

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

20 - NIOSH Syllabus Answer Key

TYPE OF READING

Reading type selection: A [], B [X], F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A-4B, 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, and address.

20 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

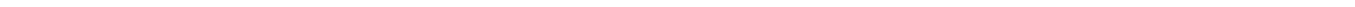
Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS



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EXAMINEE'S Name (Last, First MI)

21 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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21 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

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Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

4D. OTHER COMMENTS

3 cm density behind R heart, possible mass.

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EXAMINEE'S Name (Last, First MI)

22 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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22 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

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- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

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23_Lower - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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23_Lower - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'di' and 'me' marked with an 'X'.

Table mapping symbols to descriptions: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [X] NO []

Date notification grid

4D. OTHER COMMENTS

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23_Upper - NIOSH Syllabus Answer Key

TYPE OF READING

A B F checkboxes

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23_Upper - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

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- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

4D. OTHER COMMENTS

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EXAMINEE'S Name (Last, First MI)

24 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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24 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

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- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

There is also a nodule or r-size opacity behind the heart.

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1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t [X] t
[X] u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 [X] 3/+
2C. LARGE OPACITIES
SIZE O [X] B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L O L a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

25 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	-------------------------------------	--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

26 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

26 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 30 empty boxes for marking symbols.

Table mapping symbols to medical terms: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

Should worker see personal physician because of findings? YES NO [Date notification grid]

4D. OTHER COMMENTS

Normal intercostal muscle shadows are well illustrated in this radiograph and should not be confused with pleural plaque.

DATE OF RADIOGRAPH (mP -dG\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

27 - NIOSH Syllabus Answer Key

TYPE OF READING

A B F checkboxes

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES/NO checkboxes and completion instructions.

2B. SMALL OPACITIES section with sub-sections for SHAPE/SIZE, ZONES, and PROFUSION. Includes 2C. LARGE OPACITIES section with SIZE checkboxes.

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES/NO checkboxes and completion instructions.

3B. PLEURAL PLAQUES section with sub-sections for Site, Calcification, Extent, and Width. Includes 3C. COSTOPHRENIC ANGLE OBLITERATION checkboxes.

3D. DIFFUSE PLEURAL THICKENING section with sub-sections for Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES/NO checkboxes and completion instructions.

5. NIOSH Reader ID, READER'S INITIALS, DATE OF READING, SIGNATURE, PRINTED NAME, STREET ADDRESS, CITY, STATE, and ZIP CODE.

27 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'ax', 'di', and 'hi' marked with an 'X'.

Table mapping codes to descriptions: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

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Hiatal hernia

Airway Disorders

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Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO (with 'NO' box checked)

Date notification grid

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

28 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
q t
r u X u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O [X] B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

28 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic strands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggesting for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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National Institute for Occupational Safety and Health
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Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

29 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

29 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'fr' marked with an 'X'.

Table mapping symbols to definitions: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of boxes for date notification.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

30 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
q t
r u X u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 X 3/+

2C. LARGE OPACITIES
SIZE O A B [X] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

30 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
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- Scoliosis
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Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
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- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

31 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [X] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
u u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 [X]
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O A B [X] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [X] Complete Sections 3B, 3C NO [] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [X] [X] [R] [L]
Face on [O] [X] [X] [X] [R] [L]
Diaphragm [X] [R] [L] [X] [R] [L]
Other site(s) [X] [R] [L] [X] [R] [L]

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [X] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L]
Face on [O] [R] [L] [O] [R] [L]

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 10 - 15 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

31 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

CT may be required to distinguish large pneumoconiotic opacities from face on plaque.

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

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FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

32 - NIOSH Syllabus Answer Key

TYPE OF READING

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1. IMAGE QUALITY
Overexposed (dark) [] Underexposed (light) [] Artifacts []
Improper position [X] Poor contrast [X] Poor processing []
Underinflation [] Mottle [] Excessive Edge Enhancement []
Scapula Overlay [X] Other (please specify) []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A [X] C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on Diaphragm Other site(s)

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS
DATE OF READING (mm-dd-yyyy) 10 - 15 - 2024

SIGNATURE
PRINTED NAME (LAST, FIRST MIDDLE)
STREET ADDRESS CITY STATE ZIP CODE

32 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
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co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
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fr	fractured rib(s) (acute or healed)		

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- Bronchovascular markings, heavy or increased
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- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
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CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

33 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

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2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s [X] s
t q t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A [X] C Proceed to Section 3A

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YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 03 - 11 - 2024

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

33 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
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4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

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- Vertebral column abnormality

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- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

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CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

34 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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Main form grid containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle, and diffuse pleural thickening.

34 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

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- Azygos lobe
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- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4D. OTHER COMMENTS

3 cm density behind R heart, possible mass.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

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FACILITY Number - Unit Number

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EXAMINEE'S Name (Last, First MI)

35 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for image quality, abnormalities, and reading type. Includes fields for NIOSH Reader ID, Reader's Initials, Date of Reading, Signature, and Address.

35 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

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4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

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Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

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DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
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OMB No.: 0920-0020

CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

TYPE OF READING

Reading type selection: A [], B [x], F []

EXAMINEE'S Name (Last, First MI)

36 - NIOSH Syllabus Answer Key

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1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [x] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections a. SHAPE/SIZE, b. ZONES, c. PROFUSION, and 2C. LARGE OPACITIES.

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [x] Complete Sections 3B, 3C NO [] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections Site, Calcification, Extent, and Width.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [x] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES [x] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H; READER'S INITIALS; DATE OF READING: 10 - 15 - 2024

SIGNATURE; PRINTED NAME (LAST, FIRST MIDDLE); STREET ADDRESS; CITY; STATE; ZIP CODE

36 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

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4D. OTHER COMMENTS

Other sites calcified pleural plaque visible adjacent to spine at T8-9.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

37 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle obliteration, and diffuse pleural thickening.

37 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

38 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, and other abnormalities.

38 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening of an interlobar fissure, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid for date notification: 12 columns

4D. OTHER COMMENTS

Horizontal line for other comments

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020

CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

TYPE OF READING

Reading type selection: A [], B [X], F []

EXAMINEE'S Name (Last, First MI)

39A - NIOSH Syllabus Answer Key

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections a. SHAPE/SIZE (PRIMARY/SECONDARY), b. ZONES (R/L), c. PROFUSION (0/-, 0/0, 0/1, 1/0, 1/1, 1/2, 2/1, 2/2, 2/3, 3/2, 3/3, 3/+), and 2C. LARGE OPACITIES (SIZE O, A, B, C).

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width) section with Site, Calcification, Extent, and Width sub-sections.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width) section with Site, Calcification, Extent, and Width sub-sections.

4A. ANY OTHER ABNORMALITIES? YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID (N I O S H), READER'S INITIALS, and DATE OF READING (10 - 15 - 2024)

SIGNATURE, PRINTED NAME (LAST, FIRST MIDDLE), STREET ADDRESS, CITY, STATE, and ZIP CODE fields.

39A - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

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4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

39B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for image quality, abnormalities, and reading type. Includes fields for NIOSH Reader ID, Reader's Initials, Date of Reading, Signature, and Address.

39B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 33 empty boxes for marking symbols.

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO [Date grid]

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

39C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A-4B, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

39C - NIOSH Syllabus Answer Key
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4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

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aa atherosclerotic aorta	hi enlargement of non-calcified hilar or mediastinal lymph nodes
at significant apical pleural thickening	ho honeycomb lung
ax coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu bulla(e)	ih ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca cancer, thoracic malignancies excluding mesothelioma	kl septal (Kerley) lines
cg calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me mesothelioma
cn calcification in small pneumoconiotic opacities	pa plate atelectasis
co abnormality of cardiac size or shape	pb parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp cor pulmonale	pi pleural thickening of an interlobar fissure
cv cavity	px pneumothorax
di marked distortion of an intrathoracic structure	ra rounded atelectasis
ef pleural effusion	rp rheumatoid pneumoconiosis
em emphysema	tb tuberculosis
es eggshell calcification of hilar or mediastinal lymph nodes	
fr fractured rib(s) (acute or healed)	

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

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4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

39D - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle obliteration, and diffuse pleural thickening.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
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Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

40A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

40A - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 32 empty boxes for marking symbols.

Table listing symbols (aa through tb) and their corresponding medical descriptions, such as 'atherosclerotic aorta' for 'aa' and 'enlargement of non-calcified hilar or mediastinal lymph nodes' for 'hi'.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of 10 empty boxes for date notification.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

40B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

40B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES

NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

40C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

40C - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic strands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

40D - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
[1] [2] [3] [U/R]
Overexposed (dark) [X] Underexposed (light) []
Improper position [] Poor contrast []
Underinflation [X] Mottle []
Scapula Overlay [] Other (please specify) []
Artifacts [] Poor processing []
Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L]
Face on [O] [R] [L] [O] [R] [L]
Diaphragm [O] [R] [L] [O] [R] [L]
Other site(s) [O] [R] [L] [O] [R] [L]
Extent: Up to 1/4 of lateral chest wall = 1, 1/4 to 1/2 of lateral chest wall = 2, > 1/2 of lateral chest wall = 3
Width: 3 to 5 mm = a, 5 to 10 mm = b, > 10 mm = c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L]
Face on [O] [R] [L] [O] [R] [L]
Extent: Up to 1/4 of lateral chest wall = 1, 1/4 to 1/2 of lateral chest wall = 2, > 1/2 of lateral chest wall = 3
Width: 3 to 5 mm = a, 5 to 10 mm = b, > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 10 - 15 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

40D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'hi' marked with an 'X'.

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening of an interlobar fissure, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [X] NO []

Grid of boxes for date notification.

4D. OTHER COMMENTS

1 cm nodular density noted in the right base over 4th anterior rib. Correlate clinically.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

41A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, and Scapula Overlay.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [x] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections for SHAPE/SIZE (PRIMARY/SECONDARY), ZONES (UPPER/MIDDLE/LOWER), PROFUSION (0/-, 0/0, 0/1, etc.), and 2C. LARGE OPACITIES (SIZE O, A, B, C).

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [x] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections for Site (Chest wall, Diaphragm, Other site(s)), Calcification, Extent (chest wall; combined for in profile and face on), and Width (in profile only).

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections for Site (Chest wall), Calcification, Extent (chest wall; combined for in profile and face on), and Width (in profile only).

4A. ANY OTHER ABNORMALITIES? YES [] Complete Sections 4B-E and 5. NO [x] Complete Section 5.

5. NIOSH Reader ID (N I O S H), READER'S INITIALS, DATE OF READING (03 - 12 - 2024)

SIGNATURE, PRINTED NAME (LAST, FIRST MIDDLE), STREET ADDRESS, CITY, STATE, ZIP CODE

41A - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa atherosclerotic aorta at significant apical pleural thickening ax coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities bu bulla(e) ca cancer, thoracic malignancies excluding mesothelioma cg calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes cn calcification in small pneumoconiotic opacities co abnormality of cardiac size or shape cp cor pulmonale cv cavity di marked distortion of an intrathoracic structure ef pleural effusion em emphysema es eggshell calcification of hilar or mediastinal lymph nodes fr fractured rib(s) (acute or healed)	hi enlargement of non-calcified hilar or mediastinal lymph nodes ho honeycomb lung id ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected ih ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border kl septal (Kerley) lines me mesothelioma pa plate atelectasis pb parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura pi pleural thickening of an interlobar fissure px pneumothorax ra rounded atelectasis rp rheumatoid pneumoconiosis tb tuberculosis
---	--

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

41B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for image quality, abnormalities, and reading type. Includes fields for NIOSH Reader ID, Reader's Initials, Date of Reading, Signature, and Address.

41B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of empty boxes for marking symbols.

Table with 4 columns: Symbol, Description 1, Symbol, Description 2.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES []

NO [X]

Grid of empty boxes for date entry.

4D. OTHER COMMENTS



DATE OF RADIOGRAPH (mP -dG\\)\

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

41C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t X t
X u r u
b. ZONES R L
UPPER X X
MIDDLE X X
LOWER X X
c. PROFUSION
0/- 0/0 0/1
1/0 X 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L
1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
O R O L > 1/2 of lateral chest wall = 3 > 10 mm = c
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

41C - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 26 empty boxes for marking symbols.

Table mapping symbols to descriptions: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of 10 empty boxes for date entry.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

41D - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s q t q t u u
b. ZONES R L
UPPER [X] [X] MIDDLE [X] [X] LOWER [X] []
c. PROFUSION
0/- 0/0 0/1
1/0 [X] 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

41D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bulla(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

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4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

42A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 03 - 13 - 2024
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

42B - NIOSH Syllabus Answer Key

TYPE OF READING

Reading type selection: A [], B [X], F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, and address.

42B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with the first box checked.

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening of an interlobar fissure, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES []

NO [X]

Grid for date entry.

4D. OTHER COMMENTS

Horizontal line for other comments.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

42C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

42C - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

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4D. OTHER COMMENTS

Note that this image is the s/s 1/1 ILO standard.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

42D - NIOSH Syllabus Answer Key

TYPE OF READING

Reading type selection: A [], B [X], F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, and address.

42D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

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4D. OTHER COMMENTS

Note that this image is the t/t 1/1 ILO standard.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

43A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections a. SHAPE/SIZE, b. ZONES, c. PROFUSION, and 2C. LARGE OPACITIES.

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections Site, Calcification, Extent, and Width.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID, READER'S INITIALS, DATE OF READING, SIGNATURE, PRINTED NAME, STREET ADDRESS, CITY, STATE, ZIP CODE.

43A - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 32 empty boxes for marking symbols.

Table mapping symbols to medical terms: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES []

NO [X]

Grid of 10 empty boxes for date entry.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

43B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, and address.

43B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS



DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

43C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q X q X
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
X 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

43C - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of checkboxes for symbols, with 'aa' checked.

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, etc.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO [Date grid]

4D. OTHER COMMENTS

Soft tissue density on the right was interpreted as intercostal muscle and not pleural plaque.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

43D - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities like image quality, parenchymal abnormalities, pleural plaques, and costophrenic angle obliteration.

43D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa	at	ax	bu	ca	cg	cn	co	cp	cv	di	ef	em	es	fr	hi	ho	id	ih	kl	me	pa	pb	pi	px	ra	rp	tb
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
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Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

45A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

45A - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

45B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle, and diffuse pleural thickening.

45B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

45C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
[1] [2] [3] [U/R]
Overexposed (dark) [X] Underexposed (light) []
Improper position [] Poor contrast []
Underinflation [] Mottle []
Artifacts [] Poor processing []
Excessive Edge Enhancement []
Scapula Overlay []
Other (please specify) []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
q t
r u [X] u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
[X] 2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A [X] C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L O R O L a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4

(Leave ID Number blank if you are not a NIOSH A or B Reader)
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

DATE OF RADIOGRAPH (mP -dG\\)\

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

45D - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

45D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggesting for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

46A - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for image quality, abnormalities, and reading type. Includes NIOSH Reader ID, Reader's Initials, Date of Reading, Signature, and Address fields.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

46B - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A-4C, and 5. Includes various grids for image quality, abnormalities, and identification.

46B - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

The arrow over the right mid lung zone indicates an area of ax. Since the right upper zone opacity could also represent cancer or tuberculosis, these symbols may also be checked, and the "see physician" box checked "yes."

DATE OF RADIOGRAPH (mP -dG\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

46C - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t [X] t
[X] u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 [X] 3/+
2C. LARGE OPACITIES
SIZE O A [X] C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 1 0 - 1 5 - 2 0 2 4
SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

46D - NIOSH Syllabus Answer Key

TYPE OF READING

Reading type selection: A [], B [x], F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [x] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections a. SHAPE/SIZE, b. ZONES, c. PROFUSION, and 2C. LARGE OPACITIES.

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [x] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections Site, Calcification, Extent, and Width.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES [x] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID (N I O S H), READER'S INITIALS, DATE OF READING (10-15-2024)

SIGNATURE, PRINTED NAME (LAST, FIRST MIDDLE), STREET ADDRESS, CITY, STATE, ZIP CODE

46D - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

47 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle, and diffuse pleural thickening.

47 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 32 empty boxes for marking symbols.

Table mapping symbols to descriptions: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening of an interlobar fissure, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of 10 empty boxes for date entry.

4D. OTHER COMMENTS

Horizontal line for other comments.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

48 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u
b. ZONES R L
UPPER MIDDLE LOWER
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O [X] B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on Diaphragm Other site(s)

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] [] [] [] []
STREET ADDRESS: [] [] [] [] [] [] [] [] [] []
CITY: [] [] [] [] [] [] [] [] [] []
STATE: [] [] [] [] [] [] [] [] [] []
ZIP CODE: [] [] [] [] [] [] [] [] [] []

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020

CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

TYPE OF READING

Reading type selection: A [], B [X], F []

EXAMINEE'S Name (Last, First MI)

49 - NIOSH Syllabus Answer Key

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections a. SHAPE/SIZE, b. ZONES, c. PROFUSION, and 2C. LARGE OPACITIES.

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections Site, Calcification, Extent, and Width.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID (N I O S H), READER'S INITIALS, DATE OF READING (03 - 19 - 2024)

SIGNATURE, PRINTED NAME (LAST, FIRST MIDDLE), STREET ADDRESS, CITY, STATE, ZIP CODE

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

50 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [x] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [] Complete Sections 2B and 2C NO [x] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [x] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
O R O L > 1/2 of lateral chest wall = 3 > 10 mm = c
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [x] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] []

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

51 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O [X] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R [X] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

51 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'fr' marked with an X.

- aa atherosclerotic aorta
at significant apical pleural thickening
ax coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities
bu bulla(e)
ca cancer, thoracic malignancies excluding mesothelioma
cg calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes
cn calcification in small pneumoconiotic opacities
co abnormality of cardiac size or shape
cp cor pulmonale
cv cavity
di marked distortion of an intrathoracic structure
ef pleural effusion
em emphysema
es eggshell calcification of hilar or mediastinal lymph nodes
fr fractured rib(s) (acute or healed)
hi enlargement of non-calcified hilar or mediastinal lymph nodes
ho honeycomb lung
id ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
ih ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
kl septal (Kerley) lines
me mesothelioma
pa plate atelectasis
pb parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
pi pleural thickening of an interlobar fissure
px pneumothorax
ra rounded atelectasis
rp rheumatoid pneumoconiosis
tb tuberculosis

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO [Date boxes]

4D. OTHER COMMENTS

Note eggshell calcification on the left, especially in the medial aspect of the 8th posterior intercostal space.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

52 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

52 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 32 empty boxes for marking symbols.

Table with 4 columns: Symbol, Description 1, Symbol, Description 2. Includes terms like 'atherosclerotic aorta', 'enlargement of non-calcified hilar or mediastinal lymph nodes', etc.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

Form for 4E: Should worker see personal physician because of findings? YES [] NO [X] [Date grid]

4D. OTHER COMMENTS



DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

53 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
O R O L 1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] []

53 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 32 empty boxes for marking symbols.

Table with 4 columns: Symbol, Description, Symbol, Description. Lists medical terms like atherosclerotic aorta, honeycomb lung, etc.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of 10 empty boxes for date notification.

4D. OTHER COMMENTS

Note that this image is the first of the two 0/0 standard radiographs, Normal #1.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

54 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t [X] t
[X] u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 [X]
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] [] [] [] []
STREET ADDRESS: [] [] [] [] [] [] [] [] [] []
CITY: [] [] [] [] [] [] [] [] [] []
STATE: [] [] [] [] [] [] [] [] [] []
ZIP CODE: [] [] [] [] [] [] [] [] [] []

54 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Mass 3.5 cm in diameter in retrocardiac area over T8-T9. Small pneumothorax R apex.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

55 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [X] Complete Sections 3B, 3C NO [] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [X] R L [X] R L Up to 1/4 of lateral chest wall = 1
Face on O [X] [X] O [X] [X] 1/4 to 1/2 of lateral chest wall = 2
Diaphragm O [X] [X] O [X] [X] > 1/2 of lateral chest wall = 3
Other site(s) [X] R L [X] R L [X] 2 3 [X] 2 3 [X] R [X] L [X] a b c [X] a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [X] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile O R L O R L Up to 1/4 of lateral chest wall = 1
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2
> 1/2 of lateral chest wall = 3
O R O L O L
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] []

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

56 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, and address.

56 - NIOSH Syllabus Answer Key**4B. OTHER SYMBOLS (OBLIGATORY)**

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-------------------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------	-------------------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	-------------------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(s)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodules	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)**Abnormalities of the Diaphragm**

- Eventration
 Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
 Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
 Fracture, healed (non-rib)
 Fracture, not healed (non-rib)
 Scoliosis
 Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
 Density, lung
 Infiltrate
 Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
 Post-surgical changes/sternal wire
 Cyst

Vascular Disorders

- Aorta, anomaly of
 Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

4D. OTHER COMMENTS

Density suspicious for coronary artery calcification below L posterior 8th rib medially.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

57 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes sub-sections for image quality, parenchymal abnormalities, pleural abnormalities, and costophrenic angle obliteration.

57 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bulla(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

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4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

58 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, name, address, and date.

58 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols: aa, at, ax, bu, ca, cg, cn, co, cp, cv, di, ef, em, es, fr, hi, ho, id, ih, kl, me, pa, pb, pi, px, ra, rp, tb. Some boxes are marked with an X.

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening of an interlobar fissure, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES [X] NO []

4D. OTHER COMMENTS

Focal density over R lower zone could represent face-on plaque, given the presence of diffuse pleural thickening. Tiny metallic foreign body over LUQ of abdomen.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

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CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

59 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u
b. ZONES R L
UPPER
MIDDLE
LOWER
c. PROFUSION
0/- 0/0 0/1
1/0 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only) (3mm minimum width required)

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only) (3mm minimum width required)

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE
PRINTED NAME (LAST, FIRST MIDDLE)
STREET ADDRESS CITY STATE ZIP CODE

59 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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1095 Willowdale Road, MS LB208
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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

60 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] s [X] q [] t [] r [] u []
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
[X] 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [X] Complete Sections 3B, 3C NO [] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [X] R [] L [] [X] R [] L [] Up to 1/4 of lateral chest wall = 1
Face on [] [X] [X] [] [X] [X] [] [] 1/4 to 1/2 of lateral chest wall = 2
Diaphragm [] [X] [X] [] [X] [X] [] [] > 1/2 of lateral chest wall = 3
Other site(s) [] [X] [X] [] [X] [X] [] []

3C. COSTOPHRENIC ANGLE OBLITERATION
[X] L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [] [X] L [] [X] R [] L [] Up to 1/4 of lateral chest wall = 1
Face on [X] [] R [] L [] [X] R [] L [] 1/4 to 1/2 of lateral chest wall = 2
1 [X] 3 [] 1 2 3 > 1/2 of lateral chest wall = 3
a b [X] a b c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] []

60 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
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ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
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- Bronchovascular markings, heavy or increased
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Bony Abnormalities

- Bony chest cage abnormality
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- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
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FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

61 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [x] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u
b. ZONES R L
UPPER
MIDDLE
LOWER
c. PROFUSION
0/- 0/0 0/1
1/0 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [x] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [x] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on Diaphragm Other site(s)

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on

4A. ANY OTHER ABNORMALITIES?
YES [x] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE
PRINTED NAME (LAST, FIRST MIDDLE)
STREET ADDRESS CITY STATE ZIP CODE

61 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'ax' checked.

Table with 4 columns: symbol, description, symbol, description. Contains definitions for symbols like 'aa atherosclerotic aorta', 'hi enlargement of non-calcified hilar or mediastinal lymph nodes', etc.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO checkboxes, with NO checked.

Grid of boxes for date entry.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

62 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] q [] r [] t [] u []
b. ZONES UPPER MIDDLE LOWER
c. PROFUSION 0/- 0/0 0/1
2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on Diaphragm Other site(s)

3C. COSTOPHRENIC ANGLE OBLITERATION
R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] [] [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] [] []

62 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

4D. OTHER COMMENTS



DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

63 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle, and diffuse pleural thickening.

63 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Vertebroplasty T11 and L1.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

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FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

64 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

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1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t [X] t
[X] u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 [X] 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] [O] [R] [O] [L]
[a] [b] [c] [a] [b] [c]

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
[O] [R] [O] [L] [O] [R] [O] [L]
[a] [b] [c] [a] [b] [c]

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] []

64 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

A few s opacities are visible in the right costophrenic angle area.

DATE OF RADIOGRAPH (mP -dG\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

65 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
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Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [X] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/+
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on Diaphragm Other site(s)

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile Face on

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE
PRINTED NAME (LAST, FIRST MIDDLE)
STREET ADDRESS CITY STATE ZIP CODE

65 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
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di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
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es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
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Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

66 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [x] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

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Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [x] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [x] [x]
MIDDLE [x] [x]
LOWER [x] [x]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 [x]
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O A [x] C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [x] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [x] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

66 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

☒	☐	☒	☐	☐	☐	☒	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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aa	atherosclerotic aorta		hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening		ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities		id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)		ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma		kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes		me	mesothelioma
cn	calcification in small pneumoconiotic opacities		pa	plate atelectasis
co	abnormality of cardiac size or shape		pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale		pi	pleural thickening of an interlobar fissure
cv	cavity		px	pneumothorax
di	marked distortion of an intrathoracic structure		ra	rounded atelectasis
ef	pleural effusion		rp	rheumatoid pneumoconiosis
em	emphysema		tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes			
fr	fractured rib(s) (acute or healed)			

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

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4D. OTHER COMMENTS

Calcification in small opacities makes them appear more profuse.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

TYPE OF READING

Reading type selection: A [], B [X], F []

EXAMINEE'S Name (Last, First MI)

67 - NIOSH Syllabus Answer Key

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY section with checkboxes for Overexposed, Underexposed, Artifacts, Improper position, Poor contrast, Poor processing, Underinflation, Mottle, Excessive Edge Enhancement, Scapula Overlay, and Other.

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES? YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES section with sub-sections for Shape/Size (Primary/Secondary) and Profusion (Zones R/L), and 2C. LARGE OPACITIES section with Size (O/A/B/C).

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES? YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES section with sub-sections for Site (Chest wall, Diaphragm, Other), Calcification, Extent, and Width.

3C. COSTOPHRENIC ANGLE OBLITERATION R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING section with sub-sections for Site, Calcification, Extent, and Width.

4A. ANY OTHER ABNORMALITIES? YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID (N I O S H), READER'S INITIALS, DATE OF READING (03 - 19 - 2024)

SIGNATURE, PRINTED NAME (LAST, FIRST MIDDLE), STREET ADDRESS, CITY, STATE, ZIP CODE

67 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

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4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

68 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u r u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 [X]
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE O A [X] C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

68 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

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- Hiatal hernia

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- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

69 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] s [] q [] t [X] r [] u []
b. ZONES R L
UPPER [X] [X] MIDDLE [X] [X] LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] 1 2 3 1 2 3 a b c a b c

3C. COSTOPHRENIC ANGLE OBLITERATION
R [X] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
1 2 3 1 2 3 a b c a b c

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] [] [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: [] [] [] [] []

69 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

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- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

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OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

70 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
[1] [2] [3] [U/R]
Overexposed (dark) [X] Underexposed (light) []
Improper position [] Poor contrast []
Underinflation [] Mottle []
Artifacts [] Poor processing []
Excessive Edge Enhancement []
Scapula Overlay []
Other (please specify) []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [] Complete Sections 2B and 2C NO [X] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
q t q t
r u r u
b. ZONES R L
UPPER [] []
MIDDLE [] []
LOWER [] []
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE O A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] [O] [R] [O] [L]
[a] [b] [c] [a] [b] [c]

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 > 10 mm = c
[O] [R] [O] [L] [O] [L]
[a] [b] [c] [a] [b] [c]

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 19 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

70 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\\)\)\)\)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

71 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for image quality, abnormalities, and reading type. Includes NIOSH Reader ID, Reader's Initials, Date of Reading, and address fields.

71 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

72 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p s p s
t t
r u X u
b. ZONES R L
UPPER [X] [X]
MIDDLE [X] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A B C Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2
Diaphragm O R L O R L > 1/2 of lateral chest wall = 3
Other site(s) O R L O R L

3C. COSTOPHRENIC ANGLE OBLITERATION
R L Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent Width
In profile O R L O R L Up to 1/4 of lateral chest wall = 1
Face on O R L O R L 1/4 to 1/2 of lateral chest wall = 2
> 1/2 of lateral chest wall = 3

4A. ANY OTHER ABNORMALITIES?
YES [] Complete Sections 4B-E and 5. NO [X] Complete Section 5.

5. NIOSH Reader ID N I O S H
READER'S INITIALS [] [] []
DATE OF READING (mm-dd-yyyy) 03 - 19 - 2024

SIGNATURE []
PRINTED NAME (LAST, FIRST MIDDLE) [] [] [] [] [] []
STREET ADDRESS [] CITY [] STATE [] ZIP CODE [] [] [] []

72 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of 26 empty boxes for marking symbols.

Table listing symbols (aa, at, ax, bu, ca, cg, cn, co, cp, cv, di, ef, em, es, fr, hi, ho, id, ih, kl, me, pa, pb, pi, px, ra, rp, tb) and their corresponding definitions.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Grid of 10 empty boxes for date entry.

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

73 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form body containing sections 1 through 5, including image quality, parenchymal abnormalities, pleural abnormalities, costophrenic angle, and diffuse pleural thickening.

73 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of checkboxes for symbols aa through tb. The 'ca' checkbox is marked with an X.

Table mapping symbols to descriptions: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES [] NO [X] [Grid of boxes for date]

4D. OTHER COMMENTS

Horizontal line separator

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggesting for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

75 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3D, 4A-4B, 5. Includes checkboxes for image quality, abnormalities, and reading details.

75 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'ca' and 'co' marked with an 'X'.

Table mapping symbols to medical terms: aa atherosclerotic aorta, at significant apical pleural thickening, ax coalescence of small opacities, bu bulla(e), ca cancer, thoracic malignancies, cg calcified non-pneumoconiotic nodules, cn calcification in small pneumoconiotic opacities, co abnormality of cardiac size or shape, cp cor pulmonale, cv cavity, di marked distortion of an intrathoracic structure, ef pleural effusion, em emphysema, es eggshell calcification of hilar or mediastinal lymph nodes, fr fractured rib(s), hi enlargement of non-calcified hilar or mediastinal lymph nodes, ho honeycomb lung, id ill-defined diaphragm border, ih ill-defined heart border, kl septal (Kerley) lines, me mesothelioma, pa plate atelectasis, pb parenchymal bands, pi pleural thickening, px pneumothorax, ra rounded atelectasis, rp rheumatoid pneumoconiosis, tb tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES [X] NO [] [Date grid]

4D. OTHER COMMENTS

3 cm density behind R heart, possible mass. Note: same image as #21 and #34.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

76 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay [X]
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] s [] q [] t [] r [] u []
b. ZONES R L
UPPER [] [] MIDDLE [X] [X] LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
1/0 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
Diaphragm [O] [R] [L] [O] [R] [L] > 1/2 of lateral chest wall = 3 [O] [R] [O] [L] > 10 mm = c
Other site(s) [O] [R] [L] [O] [R] [L] [1] [2] [3] [1] [2] [3] [a] [b] [c] [a] [b] [c]

3C. COSTOPHRENIC ANGLE OBLITERATION
R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1 3 to 5 mm = a
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2 5 to 10 mm = b
> 1/2 of lateral chest wall = 3 [O] [R] [O] [L] > 10 mm = c
[1] [2] [3] [1] [2] [3] [a] [b] [c] [a] [b] [c]

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 21 - 2024
SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

76 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES

NO

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

77 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader information.

77 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

aa	atherosclerotic aorta	hi	enlargement of non-calcified hilar or mediastinal lymph nodes
at	significant apical pleural thickening	ho	honeycomb lung
ax	coalescence of small opacities - with margins of the small opacities remaining visible, whereas a large opacity demonstrates a homogeneous opaque appearance - may be recorded either in the presence or in the absence of large opacities	id	ill-defined diaphragm border - should be recorded only if more than one-third of one hemidiaphragm is affected
bu	bullae(e)	ih	ill-defined heart border - should be recorded only if the length of the heart border affected, whether on the right or on the left side, is more than one-third of the length of the left heart border
ca	cancer, thoracic malignancies excluding mesothelioma	kl	septal (Kerley) lines
cg	calcified non-pneumoconiotic nodules (e.g. granuloma) or nodes	me	mesothelioma
cn	calcification in small pneumoconiotic opacities	pa	plate atelectasis
co	abnormality of cardiac size or shape	pb	parenchymal bands - significant parenchymal fibrotic stands in continuity with the pleura
cp	cor pulmonale	pi	pleural thickening of an interlobar fissure
cv	cavity	px	pneumothorax
di	marked distortion of an intrathoracic structure	ra	rounded atelectasis
ef	pleural effusion	rp	rheumatoid pneumoconiosis
em	emphysema	tb	tuberculosis
es	eggshell calcification of hilar or mediastinal lymph nodes		
fr	fractured rib(s) (acute or healed)		

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
- Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
- Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
- Fracture, healed (non-rib)
- Fracture, not healed (non-rib)
- Scoliosis
- Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
- Density, lung
- Infiltrate
- Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
- Post-surgical changes/sternal wire
- Cyst

Vascular Disorders

- Aorta, anomaly of
- Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES NO

4D. OTHER COMMENTS

Calcified aortic aneurysm.

Public reporting burden of this collection of information is estimated to average 3 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection information, including suggestions for reducing this burden to CDC, Project Clearance Officer, 1600 Clifton Road, MS D-74, Atlanta, GA 30333, ATTN: PRA (0920-0020). Do not send the completed form to this address.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

79 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main form sections: 1. IMAGE QUALITY, 2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?, 2B. SMALL OPACITIES, 2C. LARGE OPACITIES, 3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?, 3B. PLEURAL PLAQUES, 3C. COSTOPHRENIC ANGLE OBLITERATION, 3D. DIFFUSE PLEURAL THICKENING, 4A. ANY OTHER ABNORMALITIES?, 5. NIOSH Reader ID, READER'S INITIALS, DATE OF READING, SIGNATURE, PRINTED NAME, STREET ADDRESS, CITY, STATE, ZIP CODE.

79 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with some boxes containing 'X' marks.

Table listing symbols (aa, at, ax, bu, ca, cg, cn, co, cp, cv, di, ef, em, es, fr, hi, ho, id, ih, kl, me, pa, pb, pi, px, ra, rp, tb) and their corresponding descriptions.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [X] NO []

Date notification grid

4D. OTHER COMMENTS

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

81 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

Main classification form with sections 1-5, 2A-2C, 3A-3C, 4A, and 5. Includes checkboxes for abnormalities, grids for opacities, and fields for reader ID, initials, date, and address.

81 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Empty boxes for marking symbols: 33 boxes corresponding to the list above.

Table listing symbols and their definitions. Columns: Symbol, Description 1, Description 2.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
 Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
 Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
 Fracture, healed (non-rib)
 Fracture, not healed (non-rib)
 Scoliosis
 Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
 Density, lung
 Infiltrate
 Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
 Post-surgical changes/sternal wire
 Cyst

Vascular Disorders

- Aorta, anomaly of
 Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES NO

Date input boxes (mm-dd-yyyy)

4D. OTHER COMMENTS

Horizontal line for other comments.

DATE OF RADIOGRAPH (mP -dG\|\|\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

82 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] q [] r [] t [] u [] s []
b. ZONES UPPER MIDDLE LOWER
R L
c. PROFUSION 0/- 0/0 0/1
1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+
2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [] Complete Sections 3B, 3C NO [X] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only) (3mm minimum width required)

3C. COSTOPHRENIC ANGLE OBLITERATION
R [] L [] Proceed to Section 3D NO [] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only) (3mm minimum width required)

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 21 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

82 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of checkboxes for symbols, with 'aa' and 'fr' marked.

Table mapping symbols to medical terms: aa - atherosclerotic aorta, at - significant apical pleural thickening, ax - coalescence of small opacities, bu - bulla(e), ca - cancer, thoracic malignancies, cg - calcified non-pneumoconiotic nodules, cn - calcification in small pneumoconiotic opacities, co - abnormality of cardiac size or shape, cp - cor pulmonale, cv - cavity, di - marked distortion of an intrathoracic structure, ef - pleural effusion, em - emphysema, es - eggshell calcification of hilar or mediastinal lymph nodes, fr - fractured rib(s), hi - enlargement of non-calcified hilar or mediastinal lymph nodes, ho - honeycomb lung, id - ill-defined diaphragm border, ih - ill-defined heart border, kl - septal (Kerley) lines, me - mesothelioma, pa - plate atelectasis, pb - parenchymal bands, pi - pleural thickening of an interlobar fissure, px - pneumothorax, ra - rounded atelectasis, rp - rheumatoid pneumoconiosis, tb - tuberculosis.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings?

YES [] NO [X]

Date notification grid

4D. OTHER COMMENTS

Healed fracture R clavicle.

DATE OF RADIOGRAPH (mP -dG\|\\|)

Grid for date of radiograph

CHEST RADIOGRAPH CLASSIFICATION

FEDERAL MINE SAFETY AND HEALTH ACT OF 1977
DEPARTMENT OF HEALTH AND HUMAN SERVICES
CENTERS FOR DISEASE CONTROL & PREVENTION

EXAMINEE'S Social Security Number

Grid for examinee's social security number

Full SSN is optional, last 4 digits are required.

Coal Workers' Health Surveillance Program
National Institute for Occupational Safety and Health
1095 Willowdale Road, MS LB208
Morgantown, WV 26505
FAX: 304-285-6058

OMB No.: 0920-0020
CDC/NIOSH (M) 2.8 REV. 02/2019

FACILITY Number - Unit Number

Grid for facility number and unit number

EXAMINEE'S Name (Last, First MI)

83 - NIOSH Syllabus Answer Key

TYPE OF READING

A [] B [X] F []

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY
Overexposed (dark) [] Improper position [] Underinflation [X] Scapula Overlay []
Underexposed (light) [] Poor contrast [] Mottle [] Other (please specify) []
Artifacts [] Poor processing [] Excessive Edge Enhancement []

2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?
YES [X] Complete Sections 2B and 2C NO [] Proceed to Section 3A

2B. SMALL OPACITIES
a. SHAPE/SIZE PRIMARY SECONDARY
p [X] s [X] q [] t [] r [] u []
b. ZONES R L
UPPER [] []
MIDDLE [] [X]
LOWER [X] [X]
c. PROFUSION
0/- 0/0 0/1
[X] 1/1 1/2
2/1 2/2 2/3
3/2 3/3 3/+

2C. LARGE OPACITIES
SIZE [X] A [] B [] C [] Proceed to Section 3A

3A. ANY CLASSIFIABLE PLEURAL ABNORMALITIES?
YES [X] Complete Sections 3B, 3C NO [] Proceed to Section 4A

3B. PLEURAL PLAQUES (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [X] [X] [R] [L] Up to 1/4 of lateral chest wall = 1
Face on [X] [R] [L] [X] [R] [L] 1/4 to 1/2 of lateral chest wall = 2
Diaphragm [X] [R] [L] [X] [R] [L] > 1/2 of lateral chest wall = 3
Other site(s) [X] [R] [L] [X] [R] [L] 1 2 3 [X] 2 3

3C. COSTOPHRENIC ANGLE OBLITERATION
R [] L [] Proceed to Section 3D NO [X] Proceed to Section 4A

3D. DIFFUSE PLEURAL THICKENING (mark site, calcification, extent, and width)
Chest wall Site Calcification Extent (chest wall; combined for in profile and face on) Width (in profile only)
In profile [O] [R] [L] [O] [R] [L] Up to 1/4 of lateral chest wall = 1
Face on [O] [R] [L] [O] [R] [L] 1/4 to 1/2 of lateral chest wall = 2
> 1/2 of lateral chest wall = 3

4A. ANY OTHER ABNORMALITIES?
YES [X] Complete Sections 4B-E and 5. NO [] Complete Section 5.

5. NIOSH Reader ID: N I O S H
READER'S INITIALS: [] [] []
DATE OF READING (mm-dd-yyyy): 03 - 21 - 2024

SIGNATURE: []
PRINTED NAME (LAST, FIRST MIDDLE): [] [] []
STREET ADDRESS: [] CITY: [] STATE: [] ZIP CODE: []

83 - NIOSH Syllabus Answer Key

4B. OTHER SYMBOLS (OBLIGATORY)

aa at ax bu ca cg cn co cp cv di ef em es fr hi ho id ih kl me pa pb pi px ra rp tb

Grid of boxes for marking symbols, with 'aa' and 'ca' marked with an 'X'.

Table listing symbols and their corresponding definitions, such as 'aa atherosclerotic aorta', 'hi enlargement of non-calcified hilar or mediastinal lymph nodes', etc.

4C. MARK ALL BOXES THAT APPLY: (Use of this list is intended to reduce handwritten comments and is optional)

Abnormalities of the Diaphragm

- Eventration
Hiatal hernia

Airway Disorders

- Bronchovascular markings, heavy or increased
Hyperinflation

Bony Abnormalities

- Bony chest cage abnormality
Fracture, healed (non-rib)
Fracture, not healed (non-rib)
Scoliosis
Vertebral column abnormality

Lung Parenchymal Abnormalities

- Azygos lobe
Density, lung
Infiltrate
Nodule, nodular lesion

Miscellaneous Abnormalities

- Foreign body
Post-surgical changes/sternal wire
Cyst

Vascular Disorders

- Aorta, anomaly of
Vascular abnormality

Date Physician or Worker notified? (mm-dd-yyyy)

4E. Should worker see personal physician because of findings? YES [] NO [X] [Grid for date]

4D. OTHER COMMENTS