



CRYSTAL REFLECTIONS

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PPG SITE PURCHASED FOR INDUSTRIAL DEVELOPMENT

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• LEVEE UPDATE

Rita Lovelace Reports

The federal money to complete the levee project is now in the Army Corps financial system. St. Louis District requested \$1,925,000 of federal funds to repair rock slide, O&M Manual, LERRD credit completion & certification. Completion is expected in 12-14 months.

Cities share will be \$482,135.

(\$241,068 from each city.) The St. Louis District expects to receive federal funds relatively quickly 2-4 weeks.

Once again, Mrs. Lovelace has done an excellent job in coordinating the levee committee and the Corps of Engineers to completion of this Master Project to protect the Twin City Area.

As many residents of Crystal City know, a little over 17 years ago PPG Industries permanently closed Glassworks #9. At its peak, PPG employed thousands of local people and over its 100-year relationship with Crystal City, literally helped build the community that we still enjoy today. From the families that we call friends to the homes we live in and the roads we drive on every day, PPG brought together people, property, and opportunity to make Crystal City a truly special place to live. I want to take a moment to thank PPG Industries and all of their retirees living in and around Crystal City for their vision and commitment to this town. We owe you a debt of gratitude that I, the City Council, and residents for generations to come can never repay.

The story, however, does not end there. For the last 17 years one question has been asked of every Mayor and member of the City Council- What are we going to do with the PPG property? For 17 years PPG entertained offers brought to them by various corporations and private enterprises, answering them all with a clear "no".

Recently, however, that "no" changed to "yes"!

On December 21st, 2007, the City of Crystal City formally closed on a deal to purchase the former PPG Glassworks site and to lease that property to Wings Enterprises for the construction of a state of the art iron refining facility.

Representing a \$1 billion investment in our community and immediate area, this project will create many hundreds of construction jobs as well as around 750 permanent career jobs. In addition to the creation of jobs, Wings Enterprises will be paying taxes on all real property improvements as well as a unique "tonnage rental" on all product coming through Crystal City. While .20 cents per ton on pig iron and .14 cents per ton on all other iron product may not look like much initially, the projected output of this plant is in the millions of tons of ore per year, resulting in a windfall of hundreds of thousands of dollars for the city coffers, easily dwarfing the revenues produced by any other single entity in the city. With this new revenue stream comes new financial



security for Crystal City that will allow for the continuation and even expansion of the great city services that our residents appreciate so much. Potential new projects include expansion of park and library facilities, new sidewalks and streets, a community center, and more.

Beyond the direct creation of new jobs and revenue, there are also the indirect benefits of this project, including numerous jobs resulting from other side industries and commercial operations that are expected to locate near a facility such as this. Calculated at a factor of 7, it is not unreasonable to expect over 5000 new jobs to be created over the life of this facility. Our local businesses can also expect a boost from a large number

Inside Story Headline

“Local people using local assets to make things happen

of people once again working in Crystal City. These people, like the rest of us, will need to fill their gas tanks, eat lunch, and do other shopping. As the saying goes, “a rising tide lifts all boats”!

Ultimately, this project represents opportunity on a scale that Crystal City has not seen since the height of PPG. Not only Crystal City will benefit from this project. Our neighboring cities, and areas throughout Jefferson County will share and reap the rewards to

include an expanded job market, increase retail sales in all commercial areas. It is an exciting time of change for our town and I encourage any resident with a question about this development to come down to City Hall and get that question answered with accurate, documented information. Your public officials have done a tremendous job throughout this long process and remain happy to help you in any way that they can.

The following documents will begin to provide you with insight into the project itself. In the upcoming newsletters, we will continue to provide the citizens of our community with accurate project information.

Job Creation and Wages

- Overall Direct Employment for the Mine site and River facility will be about 1,000 full time jobs
- Full time jobs at the River facility could be as high as 750
- Wages will range from \$20 to \$40 per hour with full benefits

City tax revenues

- There will be no loss of tax revenue to the city or any taxing entity during the development phase. This includes our schools!
- The city will receive “tonnage” revenues for all iron products sold or shipped from the PPG location
- The city will benefit from higher wages and taxes from additional ancillary businesses supporting new industry

Engineering and Logistics

- Questions regarding noise levels and setbacks will be answered during the permitting phase
- Expanded access beyond our pipeline and rail will be considerations for the City’s benefit
- Rail and or pipeline service will not require eminent domain in the City of Crystal.

The Pea Ridge Resource:

Proven reserves of 150 million tons

Probable reserves are about 500 million tons

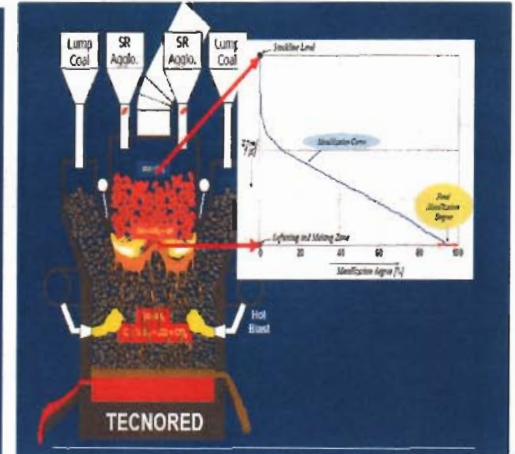
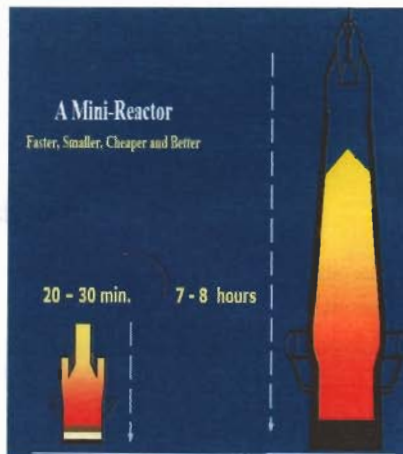
The life of the mine is 50 to 100 years



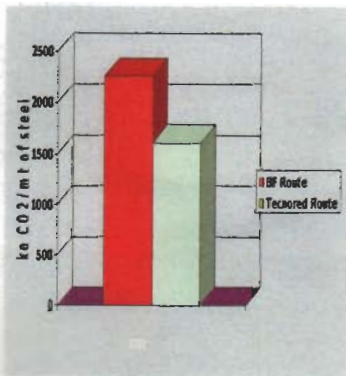
New technology?



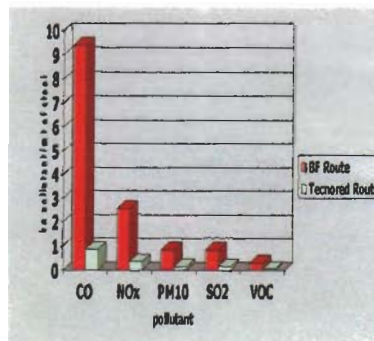
- Tecnored is new technology:
 - Use of self-reducing pellets
 - Furnace design
 - Charging system
- Based on proven elements:
 - Agglomeration of fines to cold bonded pellets and briquettes
 - Staves and tuyeres design based on existing BF technology
 - Hot blast from mini BF technology
 - Gas treatment from BF/MBF
 - Cast house from BF technology
 - Refractories from BF technology
 - Bag house filter from BF technology



Carbon Dioxide emissions



Steel making air emission rates



Emissions

	Blast Furnace	Tecnored	Reduction
CO	9.40	.85	+90%
Nox	2.57	.34	+80%
PM10	.84	.13	+80%
SO2	.84	.14	+80%
VoC	.29	.035	+80%
CO2	2251	1602	+28%

Kg/ton of steel produced

- Based on:
 - Solid pig iron (Tecfer) 0.7Mt per MT of steel
 - Iron ore concentrate 1.5Mt/Mt of Tecfer produced
 - Medium vol coal used as fuel and reductant
 - Tecfer and scrap are converted to steel in an EAF

Emissions

- No toxic wastes
- No water pollution
- No energy needed for transportation of waste
- Most friendly available iron making technology for the environment
- Minimal Slag – a marketable by-product to cement companies

Substitution

- Today 8 million tons of pig iron is produced each year in South America by cutting down the Rain Forest as the primary fuel source
- The only way to improve our environment is to embrace new environmental technologies
- By adopting these new technologies economic forces will produce a change within the industry
- Opposition only protects the worst polluters

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What is a Smelter?

A Smelter is an Oxygen reduction Furnace.

Why do we need Smelters?

In nature nearly all "metals" are Oxides. In other words, the pure metal is tied up with oxygen molecules. In its natural form Iron Ore is just a rock.

A smelter breaks the Oxygen bond and renders the metal to a useful form. Iron is then converted to steel.

Is Iron Toxic like Lead?

Iron Ore presents no human health risks.

Iron Ore is a non-toxic compound of Iron and Oxygen, in two basic forms: Fe_3O_4 , or Fe_2O_3 .

The Pea Ridge deposit is primarily Fe_3O_4 ; three Iron units (Fe) and four Oxygen units (O).

The Oxygen must be freed to convert Iron Ore into Steel.

Smelting Iron Ore is the only way to produce Steel.

What are the health risks associated with Reduction

Unlike some other base metals, the Iron (Fe) remains non-toxic when reduced.

The extent of the pollution related to Iron Reduction is within the fuel source.

The Tecored Furnace burns low-sulfur coal. The coal provides thermal energy and the Carbon Source (C).

The production of iron for steel requires that only the cleanest coal is used in reduction regardless of process.

Removing the Oxygen makes metals useful

How do you break a molecular bond?

Because this is a molecular bond, massive thermal energy is required.

Coal provides both the heat and a carbon source (C).

The Oxygen attached to the Iron ($Fe_3 + O_4$) breaks free and combines with Carbon (C) and becomes CO_2 .

The Iron (Fe) is then free to flow in a Liquid Iron state and is cast into ingots called Pig Iron.

Co2 Reduction

Missouri law requires that new industrial facilities employ the most up to date emission reduction technology

In addition to required emission control equipment Wings' is looking into new bio-technologies that can convert CO2 into Oxygen

The Tecored process is well suited for most CO2 sequestration technologies

Coal is used for Energy in your life every day

Why burn Coal?

In the United States coal provides up to 70% of our nations energy.

The primary base load for the electricity you use every day is either coal or nuclear energy.

Every time you turn on the lights you are burning coal.

Emission Technology for coal is highly developed and effective.