

1. ESTADO DE ALINEACIONES Y PUNTOS DELE EJE EN PLANTA 1

2. ESTADO DE RASANTES Y PUNTOS DEL EJE EN ALZADO 3

1. ESTADO DE ALINEACIONES Y PUNTOS DELE EJE EN PLANTA

ISTRAM 19.04.04.17 23/04/19 13:06:50 919
PROYECTO :
GRUPO : 1 : GRUPO 1
EJE : 5 : EJE OBTENIDO POR REGRESION

PAGINA 1

* * * LISTADO DE LAS ALINEACIONES * * *

DATO	TIPO	LONGITUD	P.K.	X TANGENCIA	Y TANGENCIA	RADIO	PARAMETRO	AZIMUT	COS/XC/XINF	SEN/YC/YINF
1	RECTA	34.341	0.000	611732.466	3141444.290			33.0538	0.4961924	0.8682126
2	RECTA	15.897	34.341	611749.506	3141474.105 A=	1°34'59"		34.8129	0.5199909	0.8541718
3	RECTA	1.844	50.238	611757.772	3141487.683 A=	1°00'42"		33.6886	0.5048251	0.8632217
4	RECTA	1.844	52.082	611758.703	3141489.276 A=	2°20'55"		31.0790	0.4690266	0.8831840
5	CIRC.	18.052	53.927	611759.568	3141490.905	-43.000		30.1621	611721.304	3141510.524
6	CIRC.	21.705	71.978	611764.242	3141508.204	60.000		3.4365	611824.154	3141504.966
7	RECTA	9.448	93.683	611769.265	3141529.198			26.4663	0.4038591	0.9148212
8	CIRC.	37.546	103.131	611773.081	3141537.841	115.000		27.7407	611877.334	3141489.300
9	CIRC.	49.588	140.677	611794.156	3141568.713	430.000		50.1294	612097.593	3141264.039
10	RECTA	9.694	190.264	611831.228	3141601.604			57.4709	0.7850335	0.6194533
11	CIRC.	17.498	199.958	611838.838	3141607.609	110.500		57.4709	611907.288	3141520.863
12	CIRC.	9.261	217.456	611853.373	3141617.317	178.500		67.5517	611940.466	3141461.506
13	CIRC.	7.366	226.717	611861.571	3141621.624	51.000		70.8547	611884.112	3141575.876
	CLOT.	5.338	234.083	611868.390	3141624.392		16.500	80.0489	611873.522	3141625.859
14	RECTA	2.579	239.421	611873.522	3141625.859			83.3807	0.9661181	0.2581003
15	CIRC.	15.471	242.000	611876.013	3141626.525	100.500		83.3807	611901.952	3141529.430
16	RECTA	2.469	257.470	611891.207	3141629.354			93.1265	0.9941771	0.1077587
17	CIRC.	14.735	259.939	611893.662	3141629.620	80.000		94.0352	611901.146	3141549.971
18	CIRC.	3.485	274.674	611908.376	3141629.644	100.500		105.7611	611899.294	3141529.555
19	RECTA	60.109	278.159	611911.840	3141629.269			107.9686	0.9921763	-0.1248443
	CLOT.	4.256	338.268	611971.480	3141621.764		21.736	107.9686	611971.480	3141621.764
20	CIRC.	7.788	342.525	611975.706	3141621.260	-111.000		106.7481	611987.449	3141731.637
21	CIRC.	7.943	350.313	611983.472	3141620.708	89.000		102.2815	611980.284	3141531.765
22	RECTA	98.735	358.255	611991.387	3141620.070			107.9630	0.9921874	-0.1247560
23	CIRC.	54.103	456.990	612089.350	3141607.752	40.000		107.9521	612084.367	3141568.064
	CLOT.	0.000	511.093	612124.193	3141571.791		0.081	194.0596	612124.193	3141571.791
24	RECTA	83.727	511.093	612124.193	3141571.791			194.0598	0.0931738	-0.9956499
	CLOT.	3.275	594.820	612131.994	3141488.428		10.858	194.0598	612131.994	3141488.428
25	CIRC.	15.344	598.095	612132.249	3141485.163	36.000		196.9556	612096.291	3141483.442
26	RECTA	42.713	613.439	612129.744	3141470.142			224.0901	-0.3694405	-0.9292544
27	CIRC.	8.085	656.153	612113.964	3141430.451	-120.000		224.0589	612225.496	3141386.173
28	CIRC.	6.737	664.238	612111.236	3141422.841	-402.000		219.7696	612494.008	3141300.001
			670.975	612109.231	3141416.410			218.7027		

* * * PUNTOS DEL EJE EN PLANTA * * *

TIPO	P.K.	X	Y	RADIO	Z RAS IZ.	Z RAS DR.	AZIMUT	DIST. EJE	PEND (%)	PERAL_I	PERAL_D	Z PROJ.	ZT (EJE)	Z TERR.
RECTA PENDIENTE	0.000	611732.466	3141444.290	0.000	3.621	3.621	33.053790	0.000	-1.900	0.00	0.00	3.621	3.601	3.601
RECTA KV 1000	20.000	611742.390	3141461.654	0.000	3.269	3.269	33.053790	0.000	-1.157	0.00	0.00	3.269	3.140	3.140
RECTA KV 1000	34.341	611749.506	3141474.105	0.000	3.206	3.206	34.812938	0.000	0.277	0.00	0.00	3.206	3.178	3.178
RECTA RAMPA	40.000	611752.448	3141478.939	0.000	3.231	3.231	34.812938	0.000	0.500	0.00	0.00	3.231	3.193	3.193
RECTA KV 1000	50.238	611757.772	3141487.683	0.000	3.283	3.283	33.688602	0.000	0.524	0.00	0.00	3.283	3.206	3.206
RECTA KV 1000	52.082	611758.703	3141489.276	0.000	3.294	3.294	31.079032	0.000	0.708	0.00	0.00	3.294	3.208	3.208
CIRC. KV 1000	53.927	611759.568	3141490.905	-43.000	3.309	3.309	30.162123	0.000	0.893	0.00	0.00	3.309	3.211	3.211
CIRC. KV 1000	60.000	611761.949	3141496.486	-43.000	3.381	3.381	21.170363	0.000	1.500	0.00	0.00	3.381	3.329	3.329
CIRC. KV 1000	71.978	611764.242	3141508.204	60.000	3.633	3.633	3.436466	0.000	2.698	0.00	0.00	3.633	3.470	3.470
CIRC. KV -1000	80.000	611765.208	3141516.161	60.000	3.862	3.862	11.947833	0.000	2.730	0.00	0.00	3.862	3.575	3.575
RECTA KV -1000	93.683	611769.265	3141529.198	0.000	4.142	4.142	26.466280	0.000	1.361	0.00	0.00	4.142	3.699	3.699
RECTA KV -1000	100.000	611771.816	3141534.977	0.000	4.208	4.208	26.466280	0.000	0.730	0.00	0.00	4.208	3.694	3.694
CIRC. KV -1000	103.131	611773.081	3141537.841	115.000	4.226	4.226	27.740690	0.000	0.416	0.00	0.00	4.226	3.697	3.697
CIRC. RAMPA	120.000	611781.295	3141552.557	115.000	4.255	4.255	37.079171	0.000	0.150	0.00	0.00	4.255	3.682	3.682
CIRC. RAMPA	140.000	611793.690	3141568.222	115.000	4.285	4.285	48.150820	0.000	0.150	0.00	0.00	4.285	3.764	3.764
CIRC. RAMPA	140.677	611794.156	3141568.713	430.000	4.286	4.286	50.129372	0.000	0.150	0.00	0.00	4.286	3.767	3.767
CIRC. RAMPA	160.000	611808.149	3141582.036	430.000	4.315	4.315	52.990196	0.000	0.150	0.00	0.00	4.315	3.864	3.864
CIRC. KV 1000	180.000	611823.247	3141595.150	430.000	4.347	4.347	55.951218	0.000	0.370	0.00	0.00	4.347	3.805	3.805
RECTA KV 1000	190.264	611831.228	3141601.604	0.000	4.438	4.438	57.470866	0.000	1.397	0.00	0.00	4.438	3.716	3.716
CIRC. RAMPA	199.958	611838.838	3141607.609	110.500	4.609	4.609	57.470866	0.000	1.900	0.00	0.00	4.609	3.631	3.631
CIRC. RAMPA	200.000	611838.871	3141607.635	110.500	4.610	4.610	57.494813	0.000	1.900	0.00	0.00	4.610	3.631	3.631
CIRC. RAMPA	217.456	611853.373	3141617.317	178.500	4.942	4.942	67.551676	0.000	1.900	0.00	0.00	4.942	4.006	4.006
CIRC. RAMPA	220.000	611855.603	3141618.543	178.500	4.990	4.990	68.458993	0.000	1.900	0.00	0.00	4.990	4.040	4.040
CIRC. RAMPA	226.717	611861.571	3141621.624	51.000	5.118	5.118	70.854667	0.000	1.900	0.00	0.00	5.118	4.086	4.086
CLOT. KV -1000	234.083	611868.390	3141624.392	51.000	5.257	5.257	80.048909	0.000	1.856	0.00	0.00	5.257	4.128	4.128
RECTA KV -1000	239.421	611873.522	3141625.859	0.000	5.342	5.342	83.380700	0.000	1.322	0.00	0.00	5.342	4.143	4.143
RECTA KV -1000	240.000	611874.081	3141626.009	0.000	5.350	5.350	83.380700	0.000	1.264	0.00	0.00	5.350	4.144	4.144

CIRC. KV -1000	242.000	611876.013	3141626.525	100.500	5.373	5.373	83.380700	0.000	1.064	0.00	0.00	5.373	4.143	4.143
RECTA RAMPa	257.470	611891.207	3141629.354	0.000	5.431	5.431	93.126522	0.000	0.030	0.00	0.00	5.431	4.106	4.106
CIRC. RAMPa	259.939	611893.662	3141629.620	80.000	5.432	5.432	94.035244	0.000	0.030	0.00	0.00	5.432	4.095	4.095
CIRC. RAMPa	260.000	611893.722	3141629.626	80.000	5.432	5.432	94.083763	0.000	0.030	0.00	0.00	5.432	4.095	4.095
CIRC. RAMPa	274.674	611908.376	3141629.644	100.500	5.436	5.436	105.761055	0.000	0.030	0.00	0.00	5.436	4.002	4.002
RECTa RAMPa	278.159	611911.840	3141629.269	0.000	5.437	5.437	107.968626	0.000	0.030	0.00	0.00	5.437	3.996	3.996
RECTa RAMPa	280.000	611913.667	3141629.039	0.000	5.438	5.438	107.968626	0.000	0.030	0.00	0.00	5.438	3.993	3.993
RECTa RAMPa	300.000	611933.510	3141626.542	0.000	5.444	5.444	107.968626	0.000	0.030	0.00	0.00	5.444	3.914	3.914
RECTa RAMPa	320.000	611953.354	3141624.045	0.000	5.450	5.450	107.968626	0.000	0.030	0.00	0.00	5.450	3.800	3.800
CLOT. RAMPa	338.268	611971.480	3141621.764	-1000000.000	5.455	5.455	107.968626	0.000	0.030	0.00	0.00	5.455	3.800	3.800
CLOT. RAMPa	340.000	611973.198	3141621.550	-272.839	5.456	5.456	107.766614	0.000	0.030	0.00	0.00	5.456	3.800	3.800
CIRC. RAMPa	342.525	611975.706	3141621.260	-111.000	5.457	5.457	106.748110	0.000	0.030	0.00	0.00	5.457	3.800	3.800
CIRC. RAMPa	350.313	611983.472	3141620.708	89.000	5.459	5.459	102.281485	0.000	0.030	0.00	0.00	5.459	3.800	3.800
RECTa RAMPa	358.255	611991.387	3141620.070	0.000	5.461	5.461	107.962963	0.000	0.030	0.00	0.00	5.461	3.800	3.800
RECTa RAMPa	360.000	611993.118	3141619.852	0.000	5.462	5.462	107.962963	0.000	0.030	0.00	0.00	5.462	3.800	3.800
RECTa RAMPa	380.000	612012.962	3141617.357	0.000	5.468	5.468	107.962963	0.000	0.030	0.00	0.00	5.468	3.799	3.799
RECTa RAMPa	400.000	612032.805	3141614.862	0.000	5.474	5.474	107.962963	0.000	0.030	0.00	0.00	5.474	3.885	3.885
RECTa RAMPa	420.000	612052.649	3141612.367	0.000	5.480	5.480	107.962963	0.000	0.030	0.00	0.00	5.480	4.085	4.085
RECTa RAMPa	440.000	612072.493	3141609.872	0.000	5.486	5.486	107.962963	0.000	0.030	0.00	0.00	5.486	4.173	4.173
CIRC. KV -2000	456.990	612089.350	3141607.752	40.000	5.481	5.481	107.952079	0.000	-0.284	0.00	0.00	5.481	4.293	4.293
CIRC. KV -2000	460.000	612092.320	3141607.265	40.000	5.470	5.470	112.742725	0.000	-0.435	0.00	0.00	5.470	4.312	4.312
CIRC. KV -2000	480.000	612110.140	3141598.653	40.000	5.283	5.283	144.573714	0.000	-1.435	0.00	0.00	5.283	4.147	4.147
CIRC. PENDIENTE	500.000	612121.651	3141582.552	40.000	4.984	4.984	176.404702	0.000	-1.500	0.00	0.00	4.984	3.560	3.560
CLOT. PENDIENTE	511.093	612124.193	3141571.791	40.000	4.817	4.817	194.059629	0.000	-1.500	0.00	0.00	4.817	3.220	3.220
RECTa PENDIENTE	511.093	612124.193	3141571.791	0.000	4.817	4.817	194.059759	0.000	-1.500	0.00	0.00	4.817	3.220	3.220
RECTa PENDIENTE	520.000	612125.023	3141562.923	0.000	4.684	4.684	194.059759	0.000	-1.500	0.00	0.00	4.684	3.013	3.013
RECTa PENDIENTE	540.000	612126.886	3141543.010	0.000	4.384	4.384	194.059759	0.000	-1.500	0.00	0.00	4.384	3.234	3.234
RECTa PENDIENTE	560.000	612128.749	3141523.097	0.000	4.084	4.084	194.059759	0.000	-1.500	0.00	0.00	4.084	3.069	3.069
RECTa PENDIENTE	580.000	612130.613	3141503.184	0.000	3.784	3.784	194.059759	0.000	-1.500	0.00	0.00	3.784	2.700	2.700
CLOT. PENDIENTE	594.820	612131.994	3141488.428	1000000.000	3.561	3.561	194.059759	0.000	-1.500	0.00	0.00	3.561	2.576	2.576
CIRC. KV 2000	598.095	612132.249	3141485.163	36.000	3.513	3.513	196.955616	0.000	-1.426	0.00	0.00	3.513	2.564	2.564
CIRC. KV 2000	600.000	612132.290	3141483.259	36.000	3.487	3.487	200.324046	0.000	-1.331	0.00	0.00	3.487	2.589	2.589
RECTa KV 2000	613.439	612129.744	3141470.142	0.000	3.353	3.353	224.090129	0.000	-0.659	0.00	0.00	3.353	2.524	2.524
RECTa PENDIENTE	620.000	612127.320	3141464.046	0.000	3.319	3.319	224.090129	0.000	-0.456	0.00	0.00	3.319	2.472	2.472
RECTa PENDIENTE	640.000	612119.931	3141445.461	0.000	3.228	3.228	224.090129	0.000	-0.456	0.00	0.00	3.228	2.306	2.306
CIRC. PENDIENTE	656.153	612113.964	3141430.451	-120.000	3.154	3.154	224.058916	0.000	-0.456	0.00	0.00	3.154	2.046	2.046
CIRC. PENDIENTE	660.000	612112.602	3141426.853	-120.000	3.137	3.137	222.017912	0.000	-0.456	0.00	0.00	3.137	1.984	1.984
CIRC. PENDIENTE	664.238	612111.236	3141422.841	-402.000	3.117	3.117	219.769574	0.000	-0.456	0.00	0.00	3.117	1.828	1.828
CIRC. PENDIENTE	670.975	612109.231	3141416.410	-402.000	3.087	3.087	218.702736	0.000	-0.456	0.00	0.00	3.087	1.581	1.581

2. ESTADO DE RASANTES Y PUNTOS DEL EJE EN ALZADO

ISTRAM 19.04.04.17 23/04/19 13:07:15 919

PAGINA 1

PROYECTO :
GRUPO : 1 : GRUPO 1
EJE : 5 : EJE OBTENIDO POR REGRESION

***** * * * ESTADO DE RASANTES * * * *****										
PENDIENTE	LONGITUD	PARAMETRO	VÉRTICE		ENTRADA AL ACUERDO		SALIDA DEL ACUERDO		BISECT.	DIF.PEN
(%)	(M.)	(KV)	PK	Z	PK	Z	PK	Z	(M.)	(%)
-1.900000	24.000	1000.000	24.570	3.154	12.570	3.382	36.570	3.214	0.072	2.400
0.500000	24.000	1000.000	62.000	3.341	50.000	3.281	74.000	3.689	0.072	2.400
2.900000	27.500	1000.000	92.046	4.213	78.296	3.814	105.796	4.233	0.095	-2.750
0.150000	17.500	1000.000	186.547	4.354	177.797	4.341	195.297	4.521	0.038	1.750
1.900000	18.700	1000.000	242.992	5.427	233.642	5.249	252.342	5.430	0.044	-1.870
0.030000	30.600	2000.000	466.003	5.494	450.703	5.489	481.303	5.264	0.059	-1.530
-1.500000	20.885	2000.000	607.060	3.378	596.618	3.535	617.503	3.330	0.027	1.044
-0.455728							670.975	3.087		

***** * * * PUNTOS DEL EJE EN ALZADO * * * *****			
P.K.	TIPO	COTA	PENDIENTE
0.000	PENDIENTE	3.621	-1.9000 %
12.570	TG. ENTRADA	3.382	-1.9000 %
20.000	KV 1000	3.269	-1.1570 %
31.570	PUNTO BAJO	3.202	0.0000 %
36.570	TG. SALIDA	3.214	0.5000 %
40.000	RAMPA	3.231	0.5000 %
50.000	TG. ENTRADA	3.281	0.5000 %
60.000	KV 1000	3.381	1.5000 %
74.000	TG. SALIDA	3.689	2.9000 %
78.296	TG. ENTRADA	3.814	2.9000 %
80.000	KV -1000	3.862	2.7296 %
100.000	KV -1000	4.208	0.7296 %
105.796	TG. SALIDA	4.233	0.1500 %
120.000	RAMPA	4.255	0.1500 %
140.000	RAMPA	4.285	0.1500 %
160.000	RAMPA	4.315	0.1500 %
177.797	TG. ENTRADA	4.341	0.1500 %
180.000	KV 1000	4.347	0.3703 %
195.297	TG. SALIDA	4.521	1.9000 %
200.000	RAMPA	4.610	1.9000 %
220.000	RAMPA	4.990	1.9000 %
233.642	TG. ENTRADA	5.249	1.9000 %
240.000	KV -1000	5.350	1.2642 %
252.342	TG. SALIDA	5.430	0.0300 %
260.000	RAMPA	5.432	0.0300 %
280.000	RAMPA	5.438	0.0300 %
300.000	RAMPA	5.444	0.0300 %
320.000	RAMPA	5.450	0.0300 %
340.000	RAMPA	5.456	0.0300 %
360.000	RAMPA	5.462	0.0300 %
380.000	RAMPA	5.468	0.0300 %
400.000	RAMPA	5.474	0.0300 %
420.000	RAMPA	5.480	0.0300 %
440.000	RAMPA	5.486	0.0300 %
450.703	TG. ENTRADA	5.489	0.0300 %
451.303	PUNTO ALTO	5.489	0.0000 %
460.000	KV -2000	5.470	-0.4349 %
480.000	KV -2000	5.283	-1.4349 %
481.303	TG. SALIDA	5.264	-1.5000 %
500.000	PENDIENTE	4.984	-1.5000 %
520.000	PENDIENTE	4.684	-1.5000 %
540.000	PENDIENTE	4.384	-1.5000 %
560.000	PENDIENTE	4.084	-1.5000 %
580.000	PENDIENTE	3.784	-1.5000 %
596.618	TG. ENTRADA	3.535	-1.5000 %
600.000	KV 2000	3.487	-1.3309 %
617.503	TG. SALIDA	3.330	-0.4557 %
620.000	PENDIENTE	3.319	-0.4557 %
640.000	PENDIENTE	3.228	-0.4557 %
660.000	PENDIENTE	3.137	-0.4557 %
670.975	PENDIENTE	3.087	-0.4557 %

