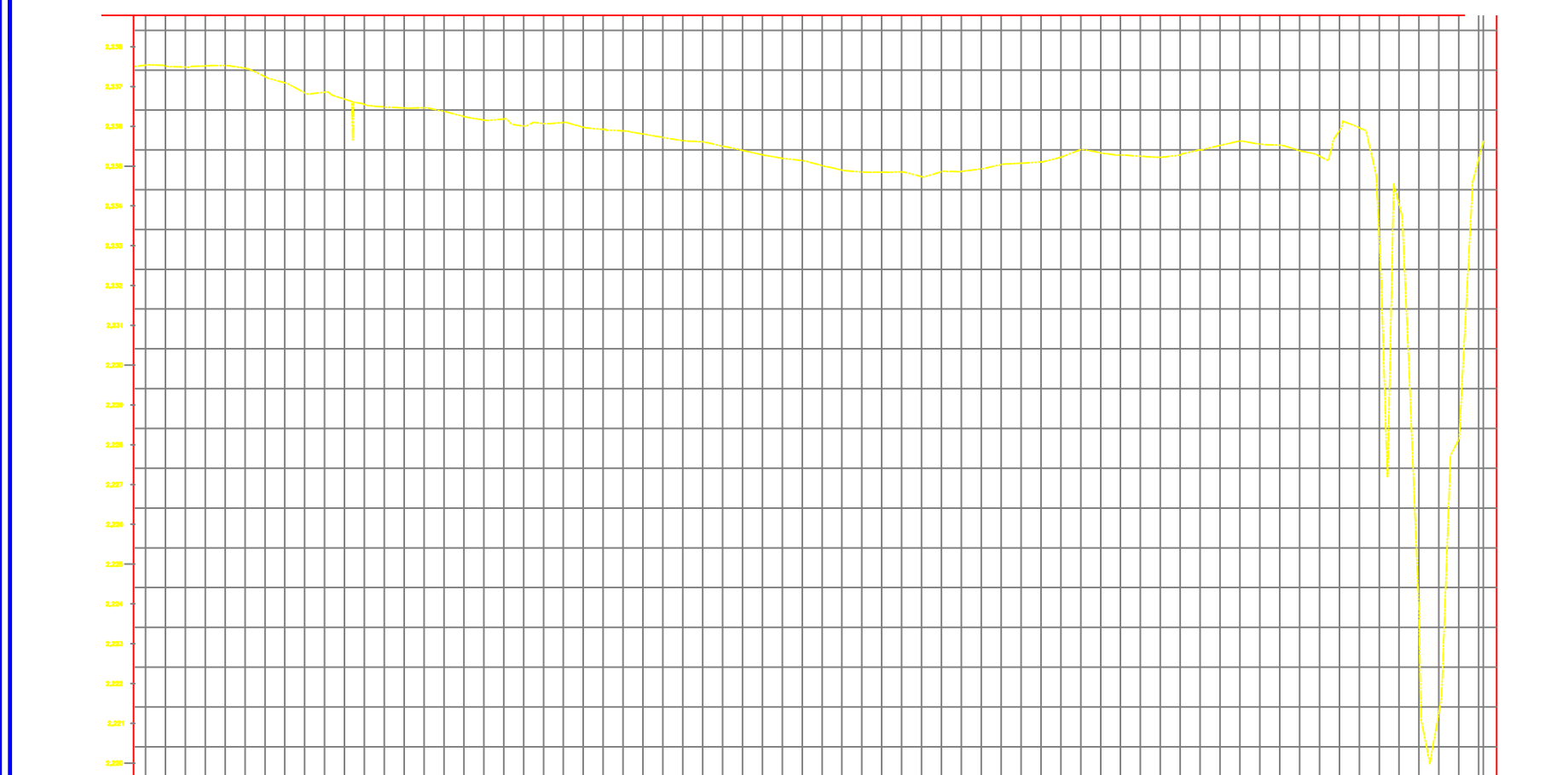


**PLANTA**  
 PLANTA LEVANTAMIENTO TOPOGRÁFICO COLECTOR MELCHOR OCAMPO LOCALIDAD DE MELCHOR OCAMPO, VISITACION Y TENOPALCO SECCION 5  
 Esc. Horizontal: 1:1000



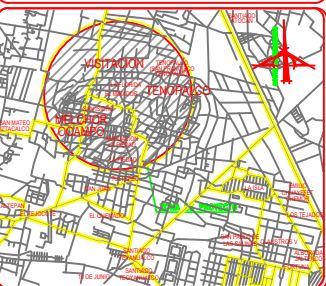
**PERFIL LEVANTAMIENTO TOPOGRÁFICO COLECTOR MELCHOR OCAMPO LOCALIDAD DE MELCHOR OCAMPO, VISITACION Y TENOPALCO SECCION 5**  
 Esc. Vertical: 1:100

**CUADRO DE CONSTRUCCION**  
 COLECTOR SEMIPROFUNDO A GRAN CANAL MELCHOR OCAMPO-TENOPALCO-TIET

LADO	EST	PV	RUMBO	DISTANCIA	V	COORDENADAS	
						X	Y
0	1		N 89°29'08.87\"	130.280	0	2,178,023.6388	484,238.2814
1	2		N 89°29'08.12\"	130.080	2	2,178,063.7817	484,257.0259
2	3		N 89°29'12.57\"	94.883	3	2,178,067.3008	484,272.6338
3	4		S 89°29'12.57\"	66.482	4	2,178,055.5885	484,264.0547
4	5		N 20°19'04.97\"	8.288	5	2,178,053.4663	484,274.7488
5	6		N 70°11'12.87\"	102.239	6	2,178,082.4902	484,170.0234
6	7		N 89°29'08.12\"	20.839	7	2,178,089.5388	484,158.4845
7	8		N 89°29'07.38\"	20.212	8	2,178,078.4337	484,089.8893
8	9		N 89°29'08.04\"	18.774	9	2,178,088.2111	484,081.8912
9	10		N 12°19'02.27\"	48.840	10	2,178,086.1387	484,111.8250
10	11		N 89°29'08.04\"	171.818	11	2,178,028.8789	484,143.4238
11	12		N 30°29'12.18\"	87.228	12	2,178,028.8789	484,071.8287
12	13		N 42°42'06.18\"	85.104	13	2,178,077.4897	484,030.8418
13	14		N 89°29'08.04\"	114.038	14	2,178,081.3838	483,864.0118
14	15		N 89°29'08.04\"	112.708	15	2,178,184.1133	483,837.6335
15	16		N 89°29'08.04\"	103.882	16	2,178,275.4902	483,865.0140
16	17		N 89°29'08.04\"	88.848	17	2,178,328.4488	483,811.8918
17	18		N 31°09'06.12\"	54.817	18	2,178,322.0207	483,826.1838
18	19		N 18°29'04.38\"	127.897	19	2,178,443.0058	483,638.3883
19	20		N 18°29'04.38\"	140.088	20	2,178,679.4381	483,771.0874
20	21		N 18°29'04.38\"	128.740	21	2,178,713.8724	483,818.8716
21	22		N 18°29'04.38\"	85.108	22	2,178,770.7650	483,838.2854
22	23		N 18°29'04.38\"	100.688	23	2,178,897.7218	483,890.0888
23	24		N 11°01'03.72\"	118.887	24	2,178,888.4883	483,833.0333
24	25		N 18°29'04.38\"	116.738	25	2,180,094.5372	484,033.8848
25	26		N 89°29'08.04\"	11.814	26	2,180,101.4088	484,013.7038
26	27		S 89°29'08.04\"	191.881	27	2,180,287.3388	484,033.7385
27	28		S 89°29'08.04\"	97.858	28	2,180,081.8122	484,201.4522
28	29		N 89°29'08.04\"	20.287	29	2,180,089.8178	484,281.2428
29	30		N 72°14'02.72\"	102.888	30	2,180,114.7207	484,211.8818
30	31		N 89°29'08.04\"	84.800	31	2,180,121.8238	484,176.0783
31	32		S 78°29'08.04\"	85.483	32	2,180,112.0080	484,071.8883
32	33		S 89°29'08.04\"	85.081	33	2,180,075.0788	484,081.8100
33	34		S 74°09'08.04\"	26.633	34	2,180,084.3033	484,018.1475
34	35		S 89°29'08.04\"	20.287	35	2,180,089.8178	484,081.2428
35	36		S 89°29'08.04\"	32.020	36	2,180,082.0880	484,080.8847
36	37		S 89°29'08.04\"	84.372	37	2,180,089.8178	484,176.0783
37	38		N 81°09'08.04\"	44.123	38	2,180,078.0788	484,178.0788
38	39		N 77°29'08.04\"	103.880	39	2,180,111.8077	484,088.4881
39	40		N 89°29'08.04\"	76.288	40	2,180,138.7322	484,028.0428
40	41		N 89°29'08.04\"	85.483	41	2,180,183.8522	484,001.2322
41	42		N 71°29'08.04\"	147.818	42	2,180,230.0888	483,211.8838
42	43		N 38°09'08.04\"	78.017	43	2,180,200.0888	484,288.8838
43	44		N 89°29'08.04\"	20.880	44	2,180,200.0888	484,288.8838
44	45		N 12°29'08.04\"	87.807	45	2,180,408.4488	484,278.8838
45	46		N 89°29'08.04\"	178.738	46	2,180,077.8838	484,288.8838
46	47		N 89°29'08.04\"	188.738	47	2,180,777.7838	484,288.8838
47	48		S 89°29'08.04\"	184.407	48	2,180,768.8838	484,033.1040
48	49		S 89°29'08.04\"	81.847	49	2,180,782.1742	484,084.0887
49	50		S 89°29'08.04\"	188.288	50	2,180,748.8188	484,180.7418
50	51		S 89°29'08.04\"	178.738	51	2,180,740.8177	484,088.8838
51	52		N 89°29'08.04\"	188.738	52	2,180,768.8178	484,088.8838
52	53		S 89°29'08.04\"	103.880	53	2,180,881.3238	484,103.8838
53	54		N 78°29'08.04\"	71.288	54	2,180,888.8178	484,188.8178
54	55		N 81°09'08.04\"	118.880	55	2,180,888.8178	484,288.8178
55	56		S 89°29'08.04\"	85.483	56	2,180,888.8178	484,288.8178
56	57		S 89°29'08.04\"	85.483	57	2,180,888.8178	484,288.8178
57	58		S 89°29'08.04\"	85.483	58	2,180,888.8178	484,288.8178
58	59		S 89°29'08.04\"	85.483	59	2,180,888.8178	484,288.8178
59	60		S 89°29'08.04\"	85.483	60	2,180,888.8178	484,288.8178
60	61		S 89°29'08.04\"	85.483	61	2,180,888.8178	484,288.8178
61	62		S 89°29'08.04\"	85.483	62	2,180,888.8178	484,288.8178
62	63		S 89°29'08.04\"	85.483	63	2,180,888.8178	484,288.8178
63	64		S 89°29'08.04\"	85.483	64	2,180,888.8178	484,288.8178
64	65		S 89°29'08.04\"	85.483	65	2,180,888.8178	484,288.8178
65	66		S 89°29'08.04\"	85.483	66	2,180,888.8178	484,288.8178
66	67		S 89°29'08.04\"	85.483	67	2,180,888.8178	484,288.8178
67	68		S 89°29'08.04\"	85.483	68	2,180,888.8178	484,288.8178
68	69		S 89°29'08.04\"	85.483	69	2,180,888.8178	484,288.8178
69	70		S 89°29'08.04\"	85.483	70	2,180,888.8178	484,288.8178
70	71		N 89°29'08.04\"	118.880	71	2,180,888.8178	484,288.8178
71	72		N 89°29'08.04\"	118.880	72	2,180,888.8178	484,288.8178
72	73		S 89°29'08.04\"	85.483	73	2,180,888.8178	484,288.8178
73	74		S 89°29'08.04\"	104.088	74	2,180,888.8178	484,288.8178
74	75		S 89°29'08.04\"	101.800	75	2,180,888.8178	484,288.8178
75	76		S 89°29'08.04\"	103.880	76	2,180,888.8178	484,288.8178
76	77		S 89°29'08.04\"	128.878	77	2,180,888.8178	484,288.8178
77	78		S 89°29'08.04\"	123.880	78	2,180,888.8178	484,288.8178
78	79		S 89°29'08.04\"	138.880	79	2,180,888.8178	484,288.8178
79	80		S 89°29'08.04\"	138.880	80	2,180,888.8178	484,288.8178
80	81		S 89°29'08.04\"	148.874	81	2,180,888.8178	484,288.8178
81	82		S 79°29'08.04\"	78.880	82	2,180,888.8178	484,288.8178
82	83		S 89°29'08.04\"	78.787	83	2,180,888.8178	484,288.8178
83	84		S 89°29'08.04\"	188.288	84	2,180,768.8178	484,088.8178
84	85		S 42°29'08.04\"	138.880	85	2,180,768.8178	484,088.8178
85	86		S 38°09'08.04\"	138.880	86	2,180,768.8178	484,088.8178
86	87		S 42°29'08.04\"	147.473	87	2,180,888.8178	484,088.8178
87	88		S 89°29'08.04\"	85.483	88	2,180,888.8178	484,088.8178
88	89		N 89°29'08.04\"	28.880	89	2,180,888.8178	484,088.8178
89	90		S 89°29'08.04\"	138.880	90	2,180,888.8178	484,088.8178
90	91		S 89°29'08.04\"	178.707	91	2,180,888.8178	484,088.8178
91	92		S 89°29'08.04\"	178.444	92	2,180,888.8178	484,088.8178
92	93		S 89°29'08.04\"	178.888	93	2,180,888.8178	484,088.8178
93	94		S 89°29'08.04\"	178.811	94	2,180,888.8178	484,088.8178
94	95		S 89°29'08.04\"	178.737	95	2,180,888.8178	484,088.8178
95	96		S 89°29'08.04\"	178.888	96	2,180,888.8178	484,088.8178
96	97		S 89°29'08.04\"	138.880	97	2,180,888.8178	484,088.8178
97	98		S 89°29'08.04\"	138.880	98	2,180,888.8178	484,088.8178
98	99		S 89°29'08.04\"	107.313	99	2,180,888.8178	484,088.8178
99	100		S 89°29'08.04\"	85.483	100	2,180,888.8178	484,088.8178

LONGITUD = 10888.20 m

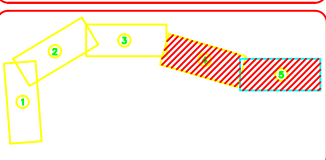
**CROQUIS DE LOCALIZACION**



**SIMBOLOGIA**



**INDICE DE PLANOS**



**NOTAS**

1. EL NORTE INDICADO ES ASTRONÓMICO.
2. EL LEVANTAMIENTO TOPOGRÁFICO FUE REALIZADO POR ROMÁN PROYECTOS Y CONSTRUCCIONES S.A. DE C.V. EN ENERO-2009
3. LAS DISTANCIAS Y PROFUNDIDADES ESTÁN DADAS EN METROS (m), LAS ELEVACIONES ESTÁN DADAS EN METROS SOBRE EL NIVEL DEL MAR (m.s.n.m.)
4. LAS DISTANCIAS INDICADAS EN PLANTA Y CUADRO DE CONSTRUCCION SON HORIZONTALES
5. LOS CADMIENIAMENTOS DEL PERFL ESTAN INDICADOS CON ESTACIONES INCLINADAS.
6. ESTE LEVANTAMIENTO SE ELABORÓ CON BASE EN LAS ESPECIFICACIONES DEL CADRE.
7. LOS DATOS AQUÍ PRESENTADOS SON CON RESPECTO A LA DECORADA EXISTENTE CON TUBERIA DE CONCRETO DE 1.53 BAO LA CARRETERA DEL CIRCUITO MEDIOCENTE SE CINTURO HUELVAO Y ORDENADO DESDE EL INTERIOR DEL MISMO.

UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO  
 FACULTAD DE INGENIERÍA

TESIS

CRUZ RANGEL ISAAC  
 ROJAS GARIBAY JOSÉ ARMANDO  
 TORRES ARREDONDO AGUSTÍN

"PROYECTO EJECUTIVO DE UN COLECTOR COMBINADO EN LA ZONA NOROCCIDENTAL DEL ESTADO DE MÉXICO".

MUNICIPIO DE MELCHOR OCAMPO  
 LEVANTAMIENTO TOPOGRÁFICO COLECTOR MELCHOR OCAMPO  
 PLANTA, PERFL Y CUADRO CONSTRUCTIVO

FECHA: ABRIL-2009 PLANO: 18 DE 18 CLAVE: ANEXO "A"