

US EPA ARCHIVE DOCUMENT

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BP Former Refinery, Casper, Wyoming

Facility: BP Casper Former Refinery, Platte River Commons

Location: Casper, Wyoming

RCRA Status: RCRA Closure Permit – terminated due to criteria being met
Under Corrective Action Order Consent Decree

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SUMMARY

The facility is a former petroleum refinery that was built in 1913 and is located on the banks of the North Platte River near downtown Casper, Wyoming. The refinery operated for over 80 years, and played a major role in Casper's economy and local community. Operations ended in 1991, leaving behind a site contaminated with nearly a century's worth of oil spillage, sludge and many miles of buried pipeline. After the refinery closed, the property was fenced, and left idle. EPA issued an enforcement order against the company, which Amoco appealed. Citizens in the area filed a lawsuit in federal court and the Wyoming Department of Environmental Quality (WDEQ) intervened. In 1998, BP acquired the property in a merger with Amoco. As part of the settlement agreement, BP and WDEQ entered into a consent decree which required a collaborative process with the citizens, city and state to identify reuse options and remedies. The site was the first to go into Wyoming's Voluntary Cleanup Program (VCP). In 2002, a VCP "Remedy Agreement" was created. Cleanup occurred rapidly after that. Trash and wastes were removed from the river, flow of contaminated ground water was contained and a recreational kayak course was created. 200 miles of underground pipe were removed. Contaminated soils were removed. An 18-hole golf course with a restaurant was created, with pump and treat wells and a wetland treatment system incorporated into the design of the course. 2000 trees have been planted to assist with phytoremediation. A business park was created on another portion of the property. Institutional controls were put into place.

BACKGROUND

This 4000-acre former petroleum refinery facility was built in 1913 and is located on the banks of the North Platte River on the southwest side of downtown Casper, Wyoming.

The refinery operated for over 80 years, and played a major role in Casper's economy and local community. Operations ended in 1991, leaving behind a site contaminated with nearly a century's worth of oil spillage, sludge and more than 200 miles of buried pipeline. Unfortunately, the closure came suddenly and without a good exit strategy between the community and the regulators. The property was fenced and left idle.

Originally, the site was under a RCRA closure permit, under Federal lead, and had an old land treatment unit as well as a drum storage area. These two units were clean closed as part of corrective action and the permit was terminated. Clean up of the groundwater was included as part of site-wide corrective action. The EPA put the site under a 3008(h) order, which Amoco appealed. In 1996 and 1997, a group of local citizens sued BP for impacts to their properties. Wyoming Department of Environmental Quality (WDEQ) intervened in this lawsuit and as part of the settlement agreement a consent decree between WDEQ and BP was signed and EPA withdrew the 3008(h) order. The consent decree became the vehicle to conduct CA at the site.

The site was acquired by BP in a merger with Amoco in 1998. The property is divided up into 3 different areas, the south properties (which are now revitalized into the Platte River Commons) the north properties (Salt Creek Heights Business Center) and Soda Lake (a major migratory bird habitat and resting area along the Central Migratory Bird Flyway).

In 1998, two innovative agreements were struck to create a collaborative process between the company and WDEQ. The first was a Consent Decree between the company and the WDEQ that set up a unique mechanism called the Collaborative Process to address environmental issues. Second, a Reuse Agreement between the company, the City of Casper and Natrona County established a partnership designed to encourage property reuse linked to reasonable, protective and timely cleanup. The city and county appointed a group of citizens known as the Amoco Reuse Agreement Joint Powers Board (JPB) to manage the Reuse Agreement.

In the late 1990s, the State of Wyoming created the Wyoming Voluntary Cleanup Program (VCP). Creation of the VCP allowed WDEQ to select cleanup remedies based on restricted land use. The site was the first site enrolled in the program. The site went through the Corrective Measures Study under the consent decree. In 2002, a remedy was selected and put into a Voluntary Cleanup Program "remedy agreement." When this was signed, BP asked to have the consent decree vacated.

Linking cleanup and reuse together with these two agreements created an ambitious deadline of only 3 years to reach a reasonable final remedy for the entire site. A huge amount of work needed to be done to investigate, identify/evaluate remedies and reach agreement on three properties comprising 3,000 acres (Refinery properties, North Tank Farm properties and Soda Lake).

REMEDIATION

Trash and wastes were removed from the North Platte River; a mile-long driven sheet-pile subsurface barrier wall was installed along the river bank to limit seepage of hydrocarbons and contaminated groundwater into the river. As a result, mobile subsurface hydrocarbon contamination has been contained. The river is now swimmable and a recreational kayak course has been created.

The refinery had over 200 miles of underground pipelines, some of which still contained hydrocarbons. As part of the remediation efforts, the pipelines and the hydrocarbons were removed and recycled.

Contaminated soils were removed from the Refinery site down to 8 feet. Groundwater pump and treat will be necessary for a number of years to come. A pump and treat system with wells, as well as integrated wetlands to treat the water and special landscaping to draw water to the drains, have been incorporated into the design of the golf course which was constructed on part of the property. Approximately 2000 trees have been planted to assist with phytoremediation.

Contaminated soils were disposed of in an off-site corrective action management unit (CAMU) near Soda Lake, also a BP property. Contamination at Soda Lake, created years ago with the waste water discharge from the refinery, was also addressed. Nearly 200,000 cubic yards of contaminated sediments were dewatered, then removed and placed in the CAMU. Improvements to the lake to better accommodate the thriving bird and wildlife population were also included.

Clean up was conducted in phases to accommodate early revitalization activities, with most of the activity occurring over the course of three years.

Because of the remaining contamination, a number of institutional controls have been implemented:

- City of Casper and the County both designated a "use control area" through a resolution to limit use on the property.
- Soil Management Overlay District – Anywhere there might be some smear-zone soils, the constructing entity has to call either the Wyoming "one-call" system or, if they are building, they are required to get a building permit and the city has to notify BP that they have been issued the building permit.
- Groundwater Restriction area – WDEQ has a memorandum of agreement with the State Engineer's Office. For any well that is permitted within the area, the Engineer's office has to notify DEQ.
- BP is required to go out to the property annually, as well as send annual notices to all the land owners that have properties within the restriction area or overlay district and notify them that they are within the area and what it means. BP is also required to survey all the houses in the area every year to ensure that someone isn't using a private water well.

BP provides WDEQ with periodic progress reports on all remediation activities. These reports are available to the public.

Innovation in remediation

Aside from the innovative process and short time frame in reaching agreement on the final remedies, several innovative technologies were used:

- Use of phytoremediation by planting about 2,000 trees.
- The new wastewater treatment plant designed to treat up to 2,200 gpm of groundwater is unconventional, as it includes engineered wetlands and ponds to remove iron and dissolved hydrocarbon contaminants after going through an oil/water separation. The system will be one of the largest (in flow volume) engineered wetlands in the US. Pilot test results using site groundwater were outstanding. Furthermore, this innovative treatment system will fit extremely well with the golf course design and recreational use of the property. It is also reportedly more cost-effective than conventional treatment.

REVITALIZATION THROUGH COLLABORATIVE PROCESS

The collaborative process used was open and inclusive, offering extensive opportunities for public participation. Citizens were invited to attend, ask questions and provide feedback at all meetings, log on to 3 informative project websites, and read project newsletters. The community played a key role in the project by defining its vision for reusing the former refinery properties. The Collaborative Process was key to developing the needed trust between the interested parties. As a result BP, WDEQ, EPA, the JPB and the public worked together to reach protective, reasonable and timely decisions for the cleanup and reuse of the site. After three years agreement was reached with WDEQ for a final remedy for the RCRA cleanup of all three properties on January 10, 2002. This was a major, unprecedented effort to complete an RFI, Risk Assessments and CMS on such a large property and in such a short time. As a result of reaching an agreement with WDEQ on a final remedy, the City and County were eligible for the full reuse package as included in the Reuse Agreement. EPA recognized WDEQ with the "State Corrective Action Reform Award" in 2002. EPA also recognized involved citizens with citizen's awards in 2005.

REVITALIZATION

BP continues to own the majority of the property. The property is divided up into 3 different areas, the North area (now called Salt Creek Heights), the south area, now called Platte River commons, and Soda Lake. BP owns the south properties (which includes golf course, business park), and it owns the Soda Lake area (which includes the CAMU). They own some of the north property. Parts of the north property were sold off several years ago, prior to the cleanup, and a series of commercial entities are situated there such as a paint store, an autoparts store, restaurants and a bank.

For the south property, the Joint Powers Board and community decided on a recreational use. The property has been converted into the successful 18-hole signature, "Three Crowns" golf course and restaurant. A business park is adjacent to the golf course. The North Platte River, which runs along the property has been cleaned up, is available for recreation and now includes a kayak course. Bike and walking trails weave through the property.

Soda Lake, which was once used to dispose of waste water for the refinery has been revitalized. BP worked with local citizens and the Audubon Society to design improvements to this important bird sanctuary and resting ground for migrating birds. BP has agreed to provide the needed water supply for Soda Lake for several years.

There are several businesses and commercial owners on the north property. This area had been parceled many years ago, before the facility closed.

The revitalization project has won several awards, including the prestigious Brownfields "Phoenix Award" within EPA Region 8.

Note: For additional information please also visit the WDEQ website fact sheet for BP, Casper: http://deq.state.wy.us/shwd/HW/Downloads/N_amoco.asp