

Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V57-VIA EPCT-OESTE			
Estaca	Norte	Leste	Azimute
66+10,000	199,052.5581m	89,713.6673m	N 161° 57' 29.38"
67+00,000	199,043.0498m	89,716.7644m	N 161° 57' 29.38"
67+10,000	199,033.5415m	89,719.8615m	N 161° 57' 29.38"
68+00,000	199,024.0332m	89,722.9586m	N 161° 57' 29.38"
68+10,000	199,014.5249m	89,726.0558m	N 161° 57' 29.38"
69+00,000	199,005.0166m	89,729.1529m	N 161° 57' 29.38"
69+10,000	198,995.5083m	89,732.2500m	N 161° 57' 29.38"
70+00,000	198,986.0000m	89,735.3471m	N 161° 57' 29.38"
70+10,000	198,976.4917m	89,738.4442m	N 161° 57' 29.38"
71+00,000	198,966.9834m	89,741.5413m	N 161° 57' 29.38"
71+10,000	198,957.4751m	89,744.6384m	N 161° 57' 29.38"
72+00,000	198,947.9668m	89,747.7356m	N 161° 57' 29.38"
72+10,000	198,938.4585m	89,750.8327m	N 161° 57' 29.38"
73+00,000	198,928.9501m	89,753.9298m	N 161° 57' 29.38"
73+10,000	198,919.4418m	89,757.0269m	N 161° 57' 29.38"
74+00,000	198,909.9335m	89,760.1240m	N 161° 57' 29.38"
74+10,000	198,900.4252m	89,763.2211m	N 161° 57' 29.38"
75+00,000	198,890.9169m	89,766.3182m	N 161° 57' 29.38"
75+10,000	198,881.4086m	89,769.4153m	N 161° 57' 29.38"
76+00,000	198,871.9003m	89,772.5125m	N 161° 57' 29.38"
76+10,000	198,862.3920m	89,775.6096m	N 161° 57' 29.38"
77+00,000	198,852.8837m	89,778.7067m	N 161° 57' 29.38"
77+10,000	198,843.3754m	89,781.8038m	N 161° 57' 29.38"
78+00,000	198,833.8671m	89,784.9009m	N 161° 57' 29.38"
78+10,000	198,824.3588m	89,787.9980m	N 161° 57' 29.38"
79+00,000	198,814.8505m	89,791.0951m	N 161° 57' 29.38"
79+10,000	198,805.3422m	89,794.1923m	N 161° 57' 29.38"
80+00,000	198,795.8339m	89,797.2894m	N 161° 57' 29.38"
80+10,000	198,786.3256m	89,800.3865m	N 161° 55' 59.91"
81+00,000	198,776.8449m	89,803.5669m	N 160° 58' 42.16"
81+10,000	198,767.4185m	89,806.9047m	N 160° 01' 24.41"
82+00,000	198,758.0491m	89,810.3993m	N 159° 04' 06.67"
82+10,000	198,748.7392m	89,814.0494m	N 158° 06' 48.92"
83+00,000	198,739.4915m	89,817.8543m	N 157° 09' 31.17"
83+10,000	198,730.3084m	89,821.8127m	N 156° 12' 13.43"
84+00,000	198,721.1926m	89,825.9236m	N 155° 14' 55.68"
84+10,000	198,712.1466m	89,830.1859m	N 154° 17' 37.93"
85+00,000	198,703.1728m	89,834.5983m	N 153° 20' 20.19"
85+10,000	198,694.2702m	89,839.1527m	N 152° 47' 55.45"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V57-VIA EPCT-OESTE			
Estaca	Norte	Leste	Azimute
86+00,000	198,685.3385m	89,843.6496m	N 153° 45' 13.19"
86+10,000	198,676.3331m	89,847.9969m	N 154° 42' 30.94"
87+00,000	198,667.2564m	89,852.1936m	N 155° 39' 48.69"
87+10,000	198,658.1111m	89,856.2384m	N 156° 37' 06.44"
88+00,000	198,648.8996m	89,860.1303m	N 157° 34' 24.18"
88+10,000	198,639.6246m	89,863.8681m	N 158° 31' 41.93"
89+00,000	198,630.2885m	89,867.4508m	N 159° 28' 59.68"
89+10,000	198,620.8940m	89,870.8774m	N 160° 26' 17.42"
90+00,000	198,611.4438m	89,874.1469m	N 161° 23' 35.17"
90+10,000	198,601.9433m	89,877.2677m	N 162° 01' 05.91"
91+00,000	198,592.4317m	89,880.3548m	N 162° 01' 05.91"
91+10,000	198,582.9202m	89,883.4420m	N 162° 01' 05.91"
92+00,000	198,573.4086m	89,886.5291m	N 162° 01' 05.91"
92+10,000	198,563.8970m	89,889.6162m	N 162° 01' 05.91"
93+00,000	198,554.3855m	89,892.7034m	N 162° 01' 05.91"
93+10,000	198,544.8739m	89,895.7905m	N 162° 01' 05.91"
94+00,000	198,535.3624m	89,898.8776m	N 162° 01' 05.91"
94+10,000	198,525.8508m	89,901.9647m	N 162° 01' 05.91"
95+00,000	198,516.3393m	89,905.0519m	N 162° 01' 05.91"
95+10,000	198,506.8277m	89,908.1390m	N 162° 01' 05.91"
96+00,000	198,497.3162m	89,911.2261m	N 162° 01' 05.91"
96+10,000	198,487.8109m	89,914.3323m	N 161° 34' 52.02"
97+00,000	198,478.3460m	89,917.5595m	N 160° 45' 45.38"
97+10,000	198,468.9283m	89,920.9217m	N 159° 56' 38.74"
98+00,000	198,459.5595m	89,924.4180m	N 159° 07' 32.10"
98+10,000	198,450.2416m	89,928.0479m	N 158° 18' 25.46"
99+00,000	198,440.9515m	89,931.7485m	N 158° 16' 48.67"
99+10,000	198,431.6615m	89,935.4492m	N 158° 16' 48.67"
100+00,000	198,422.3662m	89,939.1366m	N 158° 38' 46.53"
100+10,000	198,413.0270m	89,942.7112m	N 159° 27' 53.17"
101+00,000	198,403.6377m	89,946.1520m	N 160° 16' 59.81"
101+10,000	198,394.2002m	89,949.4583m	N 161° 06' 06.45"
102+00,000	198,384.7164m	89,952.6295m	N 161° 55' 13.09"
102+10,000	198,375.2118m	89,955.7379m	N 161° 53' 16.57"
103+00,000	198,365.7073m	89,958.8467m	N 161° 53' 16.57"
103+10,000	198,356.2028m	89,961.9554m	N 161° 53' 16.57"
104+00,000	198,346.6983m	89,965.0642m	N 161° 53' 16.57"
104+10,000	198,337.1938m	89,968.1730m	N 161° 53' 16.57"
105+00,000	198,327.6893m	89,971.2817m	N 161° 53' 16.57"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V57-VIA EPCT-OESTE			
Estaca	Norte	Leste	Azimute
105+10,000	198,318.1848m	89,974.3905m	N 161° 53' 16.57"
106+00,000	198,308.6803m	89,977.4993m	N 161° 53' 16.57"
106+10,000	198,299.1758m	89,980.6080m	N 161° 53' 16.57"
107+00,000	198,289.6713m	89,983.7168m	N 161° 53' 16.57"
107+10,000	198,280.1554m	89,986.7902m	N 162° 28' 41.02"
108+00,000	198,270.5982m	89,989.7327m	N 163° 17' 47.66"
108+10,000	198,260.9999m	89,992.5384m	N 164° 06' 54.30"
109+00,000	198,251.3625m	89,995.2066m	N 164° 56' 00.94"
109+10,000	198,241.6890m	89,997.7406m	N 165° 33' 57.28"
110+00,000	198,232.0046m	90,000.2332m	N 165° 33' 57.28"
110+10,000	198,222.3203m	90,002.7259m	N 165° 33' 57.28"
111+00,000	198,212.6449m	90,005.2531m	N 164° 59' 12.34"
111+10,000	198,203.0051m	90,007.9125m	N 164° 10' 05.70"
112+00,000	198,193.4043m	90,010.7092m	N 163° 20' 59.06"
112+10,000	198,183.8443m	90,013.6428m	N 162° 31' 52.42"
113+00,000	198,174.3501m	90,016.7785m	N 159° 56' 13.56"
113+10,000	198,164.9569m	90,020.2090m	N 159° 56' 13.56"
114+00,000	198,155.5638m	90,023.6395m	N 159° 56' 13.56"
114+10,000	198,146.1706m	90,027.0700m	N 159° 56' 13.56"
115+00,000	198,136.7774m	90,030.5006m	N 159° 56' 13.56"
115+10,000	198,127.3843m	90,033.9311m	N 159° 56' 13.56"
116+00,000	198,117.8600m	90,036.9768m	N 162° 51' 29.65"
116+10,000	198,108.2801m	90,039.8444m	N 163° 48' 47.39"
117+00,000	198,098.6538m	90,042.5520m	N 164° 46' 05.14"
117+10,000	198,088.9836m	90,045.0987m	N 165° 43' 22.89"
118+00,000	198,079.2724m	90,047.4839m	N 166° 40' 40.63"
118+10,000	198,069.5227m	90,049.7070m	N 167° 37' 58.38"
119+00,000	198,059.7374m	90,051.7672m	N 168° 35' 16.13"
119+10,000	198,049.9190m	90,053.6641m	N 169° 32' 33.87"
120+00,000	198,040.0705m	90,055.3971m	N 170° 29' 51.62"
120+10,000	198,030.1948m	90,056.9687m	N 171° 11' 50.28"
121+00,000	198,020.3258m	90,058.5813m	N 170° 14' 32.53"
121+10,000	198,010.4851m	90,060.3581m	N 169° 17' 14.79"
122+00,000	198,000.6753m	90,062.2987m	N 168° 19' 57.04"
122+10,000	197,990.8992m	90,064.4026m	N 167° 22' 39.29"
123+00,000	197,981.1596m	90,066.6690m	N 166° 25' 21.55"
123+10,000	197,971.4590m	90,069.0975m	N 165° 28' 03.80"
124+00,000	197,961.8003m	90,071.6873m	N 164° 30' 46.05"
124+10,000	197,952.1861m	90,074.4377m	N 163° 33' 28.31"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V57-VIA EPCT-OESTE			
Estaca	Norte	Leste	Azimute
125+00,000	197,942.6191m	90,077.3480m	N 162° 36' 10.56"
125+10,000	197,933.0992m	90,080.4089m	N 161° 57' 29.38"
126+00,000	197,923.5909m	90,083.5061m	N 161° 57' 29.38"
126+10,000	197,914.0825m	90,086.6032m	N 161° 57' 29.38"
127+00,000	197,904.5742m	90,089.7003m	N 161° 57' 29.38"
127+10,000	197,895.0659m	90,092.7974m	N 161° 57' 29.38"
128+00,000	197,885.5576m	90,095.8945m	N 161° 57' 29.38"
128+10,000	197,876.0493m	90,098.9916m	N 161° 57' 29.38"
129+00,000	197,866.5410m	90,102.0887m	N 161° 57' 29.38"
129+10,000	197,857.0327m	90,105.1859m	N 161° 57' 29.38"
130+00,000	197,847.5244m	90,108.2830m	N 161° 57' 29.38"
130+10,000	197,838.0161m	90,111.3801m	N 161° 57' 29.38"
131+00,000	197,828.5078m	90,114.4772m	N 161° 57' 29.38"
131+10,000	197,818.9995m	90,117.5743m	N 161° 57' 29.38"
132+00,000	197,809.4912m	90,120.6714m	N 161° 57' 29.38"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V58-VIA EPCT-LESTE			
Estaca	Norte	Leste	Azimute
94+00,000	199,058.9962m	89,762.0524m	N 161° 57' 29.38"
94+10,000	199,049.4879m	89,765.1495m	N 161° 57' 29.38"
95+00,000	199,039.9796m	89,768.2466m	N 161° 57' 29.38"
95+10,000	199,030.4713m	89,771.3438m	N 161° 57' 29.38"
96+00,000	199,020.9630m	89,774.4409m	N 161° 57' 29.38"
96+10,000	199,011.4547m	89,777.5380m	N 161° 57' 29.38"
97+00,000	199,001.9464m	89,780.6351m	N 161° 57' 29.38"
97+10,000	198,992.4381m	89,783.7322m	N 161° 57' 29.38"
98+00,000	198,982.9298m	89,786.8293m	N 161° 57' 29.38"
98+10,000	198,973.4215m	89,789.9264m	N 161° 57' 29.38"
99+00,000	198,963.9131m	89,793.0236m	N 161° 57' 29.38"
99+10,000	198,954.4048m	89,796.1207m	N 161° 57' 29.38"
100+00,000	198,944.8965m	89,799.2178m	N 161° 57' 29.38"
100+10,000	198,935.3882m	89,802.3149m	N 161° 57' 29.38"
101+00,000	198,925.8799m	89,805.4120m	N 161° 57' 29.38"
101+10,000	198,916.3716m	89,808.5091m	N 161° 57' 29.38"
102+00,000	198,906.8633m	89,811.6062m	N 161° 57' 29.38"
102+10,000	198,897.3550m	89,814.7034m	N 161° 57' 29.38"
103+00,000	198,887.8467m	89,817.8005m	N 161° 57' 29.38"
103+10,000	198,878.3384m	89,820.8976m	N 161° 57' 29.38"
104+00,000	198,868.8301m	89,823.9947m	N 161° 57' 29.38"
104+10,000	198,859.3218m	89,827.0918m	N 161° 57' 29.38"
105+00,000	198,849.8135m	89,830.1889m	N 161° 57' 29.38"
105+10,000	198,840.3052m	89,833.2860m	N 161° 57' 29.38"
106+00,000	198,830.7969m	89,836.3831m	N 161° 57' 29.38"
106+10,000	198,821.2886m	89,839.4803m	N 161° 57' 29.38"
107+00,000	198,811.7802m	89,842.5774m	N 161° 57' 29.38"
107+10,000	198,802.2719m	89,845.6745m	N 161° 57' 29.38"
108+00,000	198,792.7855m	89,848.8375m	N 161° 05' 12.73"
108+10,000	198,783.3528m	89,852.1575m	N 160° 07' 54.98"
109+00,000	198,773.9768m	89,855.6342m	N 159° 10' 37.23"
109+10,000	198,764.6600m	89,859.2668m	N 158° 13' 19.49"
110+00,000	198,755.4051m	89,863.0541m	N 157° 16' 01.74"
110+10,000	198,746.2145m	89,866.9951m	N 156° 18' 43.99"
111+00,000	198,737.0353m	89,870.9625m	N 157° 05' 42.35"
111+10,000	198,727.7918m	89,874.7776m	N 158° 03' 00.10"
112+00,000	198,718.4860m	89,878.4381m	N 159° 00' 17.85"
112+10,000	198,709.1204m	89,881.9430m	N 159° 57' 35.59"
113+00,000	198,699.6978m	89,885.2913m	N 160° 54' 53.34"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V58-VIA EPCT-LESTE			
Estaca	Norte	Leste	Azimute
113+10,000	198,690.2206m	89,888.4822m	N 161° 52' 11.09"
114+00,000	198,680.7125m	89,891.5800m	N 161° 57' 29.38"
114+10,000	198,671.2042m	89,894.6771m	N 161° 57' 29.38"
115+00,000	198,661.6959m	89,897.7742m	N 161° 57' 29.38"
115+10,000	198,652.1876m	89,900.8713m	N 161° 57' 29.38"
116+00,000	198,642.6793m	89,903.9684m	N 161° 57' 29.38"
116+10,000	198,633.1710m	89,907.0655m	N 161° 57' 29.38"
117+00,000	198,623.6627m	89,910.1626m	N 161° 57' 29.38"
117+10,000	198,614.1544m	89,913.2598m	N 161° 57' 29.38"
118+00,000	198,604.6461m	89,916.3569m	N 161° 57' 29.38"
118+10,000	198,595.1378m	89,919.4540m	N 161° 57' 29.38"
119+00,000	198,585.6295m	89,922.5511m	N 161° 57' 29.38"
119+10,000	198,576.1212m	89,925.6482m	N 161° 57' 29.38"
120+00,000	198,566.6127m	89,928.7447m	N 162° 02' 20.25"
120+10,000	198,557.0783m	89,931.7603m	N 162° 51' 26.89"
121+00,000	198,547.5018m	89,934.6395m	N 163° 40' 33.53"
121+10,000	198,537.8852m	89,937.3815m	N 164° 29' 40.17"
122+00,000	198,528.2304m	89,939.9859m	N 165° 18' 46.81"
122+10,000	198,518.5393m	89,942.4521m	N 166° 07' 53.45"
123+00,000	198,508.8141m	89,944.7796m	N 166° 57' 00.09"
123+10,000	198,499.0565m	89,946.9680m	N 167° 46' 06.73"
124+00,000	198,489.2692m	89,949.0191m	N 168° 26' 04.60"
124+10,000	198,479.4723m	89,951.0240m	N 168° 26' 04.60"
125+00,000	198,469.6753m	89,953.0289m	N 168° 26' 04.60"
125+10,000	198,459.8796m	89,955.0396m	N 168° 11' 46.99"
126+00,000	198,450.1060m	89,957.1551m	N 167° 22' 40.35"
126+10,000	198,440.3636m	89,959.4099m	N 166° 33' 33.71"
127+00,000	198,430.6544m	89,961.8037m	N 165° 44' 27.07"
127+10,000	198,420.9804m	89,964.3359m	N 164° 55' 20.43"
128+00,000	198,411.3436m	89,967.0060m	N 164° 06' 13.79"
128+10,000	198,401.7459m	89,969.8136m	N 163° 17' 07.15"
129+00,000	198,392.1892m	89,972.7580m	N 162° 28' 00.51"
129+10,000	198,382.6725m	89,975.8288m	N 161° 57' 29.38"
130+00,000	198,373.1642m	89,978.9259m	N 161° 57' 29.38"
130+10,000	198,363.6559m	89,982.0231m	N 161° 57' 29.38"
131+00,000	198,354.1475m	89,985.1202m	N 161° 57' 29.38"
131+10,000	198,344.6392m	89,988.2173m	N 161° 57' 29.38"
132+00,000	198,335.1309m	89,991.3144m	N 161° 57' 29.38"
132+10,000	198,325.6226m	89,994.4115m	N 161° 57' 29.38"

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RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V58-VIA EPCT-LESTE			
Estaca	Norte	Leste	Azimute
133+00,000	198,316.1143m	89,997.5086m	N 161° 57' 29.38"
133+10,000	198,306.6060m	90,000.6057m	N 161° 57' 29.38"
134+00,000	198,297.0995m	90,003.7084m	N 161° 43' 24.84"
134+10,000	198,287.6267m	90,006.9122m	N 160° 54' 18.20"
135+00,000	198,278.2006m	90,010.2509m	N 160° 05' 11.56"
135+10,000	198,268.8232m	90,013.7239m	N 159° 16' 04.92"
136+00,000	198,259.4963m	90,017.3306m	N 158° 26' 58.28"
136+10,000	198,250.2219m	90,021.0701m	N 157° 37' 51.64"
137+00,000	198,241.0019m	90,024.9417m	N 156° 48' 45.00"
137+10,000	198,231.8381m	90,028.9447m	N 155° 59' 38.36"
138+00,000	198,222.7277m	90,033.0677m	N 155° 30' 09.76"
138+10,000	198,213.6264m	90,037.2110m	N 155° 41' 06.00"
139+00,000	198,204.4844m	90,041.2633m	N 156° 30' 12.64"
139+10,000	198,195.2854m	90,045.1846m	N 157° 19' 19.28"
140+00,000	198,186.0313m	90,048.9741m	N 158° 08' 25.92"
140+10,000	198,176.7240m	90,052.6310m	N 158° 57' 32.56"
141+00,000	198,167.3654m	90,056.1545m	N 159° 46' 39.20"
141+10,000	198,157.9575m	90,059.5440m	N 160° 35' 45.84"
142+00,000	198,148.5021m	90,062.7988m	N 161° 24' 52.48"
142+10,000	198,139.0036m	90,065.9259m	N 161° 57' 29.38"
143+00,000	198,129.4953m	90,069.0230m	N 161° 57' 29.38"
143+10,000	198,119.9870m	90,072.1201m	N 161° 57' 29.38"
144+00,000	198,110.4787m	90,075.2172m	N 161° 57' 29.38"
144+10,000	198,100.9704m	90,078.3143m	N 161° 57' 29.38"
145+00,000	198,091.4621m	90,081.4114m	N 161° 57' 29.38"
145+10,000	198,081.9538m	90,084.5085m	N 161° 57' 29.38"
146+00,000	198,072.4455m	90,087.6057m	N 161° 57' 29.38"
146+10,000	198,062.9351m	90,090.6964m	N 162° 13' 42.96"
147+00,000	198,053.3873m	90,093.6691m	N 163° 11' 00.71"
147+10,000	198,043.7913m	90,096.4823m	N 164° 08' 18.45"
148+00,000	198,034.1497m	90,099.1351m	N 165° 05' 36.20"
148+10,000	198,024.4653m	90,101.6269m	N 166° 02' 53.95"
149+00,000	198,014.7406m	90,103.9570m	N 167° 00' 11.69"
149+10,000	198,004.9813m	90,106.1375m	N 167° 25' 19.50"
150+00,000	197,995.2399m	90,108.3964m	N 166° 28' 01.75"
150+10,000	197,985.5375m	90,110.8173m	N 165° 30' 44.00"
151+00,000	197,975.8768m	90,113.3996m	N 164° 33' 26.26"
151+10,000	197,966.2604m	90,116.1426m	N 163° 36' 08.51"
152+00,000	197,956.6911m	90,119.0454m	N 162° 38' 50.76"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V58-VIA EPCT-LESTE			
Estaca	Norte	Leste	Azimute
152+10,000	197,947.1696m	90,122.1012m	N 161° 57' 29.38"
153+00,000	197,937.6612m	90,125.1983m	N 161° 57' 29.38"
153+10,000	197,928.1529m	90,128.2954m	N 161° 57' 29.38"
154+00,000	197,918.6446m	90,131.3925m	N 161° 57' 29.38"
154+10,000	197,909.1363m	90,134.4896m	N 161° 57' 29.38"
155+00,000	197,899.6280m	90,137.5867m	N 161° 57' 29.38"
155+10,000	197,890.1197m	90,140.6838m	N 161° 57' 29.38"
156+00,000	197,880.6114m	90,143.7810m	N 161° 57' 29.38"
156+10,000	197,871.1031m	90,146.8781m	N 161° 57' 29.38"
157+00,000	197,861.5948m	90,149.9752m	N 161° 57' 29.38"
157+10,000	197,852.0865m	90,153.0723m	N 161° 57' 29.38"
158+00,000	197,842.5782m	90,156.1694m	N 161° 57' 29.38"
158+10,000	197,833.0699m	90,159.2665m	N 161° 57' 29.38"
159+00,000	197,823.5616m	90,162.3636m	N 161° 57' 29.38"
159+10,000	197,814.0533m	90,165.4608m	N 161° 57' 29.38"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V59-MARGINAL OESTE - RAMO "A"			
Estaca	Norte	Leste	Azimute
61+10,000	199,042.3936m	89,690.1595m	N 161° 57' 29.38"
62+00,000	199,032.8853m	89,693.2566m	N 161° 57' 29.38"
62+10,000	199,023.3770m	89,696.3537m	N 161° 57' 29.38"
63+00,000	199,013.8687m	89,699.4508m	N 161° 57' 29.38"
63+10,000	199,004.3604m	89,702.5480m	N 161° 57' 29.38"
64+00,000	198,994.8521m	89,705.6451m	N 161° 57' 29.38"
64+10,000	198,985.3438m	89,708.7422m	N 161° 57' 29.38"
65+00,000	198,975.8355m	89,711.8393m	N 161° 57' 29.38"
65+10,000	198,966.3272m	89,714.9364m	N 161° 57' 29.38"
66+00,000	198,956.8189m	89,718.0335m	N 161° 57' 29.38"
66+10,000	198,947.3105m	89,721.1306m	N 161° 57' 29.38"
67+00,000	198,937.8022m	89,724.2278m	N 161° 57' 29.38"
67+10,000	198,928.2939m	89,727.3249m	N 161° 57' 29.38"
68+00,000	198,918.7856m	89,730.4220m	N 161° 57' 29.38"
68+10,000	198,909.2773m	89,733.5191m	N 161° 57' 29.38"
69+00,000	198,899.7690m	89,736.6162m	N 161° 57' 29.38"
69+10,000	198,890.2607m	89,739.7133m	N 161° 57' 29.38"
70+00,000	198,880.7524m	89,742.8104m	N 161° 57' 29.38"
70+10,000	198,871.2441m	89,745.9075m	N 161° 57' 29.38"
71+00,000	198,861.7358m	89,749.0047m	N 161° 57' 29.38"
71+10,000	198,852.2275m	89,752.1018m	N 161° 57' 29.38"
72+00,000	198,842.7192m	89,755.1989m	N 161° 57' 29.38"
72+10,000	198,833.2109m	89,758.2960m	N 161° 57' 29.38"
73+00,000	198,823.7026m	89,761.3931m	N 161° 57' 29.38"
73+10,000	198,814.1943m	89,764.4902m	N 161° 57' 29.38"
74+00,000	198,804.6860m	89,767.5873m	N 161° 57' 29.38"
74+10,000	198,795.1776m	89,770.6845m	N 161° 57' 29.38"
75+00,000	198,785.6693m	89,773.7816m	N 161° 57' 29.38"
75+10,000	198,776.1628m	89,776.8842m	N 161° 42' 20.31"
76+00,000	198,766.6949m	89,780.1022m	N 160° 45' 02.57"
76+10,000	198,757.2819m	89,783.4775m	N 159° 47' 44.82"
77+00,000	198,747.9264m	89,787.0092m	N 158° 50' 27.07"
77+10,000	198,738.6311m	89,790.6964m	N 157° 53' 09.33"
78+00,000	198,729.3985m	89,794.5379m	N 156° 55' 51.58"
78+10,000	198,720.2267m	89,798.5223m	N 156° 28' 34.77"
79+00,000	198,711.0249m	89,802.4370m	N 157° 25' 52.51"
79+10,000	198,701.7591m	89,806.1978m	N 158° 23' 10.26"
80+00,000	198,692.4320m	89,809.8036m	N 159° 20' 28.01"
80+10,000	198,683.0460m	89,813.2535m	N 160° 17' 45.75"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V59-MARGINAL OESTE - RAMO "A"			
Estaca	Norte	Leste	Azimute
81+00,000	198,673.6039m	89,816.5465m	N 161° 15' 03.50"
81+10,000	198,664.1099m	89,819.6870m	N 161° 57' 29.38"
82+00,000	198,654.6016m	89,822.7842m	N 161° 57' 29.38"
82+10,000	198,645.0933m	89,825.8813m	N 161° 57' 29.38"
83+00,000	198,635.5850m	89,828.9784m	N 161° 57' 29.38"
83+10,000	198,626.0767m	89,832.0755m	N 161° 57' 29.38"
84+00,000	198,616.5806m	89,835.2096m	N 161° 09' 31.56"
84+10,000	198,607.1578m	89,838.5570m	N 159° 43' 34.94"
85+00,000	198,597.7924m	89,842.0625m	N 159° 27' 11.05"
85+10,000	198,588.4285m	89,845.5722m	N 159° 27' 11.05"
86+00,000	198,579.0647m	89,849.0820m	N 159° 27' 11.05"
86+10,000	198,569.7008m	89,852.5917m	N 159° 27' 11.05"
87+00,000	198,560.3370m	89,856.1015m	N 159° 27' 11.05"
87+10,000	198,550.9731m	89,859.6112m	N 159° 27' 11.05"
88+00,000	198,541.5961m	89,863.0854m	N 160° 14' 30.85"
88+10,000	198,532.1436m	89,866.3479m	N 161° 40' 27.47"
89+00,000	198,522.6368m	89,869.4497m	N 161° 57' 29.38"
89+10,000	198,513.1285m	89,872.5468m	N 161° 57' 29.38"
90+00,000	198,503.6202m	89,875.6439m	N 161° 57' 29.38"
90+10,000	198,494.1119m	89,878.7410m	N 161° 57' 29.38"
91+00,000	198,484.6036m	89,881.8381m	N 161° 57' 29.38"
91+10,000	198,475.0953m	89,884.9353m	N 161° 57' 29.38"
92+00,000	198,465.5870m	89,888.0324m	N 161° 57' 29.38"
92+10,000	198,456.0787m	89,891.1295m	N 161° 57' 29.38"
93+00,000	198,446.5704m	89,894.2266m	N 161° 57' 29.38"
93+10,000	198,437.0620m	89,897.3237m	N 161° 57' 29.38"
94+00,000	198,427.5537m	89,900.4208m	N 161° 57' 29.38"
94+10,000	198,418.0454m	89,903.5179m	N 161° 57' 29.38"
95+00,000	198,408.5371m	89,906.6151m	N 161° 57' 29.38"
95+10,000	198,399.0288m	89,909.7122m	N 161° 57' 29.38"
96+00,000	198,389.4484m	89,912.5632m	N 167° 02' 52.02"
96+10,000	198,379.5691m	89,914.0476m	N 175° 51' 45.07"
97+00,000	198,369.5791m	89,914.0006m	N 184° 40' 38.11"
97+10,000	198,359.7143m	89,912.4232m	N 193° 29' 31.16"
98+00,000	198,350.2077m	89,909.3528m	N 202° 18' 24.21"
98+10,000	198,341.2839m	89,904.8618m	N 211° 07' 17.25"
99+00,000	198,333.1536m	89,899.0564m	N 219° 56' 10.30"
99+10,000	198,326.0091m	89,892.0737m	N 228° 45' 03.35"
100+00,000	198,320.0189m	89,884.0786m	N 237° 33' 56.40"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V59-MARGINAL OESTE - RAMO "A"			
Estaca	Norte	Leste	Azimute
100+10,000	198,315.3247m	89,875.2601m	N 246° 22' 49.44"
101+00,000	198,311.9123m	89,865.8651m	N 251° 33' 33.78"
101+10,000	198,308.7491m	89,856.3786m	N 251° 33' 33.78"
102+00,000	198,305.5858m	89,846.8920m	N 251° 33' 33.78"
102+10,000	198,302.4226m	89,837.4055m	N 251° 33' 33.78"
103+00,000	198,299.2594m	89,827.9190m	N 251° 33' 33.78"
103+10,000	198,296.0962m	89,818.4325m	N 251° 33' 33.78"
104+00,000	198,292.9330m	89,808.9460m	N 251° 33' 33.78"
104+06,890	198,290.7536m	89,802.4099m	N 251° 33' 33.78"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V60-MARGINAL OESTE - RAMO "B"			
Estaca	Norte	Leste	Azimute
0+00,000	198,272.2157m	89,808.4608m	N 71° 33' 55.57"
0+10,000	198,275.3780m	89,817.9476m	N 71° 33' 55.57"
1+00,000	198,278.5402m	89,827.4345m	N 71° 33' 55.57"
1+10,000	198,281.7024m	89,836.9214m	N 71° 33' 55.57"
2+00,000	198,284.8646m	89,846.4082m	N 71° 33' 55.57"
2+10,000	198,288.0268m	89,855.8951m	N 71° 33' 55.57"
3+00,000	198,291.1890m	89,865.3819m	N 71° 33' 55.57"
3+10,000	198,294.3512m	89,874.8688m	N 71° 33' 55.57"
4+00,000	198,297.5134m	89,884.3556m	N 71° 33' 55.57"
4+10,000	198,300.6013m	89,893.8658m	N 74° 45' 54.66"
5+00,000	198,302.2499m	89,903.7120m	N 86° 13' 27.62"
5+10,000	198,301.9095m	89,913.6896m	N 97° 41' 00.58"
6+00,000	198,299.5937m	89,923.4006m	N 109° 08' 33.54"
6+10,000	198,295.3947m	89,932.4580m	N 120° 36' 06.50"
7+00,000	198,289.4800m	89,940.5006m	N 132° 03' 39.47"
7+10,000	198,282.0854m	89,947.2078m	N 143° 31' 12.43"
8+00,000	198,273.5057m	89,952.3123m	N 154° 58' 45.39"
8+10,000	198,264.1264m	89,955.7570m	N 161° 57' 29.38"
9+00,000	198,254.6181m	89,958.8541m	N 161° 57' 29.38"
9+10,000	198,245.1098m	89,961.9512m	N 161° 57' 29.38"
10+00,000	198,235.6015m	89,965.0483m	N 161° 57' 29.38"
10+10,000	198,226.0932m	89,968.1454m	N 161° 57' 29.38"
11+00,000	198,216.5849m	89,971.2425m	N 161° 57' 29.38"
11+10,000	198,207.0766m	89,974.3396m	N 161° 57' 29.38"
12+00,000	198,197.5683m	89,977.4368m	N 161° 57' 29.38"
12+10,000	198,188.0600m	89,980.5339m	N 161° 57' 29.38"
13+00,000	198,178.5517m	89,983.6310m	N 161° 57' 29.38"
13+10,000	198,169.0434m	89,986.7281m	N 161° 57' 29.38"
14+00,000	198,159.5351m	89,989.8252m	N 161° 57' 29.38"
14+10,000	198,149.9817m	89,992.7790m	N 163° 46' 17.76"
15+00,000	198,140.3354m	89,995.4131m	N 165° 40' 53.25"
15+10,000	198,130.6377m	89,997.8535m	N 165° 53' 08.75"
16+00,000	198,120.9396m	90,000.2921m	N 165° 53' 08.75"
16+10,000	198,111.2415m	90,002.7306m	N 165° 53' 08.75"
17+00,000	198,101.5434m	90,005.1692m	N 165° 53' 08.75"
17+10,000	198,091.8453m	90,007.6078m	N 165° 53' 08.75"
18+00,000	198,082.1472m	90,010.0463m	N 165° 53' 08.75"
18+10,000	198,072.4849m	90,012.6215m	N 164° 07' 38.89"
19+00,000	198,062.9135m	90,015.5163m	N 162° 13' 03.40"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V60-MARGINAL OESTE - RAMO "B"			
Estaca	Norte	Leste	Azimute
19+10,000	198,053.4043m	90,018.6105m	N 161° 57' 29.38"
20+00,000	198,043.8960m	90,021.7076m	N 161° 57' 29.38"
20+10,000	198,034.3644m	90,024.7320m	N 162° 52' 18.76"
21+00,000	198,024.7838m	90,027.5974m	N 163° 49' 36.50"
21+10,000	198,015.1568m	90,030.3026m	N 164° 46' 54.25"
22+00,000	198,005.4861m	90,032.8471m	N 165° 44' 12.00"
22+10,000	197,995.7743m	90,035.2300m	N 166° 41' 29.74"
23+00,000	197,986.0241m	90,037.4507m	N 167° 38' 47.49"
23+10,000	197,976.2706m	90,039.6569m	N 166° 46' 43.70"
24+00,000	197,966.5552m	90,042.0250m	N 165° 49' 25.95"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V62-MARGINAL LESTE - RAMO "A"			
Estaca	Norte	Leste	Direção Tangencial
65+00,000	199,066.6782m	89,786.3688m	N 161° 57' 29.38"
65+10,000	199,057.1699m	89,789.4659m	N 161° 57' 29.38"
66+00,000	199,047.6616m	89,792.5631m	N 161° 57' 29.38"
66+10,000	199,038.1533m	89,795.6602m	N 161° 57' 29.38"
67+00,000	199,028.6450m	89,798.7573m	N 161° 57' 29.38"
67+10,000	199,019.1367m	89,801.8544m	N 161° 57' 29.38"
68+00,000	199,009.6284m	89,804.9515m	N 161° 57' 29.38"
68+10,000	199,000.1201m	89,808.0486m	N 161° 57' 29.38"
69+00,000	198,990.6118m	89,811.1457m	N 161° 57' 29.38"
69+10,000	198,981.1035m	89,814.2429m	N 161° 57' 29.38"
70+00,000	198,971.5952m	89,817.3400m	N 161° 57' 29.38"
70+10,000	198,962.0869m	89,820.4371m	N 161° 57' 29.38"
71+00,000	198,952.5786m	89,823.5342m	N 161° 57' 29.38"
71+10,000	198,943.0702m	89,826.6313m	N 161° 57' 29.38"
72+00,000	198,933.5619m	89,829.7284m	N 161° 57' 29.38"
72+10,000	198,924.0536m	89,832.8255m	N 161° 57' 29.38"
73+00,000	198,914.5453m	89,835.9227m	N 161° 57' 29.38"
73+10,000	198,905.0370m	89,839.0198m	N 161° 57' 29.38"
74+00,000	198,895.5287m	89,842.1169m	N 161° 57' 29.38"
74+10,000	198,886.0204m	89,845.2140m	N 161° 57' 29.38"
75+00,000	198,876.5121m	89,848.3111m	N 161° 57' 29.38"
75+10,000	198,867.0038m	89,851.4082m	N 161° 57' 29.38"
76+00,000	198,857.4955m	89,854.5053m	N 161° 57' 29.38"
76+10,000	198,847.9872m	89,857.6024m	N 161° 57' 29.38"
77+00,000	198,838.4789m	89,860.6996m	N 161° 57' 29.38"
77+10,000	198,828.9706m	89,863.7967m	N 161° 57' 29.38"
78+00,000	198,819.4623m	89,866.8938m	N 161° 57' 29.38"
78+10,000	198,809.9540m	89,869.9909m	N 161° 57' 29.38"
79+00,000	198,800.4457m	89,873.0880m	N 161° 57' 29.38"
79+10,000	198,790.9373m	89,876.1851m	N 161° 57' 29.38"
80+00,000	198,781.4438m	89,879.3268m	N 161° 14' 29.82"
80+10,000	198,772.0022m	89,882.6213m	N 160° 17' 12.07"
81+00,000	198,762.6168m	89,886.0728m	N 159° 19' 54.33"
81+10,000	198,753.2902m	89,889.6801m	N 158° 22' 36.58"
82+00,000	198,744.0251m	89,893.4424m	N 157° 25' 18.83"
82+10,000	198,734.8239m	89,897.3586m	N 156° 28' 01.09"
83+00,000	198,725.6518m	89,901.3423m	N 156° 56' 25.26"
83+10,000	198,716.4186m	89,905.1824m	N 157° 53' 43.01"
84+00,000	198,707.1227m	89,908.8680m	N 158° 51' 00.75"

Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V62-MARGINAL LESTE - RAMO "A"			
Estaca	Norte	Leste	Direção Tangencial
84+10,000	198,697.7666m	89,912.3982m	N 159° 48' 18.50"
85+00,000	198,688.3531m	89,915.7719m	N 160° 45' 36.25"
85+10,000	198,678.8846m	89,918.9884m	N 161° 42' 53.99"
86+00,000	198,669.3779m	89,922.0906m	N 161° 57' 29.38"
86+10,000	198,659.8696m	89,925.1877m	N 161° 57' 29.38"
87+00,000	198,650.3613m	89,928.2848m	N 161° 57' 29.38"
87+10,000	198,640.8530m	89,931.3819m	N 161° 57' 29.38"
88+00,000	198,631.3447m	89,934.4791m	N 161° 57' 29.38"
88+10,000	198,621.8364m	89,937.5762m	N 161° 57' 29.38"
89+00,000	198,612.3281m	89,940.6733m	N 161° 57' 29.38"
89+10,000	198,602.8198m	89,943.7704m	N 161° 57' 29.38"
90+00,000	198,593.3115m	89,946.8675m	N 161° 57' 29.38"
90+10,000	198,583.8032m	89,949.9646m	N 161° 57' 29.38"
91+00,000	198,574.2949m	89,953.0617m	N 161° 57' 29.38"
91+10,000	198,564.7866m	89,956.1589m	N 161° 57' 29.38"
92+00,000	198,555.2783m	89,959.2560m	N 161° 57' 29.38"
92+10,000	198,545.7700m	89,962.3531m	N 161° 57' 29.38"
93+00,000	198,536.2617m	89,965.4502m	N 161° 57' 29.38"
93+10,000	198,526.7534m	89,968.5473m	N 161° 57' 29.38"
94+00,000	198,517.2450m	89,971.6444m	N 161° 57' 29.38"
94+10,000	198,507.7367m	89,974.7415m	N 161° 57' 29.38"
95+00,000	198,498.2284m	89,977.8387m	N 161° 57' 29.38"
95+10,000	198,488.7201m	89,980.9358m	N 161° 57' 29.38"
96+00,000	198,479.2118m	89,984.0329m	N 161° 57' 29.38"
96+10,000	198,469.7035m	89,987.1300m	N 161° 57' 29.38"
97+00,000	198,460.1952m	89,990.2271m	N 161° 57' 29.38"
97+10,000	198,450.6869m	89,993.3242m	N 161° 57' 29.38"
98+00,000	198,441.1786m	89,996.4213m	N 161° 57' 29.38"
98+10,000	198,431.6703m	89,999.5185m	N 161° 57' 29.38"
99+00,000	198,422.1620m	90,002.6156m	N 161° 57' 29.38"
99+10,000	198,412.8993m	90,006.3548m	N 153° 16' 53.70"
100+00,000	198,404.3822m	90,011.5727m	N 143° 43' 56.23"
100+10,000	198,396.8486m	90,018.1313m	N 134° 10' 58.77"
101+00,000	198,390.5076m	90,025.8488m	N 124° 38' 01.30"
101+10,000	198,385.5346m	90,034.5113m	N 115° 05' 03.83"
102+00,000	198,382.0677m	90,043.8787m	N 105° 32' 06.36"
102+10,000	198,380.2028m	90,053.6915m	N 95° 59' 08.90"
103+00,000	198,379.9917m	90,063.6777m	N 86° 26' 11.43"
103+10,000	198,381.4402m	90,073.5606m	N 76° 53' 13.96"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V62-MARGINAL LESTE - RAMO "A"			
Estaca	Norte	Leste	Direção Tangencial
104+00,000	198,384.3549m	90,083.1215m	N 71° 33' 33.78"
104+10,000	198,387.5182m	90,092.6080m	N 71° 33' 33.78"
105+00,000	198,390.6814m	90,102.0945m	N 71° 33' 33.78"
105+10,000	198,393.8446m	90,111.5810m	N 71° 33' 33.78"
106+00,000	198,397.0078m	90,121.0675m	N 71° 33' 33.78"
106+10,000	198,400.1710m	90,130.5541m	N 71° 33' 33.78"
107+00,000	198,403.3342m	90,140.0406m	N 71° 33' 33.78"
107+10,000	198,404.4561m	90,143.4050m	N 71° 33' 33.78"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V63-MARGINAL LESTE - RAMO "B"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,385.8661m	90,149.4194m	N 251° 33' 55.57"
0+10,000	198,382.7039m	90,139.9326m	N 251° 33' 55.57"
1+00,000	198,379.5416m	90,130.4457m	N 251° 33' 55.57"
1+10,000	198,376.3794m	90,120.9589m	N 251° 33' 55.57"
2+00,000	198,373.2172m	90,111.4720m	N 251° 33' 55.57"
2+10,000	198,370.0550m	90,101.9852m	N 251° 33' 55.57"
3+00,000	198,366.8928m	90,092.4983m	N 251° 33' 55.57"
3+10,000	198,363.7184m	90,083.0156m	N 250° 22' 43.29"
4+00,000	198,359.5928m	90,073.9190m	N 240° 49' 45.82"
4+10,000	198,354.0152m	90,065.6329m	N 231° 16' 48.35"
5+00,000	198,347.1403m	90,058.3869m	N 221° 43' 50.89"
5+10,000	198,339.1586m	90,052.3818m	N 212° 10' 53.42"
6+00,000	198,330.2913m	90,047.7841m	N 202° 37' 55.95"
6+10,000	198,320.7841m	90,044.7211m	N 193° 04' 58.48"
7+00,000	198,310.9005m	90,043.2778m	N 183° 32' 01.02"
7+10,000	198,300.9144m	90,043.4941m	N 173° 59' 03.55"
8+00,000	198,291.1026m	90,045.3641m	N 164° 26' 06.08"
8+10,000	198,281.5777m	90,048.4077m	N 161° 57' 29.38"
9+00,000	198,272.0694m	90,051.5048m	N 161° 57' 29.38"
9+10,000	198,262.5611m	90,054.6019m	N 161° 57' 29.38"
10+00,000	198,253.0528m	90,057.6990m	N 161° 57' 29.38"
10+10,000	198,243.5445m	90,060.7962m	N 161° 57' 29.38"
11+00,000	198,234.0361m	90,063.8933m	N 161° 57' 29.38"
11+10,000	198,224.5278m	90,066.9904m	N 161° 57' 29.38"
12+00,000	198,215.0195m	90,070.0875m	N 161° 57' 29.38"
12+10,000	198,205.5112m	90,073.1846m	N 161° 57' 29.38"
13+00,000	198,196.0029m	90,076.2817m	N 161° 57' 29.38"
13+10,000	198,186.4946m	90,079.3788m	N 161° 57' 29.38"
14+00,000	198,176.9863m	90,082.4759m	N 161° 57' 29.38"
14+10,000	198,167.4780m	90,085.5731m	N 161° 57' 29.38"
15+00,000	198,157.9697m	90,088.6702m	N 161° 57' 29.38"
15+10,000	198,148.4614m	90,091.7673m	N 161° 57' 29.38"
16+00,000	198,138.9531m	90,094.8644m	N 161° 57' 29.38"
16+10,000	198,129.4448m	90,097.9615m	N 161° 57' 29.38"
17+00,000	198,119.9365m	90,101.0586m	N 161° 57' 29.38"
17+10,000	198,110.4282m	90,104.1557m	N 161° 57' 29.38"
18+00,000	198,100.9199m	90,107.2529m	N 161° 57' 29.38"
18+10,000	198,091.4116m	90,110.3500m	N 161° 57' 29.38"
19+00,000	198,081.9032m	90,113.4471m	N 161° 57' 29.38"
19+10,000	198,072.3941m	90,116.5415m	N 162° 08' 02.85"
20+00,000	198,062.8512m	90,119.5300m	N 163° 05' 20.60"
20+10,000	198,053.2598m	90,122.3589m	N 164° 02' 38.35"

Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V63-MARGINAL LESTE - RAMO "B"			
Estaca	Norte	Leste	Direção Tangencial
21+00,000	198,043.6226m	90,125.0277m	N 164° 59' 56.09"
21+10,000	198,033.9423m	90,127.5354m	N 165° 57' 13.84"
22+00,000	198,024.2215m	90,129.8815m	N 166° 54' 31.59"
22+10,000	198,014.4641m	90,132.0707m	N 167° 30' 59.60"
23+00,000	198,004.7190m	90,134.3135m	N 166° 33' 41.86"
23+10,000	197,995.0126m	90,136.7184m	N 165° 36' 24.11"

Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V68-OAE (ALÇA NOROESTE - LESTE)			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,429.2145m	89,907.2418m	N 161° 57' 29.38"
0+10,000	198,419.7062m	89,910.3390m	N 161° 57' 29.38"
1+00,000	198,410.1979m	89,913.4361m	N 161° 57' 29.38"
1+10,000	198,400.6896m	89,916.5332m	N 161° 57' 29.38"
2+00,000	198,391.3049m	89,919.9735m	N 156° 38' 56.94"
2+10,000	198,382.3780m	89,924.4674m	N 149° 54' 30.49"
3+00,000	198,374.0403m	89,929.9781m	N 143° 10' 04.04"
3+10,000	198,366.4071m	89,936.4293m	N 136° 25' 37.59"
4+00,000	198,359.5838m	89,943.7318m	N 129° 41' 11.15"
4+10,000	198,353.6648m	89,951.7848m	N 122° 56' 44.70"
5+00,000	198,348.7319m	89,960.4768m	N 116° 12' 18.25"
5+10,000	198,344.8534m	89,969.6878m	N 109° 27' 51.80"
6+00,000	198,342.0829m	89,979.2904m	N 102° 43' 25.36"
6+10,000	198,340.4586m	89,989.1517m	N 95° 58' 58.91"
7+00,000	198,340.0030m	89,999.1356m	N 89° 14' 32.46"
7+10,000	198,340.7224m	90,009.1039m	N 82° 30' 06.01"
8+00,000	198,342.6069m	90,018.9188m	N 75° 45' 39.56"
8+10,000	198,345.5513m	90,028.4724m	N 71° 33' 55.57"

Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V69-OAE (ALÇA OESTE - SUDOESTE)			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,275.5361m	89,807.3540m	N 71° 33' 55.57"
0+10,000	198,278.6983m	89,816.8409m	N 71° 33' 55.57"
1+00,000	198,281.8606m	89,826.3277m	N 71° 33' 55.57"
1+10,000	198,285.0228m	89,835.8146m	N 71° 33' 55.57"
2+00,000	198,288.1850m	89,845.3014m	N 71° 33' 55.57"
2+10,000	198,291.3472m	89,854.7883m	N 71° 33' 55.57"
3+00,000	198,294.5094m	89,864.2751m	N 71° 33' 55.57"
3+10,000	198,297.6716m	89,873.7620m	N 71° 33' 55.57"
4+00,000	198,300.8338m	89,883.2489m	N 71° 33' 55.57"
4+10,000	198,303.9961m	89,892.7357m	N 71° 33' 55.57"
5+00,000	198,307.1583m	89,902.2226m	N 71° 33' 55.57"
5+10,000	198,310.3205m	89,911.7094m	N 71° 33' 55.57"
6+00,000	198,313.4827m	89,921.1963m	N 71° 33' 55.57"
6+10,000	198,316.6449m	89,930.6831m	N 71° 33' 55.57"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V70-OAE (ALÇA SUDESTE - OESTE)			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,184.3266m	90,072.7230m	N 341° 57' 29.38"
0+10,000	198,193.8349m	90,069.6259m	N 341° 57' 29.38"
1+00,000	198,203.3432m	90,066.5288m	N 341° 57' 29.38"
1+10,000	198,212.8516m	90,063.4317m	N 341° 57' 29.38"
2+00,000	198,222.3599m	90,060.3346m	N 341° 57' 29.38"
2+10,000	198,231.8682m	90,057.2375m	N 341° 57' 29.38"
3+00,000	198,241.3765m	90,054.1403m	N 341° 57' 29.38"
3+10,000	198,250.8848m	90,051.0432m	N 341° 57' 29.38"
4+00,000	198,260.3931m	90,047.9461m	N 341° 57' 29.38"
4+10,000	198,269.9014m	90,044.8490m	N 341° 57' 29.38"
5+00,000	198,279.2896m	90,041.4165m	N 336° 58' 11.17"
5+10,000	198,288.2673m	90,037.0227m	N 330° 52' 28.10"
6+00,000	198,296.7278m	90,031.7004m	N 324° 46' 45.04"
6+10,000	198,304.5752m	90,025.5099m	N 318° 41' 01.97"
7+00,000	198,311.7210m	90,018.5210m	N 312° 35' 18.91"
7+10,000	198,318.0843m	90,010.8130m	N 306° 29' 35.84"
8+00,000	198,323.5932m	90,002.4728m	N 300° 23' 52.78"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V71-OAE (ALÇA LESTE - SUDOESTE)			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,401.1358m	90,144.5121m	N 251° 33' 33.78"
0+10,000	198,397.9726m	90,135.0256m	N 251° 33' 33.78"
1+00,000	198,394.8094m	90,125.5391m	N 251° 33' 33.78"
1+10,000	198,391.6461m	90,116.0526m	N 251° 33' 33.78"
2+00,000	198,388.4829m	90,106.5660m	N 251° 33' 33.78"
2+10,000	198,385.3197m	90,097.0795m	N 251° 33' 33.78"
3+00,000	198,382.1565m	90,087.5930m	N 251° 33' 33.78"
3+10,000	198,378.9933m	90,078.1065m	N 251° 33' 33.78"
4+00,000	198,375.8301m	90,068.6200m	N 251° 33' 33.78"
4+10,000	198,372.6669m	90,059.1334m	N 251° 33' 33.78"
5+00,000	198,369.5036m	90,049.6469m	N 251° 33' 33.78"
5+10,000	198,366.3404m	90,040.1604m	N 251° 33' 33.78"
6+00,000	198,363.1772m	90,030.6739m	N 251° 33' 33.78"
6+10,000	198,360.0140m	90,021.1874m	N 251° 33' 33.78"
7+00,000	198,356.8161m	90,011.7128m	N 249° 52' 33.16"
7+10,000	198,352.8318m	90,002.5471m	N 243° 08' 06.71"
8+00,000	198,347.7992m	89,993.9124m	N 236° 23' 40.26"
8+10,000	198,341.7879m	89,985.9281m	N 229° 39' 13.81"
9+00,000	198,334.8809m	89,978.7046m	N 222° 54' 47.37"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V72-OAE (ALÇA OESTE - LESTE)			
Estaca	Norte	Leste	Azimute
0+00,000	198,272.2157m	89,808.4608m	N 71° 33' 55.57"
0+10,000	198,275.3780m	89,817.9476m	N 71° 33' 55.57"
1+00,000	198,278.5402m	89,827.4345m	N 71° 33' 55.57"
1+10,000	198,281.7024m	89,836.9214m	N 71° 33' 55.57"
2+00,000	198,284.8646m	89,846.4082m	N 71° 33' 55.57"
2+10,000	198,288.0268m	89,855.8951m	N 71° 33' 55.57"
3+00,000	198,291.1890m	89,865.3819m	N 71° 33' 55.57"
3+10,000	198,294.3512m	89,874.8688m	N 71° 33' 55.57"
4+00,000	198,297.5134m	89,884.3556m	N 71° 33' 55.57"
4+10,000	198,300.6757m	89,893.8425m	N 71° 33' 55.57"
5+00,000	198,303.8379m	89,903.3293m	N 71° 33' 55.57"
5+10,000	198,307.0001m	89,912.8162m	N 71° 33' 55.57"
6+00,000	198,310.1623m	89,922.3030m	N 71° 33' 55.57"
6+10,000	198,313.3245m	89,931.7899m	N 71° 33' 55.57"
7+00,000	198,316.4867m	89,941.2768m	N 71° 33' 55.57"
7+10,000	198,319.6489m	89,950.7636m	N 71° 33' 55.57"
8+00,000	198,322.8112m	89,960.2505m	N 71° 33' 55.57"
8+10,000	198,325.9734m	89,969.7373m	N 71° 33' 55.57"
9+00,000	198,329.1356m	89,979.2242m	N 71° 33' 55.57"
9+10,000	198,332.2978m	89,988.7110m	N 71° 33' 55.57"
10+00,000	198,335.4600m	89,998.1979m	N 71° 33' 55.57"
10+10,000	198,338.6222m	90,007.6847m	N 71° 33' 55.57"
11+00,000	198,341.7844m	90,017.1716m	N 71° 33' 55.57"
11+10,000	198,344.9467m	90,026.6584m	N 71° 33' 55.57"
12+00,000	198,348.1089m	90,036.1453m	N 71° 33' 55.57"
12+10,000	198,351.2711m	90,045.6321m	N 71° 33' 55.57"
13+00,000	198,354.4333m	90,055.1190m	N 71° 33' 55.57"
13+10,000	198,357.5955m	90,064.6059m	N 71° 33' 55.57"
14+00,000	198,360.7577m	90,074.0927m	N 71° 33' 55.57"
14+10,000	198,363.9199m	90,083.5796m	N 71° 33' 55.57"
15+00,000	198,367.0822m	90,093.0664m	N 71° 33' 55.57"
15+10,000	198,370.2444m	90,102.5533m	N 71° 33' 55.57"
16+00,000	198,373.4066m	90,112.0401m	N 71° 33' 55.57"
16+10,000	198,376.5688m	90,121.5270m	N 71° 33' 55.57"
17+00,000	198,379.7310m	90,131.0138m	N 71° 33' 55.57"
17+10,000	198,382.8932m	90,140.5007m	N 71° 33' 55.57"
17+19,400	198,385.8657m	90,149.4183m	N 71° 33' 55.57"

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Volume 1-1.2 Relatórios  
RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V73-OAE (ALÇA LESTE - OESTE)			
Estaca	Norte	Leste	Azimute
0+00,000	198,290.7536m	89,802.4099m	N 71° 33' 33.78"
0+10,000	198,293.9168m	89,811.8965m	N 71° 33' 33.78"
1+00,000	198,297.0800m	89,821.3830m	N 71° 33' 33.78"
1+10,000	198,300.2432m	89,830.8695m	N 71° 33' 33.78"
2+00,000	198,303.4064m	89,840.3560m	N 71° 33' 33.78"
2+10,000	198,306.5697m	89,849.8425m	N 71° 33' 33.78"
3+00,000	198,309.7329m	89,859.3291m	N 71° 33' 33.78"
3+10,000	198,312.8961m	89,868.8156m	N 71° 33' 33.78"
4+00,000	198,316.0593m	89,878.3021m	N 71° 33' 33.78"
4+10,000	198,319.2225m	89,887.7886m	N 71° 33' 33.78"
5+00,000	198,322.3857m	89,897.2751m	N 71° 33' 33.78"
5+10,000	198,325.5490m	89,906.7617m	N 71° 33' 33.78"
6+00,000	198,328.7122m	89,916.2482m	N 71° 33' 33.78"
6+10,000	198,331.8754m	89,925.7347m	N 71° 33' 33.78"
7+00,000	198,335.0386m	89,935.2212m	N 71° 33' 33.78"
7+10,000	198,338.2018m	89,944.7077m	N 71° 33' 33.78"
8+00,000	198,341.3650m	89,954.1943m	N 71° 33' 33.78"
8+10,000	198,344.5283m	89,963.6808m	N 71° 33' 33.78"
9+00,000	198,347.6915m	89,973.1673m	N 71° 33' 33.78"
9+10,000	198,350.8547m	89,982.6538m	N 71° 33' 33.78"
10+00,000	198,354.0179m	89,992.1403m	N 71° 33' 33.78"
10+10,000	198,357.1811m	90,001.6269m	N 71° 33' 33.78"
11+00,000	198,360.3443m	90,011.1134m	N 71° 33' 33.78"
11+10,000	198,363.5076m	90,020.5999m	N 71° 33' 33.78"
12+00,000	198,366.6708m	90,030.0864m	N 71° 33' 33.78"
12+10,000	198,369.8340m	90,039.5729m	N 71° 33' 33.78"
13+00,000	198,372.9972m	90,049.0595m	N 71° 33' 33.78"
13+10,000	198,376.1604m	90,058.5460m	N 71° 33' 33.78"
14+00,000	198,379.3236m	90,068.0325m	N 71° 33' 33.78"
14+10,000	198,382.4868m	90,077.5190m	N 71° 33' 33.78"
15+00,000	198,385.6501m	90,087.0055m	N 71° 33' 33.78"
15+10,000	198,388.8133m	90,096.4921m	N 71° 33' 33.78"
16+00,000	198,391.9765m	90,105.9786m	N 71° 33' 33.78"
16+10,000	198,395.1397m	90,115.4651m	N 71° 33' 33.78"
17+00,000	198,398.3029m	90,124.9516m	N 71° 33' 33.78"
17+10,000	198,401.4661m	90,134.4381m	N 71° 33' 33.78"
17+19,430	198,404.4477m	90,143.3798m	N 71° 33' 33.78"

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RELATÓRIO DE ALINHAMENTOS

V78-AGULHA OESTE - RAMO "B"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	199,031.6094m	89,713.1289m	N 161° 57' 29.39"
0+10,000	199,022.1011m	89,716.2260m	N 161° 57' 29.39"
1+00,000	199,012.5928m	89,719.3231m	N 161° 57' 45.67"
1+10,000	199,003.0310m	89,722.2490m	N 164° 00' 32.27"
2+00,000	198,993.3708m	89,724.8317m	N 166° 03' 18.87"
2+10,000	198,983.6245m	89,727.0677m	N 168° 06' 05.47"
3+00,000	198,973.8046m	89,728.9544m	N 170° 08' 18.22"
3+10,000	198,963.9524m	89,730.6671m	N 170° 08' 18.22"
4+00,000	198,954.1002m	89,732.3798m	N 170° 08' 18.22"

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V79-AGULHA OESTE - RAMO "C"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,875.9148m	89,751.7482m	N 161° 57' 29.38"
0+10,000	198,866.4065m	89,754.8453m	N 161° 57' 29.38"
1+00,000	198,856.8982m	89,757.9424m	N 161° 57' 13.11"
1+10,000	198,847.4475m	89,761.2094m	N 159° 54' 26.51"
2+00,000	198,838.1194m	89,764.8117m	N 157° 51' 39.91"
2+10,000	198,828.9260m	89,768.7448m	N 155° 48' 53.31"
3+00,000	198,819.8788m	89,773.0037m	N 153° 46' 40.55"
3+10,000	198,810.9079m	89,777.4222m	N 153° 46' 40.55"
4+00,000	198,801.9370m	89,781.8407m	N 153° 46' 40.55"

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V80-AGULHA OESTE - RAMO "D"			
	Norte	Leste	Direção Tangencial
0+00,000	197,945.9707m	90,068.8544m	N 161° 57' 29.39"
0+10,000	197,936.4624m	90,071.9515m	N 161° 57' 29.39"
1+00,000	197,926.9475m	90,075.0282m	N 162° 39' 57.61"
1+10,000	197,917.3505m	90,077.8366m	N 164° 42' 44.21"
2+00,000	197,907.6594m	90,080.3004m	N 166° 45' 30.81"
2+10,000	197,897.8864m	90,082.4167m	N 168° 48' 17.41"
3+00,000	197,888.0441m	90,084.1826m	N 170° 51' 04.01"

*Di. Len. A*

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V84-AGULHA LESTE - RAMO "B"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	199,050.8115m	89,772.0804m	N 161° 57' 29.36"
0+10,000	199,041.3032m	89,775.1775m	N 161° 57' 29.36"
1+00,000	199,031.7949m	89,778.2746m	N 161° 57' 13.10"
1+10,000	199,022.3442m	89,781.5416m	N 159° 54' 26.50"
2+00,000	199,013.0161m	89,785.1439m	N 157° 51' 39.90"
2+10,000	199,003.8226m	89,789.0771m	N 155° 48' 53.30"
3+00,000	198,994.7755m	89,793.3359m	N 153° 46' 40.56"
3+10,000	198,985.8046m	89,797.7544m	N 153° 46' 40.56"
4+00,000	198,976.8337m	89,802.1730m	N 153° 46' 40.56"

*Di. Lu. A*

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RELATÓRIO DE ALINHAMENTOS

V85-AGULHA LESTE - RAMO "C"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,674.2971m	89,913.1263m	N 161° 57' 29.38"
0+10,000	198,664.7888m	89,916.2234m	N 161° 57' 29.38"
1+00,000	198,655.2805m	89,919.3206m	N 161° 57' 45.66"
1+10,000	198,645.7186m	89,922.2465m	N 164° 00' 32.26"
2+00,000	198,636.0584m	89,924.8291m	N 166° 03' 18.86"
2+10,000	198,626.3122m	89,927.0652m	N 168° 06' 05.46"
3+00,000	198,616.4923m	89,928.9518m	N 170° 08' 18.22"
3+10,000	198,606.6401m	89,930.6645m	N 170° 08' 18.22"
4+00,000	198,596.7878m	89,932.3772m	N 170° 08' 18.22"

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RELATÓRIO DE ALINHAMENTOS

V85-AGULHA LESTE - RAMO "D"			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	197,963.9339m	90,124.0025m	N 161° 57' 29.38"
0+10,000	197,954.4256m	90,127.0996m	N 161° 57' 29.38"
1+00,000	197,944.9240m	90,130.2170m	N 161° 15' 01.15"
1+10,000	197,935.5141m	90,133.5998m	N 159° 12' 14.55"
2+00,000	197,926.2310m	90,137.3164m	N 157° 09' 27.95"
2+10,000	197,917.0865m	90,141.3620m	N 155° 06' 41.35"
3+00,000	197,908.0923m	90,145.7316m	N 153° 03' 54.75"

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RELATÓRIO DE ALINHAMENTOS

V92-Acesso Via Local-Marginal Oeste-Ramo A			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	198,035.3551m	90,024.4258m	N 205° 43' 54.22"
0+10,000	198,026.3468m	90,020.0842m	N 205° 43' 54.22"
1+00,000	198,017.3384m	90,015.7426m	N 205° 43' 54.22"
1+10,000	198,008.3300m	90,011.4010m	N 205° 43' 54.22"
2+00,000	197,999.3217m	90,007.0595m	N 205° 43' 54.22"
2+10,000	197,998.0896m	90,006.4657m	N 205° 43' 54.22"

*D. de A*

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RELATÓRIA DO PROJETO GEOMÉTRICO  
RELATÓRIO DE ALINHAMENTOS

V93-Acesso Via Local-Marginal Oeste-Ramo B			
Estaca	Norte	Leste	Direção Tangencial
0+00,000	197,976.3894m	90,013.4980m	N 118° 11' 04.55"
0+10,000	197,971.6663m	90,022.3123m	N 118° 11' 04.55"
1+00,000	197,966.9431m	90,031.1266m	N 118° 11' 04.55"
1+10,000	197,962.2200m	90,039.9409m	N 118° 11' 04.55"
2+00,000	197,960.2270m	90,043.6602m	N 118° 11' 04.55"

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