

DUO Contract Washing and Screening processes final reserves at Warmwell Quarry.

Located near the village of Warmwell, near Dorchester, Dorset, Warmwell Quarry started operations in 1896 and continued quarrying up to 1937 when the MOD acquired the site. During WWII the MOD operated an airfield which hosted 33 RAF squadrons, including 1 USAF squadron which supported the D-Day operations. Handed back in 1949 quarrying then continued with ownership changing hands several times until 1998 when Aggregate Industries (AI) took full control.

Owned and operated by AI, quarrying then continued until 2011 and with reserves running out a decision was then made to sell the land to housing developers with AI retaining the remaining mineral rights of (1.1 million saleable tonnes) until exhaustion. With circa 250,000 tonnes of the remaining reserve lying beneath the existing production plant a decision was then taken to demolish the whole plant and process the remaining material with a new washing and screening operation which would be operated under a contract basis.

Having successfully tendered for the contract, the Minerals Processing Division of DUO who are the England and Welsh dealer for Terex Washing Systems (TWS) subsequently supplied a Terex AggreSand™206 modular wash plant, which is one of the outstanding range of innovative TWS modular, mobile and static wash plants which are focused solely on providing solutions to the quarry, aggregate, mining and C&D recycling industries.

Operations then commenced in August 2016 to process the remaining 250,000 tonnes. Paid on a fixed price-per-tonne totally managed contract DUO installed the new wash plant with an operating team.

Peter Mole-Quarrying Operations Manager, commented, "As the reserve is reduced and our market share declines we have matched the plant's capacity to where we are today. Currently the DUO wash plant is running at 150-170tph which is subject to the volumes of laden clay at the front end. It is providing us with 7000 tonnes/week throughput which therefore achieves circa 6000 tonnes/week of marketable material."

With all material sold across the weighbridge to customers within a 60-mile radius the operation provides ideal natural sand for ready mixed concrete.

Peter, added, "The problem at Warmwell is the fact that our primary product driver is sharp sand, which represents circa 70% of sales. Once this grade of material has been exhausted we will have a remainder of fine sand. This grade of sand will be processed through a dry screen until conclusion, with all production ending in Q1 of 2017."

The Sand & Gravel Plant:

The main elements of the plant at Warmwell are the Terex AggreSand™ 206 3-deck modular wash plant and a Terex AggreScalp™ 150. The Aggresand is pre-wired and

pre-plumbed (plug and play) and is a modular concept which can be installed very quickly. It is a combination that is very appealing in terms of access, serviceability and modularity.

Peter, further commented, "With DUO managing the whole operation including loading, the wash plant produces two sands - coarse and fine. It's a very compact plant. 'As raised' ballast is fed by a loading shovel into the hopper of the AggreScalp. Pumps are installed for the feed water which AI supply and are responsible for, AI also provides the silt lagoons for disposal of the tail ends. The water volume feeding the plant is 260 M3/hr. It's a very simple and effective set-up which satisfies our expectations - it does what it says on the tin!"

The AggreSand™ 206:

The AggreSand™ 206 at Warmwell is a 3-deck version which utilizes ten individually controlled spray bars on each deck. The two-bearing screen is fitted with polyurethane modular media on all three decks. The top deck acts as a protection deck removing any material above 40mm. The middle deck is a 40mm passing deck while the bottom deck is split, 2mm and 5mm to produce the required two sands. Chute-work on the AggreSand™ 206 employs the now well tested dead-box system which results in rock on rock set-up which is proving to give excellent wear properties.

Currently the AggreSand™ 206 sand plant which consists of one 45Kw 250/200 pump and two G4-660mm cyclones is producing two clean in spec sands. A specially designed rubber-lined catch box allows blending to take place so that an acceptable coarse and fine sand ratio can be achieved. These sands are then delivered to separate radial conveyors and stockpiled. Any material between 5mm and 40mm is then fed by inclined conveyor to the AggreScrub™ 150 for scrubbing and removal of clay conglomerates.

The AggreScalp™

The Terex® AggreScalp™ is a versatile, high performance, heavy-duty electric screening machine that has the flexibility to operate as a 2-way or 3-way split screener. The highly aggressive screen can accept media including bofor bars, finger screens, woven mesh and 3D punch plates, which allows it to be used across a wide variety of applications.

With on-board hydraulic folding product conveyors, hydraulic screen angle adjustment and single lift set-up, it remains easy to transport and easy to set-up. As is the case at Warmwell the AggreScalp™ works in conjunction with the Terex® AggreSand™ by providing a consistent feed material even in difficult applications.

Together they form an efficient, 'lower operating cost' aggregate solution. These TWS machines consistently provide cohesive solutions for all material and mineral washing needs. Focused solely on providing solutions to quarry, aggregate, mining and C&D recycling industries the TWS philosophy provides reliable, high quality and very productive equipment to meet individual materials and mineral washing needs, meeting today's stringent specifications of clean material.

DUO Minerals Processing:

Part of the DUO Europe Group, who are the UK dealer for TWS, DUO Minerals Processing are unit-cost material processing providers for full aggregate production and offer knowledge, ability, flexibility alongside an enviable market reputation. A comprehensive and tailored unit cost processing operation with either the option of the supply of a processing plant, with or without an operating team. Backed by a world class service division DUO Minerals Processing are dedicated to minimising your downtime and maximising your turnover.