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THE SUPREME COURT OF THE STATE OF ALASKA

STATE OF ALASKA,)	
DEPARTMENT OF REVENUE,)	Supreme Court Nos. S-14696/14705/
)	14706/14716/14725
Appellant and)	
Cross-Appellee,)	Superior Court No. 3AN-06-08446 CI
)	
v.)	<u>O P I N I O N</u>
)	
BP PIPELINES (ALASKA) INC.,)	No. 7039 – August 28, 2015
CONOCOPHILLIPS)	
TRANSPORTATION ALASKA, INC.,)	
EXXONMOBIL PIPELINE)	
COMPANY, KOCH ALASKA)	
PIPELINE COMPANY, LLC,)	
UNOCAL PIPELINE COMPANY,)	
ALYESKA PIPELINE SERVICE)	
COMPANY, NORTH SLOPE)	
BOROUGH, FAIRBANKS NORTH)	
STAR BOROUGH, and CITY OF)	
VALDEZ,)	
)	
Appellees,)	
Cross-Appellants, and)	
Cross-Appellees.)	
)	

Appeal from the Superior Court of the State of Alaska, Third Judicial District, Anchorage, Sharon Gleason and Andrew Guidi, Judges.

Appearances: Kenneth J. Diemer, Assistant Attorney General, Anchorage, and Michael C. Geraghty, Attorney General, Juneau, for Appellant/Cross-Appellee State of

Alaska, Department of Revenue. Leon T. Vance, Faulkner Banfield, P.C., Juneau, and Alexander O. Bryner, Feldman Orlansky & Sanders, Anchorage, for Appellees/Cross-Appellants/Cross-Appellees BP Pipelines (Alaska) Inc., ConocoPhillips Transportation Alaska, Inc., ExxonMobil Pipeline Company, Koch Alaska Pipeline Company, LLC, Unocal Pipeline Company, and Alyeska Pipeline Service Company. Jessica Dillon and Mauri Long, Dillon & Findley, PC, Anchorage, for Appellee/Cross-Appellant/Cross-Appellee North Slope Borough. A. Rene Broker, Borough Attorney, Fairbanks, and Robin O. Brena, Kevin G. Clarkson, Anthony Guerriero, and Laura S. Gould, Brena, Bell & Clarkson, PC, Anchorage, for Appellee/Cross-Appellant/Cross-Appellee Fairbanks North Star Borough. William M. Walker, Craig W. Richards, and Jon S. Wakeland, Walker & Richards, LLC, Anchorage, for Appellee/Cross-Appellant/Cross-Appellee City of Valdez.

Before: Fabe, Chief Justice, Winfree, Stowers, Maassen, and Bolger, Justices.

STOWERS, Justice.

I. INTRODUCTION

This is an appeal of the superior court's de novo valuation of the Trans-Alaska Pipeline System (TAPS) for tax assessment years 2007, 2008, and 2009. In February 2014 we issued a decision affirming the superior court's de novo valuation of TAPS for the 2006 assessment year.¹ The parties introduced considerably more evidence during trial for the 2007, 2008, and 2009 years, but the operative facts remained substantially the same and the superior court applied similar standards and methods for valuation. Many of the issues raised on appeal are similar or identical to issues raised

¹ *BP Pipelines (Alaska) Inc. v. State, Dep't of Revenue*, 325 P.3d 478 (Alaska 2014) (*BP Pipelines I*).

in the 2006 appeal and thus are partially or wholly resolved by our prior opinion. Because the superior court did not clearly err or abuse its discretion with regard to any of its findings or its methodology, and because it committed no legal error in its conclusions, we affirm.

II. FACTS AND PROCEEDINGS

A. Facts

TAPS is an 800-mile-long oil pipeline system that connects the Alaska North Slope oil reserves to a shipping terminal in Valdez. The pipeline was constructed between 1974 and 1977 at a cost of approximately \$8 billion. This appeal involves a dispute over the value of TAPS for property tax purposes during the assessment years 2007, 2008, and 2009. Because this is our second appeal involving TAPS, we provide only a brief overview of the facts.

Under Alaska law municipalities “may levy and collect a tax on the full and true value” of oil and gas property, including pipelines, but only the Department of Revenue may assess the value of that property.² Alaska Statute 43.56.060(e)(2) requires an assessor to determine the “the full and true value” of oil and gas production and transportation facilities “with due regard to the economic value of the property based on the estimated life of the proven reserves of gas or unrefined oil then technically, economically, and legally deliverable into the transportation facility.” A party may appeal the Department’s valuation to the State Assessment Review Board.³ The Board’s

² AS 29.45.080(b); AS 43.56.060(a).

³ AS 43.56.120(a).

decision is, in turn, appealable to the superior court, which reviews the Board’s decision in a trial de novo.⁴

Before 2001 there were no administrative or court challenges involving the value of TAPS. The Department had previously used an income method⁵ to assess TAPS’s value, relying on tariff income as the primary source of value, and the ultimate valuation was reached in a negotiated settlement between the Department and TAPS’s Owners.⁶ For the 2001 tax year the Owners and the Municipalities⁷ appealed the Department’s valuation of \$2.75 billion to the Board. The Board adjusted the valuation to \$3.017⁸ billion and suggested that accurately valuing the pipeline was difficult because there had never been a replacement cost study for TAPS. For the 2002 to 2004 tax years the Department, Owners, and the Municipalities stipulated to a value of \$3.017 billion. For the 2005 tax year the Department used the replacement-cost-new-less-depreciation

⁴ AS 43.56.130(i).

⁵ Under the income approach, “[t]he appraiser determines the present value of the future economic benefits of owning the property.” AM. SOC’Y OF APPRAISERS, VALUING MACHINERY AND EQUIPMENT: THE FUNDAMENTALS OF APPRAISING MACHINERY AND TECHNICAL ASSETS 571 (2d ed. 2005).

⁶ The Owners refer to themselves as “Taxpayers” in their briefing. For consistency with the superior court’s decision and our decision in the 2006 appeal, we refer to them as the Owners. The Owners of TAPS are BP Pipelines (Alaska) Inc. (46.9%), ConocoPhillips Transportation Alaska, Inc. (28.3%), ExxonMobil Pipeline Company (20.3%), Koch Alaska Pipeline Company (3.1%), and Unocal Pipeline Company (1.4%). The Alyeska Pipeline Service Company is the operating agent for the Owners and is also an appellee/cross-appellant/cross-appellee.

⁷ We refer to the North Slope Borough, the Fairbanks North Star Borough, and the City of Valdez collectively as the Municipalities.

⁸ The precision of values given in the record varies. For consistency, we round all values to three decimal places, or the nearest \$1 million.

method,⁹ also called the cost approach, and arrived at a value of \$3 billion. The Owners and Municipalities appealed the 2005 assessment; the Board affirmed the valuation and agreed with the Department's conclusion that the income method was unreliable and TAPS should be valued using a cost approach.

For the 2006 tax year the Department again relied on the replacement-cost-new-less-depreciation methodology and determined an assessed value of \$3.641 billion. Both the Owners and the Municipalities appealed to the Board, which, using the same methodology but rejecting certain deductions the Department made, adjusted the value to \$4.306 billion.¹⁰ The parties then appealed to the superior court.¹¹

In the 2006 appeal the superior court concluded that the Department and the Board correctly used a replacement-cost-new-less-depreciation method to value TAPS.¹² In October 2010 the superior court issued its decision following a trial de novo. The superior court found that the Municipalities' cost study was more reliable and accurate than those relied on by the Department and the Board.¹³ The court also determined that a scaling adjustment¹⁴ for excess capacity should be made as a form of

⁹ Under the replacement-cost-new-less-depreciation or cost approach, "[t]he appraiser starts with the current replacement cost new of the property being appraised and then deducts for the loss in value caused by physical deterioration, functional obsolescence, and economic obsolescence." AM. SOC'Y OF APPRAISERS, *supra* note 5, at 561.

¹⁰ *BP Pipelines I*, 325 P.3d 478, 481 (Alaska 2014).

¹¹ *Id.*

¹² *Id.*

¹³ *Id.*

¹⁴ Scaling, also called an inutility penalty, measures the decrease in value due
(continued...)

economic obsolescence rather than functional obsolescence.¹⁵ The superior court's final valuation for the 2006 year was \$9.978 billion.¹⁶ In our opinion issued in February 2014 we affirmed the superior court's decision, finding no error in the superior court's valuation decision or its specific deductions made to account for depreciation.¹⁷

For the 2007 assessment year, the Department assessed TAPS's value at \$4.578 billion, which the Board adjusted to \$4.589 billion. For the 2008 assessment year, the Department valued TAPS at \$7.166 billion, relying for the first time on a ProPlus cost study provided by the Municipalities. The Board, utilizing the same study but making some adjustments, concluded that the value of TAPS in 2008 was \$6.154 billion. Finally, for the 2009 assessment year, the Department valued TAPS at \$7.715 billion, and the Board concluded that the value was \$9.046 billion.

B. Proceedings

The superior court considered the appeals for the assessment years 2007, 2008, and 2009 together in a trial de novo that lasted approximately nine weeks beginning on September 6, 2011.

The Municipalities asserted that the value of TAPS for each of the years in question should be about \$14 billion, while the Owners asserted that the value should be little more than \$1 billion. The reason for the difference in these values was that the Owners continued to argue for the income approach to valuation, which would limit

¹⁴(...continued)
to operation below rated or design capacity. *See* AM. SOC'Y OF APPRAISERS, *supra* note 5, at 97; *BP Pipelines I*, 325 P.3d at 499 & n.16 (citing AM. SOC'Y OF APPRAISERS, *supra* note 5, at 97, for scaling analysis).

¹⁵ *BP Pipelines I*, 325 P.3d at 481.

¹⁶ *Id.*

¹⁷ *Id.* at 496.

TAPS's value based on its tariff income, while the Municipalities advocated for a cost approach using the replacement-cost-new-less-depreciation method.

Both the Municipalities and the Owners relied upon different replacement-cost-new (RCN) surveys than they did in the 2006 trial — the Municipalities submitted a ProPlus RCN that replicated the existing pipeline diameter and capacity of TAPS, and the Owners submitted a Stantec RCN with a much smaller pipeline diameter to account for the low volume of oil then flowing through the pipeline. The Owners' appraiser applied the "breakdown method" to account for depreciation, which quantifies each type of depreciation individually.¹⁸ The Municipalities argued for continued application of the economic age-life method,¹⁹ as in the 2006 case. All parties submitted substantial evidence relating to TAPS's proven reserves, including expert reports from each party. And the Municipalities and the Owners submitted voluminous evidence relating to possible minimum flow rates for TAPS.

Although in the 2006 case there was disagreement regarding whether a deduction for economic obsolescence²⁰ had actually been litigated, it was exhaustively litigated for the 2007, 2008, and 2009 years. The Municipalities argued strenuously that

¹⁸ The breakdown method "identifies specific elements of depreciation and treats each element separately." APPRAISAL INST., THE APPRAISAL OF REAL ESTATE 410 (13th ed. 2008). It "segregates total depreciation into individual component parts: Physical deterioration[,], Functional obsolescence[,], and] External obsolescence." *Id.* at 424.

¹⁹ "In the economic age-life method, total depreciation is estimated by calculating the ratio of the effective age of the property to its economic life expectancy and applying this ratio to the property's total cost." *Id.* at 420.

²⁰ Economic obsolescence is defined as "[a] form of depreciation or loss in value or usefulness of a property caused by factors external to the property." AM. SOC'Y OF APPRAISERS, *supra* note 5, at 565.

any deduction for economic obsolescence was unwarranted, or if it was warranted, it was outweighed by positive external economic factors. They submitted evidence regarding the Owners' profitability and the then-high price of oil. The Municipalities also offered evidence that the mechanical limit of TAPS without using drag reducing agents is 760,000 barrels (bbl) per day, and argued that this limit should be used as TAPS's "full capacity" if the court chose to account for low throughput. The parties also contested whether only the pipeline should be scaled for low throughput or whether all TAPS property — including the Valdez Marine Terminal and the pumps — should be scaled.

As it did in the 2006 case, the superior court found that TAPS was a limited-market, special-purpose property. The court again determined that the replacement-cost-new-less-depreciation method was the most accurate method for valuing TAPS. The court found that the ProPlus replacement cost study provided by the Municipalities was more accurate than the Stantec study provided by the Owners. It further found that TAPS's status as a regulated pipeline did not result in any further diminution of its value and rejected the Owners' attempts to apply either an income approach or an income shortfall approach²¹ in order to account for governmental regulation of TAPS.

The court again applied the economic age-life method as an approximation of physical, functional, and economic obsolescence, and it rejected the Owners' argument for the breakdown method. The court was unpersuaded by the Municipalities' arguments against an economic obsolescence deduction, and it deducted for additional obsolescence not captured by the economic age-life method. In deducting for economic

²¹ The Owners also argued for this methodology in the 2006 case. *BP Pipelines I*, 325 P.3d at 488-89. The "income shortfall" approach involves comparing the tariffs that could be charged on a new pipeline with the tariffs currently charged. *Id.*

obsolescence, it agreed with the Municipalities that the number to use as TAPS's full capacity should not be its maximum capacity achievable only with drag reducing agents, but the court disagreed that it should use TAPS's mechanical limit. Instead, the court scaled TAPS using TAPS's original design basis, after finding that the ProPlus RCN had the same design capacity as the original TAPS. And the court scaled all TAPS property, not just the pipeline.

The superior court determined that TAPS's value was \$8.941 billion in 2007, \$9.644 billion in 2008, and \$9.249 billion in 2009. All of the parties now appeal various aspects of the superior court's decision.

III. STANDARD OF REVIEW

In an appeal from the superior court's review of an administrative decision in a trial de novo we review only the superior court's decision.²² "We review the superior court's factual findings under the clearly erroneous standard and will not overturn a factual finding unless 'left with the firm and definite conviction on the entire record that a mistake has been made.'"²³ We review questions of law de novo,²⁴ and "[o]ur duty is to adopt the rule of law that is most persuasive in light of precedent,

²² *Id.* at 482 (citing *City of Nome v. Catholic Bishop of Northern Alaska*, 707 P.2d 870, 875 (Alaska 1985)). Because we review only the superior court's decision, we cannot apply a substitution of judgment or rational basis standard to the Board's decision. *See id.* at 485.

²³ *Id.* at 482 (quoting *City of Nome*, 707 P.2d at 876).

²⁴ *Nash v. Matanuska-Susitna Borough*, 239 P.3d 692, 698 (Alaska 2010).

reason, and policy.”²⁵ Whether the superior court itself applied the correct standard for reviewing the Board’s decision is a question of law that we review de novo.²⁶

We review the superior court’s decision to apply collateral estoppel for abuse of discretion.²⁷ “We will find an abuse of discretion when the decision on review is manifestly unreasonable.”²⁸

IV. DISCUSSION

A. The Superior Court Did Not Err By Requiring Public Disclosure Of Taxpayer Information.

During the trial de novo the Municipalities moved to introduce exhibits that the Department argued contained confidential information. Among the exhibits were production reports provided by the Department’s expert, and also references to communications with operators and field-by-field forecasts. The Department was worried that the under-development and under-evaluation totals for different fields could be extrapolated from the information contained in the documents. The superior court eventually admitted the documents in redacted form.

The Department asserts that the superior court erred by admitting the documents. It argues that under AS 40.25.100(a) all “information designated confidential by the taxpayer, or the Department, or confidential taxpayer information the Department used in preparing its own documents” is not public record and must not be

²⁵ *BP Pipelines I*, 325 P.3d at 482 (quoting *Guin v. Ha*, 591 P.2d 1281, 1284 n.6 (Alaska 1979)) (internal quotation marks omitted).

²⁶ *Smith v. Weekley*, 73 P.3d 1219, 1222 (Alaska 2003) (quoting *Barrett v. Alguire*, 35 P.3d 1, 5 (Alaska 2001)).

²⁷ *See Misyura v. Misyura*, 242 P.3d 1037, 1040 (Alaska 2010).

²⁸ *Ranes & Shine, LLC v. MacDonald Miller Alaska, Inc.*, ___ P.3d ___, Op. No. 7003 at 7, 2015 WL 1958657, at *3 (Alaska May 1, 2015).

publicly disclosed.²⁹ But AS 40.25.100(a) expressly does not apply to information required to be produced in court proceedings. It allows release of information “when its production is required in an official investigation, administrative adjudication under AS 43.05.405-43.05.499, *or court proceeding.*”³⁰ The superior court did not err by concluding that AS 40.25.100(a) did not prevent public disclosure of the exhibits and production forecasts, as redacted.

B. The Superior Court Did Not Err By Applying The “Use Value Standard” To Value TAPS.

Despite our decision in *BP Pipelines I* holding otherwise,³¹ the Owners still argue that the application of a “use value” standard was improper. They mainly argue that the superior court failed to account for the legal restrictions on TAPS, thereby valuing the pipeline at a use that it cannot actually fulfill: an unregulated pipeline moving the Owners’ oil to market. And they argue that the court should have used the

²⁹ The Department argues that it should prevail because there is a reasonable basis to support its interpretation of AS 40.25.100(a). The superior court’s order did not mention AS 40.25.100(a). Instead, the court referenced its reasoning in an earlier order on the confidentiality of documents, which focused on the common law right of access to court records and trade secret law. It is thus not clear what weight, if any, the superior court gave to the Department’s interpretation of AS 40.25.100(a). But even if the Department’s interpretation was entitled to some deference, the superior court would have been correct to reject the Department’s interpretation.

³⁰ AS 40.25.100(a) (emphasis added).

³¹ In the 2006 appeal we held that AS 43.56.060 does not require a market value standard and that the superior court permissibly applied the use value standard to value TAPS. *BP Pipelines I*, 325 P.3d 478, 483-86 (Alaska 2014) (“The plain text and history of AS 43.56.060 indicate that the legislature did not intend for ‘fair market value’ to be the only allowable standard for the assessment of pipeline property.” *Id.* at 483). Initially, the Owners again argued that AS 43.56.060 required valuing TAPS at market value, but they have since recognized in their supplemental briefing to this court that our decision in the 2006 appeal forecloses that contention.

income method of valuation or applied the “income shortfall technique” to the replacement-cost-new-less-depreciation method to account for the fact that tariffs are the pipeline’s only certain economic value.³² Each of these arguments is a variant of the Owners’ claim that the superior court erred by not using an income approach to value TAPS.

1. “Use value” does not value TAPS based on an unlawful use.

The Owners argue that the only legally permissible use of TAPS is as a regulated common-carrier pipeline available to all shippers. They contend the superior court erred by finding that TAPS was a “non-investment property within each Owner’s integrated system” and determining that its “highest and best use was to transport oil from the North Slope to Valdez for [Owners’] affiliates in an integrated system.” But there is no authority supporting the Owners’ position that the value of TAPS for tax assessment purposes must be based only on the tariff income it generates. And the

³² The Owners also argue that by considering any value other than tariff income, the superior court improperly valued non-TAPS property, specifically the North Slope oil reserves. They argue that new testimony in this case “demonstrat[es] that the goal of the valuation was to capture the value of non-taxable property.” This new testimony — from a Municipality expert — is that TAPS’s value is in monetizing the North Slope reserves. This testimony is consistent with the testimony in the 2006 appeal — that TAPS’s value is in moving the Owners’ oil to market; it is not new. The superior court was not “captur[ing]” the value of the North Slope reserves; it was examining what drove TAPS’s value in order to choose the appropriate valuation method for the pipeline property. The superior court made clear that the taxable property did not include oil and gas reserves: it explained that “TAPS’[s] taxable property includes only the tangible real and personal property from Pump Station 1 through the [Valdez Marine Terminal].” As in the 2006 appeal, the Owners “have not shown that the superior court considered the value of Alaska North Slope oil reserves for any other reason than to support the conclusion that the Trans-Alaska Pipeline System has a unique use value distinct from its tariff income.” *BP Pipelines I*, 325 P.3d at 486.

superior court’s decision to value TAPS based on its actual use — transporting oil and gas from the Alaska North Slope for affiliated producers — is well supported.

The superior court found that TAPS is a special-purpose property that was “specifically designed, constructed, and adapted for its particular use — to move affiliated crude oil from the [Alaska North Slope] to Valdez.” The court also found that “TAPS is a limited-market property,” with no real market for ownership interests in TAPS outside of the Alaska North Slope oil producers. The court found that four of the five TAPS owners are vertically integrated oil companies that ship their own oil through TAPS, and the fifth, Koch Alaska Pipeline company, “has an affiliate [whose] contract with the State provides it with oil for delivery to the largest refinery connected to TAPS.” The superior court relied in part on the Owners’ appraisal expert’s testimony — that the owners of TAPS would not sell TAPS even for \$20 billion if the sale were “for the expressed purpose of shutting TAPS down” — to find that there was “no market for TAPS as a stand-alone investment based solely on its tariff income.” The superior court also found that TAPS’s highest and best use was its current use — “the transport of [Alaska North Slope] oil to market.”

Based on these findings, the superior court concluded that the Board’s use value standard, which based the value of TAPS “on the economic value of its continued use in transporting [Alaska North Slope] proven reserves to market, has not been demonstrated to constitute a fundamentally wrong principle of valuation.” In conformance with our decision in the 2006 appeal, and based on the court’s findings in the current case, it was not error to assess TAPS under a use value standard.³³

³³ See *BP Pipelines I*, 325 P.3d at 486 (holding that “[i]n light of these unchallenged factual findings, we cannot conclude that it was error to assess the Trans-Alaska Pipeline System under a use value standard”).

2. Legal regulation does not cause economic obsolescence in TAPS.

The Owners argue, as they did in the 2006 appeal,³⁴ that even if the court properly applied a use-value standard and used the replacement-cost-new-less-depreciation method to value TAPS, it erred by failing to reduce the value of TAPS due to legal restrictions on its use. The Owners argue that the legal restrictions are a form of external obsolescence.³⁵ The Owners' appraisers again applied this deduction using what is termed an "income shortfall" method.

We again agree with the superior court that "if the income shortfall method was applied based on tariff income, the [replacement-cost-new-less-depreciation] valuation would no longer reflect the 'full and true' economic value of TAPS as a critical component of the integrated [Alaska North Slope] production and transportation system." And we again express our scepticism with the income shortfall method of valuation.³⁶ But, as in the 2006 case, the record simply does not reflect that the regulation adversely affects the value of the pipeline. The facts have not changed. Relying on similar, and at times identical, evidence, the superior court again rejected the income shortfall method and found that "[t]he record does not support the proposition

³⁴ In the 2006 appeal we held that "the superior court did not err by refusing to treat tariff regulations as a form of economic obsolescence." *BP Pipelines I*, 325 P.3d at 489. In reaching that conclusion we observed that "the superior court heard ample testimony that [the Owners' income shortfall method] of calculating depreciation is not a widely accepted appraisal practice, nor does it appear in any widely accepted appraisal manuals." *Id.* But we ultimately rested our conclusion on the superior court's finding that tariff regulation is simply not a source of external obsolescence. *Id.*

³⁵ The Owners suggest that "[l]egal regulation in general, and tariff regulation in particular, make TAPS less valuable to own than a newly constructed property would be, requiring a deduction for external obsolescence."

³⁶ See *BP Pipelines I*, 325 P.3d at 489. The superior court referenced significant evidence that the income shortfall method is not widely accepted.

that the regulatory status of TAPS negatively affects its economic value.” The superior court’s determination that economic regulation does not affect the pipeline is not clearly erroneous. We hold that the superior court did not err by refusing to apply an economic obsolescence deduction based on tariff regulations.

C. The Superior Court Did Not Err In Calculating The Total Proven Reserves For 2007-2009 And Estimating The Economic Life Of TAPS.

The Department, Owners, and Municipalities each challenge the superior court’s end-of-life determination. The Department argues that the court wrongly relied on production forecasts produced by the Municipalities’ expert, Dudley Platt, which the Department claims are less reliable than the production forecasts provided by its expert, Frank Molli. The Municipalities challenge the court’s use of a 100,000 bbl/d minimum mechanical throughput for TAPS, arguing that no minimum should have been applied. And the Owners argue that the minimum throughput should have been higher than 100,000 bbl/d.

1. The superior court did not clearly err in relying on Platt’s production forecasts.

The superior court concluded that production forecasts and economic life estimates prepared by Platt were more reliable than those prepared by the Department’s and Owners’ experts. Platt’s forecast used a “decline curve analysis at the pool level, as opposed to a well-by-well analysis” (used by the Department and the Owners), and the superior court found that “a pool-based analysis is generally preferable to a well-based analysis.” The court consequently found that Platt’s forecasts were more reliable than those prepared by the Department and the Owners.

A decline curve analysis is a required component of forecasting the life of proven reserves.³⁷ One component of a decline curve is the “b-factor,” which determines the shape of the curve of predicted future reservoir production.³⁸ In his report Platt included some b-factors that were one or greater. The superior court found that “[a] b-factor greater than [one] projects infinite production over an infinite period of time.” But the court noted that “forecasters use economic tests to terminate production at some point several decades in the future,” making the concern regarding a b-factor greater than one irrelevant.

The Department suggests that its expert, Molli, was better credentialed and used more accepted methods than Platt. And the Department criticizes Platt’s use of b-factors greater than one. The Department argues that it is well accepted that a b-factor greater than one represents an infinite or unbounded reserve, which is technically impossible.

In this case the superior court reviewed enormous amounts of evidence on oil- and gas-field production forecasts generally and the use of b-factors specifically. The superior court found that “Platt is one of the preeminent production forecasters in the state,” and his estimates of economic life correlated well with the estimates BP submitted to the United States Securities and Exchange Commission in connection with other proceedings unrelated to assessing the value of TAPS. And the superior court

³⁷ Decline curve analysis is a means of predicting future oil well or gas well production based on past production history. *See* J.J. Arps, *Analysis of Decline Curves*, 160 TRANSACTIONS OF THE AIME 228, 228-229 (Dec. 1945).

³⁸ The b-factor controls the amount of curvature on the decline curve. A b-factor of zero will produce a straight line, and as the b-factor increases, more curvature is apparent. Thus, a higher b-factor will result in a longer forecasted production. *See id.* at 242.

found that Platt’s economic testing was reliable and that “[overall] . . . Mr. Platt’s production forecast and economic testing [was] persuasive.”

The record does not show that Platt’s use of a b-factor greater than one had a material effect on TAPS’s projected end of life. The fact that projected production continues for an infinite time period using one b-factor, but only for billions of years using another, is not in any way instructive on which projection more accurately predicts pool decline over the relevant period — the next several decades. While there appears to be legitimate debate regarding the methods used by each of the expert forecasters, no party has presented evidence sufficient to show that the superior court clearly erred in choosing the production forecast it relied on to predict TAPS’s end of life.

2. It was not error as a matter of law for the superior court to apply a minimum throughput, and the minimum flow rate it chose was not clearly erroneous.

The Municipalities argue that the court erred by applying a minimum throughput limitation for TAPS when determining the life of the estimated proven reserves under AS 43.56.060. The Owners argue that the court correctly applied a minimum throughput limitation, but that the court’s minimum throughput limit of 100,000 bbl/d was too low.

a. Applying a minimum throughput limitation was not error.

The superior court held that AS 43.56.060(e)(2) “does not expressly require the [c]ourt to consider the transportation facility’s hydraulic, mechanical, or operational capacity to transport all of those proven reserves.” Nevertheless, the court concluded that the Board’s interpretation that the statute requires a minimum throughput determination was reasonable, and the court deferred to that interpretation. The Municipalities argue that the superior court erred by deferring to the Board’s interpretation because it is not consistent with the Board’s application of

AS 43.56.060(e)(2) to other pipelines in the state. They further argue that there is no evidence in the record of a specific minimum mechanical throughput limitation for TAPS.

Alaska Statute 43.56.060(e)(2) provides that the full and true value of an oil or gas transportation facility must be determined “with due regard to the economic value of the property based on the estimated life of the proven reserves of gas or unrefined oil then technically, economically, and legally deliverable into the transportation facility.” As the superior court correctly explained, the statute nowhere mandates consideration of a “facility’s hydraulic, mechanical, or operational capacity.” But neither does it prohibit consideration of those factors. To the extent that a facility does have a minimum throughput capacity, failing to account for that minimum capacity would overvalue the facility by attributing value to transporting oil that is not physically capable of being transported.

The superior court noted that “[a]t trial, many expert witnesses testified that they were unaware of any pipeline that had suspended transportation service for oil that was otherwise economic to produce due to mechanical, hydraulic or operational limitations of the pipeline.” But in this case the record supports the superior court’s finding that TAPS has a minimum mechanical throughput limitation. The superior court reviewed multiple studies that discussed minimum operating levels from 300,000 bbl/d to as low as 50,000 bbl/d. It mainly relied on a 2010 study that BP Pipelines commissioned that set TAPS’s lowest operational level at 70,000 to 80,000 bbl/d. Thus, the superior court did not err when it applied a minimum throughput limit in its assessment.³⁹

³⁹ The Municipalities also argue that the superior court erred by applying a minimum throughput limitation to TAPS without actually determining that there was a
(continued...)

b. The superior court did not clearly err in choosing 100,000 bbl/d as the minimum throughput.

After considering extensive evidence, the superior court found that evidence supported a minimum throughput of 100,000 bbl/d. The Owners argue that evidence suggests “serious operational problems associated with lower levels of throughput, particularly for throughput levels below 300,000 [bbl/d].”

The evidence supports the superior court’s determination that TAPS can effectively operate with a throughput as low as 100,000 bbl/d. Several experts testified that there is no hydraulic constraint that would prevent TAPS from operating even at levels near zero throughput. A BP analyst, John Haines, suggested that TAPS’s operational limit is about 100,000 bbl/d. A study conducted for BP in 2004 suggested a low-flow limit for the existing pipeline of 135,000 bbl/d. In 2010 Phil Carpenter conducted a low-flow study for BP Pipelines and concluded that TAPS could operate effectively at throughputs between approximately 70,000 and 100,000 bbl/d and possibly down to 50,000 bbl/d. The Carpenter study also suggested that there could be technological options for reducing flow even further.

³⁹(...continued)

minimum limit, citing the court’s statement that “TAPS can effectively transport throughputs *at least* down to a minimum flow rate of 100,000 bbl/d.” (Emphasis added.) The court’s statement acknowledged uncertainty regarding whether the minimum mechanical throughput for TAPS is lower than 100,000 bbl/d. But it is not inconsistent with that uncertainty to set the minimum throughput at the lowest level the court found with reasonable certainty at which TAPS could continue to operate. The court’s suggestion that TAPS may be able to operate at an even lower throughput may support an argument 100,000 bbl/d is a conservative estimate, but it does not negate the estimate’s validity or mandate a lower minimum throughput determination.

Based on this evidence, the superior court did not clearly err by finding that TAPS's minimum throughput capacity was at least 100,000 bbl/d.⁴⁰

D. The Superior Court Did Not Err By Making An Economic Obsolescence Deduction For Low Throughput.

The replacement-cost-new-less-depreciation valuation method requires an assessor to deduct for three types of depreciation: physical deterioration, functional obsolescence, and economic obsolescence. Physical deterioration is the “loss in value or usefulness . . . due to the using up or expiration of [the property’s] useful life caused by wear and tear” and other like causes.⁴¹ Functional obsolescence is defined as “the loss in value or usefulness of a property caused by inefficiencies or inadequacies of the property itself.”⁴² Economic obsolescence is “the loss in value of a property by factors external to the property,” such as a decrease in demand, loss of labor or materials, increased costs of raw materials, new legislation, or the like.⁴³

The superior court applied the economic age-life method to estimate depreciation, which “[i]n its simplest form . . . considers all three forms of depreciation using a single calculation.” But the economic age-life method is limited by depreciating all property on a straight line basis; the court concluded that “[w]ithout a scaling

⁴⁰ The 2011 Alyeska Low Flow Impact Study, which suggested that TAPS's lower operational capacity limit is between 300,000 and 350,000 bbl/d, is insufficient to offset the large amount of evidence offered to the contrary. As we have said many times, “the superior court, not this court, judges the credibility of witnesses and weighs conflicting evidence.” *See, e.g., 3-D & Co. v. Tew’s Excavating, Inc.*, 258 P.3d 819, 824 (Alaska 2011) (quoting *Josephine B. v. State, Dep’t of Health & Social Servs., Office of Children’s Servs.*, 174 P.3d 217, 222 (Alaska 2007)) (internal quotation mark omitted).

⁴¹ AM. SOC’Y OF APPRAISERS, *supra* note 5, at 67.

⁴² *Id.*

⁴³ *Id.*

adjustment, the approach can lead to an overestimation of the value of pipeline property that transports declining proven reserves.”

The court recognized that low throughput decreased the value of TAPS but declined to make a functional obsolescence adjustment for superadequacy⁴⁴ because, in part, it found that TAPS’s excess capacity was required by contract.⁴⁵ Instead, the court deducted for the low throughput as a form of economic obsolescence, finding, as it did in 2006, that “while TAPS is required to have a design capacity of at least 1.1 million bbl/d, the fact that capacity is not all being used to transport affiliated oil reduces the utility and value of TAPS as of the lien date.”⁴⁶

The Municipalities argue that if an adjustment were legally allowable, the superior court erred by miscalculating it.⁴⁷ They allege that the court erred by (1) scaling

⁴⁴ A superadequacy occurs when “some aspect of the subject property exceeds market norms;” “[i]t represents a cost without any corresponding increment in value or a cost that the increment in value does not meet.” APPRAISAL INST., *supra* note 18, at 434-35.

⁴⁵ The Amended Capacity Settlement Agreement, an agreement reached among the Owners and the State, “assure[d] the State of a certain level of excess capacity to optimize the development of its natural resources.” *BP Pipelines I*, 325 P.3d 478, 501 n.53 (Alaska 2014). The agreement set TAPS’s capacity at 1.1 million bbl/d for the duration of the agreement. The superior court found that it required the Owners to maintain that capacity during the years on appeal.

⁴⁶ We conclude that the superior court did not clearly err in this finding. Evidence presented at trial again showed that TAPS was operating below its maximum throughput capacity. No party disputes this fact. And we again agree that the continued low throughput makes TAPS less valuable as an asset. AM. SOC’Y OF APPRAISERS, *supra* note 5, at 97 (“Whenever the operating level of a plant or an asset is significantly less than its rated or design capability, and the condition is expected to exist for some time, the asset is less valuable than it would be otherwise.”).

⁴⁷ As in *BP Pipelines I*, 325 P.3d at 493-95, the Municipalities also argue that
(continued...)

all TAPS property rather than just the pipeline; (2) scaling based on a capacity of 1.42 million bbl/d rather than the currently required 1.1 million bbl/d capacity or the mechanical capacity (760,000 bbl/d); (3) failing to consider the value of excess capacity; and (4) failing to account for positive external factors that would negate the deduction for low throughput.

Because the superior court's decision is supported by the evidence, we hold that the superior court's scaling calculations were not clearly erroneous. However, we note that in the future it would be helpful to see more detailed findings and reasoning in the superior court's decision on some of these issues.

⁴⁷(...continued)

(1) the superior court erred by failing to defer to the Board; (2) economic obsolescence was already counted in the economic age-life method; and (3) a scaling adjustment is inappropriate because the Owners are required to maintain the capacity. But these questions have all been resolved by our opinion in the 2006 case, as outlined below.

The Municipalities seek to apply the standard of review under which the Board reviews a Department decision, but the superior court reviews the Board's action de novo and need not give deference to the Board's decision. *See id.* at 493 (citing AS 43.56.130(i)). Second, we held in *BP Pipelines I* that the economic age-life method did not result in any double counting because "when operating level is significantly less than design capacity, 'the asset is less valuable than it would otherwise be,' and that drop in value comes not just from the decline in operating level, but also from the superadequacy that exists." *Id.* at 494-95 (quoting AM. SOC'Y OF APPRAISERS, *supra* note 5, at 97). This is intuitive because the economic age-life method only measures the economic obsolescence due to the fact that the North Slope reserves will be exhausted before the end of TAPS's useful life. It does not account for the fact that during this time TAPS will be underutilized. Finally, we held that "whether a deduction for economic obsolescence is appropriate does not depend on any obligation the Owners may have to maintain a certain capacity." *Id.* Whether the low throughput decreases TAPS's value is a question of fact, *id.* at 493, but this argument — that as a matter of law no economic obsolescence deduction may be taken for required capacity — was already considered and decided in the 2006 appeal. *Id.* at 494-95.

1. The superior court did not clearly err by scaling all TAPS property.

The Municipalities argue that even if the superior court appropriately considered excess capacity as economic obsolescence, it erred by scaling all TAPS asset categories because all other categories are assumed to be efficient at current volumes. They suggest that “[t]he court did not explain its rationale for deviating from the Assessor’s and the Board’s approaches in scaling only the pipeline.”

The Municipalities cite evidence that the Department and the Board scaled only the pipeline for the years 2008-2010, based on the Assessor’s conclusion that other TAPS facilities and property may not be sensitive to low throughput. But the evidence also shows that the Assessor applied a scaling adjustment to the entire system in 2006 and began doing so again in 2011 in response to the superior court’s decision in the 2006 assessment appeal that scaling was external rather than functional obsolescence. The Department’s assessor, Greeley, explained that “starting in 2007, in considering the obsolescence as a functional issue, I had only been scaling the pipeline portion . . . because functional obsolescence emanates from within the property and can only affect pieces and parts of the property.” But he testified that after the superior court’s decision in the 2006 appeal he thought it was “pretty obvious . . . that the source of the obsolescence is external, . . . and the obsolescence does affect the entirety of the property.” He then elaborated that it is a “tenet of appraisal theory . . . that external obsolescence affects the property in its entirety.”

And it’s really important . . . to not confuse functional obsolescence with external obsolescence. For instance, if you’ve cured a functional issue with the pumps by replacing the pumps . . . with pumps that can vary their throughput efficiently through different bandwidths, you’ve cured a functional issue. But what you haven’t cured is the diminution in value due to declining reserves that’s reflected

that [sic] the pumps are now anticipated to be only operating at 600,000 barrels a day instead of the 1.1-million-barrel-a-day upper limit on the pumps.

The superior court heard testimony and reviewed appraisal literature⁴⁸ that counseled that if the obsolescence emanates from factors outside of the property, the entire property should be scaled. The superior court did not clearly err by scaling the entire property.

2. The superior court did not clearly err by using TAPS’s design basis of 1.42 million bbl/d in its scaling calculation.

The Municipalities argue that the superior court erred by using the original design basis of 1.42 million bbl/d in its scaling calculation. The Municipalities contend that the court should have used the mechanical capacity of TAPS (the throughput achievable without use of drag reducing agents), 760,000 bbl/d, or at least the 1.1 million bbl/d design basis of the ProPlus Replacement Cost New (RCN). And they contend that it was inconsistent for the superior court to reject the Owners’ argument that the pipeline should be scaled to 2.1 million bbl/d because this throughput could be achieved only using drag reducing agents but then choose to scale to another number that is also achievable only using drag reducing agents.

The superior court found that the design capacity of the replacement pipeline was the same as the existing pipeline, 1.42 million bbl/d. But the court determined that the pumps should be scaled at a 1.1 million bbl/d capacity because that is the capacity of the existing pumps. The court explained that while ProPlus RCN’s

⁴⁸ See AM. SOC’Y OF APPRAISERS, *supra* note 5, at 99-100 (scaling the whole property in example 12); APPRAISAL INST., *supra* note 18, at 435, 442 (compare definition of superadequacy — describing a “property component that exceeds market requirements” — with economic obsolescence, which “frequently affect[s] both the land and building components of a property’s value”).

design basis is only 1.1 million bbl/d, the actual design capacity is based on the number of installed pumps and the tank capacity at the Valdez Marine Terminal and that “[t]he [replacement] 48-inch mainline pipe has exactly the same capacity as the existing TAPS 48-inch pipeline.” In contrast, in the 2013 tax year the Board began to “use the mechanical capacity of the replacement TAPS, not augmented by the use of drag reducing agents . . . because, to the extent that there is any super-adequacy, it is in the actual capacity of the TAPS itself, not in any extra capacity that could be created by external efforts that involve increased operating expenses.”

The superior court’s finding — that although ProPlus RCN’s design basis is 1.1 million bbl/d, its design capacity is that of the existing TAPS pipeline — is supported by the record. ProPlus, which designed the hypothetical replacement pipeline for the Municipalities, estimated a maximum capacity of up to 1,382,000 bbl/d without drag reducing agents. The Municipalities’ expert testified that this capacity is the same as the existing TAPS capacity, but that higher throughput can be achieved using drag reducing agents. He also suggested that the design included expandable capacity to 1.8 million bbl/d. In other words, the capacity of the existing pipeline and a hypothetical replacement pipeline can be increased well beyond a 1.1 million bbl/d design basis by adding or enhancing pumps and/or by using drag reducing agents.

One of the treatises relied upon by the parties states that unused utility is present when a plant is operating below its “rated or design capability.”⁴⁹ It explains that the scaling “measures the loss in value by reducing the capital investment from *rated*

⁴⁹ AM. SOC’Y OF APPRAISERS, *supra* note 5, at 97.

capability to the actual operating level to ‘balance’ the plant.”⁵⁰ It also uses “rated or design capacity” as the full capacity in the denominator of the scaling calculation.⁵¹

While we believe that the Board’s decision to use a mechanical limit is reasonable, the superior court’s decision to use design capability is not clearly erroneous considering that using design capability is one of the approaches advocated by the valuation treatises relied upon by the parties. Because the superior court permissibly chose to use the design capability, we hold that it did not clearly err in choosing 1.42 million bbl/d as its scaling denominator.

3. The superior court did not fail to account for the utility of excess capacity.

The Municipalities argue that the superior court should not have made a deduction for economic obsolescence because TAPS’s extra capacity has value. They argue that the extra capacity gives the Owners flexibility to ramp up production and has “day-to-day operational utility.” The Owners respond that the excess capacity does not

⁵⁰ *Id.* (emphasis added).

⁵¹ *Id.* at 98. This treatise also states that scaling is applicable when “the operating level of a plant or an asset is *significantly less* than its rated or design capability,” *id.* at 97 (emphasis added), implying that the appraiser must find the operating level to be significantly less than capacity. *See also* CAL. BD. OF EQUALIZATION, GUIDELINES FOR SUBSTANTIATING ADDITIONAL OBSOLESCENCE FOR PERSONAL PROPERTY AND FIXTURES 20 (May 2010), *available at* www.boe.ca.gov/proptaxes/pdf/10-003.pdf (using the “rated or design capacity” as the full capacity but stating that “[i]f the expected capacity of the user differs from the rated capacity of the manufacturer, it may be valid to use the expected capacity instead of the rated or design capacity when the expected capacity is less than the rated or design capacity”). In the future if this issue arises again, we would expect to see more findings and analysis regarding what constitutes a “significant” drop if the court continues to deduct for economic obsolescence.

have utility because there is no predicted increase in throughput that such capacity would be useful to accommodate.

The Municipalities are correct that excess capacity that has functional utility should not be deducted as a form of functional obsolescence.⁵² An example would be excess capacity used to handle regular or expected spikes in production or expected growth.⁵³ But those situations do not apply here. There may be variations in a pipeline's throughput, but the evidence shows that the throughput is not subject to the same type of immediate and unexpected increases in use that characterize telephone and electric power utilities. The Municipalities' argument that the excess capacity is valuable to "ramp up production" fails when the evidence shows there is no expectation of that happening. The Municipalities have not established that the superior court clearly erred by not reducing TAPS's economic obsolescence based on utility.

4. The superior court did not err by declining to adjust for other external factors.

The Municipalities argue that the superior court erred by failing to consider positive external factors in its economic obsolescence analysis. The Municipalities'

⁵² See *In the Matter of Onondaga Cnty. Water Dist. v. Bd. of Assessors of the Town of Minetto*, 350 N.E.2d 390, 391-92 (N.Y. 1976) (excess capacity for future needs should not be deducted as a form of functional obsolescence).

⁵³ Cf. CA. BD. OF EQUALIZATION, GUIDELINES FOR SUBSTANTIATING ADDITIONAL OBSOLESCENCE FOR STATE-ASSESSED TELECOMMUNICATIONS PROPERTIES 5-6 (Apr. 2009), available at www.boe.ca.gov/proptaxes/pdf/Obsolescence_Guidelines.pdf (explaining that "the purported excess capacity [cannot be] spare capacity the market typically builds into the property to handle peak demands, growth, planned redundancy, or that required by law" when "local exchanges typically design and build their systems to handle the high volume of calls on holidays or emergencies"); *Onondaga Cnty. Dist.*, 350 N.E.2d at 392 (holding no excess capacity when water system was "[d]eliberately planned and constructed to meet the future needs" in an area with increasing water usage).

argument suggests that there are many positive external factors derived from the fact that TAPS is part of a valuable broader enterprise that is very profitable and that oil prices are likely to increase,⁵⁴ which may spur additional development. The Owners argue that none of these factors change the amount of oil flowing through the pipeline. The superior court implicitly rejected the Municipalities' argument by not adjusting the economic obsolescence deduction.⁵⁵

The superior court's implicit rejection of these arguments was not clearly erroneous. According to the testimony of the Department of Revenue appraiser, James Greeley, a high price of oil alone does not decrease the underutilization of the pipeline: he explained that with increased oil prices the *value* of oil flowing through the pipeline would be higher, but the *quantity* of oil would not change; the pipeline would still be underutilized. And it is the low quantity of oil flowing through the pipeline that makes a deduction for economic obsolescence warranted, not the price of the oil. As the Owners note, a higher price of oil might make more reserves economically recoverable, resulting in a later end of life for TAPS, but an increased price would not, on its own, increase the amount of oil in the pipeline. The price of oil or the Owners' profitability

⁵⁴ We take notice that the price of oil has collapsed from a high of \$145 a barrel in July 2008 to its current value of approximately \$45 a barrel in August 2015. *Spot Prices for Crude Oil and Petroleum Products*, U.S. ENERGY INFO. ADMIN., www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=RWTC&f=D (last visited Aug. 17, 2015).

⁵⁵ Contrary to the Municipalities' suggestion, we take notice that the value of oil and production projections were accounted for in determining the end of life for the pipeline, and in fact were the subject of considerable discussion in the superior court's decision. We infer that the superior court's omission of any other deduction meant that it considered and rejected these arguments. If this issue arises in the future, explicit findings and analysis should be provided.

does not change the amount of inutility the pipeline experiences from the decreased amount of oil flowing through it.

We conclude that the superior court did not clearly err by not adopting the Municipalities' argument that the proffered positive factors should offset the court's economic obsolescence deduction for low throughput.

E. The Superior Court Did Not Abuse Its Discretion By Declining To Apply Collateral Estoppel.

Before the trial began the superior court issued an order precluding relitigation of many of the issues tried in the 2006 appeal. But the superior court vacated that order at trial. The Municipalities argue that the court abused its discretion by vacating its order and not applying collateral estoppel to preclude relitigation of issues decided in the 2006 appeal.

Collateral estoppel prohibits relitigation of issues actually decided in earlier proceedings where:

- (1) the party against whom the preclusion is employed was a party to or in privity with a party to the first action;
- (2) the issue precluded from relitigation is identical to the issue decided in the first action;
- (3) the issue was resolved in the first action by a final judgment on the merits; and
- (4) the determination of the issue was essential to the final judgment.^[56]

But “the existence of [these] elements provides only the underlying basis for the trial court’s exercise of discretion to apply or not apply collateral estoppel, and . . . this

⁵⁶ *Ahtna, Inc. v. State, Dep’t of Transp. & Pub. Facilities*, 296 P.3d 3, 8 (Alaska 2013) (quoting *Matanuska Elec. Ass’n v. Chugach Elec. Ass’n*, 152 P.3d 460, 468 (Alaska 2007)).

discretion must be tempered by principles of fairness in light of the circumstances of each particular case.”⁵⁷

The superior court expressed legitimate concerns about applying collateral estoppel in this case given the complexity of the issues and potential for some change in the relevant facts, and we conclude this was a permissible exercise of the court’s discretion.⁵⁸

V. CONCLUSION

We AFFIRM the superior court’s decision in all respects.

⁵⁷ *McAlpine v. Pacarro*, 262 P.3d 622, 627 (Alaska 2011) (quoting *Misyura v. Misyura*, 242 P.3d 1037, 1040 (Alaska 2010)) (internal quotation marks omitted).

⁵⁸ The Owners argued in their initial briefing to this court — as they did in the 2006 appeal — that the superior court erred by imposing interest based on the tax’s original due date. We addressed and rejected this contention in the 2006 appeal. *BP Pipelines I*, 325 P.3d 478, 495-96 (Alaska 2014).