

**Supplemental Table 1**

| Set | Case | Clinical Details  | Number of slides | Immunohistochemical stains                              | Diagnosis                        |
|-----|------|---|------------------|---|----------------------------------|
| A   | 1    | 47-year-old female. Lung hilar mass. Multiple liver metastasis.             | 8                | H&E, CD45, CD56, CHROMO, CK7, CK20, synaptophysin, TTF1 | Small cell carcinoma             |
|     | 2    | 68-year-old female. ?Gallbladder mass invading liver.                       | 6                | H&E, CK7, CK19, CK20, P63, TTF-1                        | Carcinoma with squamous features |
|     | 3    | 41-year-old male. Pancreatic mass. Multiple liver metastases.               | 7                | H&E, CDX-2, CK7, CK20, ER, PR, TTF-1                    | Adenocarcinoma                   |
| B   | 1    | 58-year-old female. Liver metastases seen on CT. Previous breast carcinoma. | 6                | H&E, GCDFP-15, ER, PR, HER-2, HER-2                     | Carcinoma                        |
|     | 2    | 75-year-old male. ?Metastatic lung cancer                                   | 8                | H&E, CAM 5.2, CD56, CK5, CK14, MNF, P63, TTF-1          | Squamous cell carcinoma          |

|  |   |   |   |                                      |                |
|--|---|---|---|--------------------------------------|----------------|
|  | 3 | 76-year-old female.<br>Admission with pain, hepatomegaly and weight loss.<br>?Metastatic or primary liver malignancy. | 7 | H&E, CDX-2, CK7, CK20, ER, PR, TTF-1 | Adenocarcinoma |
|--|---|---|---|--------------------------------------|----------------|

**Supplemental Table 1** – Case details provided to the participants. Cases were chosen to include equal numbers of slides in each set. Please note the clinical details are fictitious in the interests of confidentiality.