

CONSOL Energy

Pennsylvania State Inspection
Forms – Digital Conversion

Introduction

There are eight (8) or more PA State Inspection forms that CONSOL uses for their daily inspection processes. These forms support all mining locations and specifically address the locations, sections, and type of installations for that mine. Under the current manual process, there are at least 50 and up to 100 active physical books being maintained.

There are requirements governed by Pennsylvania State to complete these inspections accurately and honestly. A person must hold an active certification and/or license that permits them to conduct a state inspection for an installation within the mine. All inspections must be documented in the appropriate book. The book must be filled out in ink, and then signed off and dated by the responsible person. This manual paper process can allow the transmission of the information and data to be completed in error or inconsistent.

All books are reviewed and signed off by the General Mine Foreman and the Superintendent of the respective mining location. The General Mine Foreman countersigns these books daily and the Superintendent is at least weekly.

In a partnership between CONSOL and KGC Solutions two forms were selected as prototypes to digitally transform the manual process as it is today. Field testing was completed using previously completed data to gather feedback from the field workers.

Area of Concern

This process is heavily audited and relied upon for the safety and well being of our employees and assets. Failure to maintain compliance of the law can result in safety implications, operational delays and agency reporting.

Prototype Selected Forms

Assistant Mine Foreman Onshift and Daily Report | Preshift
Mine Examiner's Report

Assistant Mine Foreman Onshift and Daily Report

The current form is a single page document with multiple sections for data entry.

Use Indelible Pencil or Ink

**Assistant Mine Foreman
Onshift and Daily Report**

Report shall be signed when made

Date _____ Shift _____ Area or Section _____

Violations and Conditions Observed and Reported

Location	Violation or Condition	Action Taken
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

Dangers Observed and Reported

1. _____	_____
2. _____	_____

Examinations for Methane in Working Places

Location	Time	Methane Content	Location	Time	Methane Content
1. _____	_____	_____	9. _____	_____	_____
2. _____	_____	_____	10. _____	_____	_____
3. _____	_____	_____	11. _____	_____	_____
4. _____	_____	_____	12. _____	_____	_____
5. _____	_____	_____	13. _____	_____	_____
6. _____	_____	_____	14. _____	_____	_____
7. _____	_____	_____	15. _____	_____	_____
8. _____	_____	_____	16. _____	_____	_____

Examinations for Methane in Return Aircourses

Location	Time	Methane Content	Location	Time	Methane Content
1. _____	_____	_____	6. _____	_____	_____
2. _____	_____	_____	7. _____	_____	_____
3. _____	_____	_____	8. _____	_____	_____
4. _____	_____	_____	9. _____	_____	_____
5. _____	_____	_____	10. _____	_____	_____

Number of Bolts Tested _____

Number of Bolts Torqued Above Range _____ Below Range _____

If majority of bolts tested in any working place falls outside approved torque range, state what action taken _____

Air Readings (Include Velocity and Quantity)

Remarks (Statement as to General Conditions of Mine or Area of Mine and Electrical Equipment) _____

Assistant Mine Foreman Certificate No. Mine Foreman Certificate No. Superintendent

Assistant Mine Foreman Onshift and Daily Report

Converting this form to a digital form allows for consistent entries across all the employees completing the form. The digital form controls certain entries to drop down options, formatting numeric values, and expanding the narrative section allowing for a detailed description. Conditional logic is used to control what options are available to select in certain fields.

Assistant Mine Foreman Onshift and Daily Report

PDF

Report shall be signed when made.

Date

1/25/2024

Shift

Midnight

Area or Section

Belts

Violations and Conditions Observed And Reported

	Location	Specific Location	Violation or Condition	Action Taken
1	l/B (Inby)	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Water Accumulations	Reported
2	OrB (outby)	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Needs Sweep	Corrected
3	Take-up	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Needs Dusted	Corrected
4	l/B (Inby)	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Needs Sweep	Corrected
5	HAG (Headgate)	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Bad T/S Wing Roller	Corrected
6	W/S (Walkway Side)	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Water Accumulations	Reported
7	Storage Unit	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Water Accumulations	Corrected
8	Take-up	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Needs Dusted	Corrected
9	Take-up	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Pager Phone Not Working	Corrected
10	Transfer	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Water Accumulations	Corrected
11	Under Belt	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Needs Sweep	Corrected
12	Winder	The quick brown fox jumps over the lazy dog. The quick brown fox jumps over the lazy dog. The quick brown fox	Water Accumulations	Reported

Preshift Mine Examiner's Report

The current form is a single page document with multiple sections for data entry.

Use Indelible
Pencil or Ink

Preshift Mine Examiner's Report

Report shall be
signed when made

Date of Examination

20

Section or Area Examined

Time of Examination

a.m./p.m. to

a.m./p.m.

Was this report phoned to outside:

Yes

No

By Whom

Report received by

(Signed)

Time

a.m./p.m.

Violations Observed and Reported

Location	Violation or Condition	Action Taken
1.		
2.		
3.		
4.		
5.		

Dangers and Hazardous Conditions Observed and Reported

1.	
2.	

Air Measurements

Location	CFM	CH ₄	Location	CFM	CH ₄

Remarks:

(Verify Belt Slippage Tests, If Applicable)

This is to certify that: (a) This section of the mine was properly examined by me, (b) all dangers, (c) all violations of the mining laws of Pennsylvania and the Federal Coal Mine Health Act of 1977, and all hazardous conditions observed by me are listed in this report.

Signed by

Preshift Mine Examiner

Certificate No.

Assistant Foreman

Certificate No.

Countersigned

Mine Manager Mine Foreman

Certificate No.

Superintendent

Date

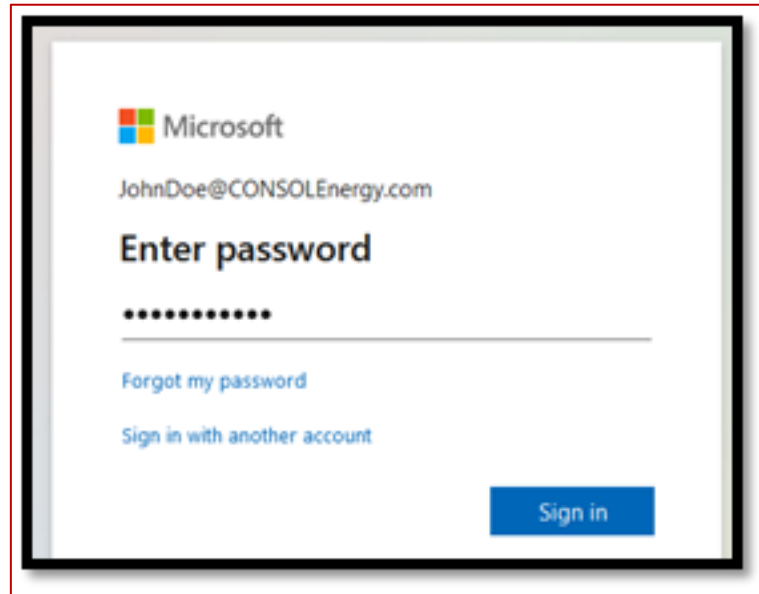
Converting this form to a digital form allows for consistent entries across all the employees completing the form. The digital form controls certain entries to drop down options, formatting numeric values, and expanding the narrative section allowing for a detailed description. Conditional logic is used to control what options are available to select in certain fields.

KGC Solutions, Inc. | 5225 Library Road, #134 | Bethel Park, PA 15102 | Phone: 412-491-0390

Security Considerations

Applications includes Microsoft 365 applications. These are integrated together using SharePoint, Power Apps, and Power Automate.

Authorized Users Only



The system is only accessible to an approved list of authorized users with a verified CONSOL Energy organizational Microsoft 365 account.

Role-Based Validation for Signatures and Responses

This system identifies the currently logged in user and limits their ability to edit either specific portions of the form or the entire form altogether based on who they are, what role they are assigned, and what phase in the process the form is in. The following screenshots demonstrates what this looks like in action:

A horizontal form with five input fields. The first field is labeled 'Assistant Mine Foreman' and has an asterisk to its left. The second field is labeled 'Certificate No.' and has an asterisk to its left. The third field is labeled 'Mine Foreman'. The fourth field is labeled 'Certificate No.'. The fifth field is labeled 'Superintendent'. The first two fields have a dark red border, while the others have a light gray border.

When the Assistant Mine Foreman completes the form, they will only be able to sign for their own role and provide their own Certificate No, and all other fields are in read-only mode. This is indicated by the dark red border around the active field. These are also indicated with an asterisk, indicating the field is required to submit.

The same horizontal form as above, but now the first field contains the signature 'Garen Verbsky' and the second field contains the number '6429'. The third field is labeled 'Mine Foreman' and has an asterisk to its left. The fourth field is labeled 'Certificate No.' and has an asterisk to its left. The fifth field is labeled 'Superintendent'. The third and fourth fields have a red border, while the others have a light gray border.

When the Mine Foreman logs in to update the same form, they will also only be able to sign for their own role and provide their own Certificate No, and all other fields are in read-only mode. Take note to the previously completed fields, with a signature and certificate number are locked. The Active fields are indicated with the red border and asterisk.

Locked Forms Once Submitted

When a form is created and submitted to the next role responsible for a signature, all detail fields for information such as when the inspection occurred, measurements of the methane content at the inspected site, and what violations were observed and reported are locked to prevent anyone from editing them in the future. This ensures that all signatures gathered during the process reviewed the same information as it was originally presented by the person performing the inspection. Once the final signature is entered, the entire form is locked and cannot be re-edited.

Examinations for Methane in Working Places

NOTES:
Time Values must be entered in 00:00 AM/PM Format.
Methane Content Values must be from 0-100.

	Location	Time	Methane Content		Location	Time	Methane Content
1	Shield	1240	0 %	8			%
2	Shield	1230	0 %	9			%
3	Shield	1217	0 %	10			%

Auditable Version History

When any user saves a change to one of the forms, SharePoint Online’s robust version history feature captures what the change was, who made the change, and when the change occurred. This makes it easy to validate the authenticity of one’s digital signature, but impossible to forge the signature of someone else without detection.

Version history

No. ↓
2.0
3/12/2024 9:09 AM

Modified By
KGC Solutions

Link to Form
<https://apps.powerapps.com/play/e/default-009ee2e8-78dd-40a4-8e22-e2cab2cc7608/a/4ac7df75-f516-445e-99a1-ad48f2fe9ba4?tenantId=009ee2e8-78dd-40a4-8e22-e2cab2cc7608&hint=c552b8b9-31b0-415b-aaec-663564a99c74&sourcetime=1707490362566&FormID=23>

1.0
3/12/2024 9:08 AM

Modified By
Verbosky, Gaven

Title
Shift Worked
AreaOrSection
AirReading
Remarks
AssistantMineForemanCertificate 6429
AsssitantMineForeman

Open Form
Afternoon
Longwall Section
CKPT #3 245/28420
Visuals OK, Air proper course, Safe to enter
Gaven Verbosky