FEASIBILITY STUDY OF A TEFF FLOUR MILL

IN FALLON, NEVADA
Feasibility Study of a Teff Flour Mill in Fallon, Nevada

Report Prepared by
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UCED
University of Nevada, Reno
College of Business

Acknowledgement

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Teff Flour Mill Feasibility Study

Executive Summary

The financial feasibility of Desert Oasis Teff building and operating an in-house teff mill was determined by completing a break-even analysis, essentially comparing the fixed and variable costs of building a mill with the entirely variable cost of contracting to have the teff grain milled by an outside milling contractor. The assumptions used in completing this analysis were intentionally quite conservative. For example, within the variable costs for operating an in-house mill, the assumed annual maintenance expense was estimated at ten percent (10%) of the initial capital costs.

As indicated within Table 1, break-even production volume will likely be between approximately 218,000 and 26,000 pounds per year (depending upon the study assumptions). The break-even point represents the production volume at which all of the fixed costs associated with the in-house milling operation will be "covered by the variable cost advantage of in-house milling as compared to outsourced milling. After the break-even point is achieved each year, the in-house milling operation will provide a net positive advantage of $0.21 to $0.25 per pound of flour production.

One potential cost element that was not included within this analysis was the cost of general management of the in-house milling operation. The owners of Desert Oasis Teff should consider whether existing management has the capacity (time, energy and interest) to oversee the milling operation, or if another employee is required.

It may make sense for Desert Oasis Teff to enter the teff flour business utilizing a contract miller prior to making any decision to build an in-house mill. This would mitigate some of the risk associated with the significant capital costs of building a flour mill. In this way, Desert Oasis teff could build a customer base with associated demand for teff flour prior to making the capital investment decision.

In addition to the break-even analysis, UCED estimated what the profitability of entering into the wholesale teff flour business while utilizing outsourced milling and order fulfillment. That analysis is set forth in Table 2. Again, UCED intentionally was conservative in its assumptions. For example, while it appears that the current wholesale price for brown teff flour is $1.84 per pound, UCED completed its revenue assumptions using $1.69 per pound so that the firm would have up to $0.24 per pound to use price discounts and/or promotions in order to acquire market share. UCED also used a relatively generous freight allowance for shipping product to customers. With these conservative assumptions, it appears that the wholesale teff flour business would add profit to the Desert Oasis Teff’s operations. The teff flour business would become significantly more profitable if its cost of goods were reduced by doing in-house milling, assuming demand exceeds the break-even point.

As with the break-even analysis, the owners of Desert Oasis Teff should consider whether existing management has the capacity (time, energy and interest) to oversee the teff flour business, or if another employee may be required.
Project Description

The owners of Desert Oasis Teff started by growing teff, an ancient grain from East Africa that requires significantly less water to grow than alfalfa, the primary crop grown in Nevada. Teff can be grown in rotation with alfalfa and is more profitable and/or requires less water than some of the other crops that traditionally grown in rotation with alfalfa. These two producers came to learn that they could command a higher price for their grain if they “cleaned it” prior to selling, so they formed Desert Oasis Teff and started a cleaning and bagging operation. Cleaning essentially involves removing chaff, dirt and all else other than grain. As a result of adding the cleaning and bagging operation, their profitability from teff production increased significantly. The owners of Desert Oasis Teff have convinced other farmers in the region to grow teff, which Desert Oasis Teff buys, cleans and bags, and then sells.

The owners of Desert Oasis Teff were interested in the feasibility of capturing more “downstream profit” by providing other processing, specifically milling the grain into flour. This led to the Western Nevada College Specialty Crop Institute engaging the University Center for Economic Development (UCED) at University of Nevada, Reno (UNR) to conduct a feasibility analysis of building a mill in Fallon, Nevada, for processing teff grain into teff flour.

UCED agreed to analyze the economic viability and the risks associated with adding a milling operation to the existing teff production processes (growing, cleaning and bagging). Through data collection and this feasibility analysis, UCED has determined the following:

- The capital requirement to build a facility for milling teff flour, including the real property requirements, the equipment needed, and the estimated construction costs;
- Projected revenues from operation of a teff mill at various production levels;
- The operating expenses for running a teff mill;
- The personnel requirements for operating a teff mill;
- The cash flow associated with a teff mill operation;
- Total capital requirements for the operation of a teff mill;
- The break-even point for a teff mill operation;
- An understanding of the market for teff flour, including both “primary” customers and market niches;
- Sources of potential grant funding and/or loans for a teff mill facility; and
- An understanding of some of the risks associated with the teff market and with the business operation of a teff flour mill.

Subsequent to starting this study, the researchers determined that if Desert Oasis Teff goes into the teff milling business, it will need to, minimally, go into the wholesale teff flour business. Because the market for teff flour is relatively small, the firm will need to establish channel relationships and do marketing of their teff flour brand. They will need to develop a “brand” and then create marketing and
sales programs for that brand at the wholesale level and possibly at the retail level. This report bases
the flour mill feasibility analysis on Desert Oasis Teff entering the wholesale flour business (packaging in
25 pound bags and minimum sales quantities of 1,000 pounds). A separate report will be provided for
Desert Oasis Teff’s consideration of entering the retail teff market (packaging under 25 pounds).

Financial Analysis of a Teff Flour Mill Compared to Outsourced Flour Milling

After discussions with John Getto and Dave Eckert, the owners of Desert Oasis Teff, and
completing some literature review\(^1\), it appeared that a pin mill would be suitable for converting teff
grain into flour. Contact was made with Sturtevant, Inc., which ultimately led to a written proposal (see
Appendix 1).

The equipment specified would be $200,000, plus freight and installation expense. For this
analysis, an installed cost of $250,000 was utilized. Other assumptions were that the equipment would
have a ten-year useful life and that annual maintenance expense would equal ten percent (10%) of the
installed cost (which is probably high and therefore a conservative assumption). NV Energy provided an
estimate of the annual costs for electricity, including both demand charges and expected consumption
(see Appendix 2). The milling equipment will require approximately 400 square feet of floor space, and
a rent factor of $0.35 per month was utilized to represent the occupancy cost. Ryan Garavanta, from
Alpine Insurance in Reno, provided a rough approximation of insurance costs including $1,500 per year
to cover the equipment. $750 per year for workers comprehensive coverage, and roughly $5,000 per
year for liability insurance, for a total annual insurance expense of approximately $7,250.

According to Tomas Johansson, the Director of Sturtevant, Inc., the specified mill, operating 40
hours per week, would be capable of processing around 2.5 million pounds of teff per year and would
require one full-time employee per shift.

Table 1, below, is a break-even analysis for building an in-house teff flour mill in Fallon
compared to outsourcing the milling operation by contracting with mills that would mill the teff grain on
a contract business. This analysis incorporates all of the expenses set forth above.

There are several “limitations” to this analysis that should be noted:

1. The cost of building the flour mill does not include hiring a professional with experience in
setting up a milling operation. While the owners of Desert Oasis Teff built their own
cleaning and bagging operation, they are just beginning to operate the fourth iteration of
this facility. There may be some benefit to finding and hiring a professional.

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\(^1\) Coulombe, Steve, “Three tips: Specifying a pin mill for optimal performance and minimal downtime,” Powder and
2. The price quotation from Sturtevant included a piece of bagging equipment that had been used with their demonstration set-up that was, essentially, being included at no additional cost as long as it remained available. There could be some additional equipment cost if the bagging equipment is not available at the time a mill is purchased. Also, only one mill vendor was contacted in order to complete the feasibility analysis. It may be advisable to contact others.

<table>
<thead>
<tr>
<th>Table 1 – Teff Flour Mill break Even Analysis</th>
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<table>
<thead>
<tr>
<th>Break-Even Analysis</th>
<th>cost per pound</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
</tr>
<tr>
<td>Having teff milled in California</td>
<td></td>
</tr>
<tr>
<td>Milling</td>
<td>$0.18</td>
</tr>
<tr>
<td>Freight to</td>
<td>$0.05</td>
</tr>
<tr>
<td>Better 25# bag</td>
<td>$0.02</td>
</tr>
<tr>
<td>Total cost of outsourced milling - per pound</td>
<td>$0.25</td>
</tr>
</tbody>
</table>

| Variable costs of milling teff in-house     |      |      |
| Labor (fully loaded @ $20/hr., output 1,250 pounds/hr.) | $0.0160 |
| Electricity (variable costs per pound of teff flour) | $0.0132 |
| Maintenance (est. $25,000/yr at full production of 2.5M lbs.) | $0.0100 |
| Total variable production cost per pound     | $0.0392 |

| Approximate contribution margin per pound    | $0.2108 | $0.2508 |

| Annual fixed costs:                          |      |      |
| Depreciation ($250,000 cost, 10 year life)   | $25,000.00 |
| Electricity Demand Expense                   | $18,252.00 |
| Rent (400 s.f. at $0.35/s.f./month x 12)     | $1,680.00 |
| Insurance                                   | $7,250.00 |
| Trash                                       | $2,400.00 |
| Total annual fixed costs                     | $54,582.00 |

| Pounds of annual flour production required to break even with outside contracted flour milling | 258,928 | 217,632 |

<table>
<thead>
<tr>
<th>Net positive advantage of milling in-house compared to outsourcing at various levels of production:</th>
<th>Pounds/year</th>
<th>Annual $ Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>300,000</td>
<td>$63,240</td>
</tr>
<tr>
<td></td>
<td>500,000</td>
<td>$105,400</td>
</tr>
<tr>
<td></td>
<td>750,000</td>
<td>$158,100</td>
</tr>
<tr>
<td></td>
<td>1,000,000</td>
<td>$210,800</td>
</tr>
<tr>
<td></td>
<td>1,500,000</td>
<td>$316,200</td>
</tr>
<tr>
<td></td>
<td>2,000,000</td>
<td>$421,600</td>
</tr>
</tbody>
</table>
3. A determination was not made regarding the current electrical service to the property and whether additional electrical service might be required. If additional electrical service is required, that cost component should be added to the $50,000 estimated costs above and beyond the cost of the equipment.

4. It is unlikely that labor to operate the mill will be engaged on a "per pound of production" basis. The hours of labor required at different flour production levels should be considered in determining labor availability. Perhaps labor involved in the cleaning and bagging operation could also work in the flour mill operation if they are not working full-time in cleaning and bagging.

This break-even analysis indicates that once annual flour production exceeds approximately 260,000 pounds (using the more conservative figures), there will be a net advantage to milling teff in-house. As annual flour production levels grow beyond this break-even level, the net annual advantage to Desert Oasis Teff of milling teff with their own teff mill increases significantly.

**Analysis of the Wholesale Teff Flour Business**

The break-even analysis presented above provides a comparison of in-house milling with outsourced milling, but it doesn’t show the level of profitability of being in the wholesale teff flour business. An analysis of the wholesale teff flour business is included below in Table 2. This analysis utilizes the costs of outsourced flour milling for the cost basis.

**Table 2 – Analysis of Wholesale Teff Flour Business**

<table>
<thead>
<tr>
<th>Pallet Quantities - 1,000 pounds Utilizing Broker</th>
<th>Outsourced Milling and Fulfillment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Price - Net of Promotional Discounts and Expense</td>
<td>$ 1.60</td>
</tr>
<tr>
<td>Less: Broker commission @ 15%</td>
<td>$ (0.24)</td>
</tr>
<tr>
<td>Net Sales Price</td>
<td>$ 1.36</td>
</tr>
<tr>
<td>Cost of Sales</td>
<td></td>
</tr>
<tr>
<td>Cost of grain</td>
<td>$ (0.80)</td>
</tr>
<tr>
<td>Freight to mill</td>
<td>$ (0.05)</td>
</tr>
<tr>
<td>Milling costs</td>
<td>$ (0.18)</td>
</tr>
<tr>
<td>Bag (new 25# bag)</td>
<td>$ (0.02)</td>
</tr>
<tr>
<td>Freight: mill to fulfillment cntr.</td>
<td>$ (0.03)</td>
</tr>
<tr>
<td>Fulfillment charges / costs</td>
<td>$ (0.04)</td>
</tr>
<tr>
<td>Freight allowance to customer (limit)</td>
<td>$ (0.15)</td>
</tr>
<tr>
<td>Total Cost of Sales</td>
<td>$ (1.27)</td>
</tr>
<tr>
<td>Gross Margin</td>
<td>$ 0.09</td>
</tr>
</tbody>
</table>
The most favorable price for teff flour that was found online was for Azure Standard Brown Teff in quantities of 1,200 pounds, at a price of $1.84 per pound. Assuming that Desert Oasis Teff would need to offer some incentives (discounts, introductory specials, etc.) to acquire market share, this analysis utilized a price of $1.60 per pound. As can be seen, the projected profit margin of being in the teff flour business is estimated at $0.09 per pound. The estimated costs include teff grain at $0.80 per pound, so that this analysis does not utilize (encroach upon) any of the profit margin that is accruing to Desert Oasis Teff from the production of grain or from the cleaning and bagging operation.

The analysis of the wholesale teff flour business (see Table 2) assumed that the flour would all be sold in pallet quantities of at least 1,000 pounds, packaged in 25-pound sacks, and that sales would be made through one or more brokers who would receive a 15% commission on the sales. If any direct sales could be made without going through a broker (i.e. to snack bar manufacturers), then the commission amount would be saved and would drop to the bottom line. Also, the cost of the flour could drop by approximately $0.21 per pound once annual production and sales of teff flour exceeded 260,000 pounds - if Desert Oasis Teff switched from outsourced milling to in-house milling. This would bring the profit margin of the wholesale teff flour business to $0.30 per pound. If some of the pricing incentives (discounts) could be relaxed as volume increases, they profit margin could, perhaps, be increased to in excess of $0.50 per pound.

Distribution and Rate Sheets provided by InterPac Technologies, along with their email answers to specific questions about use of the rate sheets (both included within Appendix 3) were utilized to estimate the cost of product fulfillment for pallets of teff. To be conservative, the rate of $0.04 per pound was utilized.

**Table 3 - Wholesale Teff Flour Fulfillment Costs Using a Contract Fulfillment Entity**

<table>
<thead>
<tr>
<th></th>
<th>Per Pallet</th>
<th>Number of Months</th>
<th>Per Pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Pallets</td>
<td>$6.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage</td>
<td>$6.35</td>
<td>2</td>
<td>$12.70</td>
</tr>
<tr>
<td>Shipping Out - Handling</td>
<td>$10.80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shipping Out - Bill of Lading</td>
<td>$4.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Fulfillment Cost</td>
<td>$34.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/lb. assuming 1,000 pounds/pallet</td>
<td>$0.034</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add 1 month to storage</td>
<td>6.35</td>
<td>1</td>
<td>$6.35</td>
</tr>
<tr>
<td>Total Fulfillment Cost</td>
<td>$40.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost/lb. assuming 1,000 pounds/pallet</td>
<td>$0.041</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Finally, it should be noted that estimated freight allowance of $0.15 per pound for shipments to customers may be high if most of the wholesale teff flour sales are made in the Western U.S.

There would be some front-end costs associated with getting into the wholesale teff flour business. The brand development work should be completed first, and the 25-pound bags should have the appropriate logo, nutritional label and bar code. Also, a website should be developed that could receive orders and payment. It is highly recommended that prepayment be required from restaurants ordering the teff flour.

It would seem to make sense, from a risk-mitigation perspective, to enter the wholesale teff flour business prior to committing to building an in-house teff mill. Desert Oasis Teff could first create the customer base to support sufficient production volume to be above the break-even level when the mill begins production. Additionally, there will be some lead time required in building the mill, so the firm could be engaged in and growing the wholesale flour business while the mill was under construction.

Other Considerations of Being in the Wholesale Teff Flour Business

**Market Risks:** The market risks of being in any portion of the teff business (from grain production through wholesale and retail sales) are primarily related to this being a relatively narrow market, so the impact of competition could be relatively dramatic. By extending from grain production and cleaning and bagging into the wholesale flour business, the market risks are extended to more investment into the inventory that is being created and carried, and possibly increased by the fact that flour will have a shorter “shelf life” than grain. One way to mitigate this risk is to help expand the market for teff well beyond Ethiopian restaurants.

Offsetting the market risks presented above would be the consideration that Desert Oasis Teff could mitigate some of the existing risk in the teff grain business associated with competing against other teff grain producers. Some competing teff grain producers are vertically integrated and make sales to end-use wholesale and retail customers. By entering the wholesale teff flour market, Desert Oasis Teff would be better able to compete against these integrated firms.

**Other Business Risks:** Extending into the wholesale flour business could create new business risks, including but not limited to such elements as bad debt (if Desert Oasis Teff extends credit to customers), flour production risks (the flour mill “goes down”, pathogen risk (customers consumer raw flour), etc. Insurance can cover these risks, but only if Desert Oasis Teff is aware of the risks and obtains coverage.

**Personnel:** To be conservative, the firm should anticipate needing one person on a half-time basis to oversee the wholesale flour business during its first three months of start-up, and then on a quarter-time basis thereafter. This person would oversee initial brand development, web-site
development, materials orders, broker selection and relationships, marketing, sales incentives programs, etc. When the firm gets to sales volumes that support getting into the milling business, this same person could oversee that portion of the business as well.

**Working Capital Requirements:** Desert Oasis Teff should plan to have sufficient capital for the initial branding and website development needed to enter the wholesale flour business, plus at least sufficient working capital to cover any other start-up costs (i.e. bag inventory, business cards, letterhead, bar code acquisition, telephone line, etc.) and the first three months of operating expenses. Some food brokers might want a fixed monthly stipend in the early months (plus commission).

**Potential Sources of Capital:** As with most small business ventures, a key source of capital is from the owners investment, and this can include family and friends. Often small businesses access SBA-guaranteed bank loans for some of the needed capital. As a rural business of this nature, there are several USDA programs that could come into play, including the Rural Business Enterprise Grant (RBEG) Program, which could be sought to cover branding and marketing costs, and the Value-Added Producer Grant Program, which is another grant program for rural businesses that intent to provide value-added processing. Additionally, there are a number of rural loan programs that could be pursued (Rural Nevada Development Corporation).

**Conclusion**

The wholesale teff flour business appears to present an attractive opportunity for Desert Oasis Teff. If the firm enters the wholesale teff flour business, in-house milling appears to be very attractive once the break-even sales levels is achieved (or within sight).

After entering the wholesale teff flour business, it is highly likely that the retail teff flour business will also be an attractive option. In addition to the potential profitability of the retail teff flour business, the volumes of flour required for the retail teff flour business will help support and increase the profitability of operating an in-house teff flour mill.
Dessert Oasis Teff
Address
Reno, Nevada

Proposal FCM 350 System

Mr. Richard Barthelet
Email: richardb@unr.edu
Phone: (775) 830-8086

John Getto and Dave Eckert
Jay Davison, Co-op advisor
Email: doteff@cccormm.net
Phone: (xxx)-xxx-xxxx
Cell: (xxx)-xxx-xxxx

Technical data & description FCM Air Classifier Mill System FCM350 QC PSR-18kW.

We ran trials in our Pilot-Plant, to determine thru-put at requested particle size distribution for FCM 350. Our trial 5 settings resulted in a steady capacity of 1200-1800 lbs/h at objective particle size distribution. In general, the particle size was 70% between 140 mesh and 60 mesh size, 30% was finer than 140 mesh.

FCM Air Classifier Mill System uses air carrying the product through the milling and classifying process. The product is fed from a Supersac unloader (customer scope) via a rotary airlock, into the mill chamber through the pneumatic injector.
The milling and classifying, which controls the over all particle size, is done in the FCM 350 mill chamber. From the mill chamber, the fine powder is carried by the air leaving the mill. The air and fine particles goes to the bag-house – filter unit – where the product get separated out – discharged through a rotary airlock.
This Quote is for a complete system, incl. electrical controls and engineering assistance – commissioning.

Below you will find price, for a FCM air classifier mill in mild steel with wear protected product contact parts. The product contact parts for the complete system, such as product pipes, bag-house – is mild steel. Alternatively, we can quote the complete FCM 350 system, meaning PCP (Product Contact Parts) in 304SS.
It obviously would be more universal to have all product contact parts in 304SS - but for only grinding Teff seeds in a dry environment (no water washing of product contact parts), mild steel contact is fully acceptable.

Also, please be aware, the mill and surrounding pipes/ducts are designed PSR – Pressure Shock Resistant. The product you intend to grind is considered combustible, which requires that a possible dust explosion be contained in the mill system, until an XP-panel, integrated into the Bag-house receiver, releases the pressure shock to the outside of your building, provided your mill room can be located at an external wall.

The actual FCM mill and pipes are designed/built PSR, i.e. 10 Bar pressure tested, to contain the combustion. Filter-unit – Bag-house designed with FIKE rupture panel to release a possible dust-explosion/ combustion.
FCM, Model FCM 350 QC PSR – 18 KW (25 HP) Air Classifier Mill per detailed spec.

Mill Body
- Double chamber classifier mill FCM 350 QC PSR (10 Bar test).
- Complete manufacturing of mill chamber and cover mild steel.
- Dome insert and product contact parts in mild steel /wear steel
- Manual lid lifting, with gas struts alleviating the cover weight.
- Safety locking device to secure lid being closed while running.

Internals
- Mild steel Dome insert with product outlet pipe (no top purge)
- Mild steel Medium radial classifier, with no top retention ring
- HARDOX Mill disc, Wear-plate 4x mill blocks, heat-treated
- ADI Wear segments, deflector liner with ripples, (see picture)
- Mild steel Baffle with cone and blades (inserted picture below)

Drives
- 18 KW (25 HP) main motor, 3.5 KW (5 HP) classifier motor.
- Motors inverter duty, NEMA frame TEFC IP55 Class II div 2.
- Main drive, Micro-V-Belt d=250/105 mm (2.36:1)
  for motor, 2 pole 3600 rpm (normal operating speed 4000 – 8500 rpm)
- Classifier drive, Micro-V-Belt, pulleys d=125/92mm (1.35:1)
  for motor, 2 pole 3600 rpm (normal operating speed 1000 – 6000 rpm)
- RPM sensors for main & classifier drive (Pepperl & Fuchs)

Connections
- Product inlet & outlet designed for Grinnell, grooved end clamps
- Product inlet, d=76 / d=60 mm (d=2.5" nom) Grinnell clamp
- Air-inlet conn. d=168/d=158mm (d=6" nom) Grinnell clamp
- Product outlet, d=168/d=158mm (d=6" nom) Grinnell clamp

General
- Allen-Bradley / Rockwell Automation safety lock-out device
- Test run including balancing certificate & 10 Bar pressure test
Filter unit / Bag-house, Model 25S-6-30 / 304SS / per specification below:

**Bag house structure**
- Complete manufacturing of the bag house product contact - in **stainless steel SS 304**
- Welded filter chamber, internal welds ground - with top air outlet- loading filter bags
- **Rupture panel** per NFPA 68, to release explosion pressure through an external wall.

**Internals**
- Bag retention cages in SS 304, filter bags grounded felted polyester (25 bags - each 6 ft lg)
- Membrane filter bags (PTFE surfaced). Total filter area 168 square feet (18 square meters)
- Reverse Jet bag cleaning, with venture nozzles, compressed air tank and activation valves.
- Filter for 1200-1450 m³/h (700-800 FCM) air stream, 70 deg C from mill, d90<120-150um.

**Connections**
- Product inlet, with connection grooved pipe, to fit product pipe from mill.
- Air outlet pipe, with connection grooved pipe, to fit product pipe from mill
- Product outlet flange or groove end to fit product discharge-rotary-airlock.

**General**
- Brackets for mounting the bag-house resting on the mezzanine, 2:nd floor.
- Dwyer pressure differential gauge. Pilot and solenoid valves for bag purge.

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**AUXILIARY EQUIPMENT**, per specification below:

**Vacuum producer / ventilator**
- Ventilator for 1,200 m³/hr (800 CFM) at pressure drop 1400-1500 mm WG (52-55" WG)

**Exhaust air silencer**
- Silencer for 1,200 m³/h (800 CFM) for the air outlet from system via the Vacuum blower

**Mezzanine structure**
- Mezzanine structure to support (hold) the bag-house and Vacuum blower, steel – painted.
ONE (1) FCM, RAL 150 Rotary Airlock, feed valve per specification below:

**Body**
- Fabricated body and lids/covers in mild steel.
- Product contact (internal) ground / machined.
- Lids with sleeve bearings PTFE-Teflon gland.

**Rotor**
- 12-Vane rotor with ground bottom vanes/pockets 304SS
- Rotor volume 1.2 lit/rev. (1.2 dm³/rev.) at 100 % filling.

**Drives**
- Motovario worm gear unit 3-30 rpm 3-phase motor.
- Motors IP55, with PTC for frequency inverter drive
- Direct drive, with gear unit flanged to the lid/cover.

**Connections**
- Product inlet & outlet, design to fit 6” nom. Grinell
Two (2) FCM, cast iron galvanized – 6” Clamp with two bolts per specification below:

**Body**
- Per enclosed Grinnell- specification Fig 7001.
- Product contact C-type seal food-grade EPDM.

**ONE (1) FCM, RAL 200 Rotary Airlock, discharge valve per specification below:**

**Body**
- Fabricated body and lids/cover in mild steel.
- Product contact (internal) ground / machined.
- Lids with sleeve bearings PTFE-Teflon gland.

**Rotor**
- 8-Vane rotor with round bottom vanes/pockets - 304SS
- Rotor volume 6.4 lit/rev, (6.4 dm3/rev) at 100 % filling

**Drives**
- Motovario worm gear unit 3-30 rpm 3-phase motor.
- Motors IP55, with PTC for frequency inverter drive
- Direct drive, with gear unit flanged to the lid/cover.

**Connections**
- Product in- and outlet, design to fit 8” nom. Grinnell

TWO (2) FCM, cast iron, galvanized – 8” Clamp with two bolts per specification below:

**Body**
- Per enclosed Grinnell- specification Fig 7001.
- Product contact C-type seal food-grade EPDM.

**PRODUCT & AIR PIPING / DUCT in SS304, per specification below:**

**From Air intake-filter-unit to mill & injector**
- Complete manufacturing of the air inlet piping 8” nom. mild steel
- Split for mill and bypass, damper for bypass air volume regulation.
- Connection to injector, to airspeed through product injector to mill

**Product outlet pipe to to product filter / bag-house**
- Manufacturing of the product piping, incl. mill opening joint, mild steel
- Product pipe from mill chamber, connect with nom. 6” Grinnell-clamps.

**Clean air outlet pipe from bag-house to vacuum producer**
- Manufacturing of the transition from Filter to blower – to outside muffler
MILL SPEED, AIR VELOCITY, SAFETY INTERLOCKING, per spec.:  

**Safety interlock for mill chamber, RPM sensors.**  
- Allen Bradley - Rockwell Automation, safety lock for mill, Lock-Out main supply switch.  
- Dwyer Air-velocity sensors for process air / by-pass air, to balance air-flow for injector.  
- Pepperl & Fuchs RPM sensors for rotor (mill disc) & classifier speed, including readouts.  
- Upper and lower bearing temp-sensors – Vibration sensor for early warning

**ELECTRICAL EQUIPMENT,** per specification below:  

**Electrical controls and touch screen controls**  
- Electrical engineering, compl P&ID design controls, electrical diagrams  
- Electrical cabinet, VFD drives, relays, controls and safety inter-locking  
- Electrical circuit design, terminal connection info, user documentation.

**Engineering services, training, commissioning**  
- System engineering, pipe-duct design, mech engineering, flow-chart, P&ID  
- Train your people in Elmhurst for your own installation, commission at site  
- Documentation, User and maintenance manuals, cleaning & operation info

**PRICE ESTIMATE**  
FCM 350 Air Classifier Mill System, Mild steel product contact..................................................$ US 197,000.00  
Crating at our facility, for Truck trailer transport to Nevada..................................................$ US 3,000.00  
Complete system, crated for Truck trailer transp. to Nevada (Mild steel product contact).............$ US 200,000.00

Our quote **does not include** mezzanine to hold bag-house and blower (we will provide drawing), nor bag-filling equipment under the bag-house, but we can provide controls for the discharge valve to fill.  
Our quote **does not include** erect/ rig, mech. installation - but we provide process eng. to commission.  
Our quote **does not include** conduit, labor / material, wiring from control cabinet to terminals/motors.  
Our quote **does not include** compressed air supply to the baghouse, for reverse jet tank and discharge.
Prices are ex works Lombard, suitably packed for Truck-trailer – for safe door-to-door transport – excl. shipping, excl. any form local sales tax, or cost for transport insurance.

DELIVERY: Delivery would be 12-14 weeks + ship / install/connect/train/ commission at our facility.

TERMS:
35% deposit with Order,
30% due at submission of engineering details, system layout, P&ID and Functional descrip,
30% 2 weeks Prior to Shipment,
Balance Net 30 Days after commissioning (no later than 90 days after delivery),

Sincerely,
Tomas Johansson, Director
Sturtevant Inc. FCM Mills

Phone: +1 815 919 4652
tjohansson@sturtevantinc.com
DEFINITIONS:

“Contract” shall mean these Terms and Conditions and the proposal issued by Sturtevant to Purchaser and attached hereto, as either or both may be amended from time to time.

“Equipment” shall mean all equipment, parts, materials, and other items to be provided by Sturtevant under the Contract.

“Purchaser” shall mean the Purchaser and its representatives and agents.

“Sturtevant” shall mean Sturtevant, Inc., a Massachusetts corporation.

“Work” shall mean all services to be performed by Sturtevant pursuant to the Contract.

CONTROLLING TERMS AND CONDITIONS:

The Contract constitutes the entire agreement between Purchaser and Sturtevant. Any terms or conditions contained in any prior agreement between the parties or arising from trade usage or course of dealing that are additional to or different from the terms and conditions of the Contract are hereby expressly rejected.

The Contract may only be amended by a written agreement signed by each of the parties hereto. No waiver of any of the provisions of the Contract shall be binding upon either party unless signed by duly authorized representatives of each of the parties. Waiver of a particular provision or instance shall not operate as a waiver of any other provision or instance, and failure to exercise a right under the Contract shall not constitute a waiver of that right.

It is hereby declared and agreed by Purchaser that it has entered into the Contract, relying on its own knowledge of the subject matter, the representations and warranties made by Sturtevant in the Contract relating to Equipment, and the specifications for each item of Equipment as provided in Sturtevant’s published documentation on the date the order for that Equipment was placed. Purchaser hereby expressly waives any and all claims for damages or for cancellation of the Contract because of any representation, warranty, or specification not expressly identified in the preceding sentence, and Sturtevant is under no legal obligation of any kind in respect to any other alleged inducements, promises, representations, or terms.

Section headings are provided for convenience and are not to be used in construing the Contract.

ASSIGNMENT:

Neither party shall assign the Contract or any benefits arising therefrom without prior written consent of the other party, except that Sturtevant may, without the consent of the Purchaser, assign the Contract to its successor in interest as the result of a merger, consolidation, or sale of all or substantially all of its business, and Sturtevant may subcontract any portion of the Work under the Contract to any of its affiliates. In the event that Sturtevant consents to any assignment by Purchaser, the rights of any assignee shall be subject to all set-offs, counterclaims, and other rights of Sturtevant arising hereunder, and Purchaser shall remain fully responsible for the performance by its assignee of all terms and conditions of the Contract.

ENGINEERING AND DRAWINGS:

Purchaser shall furnish Sturtevant with all information, instructions, and drawings that are requisite to the execution of the Work, and Sturtevant shall be entitled to rely on such information in the performance of the Contract.

Sturtevant assumes no responsibility for the adequacy of any design provided by Purchaser or for the conformance of that design to the requirements of any third party.

Sturtevant shall submit general arrangement or assembly drawings for Purchaser’s approval where expressly provided herein. Once Purchaser has approved such drawings, Sturtevant shall not be liable for any difficulty in installing, or any inability to install, the Equipment as set forth in such drawings or the inability of such Equipment to work with any equipment that is not furnished by Sturtevant.

Unless otherwise specified in the Contract, Sturtevant will furnish two copies of drawings and pertinent instructions required for installation and operation of the Equipment. Additional copies shall be made available for a nominal fee.

All engineering, drawings, designs, specifications, diagrams, plans, reports, charts, schematics, processes, technical data, instructions, manuals, cost estimates, and pricing furnished by Sturtevant (collectively, together with all reproductions thereof, “Proprietary Data”) are and shall remain the property solely of Sturtevant. Use of Proprietary Data by Purchaser is limited to the purposes set forth in the Contract. Purchaser shall treat such Proprietary Data as confidential and shall not disclose the same to third parties without the prior written consent of Sturtevant.

CHANGE ORDERS:

Subject to the provisions of the Contract and of this Section 5, Purchaser may make changes, within the general scope of Work under the Contract, by giving Sturtevant written notification in a change order. Within a reasonable time after receipt of such change order, Sturtevant shall submit to Purchaser the adjustment to the contract price, delivery schedule, and performance requirements under the Contract and Purchaser shall be deemed to have agreed to such adjustments as an amendment to this Contract unless Purchaser shall notify Sturtevant in writing within five business days of its receipt of such adjustments of its objections thereto, in which event, the change order shall be deemed null and void and of no further force nor effect. In order to avoid incurring any additional costs or irrevocably altering any Equipment before the parties are in agreement, upon receipt of a change order Sturtevant may, without liability, cease any Work that would be affected by such change order until Sturtevant’s resulting adjustments have been accepted or rejected by Purchaser (either expressly or by expiration of the five-day notice period described above).
EQUIPMENT CHANGES:

Sturtevant reserves the right, at any time, to make such changes in design, manufacture, assembly, arrangement, or components of Equipment as shall, in its judgment, constitute an improvement; provided, however, that Purchaser shall not be responsible for any increase in the costs of such Equipment or of its installation or erection that is directly caused by any such changes.

TAXES:

All prices quoted herein are exclusive of all sales, use, value added, excise, import, privilege, personal property, and other taxes or duties occasioned by the manufacture, shipment, sale, lease, possession, ownership, or use of Equipment, which shall be paid by Purchaser.

TITLE AND RISK OF LOSS:

Unless expressly provided otherwise in the Contract, title to Equipment shall pass to Purchaser only upon receipt of payment in full by Sturtevant. All Equipment is shipped F.C.A., in accordance with Incoterm 2010 ("F.C.A."). Sturtevant shall deliver the goods, cleared for export, to the designated carrier agreed upon by the parties. If delivery of the Equipment occurs at any location other than Sturtevant’s business locations, Sturtevant shall not be responsible for unloading the Equipment. If the Purchaser nominates a person other than a “carrier,” as defined under F.C.A., to receive the Equipment, Sturtevant shall be deemed to have fulfilled its obligation to deliver the Equipment when the Equipment is delivered to the “non-carrier” person nominated by the Purchaser.

CONSULAR FEES:

If instructed in writing, Sturtevant will make arrangements at Purchaser’s expense for consular documents and declarations as agent of Purchaser, provided that Sturtevant shall not be liable for any delay or loss that arises in connection with any such arrangement that is made in a commercially reasonable manner by Sturtevant.

EXPORT RESTRICTIONS:

Export of certain Equipment may be restricted under the Export Administration Regulations, 15 C.F.R. pts. 730-774 (the “EAR”), which requires a license to export to certain destinations, individuals, and entities. Purchaser represents and warrants that it has fully and accurately disclosed to Sturtevant the shipping route, final destination, ultimate user, and ultimate use for each unit of the Equipment, and that it, as a potential re-exporter of the Equipment, shall at all times comply with all requirements of the EAR.

If Sturtevant is reasonably unable to obtain any license under the EAR that is necessary for Sturtevant to deliver any Equipment, the Contract shall immediately terminate as to such Equipment without liability on the part of either party, and Sturtevant shall immediately provide notice to Purchaser of such termination.

SERVICES:

If installation, erection, or advisory services are specified in the Contract as being provided by Sturtevant, such services shall be governed by Sturtevant’s current rates, and Terms and Conditions of Service, which are incorporated herein by reference. In all other instances, Equipment shall be erected, installed, and serviced by Purchaser at Purchaser’s expense.

SAFETY DEVICES/INDEMNITY:

Sturtevant shall not be required to furnish or be responsible for any safety devices, or compliance with any safety laws, codes, or regulations except as otherwise expressly provided for herein. Purchaser shall install, operate, and maintain the Equipment in accordance with all applicable safety laws, codes, and regulations.

To the extent permitted by law, Purchaser agrees to defend, indemnify, and hold harmless Sturtevant and the officers, directors, stockholders, agents, and employees thereof against any and all losses, damages, expenses (including attorneys’ fees), liabilities, claims, demands, suits, and causes of action that relate to or arise out of any breach by Purchaser of Section 12(a).

RETURNED EQUIPMENT:

Equipment may not be returned without prior written authorization by an officer of Sturtevant. If Equipment is returned for any reason other than warranty service, such Equipment will be subject to a handling charge, a restocking charge, and transportation costs, which shall be paid by Purchaser.

CHANGED CIRCUMSTANCES:

Scheduled delivery dates shall be extended for delays occasioned by any cause beyond Sturtevant’s reasonable control, including, without limitation, governmental actions or orders; embargoes; defective materials; default or delay of material suppliers; delays in transportation; labor disputes; fires and floods; inability to obtain fuel, labor, or materials; riots; acts of God; and other such causes that delay performance by Sturtevant or any of its suppliers or subcontractors.

Equipment on which manufacture or delivery is delayed due to any cause attributable to Purchaser may be placed in storage by Sturtevant, at Purchaser’s cost and risk, and regular charges therefor and expenses in connection therewith shall be paid by Purchaser. Alternatively, Purchaser may, by written notice to Sturtevant, elect to promptly provide or arrange for suitable storage facilities and assume all costs and risks in connection therewith.

In the event that changes in current codes, rules, laws, or regulations increase Sturtevant’s cost or time of performance, Sturtevant shall be entitled to an equitable adjustment of the Contract price and delivery schedule; provided, however, that Sturtevant first notifies Purchase and obtains Purchaser’s approval. In the event that Purchaser notifies Sturtevant within thirty days of the date of any such notice of Purchaser’s
election not to approve the adjustments identified in such notice, then (i) Sturtevant shall immediately terminate any remaining work on any Equipment and cancel delivery of all unshipped Equipment, and (ii) the Contract shall then terminate in accordance with Section 21.

PATENT INDEMNITIES:

Sturtevant agrees, to the extent the design of Equipment is not furnished or expressly specified by Purchaser, to indemnify and defend, on behalf of Purchaser, any action or suit for an infringement of patent rights or for royalties under patents in the United States relating to Equipment manufactured by Sturtevant; provided that, Purchaser promptly notifies Sturtevant in writing of any such claims and of the institution of any and all suits or proceedings based thereon. Sturtevant shall have the right to settle, compromise, or defend, at its expense, any and all suits or actions at law that may be brought against Purchaser for said claims for infringement or royalties. Purchaser shall permit Sturtevant through its counsel to control the defense of any suit or action and shall give Sturtevant all necessary information, assistance, and authority to enable it to do so. Sturtevant’s liability to Purchaser in any event shall be limited to accepting the return of infringing Equipment and refunding the Contract price of any part therefor that may have been paid or, at Sturtevant’s option, making any modifications necessary to eliminate such claims or infringements within the above defined area of liability.

LIMITED WARRANTY:

Subject to the limitations and conditions set forth in the Contract, Sturtevant warrants Equipment of its manufacture to be free from defects in material and workmanship for a period of one year from date of shipment, provided that such Equipment is properly installed, maintained, and operated under normal conditions and in accordance with any specifications that may be provided by Sturtevant. This limited warranty extends only to the original Purchaser of the Equipment. This limited warranty is conditioned upon receipt by Sturtevant of written notice of any defect within ten days of its discovery by Purchaser, with such written notice to include a reasonable description of the defect. Upon receipt of the written notice, Sturtevant and Purchaser shall agree upon a reasonable time and date for Sturtevant to inspect the Equipment to verify any defects. Purchaser agrees to provide Sturtevant with reasonable access to the Equipment during normal business hours to inspect the Equipment for any defects. If Sturtevant determines that the Equipment is defective, Sturtevant shall have the option to (i) fix the defective Equipment so that it is free from defects in material and workmanship, (ii) replace the defective Equipment, or (iii) refund the Purchaser the purchase price of the defective Equipment. Sturtevant replacement parts under subsection (ii) herein may be new or equivalent to new. Sturtevant’s obligations hereunder are conditioned upon the return of any defective Equipment to Sturtevant in accordance with its return policies, as may be amended from time to time. This limited warranty does not apply to damage to Equipment resulting from ordinary wear and tear, corrosion, erosion, chemical or abrasive action, excessive heat, improper lubricating oil, improper or extended storage prior to start-up, misuse, abuse, accident, improper maintenance, or application outside the design limitations of said Equipment.

Repairs, replacements, or modifications made by Purchaser to Equipment without Sturtevant’s prior written consent shall terminate the warranty provided under this Section 16. No allowance will be granted for any repairs or alterations made by Purchaser without Sturtevant’s prior written consent.

Equipment furnished by Sturtevant, but manufactured by others, is warranted only to the extent of the original manufacturer’s warranty to Sturtevant.

No person, agent, representative, or dealer is authorized to give any warranties on behalf of Sturtevant nor to assume for Sturtevant any liability or obligation in connection with the Equipment, the Work, or any other Sturtevant product.

The warranties set forth in the Contract shall be exclusive, in lieu of, and exclude all other warranties, except warranty of title. STURTEVANT EXPRESSLY DISCLAIMS ALL OTHER WARRANTIES OF ANY KIND WHATSOEVER, WHETHER EXPRESS, IMPLIED, STATUTORY, AT LAW, OR IN EQUITY, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE THAT EXCEED THE FORESAID OBLIGATIONS ARE HEREBY DISCLAIMED BY STURTEVANT AND EXCLUDED FROM THE CONTRACT.

REMEDIES:

Subject to the limitations of warranty and of liability contained herein, Sturtevant agrees to repair or, at its option, replace, F.C.A. original point of shipment, any Equipment that proves, during the warranty period and under the conditions set forth in Section 16, to be nonconforming or to contain defective material or workmanship.

BACKCHARGES:

Sturtevant shall not pay or be liable for any backcharges for field correction unless prior written consent to the corrective procedures and of the cost thereof has been given by Sturtevant.

DELIVERY SHORTAGES:

Claims for shortage in delivery will not be considered unless made in writing to Sturtevant within ten business days after receipt of the Equipment, accompanied by reference to Sturtevant’s sales order, bill of lading, and factory order numbers.

TERMS OF PAYMENT:

Unless other terms have been agreed upon in writing by the parties, progress payments as specified in Sturtevant’s proposal are due and payable as shipments are made under such financial guarantee of payment as Sturtevant may require. If shipment is delayed through no fault of Sturtevant, the date on which the Equipment or part thereof is ready for shipment shall deemed to be the date of shipment for purpose of payment.
Terms of payment are subject to Sturtevant’s approval at the time the order is accepted and again prior to delivery. In the event that, in Sturtevant’s judgment, Purchaser’s credit position has changed after the date hereof, Sturtevant reserves the right to refuse to deliver except for cash or other arrangement acceptable to Sturtevant without being liable for nonperformance of the Contract either in whole or in part.

Invoices are payable in accordance with the terms of payment described above. In the event that Purchaser claims discrepancies exist in invoices, full payment of the invoices are due and payable within the prescribed times, with adjustment for proven discrepancies to be made as soon as practicable thereafter.

If any payment is not made within the specified time, interest thereon will be computed and charged monthly at the prime rate set by Citibank, N.A., New York, NY, or at the maximum legal rate permitted, whichever is lower, and shall be due and payable by Purchaser. Notwithstanding the foregoing, Purchaser shall have five business days following notice from Sturtevant to cure any breach of this Section 20(d).

If Purchaser fails to fulfill the terms of payment or other terms or conditions hereof, Sturtevant may, at its option, cease performance, defer further shipments to Purchaser, or cancel the undelivered balance of the Contract and all other Purchaser’s contracts then unfulfilled. Sturtevant reserves the right in the event of Purchaser’s default to reclaim at Purchaser’s cost any Equipment that has been delivered to Purchaser. All rights of Sturtevant shall be cumulative and in addition to any other rights conferred by law.

TERMINATION:

It is understood and expressly agreed that in the event of termination of the Contract for any reason, Purchaser shall pay to Sturtevant, as liquidated damages and not as a penalty, the sum of (a) twenty-five per cent (25%) of the purchase price; (b) the cost, including profit on any such cost at twenty-five per cent (25%), of all material and Work performed by Sturtevant to the date of termination; (c) any cancellation charges incurred by Sturtevant from its suppliers; and (d) any costs incurred in bringing the work to an orderly conclusion. The parties acknowledge that the foregoing liquidated damages are reasonable and appropriate, in particular due to the difficulty of measuring the economic loss that would be sustained by Sturtevant.

LIABILITY:

It is expressly agreed that the Contract sets forth the sole and exclusive remedies available to the parties and that Sturtevant’s liabilities are limited as set forth herein. Sturtevant has not granted or assumed any other warranties, guaranties, duties, liabilities, or obligations, whether express, implied, statutory, at law, or in equity.

Sturtevant shall under no circumstances be liable for special, incidental, exemplary, or consequential damages (hereafter referred to collectively as “consequential damages”), including, but not limited to, loss of profits, anticipated revenue, interest, or use; loss by reason of plant shutdown; nonoperation; cost of substitute equipment, facilities, or services; additional usage of fuel or utilities; costs incurred in removing defective or nonconforming Equipment and reinstallation of conforming Equipment; delays in installation of the Work or completion of any project in which the Equipment is being installed, or other such claims arising from any cause whatsoever, whether or not such loss or damage is based in contract, warranty, tort (including negligence), strict indemnity, or otherwise.

Sturtevant’s maximum aggregate liability for loss or damage arising under, resulting from, or in connection with the Contract, whether such liability arises from any one or more claims or actions for breach of contract, tort (including negligence), delayed completion, warranty, indemnity, strict liability, or otherwise, unless otherwise limited by the terms hereof, shall be limited to 100% of the Contract price (in the event the Contract provides for the furnishing of more than one unit of Equipment, the Contract price shall be deemed to mean the unit price specified therefor in the Contract, or, if none is specified, a proportional part of the price stipulated for all such units), whether such sum is expended in repair, replacement, other corrective action, liquidated damages, refund of the Contract price, or any such remedy as may be provided.

GOVERNING LAW AND FORUM:

The Contract shall be governed by and construed in accordance with the laws and enforced solely in the courts of the Commonwealth of Massachusetts, U.S.A., without regard to the conflict of laws provisions thereof, and the parties hereby expressly submit to the jurisdiction of such courts.
APPENDIX 2

ELECTRICAL ENERGY COST WORKSHEET FROM NV ENERGY
**Assumptions:**

- **Peak Demand (kW)**: 150
- **Usage (kWh)**: 60,000 per month
- **Load Factor**: 55%
- **Voltage Level**: Secondary
- **Rate Schedule**: GS2
- **Would you like the Optional Time of Use?**: No

**Cost Estimate**

<table>
<thead>
<tr>
<th></th>
<th>Annual</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Cost</strong></td>
<td>$51,209</td>
<td>$4,267</td>
</tr>
<tr>
<td><strong>Cost per kWh</strong></td>
<td>$0.0711</td>
<td>$0.0711</td>
</tr>
</tbody>
</table>

**Cost components**

<table>
<thead>
<tr>
<th>Component</th>
<th>Annual</th>
<th>Monthly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Consumption - kWh</td>
<td>720,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Consumption (kWh)</td>
<td>$34,740</td>
<td>2,895</td>
</tr>
<tr>
<td>Demand (kW)</td>
<td>$7,272</td>
<td>606</td>
</tr>
<tr>
<td>Facility Demand (Max kW)</td>
<td>$10,980</td>
<td>915</td>
</tr>
<tr>
<td>Power Factor Charge (Credit)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Deferred Energy Adjustment</td>
<td>$-5,393</td>
<td>$(449)</td>
</tr>
<tr>
<td>Temp Renewable Energy Devel</td>
<td>$713</td>
<td>59</td>
</tr>
<tr>
<td>Renewable Energy Program</td>
<td>$(187)</td>
<td>$(16)</td>
</tr>
<tr>
<td>Energy Efficiency</td>
<td>$1,188</td>
<td>99</td>
</tr>
<tr>
<td>Customer Charge</td>
<td>$132</td>
<td>11</td>
</tr>
<tr>
<td>Franchise / Utility Fees 3%</td>
<td>$1,483</td>
<td>$124</td>
</tr>
<tr>
<td>Universal Energy Charge</td>
<td>$281</td>
<td>23</td>
</tr>
</tbody>
</table>

(*) V&T Discounts are based on transformer and substation ownership as well as metering configuration and can range from 1.25% to 10%
APPENDIX 3

INTERPAC TECHNOLOGIES DISTRIBUTION & WAREHOUSING RATE SHEETS

&

EMAIL EXPLANATIONS REGARDING APPLICATION OF THE RATE SHEETS
RATE QUOTE AND ACCEPTANCE

Distribution & Warehousing

To: FOR PROMPT ACCEPTANCE WITHIN 30 DAYS

Note: The act of shipping goods described hereon will constitute acceptance of this rate quotation.

Agreement length: 12 Months from date of signature (Materials at 260 N Pioneer Avenue, Woodland, Ca 95776)

Subject to the terms of the STANDARD CONTRACT TERMS AND CONDITIONS FOR MERCHANDISE WAREHOUSEMEN (pages 2&3)
QUOTED RATES FOR STORAGE, HANDLING AND OTHER SERVICES AS FOLLOWS: (as stated on page 1)

Products being stored consist of ambient and refrigerated food products stored in cases, pallets, totes and drums:

<table>
<thead>
<tr>
<th>Category</th>
<th>Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inbound Handling</td>
<td>$ 6.50</td>
<td>Per pallet</td>
</tr>
<tr>
<td>Case / Pallet Pick Fee</td>
<td>$ 0.27</td>
<td>Per Case</td>
</tr>
<tr>
<td>Bill of lading (BOL) prep</td>
<td>$ 4.25</td>
<td>Per BOL</td>
</tr>
<tr>
<td>Pallet Shrink Wrapping</td>
<td>$ 2.75</td>
<td>Per wrapped pallet</td>
</tr>
<tr>
<td>Inbound Storage – Ambient</td>
<td>$ 6.35</td>
<td>Per pallet</td>
</tr>
<tr>
<td>Recurring Storage – Ambient</td>
<td>$ 6.35 (Billed on the 1st of every month)</td>
<td>Per pallet</td>
</tr>
<tr>
<td>Inbound Storage – Refrigerated</td>
<td>$ 8.35</td>
<td>Per pallet</td>
</tr>
<tr>
<td>Recurring Storage – Refrigerated</td>
<td>$ 8.35 (Billed on the 1st of every month)</td>
<td>Per pallet</td>
</tr>
</tbody>
</table>

SERVICE REQUIREMENTS AND ASSUMPTIONS:
- See attached for Warehouse Supplementary Rates & Charges.
- Up to a 4% increase per year based on the CPI and minimum wage laws

ALL CHARGES ARE DUE NET 30 DAYS, CHARGES AND CLAIMS WILL NOT BE DEDUCTED FROM WAREHOUSEMAM’S INVOICES

AGREED TO COMPANY:
Interpac Technologies, Inc.

BY:                  BY:

Signature

Date                  Date
# RATE QUOTE AND ACCEPTANCE

## ACCESSORIAL RATES

<table>
<thead>
<tr>
<th>Description</th>
<th>Rate</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIR BAGS</td>
<td>TBD</td>
<td>COST PLUS 20% PLUS APPLICABLE LABOR CHARGE</td>
</tr>
<tr>
<td>BOL CHARGE</td>
<td>$4.25</td>
<td>PER SHIPMENT</td>
</tr>
<tr>
<td>CASE LABELING</td>
<td>$0.25</td>
<td>PER CASE PER LABEL</td>
</tr>
<tr>
<td>CONTAINER FLOOR UNLOADING</td>
<td>$40.00</td>
<td>PER HOUR PER PERSON (15 MINUTE INCREMENTS)</td>
</tr>
<tr>
<td>DISPOSAL FEE</td>
<td>TBD</td>
<td>COST PLUS 20% FOR DISPOSAL PLUS APPLICABLE LABOR CHARGE</td>
</tr>
<tr>
<td>EDI 856 ADDITIONAL STICKER CHARGE</td>
<td>N/C</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>EDI 856 CHARGE</td>
<td>N/C</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>EDI MAIL BOX CHARGE</td>
<td>N/C</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>EMERGENCY ORDERS</td>
<td>$35.00</td>
<td>PER SAME DAY ORDER (LESS THAN 48HR)</td>
</tr>
<tr>
<td>HOURLY LABOR RATE</td>
<td>$30.00</td>
<td>PER HOUR PER PERSON (15 MINUTE INCREMENTS)</td>
</tr>
<tr>
<td>HOURLY LABOR RATE (AFTER HOURS/SATURDAY)</td>
<td>$40.00</td>
<td>PER HOUR PER PERSON (2 PERSON 4 HOUR MINIMUM)</td>
</tr>
<tr>
<td>HOURLY LABOR RATE (SUNDAY/HOLIDAY)</td>
<td>$50.00</td>
<td>PER HOUR PER PERSON (2 PERSON 4 HOUR MINIMUM)</td>
</tr>
<tr>
<td>INVENTORY LABOR</td>
<td>TBD</td>
<td>TO BE DETERMINED</td>
</tr>
<tr>
<td>MASTER BILL CHARGE</td>
<td>$6.50</td>
<td>EACH</td>
</tr>
<tr>
<td>MONTHLY ACTIVITY REPORT</td>
<td>N/C</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>PACKAGING</td>
<td>TBD</td>
<td>COST PLUS 20% PLUS APPLICABLE LABOR COST</td>
</tr>
<tr>
<td>PALLET LABELING</td>
<td>$1.00</td>
<td>PER PALLET / PER LABEL</td>
</tr>
<tr>
<td>PALLET WRAPPING</td>
<td>$2.75</td>
<td>PER PALLET</td>
</tr>
<tr>
<td>PALLETs (#1)</td>
<td>$15.00</td>
<td>EACH</td>
</tr>
<tr>
<td>PALLETs (#2)</td>
<td>$12.50</td>
<td>EACH</td>
</tr>
<tr>
<td>PHOTOGRAPHS</td>
<td>$1.50</td>
<td>PER PHOTO</td>
</tr>
<tr>
<td>REVISED ORDERS</td>
<td>$10.00</td>
<td>FIRST REVISION FREE, CHARGE FOR 2ND REVISION AND EACH THEREAFTER PLUS APPLICABLE LABOR COST</td>
</tr>
<tr>
<td>SLIP SHEET UNLOADING</td>
<td>N/A</td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>SLIPSHEET</td>
<td>$2.50</td>
<td>EACH</td>
</tr>
<tr>
<td>SPECIAL DOCUMENT REQUEST</td>
<td>TBD</td>
<td>EACH</td>
</tr>
<tr>
<td>SPOT TRAILERS</td>
<td>$125.00</td>
<td>PER OCCURRENCE</td>
</tr>
<tr>
<td>STOCK CHECKS</td>
<td>N/C</td>
<td>NO CHARGE</td>
</tr>
<tr>
<td>UPS REPACKING CHARGE</td>
<td>$5.00</td>
<td>PER CASE</td>
</tr>
</tbody>
</table>

Initial and Date 2
Interpacific Technologies Inc
Good afternoon Richard,

Answers to questions in red.

Please feel free to reach out if you have further questions.

Regards,

Stephen L Cosenza
Logistics Manager
stephen.cosenza@iptec.com
(Please note new email address)

Interpac Technologies Inc
260 N. Pioneer Avenue
Woodland CA 95776
Office 530-662-6363
Direct 530-207-5684

Randall,

Thank you for the quote (and for the follow-up distribution and warehousing price sheet). I have several follow up questions/requests:

1) Either prior to or contemporaneous with the filling of small bags for retail sales, Desert Oasis Teff is likely to engage in sales of 25-pound bags of teff flour to restaurants, very likely in one-pallet quantities. Would IPC be available to do warehousing and order fulfillment for the teff flour in the 25-pound bags?
Yes we can.

2) If the answer to the above question is “yes”, I am trying to decipher the Distribution and Warehousing price sheet you provided, and am thinking an example might help. If Desert Oasis Teff had their processed flour shipped to IPC, let’s say 20 pallets with 40 bags on each pallet (1,000 pounds), and then wanted orders fulfilled by shipping one pallet at a time, at an average rate of five pallets per month, what would the IPC costs to Desert Oasis Teff be? Can we get the breakdown so that we understand how to apply the rate sheet you provided?

When the pallets arrive = Inbound Handling ($6.50 x 20 pallets = $130.00), Inbound storage ($6.35 x 20 = $127.00)

Shipping single order of 1 full pallet = (40 units (50 lb bags) x $0.27 = $10.80 plus Bill of Lading prep = $4.25 = total of $15.05

If the amount was smaller and we had to use a pallet (other than the one stored on) there would be an additional $10.00 fee for the pallet and $2.75 fee for wrapping the order securely to the pallet

On the first of every month storage is charged for what pallets are here at a rate of $6.35 per pallet.

3) Regarding the quote you provided of $0.60 per pouch (minimum 5,000 pouches):

a. Are there any quantity discounts available, and would you please describe? When we talked before, we were discussing a minimum of 24,000 units.
   Since we have not run this product previously we would need to stay at the $0.60 per bag at this time. Once we run we can look into adjusting the pricing structure.

b. Can you give us a contact at InterPress (your sister company) so that we can get pricing for the pouches? We can connect the branding firm with InterPress for discussions about the logo and other printing requirements on the pouches (bar code, ingredients, etc.)
   Interpress does not make the stand up pouches but I will get you some info on companies that do.

c. If we wanted to acquire boxes so that the pouches could be placed into cases of product, would those cases also be available through InterPress, or through InterPac? We will work with you to help you find a case provider for this project once we finalize bags size and quantity per case you would like to fill.

Randall, thank you in advance for your additional assistance.

Dick

Richard Bartholet, Research Associate