

ARMED SERVICES BOARD OF CONTRACT APPEALS

Appeal of -- )  
)  
Costello Industries, Inc. ) ASBCA No. 49125  
)  
Under Contract No. N62467-93-C-5682 )

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OPINION BY ADMINISTRATIVE JUDGE KIENLEN

INTRODUCTION

This case arises from a runway grooving and spall repair contract at the Naval Air Station, Meridian, Mississippi. The appellant seeks equitable adjustments of \$574,775 and \$70,947 for the unusual hardness of the runway concrete and for the taxes collected by the State of Mississippi. The appellant contends that the concrete was a differing site condition because it was composed of unusually hard, smooth aggregate and non-abrasive sand, which caused excessive wear on the diamond blades and grooving machines, required more new blades than reasonably anticipated, and increased labor costs.

The appellant also contends that it reasonably relied on a contract clause for its interpretation that Mississippi state taxes did not apply to the contract. Appellant argues that because its interpretation was reasonable the Government should reimburse it for taxes imposed by Mississippi. Only entitlement was tried. We find for the contractor on the differing site condition and for the Government on the Mississippi taxes.

## FINDINGS OF FACT

The appellant, Costello Industries, Inc., is incorporated in Connecticut and is in the business of pavement rehabilitation. On 11 August 1993, it obtained the solicitation for concrete runway grooving, spall repairs, joint resealing, and related work at the Naval Air Station in Meridian, MS. Bids were due 2 September 1993. Costello was awarded the contract on 30 September 1993. (R4, tab 1, Section 01010, tab 2) Its subcontractor for the runway grooving was International Contractors, Inc. of Largo, Florida.

### *Notice of Mississippi Tax*

Mr. Barry Leaver prepared a notice to bidders concerning a 3½percent Mississippi state tax, which he paraphrased from the full text of rule 41 of the Mississippi State Tax Commission, “to let people know” about this tax, because he thought that most states did not impose taxes on Federal construction projects (tr. 1/94, 97-98, 104). The notice stated:

#### 21. MISSISSIPPI STATE TAX

Under rule 41 of the Mississippi State Tax Commission, a tax of 3 ½% levied on the total contract amount or compensation received from all contracts, except residential construction, that exceed \$10,000.00 when the work to be performed is construction, grading, excavating, building, erecting, repairing, drilling, exploring, testing or adding to any of a numbered specified improvements or structures. [sic] Questions on these taxes should be directed to the Mississippi State Tax Commission.

(R4, tab 1) Mr. Leaver testified that rule 41 listed a number of covered activities and then stated, “any other improvement or structure or part thereof.” He was uncertain as to what was covered by and excluded from the tax, so he instructed that “Questions on these taxes should be directed to the Mississippi State Tax Commission.” Mr. Leaver did not recall any other instance where the bidding instructions directed bidders to contact an agency outside of the Federal Government to determine pricing for a bid. (Tr. 1/96, 99; R4, tab 1)

The relevant portion of rule 41, from which Mr. Leaver took and paraphrased his notice concerning the Mississippi tax, reads as follows:

**Activities Taxed and Application of Rates.** A tax of 3 ½% is levied on the total contract amount or compensation

received from all contracts, except residential construction, that exceed \$10,000 when the work to be performed is constructing, building, erecting, repairing, grading, excavating, drilling, exploring, testing or adding to any of the following:

air conditioning system	oil or gas well . . .
bridge	pipeline
building	power plant
culvert	railway
dam	reservoir
dock	sewer
drainage or dredging system	sidewalk
electrical system	storage tank
excavation	street
grading	tower
heating system	transmission line
highway	water well
irrigation or water system	wharf
levee or levee system or any part thereof	
any other improvement or structure or any part thereof (fences, etc.)	

(R4, tab 5) Mr. Leaver thought, based on his reading of rule 41, that Mississippi would impose the tax on this construction project. Mr. Leaver also believed that the notice conveyed that thought. (Tr. 1/95-102)

### *Standard Clauses*

The contract contained standard clauses, including DIFFERING SITE CONDITIONS (APR 1984), located at FAR 52.236-2, which provided in relevant part:

#### DIFFERING SITE CONDITIONS (APR 1984)

(a) The Contractor shall promptly, and before the conditions are disturbed, give 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.

SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK (APR 1984), located at FAR 52.236-3:

SITE INVESTIGATION AND CONDITIONS  
AFFECTING THE WORK (APR 1984)

(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 (1) conditions bearing upon transportation, disposal, handling, and storage of materials; (2) the availability of labor, water, electric power, and roads; (3) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (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.

(b) The Government assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the Government. Nor does the Government assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that

understanding or representation is expressly stated in this contract.

and, FEDERAL, STATE AND LOCAL TAXES (JAN 1991), located at FAR 52.229-3, which provided in relevant part:

FEDERAL, STATE, AND LOCAL TAXES (JAN 1991)

....

(b) The contract price includes all applicable Federal, State, and local taxes and duties.

(R4, tab 1)

### *Grooving Specifications*

The runway grooving specifications required a groove pattern ¼ inch wide by ¼ inch deep with center spacing of 1½inches. The grooves were to be parallel to each other and perpendicular to the centerline of the runway. The grooves were intended to permit rain water to run off the runways and thus increase stopping friction for aircraft. (R4, tab 1, Section 02679, Part 3.1; exs. G-20, -22)

The grooves were to be cut using “diamond saw blades, mounted on a multi-blade arbor on a self-propelled machine which has been built for grooving of pavements.” The cutting head was prohibited from containing “a mixture of new and worn blades or blades of unequal wear or diameter.” (R4, tab 1, Section 02679, Part 2.2) Each bidder was instructed to “base his bid on the assumption that [the] concrete pavement contains a very dense, hard, gravel aggregate.” (R4, tab 1, Section 02679, Part 1.1)

The description of the concrete was prepared by Mr. Wilbert Beverly, head of the Civil Engineering Branch of the Planning and Design Department, Southern Division, Naval Facilities Engineering Command (NAVFAC). Mr. Beverly was responsible for the preparation of the Government’s plans and specifications for this project. His department develops plans, specifications, cost estimates, and studies for facilities construction, repair, and renovation in the lower 26 states, predominately the 11 states from North Carolina to Texas. Those states are North and South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

Mr. Beverly had over 18 years of engineering experience in the Southern Division. He had not prepared a concrete grooving specification before. He did not seek technical advice in preparing the specifications. He knew the solicitation would be available

throughout the United States through the COMMERCE BUSINESS DAILY, and he wanted potential contractors to know that the aggregate used for concrete in Mississippi, unlike the limestone used in Florida and some other parts of the country, was a very hard aggregate. (Tr. 3/48-51, 60-68) Thus, he drafted the specifications to put each bidder on notice to base its bid “on the assumption that [the] concrete pavement contains a very dense, hard, gravel aggregate.” (Tr. 3/64, 92, 97) These words had no technical meaning, but were descriptive of the hard aggregate typically found in Mississippi.

### *Diamond Blades*

Whatever the composition of the concrete, grooves could only be cut with special diamond saw blades. That was why the contract explicitly required that diamond blades be used for cutting the grooves. These blades are different from saw blades used for cutting wood. The cutting portion of the blade is not composed of sharp, slanted teeth; instead, the cutting portion of the diamond blade is divided into segments. Each segment is about two inches along the circumference of the blade. The segments are denoted by slots or grooves every two inches that go from the circumference towards the center of the blade for about an inch. On the outer edge of each segment, diamonds are embedded in a metallic type material known as the matrix or bond. It is the diamonds, embedded in the matrix, which provide the cutting surface. (Tr. 2/105-07, 109, 130) Diamond blades are typically 14.4 inches in diameter and ¼inch thick (physical ex. 1; tr. 2/105). To cut effectively, the diamonds must be kept clean; if the diamonds become gummed up with dust from the concrete, they will not be exposed and will not cut effectively.

The sand in the concrete needs to be abrasive enough to keep the blade clean and expose the diamonds so they can cut the concrete. Round sand is not abrasive. Angular sand is abrasive. As the diamonds wear down, the sand needs to abrade the matrix in order to expose clean diamonds to cut the concrete. If the sand in the concrete has less abrasion, the matrix has to be softer so that it can abrade more easily, thus exposing the diamonds to cut the concrete. (Tr. 1/237-38, 2/63, 130-31) If the aggregate has less abrasion, the effect is the same as less abrasion with the sand. The harder the aggregate, the less abrasion. (Tr. 1/236)

The desired hardness of the matrix is based on the shape and hardness of the large aggregate in the concrete, and the amount and shape of the sand in the concrete (tr. 1/236-38, 2/63, 66, 70, 110, 120-21, 130-31). The matrix can be adjusted or redesigned to fit the abrasive qualities of the sand and aggregate in the concrete. To account for harder aggregate or less abrasive sand, the matrix must be softened in order to expose the diamonds for cutting. When the matrix is softened the life of the blade is shortened because new diamonds are more quickly exposed and the blade wears more rapidly. (Tr. 2/68-70) For effective cutting, it is important to match the matrix of the blades with the

abrasive quality of the concrete. The less abrasive the concrete the softer the matrix and the shorter the life of the blades.

### *MOHS Test*

As described above, the design of a diamond blade is affected by the hardness of the large aggregate in the concrete, as well as the amount and abrasiveness of the sand in the concrete (tr. 1/226, 235-36, 2/55, 70, 121, 130-31). To determine the abrasiveness of the sand and the hardness of the large aggregate, a sample of the concrete is tested by the manufacturer that designs the blades (tr. 1/145, 226, 2/55, 136, 148, 213). The manufacturer tests the concrete by crushing a concrete sample and analyzing the components of the concrete (tr. 1/226, 2/136-37). The abrasiveness of the sand is determined by looking at the sand under a microscope (tr. 1/226). The hardness of the aggregate is determined by a procedure known as the MOHS Scale of Hardness Test. (Although sand is an aggregate, we refer to gravel as the aggregate, and refer to the small aggregate as sand.)

The MOHS test is the only practical test available to measure the hardness of minerals (tr. 2/124, 3/90). It is widely used by the diamond blade industry (tr. 1/128, 2/121). The MOHS test employs 10 different minerals to identify degrees of hardness. The first mineral is talc, which is the softest, and the last is diamond, which is the hardest. (tr. 2/122, 214; ex. A-19) The difference in hardness between 1 and 10 is not linear. For example, the difference between eight and nine does not mean it is one degree more difficult to scratch than seven. It could be three to four times more difficult. (Tr. 2/124, 214) The hardness of the mineral in question is identified by determining the softest mineral in the testing kit which will leave an identifiable scratch – as opposed to a mark – in the surface of the material being tested (tr. 2/123). If it is not possible to conduct a test of the concrete, the blade designer relies on the known MOHS rating of the aggregate and the type of sand components normally used for concrete in a particular area.

### *Site Investigation*

International Contractors, Inc. is in the business of performing concrete repairs, concrete sawing and sealing, slab replacement, runway grooving, bridge deck grooving and airfield stripping (tr. 1/176-77, 2/252). Since 1983 Mr. Barry D. Carlson has been the vice-president of International and has been in the same type of business for over 30 years (tr. 2/252, 258). International has worked on both Federal and state projects. It has done work along the east coast from Florida to Maryland; across into Tennessee; Nebraska; Kansas City, Missouri; Louisiana; Alabama; and all over Texas. (Tr. 2/254)

Mr. Carlson became aware of the project 20 to 30 days prior to bid submission. He had seen the notice in the COMMERCE BUSINESS DAILY. He ordered the plans from

the Navy and looked over the plans and specifications, and noted the section of the contract defining the concrete runway as containing a very dense, hard gravel aggregate. It was his original intention to bid the project as the prime contractor. He then decided to bid only the grooving and the airfield marking portions of the contract as a subcontractor. He submitted bids to the appellant, Costello Industries, Inc., and one or two other prime contractors. (Tr. 2/253-56) International was awarded the grooving subcontract.

In preparation for his bid, Mr. Carlson contacted Mr. James Owens, an independent sales representative for Diamond B, Inc., a diamond blade manufacturer, for assistance regarding the runway grooving part of the project. Mr. Owens started selling diamond blades to Mr. Carlson's father over 25 years ago and has been dealing with Mr. Carlson in connection with diamond blades for 10 years. Mr. Owens sells saw blades and core bits for cutting concrete on highways and airports, and also sells equipment to perform the cutting. Mr. Owens is the only representative for Diamond B in the Southeast Region, which includes Mississippi. (Tr. 1/211, 215, 217, 2/255-56, 59, 165) For the past 35 years Mr. Owens has covered the 7 southeastern states of Florida, Georgia, North Carolina, South Carolina, Tennessee, Alabama, and Mississippi (tr. 1/232). Mr. Owens has been involved in the diamond blade industry since 1952 (tr. 1/211). International considered Diamond B to be one of the best diamond blade manufacturers (tr. 2/301).

Mr. Carlson was familiar with the MOHS test. However, he didn't run those tests. He left that up to the blade manufacturers. That was one of the reasons that he utilized the services of Mr. Owens. (Tr. 2/272) Mr. Carlson initially contacted Mr. Owens in the mid to latter part of August 1993 (tr. 2/289). Mr. Carlson referred Mr. Owens to the specification language which stated that the runway contains a "very dense, hard, gravel aggregate." (Tr. 2/256) Mr. Carlson asked Mr. Owens to visit the job site for him and to let him know about the concrete and what was needed in the way of diamond blades (tr. 2/258-59).

Mr. Owens said that he was going to the job site and would look at the project for International (tr. 2/257). It was not unusual in the industry to utilize the diamond blade manufacturer's representative to make the site investigation (tr. 1/217-18, 2/17, 133-34, 204, 258). Customers rely on the diamond blade manufacturer's representative to determine the appropriate blade design (tr. 2/56, 133-34). Mr. Owens had 10 or 11 telephone requests from other customers, who requested that he inspect the project site (tr. 1/216, 2/15-16, 94). Mr. Carlson relied upon Mr. Owens to determine the type of diamond blade for the bid on the grooving work (tr. 2/260-61).

Mr. Owens made his site visit on 31 August 1993, with Mr. Peter Jones, another customer of Mr. Owens who was interested in bidding the spall and joint reconstruction work for this job (tr. 1/219-20, 2/14, 17, 76, 78-83; exs. A-5 through A-8). Mr. Jones had

contacted Mr. Owens and asked him to visit the site in order to get his judgment on the design of the diamond saw blades needed for cleaning out the joints and other reconstruction work (tr. 2/92, 94).

Mr. Jones is the operations manager for Sunbelt Sealing of Jackson, Mississippi. Sunbelt is in the business of maintenance of pavements, whether it be seal-coating, joint sealing, joint reconstruction, pressure grouting or installing joint tape. This work includes sawing off concrete and removing old sealer. He has been doing this work for over 13 years throughout Mississippi and into Memphis and New Orleans, including spall repair work on the roads at the Naval Air Station in Meridian, Mississippi (tr. 2/74-76).

Mr. Jones was familiar with the aggregate used for concrete roadways and runways in Mississippi. He testified that "You either use river rock or limestone." He described the river rock in Mississippi as "Hard." (Tr. 2/85) Mr. Jones was familiar with the MOHS scale ratings of 1 to 10. From his experience around the state of Mississippi he expected the hard aggregate in the Mississippi area to rank between 6 and 7½ on the MOHS scale (tr. 2/87-88). Mr. Jones stated that Mississippi river gravel is a very hard aggregate and that its hardness "is generally known by contractors" (tr. 2/93). He testified that he would never expect Mississippi hard aggregate to rank 9 or 9+ on the MOHS scale (tr. 2/88-90).

During the site visit Mr. Owens looked at the concrete and concluded that it appeared to be composed of Mississippi river rock rather than limestone. Because it was not possible to determine the MOHS hardness of the aggregate by a visual inspection, Mr. Owens requested a sample of the runway concrete from the ROICC officer accompanying him on the site visit, in order to send it back to the blade manufacturer for testing. He was told that he could not have a sample because excess material was disposed of in a restricted area. (Tr. 1/225-27, 238-39, 2/7-9, 22)

While conducting his site visit, Mr. Owens was interested in three areas of the work: spall repair, which required a diamond blade for sawing the concrete; clean and reseal of the joints, which required a diamond blade to clean the joints; and, runway grooving, which required diamond blades (tr. 2/14). Mr. Owens was looking at the site, not only for Mr. Jones and Mr. Carlson, but also for eight or nine others (tr. 2/15-16).

When Mr. Owens returned to the ROICC office he asked the person in charge for a sample; he was told again that all broken pieces had been disposed of in a restricted area (tr. 2/21-22). Mr. Owens also asked for the original records of the concrete pour of the runway. He was told that they did not have those records because the runway was too old. (Tr. 2/23)

The Government argues that one of the Government's representatives, Mr. Tincher, testified that he never denied a request for runway samples. (Gov. br. ¶¶ 75-76) That contention is not supported by the record. The record discloses that Mr. Tincher said that he couldn't recall a request for a sample during the visit by Mr. Costello; however, he did recall two other site visits when such samples were requested and he denied such requests (tr. 3/124-25). There was no specific testimony from Mr. Tincher concerning the site visit with Mr. Jones and Mr. Owens, which occurred on 31 August 1993 (ex. G-6).

Mr. Owens, based on his 35 years of experience throughout the southeastern United States, including Mississippi, testified, and we so find, that the aggregate in Mississippi normally runs from 5 to 7 ½ on the MOHS scale and that hard river rock runs as high as 7 to 7 ½ (tr. 1/232-33, 2/30-31). A reading of 7 to 7 ½ would be considered "very dense and hard" and was consistent with the Government's description (tr. 1/233). Mr. Owens also testified that although you cannot tell the specific hardness of the aggregate from a visual inspection, "the basic texture and the cosmetics of the rock looked exactly like the 7-½ that you see all the time" (tr. 1/238). As discussed above, Mr. Owen's judgment in this regard was the same as that of Mr. Jones.

#### *Development of the Bid*

Mr. Owens reported to Mr. Carlson that he was not able to get a sample, but that the concrete looked like Mississippi gravel. Mr. Carlson testified that, "Mr. Owens told me that it looked like the worst concrete that – you know, as far as cutting, that we could encounter. And he said, it is probably comparable to Houston, Texas, which at that time was the worst in the industry." (Tr. 2/291) Mr. Owens described it as "brown gravel, river gravel." By this Mr. Carlson understood that it was the "gravel that we had seen in northern Florida and in Texas and Louisiana, Alabama, in the same general area as Meridian. And we had also seen the same stone in Lincoln, Nebraska. There is a pocket up there, for some reason, where they get this hard gravel." (Tr. 2/292)

Mr. Carlson concluded that the solicitation language described what he had experienced in the Gulf region (tr. 2/265). In the absence of a sample to test, it was normal industry practice to base the hardness estimate on the norm for the area. None of the bidders submitted questions concerning the composition or condition of the concrete (tr. 3/68-69).

Mr. Carlson instructed Mr. Owens to tell Webb Burnett of Diamond B that "we want to base our blades on the hardest case scenario" (tr. 2/294, 305). Mr. Owens suggested that they talk to Webb Burnett, which they did (tr. 2/259). Mr. Burnett said that Mr. Owens had often sent samples via overnight express and that if he had taken a sample on 31 August and sent it overnight express for receipt on 1 September, Burnett could have

given a quote that same day, since it only took an hour to run the test (tr. 2/152). However, Mr. Burnett agreed that since they couldn't get a sample, they should base their bid on the worst case scenario (tr. 2/260, 296). Mr. Carlson recalled that Mr. Burnett "related to me that the worst case scenario that he had ever seen was grooving concrete in Houston, Texas. He said, it was worse than anything they had encountered in Mississippi. So he used Houston as a base, as a basis." (Tr. 2/296)

The diamond blades came in sets of 22 blades, usually referred to as a head. Mr. Burnett estimated that 25,000 to 30,000 square yards of grooving per head was a reasonable estimate for the life span of the blades (tr. 2/149, 160). Mr. Burnett designed his first set of blades to cut the chert aggregate normally found in the Gulf of Mexico. Chert is primarily quartz that is fine grained, but always harder than quartz itself, according to Mr. Burnett. Mr. Burnett initially designed the diamond blades to cut aggregate measuring seven or eight on the MOHS scale. (Tr. 2/196-97)

Based on Mr. Burnett's estimate, Mr. Carlson calculated that 20 diamond blade sets would be required to groove the work area of approximately 320,000 square yards. Each set of diamond blades cost approximately \$9,000 to \$12,000. (Tr. 1/254, 2/60, 209) The appellant included 20 diamond blade sets in its bid at approximately \$10,000 per set, or \$220,000. (AR4, tab 9)

After receiving Mr. Burnett's estimate, Mr. Carlson called Costello at 9:15 p.m. on 1 September 1993 to raise his bid price to \$1.625 per square yard. This price covered the cost of the diamond blades based on 20,000 square yards per grooving head of 22 blades. It also included a production rate of 4,000 square yards per day per machine, which would have been 8,000 square yards per day using the two machines. (Tr. 2/261-62)

### *Test Run of the Diamond Blades*

After the appellant was awarded the contract and International the subcontract for the grooving portion of the work, Mr. Carlson conducted a competition among four diamond blade manufacturers. Although Mr. Carlson had a good relationship with Diamond B and fully expected that they would end up being the blade suppliers, he wanted to be sure that he was able to get the fastest blades available because the grooving schedule was very tight. (Tr. 2/232-34, 260-67)

One of those manufacturers was Penhall Diamond Products, whose efforts were under the supervision of Mr. Roger Lagow, who had over nine years of experience in formulating and manufacturing diamond blades. He had a degree in metallurgy and was the research and development manager for Penhall Diamond Products. He explained that formulating products means, "Deciding which type of metal powders, carbides, type of

diamonds, diamond size, concentrations and what have you for the different applications that arise in the field.” (Tr. 2/198-201)

Mr. Lagow was contacted by Mr. Carlson shortly after Costello was declared the low bidder, and was asked if he wanted to run some test grinding heads on the job, along with others who would be competing for the work. Mr. Lagow had not done business with Mr. Carlson before. Mr. Lagow said that it is common practice for manufacturers to show their blades in that sort of competition. Mr. Lagow also testified that it was common for diamond blade manufacturers to send their representatives for site visits at prospective projects and to collect samples. (Tr. 2/203-04)

Mr. Lagow was familiar with the MOHS scale and knew that the scale is not linear and that there is a greater distance as one moves up the scale, especially between 9 and 10, which is the diamond (tr. 2/214). After receiving the call from Mr. Carlson, Mr. Lagow reviewed his records at Penhall and talked to his colleagues within Penhall to get an idea of what type of aggregates could be expected at the site. He concluded that he would find an “aggregate that was in the MOHS range of 7 to 7 and ½” (tr. 2/205). Mr. Lagow characterized such aggregate as “a very hard, dense aggregate.” Mr. Lagow said that he would expect that the fine aggregate or sand in the runway concrete would be of an angular shape, in order to provide more friction and better traction or skid resistance. (Tr. 2/205-08, 227-28; ex. A-9) Penhall created three different heads or sets of blades. Mr. Lagow expected his diamond blade sets to have a blade life of 15,000 to 20,000 square yards per head (tr. 2/218-19).

Mr. Lagow said that the grooving effort with the Penhall blades during the competition was not successful because the “heads would immediately close up and get no diamond exposure, and actually cause so much friction that the tips of the segments would actually melt down, and – metal protruding out of the back of the segments. And that was on our blades and other blades on the job.” (Tr. 2/216)

Mr. Lagow was familiar with different types of grooving machines and recognized the machines used by International as “transverse grooving machines;” one was 225 horsepower and the other was 165 horsepower. In Mr. Lagow’s judgment International’s machines were satisfactory for the job. He did not fault the grooving machines. (Tr. 2/211-12) Mr. Burnett was also familiar with International’s grooving machines and judged them adequate for the job (tr. 2/156). We find that the grooving machines used by International were adequate. Mr. Lagow attributed the failure to the “lack of abrasion to the aggregate hardness, and low sand abrasion. It was very apparent that very little abrasion was there, and – to allow the head, or the blades to have the diamonds exposed on them.” (Tr. 2/212) Mr. Lagow testified that after his third set failed he backed off from the project because Diamond B blades seemed to be getting the best production (tr. 2/218).

Mr. Carl Robert Jackson was International's supervisor on the Meridian runway project. Mr. Jackson has been involved in numerous grooving projects and had over thirteen years experience with International. (Tr. 2/230-34) He described the initial attempts to groove the concrete during the competition. "At first when we tried to cut it, our blades wouldn't even cut it and it would set up a really high-frequency vibration in our machines, and it would just go to shaking them real bad, and making them bust" (tr 2/234). Major breakdowns were on the blade shafts, they would break completely in two. International had never broken a shaft prior to that or since that project. He had never experienced vibration of that sort with these machines at any other time. (Tr. 2/159, 235-38, 241, 252, 271, 284)

Mr. Carlson testified that he became concerned when they put the second set of blades on and they too failed, "When we put the second two heads on, and the same thing happened, that is when we started to worry. And when the original four manufacturers starting [sic] flying grooving heads in one after the other to try to find a blade that would cut this rock, that is when we started to – we didn't know what we were going to do. We had the best in the business there, and they couldn't fix it." (Tr. 2/283) Mr. Carlson testified that they ran into something which nobody anticipated — the extreme toughness of the aggregate in the concrete, and the lack of any kind of sand to help keep the diamonds exposed (tr. 2/271). The four diamond blade manufacturers were Diamond B, Penhall, Cushion Cut, and Ultra Diamond (tr. 2/301-02). The heads from Diamond B gave the best production.

### *Contract Performance*

Mr. Carlson explained that as a result of the extreme unforeseen hardness of the aggregate, "[i]nstead of four people on the job, I had eight people on the job. Instead of running the machines ten to twelve hours a day, we were running them 24 hours a day. We were flying heads in and out like crazy. Federal Express was having a field day." (Tr. 2/238-39, 273) Mr. Carlson testified that they had figured on doing the work with 20 sets of blades, but ended up using almost 60 sets of blades (tr. 2/273-74).

On cross-examination Mr. Carlson was asked if his grooving schedule was a tight one, and Mr. Carlson said that it was (tr. 2/302-03). Mr. Carlson was also asked if it wasn't risky, with such a tight schedule, to wait until the competition to decide which brand of blades to use. Mr. Carlson said that that was the usual way to do business and that it hasn't been risky for the 35 years he has been doing it (tr. 2/303).

After award of the contract, Diamond B performed a MOHS test on the concrete. The aggregate tested at a 9+ on the MOHS scale and the sand was mostly round and dull. (Ex. A-19) On 13 December 1993 the best blade production out of a head was 6,600

square yards, well below the anticipated 20,000 square yards. On 13 December 1993 International provided Costello Industries with written notice of the unexpected conditions of the concrete and problems it was experiencing in grooving the runway — the “hardest concrete known to man (unknown until this project).” (AR4, tab 10) On 15 December 1993 Costello forwarded this notice to the Navy (AR4, tab 11).

### *Mississippi State Tax*

None of the vendors or subcontractors of the appellant expressed any concern about being required to pay the Mississippi State tax on the grooving and repair work on the runways. The contractor concluded that the tax did not apply to this contract. The contractor did not include the tax in its bid. (Tr. 1/66; ex A-3) However, the State of Mississippi subsequently levied a tax of 3.5 percent (approximately \$70,000) on the total value of the contractor’s work on this contract. The contractor contested the tax before the Mississippi Tax Department with Mississippi counsel and ultimately, after an appeal and remission of interest and penalties, paid the assessment. (Tr. 1/43-46, 76, 96)

On 3 October 1994 the appellant submitted its claims concerning the Mississippi State tax and the differing site condition with respect to the grooving operation (R4, tab 3). By a final decision of 7 June 1995 a Navy contracting officer denied both of the claims (R4, tab 6). Appeal was timely taken by notice dated 31 August 1995.

### DECISION

The appellant argues that the hardness of the concrete pavement was a type I, or, alternatively, a type II differing site condition. The appellant relies in the first instance on the contract provision directing the contractor to “base his bid on the assumption that [the] concrete pavement contains a very dense, hard, gravel aggregate.” (R4, tab 1, section 20679, part 1.1) The contractor relies in the second instance on the fact that the extreme hardness of the concrete pavement was materially different from the known and usual hardness. The Government argues that there was not a differing site condition and that a reasonable site investigation would have disclosed the condition.

Both parties provided an extensive analysis of the facts from the perspectives of both type I and type II differing site conditions. The parties agree that the contract required the contractor to “base his bid on the assumption that [the] concrete pavement contains a very dense, hard, gravel aggregate.” (R4, tab 1, section 02679, part 1.1) We found that the aggregate registered a 9+ on the MOHS scale with mostly rounded sand. The appellant argues that the aggregate was thus materially different from what was indicated in the contract. Such a difference, argues the appellant, is a type 1 differing site condition, under (a)(1) of the differing site conditions clause.

The Government contends that the description of the aggregate did not constitute an indication of the condition of the aggregate because it did not indicate the MOHS level of the aggregate. However, it is clear that the contract unambiguously indicated that the “concrete pavement contains a very dense, hard, gravel aggregate.” *Id.* The question then, is what did this description indicate with respect to the condition of the aggregate in the concrete. We found that this description of the concrete was intended by the Government, and understood by the appellant and others, to do no more than describe the type of aggregate normally or ordinarily found in Mississippi concrete. Thus, it may be said that we have a situation where the Government affirmatively indicated (type I) that the condition of the aggregate is what would ordinarily be encountered (type II) in concrete in Mississippi.

A type II differing site condition requires proof of the recognized and usual physical conditions at the contract site, proof of the actual physical conditions, proof that the conditions differed from the known and the usual, and proof that the different conditions caused an increase in contract performance. *Charles T. Parker Construction Co. v. United States*, 433 F.2d 771, 778 (Ct. Cl. 1970); *Steele & Sons, Inc.*, ASBCA No. 49077, 00-1 BCA ¶ 30,837.

Thus, the appellant must first prove what the recognized and usual physical conditions were at the site. *Steele & Sons, Inc.*, 00-1 BCA at 152,199. Everyone agreed that the recognized and usual condition at the site was concrete composed of a very dense, hard gravel aggregate. The uncontroverted evidence was that such gravel in Mississippi measured no more than 7 to 7 ½ on the MOHS scale. The evidence is also uncontroverted that the aggregate actually found in the concrete measured 9+ on the MOHS scale. This established that the aggregate found in the concrete was materially harder than what was normally found in the area.

The Government correctly argues that if the appellant could have discovered the unusual hardness of the aggregate by a reasonable site investigation, then the appellant is held to have known what could have been discovered. *Huntington Constr., Inc.*, ASBCA No. 33526, 89-3 BCA ¶ 22,150 at 111,479, *recon. denied* 90-2 BCA ¶ 22,727. The Government contends that the appellant did not make a reasonable site inspection because a reasonable site inspection included taking and analyzing a sample of the concrete from the runway. The Government argues that a reasonable site inspection required the appellant to make a timely written request to obtain a sample of the concrete and conduct a MOHS test.

The Government’s contention is not well founded. The Government twice refused requests for samples of the concrete. Having twice denied requests for samples, the Government cannot be heard to demand that samples should have been taken. Having relied on a reasonable site inspection, the appellant had a right to rely on the

Government's direction to base its bid on the assumption that the aggregate was a very dense, hard gravel aggregate normally found in the area. *Vann v. United States*, 420 F.2d 968, 983 (Ct. Cl. 1970). Further, the evidence was uncontroverted that it was acceptable industry practice, in the absence of a sample, to base the assumptions as to the concrete on the known MOHS rating of the aggregate normally found in the area.

We found that the actual condition of the aggregate in the concrete registered a 9+ on the MOHS scale. This was materially different from what was known to usually be found in concrete in the Mississippi area. This unusual hardness caused the contractor increased costs. Like the case of *Townscow Contracting Company*, ASBCA No. 13742, 71-2 BCA ¶ 8962, where we found that the presence of micro-particles in the concrete, which coated and dulled the diamond blades, was a type II differing site condition, the extreme hardness of the aggregate in this case is a type II differing site condition. See also *Wade Perrow Construction, Inc.*, ASBCA No. 50714, 97-2 BCA ¶ 29,250 (the unusual difficulty in removing part of the pool liner, because of extra liner layers, was a type II differing site condition).

With respect to the Mississippi tax, the appellant argues that it reasonably interpreted the language of the Mississippi state tax notice as indicating that the tax would not be applicable to this contract; and, the appellant having acted reasonably, the Government should reimburse it for the payment of the Mississippi tax. The appellant argues that the Government should not receive a windfall for having the work done without absorbing the tax. The unstated premise of the appellant's argument is that the Government's notice misinformed the appellant as to the applicability of the Mississippi tax.

It is true that the Government appears to benefit from the appellant's failure to include the Mississippi tax in its bid price, as was required by the Federal, state, and local tax clause of the contract. However, appellant's failure was not caused by the Government. The Government had no special knowledge about the applicability of the tax. The Government knew of the tax provisions and shared this knowledge with the appellant. The notice was a fair summary of the applicability of the rule 41 tax, and it was not misleading as to the applicability of the tax to the runway grooving project, which was not specifically identified in the notice or the actual text of rule 41. The appellant simply made a judgmental mistake in its bid. That mistake is not compensable.

### CONCLUSION

The appeal is sustained as to appellant's entitlement to an equitable adjustment for the differing site conditions claim, but denied as to its claim for reimbursement of the Mississippi taxes. The parties are directed to resolve the quantum. If they fail to agree,

either party may return to this Board for determination of the amount of the equitable adjustment.

Dated: 31 August 2000

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RONALD A. KIENLEN  
Administrative Judge  
Armed Services Board  
of Contract Appeals

I concur

I concur

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MARK N. STEMLER  
Administrative Judge  
Acting Chairman  
Armed Services Board  
of Contract Appeals

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EUNICE W. THOMAS  
Administrative Judge  
Vice Chairman  
Armed Services Board  
of Contract Appeals

I certify that the foregoing is a true copy of the Opinion and Decision of the Armed Services Board of Contract Appeals in ASBCA No. 49125, Appeal of Costello Industries, Inc., rendered in conformance with the Board's Charter.

Dated:

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EDWARD S. ADAMKEWICZ  
Recorder, Armed Services  
Board of Contract Appeals