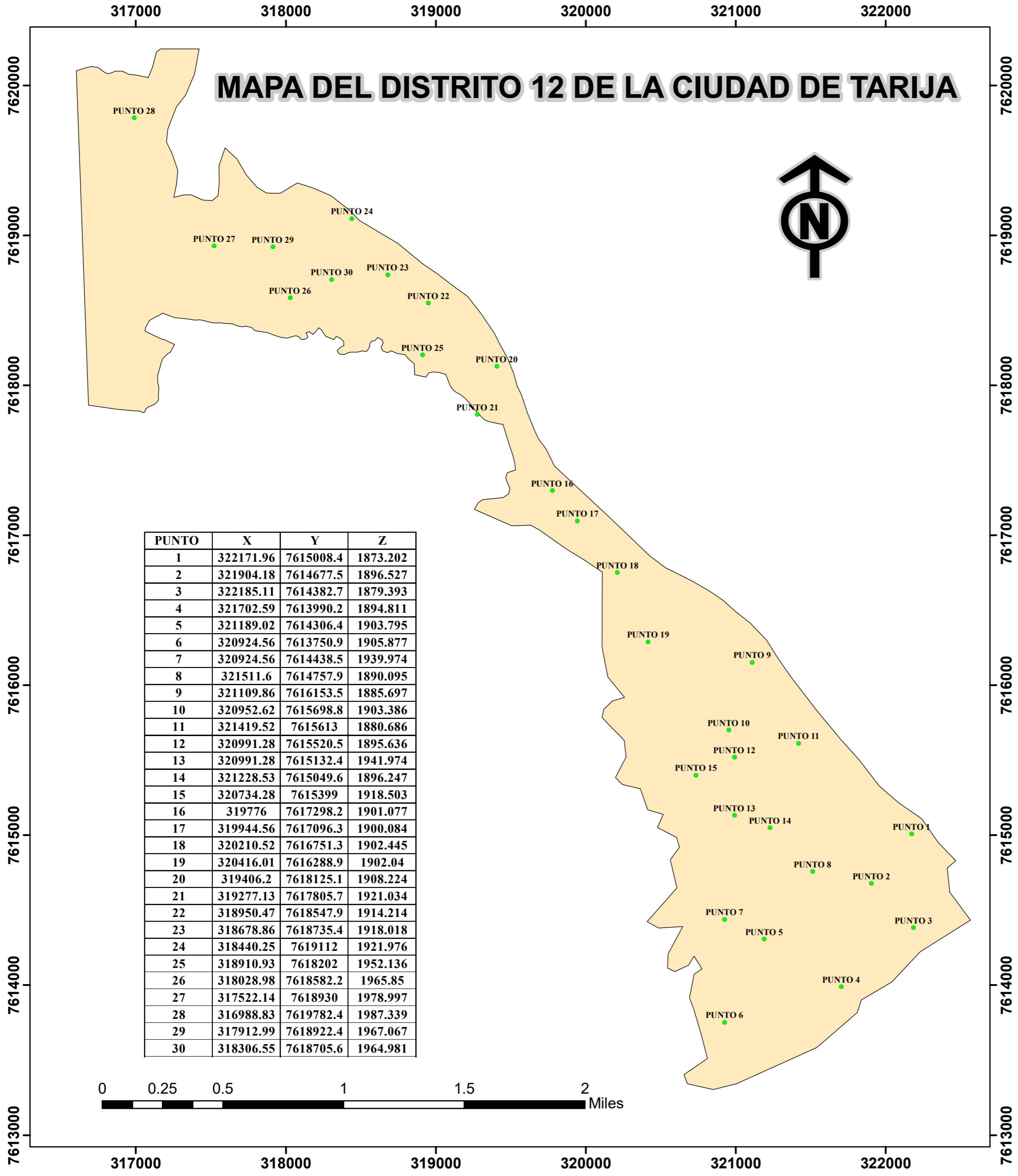
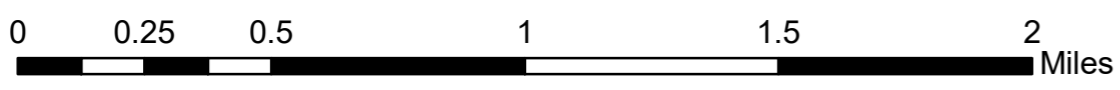


MAPA DEL DISTRITO 12 DE LA CIUDAD DE TARIJA



PUNTO	X	Y	Z
1	322171.96	7615008.4	1873.202
2	321904.18	7614677.5	1896.527
3	322185.11	7614382.7	1879.393
4	321702.59	7613990.2	1894.811
5	321189.02	7614306.4	1903.795
6	320924.56	7613750.9	1905.877
7	320924.56	7614438.5	1939.974
8	321511.6	7614757.9	1890.095
9	321109.86	7616153.5	1885.697
10	320952.62	7615698.8	1903.386
11	321419.52	7615613	1880.686
12	320991.28	7615520.5	1895.636
13	320991.28	7615132.4	1941.974
14	321228.53	7615049.6	1896.247
15	320734.28	7615399	1918.503
16	319776	7617298.2	1901.077
17	319944.56	7617096.3	1900.084
18	320210.52	7616751.3	1902.445
19	320416.01	7616288.9	1902.04
20	319406.2	7618125.1	1908.224
21	319277.13	7617805.7	1921.034
22	318950.47	7618547.9	1914.214
23	318678.86	7618735.4	1918.018
24	318440.25	7619112	1921.976
25	318910.93	7618202	1952.136
26	318028.98	7618582.2	1965.85
27	317522.14	7618930	1978.997
28	316988.83	7619782.4	1987.339
29	317912.99	7618922.4	1967.067
30	318306.55	7618705.6	1964.981

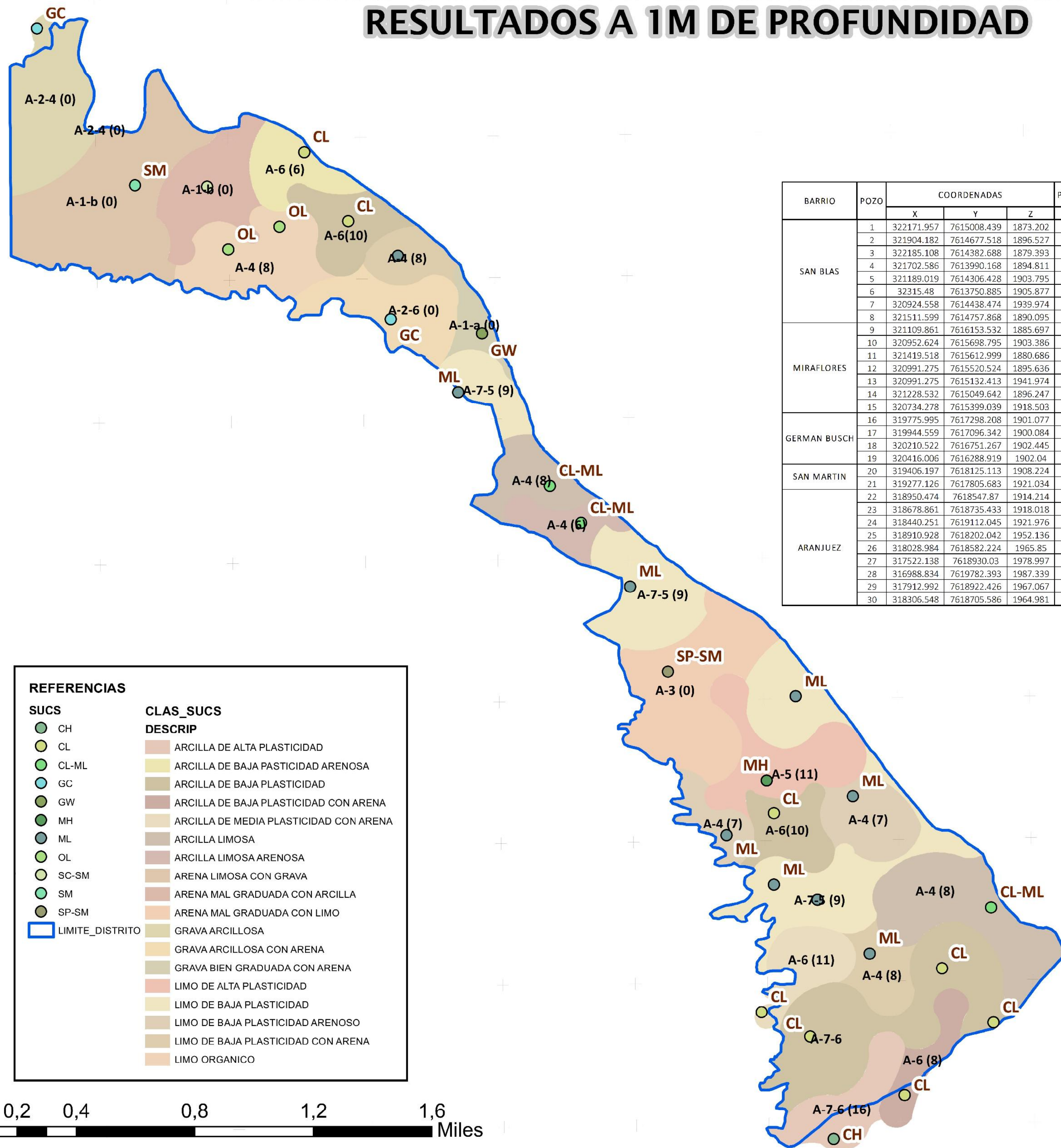


REFERENCIA

- PUNTOS D12
- MAPA DEL DISTRITO 12

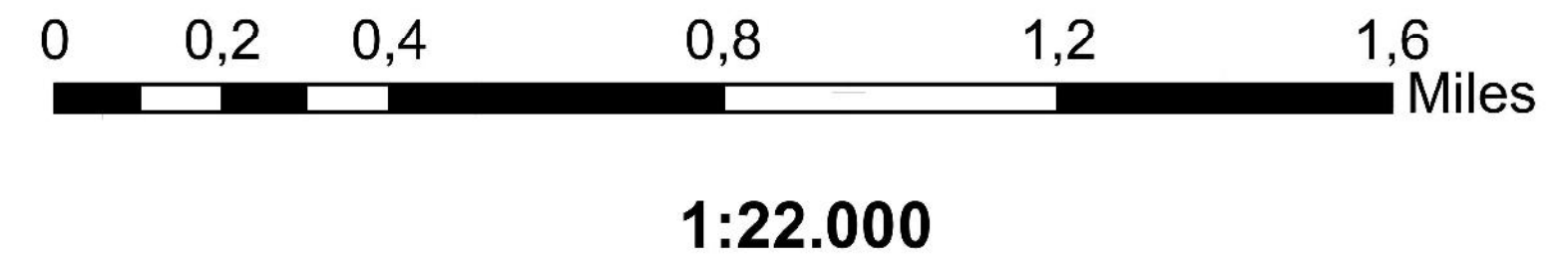
UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO CARRERA: INGENIERÍA CIVIL	
PROYECTO: PUNTOS DE COORDENADAS DEL DISTRITO 12 DE LA CIUDAD DE TARIJA	
ÚNICO	MAPA ESCALA: 1:24,000
	CREADO POR: ROBERTO JUNCO HERRERA
	FECHA: OCTUBRE DE 2023

MAPA GEOTÉCNICO DE CLASIFICACIÓN DE SUELOS RESULTADOS A 1M DE PROFUNDIDAD



BARRIO	POZO	COORDENADAS			PROFUNDIDAD m	CLASIFICACION		% PASA TAMIZ N° 200	% LIMO	% ARCILLA	LL	LP	IP	PESO ESPECIFICO g/cm³	HUMEDAD (%)
		X	Y	Z		SUCS	AASHTO								
SAN BLAS	1	322171.957	7615008.439	1873.202	1	CL-ML	A-4 (8)	88.45	64.48	23.97	28.2	20.6	7.6	2.745	6.87
	2	321904.182	7614677.518	1896.527	1	CL	A-7-6 (17)	86.75	64.86	21.89	47.2	18.7	28.5	2.694	13.89
	3	322185.108	7614382.688	1879.393	1	CL	A-7-6 (15)	97.73	69.63	28.10	45.2	21.2	24.0	2.717	13.12
	4	321702.586	7613990.168	1894.811	1	CL	A-6 (8)	81.77	61.11	20.66	28.9	18.5	10.4	2.707	9.40
	5	321189.019	7614306.428	1903.795	1	CL	A-7-6 (14)	97.94	61.07	36.87	46.5	25.4	21.1	2.715	12.90
	6	32315.48	7613750.885	1905.877	1	CH	A-7-6 (16)	88.37	55.01	33.36	50.1	24.8	25.3	2.725	17.70
	7	320924.558	7614438.474	1939.974	1	CL	A-6 (11)	83.73	65.17	18.56	35.2	17.3	17.9	2.697	9.66
	8	321511.599	7614757.868	1890.095	1	ML	A-4 (8)	79.17	63.39	15.78	29.7	26.5	3.2	2.664	7.90
MIRAFLORES	9	321109.861	7616153.532	1885.697	1	ML	A-7-5 (9)	97.66	76.64	29.90	41.2	29.9	11.3	2.652	8.60
	10	320952.624	7615698.795	1903.386	1	MH	A-5 (11)	99.6	84.48	15.12	56.7	49.7	7.0	2.655	11.25
	11	321419.518	7615612.999	1880.686	1	ML	A-4 (7)	69.34	54.93	14.41	23.0	20.0	3.0	2.655	7.64
	12	320991.275	7615520.524	1895.636	1	CL	A-6 (10)	95.31	78.85	16.46	29.5	1.7	27.8	2.733	6.03
	13	320991.275	7615132.413	1941.974	1	ML	A-4 (8)	88.13	74.88	13.25	24.8	21.9	2.9	2.656	9.91
	14	321228.532	7615049.642	1896.247	1	ML	A-4 (8)	98.77	78.76	20.01	39.2	32.5	6.7	2.673	11.58
GERMAN BUSCH	15	320734.278	7615399.039	1918.503	1	ML	A-4 (4)	54.97	45.19	9.78	27.4	24.9	2.5	2.644	6.81
	16	319775.995	7617298.208	1901.077	1	CL-ML	A-4 (8)	86.95	64.08	22.87	25.9	19.4	6.5	2.748	12.39
	17	319944.559	7617096.342	1900.084	1	CL-ML	A-4 (6)	63.8	51.84	11.96	22.1	14.8	7.3	2.746	5.69
	18	320210.522	7616751.267	1902.445	1	ML	A-4 (8)	89.76	68.69	21.06	40.4	32.3	8.1	2.665	10.97
SAN MARTIN	19	320416.006	7616288.919	1902.04	1	SP-SM	A-3 (0)	10.25	-	-	-	-	-	2.665	4.15
	20	319406.197	7618125.113	1908.224	1	GW	A-1-a (0)	4.22	-	-	-	-	-	2.665	4.82
ARANJUEZ	21	319277.126	7617805.683	1921.034	1	ML	A-4 (8)	97.67	78.10	19.57	32.7	24.1	8.6	2.699	16.60
	22	318950.474	7618547.87	1914.214	1	ML	A-4 (8)	83.19	61.51	21.68	32.7	23.7	9.0	2.664	11.45
	23	318678.861	7618735.433	1918.018	1	CL	A-6 (8)	94.13	73.02	21.11	28.7	18.3	10.4	2.773	8.13
	24	318440.251	7619112.045	1921.976	1	CL	A-6 (6)	63.58	54.10	9.48	24.2	13.2	11.0	2.708	7.28
	25	318910.928	7618202.042	1952.136	1	GC	A-2-6 (0)	24.71	-	-	32.0	20.4	11.6	2.649	5.41
	26	318028.984	7618582.224	1965.85	1	OL	A-4 (8)	92.33	60.77	31.56	39.0	35.7	3.3	2.333	15.39
	27	317522.138	7618930.03	1978.997	1	SM	A-2-4 (0)	23.56	-	-	23.6	19.6	4.0	2.673	5.46
	28	316988.834	7619782.393	1987.339	1	GC	A-2-4 (0)	21.94	-	-	24.4	16.8	7.6	2.652	6.96
	29	317912.992	7618922.426	1967.067	1	SC-SM	A-2-4 (0)	11.15	-	-	28.2	22.6	5.6	2.669	3.91
	30	318306.548	7618705.586	1964.981	1	OL	A-4 (8)	78.08	51.41	26.67	31.2	24.2	7.0	2.303	8.73

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CH	ARCILLA DE ALTA PASTICIDAD
CL	ARCILLA DE BAJA PASTICIDAD ARENOSA
CL-ML	ARCILLA DE BAJA PASTICIDAD
GC	ARCILLA DE BAJA PASTICIDAD CON ARENA
GW	ARCILLA DE MEDIA PASTICIDAD CON ARENA
MH	ARCILLA LIMOSA
ML	ARCILLA LIMOSA ARENOSA
OL	ARENA LIMOSA CON GRAVA
SC-SM	ARENA MAL GRADUADA CON ARCILLA
SM	ARENA MAL GRADUADA CON LIMO
SP-SM	GRAVA ARCILLOSA
LIMITE_DISTRITO	GRAVA ARCILLOSA CON ARENA
	GRAVA BIEN GRADUADA CON ARENA
	LIMO DE ALTA PASTICIDAD
	LIMO DE BAJA PASTICIDAD
	LIMO DE BAJA PASTICIDAD ARENOSO
	LIMO DE BAJA PASTICIDAD CON ARENA
	LIMO ORGANICO



UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO



CARRERA: INGENIERÍA CIVIL

PERFIL DE PROYECTO DE GRADO

CIUDAD DE TARIJA

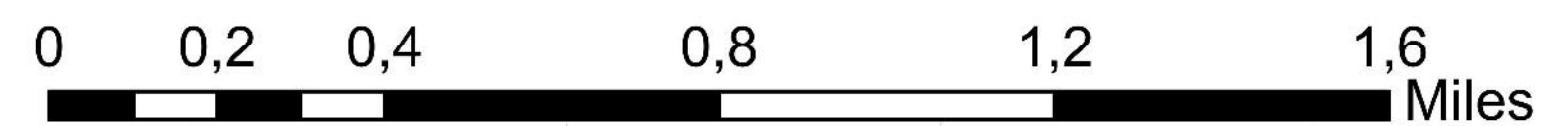
DISTRITO 12

FECHA: DICIEMBRE DE 2021

MAPA GEOTÉCNICO DE CLASIFICACIÓN DE SUELOS RESULTADOS A 2M DE PROFUNDIDAD



BARRIO	PUNTO	COORDENADAS			PROFUNDIDAD m	CLASIFICACION		% PASA TAMIZ N° 200	% LIMO	% ARCILLA	LL	LP	IP	PESO ESPECIFICO g/cm³
		X	Y	Z		SUCS	AASHTO							
SAN BLAS	1	322171.957	7615008.439	1873.202	2	GC	A-2-6(0)	19.35	-	-	24.2	16.4	7.8	2.654
	2	321904.182	7614677.518	1896.527	2	CH	A-7-6(18)	98.38	58.77	39.62	53.5	26.1	27.4	2.732
	3	322185.108	7614382.688	1879.393	2	CL	A-6(10)	98.33	65.22	33.11	39.8	24.3	15.5	2.749
	4	321702.586	7613990.168	1894.811	2	CH	A-7-6(20)	98.55	72.86	25.69	50.2	28.4	21.8	2.715
	5	321189.019	7614306.428	1903.795	2	CL	A-7-6(13)	96.43	60.74	35.69	44.7	25.2	19.5	2.756
	6	32315.48	7613750.885	1905.877	2	CL	A-7-6(13)	99.08	62.14	36.94	48.5	28.8	19.7	2.701
	7	320924.558	7614438.474	1939.974	2	CL	A-6(9)	89.42	68.96	20.46	31.4	17.6	13.8	2.736
	8	321511.599	7614757.868	1890.095	2	SM	A-2-4(0)	29.91	-	-	-	-	-	2.683
MIRAFLORES	9	321109.861	7616153.532	1885.697	2	SC	A-2-4(0)	23.25	-	-	30.3	19.6	10.7	2.688
	10	320952.624	7615698.795	1903.386	2	CL	A-6(10)	81.96	55.50	26.46	36.1	21.7	14.4	2.803
	11	321419.518	7615612.999	1880.686	2	SM-SC	A-2-4(0)	25.65	-	-	21.8	17.4	4.4	2.672
	12	320991.275	7615520.524	1895.636	2	CL	A-6(9)	91.18	63.78	27.40	33.5	21	12.5	2.756
	13	320991.275	7615132.413	1941.974	2	CL	A-6(8)	84.07	57.18	26.89	28.6	18.4	10.2	2.708
	14	321228.532	7615049.642	1896.247	2	CL	A-4(8)	92.71	71.63	21.08	27.3	17.3	10	2.772
	15	320734.278	7615399.039	1918.503	2	SM	A-4(2)	42.80	38.40	4.40	26.1	19.5	6.6	2.644
	16	319775.995	7617298.208	1901.077	2	GC	A-2-4(0)	25.77	-	-	25.7	16.3	9.4	2.666
GERMAN BUSCH	17	319944.559	7617096.342	1900.084	2	GC	A-2-4(0)	28.87	-	-	23.3	15.2	8.1	2.659
	18	320210.522	7616751.267	1902.445	2	CL	A-6(10)	92.23	66.73	25.50	37.7	21.3	16.4	2.733
	19	320416.006	7616288.919	1902.04	2	CL	A-6(9)	97.51	68.62	28.88	33.7	21.7	12.0	2.710
SAN MARTIN	20	319406.197	7618125.113	1908.224	2	GW	A-1-a(0)	4.03	-	-	-	-	-	2.652
	21	319277.126	7617805.683	1921.034	2	GW	A-1-a(0)	2.23	-	-	-	-	-	2.671
ARANJUEZ	22	318950.474	7618547.87	1914.214	2	CL	A-6(9)	82.85	56.84	26.01	36.0	23.1	12.9	2.745
	23	318678.861	7618735.433	1918.018	2	GC	A-2-6(0)	22.08	-	-	27.4	15	12.4	2.644
	24	318440.251	7619112.045	1921.976	2	SC	A-2-4(0)	22.35	-	-	25.1	16.3	8.8	2.679
	25	318910.928	7618202.042	1952.136	2	GC	A-2-6(0)	25.65	-	-	33.5	20.3	13.2	2.646
	26	318028.984	7618582.224	1965.85	2	CL	A-7-6(16)	82.31	59.47	22.84	45.6	20.5	25.1	2.714
	27	317522.138	7618930.03	1978.997	2	GC	A-2-4(0)	23.39	-	-	24.0	16.4	7.6	2.65
	28	316988.834	7619782.393	1987.339	2	GC	A-2-4(0)	25.22	-	-	26.3	18.2	8.1	2.652
	29	317912.992	7618922.426	1967.067	2	SP-SC	A-2-4(0)	7.90	-	-	27.7	20.8	6.9	2.668
	30	318306.548	7618705.586	1964.981	2	GP-GM	A-1-a(0)	7.36	-	-	-	-	-	2.655



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	LIMITE_DISTRITO

UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO

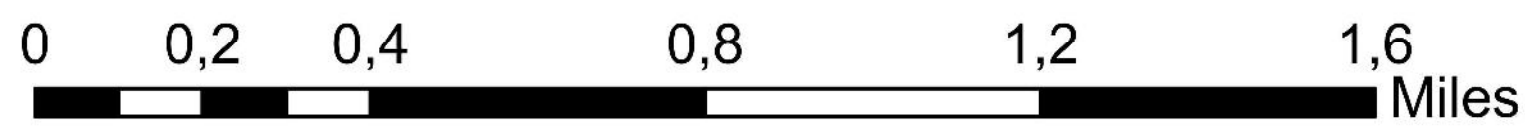


CARRERA: INGENIERÍA CIVIL
 PERFIL DE PROYECTO DE GRADO
 CIUDAD DE TARIJA
 DISTRITO 12
 FECHA: DICIEMBRE DE 2021

MAPA GEOTÉCNICO DE CLASIFICACIÓN DE SUELOS RESULTADOS A 3M DE PROFUNDIDAD



BARRIO	PUNTO	COORDENADAS			PROFUNDIDAD m	CLASIFICACION SUCS	AASHTO	N° 200	% PASA TAMIZ					PESO ESPECIFICO g/cm³	HUMEDAD (%)
		X	Y	Z					% LIMO	% ARCILLA	LL	LP	IP		
SAN BLAS	1	322171.957	7615008.439	1873.202	3	GC	A-2-6(0)	19.5	-	-	24.4	16.2	8.2	2.652	9.28
	2	321904.182	7614677.518	1896.527	3	CH	A-7-6(18)	98.38	58.96	39.42	53.6	26.2	27.4	2.721	16.73
	3	322185.108	7614382.688	1879.393	3	CL	A-6(10)	98.3	66.63	31.67	39.3	24.2	15.1	2.748	15.89
	4	321702.586	7613990.168	1894.811	3	CL	A-7-6(15)	87.7	69.46	18.24	44.9	20.4	24.5	2.747	11.25
	5	321189.019	7614306.428	1903.795	3	CL	A-7-6(13)	96.43	64.73	31.7	44.7	24.3	20.4	2.709	18.78
	6	32315.48	7613750.885	1905.877	3	CL	A-7-6(14)	99.02	64.39	34.63	47.0	25.9	21.1	2.719	11.93
	7	320924.558	7614438.474	1939.974	3	GC	A-2-6(0)	23.99	-	-	25.1	15.7	9.4	2.652	16.74
	8	321511.599	7614757.868	1890.095	3	CL	A-7-6(11)	96.24	66.43	29.81	41.5	23.2	18.3	2.778	27.59
MIRAFLORES	9	321109.861	7616153.532	1885.697	3	SC	A-2-6(0)	25.26	-	-	29.5	17.4	12.1	2.672	8.03
	10	320952.624	7615698.795	1903.386	3	CL	A-6(10)	82.65	57.98	24.67	35.9	22.2	13.7	2.704	3.58
	11	321419.518	7615612.999	1880.686	3	SC	A-2-4(0)	22.56	-	-	23	16.2	6.8	2.677	6.37
	12	320991.275	7615520.524	1895.636	3	CL	A-6(10)	91.06	69.57	21.49	33.5	18.7	14.8	2.718	7.25
GERMAN BUSCH	13	320991.275	7615132.413	1941.974	3	SC	A-2-4(0)	20.51	-	-	24.4	16.8	7.6	2.669	8.53
	14	321228.532	7615049.642	1896.247	3	CL	A-4(8)	92.56	72.81	19.75	27.0	16.6	10.4	2.695	11.89
	15	320734.278	7615399.039	1918.503	3	SM-SC	A-4(1)	42.22	-	-	26.0	19.7	6.3	2.671	4.71
	16	319775.995	7617298.208	1901.077	3	GC	A-2-4(0)	26.22	-	-	26.2	15.8	10.4	2.663	10.13
SAN MARTIN	17	319944.559	7617096.342	1900.084	3	GC	A-2-6(0)	27.51	-	-	24.9	15.2	9.7	2.652	5.01
	18	320210.522	7616751.267	1902.445	3	CL	A-6(11)	91.78	68.35	23.43	37.4	21.3	16.1	2.744	11.18
	19	320416.006	7616288.919	1902.04	3	CL	A-6(9)	97.39	73.71	23.68	33.3	20.7	12.6	2.722	18.97
	20	319406.197	7618125.113	1908.224	3	GW	A-1-a(0)	3.14	-	-	-	-	-	2.653	5.21
ARANJUEZ	21	319277.126	7617805.683	1921.034	3	GW	A-1-a(0)	1.24	-	-	-	-	-	2.655	17.39
	22	318950.474	7618547.87	1914.214	3	CL	A-6(9)	82.62	58.48	24.14	35.3	22	13.3	2.742	11.97
	23	318678.861	7618735.433	1918.018	3	GC	A-2-6(0)	23.13	-	-	26.4	14.5	11.9	2.652	8.57
	24	318440.251	7619112.045	1921.976	3	SM-SC	A-2-4(0)	23.28	-	-	24.7	16.5	8.2	2.671	7.87
	25	318910.928	7618202.042	1952.136	3	GC	A-2-6(0)	25.61	-	-	30.9	19.5	11.4	2.653	5.27
	26	318028.984	7618582.224	1965.85	3	GC	A-2-4(0)	22.83	-	-	23.5	15.4	8.1	2.652	11.25
	27	317522.138	7618930.03	1978.997	3	GC	A-2-4(0)	20.57	-	-	23.4	16.1	7.3	2.651	5.20
	28	316988.834	7619782.393	1987.339	3	GC	A-2-4(0)	23.47	-	-	26.2	18.3	7.9	2.653	8.11
	29	317912.992	7618922.426	1967.067	3	SP-SC	A-2-4(0)	7.57	-	-	27.0	20.2	6.8	2.672	4.86
	30	318306.548	7618705.585	1964.981	3	GP-GM	A-1-a(0)	6.44	-	-	-	-	-	2.651	3.15



1:22.000

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- A-7-6(11)
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- A-7-6(14)
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- A-7-6(18)

▭ LIMITE_DISTRITO

UNIVERSIDAD AUTÓNOMA JUAN MISAEL SARACHO



CARRERA: INGENIERÍA CIVIL

PERFIL DE PROYECTO DE GRADO

CIUDAD DE TARIJA

DISTRITO 12

FECHA: DICIEMBRE DE 2021