

The Enverus API gives points and lines an SRID of 4326 we use 3875

Search for item...		2135	NULL	SRID=4326;POINT(-98.7385 37.8349000000001 0)	NULL	NULL	15185241470000	ACTIVE	NULL	BS UNIT 1-34
dipermits_bottom_location		2136	NULL	SRID=4326;POINT(-100.757 32.5670000000001 0)	NULL	NULL	42415354980000	ACTIVE	NULL	WOLTERS 239 1H
dipermits_bottom_location_evw		2137	NULL	SRID=4326;POINT(-107.555 37.1286000000001 0)	NULL	NULL	05067066330000	ACTIVE	NULL	SOUTHERN UTE 01-0
dipermits_line		2138	NULL	SRID=4326;POINT(-94.90329999999999 29.8531 0)	NULL	NULL	42071326440000	ACTIVE	NULL	LONE STAR NGL MB
dipermits_line_evw		2139	NULL	SRID=4326;POINT(-91.9575 30.3844 0)	NULL	NULL	17099216760000	ACTIVE	NULL	MT-TW RB SUA+HEBE
dipermits_surface_location		2140	NULL	SRID=4326;POINT(-91.9714 30.0152 0)	NULL	NULL	17045213630000	ACTIVE	NULL	DISC 1 RB SUA+DEL
dipermits_surface_location_evw		2141	NULL	SRID=4326;POINT(-94.4566 29.8445 0)	NULL	NULL	42071326640000	ACTIVE	NULL	ENCANTO 01
diwellboretrajectories		2142	NULL	SRID=4326;POINT(-108.618 39.6390000000001 0)	NULL	NULL	15039212970000	ACTIVE	NULL	JILL 1-7
diwellboretrajectories_evw		2143	NULL	SRID=4326;POINT(-106.754 39.0577000000001 0)	NULL	NULL	15063224180000	ACTIVE	NULL	DELZET 1-34
diwellboretrajectorieslinked		2144	NULL	SRID=4326;POINT(-99.8274 38.2711 0)	NULL	NULL	15135262120000	ACTIVE	NULL	DAVID 1-35
diwellboretrajectorieslinked_evw		2145	NULL	SRID=4326;POINT(-110.152 40.2889000000001 0)	NULL	NULL	43013544280000	ACTIVE	NULL	SHOELESS 56-3031
diwells_surface_location		2146	NULL	SRID=4326;POINT(-99.153 38.9574000000001 0)	NULL	NULL	15051270590000	ACTIVE	NULL	CATHEDRAL A-4
diwells_surface_location_evw		2147	NULL	SRID=4326;POINT(-96.6415 37.8344000000001 0)	NULL	NULL	15015241740000	ACTIVE	NULL	LIGGETT A-1
east_tx_swd_bbl		2148	NULL	SRID=4326;POINT(-92.84849999999999 33.2327000000001 0)	NULL	NULL	03139136520000	ACTIVE	NULL	DELTIC 1-22
east_tx_swd_bbl_attach		2149	NULL	SRID=4326;POINT(-89.3244 31.5135000000001 0)	NULL	NULL	23067204500000	ACTIVE	NULL	BOX/GLADDIS KNIGH
east_tx_swd_bbl_attach_evw		2150	NULL	SRID=4326;POINT(-95.9037 31.8902 0)	NULL	NULL	42001328380000	ACTIVE	NULL	TRINITY GAS STORA
enverus_api_permits		2151	NULL	SRID=4326;POINT(-81.4696 40.0119 0)	NULL	NULL	34059246400000	ACTIVE	NULL	SPARKMAN GY CEN 3
enverus_api_rigs		2152	NULL	SRID=4326;POINT(-107.396 39.3129000000001 0)	NULL	NULL	05097060160000	ACTIVE	NULL	WOLF CREEK 9-D2
enverus_api_v3_active_rigs_bh_future		2153	NULL	SRID=4326;POINT(-94.8992 29.8523000000001 0)	NULL	NULL	42071326370000	ACTIVE	NULL	WINFREE, OTIS K I
enverus_api_v3_active_rigs_future		2154	NULL	SRID=4326;POINT(-99.5449 34.1369 0)	NULL	NULL	42197318060000	ACTIVE	NULL	MCCLELLAN 1

In PostGIS and other geospatial contexts, 4326 and 3875 are Spatial Reference System Identifiers (SRIDs) that represent specific coordinate reference systems (CRSs).

- **EPSG:4326 (WGS 84 Geographic Coordinate System):**
 - This is what the ENverus API Uses
 - This is a geographic coordinate system (GCS), meaning it uses latitude and longitude to define locations on a spherical or ellipsoidal model of the Earth (specifically, the WGS84 ellipsoid).
 - Units are in degrees.
 - It's commonly used for storing and referencing global data, especially with GPS data, and is the default for PostGIS and GeoJSON.
- **EPSG:3875 (WGS 84 / Pseudo-Mercator or Web Mercator):**
 - This is what we uses at Select!
 - This is a projected coordinate system (PCS), meaning it projects the WGS84 geographic coordinates onto a flat, two-dimensional surface using the Mercator projection.
 - Units are in meters.
 - It's widely used in web mapping applications like Google Maps, OpenStreetMap, and many web mapping libraries, as it allows for easy tile generation and consistent display across different zoom levels.
 - While convenient for display, it introduces distortion in area and shape, especially at higher latitudes, and is generally not recommended for precise measurements or calculations.

1. Enable PostGIS Extension

First, ensure PostGIS is installed and enabled in your database:

Sql

```
CREATE EXTENSION postgis;
```

2. Transform Geometry to Web Mercator (EPSG:3857)

You can use the `ST_Transform` function to convert geometries to the Web Mercator projection:

Sql

Copy code

```
SELECT ST_Transform(geom, 3857) AS web_mercator_geom FROM your_table;
```

- `geom` : The geometry column in your table.
- 3857 : The SRID for Web Mercator.

3. Example: Insert Point in Web Mercator

If you want to insert a point in Web Mercator:

Sql

```
INSERT INTO your_table (geom) VALUES
(ST_Transform(ST_SetSRID(ST_MakePoint(-82.5515, 35.5951), 4326), 3857));
```

- `ST_MakePoint` : Creates a point with longitude and latitude.
- `ST_SetSRID` : Assigns the SRID (4326 for WGS84).
- `ST_Transform` : Converts the point to Web Mercator (EPSG:3857).

4. Querying Data in Web Mercator

To retrieve data in Web Mercator:

Sql

```
SELECT ST_AsText(ST_Transform(geom, 3857)) AS web_mercator_geom FROM your_table;
```