

Cypress Development Corp. (TSXV: CYP) – Leveraging Balance Sheet Strength to Optimize Operations and Advance the Clayton Valley Project



Investment Highlights

- Cypress Development Corp. (TSX-V: CYP)** (“CYP”, or “Company”) has seen impressive gains in its share price since our initiating report and has leveraged this into a recent equity financing with a bought deal raise. The company raised gross proceeds of almost \$20 million, and with a significantly stronger balance sheet, the company is advancing key strategic objectives that could advance its Clayton Valley Project further.
- Building Out Pilot Plant Operations:** The company’s main objective is to complete its pilot plant and begin small-scale, preliminary lithium production. The pilot plant is expected to test key assumptions from the Prefeasibility Study (“PFS”), and eventually advance the project to a Feasibility Study (“FS”).
- Testing Chloride Leaching for Lithium Extraction:** Leveraging positive metallurgical results in late 2020, CYP is looking to test the feasibility of chloride leaching as a viable alternative to the sulfuric leaching assumed in the PFS. This could significantly reduce future operating costs given hydrochloric acid is much cheaper than sulfuric acid, and also opens up the possibility of using brine solution instead of distilled water.
- Securing Water Rights:** Though Clayton Valley’s groundwater rights have been overallocated to existing holders, we believe that existing holders have an incentive to work with CYP and provide it with the water supply needed to facilitate future operations.
- Based on our analysis and valuation models, we are maintaining our BUY rating and updating our fair value per share estimate to \$3.31 per share, from \$2.48 per share.**

Current Price (C\$):	\$ 1.17
Fair Value (C\$):	\$ 3.31
Projected Upside:	182.76%
Action Rating:	BUY
Perceived Risk:	HIGH

Shares Outstanding:	120,024,670
Market Capitalization (C\$):	\$ 140,428,864
P/E	-
P/B	23.89
YoY Return	588.24%
YoY TSXV Return	115.54%

*Note all \$ amount are C\$ unless otherwise stated.

(C\$)	2019		Q3-2020
	2019	Q3-2020	
Cash	\$ 1,518,637	\$ 1,463,364	
Working Capital	\$ 1,532,143	\$ 1,419,515	
Mineral Assets	\$ 3,623,868	\$ 4,417,636	
Total Assets	\$ 5,285,202	\$ 5,994,705	
Net Income (Loss) for the 9M	\$ (1,193,780)	\$ (631,981)	
EPS for the 9M	\$ (0.02)	\$ (0.01)	

April 13th, 2021

Since initiating coverage on CYP in the back end of 2020, we have observed a major uplift in the company's share price, with CYP having skyrocketed to a high of \$2.21 per share before tapering off in recent times. Whilst some of this may have been driven by broader positive sentiment towards EV value chain stocks that has since relaxed somewhat, we believe a great portion of CYP's recent value appreciation was likely driven by value discovery on the part of investors. As a result, we believe that further pricing in of CYP's intrinsic value may follow in the short-term as the company moves to deliver on the Clayton Valley Project. To this end, in this update report we will be covering the key initiatives CYP is working on to advance its lithium project, before providing an update on our valuation models.

From a strategic perspective, CYP's main objectives in the short-term (according to management) include:

- **Advance Clayton Valley's Pilot Plant to Operations:** As outlined in our initial report, one of the key next steps for CYP at Clayton Valley is to set up an operational pilot plant at the Project. This will allow the company to test the PFS parameters at a scale better approximating that required from a commercial lithium mining operation, which will help determine the mine's economic feasibility. It will also allow the company to test various forms of lithium extraction and processing to better optimize future production.
- **Acquire Water Rights for Clayton Valley:** As access to adequate water supply will be key to facilitating future lithium operations at Clayton Valley, the company expects to prioritize water rights acquisition as a near-term objective.
- **Advance Clayton Valley to the Feasibility Study ("FS") Stage:** The next stage in the mine development cycle, CYP plans to work on a FS for Clayton Valley, with a completion date targeted for early 2022.

In order to forward its strategic objectives and leverage recent strength in its market valuation, CYP recently closed an over-subscribed bought deal financing for gross proceeds of almost \$20 million. With a strong balance sheet post-financing, CYP is well positioned to advance its near-term objectives, providing investors with visibility on potential catalytic events that could drive value in the near future.

Recent Financing and Use of Proceeds

On March 22, 2021, CYP announced that it had successfully closed a bought deal financing (including the exercise of an overallotment option) for gross proceeds of \$19.55 million. Net proceeds post-underwriter fees were \$18.13 million. CYP issued a total of 15.64 million units at a price of \$1.25 per unit, with each unit comprising a common share and a warrant exercisable at \$1.75 through to March 22, 2024. PI Financial Corp. served as the sole bookrunner for the financing, and a broker involved mentioned that the placement was oversubscribed four times over, pointing to substantial investor demand. Furthermore, we see it as a positive indicator for CYP that a brokerage was willing to commit to a bought deal as the sole underwriter, pointing to the street's confidence in the mine developer.

Based on the company's prospectus for the raise, the following table outlines the planned use for proceeds. Note that main uses of the funds relate back to the three main near-term objectives we outlined in the previous section.

CYP Bought Deal Use of Proceeds

Description of Use of Proceeds	Amount of Proceeds (assuming no exercise of the Over-Allotment Option)	Amount of Proceeds (assuming full exercise of the Over-Allotment Option)
Pilot Plant Program at the Clayton Valley Project	\$6,515,000	\$6,515,000
Cost to secure water supply, including acquisition purchase costs, permitting, exploration and development by geophysical methods and drilling	\$6,410,000	\$6,410,000
Feasibility Study preparation costs, including compilation of data and preparation of reports	\$2,564,000	\$2,564,000
General and administrative expenses, including director and officer consulting fees for 12 months	\$241,000	\$1,020,000
Working Capital	Nil	\$1,618,000
Net Proceeds of the Offering	\$15,730,000	\$18,127,000

Source: Company

Updates on the Clayton Valley Pilot Plant

The most pressing of CYP's near-term objectives is to advance the pilot plant at Clayton Valley to operational status, which as we pointed out serves the company to test PFS assumptions as well as optimize operations before building out a commercial-scale mine. The pilot plant operation was also the key recommendation from the PFS, which suggested the pilot operation as a means to ultimately advance the mine to the FS stage. In the table below, the planned budget for the Clayton Valley pilot plant is broken into its key components.

Clayton Valley Pilot Plant Budget

Pilot Plant Work Program	Amount
Pre-program studies, includes additional testing, engineering reports, legal costs for lease agreements	\$237,000
Sample procurement, includes permitting and bonding, contractor mobilization, excavation of bulk samples, transportation to laboratory, assaying and reclamation of site	\$382,000
Laboratory building, includes 6 month lease of permitted metallurgical facility, building modifications for containment, ventilation and chemical storage, cleanup and removal	\$425,000
Pilot plant equipment, includes purchase and assembly of pilot plant equipment in major areas: sample preparation, leaching, tailings and effluent storage and handling, treatment of pregnant leach solution, and lithium recovery; cost estimates allow for equipment and materials purchases, installation, piping, electrical and instrumentation, engineering, freight and contingency	\$3,370,000
Consultant and contractor charges, includes plant operating labor, consultant and contractor personnel on and off site, rental equipment, consultant testing and reporting	\$1,261,000
Operating expenses, includes chemicals, power, assays, and other operating supplies	\$584,000
Owners costs, include insurance, taxes, Company's personnel on site	\$256,000
Total	\$6,515,000

Source: Company

The pilot plant is projected to operate at a throughput of one tonne per day, with parts of the plant being able to run 24/7 for an entire month. The \$6.52 million budget that has been estimated for the pilot plant project is expected to cover the plant's construction as well as an initial 30-50 tonne testing phase. Any deficit is expected to be covered by the company's treasury. With regard to project timing, CYP expects to build out the pilot plant over a six-month period from March 2021 through to August 2021. The company announced it had begun sourcing materials for plant commission on March 25, 2021, and expected to complete plant assembly by the end of Q2-2021. Upon completion of the pilot testing program, the company will evaluate results before determining next steps at Clayton Valley. The completion date of the pilot plant program is expected to also have an impact on the timeline for the project's planned FS – whilst an FS is expected to be in the works from September 2021 to March 2022, this will ultimately be dependent on the timing and results of the pilot plant program.

CYP's Experimentation of Chloride Leaching as an Alternative to Sulphide Leaching

One of the key initiatives the company has been working on in conjunction with the development of its pilot plant has been an investigation into the feasibility of using chloride leaching in lieu of sulphide leaching, as suggested by the Clayton Valley PFS. The company

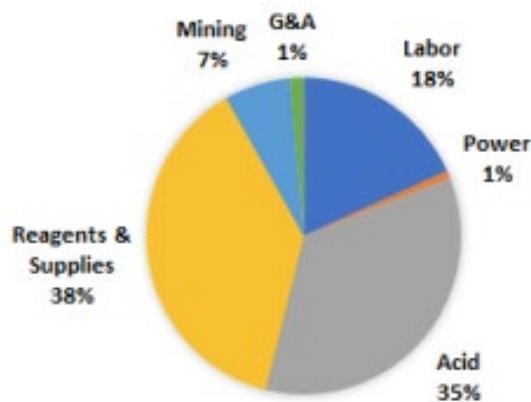
first announced its scoping study into chloride-based lithium extraction in December 2020, which followed positive metallurgical results announced in November 2020. Key highlights from the November results included:

- Testing resulted in 80.2% extraction of lithium when a sodium chloride solution was used (instead of distilled water) in conjunction with sulfuric acid in leaching claystone material.
- Lithium in the resulting leach solution was successfully concentrated at levels comparable to the PFS with limited interference by chlorides and other minerals present.
- An alternate approach was tested using hydrochloric acid instead of sulfuric acid in leaching the claystone. CYP achieved lithium extraction of 85.3%, suggesting hydrochloric acid may be a more effective reagent if high chloride levels are present in the water used in leaching (i.e. a brine solution that also includes lithium).

One of the key benefits of chloride leaching proving to be feasible in lithium extraction from claystone is the potential for lower than expected operating costs. Because the acid used would shift from sulfuric acid to hydrochloric acid, we see clear cost reduction opportunities for the company. Based on prices sourced from Echemi Group, sulfuric acid currently goes for US\$84 per tonne, compared to US\$35 per tonne for hydrochloric acid. Whilst the company expects the shift to hydrochloric acid might increase power costs (for reasons unclear to us), we believe this is a fair trade, given power costs are expected to only contribute 1% of total operating costs whilst the acid cost alone is expected at 35%.

Clayton Valley Projected Operating Cost Distribution

OPERATING COST DISTRIBUTION



Source: Company

The ability to tolerate high chloride levels in the lithium extraction process is also significant because it allows the consideration of a wider range of resources for water supply, such as lithium-bearing, salt-water brine. This could lead to a hybrid operation where the company extracts claystone material from its deposit before combining it with brine at the extraction process – creating direct linkages between Clayton Valley and Albemarle Corp.’s (NYSE: ALB)

Silver Peak operation. We believe that should CYP discover the use of chloride leaching is in fact feasible in the extraction process, ALB may begin to look at CYP as a potential acquisition target. There are a number of reasons of this, including:

- CYP's currently identified reserves are large enough to attract a major like ALB, with its projected 40-year life-span likely to be significant enough to serve a reserve expansionary purpose for Silver Peak.
- Mine economics are likely to be attractive enough to entice ALB – whilst as a brine operation Silver Peak may have lower operating costs, Clayton Valley claystone deposits could offer both higher-grade product and quicker time to market (given the lack of need to rely on evaporation).
- Silver Peak, as a long-running brine operation, is likely to have an abundance of brine solution that could be used in chloride leaching at Clayton Valley, creating operational synergies that could be easily harvested.
- ALB recently announced plans to invest in doubling Silver Peak's production capacity, which also included plans to begin looking at claystone deposits and appropriate extraction techniques as an alternative to pure brine operations. CYP fits the bill in both expanding Silver Peak's production footprint and providing ALB access to a well-explored claystone deposit.

Water Rights and Securing Water Supply for Clayton Valley

In order to facilitate future operations, the company will require a significant supply of local water to support mining and milling activities. As an example, both Sociedad Quimica y Minera de Chile (NYSE: SQM) and ALB pump up an estimated 63 billion litres of saltwater per year in the Atacama Desert. As discussed in the previous section, CYP may have the opportunity to use salt water/ brine solutions as an alternative to fresh water at its future operations, depending on the outcome of its scoping study on the feasibility of using chloride leaching. As asserted by the company, this could be material in bringing down future operating costs as salt water is a cheaper alternative to fresh water, though we are unsure as to where CYP would source salt water from. However, given ALB's large-scale brine operation in the region, it is likely that salt water access is possible and brine could be source from local players.

In order to secure sufficient water supply, CYP will need to acquire water rights as dictated by the local regulatory regime within Nevada, as well as build out preliminary water infrastructure. The planned budget allocation to water-related matters has been set at \$6.41 million, with \$3.86 million set aside for water rights acquisition and associated legal costs, and \$2.55 million to be allocated for the permitting and drilling of four wells. Based on our discussions with management, it appears the state of Nevada operates on a water rights model where rights holders are expected to use their allocations or risk losing said allocation (partially or fully was not disclosed). Groundwater basins in Nevada are regulated and administered by the State Engineer's Office, and the perennial yield from the Clayton Valley region has been listed at 20,000 acre-feet per annum ("AFA"). However, resources held under water rights permits currently stand at 23,681 AFA, with 23,050 AFA held for mining and milling activities. As a result, water resources are tight (118% allocation given 20,000 AFA

listed yield for the region) and CYP does not expect the State Engineer's Office to approve an application for groundwater allocation. CYP expects to engage in negotiations with existing rights holders (other miners in the Clayton Valley region) to secure supply for projected water needs (currently estimated at 3,226 AFA), and the company believes that negotiations are likely to run through 2022 and potentially into 2023.

Regarding water rights, there are a number of interesting dynamics at play that we believe could materially impact CYP. Despite over 100% of water rights in the region having been allocated, management has suggested to us the reality of far less than 100% being actually used by current holders. This is an issue given our previous discussion around the state operating a "use it or lose it" regulatory model when it comes to water rights. As a result, should there be current water rights holders utilizing less than 100% of their water allocation, there is clear incentive to reach a deal with a prospective miner like CYP, who could potentially soak up the remainder of a holder's excess water allocation. One of the largest water rights holders in the Clayton Valley Basin is ALB, who the company believes is using far less than 100% of its water allocation. Should CYP reach a deal for water resources from ALB, we believe it sets up another clear linkage that could eventually distinguish CYP as a takeout candidate for its much larger neighbour.

Revenue and EPS Forecasts

Because the company has yet to reach the construction stage, as mentioned water rights negotiations could stretch into 2023, we believe the development timeline is still too far out to provide preliminary revenue and EPS forecasts.

Net Asset Valuation Model

Our models assume the production schedule outlined in the amended PFS, as well as many of the PFS's base case assumptions, but incorporates our own assumptions on LOM average lithium hydroxide price and discount rate. **Our base case DCF model, which assumes a long-term lithium hydroxide price of US\$9,000 per tonne (up from US\$8,000 in our initial report) and a discount rate of 12%, implies an NAV per share of \$3.88.** Our previous NAV estimate was \$3.54 per share. The sensitivity table provided below outlines the various NAV per share given changes in the long-term lithium hydroxide price or discount rate:

LOM LCE Price Assumption						
	\$ 8,000	\$ 8,500	\$ 9,000	\$ 9,500	\$ 10,000	
8%	\$ 6.02	\$ 7.04	\$ 8.06	\$ 9.09	\$ 10.11	
10%	\$ 3.99	\$ 4.78	\$ 5.58	\$ 6.37	\$ 7.17	
12%	\$ 2.61	\$ 3.24	\$ 3.88	\$ 4.51	\$ 5.15	
14%	\$ 1.64	\$ 2.16	\$ 2.68	\$ 3.20	\$ 3.72	
16%	\$ 0.94	\$ 1.37	\$ 1.81	\$ 2.24	\$ 2.67	

Source: Couloir Capital

Comparables Valuation

As our other source of valuation, we consider CYP's relative valuation against other lithium mining companies that we believe to be comparable. CYP continues to have the lowest NPV to market capitalization realization of the peer group we have selected, with P/NPV@8 at 10.77% versus the group average of 55.94%.

Project	Owner	After-tax NPV (US\$)	Market Cap (US\$)	P/ NPV (%)	NPV/ CAPEX
Clayton Valley Lithium Project	Cypress Development Corp.	\$ 1,030,000,000	\$ 110,938,802	10.77%	2.09
Thacker Pass	Lithium Americas Corp.	\$ 2,590,000,000	\$ 1,669,911,875	64.48%	2.45
Clayton Valley Brine Project	Pure Energy Minerals Ltd.	\$ 264,100,000	\$ 39,743,453	15.05%	0.89
Rhyolite Ridge	Ioneer Ltd.	\$ 1,265,000,000	\$ 490,032,800	38.74%	1.61
Piedmont Project (Merchant)	Piedmont Lithium Ltd.	\$ 714,000,000	\$ 1,064,000,000	149.02%	1.89
Piedmont Project (Integrated)	Piedmont Lithium Ltd.	\$ 1,100,000,000	\$ 1,064,000,000	96.73%	2.02
Sonora Lithium (77.5%)	Bacanora Lithium PLC	\$ 802,464,000	\$ 213,010,340	34.25%	1.00

Source: Couloir Capital, Public Disclosures

Based on the peer group P/NPV@8, we have updated CYP's valuation to \$2.74 per share on a P/NPV@8 basis (previously \$1.43 per share), implying that the company continues to trade at a discount to fair value. Note that we applied a 50% discount to the peer average, which we believe reflects intrinsic risks of CYP and its lack of a supply agreement, which some of the selected peers in the comparable group do possess.

Conclusion

After accounting for our valuation models, we have arrived at fair value per share estimate of \$3.31 per share. We are maintaining our previous BUY rating, and expect the following catalysts to materially impact our valuation estimate:

- Any news regarding the successful completion and operation of the Clayton Valley Pilot Plant.
- Positive news regarding the chloride leaching tests CYP is attempting to implement at commercial scale.
- Any news regarding water rights negotiations or news related to securing an adequate water supply for Clayton Valley.
- Any news that suggests material changes to the company's capital structure, such as additional financings (equity or debt).

Risks

The following outlines some of the key risk considerations that investors should keep in mind when evaluating CYP as an investment opportunity:

- **Delays in Achieving Key Development Milestones:** CYP has not given guidance on when it intends to reach commercial production, but the two-year guidance embedded in the recent PFS will likely serve as a measuring stick for investors looking at CYP as an investment opportunity. Assuming that time frame as an approximate development period, inability to roll-out significant developments on time (i.e. advancing the project to a FS, attaining project financing, beginning construction) will likely lead to a deterioration in the company's intrinsic valuation as free cash flow generation gets delayed.
- **Unproven Recoveries at Commercial Scale:** The 83% lithium recovery used in the PFS on Clayton Valley has not been proven at commercial scale – as a result a pilot plant will be needed to verify that such recoveries can be replicated in a larger operation. If actual recoveries at scale come in lower than expected, it will likely impact project valuation and therefore CYP's corporate valuation.
- **Uncertainty Around Permitting:** CYP requires multiple permits identified in the PFS, and inability to secure permitting (such as environmental permitting) can significantly hold up project development.
- **Market Price Exposure and Impact on Execution Risk:** As CYP moves closer to commercial production milestones, the greater we perceive both the sunk capital burden as well the near-term capital needs of the company. Until a project financing deal to facilitate mine construction is secured, exposure to market pricing is significant as CYP will be subject to investor sentiment (which can be vulnerable to deteriorations in broader industry conditions, such as poor commodity pricing). In addition, the project's largest valuation sensitivity is to lithium hydroxide pricing, with 0% IRR on pricing below the project's breakeven LCE lithium hydroxide pricing.
- **Capital Structure Deterioration Related to Ongoing Cash Burn:** There is the potential that the company's cash burn could sap liquidity to the point of the company needing to raise capital. Assuming no cash flows, there is a chance that CYP would do so via equity issuance. Depending on the price of the issuance, such issuance could be dilutive to existing shareholders.

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