# CONTRACT REPORT FOR FY 2019 & FY 2020 NATIONAL GEOLOGICAL & GEOPHYSICAL DATA PRESERVATION PROJECT

NGGDPP G19AS00009 & G20AS00008

# Abstract

Identification of archived, unpublished and published resources on 35 critical minerals (defined by Fortier et al., 2018) that have geologic and economic potential in the State of Texas, and statewide depth to Precambrian basement map, rasterized from geological and geophysical sources and contoured at 500m intervals.

Elliott, B.A., DeJarnett, B.B., Kyle, J.R., Andrews, J.R., Averett, A.R. and Childress, T.M.

Delivered August 31, 2023

The Bureau of Economic Geology has a rich history of mineral exploration and mining that predates the Bureau's role as the Geological Survey of Texas established in 1858. Most of the Unite States Geological Survey, United States Bureau of Mines and Bureau of Economic Geology publications that address mineral resources were published prior to the digital-age and development of the internet. Most of this information is still preserved and archived as annual mineral reports, reports of investigations, mineral circulars and products published between 1858 and 1990. As part of the National Geological and Geophysical Data Preservation Project funded through the United States Geological Survey, two project goals were developed to assist in identification of critical minerals in Texas.

Project Goal 1 for 2019 and 2020 was to acquire and review all publications, materials and data that reference and describe mineral information, mineral deposits and occurrences that host critical minerals, and transcribe these data into the provided spreadsheet and information template, that includes name, location, geology, resource information on contained commodities, production information, resource or reserve estimations, ore grade, deposit type, mining history, reference citations, and other relevant information.

Critical mineral information was reviewed and acquired from all available historical published sources at the Bureau of Economic Geology, many carried over from the Bureau of Mines and Geological Survey, published in the late half of the 19th century and early half of the 20th century. A comprehensive literature search of scientific publications was conducted that included references to critical mineral resources and related deposits or prospects in the state of Texas.

Each of the 35 critical minerals were investigated and a geospatial point data file was generated using the provided NGGDPP template. Data is made public through the contracted reports site at the Bureau of Economic Geology publication bookstore (<a href="https://www.beg.utexas.edu/publications/contract-reports">https://www.beg.utexas.edu/publications/contract-reports</a>) and at the Texas Mineral Resource interactive online GIS Map, currently in draft form at (<a href="https://coastal.beg.utexas.edu/txmineralresources/#!/">https://coastal.beg.utexas.edu/txmineralresources/#!/</a>). Metadata will conform to NGGDPP metadata schema and the interactive data maps will provide the same data table information for each critical mineral location.

Project Goal 2 was to develop a statewide depth to Precambrian basement map in common geospatial digital data format employing the national Geologic Map Schema (GeMS) using available seismic and drill core data. The state of Texas has abundant well log data, and the Bureau of Economic Geology, functioning as the state geological survey, has numerous seismic and geophysical surveys, thousands of cross sections and drill core data. Although Precambrian basement has been mapped and interpolated in oil and gas basins and identified as surface (and near surface) exposure in central and western Texas, there had not been an effort to compile all of these data into a complete and distributable geospatial dataset and published basement map.

Data was acquired and reviewed from known and previously mapped Precambrian exposures at the surface. The project reviewed and identified well logs and depth to basement data recorded in the Texas Railroad Commission (TRRC) wellbore database, the IHS well log service subscription (accessible at the Bureau of Economic Geology), the Bureau of Economic Geology physical well log database and related digital content. We also reviewed water well data from the Texas Water Development Board (TWDB) to

include near surface intersections of wells with Precambrian basement. Seismic data, geophysical datasets and interpolated cross sections were integrated into a comprehensive subsurface elevation map. There were numerous disconnected geophysical survey sources that were compiled by the Bureau of Economic Geology geophysics and seismic groups, as well as the Institute of Geophysics at the Jackson School of Geosciences at the University of Texas at Austin. Historical and current geophysical databases, at various resolutions, were compared and integrated to interpolate Precambrian surfaces across the State.

Well log source, location, depth and other salient details were investigated and recorded to develop in interpolated basement surface, and re-interpolated into a statewide 1 km² resolution point shapefile. The basement surface was rasterized and contoured at 500m isoline elevations. Digital map (geospatial dataset download) and a published paper map products will be made available to the public through the Bureau of Economic Geology's Publications Store (https://store.beg.utexas.edu/). Contract reports including the data used to derive the statewide basement map, as well as a PDF copy of the basement map, will be made available to the public through the Bureau of Economic Geology's Contracted Reports public distribution website (http://www.beg.utexas.edu/publications/contracted-reports).

Project Goal 1: Identify archived, unpublished and published mineral resource information on the 35 critical minerals outlined in Fortier and others (2018) that may have geologic and economic potential in the state of Texas

1. Critical Mineral Information Source Review

# **Aluminum**

Barron, T., 1981, The Aluminum Industry of Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 67, 16 p.

Fisher, W.L., with contributions by Chelf, C.R., Shelby, C.A., Garner, L.E., Owen, D.E. and Schofield, D.A., 1965, Rock and Mineral Resources of East Texas: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 54, 439 p.

Redfield, R. C., 1942, Bauxite and Aluminum: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 18, 10 p.

# **Antimony**

None

# **Arsenic**

Price, J. G., Henry, C. D., Standen, A. R., and Posey, J. S., 1985, Origin of Silver-Copper-Lead Deposits in Red-Bed Sequences of Trans-Pecos Texas: Tertiary Mineralization in Precambrian, Permian, and Cretaceous Sandstones: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 145, 65 p.

Tewalt, S. J., 1986, Chemical Characterization of Texas Lignite: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 86-1, 54 p. doi.org/10.23867/gc8601D.

# **Barite**

Baker, C. L., 1932, Barite in Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 4, 3 p.

Barnes, V. E., 1939, Additional Notes on Barite: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 11, 3 p.

Bureau of Economic Geology, 1943, Publication 4301: Texas Mineral Resources. Bureau of Economic Geology, The University of Texas at Austin, pp. 105-111

Evans, G.L., 1946, Barite deposits in Texas, in Bureau of Economic Geology, The University of Texas at Austin, [1946], Texas Mineral Resources 1943, 390 p. (p. 105–111.

Flawn, P.T., 1956, Report of Investigation 16: The Hazel, Copper-Silver Mine, Culberson County, Texas., University of Texas, Austin, Bureau of Economic Geology, 23 p.

King, P. B., and Flawn, P. T., 1953, Publication 5301: Geology and Mineral Deposits of Pre-Cambrian Rocks of the Van Horn Area, Texas. University of Texas, Austin, Bureau of Economic Geology, Publication No. 5301, 218 p.

Kyle, J. R., 1994, The Barite Industry and Resources of Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 85, 85 p.

Maxwell, R. A., 1962, Mineral Resources of South Texas: Region Served through the Port of Corpus Christi: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 43, 140 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Schoch, E. P., 1918, Bulletin 1814: Chemical Analyses of Texas Rocks and Minerals: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1814, 256 p.

Sellards, E.H., Baker, C.L. and others, 1934, Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum]. Bureau of Economic Geology, University of Texas at Austin pp. 403-409

Weissenborn, A. E., and Stenzel, H. B., 1948, Publication 4824: Geological Resources of the Trinity River Tributary Area in Oklahoma and Texas: University of Texas, Austin, Publication 4824, 252 p.

Zapp, A., 1941, Barite in Northern Llano County [Texas]: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0035, 4 p.

# Beryllium

Crocker, L., et al., 1963, Recovery of Beryllium from Spor Mountain, Utah, Ore by Solvent Extraction and Caustic Stripping, Bureau of Mines Report of Invesigation 6173, 27 p.

Henry, C. D., Price, J. G., and Miser, D. E., 1989, Geology and Tertiary Igneous Activity of the Hen Egg Mountain and Christmas Mountains Quadrangles, Big Bend Region, Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 183, 105 p.

Holser, W.T., 1959, Trans-Pecos region, Texas and New Mexico - Cave Peak area, in Warner, L.A., et al., eds., Occurrence of nonpegmatite beryllium in the United States. US Geological Survey, Professional Paper 318, p. 140-143.

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas, USGS Folio 183, 16 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

### Bismuth

Stenzel, H.B. and Barnes, V.E., 1939, Bismuth-Molybdenum Prospect (Kiam Prospect) of Llano County, Texas. In University of Texas, Austin, Bureau of Economic Geology, Contributions to Geology, 1939, 1125 p.

## Cesium

None

# Chromium

Tewalt, S. J., 1986, Chemical Characterization of Texas Lignite: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 86-1, 54 p. doi.org/10.23867/gc8601D.

# Cobalt

None

# **Fluorspar**

Barnes, V.E., 1943, Preliminary Reconnaissance Report on Fluorite in the Spring Creek Area of Burnet County, Texas. University of Texas, Bureau of Economic Geology, Mineral Resource Circular No. 27, 4 p.

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin 884 p.

Bureau of Economic Geology, The University of Texas at Austin, [1946], Texas Mineral Resources 1943, 390 p.

Daugherty, F.W., 1982, Fluorspar Deposits of the Christmas Mountains District, Brewster County, TEXAS (Proceedings of the 17<sup>th</sup> Annual Forum on the Geology of Indistrial Minerals, May 13-15, 1981, Albuquerque, NM

Dennis, W.E., 1946, Exploration of Eagle Mountain Fluorspar Deposits, Hudspeth County, Texas, U.S. Bureau of Mines Rport of Investigation 3878, 11 p.

Evans, G.L., 1943, Fluorspar Deposits in the Eagle Mountains of Hudspeth County, Texas. The University of Texas at Austin, Bureau of Economic Geology, Mineral Circular 26, 10 p.

Henry, C. D., and Muehlberger, W. R., editors, 1996, Geology of the Solitario Dome, Trans-Pecos Texas: Paleozoic, Mesozoic, and Cenozoic Sedimentation, Tectonism, and Magmatism: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 240, 182 p.

Henry, C. D., Price, J. G., and Miser, D. E., 1989, Geology and Tertiary Igneous Activity of the Hen Egg Mountain and Christmas Mountains Quadrangles, Big Bend Region, Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 183, 105 p.

Maxwell, R. A., 1962, Mineral Resources of South Texas: Region Served through the Port of Corpus Christi: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 43, 140 p.

McAnulty, W. N., 1967, Fluorspar in Brewster County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 67-2, 16 p. doi.org/10.23867/gc6702D.

McAnulty, W. N., 1972, Mineral Deposits in the West Chinati Stock, Chinati Mountains, Presidio County, Texas. The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 72-1, 13 p.

McAnulty, W. N.,Sr., 1974, Fluorspar in Texas: The University of Texas at Austin, Bureau of Economic Geology, Handbook 3, 31 p.

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas. USGS Folio 183, 16 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 227-238

Sedlmayer, J. J., 1939, Report on the Mineral Resources of Fayette County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0027, 2 p.

# Gallium

None

# Germanium

None

# Graphite

Baker, C. L., 1931, Graphite in Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 1, 31 p.

Baker, C.L., 1935, Geology of Texas, v. 2, Part 3: University of Texas Bulletin 3401, pp. 260-261.

Barnes, V. E., 1940, Additional Notes on Graphite in Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 15, 8 p.

Barnes, V. E., 1958, Field Excursion, Eastern Llano Region: The University of Texas at Austin, Bureau of Economic Geology, Guidebook No. 1, 36 p.

Barnes, V. E., Dawson, R. F., and Parkinson, G. A., 1942, Building Stones of Central Texas: University of Texas, Austin, Bureau of Economic Geology and Technology, Publication 4246, 198 p.

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin, pp. 258-262

Bureau of Economic Geology, The University of Texas at Austin, 1936, Mineral Resource Survey of Texas Circular MS0001, 1 p.

Chelf, C. R., 1943, Graphite in Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0057, 10 p.

Dietrich, J. W., and Lonsdale, J. T., 1957, Mineral Resources of the Colorado River Industrial Development Association Area: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 37, 84 p.

McGehee, R. V., 1979, Precambrian Rocks of the Southeastern Llano Region, Texas: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 79-3, 36 p.

Plummer, F. B., 1950, The Carboniferous Rocks of the Llano Region of Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Publication 4329, 170 p.

Ramsey, G. D., 1936, Report on Clay Deposits in Grimes County: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0015, 3 p.

Schoch, E. P., 1918, Chemical Analyses of Texas Rocks and Minerals: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1814, 256 p.

Sellards, E. H., Adkins, W. S., and Plummer, F. B., 1932, The Geology of Texas, v. 1, Stratigraphy: University of Texas, Austin, 1007 p.

Udden, J. A., Baker, C. L., and Böse, Emil, 1916, Review of the Geology of Texas: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 44, 167 p.

### Hafnium

None

# Helium

Fisher, W. L., 1965, Texas Minerals: Trends in Production: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 65-4, 28 p.

## Indium

None

# Lithium

None

# Magnesium

Bein, Amos, and Land, L. S., 1982, San Andres Carbonates in the Texas Panhandle: Sedimentation and Diagenesis Associated with Magnesium-Calcium-Chloride Brines: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 121, 48 p.

Chelf, C. R., 1941, Magnesite Mining in Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0040, 4 p.

McCammon, J. H., 1941, Report on Tin and Magnesite Deposits in Mason County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0032, 5 p.

Palmer, D. P., 1987, A Saponite and Chlorite-Rich Clay Assemblage in Permian Evaporite and Red-Bed Strata, Palo Duro Basin, Texas Panhandle: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 87-3, 21 p.

Rodda, P. U., Fisher, W. L., Payne, W. R., and Schofield, D. A., 1966, Limestone and Dolomite Resources, Lower Cretaceous Rocks, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 56, 286 p.

Schoch, E. P., Barnes, V. E., and Parkinson, G. A., 1938, High Magnesia Marble from Sharp Mountain Area of Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 10, 3 p.

# Manganese

Bureau of Economic Geology, The University of Texas at Austin, [1946], Texas Mineral Resources 1943, 390 p.

Bein, Amos, and Land, L. S., 1982, San Andres Carbonates in the Texas Panhandle: Sedimentation and Diagenesis Associated with Magnesium-Calcium-Chloride Brines: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 121, 48 p.

Dietrich, J.W., 1965, Geology of the Presidio Area, Presidio County, Texas. University of Texas, Ph.D dissertation thesis, 313 p.

Henry, C. D., and Muehlberger, W. R., editors, 1996, Geology of the Solitario Dome, Trans-Pecos Texas: Paleozoic, Mesozoic, and Cenozoic Sedimentation, Tectonism, and Magmatism: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 240, 182 p.

Henry, C. D., and Price, J. G., 1986, The Van Horn Mountains Caldera, Trans-Pecos Texas: Geology and Development of a Small (10-km2) Ash-Flow Caldera: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 151, 46 p.

Maxwell, R. A., 1962, Mineral Resources of South Texas: Region Served through the Port of Corpus Christi: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 43, 140 p.

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas. USGS Folio 183, 16 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Price, J. G., Henry, C. D., Standen, A. R., and Posey, J. S., 1985, Origin of Silver-Copper-Lead Deposits in Red-Bed Sequences of Trans-Pecos Texas: Tertiary Mineralization in Precambrian, Permian, and Cretaceous Sandstones: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 145, 65 p.

Warren, L. E., 1942, The Occurrence of Manganese on the Ingram-Howe Ranch, with Notes on Other Areas along Pecos River, Val Verde County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0052, 4 p.

# Niobium

Chauvenet, R., 1010, Franklin Mountains Tin Prospect. Mines and Minerals, volume 30, p. 529-531.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Sharp, J.E., 1979, Cave Peak, a molybdenum-mineralized breccia pipe complex in Culberson County, Texas. Economic Geology, 74, p. 517-534.

# **Platinum Group Metals**

None

### Potash

Bureau of Economic Geology, 1928, Contributions to Geology, 1928: University of Texas, Austin, Bulletin 2801, 202 p.

Clabaugh, S. E., and Barnes, V. E., 1959, Vermiculite in Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 40, 32 p.

Flawn, P. T., 1951, Pegmatites of the Van Horn Mountains, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 9, 30 p.

Meigs, C. C., Bassett, H. P., and Slaughter, G. B., 1922, Report on Texas Alkali Lakes: University of Texas. Austin, Bureau of Economic Geology and Technology, Bulletin 2234, 59 p.

Udden, J. A., 1915, Potash in the Texas Permian: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 17, 59 p.

# **Rare Earth Elements**

Barnes, V. E., Bell, W. C., Clabaugh, S. E., Cloud, P. E. Jr., McGehee, R. V., and Young, K. P., 1963, Field Excursion: Geology of Llano Region and Austin Area: The University of Texas at Austin, Bureau of Economic Geology, Guidebook No. 5, 77 p.

Barnes, V. E., Bell, W. C., Clabaugh, E. E., Cloud, P. E., Jr., McGehee, R. V., Rodda, P. U., and Young, K. P., 1973, Geology of the Llano Region and Austin Area: The University of Texas at Austin, Bureau of Economic Geology, Guidebook 13, 77 p.

Kyle, J. Richard, editor, 2000, Geology and Historical Mining, Llano Uplift Region, Central Texas: Austin Geological Society Guidebook 20, 111 p.

McGehee, R. V., 1979, Precambrian Rocks of the Southeastern Llano Region, Texas: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 79-3, 36 p.

Nash, J. P., 1917, Texas Granites: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1725, 8 p.

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas. USGS Folio 183, 16 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

# Rhenium

None

# Rubidium

None

# Scandium

None

### Strontium

Bein, Amos, and Land, L. S., 1982, San Andres Carbonates in the Texas Panhandle: Sedimentation and Diagenesis Associated with Magnesium-Calcium-Chloride Brines: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 121, 48 p.

Evans, G. L., 1942, Strontium Minerals in Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0046, 20 p.

Fisher, R. S., and Posey, H. H., 1990, Deposition and Diagenesis in a Marine-to-Evaporite Sequence: Permian Upper Wolfcamp Formation and Lower Wichita Group, Palo Duro Basin, Texas Panhandle: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 195, 34 p.

Maxwell, R. A., 1962, Mineral Resources of South Texas: Region Served through the Port of Corpus Christi: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 43, 140 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 113-131

# Tantalum

Chauvenet, R., 1010, Franklin Mountains Tin Prospect. Mines and Minerals, volume 30, p. 529-531.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

# Tellurium

None

# Tin

Chauvenet, R., 1010, Franklin Mountains Tin Prospect. Mines and Minerals, volume 30, p. 529-531.

McCammon, J. H., 1941, Report on Tin and Magnesite Deposits in Mason County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0032, 5 p.

Meyer, H.C., 1913, Topaz and Stream Tin in Mason County, Texas. Economic Mineral Journal, Volume 95 No. 10, p. 511-512.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

### **Titanium**

Fisher, W.L., with contributions by Chelf, C.R., Shelby, C.A., Garner, L.E., Owen, D.E. and Schofield, D.A., 1965, Rock and Mineral Resources of East Texas: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 54, 439 p.

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas. USGS Folio 183, 16 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Shelby, C. A., 1965, Heavy Minerals in the Wellborn Formation, Lee and Burleson Counties, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 55, 54 p.

# **Tungsten**

Barnes, V. E., Parkinson, G. A., and Warren, L. E., 1942, Scheelite in Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 20, 1 p. Chauvenet, R., 1010, Franklin Mountains Tin Prospect. Mines and Minerals, volume 30, p. 529-531.

Dietrich, J. W., and Lonsdale, J. T., 1957, Mineral Resources of the Colorado River Industrial Development Association Area: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 37, 84 p.

Mathis, R. W., 1942, Scheelite in Gillespie County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0056, 3 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Sellards, E. H., and Udden, J. A., 1941, Tungsten and Tungsten Minerals: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 17, 2 p.

### **Uranium**

Bebout, D. G., Weise, B. R., Gregory, A. R., and Edwards, M. B., 1982, Wilcox Sandstone Reservoirs in the Deep Subsurface along the Texas Gulf Coast: Their Potential for Production of Geopressured Geothermal Energy: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 117, 125 p.

Cepeda, J. C., and Henry, C. D., 1983, Oligocene Volcanism and Multiple Caldera Formation in the Chinati Mountains, Presidio County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 135, 32 p.

Cowdrey, J.L., 1968, Field Trip: South Texas Uranium. Published by the Corpus Christi Geological Society, 62 p.

Eargle, D. H., 1956, Some Uranium Occurrences in West Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 27, 23 p.

Eargle, D. H., Hinds, G. W., and Weeks, A.M.D., 1971, Uranium Geology and Mines, South Texas: The University of Texas at Austin, Bureau of Economic Geology, Guidebook 12, 59 p.

Eargle, D., Pinkley, G. and deVergie, P., 1958, Eocene-Miocene Oil-Uranium of Falls City-Tordilla Hill and Fashing Areas. Published by the South Texas Geological Society, 71 p.

Eargle, D. H., and Snider, J. L., 1957, A Preliminary Report on the Stratigraphy of the Uranium-Bearing Rocks of the Karnes County Area, South-Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 30, 30 p.

Faga, G. (Editor), 1975, Triple Energy Field Trip: Uranium, Coal, Gas – Duval, Webb & Zapata Counties, Texas. Published by the Corpus Christi Geological Society, 24 p.

Fisher, W. L., 1978, Texas Energy Reserves and Resources: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 78-5, 30 p..

Fisher, R. S., 1995, Naturally Occurring Radioactive Materials (NORM) in Produced Water and Scale from Texas Oil, Gas, and Geothermal Wells: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 95-3, 43 p.

Fisher, W. L., Proctor, C. V., Galloway, W. E., and Nagle, J. S., 1970, Depositional Systems in the Jackson Group of Texas: Their Relationship to Oil, Gas, and Uranium: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 70-4, 28 p.

Flawn, P. T., 1967, Uranium in Texas: 1967: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 67-1, 16 p.

Flawn, P.T. and Anderson, G.H, 1955, Prospecting for Uranium in Texas. Issued in cooperation with the General Land Office, 24 p.

Folk, R. L., Hayes, M. O., Brown, T. E., Eargle, D. H., Weeks, A. D., Barnes, V. E., and Clabaugh, S. E., 1961, Field Excursion, Central Texas: Bentonites, Uranium-Bearing Rocks, Vermiculites: The University of Texas at Austin, Bureau of Economic Geology, Guidebook No. 3, 53 p.

Galloway, W. E., 1977, Catahoula Formation of the Texas Coastal Plain: Depositional Systems, Composition, Structural Development, Ground-Water Flow History, and Uranium Distribution: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 87, 59 p.

Galloway, W. E., 1982, Epigenetic Zonation and Fluid Flow History of Uranium-Bearing Fluvial Aquifer Systems, South Texas Uranium Province: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 119, 31 p.

Galloway, W. E., Finley, R. J., and Henry, C. D., 1979, South Texas Uranium Province, Geologic Perspective: The University of Texas at Austin, Bureau of Economic Geology, Guidebook 18, 81 p.

Galloway, W. E., and Kaiser, W. R., 1980, Catahoula Formation of the Texas Coastal Plain: Origin, Geochemical Evolution, and Characteristics of Uranium Deposit: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 100, 81 p.

Galloway, W. E., Kreitler, C. W., and McGowen, J. H., 1979, Depositional and Ground-Water Flow Systems in the Exploration for Uranium: The University of Texas at Austin, Bureau of Economic Geology, EM0003, 267 p.

Galloway, W. E., Henry, C. D., and Smith, G. E., 1982, Depositional Framework, Hydrostratigraphy, and Uranium Mineralization of the Oakville Sandstone (Miocene), Texas Coastal Plain: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 113, 51 p.

Hamlin, H. S., 1988, Depositional and Ground-Water Flow Systems of the Carrizo-Upper Wilcox, South Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 175, 61 p.

Henry, C., Galloway, W. E., and Smith, G. E., 1982, Considerations in the Extraction of Uranium from a Fresh-Water Aquifer: Miocene Oakville Sandstone, South Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 126, 36 p.

Henry, C. D., Galloway, W. E., Smith, G. E., Ho, C. L., Morton, J. P., and Gluck, J. K., 1982, Geochemistry of Ground Water in the Miocene Oakville Sandstone--A Major Aquifer and Uranium Host of the Texas Coastal Plain: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 118, 63 p.

Henry, C. D., and Kapadia, R. R., 1980, Trace Elements in Soils of the South Texas Uranium District: Concentrations, Origin, and Environmental Significance: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 101, 52 p.

Henry, C. D., and Muehlberger, W. R., editors, 1996, Geology of the Solitario Dome, Trans-Pecos Texas: Paleozoic, Mesozoic, and Cenozoic Sedimentation, Tectonism, and Magmatism: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 240, 182 p.

Henry, C. D., Price, J. G., Duex, T. W., and James, E. W., 1992, Geology of the Infiernito Caldera and Magmatic Evolution of the Chinati Mountains, Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 206, 56 p.

Maxwell, R. A., 1962, Mineral Resources of South Texas: Region Served through the Port of Corpus Christi: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 43, 140 p.

McGowen, J. H., Granata, G. E., and Seni, S. J., 1979, Depositional Framework of the Lower Dockum Group (Triassic), Texas Panhandle: The University of texas at Austin, Bureau of Economic Geology, report of Investigations No. 97, 60 p.

Price, J. G., Henry, C. D., and Standen, A. R., 1983, Annotated Bibliography of Mineral Deposits in Trans-Pecos Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular No. 73, 108 p.

Smith, G. E., Galloway, W. E., and Henry, C. D., 1982, Regional Hydrodynamics and Hydrochemistry of the Uranium-Bearing Oakville Aquifer (Miocene) of South Texas: The University of Texas at Austin, Bureau of Economic Geology Report of Investigations No. 124, 31 p.

Tewalt, S. J., 1986, Chemical Characterization of Texas Lignite: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 86-1, 54 p.

Weinzapfel, A., 1981, Guidebook: Texas Uranium Belt. Published by the South Texas Geological Society, 16 p.

White, W. A., and Galloway, W. E., 1977, Guide to Modern Barrier Environments of Mustang and North Padre Islands and Jackson (Eocene) Barrier/Lagoon Facies of the South Texas Uranium District: The University of Texas at Austin, Bureau of Economic Geology, Research Note 7, 51 p.

# Vanadium

Tewalt, S. J., 1986, Chemical Characterization of Texas Lignite: The University of Texas at Austin, Bureau of Economic Geology, Geological Circular 86-1, 54 p.

# Zirconium

Paige, S., 1912, Geologic Atlas of the United States, Llano-Burnet Folio, Texas. USGS Folio 183, 16 p.

Shelby, C. A., 1965, Heavy Minerals in the Wellborn Formation, Lee and Burleson Counties, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 55, 54 p.

# 2. Database Development

# **Aluminum**

| Commodity | Site Name                              | Latitude | Longitude | Citation   |
|-----------|--|----------|-----------|--|
| Kaolin    | White Mountain<br>Prospect             | 30.01327 | -104.163  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED<br>BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS:<br>BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE<br>CIRCULAR NO. 73, 108 P.   |
| Kaolin    | Burkett Pit                            | 32.22461 | -94.7022  | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM MINERAL PRODUCERS IN TEXAS.   |
| Kaolin    | Kosse Bulk & Bag<br>Plant              | 31.30659 | -96.6225  | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM MINERAL PRODUCERS IN TEXAS.   |
| Kaolin    | Henderson Clay<br>Products Anderson    | 32.21047 | -94.846   | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Henderson Clay<br>Products Burkett Pit | 32.22457 | -94.7021  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Henderson Clay<br>Products Pit         | 32.18957 | -94.7927  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Teague Pit                             | 31.52849 | -96.3506  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Henderson Clay<br>Products Plant       | 32.18077 | -94.8055  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Henderson Clay<br>Products Plastic Pit | 32.20657 | -94.7802  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATIONS NO. 54, 439 P. |
| Kaolin    | Henderson Clay<br>Products Wylie Pit   | 32.13908 | -94.7733  | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A., GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS   |

|          |                       |          |          | AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF                 |
|----------|-----------------------|----------|----------|---|
|          |                       |          |          | INVESTIGATIONS NO. 54, 439 P.                                   |
| Kaolin   | Plastic Pits          | 32.20656 | -94.7802 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Universal Atlas Pit   | 31.2919  | -96.5142 | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A.,  |
|          |                       |          |          | GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND    |
|          |                       |          |          | MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS        |
|          |                       |          |          | AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF                 |
|          |                       |          |          | INVESTIGATIONS NO. 54, 439 P.                                   |
| Kaolin   | Henderson Clay        | 32.21517 | -94.7046 | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A.,  |
|          | Products Lewis Pit    |          |          | GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND    |
|          |                       |          |          | MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS        |
|          |                       |          |          | AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF                 |
|          |                       |          |          | INVESTIGATIONS NO. 54, 439 P.                                   |
| Kaolin   | General Portland Clay | 31.2919  | -96.5142 | FISHER, W.L., WITH CONTRIBUTIONS BY CHELF, C.R., SHELBY, C.A.,  |
|          | Pit                   |          |          | GARNER, L.E., OWEN, D.E. AND SCHOFIELD, D.A., 1965, ROCK AND    |
|          |                       |          |          | MINERAL RESOURCES OF EAST TEXAS: THE UNIVERSITY OF TEXAS        |
|          |                       |          |          | AT AUSTIN, BUREAU OF ECONOMIC GEOLOGY REPORT OF                 |
|          |                       |          |          | INVESTIGATIONS NO. 54, 439 P.                                   |
| Kaolin   | Unnamed Pit           | 32.18961 | -94.7927 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Troup Pit             | 32.10157 | -95.0611 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Unnamed Pit           | 31.31241 | -96.5064 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Waters Pits           | 32.39266 | -98.9517 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Unnamed Pit           | 32.18073 | -94.8055 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Lewis Pit             | 32.21517 | -94.703  | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Anderson Pit          | 32.21045 | -94.8461 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Wylie Pit             | 32.13907 | -94.7733 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          | , , , ,               |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Unnamed Pit           | 31.29187 | -96.5142 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM            |
|          |                       |          |          | MINERAL PRODUCERS IN TEXAS.                                     |
| Kaolin   | Medley (White Mtn)    | 30.5577  | -104.163 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED |
|          | Mine                  |          |          | BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS:          |
|          |                       |          |          | BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE            |
|          |                       |          |          | CIRCULAR NO. 73, 108 P.   |
| Kaolin   | Mueller Mine          | 30.5132  | -104.165 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED |
| -        |                       |          |          | BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS:          |
|          |                       |          |          | BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE            |
|          |                       |          |          | CIRCULAR NO. 73, 108 P.   |
| Aluminum | Round Top Prospect    | 31.276   | -105.474 | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL, C.,        |
|          |                       | 31.270   | 100.474  | 2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT ROUND           |
|          |                       |          |          | TOP PROJECT, SIERRA BLANCA, TEXAS. REPORT PREPARED FOR USA      |
|          |                       |          |          | RARE EARTH LLC AND TEXAS MINERAL RESOURCE CORP, 230 P.          |
|          |                       |          |          | NANL LANTIT LLC AND TEXAS WIINERAL RESOURCE CURP, 230 P.        |

# Antimony

| Commodity | Site Name  | Latitude  | Longitude   | Citation   |
|-----------|------------|-----------|-------------|--|
|           |            |           |             | REPORT OF INVESTIGATION 16: THE HAZEL, COPPER-SILVER MINE, |
| Antimony  | Hazel Mine | 31.170775 | -104.900354 | CULBERSON COUNTY, TEXAS, 1956, BY PETER T. FLAWN, 23 P.    |

# Arsenic

| Commodity | Site Name  | Latitude  | Longitude   | Citation   |
|-----------|------------|-----------|-------------|--|
|           |            |           |             | REPORT OF INVESTIGATION 16: THE HAZEL, COPPER-SILVER MINE, |
| Arsenic   | Hazel Mine | 31.170775 | -104.900354 | CULBERSON COUNTY, TEXAS, 1956, BY PETER T. FLAWN, 23 P.    |

# **Barite**

| Commodity | Site Name                        | Latitude | Longitude | Citation  |
|-----------|----------------------------------|----------|-----------|---|
| Barite    | Chromalloy American<br>Corp      | 29.79464 | -95.4296  | UNKNOWN   |
| Barite    | Brownsville Mill                 | 25.95616 | -97.405   | UNKNOWN   |
| Barite    | Howard Draw Barite<br>Prospect   | 30.16691 | -101.374  | UNKNOWN   |
| Barite    | Corpus Christi Mill              | 27.8189  | -97.42    | N L INDUSTRIES INC., 1973.  |
| Barite    | Houston Barite Plant             | 29.77744 | -95.2799  | UNKNOWN   |
| Barite    | Mills Ranch Barite<br>Prospect   | 29.79134 | -95.293   | UNKNOWN   |
| Barite    | Houston Barite Plant             | 30.21965 | -95.1392  | UNKNOWN   |
| Barite    | Hackberry Creek<br>Prospect      | 29.30026 | -94.8002  | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS:<br>TEXAS BUREA OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION<br>43, P. 12-13.  |
| Barite    | Galveston Plant                  | 25.95096 | -97.4506  | UNKNOWN   |
| Barite    | Brownsville Minerals<br>Plant    | 29.75634 | -95.3994  | UNKNOWN   |
| Barite    | Plant No. 2                      | 29.82664 | -95.1183  | UNKNOWN   |
| Barite    | Wallisville Road Barite<br>Plant | 29.30106 | -94.8019  | IMCO SERVICES, 1973.  |
| Barite    | Milchem Grinding Plant           | 28.05585 | -99.6704  | MILCHEM INC.  |
| Barite    | Galvan Ranch Barite              | 29.73244 | -95.2502  | INDUSTRIAL MINERALS, 1991, WORLD OF MINERALS: NO. 280, P. 10.   |
| Barite    | Galena Park Mill                 | 30.12521 | -95.2407  | UNKNOWN   |
| Barite    | Lockhausen Prospect              | 30.72297 | -103.109  | BARTLESVILLE CARD FILES   |
| Barite    | Mayfield Prospect                | 30.16461 | -101.553  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Barite    | Howard Draw Mine                 | 30.44743 | -98.612   | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS:<br>TEXAS BUREA OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION<br>43, P. 12-13.  |
| Barite    | Davis Ranch Prospect             | 30.16152 | -101.571  | BARNES, V.E., 1939, ADDITIONAL NOTES ON BARITE: TX BEG MRC-<br>11, 4 P.   |
| Barite    | Mills Ranch Mine                 | 31.25517 | -104.488  | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS:<br>TEXAS BUREA OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION<br>43, P. 12-13.  |
| Barite    | Seven Heart Gap Mine             | 31.25517 | -104.488  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Barite    | Hazel Mine                       | 31.17078 | -104.9    | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Barite    | Pena Blanca Springs              | 30.125   | -103.118  | KYLE, J. R., 1994, BARITE INDUSTRY AND RESOURCES OF TEXAS:<br>BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE<br>CIRCULAR NO. 85, 86 P.  |
| Barite    | Hockley salt dome                | 29.937   | -95.835   | KYLE, J. R., 1994, BARITE INDUSTRY AND RESOURCES OF TEXAS:<br>BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE<br>CIRCULAR NO. 85, 86 P.  |

# Additional Sources being evaluated:

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin pp. 403-409

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 105-111

Mineral Resource Circular 11: Barnes, V. E., 1936, Report on Asphalt Deposits in Burnet County: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0011, 3 p.

Mineral Resource Circular 35: Zapp, A., 1941, Barite in Northern Llano County: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0035, 4 p.

Bulletin 1814: Schoch, E. P., 1918, Chemical Analyses of Texas Rocks and Minerals: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1814, 256 p.

Publication 4824: Weissenborn, A. E., and Stenzel, H. B., 1948, Geological Resources of the Trinity River Tributary Area in Oklahoma and Texas: University of Texas, Austin, Publication 4824, 252 p.

Publication 5301: King, P. B., and Flawn, P. T., 1953, Geology and Mineral Deposits of Pre-Cambrian Rocks of the Van Horn Area, Texas: University of Texas, Austin, Bureau of Economic Geology, Publication No. 5301, 218 p.

Report of Investigation 16: The Hazel, Copper-Silver Mine, Culberson County, Texas, 1956, by Peter T. Flawn, 23 p.

# Beryllium

| Commodity | Site Name                           | Latitude | Longitude | Citation  |
|-----------|-------------------------------------|----------|-----------|---|
| Beryllium | Unnamed Occurrence                  | 31.99682 | -105.509  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | Sierra Blanca Prospect              | 31.28327 | -105.433  | CROCKER, LAIRD ET AL., 1963, RECOVERY OF BERYLLIUM FROM<br>SPOR MOUNTAIN, UTAH, ORE BY SOLVENT EXTRACTION AND<br>CAUSTIC STRIPPING. BUREAU OF MINES REPORT OF INVESTIGATION<br>6173, 27 P.  |
| Beryllium | North Sierra Blanca<br>Prospect     | 31.25961 | -105.441  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | Baringer Hill Mine                  | 30.77799 | -98.4331  | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES, LLANO-<br>BURNES FOLIO, TEXAS: USGS FOLIO 183, 16 P.  |
| Beryllium | Round Top Prospects                 | 31.28267 | -105.475  | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL, C.,<br>2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT ROUND TOP<br>PROJECT, SIERRA BLANCA, TEXAS. REPORT PREPARED FOR USA RARE<br>EARTH LLC AND TEXAS MINERAL RESOURCE CORP, 230 P. |
| Beryllium | Tremble Hill Prospect               | 31.17073 | -105.469  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | Little Round Top<br>Prospects       | 31.28489 | -105.46   | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | Little Blanca Mountain<br>Prospects | 31.28767 | -105.452  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | Granite Hill Prospect               | 31.11128 | -105.446  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |
| Beryllium | South Sierra Blanca<br>Prospect     | 31.236   | -105.43   | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                                       |

# **Bismuth**

| Commodity | Site Name | Latitude | Longitude | Citation |
|-----------|-----------|----------|-----------|----------|

|         |               |         |          | STENZEL, H. B., 1939, A BISMUTH-MOLYBDENUM PROSPECT (KIAM |
|---------|---------------|---------|----------|---|
|         |               |         |          | PROSPECT) OF LLANO COUNTY, TEXAS: CONTRIBUTIONS TO        |
| Bismuth | Kiam Prospect | 30.6351 | -98.5353 | GEOLOGY, THE UNIVERSITY OF TEXAS PUBLICATION NO. 3945     |

# Cesium

| Commodity | Site Name          | Latitude | Longitude | Citation   |
|-----------|--------------------|----------|-----------|--|
|           |                    |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND |
|           |                    |          |           | CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-               |
|           |                    |          |           | ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-          |
|           |                    |          |           | PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-        |
| Cesium    | Round Top Prospect | 31.276   | -105.474  | 592, HTTP://DOI.ORG/10.1007/S00710-017-0511-5.                     |
|           |                    |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND |
|           |                    |          |           | CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-               |
|           |                    |          |           | ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-          |
|           | Little Round Top   |          |           | PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-        |
| Cesium    | Prospect           | 31.285   | -105.463  | 592, HTTP://DOI.ORG/10.1007/S00710-017-0511-5.                     |

# Chromium

None

# Cobalt

None

# **Fluorspar**

| Commodity | Site Name             | Latitude | Longitude | Citation  |
|-----------|-----------------------|----------|-----------|---|
| Fluorspar | Unnamed Occurrence    | 29.39079 | -103.682  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Unnamed Prospect      | 29.51162 | -103.501  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Unnamed Occurrences   | 29.3419  | -103.682  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Unnamed Occurrence    | 29.45495 | -103.459  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Rocky Ridge Prospects | 30.90518 | -105.106  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Unnamed Occurrence    | 29.37384 | -103.682  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Spar Valley Prospect  | 30.93824 | -105.048  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Unnamed Prospect      | 29.49273 | -103.459  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                       |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                       |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                       |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Gibbs Prospect        | 30.77491 | -98.2984  | BUREAU OF MINES-WMM-GIBBS FLOURITE DEPOSIT, BY        |
|           |                       |          |           | A.B.NEEDHAM, APRIL, 1943. SUMMARY REPORT OF WAF       |

|           |                                       |          |          | MINERAL EXAMINATION-GIBBS FLOURSPAR, BY W.D. MCMILLAN, MAR. 1976, UNIVERSITY OF TEXAS M.R.C. NO. 27.  |
|-----------|---------------------------------------|----------|----------|---|
| Fluorspar | Brownsville Mill                      | 25.89757 | -97.5028 | UNKNOWN   |
| Fluorspar | Eagle Pass Fluorspar<br>Mill          | 28.66916 | -100.503 | UNKNOWN   |
| Fluorspar | Marathon Plant                        | 30.20411 | -103.241 | UNKNOWN   |
| Fluorspar | Bailey Prospect                       | 30.891   | -98.3997 | UNKNOWN   |
| Fluorspar | Unnamed Occurrences                   | 29.21413 | -97.5031 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                    |
| Fluorspar | North Sierra Blanca<br>Prospect       | 31.25961 | -105.441 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Lucky Strike Mine                     | 30.95158 | -105.053 | UNKNOWN   |
| Fluorspar | Eagle Mountains<br>Fluorspar District | 30.93351 | -105.098 | DENNIS, W.E., 1946, EXPLORATION OF EAGLE MOUNTAIN<br>FLUORSPAR DEPOSITS, HUDSPETH COUNTY, TEXAS: U.S. BU<br>MINES REP. INV. 3878, 11 P.   |
| Fluorspar | Fox 9, 10, and 12<br>Prospects        | 30.90157 | -105.103 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Baringer Hill Mine                    | 30.77799 | -98.4331 | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES,<br>LLANO-BURNES FOLIO, TEXAS: USGS FOLIO 183, 16 P.   |
| Fluorspar | Corazones Peaks<br>District           | 29.46667 | -103.419 | MCANULTY, W. N., SR., 1967, FLUORSPAR IN BREWSTER COUNTY, TEXAS: UNIV. TEXAS BUR. ECON. GEOL. GEOL. CIRC. 67-2, P. 16.  |
| Fluorspar | Paisano Mine                          | 29.46693 | -103.459 | DAUGHERTY, FRANK W., 1982, FLUORSPAR DEPOSITS OF<br>CHRISTMAS MOUNTAINS DISTRICT, BREWSTER COUNTY,<br>TEXAS (PROCEEDINGS OF THE 17TH ANNUAL FORUM ON<br>THE GEOLOGY OF INDUSTRIAL MINERALS, MAY 13-15, 1981,<br>ALBUQUERQUE, NM |
| Fluorspar | Rock House Area<br>Prospects          | 29.90854 | -104.513 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Rocky Ridge Prospect                  | 30.90518 | -105.106 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Fluorite Prospect                     | 30.77438 | -98.3031 | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES,<br>LLANO-BURNET FOLIO, TEXAS: USGS FOLIO 183, 12P.  |
| Fluorspar | Paisano Mine                          | 29.46079 | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Piedra Azul Prospect                  | 29.44717 | -103.435 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                             |
| Fluorspar | Unnamed Occurrence                    | 31.98376 | -105.509 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                    |
| Fluorspar | Round Top Prospects                   | 31.28267 | -105.474 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                    |
| Fluorspar | Cowan Ranch Prospect                  | 31.12045 | -105.494 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN  |

|             | T   | <u> </u> |          | TRANS DECOS TEVAS DUBEAU OF FCONOMIS CEOLOGY  |
|-------------|---|----------|----------|---|
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.         |
| Fluorspar   | Spring Creek Prospect                             | 30.77799 | -98.292  | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES,   |
| •           |   |          |          | LLANO-BURNET FOLIO, TEXAS: USGS FOLIO 183, 12P.   |
| Fluorspar   | White Eagle Prospect                              | 30.76743 | -98.2998 | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES,   |
|             |   |          |          | LLANO-BURNET FOLIO, TEXAS: USGS FOLIO 183, 12P.   |
| Fluorspar   | Little Round Top                                  | 31.28489 | -105.46  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             | Prospects   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             | <del>                                      </del> | 20.4044  | 100.150  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Unnamed Prospects                                 | 29.4944  | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY             |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Section 27 Prospect                               | 30.95324 | -105.064 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
| Паогэраг    | Section 27 1103peet                               | 30.33324 | 103.004  | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Tank Canyon Prospects                             | 30.92824 | -105.054 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Fluorspar Prospect                                | 29.90771 | -104.505 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Fluence     | Duna su Mira                                      | 20.00104 | 104 512  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Burney Mine                                       | 29.90104 | -104.512 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN     |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Spar Valley Area                                  | 30.93828 | -105.048 | UNKNOWN   |
| Паогораг    | Prospect  | 30.33020 | 103.010  | STANTOWN  |
| Fluorspar   | Unnamed Occurrences                               | 29.30884 | -103.682 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Unnamed Occurrences                               | 29.34384 | -103.682 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| - Claranan  | Faul Faul and                                     | 30.90435 | 105.000  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
| Fluorspar   | Fox 1, Fox 3, and<br>Cooper 2 Prospects           | 30.90435 | -105.068 | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             | Cooper 2 Prospects                                |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Section 45 Prospect                               | 30.90046 | -105.096 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Unnamed Prospect                                  | 29.47912 | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             |   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Little Blanca Mountain                            | 31.28767 | -105.452 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             | Prospects   |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Fluorspar   | Unnamed Occurrence                                | 29.43412 | -103.459 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
| i iuui spai | Offinamed Occurrence                              | 23.43412 | -105.459 | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Fluorspar   | Fox 4 and Oak                                     | 30.91074 | -105.039 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|             | Prospects   |          | _00.003  | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|             |   |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
|             |   | ,        |          |   |

| Fluorspar | Divide Prospect                            | 30.90407 | -105.083 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
|-----------|--|----------|----------|--|
| Fluorspar | Spar Valley Rhyolite<br>Vein Mine          | 30.94157 | -105.047 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Fluorite Prospect                          | 30.7716  | -98.3003 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 43.  |
| Fluorspar | Syphon Canyon<br>Prospects                 | 30.92351 | -105.047 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | Hillside Prospect                          | 29.90577 | -104.503 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | Unnamed Occurrences                        | 29.00469 | -97.9081 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | Spar Valley Shaft No. 4<br>Mine            | 30.93379 | -105.051 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | South Sierra Blanca<br>Prospect            | 31.236   | -105.43  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Oglebay Norton<br>Fluorspar Plant          | 25.93037 | -97.455  | UNKNOWN  |
| Fluorspar | Ingram Prospect                            | 30.89712 | -105.053 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | Unnamed Occurrence                         | 29.42134 | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Fluorspar | Unnamed Prospect                           | 29.69633 | -102.961 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Unnamed Prospects                          | 29.49106 | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Lucky Strike Prospect                      | 30.94657 | -105.053 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Burney Mine                                | 29.90083 | -104.512 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Paisano Mine                               | 29.46079 | -103.461 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.          |
| Fluorspar | Spar Valley Mine North and South Orebodies | 30.93824 | -105.048 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |

| Fluorspar | Eagle Spring Mine    | 30.99601 | -105.098 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|-----------|----------------------|----------|----------|---|
|           |                      |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                      |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                      |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Fluorspar | Rock Ridge Prospects | 30.905   | -105.106 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                      |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                      |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                      |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |

# Additional Sources being evaluated:

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin 884 p.

Mineral Resource Circular 27: Sedlmayer, J. J., 1939, Report on the Mineral Resources of Fayette County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0027, 2 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 227-238

# Gallium

| Commodity | Site Name           | Latitude | Longitude | Citation  |
|-----------|---------------------|----------|-----------|---|
|           |                     |          |           | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND         |
|           |                     |          |           | EMANUEL, C., 2019, NI 43-101 PRELIMINARY ECONOMIC   |
|           |                     |          |           | ASSESSMENT ROUND TOP PROJECT, SIERRA BLANCA,        |
|           |                     |          |           | TEXAS. REPORT PREPARED FOR USA RARE EARTH LLC       |
| Gallium   | Round Top Prospects | 31.28267 | -105.474  | AND TEXAS MINERAL RESOURCE CORP, 230 P.             |
|           |                     |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|           |                     |          |           | MINERALOGY AND CRYSTALLIZATION HISTORY OF           |
|           |                     |          |           | HIGHLY DIFFERNTIATED REE-ENRICHED HYAPBYSSAL        |
|           |                     |          |           | RHYOLITE: ROUND TOP LACCOLITH, TRANS-PECOS,         |
|           |                     |          |           | TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4,       |
|           | Little Round Top    |          |           | P.569-592, HTTP://DOI.ORG/10.1007/S00710-017-0511-  |
| Gallium   | Prospect            | 31.285   | -105.463  | 5.  |

# Germanium

None

# Graphite

| Commodity | Site Name                        | Latitude | Longitude | Citation   |
|-----------|----------------------------------|----------|-----------|--|
| Graphite  | Watson Prospect                  | 30.8574  | -98.2636  | BARTLESVILLE CARD FILES  |
| Graphite  | Southwestern Graphite Mine       | 30.78551 | -98.3561  | U.S. BUREAU OF MINES, AUGUST 1976, PRELIMINARY FEASIBILITY ESTIMATES OF PROPOSED ALABAMA AND CANADIAN CRYSTALLINE GRAPHITE PROJECTS RELATED TO THE U.S. MARKET |
| Graphite  | Graphite Mine                    | 30.78409 | -98.5737  | CHELF, C., 1943, GRAPHITE IN LLANO COUNTY, TEXAS: TX BEG MRC-57, 10 P.   |
| Graphite  | Graphilter Corp Pit and<br>Plant | 30.72241 | -98.6806  | GRAPHITIC SCHIST OF PRECAMBRIAN PACKSADDLE SCHIST  |
| Graphite  | Garret Prospect                  | 30.7935  | -98.3295  | UNIVERSITY OF TEXAS, BUREAU OF ECON. GEOLOGY-M.R.C. NO. 15,<br>ADDITIONAL NOTES ON GRAPHITE IN TEXAS, V.E. BARNES, JULY1940                                    |
| Graphite  | Burnet-Llano District            | 30.78491 | -98.3578  | CAMERON, E.N. AND WEIS, P.L., 1960: STRATEGIC GRAPHITE - A<br>SURVEY: U.S. GEOLOGICAL SURVEY BULL. 1082-E, P.201-321.  |
| Graphite  | Debo Prospect                    | 30.7952  | -98.3009  | BUREAU OF MINES REPORT-DEBO GRAPHITE DEPOSITS, BURNETT CO., TX., BY A.B. NEEDHAM, APRIL 1943   |
| Graphite  | Texas Graphite Mine              | 30.72299 | -98.6795  | CHELF, C., 1943, GRAPHITE IN LLANO COUNTY, TEXAS: TX BEG MRC-57, 10 P.   |
| Graphite  | Graphite Prospect                | 30.79937 | -98.3273  | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS:<br>TEXAS BUREAU OF ECONOMIC GEOLOGY REPT. INVEST. 43, P.  |

|          | Southwestern Graphite   |          |           |   |
|----------|-------------------------|----------|-----------|---|
| Graphite | Mine                    | 30.78382 | -98.3576  | UNIVERSITY OF TEXAS PUBLICATION 3401, V. 2, P. 260-261.       |
|          |                         |          |           | CHELF, C., 1943, GRAPHITE IN LLANO COUNTY, TEXAS: TEXAS       |
| Graphite | Dixie Graphite Mine     | 30.79048 | -98.6109  | BUREAU OF ECONOMIC GEOLOGY PUBLICATION MRSC-57, 19P.          |
|          |                         |          |           | DIETRICH, J.W. AND LONSDALE, J.T., 1958, MINERAL RESOURCES OF |
|          |                         |          |           | THE COLORADO RIVER INDUSTRIAL DEVELOPMENT ASSOCIATION         |
|          | Packsaddle Mountain     |          |           | AREA, BUREAU OF ECONOMIC GEOLOGY, UNIVERSITY OF TEXAS AT      |
| Graphite | Prospect                | 30.62521 | -98.5081  | AUSTIN, REPOST OF INVESTIGATION NO. 37, 83 P.                 |
| Graphite | Llano Graphite District | 30.78382 | -98.35755 | ANONYMOUS PRODUCTION AMOUNT IN BEG FILES ****                 |

### Additional Sources being evaluated:

Bulletin 44: Udden, J. A., Baker, C. L., and Böse, Emil, 1916, Review of the Geology of Texas: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 44, 167 p.

Bulletin 1814: Schoch, E. P., 1918, Chemical Analyses of Texas Rocks and Minerals: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1814, 256 p.

Bulletin 3232: The Geology of Texas, Volume I, Stratigraphy, by E.H. Sellards, W.S., Adkins, and E.B., Plummer, originally printed in 1933 with second printing in 1947, seventh printing in 1978, Bureau of Economic Geology, University of Texas at Austin

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin, pp. 258-262

Mineral Resource Circular 1: Bureau of Economic Geology, The University of Texas at Austin, 1936, Mineral Resource Survey of Texas Circular MS0001, 1 p.

Mineral Resource Circular 15: Ramsey, G. D., 1936, Report on Clay Deposits in Grimes County: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0015, 3 p.

Mineral Resource Circular 57: Chelf, C. R., 1943, Graphite in Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0057, 10 p.

Publication 3401: Baker, C.L., 1935, Geology of Texas, v. 2, Part 3: University of Texas Bulletin 3401, pp. 260-261.

Publication 4246: Barnes, V. E., Dawson, R. F., and Parkinson, G. A., 1942, Building Stones of Central Texas: University of Texas, Austin, Bureau of Economic Geology and Technology, Publication 4246, 198 p.

Publication 4329: Plummer, F. B., 1950, The Carboniferous Rocks of the Llano Region of Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Publication 4329, 170 p.

# Hafnium

| Commodity | Site Name          | Latitude | Longitude | Citation   |
|-----------|--------------------|----------|-----------|--|
|           |                    |          |           | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL, C.,           |
|           |                    |          |           | 2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT ROUND TOP          |
|           |                    |          |           | PROJECT, SIERRA BLANCA, TEXAS. REPORT PREPARED FOR USA RARE        |
| Hafnium   | Round Top Prospect | 31.276   | -105.474  | EARTH LLC AND TEXAS MINERAL RESOURCE CORP, 230 P.                  |
|           |                    |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND |
|           |                    |          |           | CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-               |
|           |                    |          |           | ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-          |
|           | Little Round Top   |          |           | PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-        |
| Hafnium   | Prospect           | 31.285   | -105.463  | 592, HTTP://DOI.ORG/10.1007/S00710-017-0511-5.                     |

# Helium

| Commodity | Site Name | Latitude   | Longitude | Citation |
|-----------|-----------|------------|-----------|----------|
| Helium    | Hugoton   | 36.44871   | -101.4218 | UNKNOWN  |
| Helium    | Cliffside | 35.3525    | -101.9919 | UNKNOWN  |
| Helium    | Panhandle | 35.95318   | -101.9077 | UNKNOWN  |
|           |           |            | -         |          |
| Helium    | Petrolia  | 34.0181515 | 98.204766 | UNKNOWN  |

# Indium

None

# Lithium

| Commodity | Site Name                 | Latitude  | Longitude   | Citation  |
|-----------|---------------------------|-----------|-------------|---|
|           |                           |           |             | U.S. GEOLOGICAL SURVEY NATIONAL PRODUCED WATERS     |
| Lithium   | Smackover Formation       | 32.826466 | -95.109178  | GEOCHEMICAL DATABASE                                |
|           |                           |           |             | U.S. GEOLOGICAL SURVEY NATIONAL PRODUCED WATERS     |
| Lithium   | Austin Chalk Formation    | 28.971552 | -97.791175  | GEOCHEMICAL DATABASE                                |
|           |                           |           |             | U.S. GEOLOGICAL SURVEY NATIONAL PRODUCED WATERS     |
| Lithium   | Eagle Ford Formation      | 28.971552 | -97.791175  | GEOCHEMICAL DATABASE                                |
|           |                           |           |             | U.S. GEOLOGICAL SURVEY NATIONAL PRODUCED WATERS     |
| Lithium   | Granite Wash Formation    | 35.853605 | -100.623074 | GEOCHEMICAL DATABASE                                |
|           |                           |           |             | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND         |
|           |                           |           |             | EMANUEL, C., 2019, NI 43-101 PRELIMINARY ECONOMIC   |
|           |                           |           |             | ASSESSMENT ROUND TOP PROJECT, SIERRA BLANCA,        |
|           |                           |           |             | TEXAS. REPORT PREPARED FOR USA RARE EARTH LLC AND   |
| Lithium   | Round Top Prospect        | 31.276    | -105.474    | TEXAS MINERAL RESOURCE CORP, 230 P.                 |
|           |                           |           |             | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|           |                           |           |             | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|           |                           |           |             | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|           |                           |           |             | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.            |
|           |                           |           |             | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,   |
| Lithium   | Little Round Top Prospect | 31.285    | -105.463    | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |

# Additional Sources being evaluated:

Recent analyses have been conducted from oil and gas basins across the state. This data will be added when permission for release of information is granted identified where elevated lithium concentrations are appropriate.

# Magnesium

| Commodity | Site Name                 | Latitude  | Longitude  | Citation  |
|-----------|---------------------------|-----------|------------|---|
|           |                           |           |            | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                           |           |            | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                           |           |            | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Magnesium | Marble Canyon Mine        | 31.43194  | -104.8939  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |                           |           |            | DOW CORPORATE, DRIVING DOW'S GROWTH IN TEXAS:         |
|           |                           |           |            | THE MAKING OF DOW'S LARGEST SITE                      |
|           |                           |           |            | (HTTPS://CORPORATE.DOW.COM/EN-                        |
|           |                           |           |            | US/ABOUT/COMPANY/HISTORY/TEXAS-FACILITY.HTML;         |
| Magnesium | Gulf Coast                | 28.986379 | -95.354351 | ACCESSED NOV. 20, 2020)                               |
|           |                           |           |            | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND           |
|           |                           |           |            | EMANUEL, C., 2019, NI 43-101 PRELIMINARY ECONOMIC     |
|           |                           |           |            | ASSESSMENT ROUND TOP PROJECT, SIERRA BLANCA,          |
|           |                           |           |            | TEXAS. REPORT PREPARED FOR USA RARE EARTH LLC AND     |
| Magnesium | Round Top Prospect        | 31.276    | -105.474   | TEXAS MINERAL RESOURCE CORP, 230 P.                   |
|           |                           |           |            | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,   |
|           |                           |           |            | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY      |
|           |                           |           |            | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:       |
|           |                           |           |            | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.              |
|           |                           |           |            | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,     |
| Magnesium | Little Round Top Prospect | 31.285    | -105.463   | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.             |

# Additional Sources being evaluated:

Mineral Resource Circular 10: Barnes, V. E., 1936, Report on the Building Stone Deposits in Burnet County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0010, 3 p.

Mineral Resource Circular 32: McCammon, J. H., 1941, Report on Tin and Magnesite Deposits in Mason County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0032, 5 p.

Mineral Resource Circular 45: Chelf, C. R., 1941, Magnesite Mining in Llano County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0040, 4 p.

Publication 4246: Barnes, V. E., Dawson, R. F., and Parkinson, G. A., 1942, Building Stones of Central Texas: University of Texas, Austin, Bureau of Economic Geology and Technology, Publication 4246, pp. 105-107

# Manganese

| Commodity | Site Name                   | Latitude | Longitude | Citation  |
|-----------|-----------------------------|----------|-----------|---|
| Manganese | Unnamed Prospect            | 30.07993 | -101.495  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Unnamed Occurrence          | 30.02854 | -104.161  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Ranch Trail Mn Occurrence   | 29.64022 | -104.387  | DIETRICH J W GEOLOGY OF PRESIDIO AREA PRESIDIO CO, TEXAS, UNIVERSITY OF TEXAS AUSTIN PHD DISS 1965  |
| Manganese | Unnamed Prospect            | 29.72828 | -95.2502  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Unnamed Occurrence          | 30.0666  | -103.547  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Burdett Prospect            | 29.98993 | -102.967  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Unnamed Prospect            | 29.4444  | -103.459  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Lavine Prospect             | 33.44074 | -94.3955  | STROUD, RAYMOND, 1977, ASPECTS OF MANGANESE PRODUCTION IN WEST-CENTRAL ARKANSAS: ARKANSAS GEOLOGICAL COMMISSION SYMPOSIUM ON THE GEOLOGY OF THE OUACHITA MOUNTAINS, VOL. II.                                    |
| Manganese | Griffy Mn Prospect          | 30.8352  | -98.6759  | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES LLANO-BURNET FOLIO, TEXAS: USGS FOLIO 183, 16 P.   |
| Manganese | Santa Fe Cuts Mn Occurrence | 29.64022 | -104.356  | DIETRICH J W GEOLOGY OF PRESIDIO AREA PRESIDIO CO, TEXAS, UNIVERSITY OF TEXAS AUSTIN PHD DISS 1965  |
| Manganese | Babb Manganese Prospect     | 30.11272 | -101.627  | UNKNOWN   |
| Manganese | Black Diamond Mine          | 30.76798 | -105.001  | MINERALIZED FRACTURES IN YUCCA FORMATION CONGLOMERATE   |
| Manganese | Brownsville Plant           | 25.90647 | -97.4828  | UNKNOWN   |
| Manganese | Girvin Tank Nm Occurrence   | 29.64022 | -104.206  | DIETRICH J W GEOLOGY OF PRESIDIO AREA<br>PRESIDIO CO, TEXAS, UNIVERSITY OF TEXAS AUSTIN<br>PHD DISS 1965  |
| Manganese | Stephenson Prospect         | 30.10691 | -102.9    | BARTLESVILLE CARD FILES   |
| Manganese | Olive Mine Prospect         | 30.8008  | -98.5736  | BANDED MAGNETITE IN PRECAMBRIAN PACKSADDLE SCHIST   |

| Manganese | Feely Mn Prospect             | 29.56913 | -101.133 | UNKNOWN   |
|-----------|-------------------------------|----------|----------|---|
| Manganese | Oppenheimer Draw Mn Prospect  | 30.08912 | -101.495 | UNKNOWN   |
| Manganese | Garrett Property Prospect     | 30.60411 | -98.6709 | ORE IS RESIDUAL WEATHERING PRODUCT OF<br>SIDERITIC LAYERS IN MARBLE OF PACKSADDLE<br>SCHIST, GOETHITE, FAINT MANGANIFEROUS<br>TRACES, LIMONITE  |
| Manganese | Chispa Mine                   | 30.72269 | -104.697 | UNKNOWN   |
| Manganese | Horse Mountain Prospect       | 30.8335  | -98.6772 | UNKNOWN   |
| Manganese | Shumla Mn Prospects           | 29.77853 | -101.417 | UNKNOWN   |
| Manganese | Spiller Mine                  | 30.9052  | -99.0935 | UNKNOWN   |
| Manganese | Kothmann Tract Prospect       | 30.8783  | -99.0203 | UNKNOWN   |
| Manganese | Iron Mountain Prospect        | 30.8602  | -98.8311 | RESISTANT KNOLL OF MAGNETITE BEARING PRECAMBRIAN VALLEY SPRING GNEISS   |
| Manganese | Willow Creek Area             | 30.7927  | -98.867  | FOUR PITS IN PRECAMBRIAN VALLEY SPRING GNEISS   |
| Manganese | Horse Mountain Prospect       | 30.8388  | -98.6825 | VALLEY SPRING GNEISS, MANGANESE-OXIDE AND SILICATE, SPESSARTITE, PIEDMONTITE  |
| Manganese | Bader Prospect                | 30.73381 | -98.8139 | FOUR PITS IN PRECAMBRIAN VALLEY SPRING GNEISS   |
| Manganese | Mayfield Mine                 | 30.71939 | -104.775 | ECONOMIC GEOLOGY V 55 NO 1 P 1-55.  |
| Manganese | Clark Prospect                | 30.15827 | -103.237 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Mills Ranch Mn Prospect       | 30.18631 | -101.594 | UNKNOWN   |
| Manganese | Shumla District Prospects     | 29.78213 | -101.399 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC GEOLOGY REPT. INVEST. 43, P. 105-106.   |
| Manganese | Babb Deposits                 | 30.11216 | -101.513 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 249-254.   |
| Manganese | Mayfield Prospect             | 30.72297 | -104.775 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Ingram-Howe Deposit           | 29.84784 | -101.43  | MAXWELL, R.A., 1962, MINERAL RESOURCES OF<br>SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC<br>GEOLOGY REPT. INVEST. 43.   |
| Manganese | Mills Ranch Mine              | 30.18387 | -101.589 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC GEOLOGY REPT. INVEST. 43.   |
| Manganese | Oppenheimer Canyon Occurrence | 30.08772 | -101.495 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF<br>SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC<br>GEOLOGY REPT. INVEST. 43.   |
| Manganese | Unnamed Prospects             | 29.61411 | -104.207 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Unnamed Prospect              | 30.27937 | -104.672 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R.,<br>1983, ANNOTATED BIBLIOGRAPHY OF MINERAL<br>DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF<br>ECONOMIC GEOLOGY (TEXAS), MINERAL<br>RESOURCE CIRCULAR NO. 73, 108 P. |
| Manganese | Feely Prospect                | 29.56829 | -101.119 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC GEOLOGY REPT. INVEST. 43.   |
| Manganese | Round Top Prospect            | 31.276   | -105.474 | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND<br>EMANUEL, C., 2019, NI 43-101 PRELIMINARY   |

|           |                           |        |          | ECONOMIC ASSESSMENT ROUND TOP PROJECT,<br>SIERRA BLANCA, TEXAS. REPORT PREPARED FOR<br>USA RARE EARTH LLC AND TEXAS MINERAL<br>RESOURCE CORP, 230 P.  |
|-----------|---------------------------|--------|----------|---|
| Manganese | Little Round Top Prospect | 31.285 | -105.463 | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592, HTTP://DOI.ORG/10.1007/S00710-017-0511-5. |

# Additional Sources being evaluated:

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin, pp. 505-511

Mineral Resource circular 52: Warren, L. E., 1942, The Occurrence of Manganese on the Ingram-Howe Ranch, with Notes on Other Areas along Pecos River, Val Verde County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0052, 4 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 249-256

# Niobium

| Commodity | Site Name                       | Latitude | Longitude | Citation   |
|-----------|---------------------------------|----------|-----------|--|
| Niobium   | Love Tank Mine                  | 31.18267 | -105.513  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC<br>GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO.<br>73, 108 P.  |
| Niobium   | Cave Peak Deposit               | 31.4435  | -104.879  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.  |
| Niobium   | El Paso Mine                    | 31.93597 | -106.487  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC<br>GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO.<br>73, 108 P.  |
| Niobium   | Franklin Mt Tin Deposits        | 31.93574 | -106.487  | CHAUVENET, REGIS, 1910, FRANKLIN MT TIN<br>PROSPECT. MINES AND MINERALS, V 30, P 529-531.  |
| Niobium   | Granite Hill Prospect           | 31.11128 | -105.446  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC<br>GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO.<br>73, 108 P.  |
| Niobium   | Little Blanca Mountain Prospect | 31.284   | -105.439  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC<br>GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR NO.<br>73, 108 P.  |
| Niobium   | Round Top Prospect              | 31.276   | -105.474  | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592, HTTP://DOI.ORG/10.1007/S00710-017- 0511-5. |
| Niobium   | Little Round Top Prospect       | 31.285   | -105.463  | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,<br>MINERALOGY AND CRYSTALLIZATION HISTORY OF<br>HIGHLY DIFFERNTIATED REE-ENRICHED HYAPBYSSAL   |

|         |                        |          |          | RHYOLITE: ROUND TOP LACCOLITH, TRANS-PECOS,<br>TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4,<br>P.569-592, HTTP://DOI.ORG/10.1007/S00710-017-<br>0511-5.   |
|---------|------------------------|----------|----------|--|
| Niobium | Triple Hill Prospect   | 31.271   | -105.384 | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592, HTTP://DOI.ORG/10.1007/S00710-017- 0511-5. |
| Niobium | Marble Canyon Prospect | 31.44407 | -104.895 | EXPLORATORY DRILLING OF CONTACT METAMORPHIC ZONE IN CRETACEOUS LIMESTONE INTRUDED BY TERTIARY RHYOLITE PLUGS   |

# **Platinum Group Metals**

None

# **Potash**

| Commodity | Site Name                     | Latitude  | Longitude   | Citation   |
|-----------|-------------------------------|-----------|-------------|--|
|           |                               |           |             | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS<br>IN TRANS-PECOS TEXAS: BUREAU OF ECONOMIC<br>GEOLOGY (TEXAS), MINERAL RESOURCE CIRCULAR |
| Potash    | Capote Creek Mine             | 30.20361  | -104.575    | NO. 73, 108 P.   |
| Potash    | Greensands                    | 30.8752   | -98.39393   | unknown  |
| Potash    | Permian Basin                 | 31.88239  | -103.3383   | SMITH, H. I., 1938, POTASH IN THE PERMIAN SALT<br>BASIN: INDUSTRIAL & ENGINEERING CHEMISTRY 30,<br>NO. 8, P. 854-860   |
| Potash    | Palangana Dome (Duval County) | 27.60484  | -98.44726   | unknown  |
| Potash    | Spur Well                     | 33.47438  | -100.8647   | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | Boden Well                    | 35.39928  | -102.0643   | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | Miller Well                   | 35.0235   | -102.0667   | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | Bryant Well                   | 31.92553  | -102.0867   | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | Burns Well                    | 32.70751  | -101.6987   | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | River Well                    | 31.458843 | -103.343858 | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | Means Well                    | 31.855227 | -103.467082 | KATZ, F. J., 1923, MINERAL RESOURCES OF THE<br>UNITED STATES: PART II - NONMETALS: US BUREAU<br>OF MINES   |
| Potash    | McDowell No.4 Well            | 32.073997 | -101.54403  | KATZ, F. J., 1923, MINERAL RESOURCES OF THE UNITED STATES: PART II - NONMETALS: US BUREAU OF MINES   |
| Potash    | G. A. Jones Well              | 32.626334 | -101.188012 | KATZ, F. J., 1923, MINERAL RESOURCES OF THE UNITED STATES: PART II - NONMETALS: US BUREAU OF MINES   |

|            |                      |           |             | KATZ, F. J., 1923, MINERAL RESOURCES OF THE     |
|------------|----------------------|-----------|-------------|---|
|            |                      |           |             | UNITED STATES: PART II - NONMETALS: US BUREAU   |
| Potash     | Cliffside Well       | 35.267493 | -101.912439 | OF MINES  |
|            |                      |           |             | KATZ, F. J., 1923, MINERAL RESOURCES OF THE     |
|            |                      |           |             | UNITED STATES: PART II - NONMETALS: US BUREAU   |
| Potash     | St. Rita Group Wells | 31.214815 | -101.673081 | OF MINES  |
|            |                      |           |             | KATZ, F. J., 1923, MINERAL RESOURCES OF THE     |
|            |                      |           |             | UNITED STATES: PART II - NONMETALS: US BUREAU   |
| Potash     | Newnham Wells        | 31.841368 | -102.355957 | OF MINES  |
|            |                      |           |             | KATZ, F. J., 1923, MINERAL RESOURCES OF THE     |
|            |                      |           |             | UNITED STATES: PART II - NONMETALS: US BUREAU   |
| Potash     | Markham Salt Dome    | 29.063521 | -96.042882  | OF MINES  |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.69019  | -102.689133 | TEXAS BULLETIN NO. 3401, P. 642-831             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.013735 | -101.919171 | TEXAS BULLETIN NO. 3401, P. 642-832             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.154246 | -102.224706 | TEXAS BULLETIN NO. 3401, P. 642-833             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.211229 | -102.289071 | TEXAS BULLETIN NO. 3401, P. 642-834             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.049532 | -102.053916 | TEXAS BULLETIN NO. 3401, P. 642-835             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 32.02457  | -101.704838 | TEXAS BULLETIN NO. 3401, P. 642-836             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.563175 | -102.453312 | TEXAS BULLETIN NO. 3401, P. 642-837             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
|            |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.882386 | -103.318188 | TEXAS BULLETIN NO. 3401, P. 642-838             |
|            |                      |           |             | MANSFIELD, G. R., LANG, W. G., 1934, THE TEXAS- |
| l <u>.</u> |                      |           |             | NEW MEXICO POTASH DEPOSITS: UNIVERSITY OF       |
| Potash     | Unnamed occurrence   | 31.84397  | -103.371924 | TEXAS BULLETIN NO. 3401, P. 642-839             |

# Additional Sources being evaluated:

Bureau of Economic Geology, 1928, Contributions to Geology, 1928: University of Texas, Austin, Bulletin 2801, 202 p.

Clabaugh, S. E., and Barnes, V. E., 1959, Vermiculite in Central Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 40, 32 p.

Flawn, P. T., 1951, Pegmatites of the Van Horn Mountains, Texas: The University of Texas at Austin, Bureau of Economic Geology, Report of Investigations No. 9, 30 p.

Meigs, C. C., Bassett, H. P., and Slaughter, G. B., 1922, Report on Texas Alkali Lakes: University of Texas. Austin, Bureau of Economic Geology and Technology, Bulletin 2234, 59 p.

Udden, J. A., 1915, Potash in the Texas Permian: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 17, 59 p.

# **Rare Earth Elements**

| Commodity | Site Name          | Latitude | Longitude | Citation  |
|-----------|--------------------|----------|-----------|---|
|           |                    |          |           | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES, |
| REE       | Baringer Hill Mine | 30.77799 | -98.4331  | LLANO-BURNES FOLIO, TEXAS: USGS FOLIO 183, 16 P.      |
|           |                    |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
| REE       | Cave Peak Deposit  | 31.4435  | -104.879  | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |

|     |                                 |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|-----|---------------------------------|----------|----------|---|
|     |                                 |          |          | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|     |                                 |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|     |                                 |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|     |                                 |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| REE | Little Blanca Mountain Prospect | 31.284   | -105.439 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|     |                                 |          |          | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,   |
|     |                                 |          |          | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY      |
|     |                                 |          |          | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:       |
|     |                                 |          |          | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.              |
|     |                                 |          |          | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,     |
| REE | Round Top Prospect              | 31.276   | -105.474 | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.             |
|     |                                 |          |          | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,   |
|     |                                 |          |          | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY      |
|     |                                 |          |          | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:       |
|     |                                 |          |          | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.              |
|     |                                 |          |          | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,     |
| REE | Little Round Top Prospect       | 31.285   | -105.463 | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.             |
|     |                                 |          |          | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,   |
|     |                                 |          |          | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY      |
|     |                                 |          |          | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:       |
|     |                                 |          |          | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.              |
|     |                                 |          |          | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,     |
| REE | Triple Hill Prospect            | 31.271   | -105.384 | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.             |
|     |                                 |          |          | EXPLORATORY DRILLING OF CONTACT METAMORPHIC           |
|     |                                 |          |          | ZONE IN CRETACEOUS LIMESTONE INTRUDED BY TERTIARY     |
| REE | Marble Canyon Prospect          | 31.44407 | -104.895 | RHYOLITE PLUGS  |

# Rhenium

None

# Rubidium

| Commodity | Site Name                 | Latitude | Longitude | Citation  |
|-----------|---------------------------|----------|-----------|---|
|           |                           |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|           |                           |          |           | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|           |                           |          |           | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|           |                           |          |           | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.            |
|           |                           |          |           | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,   |
| Rubidium  | Round Top Prospect        | 31.276   | -105.474  | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |
|           |                           |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|           |                           |          |           | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|           |                           |          |           | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|           |                           |          |           | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.            |
|           |                           |          |           | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,   |
| Rubidium  | Little Round Top Prospect | 31.285   | -105.463  | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |

# Scandium

| Commodity | Site Name          | Latitude | Longitude | Citation  |
|-----------|--------------------|----------|-----------|---|
|           |                    |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|           |                    |          |           | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|           |                    |          |           | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|           |                    |          |           | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS.            |
|           |                    |          |           | MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-592,   |
| Scandium  | Round Top Prospect | 31.276   | -105.474  | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |

# Strontium

| Commodity | Site Name             | Latitude | Longitude | Citation                |
|-----------|-----------------------|----------|-----------|-------------------------|
| Strontium | George Burns Prospect | 31.87207 | -98.8795  | BARTLESVILLE CARD FILES |

| Strontium | Hightower Prospect               | 31.82017 | -98.8575 | BARTLESVILLE CARD FILES  |
|-----------|----------------------------------|----------|----------|--|
| Strontium | Davis Estate Prospect            | 31.81548 | -98.8761 | BARTLESVILLE CARD FILES  |
| Strontium | Houston Barite,Plant             | 29.77744 | -95.2799 | UNKNOWN  |
| Strontium | Burns-Fairchild Prospect         | 31.87657 | -98.9035 | BARTLESVILLE CARD FILES  |
| Strontium | Hackberry Creek Prospect         | 30.21965 | -99.6996 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TX BEG RI 43, P. 12-13.                                   |
| Strontium | Unnamed Prospect                 | 30.50662 | -95.3852 | UNKNOWN  |
| Strontium | W. L. Thomas Prospect            | 31.76738 | -98.8267 | BARTLESVILLE CARD FILES  |
| Strontium | Miller-Baker Prospect            | 31.86577 | -98.8795 | BARTLESVILLE CARD FILES  |
| Strontium | Elizabeth Faulkner Prospect      | 31.84657 | -98.8575 | BARTLESVILLE CARD FILES  |
| Strontium | Baker-Maner-Faulkner Prospect    | 31.85237 | -98.8575 | BARTLESVILLE CARD FILES  |
| Strontium | Evans Prospect                   | 32.37905 | -100.433 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Whitesides Jr. Occurrence        | 32.08738 | -100.42  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Mary Chambers Prospect           | 31.86157 | -98.8609 | BARTLESVILLE CARD FILES  |
| Strontium | Miller Ranch Mine                | 29.99522 | -99.9929 | MAXWELL, R.A., 1962, MINERAL RESOURCES OF SOUTH TEXAS: TEXAS BUREAU OF ECONIMIC GEOLOGY REPT. INVEST. 43, P. 37. |
| Strontium | Miller Mine                      | 31.86267 | -98.8731 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Hightower-Routh Occurrence       | 31.81518 | -98.862  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Bird Occurrence                  | 31.77629 | -98.8373 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Hopkins Prospect                 | 32.40348 | -100.447 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Mcfarlane and Moore Prospect     | 32.0946  | -100.401 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Davis Prospect                   | 31.81573 | -98.8826 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Scott and Roy Occurrence         | 32.39959 | -100.44  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Martin Mine                      | 32.78458 | -100.557 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Routh Prospect                   | 31.84128 | -98.864  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Reagan Occurrence                | 31.78407 | -98.8573 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Whitesides Occurrence            | 32.0821  | -100.42  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Oden Occurrence                  | 32.85597 | -100.399 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Evans Occurrence                 | 31.80185 | -98.8681 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Teague Hollow Occurrence         | 31.84211 | -98.8545 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Whitesides Sr. Occurrence        | 32.07738 | -100.42  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Thomas Occurrence                | 31.76268 | -98.8237 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Boothe Mine                      | 32.38322 | -100.432 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Dunsworth-Dunn-Hughes Occurrence | 31.80907 | -98.8812 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Stewart Occurrence               | 31.82156 | -98.8628 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Baker Mine                       | 31.86156 | -98.869  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Caffey and Lacey Occurrence      | 31.91684 | -98.792  | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Boyd Mine                        | 31.86211 | -98.8537 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Alpha Baker Mine                 | 31.85156 | -98.8595 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Maner Occurrence                 | 31.85156 | -98.8595 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Hughes Occurrence                | 31.73407 | -98.7937 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |
| Strontium | Gynum Occurrence                 | 31.00021 | -98.0003 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131   |

| Strontium | Rodgers Occurrence             | 31.8124  | -98.8701 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
|-----------|--------------------------------|----------|----------|--|
| Strontium | Somnerville Occurrence         | 32.40682 | -100.441 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Jordan Occurrence              | 32.1421  | -100.411 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Burns and Fairchild Occurrence | 31.87656 | -98.8956 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Burns Occurrence               | 31.87184 | -98.8703 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Dikes and Chambers Deposit     | 31.85739 | -98.8698 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Douglas Occurrence             | 31.74407 | -98.7676 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Bettis Occurrence              | 31.77546 | -98.7853 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Faulkner Mine                  | 31.84906 | -98.8595 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |
| Strontium | Rountree Occurrence            | 31.78879 | -98.7842 | UNIVERSITY OF TEXAS PUBLICATION 4301, P. 113-131 |

# Additional Sources being evaluated:

Bulletin 1814: Schoch, E. P., 1918, Chemical Analyses of Texas Rocks and Minerals: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1814, 256 p.

Bulletin 1931: Winton, W. M., and Adkins, W. S., 1919, The Geology of Tarrant County: University of Texas, Austin, Bureau of Economic Geology and Technology, Bulletin 1931, 122 p.

Bulletin 3232: The Geology of Texas, Volume I, Stratigraphy, by E.H. Sellards, W.S., Adkins, and E.B., Plummer, originally printed in 1933 with second printing in 1947, seventh printing in 1978, Bureau of Economic Geology, University of Texas at Austin

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 113-131

Publication 4824: Weissenborn, A. E., and Stenzel, H. B., 1948, Geological Resources of the Trinity River Tributary Area in Oklahoma and Texas: University of Texas, Austin, Publication 4824, pp. 72-74

# **Tantalum**

| Commodity | Site Name                       | Latitude | Longitude | Citation  |
|-----------|---------------------------------|----------|-----------|---|
| Tantalum  | Love Tank Mine                  | 31.18267 | -105.513  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                 |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                 |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                 |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tantalum  | Cave Peak Deposit               | 31.4435  | -104.879  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                 |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                 |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                 |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tantalum  | El Paso Mine                    | 31.93597 | -106.487  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                 |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                 |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                 |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tantalum  | Franklin Mt Tin Deposits        | 31.93574 | -106.487  | CHAUVENET, REGIS, 1910, FRANKLIN MT TIN PROSPECT.     |
|           |                                 |          |           | MINES AND MINERALS, V 30, P 529-531.                  |
| Tantalum  | Granite Hill Prospect           | 31.11128 | -105.446  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                 |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                 |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                 |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tantalum  | Little Blanca Mountain Prospect | 31.284   | -105.439  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                 |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                 |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                 |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tantalum  | Round Top Prospect              | 31.276   | -105.474  | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017,   |
|           |                                 |          |           | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY      |
|           |                                 |          |           | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:       |
|           |                                 |          |           | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY   |
|           |                                 |          |           | AND PETROLOGY, V.111, NO.4, P.569-592,                |
|           |                                 |          |           | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.             |

| Tantalum | Little Round Top Prospect | 31.285   | -105.463 | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|----------|---------------------------|----------|----------|---|
|          |                           |          |          | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|          |                           |          |          | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|          |                           |          |          | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY |
|          |                           |          |          | AND PETROLOGY, V.111, NO.4, P.569-592,              |
|          |                           |          |          | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |
| Tantalum | Triple Hill Prospect      | 31.271   | -105.384 | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, |
|          |                           |          |          | MINERALOGY AND CRYSTALLIZATION HISTORY OF HIGHLY    |
|          |                           |          |          | DIFFERNTIATED REE-ENRICHED HYAPBYSSAL RHYOLITE:     |
|          |                           |          |          | ROUND TOP LACCOLITH, TRANS-PECOS, TEXAS. MINERALOGY |
|          |                           |          |          | AND PETROLOGY, V.111, NO.4, P.569-592,              |
|          |                           |          |          | HTTP://DOI.ORG/10.1007/S00710-017-0511-5.           |
| Tantalum | Marble Canyon Prospect    | 31.44407 | -104.895 | EXPLORATORY DRILLING OF CONTACT METAMORPHIC ZONE    |
|          |                           |          |          | IN CRETACEOUS LIMESTONE INTRUDED BY TERTIARY        |
|          |                           |          |          | RHYOLITE PLUGS                                      |

# **Tellurium**

None

# Tin

| Commodity | Site Name                        | Latitude | Longitude | Citation  |
|-----------|----------------------------------|----------|-----------|---|
| Tin       | El Paso Mine                     | 31.93597 | -106.487  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                  |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tin       | Streeter Stream Tin Deposit      | 30.7594  | -99.3618  | MEYER, H C, 1913, TOPAZ AND STREAM TIN IN MASON CO,   |
|           |                                  |          |           | TEXAS. E MIN J. V 95, N 10, P 511-512.                |
| Tin       | Grit Stream Tin Deposits         | 30.783   | -99.3412  | MEYER, H C, 1913, TOPAZ AND STREAM TIN IN MASON CO,   |
|           |                                  |          |           | TEXAS. E MIN J. V 95, N 10, P 511-512.                |
| Tin       | Franklin Mt Tin Deposits         | 31.93574 | -106.487  | CHAUVENET, REGIS, 1910, FRANKLIN MT TIN PROSPECT.     |
|           |                                  |          |           | MINES AND MINERALS, V 30, P 529-531.                  |
| Tin       | Tin Prospect                     | 30.7744  | -99.3454  | CASSITERITE IN VEINS IN BIOTITE GRANITE               |
| Tin       | Tremble Hill Prospect            | 31.17073 | -105.469  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                  |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tin       | Little Blanca Mountain Prospects | 31.28767 | -105.452  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                  |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tin       | Granite Hill Prospect            | 31.11128 | -105.446  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                  |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tin       | Cave Peak Deposit                | 31.4435  | -104.879  | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                                  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                                  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
|           |                                  |          |           | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Tin       | Round Top Prospects              | 31.28267 | -105.474  | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL   |
|           |                                  |          |           | C., 2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT   |
|           |                                  |          |           | ROUND TOP PROJECT, SIERRA BLANCA, TEXAS. REPORT       |
|           |                                  |          |           | PREPARED FOR USA RARE EARTH LLC AND TEXAS MINERAL     |
|           |                                  | 1        |           | RESOURCE CORP, 230 P.                                 |

# Additional Sources being evaluated:

Bulletin 3401: The Geology of Texas, Volume II, Structural and Economic Geology [exclusive of petroleum], by E.H. Sellards, C.L. Baker and others, originally printed in 1934, Bureau of Economic Geology, University of Texas at Austin pp. 633-634

Mineral Resource Circular 32: McCammon, J. H., 1941, Report on Tin and Magnesite Deposits in Mason County, Texas: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Survey Circular MS0032, 5 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 378

# Titanium

| Commodity | Site Name                     | Latitude | Longitude  | Citation  |
|-----------|-------------------------------|----------|------------|---|
| •         |                               |          |            | SHELBY, C.A., 1965, HEAVY MINERALS IN THE             |
|           |                               |          |            | WELLBORN FORMATION, LEE AND BURLESON                  |
|           |                               |          |            | COUNTIES, TEXAS: TEXAS BUREAU OF ECONOMIC             |
| Titanium  | Weiler-Whitener Prospect      | 30.33355 | -96.63499  | GEOLOGY REPORT OF INVESTIGATION 55, 54P.              |
| Titanium  | Colvin Sandstone Deposit      | 30.50022 | -96.95858  | BARTLESVILLE CARD FILES                               |
|           |                               |          |            | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED         |
|           |                               |          |            | STATES, LLANO-BURNES FOLIO, TEXAS: USGS FOLIO         |
| Titanium  | Baringer Hill Mine            | 30.77799 | -98.43311  | 183, 16 P.  |
|           |                               |          |            | SHELBY, C.A., 1965, HEAVY MINERALS IN THE             |
|           |                               |          |            | WELLBORN FORMATION, LEE AND BURLESON                  |
|           |                               |          |            | COUNTIES, TEXAS: TEXAS BUREAU OF ECONOMIC             |
| Titanium  | Carter-Branch Prospect        | 30.29216 | -96.67334  | GEOLOGY REPORT OF INVESTIGATION 55, 54P.              |
|           |                               |          |            | SHELBY, C.A., 1965, HEAVY MINERALS IN THE             |
|           |                               |          |            | WELLBORN FORMATION, LEE AND BURLESON                  |
|           |                               |          |            | COUNTIES, TEXAS: TEXAS BUREAU OF ECONOMIC             |
| Titanium  | Colvin Prospect               | 30.28855 | -96.67667  | GEOLOGY REPORT OF INVESTIGATION 55, 54P.              |
|           |                               |          |            | SHELBY, C.A., 1965, HEAVY MINERALS IN THE             |
|           |                               |          |            | WELLBORN FORMATION, LEE AND BURLESON                  |
|           |                               |          |            | COUNTIES, TEXAS: TEXAS BUREAU OF ECONOMIC             |
| Titanium  | Yegua Creek Placer District   | 30.3155  | -96.63499  | GEOLOGY REPORT OF INVESTIGATION 55, 54P.              |
|           |                               |          |            | SHELBY, C.A., 1965, HEAVY MINERALS IN THE             |
|           |                               |          |            | WELLBORN FORMATION, LEE AND BURLESON                  |
|           |                               |          |            | COUNTIES, TEXAS: TEXAS BUREAU OF ECONOMIC             |
| Titanium  | Falkenburg-Blackburn Prospect | 30.3155  | -96.64917  | GEOLOGY REPORT OF INVESTIGATION 55, 54P.              |
|           |                               |          |            | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                               |          |            | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |                               |          |            | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Titanium  | White Mountain Prospect       | 30.01327 | -100       | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
| Titanium  | Padre Island Prospect         | 26.11286 | -97.17308  | BARTLESVILLE CARD FILES                               |
| Titanium  | Brazos Island Prospect        | 26.02926 | -97.16858  | BARTLESVILLE CARD FILES                               |
|           | ·                             |          |            | FISHER,1965, BUREAU OF ECONOMIC GEOLOGY,              |
| Titanium  | Wilcox Ball Clay Prospect     | 31.62379 | -96.32357  | UNIVERSITY OF TEXAS, REPORT OF INVESTIGATION 45.      |
|           |                               |          |            | HAHN, A.D., MILLER, W.C., FINE, M.M., 1961,           |
|           |                               |          |            | TITANIUM-BEARING DEPOSITS IN SOUTH TEXAS: U.S.        |
|           |                               |          |            | DEPT. OF THE INTERIOR, BUREAU OF MINES REPORT OF      |
| Titanium  | Fronton-Guerra Prospect       | 26.51259 | -99.032033 | INVESTIGATIONS 5712                                   |

# Tungsten

| Commodity | Site Name         | Latitude | Longitude | Citation  |
|-----------|-------------------|----------|-----------|---|
|           |                   |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                   |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-  |
|           |                   |          |           | PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS),      |
| Tungsten  | Love Tank Mine    | 31.18267 | -105.513  | MINERAL RESOURCE CIRCULAR NO. 73, 108 P.              |
|           |                   |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                   |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-  |
|           |                   |          |           | PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS),      |
| Tungsten  | Cave Peak Deposit | 31.4435  | -104.879  | MINERAL RESOURCE CIRCULAR NO. 73, 108 P.              |
|           |                   |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |                   |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-  |
|           |                   |          |           | PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS),      |
| Tungsten  | El Paso Mine      | 31.93597 | -106.487  | MINERAL RESOURCE CIRCULAR NO. 73, 108 P.              |

|          |                              |          |          | CHAUVENET, REGIS, 1910, FRANKLIN MT TIN PROSPECT. MINES |
|----------|------------------------------|----------|----------|---|
| Tungsten | Franklin Mt Tin Deposits     | 31.93574 | -106.487 | AND MINERALS, V 30, P 529-531.                          |
|          |                              |          |          | DIETRICH, J.W. AND LONSDALE, J.T., 1958, MINERAL        |
|          |                              |          |          | RESOURCES OF THE COLORADO RIVER INDUSTRIAL              |
|          |                              |          |          | DEVELOPMENT ASSOCIATION AREA, BUREAU OF ECONOMIC        |
|          |                              |          |          | GEOLOGY, UNIVERSITY OF TEXAS AT AUSTIN, REPOST OF       |
| Tungsten | Packsaddle Mountain Prospect | 30.62521 | -98.5081 | INVESTIGATION NO. 37, 83 P.                             |
|          |                              |          |          | LEMMON, D.M., UNPUBLISHED DATA.}{Deposit:: LEMMON,      |
|          |                              |          |          | D.M., AND TWETO, O.L., 1962, TUNGSTEN IN THE U.S., USGS |
| Tungsten | Llano Region Prospects       | 30.70021 | -98.717  | MAP, MR-25.   |
|          |                              |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|          |                              |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-    |
|          |                              |          |          | PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS),        |
| Tungsten | Unnamed Occurrence           | 31.13461 | -105.529 | MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                |
|          |                              |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|          |                              |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN TRANS-    |
|          |                              |          |          | PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY (TEXAS),        |
| Tungsten | Granite Hill Prospect        | 31.11128 | -105.446 | MINERAL RESOURCE CIRCULAR NO. 73, 108 P.                |

# Additional Sources being evaluated:

Mineral Resource Circular 17: Johnson, J., 1937, Report on Fuller's Earth and Bentonite in Angelina and Cherokee Counties: The University of Texas at Austin, Bureau of Economic Geology, Mineral Resource Circular MS0017, 2 p.

Publication 4301: Texas Mineral Resources, 1943, Bureau of Economic Geology, The University of Texas at Austin, pp. 368-369

# Uranium

| Commodity | Site Name                              | Latitude | Longitude | Citation  |
|-----------|--|----------|-----------|---|
|           |  |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium   | Stokes Mine                            | 31.2085  | -105.459  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |  |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium   | Unnamed Prospect                       | 29.51162 | -103.501  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |  |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium   | Fizzle Flat and Green Valley Prospects | 29.50773 | -103.501  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |  |          |           | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF          |
| Uranium   | Finch-Hartman Pit                      | 29.02586 | -97.6553  | EOCENE JACKSON GROUP                                  |
|           |  |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium   | R.O.H.K. Prospect                      | 31.85182 | -106.112  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |  |          |           | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|           |  |          |           | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|           |  |          |           | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium   | Unnamed Prospect                       | 29.49273 | -103.459  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|           |  |          |           | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF          |
| Uranium   | Kotzur Pit                             | 29.00056 | -97.9081  | EOCENE JACKSON GROUP                                  |
|           |  |          |           | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,      |
| Uranium   | Holiday Mine                           | 27.40864 | -98.742   | REPORT OF INVESTIGATION 100                           |
|           |  |          |           | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM      |
|           |  |          |           | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF       |
| Uranium   | Panna Maria West Mine                  | 28.97109 | -97.9406  | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                  |
|           |  |          |           | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF          |
| Uranium   | Butler Pit                             | 28.85082 | -98.1173  | EOCENE JACKSON GROUP                                  |
|           |  |          |           | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF          |
| Uranium   | Rosenbrock Pit                         | 28.83806 | -98.0906  | EOCENE JACKSON GROUP                                  |
|           |  |          |           | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF          |
| Uranium   | Winerich Pit                           | 28.97086 | -97.8336  | EOCENE JACKSON GROUP                                  |

| Uranium   | Labus-Moczygemba   | 28.96716 | -97.8734 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP                           |
|-----------|--|----------|----------|---|
| Uranium   | Ray Point Plant  | 28.52467 | -98.1009 | PRODUCES YELLOW CAKE FROM NEARBY PITS   |
|           |  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Weddington North   | 28.85356 | -98.1234 | EOCENE JACKSON GROUP  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF                          |
| Uranium   | Pawelek-Lyssy-Turner Pit   | 28.86496 | -98.1134 | EOCENE JACKSON GROUP  |
|           | Constant Control of the Control of t | 20.45206 | 07.655   | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Conoco Conquista Griffin Pit   | 29.15386 | -97.655  | EOCENE JACKSON GROUP  |
| Uranium   | Kopplin Pit  | 28.52198 | -98.0617 | EOCENE OAKVILLE FORMATION  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF                     |
| Uranium   | Steinmann Pit  | 29.12696 | -97.7036 | EOCENE JACKSON GROUP  |
|           |  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Brysch Pit   | 28.98466 | -97.9636 | EOCENE JACKSON GROUP  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF                          |
| Uranium   | Susquehana Mill  | 28.90216 | -98.05   | EOCENE JACKSON GROUP  |
|           |  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Hobson In Situ Uranium Proj  | 28.94526 | -97.9881 | EOCENE JACKSON GROUP  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF                          |
| Uranium   | M. Labus Pit   | 28.94136 | -98.0042 | EOCENE JACKSON GROUP  |
| Uranium   | Karnes County Pits   | 28.89136 | -98.1317 | UNKNOWN   |
|           | ,  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Luckett Pit  | 28.90746 | -98.117  | EOCENE JACKSON GROUP  |
| Uranium   | Cochran Pit  | 29.11106 | -97.7303 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP                           |
|           |  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Ft Worth Natl Pit  | 28.98056 | -97.9459 | EOCENE JACKSON GROUP  |
| Uranium   | Clay West Uranium Plant  | 28.25608 | -98.192  | UNKNOWN   |
| Uranium   | Burns Field  | 28.29108 | -98.1961 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION   |
| Uranium   | Galen Pit  | 28.87276 | -98.1114 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP                           |
| Oramani   | Guicii i i   | 20.07270 | 30.1114  | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|           | (0   | 20.0054  | 00.4050  | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium   | Zamzow Mine (Conoco)   | 28.89054 | -98.1059 | GEOLOGY GUIDEBOOK 12, 59 P.   |
| Uranium   | Moser No 2 Field   | 28.25218 | -98.2053 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF |
| Uranium   | Niechwietz Pits  | 28.90606 | -98.0831 | EOCENE JACKSON GROUP  |
|           |  |          |          | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Climax Pit   | 28.89606 | -98.1292 | EOCENE JACKSON GROUP  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF                          |
| Uranium   | Muczygemba Pit   | 28.93336 | -98.0389 | EOCENE JACKSON GROUP  |
| Uranium   | Chapman Pit  | 28.60137 | -98.2309 | EOCENE OAKVILLE FORMATION   |
|           |  | 25.00157 | 30.2303  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Kunschik Pit   | 29.07056 | -97.7778 | EOCENE JACKSON GROUP  |
| Uranium   | Clay West Deep Field   | 28.24638 | -98.2125 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION   |
| Uranium   | Conoco Conquista Smith Pit   | 29.15996 | -97.6422 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP                           |
| Cramani   | Sonoco conquista sinitii i it  | 23.13330 | 37.0422  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Dickson-Brown Pit  | 28.89856 | -98.0581 | EOCENE JACKSON GROUP  |
| Uranium   | Bozo Pit   | 28.86386 | -98.147  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP                           |
| Uranium   | Clay West Shallow Field  | 28.24108 | -98.2231 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION   |
| Orannulli | Ciay West Silaliow Held  | 20.24100 | -20.2231 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium   | Sickenius Pit  | 28.88746 | -98.0995 | EOCENE JACKSON GROUP  |
| Uranium   | Unnamed Pits   | 22 01500 | -00 6003 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991,   |
| Uranium   | Unnamed Pits   | 32.81598 | -99.6093 | NONPETROLEUM MINERAL PRODUCERS IN TEXAS   |
| Uranium   | Falls City Plant   | 28.89836 | -98.1295 | UNKNOWN PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,                               |
| Uranium   | Unnamed Occurrence   | 30.04188 | -103.547 | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |

|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY  |
|------------------|------------------------------------|----------|----------|--|
| Uranium          | Hranium Basaursas                  | 27.38251 | 00 7064  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.  |
| Uranium          | Uranium Resources                  |          | -98.7864 | UNKNOWN  |
| Uranium          | Weddington Uranium Pit             | 28.79887 | -98.0967 | U.S. BUREAU OF MINES   |
| Uranium          | Intercontinental Energy Corp       | 28.65997 | -97.9692 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION  |
| Uranium          | El Mesquite Mine                   | 27.40864 | -98.717  | MINING MAGAZINE, JANUARY 1989, P. 52.  |
| Uranium          | Trevino Mine                       | 31.49731 | -99.3578 | MINING MAGAZINE, JANUARY 1989, P. 52   |
| Uranium          | Smith Uranium Pit                  | 28.50198 | -98.0389 | EOCENE OAKVILLE FORMATION  |
| Uranium          | Essespoonomore Pit                 | 28.73557 | -98.0981 | EOCENE OAKVILLE FORMATION  |
| Uranium          | Maybel New Pit                     | 28.55747 | -98.2859 | EOCENE OAKVILLE FORMATION  |
| Uranium          | Moser No 1 Field                   | 28.25608 | -98.2109 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION  |
| Uranium          | Vaughn Pit                         | 28.60587 | -98.2117 | EOCENE OAKVILLE FORMATION  |
| Uranium          | Stueletje Uranium Pit              | 28.78967 | -98.0914 | CONTINENTAL OIL CO   |
| Uranium          | Garcia-Turner Pit                  | 28.88056 | -98.0775 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| Uranium          | Bruni Plant                        | 27.39611 | -98.792  | UNKNOWN  |
| Uranium          | Conoco Conquista Friar-Knandel Pit | 29.12526 | -97.6253 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| Uranium          | Thomas Pit                         | 29.12526 | -97.6253 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| Uranium          | Sulfer Creek Operation             | 28.49608 | -98.0447 | UNKNOWN  |
| Uranium          | Conoco Hurt Pit                    | 28.76717 | -98.1964 | UNKNOWN  |
| Uranium          | Burns Uranium Plant                | 28.25308 | -98.1939 | IN-SITU LEACHING OF EOCENE OAKVILLE FORMATION  |
|                  |                                    |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium          | Kotzur Mine                        | 28.99887 | -97.8773 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.   |
| Uranium          | Trial Pit                          | 28.94716 | -97.9825 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| l lana a iz . an | Karadaya Dit                       | 20.01276 | 00.45    | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF   |
| Uranium          | Korzekwa Pit                       | 28.91276 | -98.15   | EOCENE JACKSON GROUP  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF   |
| Uranium          | Lauw Pit                           | 28.87886 | -98.1278 | EOCENE JACKSON GROUP   |
| Uranium          | Stoeltje-Bodden Pit                | 28.93666 | -98.0145 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| Uranium          | Unnamed Prospect                   | 29.43662 | -103.459 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,<br>ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN<br>TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY<br>(TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P. |
| Uranium          | Kellner Pit                        | 28.83356 | -98.1264 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP  |
| Uranium          | Franklin Pit                       | 28.90636 | -98.0234 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF<br>EOCENE JACKSON GROUP   |
| Uranium          | Dobie Pits                         | 28.61967 | -98.2059 | EOCENE OAKVILLE FORMATION  |
| l lanatur        | Danna Maria Miller                 | 20.07100 | 07.0005  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF   |
| Uranium          | Panna Maria Mine                   | 28.97166 | -97.9395 | EOCENE JACKSON GROUP   |
| Uranium          | Zamzow Mine (IEC)                  | 28.4975  | -98.0628 | MINING MAGAZINE, JANUARY 1989, P. 52. BUNKER, C.M., AND MACKALLOR, J.A., 1973, USGS PP 765,  |
| Uranium          | Nuhn Mine                          | 28.89887 | -98.1295 | 37 P.  VOLCANIC ASH BEARING SANDS AND SANDSTONES OF  |
| Uranium          | Superior Pit                       | 28.87966 | -98.1372 | EOCENE JACKSON GROUP   |
| Uranium          | Marrs-Mclean Pit No 2              | 28.48358 | -98.0864 | EOCENE OAKVILLE FORMATION  |
| Uranium          | Mobil El Mesquite Plant            | 27.35861 | -98.6706 | IN SITU LEACHING OF EOCENE URANIFEROUS SANDS   |
| Uranium          | House-Seale Mine                   | 28.60194 | -98.2128 | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY, REPORT OF INVESTIGATION 100   |

| Uranium | Palangana Project  | 27.6847   | -98.4059 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION   |
|---------|--|-----------|----------|---|
| Uranium | Thomas Uranium Pit   | 29.19745  | -97.5031 | UNKNOWN   |
| o.ua    | The state of the s | 23.237.13 | 37.13031 | EARGLE, D. AND SNYDER, J., 1957, A PRELIMINARY REPORT<br>ON THE STRATIGRAPHY OF THE URANIUM-BEARING ROCKS<br>OF THE KARNES CO. AREA, SOUTH CENTRAL TEXAS: TEXAS |
| Uranium | Mabel Mine   | 28.5586   | -98.2884 | UNIVERSITY BUR. ECON. GEOL. REPORT INV. 30  |
| Uranium | Boots Field  | 28.28558  | -98.2156 | IN SITU LEACHING OF EOCENE OAKVILLE FORMATION   |
| Uranium | Mobil Brelum-Piedrelumbre Plant  | 27.95279  | -98.667  | IN SITU LEACHING OF URANIFEROUS EOCENE SANDS  |
| Uranium | Thomas-Knandel-Dybowski Mine   | 29.1272   | -97.6236 | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                           |
| Uranium | Fort Worth National Mine   | 28.93859  | -97.9995 | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                           |
| Uranium | Las Palmas Mine  | 27.37531  | -98.6253 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Clay West Mine   | 28.24639  | -98.2125 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Ryan Pit   | 28.59837  | -98.1686 | EOCENE OAKVILLE FORMATION   |
| Uranium | Panna Maria East Mine  | 28.98915  | -97.917  | MINING MAGAZINE, JANUARY 1989, P. 45.   |
| Uranium | Brown Uranium Pit  | 28.92856  | -98.0739 | CONTINENTAL OIL CO  |
| Uranium | Mcgrady-Wright Pit   | 28.82057  | -98.037  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP   |
| Uranium | Searcy Pit   | 28.90556  | -98.1103 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP   |
| Uranium | E. Labus Mine  | 28.95526  | -98.0203 | UNKNOWN   |
| Uranium | Nell Plant   | 28.66697  | -98.0628 | IN SITU LEACHING OF EOCENE URANIFEROUS SANDS  |
| Uranium | Weddington South   | 28.83886  | -98.1153 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP   |
| Uranium | House Pit  | 28.63027  | -98.1745 | EOCENE OAKVILLE FORMATION   |
| Uranium | Manka Pit  | 28.93246  | -98.0281 | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP   |
| Uranium | Marrs-Mclean Pit No 1  | 28.48968  | -98.0836 | EOCENE OAKVILLE FORMATION   |
| Uranium | Mobil Oil Company U Leach Plant  | 27.39671  | -98.8086 | UNKNOWN   |
| Uranium | Conquista Uranium Mill   | 28.90586  | -98.105  | VOLCANIC ASH BEARING SANDS AND SANDSTONES OF EOCENE JACKSON GROUP   |
| Uranium | Felder Uranium Operation   | 28.49948  | -98.08   | EARGLE, D.H., HINDS, G.W., AND WEEKS, A.M.D., 1971,<br>URANIUM GEOLOGY AND MINES, SOUTH TEXAS: TEXAS<br>BUREAU OF ECONOMIC GEOLOGY, GUIDBOOK NO. 12, 61 P.      |
| Uranium | O'Hern Mine  | 27.3967   | -98.8087 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Mount Lucas Mine   | 28.18362  | -97.9336 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Zamzow Leaching Plant (Facility)   | 28.49748  | -98.0628 | IN SITU LEACHING OF OAKVILLE FORMATION  |
| Uranium | Benavides Mine   | 27.42531  | -98.7837 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Franklin-Swierc Mine   | 28.89887  | -98.0475 | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND<br>MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC<br>GEOLOGY GUIDEBOOK 12, 59 P.                                   |
| Uranium | Burns Mine   | 28.24195  | -98.192  | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | West Cole Mine   | 27.50948  | -98.8542 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Bruni Mine   | 27.45864  | -98.842  | MINING MAGAZINE, JANUARY 1989, P. 52.   |
| Uranium | Saul Ranch - Rattlesnake Mine  | 34.36677  | -101.15  | UNKNOWN   |
| Uranium | Mcbryde Mine   | 31.49731  | -99.3578 | MINING MAGAZINE, JANUARY 1989, P. 52  |
| Uranium | Galen Mine   | 28.87109  | -98.1114 | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY<br>GUIDE BOOK 12  |
|         |  |           |          |   |

|            |                          |          |          | WEEKS AND EARGLE, 1960, URANIUM AT THE PALANGANA      |
|------------|--------------------------|----------|----------|---|
| Uranium    | Palangana Uranium Mine   | 27.68363 | -98.3753 | SALT DOME, DUVAL CO., TEXAS: USGS PROF. PAPER 400-B   |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Stoeltje Mine            | 28.95304 | -98.0095 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|            |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium    | Black Mountain Prospect  | 29.8805  | -103.447 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Weddington-Conoco Mine   | 28.83083 | -98.1142 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991,               |
| Uranium    | Silver Lake Deposit      | 27.33364 | -98.6337 | NONPETROLEUM MINERAL PRODUCERS IN TEXAS               |
|            |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|            |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium    | Mills Prospect           | 29.53412 | -104.013 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Kellner Mine             | 28.83359 | -98.1253 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,      |
| Uranium    | Thane Prospect           | 28.8447  | -98.1653 | REPORT OF INVESTIGATION 30, P.23.                     |
|            |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|            |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium    | Unnamed Prospect         | 31.83904 | -105.423 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|            |                          |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,      |
| Uranium    | Shaefer Prospect         | 28.82527 | -98.1642 | REPORT OF INVESTIGATION 30, P.23.                     |
|            |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|            |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium    | Hunter Mine              | 31.18934 | -105.451 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Manka Mine               | 28.95526 | -98.0278 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Kopplin Mine             | 28.51834 | -98.0628 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
|            |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Garcia Mine              | 28.87248 | -98.0711 | GEOLOGY GUIDEBOOK 12, 59 P.                           |
|            |                          |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY       |
| Uranium    | Sulfur Creek Mine        | 28.49056 | -98.0836 | GUIDE BOOK 12   |
|            |                          |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM      |
|            |                          |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF       |
| Uranium    | Korth-Hartman-Finch Mine | 29.11193 | -97.647  | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                  |
|            |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, |
|            |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN         |
|            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY         |
| Uranium    | Unnamed Prospects        | 31.78932 | -105.369 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.     |
|            |                          |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM      |
|            |                          |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF       |
| Uranium    | Griffin Mine             | 29.13637 | -97.6731 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                  |
| Uranium    | Luckett Mine             | 28.90998 | -98.1142 | USGS PROFESSIONAL PAPER 765.                          |
| Jiailluill | LUCKELL IVIIIIE          | 20.30336 | -20.1142 | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM      |
|            |                          |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF       |
| Hranium    | Banduch-Cochran Mine     | 29.0947  | _07 7/11 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                  |
| Uranium    | Danuuch-Cochian Mille    | 29.0947  | -97.7411 |   |
|            |                          |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM      |
| Hranium    | Cochran Mino             | 20,0022  | 07 7447  | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF       |
| Uranium    | Cochran Mine             | 29.0922  | -97.7447 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.                  |
|            |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND        |
| Uranium    | Mostygomba Mino          | 20 02400 | 00 0720  | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC          |
| Uranium    | Moczygemba Mine          | 28.92109 | -98.0739 | GEOLOGY GUIDEBOOK 12, 59 P.                           |

|                    |                          |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM  |
|--------------------|--------------------------|----------|----------|---|
| Hranium            | Steinman Mine            | 29.12526 | 07 6026  | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium            | Steinman Mine            | 29.12526 | -97.6836 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P. EARGLE, D.M., ET AL, 1975, SOUTH TEXAS URANIUM               |
| Uranium            | Hackney Mine             | 28.86637 | -98.147  | DEPOSITS: AAPG BULL. V. 59, P. 766-779.   |
| Oranium            | Trackiney Willie         | 20.00037 | -30.147  | EARGLE, D.M., ET AL, 1975, SOUTH TEXAS URANIUM  |
| Uranium            | Bargmann-Hackney Mine    | 28.88304 | -98.1409 | DEPOSITS: AAPG BULL. V. 59, P. 766-779.   |
| Gramam             | Barginami Hackitey Wille | 20.00301 | 30.1103  | EARGLE, D.M., ET AL, 1975, SOUTH TEXAS URANIUM  |
| Uranium            | Jaskinia Prospect        | 28.96693 | -97.967  | DEPOSITS: AAPG BULL. V. 59, P. 766-779.   |
|                    |                          |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM  |
|                    |                          |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium            | Kopecki Mine             | 28.98248 | -97.9656 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.  |
|                    |                          |          |          | EARGLE, D.M., ET AL, 1975, SOUTH TEXAS URANIUM  |
| Uranium            | Sickenius Mine           | 28.88582 | -98.097  | DEPOSITS: AAPG BULL. V. 59, P. 766-779.   |
|                    |                          |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,  |
| Uranium            | Hoffman Prospect         | 28.88498 | -97.9995 | REPORT OF INVESTIGATION 30, P.24-25.  |
|                    |                          |          |          | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991,   |
| Uranium            | Bennett Pit              | 32.71987 | -98.0484 | NONPETROLEUM MINERAL PRODUCERS IN TEXAS   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                    |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Lauw Prospect            | 28.8822  | -98.1239 | GEOLOGY GUIDEBOOK 12, 59 P.   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
| I I was a feet was | Maddington Tonnon Mine   | 20.04600 | 00 1100  | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Weddington-Tenneco Mine  | 28.84609 | -98.1198 | GEOLOGY GUIDEBOOK 12, 59 P.   |
| Uranium            | Pawnee Mine              | 28.65999 | -97.9692 | TEXAS BUREAU OF ECONOMIC GEOLOGY, 1991, NONPETROLEUM MINERAL PRODUCERS IN TEXAS                   |
| Oranium            | rawilee Wille            | 20.03999 | -97.9092 | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                    |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Pfeil Mine               | 28.81555 | -98.1225 | GEOLOGY GUIDEBOOK 12, 59 P.   |
| Oramani            | T TELL WILLE             | 20.01333 | 30.1223  | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM  |
|                    |                          |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium            | Labus-Hoffman Mine       | 28.93859 | -98.0367 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.  |
|                    |                          |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,  |
| Uranium            | Brysch Prospect          | 28.98248 | -97.9656 | REPORT OF INVESTIGATION 30, P.24.   |
|                    |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                    |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                    |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium            | Cooper Hill Prospect     | 31.11267 | -104.979 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                    |                          |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                    |                          |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
| I I was a feet was | Haramand Dunanant        | 20.47102 | 00.613   | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium            | Unnamed Prospect         | 30.47102 | -98.612  | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                    |                          |          |          | MCCULLOH, R.P., AND ROBERTS, C., 1986, GEOLOGY OF THE NUHN URANIUM ORE BODY, JACKSON GROUP, SOUTH |
|                    |                          |          |          | TEXAS URANIUM DISTRICT, IN STAPP, W.L., ED.,  |
|                    |                          |          |          | CONTRIBUTIONS TO THE GEOLOGY OF SOUTH TEXAS: SAN  |
| Uranium            | Searcy-Niestroy Deposit  | 28.90304 | -98.1295 | ANTONIO, SOUTH TEXAS GEOLOGICAL SOCIETY, P. 109-12.   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                    |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Butler Mine              | 28.86137 | -98.117  | GEOLOGY GUIDEBOOK 12, 59 P.   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                    |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Wright Mine              | 28.81971 | -98.1189 | GEOLOGY GUIDEBOOK 12, 59 P.   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                    |                          |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Pawelek Mine             | 28.86832 | -98.1156 | GEOLOGY GUIDEBOOK 12, 59 P.   |
|                    |                          |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
| II.                |                          | 22.25    | 00 : : = | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium            | Mccrady Mine             | 28.82527 | -98.117  | GEOLOGY GUIDEBOOK 12, 59 P.   |
| Uranium            | Lamprecht Mine           | 28.50111 | -98.0567 | MINING MAGAZINE, JANUARY 1989, P. 52.   |
|                    | ·                        |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                    | 1                        | 1        |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                    |                          |          |          | ANNOTATED BIBLIOGRAPHT OF WIINERAL DEPOSITS IN  |
| Uranium            |                          |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |

|                  | 1                                  |          |          | FARCLE BU ET AL 4074 LIBANIUNA CEOLOGY AND  |
|------------------|------------------------------------|----------|----------|---|
|                  |                                    |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
| Lironium         | Durink Mino                        | 28.82249 | 00 1211  | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC GEOLOGY GUIDEBOOK 12, 59 P.                            |
| Uranium          | Duziuk Mine                        | 28.82249 | -98.1211 | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM  |
|                  |                                    |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium          | Smith Mine                         | 29.15387 | -97.6556 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.  |
| Oramani          | Similarity                         | 25.15507 | 37.0330  | EARGLE, D.H., AND SNIDER, J.L., 1957, A PRELIMINARY   |
|                  |                                    |          |          | REPORT OF THE STRATIGRAPHY OF THE URANIUM-BEARING   |
|                  |                                    |          |          | ROCKS OF THE KARNES COUNTY AREA, SOUTH-CENTRAL  |
| Uranium          | Carriger Prospect                  | 28.86276 | -98.1531 | TEXAS: TX BEG RI 30, P. 19-20.  |
|                  | or Or orker                        |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Stillwell Mountain Prospect        | 29.65051 | -102.961 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | UNIVERSITY OF TEXAS, BUREAU OF ECONOMIC GEOLOGY,  |
| Uranium          | Longoria Mine                      | 27.37753 | -98.7881 | REPORT OF INVESTIGATION 100   |
|                  |                                    |          |          | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                  |                                    |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium          | Weddington-Susquehanna Mine        | 28.85582 | -98.1184 | GEOLOGY GUIDEBOOK 12, 59 P.   |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Quebec Siding Prospect             | 30.51102 | -104.401 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | GALLOWAY, W.E., ET AL, 1979, SOUTH TEXAS URANIUM  |
|                  |                                    |          |          | PROVINCE, GEOLOGIC PERSPECTIVE: TEXAS BUREAU OF   |
| Uranium          | Brysch Mine                        | 28.90359 | -98.0781 | ECONOMIC GEOLOGY GUIDEBOOK 18, 81 P.  |
| Uranium          | Wyoming Mineral Corp Uranium Mine  | 27.50951 | -98.8542 | UNKNOWN   |
| - Cramain        | Tryelling time at earp aramam time | 27.50551 | 30.03.12 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Nevill Ranch Occurrence            | 30.04688 | -103.547 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Unnamed Prospects                  | 31.02045 | -105.439 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Unnamed Prospect                   | 29.69633 | -102.961 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | HENRY, C.D., AND KAPADIA, R.R., 1980, TRACE ELEMENTS IN   |
|                  |                                    |          |          | SOILS OF THE SOUTH TEXAS URANIUM DISTRICT: TEXAS  |
|                  |                                    |          |          | BUREAU OF ECONOMIC GEOLOGY, REPORT. INVEST. 101, 52   |
| Uranium          | Nieschwietz Prospect               | 28.90443 | -98.0836 | P.  |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Shely Prospect                     | 30.00438 | -104.497 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
| Urani            | Mammath Drasnast                   | 20 44742 | 104.004  | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Mammoth Prospect                   | 30.44713 | -104.804 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
|                  |                                    |          |          | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983, ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Mcspadden Prospect                 | 30.41187 | -104.761 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Oranium          | ואוכשאמעובוו דו טשאפננ             | 30.4110/ | -104.701 | PRICE, J. G., HENRY, C. D., AND STANDEN, A. R., 1983,   |
|                  |                                    |          |          | ANNOTATED BIBLIOGRAPHY OF MINERAL DEPOSITS IN   |
|                  |                                    |          |          | TRANS-PECOS TEXAS: BUREAU OF ECONOMIC GEOLOGY   |
| Uranium          | Anderson Ranch Prospect            | 30.10354 | -103.524 | (TEXAS), MINERAL RESOURCE CIRCULAR NO. 73, 108 P.   |
| Granium          | Anderson Randi i Tospect           | 50.10334 | 103.324  | EARGLE, D.H., ET AL, 1971, URANIUM GEOLOGY AND  |
|                  |                                    |          |          | MINES, SOUTH TEXAS: TEXAS BUREAU OF ECONOMIC  |
| Uranium          | Duziuk-Lyssy Mine                  | 28.82194 | -98.1023 | GEOLOGY GUIDEBOOK 12, 59 P.   |
| J. d. ii. d. ii. | Salak Ejooj Hille                  | 20.02154 | 30.1023  | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL,  |
| Uranium          | Round Top Prospect                 | 31.276   | -105.474 | C., 2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT   |
| 3.44111          |                                    | 01.2,0   | 200.17 1 | =-, ====, io 20122  |

|  |  | ROUND TOP PROJECT, SIERRA BLANCA, TEXAS. REPORT   |
|--|--|---|
|  |  | PREPARED FOR USA RARE EARTH LLC AND TEXAS MINERAL |
|  |  | RESOURCE CORP, 230 P.                             |

# Vanadium

None

# **Zirconium**

| Commodity | Site Name                     | Latitude | Longitude | Citation   |
|-----------|-------------------------------|----------|-----------|--|
|           |                               |          |           | SHELBY, C.A., 1965, HEAVY MINERALS IN THE WELLBORN                 |
|           |                               |          |           | FORMATION, LEE AND BURLESON COUNTIES, TEXAS: TEXAS BUREAU          |
| Zirconium | Weiler-Whitener Prospect      | 30.33355 | -96.635   | OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 55, 54P.               |
| Zirconium | Colvin Sandstone Deposit      | 30.50022 | -96.9586  | BARTLESVILLE CARD FILES  |
|           |                               |          |           | PAIGE, S., 1912, GEOLOGIC ATLAS OF THE UNITED STATES, LLANO-       |
| Zirconium | Baringer Hill Mine            | 30.77799 | -98.4331  | BURNES FOLIO, TEXAS: USGS FOLIO 183, 16 P.                         |
|           |                               |          |           | SHELBY, C.A., 1965, HEAVY MINERALS IN THE WELLBORN                 |
|           |                               |          |           | FORMATION, LEE AND BURLESON COUNTIES, TEXAS: TEXAS BUREAU          |
| Zirconium | Carter-Branch Prospect        | 30.29216 | -96.6733  | OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 55, 54P.               |
|           |                               |          |           | SHELBY, C.A., 1965, HEAVY MINERALS IN THE WELLBORN                 |
|           |                               |          |           | FORMATION, LEE AND BURLESON COUNTIES, TEXAS: TEXAS BUREAU          |
| Zirconium | Colvin Prospect               | 30.28855 | -96.6767  | OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 55, 54P.               |
|           |                               |          |           | SHELBY, C.A., 1965, HEAVY MINERALS IN THE WELLBORN                 |
|           |                               |          |           | FORMATION, LEE AND BURLESON COUNTIES, TEXAS: TEXAS BUREAU          |
| Zirconium | Yegua Creek Placer District   | 30.3155  | -96.635   | OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 55, 54P.               |
|           |                               |          |           | SHELBY, C.A., 1965, HEAVY MINERALS IN THE WELLBORN                 |
|           |                               |          |           | FORMATION, LEE AND BURLESON COUNTIES, TEXAS: TEXAS BUREAU          |
| Zirconium | Falkenburg-Blackburn Prospect | 30.3155  | -96.6492  | OF ECONOMIC GEOLOGY REPORT OF INVESTIGATION 55, 54P.               |
|           |                               |          |           | HULSE, D.E., MALHOTRA, D., MATTHEWS, T. AND EMANUEL, C.,           |
|           |                               |          |           | 2019, NI 43-101 PRELIMINARY ECONOMIC ASSESSMENT ROUND              |
|           |                               |          |           | TOP PROJECT, SIERRA BLANCA, TEXAS. REPORT PREPARED FOR USA         |
| Zirconium | Round Top Prospect            | 31.276   | -105.474  | RARE EARTH LLC AND TEXAS MINERAL RESOURCE CORP, 230 P.             |
|           |                               |          |           | O'NEILL, L.C., ELLIOTT, B.A., AND KYLE, J.R., 2017, MINERALOGY AND |
|           |                               |          |           | CRYSTALLIZATION HISTORY OF HIGHLY DIFFERNTIATED REE-               |
|           |                               |          |           | ENRICHED HYAPBYSSAL RHYOLITE: ROUND TOP LACCOLITH, TRANS-          |
|           |                               |          |           | PECOS, TEXAS. MINERALOGY AND PETROLOGY, V.111, NO.4, P.569-        |
| Zirconium | Little Round Top Prospect     | 31.285   | -105.463  | 592, HTTP://DOI.ORG/10.1007/S00710-017-0511-5.                     |

# Project Goal 2: Develop a statewide depth to Precambrian basement map in common geospatial digital data format employing the national Geologic Map Schema (GeMS) using available seismic and drill core data

A digital map product was created and transformed/transcribed from original source data into the NGCMP Geologic Map Schema. Point files in common geospatial formats were generated as a map data product, as well as a contour and rasterized basement surface depth/elevation map for the State of Texas. Contours on the basement north and west of the Ouachita thrust front represent Mesoproterozoic igneous and metamorphic rocks and Neoproterozoic and Cambrian aulacogens, where basement contours south of the Ouachita front represent the top of the Ouachita thrust system transitioning to Gulf crust. Both, digital map (geospatial dataset download) and a published paper map product will be made available to the public through the Bureau of Economic Geology's Publications Store (https://store.beg.utexas.edu/). Metadata and a contract report including the data used to derive the statewide basement map, as well as a PDF copy of the basement map, will be made available to the public through the Bureau of Economic Geology's Contracted Reports public distribution website (http://www.beg.utexas.edu/publications/contracted-reports).

