

## Report on visit to four proposed sites in Ciudad Juarez

Summary: Members of the administrative unit of the air quality monitoring fund (Ricardo Aragon, Cesar Fierro and Sergio Vasquez), the Mexican co-president (Ing. Oscar Fentanes), and researchers from the Autonomous University of Ciudad Juarez (UACJ) visited four proposed sites on March 23, 2022 for the installation of a new air quality monitoring station in Ciudad Juarez.

The sites were first categorized by their location with respect to the current urban growth, population density and availability of services (electricity, security, internet, etc.)

The proposed sites in the order they were visited:

1. JMAS ANAPRA
2. Fire station - Anapra (Bomberos Anapra)
3. Nutrition Clinic (Clínica de Nutrición)
4. UACJ Community Center (Centro Comunitario)

Based on the findings on the visit and a follow up meeting, the attendees discussed the advantages and disadvantages of each of the visited sites and the administrative unit recommends that the site “**Nutrition Clinic (Clinica de Nutricion)**” is the best option to install a new air monitoring station. This recommendation was determined due to the location of the station, which is inside south urban region of the city. It is important to highlight that there currently is no active air quality monitoring in this part of the city and that the closest air monitoring station is approximately 3.5 miles away. In addition, the site is located in a part of the city where there is a projected higher growth rate in terms of population with new neighborhoods projected in the coming years. The site is located within the facilities of the Nutrition Clinic of the UACJ, and has security, electricity, and other services. Finally, this site is being contemplated to install a Ceilometer and other atmospheric and climatic characterization equipment by the UACJ; Therefore, there is a probability that in the future there will be robust information that will serve for decision-making and the implementation of effective public policies by local government.

## Site 1 – JMAS ANAPRA

Name: **Planta Tratadora de Aguas Residuales JMAS Anapra**

Address: **C. Congrio s/n Esq. C. Delfín, Rancho de Anapra, 32107 Cd Juárez, Chih, México.**

Google Maps:

<https://www.google.com/maps/place/Planta+Tratadora+De+Aguas+Residuales+JMAS+Anapra/@31.7829703,-106.5704553,1170m/data=!3m1!1e3!4m5!3m4!1s0x0:0xb8cd74564995f5ef!8m2!3d31.7825907!4d-106.5746764>

Wind Direction: **The prevailing winds in spring come from the west, in summer from the east, in the autumn from the north-east and in the winter from the southwest. During the Winter the wind direction is in the direction of Mexico-USA border.**

Growth: **The city has not contemplated new growth or new neighborhoods in Anapra.**

Distance to other air monitoring stations: **The closest air monitoring station to JMAS Anapra in Ciudad Juarez is Canales Lira. Canales Lira is located 7.6 miles in a straight line from JMAS ANAPRA. (See Attachment A for an accurate map)**

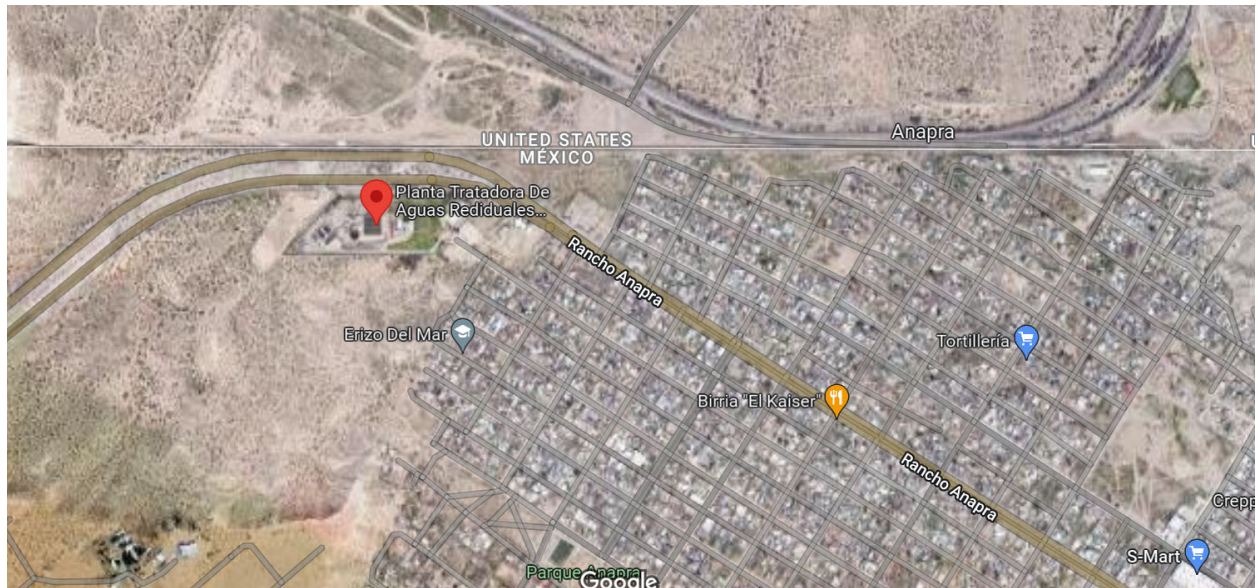
Estimated population or neighborhood to be benefited with a station in this location: **The neighborhoods of Lomas de Poleo, Rancho de Anapra (Anapra Ranch) and Puerto de Anapra (port of Anapra)**

Observations:

Advantages	Disadvantages
<ol style="list-style-type: none"><li>1. The site has electricity</li><li>2. There is security 24/7 (see Picture 3 for fence)</li><li>3. Near the border and the measurements could complement the measurements made by stations on the US side of the border.</li></ol>	<ol style="list-style-type: none"><li>1. Entrance of the site is difficult to access because there is no formal urban development, roads are not paved.</li><li>2. Urban growth in the area is very limited.</li><li>3. Site is isolated and the roads are not paved.</li><li>4. It is not a good site for a new air quality monitoring station since it is not representative of Ciudad Juarez and the population density in the area is low.</li></ol>



Picture 1 – Location JMAS ANAPRA



Picture 2 – Satellite view of JMAS ANAPRA





*Picture 3 – Entrance to JMAS ANAPRA.*



*Picture 4 - Entrance to the site, there is security 24/7*





*Picture 5 – There is not much around the site*

## Site 2 – Fire Station 9 – ANAPRA (Estación de Bomberos)

Name: **Fire Station 9 – Anapra (Estacion de Bomberos – ANAPRA)**

Address: **C. Esturión s/n Esq. C. Raya, Puerto de Anapra, 32107 Cd Juárez, Chih, México.**

Google Maps:

<https://www.google.com/maps/place/Estaci%C3%B3n+de+Bomberos+9/@31.7742891,-106.5606226,16.35z/data=!4m5!3m4!1s0x0:0x4e36b16ae42d7be7!8m2!3d31.773527!4d-106.5613873>

Wind Direction: **Due to its geographical location, the prevailing winds in spring come from the west, in the summer from the east, in autumn from the north-east and in winter from the southwest (season of the year in which air transport is in the direction of the Mexico-US border)**

Growth: **The growth of the city has not contemplated new growth in Anapra.**

Distance to other air monitoring stations: **The nearest station is Canales Lira, approximately 6.6 miles in a straight line.**

Estimated population or neighborhood to be benefited with a station in this location: **The benefited neighborhoods of having a monitoring station in this area are Lomas de Poleo, Rancho Anapra y Puerto Anapra.**

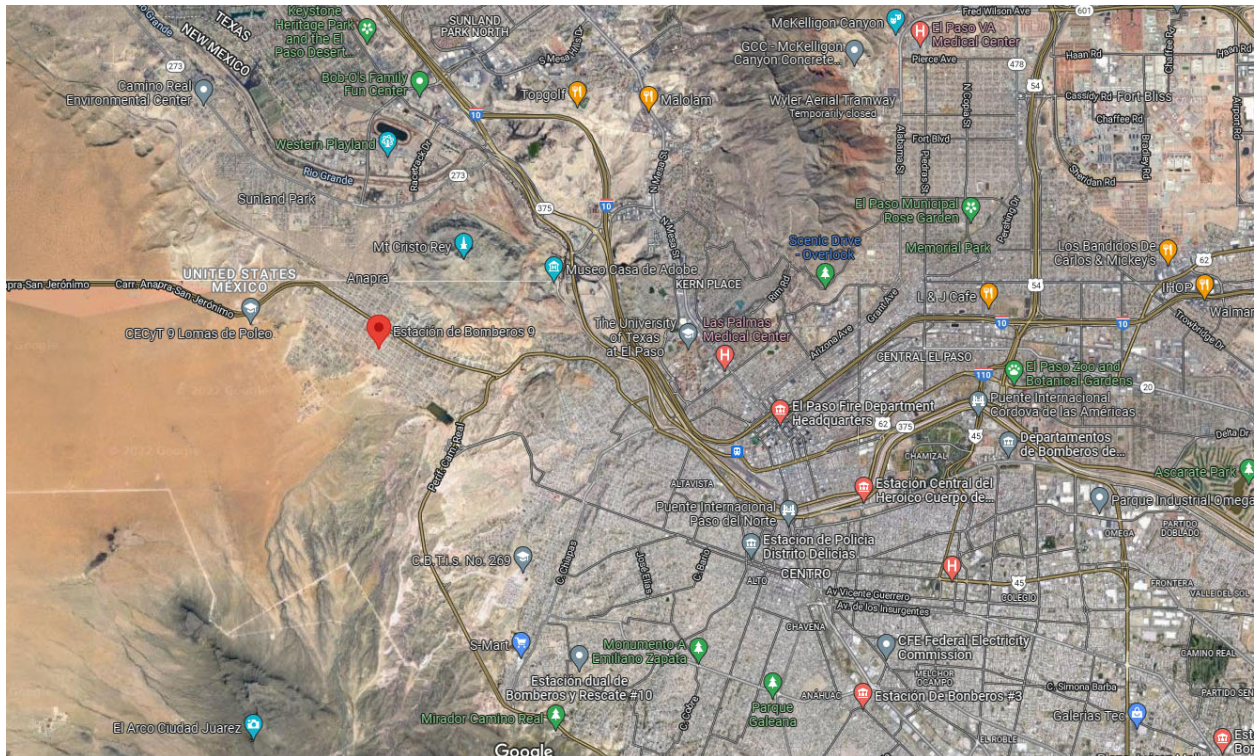
Observations:

Advantages	Disadvantages
<ol style="list-style-type: none"><li>1. Site has electricity</li><li>2. There are several options on where the station can be placed. One option is above the fire station (must confirm the structure of the building, see picture 9) and the other is in the corner of the property (see Picture 10)</li></ol>	<ol style="list-style-type: none"><li>1. It may be more expensive to install station on top of fire station.</li><li>2. It is required to install an electrical connection of approximately 100m/ 109 yards to provide electricity to station.</li><li>3. We must install the modem and contract the service to be able to have internet connection at the station.</li><li>4. If station is placed at ground level, we must build a concrete slab to level the floor.</li><li>5. Current equipment on site has been stolen and site has been vandalized. Security is not very secure.</li><li>6. Limited growth</li></ol>





Picture 6 - Location



Picture 7 – Satellite view of Fire Station - Anapra







*Picture 10 – Monitoring station can be placed on the corner of the site.*

### **Site 3 – Nutrition Clinic (Clínica de Nutrición) (*Recommended Site*)**

Name: **Nutrition Clinic (Clinica de Nutricion)**

Address: **C. Batalla de Zacatecas y Esq. C. batalla de Sta. Rosa, Enríquez Guzmán, 32675 Cd Juárez, Chih., México.**

Google Maps:

<https://www.google.com/maps/place/Centro+Comunitario+Nutricional+de+La+UACJ/@31.6557901,-106.4670425,1303m/data=!3m1!1e3!4m9!1m2!2m1!1sClinica+de+nutricion+-+UACJ!3m5!1s0x86e75e3e44d556ef:0xf5d464640aa1a37a!8m2!3d31.6552216!4d-106.4662969!15sChtDbGluaWNhIGRIIG51dHJpY2lvbiAtIFVBQ0oiA4gBAZIBEGNvcnBvcnF0ZV9vZmZpY2U>

Wind Direction: **The prevailing winds in spring come from the west, in summer from the east, in autumn from the north-east and in winter from the southwest.**

Growth: **The growth of the city has not contemplated new growth.**

Distance to other air monitoring stations: **Closest monitoring station is Advance, approximately 3.6 miles in a straight line.**

Estimated population or neighborhood to be benefited with a station in this location: **The benefited neighborhoods of having a monitoring station in this area are Enríquez Guzmán, Toribio Ortega, Colinas del Sur, Cementera y Pradera de los Oasis II.**

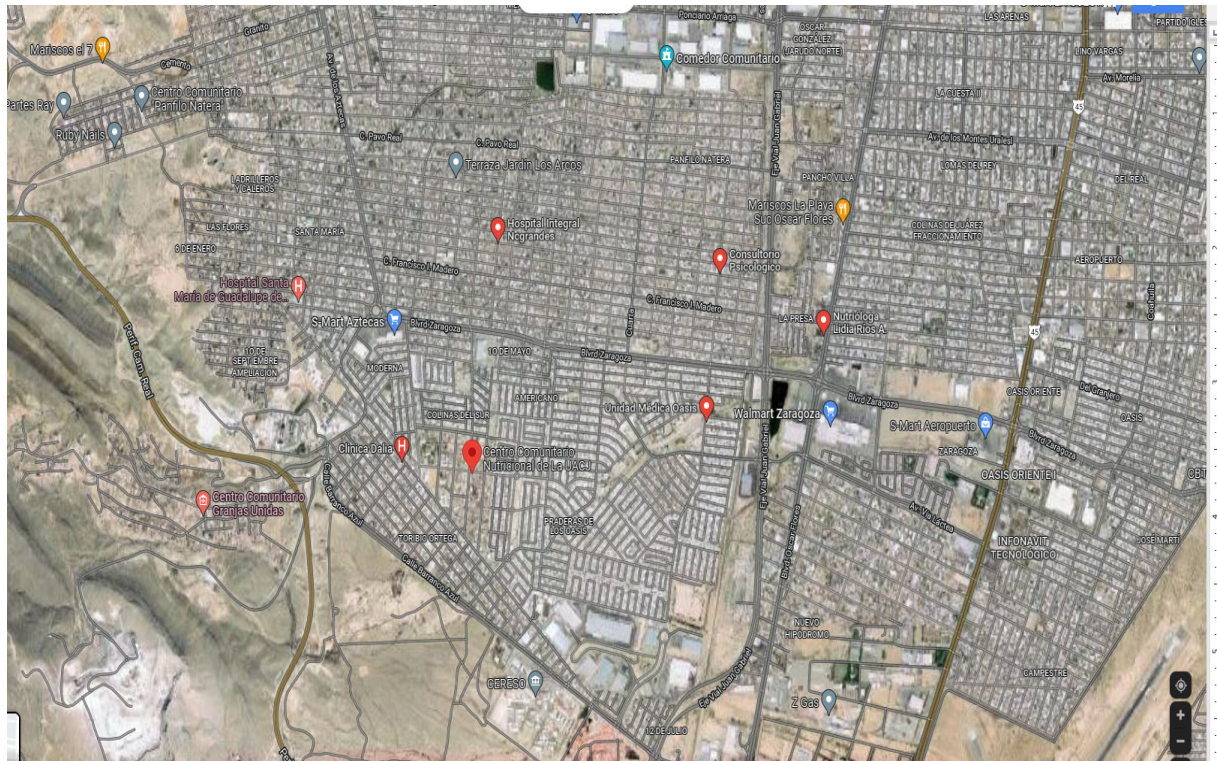


Observations:

Advantages	Disadvantages
<ol style="list-style-type: none"><li>1. Site includes all services (UACJ infrastructure, electricity, internet, and security)</li><li>2. It is in an area with a higher population density compared to the two previous proposals and the city maintains urban development in this part of the city.</li><li>3. It can become an operational center with various monitoring equipment. UACJ will install their ceilometer at this site and there is a meteorological tower currently at the site.</li><li>4. Area is marginalized and there is no air quality index in the area. New station at this location will provide actual air quality data for a part of a city that does not have air quality measurements.</li><li>5. Closest stations is advance and is 20 minutes award by car (3.5 miles in a straight line).</li><li>6. Location has a high population density.</li></ol>	<ol style="list-style-type: none"><li>1. Will have to build a concrete slab</li><li>2. Street is no paved, it can impact PM10 measurements.</li></ol>



Picture 11 - Location



Picture 12 – Satellite view of the Nutrition Clinic









*Picture 15 – Monitoring Equipment at site*

## Sitio 4 – Community Center (Centro Comunitario)

Name: **Community Center (Centro Comunitario – UACJ)**

Address: **C. Tierra de Fuego 1519 Esq. Av. Lote Bravo Cerradas del Sur, 32590 Cd Juárez, Chih, México.**

Google Maps:

<https://www.google.com/maps/place/Centro+Comunitario++UACJ/@31.585674,-106.4058719,13.19z/data=!4m5!3m4!1s0x0:0x44f408975cebcc14!8m2!3d31.5774697!4d-106.3724526>

Wind Direction: **The prevailing winds in spring come from the west, in the summer from the east, in autumn from the north-east and in the winter from the southwest.**

Growth: **The city does have contemplated new neighborhoods and growth in this area.**

Distance to other air monitoring stations: **The closest air monitoring station is Advance and is approximately 9 miles in a straight line.**

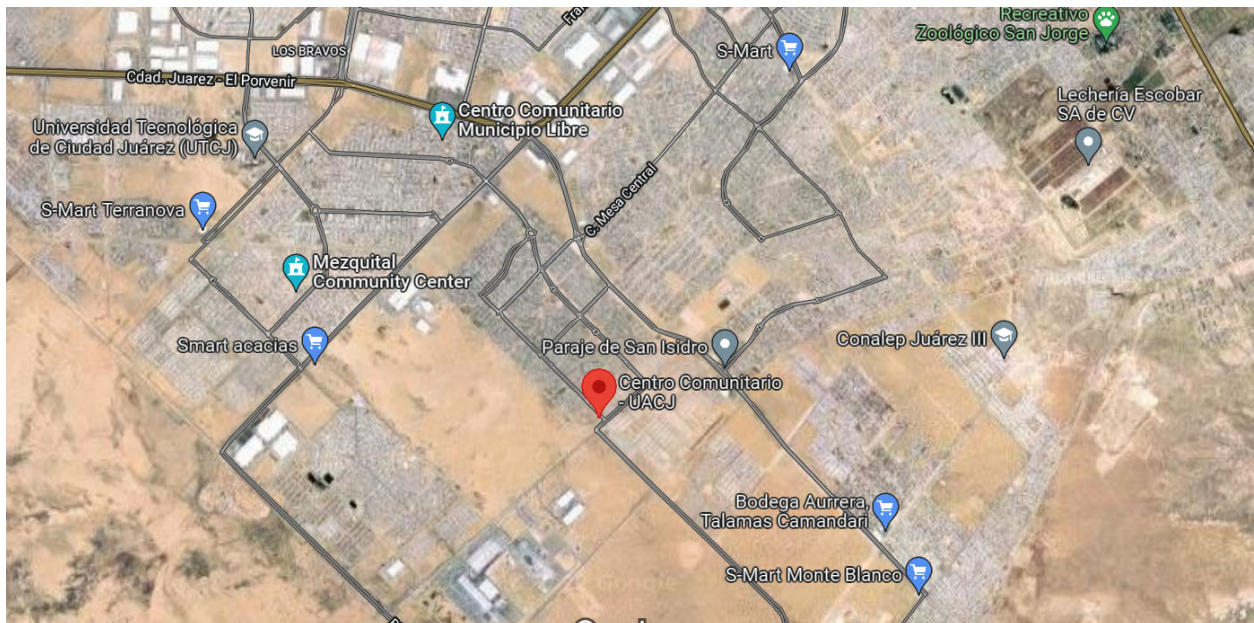
Estimated population or neighborhood to be benefited with a station in this location: **The benefited neighborhoods of having a monitoring station in this area are Cerradas del Sur, Parajes del Sur, Arcas, La Enramada, Enramada I y II.**

Observations:

Advantages	Disadvantages
<ol style="list-style-type: none"><li>1. Greater growth in the future</li><li>2. Industrial zone</li><li>3. There are no monitoring stations in this area</li><li>4. Will be located in a community center, which can in turn give real air data quality to the community</li><li>5. Includes Electricity and Internet.</li></ol>	<ol style="list-style-type: none"><li>1. Few public vehicles, most vehicles are private (18 wheelers).</li><li>2. Will have to install a concrete slab and protective mesh around the site.</li><li>3. Low population density due to being located in the industrial zone.</li><li>4. Not representative of the air quality of Ciudad Juarez and could be a transport station for pollutants or a baseline for this region.</li></ol>

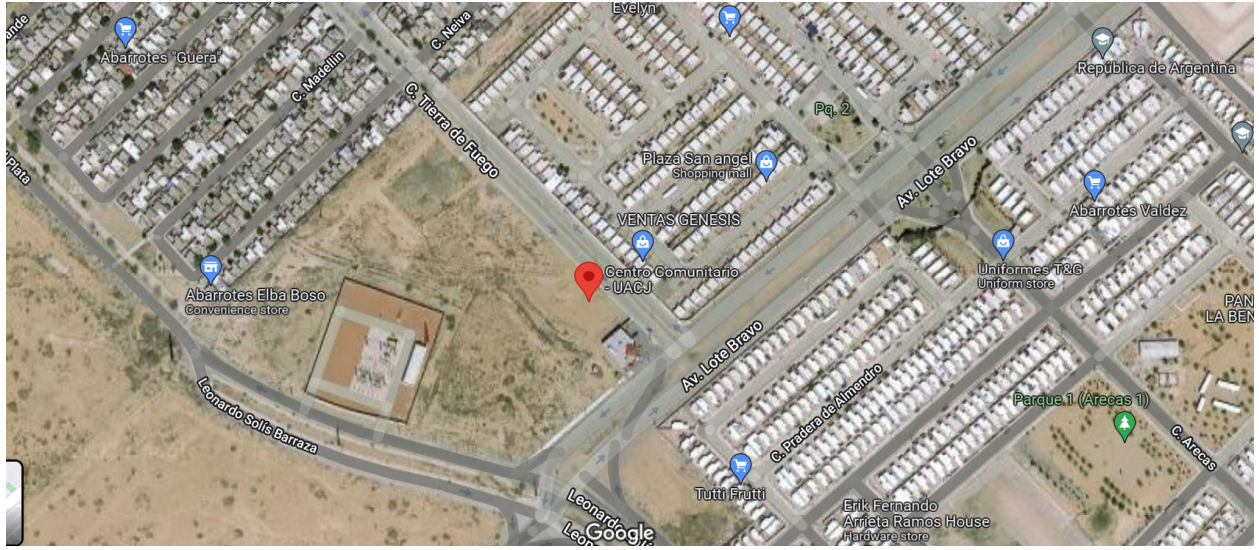


*Picture 16 - Location*



*Picture 17 – Satellite view of the Community Center*





Picture 18 – Close aerial view of the community center



Picture 19 – Community Center





*Picture 20 – Fence, left side of community center*

**Attachment A:**

**Current monitoring station in Ciudad Juarez (blue) and proposed sites  
(green)**

