

**Free-Product Recovery System Using
Horizontal Wells
Wins DOD System of the Year
MCAS Cherry Point**

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The Conditions



- A large free-product plume of JP-4 and 5 existed under the active aircraft maintenance facility.
- The plume was nearly 250 feet long by 100 feet wide with a maximum thickness of 5 to 6 feet. The amount of fuel in the subsurface was estimated at 250,000 gallons.
- Aircraft maintenance activities could not be disrupted.
- An emergency water force main was located under the building.

The Design



- Three 450-ft horizontal wells constructed of 8-inch HDPE with 200-ft of slotted well screen.
- Three 2-inch collection pipes installed in each horizontal well to remove product from different areas.
- Hydrophobic pumps transfer free-product to treatment equipment for collection.



Location





Installation Challenges

- Achieving the designed entry angle.
- Unexpected conditions – cypress stumps.
- Missing the water line and moving from a walk-over location method to a wire-line location method.



Location





Location





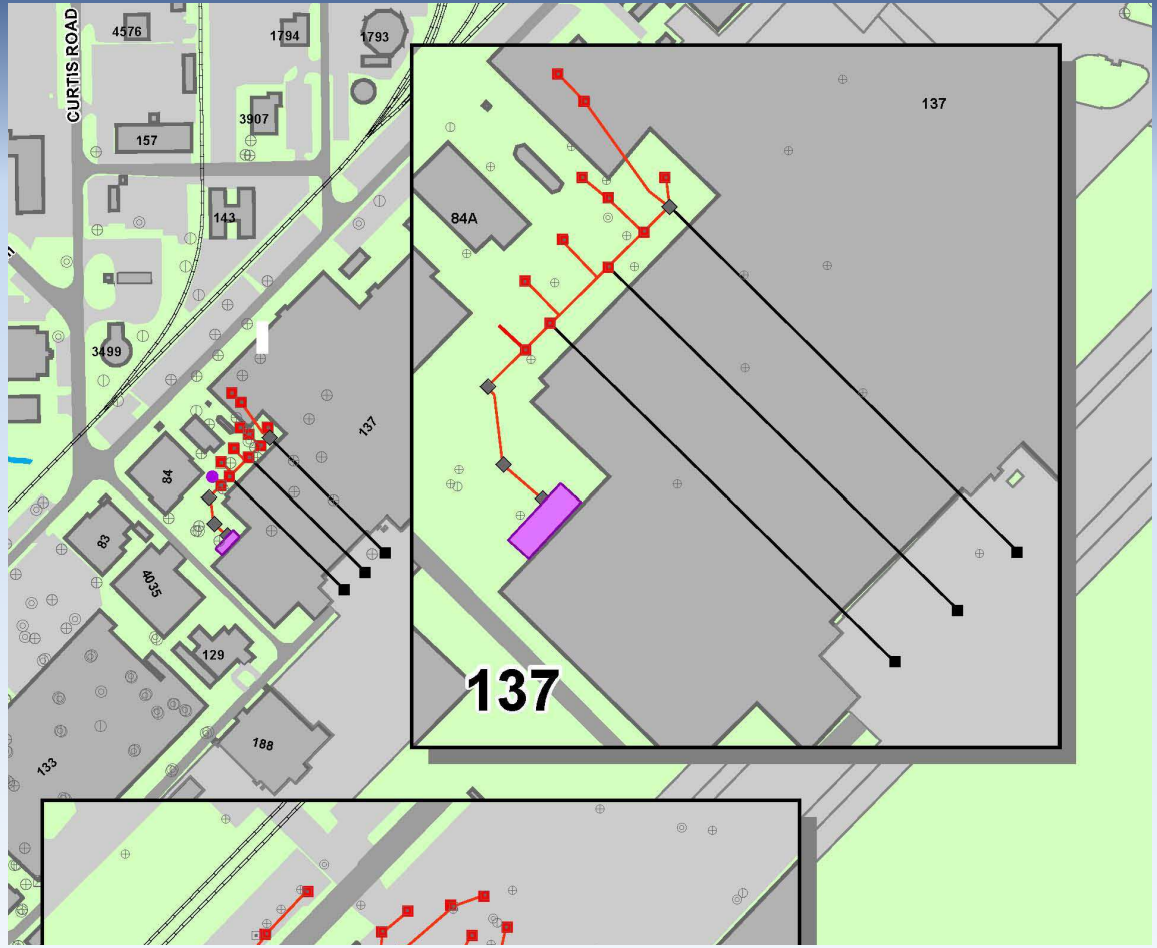
Location





Location







The Results

- The system became operational in August 1997.
- The system recovered an average of approximately 280 gallons of free-product per day and over 52,000 gallons of free-product the first year.
- Recovered fuel was transported to the Air Station's central heating plant where it was blended and used to operate the plant's steam boilers.
- The system was regarded as a success and received recognition from the DOD as the free product recovery system of the year.

DIRECTIONAL
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