

## Exhibit B Category Budget

Budget Category Item	GRDA Cost Share	Match Share	Total Cost (\$)
<b>Personnel:</b>			
Direct Labor	\$ 634,754	\$ 112,015	\$ 746,769
Fringe Benefits	\$ 104,100	\$ 18,371	\$ 122,470
<b>Total Personal Services</b>	<b>\$ 738,853</b>	<b>\$ 130,386</b>	<b>\$ 869,239</b>
<b>Operating Expenses:</b>			
Travel	\$ -	\$ 90,000	\$ 90,000
Equipment	\$ -	\$ 560,000	\$ 560,000
Materials / Supplies	\$ 125,000	\$ 110,000	\$ 235,000
Contractual	\$ -	\$ 488,000	\$ 488,000
Miscellaneous	\$ -	\$ -	\$ -
<b>Total Operating Expenses</b>	<b>\$ 125,000</b>	<b>\$ 1,248,000</b>	<b>\$ 1,373,000</b>
<b>Overhead:</b>			
Overhead	\$ 85,692	\$ 15,122	\$ 100,814
<b>Total Overhead</b>	<b>\$ 85,692</b>	<b>\$ 15,122</b>	<b>\$ 100,814</b>
<b>Total</b>	<b>\$ 949,545</b>	<b>\$ 1,393,508</b>	<b>\$ 2,343,053</b>

**EXHIBIT B**  
**Budget Details**

**Direct Labor, Unloaded Hourly Rates**

Title / Job Classification	Maximum Rate to be Billed* (\$ / Hr)	Number of Hours	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Senior Scientist/Senior Engineer	\$ 96.00	1,923	156,878		27,684	\$ 184,562
Scientist/Engineer	\$ 78.00	4,903	325,062		57,364	\$ 382,426
Chemical Analyst	\$ 78.00	1,039	68,899		12,159	\$ 81,058
Operator	\$ 40.00	2,468	83,915		14,809	\$ 98,724
<b>Total Direct Labor</b>			\$ 634,754		\$ 112,015	\$ 746,769

\* Maximum salary rates are caps: PIER will not reimburse at a higher rate over the term of the project.

**Fringe Benefits**

Title / Job Classification	Maximum % Rate to be Billed*	Base (Typically Total Direct Labor)	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Senior Scientist/Senior Engineer	25%	\$184,562	\$25,728		\$4,540	\$ 30,268
Scientist/Engineer	25%	\$382,426	\$53,310		\$9,408	\$ 62,718
Chemical Analyst	25%	\$81,058	\$11,299		\$1,994	\$ 13,293
Operator	25%	\$98,724	\$13,762		\$2,429	\$ 16,191
<b>Total Fringe Benefits</b>			\$ 104,100		\$ 18,371	\$ 122,470

\* Maximum fringe benefit rates are caps: PIER will not reimburse at a higher rate over the term of the project.

**Travel\*\***

From and To Destination	Trip Purpose	Complete Description (Why Travel is Necessary)	Number of Trips	Who (Name all)	GRDA Share*	Match Share	Total Cost
Pleasanton, CA to Sacramento, CA	Meet with subcontractor	Monitor subcontract work	2	TBD	\$ -	\$ 500	\$ 500
Pleasanton, CA to Chesterfield, Missouri	Meet with subcontractor	Monitor subcontract work	2	TBD	\$ -	\$ 4,000	\$ 4,000
Pleasanton, CA to Pickering, Ontario, Canada	Meet with subcontractor	Monitor subcontract work	4	Harrison, Mohanta, and/or alternates	\$ -	\$ 10,000	\$ 10,000
Pleasanton, CA to Savannah, Georgia	Meet with subcontractor	Monitor subcontract work	2	TBD	\$ -	\$ 5,000	\$ 5,000
Pleasanton, CA to Canada	Visit potash producers	Establish state-of-art	2	Harrison and/or persons TBD	\$ -	\$ 5,500	\$ 5,500
Pleasanton, CA to Ontario, Canada	Meet with subcontractor	Monitor subcontract work	2	TBD	\$ -	\$ 5,000	\$ 5,000
Pleasanton, CA to Chesterfield, Missouri	Meet with subcontractor	Monitor subcontract work	4	Harrison and/or person(s) TBD	\$ -	\$ 10,000	\$ 10,000
Pleasanton, CA to Calipatria, CA	Multiple trips for Pleasanton, CA R&D staff to work at demo plant in Calipatria, CA	Manage, monitor and operate demo plant	32	TBD	\$ -	\$ 50,000	\$ 50,000
<b>Total Travel</b>					\$ -	\$ 90,000	\$ 90,000

\* GRDA Share: Travel is reimbursed at State rates. Higher travel costs can count as Match Share.

\*\* Trips listed as "to be determined (TBD)" require advanced written approval from Commission Project Manager.

## EXHIBIT B Budget Details

### Equipment

Item	Quantity	Unit Cost	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Reaction vessels for optimization	Assorted	\$ 5,000	\$ -		\$ 5,000	\$ 5,000
Purification equipment	Assorted	\$ 5,000	\$ -		\$ 5,000	\$ 5,000
Lab pilot build-out materials incl. pumps, tanks, extraction equipment, instrumentation	Assorted	\$ 50,000	\$ -		\$ 50,000	\$ 50,000
Demonstration plant build-out materials incl. extraction media, vessels, pumps, piping, instrumentation, control system	Assorted	\$ 500,000	\$ -		\$ 500,000	\$ 500,000
<b>Total Equipment</b>			\$ -		\$ 560,000	\$ 560,000

### Materials, Supplies

Item	Quantity	Unit Cost	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Misc. consumables 250 units @ \$10 each, glassware - 250 units @ \$10 each, chemicals and additives 400 units at \$100 each for lab experiments. <b>No items listed will exceed \$4,999 per unit.</b>	250 units 250 units 400 units	\$10 each \$10 each \$100 each	\$ 25,000		\$ 20,000	\$ 45,000
Misc. chemicals for synthetic brine makeup TBD, additives 400 units at \$100, consumables for lab pilot - 400 units @ \$100 each. <b>No items listed will exceed \$4,999 per unit.</b>	400 units 400 units	\$500 each \$500 each	\$ 30,000		\$ 10,000	\$ 40,000
Misc. chemicals 250 units @ \$100 each, additives 200 units @ \$100 each, consumables 500 units @ \$10 each, materials for making extraction media for demo plant - 100 units @ \$1000 each. <b>No items listed will exceed \$4,999 per unit.</b>	250 units 200 units 400 units	\$100 each \$100 each \$1000 each	\$ 70,000		\$ 80,000	\$ 150,000
<b>Total Materials and Supplies</b>			\$ 125,000		\$ 110,000	\$ 235,000

### Contractual

Subcontractor Name	Purpose	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Chemionex, Inc.	Research and development of novel adsorbent	\$ -		\$ 150,000	\$ 150,000
TBD	Subject matter expert, ion exchange	\$ -		\$ 8,000	\$ 8,000
Ron Molnar	Subject matter expert, solvent extraction	\$ -		\$ 100,000	\$ 100,000
TBD	Subject matter expert, optimization	\$ -		\$ 20,000	\$ 20,000
TBD	Subject matter expert, purification and production	\$ -		\$ 10,000	\$ 10,000
Burns and McDonnell	Cost analysis	\$ -		\$ 100,000	\$ 100,000
Burns and McDonnell	Demo plant engineering	\$ -		\$ 100,000	\$ 100,000
<b>Total Contractual</b>		\$ -		\$ 488,000	\$ 488,000

### Miscellaneous

Item	Purpose	GRDA Cost Share	DOE Funds	Match Share	Total Cost
NONE		\$ -		\$ -	\$ -
<b>Total Miscellaneous</b>		\$ -		\$ -	\$ -

### Overhead

Name of Overhead	Overhead Base*	Maximum % Rate to be Billed**	Base Cost	GRDA Cost Share	DOE Funds	Match Share	Total Cost
Indirect	Facilities, utilities, accounting, legal, misc.	22%	\$ 746,769	\$ 85,692		\$ 15,122	\$ 100,814
<b>Total Overhead</b>				\$ 85,692		\$ 15,122	\$ 100,814

\* Base: Define cost categories used to charge Overhead rate, e.g., Total Labor, Total Direct Cost, Materials, Subcontracts, etc.

\*\* Maximum Indirect Overhead rates are caps: PIER will not reimburse at higher rates over the term of the project.

**Exhibit B  
Attachment B-1  
Budget Summary by Task**

<b>Task #</b>	<b>Task Name</b>	<b>GRDA Cost Share (\$)</b>	<b>Match Funding (\$)</b>	<b>Total (\$)</b>
1.1	Attend Kick-off Meeting	\$2,754	\$486	\$3,240
1.2	Critical Project Review Meetings	\$4,131	\$729	\$4,860
1.3	Final Meeting	\$2,754	\$486	\$3,240
1.4	Monthly Progress Reports	\$31,669	\$5,589	\$37,258
1.5	Final Report	\$17,211	\$3,037	\$20,249
1.6	Identify & Obtain Matching Funds	\$344	\$61	\$405
1.7	Identify & Obtain Required Permits	\$7,229	\$1,276	\$8,505
2	Inorganic Ion Exchange Materials for Potassium Extraction	\$112,719	\$28,634	\$141,353
3	Development of a Novel Fixed Bed Adsorbent	\$16,523	\$162,916	\$179,439
4	Selective Precipitation of Potassium	\$120,698	\$43,655	\$164,353
5	Liquid-Liquid Extraction of Potassium	\$94,548	\$126,685	\$221,233
6	Optimization of Preferred Potassium Extraction Process	\$74,259	\$39,976	\$114,235
7	Purification of Potassium Chloride Streams and Generation of Product	\$32,034	\$22,524	\$54,558
8	Cost Analysis	\$13,769	\$112,430	\$126,199
9	Laboratory Pilot Testing	\$97,237	\$82,128	\$179,365
10	Potassium Extraction Demonstration Plant at Simbol's Commercial Lithium Extraction Plant in Calipatria, California	\$321,666	\$762,897	\$1,084,563
	<b>Total</b>	<b>\$949,545</b>	<b>\$1,393,508</b>	<b>\$2,343,053</b>



## Exhibit B Match Budget

Match Funding (\$)		Direct Labor	Fringe Benefits	Travel	Equipment	Materials	Contractual	Misc	Indirect Overhead	G&A	Total
<b>Task 1 Project Administration Activities</b>											
1.1	Attend Kick-off Meeting	374	61	0	0	0	0	0	51		\$486
1.2	Critical Project Review Meetings	561	92	0	0	0	0	0	76		\$729
1.3	Final Meeting	374	61	0	0	0	0	0	51		\$486
1.4	Monthly Progress Reports	4,302	706	0	0	0	0	0	581		\$5,589
1.5	Final Report	2,338	383	0	0	0	0	0	316		\$3,037
1.6	Identify & Obtain Matching Funds	47	8	0	0	0	0	0	6		\$61
1.7	Identify & Obtain Required Permits	982	161	0	0	0	0	0	133		\$1,276
	<b>Administration Activities Subtotals</b>	<b>\$8,979</b>	<b>\$1,473</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$1,212</b>	<b>\$0</b>	<b>\$11,663</b>
<b>Task Project Technical Activities</b>											
2	Inorganic Ion Exchange Materials for Potassium Extraction	14,590	2,393	5,000	0	4,681			1,970		\$28,634
3	Development of a Novel Fixed Bed Adsorbent	2,245	368	10,000	0	0	150,000		303		\$162,916
4	Selective Precipitation of Potassium	14,590	2,393	5,000	0	11,702	8,000		1,970		\$43,655
5	Liquid-Liquid Extraction of Potassium	12,845	2,106	10,000	0	0	100,000		1,734		\$126,685
6	Optimization of Preferred Potassium Extraction Process	9,727	1,595	0	5,000	2,340	20,000		1,313		\$39,976
7	Purification of Potassium Chloride Streams and Generation of Product	3,991	654	0	5,000	2,340	10,000		539		\$22,524
8	Cost Analysis	1,871	307	10,000	0	0	100,000		253		\$112,430
9	Laboratory Pilot Testing	10,319	1,692	0	50,000	18,723	0		1,393		\$82,128
10	Potassium Extraction Demonstration Plant at Simbol's Commercial Lithium Extraction Plant in Calipatria, California	32,860	5,389	50,000	500,000	70,213	100,000		4,436		\$762,897
	<b>Technical Activities Subtotals</b>	<b>\$103,037</b>	<b>\$16,898</b>	<b>\$90,000</b>	<b>\$560,000</b>	<b>\$110,000</b>	<b>\$488,000</b>	<b>\$0</b>	<b>\$13,910</b>	<b>\$0</b>	<b>\$1,381,845</b>
<b>Match Funds Totals</b>											
		<b>\$112,015</b>	<b>\$18,371</b>	<b>\$90,000</b>	<b>\$560,000</b>	<b>\$110,000</b>	<b>\$488,000</b>	<b>\$0</b>	<b>\$15,122</b>	<b>\$0</b>	<b>\$1,393,508</b>
<b>Percentage of the Total</b>											
		8%	1%	6%	40%	8%	35%	0%	1%	0%	100%