

Appendix F-1

Geophysical Investigation Report, Proposed Commercial Development, SEC Central Avenue and Cambern Avenue, Lake Elsinore, California

Salem Engineering Group

Revised July 26, 2022



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Project No. 3-421-0165

Mr. John Prystasz **Evergreen Devco, Inc.** 2390 East Camelback Road, Suite 410 Phoenix, AZ 85016

Subject: REVISED GEOPHYSICAL INVESTIGATION REPORT Proposed Commercial Development SEC Central Avenue and Cambern Avenue Lake Elsinore, California

Dear Mr. Prystasz:

SALEM Engineering Group (SALEM) has prepared this Geophysical Investigation Report to summarize the results of a geophysical survey that was performed at the proposed Commercial Development site located at the southeast corner (SEC) of Central Avenue and Cambern Avenue in Lake Elsinore, California (subject property – see Figure 1).

SALEM's March 18, 2021 Phase I Environmental Site Assessment (ESA) identified the following evidence of a Recognized Environmental Condition (REC) in connection with the subject property as defined by ASTM E1527-13:

• Based upon SALEM's review of historical aerial photographs and topographic maps, between at least 1949 and until at least 1974, the northwestern portion of the subject property appears to have been occupied by a rectangular-shaped pit that is deeper in the center and slopes out on each side. During this time period, the subject property appears to be associated with the clay pit mining operations located adjoining to the northwest across Central Avenue. By 1978, the pit had been backfilled and the subject property appeared to have been graded. It is SALEM's opinion that the pit may have been utilized for the disposal of waste generated by the clay pit mining operations.

Consequently, SALEM recommended conducting a geophysical survey of the northwestern portion of the subject property (approximately 2 acres) to evaluate whether waste materials or other debris were placed into the former pit, and the excavation of test pits in areas of potential environmental concern identified during the geophysical survey. A site plan showing the area of investigation is included as Figure 2.

Geophysical Survey Procedures

SALEM utilized Spectrum Geophysics (Spectrum) of Chatsworth, California to conduct a geophysical survey for potential backfilled cavities, waste materials or other debris, as well as other sub-grade structures of environmental concern (hoists, clarifiers, and sumps) on the northwestern portion of the subject property. Spectrum employed EM-31 terrain conductivity, EM-61 high sensitivity metal detection (MD), vertical magnetic gradient (VMG), shallow focus terrain conductivity (TC), and ground penetrating radar (GPR) investigation methods.

The geophysical investigation was performed on April 19, 2021 on the northwestern portion of the subject property. A survey grid was established on a rectangular coordinate system to provide horizontal control.

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Using a fiberglass measuring tape, Spectrum established an east-west baseline, then marked a series of parallel lines oriented perpendicular to the baseline and spaced 4 feet apart. The following equipment was used to perform the geophysical survey:

- Radio detection 4000/8000 transmitter with matched receiver;
- Schonstedt Mac Series hand-held magnetometer;
- Fisher TW-6 M-scope shallow focus metal detector;
- Dynatel 500 Series transmitter with matched receiver;
- Sensors and Software Noggin Cart, or MALA GPR unit;
- 8 and 33 KHz and 512 Hz sondes;
- EM-31 terrain conductivity/3D GPR unit; and
- EM-61 high sensitivity metal detector.

Spectrum initially visually inspected the subject property for evidence of subsurface utilities or other buried features. Each identified utility was investigated using active electromagnetic utility-locating instruments and its surface trace was demarcated on the ground using color-coded spray paint. The subject property was further investigated with a passive electromagnetic receiver tuned to 50/60 cycle electrical current to detect possible electrical lines (with voltages up to 30,000 volts) which may be nearby. The surface traces of detected electrical lines were demarcated on the ground using red spray paint. The subject property was further investigated using audio, radio, and 1 KHz frequencies to identify utilities re-radiating these ambient signals. In addition, the subject property was investigated using a shallow focus terrain conductivity meter to identify possible buried and abandoned conduits, as well as piping which may have no surface expression, or which may be less than 20 feet in length.

In an effort to identify drums and USTs, Spectrum utilized an EM-61 metal detector at the subject property. The EM-61 transmitter generates a primary field of short pulses of electromagnetic energy that travel downward and outward. This energy becomes "trapped" in conductive materials and causes a secondary magnetic field to be generated in these materials. Between pulses, the receiver measures the voltage of the decay curve of this secondary magnetic field, which is proportional to the conductivity of the subsurface materials. The data was downloaded to a laptop computer and processed in the field. Contour maps were generated to assist in identifying anomalous areas associated with buried metal.

Shallow focus terrain conductivity and GPR were also used to further characterize the source of significant EM-61 anomalies. The surface trace of detected features was marked on the ground with spray paint and/or stakes with flagging ribbon.

Spectrum utilized a MALA or Noggin ground penetrating radar unit in an effort to identify possible subsurface obstructions. A high frequency radio signal was transmitted into the ground via the antenna. As radio waves propagated into the ground, these signals were reflected off structures with differing electrical properties. These reflected signals were then captured by the receiver and were presented as vertical profiles on the GPR unit.

Geophysical Survey Results

A site plan showing an interpretive map of the geophysical survey and color-enhanced contour maps of the EM-61 and EM-31 differential data collected within the survey area are included as Figures 1 through 3, respectively, in Appendix A.

The largest anomalies detected in the survey area were Anomalies G and H. Both are soil density anomalies of unknown origin. Anomaly G is a high conductivity anomaly located in the northeastern portion of the



survey area. Anomaly H is a low conductivity anomaly located in the central portion of the survey area close to the area where the former pit was likely located. Low conductivity anomalies are commonly associated with areas of a coarser-grained material. Both anomalies could be associated with a backfilled excavation, different soil types (i.e., sand in one area and silt or clay in the other area), or it could simply be that the area has a lower compaction percentage than the surrounding soils. In addition to these two anomalies, several utility conduits were identified, along with six rectangular-shaped metallic anomalies. No USTs, septic tanks, clarifiers, sumps, or suspected septic piping were identified during the performance of the geophysical survey.

The geophysical survey did not identify any subsurface anomalies of potential environmental concern such as waste materials or other debris that may have been placed in the former pit on the northwestern portion of the subject property. No further investigation is warranted, and the REC identified in SALEM's March 18, 2021 Phase I ESA has been adequately investigated and is no longer considered an REC.

We declare that, to the best of our professional knowledge and belief, this investigation was conducted objectively following generally accepted field practices in a matter to determine if subsurface features of potential environmental significance were present in the area evaluated.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact our office at (909) 980-6455.

Respectfully submitted,

SALEM Engineering Group, Inc.

Reily Rivera Environmental Project Manager

) S. Robert

James S. Robert, L.G., L.H.G. Senior Hydrogeologist

Attachments: Appendix A: Site Figures Appendix B: Geophysical Survey Report



APPENDIX









PROPOSED COMMERCIAL DEVELOPMENT SEC CENTRAL AVENUE AND CAMBERN AVENUE LAKE ELSINORE, CALIFORNIA

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Metallic Anomaly

Conductivity Anomaly

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