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| Line Name: | | MGL2104PS01B | | NAVIGATION | | DATE: 2021-06-10 | | Lamont-Doherty Earth Observatory | | |
| Line Brg : | | 189 ° | | LINE LOGS | | JULIAN DAY: 161 | | COLUMBIA UNIVERSITY EARTH INSTITUTE | | |
| CLIENT: NSF - Suzanne Carbotte | | | | SURVEY: Cascadia MCS/OBS | | AREA: Cascadia | | | | |
| DC SOL: 184.3 m | | DEPTH SOL : 94.5 m | | NAVIGATION SYSTEM USED: C-Nav3050 - Primary | | | | | | |
| DC EOL: -4.9 m | | DEPTH EOL : 622.8 m | | NAVIGATION SYSTEM USED: SeaPath 330 | | | | | | |
| BSP SOL: 4.2 kts | | FEATHER SOL: 84.0 ° | | NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted | | | | | | |
| BSP EOL: 3.9 kts | | FEATHER EOL: -02.6 ° | | | | | | | | |
| WEATHER | | MAX FEATHER: -12.6 ° | | GRAVITY METER: BMG-II: used, SN223 | | | | | | |
| WIND SOL: N 8.7 kts | | | | MAGNETOMETER: Geometrics 882 | | | | | | |
| WIND EOL: S40 kts | | shift hours | | shift leaders | | shift hours | | watch personnel | | |
| SEAS SOL: 1.5 m | | 12:00 - 24:00 | | Alan Thompson | | 12:00 - 24:00 | | Shaun Shaver | | |
| SEAS EOL: 3.0 m | | 0:00-12:00 | | Cody Bahlau | | 00:00 - 12:00 | | Gilles Guerin | | |
| SP | UTC | EVENT | COMMENTS | | | | VESSEL POSITION | | | |
| 35931 | 9:04 | SOL | Start of Line | | | | Shotpoints | | | |
| | | | SOL - EOL Digibirds 1-4 are deep due to the rigging of the head float. | | | | Latitude (N) | | | |
| | | | Arrays 1, 2 and 4 firing. Array 3 on deck due to Maintenance | | | | Longitude (W) | | | |
| | | | At SOL Digibirds 47-52 are deep, max depth 19.6 m | | | | FSP | 35931 | 44° 23' 13.951" | 124° 30' 40.508" |
| | | | | | | | LSP | 42732 | 42° 06' 50.259" | 124° 44' 34.405" |
| 36004 | 9:23 | | FGSP array 3, shooting volume = 5880 cuin | | | | NAVIGATION OFFSET APPLIED | | | |
| | | | | | | | NRP - Stern | | | |
| | | | | | | | 29.5m | | | |
| | | | | | | | NRP - COS | | | |
| | | | | | | | 230.0m | | | |
| 42732 | 18:37 | LGSP | Last good shot point due to streamer parting | | | | NRP - CNG | | | |
| 42755 | 18:44 | EOL | End of line | | | | 419.70m | | | |
| | | | | | | | COS - CNG | | | |
| | | | | | | | 189.70m | | | |
| | | | | | | | NRP - CMP | | | |
| | | | | | | | 324.90m | | | |
| Posnet locations & remarks: good - none - intermittent | | | | | | | | | | |
| Tailbuoy #1 | Good | Gun string #1 | Failed | | | | SP spacing: | | 37.5m | |
| Tailbuoy #2 | None | Gun string #2 | GOOD | | | | line status: | | Complete | |
| Tailbuoy #3 | None | Gun string #3 | Failed | | | | | | | |
| Tailbuoy #4 | None | Gun string #4 | GOOD | | | | | | | |

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| | Line Name: | MGL2104PD14 | <u>NAVIGATION</u> | DATE: | 2021-06-22 | Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE | | | |
|--|------------|--------------------------------|---|---|------------------------|---|-------|-----------------|------------------|
| Seq# 026 | Line Brg : | 270.54 ° | <u>LINE LOGS</u> | JULIAN DAY: | 173 | | | | |
| | | CLIENT: NSF - Suzanne Carbotte | SURVEY: Cascadia MCS/OBS | AREA: Cascadia | | | | | |
| DC SOL: | -114.4 m | DEPTH SOL : | 106.7 m | NAVIGATION SYSTEM USED: C-Nav3050 - Primary | | | | | |
| DC EOL: | 452.6 m | DEPTH EOL : | 2959.1 m | NAVIGATION SYSTEM USED: SeaPath 330 | | | | | |
| BSP SOL: | 4.4 kts | FEATHER SOL: | -35.6 ° | NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted | | | | | |
| BSP EOL: | 4.3 kts | FEATHER EOL: | -03.7 ° | | | | | | |
| WEATHER | | MAX FEATHER: | -35.6 ° | GRAVITY METER: BMG-II: used, SN223 | | | | | |
| WIND SOL: | N 7.1 kts | | | MAGNETOMETER: Geometrics 882 | | | | | |
| WIND EOL: | N 18.5 kts | <u>shift hours</u> | <u>shift leaders</u> | <u>shift hours</u> | <u>watch personnel</u> | | | | |
| SEAS SOL: | 1.0 m | 12:00 - 24:00 | Alan Thompson | 12:00 - 24:00 | Shaun Shaver | | | | |
| SEAS EOL: | 1.0 m | 0:00-12:00 | Cody Bahiau | 00:00 - 12:00 | Gilles Guerin | | | | |
| SP | UTC | EVENT | COMMENTS | | | VESSEL POSITION | | | |
| 79238 | 07:32 | SOL | Start of Line | | | Shotpoints Latitude (N) Longitude (W) | | | |
| | | | Streamers in a port turn at SOL | | | FSP | 79238 | 44° 07' 29.536" | 124° 51' 25.878" |
| | | | At SOL the vessel had a constant DC of --100m. As the vessel traveled down line the DC decreased. | | | LSP | 82095 | 44° 07' 38.287" | 126° 11' 44.532" |
| | | | | | | <div style="border: 1px solid black; padding: 5px;"> NAVIGATION OFFSET APPLIED NRP - Stern 29.5m NRP – COS 230.0m NRP – CNG 419.70m COS – CNG 189.70m NRP – CMP 324.90m </div> | | | |
| 82095 | 20:36 | EOL | End of Line | | | | | | |
| | | | Turning to Stbd at EOL | | | | | | |
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| Posnet locations & remarks: good - none - intermittent | | | | | | | | | |
| Tailbuoy #1 | Failed | Gun string #1 | Failed | | | | | | |
| Tailbuoy #2 | None | Gun string #2 | Good | | | | | | |
| Tailbuoy #3 | None | Gun string #3 | Good | | | | | | |
| Tailbuoy #4 | None | Gun string #4 | Failed | | | | | | |
| | | | | SP spacing: | | 37.5m | | | |
| | | | | line status: | | Complete | | | |

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|--|--------|-----------------------------|-------------------------------|---|---------------------------|---------------------------------------|-----------------|
| Line Name: MGL2104TD14D13 | | NAVIGATION | | DATE: 2021-06-22 | | Lamont-Doherty Earth Observatory | |
| Line Brg : 10.031 ° | | LINE LOGS | | JULIAN DAY: 173 | | COLUMBIA UNIVERSITY EARTH INSTITUTE | |
| CLIENT: NSF - Suzanne Carbotte | | SURVEY: Cascadia MCS/OBS | | AREA: Cascadia | | | |
| DC SOL: 69.7 m | | DEPTH SOL : 2956.7 m | | NAVIGATION SYSTEM USED: C-Nav3050 - Primary | | | |
| DC EOL: 133.1 m | | DEPTH EOL : 2892.3 m | | NAVIGATION SYSTEM USED: SeaPath 330 | | | |
| BSP SOL: 4.7 kts | | FEATHER SOL: 78.6 ° | | NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted | | | |
| BSP EOL: 4.5 kts | | FEATHER EOL: -01.1 ° | | | | | |
| WEATHER | | MAX FEATHER: 78.6 ° | | GRAVITY METER: BMG-II: used, SN223 | | | |
| WIND SOL: N 16 kts | | | | MAGNETOMETER: Geometrics 882 | | | |
| WIND EOL: N 17.7 kts | | | | | | | |
| SEAS SOL: 1.0 m | | 12:00 - 24:00 Alan Thompson | | 12:00 - 24:00 Shaun Shaver | | | |
| SEAS EOL: 1.0 m | | 0:00-12:00 Cody Bahlau | | 00:00 - 12:00 Gilles Guerin | | | |
| SP | UTC | EVENT | COMMENTS | | VESSEL POSITION | | |
| 82991 | 21:04 | SOL | Start of Line 6600in3 36 guns | | Shotpoints | Latitude (N) | Longitude (W) |
| | | | Streamer in stbd turn at SOL | | FSP | 82991 | 44° 09' 28.796" |
| 83631 | 00:00 | FSOD | 23 June 2021 | | LSP | 84106 | 44° 31' 42.243" |
| 84106 | 02:09 | EOL | End of Line | | NAVIGATION OFFSET APPLIED | | |
| | | | Turning to stbd at EOL | | NRP - Stern | 29.5m | |
| | | | | | NRP - COS | 230.0m | |
| | | | | | NRP - CNG | 419.70m | |
| | | | | | COS - CNG | 189.70m | |
| | | | | | NRP - CMP | 324.90m | |
| Posnet locations & remarks: good - none - intermittent | | | | | | | |
| Tailbuoy #1 | Failed | Gun string #1 | Failed | | SP spacing: 37.5m | | |
| Tailbuoy #2 | None | Gun string #2 | Good | | line status: Complete | | |
| Tailbuoy #3 | None | Gun string #3 | Good | | | | |
| Tailbuoy #4 | None | Gun string #4 | Good | | | | |

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Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

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| Seq# 043 | | Line Name: MGL2104TD05D07 | | NAVIGATION | | DATE: 2021-07-05 | | | | | | | | | | | | | | | | |
|--|---------|----------------------------------|---------------------------------------|---|--|------------------------|--|-----------------------|-----------------|------------------|---------------------------|--|-------------|-------|-----------|--------|-----------|---------|-----------|---------|-----------|---------|
| | | Line Brg : 149.051 ° | | LINE LOGS | | JULIAN DAY: 186 | | | | | | | | | | | | | | | | |
| | | CLIENT: NSF - Suzanne Carbotte | | SURVEY: Cascadia MCS/OBS | | AREA: Cascadia | | | | | | | | | | | | | | | | |
| DC SOL: -1014.0 m | | DEPTH SOL : 459.0 m | | NAVIGATION SYSTEM USED: C-Nav3050 - Primary | | | | | | | | | | | | | | | | | | |
| DC EOL: 1184.9 m | | DEPTH EOL : 518.8 m | | NAVIGATION SYSTEM USED: SeaPath 330 | | | | | | | | | | | | | | | | | | |
| BSP SOL: 4.3 kts | | FEATHER SOL: 71.1 ° | | NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted | | | | | | | | | | | | | | | | | | |
| BSP EOL: 4.4 kts | | FEATHER EOL: -02.4 ° | | | | | | | | | | | | | | | | | | | | |
| WEATHER | | MAX FEATHER: 71.1 ° | | GRAVITY METER: BMG-II: used, SN223 | | | | | | | | | | | | | | | | | | |
| WIND SOL: NW 17 kts | | | | MAGNETOMETER: Geometrics 882 | | | | | | | | | | | | | | | | | | |
| WIND EOL: N 19.4 kts | | shift hours | | shift leaders | | shift hours | | watch personnel | | | | | | | | | | | | | | |
| SEAS SOL: 2.0 m | | 12:00 - 24:00 | | Alan Thompson | | 12:00 - 24:00 | | Shaun Shaver | | | | | | | | | | | | | | |
| SEAS EOL: 1.5 m | | 0:00-12:00 | | Cody Bahlau | | 00:00 - 12:00 | | Gilles Guerin | | | | | | | | | | | | | | |
| | | | | COMMENTS | | VESSEL POSITION | | | | | | | | | | | | | | | | |
| SP | UTC | EVENT | | | | | | | | | | | | | | | | | | | | |
| 148115 | 12:56 | SOL | Start of line 35 guns 6240in3 | | | | Shotpoints | | | | | | | | | | | | | | | |
| | | | Streamer in a Stbd turn at SOL | | | | Latitude (N) | | | | | | | | | | | | | | | |
| | | | Front of the streamer was deep at SOL | | | | Longitude (W) | | | | | | | | | | | | | | | |
| 148182 | 13:17 | | Streamer back to 12 meters | | | | FSP | 148115 | 48° 14' 19.379" | 125° 52' 58.905" | | | | | | | | | | | | |
| 150604 | 00:00 | Midnight | 6 July 2021 | | | | LSP | 151581 | 47° 13' 22.102" | 125° 01' 30.865" | | | | | | | | | | | | |
| 151581 | 04:22 | EOL | End of Line | | | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><th colspan="2">NAVIGATION OFFSET APPLIED</th></tr> <tr><td>NRP - Stern</td><td>29.5m</td></tr> <tr><td>NRP - COS</td><td>230.0m</td></tr> <tr><td>NRP - CNG</td><td>419.70m</td></tr> <tr><td>COS - CNG</td><td>189.70m</td></tr> <tr><td>NRP - CMP</td><td>324.90m</td></tr> </table> | | | | NAVIGATION OFFSET APPLIED | | NRP - Stern | 29.5m | NRP - COS | 230.0m | NRP - CNG | 419.70m | COS - CNG | 189.70m | NRP - CMP | 324.90m |
| NAVIGATION OFFSET APPLIED | | | | | | | | | | | | | | | | | | | | | | |
| NRP - Stern | 29.5m | | | | | | | | | | | | | | | | | | | | | |
| NRP - COS | 230.0m | | | | | | | | | | | | | | | | | | | | | |
| NRP - CNG | 419.70m | | | | | | | | | | | | | | | | | | | | | |
| COS - CNG | 189.70m | | | | | | | | | | | | | | | | | | | | | |
| NRP - CMP | 324.90m | | | | | | | | | | | | | | | | | | | | | |
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| Posnet locations & remarks: good - none - intermittent | | | | | | | | | | | | | | | | | | | | | | |
| Tailbuoy #1 | Failed | Gun string #1 | Intermittent | | | | | SP spacing: 37.5m | | | | | | | | | | | | | | |
| Tailbuoy #2 | None | Gun string #2 | Good | | | | | line status: Complete | | | | | | | | | | | | | | |
| Tailbuoy #3 | None | Gun string #3 | Good | | | | | | | | | | | | | | | | | | | |
| Tailbuoy #4 | None | Gun string #4 | Failed | | | | | | | | | | | | | | | | | | | |

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| Line Name: | | MGL2104PD06 | | NAVIGATION | | DATE: 2021-07-08 | | Lamont-Doherty Earth Observatory | |
| Line Brg : | | 255.322 ° | | LINE LOGS | | JULIAN DAY: 189 | | COLUMBIA UNIVERSITY EARTH INSTITUTE | |
| CLIENT: NSF - Suzanne Carbotte | | | | SURVEY: Cascadia MCS/OBS | | AREA: Cascadia | | | |
| DC SOL: -2.2 m | | DEPTH SOL : 665.5 m | | NAVIGATION SYSTEM USED: C-Nav3050 - Primary | | | | | |
| DC EOL: -312.6 m | | DEPTH EOL : 2456.2 m | | NAVIGATION SYSTEM USED: SeaPath 330 | | | | | |
| BSP SOL: 4.7 kts | | FEATHER SOL: -66.8 ° | | NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted | | | | | |
| BSP EOL: 4.0 kts | | FEATHER EOL: 00.3 ° | | | | | | | |
| WEATHER | | MAX FEATHER: -66.8 ° | | GRAVITY METER: BMG-II: used, SN223 | | | | | |
| WIND SOL: NW 5.6 kts | | <div>shift hours shift leaders shift hours watch personnel</div> <div>12:00 - 24:00 Alan Thompson 12:00 - 24:00 Shaun Shaver</div> <div>0:00-12:00 Cody Bahlau 00:00 - 12:00 Gilles Guerin</div> | | | | | | | |
| WIND EOL: N 16.4 kts | | | | | | | | | |
| SEAS SOL: 1.0 m | | | | | | | | | |
| SEAS EOL: 1.0 m | | | | | | | | | |
| SP | UTC | EVENT | COMMENTS | | | VESSEL POSITION | | | |
| 162951 | 04:37 | SOL | Start of line 35 guns 6240in3 | | | Shotpoints Latitude (N) Longitude (W) | | | |
| | | | Streamer in a Port turn at SOL | | | FSP 162951 47° 45' 50.063" 125° 12' 45.965" | | | |
| | | | Front of the streamer was deep at SOL | | | LSP 166116 47° 28' 46.517" 126° 44' 04.938" | | | |
| 166075 | 18:22 | | Started turn to Port for next line | | | NAVIGATION OFFSET APPLIED | | | |
| 166116 | 18:34 | EOL | End of Line | | | NRP - Stern 29.5m | | | |
| | | | Turning to port at EOL | | | NRP - COS 230.0m | | | |
| | | | | | | NRP - CNG 419.70m | | | |
| | | | | | | COS - CNG 189.70m | | | |
| | | | | | | NRP - CMP 324.90m | | | |
| Posnet locations & remarks: good - none - intermittent | | | | | | | | | |
| Tailbuoy #1 | Failed | Gun string #1 | Intermittent | | SP spacing: 37.5m | | | | |
| Tailbuoy #2 | None | Gun string #2 | Good | | line status: Complete | | | | |
| Tailbuoy #3 | None | Gun string #3 | Good | | | | | | |
| Tailbuoy #4 | None | Gun string #4 | Failed | | | | | | |

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