November 1, 2024

Messrs. John Coleman and Craig Arakawa
Division of Corporation Finance
Office of Energy & Transportation
Securities and Exchange Commission
100 F Street, N.E.
Washington, DC 20549

Re: Arch Resources, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2023
Filed February 15, 2024
File No. 001-13105

Dear Messrs. Coleman and Arakawa:

We are providing this letter in response to the comments of the staff of the Securities and Exchange Commission (the "Staff") contained in your letter dated October 25, 2024, regarding the Annual Report on Form 10-K filed by Arch Resources, Inc. (the "Company") for the Company's fiscal year ended December 31, 2023 (the "2023 10-K"). References to the "Company," "Arch Resources," "we," "us" and "our" in this letter refer to Arch Resources Inc.

For your convenience, we have restated below in bold each comment from the Letter and supplied our responses immediately thereafter. In response to each comment below, we have proposed to alter our future disclosures to address the Staff's comment. The Company respectfully submits that its prior disclosure is accurate and complete in all material respects with respect to these matters. Capitalized terms not otherwise defined in this letter have the meanings given to them in the 2023 10-K.

Form 10-K for the Fiscal Year Ended December 31, 2023

Item 2. Properties., Page 64

1. **We note that you have disclosed measured and indicated resources of 12.9 million tons for your Leer South property, however your technical report for Leer South, filed as Exhibit 96.2, indicates that there are no mineral resources on the property, exclusive of reserves. Please advise.**

Response:

We respectfully acknowledge the Staff's comment. The disclosed resources associated with Leer South are controlled minerals that are located in the Clarion coal seam. These resources were initially included in the Leer South technical study that was included as Exhibit 96.2 to our Annual Report on Form 10-K for the fiscal year ended December 31, 2021, filed with the Commission on February 16, 2022 (the "2021 Filing"). These resources remain unchanged from the 2021 Filing. In contrast, the technical report for Leer South, filed as Exhibit 96.2 to the 2023 10-K, only included coal in the Lower Kittanning seam, as our current plans no longer include mining the Clarion coal seam. Although not included in our current plans, we retain the ability to mine the Clarion coal seam in the future. We will revise our future filings to include these tons in a new category of mineral resources titled "Other NAPP (the Northern Appalachian Basin)."

2. **Please address the following with respect to your S-K 1300 mineral property disclosure:**

   - **Include the commodity price for each resource, including nonmaterial properties, with your summary resource table and your summary reserve table as required by Item 1303(b)(3) of Regulation S-K; and**

   - **Include the commodity price, cut-off grade, and process recovery factor with your individual property reserve tables as required by Item 1304(d)(1) of Regulation SK. To the extent you do not use a traditional cut-off grade include a brief description of the parameters and assumptions that distinguishes material deemed to have no economic value from material deemed to have economic value, for example minimum quality specifications or other.**

Response:

We respectfully acknowledge the Staff's comment and plan to revise the summary resource and reserve tables in future Annual Reports on Form 10-K to disclose projected realized coal price and recovery factors for reserves. The tables below reflect examples of our proposed modified summary resource and reserve tables:

The following table shows our estimates of Mineral Resources as of December 31, 2023, prepared in accordance with Subpart 1300 of Regulation S-K.

Total Mineral Resources
(Tons in millions)

Product / Region / Mine	Representative Coal Quality	In-Place Mineral Resources (million tons) Measured[9]	Indicated[9]	Measured + Indicated[9]	Inferred[9]	Realized Coal Price[10]
Metallurgical Coal						
Central Appalachia						
Mountain Laurel	2	2.5	17.4	19.9	22.5	$ 153
VA, Royalty	1	16.3	—	16.3	—	—
Total Central Appalachia		18.8	17.4	36.2		
Northern Appalachia						
Leer	2	2.6	12.6	15.2	4.9	$ 161
Leer South	2	8.9	4.0	12.9	—	150
Other Northern Appalachia	2	77.5	105.0	182.6	0.9	157
Total Northern Appalachia		89.0	121.6	210.7		
Total Metallurgical Coal		107.8	139.0	246.9		
Thermal Coal						
Colorado						
West Elk Mine	3	51.2	10.7	61.9	—	$ 65
Illinois Basin						
Macoupin County, IL	4	—	170.6	170.6	—	42
Other Illinois Basin	5	21.4	106.0	127.4	56.2	42
Total Illinois Basin		21.4	276.6	298.0	56.2	
Wyoming						
Black Thunder	6	200.0	5.0	205.0	—	$ 15
Coal Creek	7	126.5	1.2	127.7	—	11
Other Campbell County	8	266.0	10.4	276.4	—	13
Total Wyoming		592.5	16.6	609.1	—	
Total Thermal Coal		665.1	303.9	969.0		
Total Coal		772.9	442.9	1,215.9		

(1) Mid-Vol
(2) High-Vol
(3) 11,390 Btu/lb; 0.9 lb SO2/Mbtu
(4) 11,565 BTU/lbs, 9.7 lbs. SO2/MMBTU
(5) 10,200 - 11,900 BTU/lbs; 6.1 - 9.3 lbs. SO2/MMBTU
(6) 8,985 BTU/lbs.; 0.6 lbs. SO2/MMBTU
(7) 8,175 BTU/lbs.; 0.8 lbs. SO2/MMBTU
(8) 8,200 – 9,100 BTU/lbs.; 0.6 - 0.9 lbs. SO2/MMBTU
(9) The estimation of Mineral Resources involves assumptions about future commodity prices and technical mining matters. Resources are not mineral reserves and do not have demonstrated economic viability.
(10) For Metallurgical coal properties, realized coal prices are based on a combination of coking coal products and thermal products (middlings). For Thermal coal properties, realized coal prices are based on the expected coal quality. Annually, we consider current and forward-looking market analysis, various published coal indices and other forecasted pricing from third party analysts and pricing services to establish the realized coal prices for our coal products, adjusting for transportation costs within our life of mine plan. The realized coal prices are used in our annual five-year budgeting process and the realized coal price is then held constant after year five to the end of the mine life.

The following table shows our estimates of Mineral Reserves as of December 31, 2023, prepared in accordance with Subpart 1300 of Regulation S-K.

		Total Mineral Reserves (Tons in millions)				
	Representative Coal Quality	Recoverable Mineral Reserves (million tons)			Realized Coal Price[8]	Recovery Factor %
Product / Region / Mine		Proven[7]	Probable[7]	Total[7]		
Metallurgical Coal						
Central Appalachia						
Beckley	1	21.9	3.4	25.3	$ 153	39%
Mountain Laurel	3	9.3	7.3	16.6	144	32%
VA, Royalty	2	0.4	—	0.4	—	—
Total Central Appalachia		31.6	10.7	42.3		
Northern Appalachia						
Leer	3	11.4	24.7	36.1	$ 161	42%
Leer South	3	44.7	18.0	62.7	150	44%
Other Northern Appalachia	3	47.8	31.0	78.8	157	39%
Total Northern Appalachia		103.9	73.7	177.6		
Total Metallurgical Coal		135.5	84.4	219.9		
Thermal Coal						
Colorado						
West Elk	4	35.0	3.2	38.2	$ 65	98%
Illinois Basin, Royalty	5	137.9	33.5	171.4	—	—
Wyoming						
Black Thunder	6	419.0	1.0	420.0	15	100%
Total Wyoming		419.0	1.0	420.0		
Total Thermal Coal		591.9	37.7	629.6		
Total Coal		727.4	122.1	849.5		

(1) Low-Vol
(2) Mid-Vol
(3) High-Vol
(4) 11,500 BTU/lbs.; 0.90 lbs. SO2/MMBTU
(5) 11,200 BTU/lbs.; 4.95 lbs. SO2/MMBTU
(6) 8,900 BTU/lbs.; 0.66 lbs. SO2/MMBTU
(7) The Mineral Reserve estimates with respect to our mines have been prepared by the qualified persons referred to herein.
(8) For Metallurgical coal properties, realized coal prices are based on a combination of coking coal products and thermal products (middlings). For Thermal coal properties, realized coal prices are based on the expected coal quality. Annually, we consider current and forward-looking market analysis, various published coal indices and other forecasted pricing from third party analysts and pricing services to establish the realized coal prices for our coal products, adjusting for transportation costs within our life of mine plan. The realized coal prices are used in our annual five-year budgeting process and the realized coal price is then held constant after year five to the end of the mine life.

With respect to cut-off grade, our disclosures include representative coal qualities, which do not rapidly change across the individual properties.

Exhibits to be included in 10-K.

96.2, page 99

3. **We have the following observations regarding your technical report summary for the Leer South Complex, prepared by Marshall Miller and Associates, Inc. and dated February 2024. Please consult with your qualified person and tell us how you plan to address each of these items. In you do not concur with any of these observations please explain in your response.**

   Disclose the name or number of each title, claim, mineral right, lease or option under which the property is held and describe the mineral rights, as required by Item 601(b)(96)(iii)(B)(3)(iii) & (iv) of Regulation S-K. At a minimum this disclosure should summarize property contracts, royalty payments, mineral rights, and expiration dates.

Response:

We respectfully acknowledge the Staff's comment and will revise future filings with respect to our technical report summary ("TRS") to address the Staff's comment above. In order to meet the requirements of 601(b)(96)(iii)(B)(3)(iii) & (iv) of Regulation S-K, our qualified person ("QP") will include the following language and table with regards to mineral control.

Lower Kittanning mineral rights are controlled by eighteen (18) coal leases and fourteen (14) coal deeds, and there are currently no mineral options in place. Annual lease payments for the coal leases range from Forty Dollars ($40) up to Fifty-Thousand Dollars ($50,000) per year. Payments are made in order to maintain the respective leases, and all payments are recoupable against future mining. The terms of all leases, with the exception of L-18, are until exhaustion of the mineable and merchantable coal. Production royalty rates range from four percent (4%) to seven percent (7%) of the gross sales price (GSP).

File ID	Document Type	Expiration Date	Seam Description
L-1	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-2	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-3	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-4	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-5	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams except Pittsburgh
L-6	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-7	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-8	Coal Lease	Exhaustion of mineable and merchantable coal	Kittanning Seam
L-9	Coal Lease	Exhaustion of mineable and merchantable coal	Kittanning Seam
L-10	Coal Lease	Exhaustion of mineable and merchantable coal	Upper and Lower Kittanning Seams
L-11	Coal Lease	Exhaustion of mineable and merchantable coal	Clarion and Lower Kittanning Seams
L-12	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams except Pittsburgh and above
L-13	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams except Pittsburgh Seam
L-14	Coal Lease	Exhaustion of mineable and merchantable coal	Clarion and Kittanning Seams
L-15	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-16	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams
L-17	Coal Lease	Exhaustion of mineable and merchantable coal	All Seams except Pittsburgh and above
L-18	Coal Lease	1/21/2029	Clarion and Kittanning Seams
D-1	Deed	N/A	All Seams
D-2	Deed	N/A	All Seams except Pittsburgh and above
D-3	Deed	N/A	All Seams
D-4	Deed	N/A	All Seams
D-5	Deed	N/A	Kittanning Seam
D-6	Deed	N/A	Kittanning Seam
D-7	Deed	N/A	Clarion Seam
D-8	Deed	N/A	Kittanning Seam
D-9	Deed	N/A	All Seams
D-10	Deed	N/A	All Seams except Pittsburgh and above
D-11	Deed	N/A	All Seams
D-12	Deed	N/A	All Seams
D-13	Deed	N/A	All Seams
D-14	Deed	N/A	All Seams
D-11	Deed	N/A	All Seams
D-12	Deed	N/A	All Seams
D-13	Deed	N/A	All Seams
D-14	Deed	N/A	All Seams

Disclose the current and future permitting requirements as required by Item 601(b)(96)(iii)(B)(3)(v) of Regulation S-K.

Response:

We respectfully acknowledge the Staff's comment. Information pertaining to permitting needs is currently contained in Section 17 of the TRS. In future filed TRSs, our QP will expand Section 3 of the TRS to provide additional information of future permitting requirements and conditions to satisfy Item 601(b)(96)(iii)(B)(3)(v) of Regulation S-K. An example of the proposed disclosure is shown below.

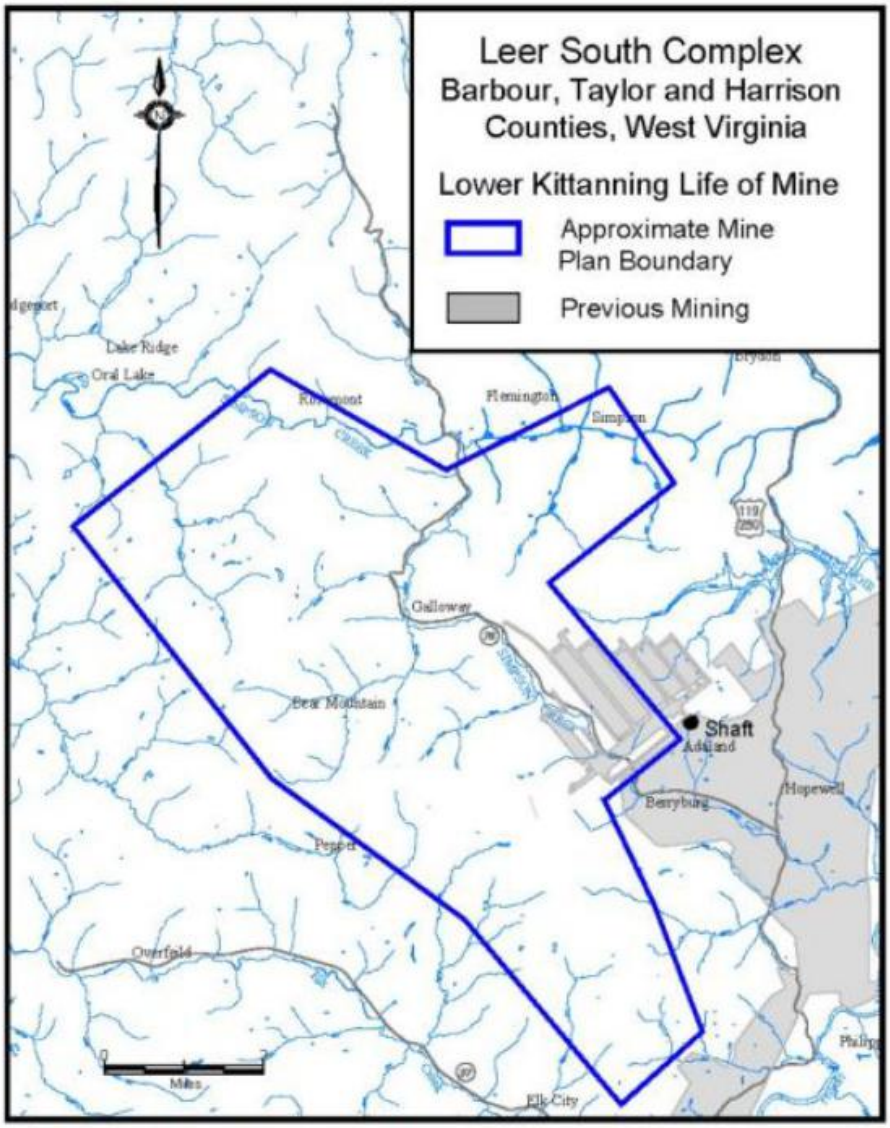
Current state mining reclamation permits extend through 2027 for most surface infrastructure and 2028 for the refuse impoundment. The extension of such permits will be required to execute the mine plan through reserve exhaustion, which is projected to occur in 2042. Existing impoundment permitting and extensions are sufficient to contain volumes of coarse and fine refuse material projected to be produced through reserve exhaustion.

Include Appendix C, which is referenced on page 47 with respect to the footprint of the LOM plan.

Response:

We respectfully acknowledge the Staff's comment. The reference to Appendix C should have been removed from the published version of the TRS. We note that Item 601(b)(96)(iii)(B)(13)(v) of Regulation S-K requires the inclusion of a final map outline, which is included as Figure 13-1 in the TRS. For your convenience, we have inserted the same figure below. We believe this map satisfies the requirements of Item 601(b)(96)(iii)(B)(13)(v) of Regulation S-K. Our QP will remove the reference to Appendix C in future filed TRSs.

Figure 13-1: Lower Kittanning LOM Map



* Uncontrolled tonnages are contained within small mineral tracts which must be acquired for execution of the life-of-mine plan depicted in *Figure 13-1*. While the report authors anticipate that Arch will successfully acquire such mining rights, it is important to note their importance to the mining plan presented in this document. Such tons are labeled as "Uncontrolled" in summary tables provided with this document and are not included in reserve totals. More detailed mapping files are retained in Arch and MM&A's files. Such information is available at the request of the SEC.

Revise to remove uncontrolled tonnage from the reserve table.

Response:

We respectfully acknowledge the Staff's comment. Because the uncontrolled tonnage must be acquired to execute the LOM plan, we believe it is helpful to include such tonnage in some capacity. Upon further reconciliation of tonnages and properties during our review, we respectfully advise that uncontrolled tonnages within our LOM plan are in the range of 5.5 million tons. Our QP will remove the uncontrolled tonnage from the table and include its numerical volume of 5.5 million tons in a footnote to reserve tables in future filed TRSs.

Revise to address all items in section 14 with respect to current processing, including a flow sheet and equipment specifications.

Response:

We respectfully acknowledge the Staff's comment. We believe that the existing text in Section 14.1 of the TRS satisfies the requirement of Item 601(b)(96)(iii)(B)(14)(i) of Regulation S-K by providing a description of the processing flow sheet. Our QP plans to amend future filed TRSs to include a table outlining key coal processing equipment characteristics and specifications. An example of the proposed table is shown below.

Item	Descriptions
Screening	
Raw Coal Screens	6x20'/8x20' DD Banana
HMV Clean Coal D&R Screen	6x16' SD Horizontal
HMV Refuse D&R Screen	8x16' DD Horizontal
HMC Clean Coal D&R Screen	8x16' SD Horizontal/8x20' SD Banana
HMC Refuse D&R Screen	6x16' SD Horizontal/10x16' SD Horizontal
High Frequency Refuse Dewatering Screen	4x10'/8x12'
Cleaning	
Heavy Media Vessels (HMV)	48" Wide by 18' Weir w/ 10" Flights/54" Wide by 18' Weir w/ 10" Flights
Heavy Media Cyclones (HMC)	D33T214 x 97 Inlet x 16 VF x 12.25 Apex/D40B x 117 Inlet x 19 VF
Spirals	1-mm x 100-mesh, Sx10 Triple Start Compound (60 Starts - 30 gpm/start-2.0 tons/start)/(144 Starts - 25 gpm/start 1.3 tons/start)
Column Flotation	100-mesh x 325-mesh, 14x24'/15x25'
Screen Bowl	44x132" Decanter/36x72" Decanter
Magnetic Separator	36"x120"

Revise to address all items in section 15 with respect to infrastructure, including a description of the property infrastructure.

Response:

We respectfully acknowledge the Staff's comment. We believe we have satisfied the requirement of providing a map of the key infrastructure items via Figure 15-1 in the TRS. This map is shown below for your convenience. Our QP plans to amend Section 15 of the TRS in future filed TRSs by providing descriptions of each key piece of infrastructure shown on the existing map. An example of the proposed table is shown below.

Facility	Description
Portal/Mine Operations	
Mine Office/Bathhouse	Approx. 33k square ft. two story structure. Includes offices for mine management, maintenance personnel, health & safety personnel, human resources personnel, space for employee locker rooms/showers, and training rooms. Main 25' intake shaft is located adjacent to office building and is the current portal for underground employees.
Warehouse/Shop	Approx. 41k square ft. structure for covered part storage with adjacent supply yard for storage of spare equipment/conveyor belt parts. Supply yard has access to the mine slope for the delivery of supplies via rail.
LK Return Shaft	20' diameter exhaust shaft located approx. 1.7 miles NW of mine portal.
Coal Processing	
Prep Plant	Approx. 22k square ft. footprint structure. Area surrounding the plant building includes on ground storage for raw, mids, and clean coal as well as two 120' diameter thickeners. Clean coal (Met) storage capacity is approx. 450k tons, mids storage is approx. 70k tons and combined raw coal storage is approx. 535k tons.
Rail Loadout	Rail loadout includes loadout structure as well as batch weigh loadout. Loadout capacity is 4k tph.
Fresh Water Pond	Approx. 5 acre pond and approx. 1 acre pond adjacent to prep plant.
Impoundment	Approx. 48 acre impoundment facility located approx. 1/2 mile SW of prep plant.
Course Refuse	Approx. 87 acre capacity refuse facility located approx. 1/2 mile NW of prep plant.
Misc.	
138 KV Substation	Main power supply substation located approx. 1.7 miles NW of mine portal.

Figure 15-1: Leer South Surface Facilities

Disclose the accuracy and contingency of the capital and cost estimates as required by Item 601(b)(96)(iii)(B)(18)(i) of Regulation S-K; and

Response:

We respectfully acknowledge the Staff's comment. All engineering and financial modeling was completed to the level of a pre-feasibility study. By definition, operating and capital costs in a pre-feasibility study have an accuracy level of +/- 25%. As expressed in the report, "*The Mine plan, productivity expectations and cost estimates generally reflect historical performance by Arch and efforts have been made to adjust plans and costs to reflect future conditions.*" The QP did not opt to include a direct contingency in cost development, as historical information primarily serves as the basis for cost projections. Our QP plans to amend future filed TRSs to include further language around the accuracy level of cost estimations and reasoning for not including a contingency. An example of the proposed disclosure is shown below.

Cost estimates, including operating and capital components, have been developed to satisfy the requirements of a pre-feasibility study and are accurate to a range of +/- 25 percent. As historical costs at the operation have been used as a basis for the buildup of projected costs with allowances for anticipated mining conditions, costs are not further burdened by a contingency.

Only reserves should be included in the cash flow model and life-of-mine plan. Revise to move materials from the life-of-mine plan and cash flow model that do not meet the definition of a mineral reserve, consistent with Item 1302(e)(5) & (6) of Regulation S-K.

Response:

We respectfully acknowledge the Staff's comment. We recognize that financial modeling that justifies the economic viability of the subject coal reserves includes tons that are not under the current control of the Company. Such tonnages will qualify as "reserve" based upon geological definition and engineering confidence once associated mining rights are acquired. We respectfully note that these tons are not comparable to "inferred" definitions. These uncontrolled tons make up approximately 6% of tonnages within the mine plan, are well defined geologically, and only lack mineral control for "reserve" consideration. Further, we note that uncontrolled tonnages are more prevalent in the later years of the mine's production schedule. The final 5 years of the mine's 19 years of scheduled production contains over half of the adverse tons which are included in the financial model.

Our QP considers lease structures and all applicable direct and indirect mining costs in financial modeling when including such tons in our LOM plan for public disclosures. We intend to disclose the most accurate representation of our mining plans in reserve estimations.

In order to develop a feasible longwall mine plan, the assumption that the mining rights for such tons are acquired is necessary. We also note that reserve tonnages in tables are stated on a dry-basis, excluding any moisture additions, whereas coal tons are marketed on a wet/moist basis. Footnote 4 of Table 19-1 in the TRS states:

4: LOM plan includes variances from reserves based on the LOM plan tons being 1) moist basis; 2) inclusion of non-reserve adverse tracts and 3) slight variances between production faces effective 12/31/23.

In order to further clarify the differences between reserve volumes and projected sales volumes in LOM planning which justify the economic viability of the reserves, our QP will include in future filed TRSs a table in the financial modeling section, which shows a breakdown of produced controlled (reserve) and uncontrolled (adverse) tonnages. An example of the proposed table is shown below. We will also instruct our QP to provide a separate breakout of the discussion of risks around future property acquisitions in Section 20 of the TRS, including the following language pertaining to property rights.

Risks associated with future property acquisitions are anticipated to be low, and the chance of acquiring currently un-controlled property necessary for execution of the LOM plan is high. Arch maintains a robust land staff, including land agents, who pursue agreements and conduct deed and title research regularly to mitigate risks around property and tenure. Arch has acquired approximately 36-acres of owned mineral rights and 182 acres of leased mineral rights over the 2022 to 2023 timeframe.

Year	**Total**	**2024**	**2025**	**2026**	**2027**
Total Clean Tons x 1,000,000 (moist)	72.8	3.6	4.5	4.0	3.7
Controlled Clean Tonnage x 1,000,000 (moist)	67.2	3.6	4.3	3.9	3.6
Adverse Clean Tons x 1,000,000 (moist)	5.5	-	.2	.1	.1
Percentage Controlled %	94%	100%	96%	98%	97%
Year	**2028**	**2029**	**2030**	**2031**	**2032**
Total Clean Tons x 1,000,000 (moist)	4.0	4.1	3.8	3.9	3.6
Controlled Clean Tonnage x 1,000,000 (moist)	3.6	3.9	3.2	3.8	3.5
Adverse Clean Tons x 1,000,000 (moist)	.4	.2	.6	.1	.1
Percentage Controlled %	91%	96%	87%	96%	98%
Year	**2033**	**2034**	**2035**	**2036**	**2037**
Total Clean Tons x 1,000,000 (moist)	4.0	4.2	4.0	4.3	3.4
Controlled Clean Tonnage x 1,000,000 (moist)	3.9	4.2	4.0	4.3	2.9
Adverse Clean Tons x 1,000,000 (moist)	.1	-	-	-	.5
Percentage Controlled %	98%	100%	99%	100%	92%
Year	**2038**	**2039**	**2040**	**2041**	**2042**
Total Clean Tons x 1,000,000 (moist)	3.4	3.8	3.9	3.9	2.9
Controlled Clean Tonnage x 1,000,000 (moist)	3.0	3.4	3.3	2.9	2.2
Adverse Clean Tons x 1,000,000 (moist)	.4	.4	.6	1.0	.7
Percentage Controlled %	98%	99%	100%	91%	91%

We believe that the foregoing has been responsive to the Staff's comments. If you have any questions or comments regarding the foregoing, please do not hesitate to contact me at (314) 994-2932 or by email at mgiljum@archrsc.com.

Sincerely,

/s/ Matthew Giljum
Matthew Giljum
Chief Financial Officer