

# United States Court of Appeals for the Federal Circuit

97-5054

H.B. MAC, INC.,

Plaintiff-Appellee,

v.

THE UNITED STATES,

Defendant-Appellant.

William L. Bruckner, Bruckner & Walker, of San Diego, California, argued for plaintiff-appellee.

Mitchell J. Matorin, Trial Attorney, Commercial Litigation Branch, Civil Division, U.S. Department of Justice, of Washington, DC, argued for defendant-appellant. With him on the brief were Frank W. Hunger, Assistant Attorney General, David M. Cohen, Director, and Robert M. Hollis, Assistant Director. Of counsel was Richard P. Nockett, Attorney, U.S. Department of Justice, of Washington, DC. Of counsel on the brief were Frank Carr, Chief Trial Attorney, U.S. Army Corps of Engineers, of Washington, DC and Robyn Au, Trial Attorney, U.S. Army Corps of Engineers, of Ft. Shafter, Hawaii.

Appealed from: United States Court of Federal Claims

Judge Wilkes C. Robinson

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DECIDED: August 19, 1998

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Before LOURIE, RADER, and SCHALL, Circuit Judges.

SCHALL, Circuit Judge.

The United States appeals from the December 31, 1996 judgment of the United States Court of Federal Claims awarding H.B. Mac, Inc. (Mac) \$103,365.60 additional compensation (plus interest) under its construction contract with the United States Army Corps of Engineers (the Corps). Following a trial, the court held that Mac was entitled to an equitable adjustment in the contract price due to a Type I differing site condition. See H.B. Mac, Inc. v. United States, 36 Fed. Cl. 793, 832 (1996). Accordingly, the court concluded that Mac was entitled to recover the costs it incurred in providing sheet pile shoring to prevent caving at one of the project's excavation sites, as well as related delay and impact costs. See H.B. Mac, Inc. v. United States, No. 93-79C (Fed. Cl. Dec. 31, 1996). Because the need for sheet pile shoring was not

reasonably unforeseeable based on information available to Mac at the time of bidding, however, we reverse.

## BACKGROUND

Mac is a San Diego-based construction company and is self-certified as a small disadvantaged business (SDB). See H.B. Mac, 36 Fed. Cl. at 795. On July 31, 1991, the Corps awarded Mac Contract No. DACA83-91-C-0029 for construction work at Fort Shafter on the island of Oahu, Hawaii. See id. at 796. The contract, which was in the amount of \$6,281,000, was a set-aside for an SDB. See id. at 797. Under the contract, Mac was required to construct a reinforced concrete motor vehicle maintenance facility (the maintenance facility) and a separate reinforced concrete motor vehicle wash rack facility (the wash rack facility). See id. at 796. It was work in connection with the construction of the wash rack facility that gave rise to this litigation.

Fort Shafter is located on an alluvial plain containing a variety of sedimentary soils deposited at various times during the area's geologic development. See id. The plain also contains a mixture of surface soils from past construction activity. See id. The project site itself is located in an area known as the Fort Shafter Flats, about 700 yards from the Pacific Ocean and Keehi Lagoon. See id. Various small streams flow nearby. See id. The wash rack and maintenance facilities are located about 300 yards apart. See id. The maintenance facility is located between the ocean and the wash rack facility. See id. The wash rack facility consists of: (1) a wash rack with mechanical washing equipment, (2) one or more concrete slabs, (3) a sedimentation basin, and (4) an underground oil/water separator tank. See id. The contract specified a 15,000 gallon oil/water separator tank, but left the particular dimensions of the tank and the depth of the necessary excavation to the discretion of the contractor. See id. at 797.

Bidders were provided with contract specifications and drawings, including eight logs of soil borings. See id. at 796. The borings varied in depth from six feet to twenty-four feet and were clustered around the maintenance facility. See id. at 821. The borings showed the presence

of a layer of limestone as well as soils that consisted primarily of sands and gravels. See id. at 830-31. Three of the borings showed that the water table was located approximately twelve feet below the surface.<sup>1</sup> See id. at 796. The other five borings did not reach down to the water table. See id. The Corps did not provide any other subsurface information to the bidders, such as geologic data or soils reports. See id. Mac submitted its bid based on the contract documents and specifications. See id. at 797. It did not conduct a pre-bid site visit.<sup>2</sup>

Mac began construction work in August of 1991. See id. As far as the wash rack facility was concerned, Mac successfully excavated the sedimentation basin to a depth of about fourteen feet, using only temporary aluminum and wood safety shoring.<sup>3</sup> See id. During construction of the sedimentation basin, only nuisance water was encountered and the subsurface conditions did not vary significantly from those shown in the borings from the area of the maintenance facility. See id.

Around October 17, 1992, Mac began excavation for the oil/water separator tank. See id. Exercising the discretion given to it under the contract, it selected a round-shaped tank and anticipated that the excavation for the tank would not exceed sixteen feet. See id. During excavation, Mac encountered a black silty, clay material at a depth of seven feet. See id. This same material continued down to between thirteen and fourteen feet. See id. At that level, however, Mac encountered soil saturated with groundwater, and the walls of the excavation began collapsing. See id. Temporary safety shoring was installed in the excavation, and small pumps were used in an attempt to remove the water and stabilize the site. See id. In spite of these efforts, the temporary shoring failed and the sides of the excavation collapsed. See id. Mac attempted to resume excavation by resloping or laying back the sides of the excavation, but

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<sup>1</sup> The water table is the top surface of naturally occurring groundwater. See Means Illustrated Construction Dictionary 627 (new unabridged ed. 1991).

<sup>2</sup> The trial court found that a pre-bid site visit did take place. See H.B. Mac, 36 Fed. Cl. at 797 n.2. As indicated below, we hold that finding to be clearly erroneous.

<sup>3</sup> Safety shoring is a barrier constructed out of aluminum beams and wooden boards. It is erected in an excavation to prevent material from falling off the walls onto workers.

the black silty clay material became increasingly unstable. See id. at 797-98. Consequently, it abandoned its excavation efforts, refilled the excavation, and notified the Corps of the problems it had encountered. See id. at 798. During excavation for the oil/water separator tank, Mac never encountered a thick layer of limestone similar to what was indicated in the borings from the area of the maintenance facility. See id. at 797.

After backfilling the excavation, Mac provided the Corps with a sample of the backfilled soil. See id. at 798. Eric Bjorken, a Corps geologist, and Olson Okada, a Corps engineer, evaluated the sample. See id. Based upon a visual examination, they concluded that the soil was a mixture of clay, sand, and gravel and that a sheet pile shoring and bracing system would be required for the excavation for the oil/water separator tank.<sup>4</sup> See id.

In a letter dated October 20, 1992, Mac notified the Corps that it believed that the soil conditions it had encountered in excavating for the oil/water separator tank constituted “a change [sic] condition to the contract.” See id. In an internal memorandum dated October 21, 1992, Mr. Frank Ono, the Contracting Officer’s Authorized Representative, recommended that the Corps issue a change order under the contract to provide for sheet pile shoring at the oil/water separator tank excavation site. “Contract drawings,” wrote Mr. Ono, “do not provide any boring logs at the wash rack site.” However, in another internal memorandum, dated November 3, 1992, Glenn Ishihara, a Corps civil engineering technician, took the position that, “taking the plans and specifications as a whole, there appears to be adequate information from which the Contractor should have been aware that an engineered support system would be required.” Accordingly, he stated, “the Contractor’s claim for additional compensation for providing a steel sheet piling system is without merit as this requirement could reasonably have been ascertained when preparing his bid.” Mr. Ono concurred in Mr. Ishihara’s assessment. Accordingly, that same day he denied Mac’s request for additional compensation on the ground that the condition

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<sup>4</sup> Sheet pile shoring is a barrier constructed out of interlocking metal planks which are driven into the ground during an excavation to prevent the movement of soil or to keep out water. See Means Illustrated Construction Dictionary, *supra* note 1, at 512.

actually encountered was not materially different from what was shown in the boring logs. See id.

Mac hired George F. Moore of Construction Labs, a local engineering contractor, to investigate the site and provide a recommendation for completion of the project. See id. Mr. Moore drilled two soil borings on November 19, 1992 at the oil/water separator site. See id. The borings were taken after the excavation had been backfilled, but before any additional work had been done at the site. See id. Based on these borings, Construction Labs provided Mac with a recommended shoring plan using sheet pile shoring. See id. Mac followed the recommended plan and completed the work without any further problems. See id. at 799.

By letter dated December 4, 1992, Mac submitted a certified claim to the contracting officer under the Contract Disputes Act, 41 U.S.C. § 601-613 (1994). See H.B. Mac, 36 Fed. Cl. at 799. In its claim, Mac requested an equitable adjustment under the contract for costs associated with installing sheet pile shoring at the site for the oil/water separator tank. See id. After the contracting officer failed to respond to the claim, it was deemed denied pursuant to 41 U.S.C. § 605(c).

On February 12, 1993, Mac filed a complaint in the Court of Federal Claims challenging the denial of its claim for an equitable adjustment. Mac asserted that the thick layer of unstable black silty clay material that it had encountered, combined with the total absence of a thick layer of limestone, constituted a Type I differing site condition. See id. at 802.

The court held a week-long trial. See id. at 799. Thereafter, it issued an opinion containing findings of fact and conclusions of law. The court held that Mac had proven, by a preponderance of the evidence, all of the elements of a Type I differing site condition. See id. at 832. The court awarded Mac \$87,385.60 in direct costs and \$15,980.00 in delay and impact costs, for a total

recovery of \$103,365.60, plus interest as permitted by 41 U.S.C. § 611. As noted, the government appeals from the court's final judgment issued on December 31, 1996.<sup>5</sup>

#### DISCUSSION

We review factual findings by the Court of Federal Claims for clear error. See RCFC 52(a); Columbia Gas Sys., Inc. v. United States, 70 F.3d 1244, 1246 (Fed. Cir. 1995). "A finding is 'clearly erroneous' when although there is evidence to support it, the reviewing court on the entire evidence is left with the definite and firm conviction that a mistake has been committed." United States v. United States Gypsum Co., 333 U.S. 364, 395 (1948). We review the court's legal conclusions de novo. See Columbia Gas, 70 F.3d at 1246.

The Fort Shafter construction contract contained the standard Differing Site Conditions clause, FAR 52.236-2 (Apr. 1984). That clause provides as follows:

- (a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer of (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.
- (b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, an equitable adjustment shall be made under this clause and the contract modified in writing accordingly.

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<sup>5</sup> In its decision, the court also rejected the government's fraud defense and counterclaims. See H.B. Mac, 36 Fed. Cl. at 819. The government has not appealed that ruling.

48 C.F.R. § 52.236-2(a) to -2(b) (1997).

The purpose of the Differing Site Conditions clause is to allow contractors to submit more accurate bids by eliminating the need for contractors to inflate their bids to account for contingencies that may not occur. See Foster Constr. C.A. & Williams Bros. Co. v. United States, 435 F.2d 873, 887 (Ct. Cl. 1970). Differing site conditions can arise in two circumstances: (1) the conditions encountered differ from those indicated in the contract (Type I), or (2) the conditions encountered differ from those normally encountered (Type II). As noted above, in seeking an equitable adjustment in connection with the excavation required for the oil/water separator tank, Mac asserted a Type I differing site conditions claim.

In its decision in favor of Mac, the Court of Federal Claims found that the black, silty clay soil that Mac encountered during excavation for the oil/water separator tank at the seven foot level continued down to between thirteen and fourteen feet. See H.B. Mac, 36 Fed. Cl. at 797. The court further found that “because of the soils’ porosity and hydrostatic pressures, the water siphoned upward and caused the soil to become unstable.” Id. at 830-31. The court noted that “this soil was visibly different from the sands and gravels reflected in the eight soil borings and uncovered at the other Project excavations.” Id. at 831. Based upon its findings, the court concluded that “the subsurface or latent physical conditions H.B. Mac encountered at the oil/water separator site differed materially from the conditions indicated in the contract documents for that location.” Id. (footnote omitted).

In holding that Mac had met the requirements for establishing a Type I differing site condition, the Court of Federal Claims determined that the contract documents, including the eight boring logs, “affirmatively represented subsurface soil conditions throughout the Project site.” Id. at 832. The court thus determined that the contract contained affirmative indications of the subsurface conditions at the site for the oil/water separator tank. See id. at 826. The court found that the eight borings from the area of the maintenance facility were supplied for the express purpose of representing subsurface conditions throughout the project site and with the knowledge

that all bidders would have to rely almost exclusively on the borings to estimate excavation costs throughout the site. See id. at 825-26.

In distinguishing the case before it from Weeks Dredging & Contracting, Inc. v. United States, 13 Cl. Ct. 193 (1987), aff'd, 861 F.2d 728 (Fed. Cir. 1988), a case upon which the government relied with respect to the issue of contract indications, the court focused on the fact that, unlike the contractor in Weeks, Mac “was not a large experienced contractor but a small SDB then headquartered in California with no staff expertise in soils analysis, little experience in performing excavation work in Hawaii and limited financial resources.” See H.B. Mac, 36 Fed. Cl. at 822. The court further observed that there was no evidence that an SDB “would have, prior to bid, considered the eight soil borings inadequate or nonrepresentative and obtained or contracted to obtain, at its expense and risk of nonrecoupment, any additional borings.” Id. The court concluded generally that, under the circumstances, “[n]either H.B. Mac nor any other SDB . . . could have been expected to perform the same type of comprehensive prebid soils analysis or investigation that a large, experienced government contractor might be expected to perform when [the] government boring data is limited.” Id.

Finally, the court determined that a comprehensive pre-bid site visit would not have revealed any pertinent subsurface soil conditions that conflicted with the borings, and that it was reasonable for Mac to rely on the borings given the evenness of the terrain at the Fort Shafter Flats area. See id. at 823. Nevertheless, the court stated, “[i]t believes from the evidence and plaintiff’s representations regarding this matter that, prior to submitting its bid for the Contract, Mr. Fisher, conducted a site investigation for plaintiff.” <sup>6</sup> Id. at 827 (footnote omitted).

The government contends that the court erred by using the standard of a “small mainland SDB with no experience” rather than the standard of a “reasonable contractor” when determining whether the contract contained affirmative indications of subsurface conditions at the site for the oil/water separator tank. The government further contends that the court erred in finding that

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<sup>6</sup> Jim Fisher is the Mac contract estimator who prepared its bid for the Fort Shafter project.

Mac had conducted a pre-bid site visit and in concluding that the contract affirmatively indicated subsurface conditions at the oil/water separator site. The government also argues that the court erred in finding that Mac reasonably interpreted the contract documents in concluding that it could excavate for the oil/water separator tank without using sheet pile shoring. The government asserts that Mac should have reasonably expected that sheet pile shoring would be required because the planned excavation would penetrate at least eight feet below the water table. Mac responds that the court correctly determined that the contract contained affirmative indications of subsurface conditions at the site for the oil/water separator tank. It also argues that if the conditions shown in the boring logs from the area of the maintenance facility had been encountered during excavation for the oil/water separator tank, sheet pile shoring would not have been required, even though the excavation penetrated below the water table. Mac also maintains that it did in fact conduct a pre-bid site investigation.

In Stuyvesant Dredging Co. v. United States, 834 F.2d 1576 (Fed. Cir. 1987), we explained what a contractor must do in order to establish entitlement to an equitable adjustment by reason of a Type I differing site condition:

To prevail on a claim for differing site conditions, the contractor must prove, by a preponderance of the evidence, “that the conditions ‘indicated’ in the contract differ materially from those it encounters during performance.” The conditions actually encountered must have been reasonably unforeseeable based on all the information available to the contractor at the time of bidding. The contractor also must show that it reasonably relied upon its interpretation of the contract and contract-related documents and that it was damaged as a result of the material variation between the expected and the encountered conditions.

834 F.2d at 1581 (citations omitted). A contractor cannot be eligible for an equitable adjustment for a Type I differing site condition unless the contract indicated what that condition would be.

See P.J. Maffei Bldg. Wrecking Corp. v. United States, 732 F.2d 913, 916 (Fed. Cir. 1984). Determining whether a contract contained indications of a particular site condition “is a matter of contract interpretation and thus presents a question of law,” which we decide de novo. See id. We also have stated that a proper technique of contract interpretation is for the court to place itself into the shoes of a reasonable and prudent contractor and decide how such a contractor would act in interpreting the contract documents. See id. at 917.

As noted above, in assessing the reasonableness of Mac’s pre-bid conduct the Court of Federal Claims took into account the fact that Mac was an SDB, headquartered in California, with no expertise in soils analysis, little experience in performing excavation work in Hawaii, and limited financial resources. As a preliminary matter, it thus appears that the court viewed the contract indications in this case and Mac’s pre-bid investigation, not from the standpoint of what a reasonable and prudent contractor would have done, but rather from the standpoint of what a reasonable and prudent SDB would have done. In so doing, the court in effect articulated one standard to be applied to SDBs and another standard to be applied to regular contractors. This was error. The fact that a contract is a set-aside for small disadvantaged businesses does not change in any way the standard that a court applies in analyzing the contractor’s pre-bid conduct. The program of having certain contracts set aside for small, disadvantaged businesses is meant to achieve certain public policy goals. See 10 U.S.C. § 2323 (1994) (establishing Department of Defense contracting goals and authorizing preferences for small disadvantaged businesses); 48 C.F.R. § 219.502-2-70 (1997) (implementing 10 U.S.C. § 2323 by authorizing contracting officers to set aside acquisitions for small disadvantaged businesses).<sup>7</sup> The program is not relevant in assessing a contractor’s pre-bid conduct or its interpretation of contract documents.

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<sup>7</sup> As a result of the Supreme Court’s decision in Adarand Constructors, Inc. v. Peña, 515 U.S. 200, 227 (1995) (holding that all race-based preferences must be reviewed under strict scrutiny), 48 C.F.R. § 219.502-2-70 has been suspended since October 23, 1995 while an interagency government-wide review of affirmative action programs is conducted. See 60 Fed. Reg. 54954 (1995).

In that regard, as a government contractor, an SDB has its conduct judged under the same standard as that of any other contractor. That standard is whether, without qualification, the contractor acted reasonably and prudently.

The contract contained the standard clause titled "Site Investigation and Conditions Affecting The Work (Apr. 1984)," set forth at FAR 52.236-3. See 48 C.F.R. § 52.236-3 (1997). That clause provides in pertinent part as follows:

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to . . . (4) the conformation and conditions of the ground; and (5) the character of equipment and facilities needed preliminary to and during work performance. The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the Government, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the Government.

The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government.

As noted, the Court of Federal Claims found that Mr. Fisher did conduct a pre-bid site investigation on behalf of Mac. We hold, however, that the court's finding that there was a pre-bid site investigation was clearly erroneous. Not only is there no evidence in the record indicating that such an investigation was made, but both Mr. Fisher and Gary Harden, Mac's Vice President, testified that they did not conduct a site visit prior to the submission of Mac's bid.

It is well-settled that a contractor is charged with knowledge of the conditions that a pre-bid site visit would have revealed. See Hardwick Bros. Co., II v. United States, 36 Fed. Cl. 347, 406 (1996). A pre-bid site visit would have revealed geologic features indicating a likelihood of highly variable subsurface conditions, such as the proximity of the construction site to the ocean and to the nearby streams. See H.B. Mac, 36 Fed. Cl. at 830 (noting that the variability of subsurface soils results in part from the proximity of the project site to the ocean and to the streams).

The Court of Federal Claims summed up its assessment of subsurface conditions at the project site as follows:

In retrospect, it is undeniable that subsurface soils and materials in the Ft. Shafter Flats vary widely. In fact, the only way to be sure of actual subsurface conditions at any given location within the Flats, is through proper soil borings taken at that specific site. Observation of above ground conditions during a prebid site visit would not have provided a reasonable basis for comparing subsurface conditions at the Maintenance Facility with those at the oil/water separator site.

Id. at 831.

As noted above, the soil borings provided to Mac, as well as other bidders, were taken approximately 300 yards away from the excavation site for the oil/water separator tank. The reasonableness of reliance on borings taken at a distance from a project site cannot be

determined based on a bright line rule, but must rather be determined based on the geologic and topographic features present in each case. Richard Fewell, the government's expert witness, testified that, in the Fort Shafter Flats area, the boring logs could not provide reliable detailed information about subsurface conditions 300 yards away from where the borings were taken. Mr. Fewell noted that "[o]nly general information can be transmitted that far away or extrapolated that far. You cannot expect the sites to have the same detail." Mr. Fewell explained that the interaction of the ocean and three nearby streams results in highly variable subsurface conditions. Mr. Fewell also explained that the growth of coral limestone is an erratic process and that coral limestone can stop suddenly with only a sand deposit right next to it. In addition, Mr. Ono testified that "it's very difficult to rely on the boring logs at that distance," while Mr. Okada testified that it would be improper to make any assumptions about the subsurface conditions at the oil/water separator site based on the boring logs. Mac did offer testimony from William Boyd, its expert witness, that soil borings could be reasonably relied upon for distances much greater than 300 yards. However, the weight to be accorded Mr. Boyd's testimony is significantly diminished by the fact that he is not a licensed engineer, he has never worked on any excavations in Hawaii, and none of his jobs involved coral limestone.

The Court of Federal Claims found that the Corps' Final Soil Investigation Report (SIR) indicated that the Corps intended that the eight borings be representative of the entire construction site. See id. at 823. We disagree. The SIR states: "No additional borings were drilled for the Final SIR. The previous borings (drilled in January 1988) and laboratory testing provided sufficient data for design." Id. The SIR simply states that no additional borings were required to complete the design of the maintenance facility. This document does not make any statements about the sufficiency of the borings for excavation purposes. Furthermore, Mac cannot rely on the SIR to show a differing site condition because the SIR was not included in the bid documents and Mac did not review the SIR until it was obtained during discovery in this litigation. See Stuyvesant Dredging Co. v. United States, 11 Cl. Ct. 853, 859 (1987) ("Plaintiff cannot prove a differing site condition based upon the information in the files of the Corps

because it never reviewed that information until the contract was nearly completed . . .”), aff’d, 834 F.2d 1576 (Fed. Cir. 1987).

The court also relied on Mr. Ono’s November 3, 1992, letter denying Mac’s request for an equitable adjustment. In that letter, Mr. Ono stated:

I do concur that there are no boring logs in the immediate vicinity of the wash rack. Lacking any other subsurface data, I find that it would not be unreasonable to presume that similar conditions existed throughout and to rely on the data provided.

H.B. Mac, 36 Fed. Cl. at 824 n.29. This letter cannot constitute a contractual indication because it was not provided to bidders and in fact did not even exist at the time of bidding. See Stuyvesant, 11 Cl. Ct. at 859.

Given the distance between the oil/water separator tank excavation and the boring locations at the maintenance facility, and given the location of Fort Shafter Flats, a reasonable and prudent contractor would not have understood the contract documents as providing an affirmative indication of the subsurface conditions at the oil/water separator site. As the court stated in Weeks, “we believe that given the state and locations of the boring logs, taken as whole, a reasonably prudent contractor would have realized the relatively limited scope and utility of the information the government was intending to provide.” 13 Cl. Ct. at 223. The Court of Federal Claims erred in holding to the contrary.

As noted above, in order for a contractor to prevail on a Type I differing site condition claim, it must establish, inter alia, that the conditions actually encountered were “reasonably unforeseeable based on all the information available to the contractor at the time of bidding.” Stuyvesant, 834 F.2d at 1581. We hold that, in this case, that requirement was not met. We conclude that a reasonable and prudent contractor, who was to perform excavation to a depth significantly below the water table at a site within 700 yards of the ocean that was intersected

with streams, and who was not given boring logs indicating subsurface conditions at the site, would have foreseen the need for sheet piling.

Excavation for the oil/water separator tank required excavation down to approximately ten feet below the water table.<sup>8</sup> Mr. Fewell testified that, for an excavation eight to ten feet below the water table, a sophisticated dewatering system is required along with horizontal barriers to keep the water out of the excavation. He explained that the weight of groundwater exerts a substantial lateral pressure against the sides of an excavation below the water table. He also explained that a temporary safety shoring system could have withstood the water pressure at the oil/water separator excavation only if sufficient cross-bracing were used. Mr. Fewell added, however, that if cross-bracing were used, there would not have been sufficient room to install the oil/water separator tank. Furthermore, safety shoring does not solve the problem of vertical water pressure on the floor of the excavation. According to Mr. Fewell, if an excavation were attempted below the water table using only safety shoring, the bottom of the excavation would have “gone quick” and “blown in.” At that point, the upward pressure of the water exceeds the weight of the soil pressing down, and so it starts to lift the soil, and water flows into the excavation. Mr. Fewell explained how sheet pile shoring avoids these problems by being driven to a depth of twelve to fourteen feet past the bottom of the excavation, and by providing a horizontal barrier that prevents water from entering the excavation laterally. Mac has not identified any expert testimony suggesting that excavation below the water table could safely proceed without sheet pile shoring in the absence of a limestone layer. In sum, the need for sheet pile shoring in connection with the excavation for the oil/water separator tank was not reasonably unforeseeable to Mac at the time of bidding based upon all the information available to it.

## CONCLUSION

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<sup>8</sup> Although Mac estimated that the excavation for the tank would not exceed sixteen feet, the tank ultimately required a twenty foot excavation. The surface level at the oil/water separator was eleven feet above mean sea level and the boring logs showed the water table located one to two feet above mean sea level. Therefore, the excavation extended ten to eleven feet below the water table.

For the foregoing reasons, the Court of Federal Claims erred in concluding that Mac was entitled to an equitable adjustment by reason of having encountered a Type I differing site condition. Accordingly, the judgment of the court is reversed.

**COSTS**

Each party shall bear its own costs.

**REVERSED**