DAVID EVANS AND ASSOCIATES, INC.

3700 Pacific Highway East
Suite 311
Tacoma, Washington 98424
Tel: 253.922.9780
Fax: 253.922.9781

September 2, 1999

Mr. Al Wise
REA L.L.C.
P.O. Box 3665
Seattle, WA 98124

SUBJECT: CITIZENS FIVE BUILDING SUBSURFACE RADAR ANALYSIS

Dear Mr. Wise:

David Evans and Associates, Inc. (DEA) contracted SD Schwarz & Associates (SDSA) to perform a geophysical investigation at the Citizens Five Office Building. This investigation was warranted based on the the results of ananalysis performed by DEA regarding the potential for buried underground metal objects (i.e. underground storage tanks). Three areas of concern were identified in the previous report, dated January 21, 1997. Included in the report were test results from samples obtained from three test boreholes. The presence of gasoline range hydrocarbons in soil and groundwater samples was found at all depths in Borehole #3 (Bh-3). See the previous report prepared by DEA for the complete results of these tests.

DEA discussed the results of the previous test and the current stance of the situation with the Washington State Department of Ecology (DOE). We understand the current position of the DOE is that the levels of contamination revealed in the earlier testing are not alarming and do not require further action or clean-up at this time. The only concern of the DOE would be if the tanks were still present. If so, they want the tanks documented.

The current investigation included the use of ground penetrating radar (GPR) and an electromagnetic instrument to further evaluate the presence of the metal objects found. The current investigation concluded that the metal objects found originally appear to be reinforcing steel within a buried concrete slab, and the metal extensions from the area appear to be old pipes. The results of the survey are attached. DEA does not recommend any further testing at this time. However, if further development is considered and substantial excavation is planned, testing during the excavation may be necessary. The contractor will need to quantify the presence of petroleum products for disposal purposes of the waste material if the area excavated contains elevated levels of contamination.

If you have further questions feel free to contact Matt Miller at 253-922-9780.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Matthew A. Miller, P.E.
Project Manager

MAM:jkk

Enclosure: Geophysical Investigation Report, SD Schwarz & Associates

c: Morris Piha, Morris Piha Real Estate Services

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MPMG 0000-0010

GEOPHYSICAL INVESTIGATION REPORT

CITIZENS FIVE CORNERS PLAZA SITE
BURIEN, WASHINGTON

FOR

DAVID EVANS AND ASSOCIATES, INC.
TACOMA, WASHINGTON

SEPTEMBER 1999

S.D. SCHWARZ & ASSOCIATES, INC.
GEOLOGY / GEOPHYSICS

S.D. SCHWARZ & ASSOCIATES, INC.
Geology/Geophysics

P.O. Box 82917
Kenmore, WA 98028-0917
Phone/Fax: (425) 823-5596

E-mail: sdsgeoph1@aol.com

September 1, 1999

Our Ref.: S309-99

Mr. Matt Miller
David Evans and Associates, Inc.
3700 Pacific Highway East, Suite 311
Tacoma, WA 98424

REPORT: Geophysical Investigation
Citizens Five Corners Plaza Site
Burien, Washington

Dear Mr. Miller:

This letter report summarizes the results of the geophysical investigation that we performed on August 25 at the former service station site at the intersection of 160th Street and Ambaum Boulevard SW in Burien, Washington. The primary purpose of the geophysical investigation was to locate any possible underground storage tanks (USTs) in the area of interest. A previous magnetometer survey had indicated three zones with possible buried ferrous metal. A detailed ground penetrating radar (GPR) survey was performed in the vicinity of these three zones, as well as scanning of the area with an EM-31 electromagnetic instrument. A brief description of the methods are attached.

The interpretation results of the investigation are shown on Figure 1. The sketch map shows the various features at the site including the retaining wall, curbs and landscaped areas, catch basins, asphalt patches, and previous boring locations. Interpretation of the geophysical data indicated several types of anomalies. Linear features observed during the EM-31 scans may indicate buried cables or small pipes. Linear features interpreted primarily from the GPR data may indicate possible buried pipes (estimated depth to top of pipe is also noted). A shallow dipping layer was observed in the GPR data near the northern portion of the site; the top edge of the layer is shown. Two anomalous zones were also identified, although the data from these zones is not indicative of a large UST.

The large anomalous zone (AZ-1) located near the center of survey area is interpreted to indicate a shallow reinforced concrete slab. The asphalt patch near 22E, 44N is a boring location, which encountered concrete between the 8 to 18 inch depth interval. This anomalous zone is probably the source of the earlier magnetic survey anomaly. The GPR data indicate that the surface of the concrete slab has two elevated features (at a depth of 0.7 to 0.8 feet deep), which may be possible pipes and/or other linear features. These may be the protrusions interpreted from the earlier magnetic survey. The anomalous zone near the 160th Street entrance (AZ-2) was observed on the EM-31 data - no GPR anomalies were observed in this zone indicating a UST. This anomalous zone may be the result of cables or deeper utilities not detected by the GPR. The proximity of this zone to the underground and overhead utilities associated with the street make interpretation of the data a bit more difficult.

Interpretation of the GPR data indicated several possible pipes. The shallow (0.7 feet deep) pipe near 10E, 30N may be the source of the two smaller anomalies detected from the earlier magnetic survey. The GPR data also indicated a shallow "trough" feature in the soils in the

northern portion of the site. The northern top edge of this feature is near Line 90N. This "trough" may be associated with trenching for a utility - note that the EM-31 linear feature is located near the center of the trough. However, the trough seems to be too broad for a utility, and may indicate a larger excavation (such as for the removal of a UST). This feature may also indicate minor grading activities of the site, and/or natural sedimentation. The example GPR profile along Line 30E (Figure 2) shows the "trough", the concrete slab and other features interpreted from the GPR data.

The GPR survey was performed using a Geophysical Survey Systems, Inc. SIR-4 GPR unit with a 500 MHz antenna and recorded on a thermal graphic recorder. GPR data were obtained along lines generally spaced 5 feet apart and oriented in two directions (east-west and north-south) over the site. A Geonics, Ltd. EM-31 Conductivity Meter was used to scan the survey area while visually monitoring the instrument for large anomalies.

An area approximately 60 by 100 feet in size was surveyed. The geophysical surveys were referenced to numerous reference baselines that we marked at 10-foot intervals using tape measures and orange chalk and spray paint. The origin of the grid system is located at a small pipe a few inches east of the powerline pole along 160th Street. Line 0E runs along the east side of the concrete retaining wall.

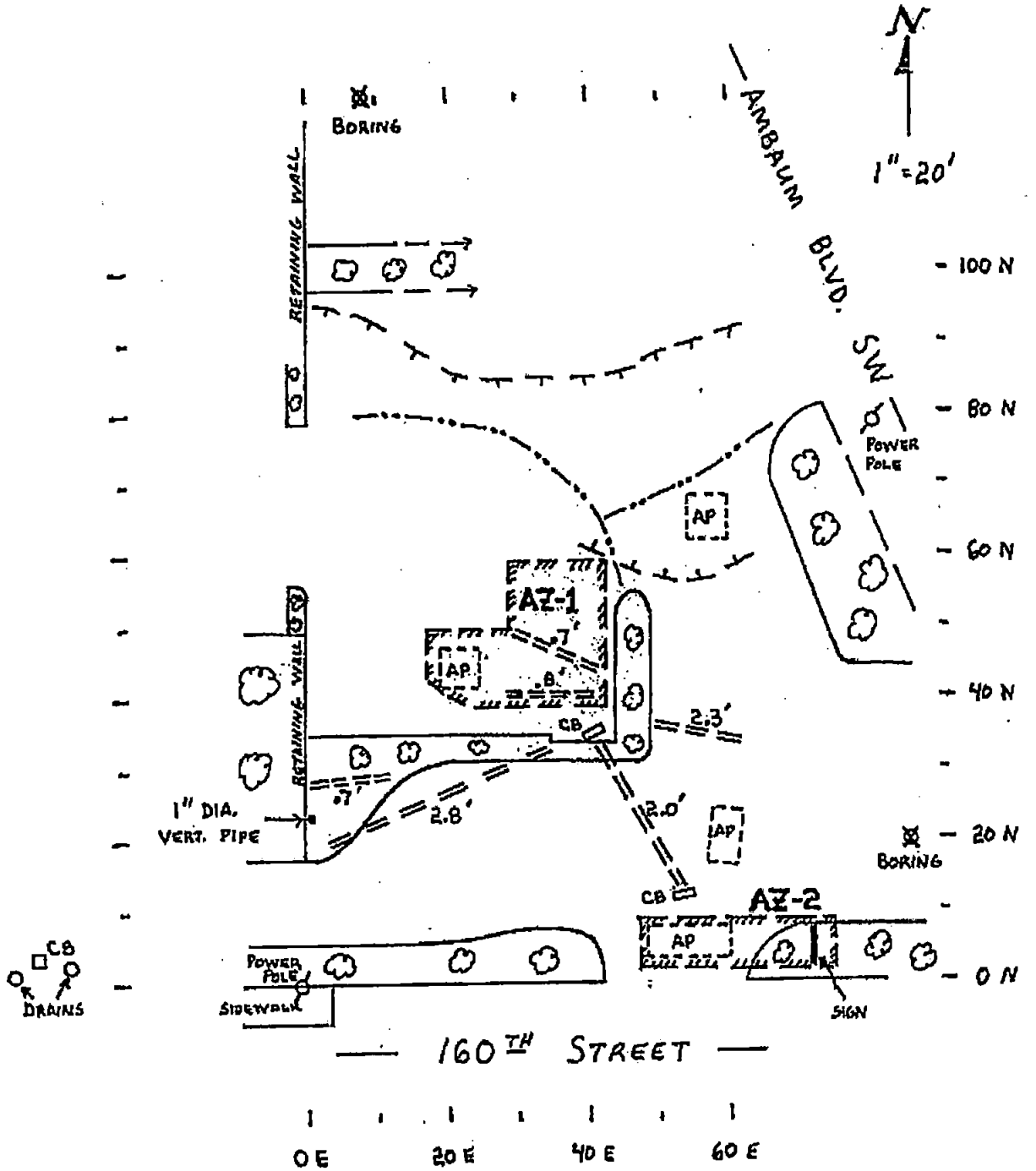
The use of these geophysical techniques provided a rapid and non-intrusive means of investigating the areas of interest at the site for USTs. However, because of the numerous variables involved in geophysical investigations, there is a possibility that some subsurface features may not have been detected. Only direct observations using test pits or other means can ultimately characterize subsurface conditions.

Please contact us if you have any questions or comments regarding this information, or if you require further assistance. We appreciated the opportunity to work with you on this project and look forward to providing you with geophysical services in the future.

Sincerely,

S.D. Schwarz & Associates, Inc.

Philip H. Duoos
Associate Geophysicist



EXPLANATION

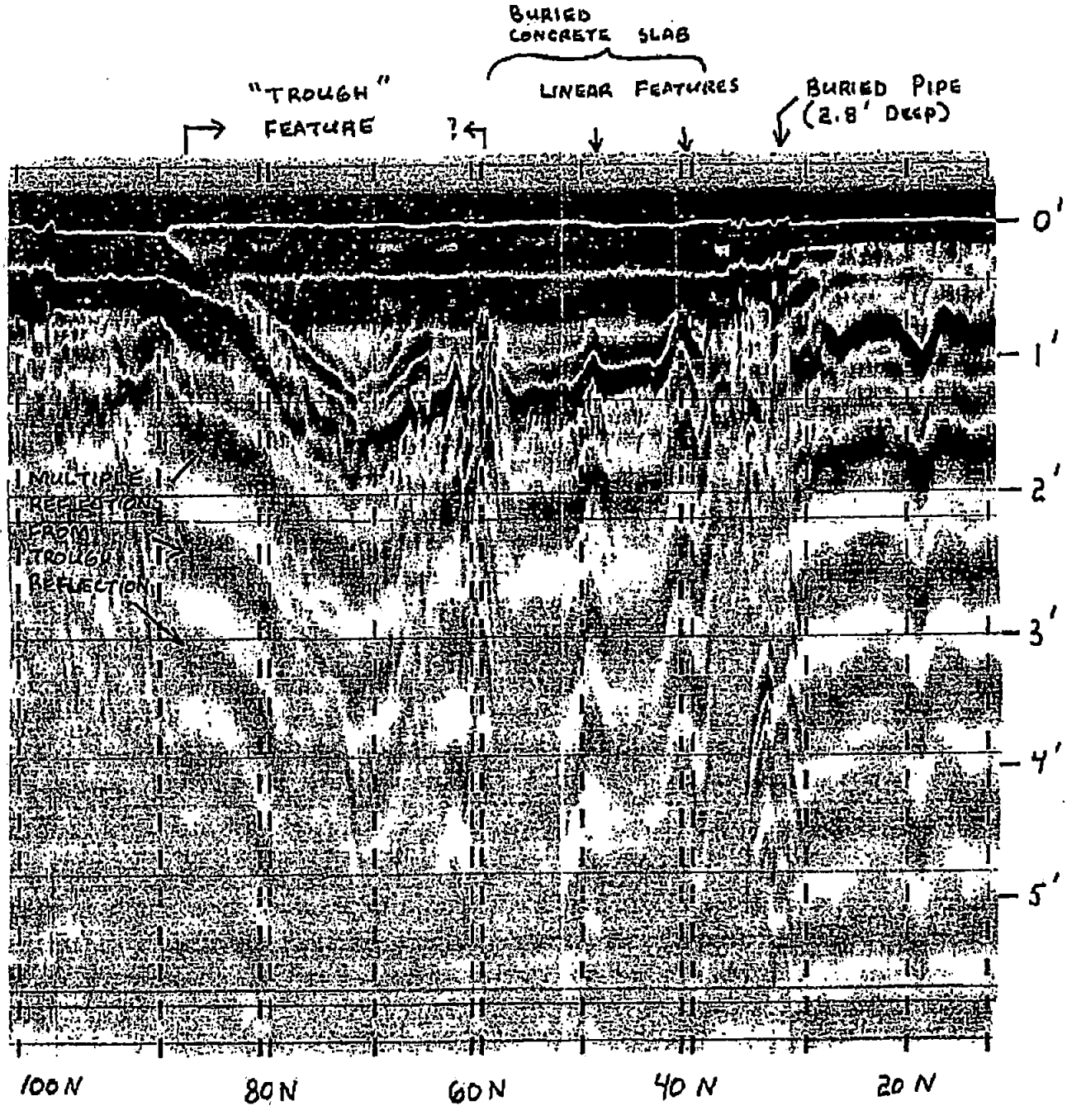
CB	Catch Basin		EM-31 Linear Trend
AP	Asphalt Patch		Interpreted Buried Pipe
	GPR Dipping Layer		Anomalous Zone

GEOPHYSICAL INVESTIGATION

CITIZENS FIVE CORNERS PLAZA
120 SW 160th STREET
BURIEN, WA

FIGURE 1

S.D. Schwarz & Associates, Inc. September 1999



GROUND PENETRATING RADAR EXAMPLE PROFILE

LINE 30E

FIGURE 2

ATTACHMENT

GROUND PENETRATING RADAR

Some of the uses of GPR include locating buried tanks and drums, delineating boundaries of landfills and trenches, and defining voids and geologic stratigraphy. Although other techniques can also provide this information, GPR is less affected by cultural interferences such as overhead powerlines, buildings, and fences. GPR can also provide higher resolution of the target in many cases.

The antenna can either be moved manually by an operator or towed by a vehicle. Depths of exploration can vary widely, from less than a few feet in water-saturated clayey materials to hundreds of feet in glacial ice. A variety of antennas (ranging from 80 to 900 MHz) can be used depending on subsurface conditions and the objective of the survey. Resolution of shallow objects requires higher frequencies, while lower frequencies work better for deeper investigations.

The profile recorder supplies the power and synchronizing signals to the antenna. The antenna outputs a pulse of electromagnetic energy to the ground. The energy pulse is reflected by geologic layers or objects under the surface back to the antenna. The antenna converts the pulse (nanoseconds in duration) to an analog signal (tens of milliseconds in duration) back to the radar unit. The signal is then processed and sent to a graphic recorder which creates a continuous profile of the subsurface reflectors.

Several factors can affect the effectiveness of the GPR method including reinforced concrete at the surface, the presence of highly conductive materials (such as clays and water), the size, depth, and physical property of the target and; in stratigraphic investigations, the conductivity contrast between stratigraphic units. The presence of numerous buried objects may mask objects and/or stratigraphy below them.

ELECTROMAGNETICS (EM-31)

The EM-31 measures subsurface conductance using the principles of electromagnetic induction. The EM-31 is portable, rapid and non-destructive. It has a fixed boom containing the transmitter and receiver coils so that handling and data gathering is easily achieved by one operator.

The EM-31 sends an alternating current into the transmitter coil. This alternating current generates an alternating primary magnetic field, which in turn induces a small alternating current in any conductive medium surrounding the transmitter coil. The alternating current in the conductive medium generates an alternating secondary magnetic field which is detected by the receiver coil. The EM-31 calculates the conductivity of the subsurface (mmhos/m) by comparing the primary field and the secondary field.

Factors which may increase subsurface conductivities include higher moisture content, greater amounts of finer materials, increased clay and/or silt content, soil contamination and/or ground water contamination. The presence of buried metal can also affect the conductivity data.

The detectability of metal objects (buried pipes, drums, etc.) can be enhanced by measuring the change in the magnitude of the primary field (inphase component) of the induced magnetic field. The change in magnitude is measured in parts per thousand (ppt). The primary field is affected mainly by metal.

Several factors can affect the effectiveness of the EM method including the proximity of cultural interferences (such as buildings, fences and reinforced concrete) the presence of highly conductive materials (such as clays and water), and the size, depth and conductivity contrast of the target.