Criteria	Yes	No
Diagnosis Discrepancy		✓
Primary Tumor Site Discrepancy		✓
HIPAA Discrepancy		✓
Prior Malignancy History		✓
Dual/Synchronous Primary Noted		
Case is (circle): QUALIFIED / DISQUALIFIED		
Reviewer Initials RS Date Reviewed 9274 fw 10/21/11		

UUID:CFF567FC-8867-4CA4-85AE-81A7D30095E7
TCGA-A1-A0SE-01A-PR Redacted

ICD-O-3
Carcinoma, infiltrating lobular and ductal 8522/3
Site: breast, NOS C50.9 fw 10/21/11

Final Pathologic Diagnosis:

A. Right breast, biopsy: No evidence of tumor in one lymph node (0/1).

B. Left axilla, sentinel lymph node #1, dissection: No evidence of tumor in three lymph nodes (0/3).

C. Right breast, mastectomy:
1. Skin with no significant pathologic abnormality.
2. Proliferative fibrocystic changes.
3. Microcalcifications in association with benign glands.

D. Left breast, mastectomy:
1. Invasive carcinoma, 2.0 cm, SBR grade 2, see comment.
2. Ductal carcinoma in situ, low grade, see comment.
3. Skin with no significant pathologic abnormality.
4. Fibroadenoma.
5. Microcalcifications associated with invasive carcinoma and benign glands.
6. Proliferative fibrocystic changes.

7. Papillomatosis.
8. Pseudoangiomatous stromal hyperplasia.

E. Nonsentinel lymph node, left axilla, dissection: No evidence of tumor in four lymph nodes (0/4).

F. Right breast, re-excision of superior portion: Benign breast parenchyma.
Note: In Part D (left breast), the area indicated by the surgeon with a green stitch shows proliferative fibrocystic changes, sclerosing adenosis, and pseudoangiomatous stromal hyperplasia. There is no evidence of carcinoma in the area around the green suture.

Breast Tumor Synoptic Comment
- Laterality: Left.
- Invasive tumor type: Mixed ductal and lobular type (tumor is present in Slides D1, D2, D5, and D18).
- Invasive tumor size: 2.0 cm maximum diameter (Slide D5).
- Invasive tumor grade (modified Bloom-Richardson):
  Nuclear grade: 2 points.
  Mitotic count: 16 mitotic figures/10 HPF, 2 points.
  Tubule/papilla formation: Definite tubule formation <10%, 3 points.
  Total points and SBR grade = 7 points, grade 2.
- Lymphatic-vascular invasion: None identified.
- Perineural invasion: None identified.
- Resection margins for invasive tumor:
  - Deep margin: Positive (Slide D2, 5).
  - Medial margin: Widely clear; >1 cm.
  - Lateral margin: Widely clear; >1 cm.
  - Anterior/superior margin: Widely clear; >1 cm.
  - Anterior/inferior margin: Widely clear; >1 cm.

- Ductal carcinoma in situ (DCIS) type: Solid.
- Ductal carcinoma in situ size: DCIS present as scattered microscopic foci associated with the invasive component on Slides D1 and D2.
- Ductal carcinoma in situ nuclear grade: Low grade.
- Necrosis in ductal carcinoma in situ: None.
- Microcalcifications: Present involving invasive carcinoma.
- Resection margins for ductal carcinoma in situ:
  - Deep margin: Close; within less than 0.3 cm (Slide D1).
  - Medial margin: Widely clear; >1 cm.
  - Lateral margin: Widely clear; >1 cm.
  - Anterior/superior margin: Widely clear; >1 cm.
  - Anterior/inferior margin: Widely clear; >1 cm.

- Lobular carcinoma in situ (LCIS): Not identified.

- Lymph node status: No evidence of tumor in eight lymph nodes (0/8).
- AJCC/UICC stage: pT1cN0MX.

- Nontumorous breast tissue: Proliferative fibrocystic changes, Fibroadenoma, pseudoangiomatous hyperplasia.
- Nipple: Unremarkable.
- Skin/dermis: Unremarkable.

Immunohistochemical tests for estrogen, progesterone and Her2 Neu are pending and will follow in an addendum.

Intraoperative Consult Diagnosis

FS1 (A) Right breast nodule, biopsy: Lymph node with no tumor seen. (Dr. [redacted]

FS2 (B) Sentinel lymph node, left axilla, biopsy: Three lymph nodes, no tumor seen. (Dr. [redacted]

Clinical History

The patient is a [redacted]-year-old woman with breast cancer. A [redacted] tracking sheet accompanies the specimen and indicates a high family risk for cancer and preoperative diagnosis of known left breast cancer in the upper outer quadrant. No specimen radiograph is requested. Multifocality is suspected on the left side. Special stains for ER, PR, and HER2/neu are requested as a repeat. The diagram indicates that the known tumor is in the upper outer quadrant of the left breast, and a suspicious area is present in the upper inner quadrant at approximately the 11 o'clock position above the nipple. Recent MRI indicates the presence of a known 2-cm tumor with clip present in the lateral breast of the left breast in addition to an adjacent 5-mm lesion that is immediately posteromedial to the primary lesion. A 5-mm suspicious area is also identified in the slightly upper inner quadrant.

Gross Description

The specimen is received in six parts, each labeled with the patient's name and medical record number. Parts A through D and F are received fresh, and Part E is received in formalin.

Part A is additionally labeled "right breast nodule." It consists of a single unoriented, irregular piece of soft, pink tissue, measuring 0.7 x 0.5 x 0.3 cm. The specimen is entirely submitted for frozen section diagnosis as FS1, with the frozen section remnant submitted in cassette A1.

Part B is additionally labeled "sentinel lymph node left axilla, count = 1800, frozen section." It consists of a single irregular piece of soft, yellow-pink, fatty tissue, measuring 3.0 x 2.0 x 0.6 cm. The specimen is entirely submitted for frozen section diagnosis as FS2, with the frozen section remnant submitted in cassette B1.

Part C is additionally labeled "right breast." It consists of a mastectomy specimen, oriented with a short suture considered superior and long suture considered lateral; oriented as such, the specimen measures 3.2 cm from anterior to posterior, 14.7 cm from medial to lateral, and 13.7 cm from superior to inferior. The mastectomy specimen weighs 212.5 gm. The specimen includes an area of skin, measuring 14.5 x 6.7 cm, with nipple, measuring 1.7 x 1.7 x 1.5 cm, and areola, measuring 3 x 3.8 cm. The specimen has been previously inked and serially sectioned by the [redacted] serial slices. Inking follows standard inking, with posterior black, anterior superior blue, and anterior inferior green. The accompanying research paperwork indicates that a fragment of tissue has been taken for tissue banking. Cut sections reveal that the breast is composed almost entirely of homogeneous, firm, white, fibrous tissue that abuts the deep margin. Thin layers of adipose tissue are present in the anterior surface as well as the medial aspect of the specimen. No grossly evident lesions are identified. The nipple and skin similarly appear unremarkable. Slice 1 is considered medial, and slice 10 is considered lateral. The nipple, thereby, is in slice 5. Representative sections are submitted as follows:

Cassettes C1-C2:	Nipple, entirely submitted.
Cassette C3:	Upper outer quadrant from slice 8.
Cassette C4:	Upper outer quadrant from slice 7.
Cassette C5:	Lower outer quadrant from slice 8.
Cassette C6:	Lower outer quadrant from slice 7.
Cassette C7:	Upper inner quadrant from slice 4.
Cassette C8:	Upper inner quadrant from slice 3.
Cassette C9:	Lower inner quadrant from slice 3.
Cassette C10:	Lower inner quadrant from slice 2 and section of skin from slice 4.

Part D is additionally labeled "left breast," with further specification in the requisition form indicating that a green stitch = questionable secondary cancer, correlate with MRI, and black short = superior, long = lateral.

A firm, pale-tan, circumscribed lesion, measuring 1.6 x 1.2 x 1.4 cm, is present at the 3 o'clock position, 3 cm from the nipple; this contains a surgical clip. The lesion is 0.1 cm from the deep margin, 0.9 cm from the skin, 2.2 cm from anterior superior, 1.9 cm from anterior inferior, 3.5 cm from the lateral margin, and <10 cm from the medial margin. Immediately inferior and medial to main lesion, a 0.4-cm area contains multiple punctate, firm, yellow spots. This lesion is 0.5 cm from the large lesion and is 0.5 from the deep margin. The remainder of the specimen is composed mostly of firm, fibrous tissue, showing multiple small cystic areas, with a maximum diameter of 0.4 cm, throughout. The area adjacent to the green suture on slice 6 similarly consists of dense, fibrous tissue, and no definitive lesions are identified in this area. The skin, nipple, and areola appear unremarkable.

Accompanying paperwork from the ' ndicates that a portion of the specimen has been taken for tissue banking. The specimen contains a short stitch and long black stitch, taken to be superior and lateral, respectively, and has been previously inked and sectioned by the research technician into ten slices, from medial to lateral. Inking is as per standard, with posterior in black, anterior superior in blue, and anterior inferior in green. The blue ink appears faint. The most-medial slice is taken as slice 1 and the most-lateral slice as slice 10. The specimen, thereby, measures 2.5 cm from anterior to posterior, 15.6 cm from medial to lateral, and 16.6 cm from superior to inferior and weighs 192.5 gm. A skin ellipse is present, measuring 6.6 x 13.1 cm, with the long axis in the mediolateral extent. The areola measures 3.4 x 3 cm, and the nipple measures 1.8 x 1.6 x 1.6 cm. The nipple lies in slices 5 and 6. The green nylon suture is in the posterior aspect of slice 6 at the 12 o'clock position, 3.5 cm superior to the nipple. Representative sections are submitted as follows:

Cassette D1:	1.6-cm lateral lesion in relation to deep margin from slice 8.
Cassette D2:	Punctate, yellow lesion from slice 8.
Cassette D3:	Nearest anterior-superior margin in slice 8.
Cassette D4:	Nearest anterior-inferior margin from slice 8.
Cassette D5:	Additional 1.6-cm lesion in relation to skin.
Cassettes D6-D7:	Nipple, entirely submitted.
Cassette D8:	Area marked by green suture, including skin and anterior-superior and deep margins.
Cassettes D9-D11:	Additional sections of area marked by the green suture en bloc from slice 6.
Cassette D12:	Area adjacent to green suture from slice 5.
Cassette D13:	Area adjacent to green suture from slice 7.
Cassette D14:	Inferior margin of slice 8.
Cassette D15:	Superior margin of slice 8.
Cassette D16:	Lateral margin from slice 10.
Cassette D17:	Medial margin from slice 1.
Cassette D18:	Intervening area between primary lesion and lateral margin from slice 9.
Cassette D19:	Upper inner quadrant, rectangular from slice 4 and triangular from slice 3.
Cassette D20:	Lower inner quadrant, rectangular from slice 5, triangular from slice 4.
Cassette D21:	Upper outer quadrant, rectangular from slice 8, triangular from slice 9.
Cassette D22:	Lower outer quadrant, triangular from slice 7, rectangular from slice 9.

Part E is additionally labeled "nonsentinel lymph node left axilla." It consists of a single unoriented fragment of largely adipose tissue, measuring 2.4 x 1.4 x 0.5 cm. A single 1.4-cm lymph node is identified. The candidate lymph node is bisected and entirely submitted in cassette E1. The remainder of the soft tissue is entirely submitted in cassette E2.

Part F is additionally labeled "re-excision superior portion right breast" and has an additional note in the requisition form indicating that the stitch = new margin. It consists of a single fragment of adipose tissue, measuring 3 x 2.2 x 0.9 cm, marked by a single black suture. The surface containing the black suture is inked in black and the opposite surface in blue. The specimen is serially sectioned to reveal mostly adipose tissue, with a single 0.7-cm area of white, fibrous tissue. The specimen is entirely submitted in cassettes F1 through F3.

[redacted]/Pathology Resident

[redacted]/Pathologist
Signed:

Fee Codes:

Addenda

Addendum.

Date Ordered:
Date Complete:
Date Reported:

Status: Signed Out
By: [redacted]

Addendum Comment

An immunohistochemical test for estrogen and progesterone receptors as well as for HER2 was performed on block D5.

The test for estrogen receptors is positive. There is strong (3+) nuclear staining in 85% of tumor cells. Internal positive control is positive.

The test for progesterone receptors is. There is strong (3+) nuclear staining in~100% of tumor cells. Internal positive control is positive.

Result of HER2/neu test: This carcinoma is negative for HER2/neu oncoprotein over-expression.

An immunohistochemical assay was performed using the CB11 monoclonal antibody to HER2/neu oncoprotein. The staining intensity of this carcinoma was 1 on a scale of 0-3 (HER2 test interpreted by Dr. [redacted]).

Carcinomas with staining intensity scores of *0 or 1* are considered *negative* for over-expression of HER2/neu oncoprotein.

Those with a staining intensity score of *2* are considered *borderline*. We and others have observed that many carcinomas with staining intensity scores of 2 do not show gene amplification. All carcinomas with staining intensity scores of 2 are therefore submitted for FISH testing. The results of the FISH test are issued directly from the molecular cytogenetics laboratory.

Carcinomas with staining intensity scores of *3* are considered *positive* for over-expression of HER2/neu oncoprotein. Tumors in this category show an excellent correlation between the results of immunohistochemical and FISH testing, and almost always show gene amplification.

The immunoperoxidase stain(s) reported above were developed and their performance characteristics determined by the . They have not been cleared or approved by the U. S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. These tests are used for clinical purposes. They should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") as qualified to perform high-complexity clinical testing.

[redacted]/Pathologist

Electronically signed out on

Addendum.

Date Ordered:
Date Complete:
Date Reported:

Status: Signed Out
By: [redacted]

Addendum Comment

An immunohistochemical test for progesterone receptors was performed on block D5.

The test for progesterone receptors is positive. There is strong nuclear staining in ~100% of tumor cells.

The immunoperoxidase stain(s) reported above were developed and their performance characteristics determined by the . They have not been cleared or approved by the U. S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. These tests are used for clinical purposes. They should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") as qualified to perform high-complexity clinical testing.

[redacted]Pathologist

Electronically signed out on

Other Specimens

_____Specimen Class: Status: Signed Out Accessioned:
Signed Out:

Specimen(s) Received: Rectal, polyp

Final Diagnosis

Rectum, polypectomy: Hyperplastic polyp.

[redacted]

_____Specimen Class: Status: Signed Out Accessioned:
Signed Out:

Specimen(s) Received: Pelvic Washing

Final Diagnosis

Pelvic Washing
BENIGN.
Reactive mesothelial cells.

[redacted]

_____Specimen Class: Status: Signed Out Accessioned:
Signed Out:

Specimen(s) Received: A: Risk reducing salpingo-oophorectormy- right ovary- FS, B: Risk reducing salpingo-oophorectormy- left ovary- FS, C: Endometrium, curettage- perm, D: Endocervix, curettage- perm

Final Diagnosis

A. Right ovary, salpingo-oophorectomy: No significant pathologic abnormality; see comment.

B. Left ovary, salpingo-oophorectomy: No significant pathologic abnormality; see comment.

C. Endometrium, curettage: Tissue insufficient for accurate evaluation; see comment.

D. Endocervix, curettage: Scant fragments of squamous and glandular epithelium with no significant pathologic abnormality.

[redacted]

_____Specimen Class: Status: Signed Out Accessioned:
Signed Out:

Specimen(s) Received: Cervical, Thin Prep Imaged

Final Diagnosis

Cervical, Thin Prep Imaged

NEGATIVE FOR INTRAEPITHELIAL LESION OR MALIGNANCY.
Atrophic pattern
Inflammation.

SPECIMEN ADEQUACY:
Satisfactory for evaluation; atrophic pattern with no identifiable endocervical/transformation zone component.

[redacted]

Specimen Class: **Status:** Signed Out **Accessioned:**
Signed Out:

Specimen(s) Received: Cervical/Endocervical, Thin Prep Imaged
Final Diagnosis
Cervical/Endocervical, Thin Prep Imaged

NEGATIVE FOR INTRAEPITHELIAL LESION OR MALIGNANCY.
Atrophic changes

SPECIMEN ADEQUACY:
Satisfactory for evaluation; atrophic pattern with no identifiable endocervical/transformation zone component.

[redacted]

Specimen Class: **Status:** Signed Out **Accessioned**
Signed Out:

Specimen(s) Received: Left breast core needle biopsy at 2:30, N + 3-4
Final Diagnosis
Left breast, needle core biopsy: Invasive carcinoma; see comment.
[redacted]MD
[redacted]

Procedure/Addenda for
ADDENDUM. **Date of Addendum.:**

Addendum Comment

Immunohistochemical stain for E-Cadherin was performed and evaluated on A1. The invasive carcinoma shows area with moderate membrane staining and others that are negative or demonstrate granular staining. Thus, this invasive carcinoma displays features of both ductal and lobular carcinoma. Dr. [redacted] has reviewed the immunohistochemical stained slide and concurs.

The immunoperoxidase stain(s) reported above were developed and their performance characteristics determined by the [redacted]. They have not been cleared or approved by the U. S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. These tests are used for clinical purposes. They should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 ("CLIA") as qualified to perform high-complexity clinical testing.

Specimen Class: **Status:** Signed Out **Accessioned:**
Signed Out:

Specimen(s) Received: Left Axilla Lymph Node, Fine Needle Aspiration

[redacted]

Final Diagnosis

Left Axilla Lymph Node, Fine Needle Aspiration: **Benign reactive lymph node,** see note.

This lymph node shows a spectrum of small to large sized lymphocytes with scattered tingible body macrophages. No evidence of neoplasia is seen.

[redacted]

Specimen Class: **Status:** Signed Out **Accessioned:**
Signed Out:

Specimen(s) Received: Left Breast, Fine Needle Aspiration

Final Diagnosis

Left Breast, Fine Needle Aspiration: **Adenocarcinoma,** see comment.

[redacted]

Procedure/Addenda for
ADDENDUM. **Date of Addendum.:**

Addendum Comment

An immunohistochemical test for estrogen and progesterone receptors as well as for HEr-2-neu was performed on the material submitted for cell block.

The test for estrogen receptors is positive . There is strong nuclear staining in 90% of tumor cells.

The test for progesterone receptors is positive. There is strong nuclear staining in 80% of tumor cells.

Result of HER2/neu test: This carcinoma is borderline for HER2/neu oncoprotein over-expression.

An immunohistochemical assay was performed on cell block using the CB11 monoclonal antibody to HER2/neu oncoprotein. The staining intensity of this carcinoma was 2 on a scale of 0-3.

Carcinomas with staining intensity scores of *0 or 1* are considered *negative* for over-expression of HER2/neu oncoprotein.

Those with a staining intensity score of *2* are considered *borderline*. We and others have observed that many carcinomas with staining intensity scores of 2 do not show gene amplification. All carcinomas with staining intensity scores of 2 are therefore submitted for FISH testing. The results of the FISH test are issued directly from the molecular cytogenetics laboratory.

Carcinomas with staining intensity scores of *3* are considered *positive* for over-expression of HER2/neu oncoprotein. Tumors in this category show an excellent correlation between the results of immunohistochemical and FISH testing, and almost always show gene amplification.

Dr [redacted] has reviewed the HER2/neu stain and concurs.

END OF REPORT