

Virginia DEQ Environmental Excellence Program

VEEP Annual Report: EMS/Pollution Prevention Plan Results & Update

Reports are due by April 1 for the previous calendar year.

General Information:

Facility Name: Luck Stone Corporation

Prior Facility Name:

Membership Level:



Facility Contact:

Name: Mark D. Williams

Phone: 804-476-6404

E-mail: markdwilliams@luckstone.com

Facility Permit Numbers:

Hazardous Waste:

Solid Waste:

Water: VAG840100, VAG840084, VAG840089, VAG840086,
VAG840086, VAG840037, VAG840093, VAG840099,
VAG840038, VAG840094, VAG840085, VAG840087,
VAG840104, VAG840107, VAG840176, VAG840146,
VAG840166, VAG840078, VAR051858, VAR051841

Air:

40751, 50429, 70008, 30413, 40256, 70274, 70681,
40719, 70143, 50946, 50431, 40784, 40383, 40151,
50400, 40993, 61075

Ground Water

Withdrawal:

Wetlands (VWP): 03-0267, 01-0515, 06-1985

Toxics Release

Inventory:

Facility Registration

System (FRS):

Other (local
environmental, etc.)

FIFRA:



Environmental Impact Reporting

Summary of Recycling Activities, 2008

| | |
|---------------------------|----------------|
| Manganese crusher plates | 612.5 tons |
| #1 Heavy Metal (Steel) | 783 tons |
| Brass bearings | 140 pounds |
| Used motor oil | 146,883 pounds |
| Computers and electronics | 8.0 tons |
| Vehicle batteries | 74 |
| Toner cartridges | 239 |

Summary of Recycling Activities, 2007

| | |
|---------------------------|----------------|
| Manganese crusher plates | 5 tons |
| #1 Heavy Metal (Steel) | 725 tons |
| Brass bearings | 2.79 tons |
| Used motor oil | 196,248 pounds |
| Computers and electronics | 6.51 tons |
| Office supply products | 15.48 tons |
| Vehicle batteries | 140 |
| Toner cartridges | 215 |

Summary of Recycling Activities, 2006

| | |
|---------------------------|----------------|
| #1 Heavy Metal (Steel) | 1,059 tons |
| Brass bearings | 3.045 tons |
| Used motor oil | 295,001 pounds |
| Computers and electronics | 2.43 tons |
| Office supply products | 18.04 tons |
| Vehicle batteries | 170 |
| Toner cartridges | 154 |



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results:

(eg., how did you achieve the reductions? if there were increases, what was the reason?):

We have started to recycle the used Manganese, which is a major component of our primary rock crushers. Recycling is based on the amount of wear and the schedule for replacement, so results vary from year to year.

Normalizing Basis: Units of products produced.

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| <i>Year</i> | 2006 | 2007 | 2008 | |
| <i>Actual Quantity</i> | 0 | 5 | 612.5 | |
| <i>Normalizing Ratio</i> | 1 | 0.85 | 0.633 | |
| <i>Normalized Quantity</i> | 0 | 5.882 | 967.615 | |

Units: Tons

Cost Savings Last Year: \$153,125

(do not include savings that resulted from reduced utility rates, etc. Only use those that resulted from pollution prevention efforts):

Additional Cost Savings Information:



Environmental Impact Reporting

Category: Waste
Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results: #1 Heavy Metal, or steel, that we recycled during the current year. This steel is used in all aspects of our operations. We recycle all used steel based upon the rate of replacement.
 (eg., how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Units of products produced.

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| Year | 2005 | 2006 | 2007 | 2008 |
| Actual Quantity | 915.7 | 1059.4 | 725 | 783 |
| Normalizing Ratio | 1 | 1.03 | 0.85 | 0.652 |
| Normalized Quantity | 915.7 | 1028.544 | 852.941 | 1200.92 |

Units: Tons

Cost Savings Last Year: \$125,830
 (do not include savings that resulted from reduced utility rates, etc. Only use those that resulted from pollution prevention efforts):

Additional Cost Savings Information:



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results:

(eg., how did you achieve the reductions? if there were increases, what was the reason?):

Paper, cardboard, plastic bottles, and aluminum cans recycled from our corporate and Central Service offices. The education of associates has resulted in increased participation, and each desk has a recycling container.

Normalizing Basis: Number of employees

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| Year | 2004 | 2005 | 2006 | 2007 |
| Actual Quantity | 4.1 | 10.7 | 18.04 | 15.48 |
| Normalizing Ratio | 1 | 1.18 | 1.22 | 1.29 |
| Normalized Quantity | 4.1 | 9.068 | 14.787 | 12 |

Units: Tons

Cost Savings Last Year: \$

(do not include savings that resulted from reduced utility rates, etc. Only use those that resulted from pollution prevention efforts):

Additional Cost Savings Information:

Luck Stone added an additional collection container during 2008, but the vendor no longer has the ability to weigh individual loads. We could not determine a total for 2008.



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results:

(eg., how did you achieve the reductions? if there were increases, what was the reason?):

Brass recycled from the bearings in the crusher. All brass is recycled, based upon a normal replacement schedule.

Normalizing Basis: Units of products produced

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| <i>Year</i> | 2005 | 2006 | 2007 | 2008 |
| <i>Actual Quantity</i> | 1.6 | 3.045 | 2.79 | 0.07 |
| <i>Normalizing Ratio</i> | 1 | 1.03 | 0.85 | 0.65 |
| <i>Normalized Quantity</i> | 1.6 | 2.956 | 3.282 | 0.108 |

Units: Tons

Cost Savings Last Year: \$230

(do not include savings that resulted from reduced utility rates, etc. Only use those that resulted from pollution prevention efforts):

Additional Cost Savings Information:



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results: Oil filter recycling – total ferrous metals recycled from powered equipment.
(eg:, how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Units of products produced

Normalizing Basis Notes: Filters changed based upon the amount of usage, measured by the volume of crushed stone produced.

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| <i>Year</i> | 2004 | 2005 | 2006 | |
| <i>Actual Quantity</i> | 8.2 | 9.4 | 9.8 | |
| <i>Normalizing Ratio</i> | 1 | 1.00 | 1.02 | |
| <i>Normalized Quantity</i> | 8.2 | 9.4 | 9.608 | |

Units: Tons

Cost Savings Last Year: \$

Additional Cost Savings Information: Luck Stone changed vendors in 2007 to one that collects the used filters in a large bin at each plant. Although the vendor is collecting a large number of used filters, they are not able to provide us with the total weight of filters collected, so we will no longer be tracking this product until a different method can be determined.



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results: Oil recycling – total used oil recycled from powered equipment
 (eg., how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Units of products produced

Normalizing Basis Notes: Oil changed based upon the amount of equipment usage, measured by the volume of crushed stone produced. Gallons multiplied by conversion factor of 7.4 yielding pounds of oil recycled.

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| <i>Year</i> | 2005 | 2006 | 2007 | 2008 |
| <i>Actual Quantity</i> | 287408 | 295001 | 196248 | 146883 |
| <i>Normalizing Ratio</i> | 1 | 1.03 | 0.85 | 0.65 |
| <i>Normalized Quantity</i> | 287408 | 286408.738 | 230880 | 225973.846 |

Units: lbs.

Cost Savings Last Year: \$7994

Additional Cost Savings Information:



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results: Recycled batteries from mobile vehicles
 (eg., how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Units of products produced

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| Year | 2006 | 2007 | | |
| Actual Quantity | 170 | 140 | | |
| Normalizing Ratio | 1 | 0.83 | | |
| Normalized Quantity | 170 | 168.675 | | |

Units: lbs.

Cost Savings: \$627

Additional Cost Savings Information: The unit listed is the actual number of batteries collected, not pounds of batteries.



Environmental Impact Reporting

Category: Waste

Indicator: Non-hazardous Waste Recycled

Additional information on Environmental Results: Computers, compact discs, and cellular telephones recycled

(eg:, how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Number of employees

Normalizing Basis Notes:

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| <i>Year</i> | 2006 | 2007 | 2008 | |
| <i>Actual Quantity</i> | 2.43 | 6.51 | 8.00 | |
| <i>Normalizing Ratio</i> | 1 | 1.05 | 1.14 | |
| <i>Normalized Quantity</i> | 2.43 | 6.2 | 7.018 | |

Units: Tons

Cost Savings Last Year: \$4000

Additional Cost Savings Information: Luck Stone must pay the vendor to collect used computer equipment. We have recently established a system where the vendor will pay for the cell phones that we return.



Environmental Impact Reporting

Category: Waste

Indicator: Non-Hazardous waste recycled
Motor oil recycled during the collection of used oil filters

Additional information on Environmental Results: Motor oil recycled during the collection of used oil filters.
(eg., how did you achieve the reductions? if there were increases, what was the reason?):

Normalizing Basis: Units of products produced

Normalizing Basis Notes: Filters changed based upon the amount of usage, measured by the volume of crushed stone produced.

| | <i>Baseline</i> | <i>Year 1</i> | <i>Year 2</i> | <i>Year 3</i> |
|----------------------------|-----------------|---------------|---------------|---------------|
| Year | 2005 | 2006 | | |
| Actual Quantity | 5.5 | 5.8 | | |
| Normalizing Ratio | 1 | 1.03 | | |
| Normalized Quantity | 5.5 | 5.631 | | |

Units: tons

Cost Savings Last Year: \$

Additional Cost Savings Information: Luck Stone changed vendors in 2007 to one that collects the used filters in a large bin at each plant. Although the vendor is collecting a large number of used filters, they are not able to provide us with the total amount of oil in the filters collected, so we will no longer be tracking this product until a different method can be determined.



EMS & Environmental Performance Update

EMS Development Progress:

All of our Construction Aggregate operations are in the E2 program. Many of our sites are now actively engaged in their EMS and are concentrating on the completion of their necessary training and paperwork. We foresee several locations becoming E3 certified in the near future. To further this objective, almost all plants are not served by an associate assigned specifically to deal with safety, environment and community issues.

Listed below are 2 objectives, and the individual goals that each plant set to achieve the objectives, for several of our locations that are working towards E3 status. We will discuss the other two goals, recycling and community outreach, in other parts of this update.

1. Reduce Dust Emissions:

Burkeville

- A. Replaced two water pumps to ensure that dust suppression system maintained efficiency.
- B. Added piping to convey water to pug mill for dust suppression.
- C. Increased frequency of saturating muck piles.

Boscobel

- A. Added larger spray nozzles to conveyor 30 for better coverage.

Caroline:

- A. Created a spare parts inventory for the water truck to reduce time lost due to maintenance.

Powhatan

- A. Added sprinklers at the scales to keep the road wet.
- B. Cleaned and replaced nozzles on the 5-foot crusher as necessary.
- C. Kept muck pile wet to reduce emissions.

Rockville

- A. Continual maintenance on spray nozzles to maintain efficiency, including placing pipes underground to reduce freezing.
- B. Tried a dust suppression chemical on haul roads that had a minimal effect.
- C. Installed a direct road to the adjacent landfill to deliver overburden soil that reduced truck miles and eliminated 6000 trips on the public road way. The landfill also transported our process water to their site for dust suppression.



Spotsylvania

- A. Increased training around air quality and the importance of the water truck.
- B. Added vegetation to berm areas to reduce wind-generated dust.

2. Improve Discharge Water Quality:

Burkeville

- A. Cleaned several sediment basins and increased the storage capacity of the sump.
- B. Maintained water level in sump to ensure adequate sediment removal and clean discharge.
- C. Repaired slope to reduce erosion and replaced slope drain at fill area 2.
- D. Seeded 4 acres of fill area 1 to reduce erosion and improve water quality.

Boscobel

- A. Added slope drains to fill area to reduce erosion.
- B. Enlarged sediment basin to improve storm water retention capacity. Cleaned other basins to improve discharge water quality.

Caroline

- A. Created larger sediment basin adjacent to the current mining cell to improve holding time.
- B. Reclaimed 109 acres, including planting pines to improve RPA.
- C. Placed oil/water separator on increased maintenance schedule.

Powhatan

- A. To improve efficiency, concentrated on cleaning out sediment basins on a quarterly basis, and relined conveyance ditches with riprap.
- B. Regraded, added riprap, and seeded numerous areas and basins to reduce runoff.

Rockville

- A. Added lime, fertilizer, and seed to improve vegetation on fill areas.
- B. Regraded, added riprap, and seeded numerous areas and basins to reduce runoff.
- C. Added outlets to drain areas that reduce the potential for erosion.
- D. Cleaned and repaired the equipment wash/recycle station to improve discharge water quality.

Spotsylvania

- A. Created an operational equipment wash with oil/water separator to minimize hydrocarbon discharge
- B. Added mats and slope drains to several portions of the berms to reduce erosion.



Comments Related to Compliance Issues:

There were no warning letters or Notices of Violation issued to Luck Stone facilities in 2008, although a series of stormwater inspections resulted in some recommendations. The affected sites were able to incorporate many of the suggestions, while other recommendations will help us with the permit renewal process that is underway.

Awards and Recognition:

1. The National Stone, Sand, and Gravel Association (NSSGA) awarded our Spotsylvania plant with the Association's National Stars of Excellence Award. The award is presented to those operations demonstrating a commitment to excellence by earning two or more national awards in the previous 5 years. It was one of 7 plants nationwide to earn the distinction.
2. The Spotsylvania plant qualified for the National Stars of Excellence Award after the receipt of the 2008 NSSGA Gold Environmental Excellence Award which provides national recognition for quarries that actively contribute to the maintenance of the environment in and around their operations.

Outreach to the Public

1. Booth sponsor at Environment Virginia in Lexington in April.
2. Sponsor of the annual meeting of the American Society of Mining and Reclamation.
3. Participation in the Virginia Stream Alliance.
4. Participation in James River Cleanup June 14.
5. Adopt-A-Highway at several facilities, as well as participation in programs such as Adopt-a-Family and Habitat for Humanity.
6. Scholarships, tours, and activities for numerous school groups.
7. Numerous plant meetings with neighboring communities.
8. Booth sponsor at the Caroline County Fair.
9. The Luck Stone Rock Kit has been distributed by the Virginia Department of Education to every public elementary school in the Commonwealth, and is added to new schools as they open.
10. Luck Stone sponsors many environmental stewardship organizations and serves as an advisor to several groups.
11. Luck Stone provides grants to many local fire and rescue departments for equipment and resources.
12. Sponsorship of numerous youth leagues, organizations, clubs and many other groups for children.
13. Luck Stone provides support and products to the VCU Rice Center for Environmental Studies and collaborates on academic projects.



Best Practices

Noise suppression; Dust suppression; avoidance of wetlands and streams; berms and open-space buffer areas that assist noise suppression and improve visual aesthetics; wash racks and road sweeping and washing; recycle process water to reuse; recycling to reduce waste disposal; timber replanting; restoration and reclamation of impacted sites.

Others

1. Luck Stone has established fuel contracts with two suppliers of biodiesel to utilize this non-petroleum based diesel fuel, thereby reducing sulfur and carbon emissions from equipment that utilizes diesel fuel.
2. Luck Stone worked with a 10% biodiesel blend this year to power mobile and stationary equipment at many of the company's plants.
3. Luck Stone coordinates with Dominion Power to shut down plants during peak volume days and delays some operations to off-peak hours.
4. Luck Stone operates the New Kent Wetlands Mitigation Bank to compensate for unavoidable impacts to wetlands and waters of the United States in the York River watershed; credits are used by Luck Stone and are also purchased by third-party permittees.
5. Luck Stone participates in many environmentally-conscious organizations that share ideas in regard to reducing impacts, sustainability, green building, and stewardship. These include the James River Green Building Council, the Virginia Stream Alliance, the Virginia EMS Association, the Loudoun Environmental Stewardship Alliance, and many other organizations.
6. The NSSGA presented Charlie Luck with the Mark Walsh Leadership Award, an award that recognizes professionalism, enthusiasm, and commitment to the association.
7. The corporate office has taken on many activities to reduce its footprint, including recycling all computer supplies and fluorescents. Associates are encouraged to bring their supplies in from home also.
8. Many sustainable features went into the design of our newly opened corporate office, including no-or-low-flow toilets, automatic faucets and lights, storm water retention for irrigation, overhangs to reduce solar heating, and highly efficient electrical systems.

Submitted by:
Mark D. Williams
3/28/09

