

# Braefoot Jetty



Braefoot Jetty is used as a loading jetty for tankers transporting hydrocarbons into the local processing facility. The structure is formed of steel piles supporting a reinforced concrete deck on which the loading gear is located.

Location  
**Scotland, UK**

Client  
**Shell**

Completed  
**July 2014**

Structure  
**Reinforced Concrete Jetty Deck**



## The Problem Identified

Continual exposure to sea salts from tidal movement and spray resulted in chloride contamination of the concrete and areas of corrosion induced spalling. The client was looking for a 20+ year corrosion mitigation solution.



## The Solution Developed

CPT designed a DuoGuard™ hybrid anode system to protect both repaired concrete and existing chloride contaminated concrete on Braefoot Jetty. The anodes were installed into the beams and soffit. Using an external power source, an impressed current was applied to stop active corrosion and render the steel passive. The DuoGuard anodes were then disconnected from the power source to self-generate a galvanic current, sufficient to maintain steel passivity and control corrosion.

A monitoring system was designed by CPT to allow ongoing measurement of the corrosion control system from the upper deck of the jetty.

CPT worked alongside the client and contractor to facilitate the system installation within the robust health and safety guidelines required on hydrocarbon plants. The DuoGuard system was selected due to the speed and simplicity of installation, the supporting technical data and technical support offered by CPT and the minimal maintenance requirements following installation.



## The Benefits Provided

Corrosion related deterioration of the Braefoot Jetty has been halted. After the initial power up period using an external power source the DuoGuard system is self-powered thus minimising future maintenance requirements and associated life costs.



Braefoot Jetty Aerial View



Braefoot Jetty

## CPT Products Used



DuoGuard™



DuoCrete  
SD Mortar



CPT  
Monitoring  
System

