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ENGR-180-01

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Lab-2-1

Screenshot the Spatial Reference portion for submission. This confirms our data is in an appropriate California-specific projection.

- In a written component, identify the PROJECTION used and describe why it is appropriate for mapping contaminated wells in Merced County. Google the projection name to gain additional information if you are unsure.

Layer Properties: MercedCountyCAT

General
Metadata
Source
Elevation
Selection
Display
Cache
Definition Query
Time
Range
Indexes
Joins
Relates
Page Query

Spatial Reference

Projected Coordinate System	NAD 1983 California (Teale) Albers (Meters)
Projection	Albers
WKID	3310
Authority	EPSG
Linear Unit	Meters (1.0)
False Easting	0.0
False Northing	-4000000.0
Central Meridian	-120.0
Standard Parallel 1	34.0
Standard Parallel 2	40.5
Latitude Of Origin	0.0

Geographic Coordinate System	NAD 1983
WKID	4269
Authority	EPSG
Angular Unit	Degree (0.0174532925199433)
Prime Meridian	Greenwich (0.0)
Datum	D North American 1983
Spheroid	GRS 1980
Semimajor Axis	6378137.0
Semiminor Axis	6356752.314140356
Inverse Flattening	298.257222101

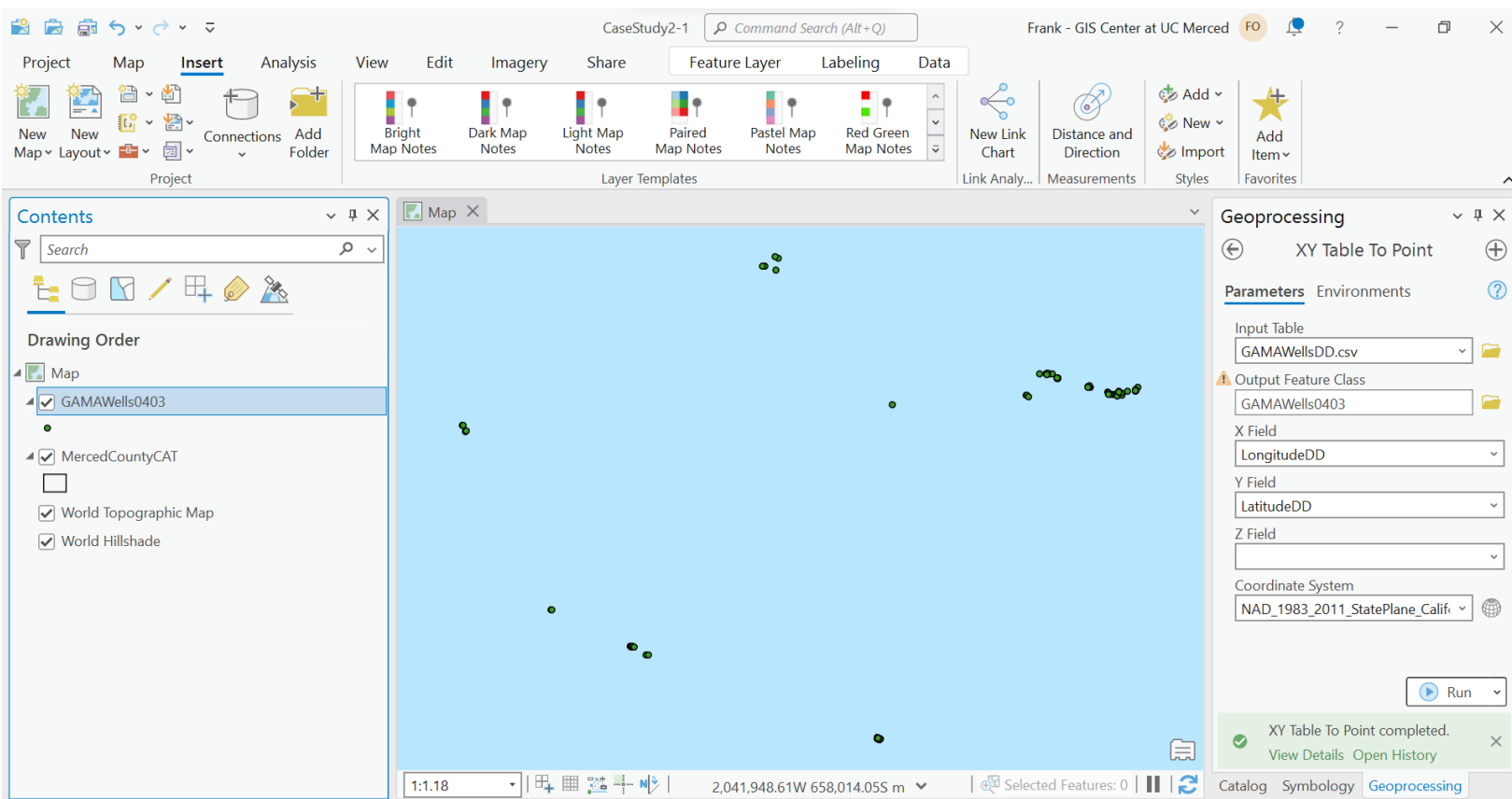
OK Cancel

The projection used for this project is Albers. I believe Albers is appropriate for mapping contaminated wells in Merced County because according to the documentation on the ArcGis-Pro website, Albers is one of the best projections that minimizes the amount of distortions in an area of interest on a map, so it makes sense to use a projection that best handles distortions when dealing with contaminations.

Where are the well points showing up in your map display? Where should they be showing up based on the information from your coworker? Can you speculate on what is going on?

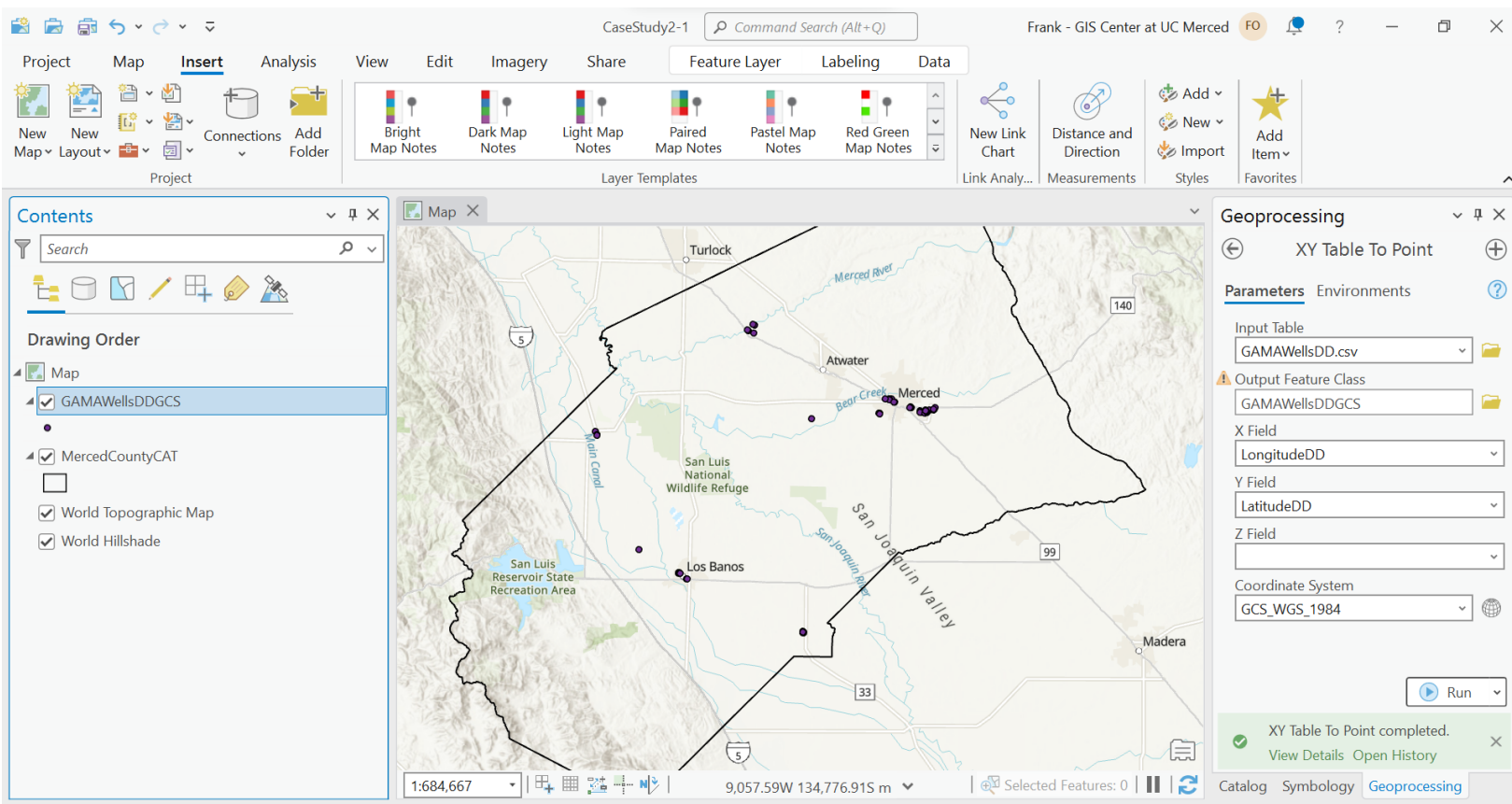
The well points on my map display are showing up on the North-pacific ocean, according to my co-worker they should be showing up on the California State Plane 0403. I would guess that my co-worker gave me wrong coordinates.

Screenshot your newly imported points within Merced County. Submit this screenshot side by side with your screenshot from section 6.



Above is the screenshot from section 6 and below is the screenshot from section 7

(the newly imported points within merced county).



Screenshot and submit the Spatial Reference information for both GAMAWellsDDPRJ and GAMAWellsDDGCS. Answer: Are these the same projection?

Below is the screenshot of the spatial reference for GAMAWellsDDPRJ.

Layer Properties: GAMAWellsDDPRJ

General
Metadata
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Page Query

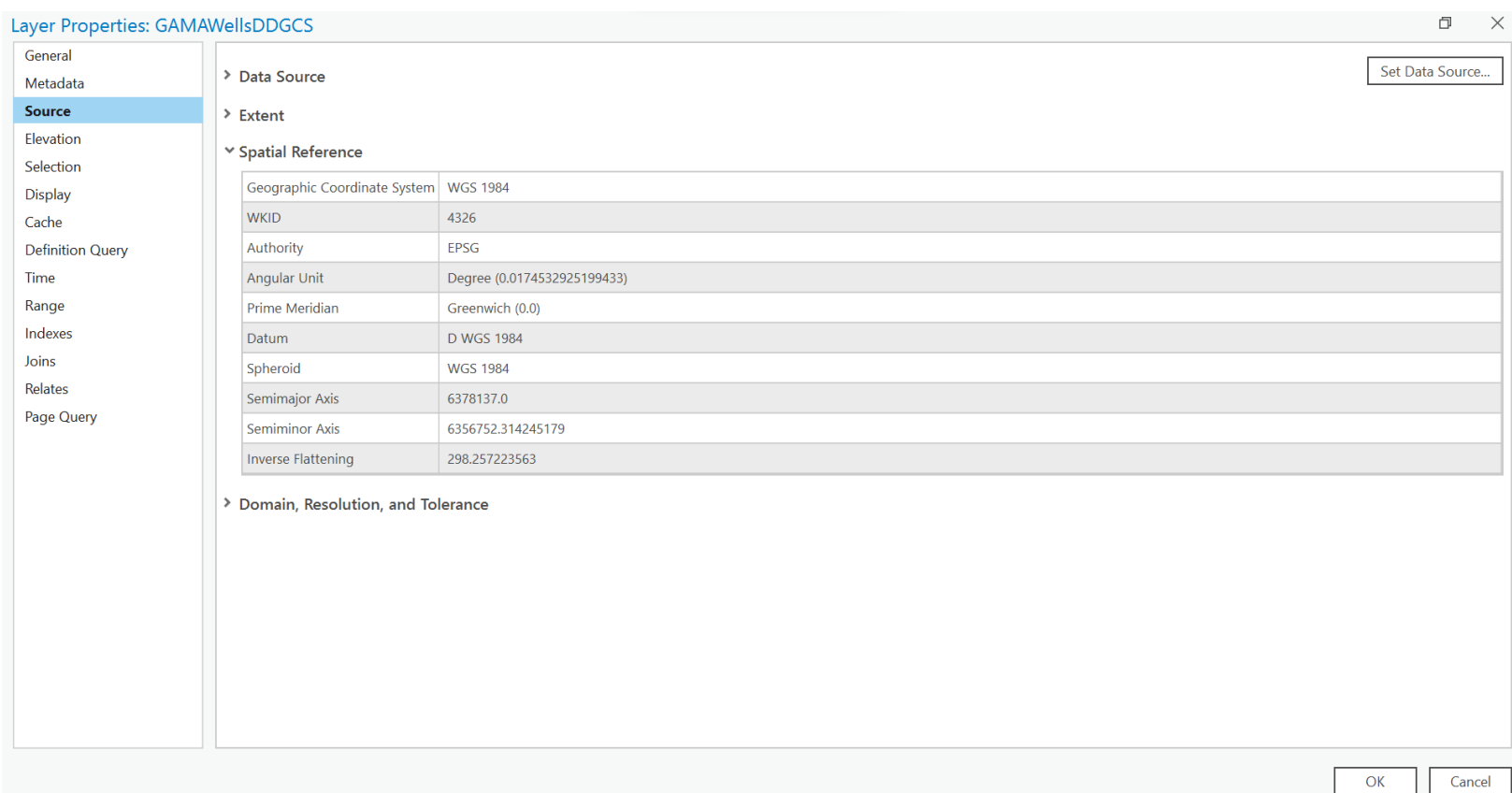
▼ Spatial Reference

Projected Coordinate System	NAD 1983 California (Teale) Albers (Meters)
Projection	Albers
WKID	3310
Authority	EPSG
Linear Unit	Meters (1.0)
False Easting	0.0
False Northing	-4000000.0
Central Meridian	-120.0
Standard Parallel 1	34.0
Standard Parallel 2	40.5
Latitude Of Origin	0.0

Geographic Coordinate System	NAD 1983
WKID	4269
Authority	EPSG
Angular Unit	Degree (0.0174532925199433)
Prime Meridian	Greenwich (0.0)
Datum	D North American 1983
Spheroid	GRS 1980
Semimajor Axis	6378137.0
Semiminor Axis	6356752.314140356
Inverse Flattening	298.257222101

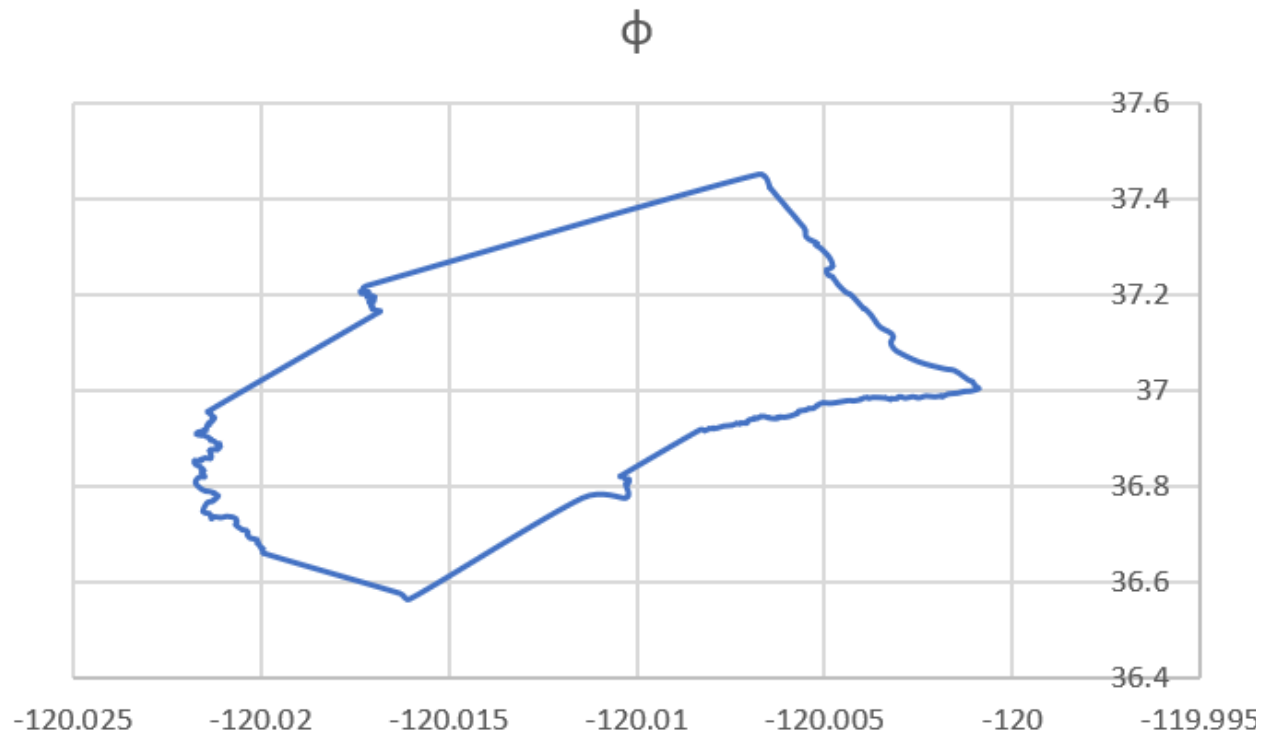
OK Cancel

Below is the screenshot of the spatial reference for GAMAWellsDDGCS, the two projections aren't the same, although they are really close.



Populate the spreadsheet to determine your converted coordinates. Create a plot of the converted coordinates. What does it show? Submit the full spreadsheet, including the plot, as an additional attachment to your homework submission.

The plot shows a rendition of the Merced county map similar to that of the ArcGIS shapefile. I have included a screenshot of the plot below.



Works Cited

Albers. (2021, April 21). pro.arcgis.com.

<https://pro.arcgis.com/en/pro-app/2.8/help/mapping/properties/albers.htm#:~:text=The%20Albers%20projection%20is%20an,west%20orientation%20at%20mid%2Dlatitudes>