

State of California
DEPARTMENT OF CONSERVATION
Financial Assurance Cost Estimate
Form OMR-23 (New 06/98)

**FINANCIAL ASSURANCE COST ESTIMATE
SYAR INDUSTRIES, INC.
LAKE HERMAN QUARRY
SOLANO COUNTY, CALIFORNIA**

CA MINE ID# 91-48-0002

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Note: This worksheet was developed by the Office of Mine Reclamation to assist lead agencies and operators prepare a reclamation cost estimate and determine an appropriate amount for the financial assurance in conformance with Section 2773.1 of SMARA. It should be used in conjunction with the Financial Assurance Guidelines adopted by the State of Mining and Geology Board. Like the guidelines, it is advisory only.

**SYAR INDUSTRIES, INC.
LAKE HERMAN QUARRY
FINANCIAL ASSURANCE COST ESTIMATE
LIST OF ASSUMPTIONS**

- Work on various reclamation tasks will be done simultaneously, to the extent feasible.
- This reclamation cost estimate is based on the assumption that Syar Industries, Inc. (Syar) left the site today and the site would need to be reclaimed in accordance with the approved reclamation plan.
- Rental rates for equipment have been obtained from the Caltrans Equipment Rental Rate Book 2014-2015. Rental rates for equipment not present in the Caltrans Equipment Rental Rate Book were obtained from local dealers (see Attachment 1).
- Labor rates were obtained from the State of California Department of Industrial Relations rates issued on August 22, 2013 (most recent version). <http://www.dir.ca.gov/DLSR/PWD>. A spread sheet with detailed information is included in Attachment 1.
- Operating capacity of equipment has been obtained from the Caterpillar Company estimated production reference manual, or from consultation with Syar.
- Seed costs were obtained from Le Ballister's Seed and Fertilizers, LLC.
- Hauling distances vary depending on topsoil being used and the nature of work being performed. Production rates are based on typical hauling distances.
- Equipment would be relocated from the Lake Herman Quarry to another Syar operation, or alternatively, would be auctioned at the Lake Herman Quarry site and removed by the buyer. No net reclamation cost is associated with the plant structure and equipment removal.
- The principal access roads to the areas disturbed by mining will not be reclaimed in order to provide access to the site for on-going maintenance and monitoring. The remaining access roads will be ripped, resoiled and hydroseeded.
- After reclamation, the end use will be open space.

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ATTACHMENTS

- 1 Labor Rates and Equipment Rental Rate Details

FINANCIAL ASSURANCE SPREAD SHEET

TASK 1 PRIMARY RECLAMATION ACTIVITIES

1.1 DEMOLITION AND SALVAGE

Description of Tasks:

- All structures and debris related to the mining operation will be removed including: buildings, equipment, concrete walls and footings, telephone poles, and all of the existing plant structures, as well as all concrete pads for refueling, access driveways and paved areas.

Methods to be used:

- RT-745 ton crane will load all salvageable equipment that will be resold.
- All supplies will be removed by distributors/recyclers (i.e. fuels, oils, batteries).
- Bulldozer to knock buildings down and excavator with breaker to break up all remaining concrete pads, paved areas, and foundations.
- Construction debris that cannot be salvaged will be disposed in 30 yd disposal boxes.

A. Equipment – List of all equipment required to complete Task 1.1

Equipment	Quantity	\$/Hour	# of Hours	Cost
Bulldozer (5227)	4	\$379.01	80	\$121,283.20
Excavator with breaker (4715)	2	\$193.47	80	\$30,955.20
Crane RT-745 (4715)	2	\$141.67	80	\$22,667.20
Low Bed Tractor/Trailer (8 tires/axle)	6	\$58.67	80	\$28,161.60
Dump Truck (3 axl)	4	\$72.07	40	\$11,531.20
Sub-Total				\$214,598.40

B. Labor – List of labor categories to complete Task 1.1

Labor	Quantity	\$/Hour	# of Hours	Cost
OE-Bulldozer	4	\$61.79	80	\$19,772.80
OE-Excavator	2	\$64.65	80	\$10,344.00
OE-Crane	2	\$63.56	80	\$10,169.60
Teamster-Tractor Trailer	6	\$52.51	80	\$25,204.80
Teamster-Dump Truck	4	\$51.81	40	\$8,289.60
Laborer (Group 1)	10	\$46.17	80	\$36,936.00
Sub-Total				\$110,716.80

C. Demolition – List of structures and equipment to be dismantled or demolished

Item	Quantity	\$/Unit	Cost
Conveyor line/plant	3	\$25,000.00	\$75,000.00
30 yd Disposal Box (Trash)	10	\$557.71	\$5,575.10
www.naparecycling.com			
Sub-Total			\$80,575.10
Task 1.1 Total Cost			\$405,890.30

1.2 GRADING

Description of Tasks:

- Backfilling, ripping and grading;
- Topsoil placement on the final benches;
- Topsoil placement over processing area;
- Portion of pit will be filled with overburden and other non-saleable materials;
- Sediment ponds will be filled;
- Install keyways at bottom of slopes; and
- Perform finish grading.

Methods to be used:

- Bulldozer and scraper used for topsoil placement on the final benches to facilitate revegetation;
- loader and haul truck to fill portion of the pit;
- rip the compacted ground surface using a bulldozer fitted with ripping teeth, regrading to achieve a smooth surface having positive drainage;
- resoil areas where soil has been removed using stockpiled topsoil.

Miscellaneous Information: N/A

Total Acres: 324 acres

Processing Area Site: 72 acres (approximate)

Quarry Pit: 113 acres (approximate)

Areas of the quarry not disturbed: 139 acres

Previously Reclaimed Area: 32 acres

Overburden: 47,700 cy (approximate)

Topsoil: 23,150 cy (approximate) on benches; 58,080 cy (approximate) on processing area

Production Rate: Dozer – 2,400 cy/hr

Haul Distance: 100-200 feet

A. Equipment – List of all equipment required to complete Task 1.2

Equipment	Quantity	\$/Hour	# of Hours	Cost
Bulldozer (5227)	4	\$379.01	80	\$121,283.20
Loader (2350)	3	\$135.92	20	\$8,155.20
Scraper (8704)	3	\$174.60	80	\$41,904.00
Grader (3360)	2	\$178.52	40	\$14,281.60
Sheepsfoot Compactor	1	\$23.08	40	\$923.20
Haul Truck (32-40)	7	\$172.97	20	\$24,215.80
Dump Truck (3 axl)	1	\$72.07	80	\$5,765.60
Water Truck (36-48)	1	\$52.11	80	\$4,168.80
Ripper Attached to Dozer (R8)	2	\$28.64	80	\$4,582.40
Sub-Total				\$225,279.80

B. Labor – List of labor categories to complete Task 1.2

Labor	Quantity	\$/Hour	# of Hours	Cost
Field Surveyor	4	\$64.80	20	\$5,184.00
OE-Bulldozer (Ripping)	2	\$61.79	80	\$9,886.40
OE-Bulldozer	2	\$61.76	80	\$9,576.00
OE-Loader	3	\$63.14	20	\$3,790.20
OE-Scraper	3	\$61.79	80	\$14,829.60
OE-Grader (Finish Slopes)	2	\$61.79	40	\$4,943.20
Teamster-Haul Truck	7	\$51.81	20	\$7,253.40
Teamster-Water Truck	1	\$51.51	80	\$4,120.80
Laborer (Group 1)	4	\$46.17	40	\$7,387.20
Sub-Total				\$67,281.20

Task 1.2 Total Cost	\$292,561.00
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1.3 REHABILITATION OF PRE-MINING DRAINAGE

Description of Tasks:

- All sediment ponds will be filled and revegetated as part of the final reclamation (this cost is included in Section 1.2);
- V-ditches and swales are installed to collect sheet flow and convey water to established drainage channels;
- Runoff, which flows over excavated slopes, will be captured in the pit at the bottom of the excavation area.

Methods to be used:

- Straw bales and wattles will be placed in intervals along drainage ditches to slow runoff and collect silt; ditches and swales will be created using a backhoe after re-grading the processing area.

A. Equipment – List of all equipment required to complete Task 1.3

Equipment	Quantity	\$/Hour	# of Hours	Cost
Backhoe (5814A)	1	\$61.59	20	\$1,231.80
Pickup Truck (06-12)	3	\$27.33	20	\$1,639.80
			Sub-Total	\$2,871.60

B. Labor – List of labor categories to complete Task 1.3

Labor	Quantity	\$/Hour	# of Hours	Cost
OE-Backhoe	1	\$63.17	20	\$1,263.40
Laborer (Group 1)	8	\$46.17	20	\$7,387.20
			Sub-Total	\$8,650.60

C. Materials – List of material costs to complete Task 1.3 (includes disposal costs)

Item	Quantity	\$/Unit	Cost	
Straw Wattle (sold in 25 foot lengths)*	376	\$26.97	\$10,140.72	
Straw Bales (each)	10	\$7.75	\$77.50	
			Sub-Total	\$10,218.22

* <http://www.homedepot.com/p/VPC-8-in-x-25-ft-Straw-Wattle-4000-4200/202277586#.UeblSdKzcn4>

Task 1.3 Total Cost	\$21,740.42
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1.4 MISCELLANEOUS COSTS

Description of Tasks:

- Deed restrictions that may exist on property;
- Maintenance on property while reclamation and monitoring is being completed;
- Mapping that maybe required by County to monitor growth of revegetation.

Item/Task	Quantity	Cost
Deed Restrictions/Maintain Property	1	\$13,000.00
Legal Issues	1	\$13,000.00
Additional Fly-Over, Aerial Contour Map	1	\$6,500.00
	Sub-Total	\$32,500.00

Task 1.4 Total Cost	\$32,500.00
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TASK 2 REVEGETATION

2.1 SEEDING

Description of Task:

- Revegetation consists of seeding the quarried benches, processing area, and overburden fill areas;
- Benches considered inaccessible by seeding equipment would be reseeded by broadcast seeding;
- Seed and fertilizer applications would be done in March following the heavy rain season, while the ground moisture is high.

Methods to be used:

- Hydroseeding of the ground area for erosion control; broadcast seeding (benches); hydroseeded used to spray slurry mix across valley floors and slopes;
- laborers will walk the site and dispense seed with belly grinders;
- pickup trucks to transport laborers and seed mix.

A. Equipment – List of all equipment required to complete Task 2.1

Equipment	Quantity	\$/Hour	# of Hours	Cost
Pickup Truck (06-12)	2	\$27.33	40	\$2,186.40
Hydroseeder	3	\$25.63	40	\$3,075.60
Belly Grinder	2	\$1.25	40	\$100.00
	Sub-Total			\$5,362.00

B. Labor – List of labor categories to complete Task 2.1

Labor	Quantity	\$/Hour	# of Hours	Cost
Laborer (Group 4)	5	\$39.61	40	\$7,922.00
	Sub-Total			\$7,922.00

C. Materials – List of material costs to complete Task 2.1 (includes disposal costs).

Item	Quantity	\$/Unit	Cost
Seed Mix (acre)	25.25	\$610.00	\$15,402.50
Hydroseed Slurry (acre)	234	\$1,300.00	\$304,200.00
		Sub-Total	\$319,602.50

Task 2.1 Total Cost	\$332,886.50
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TASK 3 MONITORING

3.1 COSTS

Description of Task:

- A revegetation contractor shall inspect the entire 321 acre site; these inspections will occur twice a month during the dry season (April through October) and monthly during the rainy season (November through March) for the first two years. Each visit will last 8 hours (7 dry months = 14 visits x 8 hrs/visit = 112 hours; plus 5 wet months = 5 visits x 8 hrs/visit = 40 hours; for a total 152 hours x 2 years = 304 hours total for the first two years);
- The remaining 3 years of the 5 year monitoring program, the revegetation contractor will inspect the site once a month for 8 hours (12 months/yr x 8 hrs/month = 96 hr/year x 3 years = a total of 288 hours for the last 3 years);
- The total hours for inspections over the 5 year period is 592 hours;
- Repairs will be made as needed.

Methods to be used:

- Pickup truck to transport inspector to the site.

A. Equipment – List of all equipment required to complete Task 3.1

Equipment	Quantity	\$/Hour	# of Hours	Cost
Pickup Truck (06-12)	1	\$27.33	592	\$16,179.36
			Sub-Total	\$16,179.36

B. Labor – List of labor categories to complete Task 3.1

Labor	Quantity	\$/Hour	# of Hours	Cost
Monitoring plants, irrigation, weeds and erosion control for 2 years	1	\$38.02	304	\$11,558.08
Monitoring plant success, weeds and erosion control for 3 years	1	\$38.02	288	\$10,949.76
			Sub-Total	\$22,507.84

Task 3.1 Total Cost	\$38,687.20
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SUMMARY OF COSTS

Direct Costs		Cost
Task 1 – Primary Reclamation Activities		
1.1 Demolition and Salvage		\$405,890.30
1.2 Grading		\$292,561.00
1.3 Rehabilitation of Pre-Mining Drainage		\$21,740.42
1.4 Miscellaneous Costs		\$32,500.00
Task 2 – Revegetation		
2.1 Seeding		\$332,886.50
Task 3 – Monitoring		
3.1 Costs		\$38,687.20
Indirect Costs	Percentage	Cost
Supervision (L)	4.5%	\$9,768.53
Profit/Overhead (L, E, M)	8.5%	\$95,562.56
Lead Agency Costs (L, E, M)	10%	\$112,426.54
Contingencies (L, E, M)	7%	\$78,698.58
Mobilization (E)	3%	\$13,928.73

L = Total Labor Costs

E = Total Equipment Costs

M = Total Materials Costs

Total Direct Costs	\$1,124,265.42
Total Indirect Costs	\$310,384.94
Total Estimated Cost of Reclamation	\$1,434,650.36

**ATTACHMENT 1
LABOR AND RENTAL RATE DETAIL**

PREVIOUS YEAR (2013)			PRESENT YEAR (2014)		
Labor Rates			Labor Rates*		
Craft	Classification	Hourly Rate	Craft	Classification	Hourly Rate
Operating Engineer (OE) - Bulldozer	Group 4	\$59.85	OE - Bulldozer	Group 4	\$61.79
OE - Excavator	Group 2	\$62.71	OE - Excavator	Group 2	\$64.65
OE - Scraper	Group 4	\$59.85	OE - Scraper	Group 4	\$61.79
OE - Backhoe	Group 3	\$61.23	OE - Backhoe	Group 3	\$63.17
OE - Grade Setter	Group 4	\$59.85	OE - Grade Setter	Group 4	\$61.79
OE - Crane	Group 3-A	\$61.62	OE - Crane	Group 3-A	\$63.56
OE - Loader	Group 3	\$61.23	OE - Loader	Group 3	\$63.17
OE - Grader	Group 4	\$59.85	OE - Grader	Group 4	\$61.79
Field Surveyor	See Note ¹	\$62.63	Field Surveyor	See Note ¹	\$64.80
Laborer	Group 1	\$44.58	Laborer***	Group 1	\$46.17
Laborer	Group 4	\$38.02	Laborer***	Group 4	\$39.61
Teamster - Water Truck	Group 2	\$50.00	Teamster - Water Truck	Group 2	\$51.51
Teamster - Dump Truck	Group 3	\$50.30	Teamster - Dump Truck	Group 3	\$51.81
Teamster - Tractor Trailer	Group 5	\$51.00	Teamster - Tractor Trailer	Group 5	\$52.51
Teamster - Haul Truck	Group 3	\$50.30	Teamster - Haul Truck	Group 3	\$51.81

Equipment Rental Rates			Equipment Rental Rates**		
Equipment	Code	Hourly Rate	Equipment	Code**	Hourly Rate
Bulldozer	5227	\$368.58	Bulldozer	5227	\$379.01
Excavator	4715	\$137.93	Excavator	4715	\$141.79
Braker	0390	\$50.03	Braker	0390	\$51.68
Scraper	8704	\$168.97	Scraper	8704	\$174.60
Water Truck	36-48	\$50.98	Water Truck	36-48	\$52.11
Backhoe	5814A	\$59.98	Backhoe	5814A	\$61.59
Pickup Truck	06-12	\$26.90	Pickup Truck	06-12	\$27.33
Belly Grinder	See Note ²	\$1.25	Belly Grinder	See Note ²	\$1.25
Dump Truck	3 axl	\$70.60	Dump Truck	3 axl	\$72.07
Crane RT-745	4715	\$138.19	Crane RT-745	4715	\$141.67

Low Bed Tract./Trailer	700	\$56.09	Low Bed Tract./Trailer	700	\$58.67
Loader	2350	\$131.09	Loader	2350	\$135.92
Sheepsfoot	5	\$22.08	Sheepsfoot	5	\$23.08
Haul Truck	32-40	\$167.71	Haul Truck	32-40	\$172.97
Grader	3360	\$173.45	Grader	3360	\$178.52
Ripper	R8	\$27.42	Ripper	R8	\$28.64
Hydroseeder	See Note ³	\$25.63	Hydroseeder	See Note ³	\$25.63

NOTES:

* Labor rates were derived from the most recent published rates at <http://www.dir.ca.gov/DLSR/PWD>. The geographical location (Solano County) of this project required that the rates be derived from the Area 1 list for each craft (if present). The details are addressed above.

** Equipment Rates were derived from the State of California Labor Surcharge and Equipment Rental Rates (Effective April 1, 2014 through March 31, 2015). Code specifies the exact model used for this cost estimate.

*** Laborer costs were derived from Area 2 (Solano County).

¹ Surveyor labor rate was derived from the general prevailing wage determination for Solano County, http://www.dir.ca.gov/DLSR/PWD/Determinations/Subtrades/g_solano.html/.

² Belly grinder cost was obtained from the website: <http://www.helenaculver.com/index.php/rentals/product/157-hand-crank-broadcast-spreader-belly-grinder-rental-only>.

³ Hydroseeder rental cost taken from the following website: www.sunbeltrentals.com.