Neutral Citation Number: [2014] EWHC 1028 (TCC)

Case No: HT-11-63

**IN THE HIGH COURT OF JUSTICE**
**QUEEN'S BENCH DIVISION**
**TECHNOLOGY AND CONSTRUCTION COURT**

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 16th April 2014

**Before**:

**MR JUSTICE AKENHEAD**

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**Between:**

| | |
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| **OBRASCON HUARTE LAIN SA** | **Claimant** |
| **- and -** | |
| **HER MAJESTY'S ATTORNEY GENERAL FOR GIBRALTAR** | **Defendant** |

**Andrew White QC and Andrew Fenn** (instructed by **Pinsent Mason LLP**) for the **Claimant**
**Nicholas Dennys QC, Fiona Parkin QC and Simon Crawshaw** (instructed **by Corbett & Co. International Construction Lawyers Ltd and Triay Stagnetto Neish**) for the **Defendant**

Hearing dates: 11-14, 18-21 and 25-28 November and 2-5 and 16-19 December 2013 and 23 January 2014

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# JUDGMENT

**Mr. Justice Akenhead:**

## Introduction

1. These proceedings are brought by Obrascon Huarte Lain SA ("OHL"), a substantial Spanish civil engineering contractor, against the Government of Gibraltar ("GOG"), in relation to a contract for the design and construction of a road and tunnel under the eastern end of the runway of Gibraltar Airport. Unfortunately, after over 2½ years of work on the 2 year project and when little more than 25% of the work had been done, the contract was terminated. Issues arise as to who was legally and factually responsible and at risk for the state of affairs which led to the termination of the contractual relationship.

2. Although the overriding issue revolves around the termination and whose actions were or were not justified in relation thereto, the main underlying issue revolves around whether the extent and amount of contaminated materials in the ground to be excavated were or were not reasonably foreseeable by an experienced contractor at the time of tender; if not so foreseeable, that would not be OHL's risk. OHL's case is that the amount and location of contaminated materials was such that it had to re-design the work particularly in the tunnel area which it did after the original contract period had expired. Such re-design having been approved, it is OHL's case that it was ready, willing and able to proceed with the work but it was unable to proceed with the works due to various obstacles put in its way by GOG when GOG purported to terminate the contract.

3. This judgment is set out under the following heads:

**The Contract and Its Background**

4. Gibraltar sits on the southern end of Spain albeit to the western end of Spain's south coast. The famous and geographically striking 400 metre high Rock is joined to the mainland by a relatively narrow isthmus. It comprises about 640 hectares and is about three-quarters of a mile wide at most on the east-west axis. Much of the building is to the south and west of the Rock, although much of Gibraltar is built upon. Just south of the Spanish town of La Linea and on the flat part of the isthmus sits Gibraltar Airport. For many years, and indeed as it has turned out still, there runs Winston Churchill Avenue from the Spanish border due south and it runs over the Airport runway so that the road needs to be closed when there are aircraft movements on the runway, causing congestion to both the north and south of the runaway. Some 6,000 road vehicles and 7,000 pedestrians used it every day. By about 2005, GOG had decided to resolve this problem by running a new dual carriageway road eastwards along the edge of the runway on both the north and south sides and at the eastern end to construct a twin bore tunnel (to carry the traffic) which was to be under the end of the runway at that location. The proposed road and the tunnel was to be located relatively close to the eastern coast line much of which comprised a sandy beach (the "Eastern Beach") which was popular with the public particularly in the summertime. At the same time, GOG intended to provide extensive new airport facilities including a new terminal building.

5. Gibraltar was ceded to the United Kingdom in 1713 by the Treaty of Utrecht and since then has been continually occupied by it and the local population. It was besieged and bombarded in a number of campaigns by Spain in the 18th century, particularly in the 1780s and then during the Napoleonic wars. It became a strategically important military and naval base in the 18th and 19th centuries and later a base for the RAF which used the runway for its military purposes. It was attacked and bombed by Vichy French, Italian and German armed forces in the Second World War. Happily, it has not had to face military attack since that time. Its population is now about 30,000, albeit it has numerous visitors, partly due to its financial standing and partly due to the convenience of its location as a starting-off point for holidaymakers to Spain. Given its historical legacy, particularly with its historical and continuing military and RAF connections and the use of the now expanded international Airport, the area around the Airport and its runway have been used relatively intensely for a considerable period of time.

6. In 2006, GOG retained engineers, Gifford Ltd ("Gifford"), to investigate the options and with their assistance decided on the route of the new dual carriageway and tunnel; this became known as the "Frontier Access" road and tunnel. Gifford are well known engineers and had a close connection with Gibraltar. In 2006, GOG also retained Gibraltar Land Reclamation Company Ltd ("GLRC") as project manager for the project. GLRC had been and was retained on a significant number of GOG projects over the preceding years. After producing an "Outline

Feasibility Study" for the project in October 2006, Gifford completed a contaminated land desk study in April 2007 which set out environmental and historical information about the site of the proposed works. Gifford's formal retainer from GOG was signed in February 2007. In July 2007, following a site investigation, including 28 boreholes, sampling and testing, a Soil Investigation Factual Report was produced by a Spanish company called Sergeyco; this report covered an area which encompassed the areas proposed for the new dual carriageway and tunnel as well as for the new terminal buildings. Gifford was also retained at this time to produce what later became known as the "Illustrative Design" which was to be available to tenderers, albeit that the successful tenderer was to be responsible for the design whether it selected the "Illustrative Design" or its own design. Gifford produced various general arrangement drawings, plans and profiles which comprised the Illustrative Design. By the time that contractors were invited to tender, GOG had decided upon the site and route for the proposed dual carriageway and the tunnel.

7. In November 2007, GOG issued an invitation to tender to a number of potential tenderers for the design and construction of the proposed works. These tenderers included OHL. At about this time, an "Environmental Statement" ("ES") had been prepared for GOG in relation to the proposed works as well as all the new airport terminal work; this was prepared by a company called Environmental Gain Ltd ("Engain") and was prepared in connection with the planning application for the airport, road and tunnel works; Gifford contributed towards the "Land Contamination" part of the ES. This was to be incorporated in the Contract between the parties. The ES amongst other things provided information about the site and its surroundings as well as dealing with the likely significant environmental effects of the works proposed and providing advice on mitigation measures. The ES was forwarded to the tenderers by way of Tender Addendum No. 2 on 21 Dec 2007. GOG also issued Tender Bulletin Number 1 at about this time which sought to reply to queries raised by various tenderers, materially as follows:

> "Q1.7 - Could you tell us where the landfill is to tip the products from the tunnel excavation and demolitions? If there is none, could you tell us where there are possible storage areas for later use and the additional cost of this storage?
>
> A1.7 - Disposal of material is the Contractor's responsibility under the contract and no off-site storage areas have been identified."

8. Tenders were received on 14 March 2008 with OHL being the lowest by some £8m at £26,533,400.95 and Ferrovial Agoman next at £34,865,232. By letter dated 25 April 2009 GOG asked the tenderers to price certain additional works, including the construction of a new Fuel Farm and Simple Approach Lighting System ("SALS") for the Airport. On 27 June 2008, GOG raised with OHL various questions for clarification of its tender, including requesting an

explanation of "how your submission addresses protection of the aquifers, particularly during construction of the embedded walls". OHL replied in July 2008: "Our embedded walls do not reach the lower aquifer and there is no risk of contamination of the potable water…OHL guarantees that the potable water will not be contaminated in any way". This was subsequently incorporated into the Contract at Annex 10.

9. Although OHL submitted the lowest tender, Gifford had reservations about this tender, in particular its programming proposals (said to be very short) and its geotechnical parameters (said to be very optimistic). At first, GOG accepted the tender of another contractor, Ferrovial, but it declined to proceed. Following further discussions with and clarifications from OHL, GOG accepted OHL's revised tender by letter dated 20 October 2008.

10. The Contract between the parties was formally signed on 21 November 2008. It set out what documents were to "be deemed to form and be read and construed as part of this Agreement" in a given order of priority, namely the Letter of Acceptance (20 October 2008), the Letter of Tender (29 September 2008), various Addenda, the Conditions of Contract, the Employer's Requirements and the Contractor's Proposals. The Contract Agreement contained OHL's express covenant "to design, execute and complete that Work and remedy any defects therein in conformity with the provisions of the Contract" with the concomitant covenant from GOG to pay the Contract Price as prescribed by the Contract. The Contract price was £30,231,068.36, as confirmed in the Letter of Tender. Attached to that Letter was the completed Appendix to Tender which identified that the time for completion of the Works was 24 months, Gibraltar Law was to be the Governing Law and Delay Damages were to be at the rate of £5,000 per day. It is common ground that the Commencement Date was 1 December 2008 and the Time to Completion was 24 months. Thus OHL was, subject to any extension of time, due to complete the Works by 30 November 2010.

**The Contract Terms**

11. Subject to some relatively minor changes, the General Conditions of Contract were those contained in the FIDIC Conditions of Contract for Plant and Design-build (amongst other things) for building and engineering works designed by the Contractor 1st Edition 1999, sometimes known as the FIDIC Yellow Book. Relevant definitions in Clause 1 were:

> "1.1.3.1 "Base Date" means the date 28 days prior to the latest date for submission of the Tender.
> 1.1.3.2 "Commencement Date" means the date notified under Sub-Clause 8.1.
> 1.1.3.3 "Time to Completion" means the time for completing the Works…as stated in the Appendix to Tender (with any extension under Sub-Clause 8.4…), calculated on the Commencement Date…

1.1.5.8 "Works" means the Permanent Works and Temporary Works, or either of them as appropriate…
1.1.6.1 "Contractor's Documents means the calculations, computer programs and other software, drawings, manuals, models and other documents of a technical nature (if any) supplied by the Contractor under the Contract as described in Sub-Clause 5.2…
1.1.6.5 "Laws" means all national (or state) legislation, statutes, ordinances and other laws, and regulations and finals of any legally constituted public authority.
1.1.6.7 "Site" means the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and any other places as may be specified in the Contract as forming part of the Site.
1.1.6.8 "Unforeseeable" means not reasonably foreseeable by an experienced contractor by the date of submission of the Tender."

12. Clause 1.3 stated:

"Wherever these Conditions provide for the giving or issuing of consents, determinations, notices and requests, these communications shall be:

(a) in writing and delivered by hand (HSE), sent by mail or courier, or transmitted using any of the agreed systems of electronic transmission as stated in the Appendix to tender; and
(b) delivered, sent or transmitted to the address of the recipient's communications as stated in the Appendix A…

Approvals, consents and determinations shall not be unreasonably withheld or delayed…"

The address given in the Appendix to Tender was OHL's office in Madrid at Paseo de La Castellana. Clause 1.13 required OHL to comply with "Applicable Laws" and to "obtain all permits, licenses and approvals, as required by the Laws in relation to the design, execution and completion of the Works".

13. Clause 4 covered a number of important areas of risk and responsibility on the part of OHL:

"4.1 The Contractor shall design, execute and complete the Works in accordance with the Contract, and shall remedy any defects in the Works. When completed, the Works on every element thereof shall be fit for the purposes for which the Works on every element thereof are intended.

The Contractor shall provide the Plant and Contractor's Documents specified in the Contract and Contractor's Personnel, Goods, consumables and other things and services, whether of a temporary or permanent

nature, required in all this design, execution, completion and remedying of defects.

The Works shall include any work which is necessary to satisfy the Employer's Requirements, Contractor's Proposal and Schedules, or is implied by the Contract, and all works which (although not mentioned in the Contract) are necessary for stability over the completion, or safe and proper operation, of the Works.

The Contractor shall be responsible for the adequacy, stability and safety of all Site operations, of all methods of construction and of all the Works.

The Contractor shall, whenever required at the Engineer, submit details of the arrangements and methods which the Contractor proposes to adopt the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Engineer…

4.10 The Employer shall have made available to the Contractor for his information, prior to the Base Date, all relevant data in the Employer's possession on sub-surface and hydrological conditions at the Site, including environmental aspects. The Employer shall similarly make available to the Contractor all such data which come into the Employer's possession after the Base Date. The Contractor shall be responsible for interpreting all such data.

To the extent which was practicable (taking account of cost and time), the Contractor shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the Tender or Works. To the same extent, the Contractor shall be deemed to have inspected and examined the Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):

(a) the form and nature of the Site including sub-surface conditions,
(b) the hydrological and climatic conditions,
(c) the extent and nature of the work and Goods necessary for the of the Works and the remedying of any defects,
(d) the Laws, procedures and labour practices of the Country, and
(e) the Contractor's requirements for access, accommodation, facilities, personnel, power, transport, water and other services.

4.11 The Contractor shall be deemed to:

(a) have satisfied himself as to the correctness and sufficiency of the Accepted Contract Amount, and
(b) have based the Accepted Contract Amount on the data, interpretations, necessary information, inspections, examinations and satisfaction as to all relevant matters referred to in Sub-Clause 4.10 [Site Data] and any further data relevant to the Contractor's design.

Unless otherwise stated in the Contract, the Accepted Contract Amount covers all the Contractor's obligations under the Contract (including those under Provisional Sums, if any) and all things necessary for the proper design of the Works and the remedying of defects.

4.12 In this Sub-clause "physical conditions" means natural physical conditions and man-made and other physical obstructions and pollutants which the Contractor encounters at the Site when executing the Works, including sub-surface and hydrological conditions but excluding climatic conditions.

If the Contractor encounters adverse physical conditions which he considers to have been Unforeseeable the Contractor shall give notice to the Engineer as soon as practicable.

This notice shall describe the physical conditions, so that they can be inspected by the Engineer and shall set out the reasons why the Contractor considers them to be Unforeseeable. The Contractor shall continue executing the Works using such proper and reasonable measures as are appropriate for the physical conditions and shall comply with any instructions which the Engineer may give. If an instruction constitutes a Variation, Clause 13…shall apply.

If and to the extent that the Contractor encounters physical conditions which are Unforeseeable, gives such a notice and suffers delay and/or incurs Cost due to these conditions, the Contractor shall be entitled subject to Sub-Clause 20.1 [Contractor's Claims] to:

(a) an extension of time for any such delay, if completion is or will be delayed under Sub clause 8.4 and;

(b) payment of any such Cost which shall be included in the Contract Price.

After receiving such notice and inspecting and/or investigating these physical conditions, the Engineer shall proceed in accordance with Sub-Clause 3.5 [Determinations] to agree or determine (i) whether and (if so) to what extent these physical conditions were Unforeseeable and (ii) the

matters described in sub-paragraph (a) and (b) above related to this extent…

The Engineer may take account of any evidence of the physical conditions foreseen by the Contractor when submitting the Tender which may be made available by the Contractor but shall not be bound by any such evidence.

4.13 The Contractor shall bear all costs and charges for special and/or temporary rights-of-way which he may require, including those for access to the Site. The Contractor shall also obtain, at his risk and cost, any additional facilities outside the Site which he may require for the purposes of the Works.

4.15. The Contractor shall be deemed to have satisfied itself as to the suitability and availability of access routes to the Site…

4.18 The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage…to people and property resulting from pollution, noise and other results of his operations.

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Employer's Requirements and shall not exceed the values prescribed by the applicable Laws.

4.23 The Contractor shall confine his operations to the Site and to any additional areas which may be obtained by the Contractor and agreed by the Engineer as working areas. …

During the execution of the Works the Contractor shall keep the Site free from all unnecessary obstruction, and shall store or dispose of…any Contractor's Equipment or surplus materials. The Contractor shall clear away and remove from the Site any wreckage, rubbish and Temporary Works which are no longer required."

14. Clause 5 of the Conditions addressed OHL's design obligations:

"5.1 The Contractor shall carry out, and be responsible for, the design of the Works…

The Contractor shall be responsible for the design of the Works. The Contractor shall take responsibility for the Employer's Requirements as if they were Contractor's Documents. The Contractor is deemed to have checked that the Employer's Requirements are free of errors, omissions and inaccuracies and will have no claim in respect of anything contained

in the Employer's Requirements. Any data or information received by the Contractor, whether from the Employer or otherwise shall not relieve the Contractor from the responsibility for the design and execution of the Works…

5.4 The design, the Contractor's Documents, the execution and the completed Works shall comply with the Country's technical standards, building, construction and environmental Laws…and other standards specified in the Employer's Requirements, applicable to the Works, or defined by the applicable Laws…

If changed or new applicable standards come into force in the Country after the Base Date, the Contractor shall give notice to the Engineer and (if appropriate) shall submit proposals for compliance. In the event that:

(a) the Engineer determines that compliance is required, and

(b) the proposals for compliance constitute a variation,

then the Engineer shall initiate a Variation in accordance with Clause 13…

15. Clause 8 addressed progress and delays:

"8.1 The Engineer shall give the Contractor not less than 7 days' notice of the Commencement Date. Unless otherwise stated in the Particular Conditions, the Commencement Date shall be within 42 days after the Contractor receives the Letter of Acceptance.

The Contractor shall commence the design and execution of the Works as soon as is reasonably practicable after the Commencement Date, and shall then proceed with the Works with due expedition and without delay.

8.2 The Contractor shall complete the whole of the Works…within the Time for Completion for the Works…

8.3 The Contractor shall submit a detailed time programme to the Engineer within 28 days after receiving the notice under Sub-Clause 8.1…The Contractor shall submit a revised programme whenever the previous programme is inconsistent with actual progress or with the Contractor's obligations…

8.4 The Contractor shall be entitled subject to Sub-Clause 20.1…to an extension of the Time for Completion if and to the extent that completion for the purposes of Sub-Clause 10.1…is or will be delayed by any of the following causes:

(a) a Variation…

(b) a cause of delay giving an entitlement to extension of time under a Sub-Clause of these Conditions,

(c) exceptionally adverse climatic conditions…

(e) any delay, impediment or prevention caused by or attributable to the Employer, the Employer's Personnel, or the Employer's other contractors on the Site.

If the Contractor considers himself to be entitled to an extension of the Time for Completion, the Contractor shall give notice to the Engineer in accordance with Sub-Clause 20.1…When determining each extension of time under Sub-Clause 20.1, the Engineer shall review previous determinations and may increase, but shall not decrease, the total extension of time.

8.7 If the Contractor fails to comply with Sub-Clause 8.2…the Contractor shall subject to Sub-Clause 2.5 pay delay damages to the Employer for this default. These delay damages shall be the sum stated in the Appendix to Tender, which shall be paid for every day which shall elapse between the relevant Time for Completion and the Date stated in the Taking-Over Certificate…"

16. Clause 15 is of importance in this case addressing as it does termination:

"15.1 If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time."

15.2 The Employer shall be entitled to terminate the Contract if the Contractor:

(a) fails to comply with Sub-Clause 4.2 [Performance Security] or with a notice under Sub-Clause 15.1…

(b) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract,

(c) without reasonable excuse fails:

(i) to proceed with the Works in accordance with Clause 8…or;

(ii) to comply with a notice issued under Sub-Clause 7.5…or Sub-Clause 7.6…within 28 days after receiving it;

…
In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from Site. However in the case of subparagraph (e) or (f), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer under the Contract or otherwise.

The Contractor shall then leave Site and deliver any required Goods, all Contractor's Documents and other design documents made by or for him to the Engineer. However the Contractor shall use his best efforts to comply immediately with any reasonable instructions included in the notice (i) for the assignment of any subcontract and (ii) for the protection of life or property or for the safety of the Works.

After termination, the Employer may complete the Works and/or arrange for any other entities to do so. The Employer and these entities may then use any Goods, Contractors Documents and other design documents made by or on behalf of the Contractor."

17. Finally, Clause 20.1 which addresses claims and dispute resolution is material:

> "20.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.
>
> If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply…"

18. The Appendix to the Tender identified that the Time for Completion of the Works was 24 months (subject to any entitlement to extension of time), the Governing Law was the Law of Gibraltar and that Delay Damages were £5,000 per day.

19. The Employer's Requirements comprised extensive documentation and included the Site Investigation Report and the Environmental Report. Volume 3 were "General Requirements":

> "Part 1

1. The Works include the design and construction of a new dual carriageway connecting a point south of the existing commercial gate to a new roundabout on Devil's Tower Road. The scheme includes a tunnel to carry vehicles under the Gibraltar Airport runway, a subway to carry pedestrians and cyclists under the runway, approach ramps to the tunnel and two footbridges to accommodate a new pedestrian/cyclist route together with all associated mechanical and electrical installations drainage, street lighting, signing and connections to and adjustment of existing infrastructure…

7. The Contractor may adopt or modify the Illustrative Design to suit his own proposals, but must satisfy himself that any such proposals meet the Contract requirements. No guarantee is given as to the accuracy or completeness of the Illustrative Design. The Contractor must accept full ownership of, responsibility for and liability for his design solution whether or not he adopts or varies the Illustrative Design provided.

8. Contractor's Documents to be submitted for review in accordance with the Contract shall include, without limitation, the following:
a. Approval in Principle (AIP) forms…

9. The Contractor shall submit the Contractor's Documents…for review. No data shall be submitted without the relevant Certificate in accordance with the Review and Certification Procedure…

A minimum of 21 days, from receipt of hard copies, shall be allowed in the Programme for the Engineer to review each submission. The period given in Volume 3 Part 2 shall be allowed for Approved in Principle submissions…

11. The Engineer shall return one copy of each Certificate to the Contractor endorsed as appropriate and with any relevant comments attached:-

a. "Accepted" means that the Contractor may proceed with the relevant work.

b. "Accepted with comments" means that minor comments need to be incorporated. The Contractor shall revise the submission and resubmit to the Engineer with the relevant Certificate, but may then proceed with the relevant work as if the certificate were "Accepted".

c. "Returned not accepted" means that the submission fails (to the extent stated) to comply with the Contract. The Contractor shall revise the submission and resubmit to the Engineer with the relevant Certificate. A new review period shall commence on receipt of the resubmission…

Part 2

3.1 …An Environmental Statement (ES) has been produced for the project. The ES provides an assessment of the potential effects of the project upon the environment, and recommends mitigation measures that shall be incorporated in to the Works. The Contractor shall use the ES in conjunction with the information provided in Volume 6 to guide the design development and to prepare a site specific Construction Environmental Management Plan ("CEMP") for the construction activities…

3.5. The history of the site and the investigations carried out to date show that there is the potential for contaminated land and unexploded ordinance. The Contractor shall take precautions to manage these hazards, including without limitation the following measures:-

- The Contractor shall conduct detailed contamination testing where required;
- Personal Protection Equipment shall be used in areas identified with contamination…
- Measures shall be taken to prevent accidental chemical releases, e.g. bunding, spill clean-up methods and covering of spoil;
- Contaminated material to be removed off-site shall be disposed of to a licensed site…

3.12. The Contractor shall adopt good working practice to limit the risk of pollution to receiving waters, including groundwater (particularly the protected aquifer resource) and marine waters.

Where there may be excavation into the groundwater (i.e. the aquifers) the Contractor shall agree monitoring and mitigation to protect potential effects to the resource, as far as practicable, with the Engineer and appropriate regulatory authority.

Where dewatering is required the Contractor shall agree a recharge management plan with the Engineer and regulatory authorities (including AquaGib) to protect the groundwater aquifer resource…"

20. Volume 4 comprised the Specification:

"41.1.1 The Contractor shall be responsible for the testing for classification and assessment of acceptability of earthworks materials prior to excavation and import, leading to his making of decisions regarding methods and manner of excavation, deposition and compaction.

> 41.1.5 All disposal of material off-site shall be undertaken by the Contractor in accordance with the requirements of the relevant Waste Management Licensing Regulations.
>
> 41.2.1 The Contractor shall propose a system to control the flow of groundwater into any excavations made during the course of the Works. Groundwater control is necessary to maintain the stability of excavations…provide a safe working environment…
>
> 41.2.3 The site is located upon aquifers which are used for local water supply via pumped wells; the quality and quantity of this water shall not be affected by the groundwater control system. Water collected by a groundwater control system shall be disposed of via sewer or other location as agreed with the Environmental Agency and AquaGib."

Part 3 required the Contractor to provide a number of material and workmanship specifications, including one relating to "Hazardous Materials".

21. Appendix 2 of Volume 6 of the Employer's Requirements was the Sergeyco Report dated 27 July 2007. The Environmental Statement was contained in Appendix 3 of the Employer's Requirements. Appendix 4 contained a "Pre-tender Health & Safety Plan" prepared by Parsons Brinckerhoff Ltd which contained a non-exhaustive list of Health and Safety legislation which was specifically applicable; it required the selected contractor to prepare "a suitable construction health and safety plan", emphasising that the "management of health, safety, welfare and environmental risks [was] critical to the success of the construction phase of the project" and stating that it was "likely that a confined space in the tunnel environment [would exist]" so that the Contractor would have to "develop a safe system of working in accordance with known Health and Safety legislation". Appendix 6 contained Gifford's Contaminated Land Desk Study, which contained amongst other things references to the history of the site. This judgment will refer in more detail to these documents when it comes to consider the foreseeability of the conditions actually encountered.

22. The Contractor's Proposals incorporated in the Contract provided amongst other things "Design Proposals for Structures" which included in relation to the tunnel, although the English is imperfect, a proposal that the construction of "embedded walls" would be followed by the casting of the suspended slab roof on top of the adjusted embedded walls and followed at a later stage by excavation of the earth under the roof. Paragraph 9.2 stated:

> "…OHL propose an additional geotechnical investigation in order to check the [works] done for improving geotechnical data are available for geotechnical design. Although several data are available from geotechnical site investigations, some more information should be obtained in order to ensure the best design for the tunnel.

> The scope of the new site investigation is filling the gaps in the original investigation by doing some new tests that help us to understand the geotechnical behaviour of the existing soil. Due to the nature of the soil, sampling is really difficult so in situ testing is the best way of obtaining the necessary data…
>
> Some new borehole should be done in the tunnel area for assessing the tunnel design. Once [these] borehole had been done, laboratory testing could be realised…
>
> As the water level is one of the main points of the work, as [much] information about water level as possible is desired. In all the new boreholes, piezometric pipes at different depths are to be installed in order to study upper and lower water table variation."

Paragraph 9.3 relating to "removal of spoil":

> "The documentation received no information on the waste dumps sign for this construction by the Property. This is important information needed to plan the demolition and to obtain the specific authorisations, in previous arrangements, since it is among the first phases of the construction."

Paragraph 11 contained "Environmental Management Proposals" and the undertaking to prepare a site-specific Construction Environmental Management Plan ("CEMP") which would be used "as a tool for ensuring that all commitments made in the ES are identified and implemented during construction" and it was recognised that this would need to be updated as the project developed.

23. There was within the Contractor's Proposal some "Clarification Correspondence" which amongst other things identified the following, in relation to answers to clarification questions from the GOG team:

> (a) OHL had programmed eight months for the design phase and 16 months for the works phase of the project;
>
> (b) OHL had determined geotechnical design parameters for the proposed depth of the embedded walls "primarily from the SPT tests" (2 July 2008).
>
> (c) OHL intended "to carry out a full geotechnical study, in order to verify the design parameters. This study, moreover, must also include a detailed hydrogeological study." OHL also said that it would "take quality control measures with respect to the water of the aquifers and not wait until subsequent pollution occurs on account of the construction work."

**Issues**

24. The Court endorsed the parties' agreement as to issues and this is reflected in the Consent Order dated 26 June 2012:

> "The trial shall be split with matters of liability relevant to termination tried first and if necessary, all other matters (including quantum) to be tried subsequently…"

This was amplified by the Consent Order of 29 November 2012:

> "1 (a) Which of the parties (Claimant or Defendant) lawfully terminated the Contract and on what date did that termination occur?
>
> (b) What are the correct principles to be applied to the quantification of each party's loss as a consequence of termination?
>
> 2. In respect of the question in paragraph 1(b) above, the purpose is to examine the bases each party has pleaded for quantifying its claims for termination and determine which of those bases are correct. It is not intended to include an examination of the actual quantification itself or any matters regarding betterment, mitigation or any other factors that may limit or reduce the quantum of any damages payable."

The parties were required to produce "a list of sub-issues which are central to the determination of [these] two questions"

25. This the parties did and those issues are:

> "1. Which of the parties (Claimant or Defendant) lawfully terminated the Contract and on what date did that termination occur?
>
> a) Whether, as at 28 July 2011 the Defendant was entitled to serve a notice of termination pursuant to sub-clause 15.2(a) of the Conditions by reason of the Claimant's failure to remedy the defaults notified in the Notices to Correct issued by the Engineer on 16 May 2011 and/or 5 July 2011.
>
> The 16 May 2011 Notice:
>
> (i) As at 16 May 2011, was the Engineer entitled to issue the Notice to Correct in each of the 9 respects particularised in that Notice (suspension of excavation works on 20 December 2011; suspension of work to cut and repair diaphragm walls; failure to commence temporary sheet piling works; failure to commence the underwater trenching & ducting for the Western SALS works; failure to provide acceptable details of methods which OHL proposed with the dewatering of the Site with due expedition

and without delay; failures in relation to the submission of programmes; failures to submit design check certificates)?

(ii) Were the times specified for the remedying of the defaults by the Engineer reasonable?

(iii) As at 28 July 2011, was the Defendant entitled to rely on the matters set out in the Engineer's 16 May 2011 Notice or had the failures there set out been overtaken by events or otherwise remedied? In particular, did the Defendant's actions on 1 June 2011 prevent the Claimant from remedying its defaults?

The 5 July 2011 Notice

(iv) Was the Engineer entitled to issue Instruction No 20 dated 16 June 2011 in the terms set out therein and/or was he entitled to instruct that the relevant works be carried out within the period specified by him?

(v) Was the Claimant in default in the manner set out by the Engineer in its 5 July 2011 Notice (namely that the Claimant had failed to comply with the Engineer's Instruction No 20 dated 16 June 2011)?

(vi) Was the time specified for the remedying of the defect in the Engineer's 5 July 2011 clause 15.1 Notice unreasonable?

(b) Whether, as at 28 July 2011, the Defendant was entitled to serve a notice of termination pursuant to sub-clause 15.2(b) of the Conditions because the Claimant had plainly demonstrated an intention not to continue with the performance of its obligations under the Contract by reason of:

(i) its conduct throughout the duration of the Contract and in particular in the period since mid-December 2010, alternatively;

(ii) its failure to comply with the matters set out in the Notices to Correct issued by the Engineer and dated 16 May 2011 and 5 July 2011, alternatively;

(iii) its failure (without reasonable excuse) to proceed with the Works in accordance with clause 8 of the Conditions.

c) Did any entitlement which the Claimant might have had as at 28 July 2011 to an extension of time for the Completion of the Works mean that the Defendant was no longer entitled to serve a notice of termination pursuant to clause 15.2(b) of the Conditions?

d) Whether, as at 28 July 2011, the Defendant was entitled to serve a notice of termination pursuant to sub-clause 15.2(c)(i) of the Conditions?

(i) Had the Claimant failed to proceed with the Works with due expedition and without delay?

(ii) If and insofar as the Claimant had also failed to commence the design and execution of the Works as soon as was reasonably practicable after the Commencement Date for the Works, alternatively failed to complete the whole of the Works within the time for Completion of the same, do such failings also give rise to an entitlement on the part of the Defendant to terminate the Works pursuant to clause 15.2(c)(i) of the conditions?

(iii) If the answer to issues (d)(i) and/or (i) above is "yes"; did the Claimant have a "reasonable excuse" for such failure(s) by reason of:

-the Defendant's alleged breach of an agreement concluded between the parties in early July 2010 concerning interim arrangements for responsibility for the cost of disposal of excavated material ("the Stockpile Agreement");

-the Engineer's withdrawal of an instruction to place excavated material on the Designated Area;

-the facts and matters said by the Claimant to have given rise to the need for the tunnel redesign;

-groundwater contamination and the commissioning of a dewatering plant, or;

-the Engineer's instruction dated 29 June 2011 to stop dewatering.

e) Whether the Defendant's notice of termination dated 28 July 2011 ("the Notice of Termination") was a valid and effective notice pursuant to clause 15.2 of the Conditions because it was not served at the address for service of the Claimant as stated in the Appendix to Tender, but having been served at the Claimant's site office address.

f) If the answers to issue (e) is "yes" and the answer to issues (a) or (d) is "yes" or the answer to issues (e) and (b) are "yes" and the answer to (c) is "no" whether the Contract was lawfully terminated by the Defendant on 20 August 2011 pursuant to clause 15.2 of the conditions.

g) If the answers to issue (e) is "yes" and the answer to issues (a) or (d) is "yes" or the answer to issues (e) and )b) are "yes" and the answer to (c) is "no":

(i) Whether the service of the Notice of Termination on the Claimant's site office address amounted to a repudiation of the Contract by the Defendant, which the Claimant was entitled to elect to accept on 3 August 2011 such that the Contract was terminated on that date.

(ii) Whether the terms of the Claimant's letter dated 3 August 2011 constituted a repudiatory breach of contract on the Claimant's part, which the Defendant accepted on 20 August 2011 such that the Contract was terminated on that date.

(iii) Whether the Defendant's re-delivery of its Notice of Termination via courier on 4 August 2011 to the Claimant's offices in Madrid (being the address for service to the Claimant stated in the Appendix to Tender) constituted effective service of a clause 15.2 notice and thereby entitled the Defendant to terminate the Contract pursuant to clause 15.2 of the Conditions 14 days thereafter.

(iv) Whether the Defendant was nevertheless entitled to terminate the Contract on 20 August 2011 by electing to accept the Claimant's repudiatory conduct as detailed in the Notice to Terminate and, if it was so entitled, whether the Defendant elected to accept the Claimant's repudiatory breach.

h) Further or alternatively, if the answers to (a) and (b) and (d) above are "no" or the answer to (c) is "yes"; did the service of the Notice of Termination in the terms that it was written amount to a repudiation of the contract (or an anticipated repudiation) by the Defendant which the Claimant accepted on 3 August 2011 such that the Contract was terminated on that date?

i) Alternatively, whether the Claimant's conduct in the period between 3 August 2011 and 12 August 2011 when it left the Site evinced an intention no longer to be bound by the terms of the Contract and thereby amounted to a repudiatory breach of Contract which the Defendant accepted by its letter dated 20 August 2011?

2. What are the correct principles to be applied to the quantification of each party's loss as a consequence of termination?

a) If the Claimant lawfully terminated the Contract:

(i) in respect of the works completed to the date of termination, whether the Claimant is entitled to recover on the basis of an assessment under the terms of the Contract or, alternatively, on the principles of quantum meruit?

(ii) In addition to the Claimant's entitlement to payment in respect of the work carried out up to the date of the termination, is the Claimant entitled to recover damages in respect of its loss of profit for the works not carried out following termination?

(iii) Whether the claimant is entitled to recover interest on its claims for payment for work completed to the date of termination at a rate of 7.5% per annum pursuant to the Late Payment of Commercial Debts (Interest) Act or at the Contract rate of 3.5%?

(iv) Whether the Claimant is entitled to recover interest on its claims for damages at a rate of 7.5% per annum pursuant to the Late Payment of Commercial Debts (Interest) Act or at the Contract rate of 3.5%?

(b) If the Defendant lawfully terminated the Contract:

(i) Whether the Defendant is entitled to proceed in accordance with the regime provided for by clauses 15.3 and 15.4 of the Conditions and to recover from the Claimant any losses and damages incurred by it and any extra costs of completing the Works.

(ii) Whether the Defendant is in principle entitled to recover as loss and damage which it has suffered by reason of its acceptance of the Claimant's repudiatory breach of Contract any extra costs which the Defendant incurs in completing the Works which would not have been incurred by it but for the Claimant's breaches of contract.

(iii) Is the Defendant entitled to recover interest on the sums found to be due and, if so, at what rate?

I will address these issues throughout the judgment and answer them in simple terms at the end.

**The Witnesses**

26. So far as factual witnesses are concerned, OHL called seven witnesses all of whom only became involved after the Contract was let. There was, surprisingly, no evidence from witnesses or documentary evidence from OHL as to what those then involved with the tendering process for OHL actually foresaw; it is surprising because so much of the dispute between the parties relates to what was or was not "reasonably foreseeable by an experienced contractor by the date of

submission of the Tender" (Clauses 1.1.6.8 and 4.12). The consequence must be that the Court can not and does not infer that OHL itself did not in fact prior to the Contract foresee the adverse physical conditions actually encountered. However, that probably in itself does not prevent a Clause 4.12 claim from being established.

27. In setting out my assessment of the witnesses, in particular of the OHL witnesses, I do take into account the fact that English is not their mother tongue and indeed a number of them had an interpreter. I also take into account some misgivings which I had about the quality of the interpretation: one interpreter had to be replaced as she was obviously finding it difficult to follow the technical questioning and some of the answers; the second was better but she candidly accepted that her grasp of technical terms was somewhat limited. No objections were taken by the parties to the interpreters continuing.

28. I found the evidence of all the factual witnesses called by OHL who addressed the content and procurement of the Himalaya reports in late 2010 and the reasons for the decision by OHL to suspend work in late December 2010 particularly unconvincing. The reasons are referred to elsewhere in the judgment but in summary are:

> (a) The key witnesses, Mr Alcazar of OHL and Mr Mojon of Himalaya were peculiarly unconvincing in their oral evidence; Mr Doncel and Mr Hernandez were similarly unconvincing in relation to this part of the history.
>
> (b) There was a dearth of documentation disclosed by OHL on the way in which the (minimum four) draft November and December 2010 reports came into their final forms.
>
> (c) The quality of those reports was so poor and so facile that I could have no confidence that any professional involved in their preparation (including Mr Mojon and Mr Alcazar) had truly embarked on an independent and proper exercise. It was not just the form of the reports but the content which was exceptionally poor. The briefing of Mr Mojon was almost non-existent.
>
> (d) I had the very distinct impression that OHL had an agenda in the engagement of Himalaya which was to provide some fairly instant albeit superficial justification for a planned suspension of the work. If it was open and above board, there would and could have been no real justification in failing to provide Himalaya with a proper brief and at least some “paper trail”; there was on the disclosure little or none.
>
> (e) A significant reason for my scepticism about the Himalaya exercise was the fact that the sampling information on which the Himalaya report

was supposedly based had been in OHL's possession for some 3-6 months; if OHL with its considerable experience and in-house expertise had had any regard to it and more particularly any real concern for the health and safety of its workers and other visitors to the site about the contamination revealed in these earlier studies, it would not have waited for so long before instigating the Himalaya exercise. Similarly, it would not have waited the best part of 2, 3 or even 4 weeks after getting the first draft report from Himalaya before instigating a suspension of work supposedly to protect the health and safety of its workers.

29. I also found it odd that there was disclosed by GOG so little open documentation relating to the events which led to the termination. It was suggested by Mr Orciel and Mr Pardo that there never was much by way of reports to GOG or meeting notes or minutes notwithstanding bi-monthly meetings with the Chief Minister. In the absence of clear evidence that documents have been deliberately and unjustifiably withheld or destroyed, I can only assume that there never was much of such documentation, in which case this demonstrates a lack of efficiency and businesslike conduct which itself undermines confidence in their evidence, where it is unsupported by documents or other people's evidence. Mr Pardo's evidence about contacts with possible replacement contractors was unreliable; he said initially in evidence that it did not cross his mind between January and April 2011 that GOG would ever get in a replacement contractor but he later had to accept that in that context he had been in contact with two well known international contractors, FCC and Bouygues in February 2011; there is a dearth of documents about this and they must have existed. There are other gaps in GOG's disclosure in relation to whatever strategy it was that was adopted in the period between about February and August 2011, some of which can legitimately be explained by the cloak of privilege which would apply to legal advice being given, as it was both by internal and external solicitors and independent English Counsel.

30. The OHL witnesses in order were:

(a) Mr Doncel: he was OHL's Project Manager for the Works from July 2009 until termination in August 2011. He is a civil engineer and was largely site based. He came over as a pleasant person. His English was good, although he had the interpreter available if required. On key issues, I found him unconvincing. For instance, his evidence (on Day 3) was that in effect OHL was planning to re-use both contaminated and non-contaminated material, for instance to cover the completed tunnel; this was contradicted by the CEMP produced by OHL in various revisions which called for hazardous waste to be transported to Spain and, furthermore this point seems only to have been raised when problems with ground contamination began to prove almost insuperable well into 2010. He was on occasion unable to provide convincing answers as to why he had not challenged correspondence from the GOG team, an example being in relation to a statement from Mr de la Paz on 12 March 2010 that he had "repeatedly requested" the Sergeyco 2009 results before. He

was unconvincing about why OHL had not provided to the GOG team these results; there was in reality no good reason to have failed to do so particularly as they showed some contamination materials present. Another example is when he gave evidence about why OHL did not seek a formal instruction in relation to the instruction said to have been given by the GOG team at the meeting on 12 May 2010 that contaminated material had to be removed from the site and taken to an approved landfill; although this was going to cost OHL millions of pounds and they were being advised by a claims consultant. His answer that OHL was simply looking for a way forward and that he did not see the point of seeking an instruction was simply not credible. His involvement with the Himalaya story in November and December 2010 undermines any confidence which I might have had in him on the topic.

(b) Mr Garcia: he was the construction manager from January 2010, mostly site based; he had responsibility for planning and economic management of the works, including coordination of sub-contractors, materials and manpower. He needed the interpreter as his English was vestigial. He was not a strong witness, in my view and he sought to hide behind what others said and did.

(c) Mr Castellano: with a civil and structural engineering background, he was the Technical Manager for the Works, joining the project in March 2010 (albeit away from October 2010 to January 2011). He was concerned with the original and revised design submissions made by OHL. Much of what he addressed was obviated by what the design experts had agreed. He seemed decent enough.

(d) Mr Portal: a Civil Engineer and OHL's Design Manager. Mr Portal has served one statement in this matter (largely in response to the evidence of Mr. Needham from Gifford). He was involved with the early stages of the design of the Project in 2009. He was satisfactory as a witness.

(e) Mr Alcazar: he was a technical architect who was concerned with occupational risk prevention. He undertook the commissioning of the Himalaya report into the Health & Safety risks on site in late 2010 and the later reports in March 2011. I found him very unconvincing as a witness. At best, he acted unprofessionally in and about his first supposed discovery of a hydrocarbon smell on the site in November 2010 (e.g. no notes, no written warning to people on or visiting site), and then his briefing of Himalaya (nothing in writing, first three drafts obviously poor and lacking intelligible analysis). He did not come over however as incompetent and I sensed that he was almost embarrassed on occasion to be seeking to answer some of the criticisms about the Himalaya involvement. The reality is that all the Himalaya reports and certainly those sent to GOG were in material respects drafted by OHL personnel and a claims consultant and Mr Alcazar was party to the presentation of what were not truly independent reports.

(f) Mr Mojon: he was the Technical Manager and a partner of Laboratorios Himalaya SL, an Andalucian company specializing in Occupational Hygiene and Environmental Analysis. He was personally involved with the production of reports in late November and December 2010 and again in February and March 2011. I found him an unconvincing witness. He was not good at answering questions, albeit that he was giving evidence in an English Court which was probably disconcerting for him. He effectively admitted that parts of his March 2011 report must have been drafted by OHL; it must be unprofessional to have allowed a report to be proffered in his name which he has not drafted in material particulars. I felt that he was naïve, albeit intelligent and trained. His reports particularly in 2010 were poor. He allowed himself and his firm to be manipulated into saying what his client wanted him to say and then unconvincingly sought in evidence to defend what on any count was a poor and unprofessional job on his part. I am afraid that I found him an unsatisfactory witness and it was difficult to place any significant reliance on his evidence.

(g) Mr Hernandez, the only director of OHL called as a witness, was based in Madrid and first became involved in November 2010; he reported to Rafael Martin de Nicolas who was OHL's General Manager), meeting him "almost on a daily basis". He was closely involved in the suspension of work and the decision to re-design and the events which led to the termination. I found him unconvincing and unimpressive also, particularly in relation to the Himalaya story. An example was his oral evidence that he got the Himalaya report dated 15 December 2010 but, notwithstanding the supposedly serious advice that work should be suspended for Health and Safety reasons, it did not go to GOG until 20 December 2010 because (he said) an English translation was awaited; that was obviously false for at least two reasons, the first being that there were still (Spanish) workmen working on site and they were allowed to go on working in supposedly dangerous conditions for another 8 days in spite of the recommendations in that report and the second being that it simply would not have taken 5 days to translate the Himalaya report: one hour would have been required to translate the key conclusion chapter. I have no doubt that he was under immense pressure when he took over in November 2010 a project which had gone seriously wrong for OHL and was likely to cause it a very substantial loss. He was reluctant to accept the very obvious point that what was dictating much of what OHL did after his involvement started was the commercial imperative of securing a financial deal with GOG which would mitigate if not remove the inevitable massive losses incurred and likely to be incurred; this was in circumstances in which from the sparse disclosure as to this topic from OHL it was clear that this was the case.

31. GOG served statements from eleven witnesses but only called seven as witnesses although one further witness, Mr Garratt, could not attend due to illness and his evidence was therefore accepted as admissible. I have disregarded the witness

statements of Ms Wood, Mr Needham and Mr West who were not proffered for cross-examination and GOG does not now rely upon these statements. The witnesses who gave admissible evidence were, in order:

(a) Mr de la Paz: a Chartered Civil Engineer with experience of civil engineering projects. He had worked for Gifford, but later set up his own practice in Gibraltar. Initially appointed the Planning Supervisor for the project, in December 2009 he succeeded Mr Garratt as the named Engineer for the Contract and he worked for GLRC. He continued until after the termination in this capacity; he was largely site-based. Whilst honest and straightforward in the giving of his evidence, he came over as somewhat less independent than being the named Engineer under the form of contract used generally entailed in that he sent off numerous letters particularly over the last 6 months of the job which were drafted by GOG in the lead-up to the termination. He knew little about contaminated land and because the continuing background in 2011 related to the problems associated with contamination of soil and water he was perhaps of less utility than some engineers who had that expertise or experience. I felt that he was possibly a little out of his depth particularly with a project that was going as badly as this one.

(b) Mr Gil: he was the Chief Technical Officer to the GOG. He was highly qualified both as a chartered civil engineer and in environmental and water management. He was involved at the inception of the project, the tender process and at various key times during the design and construction and termination phases. I found him to be straightforward, objective, quite precise and also measured in the giving of his evidence. He was an eminently reliable witness.

(c) Mr Soiza: the GOG Senior Environmental Officer since November 2008, he was mostly involved in the problems and procedures relating to the discharge of water from the Works in to the sea and the "Discharge Licence" required with conditions imposed. He was a decent person, who gave his evidence well; his recollection was broadly good and he was an alert witness who listened carefully to the questions. His evidence was reliable.

(d) Mr Cahill: he was an Environmental Engineer (qualified in 2004), employed by Clarke Bond. He became involved in late September 2010 and attended site on a daily basis from October 2010 until mid-April 2011, visiting Gibraltar a few times thereafter. He is certainly intelligent but he was not very experienced at that time. He was honest as a witness, decent and straightforward.

(e) Mr Nuitjen; an experienced Dutch engineer, he was seconded to the Airport project in connection with aeronautical safety engineering mostly from early 2009 onwards. His work involved some monitoring of the impact

of what OHL were doing on aeronautical safety. He was straightforward and obviously competent at his job.

(f) Mr Orciel: he was the managing director of GLRC but he described himself as "the lead project manager reporting to Mr Pardo as the Client's Representative". There was an extraordinary lack of reporting documentation and virtually none relating to the "bi-monthly meetings" with the Chief Minister. I did not find him to be an impressive witness, although not by any means dishonest. He was faltering and sometimes vague under a firm but always polite cross-examination.

(g) Mr Pardo: the director and sole shareholder of Land Projects Ltd, a Gibraltar property development company. He had over 30 years experience of infrastructure and property development (in particular in Gibraltar). In effect, he was to be GOG's representative for this project and to be a "channel for information instructions and decision making". In reality, I formed the view that he was GOG's "Mr Fix-it". He was urbane but he became flustered under cross-examination; his memory was poor and, partly at least due to this, he was somewhat evasive and "cagey", particularly when he was asked to address the events leading up to the termination, although I do not suggest that he was actually dishonest. An example was his unwillingness to accept knowledge of or involvement in the Engineer's letter of 1 June 2011 withdrawing from OHL the use of the Aerial Farm site for depositing excavated materials. Again, there was a dearth of relevant reporting and recording paperwork which suggests either there was none (which would suggest that he could not do his job properly) or that there was but it has been lost or withheld. Of these two possibilities, I lean towards the former explanation, save in respect of the liaison between him and colleagues and Bouygues and FCC for which there must have been much more documentation than has been disclosed.

(h) Mr Garrett: he is an experienced chartered civil engineer who was involved with the project from its inception. He could not attend the trial due to illness but his statements stand as evidence. He was primarily involved as first a project design co-ordinator for Gifford and then as the "Engineer" under the Contract until he was replaced by Mr de la Paz in late 2009. He gives useful evidence about OHL's design process and progress in 2009.

32. Moving on to the experts, all the experts tried to help and all had sufficient expertise to give evidence on their part. Briefly my views on them were:

(a) The design experts, Mr Chapman for OHL and Mr Beadman, for GOG, were equally good, helpful and qualified. They achieved a large measure of agreement before they gave evidence for which each should be congratulated for that in what could have been a highly contentious area.

(b) Mr Davies and Mr Sanders were the geo-technical experts who addressed the rock issues. Mr Davies was a decent and what might (without any disparagement) be described as old school geo-technical expert who gave his evidence both written and oral in a straightforward way. Mr Sanders was also straightforward and a reasonable expert. They were both believable and particularly helpful to the Court. Ultimately, in terms of reliability, there was little to choose between them and I have had to make my decisions based on a overall preference on the different issues on the merits of the points in question.

(c) Mr Wouters and Mr Hall for OHL and GOG respectively were the contamination experts who addressed primarily what was reasonably foreseeable and what was actually present in terms of contaminated ground and water. I formed the strong view that Mr Wouters adopted a very blinkered view as to what was foreseeable, particularly in effectively ignoring the history of the site, although he belatedly conceded that, for one reason or another, his early estimates should be doubled to allow for this. I was very surprised at his effective refusal to answer on 3 or 4 occasions a very simple question as to whether OHL had done the hydro-geological survey called for by them in their tender correspondence and the Contract; the answer was obviously "No" but he would not answer and was clearly prevaricating which one does not expect of an independent expert. Mr Hall came over as confident, convincing, well prepared and with clear and broadly well-reasoned views. He was impressive and I preferred his evidence to that of Mr Wouters where it clashed.

(d) The Health and Safety experts were Dr Lamont and Dr Purnell and in terms of their expertise and experience of comparable weight. Each had worked for the HSE in the UK albeit Dr Lamont for much longer and Dr Purnell had a greater academic experience. In blunt terms I found Dr Lamont somewhat woolly in his oral evidence and unconvincing: I was particularly unimpressed with his attempts apparently to row back from a key concession which he had made in the experts' Joint Statement that the re-design of the tunnel was not necessary, although, after going up and down on the issue under cross-examination he eventually accepted his original agreed position and he was unimpressive on the point therefore as to whether it was even reasonable for OHL to have gone down the re-design route. As for Dr Purnell, it would not be unfair to say that my impression of him was that he was somewhat eccentric in his giving of oral evidence, not necessarily that this was something for which he should be blamed; he was occasionally confused. On occasions it felt as if one were in a university tutorial group as he gave evidence and engaged with Mr White QC. He came over as having very strong views and on reflection I found myself more in sympathy with his evidence than that of Dr Lamont.

(e) The programming experts, Mr Crane for OHL and Mr Palles-Clark for GOG were both helpful. One of the problems for programming experts in construction cases is that often they have to make assumptions about the facts, albeit that they are not always agreed or admitted. I can understand here the logic applied by both these experts but ultimately the logic must follow the facts as I have found them. An example is the suspension of work by OHL on 23 December 2010 which I have found was initiated by OHL in effect at its own risk and as a tactical step to put pressure on GOG, this being based on the very poor impression which I formed about OHL's witnesses and their evidence about the Himalaya reports during the run up to the suspension. Neither expert could necessarily anticipate this particular finding. I tended to find Mr Crane's approach somewhat more helpful as his logic for the period up to the suspension was more obviously right and chimed with the evidence as it had emerged. Both experts were helpful and were not very far apart for the final and key period from the suspension up to termination.

**Chronology**

33. The main area of work which features most in this litigation is the tunnel. Broadly the work to be done involved the following:

(a) The lengths of the new road approaching the tunnel are from the west and curved north and south down ramped sections into the tunnel area; the entrances to the tunnel itself were known as the North and South Portals. Each part of the tunnelled section comprised north and south dual carriageway, divided by a full length wall.

(b) The walls both on the east and west sides as well as the dividing wall were known as "embedded" or "diaphragm", which, put simply were reinforced concrete walls constructed before the rest of the tunnel was constructed. These walls were created first by constructing "guide walls" of limited depth (to define the bentonite slurry trenches and guide the excavation), and secondly by excavating with a large clam shell excavator to a considerable depth and supporting the sides of excavation with impervious bentonite slurry, which has the effect of counterbalancing the (often) hydraulic pressures on the sides of the excavations. Bentonite can also resist groundwater pressures at least up to a certain point. This work is often done (as on this project) in panels some metres long.

(c) Reinforcement cages are then lowered into the excavations and concrete pumped in. Thus the concrete is, so to speak, cast against the excavated earth. The bentonite is displaced out of the excavation and returned to holding tanks.

(d) At some stage after the concrete has cured and set, there are essentially three possible ways of proceeding. The first, initially adopted by OHL here, was to cut down the embedded walls to the height at which the tunnel roof would be located, and then cast the reinforced onto the tops of the three embedded walls (east, west and central) onto a prepared surface on top of the earth remaining in between; thereafter, the earth will be excavated from underneath which will expose the underside of the roof and one side of the east and west and both sides of the central embedded walls. The second is a variant on the first and was adopted in its revised design proposal in the months before termination of the Contract involving the same use of embedded walls but before casting the roof some metres depth of earth would be excavated from the area below. The third way would also involve embedded walls but excavation of the whole of the earth down to road formation level at the bottom of the tunnel would take place before the roof was cast. Whichever method was used, the road base would need to be constructed with drainage.

(e) Provision for drainage would require "attenuation tanks" to which rain or other water would be drained from the road surface within the tunnel; they would be located below the road surface level and outside the line of the outer embedded walls. There would be pumping arrangements so that the collected water could be taken away.

(f) Additionally, arrangements were and would have to be taken to guard against the impacts of exceptional marine impacts such as serious storms and tidal surges which might result in seawater surging into the tunnel. Accordingly, flood walls were constructed above the roof level in places to prevent the entry of such water into the tunnel.

34. The Commencement Date was 1 December 2008. On 4 December 2008 the Development Planning Commission of Gibraltar issued its Environmental Impact Assessment Certificate which contained a schedule of conditions:

"(1) The proposed development will incorporate the mitigation measures proposed in the [ES] namely…

(c) Agree a method statement with the Environmental Agency for the handling, classification and disposal of any contaminated materials and to secure and adhere to the conditions of relevant licences for their disposal;

(d) Ensure the preparation, submission and adherence to a Construction and Environmental Management Plant ("CEMP") which shall be agreed with the Environment Agency and the Department of the Environment prior to the commencement of work on site;

(e) Ensuring the maximum possible re-use of demolition material and other materials arising from this project so as to ensure minimal offsite disposal".

35. There was a "start-up" meeting on 18 December 2008 attended by GLRC, Gifford and OHL. The meeting covered a large number of mostly administrative and planning topics but the following was minuted:

> "2.3 OHL confirmed that the CEMP is due to be issued on 15-02-09.
>
> "2.7 OHL…consider the Geotechnical report made available by the Employer to be of a very good quality. However as part of its QA they would like to carry out a further 3 boreholes along the line of the proposed tunnel and will prepare the geotechnical report following that additional site investigation".

36. At the next meeting on 21 January 2009, the Health and Safety Plan was promised by OHL for early February 2009 and the minutes record on the second page against a heading "Disposal of material":

> "OHL would like to dispose of excavated material in Gibraltar but were informed that there is currently no tip currently open. It was agreed that further discussion with the Chief Technical Officer would be beneficial in order to explore alternatives."

37. On 16 February 2009, OHL submitted its first draft CEMP "Construction Environmental Management Plan" ("CEMP") which was introduced as providing "the necessary management framework for the planning and implementation of engineering and construction activities in accordance with environmental commitments identified within Gibraltar's environmental legislation". It listed various laws which were to be considered, including various Landfill Acts and the Environmental (Waste) Regulations 2007 specifically in relation to land contamination and wastes. It described the tunnel work in some detail, going on in Paragraph 6 to provide for a "Monitoring Plan" to check "the effectiveness of the proposed mitigation measures":

> "…**Wastes**
> - Correct separation of wastes
> - Storage of wastes in prepared places
> - Transport of wastes to authorised treatment plants by authorised transporters…
>
> **Dump sites**
> - No disposals out of authorised dump sites…"

Paragraph 7 identified a number of "Environmental control measures" for particular environmental problems which were anticipated. Paragraph 7.4 addressed "Land Contamination" with the risks or "impacts" listed as including

"exposure to organic contaminants through dermal contact and dust inhalation" and "unexpected chemical releases and surface water runoff during construction". It listed a number of "mitigation measures" as to how these risks would be managed, for instance:

> "If contaminated ground is encountered during construction works, all personnel will use the appropriate personal protective equipment and dust suppression techniques will be employed…
>
> Contaminated materials should be removed offsite, stored, and disposed of through a licensed site…"

Paragraph 7.9 addressed waste and material resources, identifying the impact of incorrect waste management as increasing "the risk of land and water resources contamination". Mitigation measures included:

> "For a correct waste management it is necessary to estimate the type and quantity of waste generated by the works
>
> Waste Hierarchy principles shall be applied in the waste management. It means that waste management shall be focused on prevention and most of alternative, followed by minimisation, reuse, recycling, energy recovery, and ending with disposal and landfill like the worst option available…
>
> Hazardous waste generated on-site will be explored and disposed in order to minimise the impacts of the place on the environment, including appropriate segregation the storage and disposal by an authorised waste transporter…
>
> Waste will be stored neatly in appropriate bins or stockpile, with hazardous waste stored in such a manner that storm water run off does not come into contact with the waste.
>
> It is expected that most of the material excavated from the tunnel will be clean sands. In this case, the re-use and recycling of these stands in further projects like the regeneration shall be considered.
>
> All wastes acceptable to be reused will be kept at Gibraltar, while hazardous waste will be disclosed by authorised transporters to Spain…"

Engain was critical of this first draft CEMP in its Review in March 2009, with some justification. For instance, it did not call for consultation with the Environmental Agency and the Department of Environment in relation to contaminated land and it omitted to call for groundwater quality monitoring. A revised CEMP was produced in July 2009 to reflect various comments of the Engineer and others.

38. OHL retained Sergeyco, who had done the site investigation incorporated into the Contract, to carry out the additional borehole investigation and to prepare a geotechnical report. The 3 boreholes were carried out in late January 2009 and Sergeyco's Factual Report was dated 19 February 2009. The depth of the three boreholes was between 27m and 29 m. Standard penetration tests were carried out and tests were done on various samples. "Made ground" was found at various depths (1.6 m, 3.6 m and 4.5 m). Groundwater was found at between 2.2m and 3m. Standard penetration tests were done. No sampling was done for contamination purposes. Its purpose was more to do with the diaphragm wall design than anything else. These results were reported on at the Progress Meeting No 3 on 26 March 2009 as being "in accordance with the original investigation issued with the tender documents".

39. The Contract having called for approvals by the Engineer of the OHL designs first in principle and then in detail, it is common ground, and I accept, that OHL failed to secure Approval in Principle ("AIP") from the Engineer within anything like the programmed periods. As Mr Beadman and Mr Chapman have confirmed in their joint statement of 17 July 2013, the AIP process took almost a full year involving multiple submission of documents; they agree and I accept that, at least, OHL was responsible for the delays up to and including the approval time for Revision B in August 2009. I will return to this issue when considering extension of time. There was witness evidence from GOG to the effect that OHL was less than professional and inefficient in the first 8 months. There was certainly dilatoriness and a lack of urgency as the project slipped seriously behind programme. There is correspondence between OHL and its primary design sub-contractor, Ayesa, which criticises Ayesa for its delays in this regard; an example is Mr Portal's email dated 16 July 2009 to Ayesa. GLRC complained from time to time about the delay, an example being its letter dated 24 July 2009 to OHL referring to delays in design work in respect of diversion of services, airfield safety management plan, simple approach lighting, fuel farm, quality control and structures design, mechanical and electrical design and tunnel finishes. There was little if effective or real challenge by OHL to these criticisms.

40. OHL made a number of efforts to produce a proper initial programme (in December 2008, January 2009, February 2009 and finally March 2009). The last of these only was contractually compliant as the expert programming evidence demonstrated. This is another example of OHL's "not hitting the ground running". Given the lack of design approvals by March 2009, this programme, although compliant, was in reality already (or shortly thereafter) out of date.

41. In June 2009 OHL produced its Health and Safety Plan which amongst other things identified that forced air ventilation was to be installed for the tunnel excavation and construction. There was little if any specific attention given in this document to the risk of contaminated land being encountered.

42. OHL, sensibly, did not defer starting work on the detailed design of the tunnel (being the most complex part of the design) until the Approval in Principle of the tunnel design. However, OHL fell well behind with this. Approval of the detailed design was programmed for 3 June 2009 but OHL did not begin detailed design work on the tunnel until 15 July 2009, only submitting the first revision of the detailed design to the Engineer on 30 September 2009; this was rejected on 23 October 2009; for instance the design at this stage did not include details of the deep drainage or cladding. In fact, the detailed design of the tunnel and construction drawings (albeit without deep drainage to the North and South tunnel portals and cladding) was not approved until March and May 2010 respectively.

43. Physical work started on site on about 1 October 2009 with some service diversions relating to the fuel farm (for the airport), which involved limited excavation. The trench arisings were reported as being removed to a tip (see Site Diary 19 October 2009).

44. On 6 October 2009, OHL submitted a method statement for the "Open Excavation of the Tunnel (Pre-Excavation)". The proposed work involved the excavation of the existing runway pavement in the area under which the tunnel was to run and in the approaches to the tunnel and the removal of soil and other material down to a depth of 2 metres. This was scheduled to take 7 weeks. This was not accepted by the Engineer on many grounds listed in a Review Record dated 15 October 2009, amongst which were:

> (a) Investigation for ground contaminants was not identified and no clear action was proposed in respect thereof.
>
> (b) Topsoil storage and method of removing soil were not identified and no clear action was proposed in respect thereof.
>
> (c) Questions were raised as to whether the excavated material was intended for re-use and where it would be stored.

It is clear that, although no plans or arrangements had been made by OHL for the disposal of the excavated materials, OHL was planning or at least hoping that the "disposal location" would be somewhere in Gibraltar, as Mr Doncel wrote in an e-mail dated 12 October 2009 to a Mr Dunn (engaged by OHL).

45. OHL had not really considered or made arrangements for the disposal of materials until mid-October 2009. Although the EIA certificate referred to "Ensuring the maximum possible re-use of demolition material and other materials arising from this project so as to ensure minimal offsite disposal", the reality was that there was limited availability to re-use the excavated demolition material and soils on the road and tunnel site. There was a need for the tunnel roof eventually to be covered with excavated soil but that would involve only a few thousand cubic metres. However, it was known that there was limited use for anything other than

clean sand in Gibraltar, there were limited places to dump materials and there was no place for the deposition of contaminated materials.

46. In this context, OHL wrote to Mr Gil on 14 October 2009 to the effect that eventually some 190,000m³ of excavated materials ("small quantities of asphalt and concrete with altered and unaltered sands in the f[r]action, clays and limestone") needed to be disposed of and asking for permission to deposit this "on a site regulated by yourselves"; there was "an immediate need to remove some 23,000m3 of asphalt and altered sands in the coming 15 days". Mr Gil made some inquiries but had to respond on 19 October 2009 that its only available tip ("East Side") was near to capacity and GOG could not accept the 23,000m³ of material; however, an outlet would be one or other of the beaches to the extent that the excavated material was "clean sand", going on:

> "Should this be of interest to you, kindly revert to me so that we can agree the arrangements so that these fit with your intended method of working."

47. OHL replied on 23 October 2009 taking up the GOG's offer to agree arrangements to make use of uncontaminated sands on beaches. This letter noted that of the 23,000m³ that was to be excavated it was expected that 6,000m³ would be concrete and asphalt and the rest was expected to be uncontaminated sand. This was somewhat optimistic because the top 2m of soil to be removed for the initial excavation would likely include also material which would not be sand. Mr Gil replied by letter dated 29 October 2009 saying he was grateful for the offer of sand but the volumes were such that its delivery would need to be carefully planned and co-ordinated. He went on to say that the local tip would accept the disposal of the concrete subject to various reservations. It was later confirmed orally on 20 November and in writing by Mr Gil on 25 November 2009 that clean sand could be deposited immediately at the Sandy Bay beach just to the east of the site beaches on the East Side.

48. OHL issued its revised method statement for the initial excavation exercise on 17 November 2009, responding to its earlier rejection. This document provided that asphalt and concrete would be encountered and they would be "separated out with the asphalt being stored for future use and concrete removed to a location agreed with" GOG; further, prior "to the excavation of any loose granular material, a series of tests would be undertaken by Sergeyco to ensure that there is no contamination".

49. In November 2009, Sergeyco was engaged by OHL to "carry out an analysis of the environmental and physical properties of dredged material at the new access construction site in Gibraltar". The numerous references in the following report to dredged material ("dragado" in the Spanish version of the report) does not engender much confidence in those at OHL who commissioned and received the report because, as they must have known, if they had seen the geo-technical information in the Contract documentation, there was no "dredged" material on

the line of the new access road or tunnel; there was simply made ground overlying undisturbed material below. Only three soil samples were taken from various locations along the route of the tunnel and the ramp areas. The samples were taken not from the first 2 metres which were to be excavated first but from 3.5 to 4 metres below existing ground level. Sergeyco's report dated November 2009 contained its findings which showed excessive lead in the second of the three samples (MA-11-02-09: 4500 mg/kg compared with the 750mg/kg limit referred to in the ES). This second sample was right in the centre of the tunnel line. This report was not provided to GOG or the Engineer until about March 2010 notwithstanding a number of requests. No-one at OHL drew any adverse conclusions from this report or expressed any concerns.

50. Pre-excavation work proceeded in late November and early December 2009 without the approval of OHL's revised method statement. There was little clean sand being generated from the excavation which is perhaps not surprising because the top two metres comprised mostly made ground, concrete or asphalt; coarse sand mixed with rock was also being generated. Mr Gil became sceptical (e-mail 2 December 2009 to Mr Doncel)) about "how serious" OHL was in taking forward the clean sand provision. More rubble was being generated and deposited on the East Side tip than could be accommodated. By 10 December 2009 the East Side rubble tip was almost full and after 11 December 2009, OHL was asked to take material for tipping to the "North Mole".

51. By 18 December 2009, the initial excavation had been completed in the tunnel area and some 350m of guide wall work had been done in preparation for the embedded walls. This work continued until about February 2010 which generated more excavated materials which were removed from site. OHL deposited excavated supposedly sand material on the Sandy Bay beach which contained tarmac and which it was instructed to remove by the new Engineer, Mr De La Paz, on 14 January 2010.

52. On 13 January 2010 at a meeting between Mr Soiza, of the DoE, Mr De La Paz of GLRC and Mr Doncel the following was discussed (as recorded in Mr De La Paz's e-mail of 14 January 2010):

    (a) The locations of the bentonite plant (north and south) were discussed and OHL was to submit "a detailed specification of the bentonite for approval". The DoE wanted to ensure that the bentonite did "not contain harmful compounds which could potentially contaminate the aquifer and required a testing regime".

    (b) The DoE would be monitoring the aquifer wells during the Contract.

    (c) OHL "proposed to discharge water from future dewatering operations into the existing foul sewer system. [The] DoE explained that discharging via the existing surface water outlets (preferably the one located north of the runway)

would be preferred providing that the water is filtered through a sand block and samples [are] to be tested and found free of contaminants".

53. OHL produced a number of revisions of its Method Statement for the Embedded Walls, in response to queries and objections from the Engineer and others, with revision 5 being dated 19 February 2010. Weather, albeit not exceptional, slowed down site progress as recorded in OHL's Progress Report for January-February 2010. By the end of February 2010, 1,100m of guide walls had been done. An overall delay of nearly 5 months was recorded.

54. Mr De La Paz had been concerned about the methods of stockpiling both aggregate and excavated materials because no efforts had been made by OHL to prevent or limit cross-contamination of actually or potentially contaminated materials; he expressed this for instance in e-mails dated 9 and 10 February 2010 to OHL and Mr Doncel accepted in evidence that no such efforts had been made to date.

55. OHL started diaphragm wall construction on the North Approach Ramp on 1 March 2010 with some 200 to 500m³ of excavated material generated per working day. This was stockpiled on site and also onto the adjacent Aerial Farm site. Coincidentally, a Dutch reclamation company doing such work in Gibraltar had taken some material from the Eastside rubble tip believed to have come from the tunnel, which when tested was found to contain high levels of lead as recorded in an e-mail dated 9 March 2010. Mr Gil was concerned about this and called for an urgent investigation. On 10 March 2010, Mr de La Paz asked Mr Doncel to carry out sampling and testing on excavated material stockpiles. He had a discussion with OHL and was told that the November 2009 Sergeyco tests had been free of contaminants; that of course was not correct, but OHL undertook to provide the report on the same day. After much chasing, OHL provided the report on 12 March 2010. It was clear that OHL had been reluctant to provide this report; this is inferable from Mr Doncel's e-mail of 23 March 2010 to Mr Dunn ("Stuart, at the end I had to submit the first report (November)") and he was even reluctant to provide the further report to be obtained form Sergeyco in March 2010. It is difficult to avoid the conclusion that OHL knew that there was going to be some contamination but hoped to avoid having to do anything about it.

56. OHL again engaged Sergeyco to take soil samples for contamination testing on 12 and 16 March 2010. Three trial pits were dug and four samples analysed, along with three water samples. The following report dated 25 March 2010 (provided to GLRC and the Engineer) showed, against "Dutch intervention values", that excessive values for lead, nickel, mineral oils, zinc and chromium were recorded. It is unclear why Sergeyco were asked to report by reference to these Dutch values because they were not contamination levels called for as such by the Contract and were generally more severe than the Contract values for contamination. By the contract values, one sample (M-03-04-10) showed non-compliance, for lead, this sample being taken at 2.5m below the already reduced

ground level. The location plan in the report was wrong, showing this sample being taken on the beach when as Mr Doncel accepted in an e-mail on 29 March 2010 all samples were taken from sand in the tunnel area and from sand stored next to OHL's site cabins. This discrepancy was one of the reasons for GOG and GLRC having little confidence in this exercise. Mr Gil was concerned that there might also have been cross-contamination of samples. Mr De La Paz was confused as to the use by Sergeyco of the Dutch values. There was by the end of March 2010 a real concern within the GOG team that, unless the GOG team was pro-active in trying to determine what contaminated materials were where, OHL would not be. Also, the GOG wanted to ensure that a substantial quantity of appropriate sand was available from the excavation on this project to replenish the beaches.

57. In the light of these concerns, the Engineer with the Gibraltar DoE produced a scope of works for further contamination tests, which with a proposed testing regime was provided to OHL on 29 April 2010. The purpose was described as being "to ascertain the levels of contamination (if any) both in the ground and in stockpiles of excavated material, to provide information on the chemical nature of the soils to be removed as part of the Works". The "Scope of investigation" was said to involve 7 window samples at 2m depth with environmental testing to be carried out at depths of 0.5m, 1m, 1.5m and 2m. The seven trial pits were shown on a plan with 5 in the tunnel or tunnel ramp area and two just outside. GOG agreed to pay for this exercise by reason of what was probably a contractual misunderstanding, illustrated by Mr Gil's e-mail of 15 April 2010 to Mr Pardo:

> "As you reminded me, the risk for ground contamination rests with the Employer...the Employer would have to pay for the disposal of 170,000m3 of contaminated material…a closer examination of the contractor's report on the investigation showed it to be fundamentally flawed and we all agreed we had no confidence in the Contractor to do further testing and we decided to do it ourselves.
>
> Whilst we do not doubt that there would be some hydrocarbon and lead contamination we are of the view that it is likely to be localised and hopefully near the surface. If we are able to confirm through further testing, we would not only save ourselves the extremely high cost of disposing of 170,000m3 of contaminated material but equally important to the Government, we can use the greater part of that material to replenish Sandy Bay."

The misunderstanding was that the risk for ground contamination did not rest absolutely with GOG, whose risk was only for contamination which was not foreseeable by an experienced contractor. All other risks associated with contamination broadly rested with OHL. The misunderstanding was to colour what GOG did over the next 8 months if not beyond.

58. Meanwhile, OHL progressed the diaphragm wall panel construction in March and April 2010 with work in both Northern and Southern Ramp areas, with the latter starting on 29 March 2010. Although OHL had planned in the tender stage to have stockpiles of 3-4 days' worth with no more than about 5,000m³ in stockpiles at any one time, from March to May 2010, OHL did not remove any of the excavated material from the Site so that the three or four stockpiles grew much larger in total, totalling about 15,000m³. OHL had no clear or obvious policy as to what to do with the excavated material. In that regard representatives of OHL met Mr Gil and GLRC on 12 May 2010 to see if more working areas could be provided to store the excavated material; they said that they proposed to place the contaminated material back where it had been extracted from but they were told that contaminated material would have to be removed from site and taken to an approved landfill. Essentially, OHL was looking to GOG to solve its problems with regard to dealing with excavated material.

59. On 27 April 2010 Mr Soiza had sent to Mr Dunn, as requested, draft Guidelines "for the assessment on the use of non-hazardous fill for land reclamation and general backfilling purposes within Gibraltar"; he expressed this draft as being "a work in progress" and that it should not be used as if it was definitive. The "Parameter and guideline values" for what was described in this document as "non-hazardous fill for land reclamation" were lower than those referred to in the Contract.

60. Sergeyco was retained by OHL to carry out the further site testing as directed by the Engineer, with the field work mostly done in mid-April 2010. 28 soil samples were taken from seven trial pits at the specified depths. The first version of the report from Sergeyco, dated May 2010 was again done by reference to the Dutch values; this having been noticed by GLRC, it was re-submitted by reference to the ES thresholds. The report, eventually submitted in late May 2010 is interesting in a number of respects. For instance at Paragraph 1.5 the authors say this:

> "Historically the area around the Airport of Gibraltar was used as a military base, such that within excavations can be found the remains of military ordnance. In addition there are several burial sites, and remnants of anthropenic [sic] origins. Therefore it is anticipate[d] that there may be contamination by heavy metal. Other activities known that have taken place in recent years as potential sources of pollution, including supplying fuel to aircraft, ancient deposits of kerosene, and potential for oil pollution."

61. 8 of Sergeyco's 29 samples showed relevant contamination above the ES threshold levels:

| Location/Sample/Depth | Finding |
|---|---|
| WS01/1/-0.5m | Lead (1,400 mg/kg) |
| WS01/2/-1.00m | Lead (3,300 mg/kg) |

| | |
|---|---|
| WS02/5/-0.5m | PAHs total (58/82 mg/kg) |
| WS03/9/-0.5m | PAHs total (28/40 mg/kg) |
| WS03/10/-1.0m | Lead (1,100 mg/kg) |
| WS03/11/-1.5m | PAHs total (22 mg/kg) |
| WS07/25/-0.50m | Lead (770 mg/kg), PAHs total (25/36 mg/kg) |
| WS07/26/1.00. | Lead (9,900 mg/kg) |

WS01, WS02 and WS07 were not in the tunnel area. The depths of the samples, although not particularly clear from the report, were taken not from original ground level but the reduced level of ground following the removal of about 2 metres in late 2009 by OHL. This does not seem to have excited any concern within OHL at least for their workers.

62. The GOG Environmental Agency expressed concern in mid-May 2010 about three stockpiles of excavated material located adjacent to the Eastern Beach Road and advised OHL that they were not to be moved without specific authorisation either from that agency or the DoE; this arose by reason of concerns about the presence of possible contaminants in the stockpiles. As a result, OHL again retained Sergeyco to carry out contamination sampling of a number of the stockpiles, including a bentonite stockpile. The subsequent report dated 27 May 2010 showed numerous samples which exceeded the ES thresholds for total PAHs (20 out of 30) and 7 for lead. Mr Doncel acknowledged to Mr de La Paz on 18 May 2010 that OHL could be "making the soil contamination problem worse by mixing contaminated with non-contaminated soils" by reason of the diaphragm wall's excavation works. This, he explained, in an e-mail on that day meant that OHL will not be able to commence the whole works until these problems have been sorted out.

63. At an internal OHL meeting on 26 May 2010, attended by Mr Doncel amongst others, there was a realisation and an acceptance that there was a serious problem with regard to contamination. The note of the meeting indicates that OHL estimated that only 40,000m³ of material needed to be for use on the site (for fill associated with finishing off the Works) and that some 174,000 m³ needed to be removed. The "technical solution" was to remove both contaminated and inert materials to Spain and otherwise decontaminate contaminated material in Gibraltar and provide it for landfill; uncontaminated material could be placed on the beaches. That meeting was followed by a meeting with Mr Pardo and Mr De La Paz at which they made it clear that the contractual specifications were to be applied and that, if the material fell within such specifications, it could be taken to Gibraltar landfill and, if uncontaminated, used on the beach. OHL was asked to prepare a report. The 15,000 m³ of material already in stockpiles on the site needed to be removed.

64. On or about 7 June 2010, OHL sent to GLRC a Report on "Contaminated Soils" which purported to summarise "the information and data in regards to the contaminated soils, gotten out of the sample campaign led by" the DoE and the

GOG and performed by OHL. It estimated that there was 15,000 m³ of stockpiled contaminated material, 30,000 m³ of contaminated material to come from the remaining diaphragm wall excavations and 28,000 m³ of contaminated material still to be excavated from between the diaphragm walls; this totalled 73,000 m³. There is, rightly, now, no real factual issue between the relevant experts that this represented a gross exaggeration, although it was not necessarily put forward in bad faith. The total cost of dealing with this contaminated material was said to be some £6.7m. There was also a proposal that at least some decontamination work should take place in Gibraltar which would require a soil washing or cleansing plants to remove the contaminants; this would lead to most of the material capable of being reused within Gibraltar with some 13,000 m³ only to be disposed of in Spain. The quantities of contaminated material in this report were challenged, I find, by Mr De La Paz orally but informally with OHL relatively shortly thereafter.

65. OHL engaged a Spanish company, Gamasur, with an unaccredited laboratory, to sample three of the stockpiles in June 2010. Its report dated 17 June 2010 does not provide details of the samples but it identifies that it took 16 samples from a stockpile of about 3,000 m³ of "pre-excavation with traces of agglomerate", five samples from a stockpile of about 3,000 m³ of "pre-excavation with concrete debris" and three samples from several stockpiles comprising about 9,000 m³ said to be "sand with traces of bentonite". It is unclear what is meant by "agglomerate" which usually in geological terms relates to a volcanic accretion; something may have gone wrong in the translation. I suspect that "agglomerate" meant asphalt. The report indicates that the highest concentration in a sample from the first of these stockpiles was lead at 12,500 mg/kg and in a sample from the second 303 mg/kg. It is on any account a poor report. Again this attracted no concern within OHL for their workers on site.

66. There was clear and growing concern within GOG and its professional team about what needed to be done in relation both to the ever increasing stockpiles of material on the site and to such contaminants as were found. There was an impasse between GOG and OHL because OHL was not removing the stockpiles of material and, unless there was a resolution of this, work could well come to a grinding halt. This concern was at least partly underpinned by the misunderstanding that GOG was or might well be contractually and therefore financially responsible for the costs of and occasioned by dealing with contaminated material. There was also real concern within the Environmental Agency and the DoE that the contractual thresholds in the ES might well not have been the right ones. This is illustrated by an internal DoE memorandum dated 24 June 2010 which suggested that the contract values, based on the UK "CLEA" ones, primarily related to the effect of human exposure to a chemical in an existing source; it did not address the impact of excavation, transport and re-use of the material. The memorandum recommended that the much lower "Gibraltar values" could be used to assess the possibility of using the excavated material for

re-use. For instance, the Gibraltar threshold value for lead was 218 mg/kg whilst the Contract and CLEA one was 750 mg/kg.

67. There were a number of discussions between the parties and there was no agreement as to who should bear the cost of removal of contaminated material. The GOG team expressed concern that OHL's working practices had "failed to identify possible areas of contamination and failed to deal with contaminated material in such a way as to minimise the potential problems caused by contamination" as set out in a letter dated 6 July 2010 from GLRC to OHL. What was in effect a holding agreement between the parties was however recorded in a letter to ensure progress:

> "a. the Contractor shall be responsible for and shall take steps will prompt removal and disposal of the Excavated Material from the Site.
>
> b. subject to being satisfied with the requirements of paragraph c below the Employer will bear 77% of the cost of removing and displacing Excavated material and the Contractor shall bear 23% of the said cost. The contractor has confirmed in writing on 8th June that the cost of removal and disposal Excavated Material is £1,406,295…
>
> d. payment by the Employer or any part of the cost of removal and disposal of the Excavated Material shall not be taken as an admission by the Employer that it is liable to pay costs of such removal and disposal under the Contract or tort…
>
> f. the arrangements anticipated by this letter are without prejudice to the rights of the respective parties under the Contract and each parties specifically reserves its rights in relation to recovery of the costs of removal and disposal of the Excavated Material…
>
> h. the Contractor shall take immediate steps to comply with its CEMP, its obligations under the Contract and all applicable legislation relating to contaminated soil and the identification, storage, removal and disposal thereof."

This agreement became known as the "Stockpile Agreement" and it was extended in terms of time and money on 26 August and 27 September 2010. Although some of the factual assertions in the letter of 6 July 2010 were challenged on the same day by Mr Doncel, the essential agreement was confirmed. A new version of the CEMP was submitted on 7 July 2010.

68. Shortly after this exchange, on 8 July 2010, OHL articulated a written claim for extension of time and additional payment relating to quantities of contaminated ground which was said to be an "Unforeseeable Physical Condition". The letter contained the surprising assertion that OHL had originally assessed "the volume

of material to be disposed of off-site to be 200,000 m³ of uncontaminated excavation material" and contaminated excavation materials at nil. A claim of just under £8 million was identified and some 48 days delay to date was identified.

69. By July 2010, another problem had been identified by OHL which was the discovery of rock at higher levels than it said that it had expected, in particular in the excavation of a number of panels for the diaphragm walls. The result was, so it claimed, that it had to take additional measures in effect to break up the rock. This was to and does form part of OHL's overall claim both for money and to a less important extent delay.

70. At about this time, GOG resolved internally that, subject to agreement with OHL, the excavated material should be classified into three types, clean material (suitable for use on public beaches in Gibraltar), material "classed as falling within the intervention levels" (to be transported by OHL to Spain) and material "falling below the intervention levels classed as waste" (to be either processed for cleansing with appropriate plant as part of the GOG rubble processing operation or used as reclamation fill). This was described in an email dated 23 July 2010 from Mr Gil to Mr Pardo asking that these should not be presented to OHL as if GOG had yet actually made any decision on this matter. It seems that there was some sensitivity about this and possibly a fear that OHL might be encouraged to press claims about this matter.

71. Broadly, what GOG was considering was the disposal outside Gibraltar of contaminated material that exceeded the Contract contamination levels and the sub-division of the remaining material into that which was clean enough to be used on the beaches for beach replenishment and material which was still somewhat contaminated albeit below the Contract levels which would need to be treated. With that in mind, GOG had approached a Spanish company, Befesa, to quote for providing a plant in Gibraltar to treat this latter class of material, Befesa providing a proposal by e-mail dated 27 July 2010 to that effect.

72. There was on 29 July 2010 a meeting attended by the then Chief Minister of Gibraltar (Mr Caruana QC), Mr Gil, Mr Pardo and Mr Soiza. The purpose of the meeting was to "review and progress all aspects relating to the [East Bay] rubble tip, rubble mound and the treatment and tunnel spoil". The approximate volumes of tunnel spoil obtained several days earlier from OHL were identified as 70,000m³ contaminated (untreatable), 70,000m³ contaminated (treatable) and 18,000m³ clean (for beach use). In relation to contaminated materials produced by tunnel excavation, it was noted at Paragraph 8 of the meeting notes:

> "a) OHL would start extracting spoil in October 2010. They would need to deliver to a stockpile area to sift into clean, contaminated (treatable) and contaminated (untreatable). These would respectively go to Sandy Bay directly, to a cleaning operation or disposed of in Spain.

b) [The DoE] had sought quote for cleaning of contaminated rubble which came to between €40-€50 per tonne all inclusive.

c) In order to deal with contaminated tunnel spoil and proceed with processing rubble mound simultaneously, needed to have two separate sites…the cleaning operation would be sited at Catalan Bay car park.

d) Cost of treating anticipated spoil from tunnel excavations was £4M-£5M…proposed and agreed that this could be offered to OHL as a contract variation… [Mr Pardo] concerned that this would further complicate the contractual position given the numerous claims already tabled by [OHL]. GOG instruction for [Mr Pardo] and GLRC to approach OHL with a view to agreeing a way forward."

73. What was largely but not entirely dictating GOG's approach was the desirability of complying with Draft Fill Guidelines which had been produced for discussion within GOG in terms of what could be used within Gibraltar as landfill for reclamation purposes. Thus, by way of example, the Draft Guidelines provided a lower and upper level for lead of 60 and 218 mg/kg respectively whilst the Contract level was 750mg/kg. Therefore, by way of example, if material was found which exceeded 750 mg/kg, the plan was for this to be removed from Gibraltar. If less than this, it would be decontaminated in Gibraltar down to acceptable limits compliant with the Draft Fill Guidelines. If what was recovered was clean sand it would go to the beach for beach replenishment purposes.

74. The parties proceeded to operate the Stockpile Agreement and, by the end of September 2010, some 31,000m³ of excavated material had been removed to Spain by OHL. By late July 2010, consideration was being given by GOG and Mr Pardo as to the possible provision to OHL of space at Aerial Farm, an area of land close to the south-east corner of the site. On 4 August 2010 an OHL internal meeting took place before a meeting between OHL (Mr Doncel amongst others) and Mr Gil of GOG, Mr Pardo and Mr. Stagnetto (a GOG lawyer). The internal meeting recorded that 20,000m³ had been removed to Spain and 7,000m³ was remaining to be transported; 2,000m³ per week was being excavated from the diaphragm walls; it recorded that OHL should start breaking off the diaphragm walls to get them down to the requisite level from which the tunnel roof could be cast. OHL also noted that the groundwater had been detected by it to be contaminated and that the problem "may be serious". In the following meeting, Mr Gil identified (what was to become clear later) that GOG was looking to require contaminated materials above the Contract levels to be taken to Spain, other contaminated materials to be decontaminated in Gibraltar and clean material to be used on the beach. Two areas of 1,300m² and 4,000m² would be made available to OHL for intermediate stockpiling.

75. OHL wrote to GLRC on 6 August 2010 promoting an extension to the Stockpile Agreement to cover more than the 15,000m³ referred to in the earlier letter. This

was agreed to in GLRC's letter dated 26 August 2010 for all contaminated material excavated until 10 September 2010 subject to any further agreement. This was later extended to the end of September.

76. Gamasur had been instructed by OHL to sample stockpiles again in July 2010 and reported on 2 August 2010, the report being sent to the Engineer on 13 August 2010. Lead at 5,780mg/kg was found in a stockpile on site described as "Pre-excavation with traces of agglomerate".

77. Given concerns expressed about water contamination, OHL retained Sergeyco to carry out some water testing particularly for possible heavy metals and hydrocarbon contamination. The field work was done on 26 July 2010 with piezometers being placed with 7 groundwater and 2 sea water samples being taken in August 2010. There was no detectable lead contamination but some elevated hydrocarbon levels were identified in several samples. This report was provided to the Engineer in the first half of September 2010.

78. On 19 August 2010, the Engineer had responded formally to OHL's 8 July 2010 claim saying among other things that OHL could be expected to have anticipated greater quantities of contaminated ground than 10,000 $m^3$ and challenging the assertions made by OHL that the quantity of contaminated material to be excavated would be in the region of 73,000 $m^3$. He went on to say that there had been "an element of cross contamination between non-contaminated and contaminated materials".

79. At OHL's request, Gamasur provided a proposal on 3 September 2010 for a study "to allow the characterisation of soils samples". The "Scope" in Paragraph 1 proposed further sampling from six trial pits between those previously excavated and sampled by Sergeyco in May 2010; this was to enable a view to be formed as to what contaminants were where, in particular heavy metals and hydrocarbons and hydrocarbon derivatives. Interestingly the following is said:

> "Historically, the site has been influenced environmentally by two factors. The first its military use which could be a source of contamination from heavy metals and trace elements and the second as an airport area, where it would be expected to find evidence of the presence of hydrocarbons and their derivatives."

Also produced by Gamasur at the same time was a "Procedure for Sampling and Segregation in Field". This was directed towards classifying "waste generated during the excavation of the tunnel". The document went on to suggest that a study would be made of the waste from the first metre of excavation so that OHL could "assign the destination of the excavated materials, without the need for large stockpiles on site". A further study would be made of the waste from the first meter to the bottom of the excavation at 10-12 metres depth. The proposal involved the determination of whether material exceeded the "tender values" or

the draft guideline values or was beneath both these limits. Mr Dunn on 2 September 2010 pointed out to OHL that one problem about using Gamasur for these studies was that Gamasur's laboratory was not accredited and that it would be important that "independence and impartiality can not only be written but demonstrated and this would always be an issue with an in house lab facility". As became apparent, this has become an issue in these proceedings. These Gamasur documents were largely drafted by OHL or their advisers, which undermines the idea that Gamasur was truly independent.

80. On 20 September 2010, OHL sent GLRC Gamasur's "Soil Sample Characterisation Study" which considered the top 1m to 1.5m of the soil below the then ground level. Six trial pits were dug between the Sergeyco trial pits from May 2010 with two samples taken from each trial pit (at 1m and 1.5m deep) and an average of these samples was calculated for each trial pit. The results were at least badly presented and neither Gamasur nor OHL noticed at the time that alleged failure results for PCBs were reported as such by µg /kg (micrograms per kilo) as opposed to mg/kg (milligrams per kilo). Using the wrong measurement and perhaps unsurprisingly, failures are reported for all samples for PCBs. Lead failures were shown against two samples form one test pit (CC2) which was in the ramp end on the northern side. There was one PAH failure as against the Contract values also in CC2. About half of all results exceeded the lower level limit in the Draft Fill Guidelines. The lower level from the Draft Fill Guidelines was exceeded at least once for every contaminant tested, save for chromium, selenium and zinc. On this basis, and by reference also to the earlier Sergeyco results, the tunnel and approaches were mapped out and 4 of seven sectors (A, C, F and G) were designated in orange as "hazardous" zones and three (B, D and E) were designated as "non-hazardous". Later evidence identified that PCBs were not relevant to the designation in any event. Sectors D and E were right in the middle of the tunnel. Following further test pitting and four more samples being taken on 30 September 2010, Gamasur provided an updated report in October 2010 which added two additional sectors (H and I) at either end of the tunnel footprint; the µg/kg anomaly was repeated.

81. Meanwhile, the diaphragm wall panel work continued both on the north and south side with OHL complaining that they were in numerous places encountering rock which was unexpected or at unexpected levels. These problems continued through the autumn of 2010 with the last panel being completed on the north side on 1 December 2010 and on the south side on 17 December 2010.

82. By September 2010, there was a growing acceptance within OHL that there was or was likely to be a risk of hydrocarbon contamination in the groundwater. This view was based on the water test results obtained. To construct the tunnel, the subway and parts of the approach ramps, it would be necessary to clear water to enable the work to go ahead without the reduced levels being flooded with groundwater. The proposal was to have a number of watertight compartments in the tunnel area as well as temporary sheet piling but the water encountered would

need to be pumped out. If it contained, particularly, hydrocarbon, the water would need to be specially treated. That there was this recognition is clear from internal OHL e-mails from Mr Garcia and Mr Dunn on 22 and 23 September 2010. This had followed some discussions between OHL and Mr Soiza about what would or would not be allowed in terms of what could be discharged into the sea. There would have to be a Discharge Permit and, although there had been no groundwater monitoring regime in place before (with only the August 2010 Sergeyco piezometers and water sampling exercise being done in August 2010), it was not until this time that serious thought by OHL began to be given to what it was going to do with pumped water. An internal memo at this time recognised the likely need for a water treatment plant. On 15 September 2010, OHL submitted its Method Statement for dewatering in the tunnel excavation areas; this proposed pumping wells but did not provide for where the pumped water was to be discharged let alone how it was to be treated. OHL had well before known that a Discharge Permit would be required, it being mentioned in its CEMP, for instance, but did not take any active steps to find out what would be required from Mr Soiza or anyone within the DoE. Sergeyco was sent to discuss matters with the DoE and the DoE said that the standards to be applied would be the EQS limits set out in Directive 2008/105/EC; Mr Soiza provided these EQS limits to OHL on 24 September 2010. The DoE had a few days earlier provided the detection limits and Mr Dunn advised OHL that a British laboratory, NLS, could provide testing services to these limits. In October and November 2010, OHL set about getting proposals from various organisations for the provision of a water treatment plant to be located on site to treat contaminated water before it was discharged into the sea. Proposals were provided for instance from Soldec in mid-November 2010.

83. On 24 September 2010, OHL wrote to the Engineer saying that it needed to start diaphragm wall cut-off works which would require an excavation about 1m deep along the tunnel footprint; it said that it could not start this work because it did not have space on the site to stockpile hazardous material until it was disposed of in Spain according to the extended Stockpile Agreement. It asked for beach parking land so that it could deposit material there. It had removed from the site about 31,000 $m^3$ by the end of September 2010 pursuant to the Stockpile Agreement. On 5 October 2010, Mr Doncel of OHL estimated that the cut-off work would involve 12,000$m^3$ of excavated material and further excavation of diaphragm walls would involve 10,000$m^3$.

84. On 7 October 2010, GOG finally decided that the soil cleaning operation would not be done by OHL but the contract would be awarded to Befesa. The reasons for this were noted in meeting minutes, relating to the soil washing tender evaluation, as the risks of delay, space restrictions and the quantity of the contaminated soil said to have been encountered by OHL.

85. On 13 October 2010, the Engineer wrote to OHL in response to OHL's letter of 24 September 2010, challenging the assertion that OHL could not start further

excavation activities because they did not have space on the site to stockpile, pointing out that OHL had failed to dispose of any excavated material. There was no good reason why OHL could not have continued the removal to Spain of any stockpiled material; the only constraint was that, the Stockpile Agreement having expired on 30 September 2010, OHL would have had to pay for it all itself without at that stage a contribution from GOG, at least initially and subject to any justifiable claim. The Engineer pointed out that GOG had no obligation to make available any additional land but added that "the beach car parking area, which was previously made available to you, would be made available to you at 48 hours notice…" and that "an additional area of land has also been identified which may be made available to you". A detailed proposal would be required and OHL was told that any "delay in being provided with access to these sites will be as a result of your own delay in providing such details which in any event are required under your" CEMP. He pointed out that, by reason of current progress and related site activities, there had been no need to dispose of any excavated material since 30 September 2010. He notified OHL that a company had now been identified to dispose of material prices considerably below those which had been paid pursuant to the Stockpile Agreement.

86. I am satisfied that OHL was not delayed by not having an available site upon which to stockpile excavated material from 30 September 2010 through to the end of the year. It did not challenge the contents of this letter for nearly 5 weeks and it did not even respond to this letter for over one month; if it had truly been in need of more space at the time, it would have responded promptly.

87. On 18 October 2010, OHL wrote to the Engineer saying that on 12 October OHL had been "instructed not to discharge any ground water from site until tests results into the quality of the water had been received and the water discharge was validated by the DoE". On that same day, Sergeyco on OHL's instructions attended site to sample water from the piezometers; these samples were sent to national laboratory services in England for analysis. Groundwater discharge was also being considered carefully by GOG and its various agencies and on 19 October 2010 Entec prepared a proposal for GOG for the modelling of this discharge. On 25 October 2010, OHL provided to the DoE details about pumping and water discharge.

88. By October 2010 and I infer well before, OHL had realised not only that it was going to be very seriously delayed (with at most about 25% of the work done and the original contract completion date due in early December 2010) but also that it was, absent any entitlements to additional money, going to incur a massive financial loss on the project. For instance, at the Progress Meeting on 27 October 2010, OHL was reporting an expected completion date of 24 October 2011. However there is a dearth of internal documentation provided on disclosure by OHL in relation to this growing concern and it is inconceivable that there were not numerous meetings, discussions and reports within OHL about this. A few documents however surfaced on disclosure including a report of 5 October 2010

and entitled "Comparative Report between Preliminary Tender Design and Construction Design…" The draft contains proposed design and cost saving amendments which suggest a continuing discussion within OHL.

89. The additional area to be made available to OHL was to be Aerial Farm to the southern end of the site; it comprised some 4,350 m² and had been used by a local company to store cars. Clarke Bond produced a "Temporary Stockpile Deposition Specification" dated 1 November 2010 for GOG for this site.

90. On 4 November 2010 OHL wrote to the Engineer complaining about under-certification of money said to be due to it. It was largely related to the rock problems said to have been encountered. The letter suggested that the underpayment made OHL's "financial situation unsustainable", going on to say that an additional £44.668m was "needed". I can not track down in the copious bundles where an attachment explaining this figure is but it excluded amongst other things the costs for "withdrawal of contaminated material from the excavation" and of contaminated water. OHL worked on its claim for substantial extra payments over the rest of November and into December 2010.

91. By 10 November 2010, GOG had appreciated that there were diaphragm wall panels which contained defects such as voids, uncovered or insufficiently covered steel and contaminated concrete. Mr Garrett on that date actually produced a specification for appropriate repairs.

92. On 11 November 2010, the Engineer wrote to OHL in relation to ground contamination "a reasonable Contractor acting prudently, and taking reasonable precautions, might make provision for some 15,000 m³ of contaminated material that might be located on the site". Notwithstanding this, he went on to say that GOG had agreed to make arrangements for the disposal of all contaminated and non-contaminated materials, arrangements would be in place within the next few days and that the GOG would bear all the costs associated with such disposal. In effect, he offered on behalf of GOG that GOG would accept that the payments made by it pursuant to the extended Stockpile Agreement would be borne by it (77% to date) provided that OHL would bear responsibility for its share (23%) and that "no extension of time will be granted arising for the discovery and removal and disposal of any contaminated material" and that OHL would "waive any other claims which you may have under the contract to date (if any) related to the discovery, removal and disposal of contaminated material".

93. On 12 November 2010, the Engineer wrote to OHL saying that Aerial Farm would be made available as from 13 November 2010. The material to be deposited there by OHL "should be segregated…into hazardous and non-hazardous material" although a method statement should be provided. He noted that it was OHL's failure to dispose of material from site since 30 September 2009 which "would have caused any inability…to proceed with excavation works rather than the lack of area in which to deposit excavated material". This was

orally discussed several days later between the parties. Aerial Farm had been made available and Mr Doncel discussed with Mr Bugeja of GLRC to the effect that OHL was to "segregate the material based on its site investigation survey results and as required by" the CEMP and that Befesa would "carry out its own test analysis of the stockpile material before removal from" Aerial Farm, as recorded in an e-mail dated 15 November 2010 from the Engineer to Mr Doncel. On the same day, Mr Doncel said to the Engineer by e-mail that OHL was in a position to start the excavation associated with the diaphragm walls cut-off works and make two stockpiles of hazardous and non-hazardous material and this was confirmed by letter on the following day, albeit that Mr Doncel then added that OHL would not be responsible for the accuracy of such segregation.

94. Also on 12 November 2010, OHL sent direct to GOG a letter which enclosed a revised works programme which identified a total delay of 672 days which would take completion through to 25 October 2012. This can be compared to the estimated completion date of October 2011 passed on to the Engineer in the previous Progress Meeting. The reasons for the delay included late approvals, changes, late access, rock and the volume of both hazardous and non-hazardous contaminated excavated material "being significantly higher than could reasonably [have] be expected from the Tender information". It seems clear that from by this stage, GOG acutely realised that there would unavoidably be potentially severe delay, financial and even political ramifications. OHL claims began to be discussed at an internal meeting, for instance at one held on 15 November 2010 attended by, amongst others, GOG lawyers.

95. At some stage in November 2010, Mr Jimenéz, the director in charge of the project retired and Mr Hernandez took over having had no previous involvement. Whether or not he recognised this project as a "poisoned chalice" immediately, it cannot have taken long for him to realise that there were serious problems. No briefing papers or notes of briefings of him have been disclosed. Certain it is that from about the time of Mr Hernandez' involvement very substantial money claims began to be generated, way beyond what had previously submitted, and, as indicated above, the estimated delay for completion doubled from about 1 to 2 years.

96. On 16 November 2010, OHL wrote to the Engineer in response to the latter's letters of 20 October and 11 and 12 November 2010. The lines were drawn about the extent to which contaminated ground was foreseeable and it was asserted that OHL intended originally to maintain all contaminated material for backfilling on this site. It argued that the "disposal of excavated material is part of our workscope" and that Clause 13 prohibited GOG from omitting that work if it was to be undertaken by a third party, going on to say that Clause 13 could only be "set aside if we come to an agreement". There was however in effect an agreement between the parties by that stage that OHL was going to use Aerial Farm to stockpile material. GOG withdrew its offer of 11 November formally on 20 December 2010.

97. On 16 November 2010, GOG through GLRC placed a letter of intent with Befesa on the processing of contaminated soil. Within a few days at most, OHL began to deposit material on Aerial Farm.

98. Mr Alcazar, who worked in the OHL Occupational Risk Prevention Department, gave evidence that he visited the site at about three week intervals and that he visited on 18 November 2010 and "identified a strong smell of hydrocarbons on site", tracking it down to one or more of the stockpiles of excavated material. It was from this visit that works were suspended just before Christmas 2010. I found his evidence unconvincing and him to be an unconvincing witness. No-one else on the site had noticed any such problem. He did not record what his findings were or precisely where the smells emanated from. Although he sought to give the impression that he was concerned about this and brought it to the attention, five days later, of Mr Hernandez, he did not apparently give any advice to anyone on site to take particular care to avoid ingestion or inhalation of hydrocarbon vapours. Indeed, he hardly recorded anything in writing as to what he did or as to what he briefed various relevant people whom he came across such as Mr Hernandez or Himalaya. I have formed a very strong view that there really was no problem and that, even if he smelt something on site, it represented at most a peg on which to hang a hat which would lead to suspension. If there had been any real concern about health and safety at that stage, I am wholly satisfied that, if and to the extent that there was a problem, Mr Alcazar would and should have recorded what the problem was believed to be and given clear and unequivocal advice to protect the workers and others on the site. Everything which followed up to Christmas 2010 and the suspension, in my judgment, demonstrates that what OHL was seeking was an excuse to suspend work with a view to putting pressure on GOG to compromise both financially and as a matter of time on what had already turned into a disastrous project.

99. Mr Alcazar gave evidence that he decided to instruct Laboratorios Himalaya (“Himalaya") which was a fairly new firm started relatively recently by Mr Mojon, and never instructed before by OHL. He had no record of when he visited or indeed what information he actually handed over to Mr Mojon; there was no letter of retainer written by him or by OHL to Mr Mojon. Mr Mojon suggested that Mr Alcazar just turned up one day at his office, the suggestion being that it was unannounced. Mr Alcazar said that he handed over the reports to date; Mr Mojon said that he was not given the reports on the first visit but he got them two days later; he could not now find them in his files. Mr Alcazar said that he told Mr Mojon that the matter was "very urgent" and yet it took four weeks before a report in what was thought to be an acceptable form recommending suspension could be produced under Mr Mojon’s signature. The Sergeyco and Gamasur reports from March to October 2010 which were or were available to be handed over to Mr Mojon had been in OHL’s possession for a considerable period of time and their findings should have put OHL in general and Mr Alcazar specifically on notice months before this if there was truly anything seriously wrong or dangerous in

their findings. His performance was at best unprofessional and incompetent but the reality is that he did not present himself in the witness box as such and I have therefore formed a clear view that the clear intention was to secure from an apparently independent laboratory a recommendation that work could stop.

100. I was equally unimpressed with Mr Mojon as a credible or reliable witness. I had a little more sympathy for him however because it is clear that he was pressurised by a large contracting organisation to produce an appropriate suspension recommendation. His first draft report ("Version 1"), dated 30 November 2010, which went through various revisions at some stage was, I find, both on the expert evidence and also simply looking at it, a hopelessly poor and unprofessional effort on his part. The first nine pages are non-specific to the site and project; for instance, he goes into soil definition, formation and composition, with reference to a Spanish Royal Decree which had nothing to do with this project and then goes on over 4 pages listing criteria for determining if a site is contaminated. There is the most general reference (Paragraph 6) to the particular site:

> "A laboratory accredited for soil analysis took samples with the aim of identifying certain organic compounds and heavy metals (both in the soil and in groundwater) these analyses were complemented by a second laboratory confirming the presence of said compounds."

There was no reference to which reports he was referring to. He can hardly have considered them in any detail because (apart from lead) he picks out mercury, cadmium and chromium which on any account had little or nothing to do with any problems identified on the Gibraltar site. He does not refer to the very problem which Mr Alcazar had supposedly been concerned about, which was hydrocarbon. His references to heavy metals are anodyne and general and certainly not specific to this project. He should have been aware, as OHL was, that Gamasur did not have an accredited laboratory and that its results therefore needed to be treated with circumspection.

101. He then launched in Paragraph 7 into "Soil analysis, conclusions and recommendations". It is immediately clear that there is no analysis at all and certainly none is recorded. He then went on to say:

> "Therefore, in accordance with the studies that have been conducted an analysis of the soil, the following was included:
>
> 1. The presence of aromatic hydrocarbons, polycyclic aromatic hydrocarbons, and other organic compounds, their physical and chemical properties and their adverse effect on workers' health under the envisaged working conditions (excavation and extraction in tunnel), and given the determining factors inherent to this type of work (extreme thermo-hygometric [sic] conditions with high temperature and humidity), implies that the aforementioned compounds would pose a serious risk.

> 2. Given the presence of heavy metals (chromium, lead, copper, nickel, zinc, mercury, arsenic, etc) both in the soil and in the water, problems associated with bioaccumulation within the human body and the potential disorders and pathologies resulting from exposure to these substances under the above mentioned working conditions;
>
> The following courses of actions [sic] are recommended:
>
> a) Given that one of the collective protective measure [sic] to be applied is the forced ventilation of the tunnel and given the characteristics of these organic compounds (vapour pressure and volatility, among others), such a measure would pose a serious risk to the workers' health, and their work should be allowed to take place under such conditions.
>
> b) Given the working methods within the tunnel the inhalation of these heavy metals would pose a severe health risk, it is not advisable to work without first carrying out the corresponding decontamination."

This was clearly an inadequate effort. For instance, it was identifying six of seven heavy metals which were relatively speaking irrelevant and the fact that there were hydrocarbons compounds was in itself immaterial unless or to the extent that they exceeded certain levels. He said that he was adopting a "qualitative approach" but there was no analysis of any relevance and he was unclear about what he meant by "qualitative", other than it was the broadest of broad brushes.

102. It must have been appreciated by OHL that this first draft was unusable and unfit for purpose and at least one further draft ("Revision 1") was produced at some stage which after Paragraph 7 (as above) identifies some non-specific matters which have nothing really to do with this project. There then followed just over a page of references to various substances which appear to have been specific to this project. Benzo-fluoranthene, benzo-pyrene and fluoranthene analysis relating to the tunnel site is set out in respect of three samples and two findings from Sergeyco reports in respect of lead are reported albeit that the reference to the maximum lead limit bears no relationship to any recognisable standard. The next two pages are not related to this project but there was a "Conclusion" tagged on to the end:

> "In view the values found in the site where works are to be carried out (construction of the tunnel under the airport) and of current legislation on contaminated soils, as far as the CRITERIA FOR IDENTIFYING SITES THAT REQUIRE RISK ASSESSMENT is concerned, it is evident that the maximum values have been exceeded for certain chemical compounds that were analysed. The table below [sic] only shows a number of chemical compounds and only three had been identified on account of

their characteristics. Nevertheless, there are other substances that could be considered.

Furthermore, section a) of Annex IV, establishing the criteria for identifying sites that require risk assessment, has been complied with in as far as:

**The site under study shows concentrations of total oil hydrocarbons in excess of 50 mg/kg and LEAD (Pb) CONCENTRATIONS of 9900 mg/kg**.

In light of the above, a Risk Assessment of the site under study is deemed necessary."

Apart from the fact that there was no "table below", a later table in the report referring to hydrocarbons does not show concentrations approaching anywhere near 50 mg/kg.

103. Although it is the case that the first of or possibly both these drafts were sent on or by 1 December 2010 by Mr Alcazar to OHL (variously Mr Reyes and Mr Hernandez at a senior level and a Mr Metcalf, an independent claims consultant), and considered by them, there is not one relevant internal document (e-mail, note or other) relating to the draft before 14 December 2010. Given the alleged urgency, if it was a genuine exercise, work would have been suspended or, at the very least, the Risk Assessment called for by Mr Mojon would have been initiated. Mr Alcazar, unconvincingly, suggested that he heard nothing over this period. Mr Doncel accepted that there must have been a review but sought to distance himself from it.

104. The next written communication on the Himalaya involvement comes very much out of the blue with Mr Doncel sending by e-mail dated 14 December 2010 timed at 15.59 to Mr Metcalf what seems to have been Version 1 of the Himalaya report; this version has not been disclosed so far as I can establish. A draft letter to go to GLRC was prepared I infer by Mr Metcalf which refers to the unreconstructed earliest version of the 30 November 2010 Himalaya report ("Soil analysis, conclusions and recommendations"). In all probability, Revision 1 had not been drafted by then. At 16.21 he sent to Mr Metcalf the same Version 1 but with an electronically imposed signature of Himalaya and Mr Mojon; it is clear that Mr Mojon had provided this to be imposed by OHL. At 16.23, he sent to Mr Metcalf the Sergeyco May 2010 report. At 16.28, Mr Alcazar sent to Mr Doncel what looks like Revision 1, which Mr Doncel sent on to Mr Metcalf at 16.34. Mr Metcalf clearly drafted changes and sent them back to Mr Doncel at 18.36; the e-mail clearly refers to the possibility of seeking an injunction in the Gibraltar courts for the work to be suspended. He next e-mails Mr Doncel at 8.36 on 15 December 2010 suggesting that Himalaya is asked to consider whether the tender information indicated a health and safety risk. Over the next few days, there were

exchanges between Mr Alcazar and Mr Doncel and Mr Garcia about geo-technical information contained in the Sergeyco and Gamasur reports being two such reports which Mr Alcazar had said in evidence he had given Himalaya earlier.

105. On 20 December 2010, OHL served by letter on the Engineer a report from Himalaya dated 15 December 2010; it contained Mr Mojon's electronic signature. The letter materially said:

> "…This Report has been produced following an examination by Himalaya of our report of May 2010 [actually Sergeyco's report]. The conclusions of the report, quoting verbatim, are as follows...
>
> In view of the Health and Safety problems highlighted by the Himalaya report, and in order to avoid any harm to our personnel, to the workers or to third parties, we really do believe that it is essential to proceed with the prior decontamination of the polluted materials - under conditions of safety for the workers - before undertaking any major activity at all involving an alteration of the physical reality of work and the construction procedures (see the Conditions for Contracting the Project and Work) and we therefore request that you authorise and agree to the IMMEDIATE SUSPENSION of the related works. This suspension of work is legally demandable in view of the Health and Safety problems of the workers for of third parties, and for this purpose we require that you state that day and time for proceeding on your part to draw up the Certificate of Suspension of the works due to the stated facts which affect the Health and Safety of the workers, and we urge him to notify these acts to the appropriate Administrative or Judicial Authorities..."

106. The enclosed Himalaya report contains a number of changes from Version 1 and Revision 1:

(a) The references in Paragraph 5 to the Spanish Royal Decree were replaced by a reference to a European Directive.

(b) Apart from this, the first six pages of script were non-specific to this project and were as before.

(c) Paragraph 6 was slightly changed to read:

> "The laboratories accredited for soil analysis (GAMASUR Y SERGEYCO ANDALUCIA) took some samples for determining certain organic compounds and heavy metals (both in the soil and in underground waters). These analyses were complemented by a second laboratory confirming the presence of set compounds."

The rest was in the same order as before although there were some more different descriptions of heavy metals, mercury, cadmium, lead and with added references to nickel and arsenic.

(d) There was added to this a "Declaration of Polluted Soils" although this was non-specific to this project.

(e) There then followed some two pages of “Criteria for the Identification of Soils requiring Risk Assessment” and tabulated “List of Pollutants and Generic Reference Levels for Protection of Human Health according to use of the Soil”, much if not all of this having been downloaded from some unidentified source. This had been attached as an Annex to Revision 1.

(f) Paragraph 7, although headed “Analysis of the Soil, was different. It contained the same details of benzo-fluoranthene, benzo-pyrene and fluoranthene analysis. The former lead findings are excluded but another lead result is given (3,583 mg/kg to be compared with a “maximum value” of 500 mg/kg). A PCB result is given (30 mg/kg compared with a maximum value of 0.08 mg/kg), then a PAH result of 36 mg/kg as against a tender value of 4-29 mg/kg followed by a total petroleum hydrocarbon result of 8,600 mg/kg against a tender value of 50 mg/kg. There then follows:

> “The presence of pollutants is itself a reason for conducting an assessment of the risk implied by their presence in the soil as set down in the European legislation.”

(g) There then followed the “Conclusions and Recommendations” which bore little or no relationship to the earlier ones:

> “Bearing in mind the geographical characteristics of the place where this investigation is being conducted, the legislation applicable in default is English legislation, which is the transposition of Community regulations, applicable throughout the entire territory of the European Union.
>
> At the end of this study, and seeing the analysis of the soil that has been carried out, it is concluded that
>
> 1.- From the values found in the soil where the actions are going to be carried out (construction of the tunnel beneath the airport) and that set down by the existing legislation with regard to polluted soils as far as the CRITERIA FOR THE IDENTIFICATION OF SOILS REQUIRING RISK ASSESSMENT are concerned it can be seen that the limit values are exceeded in respect of certain chemical compounds, which are being determined on account of their characteristics, nevertheless, they exist more substances that could be borne in mind.

2.- With the presence of aromatic hydrocarbons, polycyclic aromatic hydrocarbons and other organic compounds, and given their physical and chemical properties and their negative influence on the health of workers under the working conditions they are going to be subject to (excavation extraction in tunnel), when the conditioning factors that are inherent to this type of work (extreme thermo-hygrometric conditions with high temperature and humidity), all this means that the presence of the aforementioned, would imply a serious risk.

3.- Due to the presence of heavy metals (chromium, lead, copper, nickel, zinc, mercury, arsenic, etc.) both in the soil and in the water, and with the problem implied by bioaccumulation in the human body and the disturbances and pathologies that could result from human exposure to these substances under the working conditions stated above.

4.- The soil analysis discovered the presence of PCB. Polychlorobiphenyls all polychlorinated biphenyls (PCBs) are a family of 209 substances…According to the United Nations Environment Programme, polychlorinated biphenyl is considered to be one of the 12 most poisonous pollutants manufactured by human beings. Its use is currently prohibited in almost the entire world. **FINDING PCB IN THE WORKPLACE WHERE THE TUNNEL IS BEING CONSTRUCTED IS A VERY WORRYING ASPECT.**

5. - Moreover, in the corresponding annexe of the European legislation, the criteria for the identification of soils requiring a Risk Assessment is also met, in that:

**That the soil under study shows concentrations of total petroleum hydrocarbons greater than 50 mg/kg**.

The recommended actions are as follows:

a) Given that one of the collective protection measures to use is the forced ventilation of the tunnel and bearing in mind the characteristics of these organic compounds (among others, vapour pressure and volatility), this would imply a serious risk for the health of the workers who are going to be carrying out such works, and no labour activity ought to be allowed under such conditions.

b) Owing to the way of working in the tunnel, the inhalation of these heavy metals would imply a severe risk for health, and therefore it is not advisable to carry out any labour activity without first undertaking the pertinent decontamination."

107. So far as it is material, I find that this Himalaya report, although dated 15 December 2010, was not finalised until 20 December 2010 or possibly shortly before. This is because, firstly, the state of the draft as at late on 14 December 2010 was nowhere near being in its eventual form, secondly, giving Mr Alcazar the benefit of the doubt and in the absence of any e-mail traffic at this time between OHL and Himalaya, his evidence being that he would go to Malaga to see Mr Mojon, he could not readily have done that in the time available, thirdly, I have serious doubts as to the credibility of all the OHL witnesses involved in this episode, fourthly, a "Proof of Work" supposedly prepared by Himalaya on 14 March but probably prepared by Mr Alcazar suggests at least on one reading that the report was prepared on 20 December 2010, and finally, OHL (in a letter dated 15 March 2011 to Mr Pardo) wrote that it had been received by it on 16 December 2010. Mr Mojon was at best very confused under cross-examination as to his involvement, talking about an appointment with Mr Alcazar on 15 December 2010 and there being more soil toxicity tests being done "that very night" or possibly on the day before (there being in fact no such tests).

108. I accept the evidence of GOG's health and safety expert that this was also an incompetent report. Even Dr Lamont for OHL accepted that it was of a "low professional standard". Much of it is non-specific, there is little or no analysis or explanation for its conclusions and it is at best amateur. I have formed a very clear view that this was put together by a combination of people from OHL's personnel, Mr Metcalf and to a relatively limited extent from Mr Mojon himself. The reference in the 15 December 2010 to PCBs is an example: it had not been mentioned in the 30 November 2010 report and there was no good reason why, if it was relevant at all, it was not mentioned in the earlier draft report; Mr Mojon suggested that Mr Alcazar did not understand the importance of PCBs but that evidence for someone with his knowledge and experience and for one who had had the Sergeyco and Gamasur reports which talked about PCBs was not credible. The health and safety experts said, and I find, that the existence of PCBs was not "worrying" and need not have been mentioned. It was prepared to put commercial pressure on GOG in the context of the very substantial delays and losses incurred and to be incurred by OHL in effect to encourage a commercial resolution of these problems. If OHL had genuinely believed that the contaminated materials unearthed by Sergeyco and Gamasur in 2010 were harmful, the position reached by 20 December 2010 would have been reached months before. The fact that OHL sat on the Himalaya report, what is said to have led up to it and the alleged concerns raised in that report for the best part of a month without doing anything to protect its workers or warn them and other users of the site like the Engineer and other related personnel suggests strongly that the submitted version of the report and the request for suspension were simply tactical.

109. In this context, one needs to bear in mind the unfortunate position in which OHL found itself by December 2010:

(a) It was on its own assessment almost 2 years late on a 2 year contract.

(b) It had only been paid about one third of the Contract Sum and there was a substantial running loss.

(c) Although there were largely un-quantified claims for various matters such as rock and contaminated materials, GOG and its advisers were not sympathetic to such claims.

(d) There is a dearth of disclosure from OHL as to its running costs, losses or profitability but there are sufficient hints in what has been disclosed that OHL felt that it would need a total of nearly £80m to complete the job. For instance, a draft OHL document entitled "Alternative Solution to the Viability of the New Access Road and Tunnel…" suggests that a figure £79.664m would suffice provided that certain cost-saving changes were implemented. In fact a figure of £91.1m had been put forward but the lower figure assumed various savings in terms of potential design savings.

(e) OHL was accepting internally that it would have to incur costs which it had not budgeted for in relation to dewatering and decontamination of groundwater before it could be discharged into the sea; they were in the process of seeking proposals from various sub-contractors in this regard. It had applied on 25 October 2010 for a water discharge licence. On 9 December 2010 it had sent to the Engineer quotes for the requisite water treatment plant. On 16 December 2010, it submitted a report to the Engineer about lowering the water table.

(f) There appears to have been some internal acceptance that there had been no significant allowance within its contract pricing for dealing with contaminated material. An internal site report dated 15 December (possibly from Mr Doncel or Mr Garcia) suggests that the "evidence of high levels of contamination, with [GOG] prohibiting disposal at the refuse dump) was "unexpected" and "not accounted for in the offer", albeit it goes on to refer to the data (in the contract documentation) referring to 10,000m³ of contaminated material, which the report says could be used in the works.

(g) Added to this, there had been excessive rains in early December 2010 which had delayed work and caused substantial ponding to the site which would foreseeably cause further delays. The site was waterlogged in places with up to 300mm of water ponding.

As Mr Hernandez accepted, he wanted to secure a commercial settlement. He knew that, unless there was a negotiated settlement or the claims were substantially allowed or allowable, OHL would lose a very significant amount of money.

110. Internally, the reaction of GOG and its professional team to OHL's letter of 20 December was one of disagreement and surprise. For instance, Mr Cahill of Clarke Bond wrote by e-mail to the others that a "prudent" contractor would already have done a risk assessment relating to contaminants, mitigation measures could overcome problems within the tunnel, the Himalaya report did not actually undertake any assessment of risk to human health, the distribution and concentrations of the contamination "hotspots" have not been compared to programmed excavations and most of the contamination would be within the upper horizons of the tunnel excavation and would be removed in the open prior to casting of the roof slab.

111. Mr De La Paz replied on 22 December 2010 to OHL's letter of 10 November 2010, stating that he and GOG had "gone far beyond what the contract requires in an effort to assist you and to progress of the project", going on:

> "Your disposal obligations under the contract are to be performed by placing excavated material onto the designated area under the direction of the site operator. There will be no charge for this facility. You have been instructed to co-operate and co-ordinate with the site operator and notes that you have been doing so.
>
> As to the retention on site of a quantity of contaminated material, this is a matter to be resolved between you and relevant authorities. Subject to proper design and other approvals, the Employer and we do not object to such retention provided that contaminated material is duly capped with clean material.
>
> We should note our view that the quantity of material that has so far been designated contaminated has been increased by the careless excavation and handling of the material, leading to cross-contamination. This has exacerbated the problem. You are instructed to take far greater care in the remainder of the excavation to minimise the quantity of contaminated material."

The reference here to "designated area" was obviously to Aerial Farm.

112. On 23 December 2010, he wrote again to OHL, referring to the letter of December saying:

> "Whilst reserving our position on your report entirely, we note that you are today closing the site for the Christmas period until 10th of January 2011. Consequently we will consider your letter and the report during that period and revert to you substantively as soon as possible.

> We must say that on our initial reading of your letter and the report there appear to be no grounds for the suspension of the Works as you suggest."

113. OHL however did suspend works on 23 December 2010 but, as indicated in its December 2010 Progress Report, "stopped the excavation works until further tests are done, and alternative construction methods, which allowed to work [sic] in a safe manner, are developed" in the context of the Himalaya report. Its Valuation 23 in December had claimed a total of £65,640,371.58.

114. On 23 December 2010, GLRC also wrote to Befesa with regard to its delay in setting up the soil washing equipment. In the result, there is no suggestion that this delayed OHL in its work, particularly given its suspension of works.

115. After the Christmas and New Year break, during which no work was done, albeit that work had been planned to take place then, Mr De La Paz wrote on 7 January 2011 to OHL by way of a detailed response to OHL's letter of 20 December 2010 and another letter dated 29 December 2010 in which OHL said that it was considering follow-up reports "in relation to the excessive levels of contamination as highlighted" in the Himalaya report. He said that there was nothing in the Himalaya report in terms of findings that were "materially different from what you knew, or ought to have known, from the information that you have available at Tender Stage" and that it was OHL's responsibility and risk to deal with the circumstances which had arisen, referring to OHL's CEMP which stated that appropriate personal protective equipment and dust suppression techniques would be employed to deal with contaminated ground. Reasonable practicable measures were available to address all pollutants cited in the Himalaya report and indeed all the identified pollutants could be addressed by the use of appropriate methods and equipment. He observed that OHL had not compared the contamination hotspots within the programmed excavations for the Works and that, if they had done, it would be shown that most of the contamination was within the area of tunnel excavation which could be removed in the open air before the roof slab was cast. He challenged the assertion that there were exceptional circumstances preventing OHL from performing its contractual obligations. He said it was his opinion that the contamination present would not pose "a chronic or acute risk to human health if the risks are properly assessed together with the implementation of standard practices to mitigate any risks identified". He reminded OHL of its duty to "proceed with the Works with due expedition and without delay" saying that GOG would take "all steps at its disposal to require you to meet your obligations under the Contract." This was a detailed response and is likely to have been considered by OHL as uncompromising.

116. This was followed by a letter from GOG on 11 January 2011 giving notice to OHL that it had failed to complete the works within the contractual Time for Completion and that liquidated damages for delay would be deducted.

117. On the same day a "without prejudice" meeting took place between the GOG representatives (including Mr Pardo, Mr Barton, Mr De La Paz and Mr Stagnetto) and OHL people including Messrs Hernandez , Reyes and Doncel as well as a representative of Linklaters then advising OHL. OHL explained that it was awaiting two reports on contamination and, in response to questions about what its intentions were, confirmed that it was "perfectly able and willing to complete the project" although it had severe concerns regarding circumstances encountered on site. There was discussion about the appointment of a Disputes Advisory Board, albeit ultimately this did not occur. Each side put its position on responsibility for the contaminated material with there being no resolution about this.

118. Nothing of note happened in terms of work over the next few weeks but a small amount of breaking down and cropping of diaphragm walls continued in a relatively desultory fashion, although this petered out in the first half of February 2011. OHL retained VTA to carry out a further site investigation into ground conditions as well as water. They dug 10 trial pits and did 7 boreholes. Of all the samples tested, only one failed in relation to lead (in Trial Pit 7 at 1.5m depth below the then ground level); there was one PAH exceedance albeit not in the tunnel area.

119. Clarke Bond did another site investigation on behalf of GOG in January and early February 2011; this comprised 5 trial pits and 11 boreholes. 127 samples were taken with 8 exceeding the tender threshold allowance for lead (albeit only two within the tunnel footprint). There were no failures in relation to PAHs, PCBs or TPHs. The VTA and Clarke Bond reports were to follow in February 2011 and results were exchanged between the parties

120. The Befesa plant was put on a standby arrangement because in simple terms there was nothing for it to do whilst the OHL works were effectively suspended and no excavation work was proceeding. Befesa were to be paid a standby rate for keeping the plant at its site. The agreement for this was formalised later in February 2011.

121. On 18 January 2011, OHL representatives met with GLRC representatives and Mr Soiza of the DoE to discuss the discharge of groundwater to the sea. OHL explained that they were negotiating with sub-contractors to define an adequate system to meet the EQS limits put forward by the DoE and that about 800 $m^2$ was required for their facilities. OHL warned that "a considerable period of time will be required to find a viable working solution to all these issues". The Engineer was to write back on 9 February 2011 asking for details about the space required.

122. On 19 January 2011, OHL wrote to the Engineer saying that reports have been commissioned into the contamination issues. It explained that the only activity in the tunnel area that could possibly be done was the cutting of all the diaphragm walls but that ponding due to the earlier rainfall was making that difficult because

the pond water could well be contaminated and could not be discharged. On 21 January 2011, the Engineer responded expressing his grave dissatisfaction and concern about the lack of progress on site saying that there was only one gang working to break down the diaphragm walls and apparently all other work had been suspended; he said that OHL was "failing to proceed with the Works with due expedition and without delay". There was no reason, he said, "why the excavation to the formation level could not be proceeding" particularly as it was an open air operation and he did not accept that the ponding was an excuse for a failure to progress the excavation, pointing out that the ponding in particular on the north side was probably attributable to bentonite spillage earlier. He called for a revised programme.

123. On 24 January 2011 OHL wrote to the Engineer in relation to its "inability to proceed with the excavation of the tunnel" saying that they were currently investigating the extent of the contamination in the ground to be excavated, but they were actively progressing the disposal of water from the site and were investigating the possibility of explosive artefacts within the tunnel area and until these issues have been satisfactorily resolved it was unable to progress with the tunnel excavation. That was challenged by the Engineer in his letter in reply of 26 January 2011.

124. By early February 2011, OHL had actively considered amending its tunnel design by excavating down to a depth of four metres in the open air before placing the roof slab on to the prepared diaphragm walls so that when excavating the remaining soil out from under the slab and operation would be quicker and supposedly more safe for workers (at least in terms of possible ingestion or inhalation of lead or hydrocarbon). This was considered at an internal OHL meeting on 4 February 2011.

125. On 8 February 2011, OHL forwarded to the Engineer a short VTA report about the ponded rainwater on the site. Based on 2 samples whose locations were not identified, the report concluded that they showed “that the accumulated rainwater exceeds the water quality limits set by the” DoE. Mr Soiza when he saw this report was concerned, as he believed that the contamination of the water had come about because it had been in contact with contaminated material on the ground; he said in an e-mail that this water would have to be treated. The Engineer wrote to OHL on 9 February 2011 saying that the significant increase in contaminant concentrations in the groundwater was due to OHL’s "mismanagement and inadequate handling of the bentonite excavation support fluid, during the construction of the diaphragm walls" with the bentonite forming "an impermeable basin which is preventing the surface water from draining". The bulk of the ponding at this stage was on the northern end of the site but there was too much water there to be practicably removed by water tanker.

126. On 9 February 2011, Mr Gil wrote to the Ministry of Defence seeking consent for the temporary use of its tennis court to locate the water treatment plant. On 10

February 2011, OHL wrote to the Engineer saying that, with regard to the contaminated ground and surface water, excavation works could not be resumed until there was a water discharge approval and the treatment plant had been set up. In that letter OHL also indicated that it had commenced developing its alternative design in relation to the tunnel construction method involving the excavation to a depth of 4m between the diaphragm walls prior to the construction of the tunnel top slab to "avoid working in confined spaces and [to] provide ventilation for the excavation works". The design work was expected to take some six weeks when approval would be sought. It required "the temporary suspension of the works in the tunnel during this period of time" and said that it was entitled to extension time and an additional payment.

127. Mr Soiza wrote to OHL on behalf of the DoE on 10 February 2011 making it clear that the rainwater could not be discharged into storm drains or direct into the sea because it required treatment. On the following day, Mr De La Paz responded to OHL's letter of the previous day disagreeing with much of what had been said, repeating his opinion that OHL was responsible for the surface water at the northern end of the site and that the contamination did not present "a chronic or acute risk to human health if the risks are properly assessed with the implementation of standard practices to mitigate any risks identified." He did not agree "with the reasons you provide for having to change the works method and consequent redesign of the tunnel." He believed that "your decision to change the design and construction methods at this very late stage of the project is entirely due to your inability to properly programme and plan works at project conception stage", back in early 2009. He was not prepared to issue a suspension notice but it was his express the view that OHL was "failing to proceed with the Works with due expedition and without delay."

128. The Engineer, probably because he appreciated that he could not prevent OHL from producing an alternative design, reminded OHL by letter on 14 February 2011 to submit a revised AIP (Approval in Principal) so that the principles of the revised proposals could be agreed before the execution of the detailed design and the Category 3 check.

129. On 15 February 2011, OHL secured the water discharge authorisation as confirmed by Mr Soiza on that day by e-mail and a letter dated the following day.

130. No permanent work was done on site after the relatively minimal cropping work to parts of the diaphragm walls ceased in mid-February 2011.

131. At some time in February 2011, some real thought was given within GOG and its professional team (albeit not the Engineer) as to the possibility of what might happen if there came a need to terminate the contractual relationship with OHL. Disclosure about this was largely lacking, albeit that I can draw no particular inference from this. I would have been very surprised if GOG had not considered by this stage at least the possibility of the relationship having to be terminated

given the virtual doubling of the construction period and the risk of continuing traffic disruption in and out of Gibraltar, if nothing else. Mr Pardo (and others) entered into some discussion with Bouygues and FCC in this context but it seems likely that this was relatively provisional and informal. A package of drawings was sent to Bouygues for instance on 7 March 2011 and there were a number of meetings between Mr Bugeja of GLRC and FCC in March and April 2011, albeit there is no disclosed record of these meetings. For instance, it is clear that Bouygues requested information which was provided by the Engineer on 6 April 2011 to Mr Pardo for onward transmission to the French company.

132. It is clear that as from late February 2011 Mr De La Paz became involved in this context in terms of the letters about OHL failures. Much of what might be called the "contractual" correspondence from the Engineer began to be drafted either by or in conjunction with GOG lawyers from about this time. One of the letters the drafting of which Mr De La Paz played a part in was a letter to OHL from Mr Pardo on 9 March 2011 which contained 18 heads of complaint or at least comment, ranging from poor quality design systems, poor programming, late submissions of drawings and method statements, a poor record on health and safety and site quality control, poor quality bentonite control, ground contamination complaints together with dewatering, poor progress on the Systems Approach Lighting System (SALS), inadequate quality control and supervision in relation to fuel farm construction works and progress generally. It called upon OHL "to recommence to Works within 14 days" and also for proposals to mitigate the delays to the work.

133. On or shortly after 1 March 2011, GOG made available the MOD tennis court site for the water treatment plant to be provided by OHL. By letter of that date the Engineer wrote to OHL to the effect that GOG had no obligation to provide this land and that it was available as from that date.

134. OHL met with the Engineer on 9 March 2011 and asked that there should be a quick response to the water treatment method statements and the approval of the sub-contractor, to be told that the sub-contractor would be accepted that afternoon but the method statements had still not been received; OHL is noted as saying that it would provide all the requisite documents by 17 March 2011 together with the complete outline design for the tunnel roof slab. It could not say what the completion date would be but it was indicated that the completion date would be between 15 and 20 month from the date of recommencement of the works. The Engineer expressed concern at the lack of progress on the fuel farm works which were not dependant on the tunnel works and Mr Hernandez said that he would personally look into that issue. There was also a discussion about matters in issue and Mr Hernandez put forward a figure which was probably £79 million or more and the suggestion that mediation could be deployed to reach agreement. OHL wrote back on 15 March 2011 saying that it would submit a full design for the project albeit not “the tunnel’s new method of construction”.

135. On 11 March 2011, the Engineer approved the method statements submitted the day before by OHL for the water treatment and for the dewatering of the watertight areas on the line of the tunnel.

136. When on 17 March 2011 OHL submitted its new design proposals, including drawings and specifications, it excluded design elements including the tunnel's "new construction process" and a "change to South ramp longitudinal slope". The full detailed design of the tunnel was still being prepared and would need to be re-issued.

137. Meanwhile, although his earlier recommended Risk Assessment had not been and never was done, Mr Mojon and Himalaya had been deployed again initially to carry out air sampling at the site. This seems to have involved his first trip to site and the object was to advise on the ramifications of working on the site and in the tunnel as designed. Mr Mojon's statement (for which there is no documentary support) says that he was approached again in January 2011 by Mr Alcazar and he recommended an assessment be made "of the degree of worker's exposure to chemical products during the excavation work". What is surprising is why it took OHL so long since the Sergeyco and Gamasur reports in the previous year to embark on this exercise, if it was ever really concerned about their workers' safety. Even then, there was no urgency and it was not until 23 February 2011 that Mr Mojon went to site to take controlled air samples. These were analysed and the subsequent report entitled "Survey Report Environment Conditions" dated 1 March 2011 concluded (in the English translation):

> "At no time the established exposure limits are exceeded. However personnel protective equipment must be used in greater Operators safety.
>
> Recommended equipments are…"

I have no reason to doubt that this report was Mr Mojon's work. However, it necessarily undermined Himalaya's recommendation in its 15 December 2010 report to the effect that all operations on site should cease. This was saying that there was no good reason for work on site in terms of excavation not to proceed provided that the recommended equipment was used. It could not have been perceived by OHL as useful to its cause and indeed the later Himalaya report (see below) sought to improve the position taken by OHL.

138. A second Himalaya report however was prepared, dated 7 March 2011, although it is clear that much of the work in it was not that of Himalaya. It went through a number of drafts but ultimately it was not even signed by Mr Mojon as its electronic signature was imprinted by OHL. The introduction or "Scope of the Report" was drafted entirely by OHL. Annex 1 was the 1 March 2011 Himalaya report, Annex 2 was the "Final Report on the Working Conditions to be Adopted on the Gibraltar Tunnel Construction Works Further to the Soil Chemical Analysis, Personal Air Monitoring on Operatives, Ecotoxicity and Mutagenecy

[sic] Tests Undertaken" and Annex 3 was a "Mathematical simulation of contaminants concentrations in the tunnelling works".

139. This was in my judgment a tactical document to provide some support for the new and revised tunnelling design and some retrospective justification for the suspension of works since Christmas 2010. The Report in Annex 2 is poorly drafted and is not to a good professional standard. It provides no analysis and little justification for its conclusions. It does not identify on what it is based in terms of which reports it had regard to; for instance Mr Mojon could not in evidence identify which report he said he had been shown by Mr Alcazar relating to ecotoxicity, although he refers to ecotoxicity in the report. It appears to abandon any reference to PCBs in respect of which in capital letters in the 15 December 2010 report it had said finding "PCB in the workplace where the tunnel is being constructed is a very worrying aspect"; it appears no longer to have been worrying at all. It places reliance on the contents of Annex 3 for which see below. It then jumps to conclusions to the effect that the soil on the route of the proposed tunnel should be decontaminated. Conclusion 2 in the report sent to the Engineer is verbally confusing:

> "Due to the presence of organic compounds, especially considering the presence of Polycyclic Aromatic Hydrocarbons…and heavy metals, the use of convenient PPE (Personal Protection Equipment) adequate for the level of risk exposure required [sic]. It is to be highlighted that the soil is "impregnated" with mutagenic chemical substances (as shown on the Ames mutagenicity test) and which are also ecotoxic."

It went in Paragraph 4 to say:

> "The tunnel should be built on an open space, in such a way that natural ventilation predominate [sic] as traditional excavation methods would pose more risks on operatives, as the environmental conditions may aggravate the risk of exposure to chemical compounds."

140. Annex 3 involved the application of a formula to correlate the accumulation of chemical agents in confined spaces created by excavation or extraction in a tunnel location, with or without ventilation, by reference to the tunnel entrance. One of the mathematical scenarios involved a consideration of whether there would be excessive accumulation depending on whether the first 3m of soil had or had not been excavated before or after the placing of the tunnel roof slab. It is wholly unclear in the report where this calculation or formula came from.

141. Both Health and Safety experts were critical of this report and rightly so. Based on their evidence, the contents of this report were largely spurious. Neither expert agreed with the conclusions or the methodology or the use of the formula adopted by Mr Mojon. The mathematical formula was derived from an American source which even Dr Lamont for OHL had not come across before, although Dr Purnell

had tracked it down. It was clear that it was not appropriate to use this formula. Critically, Mr Mojon's use of a factor of 3,500mg of airborne lead could not be justified and his evidence could not conceal that it was plucked out of the air (and he was evasive about answering this). The experts have not tried to support the calculation.

142. The reality is, and I find that, there was no real risk within the tunnel excavation of harm to workers from the two relevant types of contaminant which could have been present (albeit only in the made up ground which was left after the first two metres of soil had been removed as it had been in mid-2010). As the relevant experts both said, lead is only a risk if it becomes airborne within the tunnel excavation and it would not have become airborne if the common system of dust suppression, namely wetting the material to be excavated, was deployed. Hydrocarbon contamination was similarly not a risk and, if encountered, it need not have become airborne and would not have been materially different from the diesel fumes generated by the tunnel earthmoving equipment which would have been addressed by the planned forced ventilation and other standard measures.

143. If any independent thought was given to this latest Himalaya report within OHL, it should have been obvious that it provided little if any justification either for the earlier suspension of work or the new design for the tunnel roof and new work method which was being developed for the tunnel excavation.

144. An electronic programme was sent by OHL to GLRC on 18 March 2010, copied to the Engineer. On 22 March 2011 OHL submitted a revised AIP for the redesign of the tunnel.

145. At about this time, GOG began to make arrangements for the dismantling and mothballing of the Befesa plant which had been idle since it was set up. Based on the evidence, it is likely that GOG's reason for doing so was partly financial, partly because where it was located it could be useful for beach users and partly because there was little confidence that any progress would be made by OHL. There was and continued throughout this period a continuing feeling within GOG and its team that the time could well be approaching when termination of the contract with OHL would have to be invoked; this also doubtless coloured the decisions being made. By 1 April 2011, the Befesa plant had been dismantled. However, arrangements were made whereby it could be re-established if required.

146. On 21 March 2011, OHL wrote to Mr Pardo responding to his letter of 9 March 2011 challenging much of it and also saying that the tunnel works could not be resumed until the water treatment plant was operated so that dewatering works could start and until the risk assessment and review of its method statement for excavation works in contaminated soils submitted on 17 March 2011 was approved by the Engineer and the revised design and construction method for the tunnel also then submitted was approved by the Engineer.

147. On 23 March 2011, OHL wrote directly to GOG enclosing a "Report on the Incidents occurred in the Course and Performance of the Contract" saying that it required "the economic balance of the contract in accordance to the notified claims" to be re-established and suggesting that a new budget and completion dates needed to be agreed. It seems that it forgot to enclose the budget which was sent to GOG on 1 April 2011; the total suggested was over £98 million or over three times the original contract price.

148. On 30 March 2011, the Engineer commented on the VTA report (submitted to him about three weeks before) expressing concern that VTA had relied on unaccredited laboratory data from Gamasur. In relation to the Risk Assessment for Excavation Works (namely the 7 March 2011 Himalaya report), the Engineer queried parts of it and suggested that there was "minimal risk proven by the study" and that mitigation measures should include good hygiene practices. He said that the report and interpretation of the results did not support the suspension of works and that they lacked substance arriving "at the same conclusion as any competent contractor would have arrived at 24 months ago when the project commenced". Mr Pardo also wrote to OHL on the same day, making the point that he was surprised that OHL was now "so concerned about the levels of contamination in the soils that wholesale cessation is warranted or indeed founded on any real concern for the health and well-being of your staff, sub-contractors or the general public", this in the context of the substantial amount of excavation already done. He accused OHL of a lack of good faith suggesting that the Himalaya reports were inaccurate and alarmist. He said that GOG was not prepared to mediate but considered that the parties should proceed without delay to appoint a Dispute Adjudication Board.

149. On 30 March 2011 the Engineer also wrote to OHL in relation to the design submissions on 17 March 2011 observing that several design elements remained outstanding including the tunnel revised roof slab design and a revised design and construction method for the related excavation works. He said that he was not able to review the redesign of the tunnel structure therefore due to the lack of information needed. He complained that OHL was in breach of contract in a number of respects in relation to this latest design submission, albeit he undertook to continue to review the technical aspects of what had been provided. He reiterated that he did not consider that there was any justification for the cessation of works. OHL reverted with a detailed rebuttal on 11 April 2011, saying for instance that the Himalaya report was only "one of the factors that prevented us from commencing excavation work in December 2010" and that the report was commissioned "as part of our preparatory work for carrying out tunnel excavation."

150. On 31 March 2011 there was a "contractual meeting" between six OHL representatives and the Engineer and Mr Bugeja of GLRC to discuss the design submission on 17 March 2011. OHL accepted that its design submission was incomplete and that it would be resubmitted as a complete package on 20 April

2011. OHL also indicated that it would submit method statements for the tunnel excavation and for the tunnel roof slab construction by 30 April and 13 May 2011 respectively; the engineer said that this delay was unacceptable. However, the method statement for the tunnel excavation works was submitted on or very shortly after 8 April 2011. This was reviewed by the Engineer by 21 April 2011 and accepted with comments one of which was to ask where excavated material would be stored; the answer came back that it would be stored on Aerial Farm where it would be "classified and disposed of to tip or treatment plant".

151. On 5 April 2011, OHL's sub-contractor started works installing well points for the dewatering system. It was noticed by Mr Cahill there this was being done unsafely because they were flushing out holes in the ground using an air flush which could spread contaminant around. On the same day, OHL wrote to the Engineer asking for some additional MOD land for the water treatment plant access. Work on the MOD tennis court had been proceeding for some days before this for the water treatment plant and on 11 April 2011 parts of that plant were delivered. On 11 April 2011, an additional strip of land at the northern end of the Eastern beach Road was made available to OHL.

152. On 14 April 2011, the Engineer wrote to OHL referring to the fact that OHL had still not "resumed works on the tunnel and approach ramp structures". This followed a design meeting on the previous day at which OHL had indicated that the cut-off levels to the outer diaphragm would not change as a result of the re-designed roof slab, remaining the same as before. He was surprised therefore that OHL had not started to break down the outer diaphragm walls, noting that there was no longer any ponding. He expressed serious concern that OHL was not continuing with such critical activity work operations.

153. On 19 April 2011, OHL submitted a revised version of the tunnel AIP and on the following day OHL submitted to the Engineer the full detailed design package for the re-design of the tunnel; this was contained in 18 volumes of material. It is clear that GLRC and the Engineer were keen to review the documents and provide a response earlier than the three weeks called for by the Contract design approval procedures; this was confirmed by e-mail dated 21 April 2011 from Mr Garrett and other members of Gifford, particularly in the context of the diaphragm wall cut-off level, which he believed needed to be defined.

154. There is no doubt that GOG was by this stage actively considering termination of the Contract. Over the previous few weeks, some of the letters written by the Engineer, albeit not all, had been vetted if not always drafted by others, and, as indicated above, contact had been made with two substantial European contractors as to their possible deployment in the event of termination. There was some coyness on the part of some of the GOG witnesses about this and the recollection particularly of Mr Pardo was peculiarly poor; I have also formed the view that there was a not insignificant amount of documentation that should have been disclosed in relation to this, which would not obviously have been caught by

any plea of privilege. I can not understand why this was so because I would have expected any employer in the position of GOG to have made enquiries in relation to the ramifications of and prepared at least contingency plans for termination in the position in which GOG found itself after the suspension of work, the continuing lack of activity thereafter and the pursuit of a re-design the need for which its own consultants were at best extremely cynical about.

155. In that context, a draft letter headed "Sub-Clause 15.1 Notice to Correct" dated 20 April 2011 was disclosed by GOG which contains proposed revisions to an earlier draft (which has not been disclosed). It has been redacted in places because, I presume, the redactions contained legal advice or recommendations. This draft, which, subject to some amendments, was later to be sent on behalf of GOG, was clearly intended to be sent as, so to speak, the first step in the termination process, particularly if the notice was not complied with. It is unclear when the earlier and first draft was produced but I presume this was at least 2-3 weeks earlier to enable the amendments to be made. Over the next three weeks there was continuing discussion within GOG and its team about when to serve the Clause 15.1 Notice with some appreciation that regard had to be given in this context to the process of re-design. On 6 May 2011, there was a Bilateral Meeting between, amongst others, the Chief Minister and Mr Pardo at which termination was discussed and it is clear that advice from Leading Counsel was awaited. There were no disclosed notes of this meeting.

156. By 3 May 2011, the water treatment plant installation was almost completed and 30% of the dewatering wells were installed. The trial tests were scheduled for 6 May and the return of the test results by 15 May 2011; in fact the samples were taken by or on behalf of OHL on 7 May 2011. However, the bottles containing the original sample broke in transit and the whole process of sampling had to be repeated.

157. On 4 May 2011, the Engineer wrote to OHL approving the re-design of the tunnel roof albeit certain comments were made; he awaited the check certificates for the re-design. AIP Rev F was not approved and was "yet to be reviewed". The letter said that the re-design process had "provided no good reason for the demolition of the diaphragm wall heads cut off to have stopped". OHL's Progress Report for April 2011 indicated completion of the Works 72 weeks after design approval. On 5 May 2011, Mr De La Paz in an internal e-mail assumed that OHL would have access to Aerial Farm although a small part of it might have to be handed over to others in October 2011. On 6 May 2011 OHL sent through electronically to the Engineer the proposed new programme of works. His immediate response was that it did not have any dates and therefore did not comply with the Contract. It did in fact have dates on, although they were not readily readable electronically.

158. There was a Progress Meeting on 6 May 2011 attended by Messrs Doncel, Garcia and Reyes for OHL, the Engineer and Messrs Bugeja, Garrett and Nuitjen. The Engineer reiterated that two thirds of the diaphragm walls could be broken down

to cut off level. He expressed a lack of understanding why construction works were not resumed. OHL explained that they were working to instructions from Mr Hernandez not to commence work until there was full acceptance of the whole design package. It was pointed out that the M&E design was still outstanding but OHL said that they required a response to the remaining design packages, even if they had been previously accepted by the Engineer. The Engineer called for the Category 3 Check Certificates (from Messrs Donaldsons retained by OHL) and OHL said that it would be provided by mid-June 2011. OHL said that it would produce its method statement for the tunnel roof slab construction by 30 May 2011. OHL undertook to re-submit a contractual works programme.

159. On 11 May 2011, the Engineer wrote to OHL to the effect that virtually the whole of the design package submission of 20 April 2011 would be considered as accepted albeit that Revision F of AIP1 remained under review. The Engineer noted that the majority of this design package contained resubmissions of design elements which had previously been accepted with comments on the dates given in the incorporated schedule and he asked OHL to confirm that it would "be restarting immediately and without further delay on the excavation works associated with accessing and breaking down the diaphragm wall heads to cut-off level and the remainder of the works".

160. On 13 May 2011, there was a meeting between the Chief Minister and Messrs Pardo, Gil and Orciel at which it was agreed that a notice under Clause 15.1 should be given on or by 16 May 2011. The disclosed notes of this meeting referred to the legal advice by the QC not being clear "unless further legal work is undertaken". The note makes it clear that there was to be no renegotiation of the Contract and that GOG would "only honour the contractual mechanisms via the contract."

161. On 16 May 2011, the Engineer sent to OHL at its site office a “Sub-Clause 15.1 Notice to Correct” saying:

> “We hereby give you notice to correct under Sub-clause 15.1 that you are failing to carry out a number of obligations under the Contract and that we require you to make good those failures by remedying them with the specified reasonable times”

There then was set out a table which identified the breaches relied upon, the rectification steps to be taken and the “deadline”. Essentially, what was set out was:

| No | Breach | Rectification steps | Deadline (2011) |
|---|---|---|---|
| 1 | Clause 8.1, failing to proceed with due expedition and without | | |

| | | | |
|---|---|---|---|
| | delay:<br>(a) suspending tunnel excavation work on 20 December 2010 | (a) resume tunnel excavation work | (a) 30 May<br>(14 days) |
| | (b) suspending cutting and repairing outer diaphragm walls on 21 January 2011 | (b) (i) Proceed with the cropping and repairs to the diaphragm walls unaffected by standing water<br>(ii) Complete this work | (b)(i) 30 May<br>(14 days)<br>(ii) 11 July<br>(8 weeks) |
| | (c) failing to commence, temporary sheet piling of the subway | (c) Proceed with this work | 30 May 2011<br>(14 days) |
| | (d) failing to start underwater trenching and ducting work for the Western Simple Approach Lighting System (SALS) | (d) Start these works | (d) 6 June 2011<br>(21 days) |
| 2 | Clauses 3.3, 4.1 and 8.1 in failing to provide acceptable details of methods which OHL proposed to adopt for tunnel excavation work. | Proceed with bulk excavation works for the tunnel | 27 June<br>(6 weeks) |
| 3 | 8.1 for failing to proceed with dewatering with due expedition | Commence the de-watering of the Site with a water treatment facility | 30 May<br>(14 days) |
| 4 | 3.3, 8.3 and 8.6 in failing to comply with instructions by the engineer to produce a revised programme. | Provide a revised programme | 30 May<br>(14 days) |
| 5 | 4.1 and/or 5.2 in failing to provide the Engineer with appropriate signed certificates for various components of the Works. | Provide these certificates | 31 May<br>(14 days) |

The Engineer warned that failure to achieve any one of the required remedial actions would entitle GOG to terminate the Contract.

162. On the same day, GOG wrote to OHL saying that liquidated damages totalled £720,000 to date and would continue to takeover the Works. There was clearly a view within GOG that the Contract would be terminated, although I do not accept that an irrevocable decision had been made about this at this stage; certainly some seemed to contemplate the possibility of OHL finishing off the Works. However, Mr Pardo continued to liaise with Bouygues, who sent him a draft Project Management Agreement and a "tentative" programme on 23 May 2011, from which I infer that Mr Pardo was actively considering the deployment of Bouygues in a project management role for the completion of the works. Meanwhile, it is also clear that OHL wanted to negotiate favourable terms to enable it to complete the Works but was reluctant to get down to serious work until this happened. OHL wrote again to GOG on 18 May 2011 calling for an agreement related to the "budget" of some £98m which it had submitted on 1 April 2011. This fell on deaf ears.

163. I have formed the very clear view that both sides were being very tactical in their approach, particularly from May onwards. For instance, OHL from internal e-mails on 18 and 19 May 2011 were trying to work out financially what would be the consequences of the job being terminated or suspended and bonds being called and OHL continuing with the work and only the contractual amount being paid and/or the OHL claims succeeding; projections were attached which suggested substantial losses on all scenarios. Mr Pardo wrote to OHL on 19 May 2011 saying that GOG was still prepared to agree taking the disputes to the Disputes Adjudication Board for adjudication but referred to the fact that OHL would not agree to a lawyer being the Chairman. This was tactical on the part of OHL because there can not have been a sensible reasoned view that, say, a specialist construction lawyer should not be the Chairman but there may well have been a fear that OHL might lose the adjudication and be stuck until completion with a temporarily binding decision. It was tactical on GOG's part because it felt confident about success in such an adjudication. I do not accept Mr Doncel's evidence that OHL had only been waiting for the AIP approval for the revised tunnel design before resuming work.

164. On 20 May 2011, the Engineer issued his Approval in Principle for the Tunnel. On the same day, OHL issued its revised method statement for the tunnel roof slab. By 23 May 2011, the water treatment plant had been commissioned and the second lot of samples had been successfully tested. The DoE and Mr Soiza expressed the view then that there was no objection to the dewatering and water treatment operations beginning. A finally revised method statement for dewatering had been submitted by OHL on 19 May 2011.

165. On 24 May 2011, OHL responded to the Section 15.1 Notice of 16 May 2011, setting out its position in some detail to the Notice to Correct. OHL asserted that it

was not in breach of contract, that the time periods that had been set for remedying the alleged breaches were not reasonable in all the circumstances and that there was no entitlement to issue the Notice. It attached two appendices which summarised its position on each point made by the Engineer in the Notice to Correct. In summary, OHL said:

> (a) The suspension of tunnel excavation was the consequence of the unforeseen level of contamination and the health and safety risks posed which required the re-design of the tunnel. The Engineer should have suspended the work then. OHL was entitled to an extension of time and additional payment.
>
> (b) The revised design was submitted on 20 April but the Category 3 Design Check Certificates were dependent on an approved AIP.
>
> (c) Until the detailed re-design of the tunnel roof had been approved for construction, OHL was unable to commence any work in the tunnel footprint including the cutting back of the diaphragm walls. Even if it had done the 250m of cutting down on the southern side unaffected by ponding water it would only have taken about 2 weeks to do and no delay had resulted. Additional land would be required to maintain access to the water treatment plant but the requisite land had not been handed over.
>
> (d) The procurement period for the subway sheet piles was 12 weeks from the placement of the order, which could not have been given until the subway sheet piles re-design had been approved on 11 May 2011.
>
> (e) With regard to the SALS work, there was no sectional completion obligation for this. The method statement for this was only approved on 5 May 2011. The Gibraltar Port Authority BPA had withheld permission to OHL to bring its chosen vessel for those works until OHL had proved that it had tried to get a Gibraltar registered vessel to perform the work. This was not a contractual or statutory requirement.
>
> (f) With regard to the failure to provide an acceptable method statement for tunnel excavation this was not understood and details were sought, whilst liability was denied.
>
> (g) As for the dewatering, the delays had arisen due to unforeseen contamination and the discharge licence requirements. Extension of time and additional payment was due.
>
> (h) The earlier programmes were all in the same format as the March 2009 programme which had been approved.

(i) Until an AIP had been approved and countersigned by the TAA, OHL could not complete the detailed design. Only at that stage were OHL obliged to provide certificates.

166. In relation to the time given by the Engineer for work to start, proceed or be finished by, OHL asserted;

(a) The tunnel excavation would only start when "we are able to give continuity of working" and that would not start until the AIP had been countersigned by the TAA. This also applied to the diaphragm wall cut-off works.

(b) The commencement of the sheet piling given the order time was not reasonable.

(c) The SALS work was not on the critical path and the work was dependant on the Port Authority permission.

(d) The provision of method statements was dependant on a signed TAA approval.

(e) Dewatering could not begin before the installation of the water treatment plant was completed and tested which did not occur until 20 May 2011 and the results were approved by the DoE on 23 May 2011.

(f) As for the programme, this would be provided within 2 weeks of the Engineer confirming how it could be requested after the Time for Completion has passed.

(g) As for the design certificates, OHL would endeavour to supply some of them by 30 May 2011.

167. On 26 May 2011, OHL submitted its revised Method Statement for the excavation work following comments from the Engineer on 21 April 2011.

168. On 31 May 2011, OHL announced that it would be starting excavation works for some MOD drainage diversion work and anticipated that the soils would be contaminated and told the Engineer that it would deposit the material in the Aerial Farm area. On the same day, OHL also wrote to the Engineer to the effect that there had been unforeseen levels of contamination in the soils and in the groundwater, that it had consequently developed the new tunnel design and construction method to overcome this problem and going on to say:

"Therefore we understand that you should decide in favour of declaring this change a necessary Variation in accordance with clause 4.12 of the Contract, **before proceeding with the tunnel construction, since there is**

**a real risk for OHL over the health and safety of our operatives in case of adopting the old design,** which as previously stated, is the result of the increase in up to 200,000m3 of contaminated material and the values of such contamination (in terms of extent and type), which was unforeseeable at tender stage." (Sic and OHL providing the emphasis)

It is unclear where this 200,000m³ estimate had come from as the highest even internal estimate was way below that.

169. There then followed what may be seen a "twist in the tail" of the story of the run-up to the termination. The Engineer wrote to OHL on 1 June 2011 in the following terms:

> "Thank you for your letter of 31 May 2011.
>
> As you are well aware owing to your failure to avail yourselves of the facility instructed in our letter of 22 December 2010 and referred to in our letter of 11 January 2011, the contractor Befesa, who the Employer had arranged to handle the excavated material, has demobilised and the land has been put to other temporary uses. The failure to proceed with the excavation and utilise the excavated material facility is entirely attributable to Contractor-risk reasons as we have made clear in numerous letters.
>
> Accordingly the instruction of 22 December 2010 is withdrawn and you are instructed to proceed in accordance with the contract and, as per Employer's Requirements Volume 3, part 2 at paragraph 3.5, you are required to remove contaminated material off-site for disposal at a licenced site. No doubt you will keep in mind that your claim under clause 4.12 in relation to contamination has been rejected but that you are nevertheless required to maintain full records of costs incurred. You will also recall that the rates for disposal previously quoted by you were far in excess of reasonable market rates.
>
> A proportion of the excavated material will be "clean" by which we mean material from areas of the site identified as not contaminated by the site investigation surveys and which upon inspection during excavation appears not to be contaminated. This material will be disposed of by you in Spain unless directed by the Engineer to dispose of it in Gibraltar. The degree of contamination is to be verified by tests in accordance with method statements to be submitted by you and reviewed and accepted by the Engineer.
>
> Meanwhile, we will discuss with the Employer the possibility of arranging a disposal facility in Gibraltar of the sort arranged last year. However, you should not assume that it will be possible or that there will be any other change to your strict obligations under the contract in this regard."

170. I accept the evidence that it must have been obvious to OHL site representatives that the Aerial Farm site had been stood down before this letter; it was not a large site and it is a flat one. Mr Doncel accepted in evidence that he knew beforehand both that the Befesa plant had been dismantled and that the Aerial farm site was being used by others for other purposes. What is not clear is why this letter was written at this time rather than before. The suggestion of OHL (although its legal team does not use the word) is in effect conspiracy, namely a deliberate attempt by GOG to ensure that OHL did not re-commence work in the tunnel area because it had committed itself privately but irrevocably to terminate irrespective of what OHL wanted to or was able to do. I do not accept this inference. There was little evidence as to how this letter came to be written. However, I strongly suspect that the letter of 22 December 2010 and the instruction for the use of Aerial Farm had simply been overlooked by GOG. Aerial Farm had been taken over for other uses which were clearly needed by or on behalf of GOG.

171. There is no doubt that by this stage GOG and particularly Mr Pardo believed both that OHL was seriously in default, that it lacked any real commitment to progress the works with any expedition if at all, that there was a good chance that the Contract would have to be terminated and that it was actively considering its next steps if there was to be a termination. The GOG team must however have believed that they could not terminate if OHL got on with the job in a sensible and committed way. In an internal e-mail on 6 June 2011, Mr Pardo wrote:

> "On a related and on a strictly confidential basis, the Government is heading for a termination of the Road and Tunnel Contract with OHL as a result of continued breaches by OHL of its obligations under the contract.
>
> Expert Solicitors, Counsel and technical experts are advising the Government so that termination (if it comes) is done as safely as possible.
>
> The reason that I have raised this with you is that I need to begin to plan how to complete the works if the works under the contract with OHL are terminated.

This conditional language is not consistent with there being a fixed and settled plan to terminate irrespective of the reaction of OHL to the Section 15.1 Notice. The withdrawal of the availability of Aerial Farm need not in any event have prevented OHL from proceeding. As it recognised and indeed was the case, it could start excavating and stockpiling a substantial amount of material on the site whilst organising again the removal of excavated material off site; this it had done without great difficulty pursuant to the Stockpile Agreement for some 4 months in 2010. Indeed, it had started doing some excavation work on 1 June 2011 for the MOD drainage diversion works and was stockpiling on site.

172. Aerial Farm continued to be used in June and through to August 2011 by other parties including Bassadone Motors and contractors called Amco who were

installing a service corridor across it and using it to store materials and equipment for beachfront works. Part also was being used for overflow car parking for the summer beach users. There can be no real suggestion that GOG was permitting this as part of some concerted plan to prevent OHL from using it.

173. On 8 June 2011, OHL replied to the Engineer's letter of 1 June 2011 saying that it had been proceeding "on the basis of your 22 December 2010 instruction that excavated material is to be placed onto the "designated area" under the direction of the site operator." It said that it would provide as soon as practicable proposals how to implement these changes which constituted a Variation. OHL also wrote directly to GOG expressing surprise at the contents of the 1 June 2011 letter saying that they found it extraordinary "that precisely at the time we are close to recommencing the key Works, this is made impossible in the short term as a result of instructions from the Engineer that directly contradict earlier instructions…" and that it had "bona fide been working for many weeks on a solution to the design issues arising out of the unforeseeable levels of contamination" which took into consideration that earlier instruction. To undertake segregation between clean and contaminated materials a borehole campaign and laboratory analysis and a soil decontamination study would be required and a new excavation method needed to be worked out. There was nothing in these letters which as such indicated any difficulty about excavating and stockpiling in the interim.

174. Stockpiling of excavated material on the construction site was perceived by GOG and particularly by its professional team as giving rise to a problem, recognised for instance by Mr Cahill in an e-mail of 2 June 2011. The perception was that historically OHL's excavation practices did not distinguish between contaminated and non-contaminated materials so that, if there was a termination and if there were substantial quantities of excavated materials on-site at that time, GOG would be left with the task and expense of exporting the material to landfill in Spain, because it would all then have become contaminated. In that context, the Engineer wrote on 8 June 2011 (a letter drafted by Mr Cahill) to OHL expressing concern that OHL was not segregating the different soil types encountered. This method of waste handling was "not considered to be best practice" or in accordance with the CEMP, method statement and contractual obligations. He noted that stored "contaminated soils should be managed in such a way as to limit the possibility of contaminating previously uncontaminated areas of the site." He went on to say that OHL had "a wealth of information on the chemical composition of the site soils to be excavated" and that it should use "this information to delineate the site into zones of contaminated and uncontaminated soils, facilitating the effective segregation of the soils that are excavated. He went on:

> "In accordance with your CEMP we expect that you should be:
>
> - applying the waste hierarchy of your works, therefore favouring re-use of wastes (including soils) over disposal;
> - segregating topsoil from other soils;

- segregating high zinc and copper containing soils from other soils;
- segregating inert waste soils (particularly sand) from soils classified into other waste categories.

We trust that you agree with us that the early implementation of a robust waste management plan….

Further please advise what remedial and immediate action you propose to undertake and the processes that you propose to adopt for future excavation works."

175. The Engineer also wrote to OHL on 8 June 2011 in relation to perceived defect problems with the diaphragm wall panels, namely exposed reinforcement and lack of cover on two panels. He pointed out that the extent of these defects would remain covered pending the excavation down around the wall panels and referred back to Progress Meetings on 3 March, 8 April, 9 June and 8 July 2010 and other site documentation at which concerns were expressed about such matters. He asked for proposals to be submitted immediately for the determination of the extent of the problem.

176. There was a Progress Meeting on 10 June 2011 attended by OHL, the Engineer and others. The Engineer pointed out that the Category 3 Design Check Certificates were still awaited, including that related to the revised tunnel roof design; OHL indicated that they would be provided by 20 June 2011. They were never provided and, although the disclosed documentation from OHL is probably deficient in this regard, it is probable that Donaldsons, OHL's Category 3 Design Check engineers, had significant misgivings on structural matters which could not be overcome. The Engineer repeated that there was no good reason why diaphragm walls could not be broken down to the cut off levels.

177. On 10 June 2011, the Engineer also replied to OHL's letter dated 24 May 2011 relating to the Section 15.1 Notice, saying that construction could have proceeded after the AIPs had been issued by the Engineer and before the TAA approval. It was, he said, in any event signed on 31 May 2011 within the 42 day contractual period. He reiterated his view that the Clause 15.1 Notice remained valid and attached in tabular form his comments on OHL's comments. His more important comments in summary against the Appendix 1 were (see for reference the table above relating to the Section 15.1 Notice letter):

| No | Breach | Engineer's Comments |
|---|---|---|
| 1 | Clause 8.1:<br>(a) suspending tunnel excavation | No re-design necessary; re-design used to instigate a delay; detailed design acceptance allowed OHL to make progress; TAA approval point raised for first time; works need not have been |

| | | |
|---|---|---|
| | | suspended. |
| | (b) suspending cutting and repairing outer diaphragm walls | As from 16 May 2011 no reason not to start work; no standing water anywhere; additional land is available |
| | (c) failing to commence temporary sheet piling of the subway | Surprise that procurement period 12 weeks; subway sheet pile design accepted on 25 February 2011; OHL chose to resubmit on 20 April 2011. |
| | (d) failing to start SALS | SALS work was variation with completion for end September 2009; SALS work unrelated to tunnel earthworks; Engineer's comments in December 2009 never responded to; OHL late in arranging permits |
| 2 | Clauses 3.3, 4.1 and 8.1 in failing to provide acceptable details of methods | Tunnel excavation method statement not accepted on 21 April 2011 and OHL took almost 5 weeks to resubmit |
| 3 | 8.1 for failing to proceed with dewatering with due expedition | OHL started discharge application process too late |
| 4 | 3.3, 8.3 and 8.6 in failing to produce a revised programme. | Late programmes historically |
| 5 | 4.1 and/or 5.2 in failing to provide signed certificates. | Disputed |

Appendix 2 was commented on rather more simply with denials that insufficient time was allowed within the Section 15.1 Notice.

178. On 16 June 2011, the Engineer issued by letter "Instruction No. 20" which required OHL to excavate and expose four diaphragm wall panels to determine the extent of the lack of concrete cover and exposed reinforcement and then to submit remediation proposals. OHL was also to excavate for and expose 16 other diaphragm wall panels. He called for this work to be done by 23 June 2011. Mr Garcia responded by e-mail on the same day saying that OHL did "not have any lands to deposit the" excavated soils on, that the groundwater would have to be lowered and this could not be done by 23 June 2011 and that the "amount of water to be pumped out is too high, considering the bottleneck which the

decontamination involves. On 17 June 2011, OHL submitted a method statement for the Embedded Walls Repairing Works.

179. The Engineer also wrote on 16 June 2011 to OHL about the SALS work and the reported difficulties in obtaining authorisation for its vessel to operate in Gibraltar, saying in effect that OHL could and should have applied for the requisite authorisation some time before, that OHL had not supplied the right paperwork or obtained a dispensation by demonstrating that there was no local vessel available and that GLRC would assist in fast-tracking the granting of a temporary licence.

180. There was some discussion between Mr Pardo and Mr Hernandez on 16 June 2011 at a meeting attended also by Mr Reyes for OHL and Mr Bugeja. This was formally neither minuted nor noted; it was clearly informal. From Mr Reyes' diary note, discussion ranged from substantial alterations to the subway arrangement, payments being made in Euros, facilitating the SALS problems and the provision of a new CEMP. It was suggested that Mr Pardo gave an assurance that Aerial Farm would be made available and instructed Mr Bugeja to make the necessary arrangements. I do not accept this evidence, albeit that Mr Pardo's somewhat contradictory evidence was also unreliable on this; it is unthinkable that, if this had happened, it was not noted and confirmed in writing by OHL attendees because it would have saved OHL literally the millions of pounds which transporting possibly 180,000 tonnes of excavated material to Spain would have cost. There was no corroboration. At best there was some informal discussion about the possibility of the use of Aerial Farm. There was a clear reluctance on the part of GOG at this time to make it available particularly given its use as an overflow car park for the adjacent beach which was popular with beach users.

181. Apart from some work on the MOD diversion work, little was going on at the site. On 16 June 2011, a member of the Engineer's site monitoring team noted a large pool of water outside the confines of the diaphragm walls; this had accumulated from ongoing dewatering works associated with this diversion work. The Engineer wrote on 21 June 2011 expressing concern because it had the "potential to spread contamination to areas of the site free from contamination and also…to render the results from numerous site investigations conducted and risk assessments made void", and asking for this activity to cease; there was also an expressed risk of birds using the ponds with potential risk to flights. There was no response from OHL and there was a reminder from the Engineer by e-mail on 27 June 2011 following the increase in the size of the ponding.

182. On 24 June 2011, OHL replied to the Engineer's Instruction No. 20 explaining that a number of different tasks were involved including excavation, disposal of the excavated contaminated materials and dewatering; it said that the required deadline (23 June 2011) could not be met and indeed the works could not be started until a stockpile area was provided for the contaminated material and

excavation for four of the panels were defined. No work was started on this at all by this time.

183. There was continuing discussion between OHL's designers, Ayesa, and Donaldsons, the Category 3 Design Check Engineers about the tunnel re-design. For instance on 27 June 2011, Donaldsons wrote to Ayesa sitting there was a "main discrepancy" with regards to structural ramifications of the construction sequence. Again on 18 July 2011 Donaldsons wrote saying it "could not sign off" on the revised construction sequence because "the walls will be overstressed…" None of this was passed on to the Engineer or GOG.

184. On 29 June 2011, the Engineer wrote to OHL noting that there was a "strong smell of hydrocarbon residues from the soils used to construct temporary reservoir dykes to accommodate water from the MOD drainage diversion works; the reservoir was about 40m long and 10m at its widest and there was substantial seepage from the reservoir walls. There was an oily layer on the surface of the water spreading across the site and the water within the reservoir had a thick hydrocarbon type scum on the surface. He required OHL immediately to stop the unauthorised dewatering works. Instruction No 21 was issued under cover of another letter on the same day requiring OHL to remove the standing water. OHL did comply broadly with these instructions, it being noted by the Engineer that the lagoon or reservoir was substantially reduced by dewatering, the contaminated material backfilled into the lagoon and the area levelled off. Although there was an evidential issue as to whether the Engineer had suspended by this letter all dewatering, that was clearly not the case and it was not taken as such because dewatering continued through the water treatment plant.

185. On 30 June 2011, OHL sent to the Engineer a Tunnel Excavation Waste Management Plan which proposed 3 options. The first involved a costing of a soil analysis of every square metre of soil on the tunnel area at a cost of €123m to enable an effective segregation of soils to take place. The second involved a decontamination plant by OHL within Gibraltar. The third would require the provision of land with GOG dealing with waste management, much as the Befesa arrangement before. OHL recommended the third option. This was considered disappointing by the Engineer's letter dated 22 July 2011 in reply.

186. On 1 July 2011, OHL replied to the Engineer's letter of 29 June 2011 about the water from the MOD diversion work and the hydrocarbon smell. It said that it had stopped work on site pending an analysis of working methods and procedures. The strong odour, it said, confirmed its concerns about the unforeseeable level of contamination on site saying in effect that the work was done properly in accordance with its design for the MOD diversion work.

187. On 5 July 2011, the Engineer replied to OHL's letter of 24 June 2011 about the opening up of the wall panels referring to the fact that no work of any sort had been done in connection therewith adding:

> "Accordingly, this letter constitutes notification pursuant to clause 15.1 of the Conditions that you are required to make good your failure to comply with Instruction No. 20. In particular, by commencing the excavation work indicated by Instruction 20 by 7 July 2011 and completing the balance of the works set out in that by 14 July 2011."

He also wrote another letter on the same day on the same topic pointing out that "some 2½ weeks after Engineer's Instruction 20 was issued, you have still not started any excavation works in the locations specified" and that he was not aware that OHL had carried out any work to determine the feasibility of the dewatering required by that instruction. He pointed out that there was no contractual requirement for GOG to provide land for stockpiled material, that the depth to which excavation of the panels was required could not be defined because the defect had to be determined visually and that dewatering could properly be done sequentially from area to area.

188. On 6 July 2011, OHL wrote to the Engineer, saying that there were none of the "key excavation works which can be progressed" until a new CEMP had been approved "covering your new requirements in relation to the disposal of contaminated soils", principally in relation to the "management and segregation of contaminated soils and the stoppage of dewatering works". It averted to the dewatering suspension as "indirectly [affecting] the whole of the Works". An extension of time and additional payment was sought.

189. On 13 July 2011, OHL wrote to the Engineer referring to the type and scale of contamination and to the 1 June 2011 instruction and the 29 June 2011 instruction to suspend dewatering for the excavation work in relation to the MOD diversion work and saying that the reservoir had to be created because the water volume generated far exceeded the capacity of the water treatment plant. It then turned to the instructions about the diaphragm wall defects, saying that the time allowed was insufficient because the amount of contaminated material had increased massively and that until 1 June 2011 its obligation was to deposit all excavated material on Aerial Farm. It said that the panel excavation work was out of sequence but the Engineer had instructed dewatering to be suspended. Dewatering might well be required from between 1.5m and 3m from the surface. However, it said that it would "now commence such excavation around the diaphragm walls as it is safe and practicable to undertake". No reason was given as to why at least this work could not have been started earlier. It said that the time allowed for the work was unreasonably short.

190. It also wrote to GOG on 13 July 2011 referring to contamination issues. By reason of what were said to be affected aquifers, the presence of a nearby special area of conservation and the actual contamination conditions, it was not in its view "prudent to continue with the works following our planned designs and

building methods". A hydrogeological study was necessary, it was advised, but GOG was responsible to undertake it.

191. The panel excavation work did start on 13 July 2011. OHL wrote to the Engineer on 21 July 2011, updating the Engineer on the findings:

> (a) One panel identified by the Engineer ("187bis") did not exist.
>
> (b) Two panels exposed (178 and 161) did have defects but were backfilled.
>
> (c) The Engineer told OHL not to excavate for 2 of the panels identified (153 and 155) by him previously but to expose 161 instead.
>
> (d) It was agreed that, if the water table was encountered above 2.5m below the surface, it would be inspected by the Engineer and then backfilled.
>
> (e) An additional panel was to be exposed (308).
>
> (f) All excavation would be completed that day and concrete cover tests would commence at 7pm.

192. On the same day, the Engineer's inspection team reported on the extent of concrete defects in the panels uncovered, referring to OHL's "refusal" to dewater with the result that excavations were limited. They found cover less than specified, exposed rebar and inclusions of bentonite. On 27 July 2011, OHL sent in its report saying that it had done all that it could in this context; it identified 3 defective panels which had been visually observed but said that its covermeter test report was awaited.

193. On 26 July 2011, the Chief Minister of GOG authorised the termination of the Contract. On 28 July 2011, GOG addressed and sent to OHL at its site office its notice of termination pursuant to Clause 15.2 of the Contract Conditions, stating that "the contract will be terminated on 12th August 2011" as a result of:

> "(i) Your failure to comply with notices issued to you by the Engineer pursuant to sub-clause 15.1 of the Conditions (per sub-clause 15.2(a)), and/or;
>
> (ii) Your having plainly demonstrated [an] intention not to continue performance of your obligations under the Contract (per sub-clause 15.2(b)), and/or;

(iii) Your failure, without any reasonable excuse, to proceed with the Works in accordance with Clause 8 of the Conditions (per sub-clause 15.2(c))."

The letter then set out more detail to back up each of these grounds. In relation to Clause 15.2(a), GOG referred to the Clause 15.1 Notice letter of 16 May 2011 and the 5 July 2011 letter. In relation to Clause 15.2(b), GOG referred to the whole duration of the Contract but particularly the period since mid-December 2010 noting that only some 28% of the Works had been carried out and referring to OHL's letters dated 13 July 2011. In relation to Clause 15.2(c), it was said that failure to proceed in accordance with Clause 8 related to the failure to commence the design and execution of the Works as soon as was reasonably practicable after the Commencement Date, OHL's not proceeding with the Works with due expedition and without delay and the non-completion within the contractual Time for Completion.

194. The Engineer also wrote to OHL on 28 July 2011 picking up a number of points made by OHL in earlier letters. He said that OHL had not been instructed on 29 June 2011 to cease all dewatering but only to cease unauthorised dewatering in effect into an ad hoc reservoir. Hydrocarbon contamination was foreseeable in the MOD diversion work area given its use as a fuel farm. He rejected arguments that the contaminated ground or the quantities thereof were unforeseeable.

195. OHL replied to the letter of termination on 3 August 2011 saying amongst other things;

"We note that you have purported to terminate under the terms of the Contract and that you have not sought to do so at law…it was plainly obvious that we were not in repudiatory breach…

…You have failed to follow the terms of the Contract in a number of important respects…

You have, for some time and for your own political reasons, sought to put at our door the blame for the difficulties experienced on this project. At your behest, the Engineer has attempted to cobble together a number of arguments, based on the most flimsy and specious grounds, to assert that we have been in breach of the Contract…

As set out below, your desire to terminate our Contract for your own political ends has led you to fail properly to adhere to the notice provisions of the Contract and, as a consequence, you have placed yourself in repudiatory breach of contract.

We would confirm that, up until receipt by our site office of your Purported Notice of Termination, we remained ready, willing and able to

fulfil all our obligations under the Contract…we were proceeding to address the difficulties that we had encountered on this project.

Your Purported Notice of Termination is invalid and therefore ineffective under the Contract for the following reasons:

1. ADDRESS FOR SERVICE

1.1 Your Purported Notice of Termination was sent to the wrong address…

2. NO GROUNDS UNDER THE CONTRACT…"

Many of the reasons and matters raised in this latter category were aired in these proceedings and I will address them elsewhere. For instance, it was said that no reasonable times were specified in the Clause 15.1 Notices of 16 May and 5 July 2011. OHL went on to say:

"3.1 You elected to attempt to terminate the Contract solely under its terms; you have not attempted to bring the Contract to an end by reason of repudiatory conduct on our part. Accordingly, you are required to comply strictly with the notice provisions in order for your termination pursuant to the Contract to be effective.

3.2 As stated in Section 1 above, your Purported Notice of Termination is not valid and it is ineffective under the terms of the Contract.

3.3 Nevertheless, the contents of your Purported Notice of Termination evince an intention no longer to be bound by the terms of the Contract, which is a repudiatory breach of the Contract.

3.4 We hereby notify you of the following:

3.4.1 We accept your repudiatory breach of the Contract; and

3.4.2 Thus, the Contract is at an end.

3.5 In the alternative to the matters set out in Section 1 at paragraphs 3.1 to 3.4 above, if, which is denied, your Purported Notice of Termination was validly served under the terms of the Contract, your termination under Sub-clause 15.2 of the Contract is wrongful for the reasons set out in Section 2 above and, thus, amounts to a repudiatory breach of the Contract.

3.6 We hereby notify you of the following:

3.6.1 We accept your repudiatory breach of the Contract; and

3.6.2 Thus, the Contract is at an end."

196. On 4 August 2011, GOG wrote through solicitors to OHL that it was considering the contents of this letter and taking advice as to whether it amounted to repudiation and whether it should be accepted. On the same day, by letter it formally served OHL at its office in Madrid the letter dated 28 July 2011, saying that termination would take place 14 days later. On 20 August 2011, GOG informed OHL that it was thereby terminating the Contract, alternatively accepting repudiation on the part of OHL (on various bases). GOG took possession of the site on or shortly after 20 August 2011, and a local company, GJBS, with whom over the preceding weeks at least there must have been a fair amount of contact, was retained initially to secure the site. There was talk of GJBS actually undertaking more of the works than this but this came to nothing. The water treatment plant was dismantled. Little else has been done since. Later in 2011, there was an election in Gibraltar and the Chief Minister, who had been in office for many years, was replaced by the electorate. There seems little doubt that political considerations had played their part in at least the Chief Minister's actions in relation to this project in setting it up and ultimately in approving termination.

**Contamination Issues-Ground and Soil**

197. This part of the judgment is primarily concerned with the issue of foreseeability for the purposes of a claim for extension of time in relation to "Unforeseeable" physical conditions under Clause 4.12 of the Contract Conditions. It is first necessary to consider what ground conditions in terms of contaminated ground were reasonably foreseeable by an experienced contractor by the date of submission of the Tender. In this context, it is necessary to review the information that was made available to tenderers, principally, the Environmental Statement, the Sergeyco Site Investigation Report, the Contaminated Land Desk Study and various other contractual documents available at tender stage.

198. The ES contains useful information but it was as a document primarily provided as a planning requirement. This did not mean that tenderers should not have considered it carefully. The ES addressed environmental impacts both during construction and in the longer term; one of the environmental issues addressed was "land contamination". Mitigation measures to prevent or limit the impact of amongst other things, land contamination were to be considered. The following was said in the Introduction under the heading "Likely Significant Effects and Mitigation":

"**Land Contamination**

There is a low risk of exposing contaminated soils during excavation or accidental spillage of chemicals that may prove a hazard to human health and vegetation. Contaminated material, where found, will be separated and disposed of under license from the appropriate authority to a registered landfill…

**Waste and Material Resources**

It is predicted that up to 200,000m³ of waste will arise from the excavation during construction and the majority will be from the new tunnel. Most of the material is unlikely to be contaminated and it will be re-used wherever possible. Even if this material could not be re-used the quantity is unlikely to cause significant effects to landfill void space in the region. Any contaminated material will be either safely capped or removed off site under required regulatory controls to an approved disposal facility…

**Water Resources**

Construction activities have the potential to affect water quality through pollution from dust, accidental spills of fuel and suspended solids entering the sea and water beneath the ground. Construction activities may also disturb existing soils and result in new paths for contamination to move between soil and water. Good working practice and principles will be adopted during construction to reduce the risk of pollution from oils, contaminants and other pollutants. These will be agreed with the regulatory authorities."

199. Volume 1 provided some historical background including references to the fact that the area had been used for military purposes amongst others since the Great Siege of Gibraltar (1779-1783), the airstrip had been used from 1931 and the military airfield had been completed in 1943 (Paras. 2.7-2.8). Paragraph 3.59 said:

> "Approximately 200,000m³ of spoil (excavated material) will be produced which will be made up of predominantly sand from excavating the tunnel and made ground from existing hard surfaces. This material will be reused wherever possible within the proposed scheme or for other development within Gibraltar limiting the requirement for waste transfer to Spain. From initial studies there appears to be little contaminated material to be excavated and what material there is will be disposed off to an appropriate waste handling facility or retained on site and appropriately capped to prevent the spread of the contaminant for their uptake by humans and plants and animals…"

200. Several other following paragraphs are of interest:

"3.69 The Contractor will develop a site specific CEMP which will be adopted to manage construction activities on the surrounding environment, including people…

3.73 Monitoring will be undertaken to establish the following:

…Water quality in relation to the aquifer

- The occurrence of unexpected finds during construction, particularly in relation to the ecology, archaeology and ground contamination…

4.18 Wherever possible spoil (sand and made ground) will be re-used within the proposed scheme. If it cannot be utilised on this proposed project then the Government will consider its suitable re-use on other projects in Gibraltar before considering its disposal to Spain. This approach will reduce cost and the environmental effects of trial for and loss of materials."

201. Chapter 7 is headed "Summary of Environmental Assessment" and addressed amongst other things land contamination, waste and material resources and water resources. Under the heading "Land Contamination, the following was stated:

"*Existing Conditions*

7.32 Soil and water samples were tested for a range of contaminants, including for volatile organic compounds (VOCs), total petroleum hydrocarbons (TPHs), polycyclic aromatic hydrocarbons (PAHs) and metals. The results of the contamination testing have been compared against current guidelines for contamination concentrations which affect human health (described in the Land Contamination Chapter: Technical Reports, Volume 2)

7.33 The contamination testing has found that there are low levels of contamination which are, in the main, below threshold levels of significance. There are limited areas of contamination including lead and hydrocarbons, which may give rise to potential risks to human health. Copper and zinc concentrations were identified in shallow ground at two locations at levels that may affect the growth of plants in landscaped areas.

7.34 No methane was present on site and all carbon dioxide concentrations were below 1%.

*Impact Assessment*

7.35 Contaminated ground may give rise to potential health hazards to site workers by contact, inhalation or ingestion during construction. It is

considered that there is a potential low to medium temporary significant adverse effect of ground contamination from lead and hydrocarbons.

7.36 Copper and zinc identified in shallow ground at two locations could inhibit plant growth in newly landscaped areas, leading to a potential low to medium significant adverse effect."

202. Under the heading "Waste and Material Resources", the following appears:

"*Existing Conditions*

7.88 The assessment of waste and materials has considered the types and approximate volumes of material inputs and waste arising as shown in Table 7.1 and Table 7.2

**Table 7-4 Waste Arising**

| ***Type*** | ***Quantity (Approximate)*** | ***Source*** |
|---|---|---|
| Demolition Waste | 10,000$m^3$ | Rubble/mudstone from demolition of buildings |
| Excavation Materials | 180,000$m^3$<br><br>10,000$m^3$ | Sand mainly from tunnel excavation and made ground from existing road/hard standing areas<br><br>Contaminated Land |
| Total Waste | 200,000$m^3$ | |

*Impact Assessment*

7.89 The assessment of the effects of material resources required and waste arising from the proposed new road are provided in Table 7-3 and Table 7-4.

**Table 7-6 Evaluation of Significant effects for Waste Arising**

| ***Type of Waste*** | ***Quantity*** | ***Significance Criteria*** | ***Significant*** |
|---|---|---|---|
| Demolition Waste | 10,000$m^3$ | 200,000$m^3$ | Not significant |
| Excavation Materials | 180,000$m^3$<br><br>10,000$m^3$ | | Not significant<br><br>Not significant |

| | | | |
|---|---|---|---|
| Total Waste Arising | 200,000$m^3$ | | Low significant |

7.90 There are no predicted significant effects from material resources.

7.91 There are no significant effects from individual types of waste arising. However, the estimated total quantity of waste arising from the proposed works just meets the significance criteria and this may therefore lead to a low significant adverse effect."

203. Under the heading "Water Resources" the following was set out:

*"Existing Conditions*

7.92 The key water environment receptors in the vicinity of the site are as follows:

- The groundwater aquifer in the Upper and Lower Isthmus Sands. The aquifer in the Upper Sands is particularly important as it is from here that groundwater is abstracted for potable water use; and
- The Mediterranean Sea (east of the isthmus) and Gibraltar Bay (west of the isthmus) in terms of water quality.

7.93 Abstracted water makes up approximately 10% of Gibraltar's water supply; the rest is supplied from desalination. There are approximately 17 wells located between the runway and the northern boundary of the airport. There are also several wells located between Devil's Tower Road and the runway.

7.94 There is no evidence of any contamination of the groundwater in the Isthmus Sands by fuel, pesticides or other contaminants indicative of human impact.

7.95 The marine environment within 1km of the redevelopment site to the east and west of Gibraltar supports a variety of Mediterranean marine species and habitats which may be sensitive to water quality changes.

*Impact Assessment*

7.96 Construction activities are predicted to affect water quality. Effects include the potential to pollute from dust, accidental spills of fuels and suspended solids entering the sea and groundwater. Construction activities could also disturb existing ground contamination and result in new pathways being created along which contamination could migrate to the

groundwater aquifers. This may lead to temporary medium significant effects upon the aquifers.

7.97 The different aquifers are separated by the presence of relatively impermeable soil and rock layers that preclude or significantly slow the vertical migration of groundwater. These impermeable layers may be at risk of being penetrated and possibly cut across by the excavation for the tunnel and any piles or embedded retaining walls installed to form the tunnel and the approach ramps. The tunnel and approach ramps are to be designed and constructed to be water resistant therefore they will be as impermeable as the soil and rock layers they disturb and will prevent a substantial increase in cross flow between the aquifers local to the new road. The potential for this penetration of the aquifers is considered to be localised and may lead to medium significant adverse effects upon the groundwater resource.

7.98 Groundwater control in the vicinity of the tunnel and approaches will incorporate dewatering via pumps to remove any water from the ground locally along the route. It is most likely that the rate of recharge of the aquifers by flow from Spain will be greater than the rate of water abstraction therefore any impact on the groundwater level will be very local to the works. This is considered to result in a medium significant adverse effect.

7.99 Operational activities are predicted to affect water quality from contaminated surface water runoff, in particular from vehicle fuel residues. This is considered to result in a medium significant effect to receiving waters (including the aquifers).

**Cumulative Effects**

7.100 Whilst an individual development may not have any significant environmental effects when considered on a stand-alone basis, the effects of several developments occurring at the same time or place may become more significant as a result of the cumulative or combined effects either affecting a larger area or having a more concentrated or a greater duration of impact."

204. Paragraph 8 of Volume 1 of the ES provided a "Summary of Potential Significant Effects, Mitigation and Residual Significant Effects". Table 8.1 stated in relation to Land Contamination, Waste and Material Resources and Water Resource:

(a) For Land Contamination, there was said to be a medium to high "sensitivity/importance of receptor" with the impact being "contaminated ground exposed giving rise to potential risks to ground workers by contact, inhalation or ingestion during construction", the magnitude of impact "low", the

duration/risk of impact being “temporary during construction” and significant effect being “low to medium averse”. Mitigation included "appropriate use of Personal Protective Equipment and dust suppression techniques".

(b) In relation to Waste Material Resources, the mitigation mentioned that the "amount of sand to be excavated from the proposed tunnel should wherever possible be used for future developments, or by re-use of the materials at the current site. Therefore the re-use of materials [is] the most sustainable option”.

(c) In relation to Water Resources for the “risk of pollution from oils, contaminants and other pollutants” and “encountering unexpected contamination of made ground during excavation”, the sensitivity/importance of receptor was “high”, the magnitude of impact was “low”, the duration/risk of impact "temporary" and the significant effect "medium adverse”; there was no significant residual significant effect. The effect on the aquifer in the event that unexpected contamination of made ground was encountered would produce a low impact, a temporary duration/risk of impact and a medium adverse significant effect. In the mitigation: the following was said:

> “In the event of dewatering there will be assessment of the rate of draw down, the depth of the actual excavation, the depth of groundwater and the rate of recharge. The contractor will take samples of water been drawn away for testing. Results of this will be used as part of a recharge management. If pumped water is contaminated, it is unlikely to be appropriate to use it to recharge the aquifer. In this case, the requirements of any advice on that contractor may have to obtain from the regulatory authority will have to be complied with to ensure disposal of contaminated water is appropriately managed”.

205. Chapter 10 of Volume 2 of the ES also addressed “Waste and Material Resources” and is to some extent repetitive of earlier material. Paragraph 3 said;

> “3.4 The majority of waste arising will be inert inorganic geological material made up primarily of sand and made ground…
>
> 3.5 Wherever possible construction waste will be re-used on site or on other development projects in Gibraltar. Where construction waste has to be disposed of it may be taken to registered landfill in Spain. This will be based on the most commercially and environmentally an advantage that option.
>
> 3.6 The predicted limited quantity of contaminated material may be left *in-situ* and with a boundary layer (based on good practice guidance) to prevent contamination spread. However, the contaminated waste may also be disposed of at approved facilities in Spain…”

206. Chapter 10 of Volume 2 of the ES considered "Water Resources" and is to some extent also repetitive of earlier material. The following are material references:

> "1.3 In Gibraltar, the Environmental Agency (EA) is responsible for protecting the water environment and holds data and information on the water environment. It has regulatory powers to protect watercourses and groundwater, for example, in terms of setting conditions for discharge consents…
>
> 3.8 The geology of Gibraltar comprises predominantly… limestone with substantial key systems. This deposit contains important aquifers. Investigations carried out in the 1830s indicated the presence of an aquifer in the Isthmus Sands. The location of the Isthmus Sands aquifer is shown on Figure WR3-1…An unconfined fresh/slightly brackish water aquifer lies about in the Upper Sands…
>
> 3.19 Groundwater analysis information or chloride and mercury is available from 1994 to 2007…It is likely that the high salinity results from where several wells…penetrate the and is on the ceiling of these wells to abstract water only from the Upper caps and maybe compromised...
>
> 3.22 Groundwater samples were collected from monitoring wells in the area of the new road as part of the site investigation…
>
> 3.23 Fifteen groundwater monitoring wells were installed…
>
> 3.24 Metals…PAHs, TPHs, phenols and chlorinated hydrocarbons were found above the laboratory detection limits. Experiences of threshold values were recorded for heavy metals, toluene and PAH contaminants only.
>
> 3.26 Metals/ metalloids in the groundwater including…lead… were found at concentrations higher than threshold values in groundwater from all areas of site investigation and a range of objects of 2 to 15m bgl.
>
> 3.27 Maximum recorded concentrations of…lead…in groundwater modelling exceed threshold values…
>
> 3.35 The 16 USEPA priority pollutant PAHs were tested for all groundwater samples. PAHs were detected in all locations, with the highest concentration of total PAH at WS105…
>
> Groundwater Quality Summary
>
> 3.39 Groundwater has been shown to contain elevated concentrations of the following elements:

- Metals across the development area…

i. Toluene at four times the UK DWS in proposed area for tunnelling…

5.6 The development and construction of the new roads could result in disturbance of contamination in the ground and result in pathways being created along which contamination could migrate to the groundwater aquifer. This would be a risk if piling or deep excavation work to take place below the top level of groundwater. Deep excavation may be required for the tunnel construction down to approximately 10.5 m bgl.

5.7 Dewatering…will be required to enable construction to take place in a 'dry' environment for the tunnel. The method used with the potential to impact on groundwater levels and quality in the Isthmus Sands aquifer…

5.9 There is much more potential for groundwater flows, levels and quality to be disrupted its dewatering is used to control groundwater during the time of excavations. Depending upon the volume of groundwater that needs to be extracted and the rate of natural recharge to the aquifer, the local groundwater level in the aquifer could reduce if a recharge did not occur quickly enough.

5.10 In addition, the water quality in the Isthmus Sands could be impacted as a result of dewatering. Parking of groundwater could detrimentally affect the natural balance of fresh and saline groundwater and as freshwater is pumped out, saline water intrusion to restore the groundwater level could occur if the freshwater discharge was not rapid enough…

5.12 The concentrations of contaminants above acceptable threshold in the soil sampled and analysed as part of the site investigation are limited. Therefore there is little chance of a major impact on groundwater quality its soil or groundwater pathways are created by finally or excavation. Additional unexpected hotspots of ground contamination that may be encountered during construction could result in impact to groundwater quality if not managed adequately."

207. Chapter 5 also addresses "Land Contamination" and material parts are:

"1.2 An evaluation of the importance of the geology, soil resource and the levels of contamination are presented. An assessment of the potential for the construction of the proposed new road to expose unacceptable levels of contamination is discussed, together with appropriate mitigation resources and any residual significant effects…

2.2 The scoping exercise indicated that there could potentially be contaminated soil present which may have an effect on receptors as a result of the proposed redevelopment. Therefore…a land contamination assessment has been undertaken to determine potential impacts and effects during construction and operation of the proposed redevelopment…

2.16 An initial Tier 1 risk assessment has been used that compares results concentrations of chemicals of concern (COC) in soils against conservative threshold values for those chemicals. This level of assessment assumes there is no significant risk where the thresholds are not exceeded. Tables of Tier 1 soil target values (STVs) are provided in Appendix LC-1…

2.26 completions are based on the findings of the investigation. Fieldwork consisted of discrete sampling across the site where access was available to assess the character and degree of contamination. Conditions of the intervening ground may be different from the tested locations…

3.8 Visual field evidence of contamination [was] observed in soils at BH109 -0.15-0.3m deep in the ground. It is noted however that laboratory testing did not indicate elevated concentrations of contamination at this location.

3.9 No evidence for fuel hydrocarbon odours were noted during the investigation…

3.10 The test results obtained from the investigations are presented in Appendix LC-2. Soil contaminant concentrations exceed STV values relevant to the planned development for a range of contaminants including metals, and hydrocarbons. Each group of soil contaminants is addressed separately below.

3.11 Ten priority metals were tested for all locations. The only contaminant for which the STV was exceeded in a sample analysed was lead (STV 750 mg/kg). All tested in playground at BH 104…and BH moderate concentrations were recorded at 1,500 and 3,000 milligrams/kilograms respectively…

3.20 Hydrocarbons were detected at the majority obligations. However, concentrations were there and the only recorded exceedance of a STV was for the aliphatic range C10-C12 at WS111…

5.3 Further unsuspected contaminated ground could be discovered during intrusive works, potentially exposing ground workers to unacceptable levels of contamination…"

The "Trigger Thresholds for Contamination" given in Appendix LC-1 of the ES were, materially, 750 mg/kg for lead and 20 mg/kg for total PAH.

208. Also available to OHL at tender stage was the Contaminated Land Desk Study prepared by Gifford incorporated at Appendix 6 in Volume 6 of the Employer's Requirements in the Contract documentation. Materially the following was stated:

> "7.1.2 From a search of historic maps (Appendix 3) and an historic model of Gibraltar at Gibraltar Museum, it is apparent that pre-First World War times the area of the site was occupied by a racecourse which stretched northwards to within around 150 m of the Spanish border… [there was] a rifle range to the east of the racecourse…
>
> 7.5.1 The following potentially polluting activities relate to the site's current use as an airport:
>
> - Fuel storage of aviation kerosene aviation gasoline, usually stored in containers at the oil fuel depot
>
> - Diesel fuel storage for use by airport supplying vehicles and boiler fuel - locations of storage area is unknown.
>
> 7.5.4 The racecourse was later developed by the British military for use as an airfield…The character of MoD land is such that the nature of activities is often unclear, however the airfield is known to have been extensively bombed used [sic] during World Wars I and II…As such, the possibility of discovering unsuspected contamination and ordnance should be borne in mind…
>
> 8.2.1 Groundwater is a sensitive receptor for the site, given that groundwater is pumped from this area of for potable water supply. As such the risks to groundwater, both during and placed construction of the new road require adequate consideration…
>
> 8.5.2 A potential for contamination arises from the site current and former uses as an airport and by the MoD…"

There was a table on Page 9 which suggested an initial risk assessment of "low risk to humans on site" in relation to metals" but in relation to hydrocarbons there was said to be a "High risk to ground waters due to high mobility and solubility of some hydrocarbons and sensitive nature of water resources" and in respect of PCBs a "moderate risk to construction workers". There was attached a plan of 1869 showing the locations of the rifle butts will be rifle ranges which shows that they were some 17 or 18 such butts pretty well along the line of the proposed road tunnel on the eastern side.

209. Mr Gil wrote an interesting e-mail on 17 September 2007 to Mr Barton which, although not available to OHL, provided a common sense approach:

> "(i) Unforeseen ground conditions. I am aware that the SI has shown more or less consistent ground conditions and at depth this is to be expected. The top layers however are all man-made ground, with most of this having been done during the construction of the airfield and in a hurry. It is possible to find almost anything within this layer.
>
> (ii) The whole area of the airfield has the potential to contain some ground contamination, i.e. hydrocarbons. There have been some spills in the not too distant past and there may well have been more that we are not aware of. Likewise, there are existing fuel lines along the line of the road that have been there for some considerable time…."

This led to an exchange of emails on the same day with Mr Barton which led to the decision, reflected in the tender documentation, to identify an allowance of 10,000 $m^3$ of contaminated material. This allowance was a reduction from the 50,000 $m^3$ which had been allowed for internally before then by the GOG team.

210. There is little doubt that, if an experienced contractor was to limit itself only to an analysis of the site investigation report made available at tender stage, that analysis would or might well, depending on the relative optimism or pessimism applied, produce quantities of, say, between 3,000 $m^3$ and 8,000 $m^3$ of contaminated material. It seems likely that the GOG team itself appreciated that the site investigation report taken by itself did not indicate particularly large quantities of contaminated material, as recorded for instance in a note dated 21 September 2007 of an internal meeting attended by Gifford and Engain representatives.

211. Many geo-technical site investigations are based on boreholes. One of the obvious and known limitations of boreholes is that the individual hole is, usually, only 100 mm to 150 mm wide and the samples taken from within that narrow hole are not necessarily representative of material either between that borehole and the next one which may be hundreds of metres away or even immediately adjacent to the sample being taken. Once boreholes are taken down into the natural and undisturbed natural strata, geotechnical and even civil engineers are better able to interpolate in relation to such strata what materials at what levels are likely to exist between boreholes. Trial pits are larger but do not usually go down nearly as far as boreholes; they also suffer from the same problem that they disclose what is within the pit but not what lies between the pits. The difficulty however, which is and was both obvious and well-known to those experienced in civil engineering projects, arises in relation to made ground or other fill material which has historically either been placed or has simply been built up on the surface. Indeed,

many archaeological sites have many metres of fill material or other made ground above the ancient buildings or other structures in question.

212. There is a particular problem in relation to contaminated material. It is, rightly, common ground in this case that the contaminants present were the result of human activities, were deposited either by accident or deliberately over many years and would be primarily located in the made up ground above the naturally occurring strata. The contaminants were in this location as, or more likely to be randomly located than deliberately dumped. The boreholes, given their limitations arising out of the number of boreholes and the narrow gauge of the borehole samples, and the trial pits would only fortuitously locate the randomly distributed contaminants. The samples taken might miss fortuitously contamination or they might be taken on the edge of a hotspot of contamination and show up as contaminant but not near the threshold figures.

213. The real issue on analysis is whether OHL judged by the standards of an experienced contractor would or should have limited itself to some analysis based only on the site investigation report and the Environmental Statement. There is no evidence that OHL actually applied its mind pre-contract at all to what if any quantities of contaminated land might be encountered. Their conduct over the first 15 months of the project or even longer suggests that OHL had not considered this to be a real risk at all, notwithstanding that it had been told to allow for 10,000m³ of contaminated material. I accept Mr Hall's evidence that experienced contractors at tender stage would not limit themselves to a study of the ES, which is primarily directed towards planning matters, albeit that it provided useful technical information. What was needed and could have been expected from experienced contractors was some intelligent assessment and analysis of why there was contamination there (namely the recent and less recent history) and therefore what the prospects of encountering more than had been unsurprisingly revealed by the pre-contract site investigation, even if it would be difficult to quantify. The very obvious questions which any experienced contractor asks and would have asked, in relation to what was in effect a brown-field site is: what was this site used for before? The answer broadly was and always would have been that the key part of the site (the tunnel area) was at the end of a runway and near a fuel farm on what had for many years been an extensive rifle range and therefore there would be an expectation of a very real risk that there could be extensive lead and hydrocarbon residues from these activities in the made ground.

214. It is legitimate initially to consider the levels to which the pre-tender site investigation (provided to OHL) showed what the loggers described as "Made Ground" extended. Perhaps unsurprisingly, given its history, there is a wide range of depths to which Made Ground extended and the borehole and trial pit findings are not uniform. The boreholes in the tunnel area, which is where the most significant excavation to depth would be required, showed Made Ground as follows in linear order from the south towards the north):

| | |
|---|---|
| BH 101 | 2.55m |
| BH 102 | 4.00m |
| BH 103 | 1.80m |
| BH 104 | 2.80m |
| BH 105 | 3.25m |
| BH 106 | 1.80m |
| BH 107 | 5.40m |
| BH 108 | 2.00m |
| BH 109 | 1.30m |
| BH 110 | 3.00m |
| BH 111 | 3.10m |
| BH 112 | 1.20m |
| BH 113 | 1.20m (pottery fragments down to 2.55m) |
| BH 303 | 1.00m |

An average would be just less than 2.5m but an averaging exercise would be misleading because the made ground would be more or less than this and there was no telling as to whether it might go to more than the deepest (5.4m) or less than the shallowest (1m).

215. I am wholly satisfied that an experienced contractor at tender stage would not simply limit itself to an analysis of the geotechnical information contained in the pre-contract site investigation report and sampling exercise. In so doing not only do I accept the approach adumbrated by Mr Hall in evidence but also I adopt what seems to me to be simple common sense by any contractor in this field. Contaminants of the type with which this case are concerned will have been present as a result of human intervention over many years; they will have been deposited and spread either deliberately, accidentally or carelessly and possibly at times when the human agencies involved did not know or appreciate that they might be dangerous if left in the ground. They will therefore primarily have been in the made ground overlying the undisturbed strata underneath. Boreholes and sampling pits will only disclose what is in the samples, which in the case of contaminants will be randomly located and the contaminants may or may not show up in the relatively small number of samples taken; put another way, the contaminated materials will only show up in the samples by chance. The only exception to this would be a location in which available records showed the deliberate and planned deposition of contaminated materials; there is no suggestion that this applied here.

216. Tendering contractors must and should have known and appreciated that historically, the site had been influenced environmentally by its military use (over hundreds of years) which could be a source of contamination from heavy metals and trace elements and by its use as an airport area, where it would be expected that evidence of the presence of hydrocarbons and related derivatives would be found. Indeed, in connection with the first of these, the ES contained reference to

the history and various historical maps and the Contaminated Land Desk Study actually showed the precise position of earthwork rifle butts in 1869 pretty well along the line of the tunnel and adjacent ramps. It must have been obvious to anyone who applied any real thought to this that the residues of what soldiers had been firing with on these rifle ranges would include the lead in the bullets or musket balls likely to have been used. Those butts had obviously been levelled years before 2007; thus foreseeably there would have been lead spread around the area within the made ground. Similarly the facts that aeroplanes had been landing, taking off and being refuelled for over 70 years before 2007 on and around the east end of the runway and that there were a fuel farm and oil pipes close to the line of the proposed road and tunnel would and should have been appreciated by tendering contractors to the effect that there could well be hydrocarbon or other oil derivatives in the soil in and around the proposed tunnel area. Many petroleum derivatives also used to have lead additives in them, although lead free petrol is now the norm in Western Europe. In making these findings, I accept the thrust of the evidence given on the topic by Mr Hall.

217. Mr Wouters accepted, properly, in evidence that the source of the lead was likely to have been mainly the lead from the rifle ranges or other military usage or from lead in gasoline and that the source of the hydrocarbon was the fuel tanks, fuel lines, oil changes, oil spills or accidents or from fire fighting exercises. These are just the sort of thing which any experienced contractor would have thought about at tender stage. In fact, the hydrocarbon and lead identified both in the pre-contract site investigation and during the work are consistent with them being from these sources.

218. There was an expressed and obvious warning in the ES which should have put any tendering contractor on notice of contaminants over and above those which had been specifically identified in the pre-contract site investigation:

> "5.3 Further unsuspected contaminated ground could be discovered during intuitive works, potentially exposing ground workers to unacceptable levels of contamination."

219. If one then couples all of the above with the clearest requirement that tenderers should allow for 10,000m³ of contaminated material, in my judgment any experienced contractor tendering for the road and tunnel works would foresee that there would or at least could realistically be substantial quantities of contaminated material. It is and must have been clear that (as was the case) the 10,000 m³ figure given in the ES was hardly anything more than a "say" figure and is in effect a warning to tendering contractors that a sizeable amount of contaminated ground should be anticipated. It is also apposite to note that, even if there was only 10,000m³ of contaminated ground, it could not in practice be excised with surgical precision on a construction site like this, the consequence being that, to remove say a 2x2x2m amount of contaminated material from the ground with an excavator, one is probably going to have to excavate a hole of 3x3x3m, thus

inevitably cross-contaminating and more than trebling the initial volume. There was always thus foreseeably a major problem in this regard.

220. One of the problems which has in one sense complicated this part of the case is the attempts by the relevant experts to quantify the quantities of contaminated material, both that which was reasonably foreseeable by tenderers and that which was actually present at the site. In relation to the latter, this has become complicated by what actually happened on site in circumstances in which OHL took no real measures prior to the end of 2010 to anticipate the presence of contaminants or to take steps to segregate or to avoid mixing all the soils (both contaminated and not). Thus, Mr Wouters, rightly, does not seek to defend the assessments of such quantities made by OHL at the time (for instance the 73,000$m^3$ suggested by OHL in June 2010); this is particularly so because there was substantial cross-contamination caused by OHL's work practices. Another problem is the method of assessment of quantities: what each expert has done is to assume, in relation to each sample found to be contaminated above the STV levels, that the ground around it (to assessed depths and to large or small areas around it) were equally contaminated; one then multiplies the area by the depth to produce a cubic metre result. That is little more than engineering speculation, albeit put forward by each expert in good faith. It is speculation because there is no way of knowing that the given areas selected (be they smaller or larger) contained as much (if any further) contamination as that represented by the sample(s) selected. Thus, for instance, if Sample A at 2m depth at Chainage 600 shows excessive lead contamination, that could stretch just 1$m^2$ around the sample location and create 2$m^3$ of contaminated soil or it could stretch 20$m^2$ around and produce 800$m^3$. They have tried to extrapolate from and/or interpolate between the samples to produce assessments but that logic runs foul of the probability that the contaminated materials were randomly deposited and/or spread historically and the extrapolation/interpolation exercise is in this regard (unlike in relation to the rock exercises done by other experts) no more than guesswork and essentially unreliable. It might be different, for example, if excessive hydrocarbon was found at the same depth over 10 samples within a 400$m^2$ area; one could then sensibly conclude that it represented a sizeable hydrocarbon deposit or dump. However, the results of the sampling show a much more random distribution and that type of conclusion is not readily available.

221. Although I have addressed above a number of points made by the contamination experts in relation to the contaminated ground, I briefly review below a number of other points made by each expert, first Mr Wouters;

> (a) He says at Paragraph 4.7.6 of his first report that the "fact that the ES does not recommend a detailed additional review of the data included in the [Sergeyco 2007 report provided to tenderers] or any other further action indicates to me that the ES was meant as a comprehensive assessment of the site's soil conditions." He goes on in Paragraph 4.7.10 to say that a competent contractor would consider that the ES would present

an overview and a comprehensive diagnosis of the subsurface conditions of the site". Although he may believe that (and indeed it is his thesis), I consider that experienced tendering contractors needed to look at all the available information and also to understand it. This is (correctly) not a case in which it is said that the ES amounted to a warranty or representation. There is no evidence as to what OHL actually considered at tender stage in relation to contamination. What experienced contractors needed to appreciate and understand for projects such as this in relation to contaminated materials was the extent to which such material would all be shown up by a relatively few boreholes and trial pits in the key area (the tunnel and the tunnel ramps where the main bulk of the excavation was to be done) in the light of the known history of the site; that history involved the known and foreseeable risks of hydrocarbon contamination from the fuel for vehicles, primarily aircraft, which had been deployed on this site for over 70 years and lead contamination from lead bullets and from fuel; these were both highlighted and identified in the tender documents. Any intelligent contractor tendering for this work would, I am satisfied, have appreciated that reliance simply on the part of the ES relied upon by Mr Wouters would have been unrealistic. A primary reason for this is that experienced contractors (who, as here, often have experienced civil engineers working in-house) know that a borehole and trial pit regime on its own can only identify such contaminants as are disclosed by the samples and that it would be imprudent (not only commercially but also from an engineering standpoint) to presume that there was no other contamination elsewhere.

(b) He seeks to draw some conclusions (for instance in Paragraph 4.7.21 of its first report) from the thousands of analytical results obtained in effect not only over the whole site but also over at the airport site in respect of which there were certainly only five excessive concentrations of contaminants recorded. However, for the reasons advanced by Mr Hall, experienced contractors would be primarily looking at the tunnel and tunnel ran areas where most of the excavation was to take place. Additionally, he ignores results which show some contamination but not above the ES threshold numbers.

(c) His analysis of the volume of contaminated soil to be excavated (Paragraphs 4.9 to 4.16 of his first report) suggests that the ES would point to an order of magnitude of contaminated material of 2,800m³ by assuming a 20m x 20m area around each borehole or trial pit which showed contamination multiplied by a depth of 2 m or 1 m as the case may be. This was later adjusted to double that figure in his Addendum Report of 13 December 2013. For the reasons indicated above, that is, with respect to him, a somewhat facile approach. However he has to come back in his report to the fact that the ES specifically refers to 10,000m³ of contaminated soil. That would point a contractor (and even one who was

minded to deploy within his tender calculations an assessment such as that employed by Mr Wouters) to the very strong probability that there was likely to be a sizeable amount more of contaminated material than such a simple assessment would produce.

(d) His assessment of the actual soil contamination encountered (Paragraphs 4.17 to 4.26 of his first report) proceeds on what I consider to be an illogicality, which is at least by inference, because the March and May 2010 Sergeyco and September 2010 Gamasur reports showed a much higher proportion of excessive contaminants, what was later discovered was not reasonably foreseeable. This ignores the fact that Sergeyco and Gamasur were in effect targeting a very specific area which was the tunnel and its approach, and was sampling mostly in between the sample points from the pre-tender site investigation. If anything, these later investigations, and indeed those done in early 2011, demonstrated that it was almost inevitable that one would find additional contamination in the areas in between the earlier sample points, albeit of course not necessarily at every additional new sample position.

(e) Because initially in his first 2 reports he had not tried to assess what the actual volumes of contaminated material actually present on site were, at my suggestion, he produced an Addendum report which on various alternative bases assessed something between 25,450 $m^3$ and 38,825 $m^3$. He had to accept in evidence that these figures include an un-quantified element of non-contaminated material because this would inevitably be mixed up with the contaminated material when removed by excavation. However, on that basis, the 10,000$m^3$ referred to in the tender would have had to be substantially increased to allow for this as well. For reasons already given and also given the fact that there is such a wide range between his different alternatives, I find his evidence on the quantity of contaminated materials unconvincing.

222. In relation to Mr Hall, I accept his evidence that it would not have been reasonable for an experienced contractor to have limited his pre-tender view to accept that no more than 10,000$m^3$ of contaminated material would be found (e.g. Para. 106 of his first report); this is entirely logical. He came up with a figure of 15,000$m^3$ as a figure which he would have advised a contractor to make allowance for. However, he did a similar calculation to Mr Wouters, albeit one which produced a higher figure; this is subject therefore to my serious misgivings about the type of calculations. One of the problems is to determine what the calculated figure or the 10,000$m^3$ figure in the ES actually relates to; it must mean that there is in the undisturbed state such an amount. However, it would be difficult to extract surgically 5$m^3$ here or 50$m^3$ there of contaminated material without taking out rather more; the reality is therefore that whatever figure a tenderer assumed was present, in practice it would have to budget on having to treat more than the strict figure assumed as contaminated because by the time that

it was extracted more excavated material would be mixed up with it. His calculation in his first report (at Paragraphs 127 and 128) that 15,243m³ or 17,068 m³ of contaminated material was actually present is as suspect as Mr Wouters' for the same reasons.

223. The problem here for tendering contractors is and was the foreseeable uncertainty of precisely what and where (and at what depths within the made ground) in terms of quantity and location the contaminated soil would be. That there was a very real prospect of encountering contaminated material in substantial quantities anywhere within the made ground was eminently foreseeable by an experienced contractor at tender stage. How (may it be asked) could an experienced contractor in OHL's position have addressed this foreseeable risk? There is no help within the evidence as to how OHL did address it pre-contract, if it did at all. However, what on the evidence could reasonably have been done is all or some of the following:

> (a) Make a substantial financial allowance within the tendered price for actually encountering and dealing with a large quantity of such material.
>
> (b) Plan and price for a post-contract site investigation to determine where in the made ground particularly in the critical tunnel area the contaminants were going to be found. There was much discussion about the scope of such a planned investigation with Mr Wouters at one stage suggesting that nothing much needed to have been allowed for and Mr Hall suggesting 360 locations for trial pits on a 10m by 10m grid along 1,200m over and around the tunnel line and some 1,800 samples. It is not necessary to decide precisely what would have been required but something very substantially more than the November 2009 Sergeyco report which was minimal was required. The object should have been to build up a picture of where there was contamination and then establish a working method of how to remove it and what then to do with it.
>
> (c) Plan to remove all the made ground in the tunnel area or all the made ground which could be assessed as having a good chance of containing contaminants. In fact, OHL removed a blanket of about 2m of made ground from the surface but that was obviously not enough.
>
> (d) Plan the tunnel design and method of construction on the basis that there was an unacceptable risk of there being significant quantities of contaminants randomly distributed in the made ground. This is what in broad terms the revised tunnel design sought belatedly to do.

224. I find that OHL did not in fact anticipate, expect or in practice plan for encountering any significant quantities of contaminated materials at all. Although for instance its CEMPs even in 2009 did mention the possibility of contaminated materials being encountered, in practice and on the ground OHL ignored not only

what the original pre-contract site investigation revealed but also the next two Sergeyco reports which it commissioned itself; these revealed further contamination and there was in practice no recognition by OHL at all that something might have to be done about it, if for no other reason than to protect their own workmen; for instance no material risk assessments were done. This becomes even more surprising after the Gamasur report in October 2010 when further contamination is recorded as having been found. In practice, what OHL did was to remove 2m of the soil from the original surface level without forethought or regard to whether it contained contaminated materials or not. OHL simply did nothing throughout late 2009 and 2010 to deal with either contaminated material or recognise the ramifications and consequences of not doing anything. Thus, OHL did nothing when Mr De La Paz fairly pointed out in early 2010 that it was doing nothing to counter cross-contamination between contaminated and non-contaminated soils. It is true that the questions of responsibility for contaminated materials became confused by the Stockpile Agreement whereby all material excavated was to be taken to Spain but that was a stop-gap arrangement and the materials were still excavated and handled on site without any regard being given by OHL to the ramifications of them being contaminated materials. These ramifications were not simply the health and safety considerations towards workers on and visitors to site; they also included consideration (well before January or February 2011 when the re-design started) of the impact on the design and working methods for the tunnel excavation and roof construction. The reality is that, whether the re-design was necessary or not or reasonable or not, the basic geotechnical and chemical information supposedly justifying it had all been available for months before the Himalaya related suspension at Christmas 2010.

225. OHL did not follow its own CEMP with regard to contaminated materials. For instance, it did not require its workmen to use appropriate safety equipment or do any risk assessment to justify its non-use and it did not segregate contaminated from non-contaminated materials. Mr Doncel and others said that OHL had planned to save contaminated materials with a view to putting them back, appropriately capped within the material covering the tunnel roof; I do not accept that this was always the OHL plan and it only saw the light of day as the contaminated materials saga unfolded and indeed there was little or nothing in the OHL planning which seemed to identify what if any arrangements were being made for the temporary storage of such material or indeed any material for this purpose. The excavation for the diaphragm wall panels started in about March 2010 and was indiscriminate in its approach to contaminated and non-contaminated soil; simply everything was taken out and there was factual evidence that cross-contamination was inevitable in these circumstances. Mr Hall said in evidence (Para. 185 of his first report), and I accept, that lead contamination can be simply identified by use of hand held tools and hydrocarbon contamination can be smelt by humans so that a reasonable level of segregation could be achieved, in practice.

226. It could be said that OHL was allowed to get away with this approach and the Engineer or others on the GOG side could have been more critical of OHL, albeit that they were fairly critical as the earlier chronology identifies some occasions of this sort. There being no waiver or estoppel points raised, this does not help OHL who carried the risk. In one sense, OHL could just have said to itself that it would dispose of all the made ground to avoid having to segregate it between contaminated and non-contaminated. Again another confusion came in which was GOG's wrongful belief that it was or could well be financially at risk for the costs of disposal by OHL of all contaminated materials which largely drove its thinking in relation not only to the Stockpile Agreement but also the plan to set up and pay for the Befesa plant and the setting aside of the Aerial Farm site for OHL to deposit all excavated material upon it. This latter arrangement in the result was fruitless because OHL deposited little material on Aerial Farm. It is also the case that the Befesa arrangement was significantly driven by the thought within GOG that extra useable soil should be made available within Gibraltar and the draft Fill Guidelines should be applied to this process so that any material which complied with them could safely be used for instance in land reclamation. The Befesa arrangement was one which would have saved OHL millions of pounds because it had the contractual risk in relation to the contaminated soil (as set out in this part of the judgment); all it had to do was deposit all the excavated materials on Aerial Farm. But for this, it would have had to dispose of scores of thousands of cubic metres of materials which either were originally or had become in consequence of its working practices contaminated. As for the rest, unless the excavated material was clean sand, it would have had to be taken out of Gibraltar as waste even if not contaminated.

227. I am satisfied that OHL did not in fact encounter physical conditions in relation to contaminated soil over and above that which an experienced contractor could reasonably have foreseen by the date of submission of its tender. The primary contaminants encountered were lead and hydrocarbon, particularly PAHs, which were reasonably foreseeable at the date of tender as likely to be encountered particularly along the line of the tunnel and the tunnel ramps and within the made ground which extended down in places to over 5m below existing ground level. In terms of the quantities of contaminants to be foreseen, it is difficult to put any precise figure on what should have been foreseen but in my judgment the amount would be very substantially above 10,000$m^3$. It is similarly impossible to determine with any precision what quantities of contaminated materials were actually encountered or were present. I am not satisfied on a balance of probabilities that OHL (to apply the wording in the operative clause, Clause 4.12 of the conditions of the Contract) in fact encountered either in terms of type or quantities or location "Unforeseeable" physical conditions, namely contaminated materials in the soil. I find that the quantities actually encountered and present were likely to have been less than could have been reasonably foreseen by an experienced contractor and it has certainly not been established otherwise.

**Contamination Issues – Water**

228. Many of the key parts of the ES are set out in the preceding Chapter of this judgment. The issue of contaminated water on site is relevant not only to possible extension of time but also in the run up period before the termination. There needs to be a distinction drawn between the underground natural aquifers which carried water in effect from under the Spanish mainland and the groundwater. The groundwater was not and is not fed or charged only by the aquifers and there may be some contributions from other sources; for instance rain and even the nearby sea can play a part in the groundwater regime at this site. There is no dispute factually that groundwater was foreseeable (and indeed levels were given for it in the ES) and that dewatering would foreseeably be required for the tunnel excavations which were to go down many metres. The dewatering would be required to keep dry the tunnel excavation and environment so as to install the road and drainage within the tunnel as well as the tunnel linings and other related work. The real issue is whether contaminated groundwater was foreseeable by an experienced contractor at the time of tender.

229. In the light of the ES references and the 2007 Sergeyco site investigation findings in relation to water, it is my unavoidable conclusion not only that an experienced contractor at tender stage ought reasonably to have foreseen the likelihood of contaminated groundwater but also that OHL must have known about it. For instance, the Water Resources chapter in the ES says in no uncertain terms that "exceedances of threshold values were recorded for heavy metals, toluene and PAH contaminants" (Paragraph 3.24 quoted above); toluene is a benzene derivative, being aromatic hydrocarbon and historically one use was in gasoline fuels. A number of the groundwater monitoring wells were installed pre-contract in the tunnel area (for instance Boreholes 102, 103, 105, 109-114, and WS111) and several of these showed such contamination.

230. There are two other very obvious aspects of contamination in the groundwater. The first is that, because groundwater levels rise and fall (sometimes seasonally) and because groundwater can move laterally as well (for instance here towards the sea), the contaminants can in their soluble form be transferred upwards, downwards or sideways as the water itself moves; this is all standard knowledge for experienced contractors. They can therefore be moved down from the made ground into the natural undisturbed strata below. Indeed, that can explain a number of the water borne contaminants being found in the pre-contract tests for instance at depths between 7m to 15m. The second aspect is that, as must have been obvious to any experienced contractor, the effect of excavation and other construction operations in the ground can also "disturb existing contaminated soil and result in new paths for contamination to move between soil and water" (see Page 13 of the Non-Technical Summary to the ES, quoted above).

231. One then couples the above to the lead and hydrocarbon in the made ground which would have been foreseeable by experienced contractors. I therefore

conclude and find that competent tendering contractors should reasonably have foreseen that there was a very real risk and prospect of significantly contaminated groundwater being encountered during excavations which when encountered would need to be addressed by appropriate dewatering and discharge arrangements. In this regard, I accept the thrust of Mr Hall's evidence. I found Mr Wouters' analysis on this for instance in his second report to be unhelpful; for instance (Para. 2.109 et seq), he seeks to analyse particular monitoring wells from the 2007 Sergeyco investigation which showed detected hydrocarbon not being exceeded in four out of six well results, judged as against 2008 (EQS) standards; that does not help because the clearest warning about heavy metals and hydrocarbon product or residue being present in the groundwater was given in the prose part of the ES (for which see above). Any experienced contractor would be bound to attach weight to what the ES says (albeit not slavishly so). Mr Wouters in his first report seeks to assert that a number of the sample results were some distance away from the tunnel area so that, he says, experienced contractors would assume that there would be no or little water contamination at the tunnel. This however ignores two things, first that groundwater is on the move in this location, carrying with it contamination and secondly the essentially random nature of the distribution of contamination which may or may not be picked up by sampling. Mr Wouters goes on in his second report (Para. 2.119) to infer that contaminants in the groundwater do not matter because this is "in the context of groundwater that is present in a coastal aquifer, which will end up in the sea anyway in a relatively short period of time". I can only assume that this was a flip and unconsidered remark because, of course if the ground is undisturbed by construction operations, the groundwater may well migrate into the sea either with the contaminants or with the contaminants filtered somewhat by the soils between the given point measured by sampling and the sea; the corollary is that, when the ground containing contaminated water is seriously excavated into, the groundwater will be released into the excavation and the contractor will have to do something about the then doubly contaminated water (that is contaminated before going into the excavation and then further contaminated by any contaminants in the soil in the excavation). Whether or not the contaminants found in water sampling exceeds a particular threshold may well not matter to an experienced contractor provided more than trace elements are found because there will then be a readily recognisable risk that water treatment of some sort will be needed.

232. In one of the "Answers to Clarifications Questions" incorporated into the Contract (Annex 10 Contractor's Proposal), OHL said that it intended "to carry out a full geotechnical study in order to verify the design parameters [and that this] study must also include a detailed hydrogeological study". "Hydrogeology" relates to the distribution and movement of water within soil (or rock). Although OHL never did anything post-contract which might conceivably be called a "hydrogeological study" detailed or otherwise, the very fact that OHL said pre-contract that it would implement such a study suggests that OHL, as an experienced contractor, at that stage appreciated that there was real risk that

contaminated water would need to be dealt with. One would not be doing a detailed study just to determine the levels at which groundwater might be encountered but also as Mr Hall said (first report at Para. 264) to understand the origins and distribution of contaminated groundwater.

233. There is little let alone any convincing evidence that OHL applied its mind post-contract to the possible presence or impact on construction operations of contaminated groundwater at least until about May 2010 when Sergeyco was first reporting on this, monitoring points having been established. Further findings including what have now become controversial water sampling results produced for OHL in the autumn of 2010 show certainly some contaminated water and possibly some very contaminated water. It was only in about September 2010 that OHL gave any real thought as to what it might have to do in relation to contaminated water which it would encounter when excavating down to and within the groundwater levels to be encountered. Eventually, in the tunnel area, the groundwater level being encountered was about 2 or 2.5m below the reduced ground level or about 4 to 4.5m below the original ground level.

234. The evidence on all sides was that, if there was only lead contamination to address, a relatively simple sand block method of filtration would be required to enable the "suspended solids" represented by the lead in the dewatered water from the excavation. For instance this was accepted by Mr Wouters in cross-examination and Mr Hall accepted it also saying in effect that would be achieved with a settlement tank. In respect of hydrocarbon contamination in water, a more elaborate water treatment plant would be required. Mr Hall said (and I accept), that this can only be removed by passing the water through granular activated carbon filters. The problem for OHL was that it could not just dump the untreated water in the sea or into the Gibraltar foul or storm water drainage systems, because it was going to be polluted. Although there was much discussion in the case about whether the Gibraltar authorities in general and Mr Gil in particular were being unreasonable or were applying standards which had not been applicable or applied before the Contract was entered into, the reality was that OHL would never have been allowed to deposit into the sea or the drains untreated groundwater with the levels of contamination being reported fairly consistently by both sides' independent consultants in 2010 and early 2011. The sizing and capacity of any water treatment plant to be selected depends, as Mr Hall said and I accept on the flow rate of the contaminated water and that would depend on OHL's programme requirements and methodology; he went on to say that an activated carbon filter removes all hydrocarbon contamination until the filter is saturated and has to be exchanged. In this context, I do not accept the evidence or argument in this context that the "new" EQS limits to which GOG and its agencies had regard by September 2010 (compared with the standards applicable at the tender stage in 2007 and 2008) made any difference to the basic need for the provision of the more elaborate water treatment plant as referred to by Mr Hall or as actually installed; even with the less stringent limits applicable at contract stage, such a plant would have been required.

235. In my judgment therefore, the level, fact and risk of there being significant contaminated groundwater at this site was and should reasonably have been foreseen by experienced contractors at tender stage; similarly the risk and indeed probability of a water treatment plant broadly of the type and capacity actually deployed by OHL should have been so foreseen.

236. Apart from issues relating to extension of time, there is a factual issue between the parties as to the likelihood of the Sergeyco water sampling results in October 2010 reported by it in its November 2010 report being reasonably accurate. Certainly those results or some of them show a level of water contamination which is way above what had been reported in May and August 2010 by Sergeyco itself as well as later results from Clarke Bond and VTA in early 2011. There was a further water sampling exercise done in July 2011 and reported on by Sergeyco on 3 August 2011. No witness was called from Sergeyco to respond to the concerns raised by for instance Mr Hall in his reports. As Mr Wouters accepted under cross-examination there was no relevant deterioration, so far as contamination was concerned in water as sampled by Sergeyco in May and August 2010; there was however an apparently marked deterioration between August and October 2010 (maximum concentrations identified), with a 37 fold and a 10 fold increase in the lead and hydrocarbon elements:

| Compound | August 2010 | October 2010 | July 2011 |
|---|---|---|---|
| Lead | <10ug/l | 373 ug/l | 5,380 ug/l |
| TPH | 110 ug/l | 3,100 ug/l | 21,700ug/l |

Mr Wouters explained this by suggesting that what may well have been happening was an effect of the diaphragm walls which had been largely executed by October 2010 blocking the groundwater from a lateral flow of water so that it rose and came into contact with contaminated materials in the soil above thus increasing the contaminant quantity ion the groundwater.

237. Mr Hall disagreed with this. He said that there was a problem with the sampling by Sergeyco:

(a) The August 2010 samples were taken from piezometers recently put in.

(b) In the period between August and October 2010, these sampling tubes would have silted up, largely due to the tidal effect of the sea nearby.

(c) It seems that Sergeyco did not filter the contents of the water taken from the sampling tubes in October 2010 and required the British testing laboratory (NLS) to test the total metal content as opposed to dissolved metal content.

(d) The Sergeyco November 2010 frankly says that for one sample (M10-22-10 (Piezometer 1) "these values are not real due to the external input of water"; this can not be relied upon because the sample was itself irredeemably contaminated. This contained the two highest findings (lead and hydrocarbons found (see table above). He also believed that there was contamination particularly in the samples taken towards the north where the fuel farm, which was associated with that (Piezometer 7, Sample M10-28-10 which was the next worst for lead and hydrocarbon)

(e) His thesis is consistent with water samples done by Clarke Bond in February 2011 and by Capita Symonds in March or April 2012 which showed very much lower contaminant levels.

(f) In relation to the findings in the Sergeyco August 2011 report, there is only one substantial increase which is sample MA-07-04-11 (Piezometer 1) which was the unreliable sample in October 2010. He attributes the recorded increases to poor practices on site and oil spills or work associated with the MOD diversion work.

238. I am not satisfied on a balance of probabilities, that the Sergeyco samples in October but reported in November 2010 or indeed the July 2011 sampling are reliable. They do not assist the Court in determining whether there was excessive water contamination. Certainly, there is evidence which I accept that OHL's site practices in relation to excavation in and of contaminated materials were poor and there was a very real possibility that any enhanced levels of contaminants in groundwater were attributable to poor management of contaminated materials on site and indiscriminate excavation activities.

239. In one important sense, it matters not in any event in the context of this case whether there was a build up in the contamination of the groundwater for the reasons given by Mr Wouters. The risk, contractually, and the responsibility for dealing with it was OHL's because the basic condition of contaminants in the groundwater was not "Unforeseeable"; if the damming effect of the diaphragm walls going in was temporarily to increase the content of contaminants in the groundwater at that point, that contractually was OHL's risk and responsibility.

240. In yet another important sense, it matters not because the water treatment plant which OHL eventually arranged to be installed or something very like it was always something which would have been required to deal with contaminants at the levels wholly foreseeable by an experienced contractor at the time of tender. In that context, I accept Mr Hall's evidence to that effect.

**The Design Process**

241. I address this because it features in the extension of time claim, albeit its relevance in the sequence of events arose before the ground and water

contamination issues surfaced. I will only address those design issues which are said to impact on critical delay. If there are non-delay related claims relating to delayed approval of designs or approvals in principle, they will have to wait for another day.

242. The two design experts, Mr Chapman (for OHL) and Mr Beadman (for GOG) were able to reach a very substantial measure of agreement. In essence, the primarily relevant issues between them for the purposes of this judgment relate to the delayed issue of the Approval in Principle No 1 (AIP1) which concerned the main tunnel works. As will become apparent, the tunnel works represented, programme-wise, the most critical part of the works overall.

243. Over a period of about 12 months starting in early 2009, OHL submitted no less than 5 versions of AIP1 to the Engineer, the original (O) and four revisions (A to D), it being only Revision D which was ultimately appropriately approved. The bare chronology was:

| | |
|---|---|
| Programmed date for submission of AIP1 | 22 January 2009 |
| Programmed date for Engineer's approval | 20 March 2009 |
| AIP1 submitted | 21 January 2009 |
| Engineer's rejection of AIP1 | 3 March 2009 |
| AIP1A submitted | 22 April 2009 |
| Engineer's rejection of AIP1A | 22 May 2009 |
| AIP1B submitted | 29 July 2009 |
| AIP1B rejected | 19 August 2009 |
| AIP1C submitted | 30 September 2009 |
| AIP1C rejected | 16 October 2009 |
| AIP1D submitted | 7 December 2009 |
| AIPD accepted | 21 December 2009 |

The use of the word "rejected" above does not infer that every part of the submitted design was found to be unacceptable. For instance, AIP1 was returned by the Engineer and identifies 13 matters which were non-compliant and 28 matters which, although compliant, required significant further action. By the time AIP1C was returned by the Engineer, there were 4 items identified as non-compliant and 4 compliant but requiring significant action. It was the items which can properly be described as non-compliant which had the potential to delay progress overall as it would be difficult for OHL to commit to an effective start on the tunnel with non-compliant overall designs.

244. The experts are agreed and I accept that in effect the Engineer was entitled to find the AIP1 submissions unacceptable as non-compliant up until at least Revision B. Therefore, at least, OHL is responsible for any critical delay caused by the non-submission of an acceptable and compliant AIP1 submission, that is, up to 19 August 2009. The reasons for this is in a strict sense do not matter because any delay is and was at OHL's contractual risk. I accept however the evidence of

various GOG witnesses that there was a lack of urgency and professionalism on the part of OHL or Ayesa who it had sub-contracted to carry out the design and that in effect they were using the process as a sort of sounding board (my phrase) instead of as a committed design process. The Engineer and his staff went above and beyond what they needed to have done simply to be co-operative. There were numerous meetings and exchanges (as is clear from the disclosed documentation and from Mr Garratt's evidence) and the overwhelming impression is that the Engineer and his staff sought to be extremely helpful. Mr De La Paz said that his observation on the management by OHL of its design process was "disorganised and haphazard" and that is a fair point.

245. The experts have identified three areas of the design that might arguably have justified the Engineer withholding approval until Revision D, albeit that they are not agreed as to whether the Engineer was so justified:

(a) Brickwork cladding or inner lining to the tunnel.

(b) The wave/flood modelling; this related to the need to provide a flood wall to guard against exceptional waves from the sea causing water to flood the tunnel.

(c) The drainage at the bottom of the tunnel which was technically inadequately represented on a submitted drawing.

In essence, Mr Chapman says that the Engineer could and should have taken the first issue off line and parked it by expressly indicating that the Contract would need to be complied with and the wave/flood modelling could also have been taken "off-line" with the remaining issue relating to drainage dealt with even more simply.

246. It is common ground between the experts that regard had to be given to BD2/05, the Design Manual for Roads and Bridges – Technical Approval of Highway, issued by the Highways Agency and others; indeed it is expressly specified at Paragraph 2.3 of Part 2 of the Employer's Requirements. This had been brought in following historic design failures mostly in box bridge structures to ensure that intelligent thought was applied to the basic fitness for purpose of the principles of structural designs being proposed. Paragraph 1.13 laid down that the "construction is not allowed to proceed until there is formal agreement to a comprehensive submission of design principles in accordance with the requirements of this Standard". Under Chapter 5 which dealt with road tunnels, a (non-exhaustive) list of aspects to be considered included "Proposed tunnel wall finish", "Fire resistance" and "Secondary lining and cladding". One needs to bear in mind that an AIP involves Approval in Principle, which does not necessarily involve the need to consider detail although obviously sufficient needs to be provided to the Engineer to enable him or her to determine whether it can be

approved in principle. The AIP is the "document which records the agreed basis and criteria for the detailed design or assessment of a Highway Structure".

247. Paragraph 2.3 of Part 2 of the Employer's Requirements entitled the Engineer to "raise comments in respect of an AIP…only on the grounds that…c. the proposals in the AIP are otherwise not in accordance with the Contract…"

248. I will address each of the individual issues in the order set out above. First, in relation to the brickwork cladding, Paragraph 2.6 of Part 2 of the Employer's Requirements expressly required that the tunnel would "be lined with a proprietary product to give a minimum 2 hours fire resistance at 1350°C on the RWC curve" going on that the:

> "…product shall have a proven performance track record in road tunnel environments and be resistant to chemical attack from heavy sulphur laden atmospheres. The passive fire protection shall have a design life of at least 50 years, be non-combustible and fully independently tested…"

It is common ground that there was a mandatory requirement that the internal surfaces would be painted to provide a specular reflective value of 0.6 to a height of 4.0m above the adjacent carriageway level and 0.3 above that level.

249. What happened in the AIP process is that time and time again OHL submitted for approval a proposal that the tunnel lining should be brickwork cladding and not the proprietary lining expressly called for in the Contract. The Engineer rejected the first four submissions on this ground in effect because it clearly did not comply with the Contract and also because the brickwork proposal did not demonstrate that the specified specular value could be attained. It is and was no secret that OHL was putting forward the brickwork cladding alternative to save money as it was thought to be much cheaper; internal-mails in April 2009 suggested that possibly €400,000 might be saved. Time and again, OHL sought to justify its selection on the grounds that it was much used in Spain and by producing information by which it attempted to suggest that brick-lining was as good as a proprietary lining. Ultimately, there was an understanding reached possibly as late as November 2009 that the issue would be "parked" and the Rev D submission would use generic or relatively neutral wording to secure approval. This is what happened.

250. The issue is whether the stage reached at Rev D in November/December 2009 could and should have been reached earlier. Mr Chapman says that the lining was "not an essential structural component and its only relevance for the overall design was the space that it would occupy" (first report- Para. 101), that agreement on this issue "was not necessary" and that it could have been taken "off-line…provided that adequate space-proofing allowance was made" (Para. 103). Mr Beadman disagrees on the basis that, until agreement was reached on the lining, the internal dimensions of the tunnel could not be determined, that the

specular requirements of the brick lining were not met, that the requisite fire resistance had not been demonstrated and, underlining these matters, that it was contrary to what had been specified contractually.

251. In my judgment, Mr Beadman is absolutely right on this issue. There was no justification to put forward the brick lining option as an appropriate design solution. It expressly contravened what the Employer's Requirements called for and the brick-lining could not be demonstrated effectively to comply with the fire resistance or specular requirements. The fact that the lining was not to carry structural loads from other parts of the tunnel structure was immaterial because it was not just structural matters which needed to be addressed in the AIP exercise. In any event, the lining whatever it was would at least carry its own loads and any applied loads in the case of an accident in the tunnel, for instance a lorry driving into it; in that sense it might legitimately be considered to have some structural implications. Until the basic lining was determined in any event, the available carriage width could not be determined; for example, if the brick cladding arrangement was 125mm thick (on each of two internal walls of each road tunnel) compared with 25mm thick for a proprietary lining, the brick cladding would take up 200mm more space in the tunnel than the proprietary lining. Apart from the commercial consideration, it is wholly unclear why OHL continued to press for the brickwork solution in all these circumstances when the Engineer was clearly unhappy about a solution which was so obviously contrary to what the Contract called for. Mr Chapman accepted under cross-examination that he could not say that the Engineer had acted unreasonably in this regard.

252. With regard to the flood wall for the tunnel, Paragraph 2.7 of the Employer's Requirements provided for a design against the 1:200 year storm with an overtopping discharge of 0.01/s/m at all locations along the length of the flood wall. OHL engaged (through Donaldsons) the well known British marine engineers, HR Wallingford, to design the flood wall. Initially, in May 2009, Wallingford indicated that a flood wall of 5.5m in height would be required. Over the following few weeks, OHL requested that consideration should be given to a wall of 2.3m in height and this required further analysis. There were exchanges between Donaldsons, Wallingford, OHL and the Engineer in June and July 2009 which led to Donaldsons advising OHL to "seek a departure from the contractual requirements in relation to overtopping threshold…to a figure of 0.05l/s…coupled with a 1:100 year storm and sea level rises [giving] a wall crest elevation of 6.9 m CD [and] this wall should be re-curved", this being requested in an OHL letter dated 6 July 2009 to the Engineer. This was addressed in Rev B of AIP1 submitted all 27 July 2009 which stated that flood/wave loading would be taken into account in the detailed design. The Engineer was not prepared to approve this and called for the "the results of flood modelling". When OHL submitted its Rev C AIP1, it merely stated:

> "Modelling of the wave conditions and overtopping of the wall is currently being progressed to determine the necessary height of the wall.

> On completion of this study the additional loading which will apply to waves/flooding will be determined taking into consideration in the detailed design of the parapet and supporting substructure (retaining walls)."

This produced a similar response from the Engineer who on 11 November 2009 at a meeting told OHL that it would need to provide data on the height of the proposed wall as well as its shape and the loads on the wall. This produced an additional report from Donaldsons on 28 November 2009, albeit reissued a few days later and this led to the Engineer to accept at Rev D AIP1 in that respect. Eventually, a wall height of 3m was agreed in the detailed design process.

253. Essentially, Mr Chapman says that because Wallingford was a UK leader in the field of hydraulic modelling a report from them "was more than necessary to meet the requirements of the Contract" and that the initial height produced (5.5m) was a surprise which should have led to the Engineer and GOG agreeing to a relaxation, in effect a variation, to the Employer's Requirements. He goes on to say that therefore the Engineer should have agreed at the Revision B stage in July and August 2009 to take this element "offline". Mr Beadman says that given "that the initial flood study was submitted on 8 May 2009 and the Engineer was considering the results, leading to the eventual agreement to relax the specification, I do not consider that this is an issue that should prevent approval of AIP1 from Rev B onwards" (Para. 185 of his 31 July 2013 report).

254. I disagree with both experts. This issue clearly was a structural matter which, depending on the height of the wall, its shape, its loading and its size, would necessarily have a material impact on the tunnel structure loadings. This was clearly within the context of BD2/05 something which the Engineer was entitled to reject until sufficient was provided to demonstrate that there would either be structural compliance with the Employer's Requirements or that sufficient was provided to demonstrate justification for a substantial departure from those Requirements. The fact that Wallingford was a very well known marine engineer can not obviate the need to comply with BD2/05 because otherwise the whole AIP process could be sidelined by saying that, because there are particularly well qualified and experienced engineers in charge on the design side, it can all be sorted out later; BD2/05 was introduced as it makes clear following serious structural failures, mostly in box girder structures designed by internationally well known and respected British consulting engineers. I can not accept on the evidence that GOG through its Engineer was in effect in breach of contract for not approving the flood wall arrangements offered before Revision D.

255. The final matter relates to drainage, which in context was a relatively small matter with the complaint being that at Revision B stage a tunnel drainage arrangement was rejected because it did not actually show in the main cross section offered any details of drainage beneath the carriageway; this was in the context that Rev A drainage arrangements had been sufficiently poor to justify rejection. This

omission was sorted out by the time that Revision C was produced. I accept that the Engineer was in context entitled to reject the Revision B design on this ground albeit that, if this had been the only matter left outstanding at that stage, many engineers would have accepted it but with very firm qualifications that cross-sections should be produced showing with precision the location of the drainage arrangements under the carriageway.

256. In conclusion, the Engineer was entitled to withhold approval of AIP1 until Revision D in December 2009 on the grounds of the tunnel lining and flood wall non-compliances and until Revision C on the grounds of the absence of the drainage details under the carriageway.

**Rock**

257. OHL says that it encountered rock excavating for the diaphragm wall panels at higher levels than an experienced contractor at tender stage would reasonably have foreseen. This resulted, so it argues, in having to adopt different, more time consuming and costly work methods to excavate through the rock. The two experts have reached a substantial measure of agreement, agreeing for instance that limestone was encountered above the "tender toe levels" in a number of places (Chainages 565 -587, 713-718 and 730-748) accepting that limestone in these areas could not have been reasonably foreseen at tender stage.

258. It is, rightly, common ground that experienced contractors at tender stage would have regard to the contents of the 2007 site investigation report which identified (borrowing from the first experts' joint statement):

> "19…a general succession of made ground, over a predominantly loose to medium dense sand with some clay and gravel, over generally "stiff brown clay". In BH104, there was "stiff grey marly clay". In BH104 and BH105, a band of material described as marly limestone cobbles and gravel is present at levels of -19.3m ACD and -15.1m ACD. In BH104 the band of strong dark grey angular marly limestone cobbles was 1.2m thick "infilled with clay, very weathered and crumble [sic] texture" over stiff mainly clay "with laminated of mudstone [sic] very weathered and tectonised, crumble [sic] texture". In BH105 a strong grey fractured marly limestone (2.2m thick) was reported to be "formed a big gravel [sic]" over medium dense to loose dark grey sand with occasional marly/limestone angular marly limestone medium gravel extending to -22.8m ACD. In BH112, weathered marly limestone with abundant fractures was penetrated by 1.8m immediately beneath the sands at a level of -15.4mACD.
>
> 20. The most useful items of information in the 2007 site investigation records to evaluate the ground conditions for diaphragm wall excavation are the descriptions of the materials together with the results of insitu tests

which include standard penetration test results (SPT 'N' values) and pressuremeter tests…

21. Except in the vicinity of BH105, which showed the presence of a 2.2m band of "strong fractured marly limestone formed a big gravel" at a level of 15.1mACD, limestone was not encountered in the 2007 investigation within the depth of the tender design diaphragm walls. We agree that material described as a "big gravel" can normally be removed by a clamshell…

23. We agree that excavation using a clamshell grab could be expected to progress without difficulty in the sand above the brown 'clay'…

25. Based on UK experience with stiff/very stiff overconsolidated clays there appear to be inconsistencies in the descriptions of the 'stiffness' of the 'brown clay' and the SPT 'N' values indicating other material than shown by the soil descriptions…

26. We agree that chiselling would not normally be adopted in materials described as a stiff or very stiff clay. Mr Davies considers that, based on the descriptions given in the 2007 borehole logs, it would be reasonable to expect excavation of the "stiff brown clay" above the marly limestone could be carried out by clamshell techniques normally used in "stiff/very stiff clays". However, to reach the tender toe levels for the east and west walls there was a slight risk that some sporadic local chiselling might be necessary to break up the material described as laminates of mudstone within the clay. Mr Sanders considers that excavation with the clamshell grab plan was feasible in material where SPT test it not meet refusal but it was appropriate to assume that where refusal occurs the clamshell grab was unlikely to be able to efficiently excavate the ground or penetrate it at all…"

259. Thus, both experts had regard to the need to chisel as well as to the general acceptability of using clamshell grabs for the excavation. The effect of chiselling is undoubtedly to weaken the rock or other material that could not readily be removed simply by the clamshell grab. A significant difference however between the two experts arose in relation to the extent to which the experienced tendering contractor would have regard or attach weight to the soil descriptions in the 2007 site investigation borehole logs but less so to the SPT values also recorded in those logs. Another difference appeared, highlighted in the second joint statement, which was in relation to the quantity of "rock" encountered; this revolved around a given depth of "rock" over a panel length which required two "bites" of the clamshell after chiselling had been carried out on the first bite or bite's worth only. Mr Davies believed that one would classify both bites as in "rock" because the chiselling on the first bite would in effect have weakened the second bite so as to enable it to be removed by the clamshell grab whilst Mr Sanders disagreed in

effect saying that it was only the first bite which needed chiselling. The effect of this disagreement is that Mr Davies considers that the total volume of rock encountered was 1,382m³ whilst Mr Sanders believes that the total was 1,213m³.

260. In their third joint statement, the experts produced a very helpful series of sections which identified the 2007 site investigation findings where each experts said that chiselling was required and a line above which each expert said that "rock" was not reasonably foreseeable (blue for Mr Sanders and orange for Mr Davies) or below which "rock" was reasonably foreseeable. There has been a substantial amount of further site investigation done in 2009 and 2010 by or on behalf of OHL which coupled with a relatively full set of wall panel construction records (albeit incomplete) has enabled the experts to reach this level of agreement.

261. The diaphragm wall panel excavations began on the north side on 1 March 2010, with a sub-contractor (Geocisa) being employed there and starting on the northern ramp area. Another sub-contractor, Terratest, started on the southern side again in the ramp area in late March 2010. Altogether, this work was programmed to last some 2 months, it in fact took over 9 months. "Rock" was first encountered on the northern side on 18 May 2010. As more "rock" was encountered, OHL engaged Sergeyco and another to carry out further site investigation (in late May/June, July and October 2010). There were some design changes because at least in part, if rock was encountered higher than expected, the founding level could be altered. Also agreement was reached that a sensible way of addressing the "rock" was by drilling or chiselling into the "rock" and then using the clamshell grab to break it out and remove the debris. Chiselling in this context involves the sometimes repeated dropping of a large steel mass to the base of the excavation such as will cause the hard material at the base to shatter into pieces; the clamshell grab can then be used to pick up the fragments.

262. The SPT results demonstrate the number of blows involved in driving a 50mm diameter thick walled sample tube into the ground or soil being tested. What happens (as described by Mr Davies in his first report (Para. 80)) is that there is a free fall hammer (of 63.5 kg mass) which drops onto a drive head from a height of 760mm and the number of blows required to achieve a 75mm penetration is recorded. If more than 50 blows were needed to penetrate the 75mm it was considered to have met "refusal". BS 5930, which is the relevant Site Investigation Code of Practice, identifies what SPT values demonstrate in different soils; thus for sands and gravels, "dense" can be established with SPT values of 30-50 and "very dense" above 50 and for rock, "moderately strong" 12.5 to 100 and "strong" 50 to 100. The borehole logs identify what SPT values were established at different depths as well as describing the material as noted by the loggers of the borehole in question. There is as between the experts an (intellectual) tension as to the weight to be attached to the SPT results as compared with the description of the soil or other material note at the various different levels in the borehole logs.

263. Part of the possible confusion arises because Mr Davies believes that "refusal to the SPT could reasonably be expected when a band of moderately weak mudstone of the order of 200 to 300mm thick is encountered within a stiff/very stiff clay matrix" (Para. 91 of his first report) whilst Mr Sanders considers that greater emphasis should and would be placed by an experienced contractor on the SPT results because in his view the borehole log soil descriptions might well have been wrong because the soil being recovered was in a disturbed and weakened state due to the drilling process, this being something which is generally recognised. Mr Sanders believes that it was reasonably foreseeable that material described as 'clay' but recovered with SPT 'N' values exceeding 67 was, in fact, a mudstone or clayey marlstone. This all tied up with how a contractor would expect to deal with whatever it is which is being encountered in practice. Mr Davies thus believes that only limestone around the position of BH105 could be foreseen together with "sporadic" mudstone bands within stiff/very stiff brown clay, mostly at Chainage 420 to 500.

264. I have formed the view based on the evidence that any experienced contractors would have regard and give weight to all the site investigation information contained in the 2007 report. Of course, they would rely on the description of the soils contained in the borehole logs because the verbal description (based by the loggers on a visual look at the material and touching it, all based on their experience) is useful but they would also attach importance to the SPT test results. The soil descriptions and the test results can be wrong or misleading; mistakes can be made, say, in the logged soil descriptions or test results can be skewed unwittingly by something unusual being locally present within the material being tested. The higher the SPT results, the more likely the experienced tendering contractor will say to itself that there was (or at least there was a real risk that there was) something harder in the material being tested which was causing the drive head of the testing gear to be resisted by the material. There would be a very real risk in the contractor adopting a blinkered approach by saying to itself that it will ignore the SPT results unless it is wholly consistent with the description of the soil given at the comparable depth. The experienced contractor must say to itself that, where there are high SPT values, there is a real and foreseeable risk that it may encounter something much harder than may be verbally described; that harder material may require special measures to remove it, over and above those measures planned for the less hard material. In this regard, I accept Mr Sanders' evidence that this was a significant risk and that OHL should have appreciated from high SPT values recorded in the 2007 Site Investigation Report in material often described as "clay" that this material could well prove to be particularly difficult to excavate simply with a clamshell grab and that provision should be made for more robust measures to remove such material. It is clear that at tender stage, OHL did have regard to the SPT values in relation to the geotechnical design for the diaphragm walls because it said so in the Contractor's Proposal (Clarification Correspondence of 2 July 2008).

265. Mr Davies accepted at least in one context and it is clear that an experienced contractor would understand that the drilling process in the borehole exercise can break down or inevitably disturb the ground into which the borehole is proceeding. His view is that higher SPT results are consistent with bands of mudstone being present within the stiff or very stiff "Clay" as verbally described in the borehole logs. I prefer the evidence of Mr Sanders on this to the effect that the SPT results are not consistent with these suggested bands of mudstone because the SPT results do not reveal a sudden increase in strength as would be anticipated in the case of layers of rock within a clay matrix.

266. Mr Davies, rightly, accepts that a tendering contractor would allow for some "sporadic" chiselling in areas other than pure rock, albeit his assessment is 15-20% whilst Mr Sanders' is 74%. OHL points to areas where the SPT results showed refusal in what was described as clay but its clamshell grabs had no difficulty in excavating the material and chiselling was not required. This difference is a primarily a matter of emphasis between the experts and the question becomes one as to what is the reasonable maximum allowance experienced contractors would allow for chiselling.

267. Essentially, what this finding produces is (based on the experts' third joint statement charts) as follows:

> (a) Generally, only "rock" or harder material encountered from c. Chainage 340 to Chainage 600 above -11m ACD and from Chainage 600 to Chainage 680 above -15m ACD classifies as "Unforeseeable" physical conditions for the purposes of Clause 4.12 of the Contract Conditions in relation to the Southern Section of the diaphragm walls.
>
> (b) Generally, only "rock" or harder material encountered from c. Chainage 680 to Chainage 870 above -15m ACD classifies as "Unforeseeable" physical conditions for the purposes of Clause 4.12 of the Contract Conditions in relation to the Northern Section of the diaphragm walls.
>
> (c) However, one still needs to determine even below these depths what was the quantity of hard enough material, albeit described as clay, that required chiselling.

As against these charts, the "Unforeseeable" conditions as encountered are those hatched as agreed by the two experts. So far as it is material, I accept Mr Davies' evidence that, where the chisel was used to break up "rock" or harder material in one "bite" of a panel but such material was also in an adjacent "bite", the adjacent material should be classified also as "Unforeseeable" because it still had to be addressed and was "Unforeseeable"; it will be a question of evaluation as to what extra costs (if any) were caused by having to deploy the second "bite".

268. There remains a further key issue which is whether the total quantities actually chiselled were less than those reasonably foreseeable overall. This raises the sub-issue as to whether account needs to be taken of material below the foreseeable level at which the risk of needing to chisel should reasonably have been foreseen, albeit in the result was not required. Mr Davies does not obviously take it into account but Mr Sanders does; Mr Davies says that, of the 1,382m³ actually chiselled, some 56% (or about 775m³) could not reasonably have been foreseen, whilst Mr Sanders says that over 4,000m³ was foreseeable. In my view, no reasonable contractor would have assumed that, where every SPT result exceeded a certain amount, chiselling would be required. There must be an assumption by such contractors that there is real risk that SPT results may well show harder materials which may need chiselling but no experienced contractor would, like Mr Sanders has done, assume that anything like 4,000m³ plus would be encountered.

269. Mr Davies said that 806m³ of harder material which required chiselling could not have reasonably have been foreseen whilst Mr Sanders said that the whole quantity representing what was chiselled was foreseeable and in effect even more could reasonably have been foreseen; indeed, the conclusion to be drawn from Mr Sanders is that OHL was extremely fortunate to encounter substantially less than could reasonably have been foreseen. I broadly accept that Mr Davies is closer to being right than Mr Sanders with regard to these figures but Mr Davies' approach is guided by his 15-20% "sporadic" chiselling allowance which, because he does not attach as much weight to the SPT values as experienced contractors would do in my judgment, represents an under-allowance.

270. Doing the best that I can, I assess that experienced contractors would not reasonably have foreseen 500m³ of the hard material or rock which would need chiselling. It is unnecessary for the issues which need to be determined from the current trial to determine exactly where that 500m³ would have been found.

**Extension of Time**

271. I have reviewed above the basis of the primary alleged causes of delay up until about the end of 2010. The programming experts have analysed the various programmes which were produced and the progress, initially as against the March 2009 programme, to determine what critically caused delay to this project up until the termination. There is little doubt that this two year project was at least the best part of 23 months in delay by early August 2011, if it had not actually gone backwards in the sense that several expert scenarios and OHL predictions suggest a 24 month plus delay. The delay is important because it puts into context what happened between late 2010 and termination.

272. The onus of proof is on OHL to prove that it was delayed by the matters now relied upon by it as critically causing it delay up until the time of termination. It relies largely on the evidence of Mr Crane, its programming expert. GOG, although putting forward its own programming expert, Mr Palles-Clark, primarily

concentrates on seeking to challenge OHL's delay case. Indeed, GOG did not actively support in its opening or closing what Mr Palles-Clark had put forward. The exercise however for the Court is, in circumstances where there is little material dispute as to what in terms of design or work was done and when, primarily one of logic, albeit based on the evidence. Programming experts, at least the good ones, help the Court to concentrate on the logic not only of the original (baseline) programme to which the contractor in question was working but also what was driving progress or a lack of it on key parts of the work at key times. There are also issues as to whether OHL complied with Clause 20 and the pre-conditions therein contained for prompt notice for extension of time applications, to which I will return at the end of this Chapter of the judgment.

273. The programming experts have proceeded on the basis that OHL's March 2009 programme ("rev2 planning March 09_v01") was a suitable baseline programme to compare and analyse progress. They agree that there were two critical sequences leading to the construction of the diaphragm walls, the availability of an approved tunnel design and access to an Area B followed by service diversion works to enable the construction of the guide walls necessary to enable the diaphragm wall construction to proceed.

274. OHL's case on delay has metamorphosed somewhat. After termination, it retained claims consultants, Gerens Hill International, to prepare a delay analysis which was submitted as part of a pre-action protocol type letter of claim. This was indeed part of the Particulars of Claim. Its new programming expert, Mr Crane, in an appropriately independent way differed somewhat from the pleaded analysis with the result that OHL (at my gentle suggestion) amended its Particulars of Claim, without objection from GOG. The case now pleaded by OHL and supported by its expert is as follows:

| **Amended Claim** | **EOT** |
|---|---|
| Late approval of AIP 1 | 124 days |
| Late start to diaphragm walls due to unforeseeable contamination | 47 + 19 days |
| Unforeseeable rock | 2 days |
| Late start to excavation following 4 August 2010 instruction and late handover of Aerial Farm | 53 days |
| Exceptional rainfall | 6 days |
| Christmas closure | 17 days |
| Contaminated standing water | 26 days |
| The redesign of the tunnel | 108 + 72 days |
| Contaminated groundwater: the water treatment plant (concurrent with the redesign) | 108 days |
| 1 June and 8 June 2011 instructions (concurrent with the redesign) | 64 days |
| **TOTAL** | **474 days** |

This compares with the original pleaded claim:

| **Original Claim** | **EOT** |
|---|---|
| Late approval of AIP 1 | 215 days |
| Late approval of detailed design* | 25 days |
| Late approval of OHL geotechnical report* | 29 days |
| Disposal of contaminated soil from May 2010 | 19 days |
| RNE antenna discharge stoppage* | 23 days |
| Unforeseeable rock | 26 days |
| Change in embedded wall design and rock* | 38 days |
| Disposal of contaminated soil from Sept 2010 | 54 days |
| Exceptional rainfall | 8 days |
| Christmas closure | 18 days |
| Contaminated standing water | 14 days |
| Contaminated groundwater and water treatment | 128 days |
| Contaminated soil -2011 | 63 days |
| **TOTAL** | **660 days** |

The asterisked items are matters which have been wholly abandoned as grounds for extension, whilst all of the others have been reformulated and the times have changed. The amended claim identifies different overall times depending on whether the northern or southern portion was critical (this affecting the unforeseen rock claim) and whether the water treatment was critical.

275. Given that the experts accept that there was likely to be at least 730 days delay judged as at the termination date in August 2011 or substantially more even than that, there is in effect an acknowledgement by OHL that it was substantially in culpable delay as at termination even if it was entitled to the full extension of time which it seeks.

276. The programming experts are agreed that the completion of the tunnel design and the subsequent tunnel construction were the critical areas of work for programming purposes and defined the as-built critical path up to termination. This is obvious not just from the durations shown on the baseline programme. It was the single most complex area of work and its geographical position right in the centre of the twin carriageway on the relatively narrow site was such that unless and until it was substantially and sufficiently complete it would be difficult to progress to completion much of the rest of the work. Insofar as the experts disagreed on this, I accept Mr Crane's approach on this.

277. However, Mr Palles-Clark (for GOG) has a different analysis in relation to the first 18 months of the project, albeit both experts' logic moves closer to each

other as one gets well into 2010. Mr Palles-Clark puts forward the following events and delays:

| **Event** | **Delay** |
|---|---|
| Reinstatement & testing of taxiway E | 90 days |
| Procurement of AGL materials | 39 days |
| Service diversions | 39days |
| Fuel farm design | 85 days |
| Fuel farm construction | -50 days |
| Tunnel design | 90 days |
| Delayed commencement of diaphragm walls | 52 days |
| Diaphragm walls south side | 58 days |
| Water treatment plant | 136 days |
| Tunnel redesign | 191 days |
| **TOTAL** | **730 days** |

278. It is only necessary to determine where the critical path ran up to the date of termination. The programming experts showed where the planned critical path was programmed to run (in Annex 2 to their first joint statement). It starts with the submission of AIP1 and follows with the development of the tunnel design. There is for part of the period a concurrent planned critical path which relates to the securing of access to "Area B" followed by some service diversion work to enable the construction of the guide walls off the diaphragm walls. One can therefore see that, if the tunnel design had gone through in accordance with this baseline programme but the Area B service diversion work had been materially delayed, the guide wall work could have been delayed and the subsequent undoubtedly critical construction of the diaphragm walls. This is not what happened however; it was the AIP process which became seriously delayed. AIP 1 was supposed to have been reviewed successfully by 20 May 2009 but it was not until 21 December 2009 that it was approved, a delay of 215 days. Although detailed design was planned to overlap with the AIP1 exercise, it could not be completed until the AIP1 had been approved. The detailed design stage did overlap in fact but for a variety of reasons none of which are said to entitle OHL to extensions of time, the detailed design which was programmed to be complete by 16 July 2009 was in fact completed by 7 May 2010, a delay of 295 days, albeit one which overlaps with the AIP1 delay between 16 July and 21 December 2009.

279. Mr Palles-Clark raises questions in relation to the baseline programme as to whether OHL viewed the design stage as critical or not. That is an imponderable as the evidence does not reveal what was in the OHL programmer's mind but logic and the Contract (e.g. Clause 2.3 of the Employer's Requirements) suggests overwhelmingly that the design work is and was critical. If, as here, the tunnel was the critical work, then the design for the tunnel was critical.

280. It is obvious and I find that the diaphragm wall work could not start until sufficient detailed design work had been done to enable such work to start. In fact,

diaphragm wall construction, initially excavation, began on 1 March 2010, the guide wall work having been started in late November or early December 2009. This effectively means in logic and fact that the Area B service diversion work did not delay the start of the diaphragm wall excavation. Whatever it was that delayed the start of the diaphragm wall work, it was not the Area B" service diversion work. There is only one sensible explanation which is that the design process, initially the AIP1 submissions followed by the detailed design preparations and exchanges, is what delayed the start of the diaphragm wall construction. It follows that Mr Palles-Clark's thesis that the first 5 items on his list above did, individually and overall, cause delay is wrong and they did not delay the Works and in the result could not have delayed the overall progress of the work. Mr Palles-Clark however "catches up" with Mr Crane at about December 2009 and properly, in my view, he then allocates design delays as the next critical cause of delay.

281. The detailed tunnel design was not completed by the time that the diaphragm wall work started; final approval was received on 5 May 2010, albeit that the design of the related attenuation tanks was not given until 29 July 2010. However, clearly enough design work was concluded to enable the work to start and the Engineer at least went along with a start being made. That doubtless occurred because there was mutual confidence that what remained outstanding could be resolved in good time before any failure to resolve it would seriously impact on progress. It is clear that the diaphragm wall work was planned to accommodate the fact that the attenuation tank design had not been finalised.

282. Up to this stage, the commencement of diaphragm wall excavations, I find that it was the delayed design process which critically delayed the diaphragm wall work. This work was programmed to take 65 days; it took more than four times that period. Material times were as follows:

(a) North side (Geocisa as sub-contractor):

| | |
|---|---|
| Northern ramp panels started | w/e 7 March 2010 |
| Portal to tunnel panels started | w/e 6 June 2010 |
| Work suspended (accident) | 7 – 29 June 2010 |
| Tunnel panels started | w/e 18 July 2010 |
| Attenuation tank area panels started | w/e 12 September 2010 |
| Panel work finished | w/e 19 December 2010 |

(b) South side (Terratest)

| | |
|---|---|
| Southern ramp panels started | w/c 29 March 2010 |
| Portal to tunnel panels started | w/c 31 May 2010 |
| Tunnel panels started | w/c 21 June 2010 |
| Attenuation tank area panels started | w/c 16 August 2010 |
| Panel work finished | w/c 20 December 2010 |

Therefore in terms of the tunnel work itself starting, the Southern area occurred on about 21 June 2010 whilst the Northern area was on about 16 July 2010. The obvious reason for the works being done with ramp areas first followed by the portal and tunnel areas was the state of the design approvals as was the later start of the attenuation zone panels (whose design was approved last).

283. The experts are agreed that, at least from 1 February 2010, (Mr Palles-Clark's date and months earlier from Mr Crane's perspective) until 7 May 2010 the design approvals remained the critical cause of delay. I agree. It follows that, as I prefer the approach of Mr Crane on critical delay up until this point, the causes of critical delay up until 7 May 2010 were the delay approval of AIP1 (until 21 December 2009) and delayed approvals of detailed design until 7 May 2010. That critical delay is 295 days. For the reasons given earlier in this judgment and because no case is continued to be advanced by OHL that the detailed design approvals attract any entitlement to extension, this delay was the risk, responsibility and fault of OHL.

284. The next period is said by Mr Crane to have been dominated by "late start to diaphragm walls due to unforeseeable contamination". This period runs primarily from 7 May to 24 June 2010, the latter date being when tunnel diaphragm wall panel work started in earnest. The reality is that this work could not start on 7 May 2010 in any event because OHL needed to construct the requisite reinforcement cages; Mr Doncel confirmed in his first witness statement explained that this was a reason for not starting tunnel wall panels then as well as the need to organise night shifts for sub-contractors, concrete batching plant and OHL's own supervisory staff. He also said that there was a lack of space to stockpile excavated material. This, it is said, then became worse when OHL was instructed on 14 May 2010 by the Environmental Agency not to move or use the contents of three stockpiles, which were thought to be and indeed mostly were contaminated. There is a factual dispute as to whether there was sufficient room to create more stockpiles or to store excavated material.

285. In any event, there is no entitlement to an extension of time for this period for the following reasons:

> (a) The contaminated materials encountered up to and in this period were within what experienced contractors could reasonably have foreseen or expected at tender stage. It was therefore OHL's risk under the Contract.
>
> (b) Because OHL had carried out no effective investigation work before starting excavating for the wall panels, it had no real plan as to what to do with any contaminated materials encountered. It had no plan to try to segregate contaminated from non-contaminated material. It indiscriminately (if not deliberately) mixed contaminated and non-contaminated material.

(c) It had no (or no effective) plan in any event as to what to do with the arisings from excavation. It hoped that there would be clean sand but that seems to be as far as the planning went. There was going to be some 200,000m³ of excavated material; it could not all be kept on site (and indeed only a few thousand cubic metres was needed for the permanent works), the site was fairly restricted for space and it was always known that there was limited opportunity to deposit material elsewhere in Gibraltar. The risk was OHL's and it was in effect OHL's responsibility to get rid of excavated material. If there was room in Gibraltar, all well and good but if there was not, the only place in practice it could be taken to was Spain. Paragraph 3.5 of Part 2 of the Employer's Requirements stated that "contaminated material to be removed off-site shall be disposed of to a licensed site"; there were no licensed sites on Gibraltar.

(d) It was in effect because OHL had no effective plans and was not addressing the presence of contaminated ground with any sensible work methods, because it was indiscriminately mixing the good with the bad and because it had no proper planning either for stockpiling or removing contaminated materials that the EA as a short term measure instructed OHL not to shift the stockpiles until matters could be sorted out. What was in truth happening was that OHL was hoping for some solution to be provided by GOG, which it was eventually with the Stockpile Agreement on 6 July 2010.

(e) Whether or not the material in the site stockpiles was contaminated or not, OHL had not acted competently in creating a situation in which there was, as it asserted, insufficient room on site to stockpile much more; it could and should have removed, in those circumstances, more from the site earlier so that progress could be maintained.

(f) At least some of the contaminated materials and at least one of the stockpiles was the bentonite contaminated arisings from the diaphragm wall excavations which should have been removed much more promptly, which again would have created more space to enable works to progress.

286. Mr Crane then takes a period from 24 June to 23 September 2010. In this period, the main work happening was the continued diaphragm wall panel work. Both experts agree that the critical path ran through what they call the "airside" section of this work between Chainages 520 and 721 which was mostly in the southern half of the tunnel area (Chainage 520 to 650). The experts then divide as to whether the critical path ran through the northern part (Mr Crane's view) or the southern part (Mr Palles-Clark's view). Mr Palles-Clark says broadly that because there was more work in the southern section and more panels in the airside section and these would finish later than the northern section the south must be more critical. I disagree and accept the logic of Mr Crane's view which is that it was

never going to be necessary to complete all the diaphragm wall panels in either the northern or southern section before starting with the next critical item of work, known as the "Pavement Exposed Excavation" ("PEE") which was the excavation around the tops of the wall panels to enable the next key item of work to be started which was the cutting down of the tops of the panels to the level at which the tunnel roof slab could be commenced. He says, and I agree, that PEE could have started on about 24 September 2010 when Chainages 615 to 715 (partly in the southern but mostly in the northern parts) were effectively completed. The fact that the PEE work could not proceed then does not mean that this area of the work was not critical. This points to the northern section of the tunnel diaphragm wall panels being critical in the result.

287. This was not a period through most of which it could be said that there was a stockpile problem because the Stockpile Agreement came into effect and all excavated materials could be and indeed were removed. Insofar as the stockpile problem could be said to have delayed matters in the earlier part of the period, similar considerations apply as for the previous period. The only additional factor which is said to have delayed OHL was the encountering of rock or material which was sufficiently hard to require chiselling. It is comprehensible and logical that the panel excavation work in the northern airside area was critically delayed by "Unforeseeable" physical conditions when OHL hit such material. However, in this period, there were 2 or possibly three panels in the northern airside section for which chiselling was required (No. 148 on 10 August and No. 153 from 13 to 16 September 2010 and possibly No. 146, all identified in Appendix 7.2 of Mr Crane's first report); there are no records showing any chiselling time for No. 146. For No. 148, 4 hours and 5 minutes of chiselling time was recorded and 16 hours for No. 153. Mr Crane equates this to 2 working days delay, based on a 10 hour working shift (at night because of air traffic restrictions). I attach no weight to the mere fact that there was chiselling because to qualify for an extension of time it must have been done above the line which the rock experts have drawn above which rock or hard material was "Unforeseeable". Thus, Panel No. 148 involved chiselling below the line which I have accepted (see above). Panel No. 153, as identified by the rock experts, was entirely above the line and it therefore attracts extension of time. That needs to be balanced by the overall quantity of foreseeable rock or hard material which reasonably would have been allowed by experienced contractors; I allowed 500m³ which was 5/8ths of what the Claimant's rock expert had allowed. In terms of how much delay was actually caused, I assess therefore that one day's critical delay was caused by the "Unforeseeable" rock or hard material (5/8ths of 16 hours).

288. As for the remaining delay in this period, identified as 65 days by Mr Crane, he identifies based on mostly documentary records a delayed start on the airside work by Geocisa on its then programme (19 days), an excessive period allowed in the programme for Geocisa (10 days) and delay in completing work (36 days), all of which were OHL's risk. Thus, only one of these days could qualify for extension of time.

289. The next period selected by Mr Crane is 24 September to 15 November 2010, during which period OHL asserts that it was delayed by the diaphragm wall works being halted on 24 September 2010 due to an alleged failure to hand over land for disposal or storage of contaminated material. GOG denies this.

290. I can address this period relatively simply. The Stockpile Agreement was extended until 30 September 2010; there can be no excuse for alleged problems with disposing of contaminated or non-contaminated material up to that date as it was all being taken to Spain, mostly at the expense of GOG (at least on an interim basis). There was absolutely no good reason why thereafter OHL could not have continued to export all contaminated material and, if it decided not to segregate the material into contaminated/hazardous/non-contaminated/non-hazardous categories, simply have exported it without segregating it. OHL had advance notice of the impending end of the Stockpile Agreement and it had contractual arrangements in place to continue the export arrangements; there is evidence that it could have done so at significantly cheaper rates than thitherto. The risk was OHL's as the problem with contaminated material was as it happened not "Unforeseeable". The fact that there was a hope, eventually realised, that GOG not only would provide space for all material to be deposited but also would undertake to treat such material at its own expense should not have meant that OHL should simply do nothing about a growing problem of materials stacking up on site and delaying work. The easiest interim measure was for OHL to export the excavated material as before albeit without the previously agreed interim financial support from GOG for that exercise; alternatively, OHL could commercially but without contractual justification have taken a calculated gamble that liquidated damages for delay might be cheaper than the costs associated with exporting material to Spain in the hope that GOG would come round and provide the space and/or that it might secure an extension of time and related costs. The disclosed documentation does not reveal whether this thinking went on within OHL but it would be most surprising if it did not in circumstances in which in effect OHL dug its heels in, effectively allowed matters to drag on and took no steps to remove much if any material during this period. In any event, OHL was expressly given the opportunity on 13 October 2010 to use the beach car parking area for materials, an opportunity which it unjustifiably ignored. I have addressed this period earlier in the judgment. There was no entitlement to any extension of time in relation to this period. OHL could have started the PEE work on 24 September 2010 and could have disposed of the arisings either by export to Spain (partly at GOG's expense on an interim basis until 30 September 2010) or at the "free" beach car parking area shortly after 13 October 2010 or otherwise at its own expense. Mr Palles-Clark accepted in his second report (Para. 195) that this work could have started at the end of September 2010.

291. One then comes into the period leading up to the suspension of the Works and the later re-design period. Mr Crane, for 23 November to 23 December 2010, a 31 day period, identifies only 6 days delay attributable to exceptionally high rainfall

but effectively says that whole period added 31 days delay, explaining that the work of breaking down of the tops of the diaphragm walls and the related excavation was simply "prolonged" (first report Para. 4.15.27). In his basis of analysis, there was little effective progress apart from the impact of the rain. In broad terms, I accept his conclusion. The rain fall was exceptional with more than 20mm falling on 10 days compared with an average in 2001 to 2007 of 4; that produces in an acceptably simple analysis a net 6 days of exceptional weather and it is clear that it did seriously delay progress. Accordingly, I find that OHL was delayed by 6 days in this period for a reason which entitles it to extension (exceptionally adverse climatic conditions); I refer to this on occasion as the December rainfall or similar, although it started in late November and running through into the first 8 or 9 days of December 2010.

292. It is sensible now to take stock as to where OHL was time-wise as at 23 December 2010. There was effectively a 7 day entitlement to extension of time subject to the Clause 20 Notice provisions. It was on any count in very serious delay; the most optimistic assessment would be that it was some 18 months in delay. There were numerous problems looming. The first was what to do with the water, either surface or ground water. It had actually known at least since September 2010 that it was going to have to do something about it, having previously not obviously planned for it in any concrete way. It had set about but without any real urgency from September 2010 to seek quotations for the work and as at Christmas 2010 it must and should have been estimating that it would still take some weeks for any water treatment plant to arrive on site even if all the stops were pulled out. The site, albeit not over the whole of it, was heavily ponded with the rain which had fallen in early December 2010 and there must have been concern as to how that would be dealt with at least in the short term; indeed an extension of time notification was sent in on 10 January 2011 about the future effects of this ponding. On my findings of fact, OHL had decided to go down the risky route of finding an excuse to suspend work with a view to pressurising GOG into a financial arrangement which would at least mitigate the very heavy losses it was suffering and knew that it would otherwise suffer in the future; the job was on any count financially disastrous. There was however no real problem with material disposal following the allocation of Aerial Farm as a site on which to deposit excavated material at no cost to OHL, it formerly having been OHL's responsibility to dispose of all material, whether contaminated or not.

293. One then turns to the next period which I will take as from 23 December 2010 to 23 May 2011 by when the detailed re-design of the tunnel was complete and the final AIP was granted for the redesign. It is clear that little real substantive or critical permanent work was done other than the re-design exercise, and, arguably, the procurement, installation and commissioning of the water treatment plant. This was undoubtedly and in its entirety a period of critical delay, of 148 days. There was no entitlement to any extension of time for the following reasons:

(a) It was OHL's choice to suspend and then to redesign the tunnel.

(b) It was OHL's risk and in broad terms its fault that it suspended and then decided to redesign.

(c) It was its risk because the given reason was concern about health and safety of workers attributable to the presence of lead and hydrocarbon in the made ground to be excavated along the line of the tunnel and the presence and quantity of such contaminated materials was within what should reasonably have been foreseen by an experienced contractor and was not "Unforeseeable" within the contractual definition. Either OHL should have allowed in its design originally for this risk or, if it did not, it should have provided for the taking of measures to eliminate or reduce that risk to manageable proportions.

(d) This risk reduction on the expert evidence could have involved (following appropriate investigations which need have taken no more than about three weeks) removing the contaminated materials before tunnel construction. It could alternatively also have included within the tunnel excavations the damping down of excavated faces substantially to reduce the spread of dust (containing lead) to very small quantities and the wearing of PPE types of equipment by workers. The hydrocarbon risk would have been no more in practical terms than the impact of diesel from the excavating machines against which the drivers and other workers could be protected by forced ventilation in the tunnel which was always planned, by the drivers working in enclosed cabins on the excavating machines and by the wearing of PPE.

(e) The reality is and I find that it was not necessary or reasonable to re-design the tunnel. Both Health and Safety experts accepted that in whole or in part. I do not accept that it was even reasonable to do so at this very late stage in the Contract. The fact that nominally it had been advised by Himalaya to suspend work on the basis of supposedly serious risk to health and safety did not make it reasonable to suspend and then re-design. The December 2010 report was as much OHL's work as it was Himalaya's and OHL must have known therefore that it was not an independent report. The 1 March 2011 Himalaya report actually suggested that it would be acceptable to proceed with PPE equipment for the workers. The expert evidence suggests that the later March 2011 Himalaya report also substantially drafted by OHL was flawed in suggesting that without adopting the re-design there was a material risk to workers. The re-design had been embarked upon well before this final Himalaya report was produced and so this report could have played no material part in the decision to redesign.

(f) This can also be said to have been OHL's fault; even if it had not actually foreseen the risk at tender stage, the writing was on the wall by no later than about the time of the May 2010 Sergeyco report and

the problems were also underlined by the Gamasur report, which, although flawed in a number of respects, did corroborate the presence of contaminated materials within the made ground. There was no good reason to wait until December 2010 to do something about the problems thrown up by the presence of lead and hydrocarbon within the made ground. If OHL did not have the requisite expertise in-house (which I do not accept), it needed to go to a decent and genuinely independent firm of engineers with experience of dealing with contaminated land in tunnels for objective advice; that could and on this hypothesis should have been done by no later than about June or July 2010 at the latest. That advice (possibly following some further trial pit work), I have no real doubt, would have been that the then current design was achievable safely by one or both of the measures referred to in sub-paragraph (d) above. This would have meant that as at December 2010 even with all the problems encountered up to that point OHL would have been ready to move forward with the tunnel roof work.

294. It is also necessary to examine this period in relation to other aspects:

(a) Initially, OHL planned to work much of what would have otherwise been the holiday period over the 2010 Christmas and New Year period. That went by the board following the suspension decision. The planning experts have considered whether an extension of time would have followed in relation to this holiday period but, as OHL was at most entitled to 7 days extension, that would not have pushed OHL into this holiday period in any event. Of course, it would have been a good idea to work over the holiday period to catch up some time but the suspension decision in practice excluded the possibility of working then.

(b) There was from time to time within this period discussion about the possibility of OHL's cutting down of diaphragm walls preparatory to the casting of the tunnel roof slab; in fact, OHL did a limited amount of this in January and early February 2011. One reason given by OHL for not doing this work to any great extent was the residual ponding of water following the excessive rain in early December 2010. This did not seem to stop OHL from doing some such work at least. Further, the ponding was concentrated mostly at the northern end of the site and over the period from December 2010 it began to evaporate or otherwise naturally disappear and indeed by May 2011 it had substantially all evaporated. I accept the evidence that by about and after the end of February 2011 there were substantial areas in the tunnel region which were not affected by standing water and standing water did not provide an excuse not to restart this cutting down work.

(c) However, an overriding reason why standing water did and does not provide a lawful excuse for OHL not doing any work is that it was OHL's risk and responsibility to keep the site free of contaminated standing water. The problem was that the standing water was probably contaminated by the contaminants uncovered by the excavations and that it could not simply be pumped into the sea as it would have polluted the sea and the DoE would not have allowed it. This was within OHL's risk and responsibility for a number of reasons, the primary one of which was that the presence of contaminants in the ground was not Unforeseeable and therefore it was OHL's responsibility to provide for means of disposing of any consequentially contaminated standing or ground water. The risk of contaminated groundwater being encountered was not "Unforeseeable". The only practical way in which disposal of standing water could have been done (short of removing very large quantities of it by water tankers, which was not particularly practical) was by providing a water treatment plant, which is what OHL eventually did. However, there is no good reason why this had not been provided well before the end of February 2011 and indeed it should have been provided many months before if progress had been even something close to what was envisaged by the Contract. OHL actually knew or believed from September 2010 onwards that water treatment was likely to be needed but for no good reason it took 8 months to organise and set it up on site; it should not and need not have taken anything like this time.

(d) In the context of the water treatment plant, OHL argues that the water treatment plant took a long time to procure by reason of the additionally stringent requirements called for the EQS limits identified by the DoE and that this goes a long way top explaining the lateness of the arrival of the plant on site. I do not accept this. From the very start, there had been a culpable failure on the part of OHL to appreciate the risk of contaminated water and to put in place at an early stage measures to address this problem. Although OHL recognised internally only in September 2010 that a water treatment plant capable of handling both heavy metal and hydrocarbon contamination would be required, this recognition should have been very much earlier and before excavation started in earnest; that would have been by about May 2010 at the latest. Additionally, the correspondence reveals a real lack of urgency by OHL in the procurement process between September 2010 and the end of the year and indeed early into 2011; there is nothing really to excuse the delay in procurement from September 2010 until May 2011.

(e) Another consideration is that, as is clear from the programming experts' evidence, although this site is adjacent to the Mediterranean, there is, unexceptionally, not insignificant rainfall every year albeit more over the winter period. If, as here, the presence of significant quantities of contaminated ground existed, and this was not Unforeseeable, it was

foreseeable by an experienced contractor that provision had to be made to address water ponding after rain on ground whose contaminants had been exposed by excavations and would lead to the water itself becoming contaminated. No such provision had been made until late May 2011, 2 years and 6 months on in a two year project.

(f) There was an expressed reluctance on the part of OHL to do any further cutting work on the diaphragm walls at least until the re-design had been approved both in principle and in detail. Technically, it is argued, the Contract laid down that the Contractor was not to commence the part of the Works which were the subject matter of the design approval process until the Engineer approved the requisite designs (see for instance Clause 5.2(a) of the Conditions of Contract). Whilst this is technically correct, OHL already had all requisite approvals for its original design and there was nothing legally to stop it from proceeding at any time with that design. It had chosen, unnecessarily and unreasonably, to redesign.

(h) An oddity in some ways is that the Engineer had given approval to the detailed design on 4 May 2011 before the Approval in Principle on 20 May 2011. For some time, the Engineer had been encouraging (if not pleading with) OHL to get on with the cutting down of the diaphragm walls which would be the next critical area of work to be completed to enable the roof slab to go on. Nonetheless, OHL, for no obviously good reason, indicated that it would not start until AIP was given to the re-design or indeed until the TAA approval was given. Whilst both parties were being tactical towards each other, it is difficult to accept that there was any real risk that AIP approval would not be given once the detailed design was approved. If OHL had really wanted to get on with the work after approval of the detailed design, it must have been clear that the Engineer would not stand in its way and there would therefore be no effective ground for any complaint of a premature start.

(i) It is equally clear that there was nothing contractually to stop OHL from much of the cutting down work, even if the exact final formation level for the tunnel roof had not been approved in principle, because both under the original and revised designs the walls needed to be cut down.

(j) There was however a more significant problem facing OHL which was the continuing reluctance of its Category 3 design check engineer to certify that the AIP for the tunnel redesign was satisfactory. Paragraph 10 of Part 1 of Volume 3 the Employer's Requirements imposes a bar on "execution of any part of the Works…until all relevant certificates have been accepted…" Although the Category 3 difficulty was not known to the Engineer at the time, it continued until after the termination. If there really was a problem for and genuinely felt by OHL in not wishing to start until all the design approvals were in place, the absence of the Category 3

certification for the tunnel roof redesign would have prevented a start being made before mid August 2011 at the earliest.

(k) There was a final blip just before the end of this period relating to the water treatment plant, which in terms of installation was completed on 3 May 2011. Water had to be fed into it and the treated water tested before it could be used in practice. It was due to be tested on 6 May 2011 and the samples returned to England for testing with the results due by 15 May 2011. The sampling was done on 7 May 2011 but the sample bottles were broken in transit and so the sampling and testing had to redone and there was a further 8 days delay occasioned thereby to the potential effective start of water treatment at the site. Whilst the evidence does not indicate whose fault directly the bottle breakage was, this was OHL's risk and certainly not one which entitled it to extension or additional cost under the Contract.

295. The programming experts adopt different approaches to this period. Mr Palles-Clark takes different periods to analyse and concludes that the absence of the water treatment plant critically delayed the Works from 22 September 2010 to 10 February 2011 and then that the re-design exercise and ramifications delayed the Works until the Contract was terminated finally on 20 August 2011. Mr Crane's analysis takes 3 sub-periods and identifies different causes of delay, 24 December 2010 to 9 January 2011 (Christmas closure), 10 January to 4 February 2011 (contaminated standing water) and 5 February to 23 May 2011 (re-design and absence of an operational water treatment plant). As will be seen above, I do not accept much of either of these analyses. Mr Palles-Clark's attribution of delay to the absence of the water treatment plant as from 22 September 2010 to 10 February 2011 is unrealistic and theoretical. Although there was internal recognition by OHL in an e-mail of 22 September 2010 that it would be unable to commence "work on the tunnel's upper slab until we know whether the pumping and well system we have contracted is adequate for carrying out hydrocarbon and/or heavy metal decontamination" given "the need to drawdown the groundwater level", and although OHL took an inordinately long period to procure an appropriate water treatment plant, work on diaphragm wall panels (both construction and cutting down) continued until the suspension on 23 December 2010. Particularly, the cutting down work was critical, albeit slow. The absence of a water treatment plant did not as such delay the work until the suspension, which intervened critically at that time. The suspension on 23 December 2010 was the dominant and indeed only cause of delay as from that time, albeit that it led into the re-design period. One could say that, since the irreversible decision to re-design was taken by OHL on about 4 February 2011, the re-design intervened or took over as a separate dominant cause of delay as from that time, although I tend towards the view that it is unnecessary to sub-divide suspension and re-design as both were or at least became parts of the strategy of OHL as it developed. As for the contaminated standing water giving rise to separate delay from 10 January to 4 February 2011, this is also unrealistic

because, although there was extensive ponding and the ponded water was contaminated, some diaphragm wall cutting down did take place during this period and the real cause of delay was the suspension and re-design with OHL unwilling to restart in earnest pending anticipated commercial negotiations and a gathering internal view that re-design would for one reason or another be the appropriate way forward.

296. One of the very real forensic problems here is the absence from OHL's disclosure over this period of internal reports, memoranda, board discussions and papers, financial projections and the like and the limited disclosure of a very few project meeting notes which would have revealed precisely what the thinking and strategy was within OHL. It is theoretically possible but unlikely that there was no strategy and it is almost inconceivable that OHL's board and senior directors were not in receipt of reports and were not involved in consultations about what to do about the very grave commercial and practical problems on this project, about the open-ended suspension and then the decision to re-design. If there was no such strategy and the senior directors were not being properly consulted, the project was proceeding in a rudderless fashion.

297. The experts are agreed that the re-design was at least a critical cause of delay from the first half of February until 23 May 2011. Given OHL's (arguably strange) expressed reluctance to restart work and Mr Hernandez' direction to his staff that no further tunnel work would start until AIP and TAA approvals were secured and given that the tunnel work was critical, the tunnel re-design was the primary or dominant cause of delay. I do not accept Mr Crane's view that the water treatment plant was a concurrent cause of delay or at least of anything like the same causal potency as the redesign process adopted by OHL. The only arguable concurrency was in relation to the 3 day period from 20 May to 23 May 2011 after the AIP and until the water treatment plant was finally operational but TAA approval was not obtained until a few days later (on 31 May 2011) and so OHL had committed itself in any event not to restart until then. Of course, even if the absence of an operational water treatment plant was a critical cause of delay in May 2011, there was no entitlement to extension of time and particularly over the minimum 8 days prior to 23 May 2011 when the reason for the plant not being operational was the breakage of the sample bottles which prevented this state of affairs occurring by 15 May 2011.

298. By the beginning of May 2011, there was nothing to stop OHL from beginning the work of exposing the tops of the diaphragm walls and excavating down at least to just above the groundwater level; the water treatment plant would only be needed once that level was reached. This was going to be critical work and starting at least a few weeks before the water treatment plant was capable of being used in practice would have meant that there was a significant part of the pre-cutting down excavation work done. This is another reason why the absence of the water treatment plant was not critical during this period.

299. I therefore conclude that OHL was entitled to no extension of time during the period 23 December 2010 and 23 May 2011.

300. The next period runs from 24 May 2011 to the end of the relationship between the parties in August 2011. Mr Crane attributes the delay in this period to the absence of the Category 3 design check certificate and the withdrawal from OHL's use of the Aerial Farm site on 1 June 2011. Mr Palles-Clark effectively attributes the whole of this delay period to re-design and in particular the absence of the Category 3 design check certificate. The real question is therefore whether the withdrawal of Aerial Farm was a concurrent cause of delay.

301. There can be no doubt that OHL was entitled to plan progress on the basis that Aerial Farm was to be available to OHL in effect to deposit all excavated materials from the tunnel site area, whether contaminated or not. This involved a huge saving to it because, without the instruction from the Engineer of 22 December 2010, OHL would have had to dispose of all the material itself; although the clean material (at least that below the made ground) would probably have been found a home in Gibraltar, much of the rest would have had to be exported to Spain at a considerable cost. Whilst I accept that, in the run up to the last week in May 2011, OHL's site based staff must have seen that Aerial Farm was and had for some weeks been largely occupied by others, I do not accept that OHL would, did or should have known that it would not be made available when required thereafter.

302. The fact of the matter however was that the 22 December 2010 Engineer's instruction to OHL to deposit excavation arisings at Aerial Farm was withdrawn on 1 June 2011. Whilst I do accept that OHL would then reasonably have needed time to make other arrangements to address these arisings, the reality is that it did nothing to do so before the termination. Many thousands of cubic metres of excavated materials had been removed from site in the period covered by the Stockpile Agreement in the July to September 2010 period and the arrangements had all been made by OHL; OHL used Gamasur to do this and the operation had gone well. GOG had been able to secure a substantially reduced price shortly after September 2010 for this as well. There is no reason to believe anything other than OHL, if it had had the will to do so, could have set up such arrangements within a few weeks at the outside. This belated instruction of 1 June 2011 therefore need not have delayed work in any event.

303. Any such delay would and reasonably could have been reduced to no more than several weeks if OHL had done what they did prior to the Stockpile Agreement which was initially to stockpile arisings from the excavations necessary to achieve the cutting off down to the formation level of the tunnel roof. In OHL's March 2011 programme, it had allowed 70 working days (or 3.18 calendar months) for breaking down the diaphragm walls and related excavation (from the middle of Month 2 to the middle of Month 5) and further excavations to tunnel roof formation level of 29 working days (or 1.32 calendar months) from the first week

of Month 5 to the third week of Month 6); there was critical work therefore from the middle of Month 2 to the third week of Month 6, which equates to about 4 months and one week. The next programmed critical work involved the placing of precast beams and shuttering boards to enable the tunnel roof work to go ahead starting in the fourth week of Month 6. Therefore, excavation work requiring necessarily disposal from the site was to run over 4 months and one week. Mr Doncel had estimated albeit in October 2010 (see the Chronology above) that some 22,000m³ of excavation arisings would be the product of the cut-off excavations (12,000m³) and further excavations of diaphragm walls (10,000m³); whilst that estimate would need to be increased for the tunnel excavations down below the tunnel roof formation level to reflect the revised design, it is unlikely that the cut-off excavations would have been dramatically increased. Some of the cut off excavations had been done prior to the suspension and some in January and February 2011. Therefore, if OHL had started to make arrangements to dispose of the excavations on a permanent basis, it could have worked for some weeks stockpiling the cut-off excavation arisings on site, thus enabling the work to progress effectively and then, reasonably seamlessly, the removal of the stockpiles and newly excavated materials could have started following the securing of appropriate arrangements. OHL was in any event for part of this period stockpiling excavated material from the MOD diversion work. Even if one was looking at 30,000 to 40,000m³ or even 60,000m³ arisings spread over the 18 weeks of programme time, one would be allowing on average 1,700 to 2,200m³ or 3,300m³ of excavated material a week. This spread over say even 6 weeks would total somewhere between 10,200m³ and 19,800m³ which could have been readily stockpiled on site pending arrangements to remove the material; as indicated earlier, the period for making arrangements would have been significantly less than this.

304. There was heated discussion during the trial as to how much in quantity terms of stockpiled material the site could accommodate in the June to August 2011 period. For the reasons given above, this matters little as there was certainly room to accommodate all that could realistically be expected to be excavated in June 2011. There was however room for well over 15,000m³ of stockpile if there had been a will to go down that route. Mr De La Paz identified up to 7 or 8 places where material could be deposited but he was cross-examined to the effect, and he accepted, that some of these were small areas and some of them already had arisings from the MOD diversion work. Given the criticality of the excavation work, I have formed the view that OHL, if it had truly wished to get on with the work, would have found a way and space to stockpile substantial quantities of excavated material. Of the areas identified by Mr De La Paz, the most likely one to yield a substantial amount of space was at the northern end of the site along the line and just north of the proposed east-west dual carriageway line; it was the tunnel work which was critical and, even if the part of the line of the proposed dual carriageway and the area beside it was covered with arisings, it did not matter. It was a sensible place to deposit the material because the removal lorries

would be able to get in there easily to remove it and access could be maintained through this area.

305. What OHL did however was to try to persuade GOG to arrange to take the excavated materials which GOG was not prepared to do. It made no arrangements to secure disposal of excavated material.

306. What however effectively prevented OHL from proceeding was the absence of the Category 3 design check certificates from Donaldson; these were being called for by the Engineer at least on several occasions and were being promised by OHL within several weeks. There was a real problem which OHL and Ayesa seemed unable to resolve. From the disclosed documentation, the problem was an important one arising during excavation with unacceptable bending stresses "locked into" the external walls when the tunnel roof was connected at the top of the walls; this seems clear from the string of e-mails between Ayesa and Donaldsons leading up the latter's e-mail of 27 June 2011 (see the Chronology). The problems had not been resolved by 18 July 2011 when Donaldsons wrote to Ayesa and OHL that they could not sign off on the design as the walls would be overstressed, presumably to an unacceptable degree. Significant differences remained between Ayesa and Donaldsons even after a conference call as evidenced in an e-mail from Ayesa to Donaldsons dated 28 July 2011 in which Ayesa indicated that changes would be made in the revised design to seek to accommodate Donaldsons' concerns. The concerns were not allayed so far as I can ascertain up to the time of termination. There is no suggestion that the attempts being made to secure agreement from Donaldsons were in some way slowed down to reflect the escalating steps towards termination which had started with the Clause 15.1 Notices in mid-May and early July 2011 or even by the termination notice letter of 28 July 2011.

307. It does not matter whether Donaldsons were wrong or right in their view that the revised tunnel design could not safely be built and indeed I have not heard evidence one way or the other about this. Either way, the risk lay with OHL as between it and GOG.

308. It follows from this that, whatever the problems caused by the withdrawal on 1 June 2011 of OHL's right to deposit material on Aerial Farm, the work of excavating down to enable the cut-off works to the diaphragm walls to the levels required by the revised design could not practically or contractually proceed until Donaldsons provided the relevant certificate. They felt that they could not do this at any time before termination.

309. There is one miscellaneous matter. OHL could not in practice readily proceed on 23 May 2011 because it did not have an approved Method Statement for excavation and it submitted a revised version only on 26 May 2011. Following comments from the Engineer on about 17 June 2011, there was no material response from OHL.

310. In my judgment, the dominant and real cause of delay up to termination after 23 May 2011 was the absence of this certificate and therefore, as this was a key part of the re-design process, the cause of this delay was the re-design or decision to re-design on the part of OHL. No extension of time is due as the decision to re-design was neither necessary nor reasonable.

311. In conclusion, as at termination, OHL was entitled to no more than 7 days extension of time (rock and weather), subject that is to compliance with Clause 20. It is to this latter topic I now turn. It is clear and indeed was unequivocally and properly accepted by Mr White QC for OHL in closing that Clause 20.1 imposes a condition precedent:

> "20.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion…under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Engineer, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.
>
> If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply…"

312. Properly construed and in practice, the "event or circumstance giving rise to the claim" for extension must first occur and there must have been either awareness by the Contractor or the means of knowledge or awareness of that event or circumstance before the condition precedent bites. I see no reason why this clause should be construed strictly against the Contractor and can see reason why it should be construed reasonably broadly, given its serious effect on what could otherwise be good claims for instance for breach of contract by the Employer. Regard in the context of extension of time at least must be had to Clause 8.4 which identifies when and in what circumstances extension will be granted:

> "The Contractor shall be entitled subject to Sub-Clause 20.1…to an extension of the Time for Completion if and to the extent that the completion for the purposes of Sub-Clause 10.1…is or will be delayed by any of the following causes…"

The entitlement to extension thus arises if and to the extent that the completion "is or will be delayed by" the various events, such as variations or "Unforeseeable" conditions. This suggests that the extension of time can be claimed either when it is clear that there will be delay (a prospective delay) or when the delay has been at

least started to be incurred (a retrospective delay). A hypothetical example might be helpful:

> (a) A variation instruction is issued on 1 June to widen a part of the dual carriageway well away from the tunnel area in this case.
>
> (b) At the time of the instruction, that part of the carriageway is not on the critical path.
>
> (c) Although it is foreseeable that the variation will extend the period reasonably programmed for constructing the dual carriageway, it is not foreseeable that it will delay the work.
>
> (d) By the time that the dual carriageway is started in October, it is only then clear that the Works overall will be delayed by the variation. It is only however in November that it can be said that the Works are actually delayed.
>
> (e) Notice does not have to be given for the purposes of Clause 20.1 until there actually is delay (November) although the Contractor can give notice with impunity when it reasonably believes that it will be delayed (say, October).
>
> (f) The "event or circumstance" described in the first paragraph of Clause 20.1 in the appropriate context can mean either the incident (variation, exceptional weather or one of the other specified grounds for extension) or the delay which results or will inevitably result from the incident in question.

The wording in Clause 8.4 is not: "is or will be delayed whichever is the earliest". The above interpretation does not in practice necessarily involve a difficult mental exercise on construction projects where, as here, a critical path programme, invariably electronic, is used which can determine when delay is actually being suffered.

313. Additionally, there is no particular form called for in Clause 20.1 and one should construe it as permitting any claim provided that it is made by notice in writing to the Engineer, that the notice describes the event or circumstance relied on and that the notice is intended to notify a claim for extension (or for additional payment or both) under the Contract or in connection with it. It must be recognisable as a "claim". The notice must be given as soon as practicable but the longstop is 28 days after the Contractor has become or should have become aware. The onus of proof is on the Employer or GOG here to establish that the notice was given too late.

314. OHL in Further Information provided on 13 August 2012 set out the letters or documents by which the Claimant says that it gave notice under Clause 20.1.

315. On that basis, I turn first to considering whether a "claim" in respect of the two grounds for extension which I have found to be made out was given to the Engineer within time:

> (a) The rock claim: this is an "Unforeseeable" condition which in principle justifies an extension of time. OHL pleads that such notice was given by letter dated 14 July 2010 to the Engineer. This letter relates to rock encountered on 18 May 2010 at Chainage 794 at the northern end of the site and talks about all rock to be encountered, saying: "In our opinion the excavation of all rock will entitle us to an extension of time…" Further site investigation was done as to rock levels with Sergeyco being deployed and a report being provided to the Engineer dated 6 July 2010 as to proposed changes to the proposed work. I do consider that the letter of the 14 July 2010 was a "claim" as such, albeit that it was widely drawn. I do not have to determine whether it was too late for any rock already encountered but it was before the problems with rock for which I have found there was critical delay.
>
> (b) The Weather: reliance is placed on the November and December 2010 progress reports but the November 2010 report relates to a period before which the exceptionally adverse weather occurred and the December report only and blandly states: "The adverse weather condition (rain) have [sic] affected the works", which is clearly nowhere near a notice under Clause 20.1. OHL also relies on a letter dated 10 January 2011 to the Engineer which refers to the December rainfall which it says has flooded the site and thus "come into contact with the contaminated ground…and we are unable to discharge this rainfall from site…In our opinion the foregoing will entitle us to an extension of time…" That is not a notice of claim about being delayed by weather actually whilst working in December 2010 (so to speak by the rain actually falling), which is what the 6 days allowed relates to; the letter relates to future delay caused by the effect and impact of weather on the contaminated material on site. OHL was actually delayed in critical work in late November and early December 2010 by the unusual weather and OHL failed to give notice of this within 28 days of becoming aware, or of when it should have become aware, of it. It would have been a good notice for any critical delay caused or to be caused by the contaminated ponded water, but there was no critical delay caused by ponding, as the suspension and then re-design were then the causes of delay.

316. It follows from the above that and in conclusion, OHL was at termination only entitled to one day's extension of time because the 6 days caused by the impact of

the rainfall in December on progress at that time was not the subject matter of any timely notice under Clause 20.1.

**Termination**

317. I now turn to what is the single most important issue in the case which is whose responsibility in law and in fact the termination was. I will deal with the grounds of the termination by GOG under Clause 15.2 (a), (b) and (c) separately although there are factual overlaps, before addressing other miscellaneous and consequential issues such as the service of the notice at the site office as opposed to OHL's Madrid office. It is helpful to set out again the relevant terms:

> "15.1 If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time."
>
> 15.2 The Employer shall be entitled to terminate the Contract if the Contractor:
>
> (a) fails to comply…with a notice under Sub-Clause 15.1…
>
> (b) …plainly demonstrates the intention not to continue performance of his obligations under the Contract,
>
> (c) without reasonable excuse fails:
>
> (i) to proceed with the Works in accordance with Clause 8…or;
>
> (ii) to comply with a notice issued under Sub-Clause 7.5…
>
> In any of these events or circumstances, the Employer may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from Site."

318. A number of points are apparent within these requirements:

> (a) Clause 15.1 relates only to more than insignificant contractual failures by the Contractor. It could be a health and safety failure, bad work, serious delay on aspects of the work or the like. It will need to be established as a failure to comply with the Contract. Something may have not yet become a failure; for instance the delivery to site of the wrong type of cement may not become a failure until the cement is or is about to be used.
>
> (b) The specified time for compliance with the Clause 15.1 notice must be reasonable in all the circumstances prevailing at the time of the notice. Thus, if 90% of the workforce had gone down with cholera at that time,

the period given for compliance would need reasonably to take that into account, even if that problem was the Contractor's risk. It may well be relevant to take into account whether the Clause 15.1 notice is coming out of the blue or if the subject matter has been raised before and the Contractor has chosen to ignore what it has been told. What is reasonable is fact sensitive. (See for instance **Shawton Engineering Ltd v. DGP International Ltd [2005] EWCA Civ 1359 [69]**)

(c) Clause 15.1 is designed to give the Contractor an opportunity and a right to put right its previous and identified contractual failure.

(d) Given the potentially serious consequence of non-compliance, Clause 15.1 Notices need to be construed strictly but they can be construed against the surrounding facts (see below, **Mannai Investment Co Ltd v Eagle Star Assurance Company Ltd** [1997] UKHL 19 per Lord Steyn)

319. Generally in relation to termination for fault clauses, courts have often construed them in a commercial way so as to exclude reliance on trivial breaches. This stems from the often followed approach of Lord Diplock in **Antaios Compania Naviera SA v Salen Rederierna AB** [1985] AC 191 at 201D:

> "…if a detailed semantic and syntactical analysis of a word in a commercial contract is going to lead to a conclusion that flouts common sense, it must be made to yield to business common sense."

The editors of **Hudson's Building and Engineering Contracts** (Twelfth Edition) say at Para 8.056:

> "Termination clauses occasionally allow termination on the ground of "any breach" or "any default". Although in principle, parties may agree whatever they wish, the courts will generally be reluctant to read such wording literally. "Default" will be read as meaning a default relevant to the contract, and the courts will treat matters which are not a breach of contract as excluded from the meaning of default. "Any breach" will be held to refer only to important breaches, to exclude minor breaches, and to include only such breaches as are of substantial importance."

320. Lord Steyn followed on from quoting Lord Diplock as above in **Mannai Investment Co Ltd v Eagle Star Assurance Company Ltd** [1997] UKHL 19 said:

> "In determining the meaning of the language of a commercial contract, and unilateral contractual notices, the law therefore generally favours a commercially sensible construction. The reason for this approach is that a commercial construction is more likely to give effect to the intention of the parties. Words are therefore interpreted in a way in which a reasonable

> commercial person would construe them. And the standard of the reasonable commercial person is hostile to technical interpretations and undue emphasis on niceties of language…Nowadays one expects a notice to determine a commercial lease to be interpreted not as a "technical document" but in accordance with business common sense…"

321. It follows that, in construing both Clauses 15.1 and 15.2 of the Contract, a commercially sensible construction is required. The parties can not sensibly have thought (objectively) that a trivial contractual failure in itself could lead to contractual termination. Thus, there being one day's culpable delay on a 730 day contract or 1m² of defective paintwork out of 10,000m² good paintwork would not, if reasonable and sensible commercial persons had anything to do with it, justify termination even if the Contractor does not comply with a Clause 15.1 notice. What is trivial and what is significant or serious will depend on the facts.

322. OHL through Counsel argues that, where "a contract contains a provision such as clause 15.2 which entitles an employer to terminate by reason of a failure to remedy a breach of contract which has been the subject of a clause 15.1 notice (or to terminate by reason of a breach of contract such as one of those of the type identified in clause 15.2(b) and (c)) the breach of contract that is relied upon must be serious and one which is analogous to a repudiatory breach of contract" (see Counsel's Opening Submissions – Page 142). Reference is made to the **Hudson** quotation above, the **Antaios** decision where "the House of Lords held that arbitrators were plainly right to have decided that a clause in a charterparty that provided that the owners were entitled to withdraw "on any breach" only gave a right to withdraw where there was a repudiatory breach", **Rice (t/a The Garden Guardian) v Great Yarmouth Borough Council [2003] TCLR 1** where "a contract for the provision of leisure management and maintenance services contained a clause that entitled the Council to terminate if the contractor committed "a breach of contract" and the Court of Appeal held that a right of termination was limited to repudiatory breaches and **Dominion Corporate Trustees Ltd v Debenhams Properties Ltd** [2010] EWHC 1193 (Ch) (where "an agreement for a lease provided that either party should be entitled to terminate if "either party shall in any respect fail to observe or perform any of the provisions of this agreement" Kitchen J, applying the ***Antaios*** (supra) and ***Rice v Great Yarmouth*** (supra) decisions above, held that the right to terminate was limited to termination "in the event that the failure to perform amounted to a repudiatory breach of contract".

323. In my judgment, this is putting the point too high at least as a general proposition for a number of reasons:

> (a) One needs to consider each contract, whether it is a lease, leasehold development, construction or other commercial contract, on its own terms. For instance, if the termination clause allowed for termination "for any

breach of contract no matter how minor", the meaning is clear and would not require some repudiatory breach.

(b) Most of these cases did not involve contracts like the Contract in this case which gives a list of grounds on which termination can take place which includes one which is not unlike the test for English common law repudiation, namely Clause 15.2 (b) (where the Contractor "plainly demonstrates the intention not to continue performance of his obligations under the Contract"). This ground can be and is contractually distinguished from the other grounds, such as Clause 15.2(c)(i) (failure "to proceed with the Works in accordance with Clause 8", that is in effect often a failure to proceed with "due expedition and without delay"). One can ask rhetorically: why have the ground of the "intention not to continue performance of [contractual] obligations" as well as failure to proceed with due expedition and without delay unless they are or at least can be two separate grounds?

(c) The cases relied upon by OHL in this context had a relatively simple right to terminate (for a, or any, breach). The Contract here at least for the Clause 15.2(a) basis (failure "to comply…with a notice under Sub-Clause 15.1") had a warning mechanism whereby termination could be avoided by the Contractor's compliance with the Clause 15.1 notice. In that sense, the Contractor is given the chance to avoid termination whilst the simple termination for any breach can come out of the blue. Commercial parties would sensibly understand that this contractual chance is a warning as well to the Contractor and the remedy is in its hands in that sense.

(d) I can accept that the editors of **Hudson** have properly set out the correct proposition that determination clauses such as this one will generally be construed as permitting termination for significant or substantial breaches as opposed to trivial, insignificant or insubstantial ones. That accords with commercial common sense.

324. Clauses 15.1 and 15.2(c) must as a matter of common sense pre-suppose that the Contractor is given the opportunity by the Employer actually to remedy the failure of which it is given notice under Clause 15.1. In that context, termination could not legally occur if the Contractor has been prevented or hindered from remedying the failure within the specified reasonable time. This stems from a necessarily implied term that the Employer shall not prevent or hinder the Contractor from performing its contractual obligations; there is also almost invariably an implied term of mutual co-operation. If therefore the Engineer has served a Clause 15.1 notice to remedy a breach of contract, and to the extent that the Employer hinders or prevents the Contractor from remedying the breach, the Employer could not rely on the Contractor's failure in order to terminate the Contract. This is because the Employer should not be entitled to rely on its own breach to benefit by terminating (see for instance **Alghussein Establishment v**

**Eton College** [1988] 1 WLR 587). An example might be the Employer who, following the service of Clause 15.1 notice, denies site access to the Contractor to enable it to put right the notified failure.

325. The fact that liquidated damages is permitted for the failure by the Contractor to complete on time does not qualify the right to terminate under Clause 15.2 for failure to proceed with due expedition and without delay. The parties must be taken to have known that these were both remedies, albeit on its proper construction minor or insignificant breaches of the progress obligations would not justify termination under Clause 15.

Clause 15.2(a) Ground of Termination

326. With these considerations in mind, I turn to the grounds of termination, first addressing the Clause 15.2(a) ground, based on failure to comply with the Clause 15.1 notices. There were 5 failures relied upon in the first Clause 15.1 Notice of 16 May 2011 (although 4 sub-grounds under the first basis, namely breach of Clause 8) and one ground under the second Notice of 5 July 2011. There is no challenge that the notices were invalid in form.

327. The factual context of the first Notice is that, for the proceeding (almost) 5 months, no critical, substantive or permanent work had been done by OHL apart from a fairly minor amount of diaphragm wall cutting down work in January to early February 2011. The unilateral and, as I have found, unjustified suspension had been in place since 23 December 2010 and OHL unilaterally had embarked on the re-design of the tunnel and in particular the roof and the excavation sequence, which as I have found was both unnecessary and unreasonable. It is inconceivable that OHL was not aware of the contractual and commercial risks both of the suspension and the redesign and, so it and its directors embarked on this risky course of action with their eyes open.

328. Argument has been pressed by Mr White QC, forcefully, that OHL was quite entitled contractually to re-design. That is correct and indeed it had the right and obligation to design and it could not be forced to work to a particular design which it did not endorse save by way of a Variation Instruction from the Engineer. This design right needs to be seen in the context of other obligations, such as the need for OHL to proceed with appropriate expedition. The contractual risk was on OHL to complete the Works within the extended Time for Completion. It was not entitled in fact or contractually to any significant extension of time and so by mid-May 2011 it was not only almost 6 months late already but there was no realistic prospect of it finishing in less than a further 15-18 months thereafter. What had happened here was that the re-design was an indulgence which OHL consciously or unconsciously allowed itself, primarily for what it perceived to be its commercial interests. One can test Mr White's point by a hypothetical example which is the Contractor repeatedly re-designing after securing previous AIPs for previous designs for the same work in circumstances

that the re-designs were technically unnecessary and factually unreasonable; it cannot seriously be suggested that the right to re-design can outweigh the obligation to get on with the works. There comes a point when the time wasted by an unnecessary and unreasonable re-design process will give rise to a breach of contract if and when it impacts particularly on progress.

329. As at the date of the first Clause 15.1 Notice, OHL had been and was in breach of contract in that it had failed almost continuously from the time of the submission of its first AIP for the tunnel in early 2009 right up to mid-May 2011 to proceed with due expedition and without delay. The fact that subjectively one or more people within OHL might have believed that it was entitled to a substantial extension of time is not material to this finding.

330. It is unnecessary to deal at any length with the complaint in this Notice about the programme. The complaint made in the Notice was that OHL had "failed to provide a revised clause 8.3 programme at any time since unilaterally suspending your excavation works in December 2010". In fact, on 6 May 2011 OHL had sent such a programme electronically to the Engineer. There was no complaint in the Notice that what was provided was inadequate, although Mr De La Paz e-mailed shortly after receipt to the effect that it was non-compliant because it did not have dates on. When one looks closely at the electronic programme sent on 6 May 2011, it does have dates on it and periods for different items of work; it seems that the programming experts in the case have had no difficulty in reading and understanding it. I am satisfied that no breach of contract has been established in this regard. It would be fair to say that ultimately, GOG's Counsel did not "major" on this point.

331. For ease of reference I set out parts of the earlier table in the Chronology which contain a summary of the Notice:

| No | Breach | Rectification steps | Deadline(2011) |
|---|---|---|---|
| 1 | Clause 8.1, failing to proceed with due expedition and without delay: | | |
| | (a) suspending tunnel excavation work on 20 December 2010 | (a) resume tunnel excavation work | (a) 30 May (14 days) |
| | (b) suspending cutting and repairing outer diaphragm walls on 21 January 2011 | (b) (i) Proceed with the cropping and repairs to the diaphragm walls unaffected by standing water | (b)(i) 30 May (14 days) |
| | | (ii) Complete this work | (ii) 11 July (8 weeks) |

| | | | |
|---|---|---|---|
| | (c) failing to commence, temporary sheet piling of the subway<br><br>(d) failing to start underwater trenching and ducting work for the Western Simple Approach Lighting System (SALS) | (c) Proceed with this work<br><br>(d) Start these works | 30 May 2011 (14 days)<br><br>(d) 6 June 2011 (21 days) |
| 2 | Clauses 3.3, 4.1 and 8.1 in failing to provide acceptable details of methods which OHL proposed to adopt for tunnel excavation work. | Proceed with bulk excavation works for the tunnel | 27 June (6 weeks) |
| 3 | 8.1 for failing to proceed with dewatering with due expedition | Commence the de-watering of the Site with a water treatment facility | 30 May (14 days) |
| 5 | 4.1 and/or 5.2 in failing to provide the Engineer with appropriate signed certificates for various components of the Works. | Provide these certificates | 31 May (14 days) |

332. I can deal with 1 (a) and (b) together. The suspension was not justified on any count. Purportedly, the suspension was resolved upon for health and safety grounds and upon the basis of the recommendation in and conclusion of the Himalaya report dated 15 December 2010. There was no material risk to health and safety of workers or others on or around the site, provided of course that sensible measures were taken to remove or reduce the risk to safe proportions. Thus, as was accepted by the experts, the re-design and the suspension which preceded it were not necessary and, as I have found, not reasonable. The tunnel work could and should have proceeded on the basis of the already approved tunnel designs. As found above, the hydrocarbon contaminants in the ground would not have affected the operation with forced ventilation (already planned) and other usual protective measures whilst the lead contamination could easily have been addressed by damping down the excavations to suppress the dust which would otherwise have spread the lead, even if, following a targeted site investigation, the contaminants had not been removed before the tunnel roof had been laid and the internal excavations started. The December Himalaya report,

apart from being palpably and obviously inept, was clearly worked on by OHL and can not have been considered by OHL to be independent or competent. No competent contractor in OHL's position would have suspended work on the basis of the Himalaya report. I do not consider that OHL had any real regard for the health and safety of its workers in this regard because, if it had done so, it would have suspended the excavation-type works at the latest in September 2010. What drove OHL was the commercial considerations, which I can understand (albeit there was no lawful or contractual justification for it), which involved bringing about some commercial resolution on the project. The suspension was primarily designed to help bring about such resolution. This step and the later re-design were however commercially, contractually and factually dangerous steps to take, as the senior project management and senior staff of OHL must have known. Unfortunately, GOG was not prepared to "play ball". The suspension was a breach of contract because it was bound to lead to and immediately re-started further critical delay.

333. If, as I have found, there was no contractual justification for the suspension or for the re-design, the only reason why there had been no material progress on the execution of the permanent work for months was OHL's desire to re-design which was not necessary or reasonable in fact. There was nothing to stop OHL reverting to its original and approved design or, even if it wanted to persist in its re-design, to get on with what was by mid-May 2011, and had been since the suspension the next critical work, namely the breaking down or cropping of the now completed diaphragm walls. OHL had approval at least for excavating and cropping of the diaphragm walls down to the originally approved design level; the Engineer was seeking to encourage OHL to get on with this. OHL was therefore failing to proceed with due expedition and without delay in accordance with Clause 8.1.

334. The time given was reasonable. What OHL was called upon to do was to "resume tunnel excavation work" and "proceed with the cropping and repairs to the diaphragm walls unaffected by standing water" by 30 May 2011. "Resume" means and meant effectively re-start. The detailed design was approved sufficiently and the AIP was due and was provided 4 days later. If the AIP had not been provided well within this initial 14 day period, it might have been more arguable that there was some prevention on the part of GOG which might have acted as a bar to termination on this ground but in the result this did not happen. If or to the extent that dewatering was going to be required once the groundwater level was reached in the excavation, the water treatment plant was going to be operational soon (as indeed turned out to be the case) on 23 May 2011; any surface water, although there was none or at worst little in the critical tunnel area, could be dealt with in the same way. All OHL needed to do to "resume" and "proceed with" this work was actively to deploy at least several labour teams and some excavation plant actually to re-start excavation and cropping of the walls; if there was no room on Aerial Farm, material could be stockpiled on the site at least temporarily.

335. The next failure alleged was that OHL failed "to commence temporary sheet piling of the subway". This was needed to assist dewatering of the excavation for and the construction of the pedestrian subway which was to go on the east side of the tunnel and was outside the line of the eastern diaphragm wall. OHL had been for a considerable period trying to persuade the Engineer and GOG to accept a different design for the subway. The Engineer and GOG had not been really pressing OHL to get on with the subway or the related sheet piling work or complaining about the work not being done by this time before the Notice. OHL had provided a revised sheet pile design for the subway within the 20 April 2011 package for the tunnel re-design, this not being accepted until 11 May 2011. This revised design provided for different sized piles compared with the earlier design, both as to length as well in part as to gauge.

336. I am not satisfied that it has been established that OHL was by 16 May 2011 (the date of the Clause 15.1 Notice) in breach of Clause 8 in respect of the alleged failure to start sheet piling for the subway, although it has not been established that there was any good reason for changing the design, other than the commercial one of saving OHL money. It seems that this work was not on the critical path in any event and it is therefore difficult to find that a deferment of the sheet piling until later would necessarily have led to any overall delay to the project and it can not be said that there was therefore a failure to proceed with due expedition and without delay. I would also have found that it had not been established that OHL was given a reasonable period to proceed with this work as it would have taken and was taking considerably longer to procure the re-designed sheet piles than the 14 days identified by the Engineer in the Notice.

337. The next complaint in the Notice was a failure to start underwater trenching and ducting work for the Western Simple Approach Lighting System (SALS), which area of work I have mentioned in the Chronology without going into much detail. This work was a variation ordered in February 2009 and related to an installation off-shore to assist aircraft to land and possibly take off. It was to be piled and located off the western end of the runway and so it was well away from the tunnel and roadwork. OHL had stated in its proposal that this work would be completed by 17 September 2009 and a Time for Completion of end of September 2009 was expressly recorded in Variation No. 1. Mr Doncel accepted that OHL knew that completion of the SALS was a priority for the Employer, this being, as Mr Nuitjen said in unchallenged evidence, because it was needed soon for international aviation standards compliance; there had been an incident in low visibility when an aircraft had mistaken street lighting for the airport runway lighting.

338. Progress on the Western SALS work was poor with the piling only completed in August 2010 and the superstructure completed in October 2010. OHL was thus already over a year behind what had been called for in the Variation Instruction to which it had assented without demur. Nothing further was done in relation to the Western SALS work. What primarily remained was the underground ducting and

trenching to carry power and electronic cables. From largely unchallenged evidence, OHL told the Engineer through its progress reports in January and February 2011 that it would start this work in early May 2011. OHL was always aware that a specialist barge or ship would be needed for the trenching and laying of the cables and that, because the work would be done in Gibraltar waters, approval for the selected specialist vessel would have to be obtained from the Gibraltar Port Authority. It only approached the Port Authority on 4 April 2011 with a proposal that it use a Spanish vessel called the "Ardenza" but by 27 April 2011 OHL ran into a problem, because it was asked to show the Port Authority that it had approached local operators before acquiring the services of the Spanish vessel in order to obtain a dispensation from licensing. OHL told the Port Authority that it could not find an appropriate Gibraltar vessel. The Port Authority was sceptical about this response writing on 10 May 2011 asking OHL to produce:

> "Hard copies of the correspondence that took place between you and the local licensed operators that were appointed before acquiring the services of the Spanish Barge "ARDENZA.
> I hope that you found the above written statement helpful and that it assists in acquiring a better understanding of our local laws and legislation."

Meanwhile, OHL had secured approval from the Engineer for its Method Statement for the work.

339. I have no doubt that OHL was in breach of Clause 8.1 in that it was not and had not been proceeding with due expedition and without delay in relation to this SALS work. It was already in culpable delay as from about October 2009 when the work could and should have been completed. The fact that this work was not on the critical path for the Works overall matters not in this regard as this particular work had in effect a completion time of its own and that time had past.

340. However, I am not satisfied that the time given to start this work (3 weeks) has been established as reasonable. The onus is on GOG to establish this and it could have called a witness from the Port Authority to demonstrate that, if OHL had done this or that, the approval would have come through in a few days. There was little exploration in evidence as to whether the Ardenza was immediately available to start by 6 June 2011. I should add that there has been no suggestion that GOG was leaning on the Port Authority to be difficult and indeed that is most unlikely given the urgency of the work. Also, any failing or dilatoriness (and I do not find that there was any) on the part of the Port Authority would not be the contractual responsibility or fault of GOG as between it and OHL.

341. The second separate head of notified breach was OHL's failures to provide acceptable details of methods which OHL proposed to adopt for tunnel excavation work, in effect method statements. The history is so far as is material is that OHL

submitted to the Engineer a method statement for this (tunnel) work on 8 April 2011 but it was only approved subject to serious qualifications (to be resolved by OHL) by the Engineer on 21 April 2011 and it had not been re-submitted by the time that the Clause 15.1 Notice was issued on 16 May 2011. OHL re-submitted it on 27 May 2011 for it only to be rejected by the Engineer, this time on 17 June 2011. There was no credible evidence that the Engineer was wrong to do so the second time round. No further version was submitted for approval by OHL.

342. I am satisfied that the failure of OHL to provide an acceptable tunnel excavation method statement by the date of the Clause 15.1 Notice was a breach of Clause 8.1, as an acceptable method statement was essentially a pre-requisite to starting the excavations for and in connection with the tunnel. There was no evidence that there was any good excuse or even explanation as to why an acceptable method statement had not been produced by 16 May 2011. OHL had numerous comments from the Engineer which could have acted as a check list for OHL to work to; it had already done a fair amount of work, presumably knew what it wanted to do and had worked out how to do it. This breach is very much tied up with the first two complaints on the list for which I have found that OHL was in breach.

343. As for whether there was consequential compliance with the Clause 15.1 Notice, the rectification steps were to "proceed with bulk excavation works for the tunnel" within 6 weeks by 27 June 2011. One needs to read this commercially and what in effect it would have been understood to mean by all was that everything necessary was to be done, primarily the submission and securing of approval of an acceptable revised method statement, in sufficient time such that bulk excavation could and would be started by 27 June 2011. Instead, OHL submitted an unacceptable revised method statement 11 days later which was duly rejected 21 days later. Accordingly, OHL did not comply with the Notice.

344. The next item on the 16 May 2011 Clause 15.1 Notice was the failure "to proceed with the dewatering of the site with due expedition and without delay". For reasons which I have already given in the extension of time chapter above, OHL was in breach in this regard. This plant should have been in place and procured, as a minimum, many weeks before. Even on OHL's latest projection it should have been operational by 16 May 2011 and the latest problem (the breaking of the water sample bottles) was OHL's or their sub-contract consultant's responsibility and had delayed this beyond this date. It was perfectly reasonable to require, in the circumstances prevailing as at 16 May 2011 that the dewatering commenced by 30 May 2011 as it was obviously achievable and, indeed, it was operational by 23 May 2011. However, there was a continuing breach and non-compliance with the Notice as no dewatering actually started by or even on 30 May 2011. This is very much tied in with the other progress failures.

345. The final matter relates to the failure on the part of OHL to provide in duplicate 9 Category 3 design check certificates. 7 of these (not relating to the redesign) do not give rise to serious issues because, although OHL accepts (see OHL's

Counsel's Closing Submissions (Paras. 9.42 and 9.43)) that it was in breach, it actually did provide them within the 14 days called for by the 16 May 2011 Clause 15.1 Notice. The other two certificates related to the sheet pile design for the subway and the tunnel re-design. Essentially, OHL argues that it was not in breach as at 16 May 2011 in relation to these two certificates because contractually they were not to be provided until after the AIP had been approved by the Engineer (which did not occur until 20 May 2011) or until the AIP had been countersigned with TAA approval. This latter point is not a good one as work could proceed as soon as the Engineer issued the AIP as provided for in Paragraph 11(a) of Part 1 to Volume 3 of the Employer's Requirements. In practice, as was accepted by Mr Doncel, historically TAA approval had not stopped OHL from proceeding in the past.

346. The Contract wording about the Category 3 check certificate is not explicit as to whether it must or may not accompany the AIP package submitted to the Engineer, at least for a re-design. Paragraphs 9 and 10 of Part 1 of Volume 3 of the Employer's Requirements merely says:

> "9. The Contractor shall submit the Contractor's Documents…for review. No data shall be submitted without the relevant Certificate in accordance with the Review and Certification Procedure…
>
> 10. The Contractor shall operate a design certification procedure….Certificates shall be signed by both the Contractor and the relevant…Checker as appropriate. Certificates produced under this procedure shall constitute the Contractor's Notice required under Clause 5.2 of the Contract"

Part 2 of Volume 3 identifies the tunnel as a Category 3 structure which by Clause 2.4 required "a check to be carried out by a Checker, namely an independent design organisation. It goes on to say, however, that when:

> "…submitting an AIP for a Category 3 Structure, the Contractor shall at the same time submit a proposed Checker for that structure…The Category 3 Checker is subject to the Engineer's approval and may be rejected…"

347. Donaldsons had been approved as the Category 3 Checker for the Tunnel for the approved original design. On balance, I consider that, given the agreed importance of the Category 3 check, these provisions do envisage that, where any AIP is sought, the Checker's name (and CV) is put up with the AIP package and it is only when the Checker is approved that the Category 3 check certificate can go in. I say on balance because the provisions in Parts 2 and 3 above are arguably inconsistent with the earlier clause calling for the submission of the Certificates, including the Category 3 certificate and the later suggesting a two stage process.

348. I am therefore not satisfied that, in having failed to provide such certificates in relation to the sheet piling and the tunnel re-design beforehand, OHL was in breach of contract as specified in the Notice. There was however, unbeknown to the Engineer, an impending breach flowing from the belated instruction of Donaldsons by OHL on 4 May 2011 to start the certification exercise and Donaldsons' persistent unwillingness to sign off on the tunnel redesign but that was for the near future. This potential breach was not sufficient to found a complaint of actual breach at this time.

349. The above addresses the Clause 15.1 Notice of 16 May 2011 and I now turn to the second such Notice issued on 5 July 2011, relating to the exposure of some 20 panels in the diaphragm. This arose out of the non-compliance by OHL with Engineer's Instruction No 20 issued on 16 June 2011. Based on the facts, I accept that what sparked Mr De La Paz's instruction was the uncovering of one or two wall panels with apparent defects during the MOD diversion works. Mr White QC made great play that EI 20 and the later Clause 15.1 Notice were part and parcel of a long established strategy to terminate the Contract on the part of GOG. As indicated elsewhere, I have no doubt that GOG had recognised as from early 2011 that termination might occur and, doubtless, that recognition became firmer as 2011 went on. By mid-June 2011, there had been little or no practical response from OHL to the first Clause 15.1 Notice. I have no doubt that Mr De La Paz in broad terms initiated EI 20 and that, in relation to the second Clause 15.1 Notice which followed, there was some involvement, probably in the drafting, on the part of GOG and its legal team. Similarly I have no real doubt that the second Notice was intended in effect as a test to encourage OHL to get on and do some work.

350. There is, rightly, no real suggestion that the Engineer was not entitled to issue EI 20 and there can be no suggestion that the Contractor should not have complied with it. That instruction called for works to be done by 23 June 2011, namely the excavation and exposure of 20 panels. OHL did not do any work and did not even respond until 24 June 2011. The explanation is given as to why OHL could not do this work until a stockpile area was provided for the excavated and probably contaminated material uncovered. For reasons given elsewhere, this explanation was unjustified: in any event OHL had room to stockpile the relatively limited quantities of excavated material on the site. This excavation was in any event work which needed to be done to start the cropping of the diaphragm walls. The Clause 15.1 Notice which followed on 5 July 2011 was issued when no work had been done to comply with EI 20. In one sense, the motivation of the Engineer and GOG in and about the issue of this second notice is not relevant, unless possibly it was shown to be in bad faith. It would not be bad faith to issue any such notice if it was justified under the Contract, even if it was issued in circumstances in which the Engineer and GOG believed that it would not be complied with and, if not, termination might, could or would thereafter follow. It could not have been issued if by the time of this second Notice OHL had started in earnest doing the work which it had been instructed to do by EI 20. In my judgment, the Engineer was entitled to issue this second Notice as not only had OHL not complied with it but

also shown no real intention of complying with it. There is no good reason why OHL could not have complied with EI 20. It made a fairly good effort to comply with it, albeit belatedly, between 13 and 21 July 2011, without encountering any great problems and this therefore demonstrates in practice that it could have been complied with.

351. It is then necessary to consider the extent to which the two Clause 15.1 Notices were or were not complied with. In the light of my earlier findings, it is only necessary here to consider the Clause 8.1 breaches involved in the suspension and the failure to resume the cutting and repairing of the outer diaphragm walls, the failure to provide an appropriate method statement, the dewatering and the failure to comply with EI 20. The reality is that nothing was done by OHL with regard to the cropping of the diaphragm walls and the related excavation works. There was, as I have found, no good reason why OHL did not resume this work. There was and continued to be room to stockpile a fair quantity of excavated material on this site. In any event, following the removal of Aerial Farm from OHL, there had been plenty of time to make arrangements for the removal of excavated material from the site and, no later than the end of June 2011, these arrangements could realistically have been in place if OHL had resolved to go down that route. The water treatment plant was up and running from 23 May 2011. No adequate explanation has been offered as to why an appropriately revised method statement could not have been provided; there is no such explanation. There was continued non-compliance up to the date of termination in this regard. The real reason for, and indeed the true cause of, the continuing delay was in fact that OHL was unable to secure the Category 3 Certificate from Donaldsons; there was a very real problem with the stability of the revised tunnel design which, justifiably or not, Donaldsons were not prepared to sign off on. Either way, this was the risk and the fault of OHL. By the time of the termination, there was no end in sight for the resolution of this problem. It is unlikely that OHL disclosed to the Engineer in any detail or at all what was going on in this regard; at best, OHL had on several occasions indicated that the Category 3 certificate was virtually on the way.

352. The story is somewhat different in relation to the EI 20 works, which work started on 13 July 2011 and continued until 21 July 2011. Certain defects were uncovered and reported on to the Engineer but OHL had not been prepared to dig down below the ground water level. The precise detail of compliance was not fully investigated at the trial and, if this had been the only item upon which the termination was based, I would not have found that there was sufficiently significant non-compliance with the scope of the instruction; in this context, I bear in mind that there was evidence that the Engineer actually instructed, whilst these works were going on various changes to EI20 and accepted some departures as acceptable as recorded by OHL. There was however, clearly, non-compliance with the time period given in the second Clause 15.1 Notice in that there was no good reason why it was not complied with within the seven-day period referred to; OHL had had some 2½ weeks to comply with EI 20 and had not done so and there was no good reason not physically to have got on with and completed the

instructed works within seven days of the second Notice. The relevance of this is that it was further evidence that OHL was not committed to pursuing work with any expedition or at best was committed to doing the minimum in effect that it thought that it could get away with.

353. I have addressed elsewhere the limited impact which the withdrawal by GOG from OHL of Aerial Farm on the ability of OHL to work in the June to July 2011 period. Considerable reliance is also placed by OHL on the suggested impact of the Engineer's letter of 8 June 2011. It is suggested that this was all part of GOG's strategy to bring about a termination. It is clear however from the surrounding documentation that the point made in this letter had only really been thought about within a few days, at most, before the letter was written. Undoubtedly, as I have held elsewhere, a significant part of the concern related to the possibility that, if there was to be a termination and if OHL had by the date of termination left substantial quantities of material in stockpiles on site it would be difficult to differentiate between what was contaminated and not contaminated. The terms of the letter should have been relatively uncontroversial, calling as they did simply for compliance by OHL with its own CEMP. The letter was written in the context of the excavations then being carried out by OHL on the MOD drainage diversion works and simply contains a statement that the Engineer expected OHL to do exactly what its CEMP itself called for, the final version of which have been issued only three months before. It is also clear that an equally significant part of the concern of the Engineer stemmed from the incompetent way in which the MOD drainage diversion works were being carried out. Mr De La Paz also said in evidence that he was concerned that, if there was a valid "Unforeseeable" claim, then a failure to segregate the material would lead to unnecessary disposal costs. There were therefore a number of motivations behind this letter which were legitimate on any count.

354. In reality, this letter and its contents did not actually delay or disrupt or in any way prevent or hinder OHL in or from carrying out of any permanent work because OHL was not going to be able to start the permanent works envisaged by the re-design until it had received the Category 3 check certificate (which it never got). If OHL ever was seriously to have resolved to re-start excavation work for the diaphragm wall cropping related work, its need to comply with its own CEMP should not have hindered or prevented it from starting that work in earnest. The same quantities of material, either contaminated or not, were going to be excavated and, in simple terms, all that would happen is that following segregation, assuming that that was possible and practicable, there would be two sets of piles of contaminated and uncontaminated or (to borrow the wording from the CEMP) inert waste soils and other waste categories. In any event, the letter was not written in prescriptive terms, and, therefore, OHL could simply have removed anything from site and disposed of it without segregating it.

355. I thus conclude that there were continuing grounds of non-compliance by OHL with the Clause 15.1 Notices after the times given for compliance had expired

although there was no established non-compliance with the second Notice after 21 July 2011. These were sufficient and serious enough to justify termination under Clause 15.2(a).

356. It is necessary also to consider whether OHL had by 28 July 2011, the date of GOG's termination letter, "plainly demonstrate[d] the intention not to continue performance of these obligations under the Contract" or "without reasonable excuse fail[ed]…to proceed with the Works in accordance with Clause 8", within the meaning of Clauses 15.2(b) and (c). Whilst this must primarily be a matter of fact and degree, there are some basic points of principle which are worth summarising:

> (a) The test must be an objective one in relation to the grounds in both sub-paragraphs. Thus, if OHL privately intended to stop work permanently but continued openly and assiduously to work hard at the site, this would, without more, objectively not give rise to a plain "demonstration" of intention not to continue performance. Similarly, the fact that OHL was and had for many months been doing no work of any relevance without contractual excuse could, without more, objectively judged, give rise to a conclusion that it had failed to proceed in accordance with Clause 8.
>
> (b) As referred to before in a slightly different context, these grounds for termination must relate to significant and more than minor defaults on the part of OHL on the grounds that it cannot mutually have been intended that a (relatively) Draconian clause such as a termination provision should be capable of being exercised for insignificant or insubstantial defaults. Thus, a few days delay in the context of a two year contract would not justify termination on the Clause 8 ground and an unwillingness or even refusal to perform relatively minor obligations would not justify termination on the "intention not to continue" ground.

Clause 15.2(c) Ground for Termination

357. In addressing, first, the Clause 8 ground, I am wholly satisfied on the facts that OHL failed, almost from start to finish of this project, to proceed in accordance with Clause 8.1 of the Contract Conditions. It had not proceeded with due expedition or without delay from the time when it first began to submit the tunnel AIP and then detailed design documentation through to 2010 when it encountered the foreseeable ground and water contamination issues referred to elsewhere in this judgment. It consciously and with its eyes open wrongly and wrongfully suspended work in late December 2010 and within a few weeks had embarked on a wholly unnecessary re-design of the tunnel. Even as that re-design exercise was coming to an end, it was unable for reasons which were its own contractual responsibility to conclude that re-design process because its independent checking engineers felt unable to certify the re-design as required. When faced with what to

OHL was the difficulty of not having the Aerial Farm site available as from 1 June 2011, it resolved in effect to do nothing about that in terms of making other arrangements for the disposal of excavated materials, which reflected the initial status quo under the Contract.

358. Viewed objectively therefore, at 28 July 2011, OHL was in very serious and substantial default under Clause 8.1, having been dilatory throughout and having carried out no permanent work to speak of for 7 months. Objectively, although there were some expressions by OHL of wanting to proceed with the work, its actions or more accurately its inactivity belied those expressions. The prospects did not objectively look good either as at this date. There was again an impasse over what to do with the excavated materials from site with GOG saying (correctly at that stage) that it was OHL's contractual responsibility to make the appropriate arrangements and OHL saying (wrongly) that the problems such as contaminated land and water were not its responsibility and in effect that it was up to GOG to sort out arrangements for the disposal of contaminated material. Unknown to GOG the real driver for OHL's delay at this final stage was the continuing and still unresolved difficulty with Donaldsons; there was a lack of candour on the part of OHL in reporting this problem to GOG at the time. The lack of expedition on the part of OHL had led and was leading to what amounted to a 2 year delay on a 2 year contract, for which there was at best a minimal entitlement to extension of time (on my findings one day).

359. In my judgment, this continuing failure to proceed with due expedition and without delay was sufficient and serious enough to justify termination under Clause 15.2(c).

Clause 15.2(b) Ground for Termination

360. It is not necessary to resolve finally the Clause 15.2(b) ground. However, I would find that OHL had demonstrated an intention not to continue performance in accordance with its obligations under the Contract. A verbal and contractual distinction needs to drawn between an intention to continue performance and an intention to continue performance of the contractual obligations; a clear avowed intention to perform but not by reference to important contractual terms could demonstrate such an intention. The demonstration can be judged by reference not only to the words used but also to the actions. On the other hand, a simple disagreement between parties about what the Contract meant or disagreement about whether the Contractor had some claim entitlement would in themselves not demonstrate such an intention.

361. One has, as at 28 July 2011, all the factors present in relation to the continued and continuing and culpable lack of progress on the part of OHL and there being no apparent end in sight in terms of a resumption by OHL of the execution of the permanent works. The reality is that, with regard to a solution to the impasse as to what to do with the excavated materials, OHL had only come up with three

alternatives in its Tunnel Excavation Waste Management Plan sent to the Engineer on 30 June 2011, a 4 year multi-million euro (€123m) borehole campaign to help produce segregated material, the setting up of a decontamination plant in Gibraltar with 58,000m² of land being set aside for this (OHL to set up and operate) and "lands" to be provided by GOG as a stockpile area with GOG to deal with disposal. None of these were realistic by this stage. OHL in its letter of 13 July 2013 to GOG did say that it remained "committed, subject to our right to extension of time…and additional payments under the Contract" but went on to say that due to "the affected aquifers, the presence nearby of a special area of conservation and the actual contaminated conditions…it is not in our view prudent to continue with the works following our planned designs and building methods". It then called for a hydro-geological study as "necessary" but that GOG was responsibility to undertake it. This was in spite of the fact that OHL had never undertaken the hydro-geological study which it had undertaken to do through the contractually incorporated tender correspondence.

362. This remained the position as at 28 July 2011. In my judgment, considered objectively, OHL was then demonstrating an intention not to continue performance in accordance of its obligations under the Contract. The permanent works remained suspended, there was no indication that OHL would or could re-start the permanent work, there was no indication that it would move forward with any work involving excavation unless or until GOG came up with a solution which removed from OHL the contractual responsibility for disposing of the excavated soils and there was, wrongfully, no acceptance of responsibility by OHL for any of the problems associated with ground and water contamination which were all its risk and responsibility. One can ask objectively: how much longer could it otherwise take to form the view that OHL was intending not to perform its key responsibility of getting on with the work? The answer is "no longer" in my judgment, as that stage had been reached by then.

363. It follows from this that GOG was also entitled to terminate on this ground as at the date of its 28 July 2011 letter.

Effectiveness of 28 July 2011 Notice

364. The final issue is whether the fact that the 28 July 2011 letter was sent to OHL's site office undermines its effectiveness as a Clause 15.2 termination notice. This raises some issues of law and fact.

365. The Termination Notice letter dated 28 July 2011 was delivered by hand to OHL's site office in Gibraltar where it was signed for by one of OHL's employees. It was dispatched by the site office to the main Madrid office, promptly. As indicated above, Clause 1.3 of the Contract Conditions required all notices called for in the Conditions to be delivered by hand or sent by mail or courier to OHL's Madrid office. There was also the following wording:

> "However:
>
> (i) if the recipient gives notice of another address, communications shall thereafter be delivered accordingly; and
>
> (ii) if the recipient has not stated otherwise when requesting an approval or consent, it may be sent to the address from which the request was issued."

366. There is an issue as to whether the service of the termination notice at the site office was effective, with OHL arguing, as it did at the time, that the service was ineffective. It would not be unfair to say that OHL's Counsel did not "major" on this as a primary ground for challenging the termination.

367. Throughout the project correspondence had been frequently sent to OHL's site office without any objection being taken by OHL. Indeed, the Clause 15.1 Notices issued on 16 May 2011 and 5 July 2011 were sent to the site office without objection or demur from OHL as to the validity of these notices. The project was being run by OHL from the site office as from late 2009 with this office handling the vast bulk of the correspondence, both letters, e-mails, technical documentation such as method statements and the like emanating form the site office. Mr Doncel, the project manager with very substantial authority was based there. In these circumstances, in effect and in practice the parties operated as if the site office was an appropriate address at which service of notices could be effected.

368. In line with the whole concept of a commercially realistic interpretation being put on what parties agree (see above), courts in the past have been slow to regard non-compliance with certain termination formalities including service at the "wrong" address as ineffective, provided that the notice has actually been served on responsible officers of the recipient. The House of Lords in **Bremer HandelsGesellschaft MBH v Vanden [1978]** 2 Lloyds Rep 109, was concerned with a shipping contract involving the sale of soya beans which provided for a cancellation notice to be served in certain circumstances; it stated that, if shipment proved impossible, the Sellers "shall advise Buyers without delay with the reasons therefore". The majority rejected the contention that the cancellation notice would be invalid if the Seller's failed to provide its reasons for the cancellation without delay. Lord Salmon stated for instance at page 128:

> "It has been argued by buyers that this is a condition precedent to the seller's rights under that clause. I do not accept this argument. Had it been intended as a condition precedent, I should have expected the clause to state the precise time within which the notice was to be served, and to have made plain by express language that unless the notice was served within that time, the sellers would lose their rights under the clause"

Viscount Dilhorne had said at page 121:

> "Whether or not that claim was made without delay is a question of fact on which there may be a dispute. If there was a breach by the sellers of this obligation, they may be liable in damages for loss incurred by the buyers in consequence but the contract does not in my opinion provide that cancellation is conditional upon the sellers complying with this obligation"

369. Mr Justice Ferris considered a distribution agreement as to whether it had been effectively terminated in **Worldpro Software Ltd v Desi Ltd [1997-98] TLR 279**. The termination provision stated: "Notices permitted or required to be given hereunder shall be in writing and shall be delivered by hand or despatched by registered airmail, facsimile, or cable, shall be deemed given upon receipt thereof, and shall be sent to the parties at the following address…". The actual termination letter was handed over physically by one director to another. The judge held that there had been valid service, saying:

> "There is no provision for despatch by ordinary, recorded delivery or registered post. It would be quite wrong, in my view, to treat successful service by any of these means, or delivery by hand to the managing director of WorldPro, as having no effect. Regard must be had…to the subject matter and the object to be fulfilled."

370. **Rennie v Westbury Homes (Holdings) Limited** [2007] EWCA Civ 1401 was a case involving an issue as to whether there had been a valid extension or renewal of an option to purchase land. Lord Justice Dyson (as he then was) built on dicta of Lord Steyn in the **Mannai** case (see above, albeit that not all the dicta relied on by Dyson LJ are cited above); he accepted that a proper approach involved consideration whether particular wording of a notice clause, properly construed, was an "indispensible condition", going on at Paragraphs 15 and 16:

> "15…A typical case of an "indispensable condition" is where the contract states that the relevant notice shall be in writing and shall contain particular information. Some clauses may expressly say that "the notice shall only be valid if…". Where express language of this kind does not appear in the clause, it will be a question of construction whether it is an indispensable condition of validity that the notice satisfies the requirements of the clause.
>
> 16. To put the point another way, it is not any condition precedent to be about the exercise of the right conferred by clause 9.1 that the defendant should state in terms that it requires the Option Period to be expended. Clause 9.1 does not so provide expressly or by necessary implication. It is sufficient, if the defendant makes it clear to a reasonable recipient, that it is exercising the right conferred by the clause."

371. In a later Court of Appeal case, **Newbold & Ors v The Coal Authority [2013] EWCA Civ 584,** a case relating to whether there were valid damage notices for the purposes of the Coal Mining Subsidence Act 1991, Sir Stanley Burnton, with whom Longmore and McFarlane agreed, said at Paragraph 70

> "In all cases, one must first construe the statutory or contractual requirement in question. It may require strict compliance with a requirement as a condition of its validity. In Mannai at 776B Lord Hoffman gave the example of the lease requiring notice to be given on blue paper: a notice given on pink paper would be ineffective. Against that, on its true construction a statutory requirement may be satisfied by what is referred to as adequate compliance. Finally, it may be that even non-compliance with a requirement is not fatal. In all such cases, it is necessary to consider the words of the statute or contract, in the light of its subject matter, the background, the purpose of the requirement, if that is known or determined, and the actual or possible effect of noncompliance on the parties."

372. I draw from these cases the following conclusions in relation to termination clauses in commercial and thus engineering and building contracts in general and specifically in relation to the Contract in this case:

> (a) Termination of the parties' relationship under the terms of such contracts is a serious step. There needs to be substantive ompliance with the contractual provisions to achieve an effective contractual termination.
>
> (b) Generally, where notice has to be given to effect termination, it needs to be in sufficiently clear terms to communicate to the recipient clearly the decision to exercise the contractual right to terminate.
>
> (c) It is a matter of contractual interpretation, first, as to what the requirements for the notice are and, secondly, whether each and every specific requirement is an indispensable condition compliance without which the termination cannot be effective. That interpretation needs to be tempered by reference to commercial common sense.
>
> (d) In the Contract in this case, neither Clause 1.3 nor Clause 15.2 use words such as would give rise to any condition precedent or making the giving of notice served only at OHL's Madrid office a pre-condition to an effective termination. Of course, key elements of the notice procedure involve securing that OHL is actually served with a written notice and receives the notice and it being clear and unambiguous that the notice is one being served under Clause 15.2, namely that 14 days notice of termination is being given by GOG to OHL, such as to enable it to expel the Contractor from the Site.

(e) The primary purpose of Clause 1.3 is to provide an arrangement whereby notices, certificates and other communications are effectively dispatched to and received by OHL. The primary purpose of a Clause 15.2 termination notice is to ensure that OHL is made aware that its continued employment on the project is to be at an end.

(f) In my judgment, the service of a Clause 15.2 notice at the Madrid office of OHL as such is not an indispensable requirement either of Clause 15.2 or Clause 1.3. Provided that service of a written Clause 15.2 notice is actually effected on OHL personnel at a sufficiently senior level, then that would be sufficient service to be effective.

373. It follows that the service of the 28 July 2011 Clause 15.2 termination notice letter at OHL's site office, where Mr Doncel was based and given his key role on the Contract and the use of the site office for the receipt and sending of communications in practice, was effective and valid service under the Contract. There is no doubt that it was received by OHL on that day and its contents immediately passed on to the senior directorate. Thus the notification went through to all the relevant senior people within OHL, including Mr Doncel and Mr Hernandez on that day. There is no issue otherwise as to the formal content of the notice letter, albeit that the substance (namely whether there were any material defaults) was challenged.

374. In my judgment therefore, GOG validly terminated the Contract pursuant to Clause 15.2 on the grounds which I have found as above.

Miscellaneous and Consequential Issues

375. There remain subsidiary points which include whether or not, even if the 28 July 2011 notice was not effectively served, ineffective service of an otherwise validly based termination notice itself amounted to a repudiation by GOG of the Contract. In the light of my findings above, it is not necessary to decide this issue but my findings would have been that the service of an otherwise valid and actually well-founded termination notice at the technically wrong address could not in law and the facts of this case amount to repudiation. In performing this view I have regard to the judgments in **Freeth v Burr** (1874) LR 9 208, **Smith v Bailey** 1940 3 All ER 60 and **Eminence Property Developments Ltd v Heaney** [2011] 2 All ER 223. It would follow from this that OHL was not entitled to treat what was otherwise a legally and factually proper Clause 15.2 termination notice as a repudiation (as it purported to do) and that the re-service of the Clause 15.2 termination notice on 4 August 2011 was undoubtedly effective in any event. The corollary of this is that OHL repudiated the Contract by the terms of its letter dated 3 August 2011 by wrongfully treating the Contract as at an end. However, GOG elected to treat the Contract as continuing by re-serving its 28 July notice on 4 August 2011 on OHL's Madrid office and thus, and in that event if it had been

necessary, the Contract would have been terminated 14 days later, contractually as opposed to via the route of an accepted repudiation.

**Decision**

376. In broad terms, GOG was entitled to and did effectively terminate the Contract.

377. I will not set out each of the issues listed by the parties (for which see Paragraph 24 above) but I will list my answers below:

| Issue | Ruling |
|---|---|
| 1 | GOG, the Defendant, lawfully terminated the Contract by notice dated 28 July 2011, alternatively by notice dated 4 August 2011, with the termination occurring 14 days later. |
| 1(a)(i) | The Engineer was entitled to issue the Clause 15.1 Notice to Correct on 16 May 2011 in relation to Clause 8 breaches relating to (i) suspending tunnel excavation work on 20 December 2010, (ii) suspending cutting and repairing outer diaphragm walls on 21 January 2011, (iii) failing to start underwater trenching and ducting work for the Western SALS, (iv) failing to provide acceptable details of methods which OHL proposed to adopt for tunnel excavation work and (v) failing to proceed with dewatering with due expedition. |
| 1(a)(ii) | The times specified for all of these five items were reasonable except for that relating to the Western SALS work |
| 1(a)(iii) | The Defendant was entitled to rely on those matters set out in the Engineer's 16 May 2011 Notice as listed in (i), (ii), (iv) and (v) in answer to Issue 1(a)(i) above. Such failures had not materially been overtaken by events or otherwise remedied. The Defendant's actions on 1 June 2011 did not in fact prevent the Claimant from remedying its defaults. |
| 1(a)(iv) | The Engineer was entitled to issue Instruction No 20 dated 16 June 2011 in the terms set out therein and to instruct that the relevant works be carried out within the period specified by him. |
| 1(a)(v) | The Claimant was in default in the manner set out by the Engineer in its 5 July 2011 Notice. |
| 1(a)(vi) | The time specified for the remedying of the defect in the Engineer's 5 July 2011 clause 15.1 Notice was reasonable. |
| 1(b) | The Defendant was entitled to serve a notice of termination pursuant to sub-clause 15.2(b) of the |

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| | Conditions because the Claimant had plainly demonstrated an intention not to continue with the performance of its obligations under the Contract, for the reasons set out above. |
| 1(c) | As the Claimant was entitled only to one day's extension of time as at 28 July 2011, such limited entitlement did not mean that the Defendant was no longer entitled to serve a notice of termination pursuant to clause 15.2(b) of the Conditions. |
| 1(d) | The Defendant was entitled to serve a notice of termination pursuant to sub-clause 15.2(c)(i) of the Conditions for the reason set out above. |
| 1(d)(i) | The Claimant had failed, by 28 July 2011 and from 2009 onwards to proceed with the Works with due expedition and without delay |
| 1(d)(ii) | As the Claimant had failed to proceed with the design and execution of the Works with due expedition and without delay and by 28 July 2011 had culpably failed to complete by the contractual Time for Completion, such failings were an important part of the failure to proceed in accordance with Clause 8.1 such as to give rise to an entitlement on the part of the Defendant to terminate the Works pursuant to clause 15.2(c)(i) of the Conditions. |
| 1(d)(iii) | The Claimant had no "reasonable excuse" for such failures. |
| 1(e) | The Defendant's notice of termination dated 28 July 2011 was a valid and effective notice pursuant to Clause 15.2 of the Conditions. |
| 1(f) | The Contract was lawfully terminated by the Defendant on 20 August 2011 pursuant to Clause 15.2 of the conditions |
| 1(g)(i) | The service of the Notice of Termination on the Claimant's site office address did not amount to a repudiation of the Contract by the Defendant. The Claimant was not entitled to elect to accept this as a repudiation on the part of the Defendant on 3 August 2011 such that the Contract was terminated on that date. |
| 1(g)(ii) | The terms of the Claimant's letter dated 3 August 2011 constituted a repudiatory breach of contract on the Claimant's part, albeit it was not accepted as such by the Defendant. |
| 1(g)(iii) | The Defendant's re-delivery of its Notice of Termination via courier on 4 August 2011 to the Claimant's offices in Madrid, if required at all, would have constituted effective service of a clause 15.2 notice and thereby would have entitled the Defendant to terminate the |

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|---|---|
| | Contract pursuant to clause 15.2 of the Conditions 14 days thereafter. |
| 1(g)(iv) | Given that the Defendant went down the contractual route of termination on 28 July alternatively on 4 August 2011, the Defendant was not entitled to elect to accept the Claimant's repudiatory conduct as detailed in the Notice to Terminate. |
| (h) | The service of the Notice of Termination in the terms that it was written did not amount to a repudiation of the contract (or an anticipated repudiation) by the Defendant which the Claimant accepted or was entitled on 3 August 2011 such that the Contract was terminated on that date. |
| (i) | The Claimant's conduct in the period between 3 August 2011 and 12 August 2011 when it left the Site evinced an intention no longer to be bound by the terms of the Contract and thereby amounted to a repudiatory breach of Contract albeit that the Defendant did not as such effectively accept this by its letter dated 20 August 2011. |
| 2 | The parties' entitlements are governed by the terms of Clause 15 and by such other terms as are germane to establishing financial entitlements. |
| 2(a) | The premise of these issues is immaterial in that the Claimant did not lawfully terminate the Contract. |
| 2(b) | The Defendant is entitled to the relief provided for by clauses 15.3 and 15.4 of the Conditions. |
| 2(b)(iii) | The Defendant entitled to interest as allowed for under the Contract or to the extent that the Court has a discretion pursuant thereto. |

I should point out that for two issues about entitlement to interest under the late Payment of Commercial Debts (Interest) Act, the parties made it clear that no decision was required.

378. As is usual, a draft of this judgment was sent to the parties' legal teams before for them to suggest any typing corrections or corrections of other obvious errors. I have invited the parties to invite the Court (without further argument) to address any matters (relevant to any possible appeal or to the further conduct of this case), other than the scores of evidential and legal issues actually addressed, which may have been overlooked in the draft.