

**ANEXOS A**  
**INVENTARIO DE POZOS CON REGISTRO**

## COSAALT RL - MONITOREO DE NIVELES FREÁTICOS DE FUENTES DE AGUA SUBTERRÁNEAS 2021

Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
1	Daniel Campos	320961.16	7619054.44	1891	0.58	33.10	32.90	32.25	31.40	31.10	31.00	30.90	31.20	31.90	32.50	32.90	32.60
2	Villa Busch	320344.05	7616470.36	1860	0.15	18.70	18.20	17.65	16.90	17.40	16.90	17.00	16.90	17.60	17.95	17.50	18.10
3	Stadium (Pozo Antiguo)	321402.14	7617806.33	1825	0.61	20.35	19.35	18.90	18.90	19.00	19.00	17.60	20.00	21.25	22.10	23.20	20.50
4	Stadium (Pozo Nuevo)	321403	7617802	1872	0.70	20.70	19.70	19.00	19.00	19.20	18.12	17.70	26.56	35.00	35.10	35.50	20.70
5	Circunvalación "A" (Jardinera afuera)	318991.63	7620301	1864	0.03	41.40	41.10	40.25	38.50	37.80	37.00	37.00	36.35	37.00	37.70	38.00	37.90
6	Circunvalación "B" (Con bomba y tanque elevado)	318968.78	7620296.84	1864	0.14	33.00	32.40	33.65	30.30	29.60	28.60	28.20	27.90	32.10	32.00	31.50	31.00
7	Narciso Campero (Pozo antiguo)	322595.01	7617928.86	1889	0.60	36.70	36.00	36.70	34.10	33.90	34.20	34.30	34.60	35.70	36.50	----	---
8	San Luis (kiosco y tapón)				0.75	4.75	4.00	3.25	2.80	2.80	2.80	2.75	2.75	3.40	3.55	4.40	4.40
9	Base Aérea	322891.74	7615738.47	1859	---	---	---	---	---	---	---	---	9.43	---	---	---	---
10	San Luis (Pozo con Bomba y tanque)	324237.37	7613758.3	1830	0.46	---	---	---	---	---	---	---	---	---	---	---	---
11	San Gerónimo (PN)	322397	7615963	1855	---	---	---	4.50	3.60	---	---	0.30	3.30	---	---	13.10	13.20
12	Villa Fátima Pozo "A"	321537.45	7617399.85	1863	0.77	17.10	16.50	15.60	15.60	15.70	15.70	14.45	16.80	18.20	18.30	20.10	17.20
13	Villa Fátima Pozo "B"	321532.3	7617386.16	1864	0.72	17.10	16.50	15.60	15.70	15.80	15.80	14.50	17.30	18.20	20.60	21.00	17.25
14	San Jacinto B1	320256.63	7616126.51	1890	0.77	---	---	---	65.60	65.60	66.00	79.10	75.90	75.30	66.20	75.30	78.40
15	San Jacinto B2	320161.09	7616098.17	1880	0.76	---	---	---	56.00	56.00	56.00	56.05	62.20	62.20	56.40	62.00	63.30
16	Guadalquivir	319217.78	7619071.7	1933	0.95	12.50	11.80	10.10	7.90	6.90	5.80	6.20	16.30	20.30	20.10	18.00	18.90
17	Guadalquivir II (PN)	319474	7618751	1882	0.55	---	---	---	---	---	---	---	---	---	---	---	---
18	Guadalquivir III (PN)	318799	7619383	1889	---	---	---	---	---	---	---	---	---	---	---	---	---
19	Tomatas C	317545	7622830	1935	0.46	---	7.34	22.10	---	---	---	11.70	14.50	13.50	14.40	15.50	14.50
20	Los Álamos	318287.51	7621558.92	1969	0.10	---	27.20	27.20	---	---	---	---	27.30	---	27.50	27.50	27.50
21	Avit Pozo A	321035	7620850	1916	0.69	43.50	43.50	42.50	42.50	42.40	42.30	42.50	42.00	43.00	43.10	43.10	43.10

Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
22	Avit Pozo B	320840.32	7620439.66	1916	0.79	32.10	32.10	32.00	32.10	32.00	31.20	31.30	30.30	31.40	31.50	31.70	31.70
23	Albat	320768.15	7619703.28	1915	0.60	29.80	38.80	29.80	29.80	34.00	38.00	37.00	38.00	36.70	38.80	38.50	38.60
24	19 de Marzo	320952.89	7620963.84	1940	0.25	---	---	---	---	---	---	---	---	---	---	---	---
25	Lourdes	321369.48	7620240.29	1945	0.80	36.00	33.50	33.50	42.00	34.00	36.00	36.30	35.30	34.00	33.80	34.00	36.00
26	San Bernardo "A"	321725.86	7618900.31	1937	0.66	---	42.70	41.20	41.20	41.20	---	---	41.60	42.10	42.30	45.00	43.50
27	San Bernardo "B"	321760.04	7619033.62	1932	---	---	---	34.80	---	---	---	---	---	---	---	---	---
28	El Constructor "A"	322583.6	7619098.05	1959	0.55	---	62.00	60.30	60.20	60.20	60.20	60.20	60.60	59.60	60.50	64.00	62.50
29	El Constructor "B"	322575.8	7619097.21	1957	1.2	---	62.40	---	61.00	61.00	61.00	61.00	61.41	61.00	---	---	---
30	Pedro Antonio Flores II (PN)	322436	7618577	1884	---	---	---	---	---	---	---	---	---	---	---	---	---
31	Pedro Antonio Flores (Pozo Antiguo)	321775.63	7618460.83	1890	0.4	---	39.50	37.90	37.90	38.00	---	---	36.40	36.90	41.00	42.00	39.40
32	Andaluz (PN)	321731	7619561	1880	---	---	---	---	---	---	---	---	---	---	---	---	---
33	Luis Espinal A	323124.04	7618507.12	1910	0.8	---	59.30	58.00	57.60	57.30	53.20	---	50.00	55.60	59.50	58.60	58.00
34	Luis Espinal B	323683.95	7618820.7	1907	0.45	---	55.10	54.00	53.50	53.40	53.40	---	52.20	54.40	55.20	56.30	55.50
35	Narciso Campero II (Pozo Nuevo)	322689	7618166	1882	---	---	---	---	---	---	---	---	---	---	---	---	---
36	Morros Blancos "A"	323338.81	7617564.32	1903	0.65	---	55.10	53.90	54.00	54.00	54.00	---	54.20	55.20	57.50	57.60	57.70
37	Morros Blancos "B"	323345.69	7617601.71	1902	0.6	---	54.20	53.90	53.90	53.00	53.00	---	53.10	53.20	55.60	56.00	56.30
38	Monte Cristo (PN)	324022	7619251	1908	---	---	---	---	---	---	---	---	---	---	---	---	---
39	Aeropuerto "A"	323338.81	7617564.32	1878	0.7	---	36.70	34.30	35.30	35.60	---	---	34.80	31.01	34.00	38.00	37.30
40	Aeropuerto "B"	323338.23	7616090.62	1877	1	---	---	---	---	---	---	---	---	---	---	---	---
41	Cárcel Publica	323799.16	7616205.84	1889	---	---	---	---	---	---	---	---	---	---	---	---	---
42	Anaspugio "A"	323809.49	7617642.77	1894	0.5	---	---	41.80	41.90	40.50	---	9.50	42.60	41.30	43.60	44.10	43.30
43	Anaspugio "B"	323833.6	7618142.75	1902	0.35	---	---	54.30	89.00	53.90	---	88.30	54.80	53.20	56.20	57.40	57.40
44	Simón Bolívar (Pozo Antiguo)	323787.56	7616733.01	1890	0.78	---	---	44.30	---	42.60	---	---	76.00	44.40	45.60	47.80	46.90

Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
45	Morros Blancos Aeropuerto Industrial (PN)	323459	7617051	1877	---	---	---	---	---	---	---	---	---	---	---	---	---
46	Oscar Zamora M.	320031.44	7621140.15	1922	0.38	13.00	12.30	12.30	12.70	12.70	12.70	---	12.70	12.70	12.90	12.40	12.40
47	3 de mayo	320390.21	7620205.91	1911	0.42	33.00	30.50	28.20	28.00	28.00	22.20	---	26.00	28.50	28.80	29.60	29.60
48	Las Barrancas	320954	7621913	1855	0.42	---	---	---	---	---	---	---	---	---	---	---	---
49	27 de Mayo	323063	7619947	1927	0.7	64.80	64.00	64.90	63.60	63.40	---	---	63.50	64.20	64.90	66.30	64.90
50	Valle Hermoso	322051	7622008	1860	0.73	36.00	42.60	37.30	38.20	38.80	36.90	---	37.50	37.40	37.50	39.50	39.30
51	1ro de Mayo	322296.99	7620602.96	1845	0.5	53.50	53.50	54.00	54.10	53.90	54.60	---	52.90	56.80	57.00	55.70	56.00
52	Santa Rosa (PN)	323403	7619068	1905	---	---	---	---	---	---	---	---	---	---	---	---	---
53	San Salvador	325742.9	7614909.12	1868	0.85	---	---	---	32.70	33.80	31.80	---	33.10	33.60	33.90	34.90	34.90
54	Simón Bolívar II (PN)	324325	7616576	1869	---	---	---	---	---	---	---	---	36.30	39.70	---	---	28.50
55	Vela (Torrecillas)	321155	7619485	1892	0.6	---	---	70.20	79.00	80.00	93.90	---	76.80	75.00	---	76.10	76.60
56	San Jorge II	324551.64	7615445.49	1870	0.15	27.20	27.50	26.50	25.70	25.90	25.80	25.80	26.20	27.10	27.60	29.55	28.80
57	San Jorge I (Pozo Nuevo)	323796	7615797	1866	---	---	---	---	---	---	---	---	---	---	---	---	---

Fuente: COSAALT R.L.

## COSAALT RL - MONITOREO DE NIVELES FREÁTICOS DE FUENTES DE AGUA SUBTERRÁNEAS 2020

Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
1	Daniel Campos	320961.16	7619054.44	1891	0.58	32.50	31.90	31.20	30.15	30.19	31.50	31.80	32.50	33.00	33.90	33.95	33.60
2	Villa Busch	320344.05	7616470.36	1860	0.15	18.80	17.80	17.50	15.95	---	16.80	18.45	18.55	18.70	20.95	20.25	20.20
3	Stadium (Pozo Antiguo)	321402.14	7617806.33	1825	0.61	20.50	18.00	17.45	16.20	16.25	19.65	20.75	21.50	21.70	24.30	24.35	---
4	Stadium (Pozo Nuevo)	321403	7617802	1872	0.7	21.30	18.15	17.55	16.25	16.30	65.00	78.89	40.00	40.00	---	41.10	---
5	Circunvalación "A" (Jardinera afuera)	318991.63	7620301	1864	0.03	40.10	39.90	39.10	39.05	38.60	38.70	39.10	39.45	39.44	40.70	41.10	41.60
6	Circunvalación "B" (Con bomba y tanque elevado)	318968.78	7620296.84	1864	0.14	37.00	37.20	36.10	34.30	33.40	34.00	32.92	33.15	33.30	33.40	33.50	33.40
7	Narciso Campero (Pozo antiguo)	322595.01	7617928.86	1889	0.6	36.15	34.70	33.80	32.35	32.40	34.20	35.40	37.00	37.50	38.18	38.85	37.60
8	San Luis (kiosco y tapón)				0.75	3.65	3.20	2.60	2.40	2.08	2.60	3.48	3.60	4.30	5.05	4.93	5.30
9	Base Aérea	322891.74	7615738.47	1859		---	---	---	---	---	---	---	---	---	---	---	---
10	San Luis (Pozo con Bomba y tanque)	324237.37	7613758.3	1830	0.46	---	---	---	---	---	---	---	---	---	---	---	---
11	San Gerónimo (PN)	322397	7615963	1855		---	---	---	---	---	---	---	---	---	---	---	---
12	Villa Fátima Pozo "A"	321537.45	7617399.85	1863	0.77	---	14.80	14.30	13.00	13.50	---	---	18.70	19.10	---	20.10	---
13	Villa Fátima Pozo "B"	321532.3	7617386.16	1864	0.72	19.12	20.00	14.30	12.95	---	18.10	19.23	20.20	21.30	---	22.90	---
14	San Jacinto B1	320256.63	7616126.51	1890	0.77	69.00	40.00	67.00	---	---	---	---	67.60	---	---	70.00	70.50
15	San Jacinto B2	320161.09	7616098.17	1880	0.76	---	---	---	---	---	---	---	57.70	---	---	60.00	59.70
16	Guadalquivir	319217.78	7619071.7	1933	0.95	11.15	11.30	9.40	---	---	---	---	18.00	19.15	---	---	16.30
17	Guadalquivir II (PN)	319474	7618751	1882	0.55	---	---	---	---	---	---	---	---	---	---	---	---
18	Guadalquivir III (PN)	318799	7619383	1889		---	---	---	---	---	---	---	---	---	---	---	---
19	Tomatas C	317545	7622830	1935	0.9	13.25	13.26	13.00	---	---	---	---	12.90	13.10	---	---	---
20	Los Álamos	318287.51	7621558.92	1969	0.1	27.20	27.00	27.05	---	---	---	---	27.20	---	---	---	---
21	Avit Pozo A	321035	7620850	1916	0.69	36.60	37.10	36.15	---	---	---	---	37.15	37.15	---	43.50	43.60
22	Avit Pozo B	320840.32	7620439.66	1916	0.79	36.80	36.70	37.50	---	---	---	---	36.50	36.50	---	32.20	---
23	Albat	320768.15	7619703.28	1915	0.6	41.00	38.50	42.30	---	---	---	---	42.30	42.30	---	28.80	29.00
24	19 de Marzo	320952.89	7620963.84	1940	0.25	29.50	28.50	29.00	---	---	---	---	30.00	30.00	---	---	---

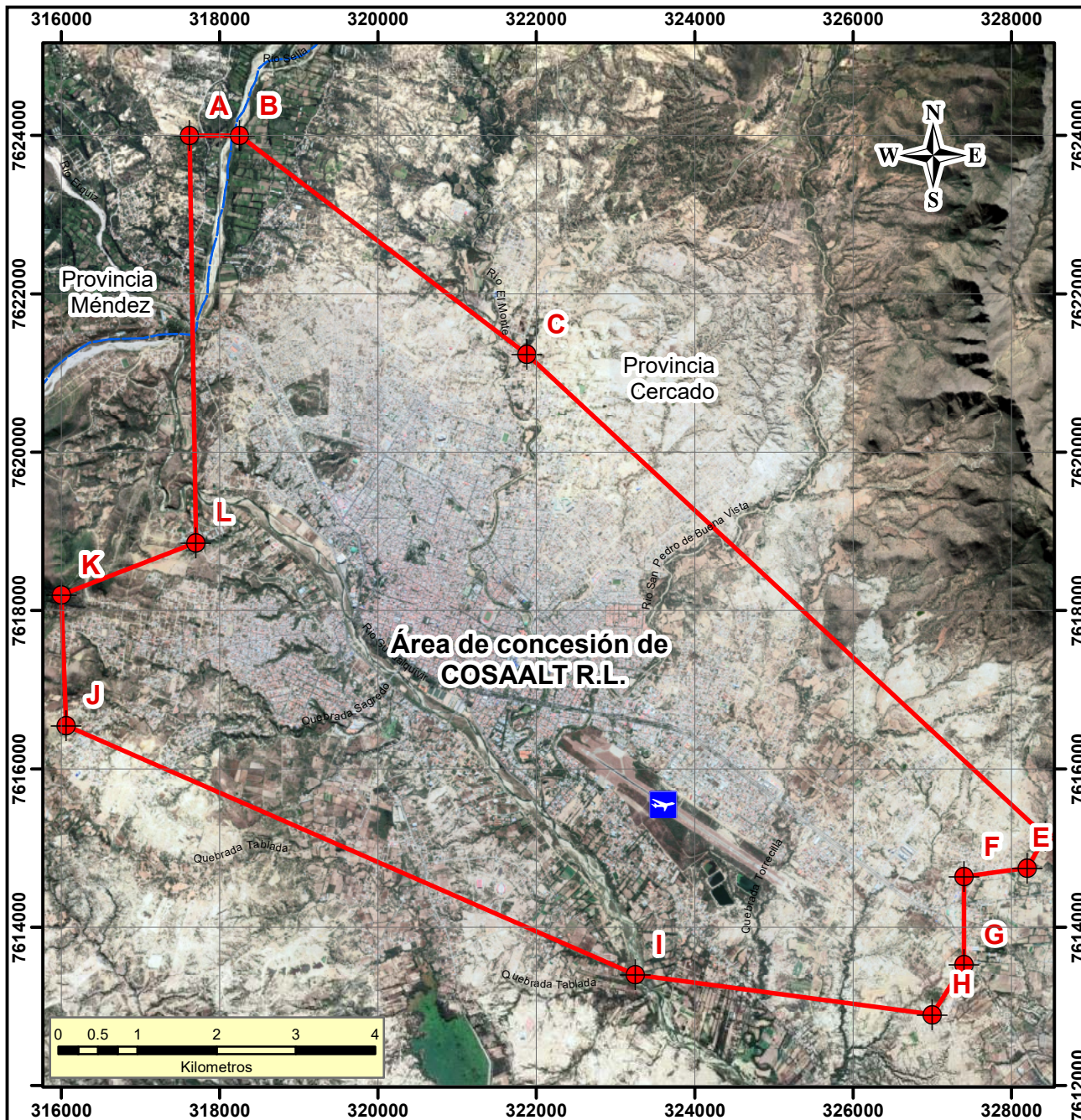
Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
25	Lourdes	321369.48	7620240.29	1945	0.8	32.00	31.60	34.70	---	---	---	---	35.20	35.20	---	35.00	37.00
26	San Bernardo "A"	321725.86	7618900.31	1937	0.66	42.25	40.60	40.10	---	---	---	---	45.15	44.15	---	---	---
27	San Bernardo "B"	321760.04	7619033.62	1932		---	---	---	---	---	---	---	---	---	---	---	---
28	El Constructor "A"	322583.6	7619098.05	1959	0.55	51.00	60.10	60.00	---	---	---	---	62.80	63.80	---	64.60	---
29	El Constructor "B"	322575.8	7619097.21	1957	1.2	64.00	60.60	61.00	---	---	---	---	63.20	---	---	---	---
30	Pedro Antonio Flores II (PN)	322436	7618577	1884		---	---	---	---	---	---	---	---	---	---	---	---
31	Pedro Antonio Flores (Pozo Antiguo)	321775.63	7618460.83	1890	0.4	49.00	35.60	35.00	---	---	---	---	41.15	38.20	---	40.40	---
32	Andaluz (PN)	321731	7619561	1880		---	---	---	---	---	---	---	---	---	---	---	---
33	Luis Espinal A	323124.04	7618507.12	1910	0.8	---	---	---	---	---	---	---	---	---	---	61.35	60.20
34	Luis Espinal B	323683.95	7618820.7	1907	0.45	54.80	50.10	50.00	---	---	---	---	---	52.10	---	52.30	52.30
35	Narciso Campero II (Pozo Nuevo)	322689	7618166	1882		---	---	---	---	---	---	---	---	35.45	---	---	---
36	Morros Blancos "A"	323338.81	7617564.32	1903	0.65	56.40	55.45	54.50	---	---	---	---	---	57.60	---	58.50	---
37	Morros Blancos "B"	323345.69	7617601.71	1902	0.6	54.80	52.70	51.70	---	---	---	---	---	57.15	---	57.80	---
38	Santa Rosa (PN)	323403	7619068	1905	0	---	---	---	---	---	---	---	---	---	---	---	---
39	Aeropuerto "A"	323338.81	7617564.32	1878	0.7	32.00	31.90	32.90	---	---	---	---	33.40	30.15	---	40.15	---
40	Aeropuerto "B"	323338.23	7616090.62	1877	1	---	---	---	---	---	---	---	---	---	---	---	---
41	Cárcel Publica	323799.16	7616205.84	1889		---	---	---	---	---	---	---	---	---	---	---	---
42	Anaspugio "A"	323809.49	7617642.77	1894	0.5	58.00	40.70	41.20	---	---	---	---	47.20	45.10	---	45.50	---
43	Anaspugio "B"	323833.6	7618142.75	1902		50.00	53.60	53.10	---	---	---	---	53.70	52.40	---	---	---
44	Simón Bolívar (Pozo Antiguo)	323787.56	7616733.01	1890	0.78	35.40	35.40	42.10	---	---	---	---	46.30	60.10	---	---	---
45	Morros Blancos Aeropuerto Industrial (PN)	323459	7617051	1877		---	---	---	---	---	---	---	---	---	---	---	---
46	Oscar Zamora M.	320031.44	7621140.15	1922	0.38	12.00	11.55	11.50	---	---	---	---	11.90	11.90	---	11.90	12.80
47	3 de mayo	320390.21	7620205.91	1911	0.42	30.40	30.40	29.00	---	---	---	---	32.10	32.20	---	33.20	32.20
48	Las Barrancas	320954	7621913	1855	0.42	---	---	---	---	---	---	---	---	---	---	---	---
49	27 de Mayo	323063	7619947	1927	0.7	64.00	63.20	63.10	---	---	---	---	66.00	65.30	---	65.00	---
50	Valle Hermoso	322051	7622008	1860	0.73	39.00	25.80	30.00	---	---	---	---	36.35	41.10	---	---	---

Nº	DENOMINATIVO DEL POZO	COORDENADAS DE UBICACIÓN UTM PSAD 56			Altura del politubo	NIVEL ESTÁTICO (metros)											
		X	Y	Z		ENE	FEB	MAR	ABR	MAY	JUN	JUL	AGO	SEP	OCT	NOV	DIC
51	1ro de Mayo	322296.99	7620602.96	1845	0.5	51.60	53.00	56.00	---	---	---	---	53.60	51.60	---	---	---
52	Monte Cristo (PN)	324022	7619251	1908		---	---	---	---	---	---	---	---	---	---	---	---
53	San Salvador	325742.9	7614909.12	1868	0.85	32.90	29.80	32.50	---	---	---	---	33.90	32.90	---	35.90	---
54	Simón Bolívar II (PN)	324325	7616576	1869		---	---	---	---	---	---	---	---	---	---	---	---
55	Vela (Torrecillas)	321155	7619485	1892	0.6	72.20	72.20	72.10	---	---	---	---	---	75.00	---	69.40	79.10
56	San Jorge II	324551.64	7615445.49	1870	0.15	26.35	27.20	25.55	---	---	---	---	27.50	27.70	---	20.20	29.40
57	San Jorge I (Pozo Nuevo)	323796	7615797	1866		---	---	---	---	---	---	---	---	---	---	---	---

Fuente: COSAALT R.L.



**ANEXOS B**  
**MAPA DE UBICACIÓN, MAPA DE**  
**DELIMITACIÓN**





## DELIMITACIÓN DEL ÁREA DE ESTUDIO

### LEYENDA

-  Vértices del polígono del área de estudio
-  Polígono del área de estudio

### Coordenadas UTM WGS84 zona 20 sud

N°	Vértice	Este	Norte
1	A	317620	7624000
2	B	318250	7624000
3	C	321880	7621240
4	D	328430	7615150
5	E	328200	7614750
6	F	327400	7614640
7	G	327400	7613530
8	H	327000	7612900
9	I	323250	7613400
10	J	316060	7616550
11	K	316000	7618200
12	L	317700	7618860



**U. A. J. M. S.**  
**FACULTAD DE CIENCIAS Y TECNOLOGÍA**  
**INGENIERÍA CIVIL**

**TESIS DE GRADO**

Elaborado por:  
**Guilder Guillermo Ninaja Cruz**

Escala:  
 1:80,000

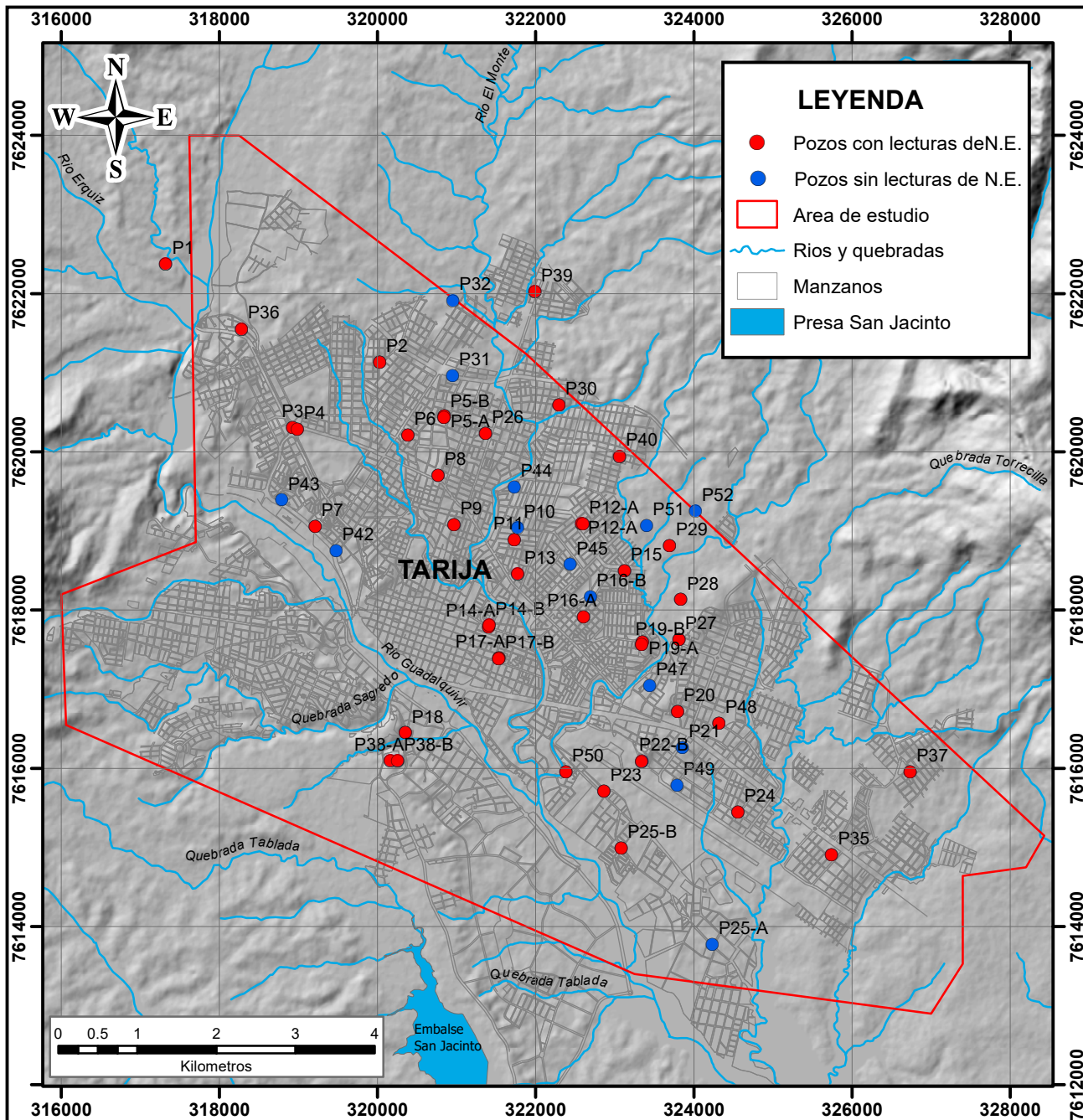
Fecha:  
**Noviembre - 2022**

Lamina:

Plano:  
**PLANO DELIMITACIÓN**


Sistema de Referencia:  
**WGS84 UTM Zona 20 s**

**02**



## UBICACIÓN DE POZOS DE COSAALT R.L.

N°	DENOMINATIVO DEL POZO	CODIGO TECNICO	COORDENADAS WGS84 UTM z 20 s		
			X	Y	Z
1	Daniel Campos	P9	320968	7619078	1892
2	Villa Busch	P18	320356	7616449	1867
3	Stadium (Pozo Antiguo)	P14-A	321405	7617786	1869
4	Stadium (Pozo Nuevo)	P14-B	321412	7617812	1869
5	Circunvalación "A" (Jardinería afuera)	P3	318928	7620305	1923
6	Circunvalación "B" (Con bomba y tanque elevado)	P16-A	318987	7620288	1922
7	Narciso Campero (Pozo antiguo)	P16-A	322605	7617918	1883
8	San Luis (kiosco y tapon)	P25-B	323082	7614988	1844
9	Base Aerea	P23	322864	7615715	1856
10	San Luis (Pozo con Bomba y tanque)	P25-A	324236	7613773	1850
11	San Geronimo (PN)	P50	322383	7615956	1851
12	Villa Fatima Pozo "A"	P17-A	321536	7617395	1866
13	Villa Fatima Pozo "B"	P17-B	321533	7617383	1866
14	San Jacinto B1	P38-A	320161	7616097	1907
15	San Jacinto B2	P38-B	320257	7616099	1903
16	Guadalquivir	P7	319212	7619061	1882
17	Guadalquivir II (PN)	P42	319476	7618753	1878
18	Guadalquivir III (PN)	P43	318789	7619394	1887
19	Tomatas C	P1	317323	7622376	1943
20	Los Alamos	P36	318282	7621555	1945
21	Avit Pozo A	P5-A	320844	7620460	1916
22	Avit Pozo B	P5-B	320841	7620434	1916
23	Albat	P8	320768	7619703	1910
24	19 de Marzo	P31	320952	7620963	1913
25	Lourdes	P26	321369	7620237	1897
26	San Bernardo "A"	P11	321731	7618888	1892
27	San Bernardo "B"	P10	321770	7619041	1883
28	El Constructor "A"	P12-A	322581	7619098	1909
29	El Constructor "B"	P12-B	322598	7619093	1909
30	Pedro Antonio Flores II (PN)	P45	322436	7618577	1882
31	Pedro Antonio Flores I (Pozo Antiguo)	P13	321775	7618460	1885
32	Andaluz (PN)	P44	321732	7619557	1878
33	Luis Espinal A	P15	323122	7618500	1902
34	Luis Espinal B	P29	323692	7618817	1903
35	Narciso Campero II (Pozo Nuevo)	P16-B	322694	7618169	1881
36	Morros Blancos "A"	P19-A	323349	7617598	1898
37	Morros Blancos "B"	P19-B	323340	7617560	1900
38	Monte Cristo (PN)	P52	324022	7619251	1912
39	Aeropuerto "A"	P22-A	323340	7616096	1870
40	Aeropuerto "B"	P22-B	323347	7616094	1871
41	Carcel Publica	P21	323855	7616282	1884
42	Anaspugio "A"	P27	323813	7617630	1888
43	Anaspugio "B"	P28	323836	7618134	1896
44	Simon Bolivar (Pozo Antiguo)	P20	323793	7616719	1885
45	Morros Blancos Aeropuerto Industrial	PN47	323443	7617046	1871
46	Oscar Zamora M.	P2	320030	7621136	1929
47	3 de mayo	P6	320385	7620210	1906
48	Las Barrancas	P32	320954	7621913	1912
49	27 de Mayo	P40	323064	7619945	1919
50	Valle Hermoso	P39	321990	7622028	1910
51	1ro de Mayo	P30	322297	7620592	1904
52	Santa Rosa (PN)	P51	323403	7619068	1902
53	San Salvador	P35	325742	7614909	1868
54	Simon Bolivar II (PN)	P48	324319	7616571	1865
55	Vela (Torrecillas)	P37	326737	7615956	1880
56	San Jorge II	P24	324557	7615444	1864
57	San Jorge I (Pozo Nuevo)	P49	323789	7615785	1866

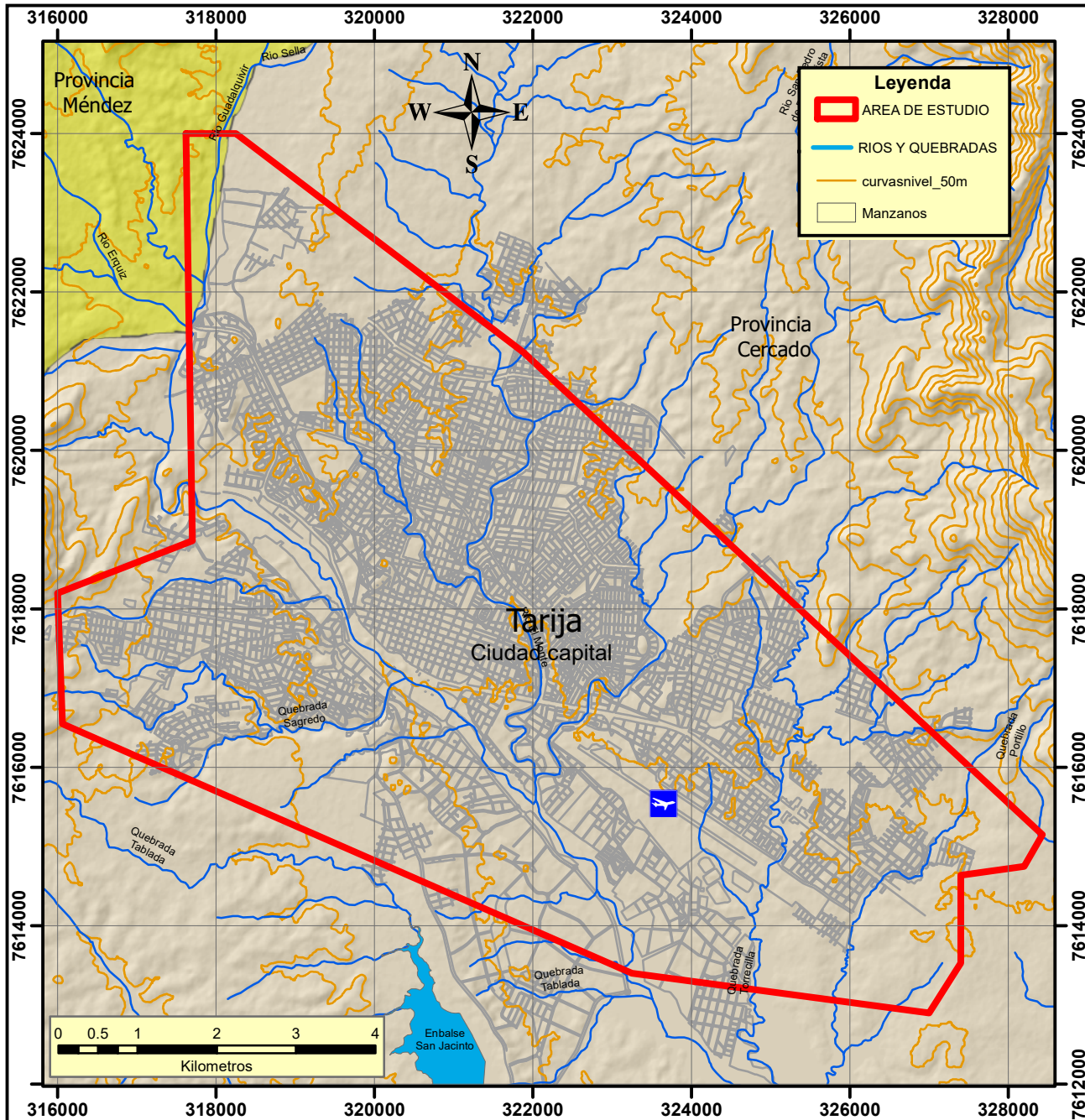


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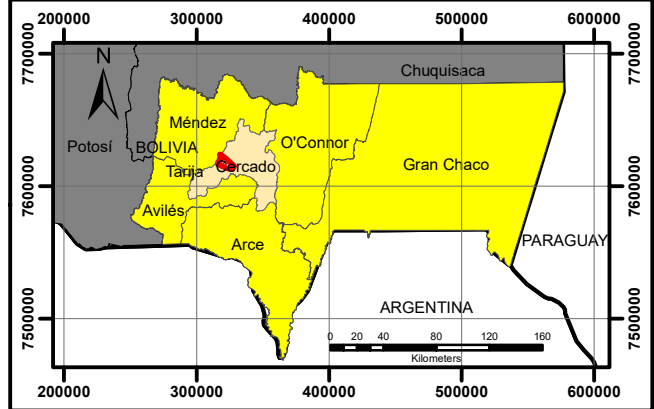
**TESIS DE GRADO**


Elaborado por:  
**Guilder Guillermo Ninaja Cruz**

Escala: 1:80,000	Fecha: Noviembre - 2022	Lamina: <b>03</b>
Plano: Pozos de COSAALT R.L.	Sistema de Referencia: WGS84 UTM Zona 20 s	



## UBICACIÓN DEL ÁREA DE ESTUDIO



	<b>U. A. J. M. S.</b> <b>FACULTAD DE CIENCIAS Y TECNOLOGÍA</b> <b>INGENIERÍA CIVIL</b>		
	<b>TESIS DE GRADO</b>		
Elaborado por: <b>Guilder Guillermo Ninaja Cruz</b>			
Escala: 1:80,000	Fecha: <b>Noviembre - 2022</b>	Lamina: <b>01</b>	
Plano: <b>Plano de ubicación</b>		Sistema de Referencia: <b>WGS84 UTM Zona 20 s</b>	