

Operation Pluto

Chapter 9. The Dungeness Network (Operation Dumbo)

Once the Allied armies had broken out of their beach-heads and stormed to the eastward along the coast of France and Belgium, the value of Pluto became problematical. Le Havre, captured on 12 September 1944 provided port facilities which were scarcely impaired and, as a major oil port, was suitable for the largest tankers. Ostend had fallen a few days earlier, but was only suitable for smaller ships. Apart from Le Havre, no port on the continental side of the Channel was suitable for large tankers until Antwerp was available and this did not occur until late November, although the city was entered by the 2nd Army on 4 September. The reason for the delay in opening the port, which was urgently needed to bring supplies to the advancing armies, was the fact that the Germans were still firmly in control of the north bank of the Schelde, which made it impossible to sweep the heavily mined river. Antwerp was also being bombarded with V2 rockets and, indeed, continued to be after the port was in use by tankers. Land

The fuel landed at Le Havre was ferried to Rouen in American 'Y' tankers and distributed from thence to the U.S. armies. The American pipeline from Cherbourg had a spur connecting it to Port en Bessin, but the main line swept away south towards Chartres and south of Paris.

Bambi was officially closed down on 4 October, a month after the fall of Antwerp and on 10 October Commander Lee in Sancroft laid the first 3" Hais line from Dungeness

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to Boulogne. Treby Heale described as follows the technique used for the shorter cross-Channel ^{route,} which had been adopted as a result of experience gained in the Cherbourg - Isle of Wight operations.

A flying start was made from the Dungeness side at low water slack or the first trickle of the flood. An average laying speed of 5 knots gave an arrival at the slipping position off Boulogne harbour at the last of the flood. As the moment for starting the lay approached the ship steamed along the coast with a 5 cwt. mushroom anchor and a small marking buoy hanging from the stern rollers. To the ground chain of the mushroom anchor a 50 fathom length of 6 x 3 compound rope was shackled and this in turn was shackled to the end coupling of the Hais cable. The navigator gave a series of short blasts on the whistle as a stand-by signal when the ship was two cables from the slipping position, followed by one short blast for 'let go'. Very's lights were fired to let the shore station know that the lay had started.

Away went the mushroom anchor and marking buoy followed by the 50 fathoms of compound rope, paid out by the cable engine in gear. As the end of the Hais cable reached the stern rollers a heavy spring hook was snapped on to the shackle of the cable end coupling as it went over, without stopping the ship; and a No.4 pattern buoy with strong moorings was slipped over the stern. After paying out about 200 yards in gear, with the ship gathering good headway, the cable engine was thrown out of gear and paying out continued with the drum free and controlled ^{only} by the brake.

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Once the ship was clear of Dungeness she turned east on the course for Boulogne and the shore-end barge retrieved the buoyed end of the Hais cable, coupled up the $1\frac{1}{2}$ mile length in the barge and ran it to the beach for connection to the pumping station.

All navigation had to be extremely accurate in order to ensure that the end of the Hais cable on board was ready for slipping off Boulogne harbour within a margin of 50 to 100 yards. In order to do this the amount of cable paid out and the amount left on board had to be known at all times, so that the navigator could adjust the course to ensure that the end of the cable would be available for slipping at the precise moment necessary. It was the navigational aid known as QH2 or Gee which allowed the ships to determine their position within very narrow limits. This was yet another wartime invention, or at least it was only put into use during the war, and it proved invaluable for many operations. Even so, some navigators mistrusted this new-fangled idea and resorted to bearings of shore objects when possible.

Another reason for the timing of the start of the lay was in order to ensure water for the ships over a 3 fathom shoal approaching Boulogne. Treby Heale recorded starting late and having to lay the heavy Hais cable at 8 knots in order to arrive over the shoal at the right time. A normal lay took $5\frac{1}{2}$ hours.

As the cable ship approached the slipping position on the far shore speed would be reduced and the cable engine put in gear. A 25 fathom 6 x 3 rope tail was

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attached to the cable-end coupling with a clear-hawse slip, which was also connected to a coil of 6 x 3 drum rope forward of the paying out gear. A buoy with mooring rope was ready by the stern rollers and, as the end of the Hais cable reached the rollers, a spring hook was snapped on the buoy mooring and the buoy was dropped. Without taking the way off the ship the end went over attached to the 6 x 3 tail. This ensured that the cable continued to lead aft until it reached the bottom, for if it was allowed to lead even ^{up} and down it was liable to kink. When the clear-hawse slip reached the stern rollers, it was knocked free and the job was done.

Vertically

Weather permitting - and weather played an important and frequently frustrating part, particularly in the shore-end connecting - the barge came out at once, retrieved the buoyed end and coupled up to the cable they had on board. The barge then went ahead, paying out its own cable, through the harbour entrance to the beach in the outer harbour. Here, for some unknown but fortunate reason, the enemy had left the oil tanks intact.

The difficulties encountered in joining up to the end of the main cable on the French side and spanning the distance from the main cable to the shore installation have been mentioned. The main difficulty lay in running the short length of Hais cable stowed in the barge to a point above the low water mark on the shore where it would be dealt with by the army units. This work was done by two converted barges, Britannic and Oceanic and neither was able to work in bad sea conditions. The actual joins were made by the specially designed muff which fitted

over the couplings already in position on the cable ends, both of the main cable and the length in the barge. The muff functioned perfectly, making a leak-proof joint and it could be fitted with comparative ease. The couplings themselves were specially faired to enable them to pass round the cable drums and sheaves.

When all connections had been made satisfactorily, the pumping station at Dungeness was informed over the direct telephone line, which had been laid to connect the stations at both ends of the pipelines.

When pumping commenced the pressure in the line rose steadily until at about 400 PSI the first of the thin copper bursting discs would break and the pressure would fall, rising steadily again until the next disc was broken. The water in the line merely sank to the bottom of the storage tanks, the petrol sitting on top, and much to many people's surprise, this caused no problems at all. *Occasionally* The coloured balls introduced into the lines at Dungeness ~~at times~~, in order to check the actual rate of flow to the other side, proved it to ^{take} be about 4 hours. A 3" Hais line from Dungeness to Boulogne delivered about 400 tons or 120,000 gallons a day. On the beach at Boulogne was a valve manifold system to which the Hais and Hamel lines were connected, also tankage at beach level with facilities for test purposes, but the flow was usually taken by 6 ins. *Vitaulic* jointed pipes to tankage of 1,200 tons capacity on the cliffs north of Boulogne.

Having successfully made the first link between Dungeness and Boulogne, Commander Lee was kept busy for

the rest of October. Sancroft laid a second 3" Hais line on 13 October, apparently without difficulty and proceeded with a third 3" Hais on 24 October. It would seem that Sancroft was fully loaded with about 100 miles of Hais cable when she made the first lay from Dungeness to Boulogne and that was the reason she carried out the first three lays. She does not appear to have returned to load more cable in between the second and third lays.

Weather, as always, was a considerable problem and it is of interest that Commander Lee reported the wind SSW 4 with a rough sea at the start of Hais 2 lay, increasing to SSW 6 with a strong northerly set. Although the big cable ships, Sancroft and Latimer were able to cope with rough weather to a very large extent, the shore end operations were a different matter and the barges were unable to work efficiently in any sort of a blow because of the great weight of the Hais cable and the difficulty of handling it if the barge was plunging about. In any case, the cable would almost certainly be damaged.

With the great unwieldy Conundrums the situation was even more critical in bad weather and Captain Hutchings complained bitterly that on one occasion the whole operation was cancelled because of the warnings of a gale which did not materialise and then commenced on the basis of a good forecast which, in fact, did produce a gale.

Of course meteorology is not an exact science and at the time in question did not have some of the aids to forecasting available today. In World War II the R.A.F.

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in particular were very susceptible to wrong forecasts and many seamen were inclined to rate bad weather as more of a nuisance than the enemy. This was certainly true in the case of Pluto. Pluto was really feeling its way as it went along and was learning rapidly. It is likely that with a little more time, more training and with a less ambitious objective, Pluto might have convinced even the sceptics that it was a reliable and safe method of fuel supply across the Channel. But the cards seemed to be stacked against Force Pluto, its dedicated commander and loyal, determined crew. A number of influential officers did not like Pluto and thought it a waste of manpower and material. ~~Added to which,~~ the circumstances sided with the sceptics and did not really give Pluto a chance to prove its worth. This aspect of Operation Pluto is dealt with more fully ~~in the final chapter.~~

Although Sancroft's three lays, Hais 1, 2 and 3, were carried out without a hitch, once again connecting up the shore ends proved anything but straightforward. The end of Hais 1 main cable on the Dungeness side was picked up by the Barge Runic which had some difficulty in making the joint, with the result that the run ashore, paying out the barge's cable, was made in the dark and was not very accurate. This led to the end of the barge's cable barely reaching the low watermark. Bad weather then intervened for two or three days, but eventually the Royal Engineers were able to run a steel pipe down the beach ^{and} ~~the~~ make the connection.

On the Boulogne side the barge Britannic picked

up the end of the main cable and made the join but, owing to the strong tide, was set well off her course and although assisted by the barge Oceanic, the shore end was dropped below the low water mark in about 3 feet of water. Once again the army succeeded in connecting a length of steel pipe, but it was 24 October before pumping could commence.

The work of the cable laying barges, whose sole purpose was to connect up the ends of the main cables with the shore installation, was difficult, dirty and dangerous. With craft that were far from easy to manoeuvre, hauling up the heavy Hais cable from the sea bed, fitting the muff, which joined the two metal couplings and then paying out the length of Hais cable coiled in the barge as she made her way slowly towards the shore, must always have involved great physical effort on the part of the crew. For the barge's skipper, even moderately bad weather arriving in the middle of an operation must have been a nightmare and he might well breathe a sigh of relief, or indeed give a shout of triumph, when the barge grounded firmly above the low water mark.

For the Hais 2 line it was decided to use Holdfast to make the shore end connection and run cable into the more shallow waters of the Rade Carnot, where it would be easier for a barge to complete the work. In fact, Holdfast was as difficult to handle as a barge and her size made manoeuvring inside the breakwater hazardous. She was compelled to drop the end outside the breakwater and the work was completed on 26 October.

While the members of Force Pluto were struggling

manfully with all the problems of wind and weather, heavy, unco-operative pipelines and a harbour not long vacated by a vindictive enemy, the invading armies were moving rapidly towards the Rhine. As they over-ran the ports, these were cleared of mines and put into some sort of working order as soon as possible. Le Havre was suitable for the largest tankers, but as it was not connected to the land pipelines, may have produced some problems of bulk supply. In an article written by Major General Sir Eustace Ticknell for the Royal Engineers' Journal a number of years ago and entitled 'The supply of petrol in bulk to 21 Army Group', there is no mention of the use of Le Havre and it appears that this port was used principally by the U.S. Army.

Ostend was captured on 9 September, before Le Havre, and became an advanced position for petrol storage, the first tanker discharging in the port on 29 September. It was 26 October before the first Pluto line was actually delivering petrol to the far shore and this at the rate of some 450 tons a day at most. So it will be seen that once more the efforts of Force Pluto were overtaken by events, but the speed of the advance of the armies was not the only factor involved. It was the complete mastery of the air achieved by the allied forces which ~~made Pluto almost un-necessary.~~ ^{allowed} Tankers ~~were going to go~~ about their business virtually unmolested and the high casualty rate expected for these essential ships did not materialise.

But the war was not over and the ability of the enemy to strike back could not be discounted. Indeed,

with the coming of winter the speed of advance slowed and almost stopped, so that there was still time for Pluto to save the day. In high places, particularly on the naval side, there were noises suggesting that the involvement of ships and men in Pluto could not now be justified, but the final decision went against them and Pluto lines continued to be laid.

Having run three Hais lines, it was now decided to bring Hamel into operation and on 11 November 1944 the tug Marauder, with Lt. Cdr. Jennings in command, left Tilbury towing Conun VI with Schelde (Captain Vlieland) as astern tug. Unfortunately, this was the start of a series of accidents which ended in disaster, ~~and which no doubt produced a lush crop of "I told you so"s which were not entirely justified.~~ Once more a combination of bad weather, insufficient trials and training and some technical faults led to a failure which might so easily have been a success, given a little more luck. It is true one cannot rely on luck in wartime, but a lot of victories might well have been defeats without it. Perhaps Captain Hutchings' dedicated opinion of the certain success of Pluto, and absolute necessity for this in some respects, led to his undoing. As a matter of hindsight it appears clear that from the first he was trying, almost frantically, to justify his enthusiasm and confound the critics who would probably have been more impressed by one carefully laid line which functioned perfectly, rather than a number in varying stages of imperfection. Had the tankage been brought to the Pluto pipelines instead of the other way

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about, had more time been given to getting the shore ends easier to deal with, and had more of the work been done before the winter weather took charge, things could have been very different. There are a lot of 'ifs' and anyone who was involved in superintending even minor details of the Normandy landings will know the pressures and misunderstandings which had to be endured. For Captain Hutchings these aspects of his responsibilities must have been unbearable at times.

On 12 November the tow arrived at Dungeness and secured to the ahead buoy. In attempting to swing the tow stern on to the shore the tug Danube VI was used to tow the Schelde round. In the course of this a 40 ton Admiralty pattern screw shackle parted, releasing the after towing bridles and the movement was abandoned. At the next attempt a wire stranded and Schelde slipped the Danube VI at short notice with the result that Danube VI picked up the buoy wire in her screw. She was then towed to Folkestone to dry out and clear the wire so the lay was postponed for 24 hours. As a further indignity, during the night an unknown frigate ran between the moorings and sank a recovery buoy. ~~Perhaps somebody quoted "and the evening and the morning were the first day".~~

Next day the mooring up of Conun VI was successfully accomplished and the sunken recovery buoy replaced by fishermen's pellets. The Hamel pipe was now hauled off the drum to the stern tug Schelde and a wire from the shore run out and made fast to the pipe. A marker buoy was attached to the end of the pipe. The weather was quiet with a swell from the eastwards. But the anti-Pluto

gremlins had not yet finished.

Almost immediately, after the successful positioning of the drum and completion of the connection to the shore, the towing wire of the astern tug Schelde parted and the drum swung away with the tide, winding the after bridle round itself and fouling part of the forward bridle, which took two complete turns round one of the axles of the Conundrum. Surely an impressive instance of the perversity of inanimate objects. Only the tough training of sea life can have prevented a general decision to give the monster best.

By this time it had become dark but the Hamel pipe had been paid out by the drum in what must have been an interesting pattern on the sea bed and it was necessary to cut the pipe to free the drum and let it swing to the tide.

L'Gold Drift
Using attendant Motor Fishing Vessels, Lieutenant Bennett, C.O. of the barge Britannic, and Mr. Finch of the M.F.Vs, skilfully cut the pipe and secured the main end to the drum. The waste section of the pipe was released to be hauled ashore by the ploughing engine (a relative of 'Steve' at Cherbourg), but it seemed that the end had fouled the quarter buoys, so operation ceased for the night. With one eye on the weather and the other looking for the next series of snags, sleep for the Pluto crews must have been a trifle restless.

Next day, 14 November, the weather began to show signs of joining the attack, for the barometer continued

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* The official report of this incident appeared to have got the barge confused and mentioned Lt Bennett as CO of 'Britannic'. This point was queried with Bennett when the chapter was written and he confirmed that he was involved in the incident in his barge 'Gold Drift' and that two of his crew were

fall as it had done for two days. Operations began immediately to clear the pipe and allow the waste end to be hauled ashore. While Lieut. Bennett of Gold Drift under-ran the wire which was foul of the pipe, Lt. Cdr. Jennings in the tug Marauder, assisted by two M.F.Vs., set to work to clear the tangle on the drum. This was successfully, but not easily, accomplished and eventually the Conundrum and attendant tugs were secured on the moorings ready to start the run once more. At this moment a signal was received from Admiral Commanding Dover with a forecast of an easterly wind force 6 before dark. In view of the difficulties of carrying out the operation in the dark and in bad weather, the lay was postponed and the fleet dispersed; the small craft into Folkestone and the tugs and tow to the Downs. In the course of this, Marauder reported a defect in her towing gear and the tug Bustler (C.O. Lt.Cdr. R.E.Sanders) was ordered to join her in the Downs. In the event, the promised bad weather did not materialise and the night was the calmest for some time. Such is the element of luck, or lack of it, which attends seafaring operations.

Next day, 15 November, was squally with snow showers but, in any case, the laying fleet could not be assembled in time to commence that day, but the weather chart promised fair conditions for the following day.

16 November began with thick fog, which delayed all movement, with the result that the drum and tugs did not arrive at the Dumbo moorings until dark. The difficult manoeuvre of mooring up tugs and drum, head to sea ready to start the lay, was successfully accomplished in the

(Continued from previous page) mentioned in despatches. He also added the rather pleasant note that the CO of 'Britannic' was a Lt Baldwin who replaced a chap I knew as 'Bathwater' who nearly gave Hatchings a heart attack by turning up 30 minutes late for an operation on the grounds that he was late having his breakfast!

dark, but already the wind had risen to force 4 southerly putting the laying vessels on a dead lee shore. The wind continued to freshen and the small craft were told they might seek shelter in Folkestone.

17 November. At 0400 the shore party reported that they had difficulty in hauling the end of the Hamel pipe ashore and their wire had stranded. By this time it was blowing hard and the possibility of continuing with the lay had gone. After consideration, it was decided to let tugs and drum remain on the moorings in the hope of making a quick start as soon as the weather moderated.

It was now blowing a full gale and at 0700 Bustler's 5½" steel wire rope carried away at the rollers with a bang, all the strands parting at once. Schelde was told to slip and get clear immediately, which she was just able to do, but must have been very close to stranding on the beach. She reported her steering gear faulty and that she was steering by hand.

Bustler stood by the drum, which was sailing along merrily, uncoiling the Hamel pipe in a series of interesting patterns. At first it was feared the drum would round Dungeness and gallop away down channel, causing panic if not havoc, and Bustler had orders to sink the monster if this happened, no easy task it would seem. To what must be considered a minor extent all ^{went} ~~was~~ well. The wind took charge as the tide slackened and the drum blew neatly along inside the mooring buoys and grounded on the beach at Littlestone, two miles to the north and east. There

the huge object, which clearly had no intention of going abroad, remained for two years, surrounded by a tangle of steel pipe which might have been the tentacles of some latter day Kraken. Captain Hutchings' report was very restrained and even his suggestion that the met. reports did not help was in tones of sorrow, rather than anger.

This account of the first attempt to lay the Hamel pipe from Dungeness to Boulogne has been given in detail as it summarises the difficulties experienced by Force Pluto and the determination with which they were met. It will be clear that there were some very experienced seamen engaged in all aspects of the work, in the boats, launches, barges, tugs, trawlers, and cable ships. Many of these seamen, mostly unsung at the time, later achieved great success and high positions in their callings, consistent with their obvious ability.

Prior to the attempt to lay the first Hamel line from Dungeness, a 2" ID line, Hais 4, was laid by Commander Treby Heale in Latimer on 1 November, the far end lay being picked up by Commander Kennard in Algerian and run ashore by one of the barges. Pumping proved the lay entirely successful and it functioned at 100% efficiency. Latimer also laid the 2" ID Hais 5 next day, but had some trouble owing to the cable covering getting sticky due to a lack of protective luting. This necessitated a reduction in the speed of laying. There was also some trouble at the start owing to a tail rope being foul, which resulted in dragging the mushroom anchor, thus leaving the shore end further out to sea than intended. This apparently damaged the Hais cable as the line did not function correctly.

Hais 6 was laid by Algerian (Commander Kennard R.N.R.) on 24 November after an attempt on 23 November had to be abandoned owing to the cable taking a riding turn on the drum. This was found to be due to the lead off the drum being incorrectly mounted, a fact not discovered earlier as this, the port drum, had not been used previously. On 24 November the lay was successful, but in heavy weather conditions there was difficulty in buoying the end. This was safely recovered later and the line proved satisfactory when pumping commenced.

After the first abortive attempt by Algerian it was necessary to cut the Hais cable and abandon the portion already laid in order to remove the riding turn on the drum. Commander Kennard recalled that cutting a Hais cable with its extensive armouring was no quick and easy task, and he found that the easiest way of doing it was to use an automatic rifle! It sounds extremely dangerous, but he insisted that it was effective. This, in fact, was the only full length lay carried out by Algerian and, although capable of a lay of the Dungeness - Boulogne length, Holdfast was not used, either.

Hais 7 and Hais 8 were both laid by Commander Treby Heale in Latimer. Hais 7 was laid on 15 December in good weather and without major difficulty. An excess of cable had been loaded and a longer route was plotted, in order to expend the excess. Unfortunately the expenditure was overdone and the end was dropped half a mile off shore. This was overcome by inserting an extra length of cable at the shore end, but of course involved extra work which the barge was able to do

The job was finished off with hatch saws and bolt cutters

expeditiously as the sea was calm.

Latimer laid Hais 8 the next day, 16 December, and on this occasion the end was dropped off Boulogne rather too far to the north. The weather was unfavourable and it was some time before the shore ends, on both sides of the Channel, could be connected. During this lay the Q.H. navigational system was not working correctly and visual bearings were necessary in order to plot the track.

For some By this time tankers were unloading in Le Havre and Ostend, with coastal vessels discharging some 2,500 to 3,000 tons a day. Ocean going tankers were now also using Antwerp so that, to some extent, Pluto had been leap-frogged. At this time Captain Hutchings made the point that with only three Hais lines in action, the 21st Army asked for a reduction in supplies, as they were unable to cope with the full flow. This was due to difficulties in laying the long pipelines on shore to the forward areas, much of the terrain having been heavily bombarded. By the end of November 1944 the shore pipelines had been extended from Boulogne, through Calais to Ghent, where it was joined by a line from Ostend, on to Antwerp and as far as Eindhoven in Holland, only some 45 miles from the Rhine. Fuel imports at Antwerp were averaging 5,000 tons a day, so that, with supplies coming through Boulogne and Ostend, the original maximum requirement of fuel of 7,000 tons a day was being more than satisfied. American supplies were still coming in through Cherbourg and Le Havre, the American pipeline south of Paris extending eventually to Frankfurt. At the end of December 1944 the Pluto Dumbo lines were averaging 1,300 tons a day.

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The only casualty reported by Force Pluto as due enemy action occurred on 20 October 1944 when a mine ploded under the bow of the tug Danube V when weighing anchor off Boulogne. This parted the anchor cable and injured an officer and two ratings. There appears to have been no major damage to the tug. When one considers the number of craft and men employed in Pluto and the time they spent in the Channel and off the beaches it is astonishing that the whole force escaped virtually unscathed. Captain Hutchings, who was a religious man, made it quite clear that he considered this an act of grace.