

Soon Li Heng Civil Engineering Pte Ltd v Woon Contractors Pte Ltd
[2005] SGHC 34

Case Number : Suit 863/2003
Decision Date : 18 February 2005
Tribunal/Court : High Court
Coram : Lai Siu Chiu J
Counsel Name(s) : Michael Chia Peng Chuang and Yong Boon On (Tan Kok Quan Partnership) for the plaintiff; Lee Mun Hooi and Wong Nan Shee (Lee Mun Hooi and Co) for the defendant
Parties : Soon Li Heng Civil Engineering Pte Ltd — Woon Contractors Pte Ltd

Building and Construction Law – Sub-contracts – Claims by sub-contractor – Defendant main contractor refusing to pay plaintiff sub-contractor on ground that plaintiff breached terms of subcontract – Whether plaintiff carried out works in accordance with terms of contract – Whether defendant could withhold payment when subcontract was on "back-to-back" basis with main contract and defendant had already been paid by employer for work done by plaintiff

Building and Construction Law – Sub-contracts – Compensation for delays – Whether plaintiff completed works on time – Whether defendant ought to be compensated for alleged expenses and costs incurred as a result of delay

Civil Procedure – Experts – Defendant engaging expert witness in support of its claim – Whether tests carried out by expert reliable – Whether expert exercised independent judgment – Expert's duty to court – Order 40A Rules 2 and 3 Rules of Court (Cap 322, R 5, 2004 Rev Ed)

18 February 2005

Judgment reserved.

Lai Siu Chiu J:

The facts

1 Soon Li Heng Civil Engineering Pte Ltd ("the plaintiff") is a Singapore company engaged in civil engineering works. Woon Contractors Pte Ltd ("the defendant") is a construction company that does building works for, *inter alia*, the Housing and Development Board ("the HDB" or "the Board"), the statutory body tasked with constructing public flats to house Singaporeans.

2 In January 2002, a company called Chon Hwa Construction Pte Ltd ("Chon Hwa") had successfully tendered from the HDB a contract ("the main contract") for the levelling and construction of Fernvale Street ("the project") in Sengkang, at a lump sum price of \$4,678,000. Sengkang was a new town that the HDB was then developing. Hence, the entire infrastructure for Sengkang had to be constructed by the HDB from scratch, including roads, one of which was to be Fernvale Street.

3 The civil engineering works for the project were in two parts:

- (a) major infrastructure consisting of construction of the roads, drains and culverts;
- (b) earthworks.

In the Form of Tender of the HDB that Chon Hwa signed, the company was required to furnish a

breakdown of its tender price. Chon Hwa apportioned \$1,622,800 of its tender price to the earthworks part of the project. The Form of Tender also particularised what was required to be done for the civil engineering works involved in both parts of the project.

4 Due to cash-flow problems, Chon Hwa was unable to complete the project. Consequently, it proposed to the HDB that the defendant take over the main contract. The HDB agreed, and on 30 January 2003, a novation agreement ("the novation agreement") was signed between Chon Hwa, the defendant and the HDB. The defendant immediately sub-contracted the earthworks portion of the project to the plaintiff, by a letter of award dated 30 January 2003 ("the sub-contract") for \$1,050,000 ("the contract price"), excluding goods and services tax ("GST"). The plaintiff's director, Ong Gin Giap ("Ong"), signed and returned the sub-contract to the defendant on 5 February 2003. The sub-contract set out the terms of the plaintiff's engagement, including, *inter alia*, the scope of works, the defects liability period and (under cl 2.2), that the sub-contract was on a back-to-back basis against all the requirements in the main contract. Under cl 3.1, the contract period was stated to be 1 February 2003 to 18 June 2003.

5 By a letter dated 17 February 2003 to the defendant, the plaintiff set out its method of excavation of earthworks in writing ("the method statement"). The area to be excavated by the plaintiff was described as "site X" in a drawing provided by the HDB numbered HB20001-CE-37238 ("the drawing"). In essence, what the plaintiff was required to do was to excavate site X to a depth of 5m and use earth excavated by the defendant from Fernvale Street to backfill site X, up to a platform level stipulated by the HDB. It was the defendant's responsibility to transport excavated soil from Fernvale Street for use as backfill. The defendant adopted the plaintiff's method statement in its own letter dated 15 February 2003 to the HDB.

6 It was not disputed that when the plaintiff took over the earthworks portion of the project, site X contained a stockpile of earth that had been left behind by Chon Hwa ("Chon Hwa's stockpile"). Chon Hwa had also done some excavation and backfilling within an area in site X amounting to about 30% of the earthworks, according to an estimate of the HDB. The defendant instructed the plaintiff to use Chon Hwa's stockpile to backfill site X first before using soil excavated by the defendant and transported from Fernvale Street.

7 Although the contractual date for commencement of works was 1 February 2003, the plaintiff only started work on 20 February 2003. Consequently, the defendant agreed to extend the completion date by two months to 18 August 2003. It was the plaintiff's case (disputed by the defendant) that it completed the works under the sub-contract by 3 July 2003. In any case, the plaintiff wrote to the defendant on 7 July 2003^[1] to request that the latter inform the Board's engineering department that the plaintiff would no longer be sending soft clay (part of the material excavated from site X) to Changi staging ground, of which more will be said later.

8 Prior to 3 July 2003, the plaintiff had received three progress payments totalling \$368,000 from the defendant for the earthworks. On 4 July 2003, the plaintiff made a claim for the balance sum of \$629,550 (excluding GST) but less the retention sum of \$52,500. Despite a demand from the plaintiff's solicitors dated 30 July 2003, the plaintiff was not paid the balance sum at all; the defendant alleged, through its solicitors, that the plaintiff had failed to comply with the terms and conditions of the sub-contract in carrying out the earthworks. The defendant claimed it had to engage another contractor since 5 July 2003 to carry out dumping works as a result of the plaintiff's inability to remove any more soil from site X to approved dumping grounds.

9 On 29 August 2003, the plaintiff's then solicitors gave notice to the defendant's solicitors of an additional claim for \$336,235.50. They asserted that the plaintiff had to do additional work due to

the defendant's stockpiling materials transported from Fernvale Street onto site X at various locations other than those agreed. As a result, the plaintiff had to incur extra cost to remove the excess material to its own dumping ground.

10 On 23 September 2003, the plaintiff's solicitors wrote to the HDB to request for confirmation that the project had been completed and payment had been made to the defendant. This was followed a day later by the plaintiff's own letter to the Ministry of National Development, requesting that the HDB withhold payment to the defendant.

11 On 13 October 2003, the HDB replied to the plaintiff's solicitors to say that as the Board had no privity of contract with the plaintiff, the HDB was unable to furnish any information. The Ministry of National Development was more helpful. In its reply dated 7 November 2003 to the plaintiff's letter of 24 September 2003, the Ministry confirmed that the Board had already paid the defendant for the earthworks.

12 To support its contention that the plaintiff had wrongfully backfilled site X with excavated materials from site X and/or used mixed soil and/or used soil from sources other than Fernvale Street, the defendant (without the prior knowledge and consent of the HDB) engaged a specialist company called Soil & Foundation (Pte) Ltd ("S&F") to carry out soil tests in January and March 2004 at site X, by analysing soil samples from boreholes made at site X. The purpose was to prove that the type of soil used to backfill site X was different from the clean laterite soil that the defendant claimed was to be found at Fernvale Street. However, in a letter dated 12 January 2004 to the plaintiff's solicitors, the HDB stated it did not require the defendant to carry out a soil test as it was "satisfied with the work that was carried out".

The pleadings

13 In the light of the defendant's refusal to pay notwithstanding that it had received payment from the HDB, the plaintiff commenced this suit claiming the sum of \$682,000.

14 The defendant filed a Defence and Counterclaim denying that the plaintiff had completed the earthworks on 3 July 2003 and was entitled to the sum claimed. The defendant alleged (taking into consideration the work already done by Chon Hwa before 30 January 2003) that the plaintiff should have excavated 67,896m³ of materials from and backfilled 74,412m³ at site X. However, the plaintiff only took from Fernvale Street 34,704m³ of soil leaving behind a balance of 39,708m³. The defendant contended that as a result of the plaintiff's failure to take the balance 39,708m³ of soil from Fernvale Street, the defendant could not carry out its work at Fernvale Street and/or its work there was impeded. In consequence, the defendant alleged it incurred various expenses and costs (including liquidated damages) and counterclaimed \$537,681.25.

15 The plaintiff, not unexpectedly, disputed the counterclaim. In its Reply and Defence to the same, the plaintiff disputed the defendant's computation of the total volume of excavated material needed to backfill site X. The plaintiff contended that the defendant's basis of calculation was flawed and unfounded. The plaintiff averred it was not a term of the sub-contract that the plaintiff was to use a specific quantity of excavated material from Fernvale Street to backfill site X. Clause 1.3 of the letter of award only required the use of excavated material from Fernvale Street to backfill site X.

16 The plaintiff disclaimed responsibility for any problems the defendant might have encountered in doing work at Fernvale Street, as that was a contractual matter between the defendant and the HDB. The plaintiff denied it was late in completing the earthworks. The plaintiff asserted it completed the earthworks on 3 July 2003, well before the extended completion date of 18 August 2003.

The evidence

17 I had advised counsel at the outset that I would only determine liability for the trial. However, assessment of damages would be unnecessary should I find for the plaintiff on its claim (but not for the defendant on the counterclaim) as counsel for the defendant informed the court that his client only disputed liability and not the quantum of the plaintiff's claim. Neither did the defendant dispute that it had received payment from the HDB for the plaintiff's claim. The seven days' trial saw nine witnesses (including experts) being called to testify.

The plaintiff's case

18 The plaintiff subpoenaed representatives from the HDB as its first two witnesses, *viz*, Yee Yok Meng ("Yee") and Tan Chup Choon ("Tan"), who are both qualified civil engineers.

19 At the material time, Yee was the senior engineer in the HDB's development and procurement division. After the restructuring and corporatisation of the HDB in July 2003, he worked for Surbana Consultants Pte Ltd ("Surbana"), a wholly-owned subsidiary of the HDB incorporated to continue the work previously handled by its building and development division.

20 Yee was the design engineer as well as the supervisor for the project, even after Surbana took over the project in July 2003. Yee had called for tenders for the project and had accepted Chon Hwa's tender. Yee was also the writer of HDB's letter dated 12 January 2004 ([12] above) where he expressed satisfaction with the plaintiff's work. According to Yee, based on his certification, Chon Hwa had done work amounting to 35.3% of the main contract as at 31 October 2003, for which the HDB paid the company \$470,000 for the earthworks portion.

21 Yee testified he had stationed two clerks of work ("COWs") at Fernvale Street and, to have better control of the earthworks when the same were in progress, he had asked the defendant to provide a site office at site X. The COWs had to measure the depth of excavation carried out to ensure that it was the requisite 5m before backfilling by the plaintiff was allowed. The job of the COWs was also to reject the use of inferior soil (including peaty soil) for backfilling purposes. Yee himself visited the site two to three times a week to check the work in progress. Yee indicated he had no objections to the defendant's method of excavation (which, as pointed out earlier in [5], was described in the method statement of the plaintiff). Yee said he had no records of complaints being received from the COWs that the plaintiff used inferior soil for backfilling.

22 Yee revealed that instead of sending the excavated soil from Fernvale Street to site X, the defendant had, on one or two occasions, stockpiled it on top of the slopes which the defendant had cut at Fernvale Street, as well as on the southern carriageway of the street. There was a danger the stockpiled soil could cause earth to slip from the existing slopes. There were separate complaints from the Land Transport Authority and the public bus company on the obstruction caused to the Light Rapid Transit station by the defendant's stockpile on the carriageway. Yee had requested the defendant to remove the stockpiled earth in April 2003, either to its own fill ground or to site X. However, these were one-off incidents.

23 Although the defendant's work at Fernvale Street (*not* site X) was slow, Yee rejected its request to be allowed to work on Sundays. However, an extension of time was subsequently granted to the defendant by Yee's colleague, Tan.

24 In the course of Yee's testimony, counsel for the plaintiff produced photographs of Fernvale Street and of site X^[2], showing the various stages of work at both sites. Not to be outdone, the

defendant similarly produced photographs of site X as well as of soil samples taken from the site. Some photographs of the defendant corresponded with those of the plaintiff. Yee identified from the plaintiff's photographs soft and/or blackish material excavated from Fernvale Street that was unsuitable for road construction. Yee refuted the defendant's claim that excavation from Fernvale Street yielded clean laterite soil for backfilling site X. The soil at Fernvale Street was not uniform throughout. However, so long as the excavated soil did not consist of big boulders, timber, sand, marine clay and was not peaty, Yee said the HDB allowed it to be used as backfill at site X, even if it was not clean laterite soil.

25 If the excavated soil from Fernvale Street had been insufficient to backfill site X, Yee said the HDB would have been prepared to allow the plaintiff to import soil from its own sources. The plaintiff made no such request as the excavated soil from Fernvale Street more than sufficed for the purpose. Indeed, in June 2003, Yee stopped the plaintiff and/or the defendant from taking any more soil from Fernvale Street because too much of the same was stockpiled at site X. More excavated soil than what had been anticipated by the HDB was accumulated, due to the defendant's excavations for the construction of 5m wide drains and the cutting of slopes at Fernvale Street.

26 Under cross-examination, Yee revealed that site X had been earmarked for construction of HDB flats. The area (about two hectares) had previously been a dumping ground and the Board was alerted by its soil investigation contractor that the site contained timber, spare tyres, boulders, etc, which debris would have hindered piling and the construction of pile caps. Hence, the Board decided to first remove the unwanted materials, and deferred its construction programme. Instead, the HDB engaged another contractor to turf the area after the plaintiff had completed the earthworks.

27 A significant aspect of Yee's testimony revealed that the HDB recorded the quantity of earth that was transported from Fernvale Street to site X, but not the amount of soil excavated from site X. Yee explained that the latter figure was unimportant since the soil was to be removed from site X anyway, whereas the HDB needed to know, purely for purposes of payment, the quantity of soil excavated and transported from Fernvale Street. The novation agreement required HDB to pay the defendant (on a monthly basis) for soil transported to site X from Fernvale Street, based on 6m³ of soil per ten-tonne lorry load. Yee emphasised that 6m³ per lorry load was a conservative estimate used to effect payment; the lorry loads were not actually measured. Measurements were unnecessary because the main contract was a lump sum contract. At the end of every month, one of the two COWs would carry out site measurements with the defendant's site engineer, Anwar bin Manap, to estimate the value of the work done for that month.

28 Yee also testified that backfilling must take into account compaction and bulking factors. In other words, although the area backfilled by the plaintiff was agreed to be 118,348m³, that did not mean 118,348m³ of soil was actually needed for backfilling. Less soil was required due to the bulking effect of excavated soil. Yee was, however, unable to offer a percentage for the reduction in volume as it depended on the degree of compaction applied to the soil by rollers in the course of backfilling, although he opined that a reduction in volume of 30-50% was on the high side.

29 Tan, formerly also from the HDB, gave evidence that he was involved in the project as the supervising engineer from 1 July 2003 onwards. On Surbana's behalf, Tan processed and certified progress payment certificates due to the defendant, which included payments for work done by the plaintiff. Tan had also approved the monthly interim claims submitted by the defendant. He had granted the defendant's application, dated 31 July 2003, for an extension of time based on two factors, viz, inclement weather and additional works being required due to a wider road reserve at Fernvale Street; he rejected the other reasons relied on by the defendant for extensions of time. Further, Tan had granted, on behalf of the HDB, an additional *ex-gratia* extension of 33 days to the

defendant, by Surbana's Certificate of Substantial Completion dated 12 November 2003. As a result, no liquidated damages were ultimately payable by the defendant as the completion date was extended to 30 September 2003.

30 Tan similarly approved the Final Account Certificate issued by Surbana on behalf of the HDB, dated 24 March 2004, for the final balance sum of \$20,052.60, based on the contract price of \$4,614,052.60. Tan handed the certificate to the HDB but did not know whether the defendant was paid thereon (which it was).

31 Ong^[3], who had personally supervised the earthworks for the plaintiff (save for a period when he was on compassionate leave), testified that he took photographs^[4] of site X between March and May 2003. The photographs showed, *inter alia*:

- (a) excavations up to 5m deep in site X;
- (b) the type of soil transported to site X from Fernvale Street;
- (c) the excavated area in site X waiting for inspection by representatives of the HDB prior to backfilling;
- (d) the area next to site X designated by the HDB for stockpiling of excavated unwanted material prior to removal to an approved dumping ground;
- (e) soil stockpiled at site X by Chon Hwa;
- (f) an area in site X which had been cleared of unwanted materials; and
- (g) a breaker machine used to break the stones and boulders into smaller pieces.

32 Ong, who was cross-examined *in extenso*, complained that because the defendant had transported soil to site X before he was of the opinion that direct backfilling could proceed, the plaintiff had to do extra work in stockpiling the transported soil and thereby incurred extra costs. Ong said he could not verify that the defendant's soil for backfilling came from Fernvale Street. He could only rely on the dockets handed to the plaintiff's representatives by drivers of the lorries that transported the soil. Moreover, the dockets merely recorded that the lorries came from Fernvale Street but *not* the quantity of soil loaded on each lorry.

33 Save for two occasions when the plaintiff inadvertently mixed imported soil for backfilling with unwanted material (left to dry at site X prior to removal), Ong denied the plaintiff used unwanted material excavated from site X to backfill the site again.

34 Ong explained the *modus operandi* of the plaintiff in carrying out the earthworks at site X – the plaintiff would excavate an area of about 20m–25m wide and 5m deep and wait for the defendant's engineer to verify the depth before requesting the COW to check. It was only after the COW was satisfied with the depth excavated that the plaintiff would proceed to backfill, using Chon Hwa's stockpile and the defendant's transported soil. Ong estimated that Chon Hwa's stockpile approximated 2,000 to 3,000 lorry loads.

35 Ong was questioned on a letter dated 29 August 2003^[5] written by the plaintiff's previous solicitors to the defendant's solicitors. The relevant portion reads:

We are further instructed that our clients had to carry out additional work as a result of your

clients stockpiling from other sites onto Site 'X' material not envisaged under the agreement. In addition and as a result of the stockpiling by your clients, our clients had to tip excess material from Site 'X' to our client's own dumping ground. The particulars of our client's claim are as follows:-

a) Removal of material stockpiled on
Site 'X'
5,874 loads x 7.5m³ x \$6.10 per m³ = \$268,735.50

b) Removal of excessive material
from Site 'X' to dumping ground
15,000m³ x \$4.50 per m³ = \$67,500.00

\$336,235.50

I note at this juncture that the sum of \$336,235.50 does not form part of the plaintiff's present claim. Ong explained under cross-examination that he preferred to focus on recovering his money under the sub-contract before pursuing this additional claim.

36 The above figure of 5,874 loads came from the defendant's letter to the plaintiff dated 12 June 2003^[6]. In that letter, the defendant had alleged that 119,480m³ of soil was required to backfill site X, and Chon Hwa had completed backfilling 31,898m³ to leave a balance of 87,582m³ to be backfilled by the plaintiff. The defendant then alleged that only 5,874 loads of soil, equivalent to 37,596m³, had been transported from Fernvale Street to site X, whilst Chon Hwa's stockpile approximated 12,000m³.

37 Ong testified he did not accept the defendant's figure of 5,874 as accurate, but his previous solicitors had used the same in their computation as the plaintiff did not have its own records of the lorry loads. However, the plaintiff's progress claims were based on its own estimates of the amount of work it had completed.

38 Counsel for the defendant sought to make use of the plaintiff's figures as well as the defendant's to prove there was a shortfall in backfilling. Ong explained that the defendant's figures were used by the plaintiff purely to claim for additional works. Under the method statement of the plaintiff, its responsibility was to use stockpiled soil from areas A and C to backfill area B (all at site X). The defendant, however, stockpiled soil in all three areas. It caused obstruction to the plaintiff's work and Ong had to employ more manpower, excavators and bulldozers to expedite the work and reduce the stockpile. Hence, the plaintiff's claim for additional work by its solicitors' letter dated 29 August 2003.

39 According to the plaintiff's progress claim dated 2 June 2000^[7], as at 31 May 2003, 80.37% of the earthworks had been completed. Cross-examined on the source of the soil for backfilling the remaining 19.63%, Ong said it came from Chon Hwa's stockpile as well as the defendant's stockpile at area C, as shown in a photograph^[8] he had taken in June 2003, by which time the HDB had stopped the defendant from delivering soil to site X.

40 Mr Lee, counsel for the defendant, cross-examined Ong at length on the plaintiff's source of soil to complete the balance of the earthworks. Mr Lee used in his calculations the figures given by Yee, the defendant's figures as adopted by the plaintiff in its claim for additional work, and the assumption that each lorry load carried 7.5m³ of soil. Ong, on his part, would not accept Mr Lee's computations and denied that the plaintiff used unwanted materials for backfilling in any way,

whether mixed with, or in lieu of, the soil from Fernvale Street. Ong noted that the defendant's figures kept changing. He clarified that the plaintiff removed all excavated material from site X, even black soil. At the same time, the plaintiff used all the soil delivered from Fernvale Street for backfilling, even though some was unsuitable. Hence, on 4 June 2003, Ong had complained to the defendant that the soil from Fernvale Street contained stones and roots of trees, all of which had to be removed before the soil could be used as backfill, thus incurring additional costs for the plaintiff. The defendant's excessive stockpile of soil at site X was another source of complaint. Whilst he was aware that debris and timber could not be used, Ong said he had no knowledge of the colour or quality requirements of the soil to be used for backfilling.

41 Questioned why he requested the defendant to apply to the HDB for permission to work on Sundays (which request was rejected) if the plaintiff's work was not in delay, Ong explained that he wanted to help expedite the defendant's work. The sooner the plaintiff completed its work, the sooner the defendant could stockpile soil at site X. Ong had agreed at a meeting on 17 April 2003 to help the defendant for one month to resolve its stockpiling problem (in exchange for an extension of time to complete the earthworks). The plaintiff had agreed to provide lorries to transport 1,500 loads of soil from Fernvale Street to site X, weather permitting.

42 Ong's attention was drawn to letters wherein the defendant alleged the plaintiff worked late (after 6.00pm) against the HDB's instructions. Ong explained that this was soon after the plaintiff had commenced the earthworks. In February and March 2003, the plaintiff was not shown and was not aware of the HDB's specifications on hours of work. In any case, the plaintiff's personnel worked just slightly past 6.00pm. (I should add that when the defendant's quantity surveyor was in the stand, he contradicted the defendant's case by saying the HDB had verbally agreed to extend working hours to between 6.00pm and 7.00pm). Ong also pointed out that the fact the plaintiff did not reply to each and every letter from the defendant did not necessarily mean that he admitted every allegation made against the plaintiff, including that of delay. This particularly applied to issues relating to Fernvale Street, which contract was not the plaintiff's responsibility.

43 Another tack counsel for the defendant used to support the defendant's claim that the plaintiff did not remove excavated soil from site X was to demand proof of dumping at approved dumping sites. Ong explained that as the defendant was the main contractor, it was the defendant, not the plaintiff, who was the applicant for a dumping ground permit; the defendant invoiced the plaintiff for use of Changi staging ground. Ong's evidence was supported by a letter to the defendant from the HDB dated 11 March 2003^[9], granting approval for Changi staging ground to be used for dumping good earth and soft clay.

44 Questioned on the alleged paucity of invoices (save for the few produced in court by the defendant), Ong explain that each time excavated soil from site X was transported to the dumping ground, the HDB would issue a docket. The Board would keep a copy while the defendant retained the plaintiff's copy. Further, as the defendant took over the project at such short notice, there was insufficient time to apply for a dumping permit; it took about one and a half months to process the formalities. Consequently, the defendant requested the plaintiff to use its own dumping permit from other projects to dispose of unwanted materials. Hence, the plaintiff used dumping permits from its Singapore Management University ("SMU") and Kallang/Paya Lebar Expressway ("Expressway") projects, to dump excavated material from site X at Changi staging ground. In any case, not all the excavated material (save for black earth and soft clay) went to Changi staging ground. Sand was sold. The plaintiff also separated stone and timber from the excavated material and sent the items elsewhere, whilst flammable material like rubber and plastic went to approved dumping yards.

45 In fairness, I should point out that Ong, after being given time, did produce a bundle of

invoices^[10] issued to the plaintiff for dumping at Changi staging ground, using permits of its SMU and Expressway projects. The invoices included those issued by other contractors who were engaged by the plaintiff to remove the excavated material from site X. I had indicated to counsel for the plaintiff that his client only needed to satisfy me on a balance of probabilities, that more soil was dumped at Changi staging ground than what was shown in the invoices issued by the defendant to the plaintiff^[11]. The plaintiff also produced payment vouchers made in May 2003 of salaries being paid to lorry drivers who transported material from site X to Changi staging ground.

46 Questioned why the plaintiff did not conduct a soil investigation report to counter the reports of S&F, Ong explained that soil investigation would only be useful if the HDB was a witness to boreholes made by a licensed surveyor. The plaintiff had written to the HDB who had indicated that it was satisfied with the plaintiff's work and did not require a soil investigation to be conducted.

47 Both parties called quantity surveyors as witnesses. The plaintiff's witness, Chng Heng Chong ("Chng"), criticised the following figures of the defendant as not being genuine calculations supported by any documents or evidence:

- (a) excavation work of 32,569m³ by Chon Hwa;
- (b) backfilling of 31,893m³ done by Chon Hwa at site X;
- (c) Chon Hwa's stockpile of 13,047m³.

Based on his workings, Chng^[12] opined that the estimated volume of excavation at site X would be 100,465m³ while the volume required for backfilling was 118,348m³. He arrived at a theoretical shortfall of 26,391m³ for the soil taken from Fernvale Street for backfilling. Chng explained that by "theoretical", he meant he based his calculations on information given as regards standard measurements. However, some quantities were not net quantities but based on lorry loads and he had not taken into account that excavated soil, in general, has a bulk increase factor, according to textbooks, of 30%–35%.

48 The second expert witness of the plaintiff was Allan Poh Chen Seng ("Poh"), a professional engineer who rendered two reports dated 13 July 2004 ("the first report") and 13 August 2004 ("the second report") on the soil tests conducted by S&F.

49 In the first report, Poh^[13] criticised the locations of the boreholes made by S&F as selective in nature. He observed that there were only two boreholes, *viz*, BH1 and BH2, at a distance of about 25m apart and very close to area B. Area B was the approved area of backfilling with Chon Hwa's stockpile. As the total length of site X measures about 280m, at least six boreholes should have been dug in order to establish the general properties of the soil used as backfill by the plaintiff. The locations of the boreholes were not representative of the whole site.

50 Poh observed that although frequent reference was made by S&F in their reports to "the approved backfilled materials", there were no references or source documents to support this description. Further, there was no mention of the methods and means whereby this term was applied in relation to the location, number and spacing of boreholes. In addition, two boreholes were too few to be able to allow generalisation of the general properties of the soil underneath them.

51 Poh noted that S&F's particle size analysis of the soil revealed the same to be gravelly silty sand. However, the results of the soil analysis of three samples from borehole BH2 should more appropriately be described as gravelly silty sand, and not gravelly sandy silt. The shear strength

analysis of gravelly silty sand showed it had a safe bearing capacity of more than 100 kN/m². He opined that, as the soil samples from both boreholes BH1 and BH2 carried the same description for classification purposes, it could be concluded that the boreholes were backfilled with materials of the same source. Even if the two boreholes did not contain soil of the same description, it did not mean that the soil was not from the same source as soil types can vary quite drastically even within a small area.

52 Poh referred to photographs he had taken of the soil samples from both boreholes. They showed the soil to be of fairly good quality, save for those samples taken at depths of 5.5m to 6.5m for BH1, and at 4.5m to 5.5m at BH2. He noted that samples UD1 and UD2 showed materials that appeared to have been mixed with some greyish soil. The borehole for these samples was in area B where Chon Hwa's stockpile was located. Poh's photographs showed that the backfill material was of a higher quality than the original soil on site X, which was greyish at depths greater than 5m.

53 In the second report, Poh criticised S&F on the second soil test results dated 1 March 2004. He noted that although S&F added five new boreholes (BH3–BH7) to the previous two, the same were concentrated around certain areas, so much so that all seven formed an L-shaped band. Further, BH3, BH4 and BH7 were very near to BH1 and BH2. In addition, soil from only one borehole was taken from the source material site; this cannot be conclusive or representative of the material from Fernvale Street.

54 Cross-examined, Poh opined that soil investigation was unnecessary for a backfilling job, particularly where, as in this case, there was supervision by the HDB. He would not have recommended soil investigation to the plaintiff. In any case, soil investigation would only help to ascertain the soil properties to a certain extent.

55 Poh's attention was drawn to the second report of S&F, which showed that five additional boreholes had been made. Although he was satisfied with the number, Poh pointed out that they were not spread out, as BH3, BH4 and BH7 were clustered with BH1 and BH2, although BH5 and BH6 were quite a distance away.

The defendant's case

56 The defendant's director, Leow Boon Cher ("Leow"), was a witness. So, too, was a director from CK Supplies & Services Pte Ltd ("CK Supplies"), which sub-contractor the defendant claimed it engaged to complete the plaintiff's earthworks. The defendant's other two witnesses were its quantity surveyor and a representative from S&F.

57 Leow^[14] was criticised in the plaintiff's closing submissions as an unreliable and untruthful witness. Until cross-examined, Leow did not disclose that the defendant's quantity surveyor, Ong Yong Hock ("Yong Hock"), was his brother-in-law. Although he claimed he visited the site once or twice a week, it was obvious that Leow did not supervise the works at Fernvale Street, let alone at site X. Indeed, while the defendant had site representatives stationed at Fernvale Street, there were none at site X. The defendant's two foremen and a site engineer would only periodically visit site X, yet Leow relied on his site staff and the COWs for feedback on site X.

58 Cross-examined, Leow revealed that although the HDB imposed a deadline of 18 June 2003 for the completion of the earthworks by the plaintiff, the defendant did not give the plaintiff any work programme to follow save for a drawing, even though the defendant proposed a work programme to the HDB on 18 February 2003. He did not, and his quantity surveyor could not, offer an explanation why the plaintiff was not given a work programme to follow, if indeed the defendant's schedule of

works at Fernvale Street was so important. Further, even though the HDB had requested the defendant to furnish a bank guarantee for \$68,600 as security for using the Changi staging ground, Leow said he asked the plaintiff to provide the guarantee, claiming (contrary to the approval from the HDB) that it related to dumping from site X, not Fernvale Street. Leow denied that this was because the defendant was unable to provide the guarantee (which it eventually did through Asia Insurance Co Ltd). I should point out that the converse suggestion of the plaintiff's financial inability to provide the guarantee was put to Ong by counsel for the defendant. Leow maintained his stand, even though the subsequent written undertaking that the defendant gave to the HDB on 16 May 2003 stated that the security requested related to dumping from Fernvale Street, not site X.

59 On the dockets issue, counsel for the plaintiff informed the court that Leow had, on the defendant's behalf, filed a list of documents in which he deposed that the defendant did not have dockets after November 2002 because no earth was transported from Fernvale Street to site X after that date. Questioned, Leow could not explain why the defendant's dockets, which were in the plaintiff's possession, appeared to show seven lorry loads of soil transported over an interval of three days. It turned out from further questioning of Leow, that the lorry drivers who transported earth from Fernvale Street to site X used more than one book of dockets. The dockets were, therefore, of little assistance in ascertaining the total number of lorry loads used to transport soil to site X.

60 Yong Hock, the defendant's quantity surveyor, was the draftsman of the sub-contract. He was also in charge of processing progress payments to the plaintiff. Yong Hock had exhibited [15] in his affidavit a summary of the records of earth transported by Chon Hwa from Fernvale Street to site X. Relying purely on correspondence between the parties dated 31 March 2003 to 6 June 2003, Yong Hock [16] deposed, without more, that the plaintiff had used excavated material from site X, mixed it with earth transported from Fernvale Street to do backfilling, and thereby breached the sub-contract. He relied on the soil reports of S&F, as well as the defendant's contract with CK Supplies dated 5 July 2003 in the amount of \$300,000, to support the defendant's counterclaim for liquidated damages which Yong Hock quantified at \$537,681.25. Some of the photographs of the conditions at site X produced in court [17] were taken by Yong Hock. However, he admitted he had no personal knowledge of how site X was excavated, nor of the complaints he relied on for his allegation that the plaintiff had mixed excavated material with Fernvale Street soil to do the backfilling.

61 In cross-examination, Yong Hock's attention was drawn to cl 2.2 of the sub-contract which stipulated that the document was on a back-to-back basis with the main contract. Yong Hock interpreted this clause to mean that the plaintiff was obliged to comply with the HDB's work requirements under the main contract, not that the plaintiff was entitled to be paid in turn if the defendant was paid for the plaintiff's work. However, he agreed that the soil excavated from Fernvale Street exceeded what was required to backfill site X.

62 Yong Hock admitted he was aware, when he filed his affidavit of evidence-in-chief on 3 August 2004, that the HDB had waived its claim for liquidated damages due to the extension of time granted by Tan. Questioned why he did not in turn withdraw the defendant's counterclaim for \$37,000 liquidated damages against the plaintiff, Yong Hock claimed that he *overlooked* it.

63 As for Tan Ah Her [18], a director from the defendant's sub-contractor, CK Supplies, he exhibited in his affidavit a copy of the letter of award dated 5 July 2003 from the defendant in the sum of \$300,000. The document bore the heading "Subcontract For Earthworks At 5m Wide Temporary Drain" and cl 1.1 relating to the scope of works stated the following:

The scope of work in this Subcontract shall include but not [be] limited to the provision of all necessary labour, driver, lorry including fuel, dumping charges, costs and expenses incurred for

removal and disposal of the excavated earth derived from construction of 5 m Wide Temporary Drain to the proposed **Fernvale Street** based on the topographical survey drawing No. **A2/HA61/E/2003/01** for the existing ground level and Drawing No. **HB. 2001-CE-36912** for the 5 m wide Temporary Drain.

It is noteworthy that CK Supplies' letter of award was dated 5 July 2003, after the date the plaintiff claimed it had completed the sub-contract (3 July 2003) and after the date the HDB stopped transport of soil from Fernvale Street by the defendant because of the amount of soil already stockpiled at the site X by both Chon Hwa and the defendant (4 June 2003).

64 Moe Sein ("Moe") was the geologist who carried out the soil analysis of samples from the boreholes and prepared the two reports for S&F. Moe's testimony (besides his credentials) was heavily criticised by the plaintiff in its closing submissions as being blatantly biased in the defendant's favour, lacking the objectivity required under O 40A of the Rules of Court (Cap 322, R 5, 2004 Rev Ed) and reiterated by the court in *Vita Health Laboratories Pte Ltd v Pang Seng Meng* [2004] 4 SLR 162 at [85] and [86].

65 Moe's first report dated January 2004 centred on boreholes BH1 and BH2. The location of BH1 outside the boundary lines of the roadwork at Fernvale Street was alleged by the plaintiff to be selective, to prove that soil from Fernvale Street was clean laterite. I agreed with the plaintiff that soil from BH1 cannot be representative of the various types of soil to be found at Fernvale Street. The boreholes BH1 and BH2 were selected by the defendant and the soil samples therefrom were not collected by Moe.^[19] Indeed, there was no evidence who collected the samples and whether the samples came from within the boundary of site X.

66 The plaintiff also pointed to an inconsistency in Moe's testimony. Initially, he had testified that boreholes BH1 and BH2, for the first tests done in January 2004, indicated the soil types of the backfill material. He retracted this evidence during cross-examination. Although Moe made frequent reference in the first S&F report to "approved source area of FILL materials", he did not state what type or quality of soil comprised the approved source materials.

67 For the second S&F report dated March 2004, Moe again did not collect the soil samples. He was also not aware who had marked the location of the boreholes on the site plan^[20] attached to this report. However, he did state the type of material that was found in the source area, *viz*, soil of the type found in borehole BH1 taken from Fernvale Street. This meant he was asked to compare the borehole samples with (red) laterite soil from Fernvale Street.

68 Yet another valid criticism levelled against Moe was that the spot levels were not determined before samples were collected from the boreholes. This meant some of the borehole samples could have been taken from depths beyond 5m. Indeed, when Moe was referred to samples taken from BH2, he confirmed that they were drawn from depths of 5.5m to 6.5m and were from the original soil of site X.

The findings

69 It would be appropriate at this juncture to set out the scope of works for the earthworks as defined in Part B of the Form of Tender ([3] above) signed by Chon Hwa. It stated:

- (i) To excavate, remove and dispose of earth, stones, tree trunks, debris etc buried below ground in Site 'X' as shown in Drawing No.: HB 2001-CE-37238 to an approved dumping ground complying with the requirements of the Ministry of Environment and other competent authorities

or to Contractor's own fill site.

(ii) To load & transport the excavated materials from Fernvale Street and fill the excavated materials within the contract boundaries at Site 'X' to the proposed platform level as shown in Drawing No.: HB 2001-CE-37238 including levelling and compaction with 10 tonnes rollers, forming of embankments, dewatering and all related works as specified in the above drawings.

Yee had clarified that the "proposed platform level" in (ii) above meant a height of 107.7m. It is noteworthy that no quantities or volume of material *to be excavated from* site X or Fernvale Street *or to be backfilled* at site X were specified.

70 It would also be appropriate to refer to the relevant terms of the sub-contract at this juncture; they are:

1.2 The Subcontractor shall excavate, remove and dispose of earth, stones, tree trunks, debris etc. buried below the ground in Site 'X' to an approved dumping ground complying with the requirements of the Ministry of the Environment and other competent authorities or to Subcontractor's own fill site. No illegal dumping shall be allowed and any fine imposed in connection therein shall be borne by the Subcontractor.

1.3 The Subcontractor shall use the excavated materials from **Fernvale Street** to backfill the Site 'X' to the proposed platform level as shown in **Drawing No. HB2001-CE-37238** including levelling and compaction with 10-tonnes rollers, forming of embankments, dewatering and all related works as specified in the above drawings.

2.2 The basis of contract shall be taken to be a back-to-back basis against the entire requirements in the main contract documents.

3.1 The Subcontractor shall execute the Works consistently, expeditiously, in safe manner to complete the works within Four & Half (4.5) [Calendar] Months from the date of the Contract Commencement Date: 1 February 2003 to 18 June 2003.

4.1 Payments shall be made progressively in relation to work done that are completed in accordance with the Specifications and Drawings as well as to the satisfaction of the Superintending Officer and his representative.

14.1 Liquidated and ascertained damages will be as specified in the Main Contract.

71 In the HDB's supplementary specifications issued to the defendant for the main contract, the scope of contract under cl 7.3 included the following:

(d) the complete removal of debris from Site 'X' and earth filling to the proposed platform levels within the contract boundaries.

Unlike the Form of Tender submitted by Chon Hwa (see [69] above), there was no obligation on the defendant's part to remove *earth* as opposed to *debris*, from site X.

72 Counsel for the defendant made much of the fact that when cross-examined, Ong had agreed that the plaintiff should not be paid if:

(a) it did not excavate and remove all excavated material from site X;

- (b) it did not backfill site X with soil from Fernvale Street;
- (c) it mixed excavated materials with soil from Fernvale Street or Chon Hwa's stockpile for the backfill.

Counsel then asserted that the plaintiff could not have carried out the earthworks without mixing excavated material with Fernvale Street soil, as the plaintiff could not account for 3,159.6 lorry loads or 23,697m³ of soil not taken, based on the following calculations:

Agreed volume to be backfilled at site X:	118,348m ³
Less:	
(a) backfill done by Chon Hwa (as confirmed by Yee)	31,846m ³
(b) Chon Hwa's stockpile	18,750m ³
(c) earth taken by plaintiff from Fernvale Street at 5,874 loads x 7.5m ³ (<i>per</i> plaintiff's solicitors' letter dated 29 August 2003)	<u>44,055m³</u> <u>94,651m³</u>
	<u>23,697m³</u>

73 The above calculations (as the plaintiff's final submissions repeatedly pointed out) were theoretical figures that were never proved or agreed, save for the figure 118,348m³. No representative from Chon Hwa testified on the accuracy of the figures in sub-paras (a) and (b) of [72] above. Ong, on the other hand, had testified that he did not accept the defendant's estimate of 5,874 loads and that his solicitors had used the figure 44,055m³ in their letter of 29 August 2003[21] purely as a basis for the plaintiff's claim for additional work (\$366,235), which was not part of this claim. The figure of 5,874 loads was not corroborated by lorry dockets.

74 The defendant's entire closing submissions focused on the alleged shortfall of 23,697m³ of soil used in backfilling by the plaintiff. The defendant's calculations were inaccurate and their submissions were flawed as their counsel overlooked several significant factors, viz:

- (a) The defendant's calculations were based on Yee's testimony that the HDB assumed each ten-tonne lorry transported 6m³ of soil out from Fernvale Street for purposes of paying the defendant periodically. Yong Hock had used the same estimate and testified 6m³ of soil translated to lorries with ten tonnes unladen, or 26 tonnes laden, weights. Yong Hock claimed that using 6m³ as a yardstick was "a common practice". This common practice was not substantiated by any evidence. When Ong was questioned, he said the defendant used 26-tonne lorries as transport. No mention was made whether his figure related to laden or unladen weights. If Ong meant unladen weights, then each lorry load would have carried 15,240.60m³ to 16,256.64m³ of soil (at 1,000kg x 15 [or 16] x 1.01604). That would mean more than 44,055m³ of soil was transported from Fernvale Street to site X. I should add that the defendant did not know the actual size the lorries used to transport soil to site X. Indeed Yong Hock admitted he did not know as the lorries were not the defendant's but hired.
- (b) There was a bulking factor for excavated soil which Yee, the plaintiff's expert (Chng)

and Yong Hock, the defendant's quantity surveyor, testified would reduce the quantity of soil required for backfilling. Chng had estimated it could be by as much as 30–35%. Assuming the defendant's figure of 94,651m³ is accurate, a 30% bulk-increase factor would reduce the amount of backfill required by 28,395.3m³ to 66,255.7m³. The defendant's figure of 23,697m³ is equivalent to 25% of 94,651m³.

(c) The density of the soil varied with the depth, type of and amount of moisture in the soil, according to the soil reports of S&F, and confirmed by Yong Hock in cross-examination.

(d) It was Yee's testimony (which the defendant did not challenge either) that 86,502m³ was the balance capacity which the plaintiff had to backfill, *not* 94,651m³.

(e) The area to be excavated at site X was *not* 118,348m³ but 100,465m³, according to Yee.

(f) Ong did not accept 5,874 as the correct number of loads. He had testified that he had no means of verifying the figure as the defendant kept all the dockets for the lorries that transported soil to site X from Fernvale Street.

(g) The sub-contract did not specify the quantity of material to be excavated from site X, the quantity of soil from Fernvale Street to be used as backfill, nor the total quantity of soil to be used as backfill.

75 I would add that the allegations that, first, the plaintiff used mixed soil to backfill and, second, it failed to remove all excavated material from site X were not even part of the defendant's pleaded case. Indeed, cl 1.2 ([70] above) of the sub-contract was not even pleaded in the Defence. The gravamen of the defendant's complaint was that the plaintiff failed to take the balance of the soil from Fernvale Street, as a result of which the defendant could not carry out its work, and/or the work was impeded and delayed.

76 Consequently, I am not prepared to accept any of the figures used by the defendant in its closing submissions and in its correspondence ([36] above) as credible evidence that substantiates the defence nor the two allegations that were not even pleaded. I accept the plaintiff's submission that the figures were not only theoretical but also unreliable.

77 Yong Hock's evidence was that the defendant carried out work at Fernvale Street between 19 June and 30 September 2003, whereas the plaintiff (according to Ong) was at site X between 20 February and 3 July 2003. CK Supplies was contracted to do earthworks at Fernvale Street between 1 July and 31 August 2003. On 1 July 2003, two days before the plaintiff completed its work, the HDB wrote to the defendant [\[22\]](#) under the heading "SLOW PROGRESS" to say a balance of 19% of contract works remained outstanding. The various dates I have referred to show that the delay in the defendant's work cannot be attributed to the plaintiff.

78 As for the veracity of the witnesses, I preferred the testimony of Ong to that of Leow or his brother-in-law, Yong Hock. Neither of the latter were truthful witnesses. Leow was accused (not without basis) by the plaintiff of lying on the disclosure of the dockets relating to transport of soil from Fernvale Street. Leow answered "I don't feel that way" when cross-examined on whether the defendant was not being dishonest in claiming payment from the HDB, and being paid, for the plaintiff's earthworks, if he knew of the plaintiff's mixing of soil. In its closing submissions, the plaintiff described Leow's response as being telling of the defendant as an unscrupulous contractor.

79 Besides Leow, the other witnesses of the defendant suffered from varying degrees of lack of credibility in their testimony. As one instance, I refer to Yong Hock's untruthfulness in relation to the defendant's letter of award to CK Supplies. Although it was clear from the terms thereof ([63] above) that CK Supplies carried out earthworks similar to the plaintiff for the 5m wide temporary drains, Yong Hock insisted the job was only to remove soil from Fernvale Street due to the plaintiff's failure to take soil for backfilling site X. Although CK Supplies' letter of award clearly included a provision for liquidated damages, Yong Hock denied it initially. Confronted with the clause (cl 11.1), Yong Hock lamely explained it had been agreed with CK Supplies that no liquidated damages would be imposed by the defendant as a pre-condition to acceptance of the letter of award; I did not believe him. I would add that Yong Hock's explanation for the defendant's unjustified claim for liquidated damages against the plaintiff was equally unconvincing. Yong Hock's stand was so unreasonable he would not even agree that the cutting of slopes and excavation of drains at Fernvale Street would increase the amount of surplus excavated soil and thereby greatly exceed the quantity needed to backfill site X. Yong Hock had said, as an excuse for the defendant's non-payment to the plaintiff, that he required a warranty from the HDB that the Board would not hold the defendant liable before the defendant would make payment, less the costs the defendant had incurred on the plaintiff's behalf. His excuse is untenable, given that the Board has shown acceptance in writing, and by payment, of the plaintiff's performance and at law, the Board would find it difficult, if not impossible, to do an about-turn.

The decision

80 The only issue for determination is, did the plaintiff carry out the earthworks in accordance with cl 1.3 of the sub-contract?

81 On the one hand, the defendant alleged the plaintiff had breached cl 1.3 of the sub-contract. The plaintiff, on the other hand, contended it had completed the contracted earthworks: it had removed all excavated soil from site X to Changi staging ground and other dumping sites and it had backfilled the excavated area with soil transported from Fernvale Street. The plaintiff denied it had backfilled using soil from Fernvale Street mixed with excavated material from site X. The plaintiff's stand was supported by the testimony of Yee from the HDB whilst Tan, formerly also from the HDB, confirmed that the defendant had been paid in full for the earthworks done by the plaintiff.

82 There is no reason why I should not accept Yee's testimony as objective and true. He was subpoenaed to attend court by the plaintiff and had no reason to favour the plaintiff over the defendant. Yee's evidence established the following:

- (a) the primary objective of the sub-contract was to remove unwanted material from site X, which was a former dumping ground;
- (b) excavated material from Fernvale Street contained not only clean laterite soil but other types of soil, including silty clay and peaty soil (as shown in the photographs Yee took);
- (c) the HDB was prepared to allow as backfill at site X any soil, even if it was not clean laterite, so long as it was not black earth, and soft clay, and boulders, stones and other debris had been removed therefrom;
- (d) the HDB had no records of complaints (save for one or two isolated instances which Ong had explained) of the plaintiff mixing soil from Fernvale Street with excavated material from site X for backfilling;
- (e) the HDB was satisfied with the backfilling done by the plaintiff and had turfed site X

after the plaintiff completed the earthworks on 3 July 2003;

(f) the HDB did not consent to the soil tests carried out by S&F and did not require the plaintiff to conduct any soil tests;

(g) the main contract and the sub-contract were lump sum contracts.

83 Counsel for the plaintiff relied on *Hoening v Isaacs* [1952] 2 All ER 176 for his client's entitlement to be paid, which authority was followed in a local case, *Building & Estates Ltd v A M Connor* [1958] MLJ 173. The two authorities held that where there were building defects and omissions, the contractor was still entitled to be paid. What more, when there were no defects and omissions as in this case. The plaintiff relied on the following definition (in para 3.012) from I N Duncan Wallace, *Hudson's Building and Engineering Contracts* vol 1 (Sweet & Maxwell, 11th Ed, 1995) of "fixed price" or "lump sum" contracts for its entitlement to be paid:

These are contracts where a fixed price or prices are quoted for carrying out and completing the work described in the drawings and specification.

84 It bears repeating that mixing of unwanted material from site X with soil from Fernvale Street was not part of the defendant's pleaded case. As for the alleged shortfall in the volume of soil taken from Fernvale Street to backfill site X, it is clear from my earlier analysis (at [74] above) that the defendant has failed to discharge the burden of proof to rebut the contrary evidence adduced from Ong and Yee. In any case, according to Yee, the main contract was a lump sum contract. Hence, measurements or bills of quantities of the earthworks were not relevant to the HDB for purposes of payment. By the same token, neither were quantities relevant nor called for in the sub-contract between the plaintiff and the defendant.

85 As for the soil tests done by S&F, they were unreliable, for the reasons given by Poh (at [49] and [53] above). In its closing submissions, the plaintiff criticised Moe's findings in the two S&F reports, pointing out that his terms of reference for the soil tests were not to compare samples from the approved source material, which he did not define, with those from site X, as he did in his oral testimony. Moe conceded during cross-examination that the purpose of S&F's soil tests (stated under para 1.2 of both S&F reports) was "to establish the soil type and basic engineering properties of the fill materials within the specified site". The Order of Court dated 6 August 2004 had limited Moe's evidence to the two S&F reports. I noted, too, that the photographs Moe relied on in his testimony were taken by Yong Hock. It was also Yong Hock who briefed him on the defendant's requirements. Yet, Yong Hock did not inform Moe of the type of soil that was transported to site X from Fernvale Street.

86 The plaintiff made a pertinent point in its closing submissions. If soil excavated from Fernvale Street had already been used to backfill site X, whatever was left at Fernvale Street cannot be an accurate gauge of the actual soil used by the plaintiff in backfilling. Could that be the reason why Moe was unable to collect soil from borehole BH1? He had explained that it was due to the presence of timber in the sample. No useful purpose would be achieved by conducting soil tests using samples from a borehole the location of which the defendant selected, without any input from Moe and without first having a land surveyor determine the boundary for Fernvale Street. I therefore cannot accept Moe's finding that he took samples of soil from only borehole BH2 at Fernvale Street because the soil was uniform laterally and very homogenous.

87 Moe had revealed that the locations of the boreholes at site X were also determined by the defendant. It was obvious he merely carried out the defendant's instructions without exercising any

independent judgment of his own. Although he was eminently qualified with impressive credentials, it was clear from his oral testimony that Moe did not fulfil the requirements of O 40A rr 2 and 3 of the Rules of Court in discharging his duties as an expert witness. Indeed, he was not even aware of O 40A until told by counsel for the plaintiff, nor did the defendant inform him he would be an expert witness at the time he was appointed. Moe had also accepted that it would have been normal practice to have obtained the HDB's permission (which the defendant did not) to conduct such soil tests.

88 Yet another factor which casts doubt on the reliability of the findings of Moe in the two reports of S&F was the depth to which some of the boreholes were drilled. Soil samples (and photographs thereof) taken from depths of 5.5m to 6.5m would be irrelevant in any event, since the plaintiff's obligation was to excavate and then backfill site X, to a depth of 5m only.

89 Consequently, there is no merit in the defendant's defence. I turn now to the Counterclaim for \$537,681.25. Items 1(i) and (ii) in para 19 of the Counterclaim were for \$20,412 and \$300,000 respectively. The first amount related to the cost of transport and removal charges for 378 loads of earth at \$54 per load from Fernvale Street; the second sum was for the sub-contract awarded to CK Supplies. In the light of my earlier comments (at [74] above) on the defendant's failure to prove its defence and on CK Supplies' sub-contract for \$300,000 (at [79] above), both claims are discredited and dismissed.

90 Item 2 in para 19 of the Counterclaim was for \$37,000 liquidated and ascertained damages imposed by the HDB between 19 June 2003 to 31 August 2003. It was clear from Tan's evidence, and conceded by Yong Hock, that the Board ultimately did not impose liquidated damages on the defendant. Consequently this claim is equally unjustified and is dismissed.

91 Item 3 of para 19 of the Counterclaim was for the cost (\$2,849) of extending the insurance policies of the defendant. The delay in the defendant's work was not caused by the plaintiff according to Yee's testimony ([23] above). Neither could the defendant disprove the plaintiff's contention that it completed the earthworks by 3 July 2003, before the (extended) deadline of 18 August 2003. This claim is again without merit. The remaining items (4 to 7) of the Counterclaim were for consequential expenses, including site expenses, resulting from the plaintiff's alleged delay in completing the sub-contract. It follows from my earlier findings that these claims are also without foundation.

92 It bears remembering that the sub-contract was on a back-to-back basis with the main contract, pursuant to cl 2.2 ([70] above) of the sub-contract. It would be inequitable and an anomaly for the defendant to retain the payment it received in full from the HDB for the earthworks done by the plaintiff and yet be allowed to deny the plaintiff its claim, on the unfounded basis that the plaintiff had failed to backfill site X in accordance with the defendant's own interpretation of the requirement of the sub-contract. More so, when the Board's representative (Yee), in court and in writing, had expressed satisfaction with the plaintiff's performance of the sub-contract. I would add that it was the defendant who was in breach of cl 4.1 of the sub-contract in failing to pay the plaintiff within 3 to 7 days of receipt of payment from the HDB.

Conclusion

93 Consequently, the plaintiff is awarded final judgment on its claim for \$682,000, with 4% GST (\$27,280) for a total sum of \$709,280. Interest is awarded on \$709,280 at 6% from the date of the writ (25 August 2003) with costs. The counterclaim is dismissed with costs.

[1]At 1AB98

[2]See 1AB1309-1331

[3]PW3

[4]At 3AB1438-1464

[5]At 1AB119

[6]At 1AB82

[7]At 1AB76

[8]At 3AB1441

[9]See 1AB29

[10]Marked as 3AB1467-1543

[11]See 1AB99-100

[12]PW4

[13]PW5

[14]DW2

[15]In OYH-8

[16]DW1

[17]See 3AB 364-366

[18]DW4

[19]DW3

[20]1AB209

[21]At 1AB119

[22]At 1AB1296

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