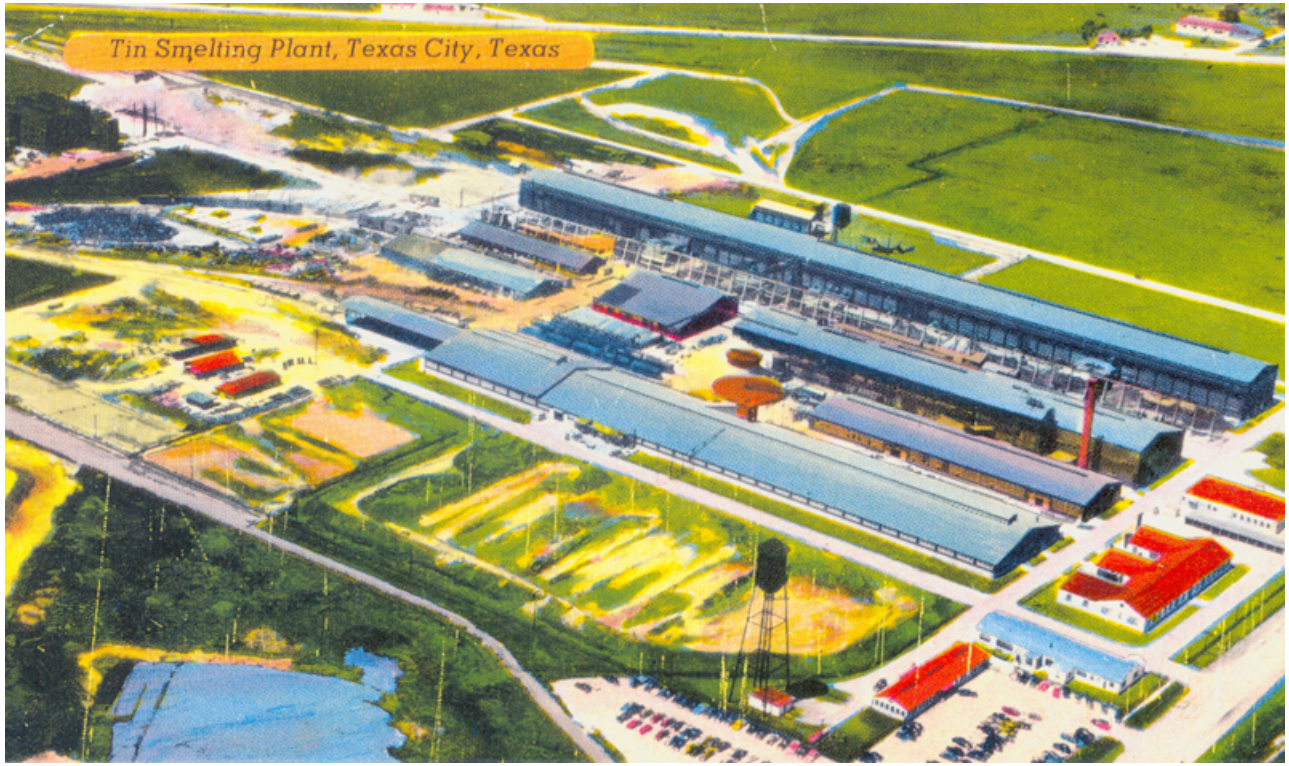
Remediation, Redevelopment & Reuse of the Former TexTin Superfund Site

RECON®
Remedial Construction Services, L.P.

Site History and Background

- **Defense Plant Corporation developed the plant in 13 months, at a cost of $3.5 million, in 1940-1941**



Site History and Background, cont.

- Initially called the Longhorn Tin Smelter, it was the only tin smelter in North America
- During WW II and after, the plant produced about 45% of the world's tin
- During early operations much of the tin ore came from mines in the Cornwall region of the United Kingdom
- Later ore supplies came from South America, mostly Bolivia
- Following the early years of operation, the plant added a copper smelting processing line
- Over the next almost 50 years of operation, the facility passed through several owners
- The facility ceased operations for the final time in 1991
- In 1998, The US EPA designated the site as a Superfund site under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

Tin Smelting and Waste Products

- **Earliest known production of tin dates to about 3,500 BC, in the Middle East**
- **Tin was used to form important alloys, including bronze**
- **Tin ore is most often processed through an initial roasting, where the crushed ore is heated to 1,000 to 1,200 degrees F**
- **The roasting process results in byproducts that can include highly concentrated arsenic and lead**
- **Additional treatment and refining of the roasted ore is required that results in additional contaminants being removed from the ore, including acidic waste, wastewaters, and sludges**
- **At the TexTin facility, wastes included:**
  - Arsenic and lead
  - Radioactive and hazardous slag
  - Acidic sludges (pH <2)
  - Various spent processing chemicals
  - Asbestos containing material

Remediation of the Site

- **In 2001, Remedial Construction Services, L.P. (RECON) was selected to lead the first design-build approach to a Superfund cleanup**
- **There were multiple, distinct design and construction stages included during the cleanup, including:**
  - Consolidation of minimally contaminated materials
  - Demolition of 15 structures, including a 250-ft concrete stack (all structures required decontamination prior to demolition)
  - Demolition of a major state highway and replacement
  - Treatment of hazardous wastewaters from a 4-acre pond
  - Excavation and on-site stabilization of wastewater pond sediments
  - Construction of an SB slurry wall to prevent transport of contaminated groundwater off-site
  - Installation of an evapotranspiration barrier to promote removal of contaminants from groundwater

Remediation of the Site, cont.

- Consolidation of radioactive slag and placement in a low-level radioactive disposal cell
- Consolidation of naturally-occurring radioactive materials (NORM) in a NORM disposal cell
- Placement of a clay cover over the entire site
- Grading site to drain
- Placement of permanent erosion controls
- Fencing, site signage , and permanent security

Remediation of the Site, cont.

- **Safety during construction**
  - Over 100,000 workhours without an OSHA recordable incident
  - Behavior-based safety program engaged both site management and labor in the safety process
  - Over $100,000 in safety incentives paid to labor on site

- **Innovation**
  - Field-designed storm water filtration system
  - Use of on-site waste material as an integral part of the site remedy
- **Schedule**
  - Design-build approach and staged approach saved 7 months from the baseline schedule

- **Budget**
  - RECON documented over $9 million in cost savings over the original project budget
  - Innovative field construction drove cost savings

Redevelopment of the Site

- **Following the completion of the site remediation, RECON was awarded multiple Excellence-in-Construction awards from the USEPA**
- **From 2003 through the present, RECON has continued to provide maintenance services that included periodic mowing and inspection of the site remedy and groundwater sampling**
- **During this time the site ownership was transferred to the City of Texas City**
- **In 2004, the site was issued the first Ready-For-Reuse certificate by the USEPA**
- **Texas City began planning for turning the site into a facility to serve the Port of Texas City**

Reuse of the Site

- In 2014, a long-term lease was signed by Genesis Energy, to construct a crude oil storage and terminal facility on the eastern side of the site
- Construction of the facility began in late 2014 and was completed in mid-2017
- RECON once again was tasked to manage an important construction program at the TexTin site
- The construction included foundations, tanks, piping and controls, and an electric substation
- The site began receiving crude oil this fall and is currently operating at capacity
- Currently the terminal takes up approximately 60% of the site
- A second tenant has signed a lease for the remainder of the site and development of the construction facilities began last month

Conclusion

- **The public-private partnership between industry, the USEPA, Texas City and RECON lead to the first ever Superfund redevelopment in the nation**
- **The stakeholders have been able to complete all of the work since 2001with no OSHA recordable incidents**
- **The partnership was able to save $9 million over the original budget**
- **The project was completed 7 months ahead of schedule**

Conclusion

- ***"What was an eyesore is now a productive piece of land that's been put on the tax rolls, creating jobs, capital investments and tax dollars for the community. It's a very important development for Texas City and the surrounding areas."*** **- Doug Hoover, Texas City, City Manager**