

TECHNICAL REPORT SUMMARY

COAL RESOURCES AND COAL RESERVES OAKTOWN MINING COMPLEX

Indiana and Illinois

Prepared For

SUNRISE COAL, LLC

By

John T. Boyd Company

Mining and Geological Consultants

Pittsburgh, Pennsylvania, USA



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Mining and Geological Consultants

October 27, 2023
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Subject: Technical Report Summary
Coal Resources and Coal Reserves
Oaktown Mining Complex
Indiana and Illinois

Ladies and Gentlemen:

This technical report summary provides the results of John T. Boyd Company's (BOYD) independent technical assessment of the coal resource and coal reserve estimates reported by Sunrise Coal, LLC (Sunrise) for the Oaktown Mining Complex as of December 31, 2021.

We wish to acknowledge the cooperation of Sunrise management and staff for providing the technical, financial, and legal information used in completing this project. Our findings are based on BOYD's extensive experience in preparing coal reserve estimates used in US Securities and Exchange Commission (SEC) filings, and our knowledge of coal mining operations in the Illinois Basin (ILB) and throughout the world.

Respectfully submitted,

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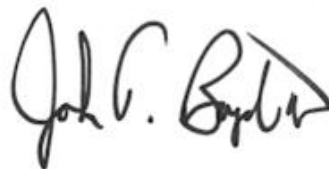
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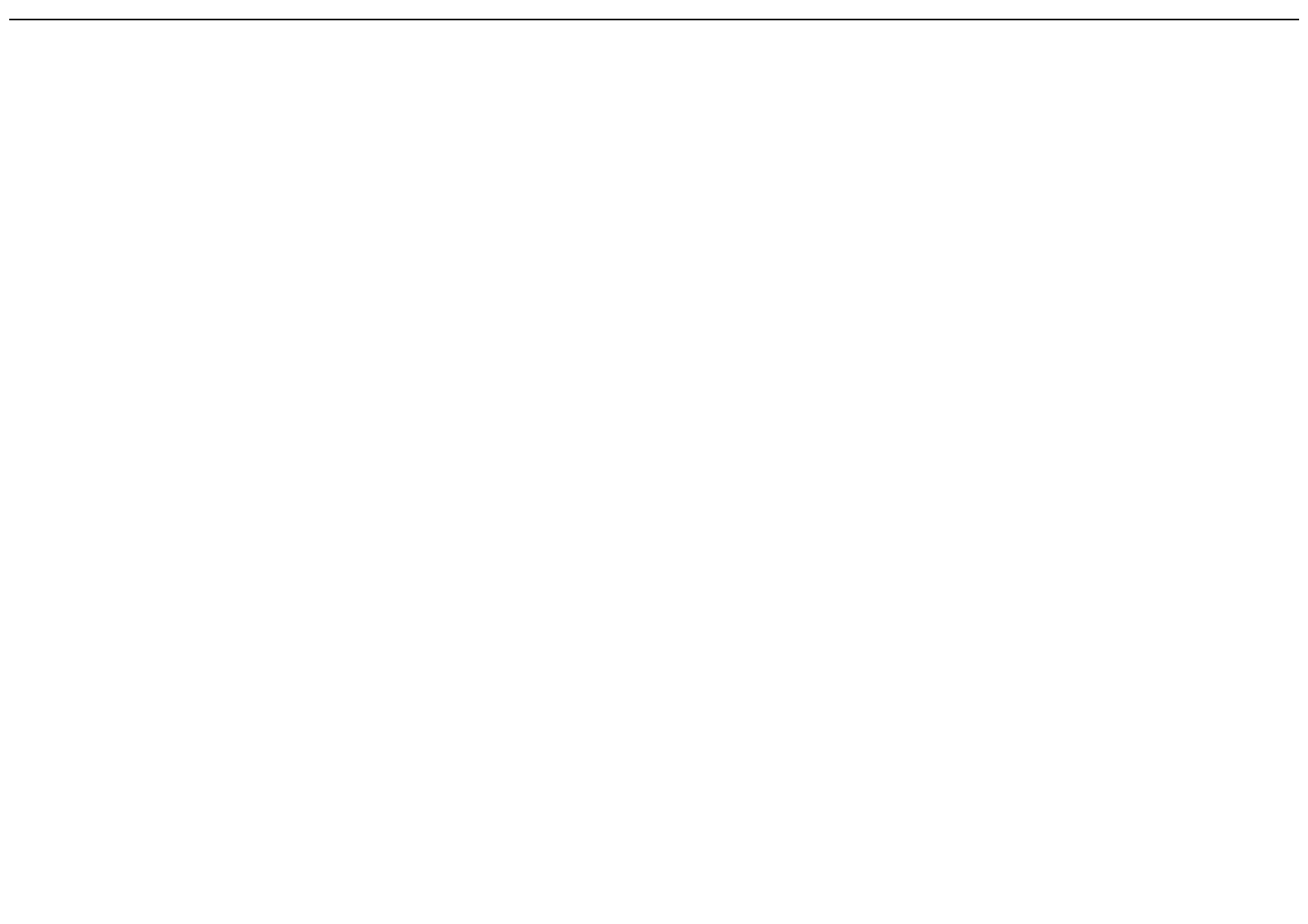


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GLOSSARY OF ABBREVIATIONS AND DEFINITIONS

\$:	US dollar(s)
%	:	Percent or percentage
AC	:	Alternating current
ARO	:	Asset Retirement Obligations
As-Received Basis	:	Data or results are calculated to the moisture condition of the coal sample when it arrived at the testing facility.
ASTM	:	ASTM International (formerly American Society for Testing and Materials)
BOYD	:	John T. Boyd Company
Btu	:	British thermal unit. A unit of heat; it is defined as the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.
CM	:	Continuous Miner
CPP	:	Coal Preparation Plant
Coal	:	Combustible sedimentary rock in which organic matter, including residual moisture comprises more than 50% by weight and more than 70% by volume of carbonaceous material formed from altered plant remains.
Coal Reserve	:	An estimate of tonnage and grade or quality of indicated and measured coal resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated coal resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.
Coal Resource	:	A concentration or occurrence of coal of economic interest in or on the Earth's crust in such form, quality, and quantity that there are reasonable prospects for economic extraction. A coal resource is a reasonable estimate of mineralization, considering relevant factors such as cut-off grade, likely mining dimensions, location, or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.
CRDA	:	Coal Refuse Disposal Area
CSX	:	CSX Corporation. A rail-based freight transportation company

GLOSSARY OF ABBREVIATIONS AND DEFINITIONS - Continued

CY	:	Cubic yards
DCF	:	Discounted Cash Flow
DOR	:	Indiana Department of Natural Resources' Division of Reclamation
Dry Basis	:	Data or results are calculated to a theoretical base as if there were no moisture in the coal sample.
EIA	:	U.S. Energy Information Administration
FOB	:	Free-on-Board
Hallador	:	Hallador Energy Company and its subsidiaries
ILB	:	Illinois Basin. Coal producing region consisting of Illinois, Indiana, and Western Kentucky.
IL-EPA	:	Illinois's Environmental Protection Agency
IN-DNR	:	Indiana's Department of Natural Resources
Indicated Coal Resource	:	That part of a coal resource for which quantity and quality are estimated based on adequate geological evidence and sampling. The level of geological certainty associated with an indicated coal resource is sufficient to allow a qualified person to apply modifying factors in sufficient detail to support mine planning and evaluation of the economic viability of the deposit. Because an indicated coal resource has a lower level of confidence than the level of confidence of a measured coal resource, an indicated coal resource may only be converted to a probable coal reserve.
INRD	:	Indiana Railroad Company. A rail-based freight transportation company
Inferred Coal Resource	:	That part of a coal resource for which quantity and quality are estimated based on limited geological evidence and sampling. The level of geological uncertainty associated with an inferred coal resource is too high to apply relevant technical and economic factors likely to influence the prospects of economic extraction in a manner useful for evaluation of economic viability. Because an inferred coal resource has the lowest level of geological confidence of all coal resources, which prevents the application of the modifying factors in a manner useful for evaluation of economic viability, an inferred coal resource may not be considered when assessing the economic viability of a mining project, and may not be converted to a coal reserve.
IRR	:	Internal rate-of-return

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GLOSSARY OF ABBREVIATIONS AND DEFINITIONS - Continued

ISO	:	International Organization for Standardization
lb	:	Pound
LOM	:	Life-of-Mine
LW	:	Longwall
Measured Coal Resource	:	That part of a coal resource for which quantity and quality are estimated based on conclusive geological evidence and sampling. The level of geological certainty associated with a measured coal resource is sufficient to allow a qualified person to apply modifying factors, as defined herein, in sufficient detail to support detailed mine planning and final evaluation of the economic viability of the deposit. Because a measured coal resource has a higher level of confidence than the level of confidence of either an indicated coal resource or an inferred coal resource, a measured coal resource may be converted to a proven coal reserve or to a probable coal reserve
Mineral Reserve	:	<i>See "Coal Reserve"</i>
Mineral Resource	:	<i>See "Coal Resource"</i>
Modifying Factors	:	The factors that a qualified person must apply to indicated and measured coal resources and then evaluate to establish the economic viability of coal reserves. A qualified person must apply and evaluate modifying factors to convert measured and indicated coal resources to proven and probable coal reserves. These factors include, but are not restricted to: mining; processing; infrastructure; economic; marketing; legal; environmental compliance; plans, negotiations, or agreements with local individuals or groups; and governmental factors. The number, type and specific characteristics of the modifying factors applied will necessarily be a function of and depend upon the mineral, mine, property, or project.
MSHA	:	Mine Safety and Health Administration. A division of the U.S. Department of Labor
NPDES	:	National Pollutant Discharge Elimination System
NS	:	Norfolk Southern Corporation. A rail-based freight transportation company.
NPV	:	Net Present Value

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GLOSSARY OF ABBREVIATIONS AND DEFINITIONS - Continued

Oaktown Mining Complex	:	Oaktown Mining Complex. Includes the Oaktown Fuels No. 1 Mine, Oaktown Fuels No. 2 Mine, and Oaktown Complex Coal Preparation Plant
OSD	:	Out-of-Seam Dilution. Rock, impurities recovered from above and below the coal seam with the coal seam during the normal mining process
OSMRE	:	Office of Surface Mining, Reclamation and Enforcement
Probable Coal Reserve	:	The economically mineable part of an indicated and, in some cases, a measured coal resource.
Production Stage Property	:	A property with material extraction of coal reserves.
Proven Coal Reserve	:	The economically mineable part of a measured coal resource which can only result from conversion of a measured coal resource.
QP	:	Qualified Person
Qualified Person	:	<p>An individual who is:</p> <ol style="list-style-type: none"> 1. A mineral industry professional with at least five years of relevant experience in the type of mineralization and type of deposit under consideration and in the specific type of activity that person is undertaking on behalf of the registrant; and 2. An eligible member or licensee in good standing of a recognized professional organization at the time the technical report is prepared. For an organization to be a recognized professional organization, it must: <ol style="list-style-type: none"> a. Be either: <ol style="list-style-type: none"> i. An organization recognized within the mining industry as a reputable professional association; or ii. A board authorized by U.S. federal, state, or foreign statute to regulate professionals in the mining, geoscience, or related field; b. Admit eligible members primarily based on their academic qualifications and experience; c. Establish and require compliance with professional standards of competence and ethics; d. Require or encourage continuing professional development; e. Have and apply disciplinary powers, including the power to suspend or expel a member regardless of where the member practices or resides; and f. Provide a public list of members in good standing.

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GLOSSARY OF ABBREVIATIONS AND DEFINITIONS - Continued

R&P	:	Room-and-pillar
RC	:	Ram cars
ROM	:	Run-of-Mine. The as-mined material including coal, in-seam rock partings mired with the coal, and out-of-seam dilution.
SC	:	Shuttle cars
SGF	:	Specific gravity float
SEC	:	U.S. Securities and Exchange Commission
S-K 1300	:	Subpart 1300 and Item 601(b)(96) of the U.S. Securities and Exchange Commission's Regulation S-K
SMCRA	:	Surface Mining Control and Reclamation Act of 1977
Sunrise	:	Sunrise Coal, LLC and its subsidiaries
Ton	:	Short Ton. A unit of weight equal to 2,000 pounds
TPH	:	Tons per Hour
TPEH	:	Tons per Employee-Hour

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

Sunrise's Oaktown Mining Complex is a mining complex that includes two active underground room-and-pillar (R&P) mines—Oaktown Fuels No. 1 Mine and Oaktown Fuels No. 2 Mine—and the Oaktown Complex Coal Preparation Plant (CPP). BOYD was retained by Sunrise to complete an independent technical assessment of coal resource and coal reserve estimates for the Oaktown Mining Complex.

BOYD's findings as a result of the audit of Oaktown Mining Complex's coal resource and coal reserve estimates are based on our detailed examination of the supporting geologic, technical, and economic information obtained from: (1) Sunrise files, (2) discussions with Sunrise personnel, (3) records on file with regulatory agencies, (4) public sources, and (5) nonconfidential BOYD files.

This technical report identifies and summarizes the results of our audit of the Oaktown Mining Complex coal reserves and independent assessment of the economic viability of extracts of the Oaktown Mining Complex coal reserves over the life of the mine and satisfies the requirements for Sunrise's disclosure of coal reserves set forth in Subpart 1300 and Item 601(b)(96) of the SEC's Regulation S-K (S-K 1300). This is the first technical report summary for the Oaktown Mining Complex. BOYD is a qualified person as defined in Regulation S-K 1300.

Weights and measurements are expressed in US customary units. Unless noted, the effective date of the information, including estimates of coal reserves, is December 31, 2021.

1.2 Property Description

The Oaktown Mining Complex is an active underground coal mining and processing operation located in Knox and Sullivan counties, Indiana, and Lawrence County, Illinois. The general location of the Oaktown Mining Complex is provided in Figure 1.1, following this page. The project lies in a well-developed region with a robust infrastructure.

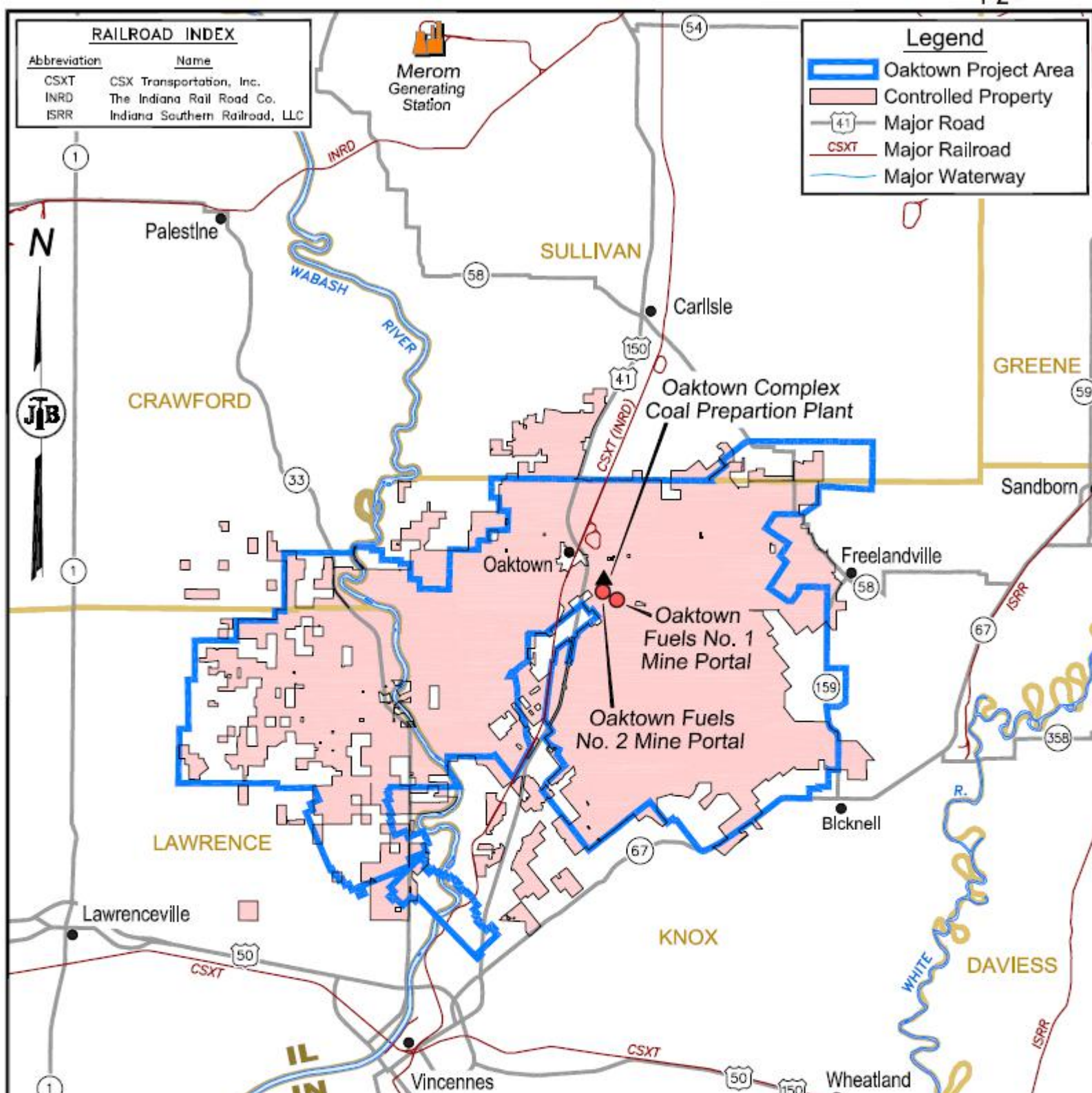
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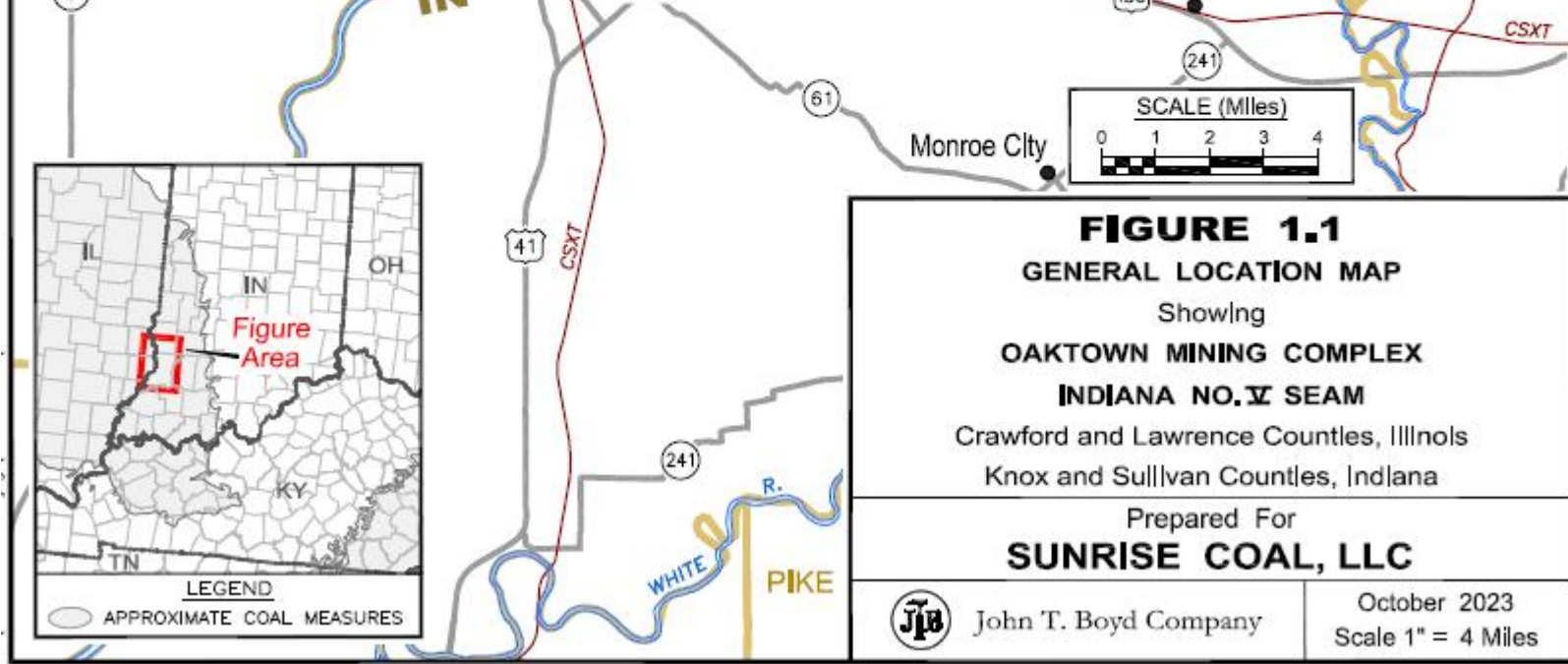
RAILROAD INDEX

Abbreviation	Name
CSXT	CSX Transportation, Inc.
INRD	The Indiana Rail Road Co.
ISRR	Indiana Southern Railroad, LLC

Legend

-  Oaktown Project Area
-  Controlled Property
-  Major Road
-  Major Railroad
-  Major Waterway





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Located within the ILB coal-producing region of the midwestern US, the Oaktown Mining Complex is one of the largest underground R&P coal mining complexes in North America.

The Oaktown Mining Complex mines coal exclusively from the Indiana V Seam (Illinois No. 5 Springfield Seam). Within the Oaktown Mining Complex mine plan boundaries, Sunrise currently maintains the right to mine and remove approximately 78% of the Indiana V Seam through lease agreements. Several small adverse (uncontrolled) tracts exist within the proposed life-of-mine (LOM) plan; however, Sunrise has demonstrated success in acquiring these as required during the ordinary course of business. BOYD is not aware of any encumbrances, litigation, or orders that would hinder the continued development of the property.

The Indiana V Seam has been extensively mined in the ILB region and is one of two predominant coal seams of economic interest. Sunrise has demonstrated a history of successfully mining the Indiana V Seam at the Oaktown Mining Complex, with initial mining at the complex dating to 2009.

1.3 Geology

The Oaktown Mining Complex is situated in the Carbondale Group (Formation) of the Pennsylvania System. Near-surface geology of this area primarily consists of the overlying Quarternary System. Coal seams mined in this region are generally classified as medium- to high-sulfur content and moderate ash thermal coal products.

The Indiana V Seam is the only coal seam of economic interest on the property. Structurally, the Indiana V Seam consists of a singular and relatively consistent horizon averaging between 4 ft to 8 ft thick containing little in-seam parting. The Indiana V Seam globally dips in the general westerly direction and experiences localized areas where the seam elevations vary. Pronounced gradients can occur periodically in the form of rolls in the seam. Depths for the Indiana V Seam range from approximately 300 ft to 450 ft below ground surface within the Oaktown Mining Complex area.

The Indiana V Seam coal bed is characterized as high sulfur and moderate ash coal that is used for steam purposes.

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1.4 Exploration

The Indiana V Seam has been extensively explored and mined in the region, with drilling records dating prior to the inception of the Oaktown Mining Complex. Sunrise provided data for 1,895 drill holes that have intercepted the Indiana V Seam and have been compiled for defining the lateral extent, thickness, and qualities (both raw and clean) of the Indiana V Seam in the immediate Oaktown Mining Complex project area.

BOYD's audit indicates that in general: (1) Sunrise has performed extensive drilling and sampling work on the subject property, (2) the work completed has been done by competent personnel, and (3) the amount of data available combined with wide-spread knowledge of the Indiana V Seam, is sufficient to confirm the thickness, lateral extents, and quality characteristics of the Indiana V Seam.

1.5 Coal Resources/Reserves

Sunrise's estimated underground mineable coal reserves for the Oaktown Mining Complex total 71.4 million recoverable (clean) product tons remaining as of December 31, 2021. The coal reserves controlled by Sunrise are summarized in Table 1.1.

Table 1.1: Coal Reserves Summary

Mine	Classification	Product Tons millions	Average Product Quality (As Received Basis)				
			Total Moisture	%		Heating Value (Btu/lb)	SO ₂ (lbs per MMBtu)
				Ash	Sulfur		
Oaktown Fuels No. 1	Proven	40.1	13.00	7.4	3.5	11,519	6.0
	Probable	0.4	13.00	7.4	3.6	11,525	6.2
	Total	40.5	13.00	7.4	3.5	11,519	6.0
Oaktown Fuels No. 2	Proven	29.7	13.00	7.9	3.3	11,540	5.7
	Probable	1.1	13.00	8.0	3.2	11,520	5.6
	Total	30.9	13.00	7.9	3.3	11,540	5.6
Total - Oaktown Mining Complex	Proven	69.8	13.00	7.6	3.4	11,528	5.9
	Probable	1.6	13.00	7.8	3.3	11,522	5.8
	Total	71.4	13.00	7.6	3.4	11,528	5.9

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Table 1.2, below, provides a breakdown of the coal reserves by control type and permit status.

	Product Tons (millions)	%
Control Type		
Owned	-	-
Leased	71.4	100.0
Permit Status		
Permitted	66.1	92.6
Not Permitted	5.3	7.4

It is BOYD's opinion that extraction of the reported coal reserves is technically achievable and economically viable after the consideration of potentially material modifying factors. Periodic amendments to existing mining permits to add additional acreage (reserve tonnage) in order to sustain coal production is common practice. We are not aware of any issues that would impact or prevent the present "Not Permitted" reserves to be permitted as future mining needs dictate. We are also not aware of any prohibition against the proposed mining and processing activities.

There are no reportable coal resources excluding those converted to coal reserves for the Oaktown Mining Complex.

1.6 Operations

1.6.1 Mining

The Oaktown Mining Complex is comprised of the Oaktown Fuels No. 1 and Oaktown Fuels No. 2 underground mines. Each mine utilizes R&P mining (employing continuous miners [CMs]) for primary production. This mining method is highly productive and commercially demonstrated; it has been one of the primary approaches to mining the Indiana V Seam for decades. Oaktown Mining Complex has utilized this mining method since the inception of each operation. To date, Oaktown Mining Complex has produced a combined 58.3 million tons of clean coal. The complex is configured to operate up to seven CM sections, with an annual production target of approximately 8 million product tons. The Oaktown Mining Complex is generally considered an industry leader in terms of mining productivity and mining costs when compared to other R&P underground operations.

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It is BOYD's opinion that the forecasted production levels for the Oaktown Mining Complex operations are reasonable, logical, and consistent with typical R&P mining practices in the Indiana V Seam and historical practices utilized by Sunrise. The Oaktown Mining Complex LOM plans developed by BOYD show a relatively stable production output until individual production sections are retired corresponding to reserve exhaustion. In the aggregate, the Oaktown Mining Complex LOM plan projects the complex will produce approximately 131.6 million tons of run-of-mine (ROM) coal (91.6 million saleable tons after processing) during the next 17 years (through 2038).

1.6.2 Processing

The Oaktown Complex CPP serves as the coal washing facility for the Oaktown Mining Complex's two R&P mines. The plant was commissioned in 2009 to wash coal produced by the Oaktown Fuels No. 1 Mine. The Oaktown Complex CPP has a current processing capacity of 1,600 raw tons-per-hour (TPH).

The beneficiation process utilized at the Oaktown Mining Complex has a proven performance record and has remained relatively unchanged for decades. The plant's ability to blend raw coal production from the two underground mines into a singular plant feed allows for both more consistent plant operation and the ability to achieve differing clean coal qualities for various customer specifications.

1.6.3 Other Infrastructure

The Oaktown Mining Complex underground mines and CPP are supported by several surface infrastructure sites. Major surface infrastructure includes ancillary buildings, high-voltage power distribution stations, ROM coal conveyor belts, CPP refuse facilities, underground access and ventilation structures, and truck/rail loading systems.

Product coal from the Oaktown Mining Complex is transported to its customer base via rail, truck, or a combination of both. The Oaktown Complex CPP is served by both the CSX Railroad and Indiana Railroad (INRD) via a rail spur and rail loop that connects the complex with the mainline rail just north of Oaktown, Indiana. Additionally, the Oaktown Complex CPP can facilitate the loading of trucks for direct transport to select customers, or to Sunrise's transload facility in Princeton, Indiana serviced by the Norfolk Southern (NS) Railroad.

The Oaktown Complex refuse facility serves as the disposal location for all waste rock (coarse coal refuse) and portions of the fine coal slurry (fine coal refuse) produced during the processing of coal. The majority of the fine coal slurry is transported overland via a network of pumps and pipelines for underground disposal within mined-out void areas of the Oaktown Fuels No. 1 and No. 2 mines.

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1.7 Financial Analysis

1.7.1 Market Analysis

The Oaktown Mining Complex's product is thermal coal that is directed into the US coal-fired generation market. Historically, this market accounts for all of the Oaktown Mining Complex annual sales.

Coal use among domestic power generators has fallen out of favor in several of the individual states of the US and is being replaced by natural gas and renewable forms of generation. However, several states are positioned to remain largely reliant upon coal for power generation, such as Indiana. Sunrise anticipates its geographical location, reputation for sustained production, and well-capitalized infrastructure well position the complex to continue supplying coal into the Indiana market and other domestic coal markets when opportunities present.

1.7.2 Capital and Operating Costs

The ILB is widely recognized as being ideally suited for commercial scale mining through R&P mining methods. The region's Indiana V Seam is conducive to efficient, low-cost production R&P operations. In terms of total dollars expended per year, cash operating costs for R&P mines contain a mixture of variable and fixed costs. Unit costs, therefore, will vary mostly due to changes in production and less so with regard to general inflation and major mine site changes.

During the historical review period of 2018 through 2021, total cash operating costs per saleable ton for the Oaktown Mining Complex were within the range of \$27 to \$31 per saleable ton. While each of the individual mines may have realized higher or lower operating costs annually, their operation in parallel aids in the complex's ability to minimize short-term periods of individual mine coal production decreases and/or increases in operating costs.

The Oaktown Mining Complex is regarded as being well-capitalized comparatively to industry peers. Continual capital expenditures have been ongoing by Sunrise in recent years to support mine infrastructure expansions, maintenance of production equipment, refuse placement, etc. Historical annual capital expenditures were found to be within the range of \$4 to \$5 per saleable ton for the Oaktown Mining Complex.

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BOYD found Sunrise's forecasted operating and capital costs to be indicative of the complex's historical performance and in general agreement with BOYD's independent LOM forecasts.

1.7.3 Economic Analysis

The results of our indicative economic analysis for Oaktown Mining Complex over the 15-year period (2022 to 2036) shows an after-tax net present value (NPV) of \$400 million for the expected case at a 12% discount rate. The coal sales price estimated over the life of the reserves averages approximately \$47 (ranging from \$42.50 to \$64). The cash flow estimates are positive even after performing independent sensitivity analyses of up to 10% variation in operating costs and sales prices. Based on this analysis, BOYD concludes that the stated coal reserves are economically viable under reasonable market price expectations for the coal produced from the Oaktown Mining Complex.

The NPV estimate was made for purposes of confirming the economic viability of the reported coal reserves and not for purposes of valuing Sunrise or its assets. Internal rate-of-return (IRR) and project payback were not calculated, as there was no initial investment considered in the financial model.

1.8 Regulation and Liabilities

Multiple permits are required by federal and state law for underground mining, coal preparation and related facilities, and other incidental activities. Sunrise reports that all necessary permits to support current operations are in place or pending approval. New permits or permit revisions may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Sunrise should be able to secure new permits, as required, to maintain its planned operations within the context of the current regulations.

Permits generally require that Sunrise post a performance bond in an amount established by the regulator program to: (1) provide assurance that any disturbance or liability created during mining operation is properly mitigated, and (2) assure that all regulation requirements of the permit are fully satisfied. Sunrise reports holding surety bonds to cover its current obligations relating to mining and reclamation, road repair, etc. Those obligations currently equate to \$5.8 million.

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1.9 Conclusions

It is BOYD's overall conclusion that Sunrise's estimates of coal reserves, as reported herein: (1) were prepared in conformance with accepted industry standards and practices, and (2) are reasonably and appropriately supported by technical evaluations, which consider all relevant modifying factors. We do not believe there is other relevant data or information material to the Oaktown Mining Complex that would render this technical report summary misleading. Our conclusions represent only informed professional judgment.

Given the operating history and status of evolution, residual uncertainty for this project is considered minor under the current and foreseeable operating environment. A general assessment of risk is presented in the relevant sections of this report.

The ability of Sunrise, or any mine operator, to recover all of the reported coal reserves is dependent on numerous factors that are beyond the control of, and cannot be anticipated by, BOYD. These factors include mining and geologic conditions, the capabilities of management and employees, the securing of required approvals and permits in a timely manner, future coal prices, etc. Unforeseen changes in regulations could also impact performance. Opinions presented in this report apply to the site conditions and features as they existed at the time of BOYD's investigations and those reasonably foreseeable.

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2.0 INTRODUCTION

2.1 Registrant and Purpose

This technical report summary was prepared for Hallador Energy (Hallador) in support of their disclosure of their subsidiary, Sunrise's, coal resources and coal reserves for the Oaktown Mining Complex.

Hallador is a US-based energy solutions company headquartered in Terre Haute, Indiana, and is listed on the National Association of Securities Dealers Automated Quotations (NASDAQ:HNRG) stock exchange. A large portion of Hallador's business focuses upon coal mining through their subsidiary Sunrise. Sunrise is actively engaged in the production and export of thermal coal from mines located in the ILB. The company also owns and operates the Princeton Rail Loop, which is located near Princeton, Indiana on the NS Railroad. Additional information regarding Hallador (and Sunrise) can be found on their website at www.halladorenergy.com.

2.2 Terms of Reference

Sunrise retained BOYD to complete an independent technical assessment of mineral resource and mineral reserve estimates and supporting information for the Oaktown Mining Complex. Our objective was to obtain reasonable assurance that the coal resource and coal reserve statements for Oaktown Mining Complex are free from material misstatement.

The results of our third-party study, presented in report form herein, were prepared in accordance with the disclosure requirements set forth in Subpart 1300 and Item 601(b)(96) of the SEC's Regulation S-K. The purpose of this report is: (1) to summarize available information for the subject mining properties, (2) to provide the conclusions of our technical assessment, (3) to provide a statement of coal resources and/or coal reserves for the Oaktown Mining Complex, and (4) provide our conclusion of the economic viability of the Oaktown Mining Complex's coal reserves. This is the first technical report summary filed by Sunrise for the Oaktown Mining Complex.

BOYD's findings are based on our detailed examination of the supporting geologic and other scientific, technical, and economic information provided by Sunrise, as well as our assessment of the methodology and practices applied by Sunrise in formulating the estimates of coal resources and coal reserves disclosed in this report. We did not independently estimate coal resources or coal reserves from first principles.

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We used standard engineering and geoscience methods, or a combination of methods, that we considered to be appropriate and necessary to establish the conclusions set forth herein. As in all aspects of mining property evaluation, there are uncertainties inherent in the interpretation of engineering and geoscience data; therefore, our conclusions necessarily represent only informed professional judgment.

The ability of Sunrise, or any mine operator, to recover all of the estimated coal reserves presented in this report is dependent on numerous factors that are beyond the control of, and cannot be anticipated by, BOYD. These factors include mining and geologic conditions, the capabilities of management and employees, the securing of required approvals and permits in a timely manner, future coal prices, etc. Unforeseen changes in regulations could also impact performance. Opinions presented in this report apply to the site conditions and features as they existed at the time of BOYD's investigations and those reasonably foreseeable.

This report is intended for use by Sunrise subject to the terms and conditions of its professional services agreement with BOYD. The agreement permits Sunrise to file this report as a technical report summary with the SEC pursuant to Subpart 1300 and Item 601(b)(96) of Regulation S-K. Except for the purposes legislated under US securities law, any other uses of our reliance on this report by any third party is at that party's sole risk. The responsibility for this disclosure remains with Sunrise. The user of this document should ensure that this is the most recent disclosure of coal resources and coal reserves for the subject property as it is no longer valid if more recent estimates have been issued.

2.3 Expert Qualifications

BOYD is an independent consulting firm specializing in mining-related engineering and financial consulting services. Since 1943, BOYD has completed over 4,000 projects in the United States and more than 60 other countries. Our full-time staff comprises mining experts in: civil, environmental, geotechnical, and mining engineering; geology; mineral economics; and market analysis. Our extensive experience in coal resources/reserve estimation and our knowledge of the subject coal properties, provides BOYD an informed basis on which to opine on the reasonableness of the estimates provided by Sunrise. An overview of BOYD can be found on our website at www.jtboyd.com.

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The individuals primarily responsible for this independent technical assessment and the preparation of this report are by virtue of their education, experience, and professional association considered qualified persons as defined in Subpart 1300 of Regulation S-K.

Neither BOYD nor its staff employed in the preparation of this report have any beneficial interest in Sunrise, and are not insiders, associates, or affiliates of Sunrise. The results of our audit were not dependent upon any prior agreements concerning the conclusions to be reached, nor were there any undisclosed understandings concerning any future business dealings between Sunrise and BOYD. This report was prepared in return for fees based upon agreed commercial rates, and the payment for our services was not contingent upon our opinions regarding the project or approval of our work by Sunrise and its representatives.

2.4 Principal Sources of Information

Information used in this assignment was obtained from: (1) Sunrise files, (2) discussions with Sunrise personnel, (3) records on file with regulatory agencies, (4) public sources, and (5) nonconfidential BOYD files.

The following information was provided by Sunrise:

- Year-end reserve statements and reports for 2021.
- Exploration records (e.g., drilling logs, lab sheets).
- Geologic databases of lithology and coal quality.
- Computerized geologic models.
- Mapping data, with:
 - Mineral tenure boundaries.
 - Permit boundaries.
 - Limits of previous mining.
- LOM plans and supporting documentation.
- Financial forecasting models.
- Historical information, including:
 - Production reports and reconciliation statements.
 - Financial statements.
 - Product sales and pricing.

Information from sources external to BOYD and/or Sunrise are referenced accordingly.

The data and work papers used in the preparation of this report are on file in our offices.

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2.4.1 Site Visits

A personal inspection of the Oaktown Fuels No. 1 and No. 2 mines was made by two of BOYD's senior mining engineers—qualified persons and co-authors of this report—on December 2, 2021. The site visit included: (1) observation of both mine's active underground workings, belt lines, outby areas, and portal (mine access) locations; (2) a tour of the mine site's surface infrastructure; and (3) a tour of the Oaktown Complex CPP, truck and rail loadout, and refuse disposal facility. BOYD's representatives were accompanied by senior Sunrise management personnel who openly and cooperatively answered questions regarding, but not limited to: site geology, mining conditions and operations, equipment usage, labor relations, operating and capital costs, current coal washing operations, and coal marketing.

2.4.2 Reliance on Information Provided by the Registrant

In the preparation of this report we have relied, without independent verification, upon information furnished by Sunrise with respect to: property interests; exploration results; current and historical production from such properties; current and historical costs of operation and production; and agreements relating to current and future operations and sale of production.

BOYD exercised due care in reviewing the information provided by Sunrise within the scope of our expertise and experience (which is in technical and financial mining issues) and concluded the data are valid and appropriate considering the status of the subject properties and the purpose for which this report was prepared. BOYD is not qualified to provide findings of a legal or accounting nature. We have no reason to believe that any material facts have been withheld, or that further analysis may reveal additional material information. However, the accuracy of the results and conclusions of this report are reliant on the accuracy of the information provided by Sunrise.

While we are not responsible for any material omissions in the information provided for use in this report, we do not disclaim responsibility for the disclosure of information contained herein which is within the realm of our expertise.

2.5 Effective Date

The coal resources and coal reserves presented in this technical report summary are effective as of December 31, 2021. The report effective date is December 31, 2021.

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2.6 Units of Measure

The US customary measurement system has been used throughout this report. Tons are short tons of 2,000 pounds-mass. Unless otherwise stated, all currency is expressed in constant 2021 US Dollars (\$).

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3.0 PROPERTY OVERVIEW

3.1 Description and Location

The Oaktown Mining Complex is a coal mining and processing operation located in Knox and Sullivan counties, Indiana, and Crawford and Lawrence counties, Illinois. Comprising almost 118 square miles within the ILB coal-producing region of the midwestern US, the Oaktown Mining Complex is one of the largest underground R&P coal mining complexes in North America. The Oaktown Mining Complex operations currently consist of two active underground mines—Oaktown Fuels No. 1 Mine and Oaktown Fuels No. 2 Mine—and related infrastructure.

While each of the two mines operate under a unique Mine Safety and Health Administration (MSHA) mine identification number and has a separate direct management team, the Oaktown Mining Complex is commercially operated as a single entity. All mine output is delivered by belt conveyors to a central coal processing facility, the Oaktown Complex CPP, that is rated at 1,600 raw TPH and reports to MSHA under its own identification number. The ROM coal is segregated by mine, and refined analysis and processing systems are utilized to meet customer specifications. Plant reject-material reports to the coarse and fine refuse disposal facilities or is placed into abandoned mine void areas through slurry (fine refuse) injection. Saleable output is shipped to a diverse customer base via truck or rail facilitated by the rail load-out on a dedicated rail spur serviced by CSX and INRD.

The Oaktown Mining Complex is located approximately 44 miles south of Terre Haute, Indiana near the town of Oaktown, Indiana. The city of Vincennes, Indiana lies about 14 miles to the southwest. The project area is essentially bisected by U.S. Route 41.

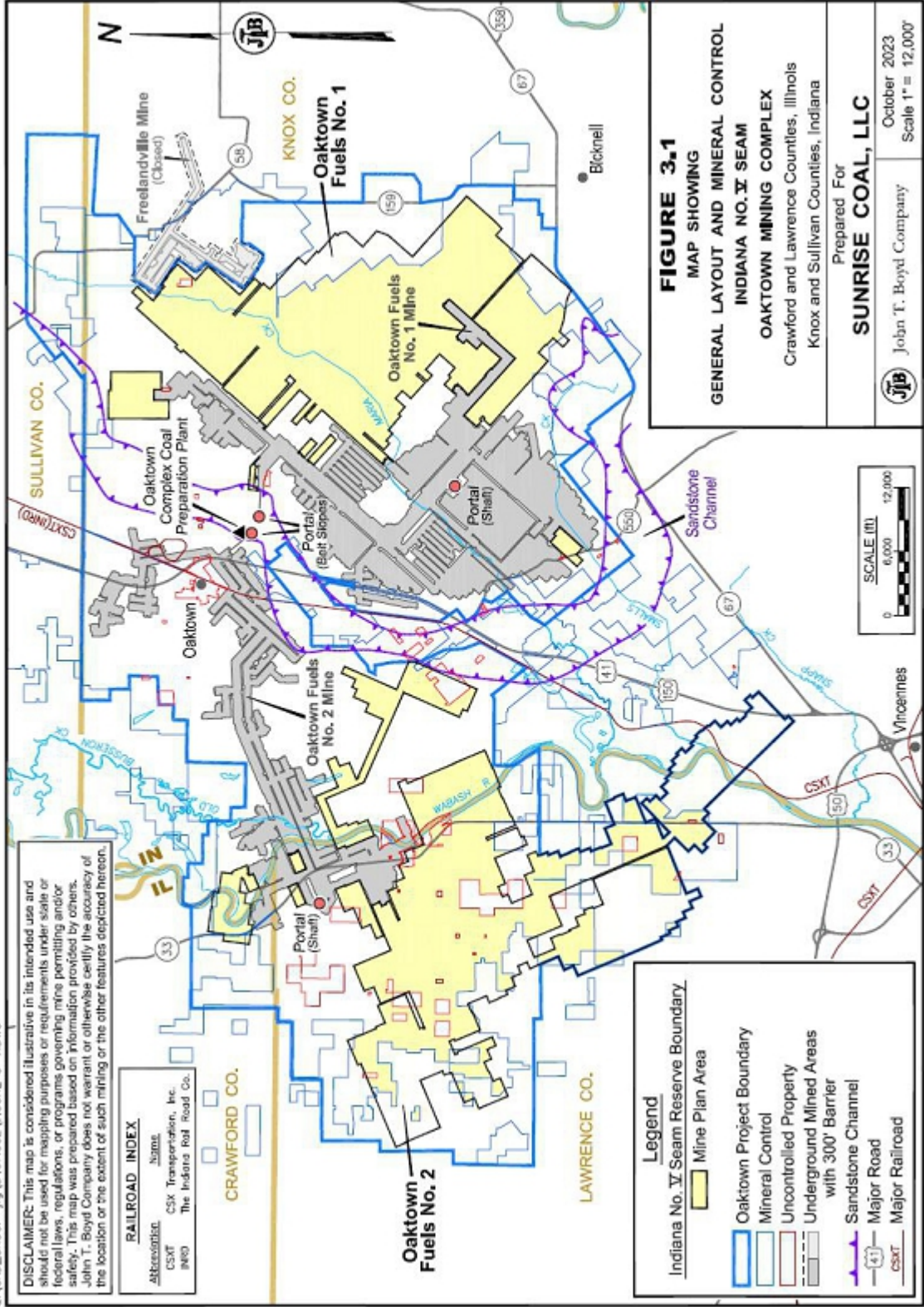
Geographically, the Oaktown Complex CPP is located at approximately 38°51'24.7" N latitude and 87°25'30.9" W longitude. Figures 1.1 (page 1-2) and 3.1, following this page, illustrate the location and general layout of the Oaktown Mining Complex.

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DISCLAIMER: This map is considered illustrative in its intended use and should not be used for mapping purposes or requirements under state or federal laws, regulations, or programs governing mine permitting and/or safety. This map was prepared based on information provided by owners. John T. Boyd Company does not warrant or otherwise certify the accuracy of the location or the extent of such mining or the other features depicted hereon.

Abbreviation	Name
CSXT	CSX Transportation, Inc.
INRD	The Indiana Road Co.

RAILROAD INDEX	
Abbreviation	Name
CSXT	CSX Transportation, Inc.
INRD	The Indiana Road Co.



Legend

- Indiana No. X Seam Reserve Boundary
- Mine Plan Area
- Oaktown Project Boundary
- Mineral Control
- Uncontrolled Property
- Underground Mined Areas with 300' Barrier
- Sandstone Channel
- Major Road
- Major Railroad



FIGURE 3.1
MAP SHOWING
GENERAL LAYOUT AND MINERAL CONTROL
INDIANA NO. X SEAM
OAKTOWN MINING COMPLEX
Crawford and Lawrence Counties, Illinois
Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC

John T. Boyd Company
October 2023
Scale 1" = 12,000'

3.2 History

Vectren Fuels was the original developer of the property. Construction of the Oaktown No. 1 Mine slope, surface mine infrastructure and CPP began in 2008. Following development of the slope, commercial coal production began in 2009. Processing of the Oaktown No. 1 Mine coals was facilitated by the then 800 raw feed TPH capacity CPP. Development of Oaktown No. 2 Mine followed shortly after, with commercial coal production beginning in 2013. The commercial production status of Oaktown No. 2 Mine coincided with the expansion of the CPP's 800 TPH capacity to its present 1,600 TPH capacity.

Sunrise's involvement with the Oaktown Mining Complex dates to 2014 with the acquisition of Oaktown Fuels No. 1 and No. 2 mines from Vectren Fuels. Since the acquisition, Sunrise has steadily increased annual production from the Oaktown Mining Complex—now averaging between 6 to 7 million product tons annually. The mine workings have substantially grown since 2014, and both mines have installed new shafts (mine accesses) for employee ingress/egress from the active production faces. The new Oaktown No. 1 Mine portal location is approximately 4.5 miles southeast of the town of Oaktown, Indiana while the new Oaktown No. 2 Mine portal location is approximately 1.5 miles northwest of the village of Russellville, Illinois.

There are no significant Indiana V Seam mining activities known to have occurred within the Oaktown Mining Complex bounds preceding Vectren Fuel's and Sunrise's involvement.

3.3 Property Control

Within the Oaktown Mining Complex area and immediate vicinity, Sunrise controls approximately 75,000 acres of mineral rights. This control exists as a complex collection of leases that apply to more than 2,000 tracts. Each of which range from less than an acre to several hundred acres in size. Ownership of the surface rights and the mineral rights is often severed for the properties and the estates are often fractional, in which mineral rights are split between several owners. Sunrise and its predecessors have acquired the necessary rights to support development and operations through purchase or lease agreements with predominantly private owners or entities.

BOYD has not independently verified ownership of the Oaktown Mining Complex area and the underlying property agreements. Ownership data provided to BOYD, including maps and summaries of lease agreements, have been accepted as being true and accurate for the purpose of this report.

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3.3.1 Coal Ownership

Sunrise maintains the right to mine and remove approximately 77% of the Indiana V Seam within the Oaktown Mining Complex area, with the balance (approximately 18,400 acres) currently reported as adverse.

Sunrise currently controls approximately 78% of the coal within projected mine plan boundaries through lease agreements. Reportedly, lease terms generally extend until all the coal is removed from the subject tract. Where applicable, royalty rates are typically based upon a percentage of the gross sales price of the coal. No material amounts of mineral within the Oaktown Mining Complex mine plan boundaries is owned in fee.

Adverse (uncontrolled) tracts within the project limits are common; however, it is generally reasonable to assume that such tracts can be acquired or leased in the ordinary course of business as has been demonstrated historically by Sunrise. It is BOYD's opinion that adverse coal control does not pose a material risk to the estimate of coal reserves reported herein.

3.3.2 Surface Ownership

As part of the Oaktown Mining Complex, Sunrise controls surface rights through fee simple ownership for over 1,700 permitted acres. Upon those acres resides the surface facilities for mine accesses, processing, storing, shipping, and refuse disposal facilities (i.e., refuse impoundment site and fine refuse injection sites).

Sunrise reports it controls adequate surface rights to sustain current mining operations in the near term. Additional surface property will likely be required during the life of the mine for the placement of additional infrastructure. It is generally reasonable to assume the required property can be acquired or leased in the ordinary course of business; as such, we do not believe there is any undue risk associated with surface ownership to the estimated reserves reported herein.

3.4 Adjacent Properties

As illustrated in Figures 1.1 and 3.1, there are no other operating mines or mines/properties controlled by Sunrise adjacent to the Oaktown Mining Complex. As shown, some existence of Indiana V Seam mining has taken place near the Oaktown Mining Complex to the northeast. Sunrise's mine plans include sufficient barrier zones to mitigate any risk associated with prior mining activities of the adjacent properties.

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3.5 Regulation and Liabilities

Mining and related activities on the Oaktown Mining Complex properties is regulated by both federal and state laws. The relevant federal laws include:

- Clean Air Act of 1970/1977.
- Clean Air Act Amendments of 1990.
- Clean Water Act of 1977.
- Surface Mining Control and Reclamation Act of 1977.
- Resource Conservation and Recovery Act of 1976.

In Indiana and Illinois, responsibility for enforcing these acts, with the aid of numerous state laws and legislative rules, lies with Illinois's Environmental Protection Agency (IL-EPA) and Indiana's Department of Natural Resources (IN-DNR).

As mandated by these laws and regulations, numerous permits are required for underground mining, coal preparation and related facilities, and other incidental activities. Sunrise reports that necessary permits are in place or applied for to support current operations. New permits or permit revisions may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Sunrise should be able to secure new permits, as required, to maintain its planned operations within the context of the current regulations.

Permits generally require that the permittee post a performance bond in an amount established by the regulator program to: (1) provide assurance that any disturbance or liability created during mining operation is properly mitigated, and (2) assure that all regulations requirements of the permit are fully satisfied. Sunrise reports holding surety bonds to cover its current obligations relating to mining and reclamation, road repair, etc. Those obligations currently equate \$5.8 million.

Regular inspection of the mines and related facilities are conducted by MSHA for health and safety compliance. On finding any violation of a health or safety standard, an inspector will issue a citation that specifies the standard violated and evaluates the gravity of the violation by several factors, including likelihood of injury. Any infraction that is reasonably likely to result in a serious injury or illness or is caused by the operator's unwarrantable failure to comply with regulatory requirements will carry additional fines and could result in temporary closure. Typically, the civil penalties for regular assessments are not considered material.

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BOYD is not aware of any prohibition of mining and processing activities for the Oaktown Mining Complex. However, the reported coal reserves may be materially impacted by: Sunrise's failure to comply with permit conditions and rules; delays in obtaining required government or other regulatory approvals or permits; Sunrise's inability to obtain such required approvals or permits; or changes in governmental regulations.

3.6 Accessibility, Local Resources, and Infrastructure

The Oaktown Mining Complex lies within a rural but well-developed region of southwestern Indiana and southeastern Illinois, with an extensive history related not only to coal mining, processing, and transportation, but also many other industries and services. A reported 1.4 million people live within 75 miles of the Oaktown Mining Complex, according to the U.S. Census of 2020.

General access to the Oaktown Mining Complex is via a well-developed network of primary and secondary roads serviced by state and local governments. These roads offer direct access to the mine and processing facilities and are generally open year-round.

Coal produced at the Oaktown Mining Complex is transported primarily by rail, truck, or a combination of both. A rail load-out facility and dedicated rail spur loop facilitate transportation of the coal on the INRD and CSX railroads. Additionally, Oaktown Mining Complex can facilitate the loading of trucks for direct transport to select customers, or to Sunrise's transload facility in Princeton, Indiana serviced by the NS Railroad.

Several regional airports are located near the Oaktown Mining Complex and the Indianapolis International Airport is located approximately 100 miles northeast of the complex.

Sources of electrical power, water, supplies, and materials are readily available. Electrical power is provided to the mines and facilities by regional utility companies. Water is supplied by public water services, surface impoundments, or water wells.

3.7 Physiography

The Oaktown Mining Complex lies within the Southern Hills and Lowland areas of the Southwest Indiana region. This region is characterized by relatively flat topography possessing gentle gradients associated with drainages. Surface elevations within the Oaktown Mining Complex area range from approximately 410 ft to 590 ft above mean sea-level. The region possesses a network of overlying tributaries and waterways flowing to the Wabash River; all of which overlay the complex area.

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Land cover within the area consists predominantly of mixed crop/pastureland and forest dotted with medium- to low-density (rural) residential areas.

3.8 Climate

Climate in and around the Oaktown Mining Complex is typical of southwestern Indiana, with four distinct seasons: cold winters; hot and humid summers; and mild falls and springs. The average daily high temperatures are above freezing 12 months of the year while the low temperatures drop below freezing 3 months of the year. Table 3.1 provides monthly average climate data collected from 2020 through 2021 in Vincennes, Indiana.

Table 3.1: Monthly Average Climate Data, Vincennes, Indiana

Average	Unit	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
High Temp	°F	38	43	54	66	76	84	88	87	81	69	56	42
Low Temp	°F	21	24	33	44	54	63	66	64	56	44	35	25

Source: US Climate Normals.

The area experiences on average 46 in. of rain and 9 in. of snowfall per year. Adverse weather conditions seldom limit the Oaktown Mining Complex coal mining, processing, and loading operations; however, extreme weather conditions may temporarily impact operations.

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4.0 GEOLOGY

4.1 Regional Geology

The Oaktown Mining Complex is located within the eastern portion of the ILB region, a sedimentary basin which coal-bearing areas cover approximately 50,000 square miles across the majority of Illinois, southwestern Indiana and portions of western Kentucky. The coal bearing members of the ILB consist of Pennsylvanian rocks, formed approximately 290 – 330 million years ago. The Indiana VI (Herrin) and Indiana V (Springfield) seams are accredited with the vast majority of the economically mineable coals within the ILB.

The ILB has informally been subdivided into eight mining regions—Northern Illinois, Western Illinois, West-central Illinois, East-central Illinois, Southwestern Illinois, Southeastern Illinois, Southwestern Indiana, and Western Kentucky. The majority of current coal mining from the ILB occurs within the West-central Illinois, Southeastern Illinois, Southwestern Illinois, Southwestern Indiana, and Western Kentucky regions. The Oaktown Mining Complex is located within the Southwestern Indiana region of the ILB.

There are three predominant structural features within the ILB which include the DuQuoin monocline, La Salle anticlinal belt, and the Cottage Grove-Rough Creek fault system. The features surround the Fairfield Basin area which contain the deepest extents of the ILB. The DuQuoin monocline on the west, the La Salle anticlinal belt on the north, and the Cottage Grove-Rough Creek fault system on the south, all flank the Fairfield Basin. In general, the Illinois and Indiana portions of the ILB dip gently towards the interior, Fairfield Basin. The Southwestern Indiana mining region, in which the Oaktown Mining Complex is located, experiences localized rolling of the coal seams but predominately dips in a westerly direction.

The Carbondale Formation is the primary coal-bearing formation containing the majority of the ILB economically mineable bituminous coals. The Indiana VI (Herrin) and Indiana V (Springfield) seams that are heavily exploited within the ILB, are typically between 2 ft and 6 ft in thickness. Coal in the region is classified as high-volatile bituminous with rank increasing to the south. Sulfur content is generally related to the overlying strata of the coals within the ILB. Generally, coals possess sulfur contents ranging from 3% to 5% and heating values above 11,000 Btu/lb.

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4.2 Local Stratigraphy

Pennsylvanian sedimentary strata comprise the uppermost stratigraphic units of bedrock in and around the Oaktown Mining Complex. These units primarily include bedrock of, in descending stratigraphic order, the McLeansboro, Carbondale and Raccoon Creek Group.

The strata of the Pennsylvanian system are predominantly clastic and contain subordinate amounts of coal and limestone. The Indiana V (Springfield) coal seam resides within the Carbondale Group, specifically the Petersburg formation. The stratigraphic relationship between these groups is presented in Figure 4.1 as follows.

System	Group	Formation
Pennsylvanian	McLeansboro	Mattoon
		Bond
		Patoka
		Shelburn
	Carbondale	Dugger
		Petersburg
		Linton
	Raccoon Creek	Staunton
		Brazil
		Mansfield
<p>Figure 4.1 Generalized Stratigraphic Chart, Southwestern Indiana</p>		

4.2.1 McLeansboro Group

The McLeansboro Group ranges in thickness of approximately 150 to 750 ft; beginning with the Mattoon Formation. The uppermost Mattoon Formation is predominately formed of sandstone and/or conglomerate type rocks. The remaining Bond, Patoka, and Shelburn formations, in descending stratigraphic order, are characterized by sequences of shale, mudstone, and siltstone with interspersed limestones. The predominant limestones of presence are the Livingston, Carthage, Vigo and West Franklin. There are no bituminous coal beds present possessing economic value.

4.2.2 Carbondale Group

The Carbondale Group extends from the Indiana VII (Danville) coal seam to the base of the Indiana III (Seelyville) coal seam. The unit is divided into the Dugger, Petersburg, and Linton formations. The Carbondale Group is a sedimentary sequence of non-marine rocks (sandstone, siltstone, mudstone, shale, limestone, and coal) ranging in thickness from approximately 300 ft to 450 ft. Regionally, the Carbondale Group contains several commercial coal beds, including the Indiana VII (Danville), Indiana VI (Herrin), Indiana V (Springfield) and others; however, within the vicinity of the Oaktown Mining Complex, only the Indiana V Seam is of economic interest. The Indiana V coal seam possesses moderate continuity (instances of sandstone paleochannel erosion) and ideal mining thickness (4 ft to 8 ft).

4.2.3 Raccoon Creek Group

The Raccoon Group includes all strata below the base of the Indiana III (Seelyville) coal bed. It is made up of Staunton, Brazil, and Mansfield formations. The Raccoon Group reaches a maximum thickness of about 1,000 ft in southwestern Indiana. Strata of the group are very similar to those of the overlying Carbondale Group, except that the Raccoon Creek Group contains coal beds of little or no commercial value.

4.3 Coal Seam Geology

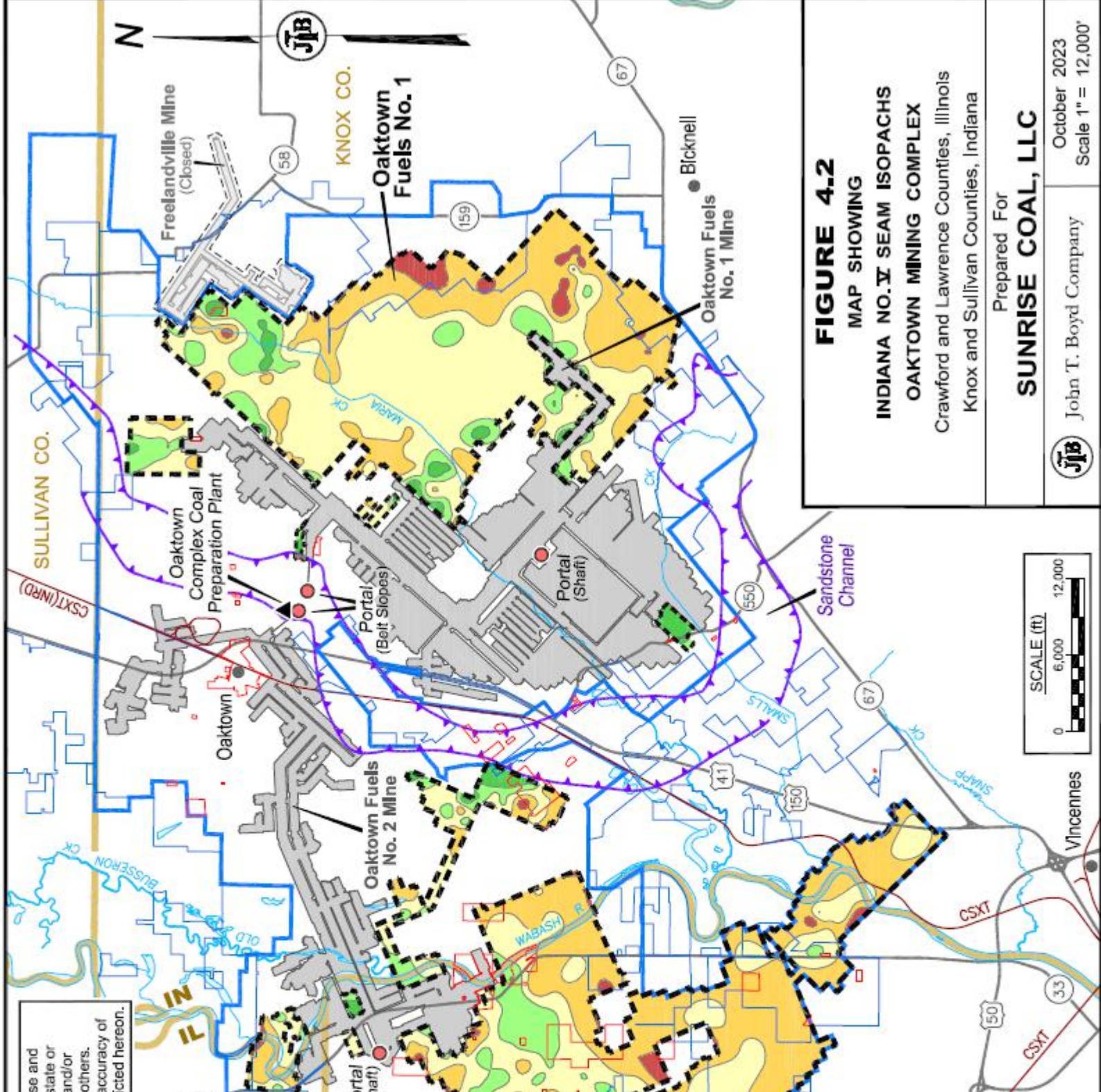
The Indiana V Seam is the only coal seam of economic interest within the Oaktown Mining Complex. The Indiana V Seam is fairly uniform in depositional nature (typically 4 ft to 8 ft thickness) and continuity throughout much of the project's surrounding area.

4.3.1 Lithology

The Indiana V Seam coal bed is relatively consistent containing a singular interval of coal within minimal in-seam partings. Mining methods employed at the Oaktown Mining Complex generally extract the entirety of the coal seam with minimal out-of-seam (OSD) dilution.

The coal thickness across the Oaktown Mining Complex area is generally between the 4.0 ft to 8.0 ft range, averaging 4.8 ft over the extents of mine plan areas. Isolated pockets of both thinner and thicker coal do exist, and extreme but generally isolated occurrences may range from less than a foot to above 12 ft thick. Figure 4.2, following this page, provides a map of the Indiana V Seam thickness. The locations of thinner coal occurrences are generally well-defined by the extensive exploration performed in and around the study area, and mine plans have been developed to avoid these low coal occurrences.

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Use and accuracy of data provided herein.

FIGURE 4.2
MAP SHOWING
INDIANA NO. V SEAM ISOPACHS
OAKTOWN MINING COMPLEX
 Crawford and Lawrence Counties, Illinois
 Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC
 John T. Boyd Company
 October 2023
 Scale 1" = 12,000'



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RAILROAD INDEX

Abbreviation	Name
CSXT	CSX Transportation, Inc.
INRD	The Indiana Rail Road Co.

33

CRAWFORD CO.

Oaktown Fuels No. 2

LAWRENCE CO.

Legend

Indiana No. 2 Seam Thickness (ft)

< 4.0	5.0 - 6.0	> 7.0
4.0 - 5.0	6.0 - 7.0	

- Mine Plan / Reserve Boundary
- Oaktown Project Boundary
- Mineral Control
- Uncontrolled Property
- Underground Mined Areas with 300' Barrier
- Sandstone Channel
- Major Road
- Major Railroad

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The immediate roof overlying the Indiana V Seam coal bed generally consists of interbedded shales and sandy shales. Occasional instances of sandstone roof can occur within the project area, where paleochannel sandstone fill has scoured and replaced part or all the normal roof strata. The most prominent existence of paleochannel sandstone fill resides within the sandstone channel that divides the Oaktown Fuels No. 1 and No. 2 mines mineable reserves. Other, less prominent, localized paleochannelization eroding of the typical roof strata and possibly portions of the Indiana V Seam are likely to be found within the Oaktown Mining Complex mineable reserves. Areas of the deposit with sandstone channels in close proximity to the Indiana V Seam commonly exhibit discontinuities and rolls in the coal bed. Poor roof conditions are also common along margins of the channels, where the roof type transitions between the sandstone roof and normal shale roof. Sunrise has implemented various programs to identify and mitigate, where possible, problems associated with poor roof conditions.

The immediate floor beneath the Indiana V Seam coal bed consists of an interval of underclay. The underclay provides a generally competent floor, however poor floor conditions can develop when the underclay is exposed to water.

4.3.2 Structure

The Indiana V Seam coal bed is located at depths ranging from approximately 150 ft to over 600 ft below ground surface, averaging 350 ft within the Oaktown Mining Complex area. Seam structure shows a general seam dip of less than 2 degrees in a westerly direction. There are not any major structural faulting or tectonic features known to occur in the deposit. Small-displacement faults and compaction-related faults may be present, but are not expected to materially affect mine plans.

The structural setting for the deposit is generally considered to be simple in terms of geological complexity. Some areas exhibit evidence of localized channelization; as such, isolated areas of the deposit may be considered moderate in geological complexity. Having been widely studied and extensively mined, the Indiana V Seam is well-known and widely-accepted to be a uniform deposit.

4.3.3 Coal Quality

Overall, the Indiana V Seam coal bed is a high-sulfur moderate ash coal that is used for steam purposes.

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5.0 EXPLORATION DATA

5.1 Background

The Indiana V Seam has been the subject of extensive exploration drilling and sampling by Sunrise and other parties, over a timespan of decades. Records from exploration drilling comprise the primary data used in the evaluation of coal resources on the property. A database compiling the results of 1,895 drill holes—covering Oaktown Mining Complex and surrounding area Indiana V Seam—along with electronic copies of original drilling and sampling logs for a representative sample (approximately 42%), was provided for our review.

Additionally, discussions were held between BOYD and Sunrise concerning their standard exploration and sampling methodologies. Topics covered standard procedures ranging from site safety and mapping, to how to select proper drilling equipment, recording accurate and detailed geological logs, performing coal sampling, supervising geophysical logging, and plugging drill holes once work was complete. Sunrise's provided explanation of exploration standards highlight their focus on obtaining the highest accuracy of data possible from the various exploration campaigns they completed.

Due to archival storage of some physical records of drill holes and detailed information on the drilling and sampling methodologies utilized, some documents were not provided for our review. While this limits the ability to provide a completely transparent and detailed overview of the work completed in developing the Oaktown Mining Complex, Sunrise has also demonstrated that they have been very thorough in exploring and sampling and the complex has been able to consistently and economically mine coal from this deposit for more than a decade.

5.2 Procedures

5.2.1 Drilling

Drill holes on the subject property were completed using various drilling procedures based on specific goals and data needs at various stages of planning and developing the Oaktown Mining Complex. Some drill holes were rotary drilled for purposes of completing geophysical logging, while others were completed using continuous core drilling methods to provide more detailed geologic records and sampling opportunities.

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Sunrise technical staff were able to summarize the standard types of equipment and procedures they generally utilized in exploration work completed on the property. This information, combined with information BOYD was able to gather from our review of drilling records are as follows:

- Frequently used drilling equipment that is utilized during exploration is typical of the ILB region. Typical drilling equipment that Sunrise uses for exploration, depending on the goal of a specific drilling and sampling program, may consist of one or both of:
 - Continuous NQ-sized (3.0 in. outside diameter) diamond core rigs.
 - Water rotary with 4.875 in. diameter barrels.
- Presently, core logging activities are completed in the field. Reportedly current practices for Sunrise are for cored intervals to be photographed, with special attention paid to the coal interval. Cored coal is initially photographed in its entirety.
- Select intervals of coal roof rock and floor rock are photographed and then boxed for archival purposes.
- Geophysical logging has been performed for some drill holes, while others may or may not have been completed/recorded. Sunrise has noted that geophysical logging is currently completed on all holes drilled.

Due to the large extent of historic exploration work, any recent drilling is generally for infilling areas with lower geologic assurance or for establishing confidence of sandstone channel locations. In such instances, nearby drill hole records are referenced prior to commencing any new drill holes, to show the anticipated depth to the coal horizons.

Geophysical logs obtained from newly drilled holes are correlated by Sunrise geologists by aligning known “marker beds”, and then checking coal seam depths, elevations, and thicknesses to ensure seam continuity. These data are formatted and then imported into Sunrise’s geologic modeling programs.

BOYD’s review of the methodologies and procedures indicate the data obtained and utilized by Sunrise for the Oaktown Mining Complex project area were carefully and professionally collected, prepared, and documented, conforming with general industry standards, and are appropriate for use of evaluating and estimating coal resources and reserves.

5.2.2 Coal Quality Sampling

The Oaktown Mining Complex coal quality testing was performed on a large number of coal samples obtained from the Indiana V Seam, in and around the project area. The relatively dense core drilling coverage, combined with channel samples being taken regularly from underground development areas, provides a thorough understanding of the clean coal product that could be produced from the Oaktown Mining Complex.

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All coal intercepts of Oaktown Mining Complex exploration were geologically logged, photographed, and sampled in the field by competent geologists. Sampling methodologies consist of first pushing the cored intervals of coal out of the core barrel, directly into a clean single-row wooden core box. Prior to removing coal core from the drilling barrel, the core box is lined with durable plastic sheeting, which helps retain moisture content and minimize coal core oxidation. Once the coal core is fully extruded from the core barrel, it is then inspected, photographed, and logged by the on-site geologist, and cardboard inserts are installed in the wooden core box to maintain coal core integrity.

Upon completing detailed recording (geologic logging and photographing) of the coal interval, coal cores are split into the desired intervals to be analyzed and bagged. An order sheet is placed inside the sample bag, which specifies drill hole information, split information, and testing to be completed on the bagged sample. Sample bags are then zip tied closed, labeled, and then double bagged to eliminate incidental core loss due to potential damage during transportation to the testing lab.

Sunrise maintains all control of coal core samples, up to the point that samples are handed over to the lab performing testing. Once logging and sampling is complete, the sampled coal core intervals are transported to the selected lab that will perform the required analyses. Typically, washability analysis is performed on the majority of drillhole samples with select drillholes being expanded to include full proximate or other analyses (i.e., ultimate, ash content, etc.). The lab manager signs off on the return analysis sheet, indicating that testing results are accurate and that the sample provided was sufficient for testing purposes.

Past programs utilized various accredited coal testing laboratories, again depending on what testing needed to be completed on the coal core at a given time. All analytical work was conducted to International Organization of Standardization (ISO) or American Society for Testing and Materials (ASTM) standards, and various available laboratory sample sheets were provided for review with drilling log data.

Available testing sheets were reviewed by BOYD during our drill hole data audit, and our review of the discussed field and sampling procedures noted above indicated that the general description and sampling work were conducted to appropriate standards. Based on the stated standards and laboratory used, BOYD considers the sample preparation and analytical procedures were adequate for the coal quality results for inclusion in geological modelling and coal resource estimation.

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5.2.3 Coal Washability Testing

Coal washability tests (proximate analysis) were conducted at various specific gravities, generally ranging from 1.45 specific gravity float (SGF) through 1.55 SGF. Estimated coal reserves for the Oaktown Mining Complex are currently reported using 1.55 SGF testing results over the entire Oaktown Mining Complex project area. Proximate analysis test results were completed on 723 drill core samples, which were used in estimating quantity and quality of the remaining Oaktown Mining Complex coal reserves.

Although it was noted that Sunrise generally does not perform any randomized sample verification in order to conduct quality control testing of individual coal analyses, Sunrise will typically perform channel sampling and quality analyses throughout mine workings. The channel sample data are then utilized to update quality models.

5.2.4 Other Exploration Methods

There is no known ore reported via other methods of exploration (such as airborne or ground geophysical surveys) completed for the project area.

5.3 Results

A total of 1,922 drill holes and in-mine samples are in and around the Oaktown Mining Complex area. The distribution of these drill holes is shown on Figure 5.1. Lithologic and coal quality data from these holes only were used for geologic modeling and coal resource assessment for the property.

General descriptive statistics for the Indiana V Seam thickness are provided in Table 5.1 below.

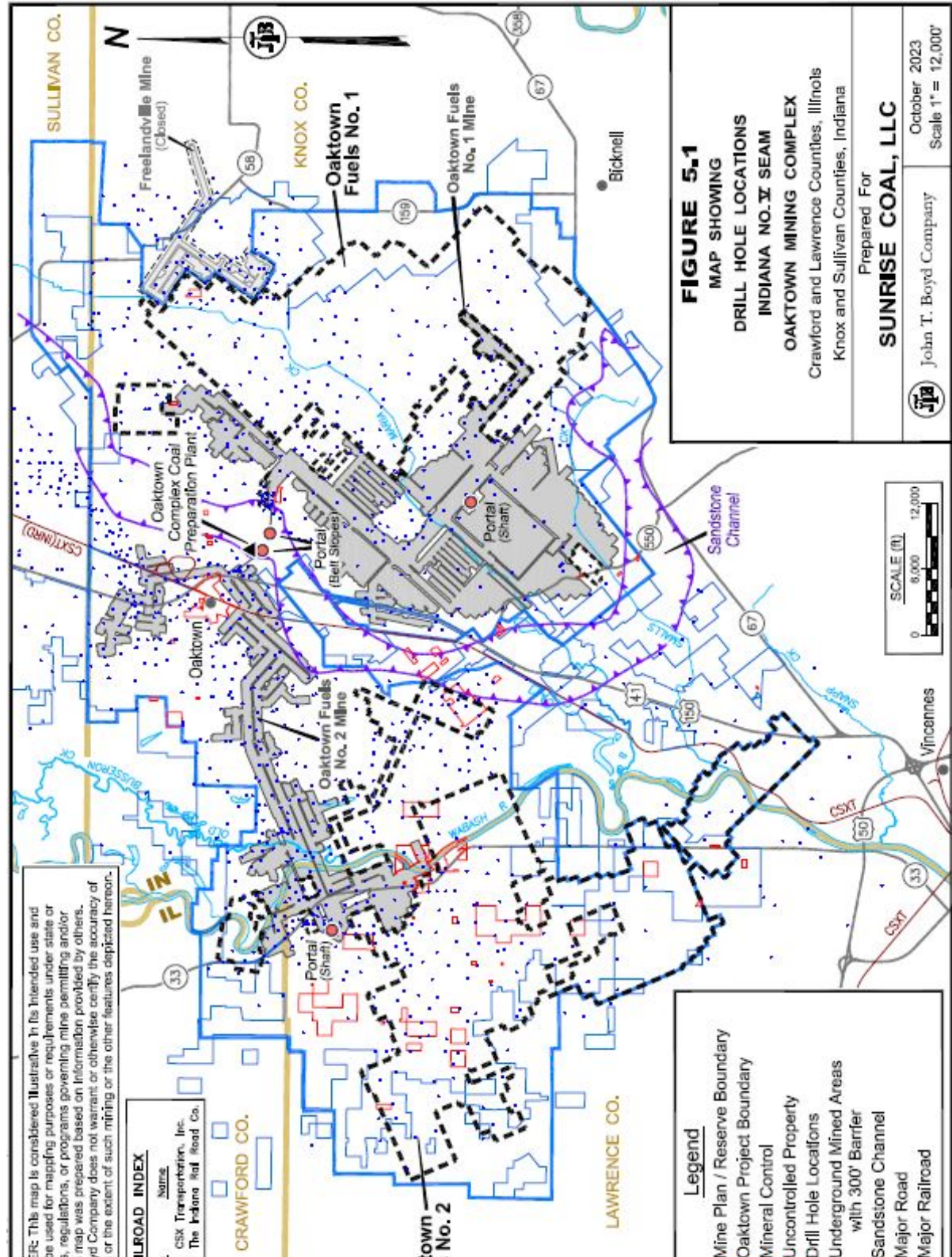
Table 5.1: Indiana V Seam Thickness (feet) Statistics

	Oaktown Fuels No. 1 Mine	Oaktown Fuels No. 2 Mine
Mean	5.2	4.8
Minimum	0.5	2.1
Maximum	8.7	12.1
Standard Deviation	0.8	0.9

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RAILROAD INDEX
 Name
 CSX Transportation, Inc.
 The Indiana Rail Road Co.



- Legend**
- Mine Plan / Reserve Boundary
 - Oaktown Project Boundary
 - Mineral Control
 - Uncontrolled Property
 - Drill Hole Locations
 - Underground Mined Areas with 300' Barrier
 - Sandstone Channel
 - Major Road
 - Major Railroad

FIGURE 5.1
 MAP SHOWING
 DRILL HOLE LOCATIONS
 INDIANA NO. X SEAM
 OAKTOWN MINING COMPLEX
 Crawford and Lawrence Counties, Illinois
 Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC
 John T. Boyd Company

October 2023
 Scale 1" = 12,000'



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Fuels



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As shown, the thickness of the seam can range from less than a foot to over 12 ft across the Oaktown Mining Complex area. Average thickness of the Indiana V Seam for the project area is approximately 5.2 ft for the Oaktown Fuels No. 1 Mine area and 4.8 ft for the Oaktown Fuels No. 2 Mine area.

The results of the coal quality analyses from 723 samples are summarized in Table 5.2.

Table 5.2: Descriptive Statistics, Indiana V Seam Coal Quality

	Units	Oaktown Fuels No. 1 Mine		Oaktown Fuels No. 2 Mine	
		Raw	Clean	Raw	Clean
Float (i.e., Yield)	Mean	%		88.7	87.9
	Minimum	%		59.1	51.6
	Maximum	%		98.3	97.9
	Standard Deviation			3.1	4.0
Ash	Mean	%	14.5	8.5	14.5
	Minimum	%	4.0	6.8	4.0
	Maximum	%	62.5	13.8	62.5
	Standard Deviation			0.8	0.6
Sulfur	Mean	%	4.9	3.5	4.9
	Minimum	%	0.6	2.3	0.6
	Maximum	%	14.0	5.0	14.0
	Standard Deviation			0.3	0.4
Heating Value	Mean	Btu/lb	11,961	13,246	11,961
	Minimum	Btu/lb	4,904	12,510	4,904
	Maximum	Btu/lb	13,389	13,656	13,389
	Standard Deviation			106	120

Note: Raw and Clean coal qualities are provided on a dry basis.

Raw and clean (washed) coal quality data demonstrate the consistency of the Indiana V Seam as a high-sulfur, moderate ash coal.

5.4 Data Verification

For purposes of this report, BOYD did not verify historic drill hole data by conducting independent drilling in areas already explored. It is customary in preparing coal resource and reserve estimates to accept basic drilling and coal quality data as provided by the client subject to the reported results being judged representative and reasonable.

BOYD's efforts to judge the appropriateness and reasonability of the source exploration data included reviewing a representative sample of drilling logs and coal quality test results for holes located in unmined portions of the Oaktown Mining Complex area. These records were compared with their corresponding database records for transcription errors, noting the vast majority of the information being consistent. Lithologic and coal quality data points were compared via visual and statistical inspection with geologic mapping.

BOYD's review indicates that in general, Sunrise has performed extensive drilling and sampling work on the subject property, the work completed has been done so by competent personnel, and the amount of data available combined with wide-spread knowledge of the Indiana V Seam, is sufficient to confirm seam uniformity and continuity throughout the Oaktown Mining Complex deposit.

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6.0 COAL RESOURCES AND RESERVES

6.1 Applicable Standards and Definitions

Unless noted, coal resource and coal reserve estimates disclosed herein are done so in accordance with the standards and definitions provided by S-K 1300. It should be noted that BOYD considers the terms “mineral” and “coal” to be generally interchangeable within the relevant sections of S-K 1300.

Estimates of coal resources and reserves are always subject to a degree of uncertainty. The level of confidence that can be applied to a particular estimate is a function of, among other things: the amount, quality, and completeness of exploration data; the geological complexity of the deposit; and economic, legal, social, and environmental factors associated with mining the resource/reserve. By assignment, BOYD used the definitions provided in S-K 1300 to describe the varying degree of certainty associated with the estimates reported herein.

The definition of mineral (coal) resource provided by S-K 1300 is:

Mineral resource is a concentration or occurrence of material of economic interest in or on the Earth's crust in such form, grade or quality, and quantity that there are reasonable prospects for economic extraction. A mineral resource is a reasonable estimate of mineralization, taking into account relevant factors such as cut-off grade, likely mining dimensions, location or continuity, that, with the assumed and justifiable technical and economic conditions, is likely to, in whole or in part, become economically extractable. It is not merely an inventory of all mineralization drilled or sampled.

Estimates of coal resources are subdivided to reflect different levels of geological confidence into measured (highest geologic assurance), indicated, and inferred (lowest geologic assurance). See Glossary of Abbreviations and Definitions.

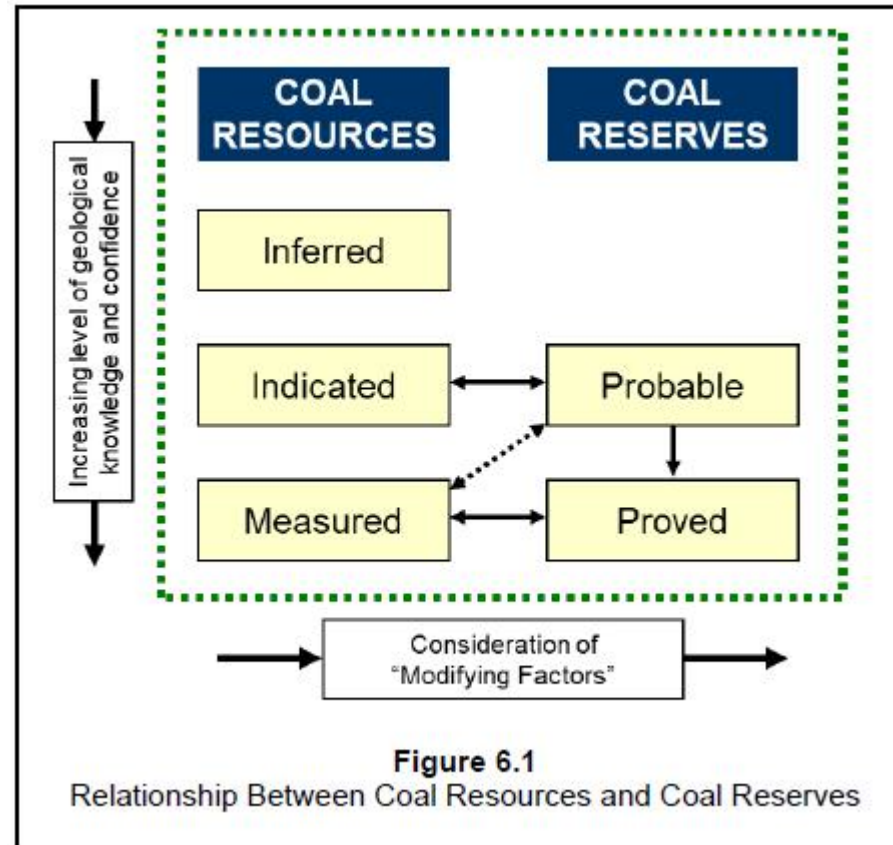
The definition of mineral (coal) reserve provided by S-K 1300 is:

Mineral reserve is an estimate of tonnage and grade or quality of indicated and measured mineral resources that, in the opinion of the qualified person, can be the basis of an economically viable project. More specifically, it is the economically mineable part of a measured or indicated mineral resource, which includes diluting materials and allowances for losses that may occur when the material is mined or extracted.

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Estimates of coal reserves are subdivided to reflect geologic confidence, and potential uncertainties in the modifying factors, into proven (highest assurance) and probable. See Glossary of Abbreviations and Definitions.

Figure 6.1 shows the relationship between coal resources and coal reserves.



In this report, the term “coal reserves” represents the tonnage and coal quality of product coal that will be available for sale after beneficiation of the ROM coal.

6.2 Coal Resources

6.2.1 Methodology

Based on provided information, Sunrise’s coal resources (and coal reserves) estimation and modeling techniques consists of:

1. Interpreted and correlated coal seam intercepts are compiled and validated. Seam thickness is aggregated and coal qualities are composited, based on assumed mining methods, for each data point.
2. Boundaries of the respective resource classification regions are developed using the data points.
3. ROM coal thickness and coal qualities for each data point are derived from the application of dilution parameters.

4. Clean product qualities for each data point are derived from coal washability analysis and plant efficiency factors.
5. The approved LOM design is subdivided into small mining blocks and sequenced using mine planning software.
6. In-place, ROM, and clean product estimates of coal volume and qualities for each mining block are estimated within the mine planning software by linear least squares interpolation of the data points developed in Steps 1 and 2.
7. The mining blocks (and associated volumetric data) are further subdivided by resource classification and property tract polygons.
8. Relevant and periodic summaries are prepared by Sunrise to support planning and coal resource/reserve reporting.

6.2.2 Criteria

Development of the coal resource estimate for the Oaktown Mining Complex assumes mining using standard underground R&P methods and equipment, which have been utilized successfully at the Oaktown Mining Complex for over a decade.

Within the area of study, the Indiana V Seam exhibits consistent and well-characterized clean (i.e., washed) coal qualities which are within existing marketable limits for ILB coal products. BOYD did not discover any areas within the property where clean coal quality was deficient relative to Sunrise's historical coal sales and current sales contract specifications for high-sulfur thermal coal. As such, no reductions have been made to the coal resources due to coal quality.

A minimum mineable seam thickness of 4 ft was used to limit the coal resources of the Indiana V Seam. This cut-off is a function of the employed mining techniques and equipment. Mining heights less than 4 ft result in operational difficulties and increase OSD, thereby reducing productivity and increasing costs.

There were not any other cut-offs applied.

6.2.3 Classification

Geologic assuredness is established by the availability of both structural (thickness and elevation) and quality information for the Indiana V Seam. Classification is generally based on the concentration or spacing of exploration data, which can be used to demonstrate the geologic continuity of the deposit. Table 6.1 provides the general criteria employed in the classification of the coal resources.

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Table 6.1: Coal Resource Classification Criteria

Classification (Geologic Confidence)	Data Point Spacing					
	Feet			Miles		
Measured	0	-	2,000	0	-	0.38
Indicated	2,000	-	4,000	0.38	-	0.76
Inferred	4,000	-	16,000	0.76	-	3.03

Extrapolation or projection of resources in any category beyond any data point does not exceed half the point spacing distance.

BOYD reviewed the classification criteria employed by Sunrise with regards to data density, data quality, geological continuity and/or complexity, and estimation quality. The Indiana V Seam is well-known and of low complexity. We believe these criteria appropriately reflect the interpreted geology and the estimation constraints of the deposit. Coal resources in the Oaktown Mining Complex area are well-defined throughout nearly all areas of the mine plan. Observed drill hole spacing averages approximately 1,995 ft and generally ranges between 444 ft and 8,000 ft.

BOYD is of the opinion that there is a high degree of certainty (assurance) associated with each of the resource classifications.

6.2.4 Coal Resource Estimate

There are no reportable coal resources excluding those converted to coal reserves for the Oaktown Mining Complex. Quantities of coal controlled by Sunrise within the defined boundaries of the Oaktown Mining Complex which are not reported as coal reserves, are not considered to have potential economic viability; as such, they are not reportable as coal resources.

6.3 Coal Reserves

6.3.1 Methodology

Estimates of coal reserves are derived contemporaneously with estimates of coal resources for the LOM plans through the application of appropriate modifying factors. Economic viability of the coal reserves is subsequently confirmed via a LOM financial forecast.

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The coal reserve estimates have been prepared using generally accepted industry methodology to provide reasonable assurance that the coal reserves are economic and recoverable at the time of evaluation.

6.3.2 Parameters and Assumptions

The following parameters and assumptions were relied upon to determine the coal reserves:

- The underground operation is mined using R&P methods.
- The mine plans were developed to address anticipated geologic, geotechnical, and hydrogeologic conditions.
- Mining and processing parameters are revised periodically, to assure that the conversion of in-place coal to saleable product are: (1) in reasonable conformity with present and recent historical operational performance, and (2) reflective of expected mining and processing operations.

Mining recovery, which is dependent on numerous factors associated with R&P mining, historically ranges between 40 and 50% (averaging 44.4%) for the Indiana V Seam. Within the Oaktown Mining Complex's LOM plan areas, the estimated average mining recovery is 46.1% for the Oaktown Fuels No. 1 Mine and 41.6% for the Oaktown Fuels No. 2 Mine. These recoveries are considered reasonable.

Clean coal estimates are based on coal washability data. These estimates have been conservatively adjusted downward to reflect practical yields achieved by the preparation plant. Salient coal preparation factors used to estimate the coal reserves include:

- The preparation plant efficiency is 95%.
- Sulfur content within clean coal estimates is adjusted upward by approximately 15% above washability data (consistent with historical clean coal processing results).
- Product moisture was estimated at 13.0% (as-received basis).
- The average product yield for the coal reserves is 69.5%.

Figure 6.2 depicts the estimated product yield for the Indiana V Seam across the Oaktown Mining Complex deposit.

The Indiana V Seam across the Oaktown Mining Complex property exhibits clean coal quality which is consistent with Sunrise's historical production and current sales contract specifications. Furthermore, the projected coal quality over the life of the coal reserves is consistent with coals produced by other ILB operators (please refer to Chapter 10 for further information). As such, BOYD does foresee any quality deviations that would adversely affect the marketability future coal production from the Oaktown Mining Complex.

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The economic viability of the stated coal reserves is demonstrated by the production and financial projections presented in Chapters 10 through 12 of this report. The forecasted sales prices (FOB CPP) used in the estimation of coal reserves for the Oaktown Mining Complex vary by year, ranging from \$42.50 to \$63.99 and averaging \$46.88 per clean ton (refer to Section 10.2.5 for further details).

6.3.3 Classification

Proven and probable coal reserves are derived from measured and indicated coal resources, respectively, in accordance with S-K 1300. BOYD is satisfied that the stated coal reserve classification reflects the outcome of technical and economic studies. Figure 6.3 illustrates the reserve classification of the Indiana V Seam within the Oaktown Mining Complex.

6.3.4 Coal Reserve Estimate

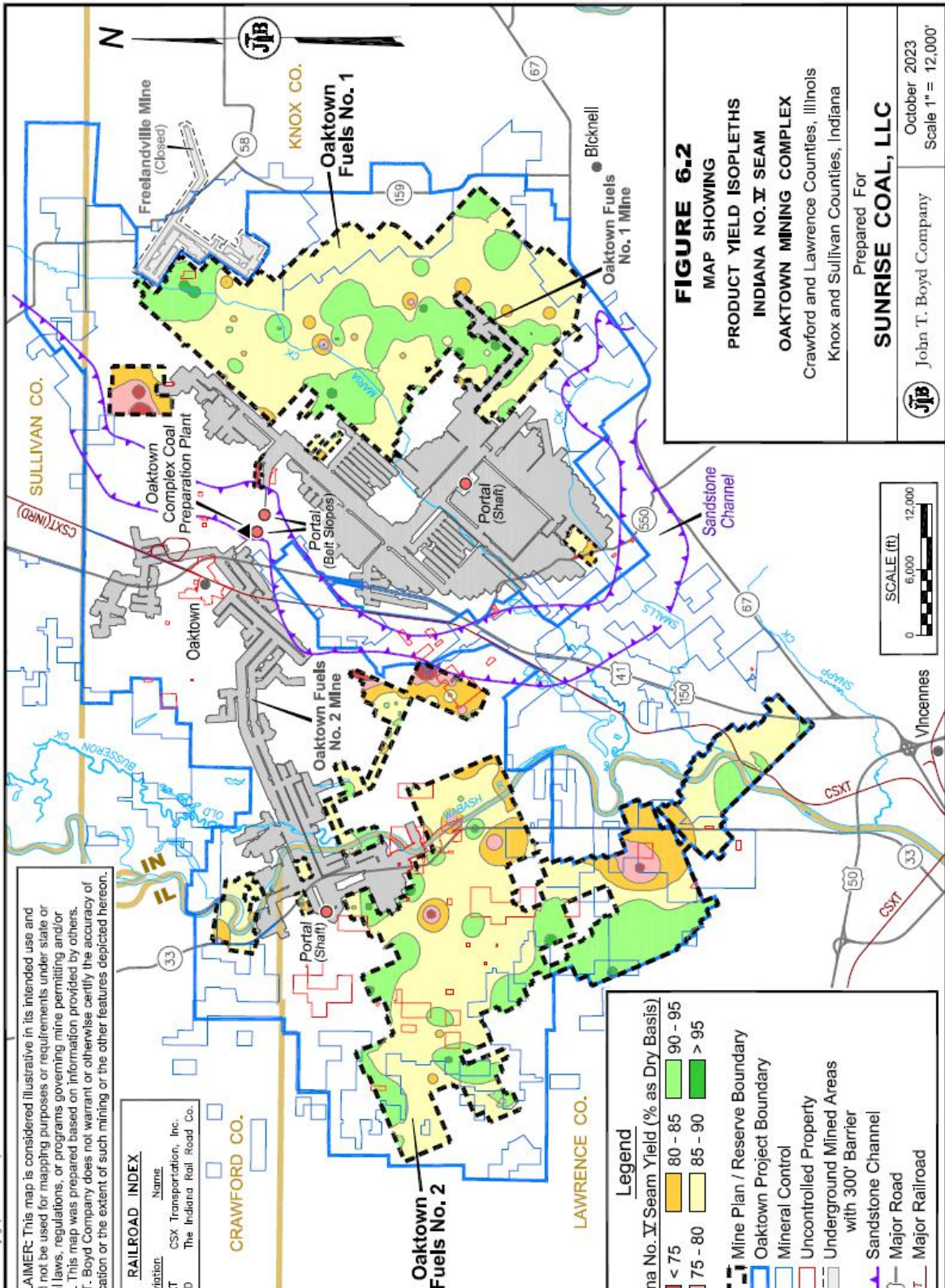
Sunrise's estimated underground mineable coal reserves for the Oaktown Mining Complex total 71.4 million recoverable (clean) product tons remaining as of December 31, 2021. The coal reserves reported in Table 6.2 are based on the approved LOM plan which, in BOYD's opinion, is technically achievable and economically viable after the consideration of all material modifying factors.

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RAILROAD INDEX

Abbreviation	Name
CSX	CSX Transportation, Inc.
IND	The Indiana Rail Road Co.



Legend

Indiana No. X Seam Yield (% as Dry Basis)

< 75	80 - 85	90 - 95
75 - 80	85 - 90	> 95

- Mine Plan / Reserve Boundary
- Oaktown Project Boundary
- Mineral Control
- Uncontrolled Property
- Underground Mined Areas with 300' Barrier
- Sandstone Channel
- Major Road
- Major Railroad



FIGURE 6.2
MAP SHOWING
PRODUCT YIELD ISOPLETHS
INDIANA NO. X SEAM
OAKTOWN MINING COMPLEX
Crawford and Lawrence Counties, Illinois
Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC
John T. Boyd Company
October 2023
Scale 1" = 12,000'

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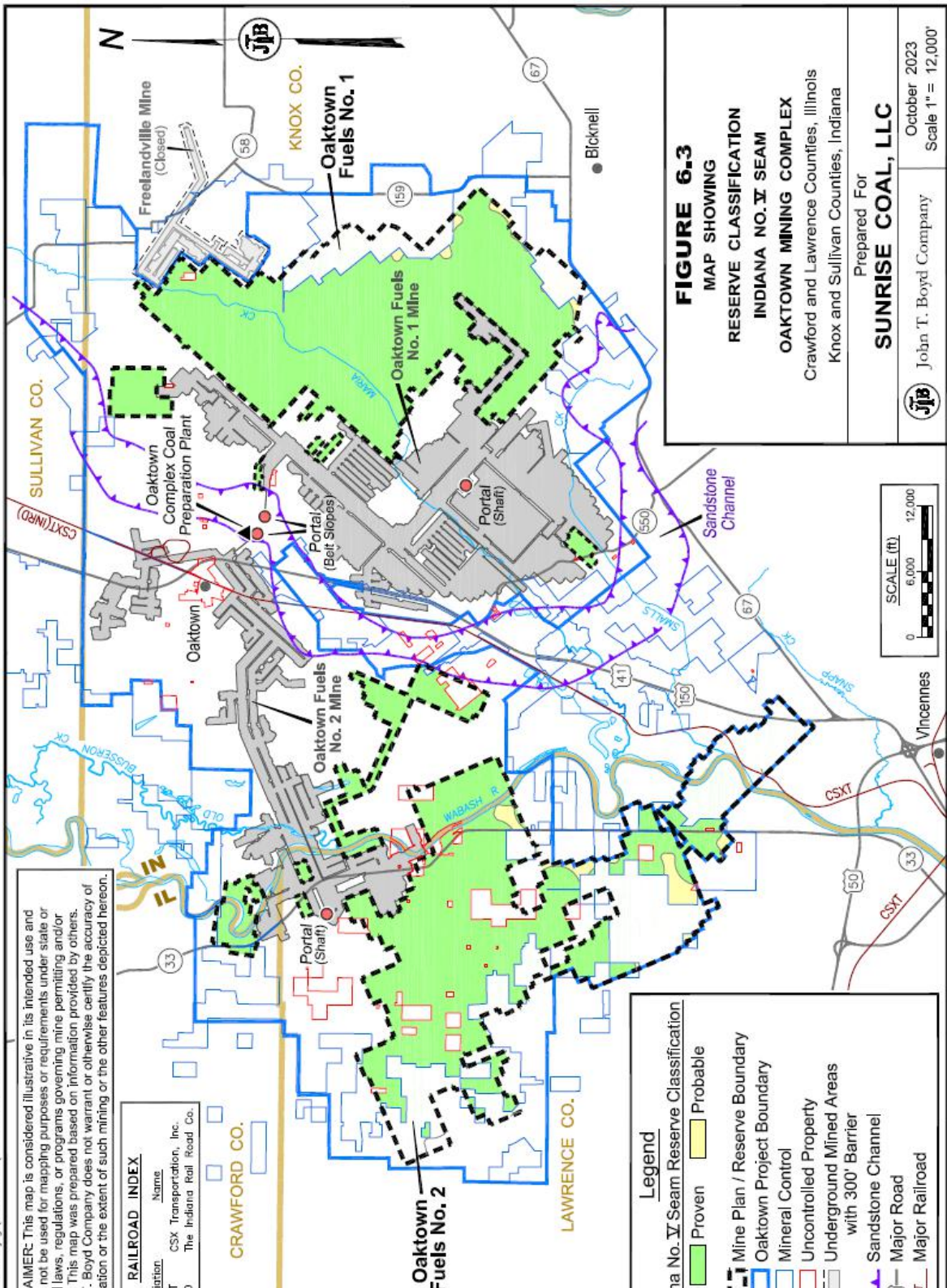


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RAILROAD INDEX

Location	Name
CSX	CSX Transportation, Inc.
IND	The Indiana Rail Road Co.



- Legend**
- Indiana No. 1 Seam Reserve Classification
 - Proven
 - Probable
 - Mine Plan / Reserve Boundary
 - Oaktown Project Boundary
 - Mineral Control
 - Uncontrolled Property
 - Underground Mined Areas with 300' Barrier
 - Sandstone Channel
 - Major Road
 - Major Railroad



FIGURE 6.3
MAP SHOWING

RESERVE CLASSIFICATION
INDIANA NO. 1 SEAM

OAKTOWN MINING COMPLEX

Crawford and Lawrence Counties, Illinois
Knox and Sullivan Counties, Indiana

Prepared For

SUNRISE COAL, LLC

John T. Boyd Company



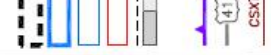
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TABLE 6.2

ESTIMATED COAL RESERVES BY MINE
AS OF 31 DECEMBER 2021
OAKTOWN MINING COMPLEX

Indiana and Illinois

Prepared For

SUNRISE COAL, LLC

By

John T. Boyd Company

Mining and Geological Consultants

October 2023

Control	Classification	Product Tons (millions)			Average Product Quality (As Received Basis)					
		Total	By Permit Status		Total Moisture	%			Heating Value (Btu/lb)	SO ₂ (lbs per MMBtu)
			Permitted	Not Permitted		Ash	Sulfur			
Oaktown Fuels No. 1 Mine										
Owned	Proven	-	-	-	-	-	-	-	-	-
	Probable	-	-	-	-	-	-	-	-	-
	Subtotal	-	-	-	-	-	-	-	-	-
Leased	Proven	40.1	40.1	-	13.0	7.4	3.5	11,519	6.0	
	Probable	0.4	0.4	-	13.0	7.4	3.6	11,525	6.2	
	Subtotal	40.5	40.5	-	13.0	7.4	3.5	11,519	6.0	
Total	Proven	40.1	40.1	-	13.0	7.4	3.5	11,519	6.0	
	Probable	0.4	0.4	-	13.0	7.4	3.6	11,525	6.2	
	Total	40.5	40.5	-	13.0	7.4	3.5	11,519	6.0	
Oaktown Fuels No. 2 Mine										
Owned	Proven	-	-	-	-	-	-	-	-	
	Probable	-	-	-	-	-	-	-	-	
	Subtotal	-	-	-	-	-	-	-	-	
Leased	Proven	29.7	25.3	4.4	13.0	7.9	3.3	11,540	5.7	
	Probable	1.2	0.3	0.9	13.0	8.0	3.2	11,520	5.6	
	Subtotal	30.9	25.6	5.3	13.0	7.9	3.3	11,540	5.6	
Total	Proven	29.7	25.3	4.4	13.0	7.9	3.3	11,540	5.7	
	Probable	1.2	0.3	0.9	13.0	8.0	3.2	11,520	5.6	
	Total	30.9	25.6	5.3	13.0	7.9	3.3	11,540	5.6	
Total - Oaktown Mining Complex										
Owned	Proven	-	-	-	-	-	-	-	-	
	Probable	-	-	-	-	-	-	-	-	
	Subtotal	-	-	-	-	-	-	-	-	
Leased	Proven	69.8	65.4	4.4	13.0	7.6	3.4	11,528	5.9	
	Probable	1.6	0.7	0.9	13.0	7.8	3.3	11,522	5.8	
	Subtotal	71.4	66.1	5.3	13.0	7.6	3.4	11,528	5.9	
Total	Proven	69.8	65.4	4.4	13.0	7.6	3.4	11,528	5.9	
	Probable	1.6	0.7	0.9	13.0	7.8	3.3	11,522	5.8	
	Total	71.4	66.1	5.3	13.0	7.6	3.4	11,528	5.9	

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Coal reserves for the Oaktown Mining Complex are summarized by mine in Table 6.3.

Table 6.3: Coal Reserves Summary

Mine	Classification		
	Proven	Probable	Total
Oaktown Fuels No. 1	40.1	0.4	40.5
Oaktown Fuels No. 2	29.7	1.1	30.9
Total - Oaktown Mining Complex	69.8	1.5	71.4

The reported coal reserves include only coal that is controlled by the company under lease agreement as of December 31, 2021. It should be noted that the Oaktown Mining Complex's permitted underground mining area includes approximately 20.2 million product tons which are currently uncontrolled (i.e., owned by other parties). Sunrise anticipates gaining control of the mineral rights to this uncontrolled coal in due time and adjusting its mine plans accordingly. BOYD is not aware of any encumbrances, litigation, or orders that would hinder the continued development of the property.

At the time of reporting, 66.1 million product tons, or over 92% of the reported reserves, are permitted for mining by appropriate federal and state regulatory authorities. The remaining 5.3 million product tons are not permitted. It is typical for mining permits to be periodically amended as mining progresses to add acreage (tonnage) in order to sustain coal production. It is reasonable to expect that all necessary permits to recover the coal will be successfully obtained in advance of mining.

The coal reserves of the Oaktown Mining Complex are well-explored and defined. It is our conclusion that over 96% of the stated reserves can be classified in the proven reliability category (the highest level of assurance) with the remainder classified as probable. Given the uniformity of the Indiana V Seam in and around the Oaktown Mining Complex, it is reasonable to assume that further exploration and testing will confirm the occurrence of coal reserves, resulting in an increase in the percentage of coal reported in the proven category.

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Table 6.4 below summarizes the washed coal quality for each mine of the Oaktown Mining Complex. The reported coal reserves generally consist of high-sulfur moderate ash coal that may be used for steam purposes.

Table 6.4: Coal Reserves Product Quality Summary

Mine	Average Product Quality (As Received Basis)				
	%			Heating Value (Btu/lb)	SO2 (lb per MMBtu)
	Total Moisture	Ash	Sulfur		
Oaktown Fuels No. 1	13.0	7.4	3.5	11,519	6.0
Oaktown Fuels No. 2	13.0	7.9	3.3	11,540	5.6
Average	13.0	7.6	3.4	11,528	5.9

Figures 6.4 and 6.5, respectively, illustrate the product ash and product sulfur content over the Oaktown Mining Complex area. As shown, there are slight increases in both ash and sulfur content from southeast to northwest across the property.

The Oaktown Mining Complex is an established underground coal mining and processing complex with a consistent operating history. BOYD has assessed that sufficient studies have been undertaken to enable the coal resources to be converted to coal reserves based on current operating methods and practices. Changes in the factors and assumptions employed in these studies may materially affect the coal reserve estimate.

The extent to which the coal reserves may be affected by any known geological, operational, environmental, permitting, legal, title, variation, socio-economic, marketing, political, or other relevant issues has been reviewed as warranted. It is BOYD's opinion that Sunrise has appropriately mitigated, or has the operational acumen to mitigate, the risks associated with these factors. BOYD is not aware of any additional risks that could materially affect the development of the reserves.

Based on our audit review, we have a high degree of confidence that the estimates shown in this report accurately represent the available coal reserves controlled by Sunrise, as of December 31, 2021.

6.3.5 Validation

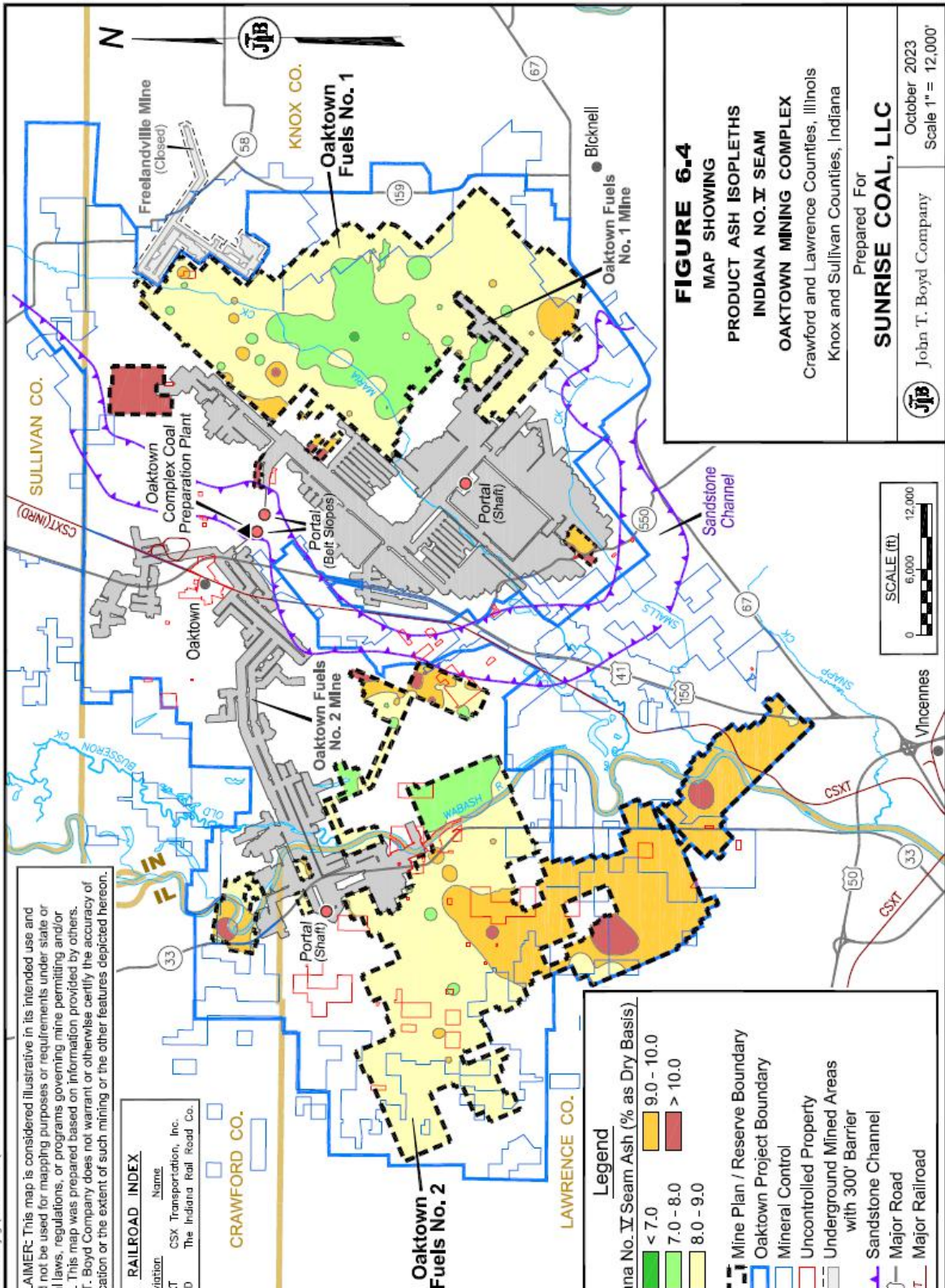
BOYD independently estimated coal reserves for the Oaktown Mining Complex mine plan from geologic data and models provided by Sunrise. Based on our review of Sunrise's well-documented geologic modeling and estimation techniques and the results of our data validation efforts (described earlier), we are of the opinion that Sunrises' modeling procedures are reasonable and appropriate. We consider the LOM plan and economic forecast sufficiently detailed to support the estimate of coal reserves reported herein. Furthermore, it is BOYD's opinion that there is a high degree of assurance associated with the stated coal reserves due to the current amount of exploration and sampling, mine planning, and economic analyses that have been completed on the Indiana V Seam within the Oaktown Mining Complex area.

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RAILROAD INDEX

Abbreviation	Name
CSX	CSX Transportation, Inc.
IND	The Indiana Rail Road Co.



Legend

Indiana No. X Seam Ash (% as Dry Basis)	Color
< 7.0	Light Green
7.0 - 8.0	Yellow-Green
8.0 - 9.0	Yellow
9.0 - 10.0	Orange
> 10.0	Red

- Mine Plan / Reserve Boundary
- Oaktown Project Boundary
- Mineral Control
- Uncontrolled Property
- Underground Mined Areas with 300' Barrier
- Sandstone Channel
- Major Road
- Major Railroad



FIGURE 6-4
MAP SHOWING
PRODUCT ASH ISOPLETHS
INDIANA NO. X SEAM
OAKTOWN MINING COMPLEX
 Crawford and Lawrence Counties, Illinois
 Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC
 John T. Boyd Company
 October 2023
 Scale 1" = 12,000'

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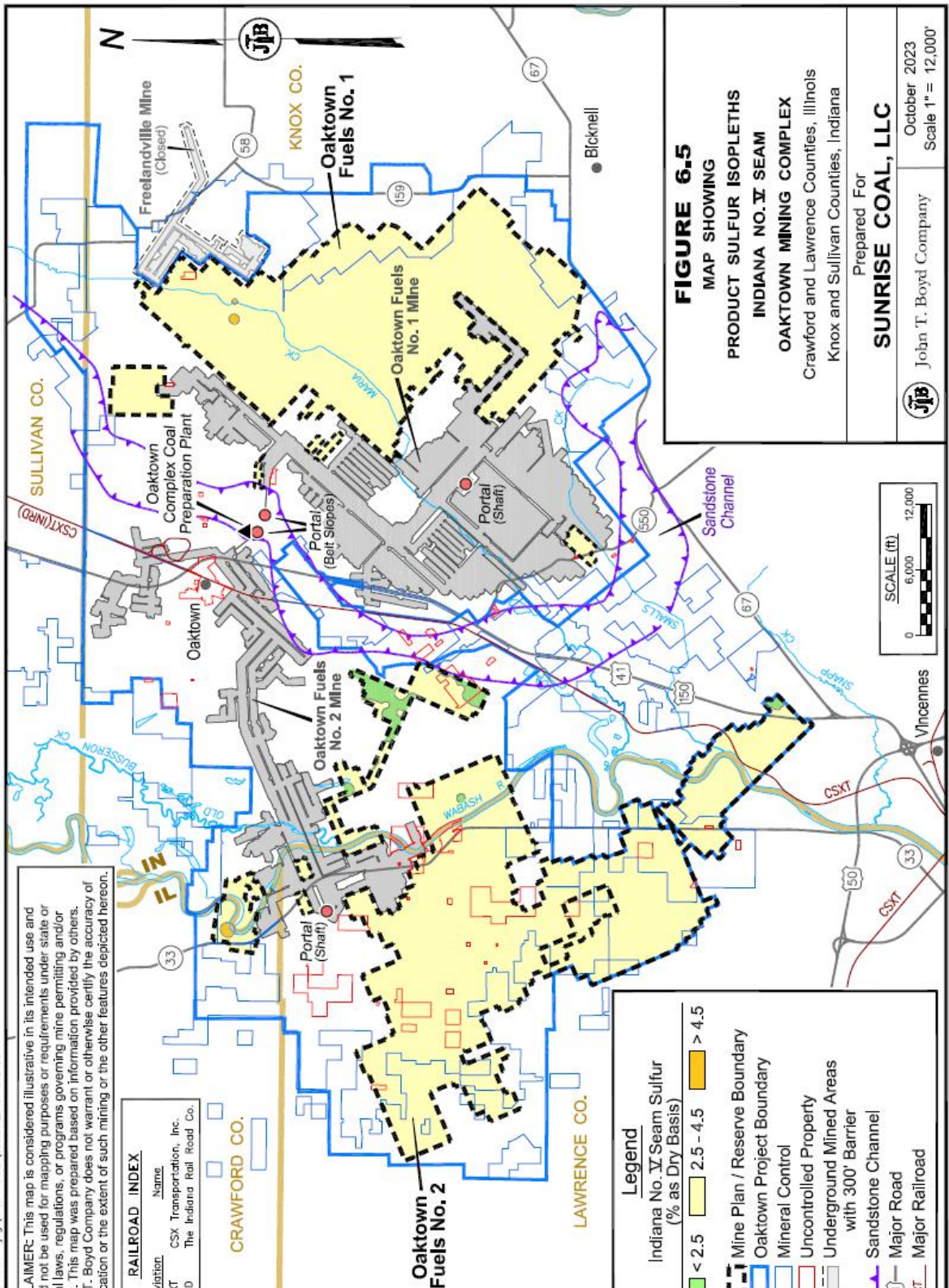


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RAILROAD INDEX

Abbreviation	Name
CSXT	CSX Transportation, Inc.
IND	The Indiana Rail Road Co.



Legend

- Indiana No. X Seam Sulfur (% as Dry Basis)
 - < 2.5
 - 2.5 - 4.5
 - > 4.5
- Mine Plan / Reserve Boundary
- Oaktown Project Boundary
- Mineral Control
- Uncontrolled Property
- Underground Mined Areas with 300' Barrier
- Sandstone Channel
- Major Road
- Major Railroad



FIGURE 6-5
MAP SHOWING
PRODUCT SULFUR ISOPLETHS
INDIANA NO. X SEAM
OAKTOWN MINING COMPLEX
 Crawford and Lawrence Counties, Illinois
 Knox and Sullivan Counties, Indiana

Prepared For
SUNRISE COAL, LLC

October 2023
 Scale 1" = 12,000'

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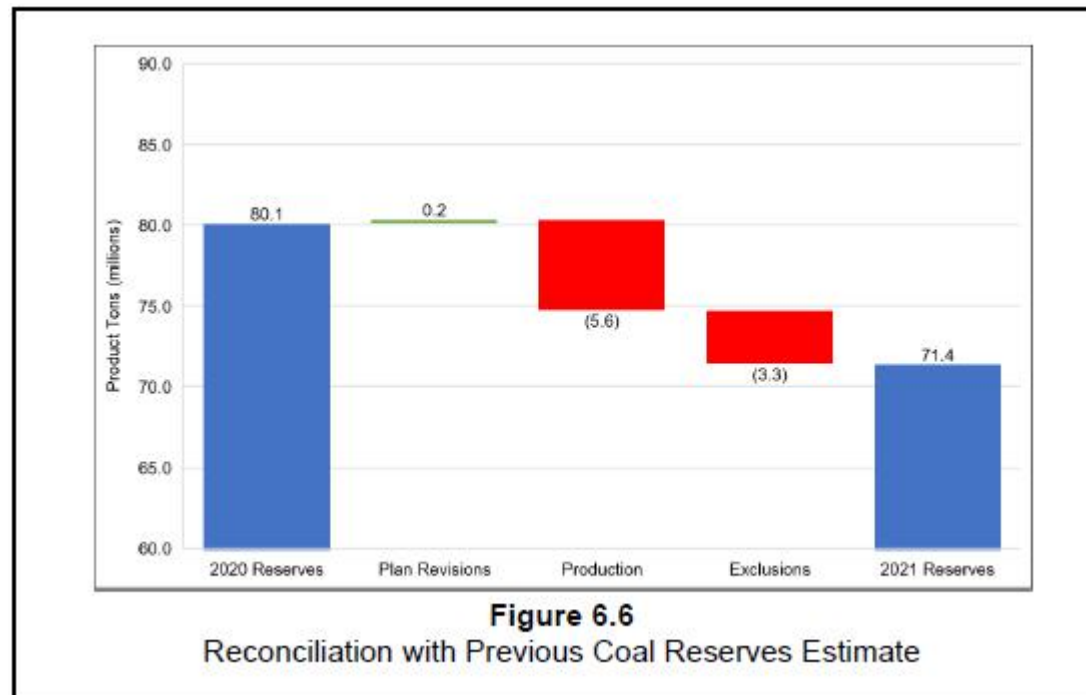
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6.3.6 Reconciliation with Previous Estimates

Figure 6.6 illustrates the comparison of Sunrise's coal reserve estimates as of December 31, 2021, with the historical estimate¹ of December 31, 2020:



The net decrease in reserves reflects: (1) revisions to mine plans and/or associated modifying factors as determined by Sunrise management or BOYD, (2) depletion through ordinary mining operations and inventory sales, and (3) exclusion of a small block of coal for which BOYD opines there does not exist reasonable prospects for economic extraction.

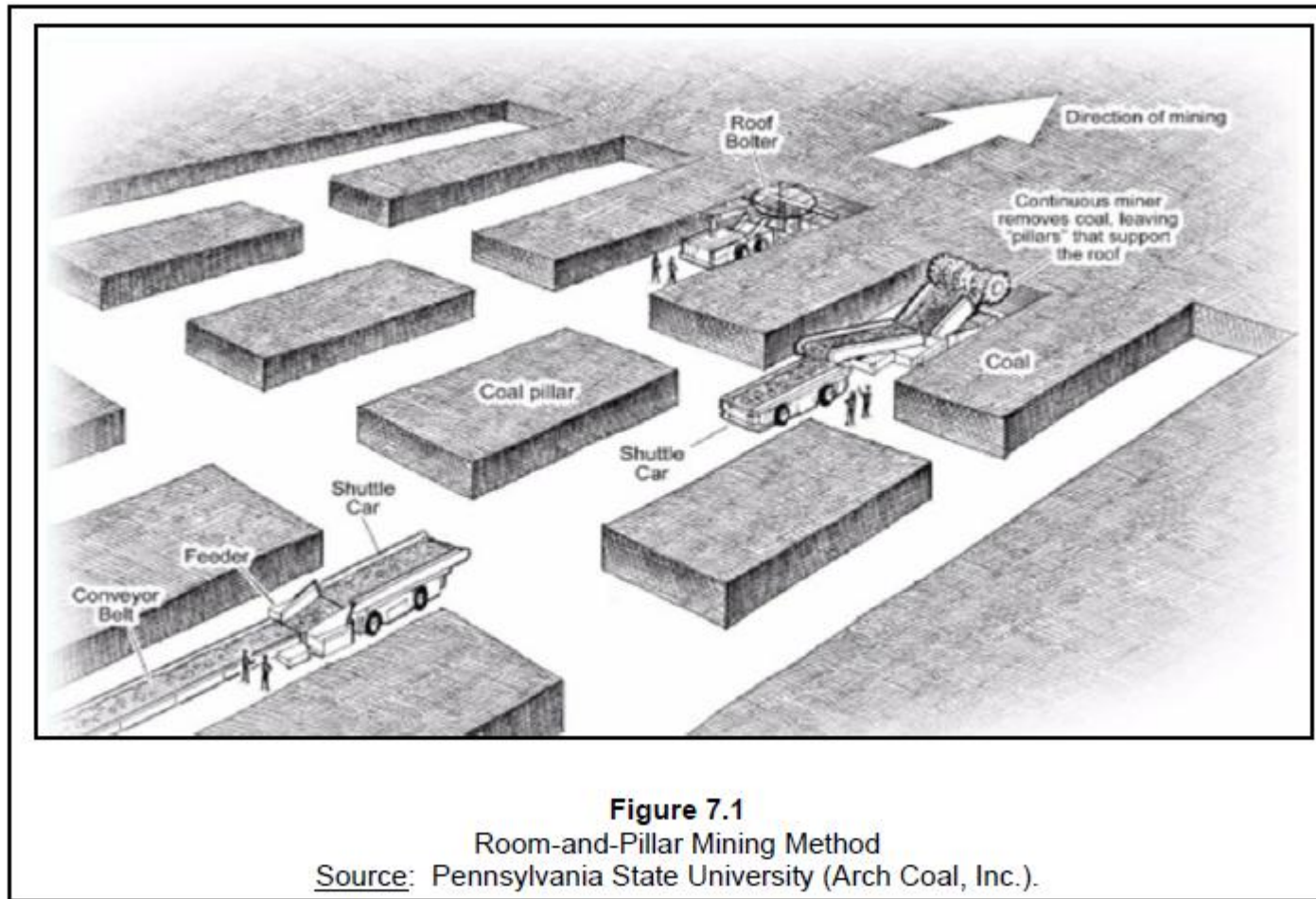
¹ Note: BOYD has not done sufficient work to classify historical estimates as current coal resources or coal reserves and the issuer is not treating the historical estimate as current coal resources or coal reserves.

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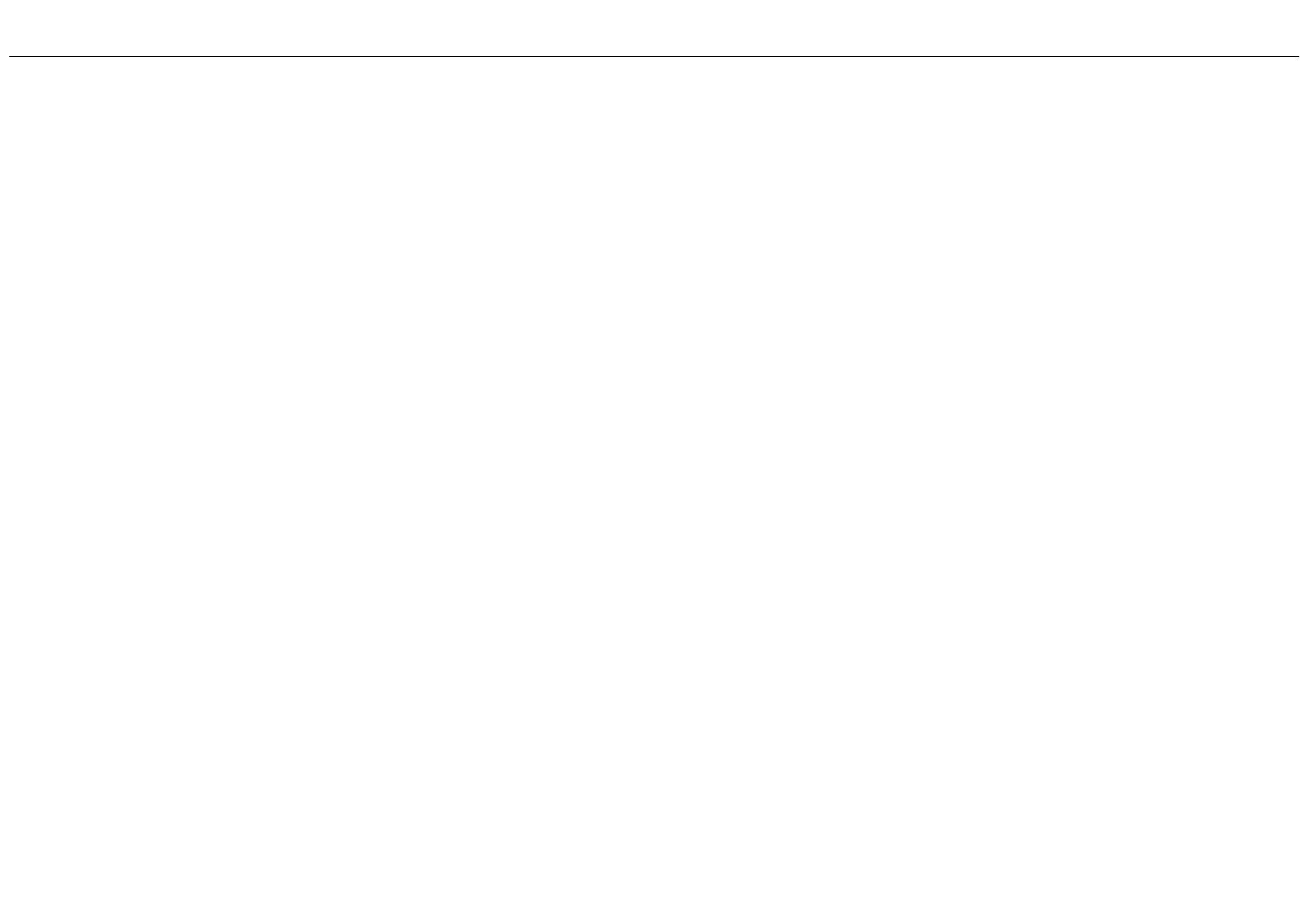
7.0 MINING OPERATIONS

7.1 Mining Method Description

Coal is produced by the Oaktown Fuels No. 1 and No. 2 underground mines using the R&P mining method. R&P mining is a partial extraction technique that recovers a portion of a coal seam. An illustration of a typical R&P mining operation is provided in Figure 7.1



R&P mining utilizes the systematic development of interconnected underground entries or openings with rectangular roadways that are driven in the coal seam and are typically supported by roof bolts installed in the immediate roof. The parallel mine entries are connected by crosscuts which result in a series of mine openings separated by solid coal pillars that support the main roof. R&P mining systems, which generally utilize CMs, can be used for coal production (like the underground mines of the Oaktown Mining Complex) or as a development technique to support longwall (LW) production. This flexible mining system is widely used across the US coal industry, at large and small mines with varying seam thicknesses and mining conditions.



A typical R&P production section will include one or two CM units, one to three roof bolting machines, and between two and three coal haulage machines (most commonly either ram cars [RC] or shuttle cars [SC]) per CM. The main piece of equipment is the CM, which is a heavy, steel framed machine (often over 40 tons) mounted on cat tracks, that operates on AC power. Key components of a CM include:

- Electric and hydraulic motors that power the CM's operation.
- A tram mechanism that propels the machine.
- A horizontally mounted, cylindrical cutting head used to cut the coal seam.
- A pair of gathering arms that pick-up/clear away the mined material.
- An internal conveyor system used to load the mined product into a haulage vehicle.

Although there have been ongoing advances in CM equipment technology, the basic R&P mining process has been utilized for decades and has remained largely unchanged over that time. The CM is used to extract the coal seam by mining a rectangular opening or “cut”. The cut typically ranges from 18 ft to 20 ft in width and extends the height² of the coal seam plus some increment of extraneous non-coal roof and floor material extracted during the mining process (known as OSD). The depth that the CM cuts into the coal seam (i.e., the cut length) is dependent upon mining conditions, regulations, operating practices, etc. but is generally in the range of 15 ft to 40 ft. Shorter cuts are taken in areas where there are difficult roof conditions.

A critical element of R&P mining is the interaction between the CM, the roof-bolting machine and supporting haulage units. Known as “place-changing”, the following steps will typically occur during mining cycle:

1. The CM penetrates the cut. As the coal and associated OSD are extracted, the CM unit loads the broken material into one of the haulage vehicles/RC.
2. Once fully loaded, the RC carries the product from the CM to a “feeder,” where the coal is discharged from the car and gradually metered onto a conveyor belt for transport out of the mine. The empty RC then trams back to the CM to be reloaded. While this is taking place, the second RC is subsequently loaded. If additional RCs are utilized, these units follow in sequence. This operating pattern continues until the coal volume within the cut is fully extracted.
3. The CM then backs out of the cut and trams to the next location where the mining process is continued.
4. After a cut is completed, the exposed roof in the cut (just completed by the CM) must be supported. A roof bolting machine trams into the freshly mined area, drills holes into the roof and installs roof bolts—steel rods that strengthen the integrity of the roof. The principle of roof bolting is to physically tie together the weaker individual layers of roof strata to create a single “laminated” unit of rock that is stronger than the unsupported strata.

² In instances where a CM is operating in thick seam conditions (i.e., the coal thickness is greater than 8 ft), the height of the cut may be less than the full thickness of the seam.

Place-change mining is an efficient form of R&P mining, although the process will routinely incur delays during a production shift (perhaps 5 to 20 minutes per occurrence, depending upon site-specific considerations). Where roof conditions permit (and approval is granted by regulatory agencies), mine operators will employ "deep cut" mining plans to reduce the impact of place-changing delays. Longer cuts (usually 30 ft to 40 ft in length) enable the CM to spend a greater portion of available shift time in cutting and loading activities.

Place-changing CM equipment has steadily evolved over the years via technological breakthroughs to become sophisticated, productive, and durable. Today's state-of-the-art CM units are equipped with efficient motors, computer diagnostics, solid-state electronics, advanced remote-control systems, and scrubbing mechanisms (which preserve underground air quality by capturing a significant percentage of respirable dust that is generated by the breaking/grinding of coal and rock during the mining process). Ever-improving technological gains have resulted in dramatic improvements in productivity, machine availability, employee safety, and unit operating costs over the past four decades.

An R&P mine may operate a single production section, or multiple sections (like the mines of the Oaktown Mining Complex). This is dependent upon the size of the reserve, supporting infrastructure, capitalization, markets, etc. A variation of the traditional R&P place-changing method is the "super-section". Under this system, the CM production section is equipped with two CM machines, two sets of haulage vehicles, and multiple roof bolters. Under this variation, each "super-section" essentially operates two production units per belt dumping point enhancing the productive output of the mine section. This variation of traditional R&P mining is employed at both Oaktown Fuels No. 1 and No. 2 mines.

R&P extraction may be performed as either "first mining" or "secondary extraction". First or "advance-only" mining is where a system of entries or openings are driven/advanced and the remaining coal pillars are left intact. Under this system, after a section has reached its intended advance distance, the section equipment is recovered and relocated to a new area, leaving the developed pillars untouched (i.e., no secondary mining of the pillars occurs). Reasons for employing this type of R&P mining may include equipment specifications, geological conditions, subsidence restrictions, operator preferences, etc.

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Secondary extraction or “retreat mining” is the process whereby, after the mine workings have reached the end of the advance stage of mining, the direction of mining is reversed (i.e., the mine operator retreats towards the mouth of the production section, employing a prescribed series of cuts to sequentially recover coal from the pillars). Retreat mining systems can be complex and may include partial or full pillar extraction (which allows the roof to systematically collapse and subsequently results in subsidence of the overlying surface).

Reserve recovery (extraction ratio) varies at R&P mines. Generally, 40% to 50% extraction of the in-place coal is typical, with extraction ratios ranging from 30% to 70%. Retreat mining may or may not offer higher extraction ratios than advance only mining; actual recoveries are dependent upon pillar dimensions and a variety of operational considerations.

The Oaktown Fuels No. 1 Mine typically operates as a three to four super-section operation, and Oaktown Fuels No. 2 Mine typically operates as a two to three super-section operation. Currently, the mines are performing first mining only; Sunrise has no projections for retreat mining in production panels within its LOM plan and has not historically utilized “retreat mining” at the Oaktown Mining Complex.

R&P mining has been one of the predominant approaches to mining the Indiana V Seam (within which Oaktown Mining Complex operates) for decades. Mining in the Oaktown Fuels No. 1 Mine, which first began production in 2009 and is the oldest of the Oaktown Mining Complex’s two operations, is largely identical to the practices used at the Oaktown Fuels No. 2 Mine. In terms of mining methodology, the application of R&P mining techniques at the Oaktown Fuels No. 1 and No. 2 mines is viewed as a prudent operating decision based on: (1) the extent of the complex’s overall coal reserve base, (2) Sunrise’s targeted annual production levels, (3) the mines’ historic and expected mining conditions and seam orientation, and (4) the successful application of R&P technology at nearby historical and active mining operations. The use of R&P mining at the Oaktown Mining Complex is further justified based on Sunrise’s experience operating R&P mines and their reputation for having refined the technical, operational, and financial elements of this mining technique for site specific conditions over the years.

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7.2 Mine Equipment and Staffing

7.2.1 Mine Equipment

The equipment utilized at the two Oaktown Mining Complex underground R&P mines is nearly identical to one another. This allows for synergies between the operations, including the sharing of equipment and critical spare parts. Additionally, mining equipment utilized by Oaktown Mining Complex is not unique to the ILB region (i.e., Oaktown Mining Complex's mining equipment is similar to the equipment commonly used by competitor underground mines in the region).

Table 7.1 presents Oaktown Mining Complex's projected number of CM super-sections for 2022 through 2036 according to BOYD's conceptual LOM:

Table 7.1: Projected Number of Operating CM Sections

Mine	Year			
	2022-2031	2032-2034	2035	2036
Oaktown Fuels No. 1	4	3	2	0
Oaktown Fuels No. 2	3	3	3	2

A listing of equipment typically employed by the two mines' CM super-sections is shown in Table 7.2, below.

Table 7.2: Summary of Production Unit Equipment

Section Type	Equipment Type	Manufacturer	Quantity
CM Sections	Continuous Miner	Joy	2
	Shuttle Car/Ram Car	Joy, Stamler	2-3
	Bolter	Fletcher	1-3
	Scoop	Fairchild	1-3
	Power Center	Line Power	1-2
	Feeder	Joy, Stamler	1

Based on BOYD's review of the Oaktown Mining Complex's equipment and asset listings, the operations' current complement of equipment is sufficient to meet the production levels projected for each of the operations over their conceptual LOM plans. Additionally, capital projections prepared by Sunrise have accounted for future equipment related expenditures to maintain production at forecasted levels. In BOYD's opinion, all mining equipment utilized on the Oaktown Mining Complex's CM super-sections is suitable for the mining conditions anticipated, as well as for the future proposed rates of production.

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7.2.2 Staffing

Oaktown Mining Complex's underground mines and coal preparation facility are staffed by a workforce primarily from the surrounding southwestern Indiana and southeastern Illinois areas. The workforce, which is comprised of both hourly and salary employees, has no labor affiliation (i.e., the Oaktown Mining Complex is union-free). Table 7.3 provides recent historical employment for each operational site:

Table 7.3: Historical Employment

Operational Site	Employee Classification	Employee Count by Year			
		2018	2019	2020	2021
Oaktown Fuels No. 1 Mine	Underground	301	296	300	286
	Surface	32	36	33	32
	Office	8	11	11	10
	Subtotal	341	343	344	328
Oaktown Fuels No. 2 Mine	Underground	265	249	215	263
	Surface	2	3	4	8
	Office	5	6	5	3
	Subtotal	272	258	224	274
Oaktown Complex CPP	Surface	59	72	61	68
Total - Oaktown Mining Complex		672	673	629	670

Source: MSHA Form 7000-2

Future employment levels are expected to resemble historical levels. Given Sunrise's ability to hire and retain employees, staffing is not expected to hinder the Oaktown Mining Complex operations' ability to achieve forecasted production levels.

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7.3 Mine Production

7.3.1 Historical Mine Production

Historical mine production data for the two Oaktown Mining Complex underground R&P mines, based on publicly available information reported by MSHA, are detailed in Table 7.4, below.

Table 7.4: Historical Mine Production

Year	Oaktown Fuels No. 1 Mine			Oaktown Fuels No. 2 Mine			Total - Oaktown Mining Complex		
	Tons (000)	Hours (000)	TPEH	Tons (000)	Hours (000)	TPEH	Tons (000)	Hours (000)	TPEH
2008	-	33	-	-	-	-	-	33	-
2009	47	145	0.3	-	-	-	47	145	0.3
2010	1,015	333	3.0	-	11	-	1,015	344	2.9
2011	2,668	715	3.7	-	26	-	2,668	741	3.6
2012	2,754	709	3.9	-	50	-	2,754	759	3.6
2013	3,376	741	4.6	1,039	176	5.9	4,415	917	4.8
2014	3,341	739	4.5	2,092	378	5.5	5,433	1,117	4.9
2015	3,519	780	4.5	2,180	480	4.5	5,699	1,260	4.5
2016	3,828	844	4.5	1,947	553	3.5	5,775	1,397	4.1
2017	3,684	784	4.7	2,547	608	4.2	6,231	1,392	4.5
2018	4,072	779	5.2	2,867	680	4.2	6,939	1,458	4.8
2019	4,167	816	5.1	2,298	637	3.6	6,464	1,453	4.4
2020	3,433	718	4.8	1,810	495	3.7	5,243	1,213	4.3
2021	3,489	732	4.8	2,147	626	3.4	5,636	1,358	4.2
Total/Average	39,392	8,868	4.4	18,926	4,719	4.0	58,318	13,587	4.3

Notes:

- (1) Employee Hours for each operation includes Underground, Surface at Underground, and Office Workers employees as listed by MSHA.
- (2) Employees Hours for Oaktown Fuels includes all operational employee hours and additionally all preparation/mill site employee hours for each operation as listed by MSHA.
- (3) Tons reported as Product (i.e., Clean Coal) Tons.
- (4) TPEH is tons per employee-hour.

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As a complex, Oaktown Mining Complex has produced a combined 58.3 million tons of clean coal during 2009 to 2021. Through the same period, the complex has recorded an average productivity level of 4.3 tons per employee-hour (TPEH). Figure 7.2 shows historic mining productivity for Oaktown Mining Complex and each mine individually since their start.

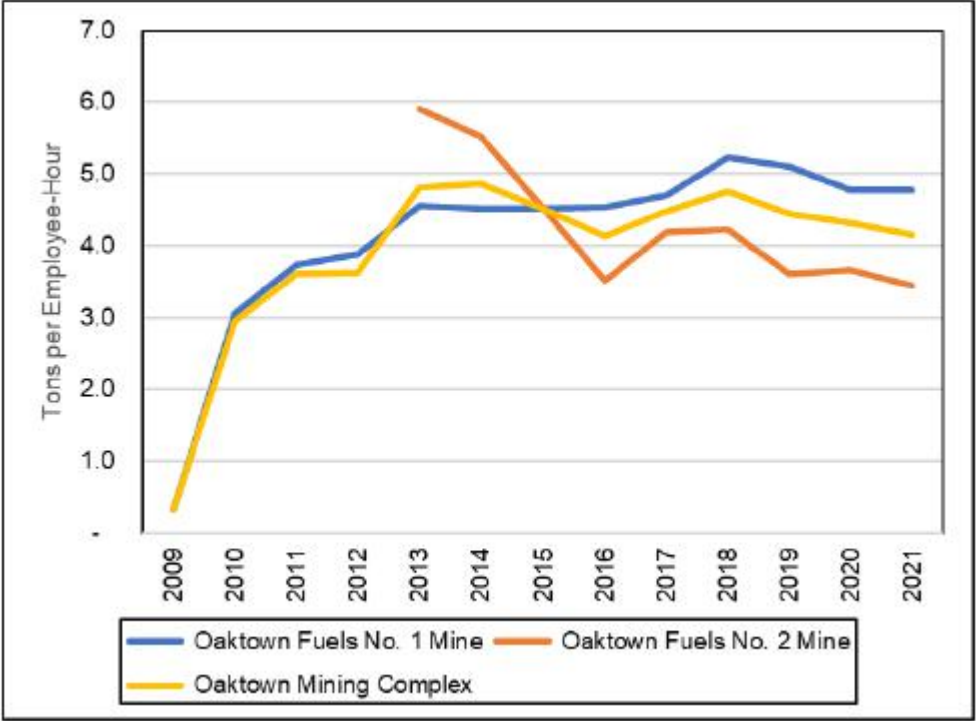


Figure 7.2: Historic Mining Productivity Levels

7.3.2 Forecasted Production

BOYD developed LOM plans for each of the Oaktown Mining Complex underground mines based on generally accepted engineering practices, and in alignment with historical and industry norms. It is BOYD’s opinion that the forecasted production levels for the Oaktown Mining Complex operations are reasonable, logical, and consistent with typical CM mining practices within the ILB and historical practices utilized by the Oaktown Mining Complex.

The Oaktown Mining Complex LOM plans, as shown in Table 7.5, following this page, portray a consistent production output during 2022 through 2031 and then a decline in production as the number of CM units are reduced gradually as the mining reserves are depleted. In the aggregate, the Oaktown Mining Complex LOM plan projects the complex will produce approximately 101.8 million tons of ROM and approximately 71.4 million tons of clean coal over its operational horizon.

Table 7.5: Life-of-Mine Coal Production Summary

Year	Tons (000)					
	Oaktown Fuels No. 1 Mine		Oaktown Fuels No. 2 Mine		Total - Oaktown Mining Complex	
	ROM Coal	Clean Coal	ROM Coal	Clean Coal	ROM Coal	Clean Coal
2022	5,724	4,048	4,115	2,776	9,839	6,824
2023	4,084	2,973	4,267	2,921	8,351	5,894
2024	3,298	2,434	3,358	2,218	6,656	4,652
2025	4,312	3,159	2,959	1,953	7,271	5,112
2026	4,300	3,137	3,386	2,307	7,686	5,444
2027	4,140	3,041	2,836	1,897	6,976	4,938
2028	4,230	3,125	2,926	1,935	7,156	5,060
2029	4,549	3,328	3,088	2,040	7,637	5,368
2030	4,607	3,417	3,672	2,450	8,279	5,867
2031	4,541	3,327	2,835	1,923	7,376	5,250
2032	3,223	2,356	2,762	1,802	5,985	4,158
2033	2,981	2,163	2,839	1,902	5,820	4,065
2034	3,771	2,748	2,902	1,847	6,673	4,595
2035	1,778	1,278	2,544	1,714	4,322	2,992
2036	-	-	1,789	1,185	1,789	1,185
Total	55,538	40,534	46,278	30,870	101,816	71,404

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Average clean yield and quality on an annual basis over the life of the Oaktown Mining Complex is provided in Table 7.6, below.

Table 7.6: Life-of-Mine Plan Coal Quality Summary

Year	Production (Tons 000)		Plant Yield (%)	Average Clean Coal Quality (As-Received Basis)			
	ROM Coal	Clean Coal		Ash (%)	Sulfur (%)	Heating Value (Btu/lb)	SO ₂ (lbs/MMBtu)
2022	9,839	6,824	69.4	8.3	3.5	11,440	6.0
2023	8,351	5,894	70.6	7.4	3.3	11,560	5.8
2024	6,656	4,652	69.9	7.6	3.4	11,536	5.9
2025	7,271	5,112	70.3	7.5	3.3	11,544	5.8
2026	7,686	5,444	70.8	7.4	3.4	11,562	5.9
2027	6,976	4,938	70.8	7.5	3.4	11,558	6.0
2028	7,156	5,060	70.7	7.3	3.4	11,587	5.8
2029	7,637	5,368	70.3	7.1	3.3	11,586	5.8
2030	8,279	5,867	70.9	7.2	3.4	11,593	5.8
2031	7,376	5,250	71.2	7.4	3.4	11,561	5.8
2032	5,985	4,158	69.5	7.5	3.4	11,530	5.9
2033	5,820	4,065	69.8	7.4	3.4	11,552	5.9
2034	6,673	4,595	68.9	7.5	3.3	11,525	5.7
2035	4,322	2,992	69.2	8.1	3.2	11,454	5.5
2036	1,789	1,185	66.2	8.4	3.4	11,446	5.9
Total/Average	101,816	71,404	70.1	7.5	3.4	11,542	5.8
Minimum	1,789	1,185.0	66.2	7.1	3.2	11,440	5.5
Maximum	9,839	6,824.0	71.2	8.4	3.5	11,593	6.0

In general, Oaktown Mining Complex's annual clean coal yield and quality is relatively consistent over the 15-year period; this consistency is indicative of the local Indiana V Seam coal geology.

During the 15-year life of mine, the Oaktown Mining Complex is forecasted to produce approximately 71.4 million tons of clean coal. While it is expected that the mines will encounter local areas of high ash and/or sulfur from either individual mine, the aggregate product from Oaktown Mining Complex should see minimal impact. This reflects the fact that Oaktown Mining Complex's infrastructure allows for the blending of each the individual mines' segregated ROM product, thus mitigating the influence/impact that an individual mine or production unit (producing in a localized area of lesser coal quality) could have on the complex's overall product quality.

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7.3.3 Mining Recovery and Dilution Factors

The Oaktown Mining Complex's underground R&P mines operate within the same geological setting and coal seam with little distinguishable differences. As such, the design of each mine is largely the same (e.g., mains width, panel width and length, and CM support pillars). As a result, mining recoveries within the individual mine plans are largely similar. The estimated mining recoveries for Oaktown Mining Complex generally range from 40% to 50%. Based on our review of Oaktown Mining Complex's reserves by individual mining areas, it is BOYD's opinion that the mining area recoveries utilized are reasonable and align with general engineering principles.

The proximity of the operations within the same geologic setting and coal seam also results in similar dilution factors for both Oaktown Mining Complex's mines. The mining horizon targeted by each of the mines includes the main bench of the Indiana V Seam and any in-seam partings. Both mines traditionally operate within the seam as much as possible with little OSD.

The CM mains sections are more subject to sporadic OSD due to maintaining proper ventilation airways, airway intersection locations with planned undercasts, provide adequate clearances for belt transfers, etc., regardless of the targeted mining horizon thickness. These variances are more likely a result of mine infrastructure and design rather than fluctuations in geology.

7.3.4 Expected Mine Life

The LOM plan for each of the Oaktown Mining Complex mines' operation was developed with input from both Sunrise and BOYD. The LOM plan was developed with consideration taken for mineral control and timing based upon forecasted production levels for each mine. The depicted general layout and mineral control for Oaktown Fuels No. 1 and No. 2 mines are shown in Figure 3.1.

The final year of the Oaktown LOM plan is 2036. While Oaktown Mining Complex is forecasted to operate through 2036, each mine has a different expected mining life. Table 7.7 provides the expected mine life for each of the individual underground R&P mines:

Table 7.7: Mine Life Projection

Mine	Expected Life (years)	Last Year of Mining
Oaktown Fuels No. 1	14	2035
Oaktown Fuels No. 2	15	2036

Production units will start to decrease following 2031 as the coal reserves are gradually depleted at Oaktown Fuels No. 1 Mine with the final year of production being 2035 for the mine. The Oaktown Fuels No. 2 Mine is scheduled to maintain three production units until its second to last year of operation in 2035. Coal reserve at the Oaktown Fuels No. 2 Mine and resultantly, the Oaktown Mining Complex are expected to be exhausted in 2036.

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7.4 Other Mining Considerations

7.4.1 Mine Design

Mines in the ILB region utilize a wide range of techniques for the extraction of coal including both surface and underground mining methods. However, the majority of coal mining production from the ILB region focuses largely on the Indiana V (Springfield) and Indiana VI (Herrin) seams extracted through underground mining methods.

Given the large extent of reported coal reserves, overall good mining conditions, general coal seam consistency, consistent depth of cover, and relatively low population density on the overlying surface, the Oaktown Mining Complex is well suited for underground R&P mining. Mining plans for R&P mines without secondary extraction are relatively simple yet highly flexible. Unlike LW operations (having a rigid system), the Oaktown Fuels No. 1 and No. 2 mines' mining method allows for the opportunity to alter the mining plan to avoid specific areas with adverse mining conditions (such as thin coal, poor roof, etc.) or poor coal quality (such as high sulfur, etc.). Mains and sub-mains are typically established in areas where confidence is highest regarding good mining conditions, roof conditions, coal thicknesses, etc. Panels are then developed out to a desired length (whether that be operationally, or engineering based) or until adverse mining conditions or poor coal quality warrant the cessation of development. When the mine panels reach the end of their advance stage of mining, the mine operator removes the production equipment and reinstalls it to another location within the mine to commence production.

The Oaktown Mining Complex is approved for "first only" mining, and Sunrise has no intentions of employing secondary (retreat) mining methods at either of the operations. The use of "first only" mining is common for the ILB region R&P underground mines. There remains substantial public and environmental group opposition to mining in general, however this is more particularly targeted towards LW mining and secondary mining (retreat mining) and the effects of subsidence on surface structures and, more recently, perennial streams. The Oaktown Mining Complex is shielded from a portion of this opposition given the implementation of "first only" mining methods. While there are likely to be some instances of heightened environmental and communal concern regarding mining within the Oaktown Mining Complex plans, Sunrise has historically demonstrated the ability to apply for and obtain the necessary permits for continued mining within their controlled coal reserves, even while being met with some environmental pushback.

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7.4.2 Mining Risk

Underground R&P mines face two primary types of operational risks. The first category of risk includes those daily variations in physical mining conditions, mechanical failures, and operational activities that can temporarily disrupt production activities. Several examples are as follows:

- Roof control problems and roof falls.
- Water accumulations/soft floor conditions.
- Ventilation disruption and concentrations of methane gas.
- Variations in seam consistency, thickness, and structure.
- Failures or breakdowns of operating equipment and supporting infrastructure.
- Weather disruptions (power outages, inability to load barges due to flooding of rivers, etc.).

The above conditions/circumstances can adversely affect production on any given day, but are not regarded as “risk issues” relative to the long-term operation of a mining operation. Instead, these are considered “nuisance items” that, while undesirable, are encountered on a periodic basis at virtually all mining operations. Engineered mining plans and projections for the Oaktown Mining Complex appear to incorporate generally-accepted industry and Sunrise historical performance levels as a basis, and thereby mitigate the likelihood that the mines will experience such disruptions to production operations to the extent that they have previously occurred. BOYD does not regard the issues listed above as being material to the Oaktown Mining Complex mining operations or otherwise compromising the forecasted performance.

The second type of risk is categorized as “event risk.” Items in this category are rare, but significant occurrences that are confined to an individual mine, and ultimately have a pronounced impact on production activities and corresponding financial outcomes. Examples of event risks are major fires or explosions, floods, or unforeseen geological anomalies that disrupt extensive areas of underground mine workings and require alterations of mining plans. Such an event can result in the cessation of production activities for an undefined but extended period (measured in months, and perhaps years) and/or result in the sterilization of coal reserves.

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The US mining industry has made tremendous strides in enhancing employee safety and reducing the likelihood of fires, explosions, and other dramatic events over the past several decades. Underground R&P mining is largely a predictable and safe industry. BOYD does not regard the Oaktown Fuels No. 1 and No. 2 mining operations and mine plans as being particularly risky, inadequately managed, or otherwise susceptible to major events. There is no basis to predict or otherwise anticipate major operational shortfalls and/or extraction of coal reserves at the subject mining operation.

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8.0 PROCESSING OPERATIONS

8.1 Overview

The centrally located Oaktown Complex CPP is designed to process the combined ROM output produced by Oaktown Mining Complex's two underground R&P mines. Comprised of ROM coal stockpile areas, a coal processing plant, clean coal storage, a rail loadout facility, and truck scales/loading, the approximate 150-acre processing complex is located within proximity of the active operations.

The Oaktown Complex CPP first began operation as the coal washing facility for the Oaktown Fuels No. 1 Mine in 2009. In 2013, major renovations were made to the Oaktown Complex CPP to accommodate additional tonnage supplied from the newly developed Oaktown Fuels No. 2 Mine. Major process upgrades focused on adding a second 800 TPH circuit, increasing total CPP throughput capacity to 1,600 TPH.

While the capacity of the facility has grown, the coal preparation process at Oaktown Complex CPP, like other preparation plants in the ILB mining region, has largely remained unchanged since commissioning. Processing circuits within the Oaktown Complex CPP consist of heavy media bath, heavy media cyclones, hydro-spirals, and froth flotation. Straightforward when compared to many other mineral processing techniques, the coal process is largely based on separating rock material from coal material contained in the raw coal feed by mechanically reducing the size of the feed and utilizing the materials' different densities to gravitationally separate one from the other. Largely, the process requires water, magnetite, and frothing agents.

ROM coal arrives directly to the complex from the Oaktown Fuels No. 1 and No. 2 mines via two independent slope conveyor belts. There are two ROM coal storage areas that provide approximately 1.2 million tons of above-ground storage capacity for the Oaktown Mining Complex underground mines. The ROM coal storage areas enable each mine to provide their plant feed separately to the preparation facility, or to be combined for a blended product. The clean coal product is dried with screen-bowl centrifuges. Processed product is then transported via overland conveyor belt just over 1 mile to the north and stored at the open-air clean coal storage area. The main clean coal storage area has a capacity of approximately 980,000 tons, with an auxiliary clean coal storage located adjacently (capacity of approximately 290,000 tons) that can be utilized as necessary.

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Clean coal is sampled and loaded into 120-car unit trains through a flood load system. The Oaktown Complex CPP is served by both CSX and INRD via a short rail spur that connects the complex's double loop rail system with the mainline rail just north of Oaktown, Indiana. Two rail sidings are employed to facilitate railroad transportation logistics and allowing the accommodation of two-unit trains at any time.

Following this page are Figure 8.1, which provides an aerial overview of the preparation facility area, and Figure 8.2, which provides a generic flow sheet of the CPP and related facilities.

8.2 Historical Operation

Due to the evolution and enlargement of Sunrise's Oaktown Mining Complex operations, the Oaktown Complex CPP underwent modification and expansion to accommodate the complex's increased coal production and washing requirements. The plant's expanded capacity is evidenced by its current average annual plant feed, which has grown from approximately 6.2 million tons processed in 2012 and 2013, to an average plant feed of 8.6 million ROM tons between 2017 to 2021.

The Oaktown Complex CPP has historically produced a very consistent clean coal product that possesses medium ash and high sulfur characteristics and between 11,000 to 12,000 Btu per lb on an as received basis. The plant's ability to blend raw coal production from the two underground mines into a singular plant feed allows for both more consistent plant operation and coal product qualities.

8.3 Future Operations

Sunrise intends to utilize the Oaktown Complex CPP throughout the LOM. Table 7.6 (page 7-10) summarizes the planned production from the Oaktown Complex CPP over the expected life of the operations.

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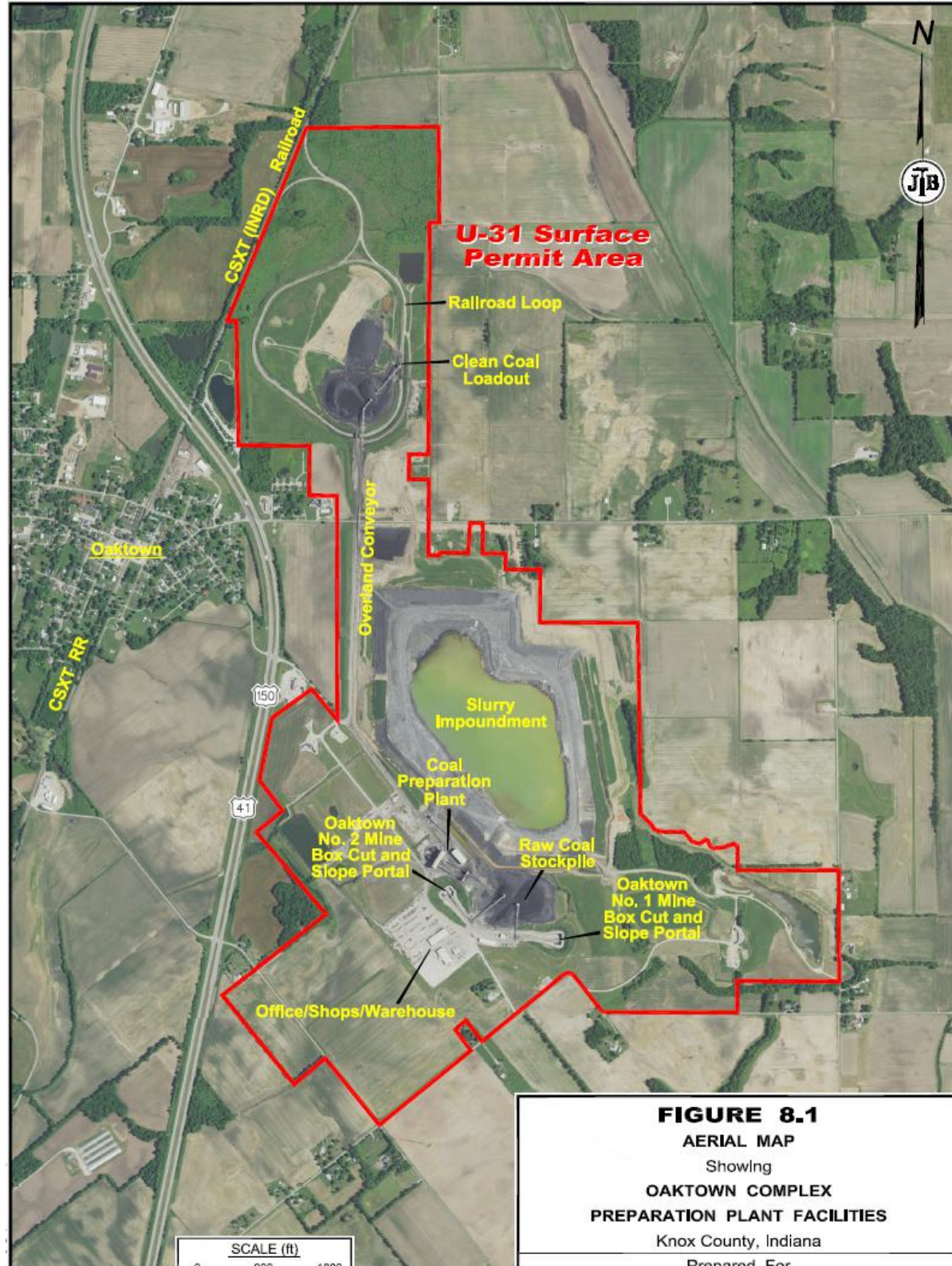


FIGURE 8.1
AERIAL MAP
 Showing
OAKTOWN COMPLEX
PREPARATION PLANT FACILITIES

Knox County, Indiana

Prepared For

SCALE (ft)

0 200 400

	Prepared For	
	SUNRISE COAL, LLC	
Image Source : Natural Agriculture Imagery Program (NAIP).	 John T. Boyd Company	October 2023 Scale 1" = 1,800'

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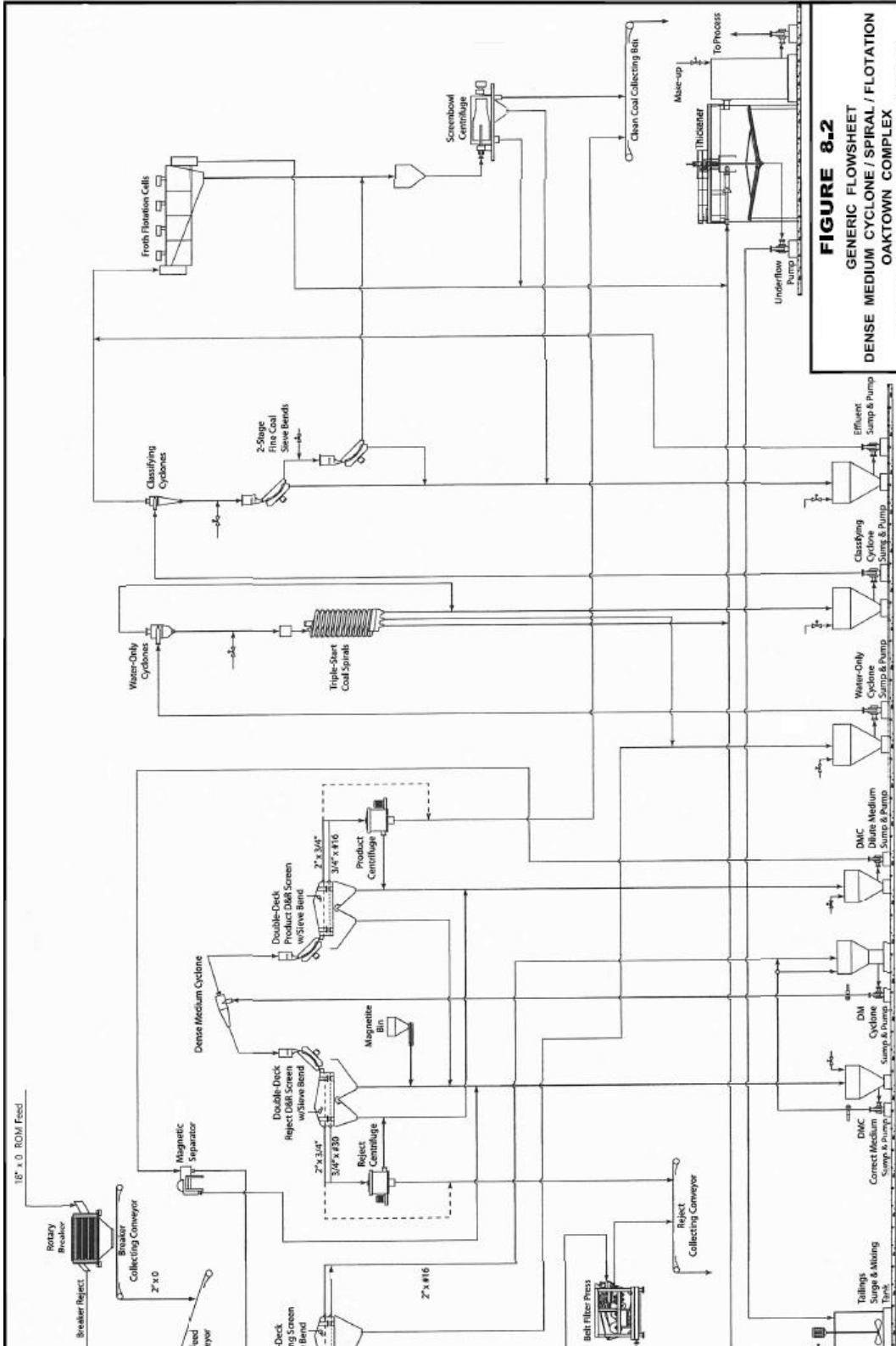


FIGURE 8.2

GENERIC FLOWSHEET
 DENSE MEDIUM CYCLONE / SPIRAL / FLOTATION
 OAKTOWN COMPLEX
 COAL PREPARATION PLANT FACILITY
 Knox County, Indiana

Prepared For
SUNRISE COAL, LLC
 John T. Boyd Company
 No. Scale
 October, 2023

Coal Preparation Workshop, May 2012, Lexington, Ky.
 with Additions from John T. Boyd Company.



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Annual plant feed (i.e., ROM coal) and clean coal production tonnages over the balance of the LOM are within the capacities of the Oaktown Complex CPP.

8.4 Conclusion

Based on our review of historical processing data and forecasts of future production, it is BOYD’s opinion that the present processing methods found at Oaktown Complex CPP will be sufficient for future processing of coals at Oaktown Mining Complex.

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9.0 MINE INFRASTRUCTURE

9.1 Mine Surface Facilities

Operations at each of the two Oaktown Mining Complex underground mines are supported by multiple surface facilities located within the areal proximity of the mines' reserve boundary. Major surface infrastructure elements include: engineering and business offices, personnel bathhouses, parking areas, supply yards, warehouse buildings, ventilation fan structures, ventilation air shafts, high voltage power distribution stations, and primary underground access points, including slope tunnels (for transporting supplies underground/conveying ROM coal to the surface) and mine portals (shafts for transporting employees/supplies underground). Figure 3.1 provides a general location map highlighting the layout of the two Oaktown Mining Complex underground mines and the surface location of their primary deep mine access points. Each of the Oaktown Mining Complex underground R&P mines maintains their own separate surface facilities. In terms of industry standards, the Oaktown Mining Complex operations' surface infrastructure is comparable to facilities typically found within the ILB mining region.

The current surface facilities located at each of the mines are well constructed and have the necessary capacity/capabilities to support the Oaktown Mining Complex's near-term mining plans. Longer term, as the individual mines progress beyond their near-term mine plans and the location of future mining activities is centered outside the physical and/or operationally efficient limitations of the existing infrastructure, additional surface facilities of comparable design may be required to support continued mining (refer to Chapter 11 for a discussion regarding Sunrise's expectations for future capital expenditures).

Given Sunrise's demonstrated ability to steadily construct its expanding surface facility infrastructure in a timely fashion (relative to underground mine production), the need for continued surface facilities at the mines of Oaktown Mining Complex is not seen as a hindrance for the execution of the LOM plans.

All ROM output from the Oaktown Mining Complex mines is processed in the Oaktown Complex CPP, which is discussed in Chapter 8.

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9.2 Oaktown Complex Refuse Facility

The Oaktown Complex refuse facility serves as the disposal location for all waste rock (coarse coal refuse) and a portion of fine coal slurry (fine coal refuse) produced during the processing of ROM coal from the two Oaktown Mining Complex underground R&P mines. The majority of the fine coal slurry is transported overland via a network of pumps and pipelines for underground disposal within mined-out void areas. The current Oaktown Complex refuse facility encompasses more than 320 permitted acres located adjacent to the Oaktown Complex CPP and across the Oaktown Mining Complex surface (i.e., to facilitate slurry injection).

The Oaktown Complex refuse facility includes one main disposal area for coarse coal refuse and surface fine coal refuse disposal. In addition to the one main disposal area, multiple underground slurry injection locations are located across the Oaktown Mining Complex to utilize void space within mined out areas of the Oaktown Fuels No. 1 and No. 2 mines. Table 9.1 details the capacity of the Coal Refuse Disposal Area (CRDA) sites servicing the Oaktown Mining Complex operations.

Table 9.1: CRDA Capacity

Refuse Disposal Type	Remaining Capacity (000 CY)
Coarse Coal Refuse	13,641
Fine Coal Refuse	12,345

Note: Fine and Coarse Coal Refuse capacities as of September 2021. Numbers do not reflect fine coal refuse disposal space within the current Impoundment Stage 5 or future Stage 7.

According to forecasted LOM coal refuse disposal requirements, currently permitted refuse areas can accommodate coarse disposal through approximately 2031 and fine coal refuse disposal through 2025.

Sunrise representatives indicated that the fine refuse disposal plan post-2025 and coarse refuse disposal plan post-2031 will be based on proven practices and approaches. Sunrise has historically demonstrated the ability to operate the refuse facility and injection sites in a prudent manner, obtain associated permits, and to execute construction of disposal areas (injection sites) in a timely fashion. It is BOYD’s opinion that Sunrise’s staged injection disposal through 2025 will meet the practices demonstrated by other industry peers. At this time, lack of a properly staged and detailed fine coal refuse disposal plan post-2025 and coarse refuse disposal plan post-2031 is not seen as a major hindrance to Oaktown Mining Complex meeting the LOM plans.

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10.0 MARKET ANALYSIS

10.1 Indiana Coal Industry Background

The following section provides a brief description of the Indiana coal mining industry.

10.1.1 Coal Reserves

The coalfield of Indiana covers an area of 6,500 square miles in the southwestern portion of the state forming the east-central portion of the ILB. The configuration of the coal-bearing area in Indiana is roughly triangular in shape, with a maximum east-west width of approximately 80 miles along the Ohio River and extending approximately 200 miles to the north to Benton County. The state's coal-bearing strata dip in a southwesterly direction at about 30 ft per mile toward the center of the ILB in southeastern Illinois.

According to the Indiana Geological Survey, Indiana's total coal geological resources are approximately 57 billion tons, of which 17 billion tons is recoverable using current technology. A distribution by mining method suggests 88% of the state's mineable resources (15 billion tons) are recoverable by underground mining techniques with the balance recoverable by surface mining. Based on current production rates, Indiana's 17 billion tons of available mineable coal resources could last more than 500 years. Twenty counties within, or partly within, the Indiana coalfield have significant coal resources. As seen in Table 10.1, coal production within the state has been primarily centered within Sullivan, Knox, and Gibson counties over the past five years:

Table 10.1: Historical Indiana Production by County (Tons 000)

County	2016	2017	2018	2019	2020	Through Q3 2021
Sullivan	7,287.1	7,271.2	7,290.5	8,302.3	5,322.3	4,389.9
Knox	5,899.9	6,231.3	6,938.5	6,464.4	5,243.0	4,215.0
Gibson	8,192.3	10,115.5	11,985.7	10,210.7	4,469.1	3,521.8
Warrick	3,771.3	4,236.9	4,512.1	2,774.4	2,313.9	1,843.4
Daviess	1,112.8	1,371.7	2,189.2	2,063.1	2,101.2	48.6
Clay	334.7	381.1	265.8	272.0	253.0	108.7
Pike	852.1	223.2	-	363.5	118.4	10.2
Dubois	1,301.5	1,477.4	1,542.7	1,169.1	111.4	7.7
Spencer	-	-	-	-	10.1	-
Greene	14.9	-	-	-	-	-
Ohio	212.4	-	-	-	-	-
Vigo	-	-	-	-	-	-
Total	28,979.1	31,308.2	34,724.5	31,619.5	19,942.4	14,145.3

Source: MSHA

Currently, the Indiana V (Springfield) and VII (Danville) are the Indiana coal seams most extensively mined, although limited mining is also conducted in the Colchester and Survant seams. The Indiana VI (Herrin), which is one of the predominant economically mineable seams of the ILB, has limited presence within Indiana.

10.1.2 Coal Quality

Coal produced in Indiana is typically a medium to high volatile (25% to 30+%) bituminous rank coal with medium to high thermal content (i.e., ranges from approximately 11,000 to 11,500 Btu/lb) and relatively high sulfur content. The primary market for Indiana coal is the in-state coal-fired utility market. The following lists the average Indiana coal quality for coal shipped to domestic coal-fired generating plants that burned Indiana coal in 2020 (i.e., U.S. Energy Information Administration [EIA] coal delivery data):

Table 10.2: 2020 Quality Specifications for Indiana Coal Shipped to Domestic Utilities

	Btu/lb	Sulfur (%)	Ash (%)
Wt. Avg	11,302	2.84	8.9
Min	10,760	0.87	5.0
Max	12,020	5.20	13.5

Source: EIA Form 923

Relative to chlorine content, Indiana coals are generally advantaged by relatively low levels of chlorine across the mining region. A summary of Indiana coal quality, including available chlorine content data derived from studies completed by the US Geological Survey and other sources, are summarized below:

Table 10.3: Indiana Coal Quality by County of Origin

County	Btu/lb	Sulfur (%)	Ash (%)	CI (%)
Clay	10,855	0.75	9.0	0.025
Daviess	11,712	2.82	7.1	0.020
Gibson	11,395	2.64	8.0	0.031
Dubois	11,101	3.05	10.3	0.036
Knox	11,525	3.12	8.2	0.037
Pike	11,203	2.88	8.6	0.020
Spencer	10,544	1.65	9.2	na
Sullivan	11,134	2.80	9.2	0.032
Warrick	11,274	3.49	9.0	0.023

By comparison, the chlorine content of the Illinois No. 5 (Springfield) and No. 6 (Herrin) coal seams, which are the two seams mined extensively throughout Illinois, typically ranges from 0.1% to 0.6%. Coals having chlorine content above 0.3% is found to cause damaging boiler corrosion, a fact that negatively impacts the marketability of high-chlorine coal produced in Illinois.

10.1.3 Transportation

ILB coal producers are supported by a multi-modal transportation infrastructure system capable of moving coal to end users by truck, rail, and barge (operating alone and/or in combination). Class I railroads operating in the region include the Union Pacific, CSX, NS, and the Canadian National. The ILB is also supported by several regional short-line railways. In many instances, due to geographic location of the mine in relation to the end-user or river loading facility, rail delivery must be conducted via multi-line movements. Any coal movement could involve multiple rail-line hauls, third-party controlled river loading facilities, short rail haul distances or long truck haul distances.

Multiple transportation carriers and multiple transportation modes can have a significant influence on overall delivered costs. Situations can arise where two mines can be in fairly close proximity with one another, but one has a decided transportation advantage based on its access to a particular rail service provider.

Several coal producers in the basin have direct or indirect access to the inland waterway system providing river borne transportation options on the Green, Ohio, and/or Mississippi rivers. Mines located in western Kentucky are generally better suited to direct river loading than those in Indiana and Illinois.

The Indiana coal fields are crossed by numerous roads and railroads. Feeder lines from Class 1 railroads support numerous loadout facilities found in the State's coal-producing counties. In addition, a well-developed network of federal and state highways crosses the coal-producing region (as well as a supporting system of secondary all weather roads) and provide adequate truck hauling capacity.

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10.1.4 Production Evolution

The following table illustrates the progression of Indiana's coal producers and their associated mines operating over the period 2016 to Q3 2021:

Table 10.4: Historical Indiana Coal Production and Mine Count

		2016	2017	2018	2019	2020	2021 through Q3
ARLP	Tons (000)	3,943	5,956	7,878	7,052	2,191	2,353
	No. Mines	2	2	3	3	2	3
Blackhawk/Triad Mining	Tons (000)	791	2	-	-	-	-
	No. Mines	5	5	-	-	-	-
Peabody Energy	Tons (000)	14,130	14,106	13,553	12,383	9,300	7,402
	No. Mines	5	4	4	4	4	4
Sun Energy Group	Tons (000)	76	118	156	117	12	-
	No. Mines	1	1	1	2	2	-
Sunrise Coal	Tons (000)	6,113	6,612	7,609	8,221	5,636	4,324
	No. Mines	4	4	4	4	4	3
United Minerals Co.	Tons (000)	218	301	184	-	-	-
	No. Mines	2	2	2	-	-	-
White Stallion Energy	Tons (000)	3,480	4,134	4,925	3,659	2,329	66
	No. Mines	5	5	5	5	5	5
Other	Tons (000)	227	80	419	187	475	-
	No. Mines	3	3	2	2	3	-
Total	Tons (000)	28,979	31,308	34,725	31,620	19,942	14,145
	No. Mines	27	26	21	20	20	15

Source: MSHA

In 2016, Indiana's coal industry produced approximately 29 million tons from 27 mines. By 2020, the number of operating mines decreased by 26% (to 20) while coal production from the State declined by 31% (to 20 million tons). The modest production rationalization that ensued over the five-year period was primarily driven by the closure of less productive, marginal operations. During this period, only Peabody Energy, Sunrise, and Alliance Resource maintained relatively consistent operations in the Indiana coalfields.

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10.1.5 Mining Methods

Indiana coal operators utilize traditional surface and underground mining technology to produce nearly 20 million tons annually. Surface mines primarily employ truck/shovel operations and draglines (at select mines); underground mines typically utilize continuous miners in R&P and/or super-section applications. There are no LW operations in Indiana. Historical state coal production by mining method is shown in Figure 10.1:

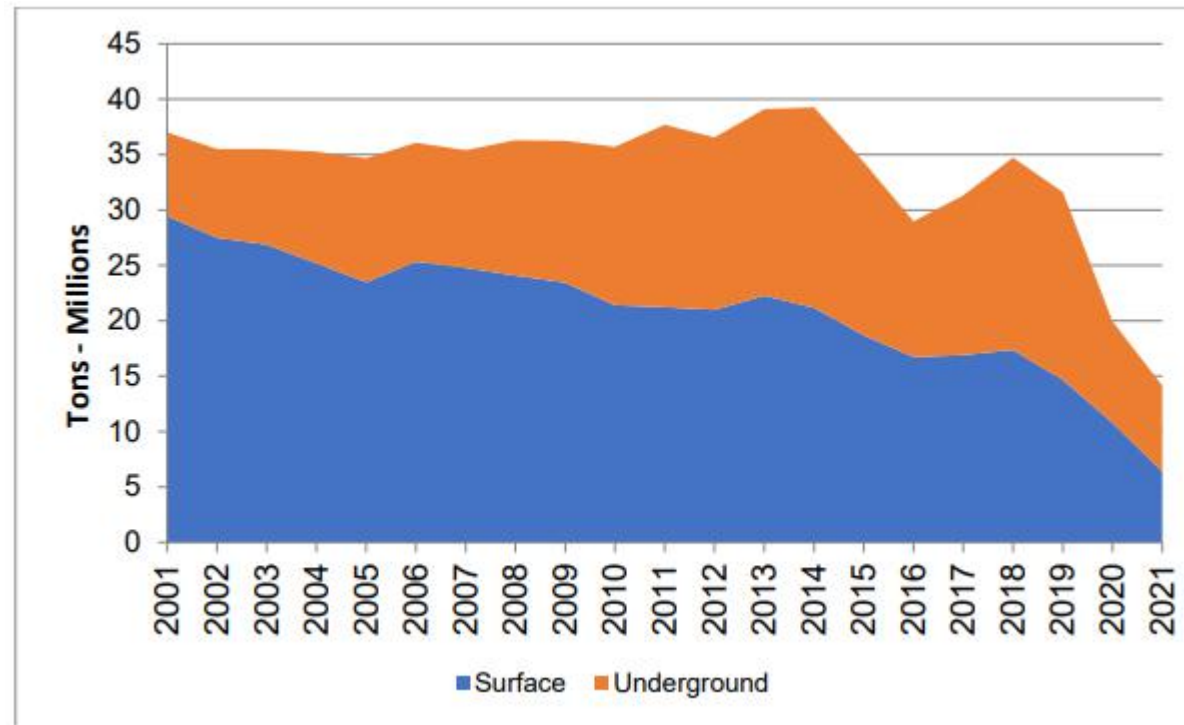


Figure 10.1: Indiana Coal Production by Mining Method

In 2001, Indiana coal output totaled 37 million tons. In that year, approximately 80% (29.4 million tons) was produced from surface operations. Due to the depletion of mineable reserves with economic stripping ratios, as well as the encroachment of urban and farm development over time, coal mining in Indiana has gradually shifted towards underground operations. In 2020, of the 19.9 million tons produced, approximately 54% (10.8 million tons) was attributed to surface mines.

10.1.6 Coal Demand by Market

Historically, coal produced from mines in Indiana has been used primarily for electric power generation with the balance directed into the industrial coal market (including process heat, steam, and space heating). A major portion of the Indiana coal industry is located on or near major Class 1 railroads, enabling coal suppliers to service the regional markets and/or some out of state customers. In 2020, Indiana coal mines supplied approximately 19.9 million tons into the general coal market. Of the total Indiana coal sales, approximately 19.1 million tons (or 96%) went to electric generators, with the remaining balance shipped to industrial customers (e.g., cement and sugar plants). The distribution of Indiana coal shipments by market sector for the past five years is shown in the following table:

Table 10.5 : Distribution of Indiana Coal Shipments by Market Sector

Market Segment	2016		2017		2018		2019		2020	
	Tons (000)	%	Tons (000)	%	Tons (000)	%	Tons (000)	%	Tons (000)	%
Domestic Coke Plants	19	0.1	-	-	-	-	-	-	-	-
Electric Power Sector	28,321	95.9	28,331	92.8	28,290	85.9	26,024	90.1	19,133	95.1
Industrial Plants *	956	3.2	753	2.5	728	2.2	668	2.3	670	3.3
Commercial	53	0.2	43	0.1	50	0.2	52	0.2	35	0.2
Export Market	172.00	0.6	1,400	4.6	3,860	11.7	2,147	7.4	285	1.4
Total	29,521	100.0	30,527	100.0	32,928	100.0	28,891	100.0	20,123	100.0

* Excluding coke.

In the past five years, Indiana coal had a limited presence in the international export markets. The majority of Indiana produced thermal coal is shipped to electricity generating plants in Indiana. Table 10.6 details historical Indiana thermal coal shipments by state and generating station:

Table 10.6 : Historical Indiana Coal Deliveries to Utility Market by Destination State (Tons 000)

Plant State	2017		2018		2019		2020		2021 (Jan-Oct)	
	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants
Indiana	21,183	10	20,981	9	19,006	10	15,619	9	11,947	8
Kentucky	2,174	8	2,119	8	1,462	6	965	3	939	2
Florida	1,851	5	1,183	3	1,246	3	984	3	1,180	3
Ohio	1,706	2	1,399	2	763	2	-	-	-	-
Alabama	303	2	467	2	447	2	-	-	-	-
Tennessee	667	2	746	2	998	3	389	2	197	2
Georgia	24	2	354	2	1,153	2	509	1	208	1
Illinois	1	1	1	1	1	1	1	1	165	1
Michigan	-	-	53	1	107	1	106	1	53	1
N Carolina	412	3	885	1	829	2	560	1	341	1
New York	11	1	-	-	-	-	-	-	-	-
S Carolina	-	-	104	1	13	1	-	-	-	-
Total	28,332	36	28,291	32	26,025	33	19,133	21	15,030	19

Percentage of Utility Deliveries by State

Indiana	74.8	74.2	73.0	81.6	79.5
Kentucky	7.7	7.5	5.6	5.0	6.2
Florida	6.5	4.2	4.8	5.1	7.9
Ohio	6.0	4.9	2.9	-	-
Others	5.0	9.2	13.6	8.2	6.4
Total	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

Source: EIA Form 923

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In 2020, Indiana thermal coal directed into the domestic US utility market totaled 19.1 million tons. Of this amount, generating plants operating in Indiana consumed 15.6 million tons or approximately 82% of Indiana's total thermal coal deliveries.

10.2 Sunrise Coal

10.2.1 Product Specifications

Sunrise's primary product from their main mining operations is a thermal coal that is directed into the US generation market. Indicative quality specifications for Sunrise by mine are shown in Table 10.7, below.

Table 10.7: Indicative Thermal Coal Quality Specifications by Mine (As Received Basis)

Quality Parameter	Units	Mine		
		Oaktown Fuels No. 1	Oaktown Fuels No. 2	Ace in the Hole
Sulfur	%	3.5	3.2	1.1
Heating Value	Btu/lb	11,500	11,600	11,100
SO ₂	lbs/MMBtu	6.0	5.6	2.0

Source: Halador Energy Company 2021 10-K

The thermal coal produced by Sunrise is currently used by electricity generators and some domestic industrial customers.

10.2.2 Primary Markets

Sales into the domestic thermal coal market is Sunrise's primary focus, accounting for over 97% of the company's annual coal production tonnage over the past five years. A summary of Sunrise's 2016 to 2020 deliveries by state is provided in Table 10.8, on the following page.

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Table 10.8: Sunrise Coal Deliveries to Utility Market by Destination State (Tons 000)

Plant State	2016		2017		2018		2019		2020	
	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants	Tons (000)	No. of Plants
Indiana	5,266	8	4,207	8	5,206	9	5,547	8	4,184	6
Kentucky	56	1	500	1	302	1	183	2	-	-
Florida	1,248	2	1,848	4	1,081	2	1,158	1	891	2
Alabama	-	-	-	-	162	1	-	-	-	-
Tennessee	-	-	-	-	12	1	198	1	47	1
Georgia	-	-	-	-	65	1	611	1	493	1
N Carolina	-	-	-	-	409	1	335	2	103	1
S Carolina	-	-	-	-	104	1	13	1	-	-
Total	6,570	11	6,555	13	7,341	17	8,045	16	5,718	11

Percentage of Utility Deliveries by State

Indiana	80.2	64.2	70.9	68.9	73.2
Florida	19.0	28.2	14.7	14.4	15.6
Georgia	-	-	0.9	7.6	8.6
Kentucky	0.9	7.6	4.1	2.3	-
N Carolina	-	-	5.6	4.2	1.8
Others	-	-	3.8	2.6	0.8
Total	100.0	100.0	100.0	100.0	100.0

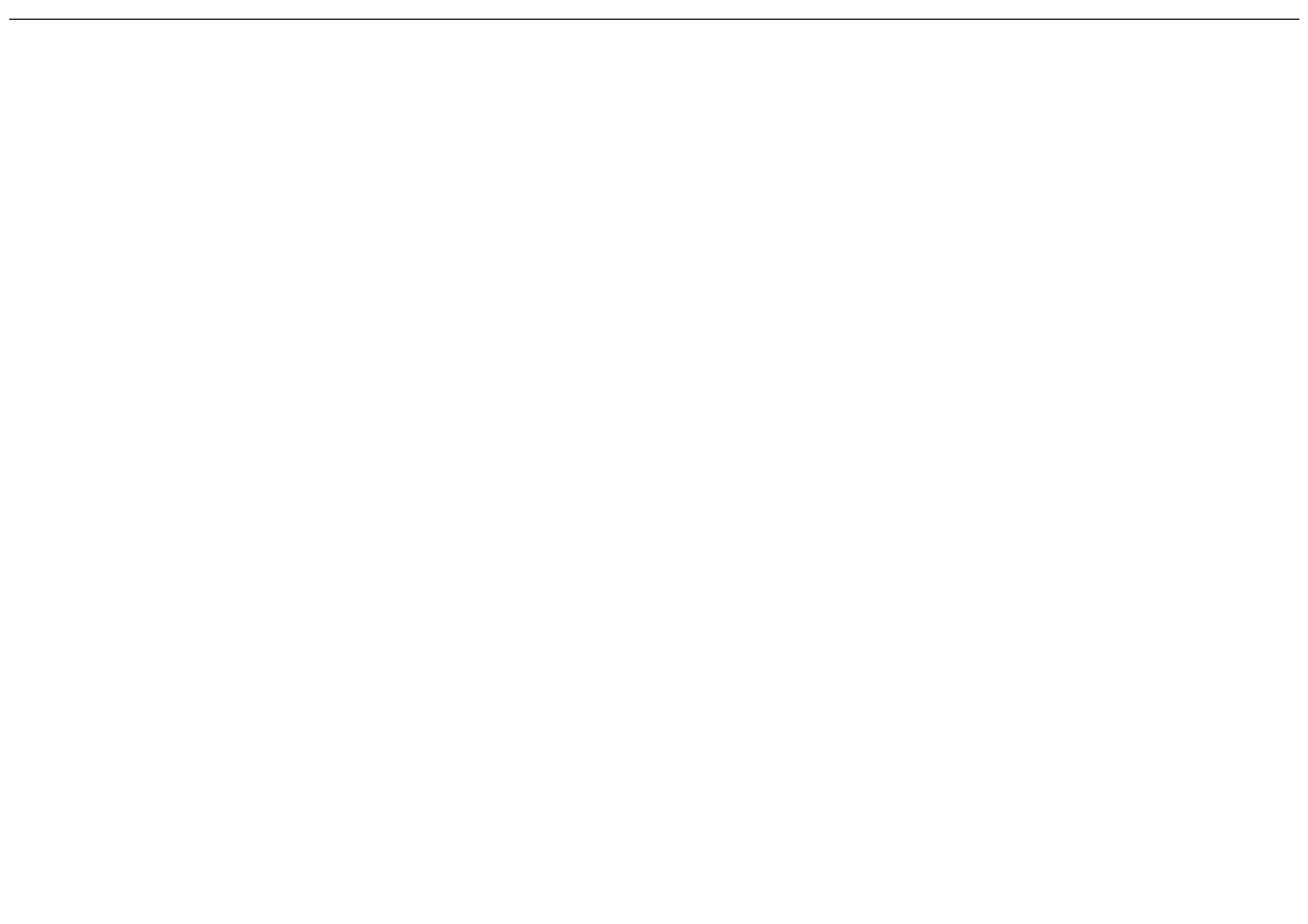
During this period, the primary markets for Sunrise have been Indiana and Florida.

As an existing producer with a lengthy commercial history and established customer base, it is BOYD's opinion that market entry strategies are not required for continued sale of the Oaktown Mining Complex's thermal coal products.

10.2.3 Market Outlook

While its impacts are expected to ease over the next three to nine months, the magnitude of the COVID-19 pandemic is now expected to result in the largest economic contraction since World War II. At the time of this writing, progress towards sustained economic recovery remained unclear as the rollout of vaccines begins to take hold. While the economic downturn has been primarily concentrated in the service industries (mainly travel, hospitality, and retail), the steel-intensive manufacturing segment has gained some momentum, with conditions improving initially in China followed by a gradual improvement in the United States.

It is anticipated that the US Federal Reserve will continue to keep the supply of money high, provide credit/relief packages as required, and cut interest rates in order to support the economy. Additionally, government-sponsored infrastructure projects will be pushed forward to offset the likely continued weakness in the service sector industries. If realized, increased economic activity will provide a needed boost to the electricity generation and electricity-generating fuels, including thermal coal.



Following the effects of the global pandemic witnessed during 2021, US GDP growth is expected to stage a modest recovery during 2022 and regain typical levels. On the strength of this projection (and barring the re-implementation of sustained, stringent containment measures and/or renewed significant virus outbreaks), BOYD anticipates the demand for thermal coal to slowly recover to pre-pandemic levels by the 2023-2024 period.

10.2.4 Future Sales

Coal use among domestic power generators has fallen out of favor in the United States and is systematically being replaced by natural gas and renewable forms of generation. In response to this development, domestic thermal markets are expected to weaken over the near term, in line with coal plant retirements and the associated drop in coal demand. Sunrise is expected to align its future sales with these trends, although the regional Indiana market is expected to remain relatively firm over the near term.

As shown in Figure 10.2, below, a significant portion of Sunrise’s near-term coal production is “committed” (i.e., allocated) to existing supply contracts/agreements. It is reasonable to expect Sunrise to commit future production on an ongoing basis according to its business strategies.

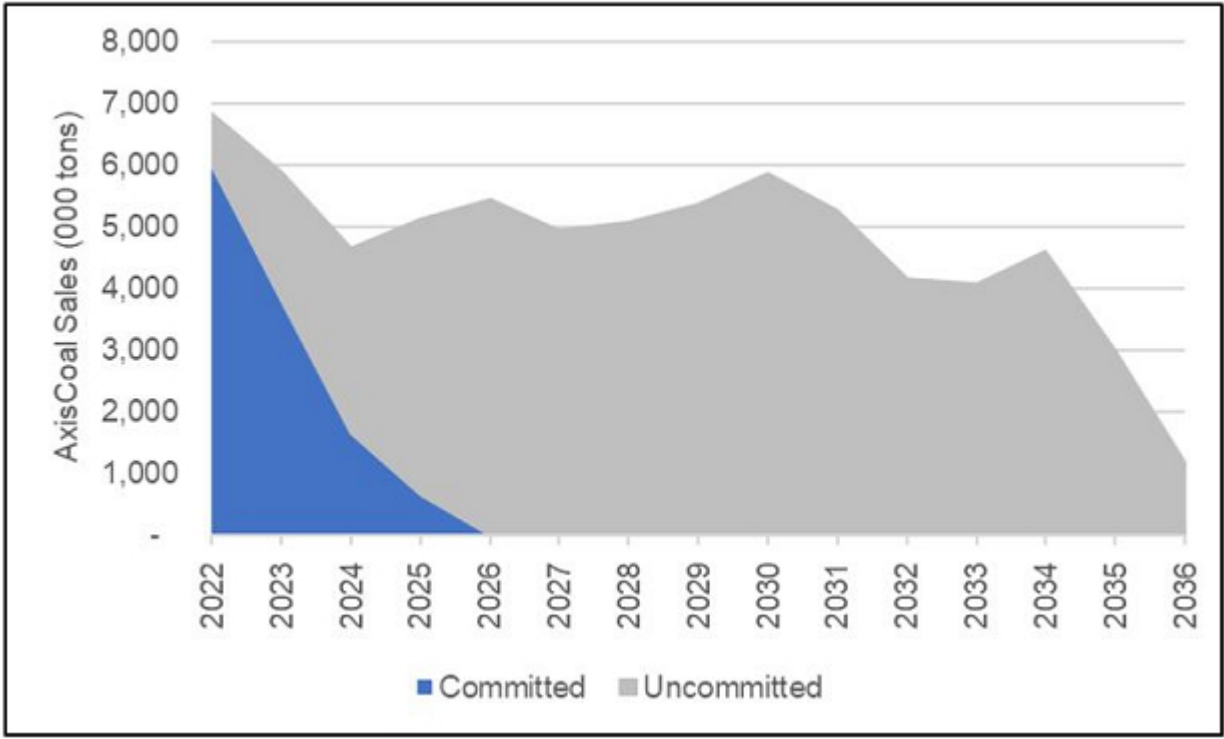


Figure 10.2: Future Coal Sales by Order Type

Historically, the top-five customers by sales revenue account for approximately 75% to 85% of total coal sales from the Oaktown Mining Complex annually.

10.2.5 Price Forecast

Market prices for Sunrise's thermal coal products are influenced by many factors, and the coal market environment can be volatile. The primary factors influencing future prices include: (1) demand, primarily at scrubbed base-load stations, (2) competition in the form of other regional coal suppliers, natural gas-fired generation, and renewables, (3) exhaustion of competing regional mines (thereby reducing local fuel supply), (4) transportation differentials, and (5) cost structures associated with sustained coal production levels.

Coal prices can change quickly. This has been demonstrated in the current market environment, as the price of Illinois Basin coal has rebounded by somewhere between \$10/ton and \$20/ton in various marketplaces in the span of a few months; coal prices have moved from the \$30s in early 2021 to somewhere in the \$40s or \$50s by the end of 2021. This is the result of increased demand coupled with declining stockpiles and a relatively constrained production response from mine operators.

The prices of competing fuel sources for power generation are meaningful, with the price of natural gas being the most significant. Coal and natural gas are at relative parity at a natural gas price of \$2.50/MMBtu, and when natural gas prices are more than \$3/MMBtu, coal becomes the fuel of choice. The relative scarcity of natural gas in the marketplace has resulted in prices that have recently surpassed \$5/MMBtu, which has further enhanced the competitiveness of coal, even at robust coal prices. While it is reasonable that there will eventually be some pullback in this marketplace, the current market for Illinois Basin coal is likely to remain strong for the next two years. Likewise, the lack of recent investment throughout the Illinois Basin will preclude meaningful coal production responses across that Basin that could contribute to oversupply.

BOYD anticipates the recent uptick in coal pricing to be indicative of the market conditions over the next four years (2022 through 2025). Thereafter, we expect a gradual return to pricing that is in the mid-to-low \$40s/ton (FOB CPP) range when expressed in constant dollars.

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BOYD's price forecast for the Oaktown Mining Complex's future coal sales is a weighted average of Sunrise's committed sales prices and our forecasted prices for uncommitted (or spot) sales. Our coal price forecast for the Oaktown Mining Complex is provided in Table 10.9, below.

Table 10.9: Coal Price Forecast

Year	Coal Sales (000 tons)	Average Sales Price* (\$/ton)
2022	6,824	42.71
2023	5,894	51.25
2024	4,652	57.09
2025	5,112	63.99
2026	5,444	50.00
2027	4,938	46.00
2028	5,060	45.00
2029	5,368	44.00
2030	5,867	43.00
2031	5,250	42.50
2032	4,158	42.50
2033	4,065	42.50
2034	4,595	42.50
2035	2,992	42.50
2036	1,185	42.50
Total/Average	71,404	46.88

* FOB Oaktown Complex CPP

As shown, BOYD expects selling prices (FOB CPP) for the Oaktown Mining Complex's thermal coal products to range from \$42.50 to \$63.99 and average \$46.88 per clean ton over the life of the reserves.

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11.0 CAPITAL AND OPERATING COSTS

11.1 Historical Financial Performance

Oaktown Mining Complex's performance relative to productivity, cost control, and production has made it one of the leading underground coal operators within the ILB region. Comprised of two state-of-the-art underground R&P mines, the operation's ability to consistently achieve high annual output at generally low operating costs is attributed to its well-capitalized operations and financial controls.

Table 11.1 summarizes the past three years of financial data for the Oaktown Mining Complex.

Table 11.1: Historical Financials

	2019	2020	2021
Clean Coal Production (000 tons)	6,464	5,243	5,633
Average Selling Price (\$/clean ton)	39.57	40.66	39.50
<u>Cash Operating Costs (\$/clean ton):</u>			
Direct Labor	11.98	13.02	13.92
Direct Operating	11.17	11.57	10.81
Indirect Operating	4.58	4.02	4.13
Selling and General Administrative	0.99	1.68	1.58
Total - Cash Operating Costs	28.72	30.29	30.44
Capital Expenditures (\$/clean ton)	4.59	3.91	4.97

Over the three-year period:

- Oaktown Mining Complex's average realization (i.e., coal selling price) was range-bound between \$39.50 and \$40.66 per ton.
- Cash cost of sales for the complex was approximately \$1.72 per ton higher in 2021 than 2019.
- In response to weakening market conditions caused by the global pandemic, Sunrise reduced production from Oaktown Mining Complex in 2020 and early 2021. The drop in overall output in 2020 and in early 2021 resulted in an increase to the complex's average unit cost (and declining cash margins) for those years.

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Cost performance for the individual mines is portrayed graphically in Figure 11.1.

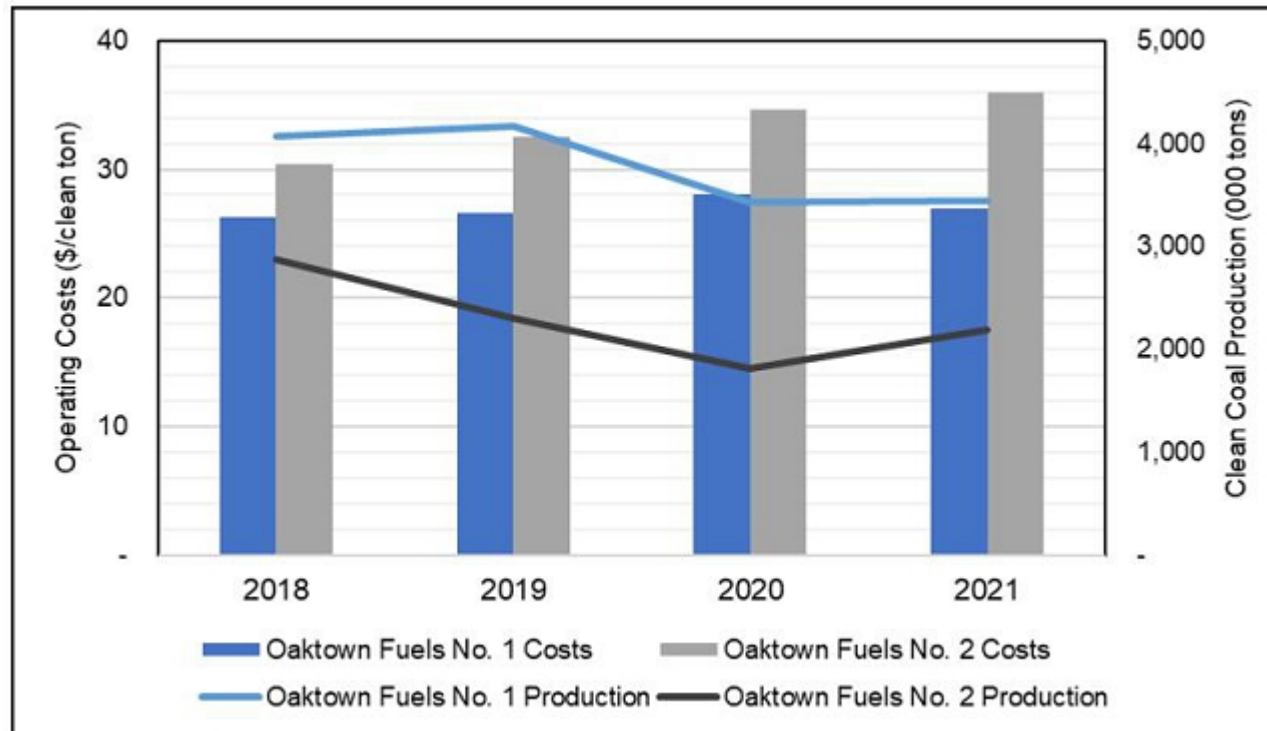


Figure 11.1: Historical Operating Costs by Mine

Historically, the Oaktown Fuels No. 1 and No. 2 mines have had operating costs that compare favorably with other industry producers.

Of the two Oaktown Mining Complex underground R&P mines, Oaktown Fuels No. 1 Mine has demonstrated the lowest operating cost during the 2019 to 2021 time period.

This is predominantly attributable to more favorable geologic conditions experienced and increased economies of scale³.

Relative to industry peers, the Oaktown Mining Complex (including its supporting centralized preparation facilities) is well capitalized. This reflects Sunrise's ongoing attention to prudent capital upgrade/replacement programs, routine investment in mine infrastructure expansions, and maintenance of production equipment. The amount of capital spent (per individual mine or for the Oaktown Complex CPP) has varied on an annual basis as a percent of Oaktown Mining Complex's total expenditures, illustrating differing capital requirements and/or operational timelines for each operation. Despite the capital spending variations, Oaktown Mining Complex's aggregate capital expenditure level (on a dollar per clean ton basis) was relatively consistent and generally within the range of \$4.00 to \$5.00 per clean ton.

³ Economies of scale are of fundamental importance; a mine that has a productive year versus its budgeted plan can expect to have low unit costs while surpassing projected margins. Alternatively, a R&P mine that achieves poor production levels would see a proportional reduction in revenue, but this would not be accompanied by a corresponding reduction in total costs. Such a mine would instead see high unit costs, and most of the revenue loss would flow through to the bottom line.

11.2 Estimated Costs

BOYD developed mine plans for the Oaktown Mining Complex based on engineered mine layouts⁴ which were designed for optimum reserve recovery, using efficient mining methods and practices. Sunrise's historical and generally accepted industry operating performance parameters and mining rates were applied to the mine plan to develop coal production and mining schedules. Financial budgets were then prepared (based on mine plan outputs and labor requirements), resulting in operating cost projections (based on constant 2021 dollars). The individual mining plans recognize the impact of variations in physical mining conditions, mechanical failures, and operational activities that can temporarily disrupt production activities. The mine plans for Oaktown Mining Complex are reasonable and achievable, provided no major abnormalities are encountered.

Forecasting performance based on the continuation of consistent mining conditions, excluding impacts from unforeseen events, increases the risk of underperformance versus the mine plan. BOYD's approach does not directly account for situations that can occur in underground coal mining, such as fire, water inundations, geological anomalies, etc. However, risk mitigation has been reflected in the production schedules through the use of multiple CM sections operating in various locations throughout the mine reserve. The geographical distribution of mining sections throughout the area of the mine plan mitigates the likelihood that all CM sections will experience adverse mining conditions at a given time. Each CM section also utilizes production contingency factors, which are incorporated into the mining forecast.

BOYD reviewed historical Sunrise mining plans (including development strategy, production and productivity, capital expenditures, and total cash costs) and concluded: (1) the Sunrise pro-forma plans are reasonable and achievable and align with BOYD's independent LOM plans, (2) Sunrise's market view that coal markets will rebound from the COVID-19 pandemic influences experienced during 2020/21 is reasonable, and (3) Oaktown Mining Complex is well-positioned to achieve the conceptual LOM plan as projected by BOYD provided no major abnormalities are encountered: within the coal market, or at the mine level.

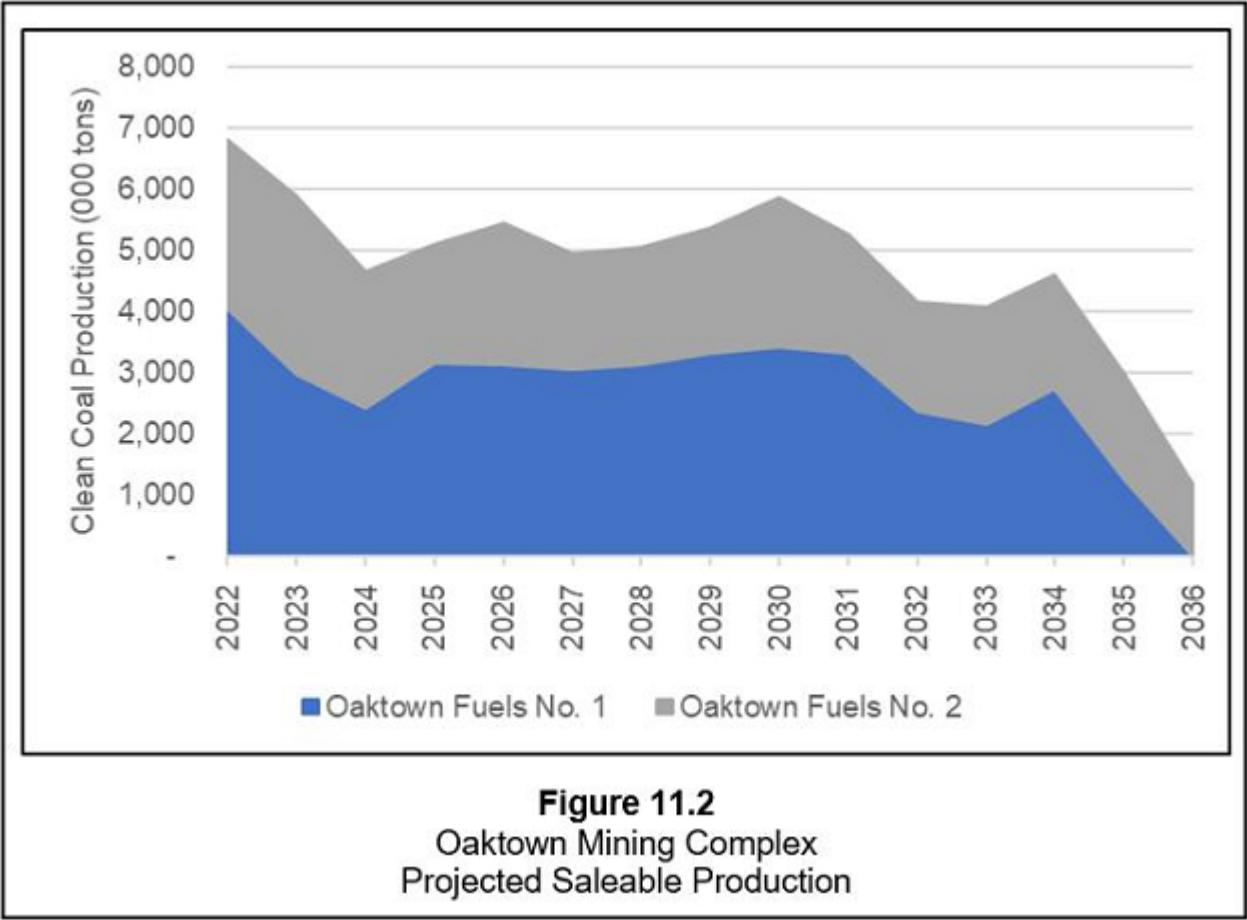
⁴ The mining plans for R&P operations are relatively simple and highly flexible when compared to LW mines. The entire foundation of the mining plan is based upon locating mains and sub-mains in areas of the deposit where coal quality and mining conditions are most suitable. Panels are then developed out to a desired length or until adverse mining conditions (or poor coal quality) warrant the cessation of development. This results in the opportunity to alter the mining plan so as to avoid specific areas with adverse mining conditions (such as thin coal, poor roof, etc.) or poor coal quality (such as high sulfur, etc.).

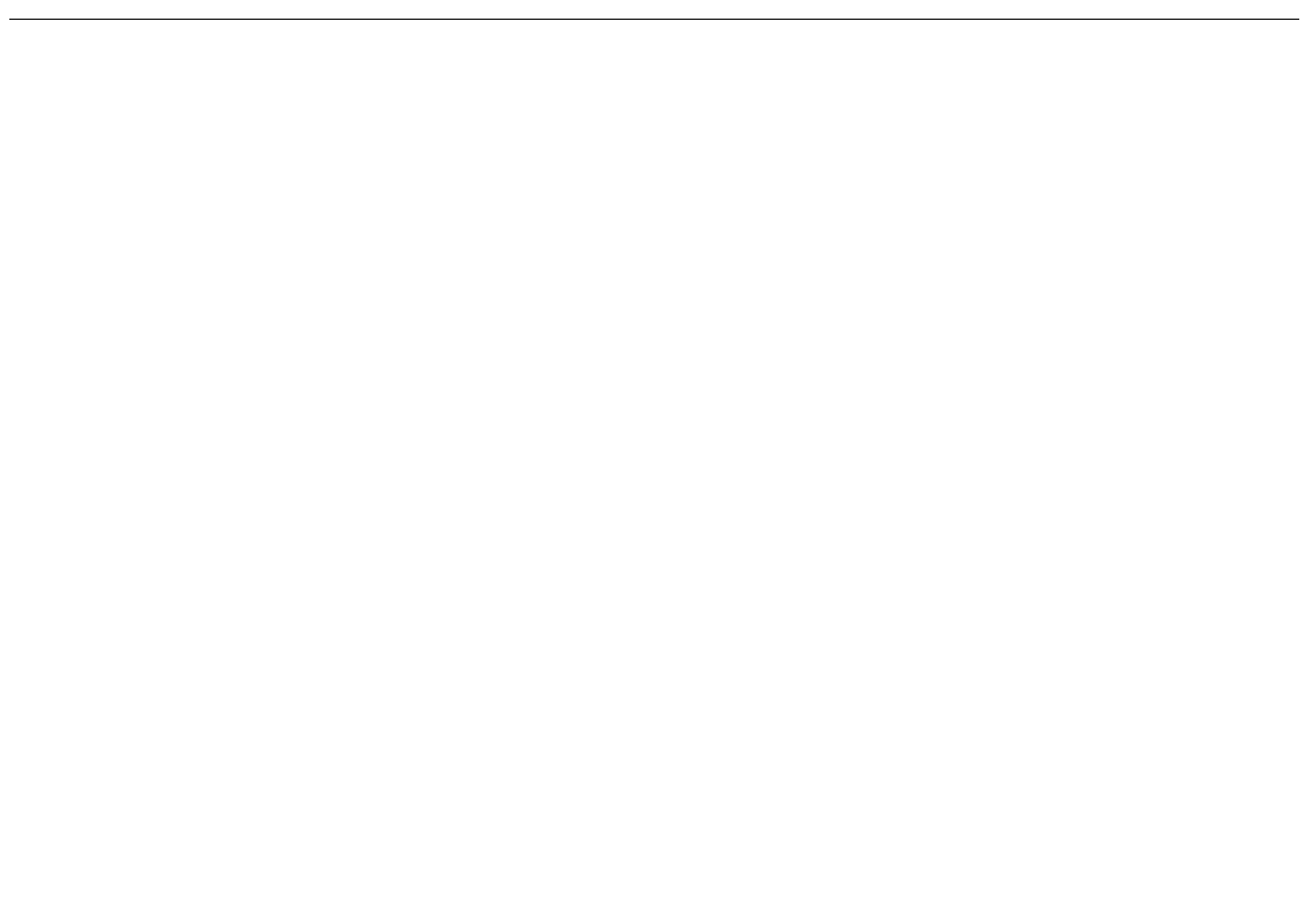
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The Sunrise forecasted financial performance aligns with what BOYD would anticipate for an established underground R&P coal facility operating in the ILB region. BOYD developed an independent LOM projection for operating and capital costs which aligns with general industry standards and the Sunrise forecasted figures. BOYD believes the extended LOM projection of operating and capital costs to be accurate to within $\pm 25\%$ of the operating and capital costs of other similarly capitalized mining complexes operating in the ILB region. We did not assign a contingency budget to the extended mine life projection estimates.

11.2.1 Forecasted Production

BOYD’s LOM plans reflect a return to increased sales tonnage from Oaktown Mining Complex as coal prices recover post-COVID-19 pandemic. BOYD’s forecast reflects a stable revenue stream, driven by Sunrise’s view that their Indiana V Seam reserves and Oaktown Mining Complex are in a strong competitive position to take advantage of improved coal pricing and demand as domestic and international markets recover from the COVID-19 pandemic. The Oaktown Mining Complex forecast of saleable tons produced is summarized in Figure 11.2.





Oaktown Mining Complex's future production over the forecast period is projected to remain within current infrastructure capacities and capabilities. This results in a less capital-intensive forward forecast, as capital expenditures are associated with sustaining production rather than new mine development and/or production capacity expansion.

11.2.2 Projected Operating Costs

Operating cost estimates were developed based on recent actual costs and considering specific operational activity levels and cost drivers. The estimates consider current and expected labor headcount and salaries, major consumables and unit prices, power costs, and equipment and maintenance costs. The total operating cost estimate includes all site costs related to mining, processing, and general and administrative activities.

As Sunrise capitalizes on coal markets increasing demands and increases production in 2022, operating costs for Oaktown Mining Complex are projected to be more favorable versus those witnessed during the COVID-19 pandemic. This is primarily a result of reduced direct operating costs associated with Sunrise's current strategic plan that sees Oaktown Mining Complex producing between 5 to 7 million product tons per annum.

BOYD's estimate of operating costs over the life of the Oaktown Mining Complex as presented in Table 11.2, on the following page.

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TABLE 11.2

ESTIMATE OF CASH OPERATING COSTS
OAKTOWN MINING COMPLEXPrepared For
SUNRISE COAL, LLCBy
John T. Boyd Company
Mining and Geological Consultants
October 2023

Period Year	1 2022	2 2023	3 2024	4 2025	5 2026	6 2027	7 2028	8 2029	9 2030	10 2031	11 2032	12 2033	13 2034	14 2035	15 2036	Total
Production (000 tons):																
ROM Coal	9,839	8,351	6,656	7,271	7,886	6,976	7,156	7,637	8,279	7,376	5,985	5,820	6,673	4,322	1,789	101,816
Clean Coal	6,824	5,894	4,652	5,112	5,444	4,938	5,060	5,368	5,867	5,250	4,158	4,065	4,595	2,992	1,185	71,404
Direct Labor (\$ 000)																
Labor (incl. Payroll Taxes and Works Comp.)	56,385	48,910	38,572	42,185	45,025	40,757	41,762	44,295	48,506	43,301	34,400	33,683	37,956	24,915	10,069	590,721
Retirement Benefits/401k	22,554	19,564	15,429	16,874	18,010	16,303	16,705	17,718	19,403	17,320	13,760	13,473	15,182	9,966	4,027	236,288
Subtotal - Direct Labor	78,939	68,474	54,001	59,059	63,035	57,060	58,467	62,013	67,909	60,621	48,160	47,156	53,138	34,881	14,096	827,009
Direct Operating (\$ 000)																
Operating Supplies	32,746	29,021	23,220	24,405	26,119	23,488	24,078	25,556	28,078	24,603	20,629	20,313	22,615	15,874	7,401	348,146
Maintenance	23,962	22,693	20,802	21,386	21,929	21,131	21,310	21,763	22,552	21,574	20,018	19,910	20,639	18,367	7,562	305,598
Utilities	12,918	12,174	11,180	11,548	11,814	11,409	11,507	11,753	12,152	11,659	10,785	10,710	11,134	7,517	3,737	161,997
Other Operating Costs	3,013	2,617	2,063	2,253	2,406	2,177	2,231	2,366	2,592	2,313	1,839	1,801	2,028	1,334	542	31,575
Subtotal - Direct Operating	72,639	66,505	57,265	59,592	62,268	58,205	59,126	61,438	65,374	60,149	53,271	52,734	56,416	43,092	19,242	847,316
Indirect Operating* (\$ 000)																
Insurance, Real Estate Tax, Penalties	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	550	15,950
Royalties	17,487	18,124	15,936	19,626	16,334	13,629	13,663	14,171	15,138	13,389	10,603	10,364	11,716	7,628	3,021	200,829
Preparation, Surface, and Coal Handling	14,151	12,744	9,972	10,474	11,383	10,129	10,371	10,989	12,231	10,677	8,732	8,676	9,506	6,698	3,156	149,889
Reclamation/Mine Closure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3,000	3,000
Other Costs	741	711	549	537	603	521	532	563	645	541	466	475	496	392	224	7,996
Subtotal - Indirect Operating	33,479	32,679	27,557	31,737	29,420	25,379	25,666	26,823	29,114	25,707	20,901	20,615	22,818	15,818	9,951	377,664
Selling and General Administrative (\$ 000)																
	9,530	8,455	6,987	7,510	7,910	7,306	7,450	7,811	8,407	7,671	6,397	6,292	6,906	5,471	2,070	106,173
Total Cash Operating Costs (\$ 000)	194,587	176,113	145,810	157,898	162,633	147,950	150,709	158,085	170,804	154,148	128,729	126,797	139,278	99,262	45,359	2,158,182

*Indirect Operating Costs do not include Interest Expense or DD&A

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11.2.3 Projected Capital Expenditures

The Oaktown Mining Complex and related facilities are fully developed and should not require any near-term major capital investment to maintain full commercial production. Historically, the timing and amount of capital expenditures have been largely discretionary and within Sunrise's control.

Oaktown Mining Complex is expected to maintain a consistent level of capital expenditures over the LOM period, with spending focused on mine infrastructure expansion, maintenance of production equipment (new equipment purchases and/or rebuilds), and refuse placement (injection) expansions. BOYD projected sustaining capital expenditures using nominal unit cost rates which includes maintenance of production equipment as well as other items for the operation. These unit cost rates are based on our experience with other ILB underground R&P operations. From 2022 to 2032, annual capital expenses will be focused on maintenance of production and are expected to average \$4.00 per ton of clean coal. Over the final four years of the Complex's operation, capital expenditures are projected to decline as production decreases. BOYD's estimates of capital expenditure requirements over the life of the Oaktown Mining Complex are presented in Table 11.3, on the following page.

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TABLE 11.3

ESTIMATE OF CAPITAL EXPENDITURES
OAKTOWN MINING COMPLEX
Prepared For
SUNRISE COAL. LLC

By
John T. Boyd Company
Mining and Geological Consultants
October 2023

Period Year	1 2022	2 2023	3 2024	4 2025	5 2026	6 2027	7 2028	8 2029	9 2030	10 2031	11 2032	12 2033	13 2034	14 2035	15 2036	Total
Production (000 tons):																
ROM Coal	9,839	8,351	6,656	7,271	7,686	6,976	7,156	7,637	8,279	7,376	5,985	5,820	6,673	4,322	1,789	101,816
Clean Coal	6,824	5,894	4,652	5,112	5,444	4,938	5,060	5,368	5,867	5,250	4,158	4,065	4,595	2,992	1,185	71,404
Capital Expenditures (\$ 000):																
Expansion	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sustaining/Maintenance	27,296	23,576	18,608	20,448	21,776	19,752	20,240	21,472	23,468	21,000	16,632	14,228	13,785	7,480	2,370	272,131
Total	27,296	23,576	18,608	20,448	21,776	19,752	20,240	21,472	23,468	21,000	16,632	14,228	13,785	7,480	2,370	272,131

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Total capital expenditure for Oaktown Mining Complex appears to be logical and consistent with Sunrise's typical level of capitalization and maintaining of state-of-the-art R&P underground mines and associated processing facilities and are reasonably aligned with extended LOM plans.

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12.0 ECONOMIC ANALYSIS

12.1 Approach

The economic analysis presented in this chapter was prepared by BOYD for the purpose of confirming the commercial viability of the Oaktown Mining Complex's reported coal reserves and not for the purpose of valuing the Oaktown Mining Complex, or its assets. The economic analysis contains forward-looking information related to the projected operating and financial performance of the Oaktown Mining Complex. This projection involves inherent known and unknown risks and uncertainties, some of which may be outside of Sunrise's control. Sunrise, as with all mining companies, actively evaluates, changes, and modifies business and operating plans in response to various factors that may affect operational and/or financial results. Actual results, production levels, operating expenses, sales realizations, and all other modifying factors could vary significantly from the assumptions and estimates provided in this analysis. Risk is subjective, as such, BOYD recommends that each reader should evaluate the project based on their own investment criteria.

The financial model used for the purposes of the economic analysis forecasts future free cash flow from coal production and sales over the life cycle of the Oaktown Mining Complex using the annual forecasts of production, sales revenues, and operating and capital costs discussed earlier in this report. A DCF analysis, in which future free cash flows are discounted to present value, is used to derive an NPV for the coal reserves. The use of DCF-NPV analysis is a standard method within the mining industry to assess the economic value of a project after allowing for the cost of capital invested.

The financial evaluation of the Oaktown Mining Complex has been undertaken on a simplified after-tax basis and does not reflect Sunrise's corporate tax structure. NPV is calculated using an after-tax discount rate of 12% (NPV_{12}). Cash flows were assumed to occur in the middle of each year and are discounted to January 1, 2022. Cost estimates and other inputs to the cash flow model for the project have been prepared using constant 2021 money terms, i.e., without provision for inflation. The internal rate of return and project payback were not calculated, as there was no initial investment (sunk costs) considered in the financial model provided herein.

A suite of sensitivities was calculated to evaluate the effect of the main drivers of economic performance (including variations in sales prices, operating costs, and capital costs).

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It is BOYD's opinion that the financial model provides a reasonable and accurate reflection of the Oaktown Mining Complex's expected economic performance based on the assumptions and information available at the time of our review.

12.2 Assumptions and Limitations

Cash flow projections for the Oaktown Mining Complex have been generated from the annual forecasts of production, sales prices, and operating and capital costs discussed earlier in this report. A summary of the key assumptions and limitations is provided below:

- Production quantities are based on BOYD's independently developed LOM plans for the Oaktown Mining Complex. Please refer to Chapters 7 and 8 for further information.
- Forecasted revenues are based on BOYD's FOB sales price forecast for washed thermal coal from the Oaktown Mining Complex's CPP (i.e., FOB CPP). Additional transportation and delivery costs are assumed to be incurred by the customer or added as a pass-through to the FOB CPP price. Market specifications and forecasted sales prices for the Oaktown Mining Complex's washed thermal coal are provided in Chapter 10.
- Capital and operating costs are discussed in Chapter 11. Capital expenditures and unit operating costs are expected to remain relatively constant over the life of the operation.
- No allowance for changes in or the recapture of working capital has been made in the financial analysis as the Oaktown Mining Complex has been in operation for many years. Exclusion of working capital from the financial analysis does not have a material impact on the NPV calculation.
- Depreciation and amortization expenses for existing assets are derived from Sunrise's depreciation schedules. Sustaining capital is depreciated over 8 years on a straight-line basis.
- A combined federal and state corporate tax rate of 25% has been applied on all taxable income. All other taxes and fees are included in the estimates of operating costs.
- Asset recovery/salvage values were not included in the financial analysis.
- Post-mining reclamation costs are included as a lump sum operating cost in the final year of the financial analysis.

It is BOYD's opinion that the production and financial projections provided herein are reasonable and are accurate to within $\pm 25\%$.

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12.3 Financial Model Results

Estimated LOM pre-tax and after-tax cash flows for coal production from the Oaktown Mining Complex are presented in Table 12.1, on the following page.

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TABLE 12.1

DISCOUNTED CASH FLOW - NET PRESENT VALUE ANALYSIS
OAKTOWN MINING COMPLEXPrepared For
SUNRISE COAL. LLCBy
John T. Boyd Company
Mining and Geological Consultants
October 2023

Period Year	1 2022	2 2023	3 2024	4 2025	5 2026	6 2027	7 2028	8 2029	9 2030	10 2031	11 2032	12 2033	13 2034	14 2035	15 2036	Total/ Average
Production (000 tons):																
ROM Coal	9,839	8,351	6,656	7,271	7,686	6,976	7,156	7,637	8,279	7,376	5,985	5,820	6,673	4,322	1,789	101,816
Clean Coal	6,824	5,894	4,652	5,112	5,444	4,838	5,060	5,368	5,867	5,250	4,158	4,065	4,595	2,992	1,185	71,404
Revenues:																
Coal Sales (000 tons)	6,824	5,894	4,652	5,112	5,444	4,938	5,060	5,368	5,867	5,250	4,158	4,065	4,595	2,992	1,185	71,404
Average Sales Price (\$/ton FOB CPP)	42.71	51.25	57.09	63.99	50.00	46.00	45.00	44.00	43.00	42.50	42.50	42.50	42.50	42.50	42.50	46.88
Total Revenues (\$ 000)	291,453	302,068	265,583	327,117	272,200	227,148	227,700	236,192	252,281	223,125	176,715	172,763	195,288	127,160	50,363	3,347,156
Cash Operating Costs (\$ 000)	194,587	176,113	145,810	157,898	162,633	147,950	150,709	158,085	170,804	154,148	128,729	126,797	139,278	99,262	45,359	2,158,162
Gross Pre-Tax Cash Flow (\$ 000)	96,866	125,955	119,773	169,219	109,567	79,198	76,991	78,107	81,477	68,977	47,986	45,966	56,010	27,898	5,004	1,188,994
Depreciation & Amortization (\$ 000)	17,278	16,661	16,525	17,536	19,836	21,905	23,774	24,872	22,983	21,720	20,996	20,434	19,449	18,087	16,179	298,235
Operating Income (\$ 000)	79,588	109,294	103,248	151,683	89,731	57,293	53,217	53,235	58,494	47,257	26,990	25,532	36,561	9,811	(11,175)	890,759
Income Taxes (\$ 000)	19,897	27,324	25,812	37,921	22,433	14,323	13,304	13,309	14,624	11,814	6,748	6,383	9,140	2,453	-	225,485
Net Income (\$ 000)	59,691	81,970	77,436	113,762	67,298	42,970	39,913	39,926	43,870	35,443	20,242	19,149	27,421	7,358	(11,175)	665,274
Capital Expenditures (\$ 000)	27,296	23,576	18,608	20,448	21,776	19,752	20,240	21,472	23,468	21,000	16,632	14,228	13,785	7,480	2,370	272,131
Net Pre-Tax Cash Flow (\$ 000)	69,570	102,379	101,165	148,771	87,791	59,446	56,751	56,635	58,009	47,977	31,354	31,739	42,225	20,418	2,634	916,864
Net After-Tax Cash Flow (\$ 000)	49,673	75,055	75,353	110,850	65,358	45,123	43,447	43,326	43,385	36,163	24,606	25,356	33,085	17,965	2,634	691,379
DCF - NPV Analysis (\$ 000):																
Discounted Net Pre-Tax Cash Flow at 12%	65,737	86,374	76,205	100,059	52,719	31,873	27,168	24,207	22,138	16,348	9,539	8,621	10,241	4,422	509	536,162
Discounted Net After-Tax Cash Flow at 12%	46,937	63,322	56,762	74,554	39,248	24,194	20,799	18,519	16,557	12,322	7,486	6,888	8,024	3,890	509	400,011

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Table 12.2, below, provides a summary of the estimated remaining life of mine financial results for the Oaktown Mining Complex.

Table 12.2: Financial Results

Financial Metric	Remaining Life of Mine Total
Expected Remaining Life (years)	15
<u>Production (000 tons):</u>	
ROM Coal	101,816
Clean Coal	71,404
Total Revenues (\$ millions)	3,347.2
Average Sales Price (\$/clean ton)	46.88
Total Cash Operating Costs (\$ millions)	2,158.2
Average Cash Operating Costs (\$/clean ton)	30.22
Capital Expenditures (\$ millions)	272.1
Average Capital Expenditure (\$/clean ton)	3.81
<u>Cash Flows (\$ millions):</u>	
Total Pre-Tax Cash Flow	916.9
Discounted Pre-Tax Cash Flow at 12%	536.2
Total After-Tax Cash Flow	691.4
Discounted After-Tax Cash Flow at 12%	400.0

DCF-NPV on a pre-tax and after-tax basis, using discount rates of 10%, 12% (the base case), 15%, and 18% were calculated utilizing the projected cash flows. Table 12.3 summarizes the results of the pre-tax and after-tax DCF-NPV analyses:

Table 12.3: DCF-NPV Results

	NPV (\$ millions)			
	10%	12%	15%	18%
Pre-Tax	578.4	536.2	482.3	437.6
After-Tax	432.2	400.0	359.2	325.3

As shown, the pre-tax DCF-NPV ranges from approximately \$437.6 million to \$578.4 million. The after-tax DCF-NPV ranges from approximately \$325.3 million to \$432.2 million.

The economic analysis confirms that the Oaktown Mining Complex generates positive pre- and after-tax financial results and a real NPV₁₂ of \$400 million. As such, it is BOYD's opinion that the coal reserves of the Oaktown Mining Complex have demonstrated economic viability.

12.4 Sensitivity Analysis

Table 12.4, below, shows the sensitivity of the project after-tax for a cash flow discounted at 12% (NPV₁₂) to a variation over a range of 20% above and below the base case in: (1) average selling prices and (2) operating costs.

Table 12.4: After-Tax NPV₁₂ Sensitivity Analysis (\$ millions)

		Sales Price						
		-20%	-10%	-5%	0%	5%	10%	20%
Operating Costs	-20%	310.6	439.6	504.1	568.5	633.0	697.4	826.1
	-10%	227.7	356.1	420.2	484.3	548.4	612.5	740.5
	-5%	186.1	314.4	378.3	442.1	506.0	569.9	697.6
	0%	143.6	272.6	336.4	400.0	463.7	527.4	654.7
	5%	100.5	230.6	294.4	357.9	421.4	484.8	611.8
	10%	55.2	188.2	252.2	315.7	379.0	442.3	568.8
	20%	(42.1)	101.4	166.7	230.9	294.2	357.2	482.9

As expected, the project is most sensitive to changes in product pricing and operating costs. The project is less sensitive to changes in capital costs. There are only very minor impacts to the NPV₁₂ when varying the capital costs from 80% to 120% of the base case.

This analysis demonstrates the project value to be relatively robust, with positive NPVs reported across the range of values assessed. Additionally, BOYD recognizes that Sunrise is likely to modify operation plans and/or production levels to minimize the impact (or conversely, maximize the opportunity) of short-term coal price fluctuations. BOYD opines that such minor adjustments are likely to be immaterial to the economic viability of the Oaktown Mining Complex's coal reserves.

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13.0 PERMITTING AND COMPLIANCE

13.1 Permitting Requirements and Status

Mining and related activities on the Oaktown Mining Complex properties is regulated by both federal and state laws. The relevant federal laws include:

- Clean Air Act of 1970/1977.
- Clean Air Act Amendments of 1990.
- Clean Water Act of 1977.
- Surface Mining Control and Reclamation Act of 1977 (SMCRA).
- Resource Conservation and Recovery Act of 1976.

In Indiana and Illinois, responsibility for enforcing these acts primarily lies with the IL-EPA and IN-DNR and their various subdivisions.

Numerous permits are required by federal and state law for underground mining, coal preparation and related facilities, and other incidental activities. BOYD reviewed the permits for the Oaktown Mining Complex that are necessary for continued operations. Such required permits appear to be valid and in good standing. The approved permits and certifications are adequate for the continued operation of the facility. A listing of the current permits for the Oaktown Mining Complex is provided in Table 13.1, on the following page.

Permits generally require that the permittee post a performance bond in an amount established by the regulator program to: (1) provide assurance that any disturbance or liability created during mining operation is properly mitigated, and (2) assure that all regulations requirements of the permit are fully satisfied. Sunrise reports holding surety bonds to cover its current obligations relating to mining and reclamation, road repair, etc. Those obligations currently equate \$5.8 million.

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Table 13.1: Summary of Current Permits

Permit / Registration / Authorization	Permit / ID No.	Agency*	Expiration Date
MSHA ID			
Oaktown Fuels Mine No. 1	1202394	MSHA	None
Oaktown Fuels Mine No. 2	1202418	MSHA	None
Oaktown Fuels Preparation Plant	1202462	MSHA	None
Mine Operating (SMCRA)			
	U-031	IN-DNR	12/12/2027
	452	IL-DNR	3/16/2028
Minor Source Operating Permit (MSOP)	M-083-42294-00051	IDEM	3/10/2030
<i>National Pollutant Discharge Elimination System (NPDES)</i>			
Individual Permit	IN0064629	IDEM	8/31/2028
Coal Mine General Permit	ING040222	IDEM	10/31/2023
Individual Permit	IL0080226	IL-EPA	1/31/2026
Wetlands Dredge and Fill	LRL-2008-623-RJB	USACOE	12/31/2029
Mining Under Navigable Waterway	LRL-2018-786-SEW	USACOE	12/31/2033
Section 401 Water Quality Certification	2008-569-42-JWR-A	IDEM	
Underground Mine Backfill / Coal Slurry Injection	IN-083-5X13-0001 to IN-083-5X13-0010	USEPA	

* Regulatory Agencies

MSHA: Mine Safety and Health Administration
 IN-DNR Indiana Department of Natural Resources
 IL-DNR Illinois Department of Natural Resources
 IDEM: Indiana Department of Environmental Management
 USACOE United States Army Corps of Engineers
 USEPA: United States Environmental Protection Agency

New permits and/or permit revisions/amendments may be necessary from time to time to facilitate future operations. Given sufficient time and planning, Sunrise should be able to secure new permits, as required, to maintain its planned operations within the context of the current regulations. Continuously increasing efforts are required to obtain permits for R&P mining and related activities in Indiana and Illinois. The primary contributing factors are the effects on protected surface areas and the ability to permit refuse sites.

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13.2 Environmental Studies

It is BOYD's understanding that no standalone environmental studies have been conducted for the Oaktown Mining Complex. As part of the state and federal permitting process, various environmental assessments have been conducted and reviewed by the relevant local, state, and federal agencies. As the necessary permits for mining and processing operations have been issued, it is BOYD's understanding that all environmental assessments have been accepted by the relevant regulatory bodies and no material issues were found.

13.3 Waste Disposal and Water Management

The coarse refuse generated from the coal preparation process is used in the construction of the existing permitted, on-site slurry impoundment. The fine refuse generated from the coal preparation process is disposed of by pumping it into the slurry impoundment or by injecting it into former underground mining areas. Waste disposal facilities are in place for current mining operations, with plans to expand the disposal facilities to meet life of reserve storage requirements. Please refer to Section 9.2 for a detailed description of these facilities.

The underground mines are below drainage with shaft/slope access. Such mines are designed and permitted to avoid water break out and acid mine discharge. The potential for discharge of acid mine drainage at underground mines is limited to minor run off from disposal and other surface sites.

Water control structures are in place and function as required by regulatory agencies. All runoff from the slurry impoundment(s) is managed by sediment control structures including diversions, sumps, and sediment basins. Prior to discharge from the permitted areas, water must meet compliance standards as defined in the NPDES permits. Water samples at discharge locations are collected in accordance with the approved permit and analyzed by an independent laboratory.

13.4 Compliance

Based on our review of information provided by Sunrise and other public information sources, it is BOYD's opinion that Sunrise has a generally typical coal industry record of compliance with applicable mining, water quality, and environmental regulations. BOYD is not aware of any regulatory violation or compliance issue that would materially impact the coal reserve estimate.

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13.5 Plans, Negotiations, or Agreements

New permits and certain permit amendments/revisions require public notification. The public is made aware of pending permits by advertisement in local newspapers. Additionally, a copy of the application is retained at the local county's public library for review. A comment period follows the last advertisement date to allow the public to submit comments to the regulatory authority.

BOYD is not aware of any community or stakeholder concerns, impacts, negotiations, or agreements that would materially impact the coal reserve estimate.

13.6 Mine Closure

A detailed plan for reclamation activities upon completion of mining required at the Oaktown Mining Complex has been prepared. Given the application of underground mining methods at the operation, the disturbed acreage on the surface is relatively limited. The primary reclamation liabilities are associated with the refuse disposal sites.

Mine site reclamation costs are funded from Sunrise's Asset Retirement Obligations (ARO) account. Funding of the ARO account is included in the Oaktown Mining Complex's operating costs discussed in Chapter 11 and included in the economic analysis presented in Chapter 12. ARO costs estimates are reviewed annually and currently estimated at approximately \$5.8 million for the Oaktown Mining Complex. In BOYD's opinion, the estimated reclamation liability is adequate to estimate mine closure and reclamation costs at the property.

13.7 Local Procurement and Hiring

BOYD is not aware of any commitments for local procurement or hiring. However, Sunrise reports making efforts to source supplies and materials from regional vendors. The workforce is likewise located in the regional area.

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14.0 INTERPRETATION AND CONCLUSIONS

14.1 Findings

BOYD's independent technical assessment conducted in accordance with S-K 1300 concludes:

- Sufficient data have been obtained through various exploration and sampling programs and mining operations to support the geological interpretations of seam structure, thickness, and quality for the portions of the Indiana V Seam situated within the bounds of the Oaktown Mining Complex area. The data are of sufficient quantity and reliability to reasonably support the coal resource and coal reserve estimates in this technical report summary.
- Estimates of coal reserves reported herein are reasonably and appropriately supported by technical studies, which consider mining plans, revenue, and operating and capital cost estimates.
- The 71.4 million tons of underground coal reserves identified on the property are economically mineable under reasonable expectations of market prices for thermal coal products, estimated operation costs, and capital expenditures.
- There is no other relevant data or information material to the Oaktown Mining Complex that is necessary to make this technical report summary not misleading.

14.2 Significant Risks and Uncertainties

As a mining operation with a lengthy operating history, the purpose of Sunrise's periodic mine planning exercises is to collect and analyze sufficient data to reduce or eliminate risk in the technical components of the project and to refine economic projections based on current data. There is a high degree of certainty for this project under the current and foreseeable operating environment. A general assessment of risk is presented in the relevant sections of this report.

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