, include market prices, exploration and development successes, continued availability of capital and financing, and general economic, market or business conditions. Please see the public filings of the Company at www.sedar.com for further information.