**ULCO - OLIEN**

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| Preferred Route Alignment (56.73 km) |
| * Starting point of the activity

(Ulco Substation) | 24° 11' 59.52" E | 28° 19' 55.15" S |
| * Additional point of the activity
 | 23°54'29.225"E  | 28°20'4.081"S |
| * Olien Substation
 | 23° 37' 25.61" E | 28° 19' 55.65" S |

Preferred Route One Alignment - 250m coordinates (56.73 km)

|  |  |  |
| --- | --- | --- |
| **ID** | **X** | **Y** |
| 1 | 24° 11' 55.98" E | 28° 19' 59.76" S |
| 2 | 24° 11' 47.09" E | 28° 19' 57.74" S |
| 3 | 24° 11' 38.20" E | 28° 19' 55.72" S |
| 4 | 24° 11' 29.32" E | 28° 19' 53.70" S |
| 5 | 24° 11' 20.43" E | 28° 19' 51.68" S |
| 6 | 24° 11' 11.33" E | 28° 19' 50.93" S |
| 7 | 24° 11' 2.16" E | 28° 19' 50.64" S |
| 8 | 24° 10' 52.99" E | 28° 19' 50.34" S |
| 9 | 24° 10' 43.82" E | 28° 19' 50.06" S |
| 10 | 24° 10' 34.65" E | 28° 19' 50.07" S |
| 11 | 24° 10' 25.47" E | 28° 19' 50.08" S |
| 12 | 24° 10' 16.29" E | 28° 19' 50.10" S |
| 13 | 24° 10' 7.12" E | 28° 19' 50.11" S |
| 14 | 24° 9' 57.94" E | 28° 19' 50.12" S |
| 15 | 24° 9' 48.76" E | 28° 19' 50.13" S |
| 16 | 24° 9' 39.59" E | 28° 19' 50.14" S |
| 17 | 24° 9' 30.41" E | 28° 19' 50.15" S |
| 18 | 24° 9' 21.23" E | 28° 19' 50.16" S |
| 19 | 24° 9' 12.06" E | 28° 19' 50.18" S |
| 20 | 24° 9' 2.88" E | 28° 19' 50.19" S |
| 21 | 24° 8' 53.70" E | 28° 19' 50.20" S |
| 22 | 24° 8' 44.53" E | 28° 19' 50.21" S |
| 23 | 24° 8' 35.35" E | 28° 19' 50.22" S |
| 24 | 24° 8' 26.17" E | 28° 19' 50.23" S |
| 25 | 24° 8' 17.00" E | 28° 19' 50.24" S |
| 26 | 24° 8' 7.82" E | 28° 19' 50.25" S |
| 27 | 24° 7' 58.64" E | 28° 19' 50.26" S |
| 28 | 24° 7' 49.47" E | 28° 19' 50.27" S |
| 29 | 24° 7' 40.29" E | 28° 19' 50.27" S |
| 30 | 24° 7' 31.11" E | 28° 19' 50.28" S |
| 31 | 24° 7' 21.94" E | 28° 19' 50.29" S |
| 32 | 24° 7' 12.76" E | 28° 19' 50.30" S |
| 33 | 24° 7' 3.58" E | 28° 19' 50.31" S |
| 34 | 24° 6' 54.41" E | 28° 19' 50.32" S |
| 35 | 24° 6' 45.23" E | 28° 19' 50.33" S |
| 36 | 24° 6' 36.05" E | 28° 19' 50.33" S |
| 37 | 24° 6' 26.88" E | 28° 19' 50.34" S |
| 38 | 24° 6' 17.70" E | 28° 19' 50.35" S |
| 39 | 24° 6' 8.52" E | 28° 19' 50.36" S |
| 40 | 24° 5' 59.35" E | 28° 19' 50.36" S |
| 41 | 24° 5' 50.17" E | 28° 19' 50.37" S |
| 42 | 24° 5' 40.99" E | 28° 19' 50.38" S |
| 43 | 24° 5' 31.82" E | 28° 19' 50.38" S |
| 44 | 24° 5' 22.64" E | 28° 19' 50.39" S |
| 45 | 24° 5' 13.46" E | 28° 19' 50.40" S |
| 46 | 24° 5' 4.29" E | 28° 19' 50.40" S |
| 47 | 24° 4' 55.11" E | 28° 19' 50.41" S |
| 48 | 24° 4' 45.93" E | 28° 19' 50.42" S |
| 49 | 24° 4' 36.76" E | 28° 19' 50.42" S |
| 50 | 24° 4' 27.58" E | 28° 19' 50.43" S |
| 51 | 24° 4' 18.40" E | 28° 19' 50.43" S |
| 52 | 24° 4' 9.22" E | 28° 19' 50.44" S |
| 53 | 24° 4' 0.05" E | 28° 19' 50.44" S |
| 54 | 24° 3' 50.87" E | 28° 19' 50.45" S |
| 55 | 24° 3' 41.69" E | 28° 19' 50.45" S |
| 56 | 24° 3' 32.52" E | 28° 19' 50.46" S |
| 57 | 24° 3' 23.34" E | 28° 19' 50.46" S |
| 58 | 24° 3' 14.16" E | 28° 19' 50.46" S |
| 59 | 24° 3' 4.99" E | 28° 19' 50.47" S |
| 60 | 24° 2' 55.81" E | 28° 19' 50.47" S |
| 61 | 24° 2' 46.63" E | 28° 19' 50.48" S |
| 62 | 24° 2' 37.46" E | 28° 19' 50.48" S |
| 63 | 24° 2' 28.28" E | 28° 19' 50.48" S |
| 64 | 24° 2' 19.10" E | 28° 19' 50.49" S |
| 65 | 24° 2' 9.93" E | 28° 19' 50.49" S |
| 66 | 24° 2' 0.75" E | 28° 19' 50.49" S |
| 67 | 24° 1' 51.57" E | 28° 19' 50.49" S |
| 68 | 24° 1' 42.40" E | 28° 19' 50.50" S |
| 69 | 24° 1' 33.22" E | 28° 19' 50.50" S |
| 70 | 24° 1' 24.04" E | 28° 19' 50.50" S |
| 71 | 24° 1' 14.86" E | 28° 19' 50.50" S |
| 72 | 24° 1' 5.69" E | 28° 19' 50.50" S |
| 73 | 24° 0' 56.51" E | 28° 19' 50.51" S |
| 74 | 24° 0' 47.33" E | 28° 19' 50.51" S |
| 75 | 24° 0' 38.16" E | 28° 19' 50.51" S |
| 76 | 24° 0' 28.98" E | 28° 19' 50.51" S |
| 77 | 24° 0' 19.80" E | 28° 19' 50.51" S |
| 78 | 24° 0' 10.63" E | 28° 19' 50.51" S |
| 79 | 24° 0' 1.45" E | 28° 19' 50.51" S |
| 80 | 23° 59' 52.27" E | 28° 19' 50.51" S |
| 81 | 23° 59' 43.09" E | 28° 19' 50.51" S |
| 82 | 23° 59' 33.92" E | 28° 19' 50.51" S |
| 83 | 23° 59' 24.74" E | 28° 19' 50.51" S |
| 84 | 23° 59' 15.56" E | 28° 19' 50.51" S |
| 85 | 23° 59' 6.39" E | 28° 19' 50.51" S |
| 86 | 23° 58' 57.21" E | 28° 19' 50.51" S |
| 87 | 23° 58' 48.03" E | 28° 19' 50.51" S |
| 88 | 23° 58' 38.86" E | 28° 19' 50.51" S |
| 89 | 23° 58' 29.68" E | 28° 19' 50.51" S |
| 90 | 23° 58' 20.50" E | 28° 19' 50.51" S |
| 91 | 23° 58' 11.32" E | 28° 19' 50.51" S |
| 92 | 23° 58' 2.15" E | 28° 19' 50.50" S |
| 93 | 23° 57' 52.97" E | 28° 19' 50.50" S |
| 94 | 23° 57' 43.83" E | 28° 19' 51.20" S |
| 95 | 23° 57' 34.70" E | 28° 19' 52.01" S |
| 96 | 23° 57' 25.57" E | 28° 19' 52.83" S |
| 97 | 23° 57' 16.44" E | 28° 19' 53.65" S |
| 98 | 23° 57' 7.31" E | 28° 19' 54.47" S |
| 99 | 23° 56' 58.18" E | 28° 19' 55.29" S |
| 100 | 23° 56' 49.05" E | 28° 19' 56.11" S |
| 101 | 23° 56' 39.92" E | 28° 19' 56.93" S |
| 102 | 23° 56' 30.79" E | 28° 19' 57.75" S |
| 103 | 23° 56' 21.66" E | 28° 19' 58.57" S |
| 104 | 23° 56' 12.53" E | 28° 19' 59.38" S |
| 105 | 23° 56' 3.40" E | 28° 20' 0.20" S |
| 106 | 23° 55' 54.27" E | 28° 20' 1.02" S |
| 107 | 23° 55' 45.14" E | 28° 20' 1.84" S |
| 108 | 23° 55' 36.01" E | 28° 20' 2.66" S |
| 109 | 23° 55' 26.88" E | 28° 20' 3.47" S |
| 110 | 23° 55' 17.74" E | 28° 20' 4.29" S |
| 111 | 23° 55' 8.61" E | 28° 20' 5.11" S |
| 112 | 23° 54' 59.48" E | 28° 20' 5.92" S |
| 113 | 23° 54' 50.35" E | 28° 20' 6.74" S |
| 114 | 23° 54' 41.22" E | 28° 20' 7.56" S |
| 115 | 23° 54' 32.09" E | 28° 20' 8.37" S |
| 116 | 23° 54' 22.96" E | 28° 20' 9.19" S |
| 117 | 23° 54' 13.83" E | 28° 20' 10.00" S |
| 118 | 23° 54' 4.70" E | 28° 20' 10.82" S |
| 119 | 23° 53' 55.57" E | 28° 20' 11.64" S |
| 120 | 23° 53' 46.43" E | 28° 20' 12.45" S |
| 121 | 23° 53' 37.30" E | 28° 20' 13.27" S |
| 122 | 23° 53' 28.17" E | 28° 20' 14.08" S |
| 123 | 23° 53' 19.04" E | 28° 20' 14.90" S |
| 124 | 23° 53' 9.91" E | 28° 20' 15.71" S |
| 125 | 23° 53' 0.78" E | 28° 20' 16.53" S |
| 126 | 23° 52' 51.65" E | 28° 20' 17.34" S |
| 127 | 23° 52' 42.51" E | 28° 20' 18.16" S |
| 128 | 23° 52' 33.38" E | 28° 20' 18.97" S |
| 129 | 23° 52' 24.25" E | 28° 20' 19.78" S |
| 130 | 23° 52' 15.12" E | 28° 20' 20.60" S |
| 131 | 23° 52' 5.99" E | 28° 20' 21.41" S |
| 132 | 23° 51' 56.85" E | 28° 20' 22.22" S |
| 133 | 23° 51' 47.72" E | 28° 20' 23.04" S |
| 134 | 23° 51' 38.59" E | 28° 20' 23.85" S |
| 135 | 23° 51' 29.46" E | 28° 20' 24.66" S |
| 136 | 23° 51' 20.33" E | 28° 20' 25.48" S |
| 137 | 23° 51' 11.19" E | 28° 20' 26.29" S |
| 138 | 23° 51' 2.06" E | 28° 20' 27.10" S |
| 139 | 23° 50' 52.93" E | 28° 20' 27.91" S |
| 140 | 23° 50' 43.80" E | 28° 20' 28.73" S |
| 141 | 23° 50' 34.67" E | 28° 20' 29.54" S |
| 142 | 23° 50' 25.53" E | 28° 20' 30.35" S |
| 143 | 23° 50' 16.40" E | 28° 20' 31.16" S |
| 144 | 23° 50' 7.27" E | 28° 20' 31.97" S |
| 145 | 23° 49' 58.14" E | 28° 20' 32.78" S |
| 146 | 23° 49' 49.00" E | 28° 20' 33.59" S |
| 147 | 23° 49' 39.87" E | 28° 20' 34.40" S |
| 148 | 23° 49' 30.74" E | 28° 20' 35.22" S |
| 149 | 23° 49' 21.61" E | 28° 20' 36.03" S |
| 150 | 23° 49' 12.47" E | 28° 20' 36.84" S |
| 151 | 23° 49' 3.34" E | 28° 20' 37.65" S |
| 152 | 23° 48' 54.21" E | 28° 20' 38.46" S |
| 153 | 23° 48' 45.08" E | 28° 20' 39.27" S |
| 154 | 23° 48' 35.94" E | 28° 20' 40.08" S |
| 155 | 23° 48' 26.81" E | 28° 20' 40.89" S |
| 156 | 23° 48' 17.68" E | 28° 20' 41.70" S |
| 157 | 23° 48' 8.55" E | 28° 20' 42.50" S |
| 158 | 23° 47' 59.41" E | 28° 20' 43.31" S |
| 159 | 23° 47' 50.28" E | 28° 20' 44.12" S |
| 160 | 23° 47' 41.15" E | 28° 20' 44.93" S |
| 161 | 23° 47' 32.01" E | 28° 20' 45.74" S |
| 162 | 23° 47' 22.88" E | 28° 20' 46.55" S |
| 163 | 23° 47' 13.75" E | 28° 20' 47.36" S |
| 164 | 23° 47' 4.61" E | 28° 20' 48.16" S |
| 165 | 23° 46' 55.48" E | 28° 20' 48.97" S |
| 166 | 23° 46' 46.35" E | 28° 20' 49.78" S |
| 167 | 23° 46' 37.21" E | 28° 20' 50.59" S |
| 168 | 23° 46' 28.08" E | 28° 20' 51.39" S |
| 169 | 23° 46' 18.95" E | 28° 20' 52.20" S |
| 170 | 23° 46' 9.81" E | 28° 20' 53.01" S |
| 171 | 23° 46' 0.68" E | 28° 20' 53.82" S |
| 172 | 23° 45' 51.55" E | 28° 20' 54.62" S |
| 173 | 23° 45' 42.41" E | 28° 20' 55.43" S |
| 174 | 23° 45' 33.28" E | 28° 20' 56.23" S |
| 175 | 23° 45' 24.11" E | 28° 20' 56.38" S |
| 176 | 23° 45' 14.93" E | 28° 20' 56.38" S |
| 177 | 23° 45' 5.75" E | 28° 20' 56.39" S |
| 178 | 23° 44' 56.57" E | 28° 20' 56.39" S |
| 179 | 23° 44' 47.39" E | 28° 20' 56.39" S |
| 180 | 23° 44' 38.21" E | 28° 20' 56.39" S |
| 181 | 23° 44' 29.03" E | 28° 20' 56.40" S |
| 182 | 23° 44' 19.86" E | 28° 20' 56.40" S |
| 183 | 23° 44' 10.68" E | 28° 20' 56.40" S |
| 184 | 23° 44' 1.50" E | 28° 20' 56.40" S |
| 185 | 23° 43' 52.32" E | 28° 20' 56.40" S |
| 186 | 23° 43' 43.14" E | 28° 20' 56.41" S |
| 187 | 23° 43' 33.96" E | 28° 20' 56.41" S |
| 188 | 23° 43' 24.78" E | 28° 20' 56.41" S |
| 189 | 23° 43' 15.60" E | 28° 20' 56.41" S |
| 190 | 23° 43' 6.42" E | 28° 20' 56.41" S |
| 191 | 23° 42' 57.24" E | 28° 20' 56.41" S |
| 192 | 23° 42' 48.06" E | 28° 20' 56.41" S |
| 193 | 23° 42' 38.89" E | 28° 20' 56.41" S |
| 194 | 23° 42' 29.71" E | 28° 20' 56.41" S |
| 195 | 23° 42' 20.53" E | 28° 20' 56.41" S |
| 196 | 23° 42' 11.35" E | 28° 20' 56.41" S |
| 197 | 23° 42' 2.17" E | 28° 20' 56.41" S |
| 198 | 23° 41' 52.99" E | 28° 20' 56.41" S |
| 199 | 23° 41' 43.81" E | 28° 20' 56.41" S |
| 200 | 23° 41' 34.63" E | 28° 20' 56.41" S |
| 201 | 23° 41' 25.45" E | 28° 20' 56.41" S |
| 202 | 23° 41' 16.27" E | 28° 20' 56.41" S |
| 203 | 23° 41' 7.09" E | 28° 20' 56.40" S |
| 204 | 23° 40' 57.92" E | 28° 20' 56.40" S |
| 205 | 23° 40' 48.74" E | 28° 20' 56.40" S |
| 206 | 23° 40' 39.56" E | 28° 20' 56.40" S |
| 207 | 23° 40' 30.38" E | 28° 20' 56.40" S |
| 208 | 23° 40' 21.20" E | 28° 20' 56.39" S |
| 209 | 23° 40' 12.02" E | 28° 20' 56.39" S |
| 210 | 23° 40' 2.84" E | 28° 20' 56.39" S |
| 211 | 23° 39' 53.66" E | 28° 20' 56.39" S |
| 212 | 23° 39' 44.48" E | 28° 20' 56.38" S |
| 213 | 23° 39' 35.30" E | 28° 20' 56.38" S |
| 214 | 23° 39' 26.12" E | 28° 20' 56.38" S |
| 215 | 23° 39' 16.94" E | 28° 20' 56.37" S |
| 216 | 23° 39' 7.77" E | 28° 20' 56.37" S |
| 217 | 23° 38' 58.59" E | 28° 20' 56.37" S |
| 218 | 23° 38' 49.41" E | 28° 20' 56.36" S |
| 219 | 23° 38' 40.23" E | 28° 20' 56.36" S |
| 220 | 23° 38' 31.05" E | 28° 20' 56.35" S |
| 221 | 23° 38' 21.87" E | 28° 20' 56.35" S |
| 222 | 23° 38' 13.40" E | 28° 20' 55.00" S |
| 223 | 23° 38' 7.49" E | 28° 20' 48.79" S |
| 224 | 23° 38' 1.57" E | 28° 20' 42.58" S |
| 225 | 23° 37' 55.66" E | 28° 20' 36.36" S |
| 226 | 23° 37' 49.75" E | 28° 20' 30.15" S |
| 227 | 23° 37' 43.84" E | 28° 20' 23.94" S |