

Allan Judd worked for ICI at their Wilton Works until early retirement in 1999.

Amongst many other products ethylene was supplied to many customers in the UK, one of which was the Associated Octel at Amlwch.

Allan was fascinated to know what ICI's customers did with the ethylene so he decided to visit some of the customers they supplied, one of them being Associated Octel at Amlwch. The following story is a fascinating insight into one of those trips he took.

A shot of the Associated Octel plant at Amlwch taken from Bull Bay by Allan Judd.



A bit of background will help I think -

Whilst at school my main subject of interest was geography and a special interest in the exploration taking place in the North Sea, for oil.

When I started working for ICI in September 1964 I was most interested in the products which were manufactured by ICI in general, but especially many of those products which were produced at Wilton, because of the raw material - crude oil, most of which was imported from the Middle East at that time, but eventually from that extracted from the North Sea and piped to Teesside.

I worked on the Olefines [Olefin] Works (Crackers) which processed a feedstock of naphtha.

A view of an Olefines Plant at Wilton in 1968 by an unknown photographer



Naphtha is a fairly light fraction from the primary distillation of crude oil. Amongst many other *products which the Olefines plants produced ethylene was in particular the product which most fascinated me.

After further processing it went into the manufacture of plastics, fibres, pharmaceuticals, cosmetics, dyestuffs, detergents, explosives, anti-freeze, refrigerants, paints, local anaesthetics etc.etc.

**As a matter of interest petrol is also produced in some quantity on 'Crackers', in the early years the petrol produced on ICI's Olefine Plants was just a by-product !*

I arranged to travel with ICI's own transport fleet to our customers plants all over the country to see what they did with the ethylene which we supplied.

One of those companies was Associated Octel at Amlwch.

The tanker below (circa 1965) is a similar vehicle to the one Allan describes in the journey to Anglesey. *(unknown photographer)*



Incidentally I remember when I first set eyes on the Octel plant from Bull Bay in the early 1960's on a wet dismal day it always used to make me think of one of those old black & white television Quatermass films.

Never could I have imagined I would ever have a guided tour of the plant or even end up working at ICI with a business connection to the plant.

We set off for Amlwch the route being via (A19/A1) to Leeds - Huddersfield - (A62) - Manchester - Northwich - (A556) - Chester - then the coast road (A548) - Rhyl - Colwyn Bay (A55) - Conway – all was going well until we were near Penrhyn Castle when we were stopped by the police and told that Octel at Amlwch couldn't take the load and we had to report to the police station at Menai Bridge for further instructions.

At Menai Bridge we were told that the load must be taken back to Winnington, unfortunately the driver was running out of hours, it took all day at that time to get there (no motorways and few dual carriageways on that run then), so we had to find somewhere to stay, the problem being a tanker loaded with approximately 10 tons of highly flammable/potentially explosive ethylene gas couldn't be just parked up in any street or public parking area, also these tankers had a very specific route to travel.

The officer at Menai Bridge set about trying to find us accommodation and especially somewhere to park the tanker - he was having some difficulty so I suggested trying to contact my aunt in Llanfair PG and then see if we would be able to park the tanker in Llanfair station old goods yard.

My Aunt said we could stay with her but it wasn't felt suitable for the tanker to be parked in the station yard. Back to the drawing board, the police then contacted Automobile Palace (a garage near Llanfair PG Station) who I feel with some reluctance agreed to park the tanker under lock & key in their compound.

The next morning we set off heading back towards Winnington, when we got to Old Colwyn the driver decided to take a break and we pulled into what was a lay-by at that time at the top of the bank on the way out of Old Colwyn (they built a hotel up there sometime later I believe).

Break over, we started pulling out of the lay-by when there was a crack/screech and we stopped.

A garage was called and it was found that a drive shaft had sheared but unfortunately that garage didn't stock the matching half shaft, one would have to be brought from the Foden plant at Sandbach.

Four hours later (it was a Sunday) the part from Foden arrived and was fitted in about an hour.

We eventually turned off the A556 for Winnington at about 5.00pm. Not knowing

when he would be getting back to Teesside I decided to make my own way back by hitch-hiking.

I did quite well but didn't get back home to Middlesbrough until about 3am.

I did eventually get to Octel at Amlwch sometime later and was given a guided tour of the plant and a very interesting insight into the process.

In simple terms, they produced Ethylene Dibromide which was made with bromine extracted from sea water processed using sulphur then chlorine (transported to Amlwch by rail in the white tank wagons) then the liquor reacted with the ethylene gas.



The Ethylene Dibromide was sent by rail (the grey tanks you would see on the Amlwch trains) to Octel's Plant at Ellesmere Port where it was processed into Tetra Ethyl Lead or Tetra Methyl Lead which in turn was blended by the various oil companies with petrol as the anti-knocking agent.



I have read that about 35,000 tons per annum of lead were used in the manufacture of anti-knock fluids - not surprising they had to do something about lead from exhaust fumes, is it.

Some interesting information/statistics about the Associated Ocel Plant at Amlwch at that time in the 1960's:-

- The Amlwch plant was strategically built in 1953 at that location. It was important that the seawater from which the bromine was to be extracted should be as clean as possible and the plant constructed so that the bromine depleted water discharged wouldn't get back into the fresh seawater inlet to the plant, also the seawater was already warmed by the Gulf Stream. The plant closed in 2005.
- 212,000 gallons of water per minute were extracted from the sea (x4 pumps).
- It took 63 million gallons / 22,000 tons of sea water to produce 1 ton of bromine.
- Approximately 65 tons of bromine would be extracted/processed each day.
- A significant amount of the pipework at the plant was made of glass/glass lined to prevent damage due to the corrosive effect of the liquids/materials used in the process.

The following photographs show the plant and some of the rail workings along the main line and the Amlwch branch which was so important to the day to day running of Associated Octel.

47 365 coming off the branch at Gaerwen was named - ICI Diamond Jubilee - taken on June 30th 1987.



47 290 with the tanks running through Bangor.



47 289 pulling the tanks along the branch on June 28th 1993.

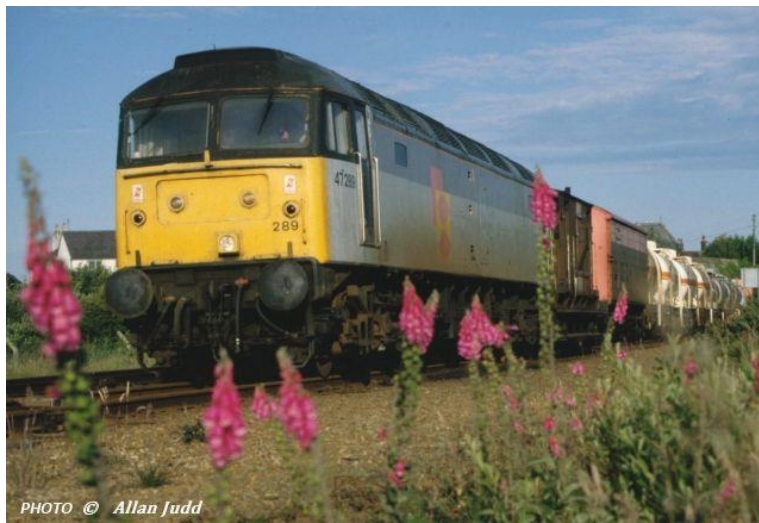


PHOTO © Allan Judd

47 289 at the Octel plant on June 28th 1993.

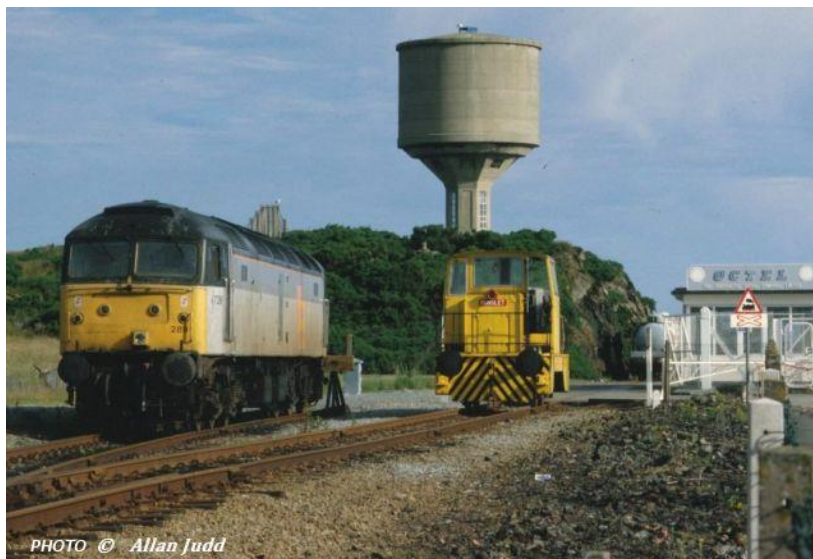


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