

APPENDIX B

**June 24, 2004 and August 31, 2004
NORCAL Geophysical Consultants
Survey Reports**



August 31, 2004

Ms. Rachel Goldberg
Brown & Caldwell
201 North Civic Drive, Suite 115
Walnut Creek, CA 94956

Subject: Geophysical Survey
Former Boiler Building / Polk Street Areas
Benicia Arsenal
Benicia, California
NORCAL Job No. 04-141.41

Dear Ms. Goldberg:

The purpose of this letter is to confirm that NORCAL Geophysical Consultants, Inc. has completed the work authorized for the subject location. The field work was conducted on August 9, 2004 by NORCAL Geophysicist David Bissiri. We investigated two areas as designated by Brown & Caldwell. These areas are in the vicinity of the former boiler building located at the intersection of Park and Polk Streets (see Appendix A). The first survey area, designated as Area A, encompassed an approximately 25-by 45-foot area at the northeast corner of the building and included a portion of the south-bound lane of Polk Street. The second area, designated as Area B, encompassed an approximately 30- by 10-foot area behind the building, in a grassy picnic area facing Polk Street.

The purpose of the geophysical survey was to delineate locations that potentially contain underground storage tanks (USTs). The survey was performed using standard electromagnetic induction metal-detection (MD) equipment and ground penetrating radar (GPR) techniques. Detailed descriptions of the equipment, methodology, field procedures and limitations, are provided in Appendix B.

In Area A, our interpretation of the MD instrument response indicates no buried objects suggestive of a UST. However, we did detect one MD anomaly in Area B, immediately adjacent to the wall of the building. While the MD response in the vicinity of the anomaly is suggestive of a small (i.e. 550 gallon) UST, the GPR data profiles of this MD anomaly do not exhibit reflection patterns characteristic of a tank. Instead, the GPR profiles exhibit reflection patterns characteristic of disturbed soil, both within the anomalous area and the portion of the survey area surrounding it. These reflection patterns are typical for a landscaped area such as this. While the negative GPR results do not preclude the existence of a UST, the GPR responses suggests that the MD anomaly is most likely caused by a localized concentration of small pieces of debris, underground utilities, or perhaps some large metallic object located *inside* the building, next to the wall.

It should be noted that not all buried objects or substructures can be detected or characterized by geophysical techniques. In general, there are limitations unique to each geophysical method. One limitation is the maximum depth that can be attained by a given technique. Each geophysical method also relies on the existence of a significant contrast in physical properties between

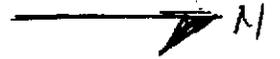


Appendix A

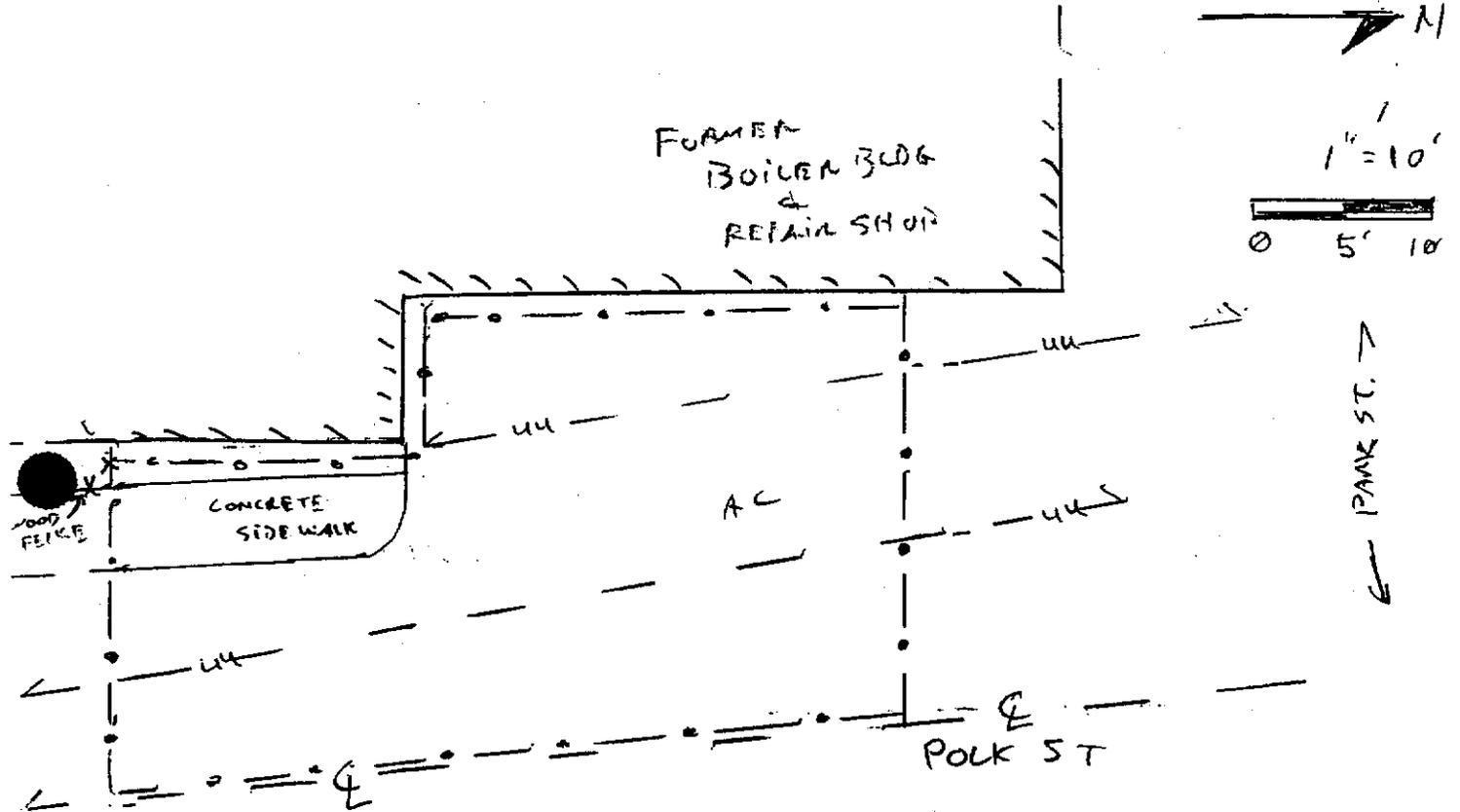
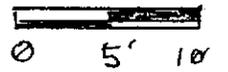
**Index and Field Survey Maps
of Areas A and B**

FIELD MAP AREA "A"

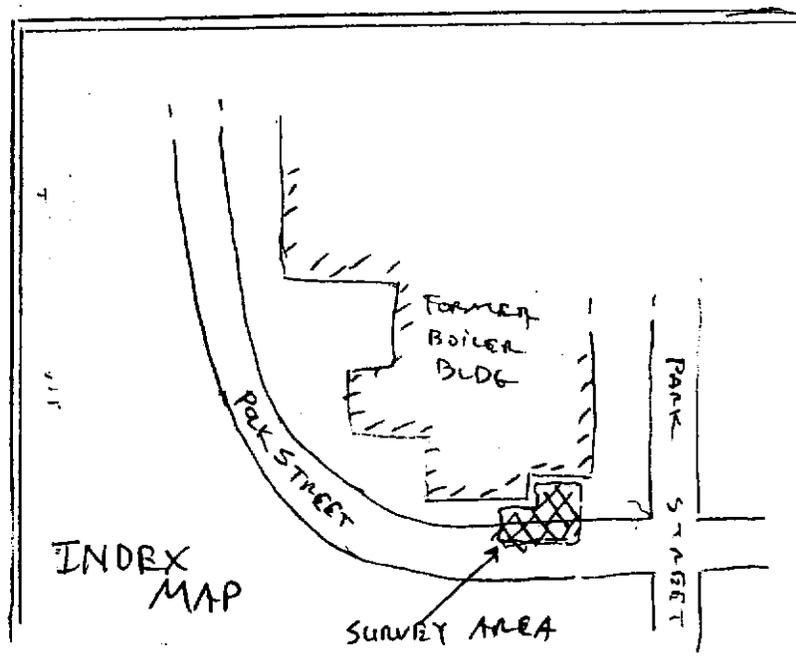
AUG 9, '04 DJS
BROWN & CALDWELL
BENICIA ANCHORAGE

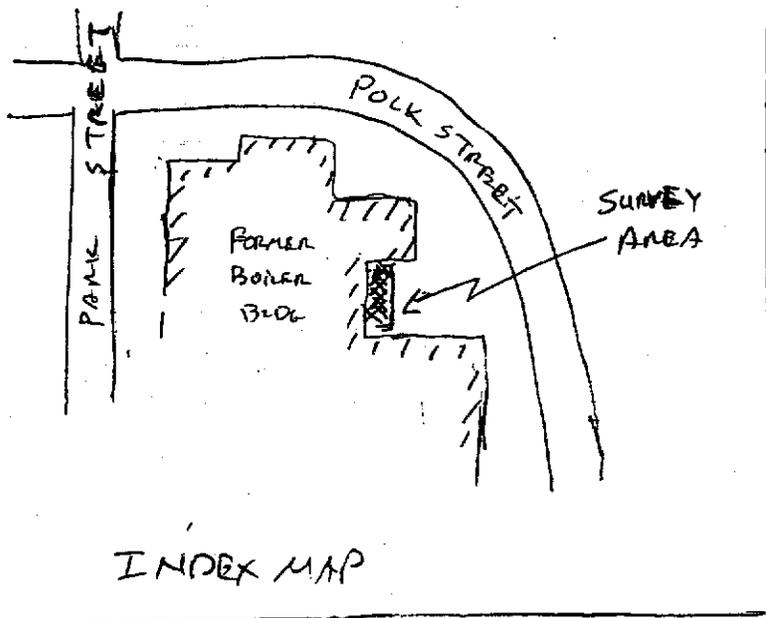


1" = 10'



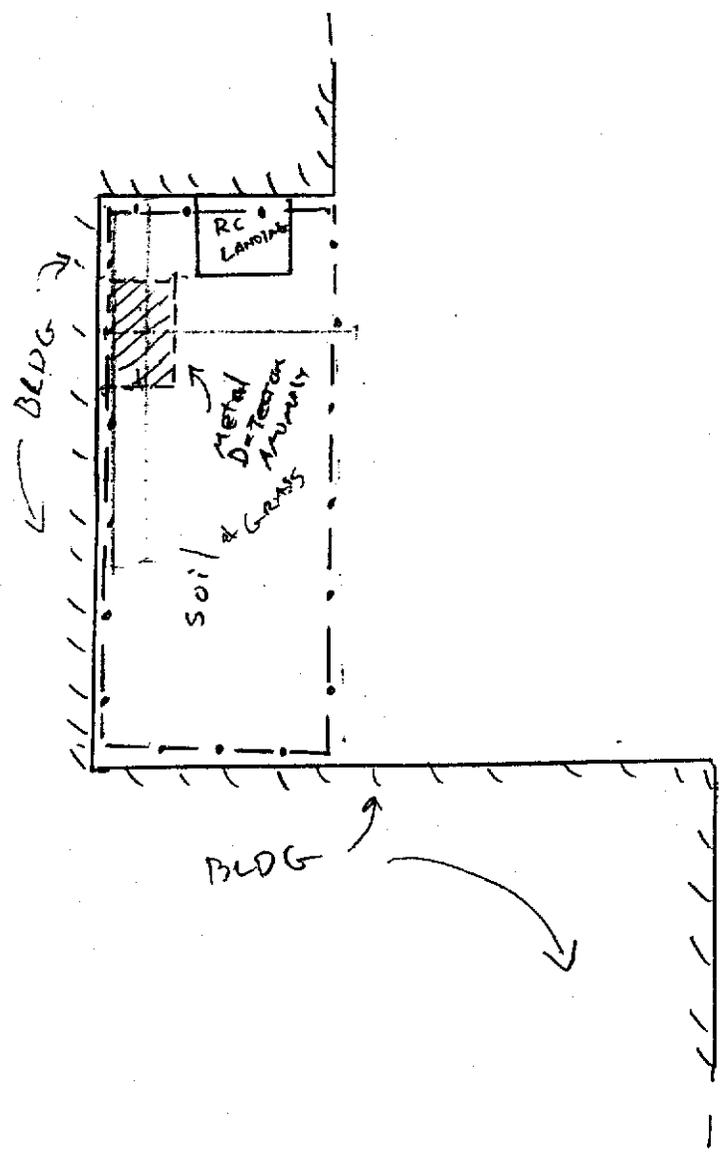
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FIELD MAP
 AREA B





Appendix B

Geophysical Methodology, Instrumentation, Data Analysis, and Limitations



Metal Detection (MD)

MD Methodology

This method uses the principle of electromagnetic induction to detect shallowly buried metal objects such as USTs, metal utility conduits, rebar in concrete, manhole covers, and various metallic debris. This is done by carrying a hand-held radio transmitter-receiver unit above the ground and continuously scanning the surface in a systematic manner, usually as a series of traverses spaced 2-3 feet apart. A primary coil broadcasts a radio signal from a transmitter which induces secondary electrical currents in metal objects. These secondary currents in turn produce a magnetic field which is detected by the receiver. By noting the areas of strongest instrument response, the general locations of metallic objects can be determined.

Instrumentation

The MD instrument that we typically use for shallow subsurface investigations is a Fisher TW-6 pipe and cable locator. This instrument is expressly designed to detect metallic pipes, cables, USTs, manhole covers, and other large, shallowly buried metallic objects. The instrument operates by generating both a meter reading (unitless) and an audible response when near a metal object. The peak instrument response usually occurs when the unit is directly over the object. The TW-6 does not provide a recordable data output that can be used for later computer processing. Results are generally limited to marking the interpreted outlines of detected objects in the field and mapping their locations.

Limitations

In general, the response of the MD instrument is roughly proportional to the horizontal surface area of near surface buried objects (typically in the upper three or four feet). This relationship can be used to advantage in discriminating between metal debris, reinforced concrete pads, and pipelines. However, in the presence of above ground metal objects such as fences, walls, parked cars, and metal debris, this is no longer valid. In some instances, the presence of such objects can make it very difficult to determine whether the instrument responses are associated with below ground targets or above ground cultural features. When multiple sources are present it may not be possible to identify individual targets. Also, relatively large objects that have a limited horizontal cross-section such as well casing and fence posts are sometimes difficult to detect.

Ground Penetrating Radar (GPR)

GPR Methodology

Ground penetrating radar is a method that provides a continuous, high resolution graphical cross-section of the shallow subsurface. The method entails repeatedly radiating an electromagnetic pulse into the ground from an antenna as it is moved along a traverse. Reflected signals are received by an antenna (often the same one used to generate the signal) and sent to a control unit for processing. The control unit then converts the varying amplitude of reflected radar signals as a function of time into a cross-sectional image showing signal amplitude as a function of depth.



GPR is particularly sensitive to variations of two electrical properties. One property is conductivity (the ability of a material to conduct a charge when a field is applied) and the other is permittivity (the ability of a material to hold a charge when a field is applied). These two properties determine how far a signal can propagate. They also determine the strength of reflected signals that can be generated at material boundaries. Most soil and earthen-like materials such as concrete are electrically resistive and have a relatively low permittivity. As a result, they are relatively transparent to electromagnetic energy. This means that only a portion of the radar signal incident upon them is reflected back to the surface. On the other hand, when the signal encounters an object composed of a material that has the opposite electrical properties, especially one with a high permittivity (such as metal) much of the incident energy is reflected.

Instrumentation

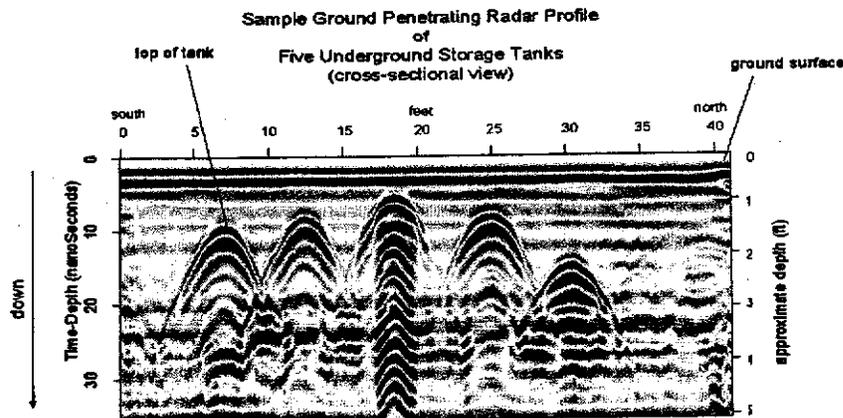
We typically perform GPR surveys using a Geophysical Survey Systems, Inc. SIR-2000 Subsurface Interface Radar System equipped with a 500 megahertz (MHz) transducer. This unit is comprised of a combined control/data recording console that is connected by a telemetry cable to the antenna. This system is often chosen for investigating environmental sites since it usually provides both the resolution and depth penetration needed for characterizing the upper three to four feet of the subsurface.

Data Interpretation

The interpretation of GPR data involves examining the graphical records for reflections from buried objects. GPR records display changes in reflected signal strength and arrival time with changes in horizontal position. Strong signals appear dark and weak reflections appear light. Reflections that arrive earlier in time are placed in the upper portions of the record and reflections that arrive later are placed lower, towards the bottom of the records. Horizontal position is across the top of the record.

In areas with relatively uniform conditions, with no buried objects producing reflections, the records typically appear as a series of alternating dark and light horizontal bands. In areas where there are subsurface objects producing reflections, the horizontal banding is disrupted. Discrete objects typically produce reflections having the appearance of inverted "U"s, forming what are known as "hyperbolic reflections". Metallic objects often produce markedly strong reflections, in many cases forming multiple reflections appearing as a series of inverted U's cascading down the record. Non-metallic objects can produce similar reflections, but the multiples are typically much weaker.

A sample profile from a different site with five adjacent steel USTs is presented below:



Note: the "Time Depth" of 35 nanoSeconds at the bottom of this profile corresponds to a true depth of approximately 5 feet for this example only. Actual depth to bottom of other profiles may be different.

An object's burial depth may also be estimated from GPR profiles. As mentioned above, GPR measures signal amplitude as a function of time. However, the translation of the radar signal's travel time (technically known as time-depth) to an actual distance (true depth) is not always a simple one. Strictly speaking, in order to translate from time-depth to true depth the signal velocity within each time interval must be known. Since this is not routinely determined in the field, estimated velocities are often used for determining the approximate depth to a reflector. The empirical values for GPR signal propagation velocities within commonly encountered soils are obtained from published tables.

Limitations

The ability to detect subsurface targets is dependent on specific site conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Typically, the depth of detection will be reduced as the clay and/or moisture content in the subsurface increases. As a result, depths of detection (using a 500 Mhz antenna) typically range from as deep as six feet to as little as a few inches.



June 24, 2004

Ms. Wendy Linck
Brown and Caldwell
201 N. Civic Drive, Suite 115
Walnut Creek, CA 94956

Subject: Geophysical Surveys
Benicia Arsenal Environmental Restoration Project
Benicia, California

Dear Ms. Linck:

This report presents the findings of geophysical surveys performed by NORCAL Geophysical Consultants, Inc. at the former Benicia Arsenal. The field investigations were performed on April 22 through 28 and May 17, 18, and 24, 2004 by NORCAL Geophysicist Donald J. Kirker. Field assistance was provided by NORCAL Geophysical Technicians Jeff Blom and Travis Black. Logistical support was provided by Brown and Caldwell personnel Wendy Linck, Rachael Goldberg, and Katie Bergmann.

These investigations were conducted under the guidelines presented in Brown and Caldwell's scope of work, Task Order 2, Exhibit A, dated March 29, 2004. All geophysical work performed at the Benicia Arsenal was governed by the Brown and Caldwell Master Subcontract dated March 29, 2004.

SCOPE OF WORK

The scope of work for Task Order 2 includes conducting geophysical investigations within designated survey areas at Sites 31, 46B, 47, 71, and 161. These sites are located within the central portion of the former arsenal, as shown on Plate 1. The scope of work also includes conducting geophysical surveys over 85 proposed borehole sites, some of which are located in the central portion of the arsenal, as well as base wide.

PURPOSE

Information, provided by Brown and Caldwell, indicates that underground storage tanks (USTs) may be located at Sites 31, 46B, 47, 71, and 161. However, records are incomplete regarding their exact locations or whether they have been removed. Therefore, the purpose of the geophysical investigations is to obtain subsurface information to aid in determining the location of the possible USTs within the designated survey areas.



Brown and Caldwell
June 24, 2004
Page 2

For the proposed borehole site surveys, the purpose is to locate detectable utilities and subsurface features in the vicinity of each borehole to minimize the potential for encountering utilities and other possible subsurface obstructions during drilling.

FIELD INVESTIGATION

Equipment

We used the metal detection (MD), ground penetrating radar (GPR), and electromagnetic line locating (EMLL) methods. Typically, we use the magnetic (MAG) method in conjunction with the MD, EMLL, and GPR methods to investigate for USTs. However, interference caused by the nearby buildings and above ground metal features precluded the use of MAG. The MD method was used to detect shallow subsurface metal objects that may represent a UST. The GPR method was used to image variations in the electrical properties of the shallow subsurface. These variations can provide information on the location and dimensions of buried objects and fill boundaries. The EMLL was used to locate detectable utility alignments. This information can be used to further characterize the source of MD and GPR detected objects. In addition, the EMLL and GPR methods were used to investigate the proposed borehole sites for detectable utility alignments and drilling obstructions.

The MD, EMLL, and GPR methods were used at each site to obtain the subsurface information. However, magnetic interference from metal rebar in the reinforced concrete pads covering portions of Sites 46B and 161, precluded use of the MD methods over these pads. Descriptions of the MD, EMLL, and GPR methods are provided in Appendix A.

Equipment Functional Checks and Calibration

At the beginning and end of each field day, we performed equipment functional checks, as recommended by the instrument manufacturers to ensure proper equipment function. These functional checks included testing the power supply, as well as instrument response. The equipment was operated over a selected test site near Building 56A with known subsurface features to verify appropriate gain settings and instrument repeatability. Particular attention was paid to the GPR calibration, with the same gain, filter, and time-depth scales chosen each time to check for repeatable results. This calibration check was documented by printing the calibration plot on the chart recorder. Proper functioning of the equipment was verified by determining that the trends observed in the data were repeatable. The results of these tests indicated that our equipment was functioning properly and accurately throughout the duration of the survey.



Brown and Caldwell
June 24, 2004
Page 3

Geophysical Surveys

Prior to proceeding with the geophysical data acquisition at Sites 31, 46B, 47, 71, and 161, we established a horizontal control grid using a fiberglass measuring tape at each site. The survey grids were based on a rectangular coordinate system. The limits of each grid (survey area) are shown on Plates 2 through 6.

We scanned each site with the metal detection (MD) and utility location (EMLL) equipment along east-west and/or south-north trending traverses spaced five feet apart. All detected features were marked on the ground surface with pink spray paint. We then obtained GPR data over the same traverses. The GPR records were examined for reflection patterns characteristic of USTs, utilities, and other buried objects.

Borehole Site Surveys

For the 85 proposed borehole site surveys, we obtained GPR data along both north-south and east-west trending traverses that intersected the borehole location. Each traverse ranged from less than 8 feet to approximately 20 feet in length. The MD and EMLL methods were operated within the same distance of the boring as the GPR. Detected utilities within these areas were identified and marked with spray paint on the ground surface.

SITE DESCRIPTIONS AND RESULTS

The results of each geophysical survey are presented on the Geophysical Survey Maps, Plates 2 through 6. These plates show pertinent site features as well as our findings for each site. Although the plates show detected utility alignments, it should be noted that since a utility search was not the primary objective of the UST surveys, there may be additional utilities at each site that are not shown. A description of the site features and geophysical survey results for each site is presented below.

Site 31

Site Description

The survey area at Site 31 measures approximately 25 by 28 feet. It is bound by a building to the west, a loading dock and raised planter to the north, and a vehicle ramp to the east, as shown on Plate 2. It is open to the south and is primarily covered with asphalt. A UST vent line is evident on the wall of the adjacent building, and a UST fill port is located approximately 6 feet east of the vent line. The survey area is generally free of above ground cultural objects and debris.



Brown and Caldwell

June 24, 2004

Page 4

Results

The results of the geophysical survey at Site 31 are shown on Plate 2. A 1,000 gallon UST, measuring approximately 4 by 11 feet and paralleling the building, was detected. The fill port is located at the north end of the tank. The subsurface location of the vent line and three additional utilities, referred to as undifferentiated utilities on Plate 2, were also identified. The vent line trends from the building to a location approximately one foot south of the fill port. Two of the undifferentiated utilities trend from the building to the north end of the UST. The third trends offsite from the south end of the tank. The undifferentiated utilities may represent possible product and remote fill lines.

Site 46B

Site Description

The survey area at Site 46B measures 96 by 38 feet and parallels Adams Street, as shown on Plate 3. It comprises portions of a reinforced concrete driveway, an asphalt-covered parking lot, and adjacent sidewalk and planters. Besides dense vegetation in the center, the survey area is free of above ground cultural features.

Results

The geophysical survey at Site 46B did not identify utility alignments or buried metal objects that could represent a UST within the designated limits of the survey area. Magnetic interference from the reinforcing bars in the concrete pad to the west precluded the detection of metal objects beneath this pad by the MD technique. However, in this area the GPR records exhibited typical rebar reflection patterns underlain by continuous reflection patterns that we interpret as representing shallow fill horizons associated with the pavement, pavement base, and near surface soils. The GPR data did not display reflection patterns large enough to represent USTs within the upper 2 to 4 feet of the subsurface.

Site 47

Site Description

The survey area at Site 47 measures approximately 24 by 32 feet and covers portions of an asphalt parking lot, concrete sidewalk, and a 6.5 foot wide moat located along the west side of an office building, as shown on Plate 4. The survey area is free of above ground cultural features.



Brown and Caldwell
June 24, 2004
Page 5

Results

At Site 47, an undifferentiated utility, a suspected product line, and a possible UST were detected (Plate 4). The undifferentiated utility, in the northwest corner of the survey area, enters the site from the north and terminates near the west boundary of the survey area. The product line trends west from the north and terminates near the west boundary of the survey area. The product line trends west from the basement of the building and terminates beneath the edge of the sidewalk and parking lot. Beneath this area, a shallow metal object was detected that we believe may represent a possible UST. The suspected UST is very shallow and probably buried within one to two feet of the surface. It measures approximately 3 to 4 feet wide by 7 to 9 feet long and is oriented parallel to the building. While these dimensions are not typical of a standard UST, they may represent an atypical UST with a volume of 500 to 700 gallons. GPR data, obtained in this area, defined truncated reflection patterns over the possible UST instead of typical broad hyperbolic patterns. It is possible that typical patterns were not evident in the GPR records because of interference caused by the curb.

Site 71

Site Description

The survey area at Site 71 measures approximately 550 by 20 feet and extends along Tyler Street from Polk Street to Building 89, as shown on Plate 5. It is asphalt covered and comprises portions of the street and adjacent parking lot. The only surface feature in the survey area is a chain link fence that parallels Tyler Street.

Results

Five undifferentiated utilities and a water and compressed air line were detected at Site 71, as shown on Plate 5. The five undifferentiated utilities and one water line cross the site from the parking lot to Tyler Street. The second water line and the compressed air line were detected south of the fence and parallel Tyler Street. Two branches of the compressed air line extend south towards Building 89. No other subsurface utilities or buried metal objects that could represent a UST were detected within the limits of the survey.

The GPR records did not indicate all of the utilities located by the MD and EMLL techniques. This suggests that some of these utilities are probably buried deeper than the detection capabilities of the GPR. Based on this information, we believe that the GPR's depth of detection varies locally through the site from approximately 1 to 4 feet below ground surface.



Brown and Caldwell
June 24, 2004
Page 6

Site 161

Site Description

Site 161 is located southwest of Site 31 across Jackson Street. It comprises approximately 2,064 square feet and covers the entrance to a gated property, as shown on Plate 6. An east to west trending wood fence and gate bisect the site. North of the fence, the survey area is covered with concrete and is free from above ground cultural objects. South of the fence, the survey area is covered with reinforced concrete and is bound by stored equipment and metal pipes. A vault, containing two utility stubs, is located beneath the fence near the stored pipes.

Results

The results of the geophysical survey at Site 161 are shown on Plate 6. The investigation identified the location of four undifferentiated utilities. Two trend south from the vault lid then east beneath the stored metal pipes. The other two were detected north of the fence in the northwest and northeast corners of the site. One utility bisects the northwest corner, the second utility enters the site from the northeast and trends beneath the stored metal pipes. Further investigation of the second utility revealed that it is a continuation of the same line that trends southwest from the end of the UST detected at Site 31. Since this UST-associated utility, and two other undifferentiated utility lines trend beneath the stored above ground pipes, it is possible that a UST or associated object exists beneath the stored pipes. No other buried objects were identified large enough to represent a UST within the designated limits of the survey area. It should be noted, that magnetic interference from the reinforcing bars in the concrete pad precluded the detection of metal objects beneath this pad by the MD technique. Although the GPR data displayed reflections related to the utilities, rebar, and shallow fill horizons associated with the pavement, the data did not display hyperbolic reflection patterns within the upper 2 to 4 feet of the subsurface large enough to represent a UST.

Borehole Site Surveys

The results of the borehole site surveys are shown on the enclosed copies of the Borehole Site Survey Logs (Appendix B). During the course of the investigation at each of the 85 proposed boring locations, we detected numerous known and unknown utility alignments. The surface trace of the detected utilities, as well as the proposed boring locations, were marked with spray paint on the ground surface.



Brown and Caldwell
June 24, 2004
Page 7

SUMMARY

Site 31

We identified the location and dimensions of a 1,000 UST. We also identified four utilities that appear to be associated with the UST. One is the vent line, the other three are unknown but may represent product and remote fill lines.

Site 46B

We did not detect any subsurface objects that could be interpreted as representing a UST or utility alignments within the survey limits.

Site 47

We identified the location of a possible UST with dimensions of 3 to 4 feet wide by 7 to 9 feet long using the MD technique. However, this could not be confirmed with the GPR. We also identified a possible UST associated product line and one undifferentiated utility.

Site 71

We did not detect any subsurface objects that could be interpreted as representing a UST within the survey limits. However, we did identify five undifferentiated utilities and two water lines and compressed air line.

Site 161

We did not detect any subsurface objects that could be interpreted as representing a UST within the survey limits. However, four undifferentiated utilities were detected, including one associated with the detected UST at Site 31. Since this UST-associated utility, and two other undifferentiated utility lines trend beneath the stored above ground pipes, it is possible that a UST or associated object exists beneath the stored pipes.



Brown and Caldwell
June 24, 2004
Page 8

STANDARD CARE AND WARRANTY

The scope of NORCAL's services for this project consisted of using geophysical methods to characterize the shallow subsurface. The accuracy of our findings is subject to specific site conditions and limitations inherent to the techniques used. We performed our services in a manner consistent with the level of skill ordinarily exercised by members of the profession currently employing similar methods. No warranty, with respect to the performance of services or products delivered under this agreement, expressed or implied, is made by NORCAL.

We appreciate having the opportunity to provide you with this information.

Respectfully,

NORCAL Geophysical Consultants, Inc.

A handwritten signature in black ink that reads "Donald J. Kirker".

Donald J. Kirker
Geophysicist, GP-997

DJK/tt

Enclosure: Plates 1 through 6
 Appendix A GEOPHYSICAL METHODOLOGY
 Appendix B BOREHOLE SITE SURVEY LOGS

**Detected Analytes in Water
VOCs by EPA Method 8260B (ug/L)**

Location-ID	Sample Date	Depth(feet)	1,2,4-TRIMETHYLBENZENE	1,3,5-TRIMETHYLBENZENE (MESITYLENE)	ETHYLBENZENE	GASOLINE (~C6-C10)	ISOPROPYLBENZENE (CUMENE)	M,P-XYLENE (SUM OF ISOMERS)	NAPHTHALENE	n-PROPYLBENZENE	O-XYLENE (1,2-DIMETHYLBENZENE)	P-CYMENE (p-ISOPROPYLTOLUENE)	SEC-BUTYLBENZENE	t-BUTYLBENZENE	TOLUENE
UST31GR01	5/25/2004	3	1300	380	300	2200	40	1500	260	73	420	8.1 J	10 J	170	12 J

Number of Detects:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Total Number of Analyses:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Minimum Concentration:	1300	380	300	2200	40	1500	260	73	420	8.1	10	170	12		
Maximum Concentration:	1300	380	300	2200	40	1500	260	73	420	8.1	10	170	12		
Mean Detected Concentration:	1300	380	300	2200	40	1500	260	73	420	8.1	10	170	12		

QUALIFIER LEGEND:

- (blank) Unqualified result.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- J- The analyte was positively identified with low bias; the associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The analyte was positively identified with high bias; the associated numerical value is the approximate concentration of the analyte in the sample.
- N The analyte identification is presumptive.
- NJ The analyte identification is presumptive. Reported value is an estimated concentration.
- R The material was analyzed for and was reported as detected by the laboratory. The data are unusable. The analyte may or may not be present.
- U The analyte was not detected above the reported sample quantitation limit.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- UR The material was analyzed for and was reported as not detected by the laboratory. The data are unusable. The analyte may or may not be present. The data may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.



Appendix A

GEOPHYSICAL METHODOLOGY



Appendix A

ELECTROMAGNETIC LINE LOCATION/METAL DETECTION (EMLL/MD)

Methodology

Electromagnetic line location techniques (EMLL) are used to locate the magnetic field resulting from an electric current flowing on a line. These magnetic fields can arise from currents already on the line (passive) or currents applied to a line with a transmitter (active). The most common passive signals are generated by live electric lines and re-radiated radio signals. Active signals can be introduced by connecting the transmitter to the line at accessible locations or by induction.

The detection of underground utilities is affected by the composition and construction of the line in question. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless the utilities carry a passive current, they must be exposed at the surface or in accessible utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that are not detectable using standard electromagnetic line location techniques include those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and pipes with insulated connections.

Buried objects can also be detected, without direct contact, by using the metal detection technique (MD). This is used to detect buried near surface metal objects such as rebar, manhole covers, USTs, and various metallic debris. The MD transmitter-receiver unit is held above the ground and continuously scanned over the surface. The unit utilizes two orthogonal coils that are separated by a specified distance. One of the coils transmits an electromagnetic signal (primary magnetic field) which in turn produces a secondary magnetic field about the subsurface metal object. Since the receiver coil is orthogonal to the transmitter coil, it is unaffected by the primary field. Therefore, the secondary magnetic fields produced by buried metal object will generate an audible response from the unit. The peak of this response indicates when the unit is directly over the metal object.

The instrumentation we used for the EMLL and MD survey consists of a Radio Detection RD-400 and a Fisher TW-6 inductive pipe and cable locator.

Data Analysis

The EMLL/MD instrumentation indicates the presence of buried metal by emitting an audible tone; there are no recorded data to analyze. Therefore, the locations of buried objects detected with these methods are marked on the ground surface during the survey.



Limitations

The detection of underground utilities is dependent upon the composition and construction of the line of interest, as well as depth. Utilities detectable with standard line location techniques include any continuously connected metal pipes, cables/wires or utilities with tracer wires. Unless carrying a passive current these utilities must be exposed at the surface or accessible in an utility vaults. These generally include water, electric, natural gas, telephone, and other conduits related to facility operations. Utilities that may not be detectable using standard electromagnetic line location techniques include certain abandoned utilities, utilities not exposed at the ground surface, or those made of non-electrically conductive materials such as PVC, fiberglass, vitrified clay, and metal pipes with insulating joints. Pipes generally deeper than about five to seven feet may not be detected.



GROUND PENETRATING RADAR (GPR)

Methodology

Ground penetrating radar is a method that provides a continuous, high resolution cross-section depicting variations in the electrical properties of the shallow subsurface. The method is particularly sensitive to variations in electrical conductivity and electrical permittivity (the ability of a material to hold a charge when an electrical field is applied).

The GPR system operates by radiating electromagnetic pulses into the ground from a transducer (antenna) as it is moved along a traverse. Since most earth materials are transparent to electromagnetic energy, the signal spreads downward into the subsurface. However, when the signal encounters a variation in electrical permittivity, a portion of the electromagnetic energy is reflected back to the surface. When the signal encounters a metal object, all of the incident energy is reflected. The reflected signals are received by the same transducer and are printed in cross-section form on a graphical recorder. Changes in subsurface reflection character on the GPR records can provide information regarding the location of USTs, sumps, buried debris, underground utilities, and variations in the shallow stratigraphy.

The GPR system used was a Geophysical Survey Systems, Inc. SIR-2 Subsurface Interface Radar Systems equipped with a 500 megahertz (MHz) transducer. This transducer is near the center of the available frequency range and is used to provide high resolution at shallow depths.

Data Analysis

GPR records are examined to identify reflection patterns characteristic of USTs, utilities, and other buried debris. Typically, USTs are manifested by broad localized hyperbolic (upside-down "U" shape) reflection patterns that vary in intensity. The intensity of a reflection pattern is usually dependent upon the condition of the respective UST, its burial depth, and the type of fill over the UST. Utilities and other buried debris are typically manifested by narrow localized hyperbolic reflections that also vary in intensity.

Limitations

The ability to detect subsurface targets is dependent on site specific conditions. These conditions include depth of burial, the size or diameter of the target, the condition of the specific target in question, the type of backfill material associated with the target, and the surface conditions over the target. Under ideal conditions, the GPR can generally detect objects buried to approximately six feet. However, as the clay content in the subsurface increases, the GPR depth of detection decreases. Therefore, it is possible that on-site soil conditions and target features may limit the depth of detection to the upper one to two feet below ground surface.

PERSONNEL: DJK TB

CLIENT: B+C

JOB: DATE: 4-27-04

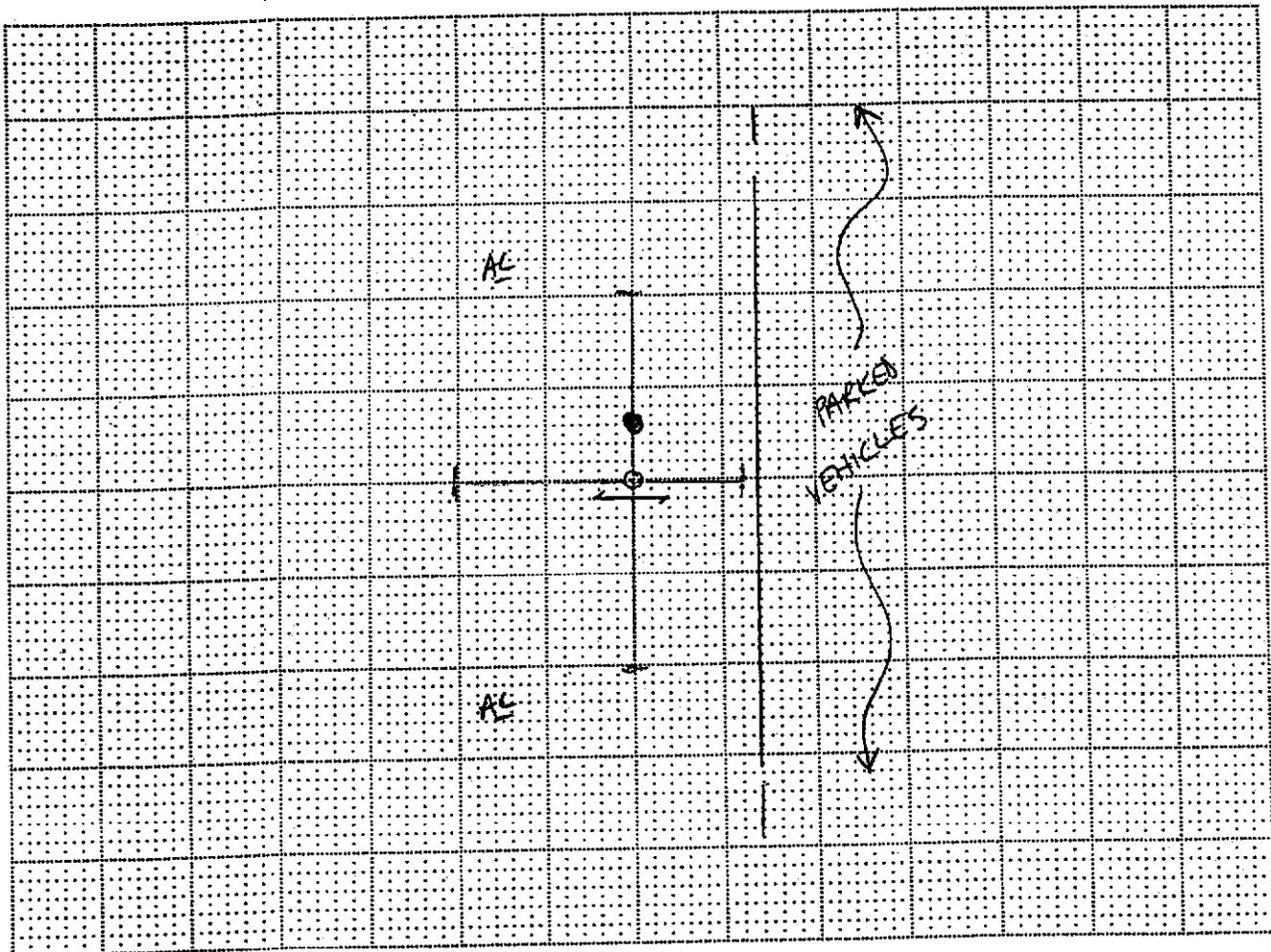
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: OS29HP002



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supresation)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

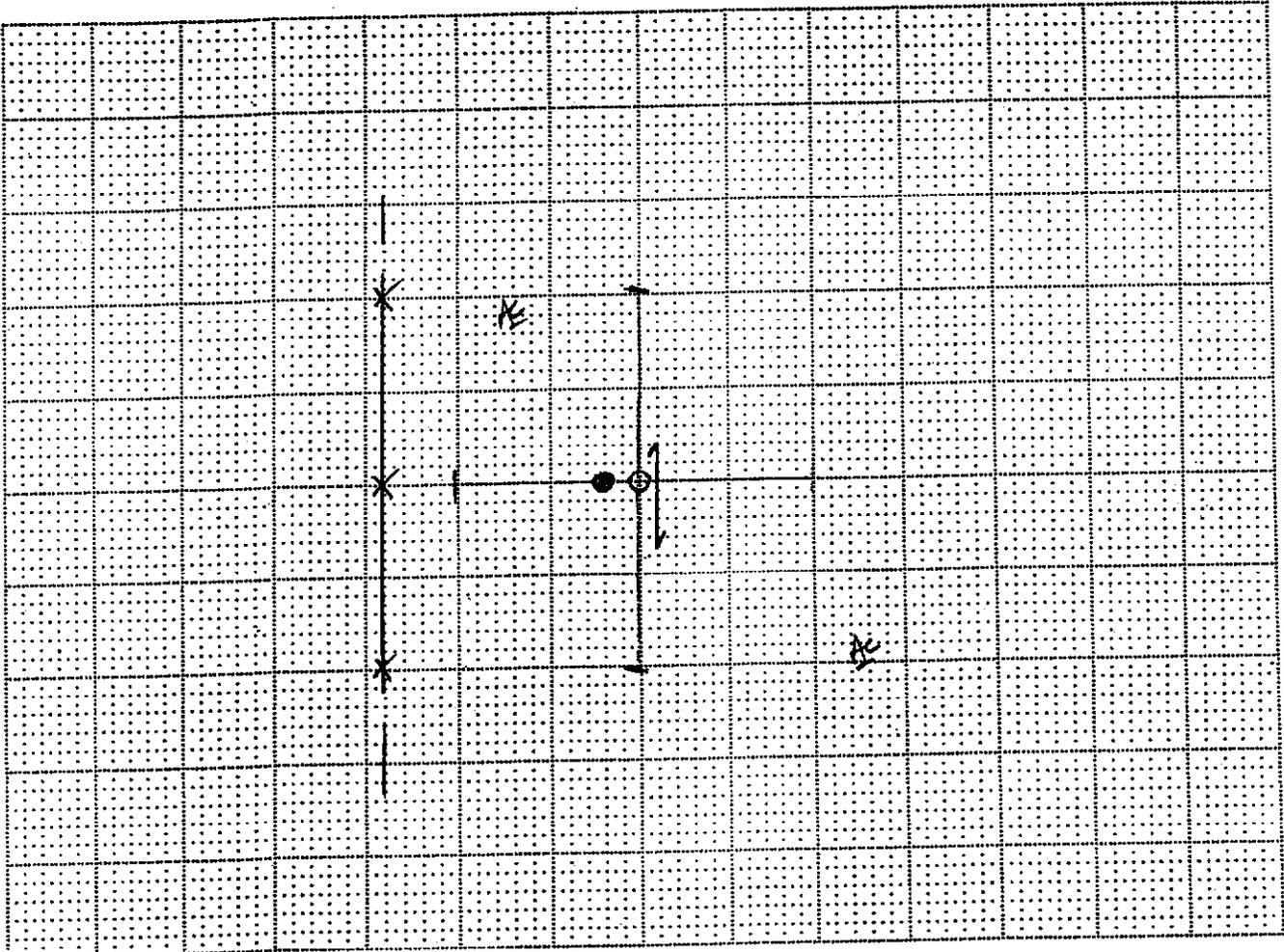
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 OB: DATE: 4-27-04

CLIENT: B & C
 LOCATION: BENICIA
 BORING: 0529HP003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

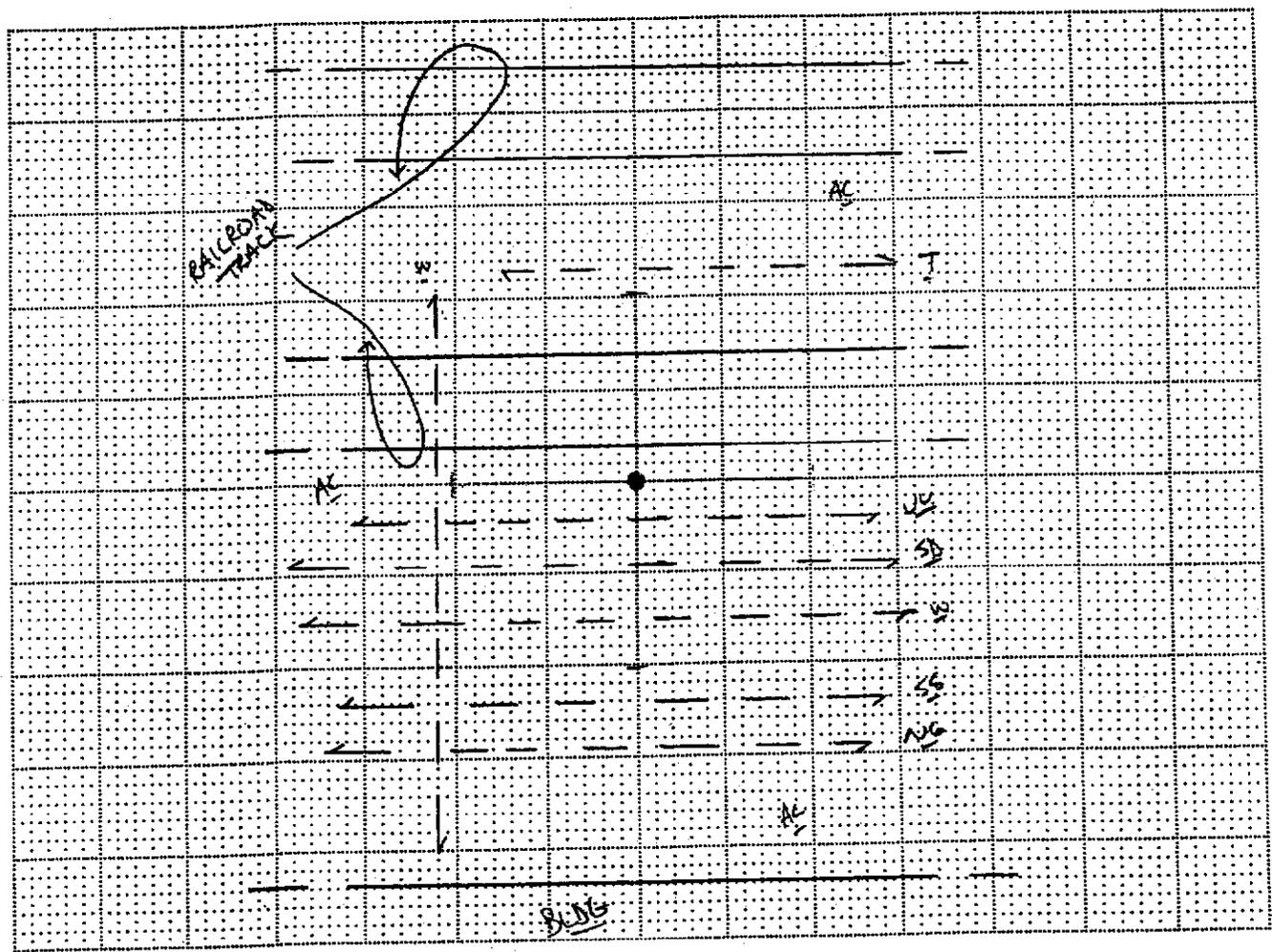
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| Equipment: | Procedure: | Surface Conditions: |
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



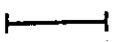
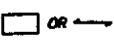
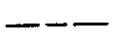
PERSONNEL: DJK JB
 DATE: 5-17-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BROWN + CALDWELL
 LOCATION: BENICIA
 BORING: B120HP007



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL:

DJK JB

CLIENT:

BROWN & CALDWELL

DATE:

5-17-04

LOCATION:

BENICIA

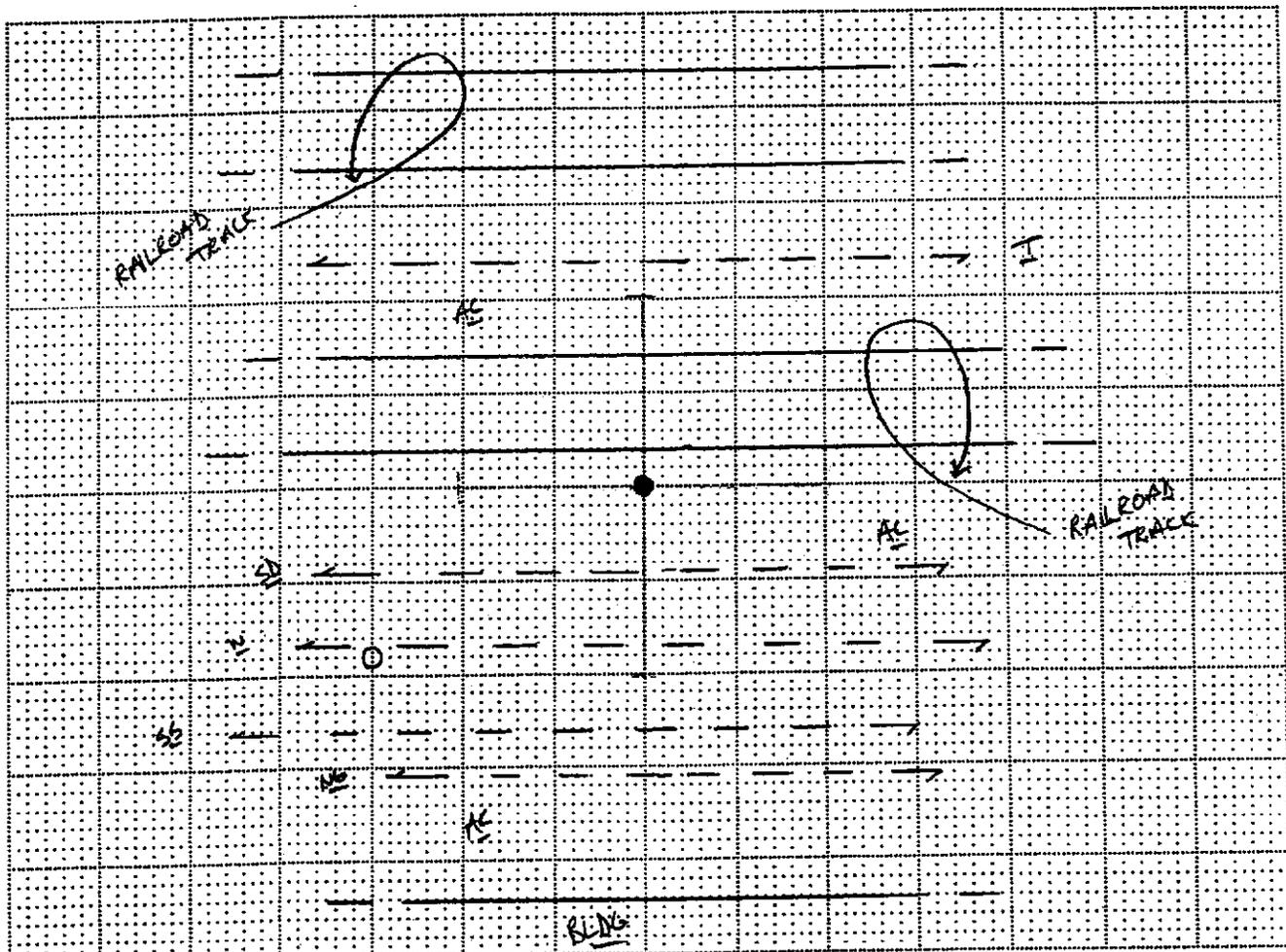
NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING:

B1204P006



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

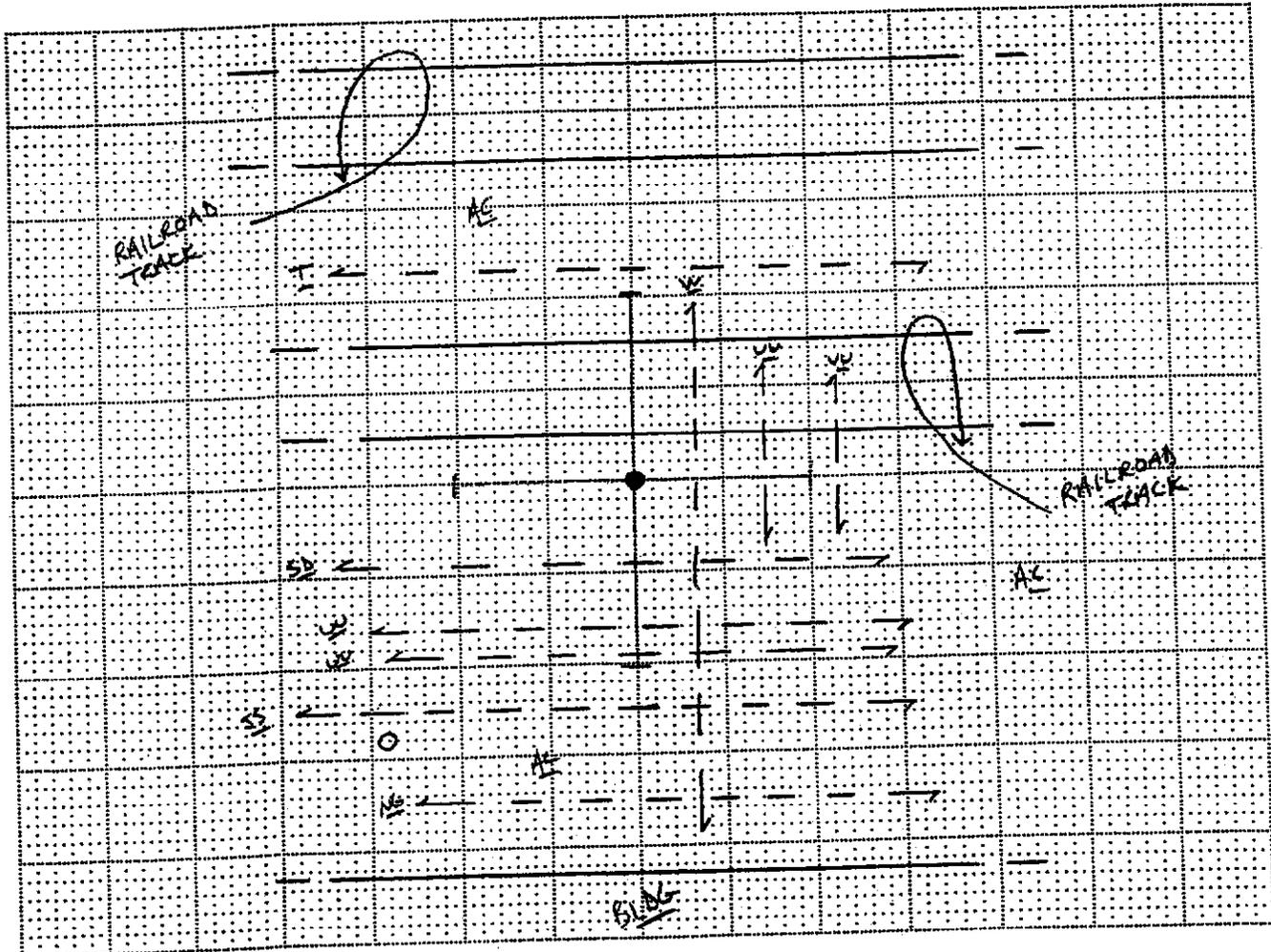
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input type="checkbox"/> Dry |
| <input type="checkbox"/> M Scope | <input type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input type="checkbox"/> GPR | |

REMARKS



PERSONNEL: **BJK JB**
 B: _____ DATE: **5-17-04**
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: **BROWN & CALDWELL**
 LOCATION: **BENICIA**
 BORING: **812DHP005**



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- ✓ T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- ✓ SS (Sanitary Sewer)
- ✓ SD (Storm Drain)
- ✓ W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

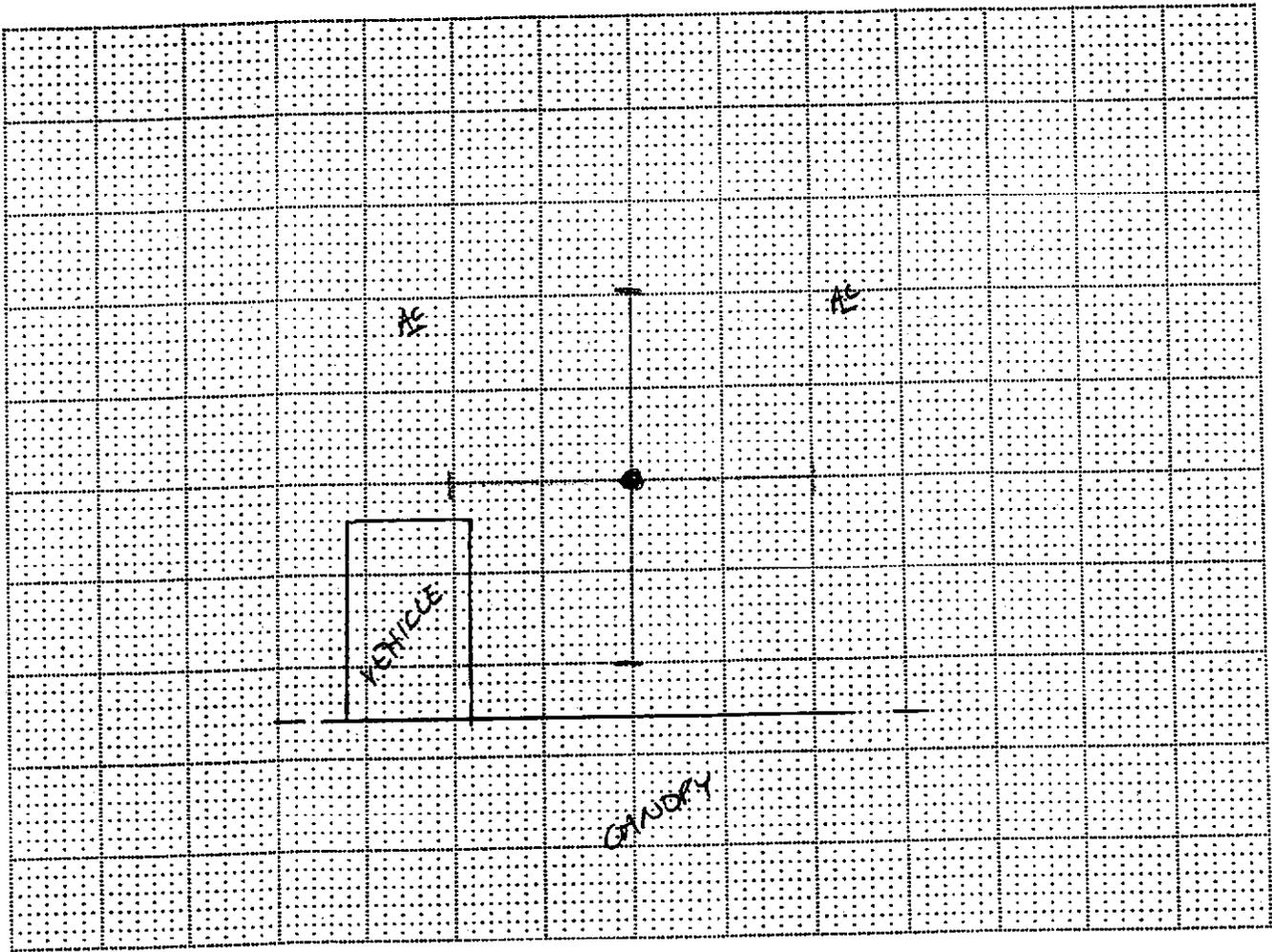
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| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | — EMC (Conduction) | — Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | — other |
| — other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB
 B: DATE: 5-18-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BROWN & CALDWELL
 LOCATION: BENICIA
 BORING: B111HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  or  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supresalon)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

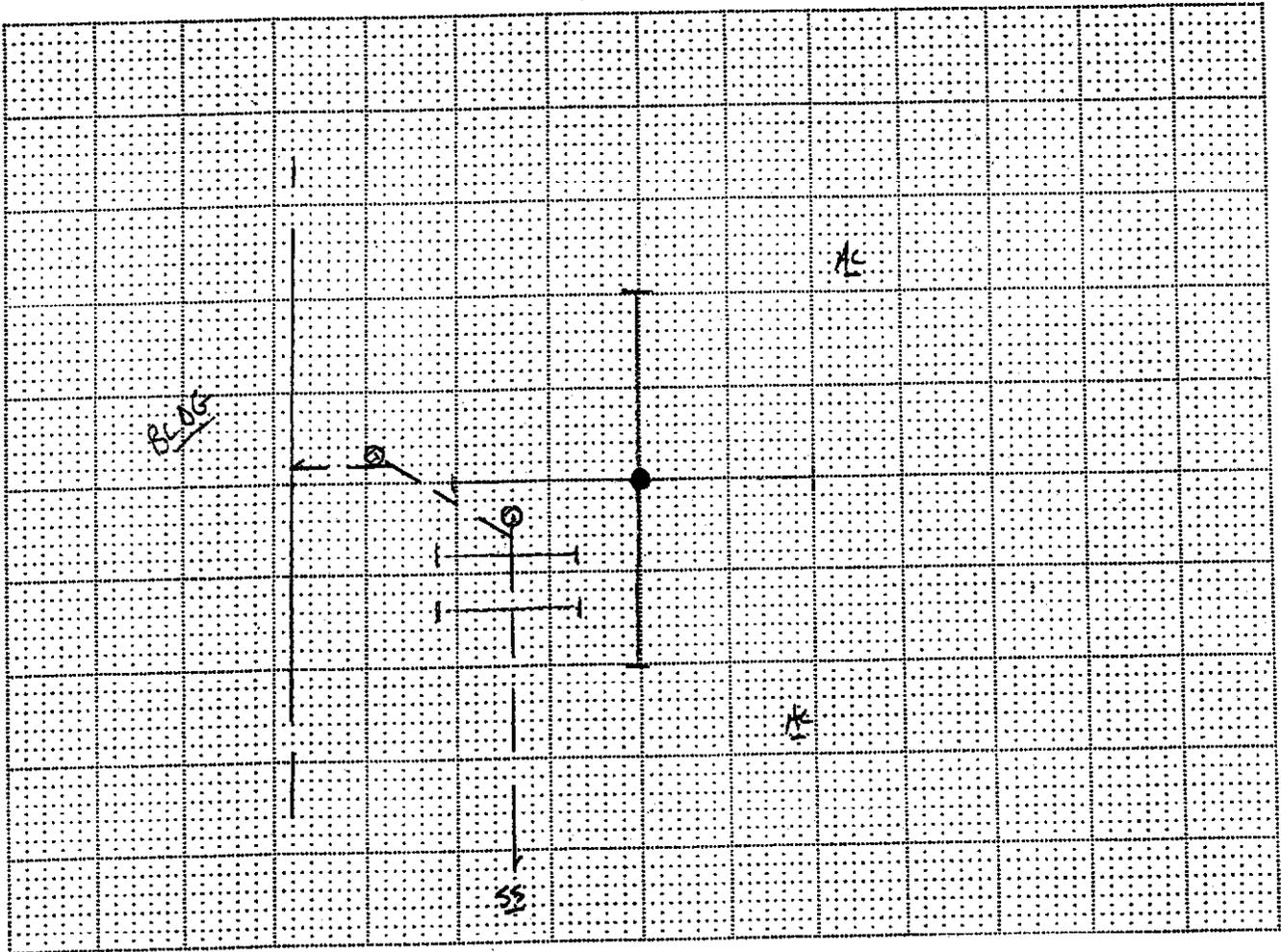
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 5-18-04

CLIENT: BROWN & CALDWELL
 LOCATION: BENICIA
 BORING: BOSOHPOO1



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- ✓ SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

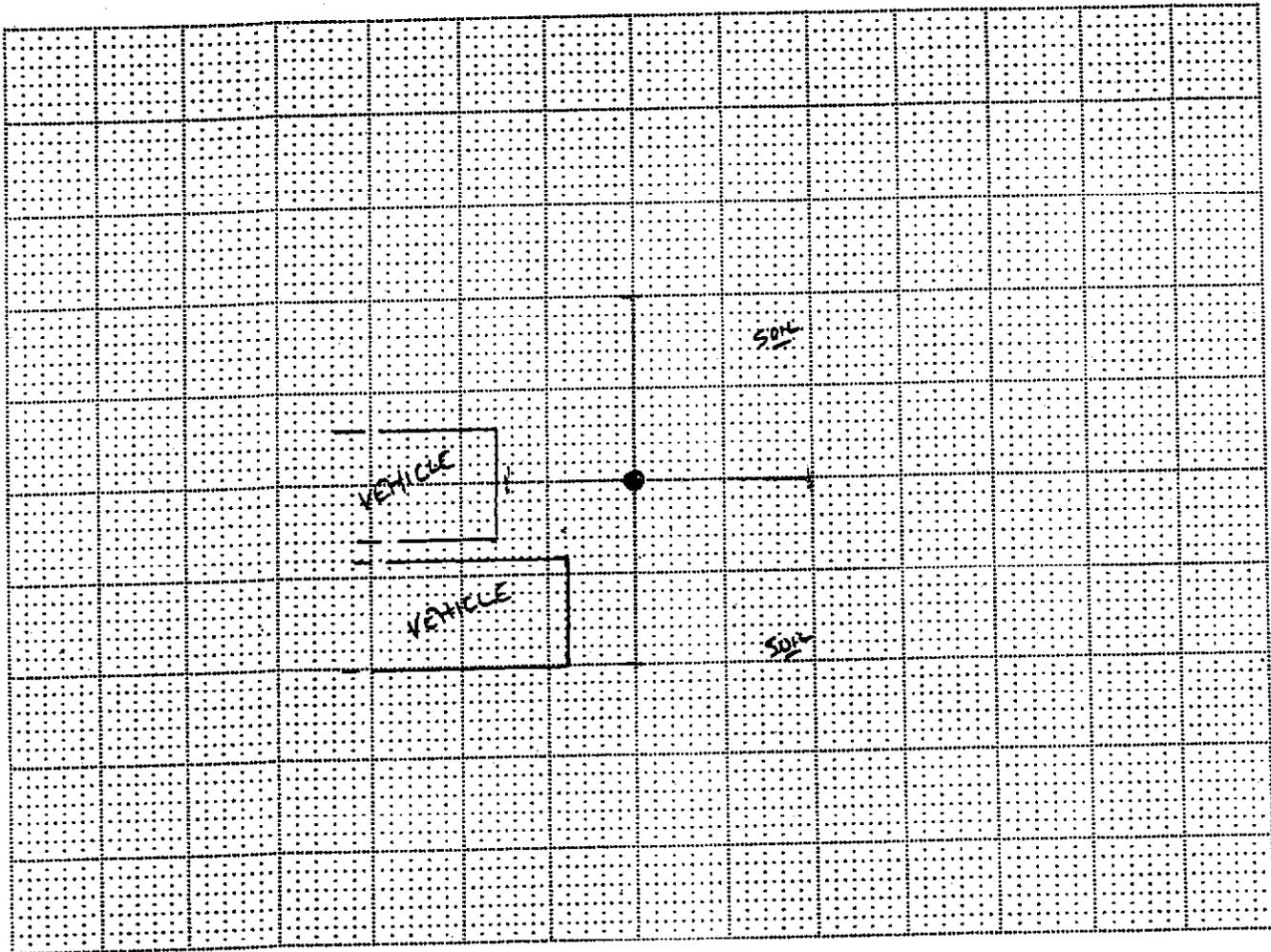
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: BTC
 LOCATION: BENICIA
 BORING: SPUREHPOOL



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- ✓ Soil
- ✓ Gravel
- other

NOTES

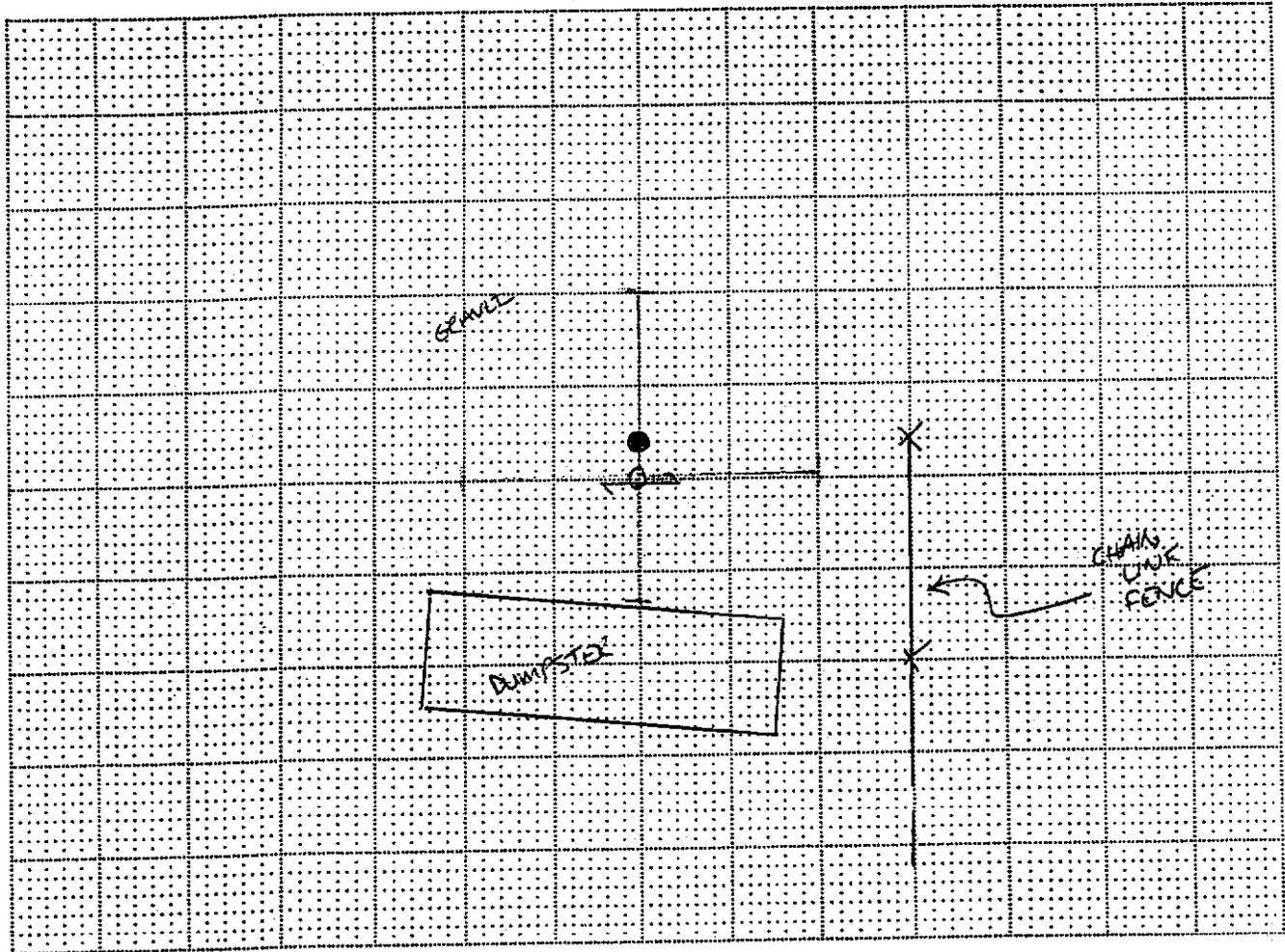
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



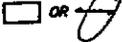
PERSONNEL: DJK TB
 JOB: DATE: 4-28-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B7C
 LOCATION: BENICIA
 BORING: SPUREHPOOZ



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

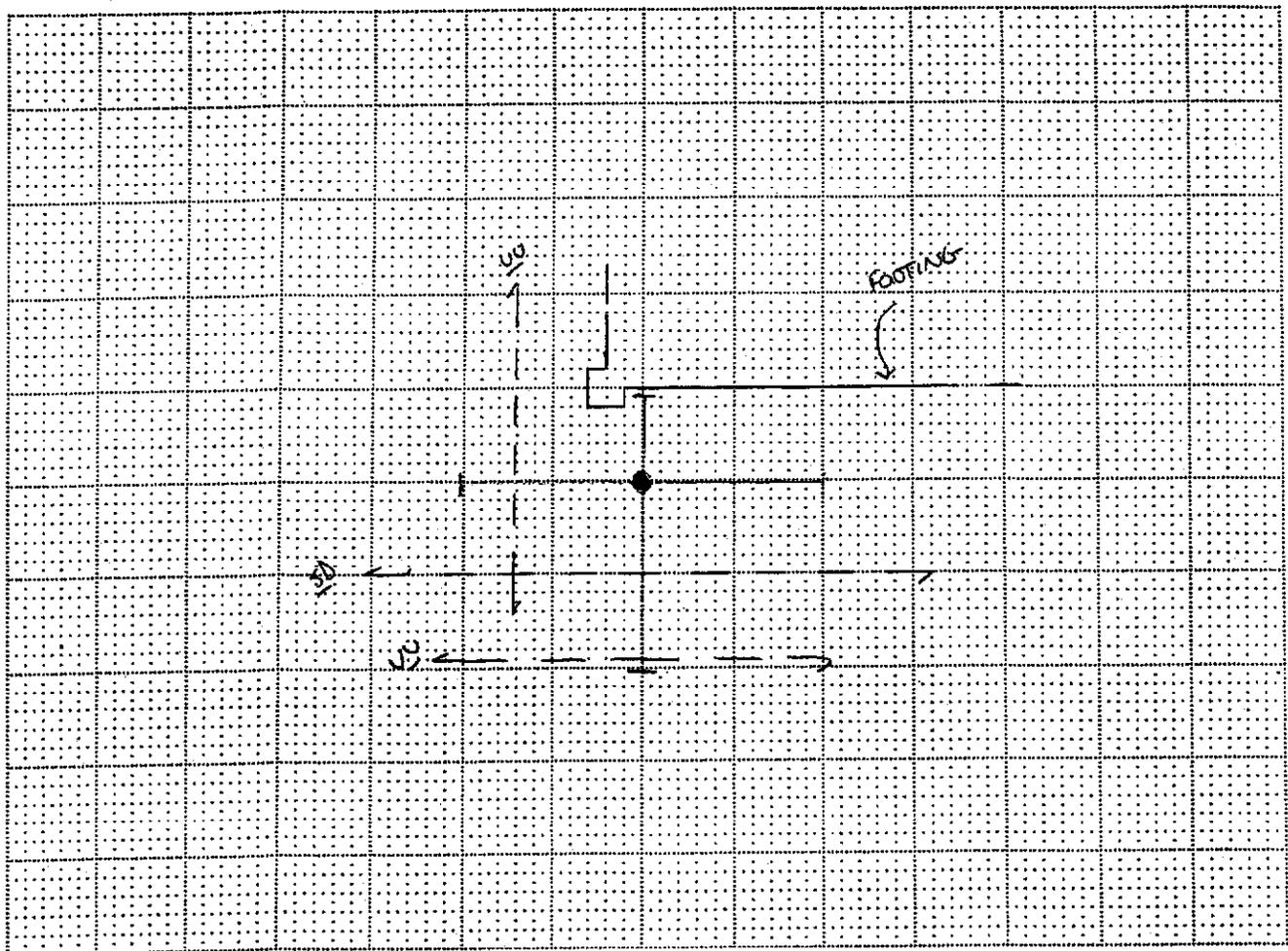
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
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| <input type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input type="checkbox"/> GPR | |

REMARKS



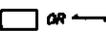
PERSONNEL: DJK TB
 OB: DATE: 4-26-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BIC
 LOCATION: BENICIA
 BORING: BIDHP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

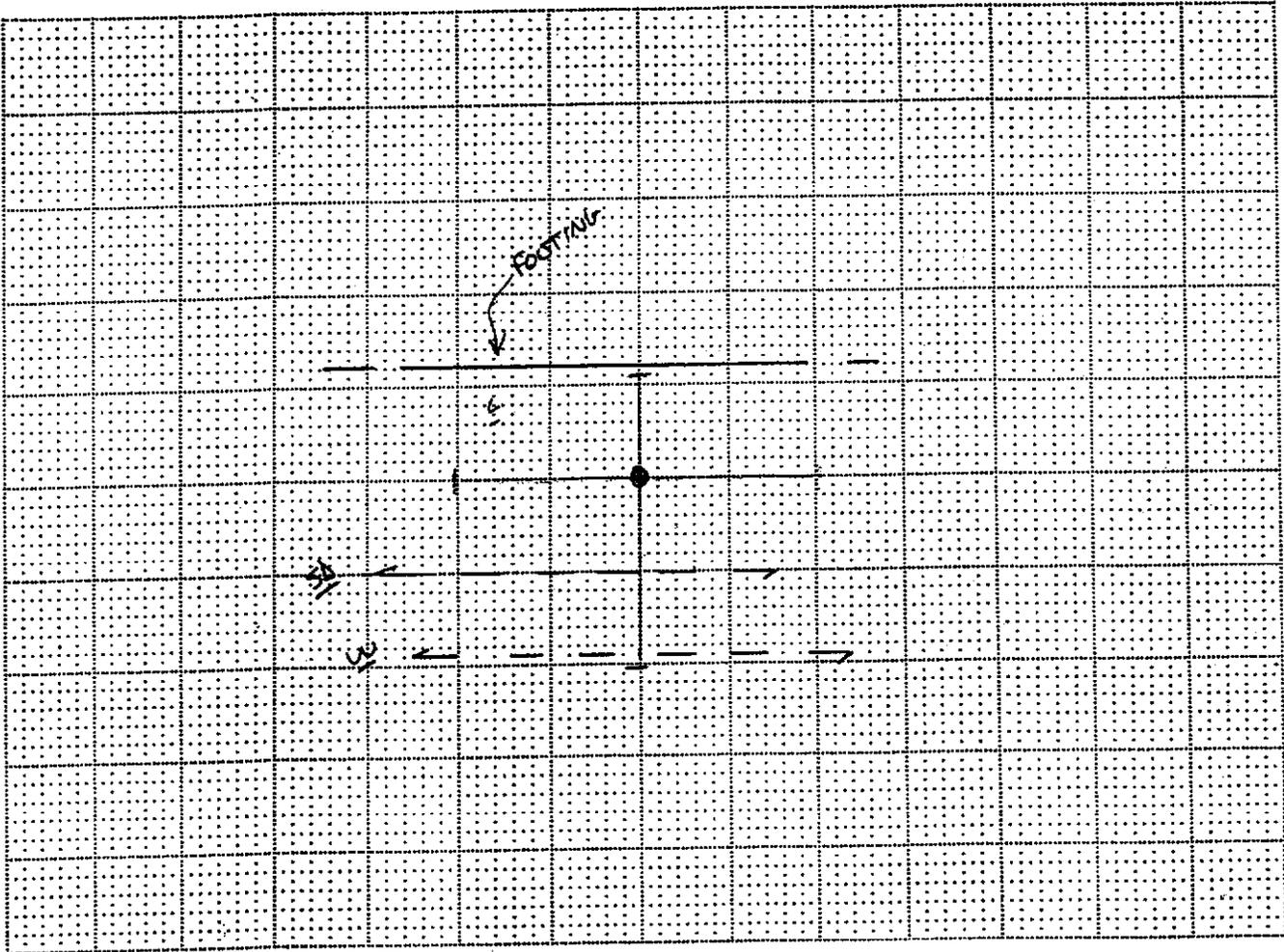
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| Equipment: | Procedure: | Surface Conditions: |
| - GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 400 | - EMI (Induction) | - Dry |
| - M Scope | - Ambient | - other |
| - other | - GPR | |

REMARKS



PERSONNEL: BJK TB
 JOB: DATE: 4-26-04

CLIENT: B⁷C
 LOCATION: BENICIA
 BORING: B101 HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- ✓ SD (Storm Drain)
- W (Water)
- ✓ FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- ✓ C (Concrete)
- Soil
- Gravel
- other

NOTES

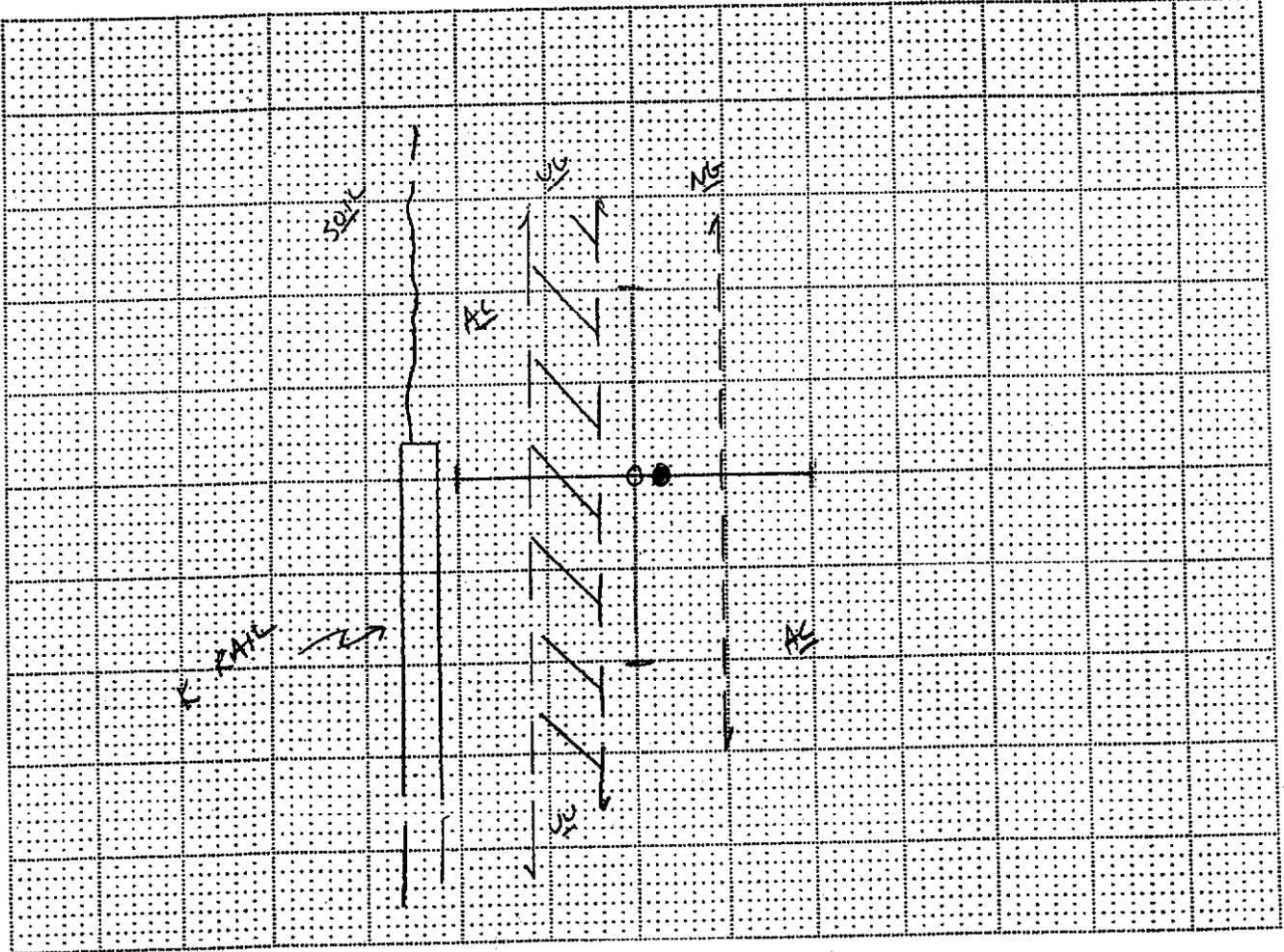
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



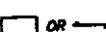
PERSONNEL: DJK TB
 OB: DATE: 4-27-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BJC
 LOCATION: BENICIA
 BORING: AFVSB001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
 -  Final Boring Location
 -  GPR Traverse
 -  Localized GPR Anomaly
 -  Utility Alignment
- Utilities
- T (Telephone, Comm.)
 - E (Electric)
 - NG (Natural Gas)
 - CA (Compressed Air)
 - STM (Steam)
 - SS (Sanitary Sewer)
 - SD (Storm Drain)
 - W (Water)
 - FS (Fire Supression)
 - UU (Undifferentiated Utility)
- Surface
- RC (Reinforced Concrete)
 - AC (Asphalt)
 - C (Concrete)
 - Soil
 - Gravel
 - other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| - GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 400 | - EMI (Induction) | - Dry |
| - M Scope | - Ambient | - other |
| - other | - GPR | |

REMARKS

↑
 CANNOT DETECT
 SANITARY SEWER
 STORM DRAIN

PERSONNEL: DJK TB

CLIENT: B+C

JOB: DATE: 4-27-04

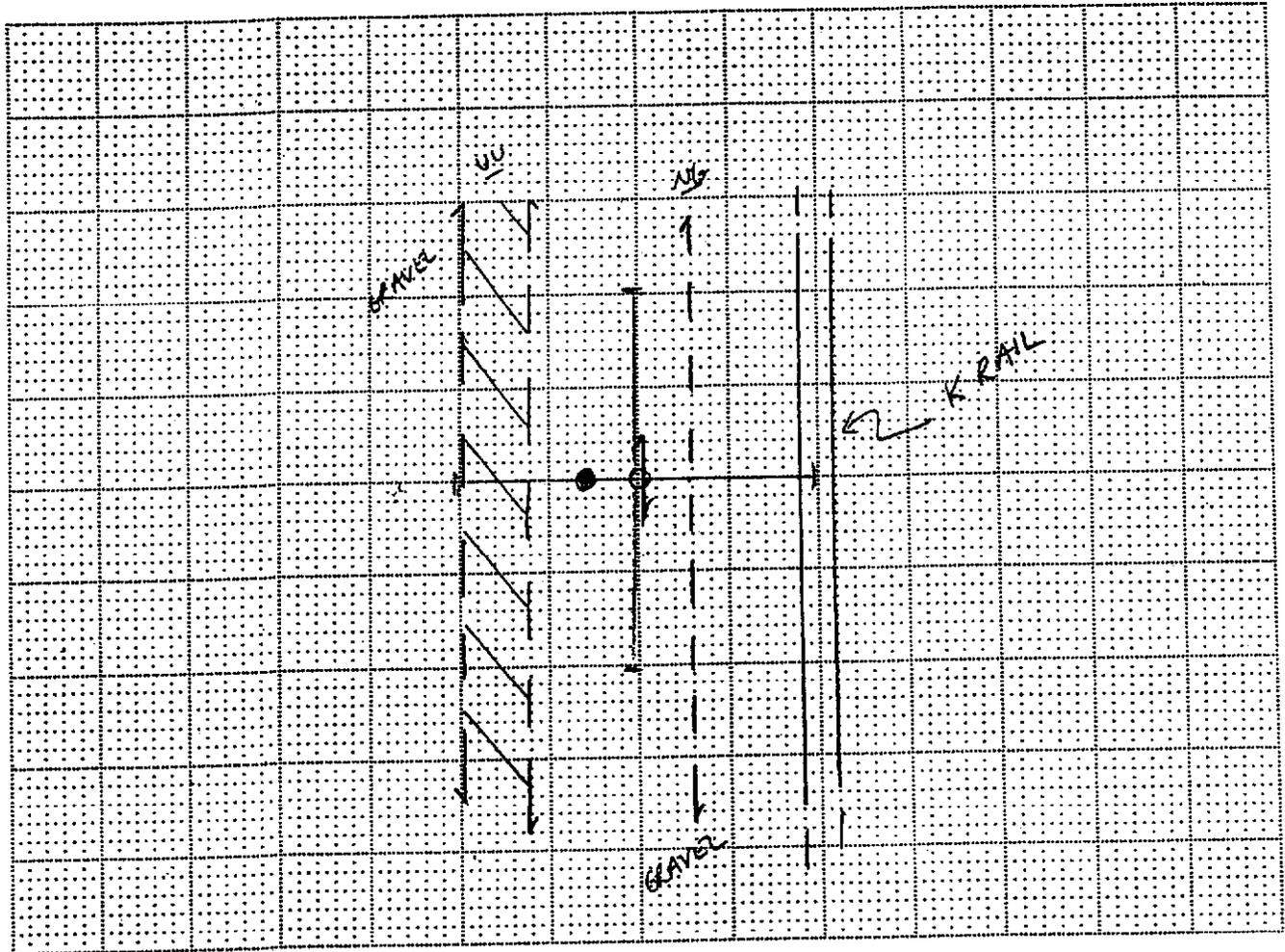
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: AFV002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ - NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- ✓ - UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- ✓ - Soil
- ✓ - Gravel
- other

NOTES

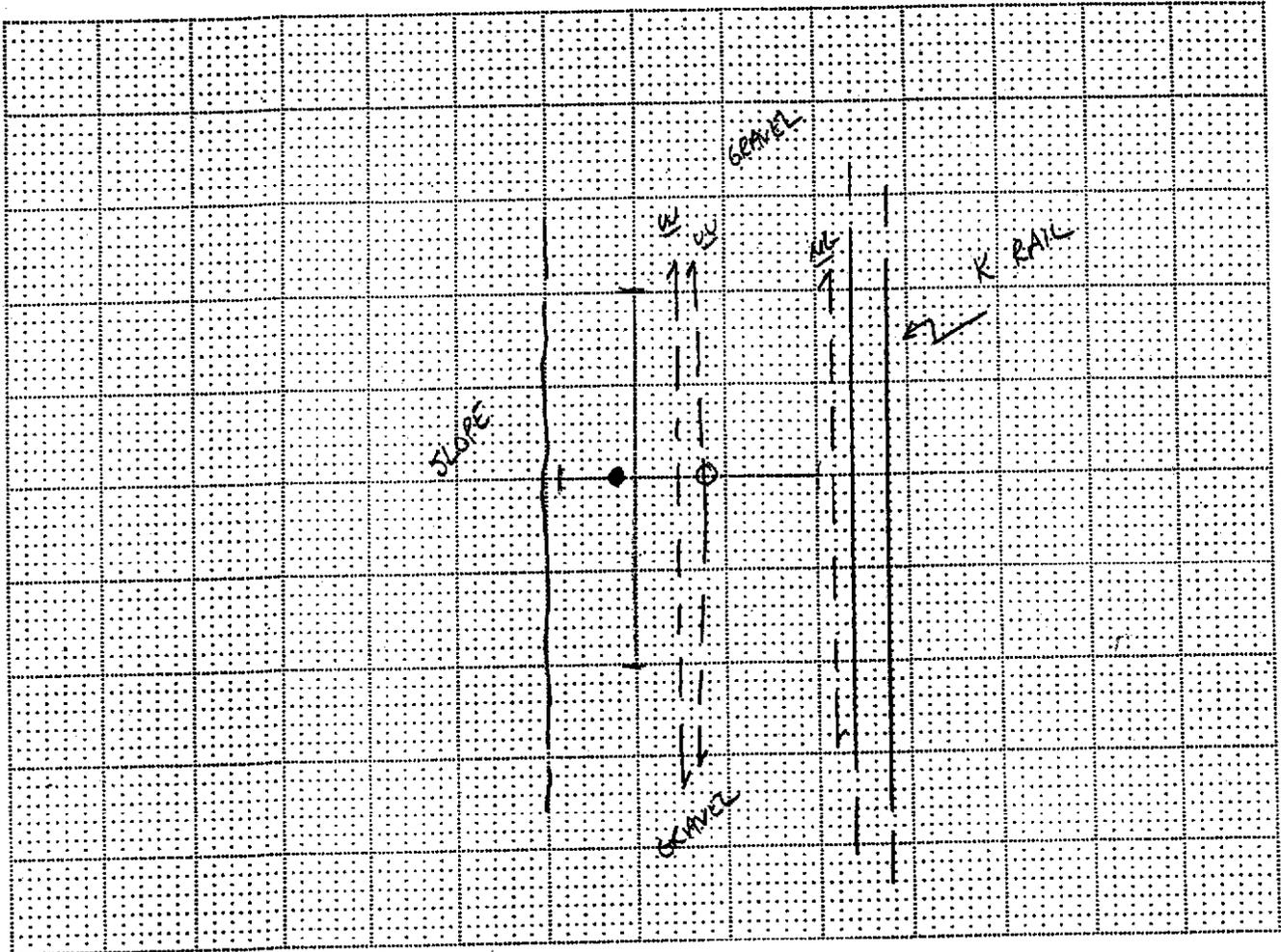
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| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| - M Scope | - Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04

CLIENT: BCL
 LOCATION: BENICIA
 BORING: AFVSB003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|— GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- ✓ W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- ✓ Soil
- Gravel
- other

NOTES

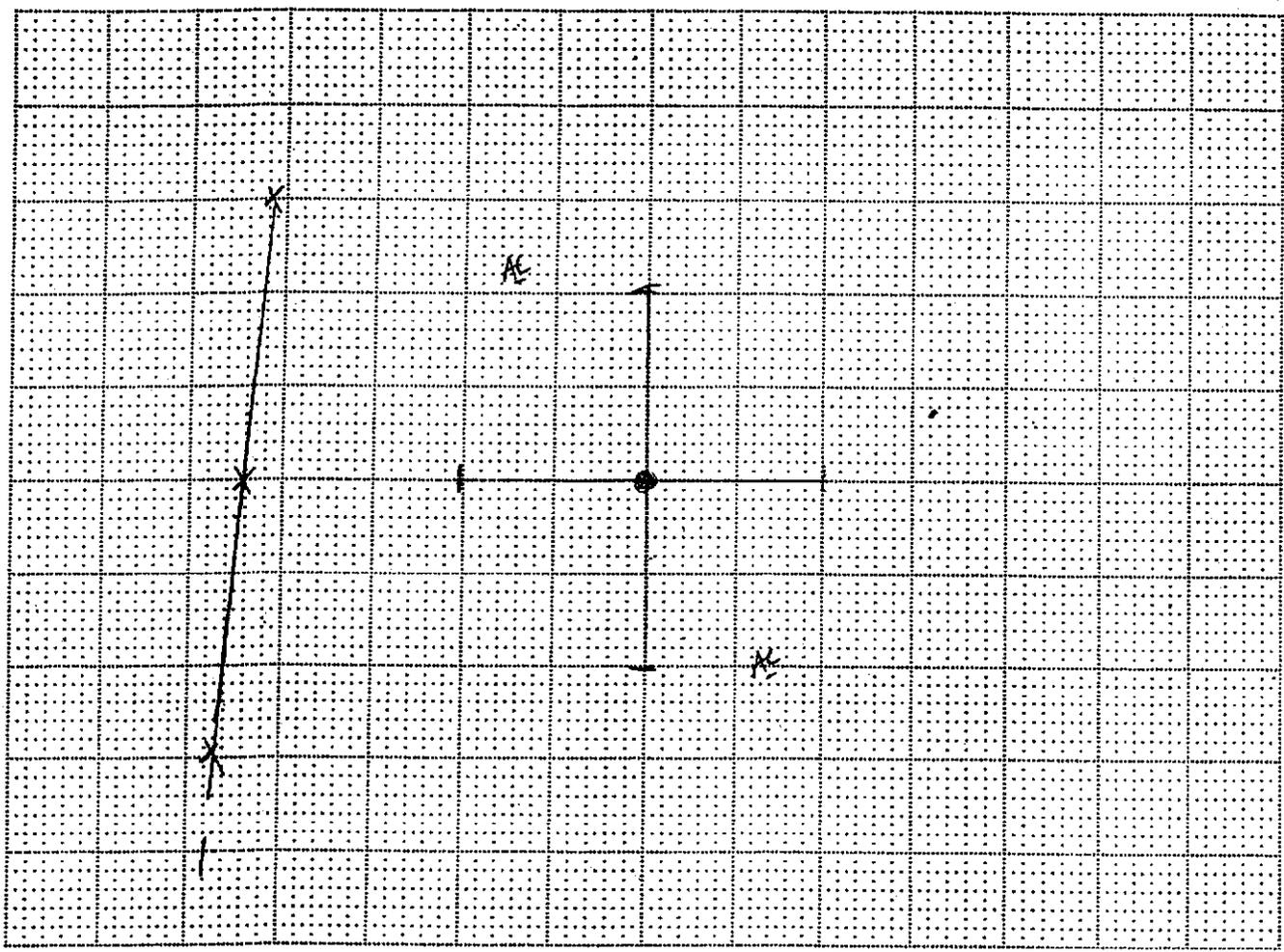
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|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | - GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04

CLIENT: BIC
 LOCATION: BOVICIA
 BORING: OS29HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |— GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- ✓ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB

CLIENT: B+C

JOB: DATE: 4-27-04

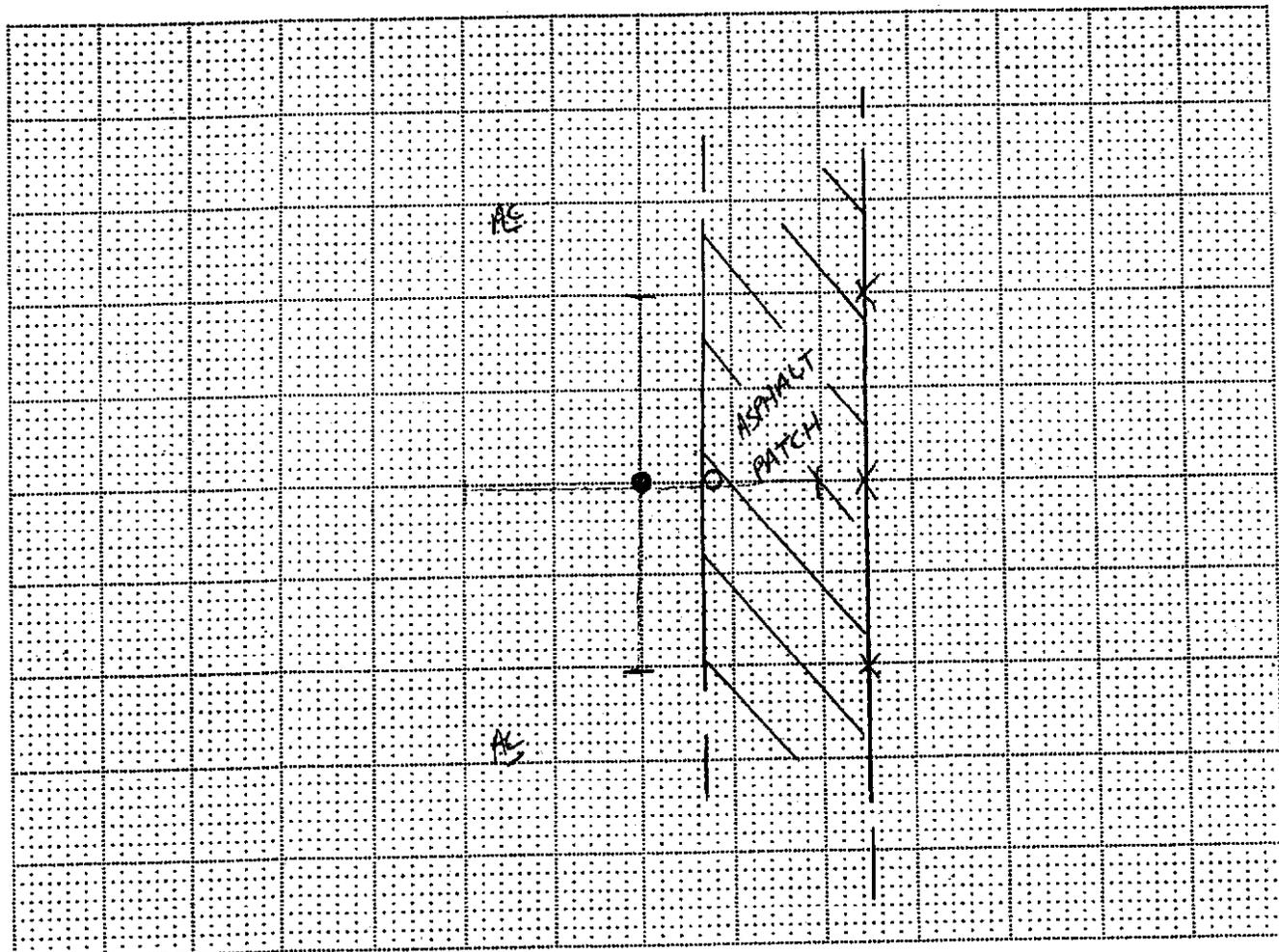
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: P0001HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

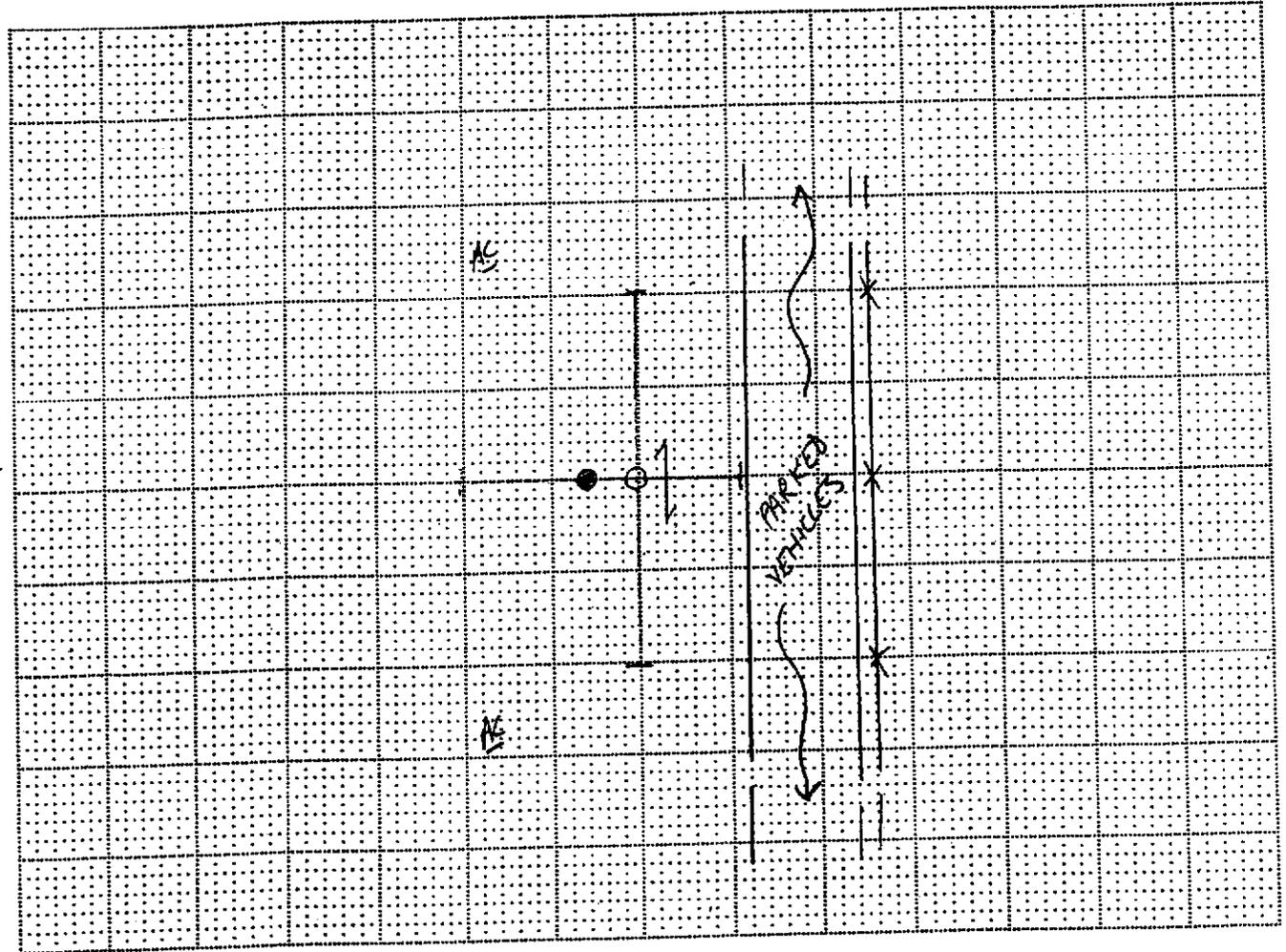
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: P0001 HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

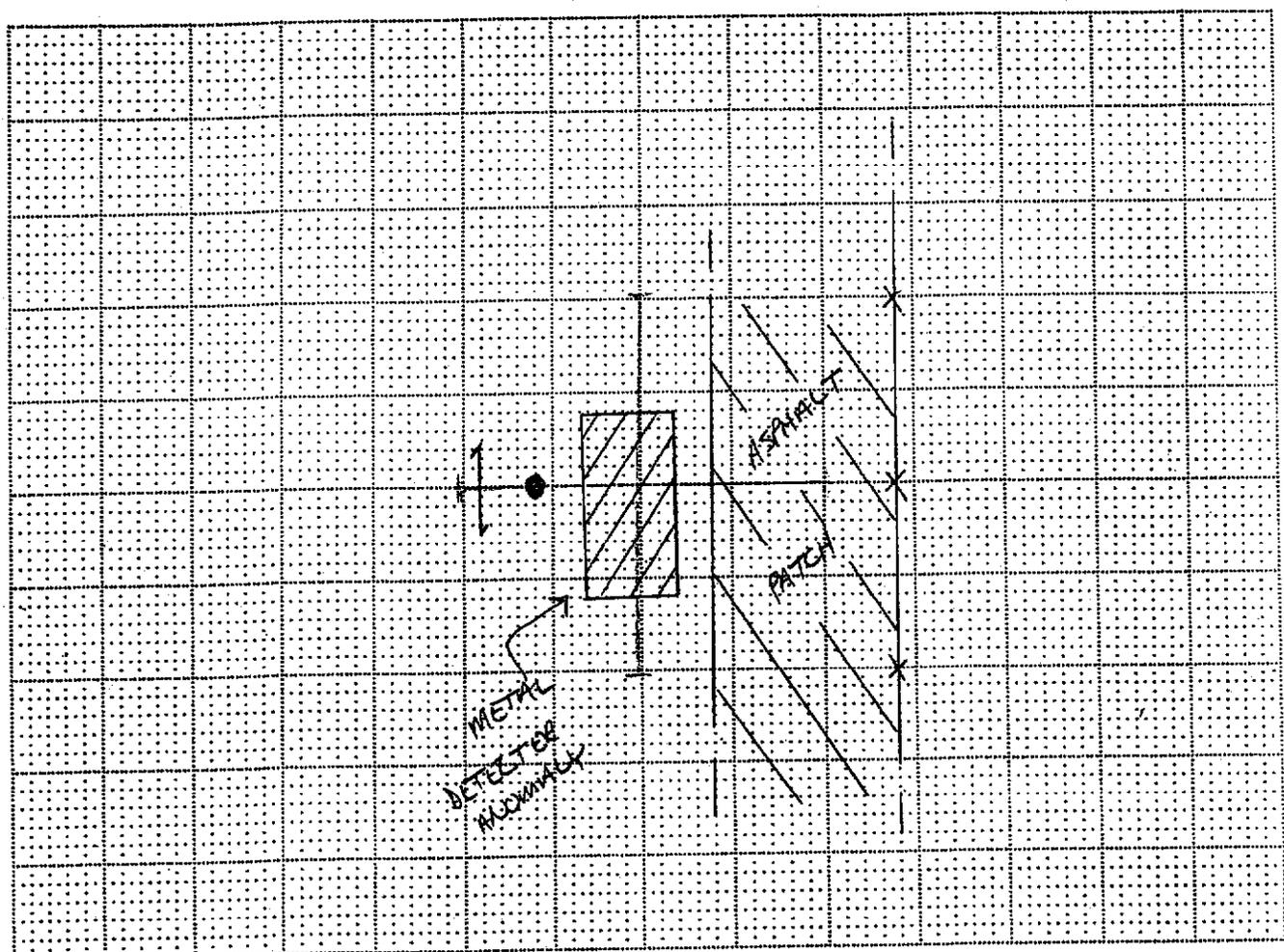
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 OB: DATE: 4-27-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: PD001 HP003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

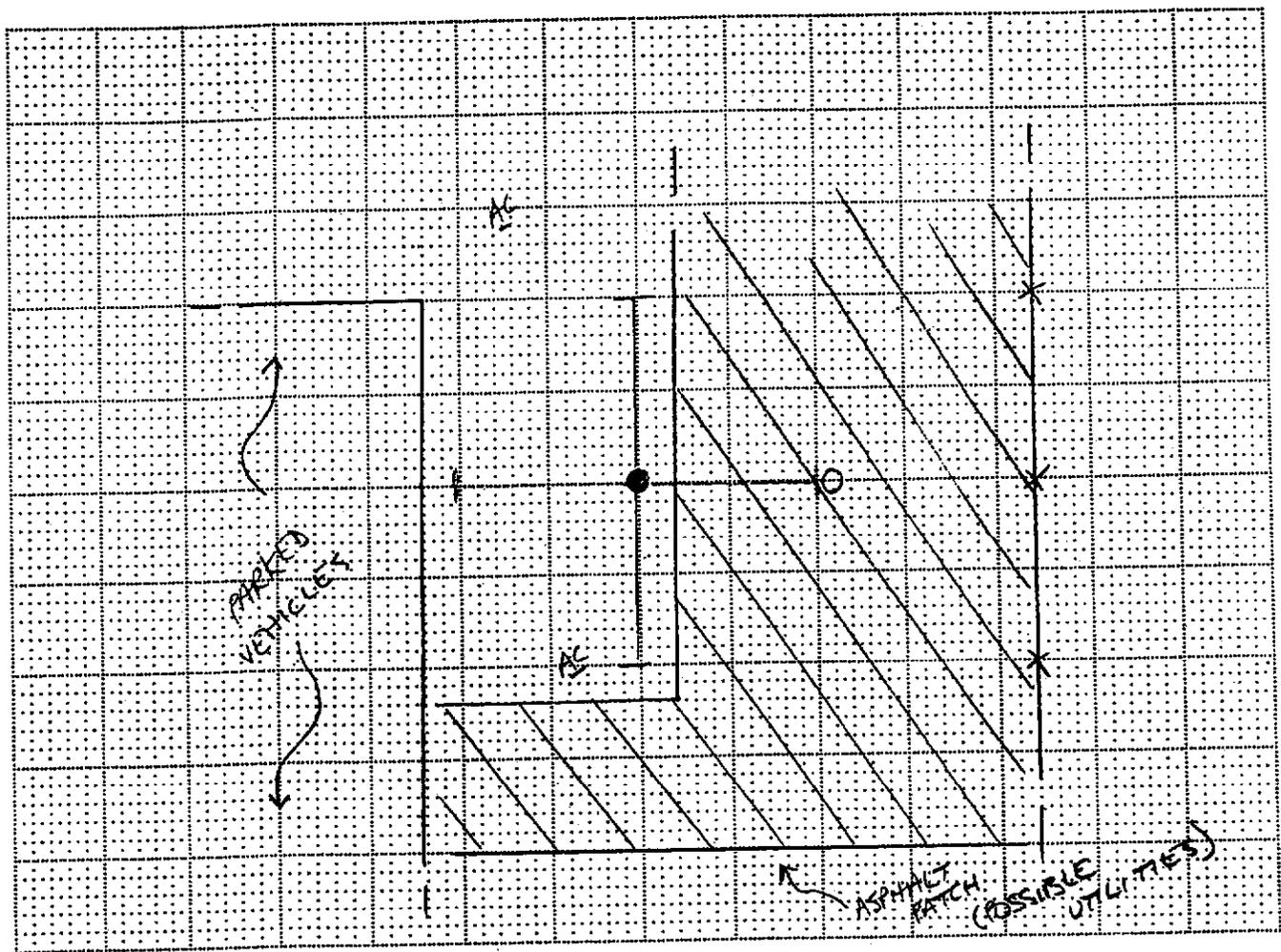
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B+C
 LOCATION: BENICIA
 BORING: PD001HP004



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephones, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

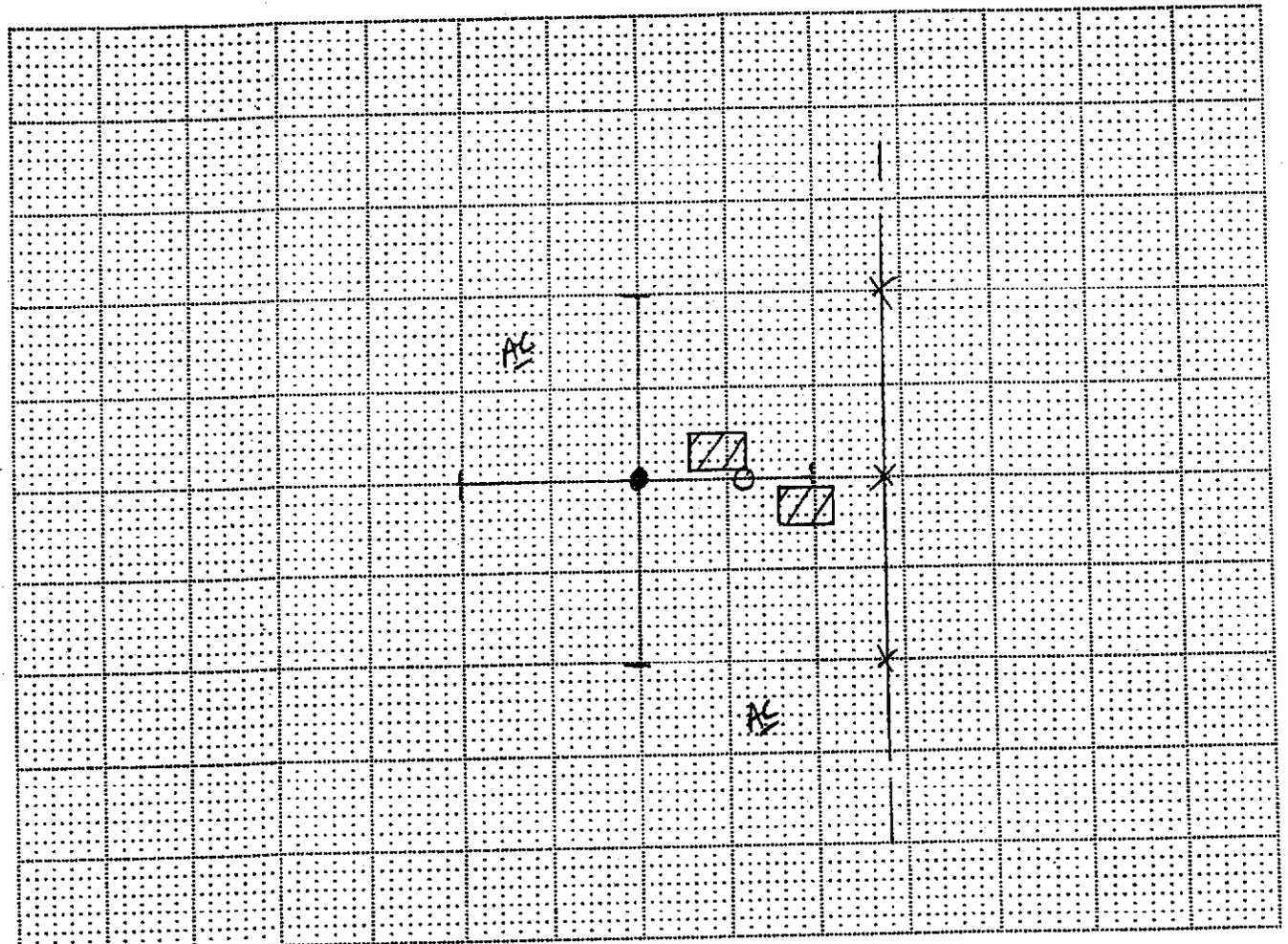
Equipment:	Procedure:	Surface Conditions:
✓ GPR (Radar)	- EMC (Conduction)	- Wet
✓ RD 400	✓ EMI (Induction)	- Dry
✓ M Scope	✓ Ambient	- other
- other	- GPR	

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: PD001HP005



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

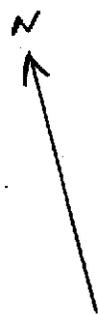
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: BJK TB

CLIENT: B & C

OB: DATE: 4-27-04

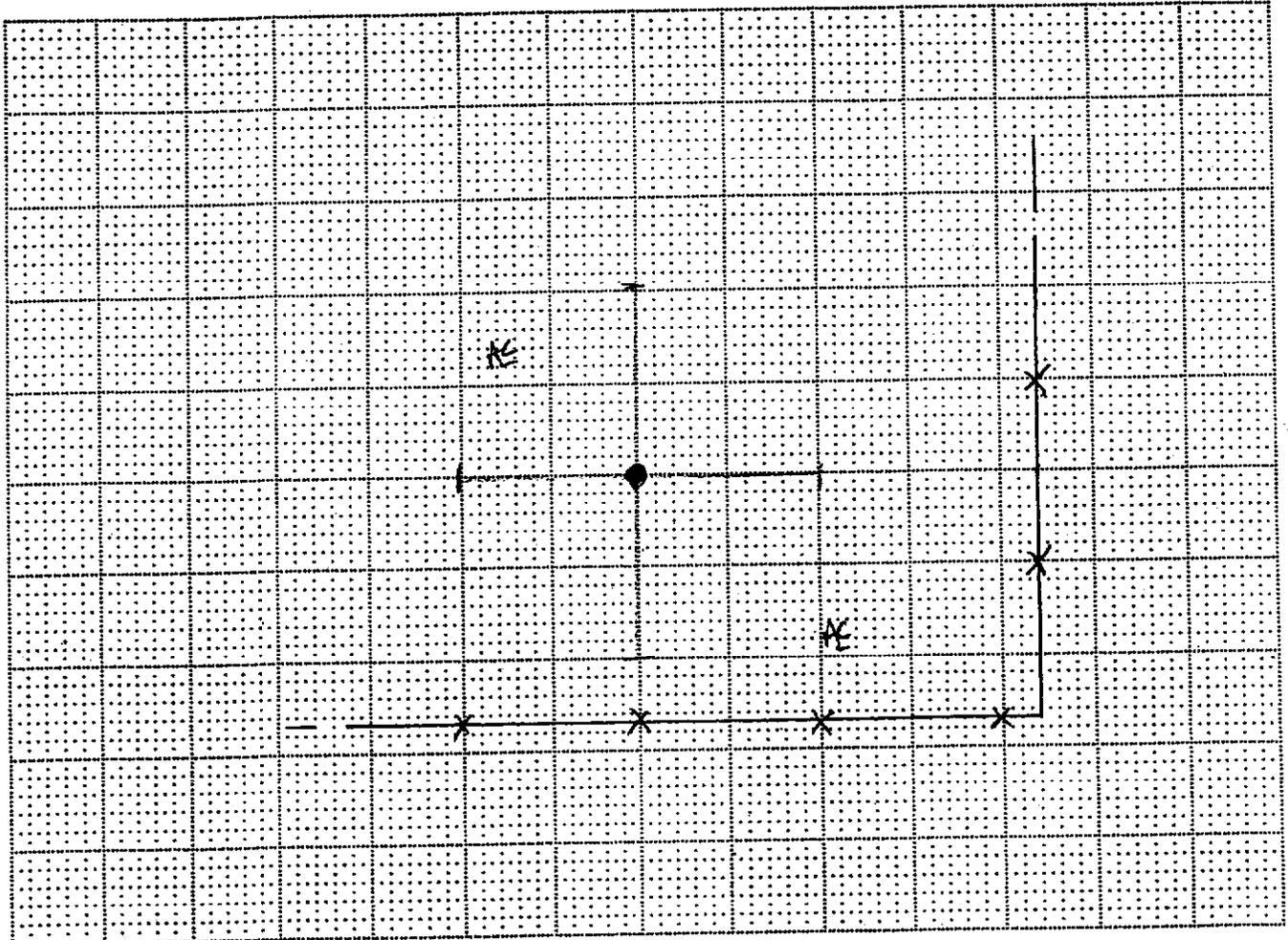
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: PD0014P006



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

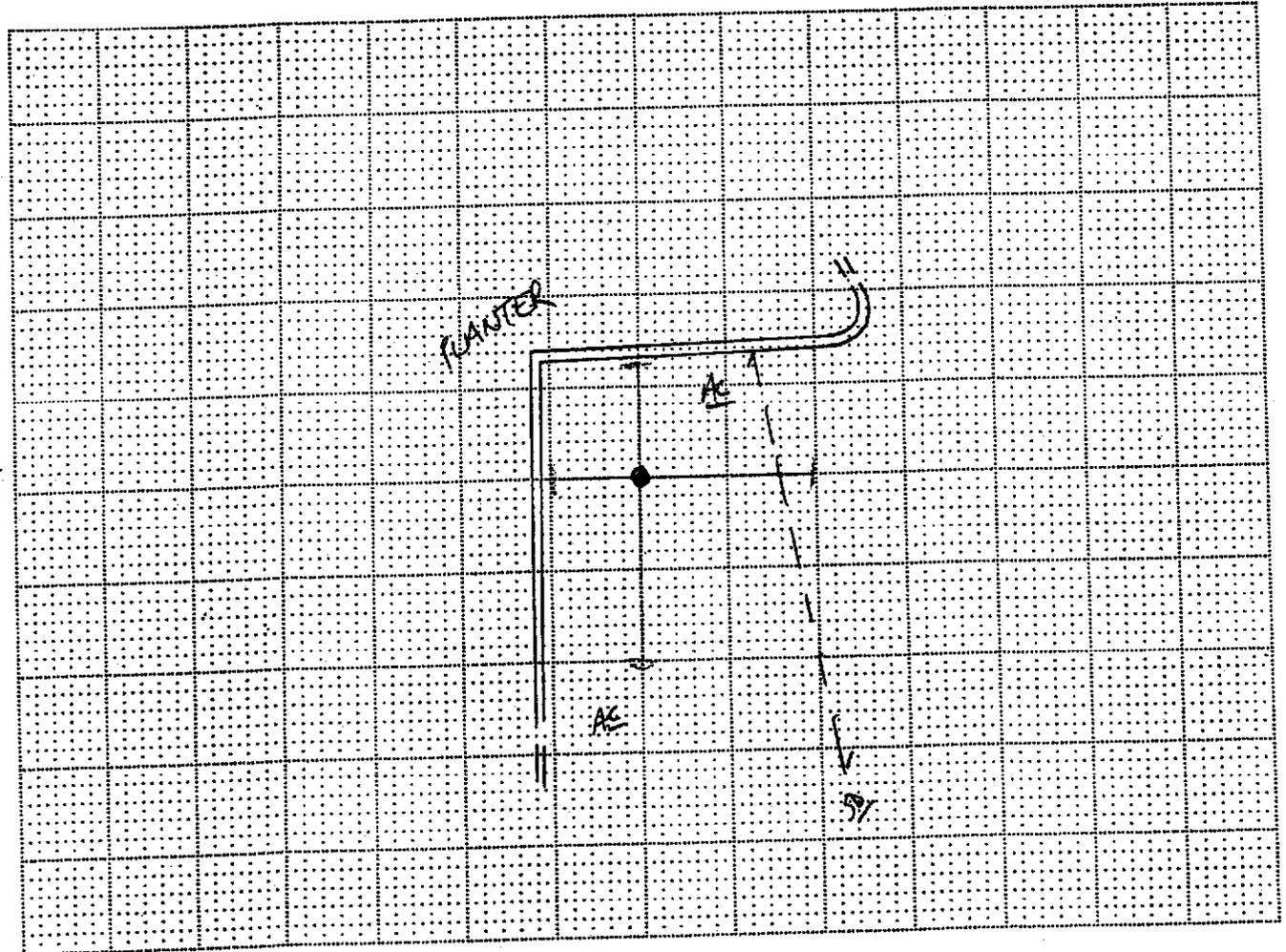
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 OB: DATE: 4-27-04

CLIENT: BSL
 LOCATION: BENICIA
 BORING: FS003HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB

CLIENT: BIC

JOB: DATE:

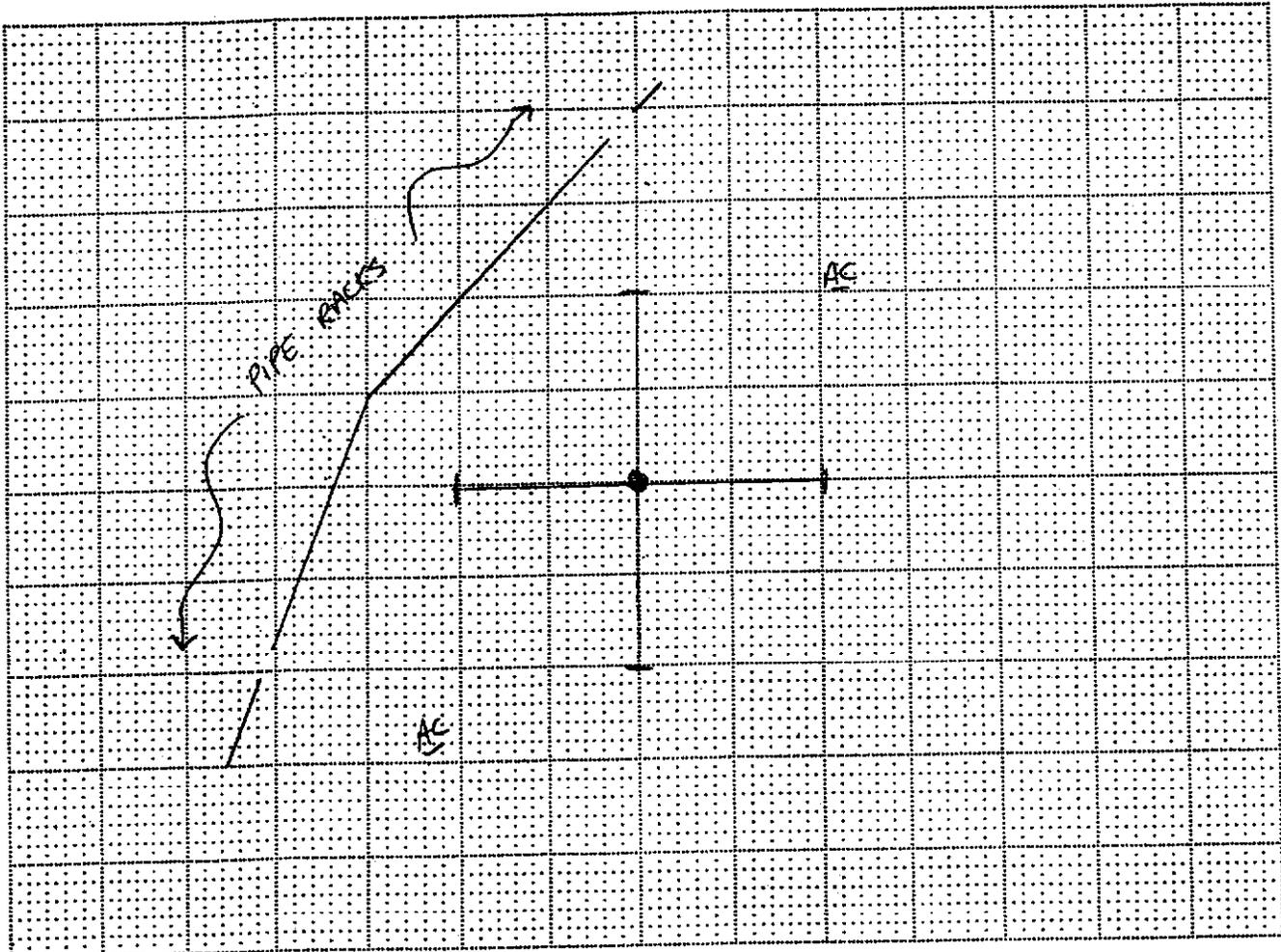
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: FS003HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|—| GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS

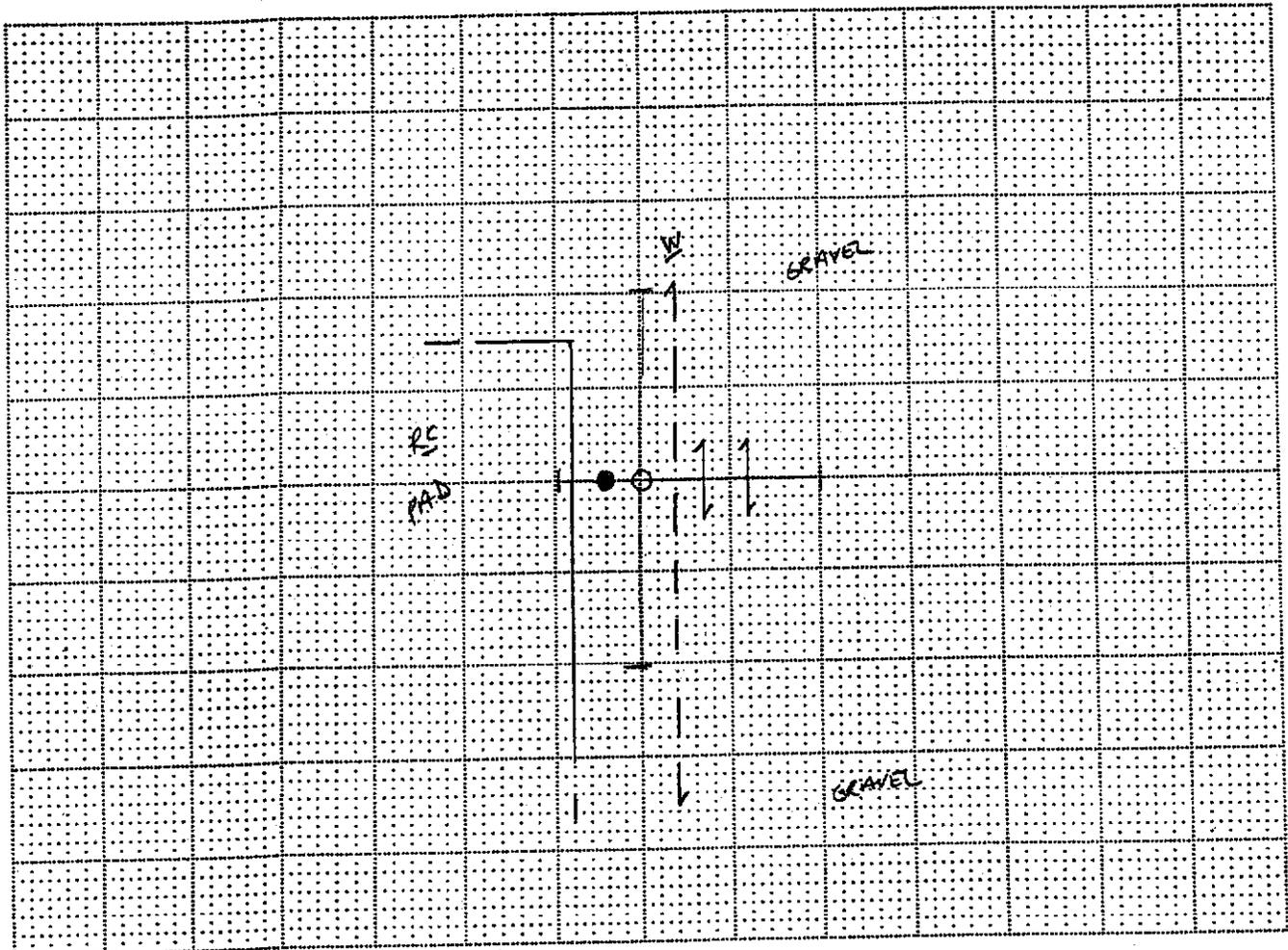


PERSONNEL: DJK TB
 JOB: DATE: 4-27-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: TO73HP001

NORCAL

GEO PHYSICAL
 CONSULTANTS
 INC.



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

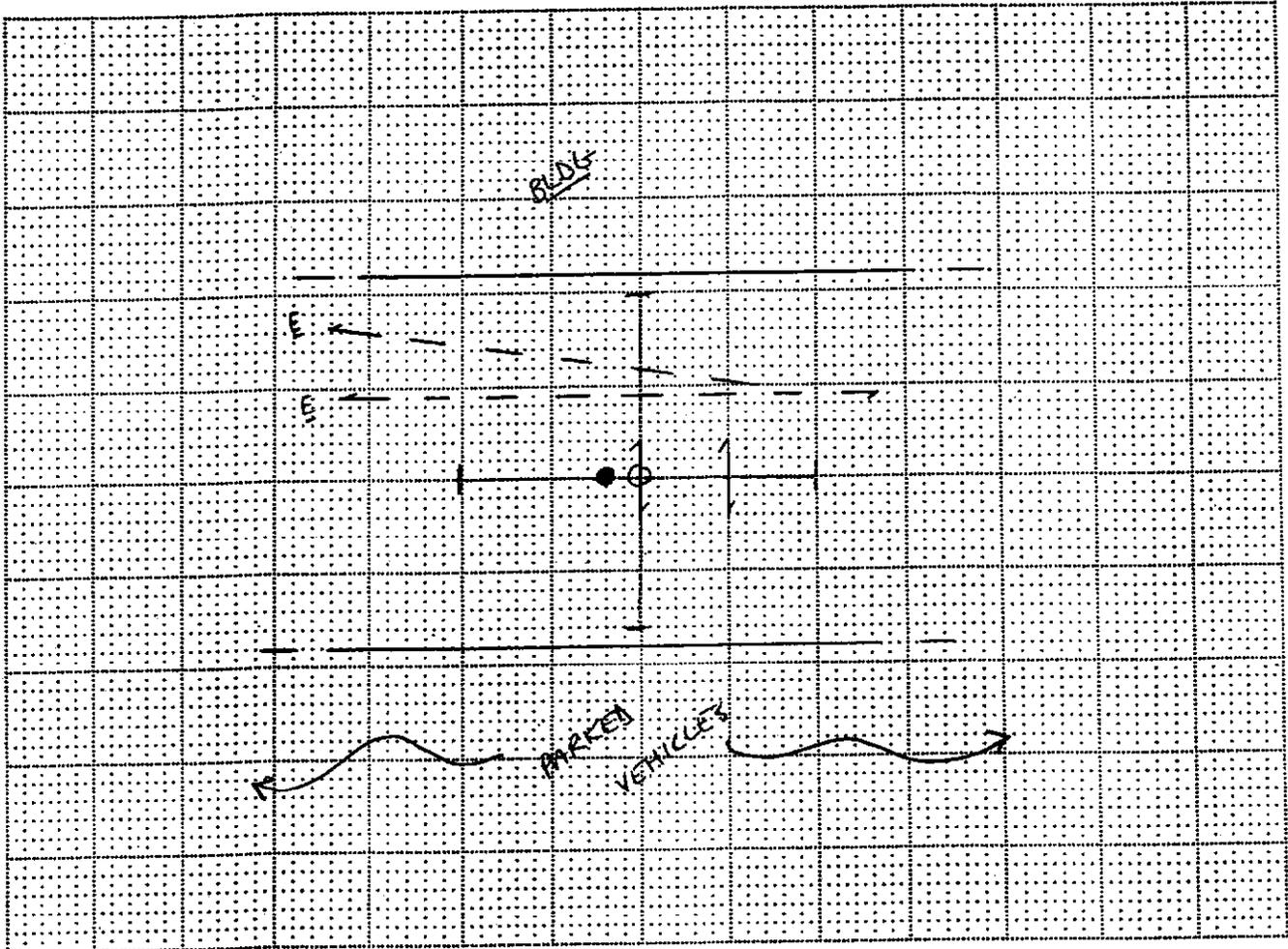
NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> BD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS

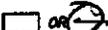


PERSONNEL: DJK TB	CLIENT: B ^c C
JOB:	DATE: 4-27-04
	LOCATION: BENICIA
	BORING: B172HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

-  (Telephone, Comm.)
-  E (Electric)
-  NG (Natural Gas)
-  CA (Compressed Air)
-  STM (Steam)
-  SS (Sanitary Sewer)
-  SD (Storm Drain)
-  W (Water)
-  FS (Fire Suppression)
-  UU (Undifferentiated Utility)

Surface

-  RC (Reinforced Concrete)
-  AC (Asphalt)
-  C (Concrete)
-  Soil
-  Gravel
-  other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB

CLIENT: BSC

DATE: 4-27-04

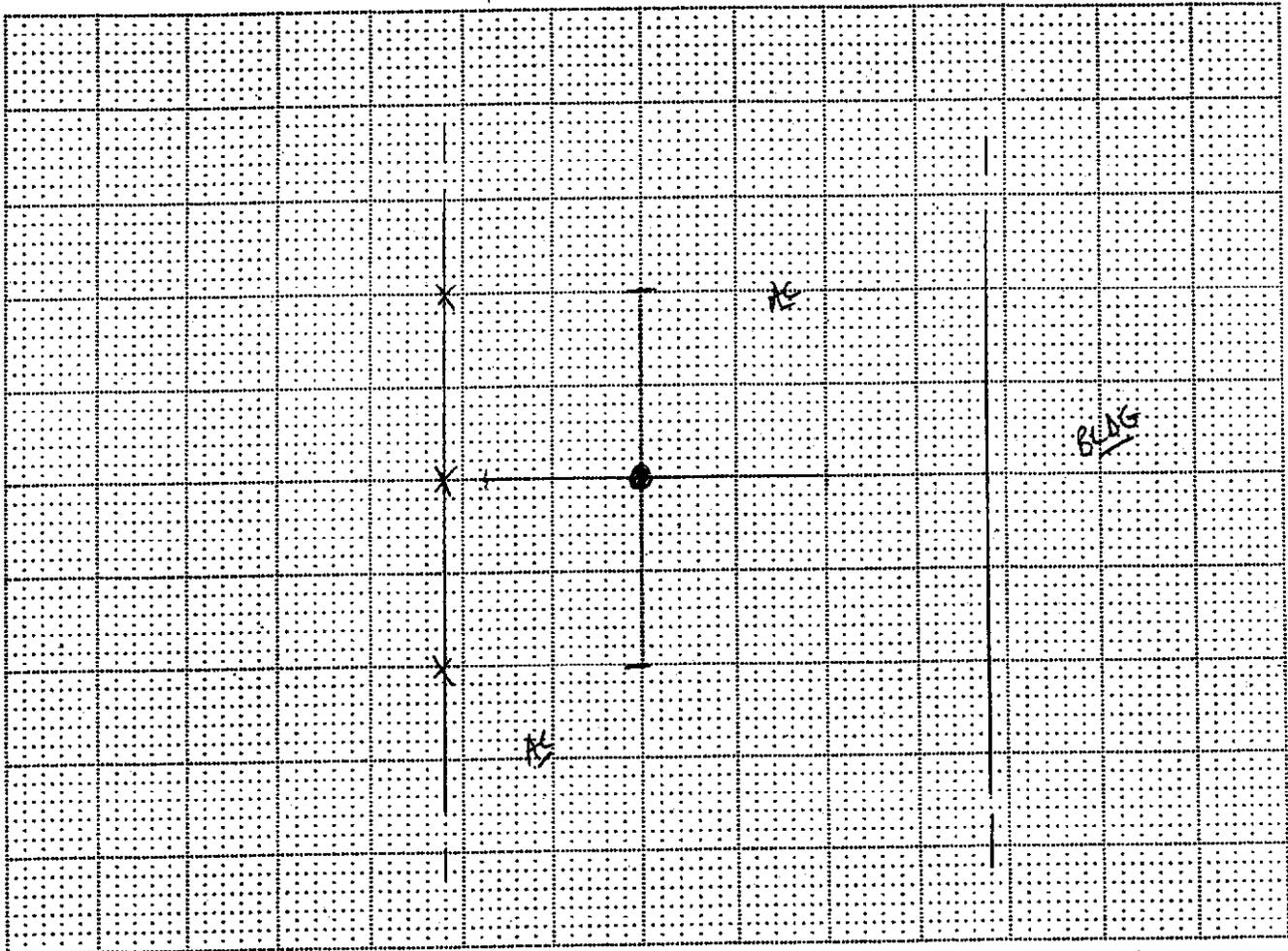
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: T222HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|— GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

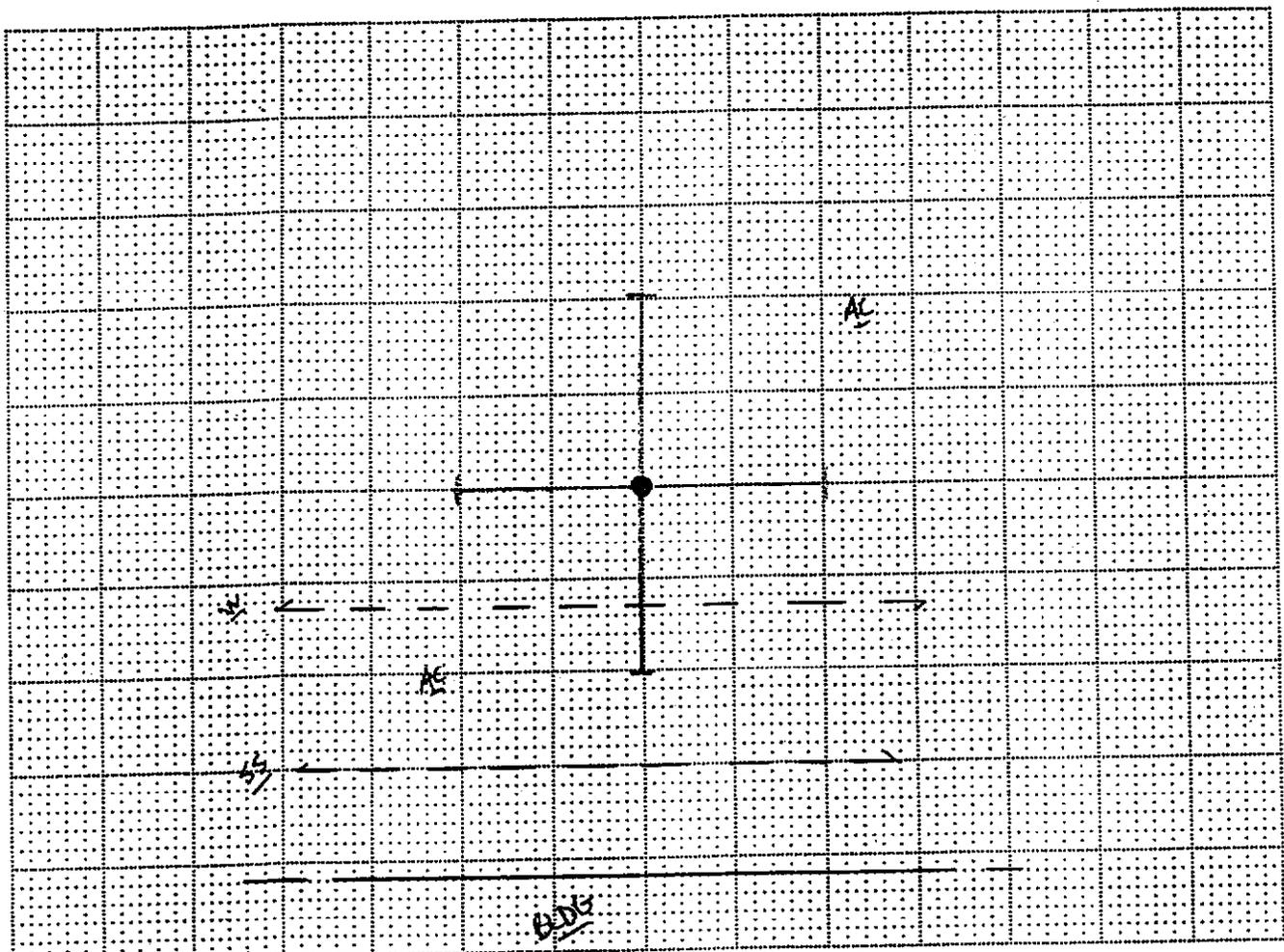
- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | - EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-27-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BTC
 LOCATION: BENICIA
 BORING: B171HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK T6

CLIENT: B'c

OB: DATE: 4-28-04

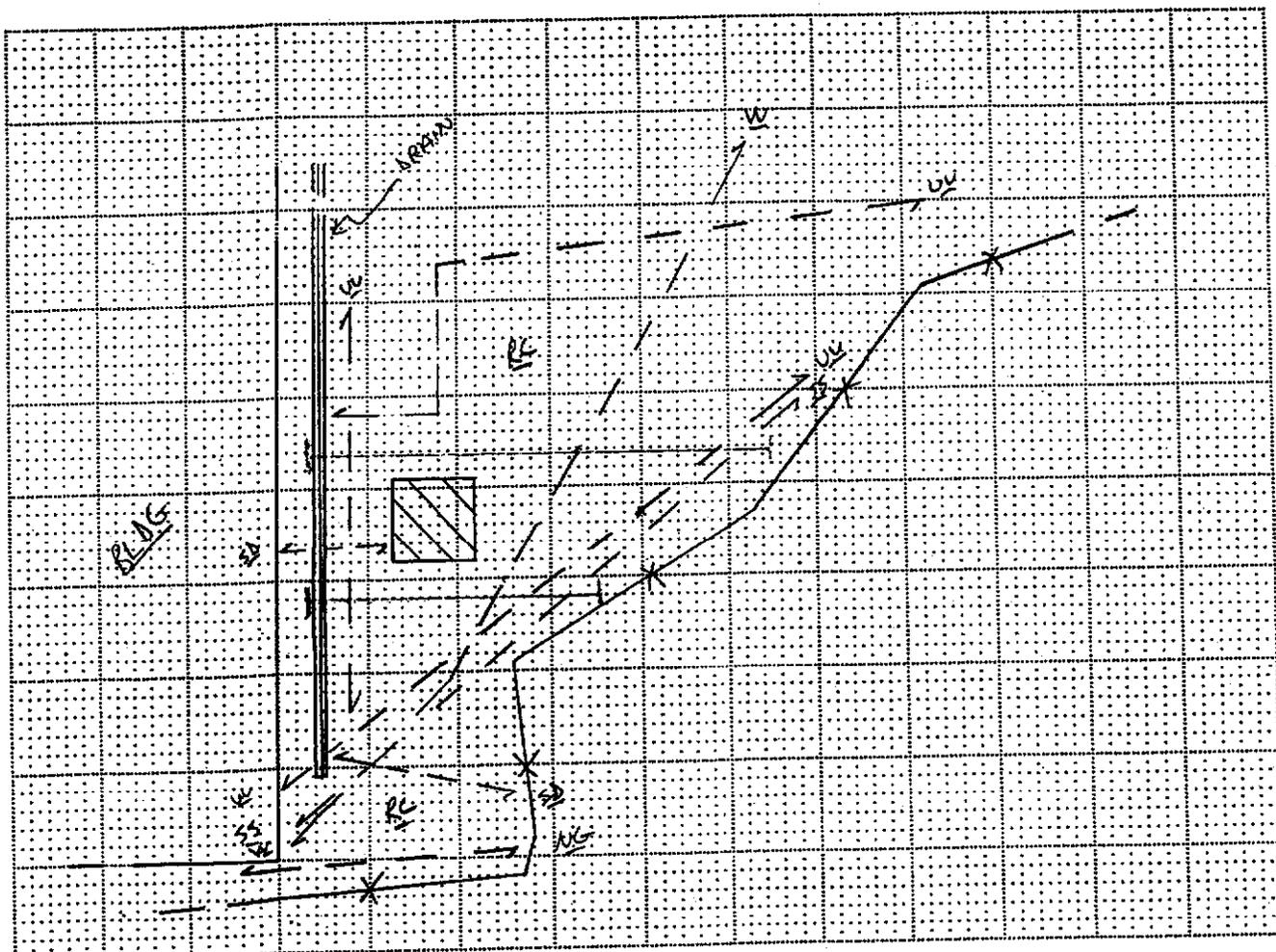
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: B093HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- ✓ SD (Storm Drain)
- ✓ W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- ✓ RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS

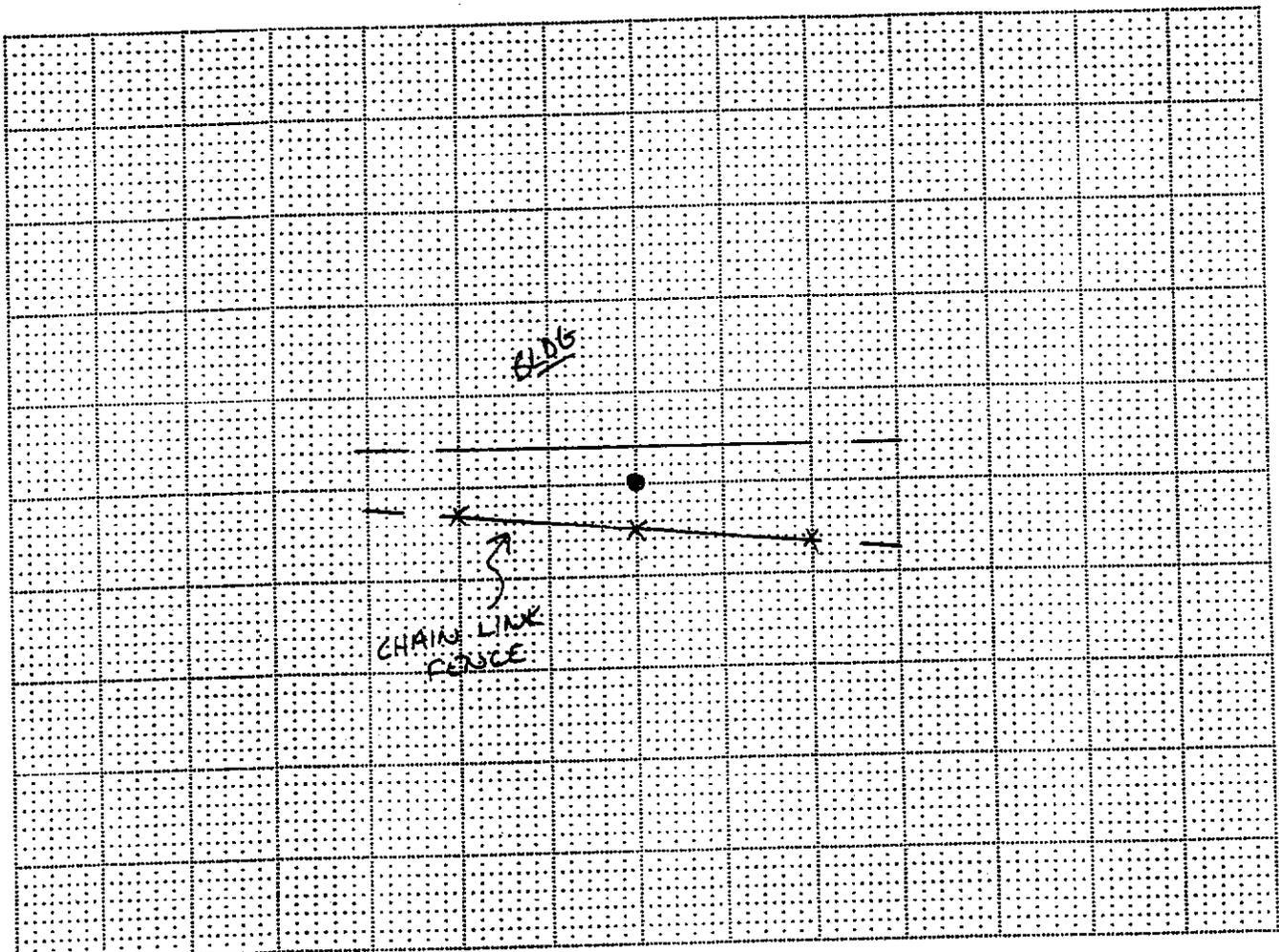


CONCRETE FILLED CATCH BASIN



PERSONNEL: DJK TB
 JOB: DATE: 4-28-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B+C
 LOCATION: BENICIA
 BORING: B051HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- ✓ Soil
- Gravel
- other

NOTES

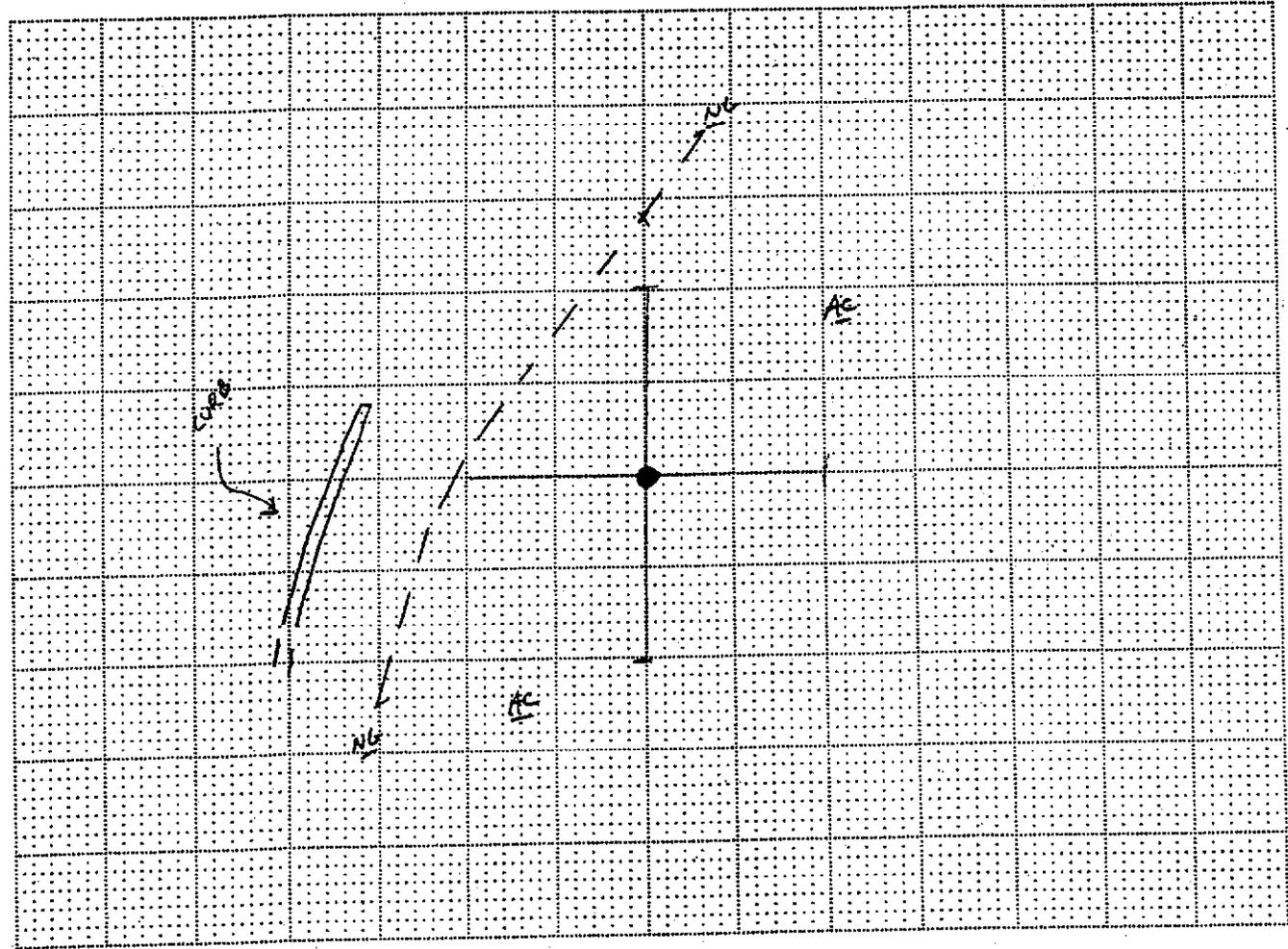
Equipment:	Procedure:	Surface Conditions:
- GPR (Radar)	- EMC (Conduction)	- Wet
✓ RD 400	- EM (Induction)	✓ Dry
- M Scope	✓ Ambient	- other
- other	- GPR	

REMARKS


 LIMITED ACCESS PRECLUDED
 USE OF GPR.
 MAGNETIC INTERFERENCE
 FROM METAL BLDG. & FENCE
 PRECLUDES USE OF
 METAL DETECTOR.

PERSONNEL: DJK JB
 DATE: 4-22-04

CLIENT: BROWAY & CALDWELL
 LOCATION: BENICIA
 BORING: CL2HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | - Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB

CLIENT: B+C

JOB: DATE: 4-22-04

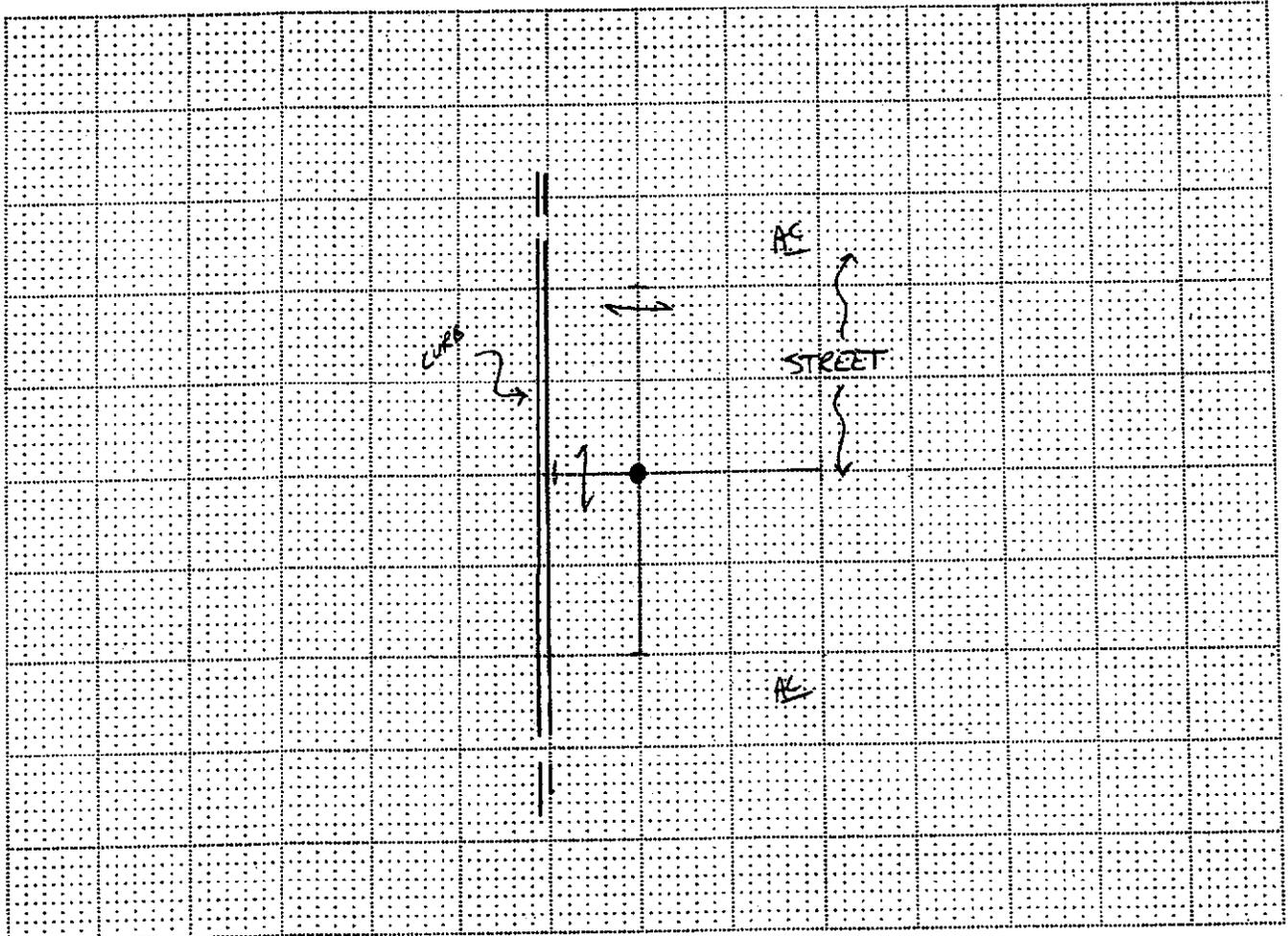
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: WAIHP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|—| GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

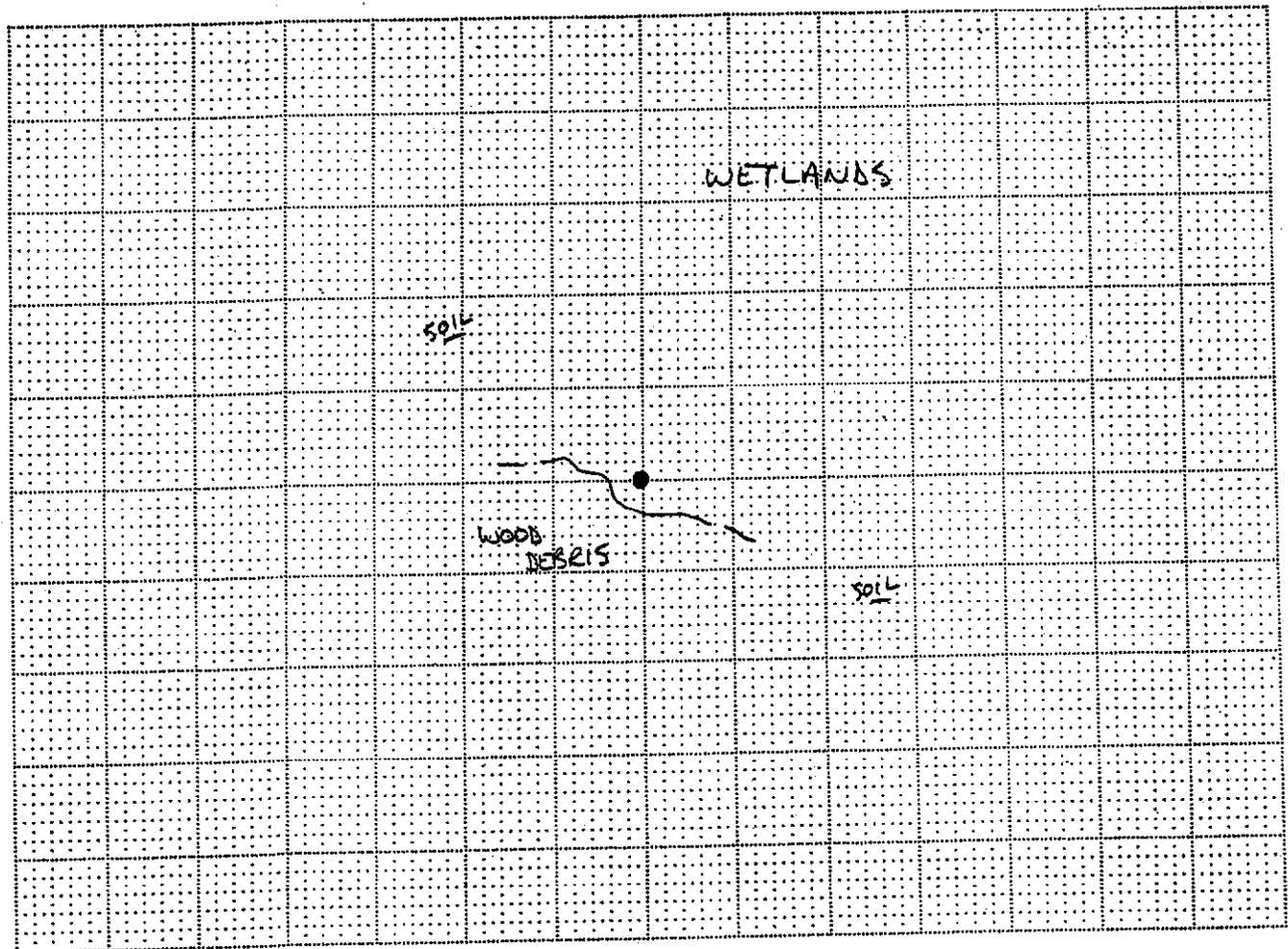
NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB		CLIENT: BIC
JOB:	DATE: 7-22-04	LOCATION: BENICIA
NORCAL GEOPHYSICAL CONSULTANTS INC. 		BORING: ODD1HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

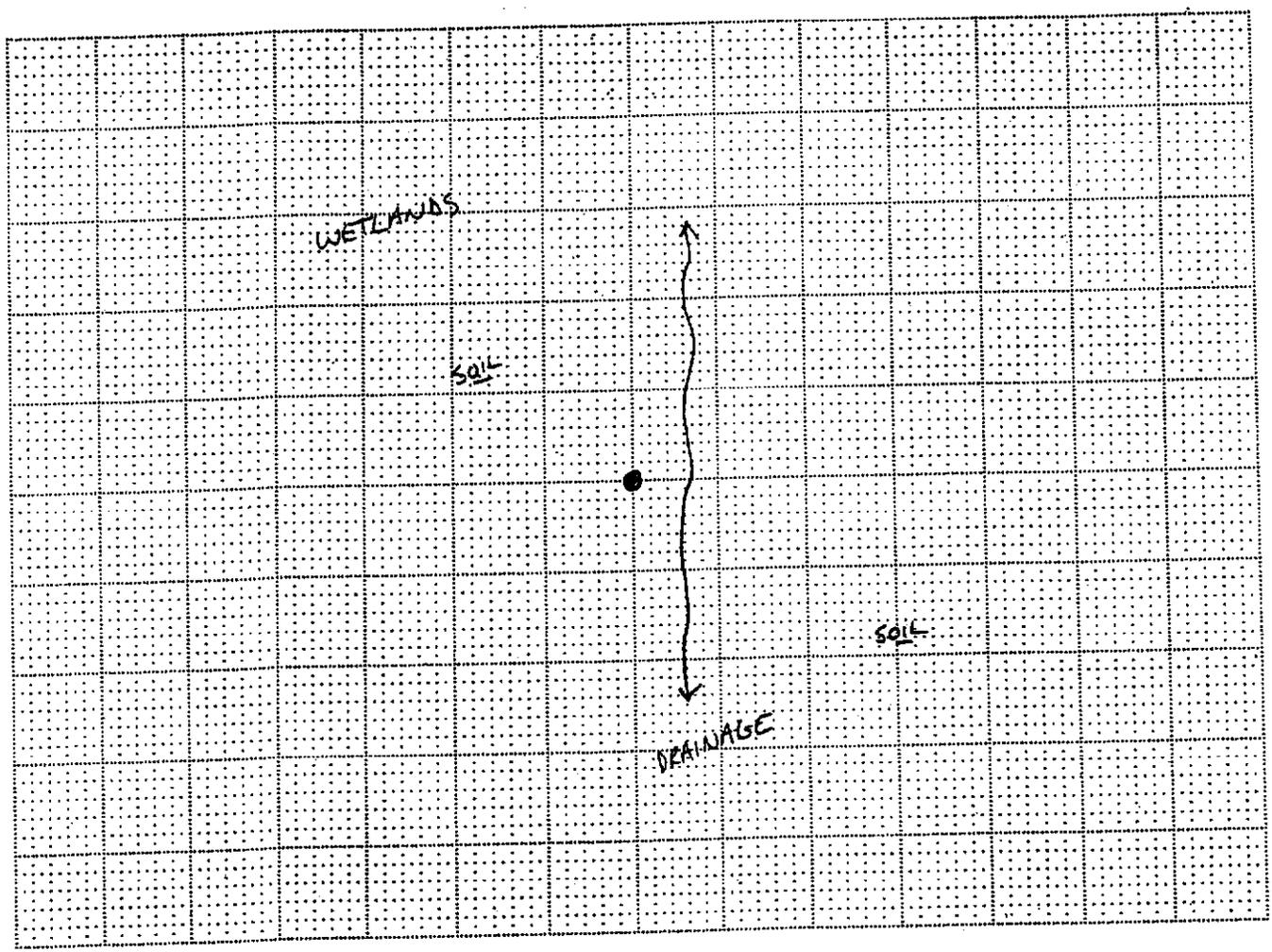
Equipment:	Procedure:	Surface Conditions:
- GPR (Radar)	- EMC (Conduction)	- Wet
✓ RD 400	✓ EMI (Induction)	✓ Dry
✓ M Scope	✓ Ambient	- other
- other	- GPR	

REMARKS

N
↑
LIMITED SITE ACCESS
PRECLUDED USE OF
GPR.

PERSONNEL: DJK JB
 OB: DATE: 4-22-04

CLIENT: b+c
 LOCATION: BENICIA
 BORING: 0D01HP00Z



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| - GPR (Radar) | - EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | - Ambient | - other |
| - other | - GPR | |

REMARKS

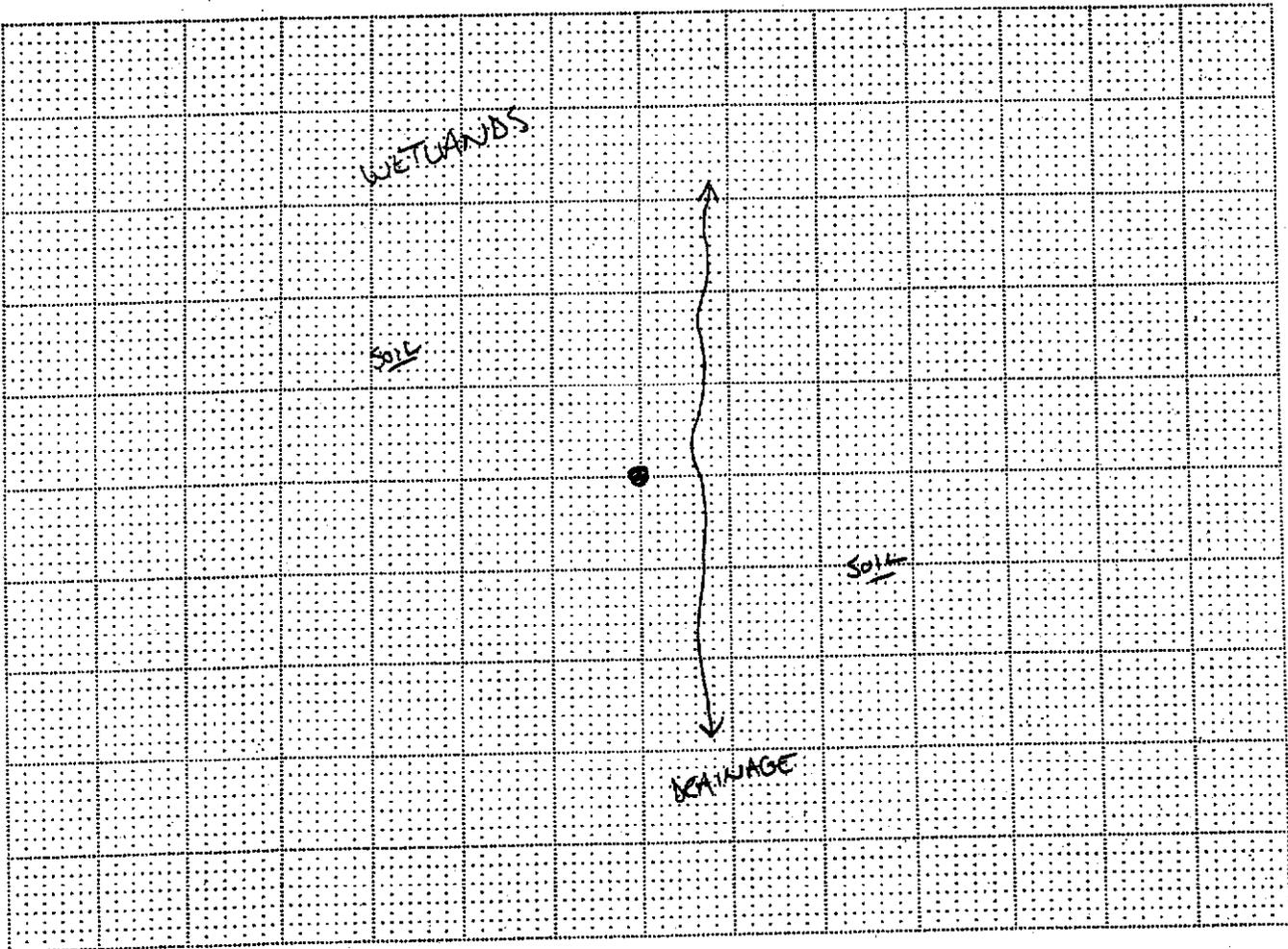
LIMITED SITE ACCESS
 PRECLUDED USE OF
 GPR

PERSONNEL: DJK JB
 JOB: DATE: 4-22-04

CLIENT: BFC
 LOCATION: BENICIA



BORING: 0DD1HP003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| - GPR (Radar) | - EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | - GPR | |

REMARKS

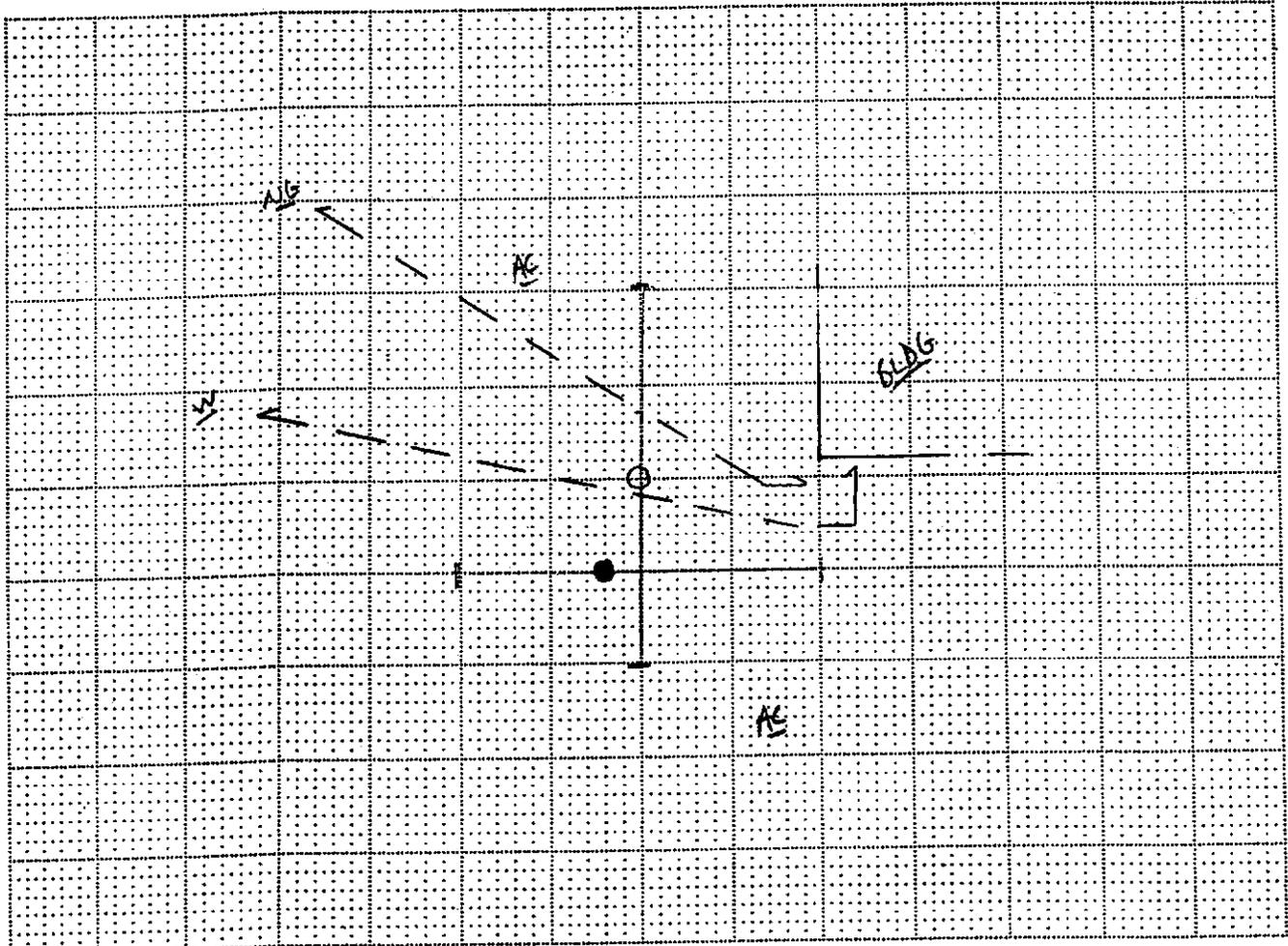
LIMITED SITE ACCESS
 PRECLUDED USE OF
 GPR

PERSONNEL: BJK TB
 JOB: DATE: 4-26-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: SWAMP AHP001

NORCAL

GEO PHYSICAL
 CONSULTANTS
 INC.



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- ✓ W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

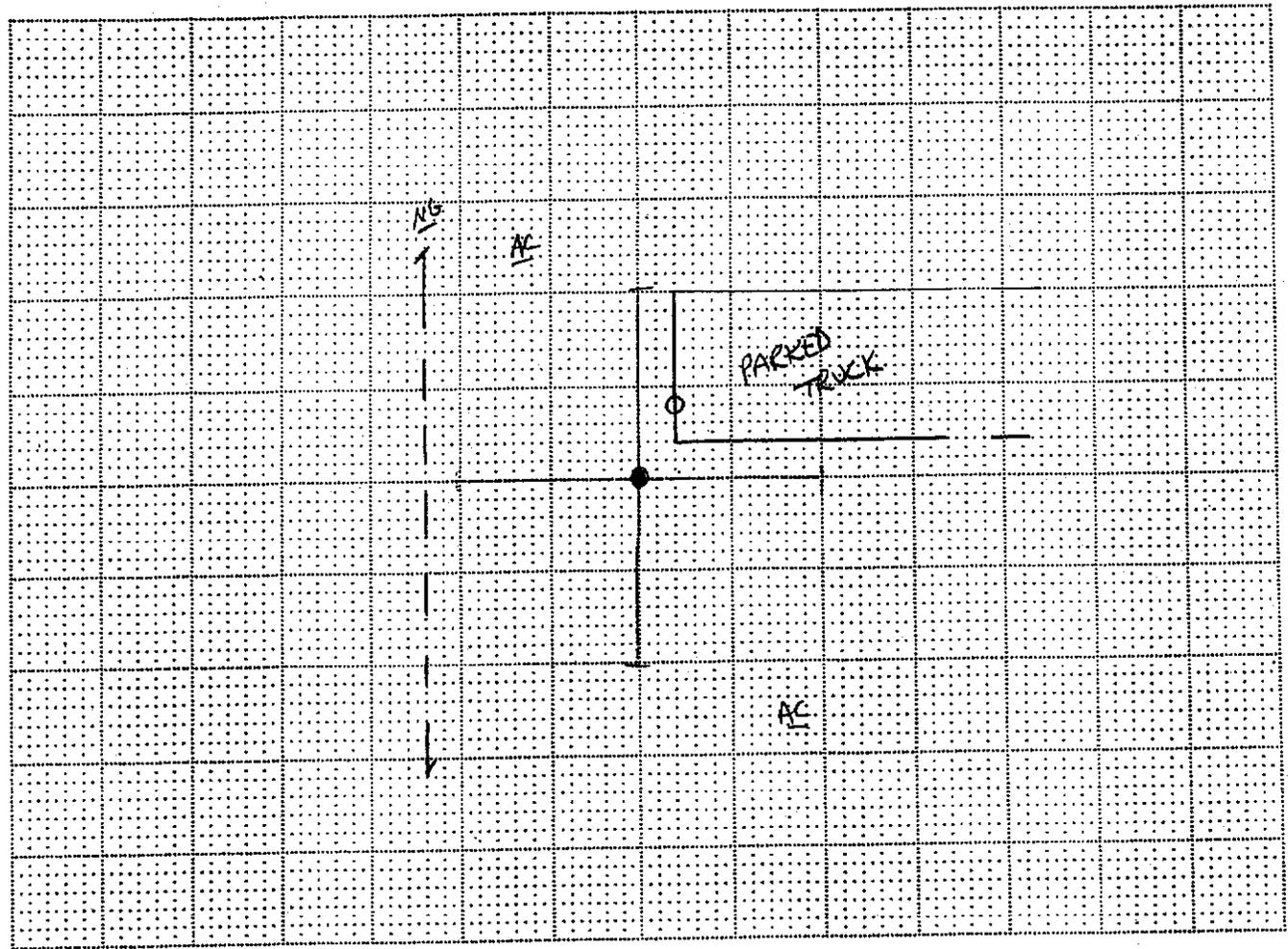
- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: BCC
 LOCATION: BENICIA
 BORING: SWAMPAHP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

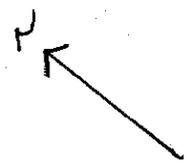
Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

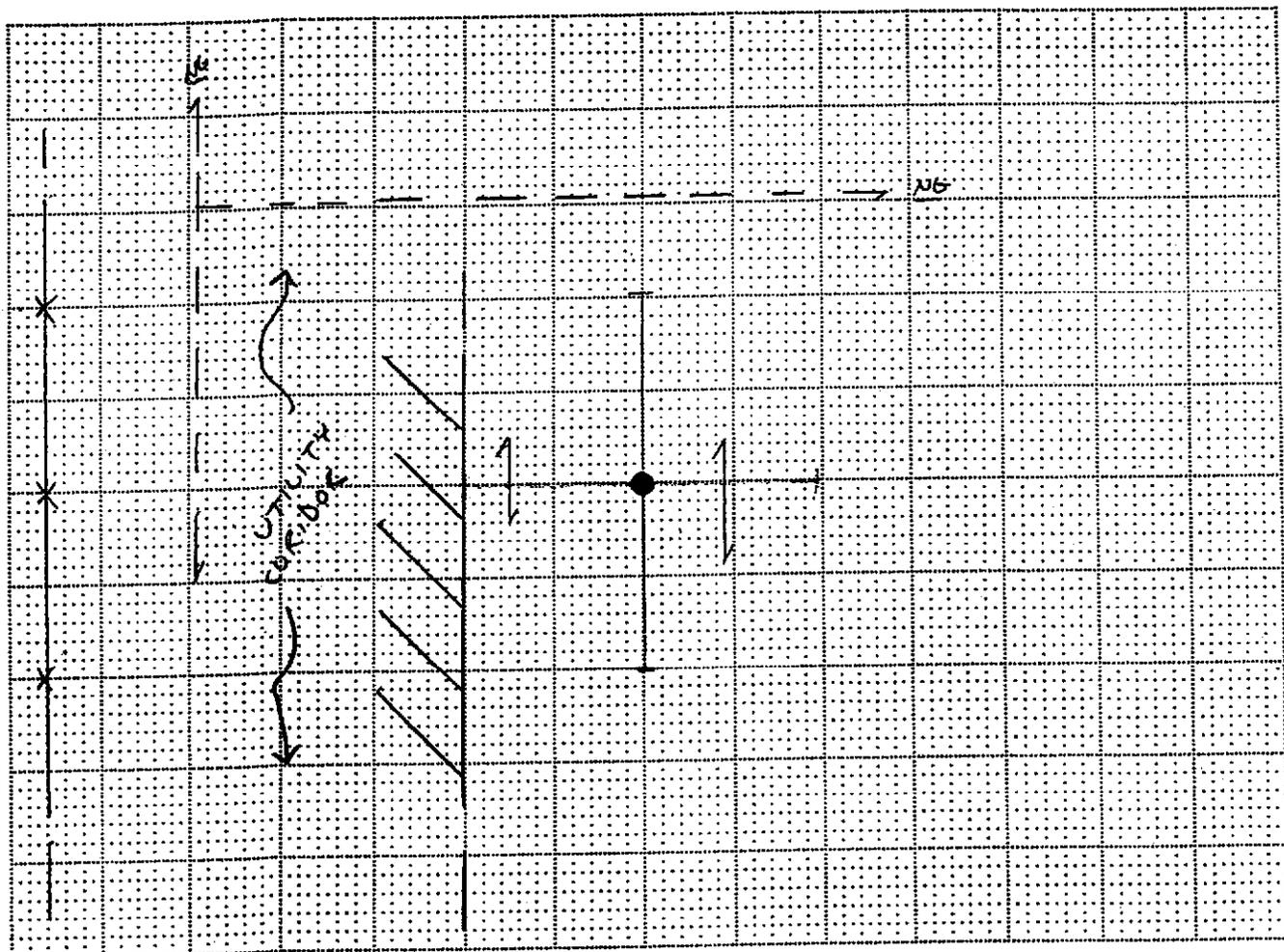
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | - Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-28-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: SWAMPATH003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

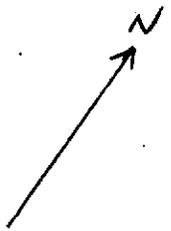
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

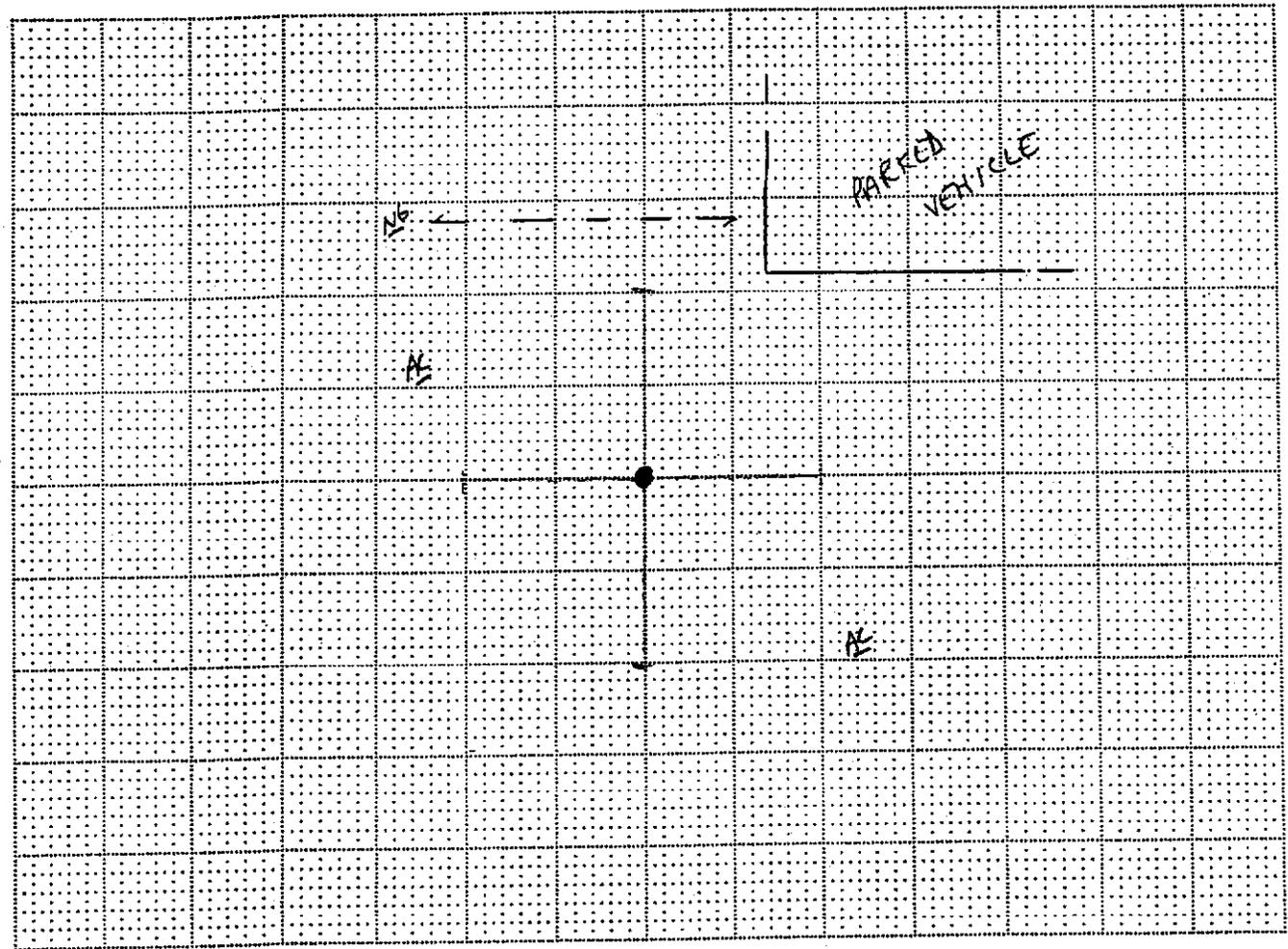
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|---|--|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input checked="" type="checkbox"/> EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B & C
 LOCATION: BOVICIA
 BORING: SWAMPAH POOL 4



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

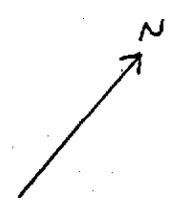
Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

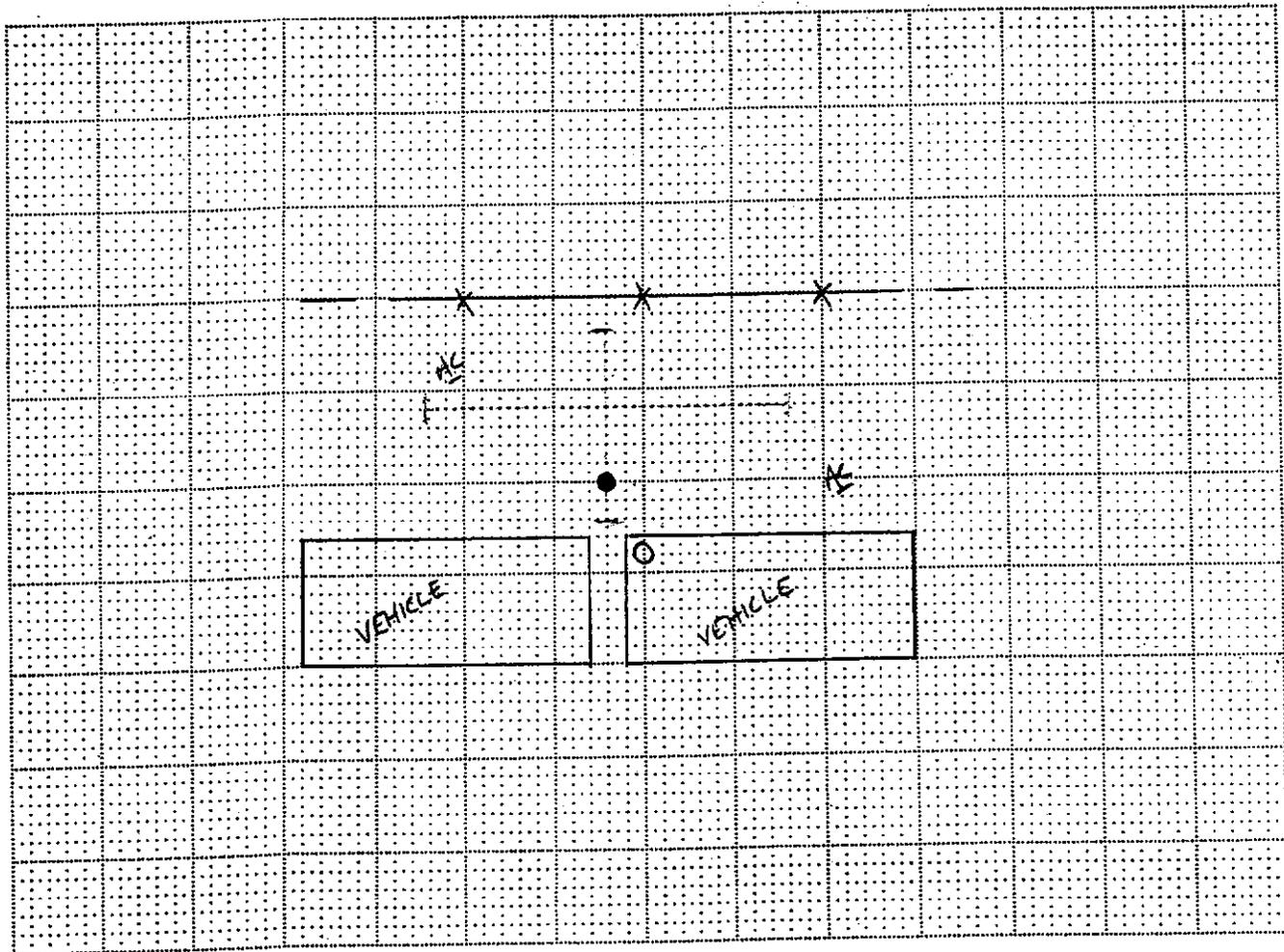
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| - M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



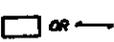
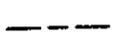
PERSONNEL: DJK JB
 JOB: DATE: 4-23-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BIC
 LOCATION: BENICIA
 BORING: SWAMPAHPDOOS



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
 -  Final Boring Location
 -  GPR Traverse
 -  Localized GPR Anomaly
 -  Utility Alignment
- Utilities
- T (Telephone, Comm.)
 - E (Electric)
 - NG (Natural Gas)
 - CA (Compressed Air)
 - STM (Steam)
 - SS (Sanitary Sewer)
 - SD (Storm Drain)
 - W (Water)
 - FS (Fire Suppression)
 - UU (Undifferentiated Utility)
- Surface
- RC (Reinforced Concrete)
 - AC (Asphalt)
 - C (Concrete)
 - Soil
 - Gravel
 - other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: BJK TB

CLIENT: BIC

JOB:

DATE: 4-26-04

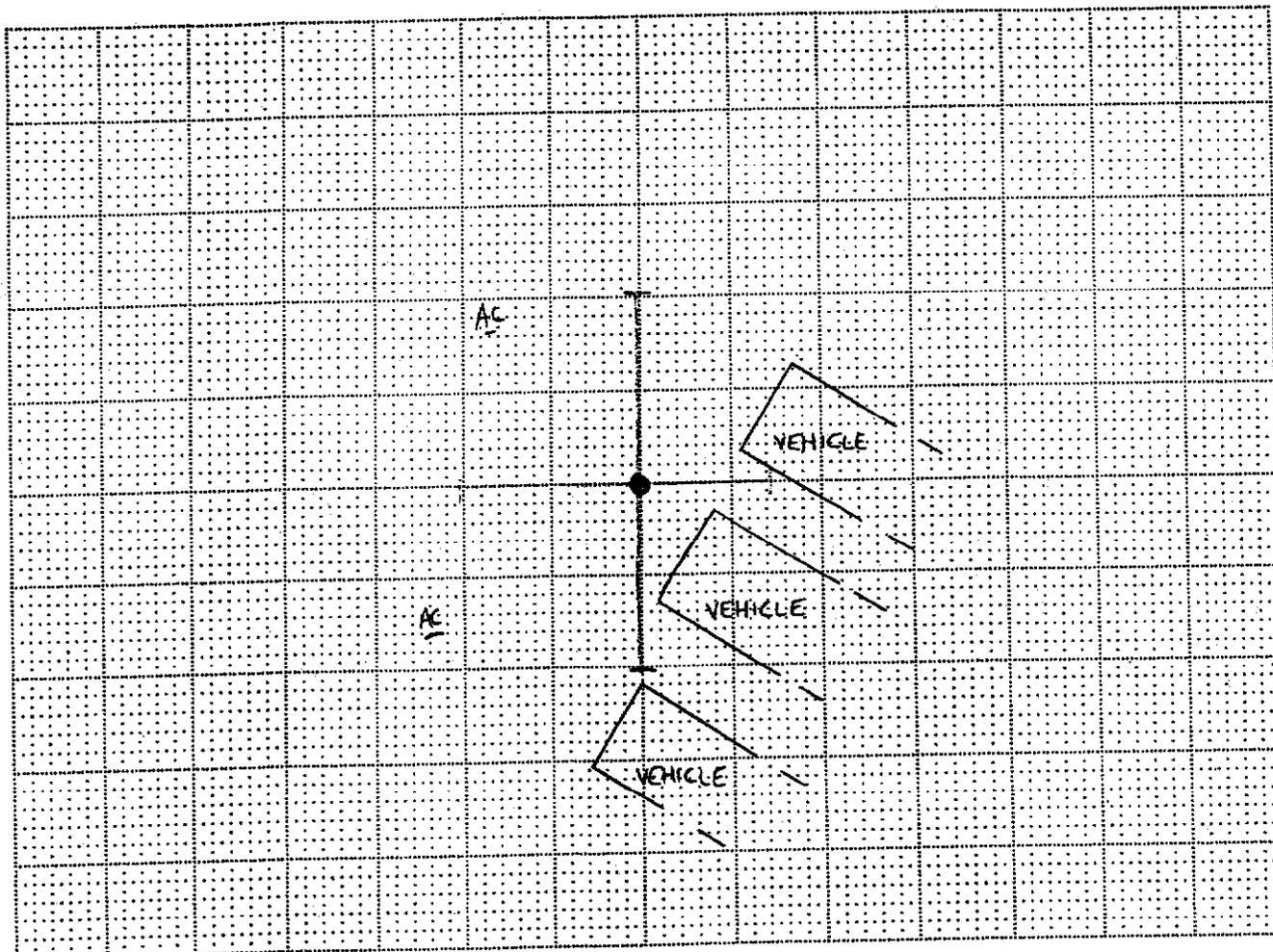
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: SWAMPBHP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB

CLIENT: B+H

IB:

DATE: 4-26-04

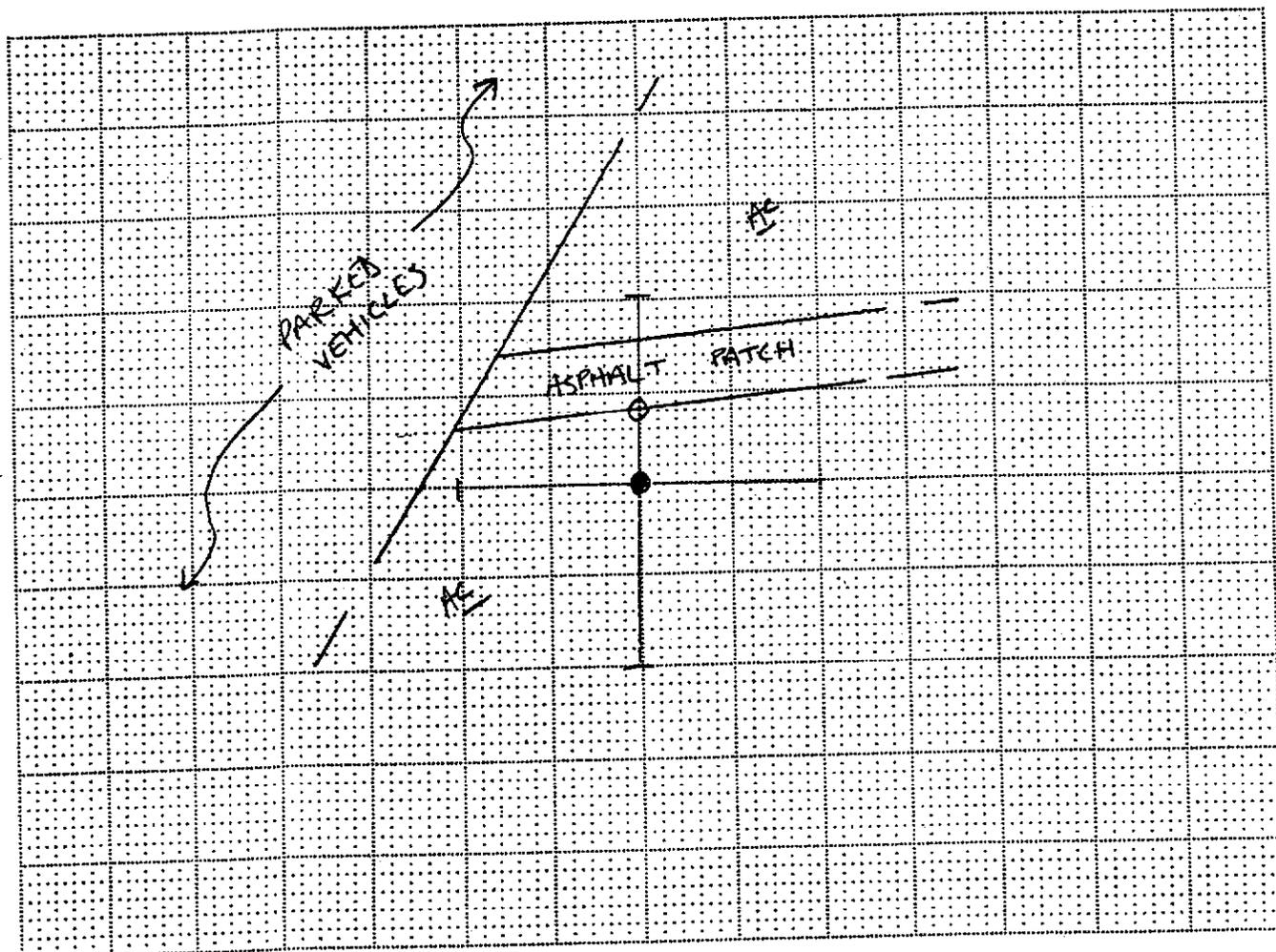
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.

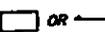


BORING: SWAMPBHP002



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

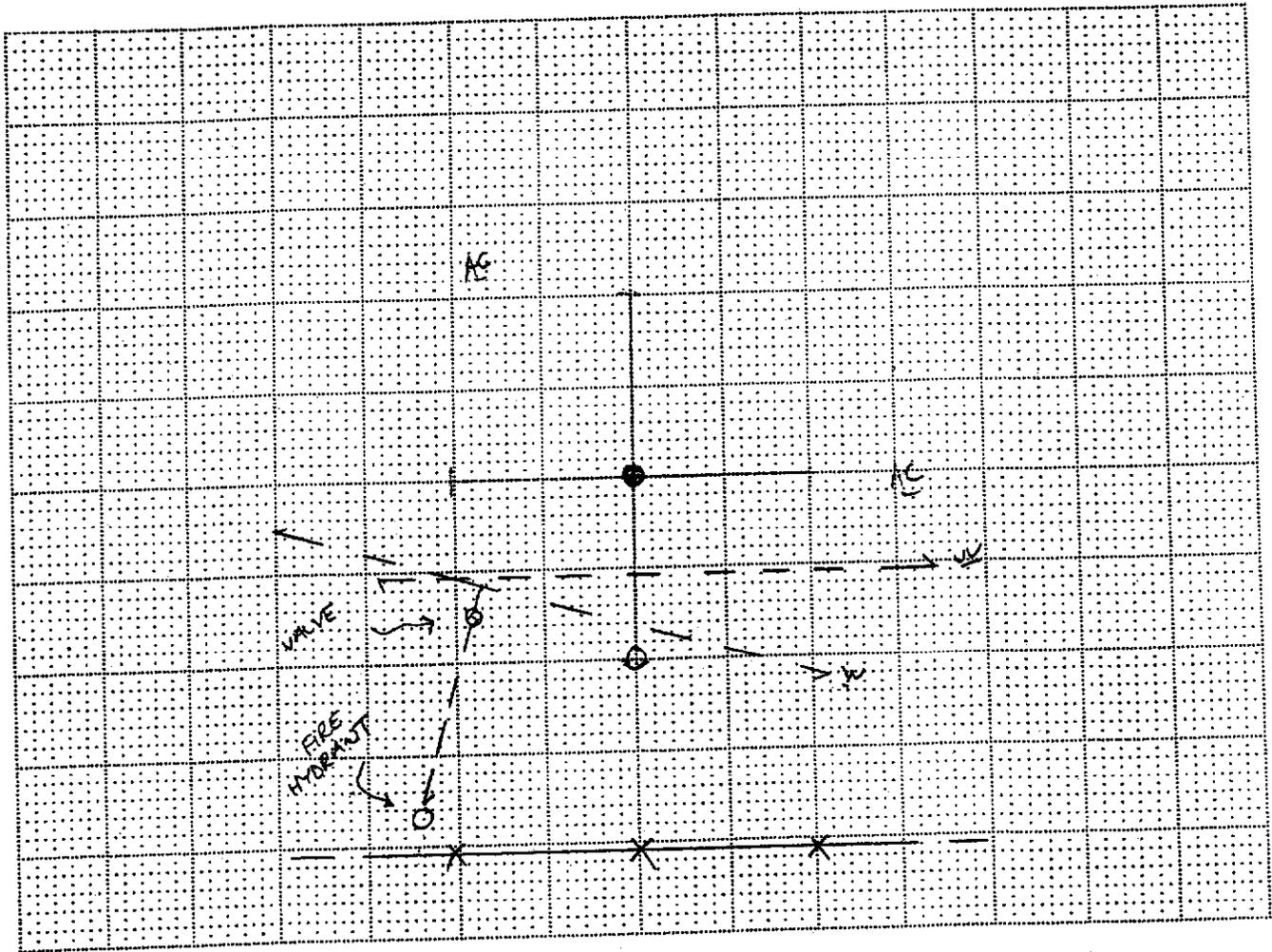
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B & C
 LOCATION: BENICIA
 BORING: SWAMP SHPOO3



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- OR — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

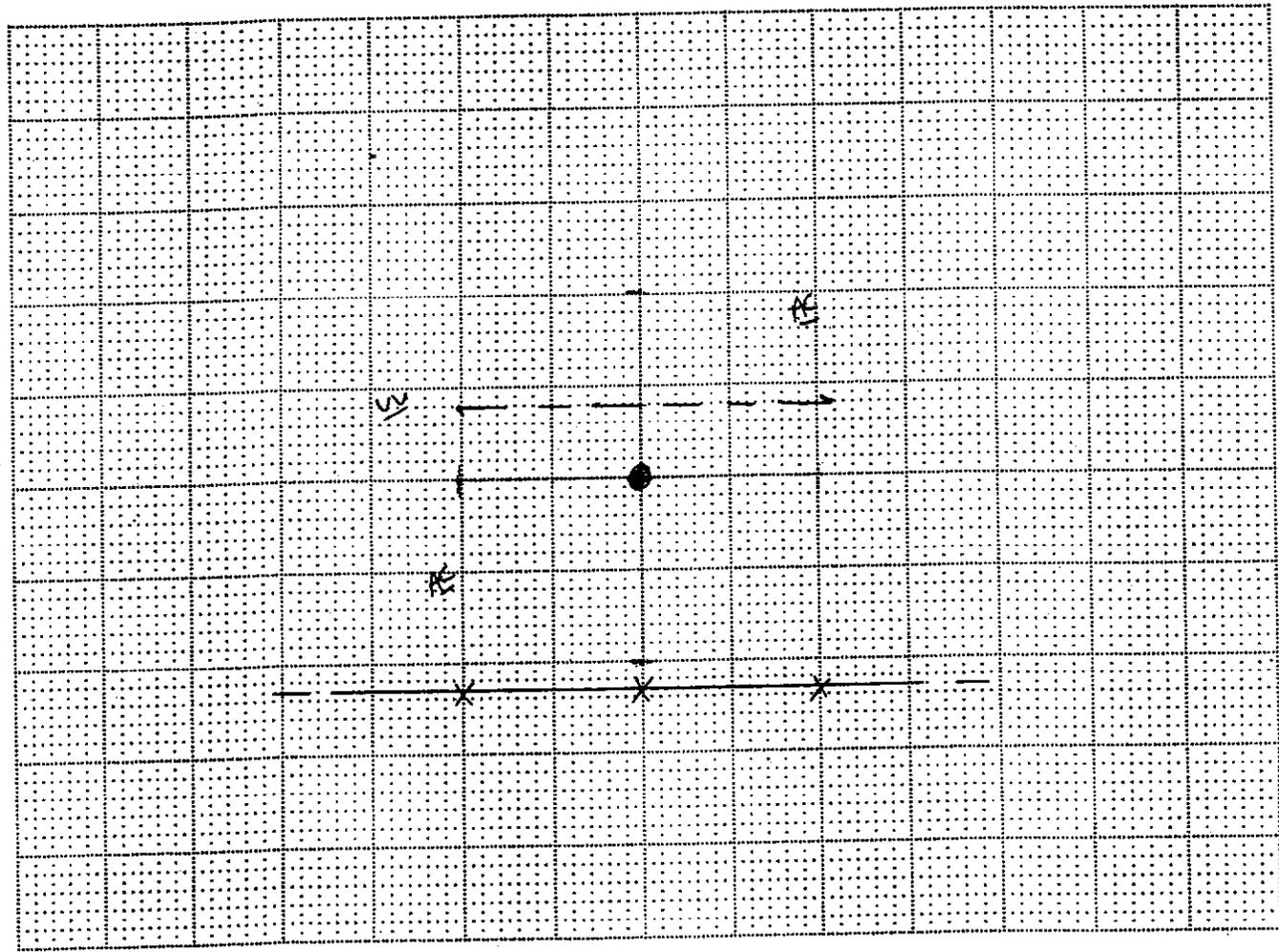
REMARKS



COULD NOT DETECT WATER LINE. THE LOCATION OF WATER LINE WAS MARKED BY CITY.

PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: BEC
 LOCATION: BENICIA
 BORING: SWAMP BHP004



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

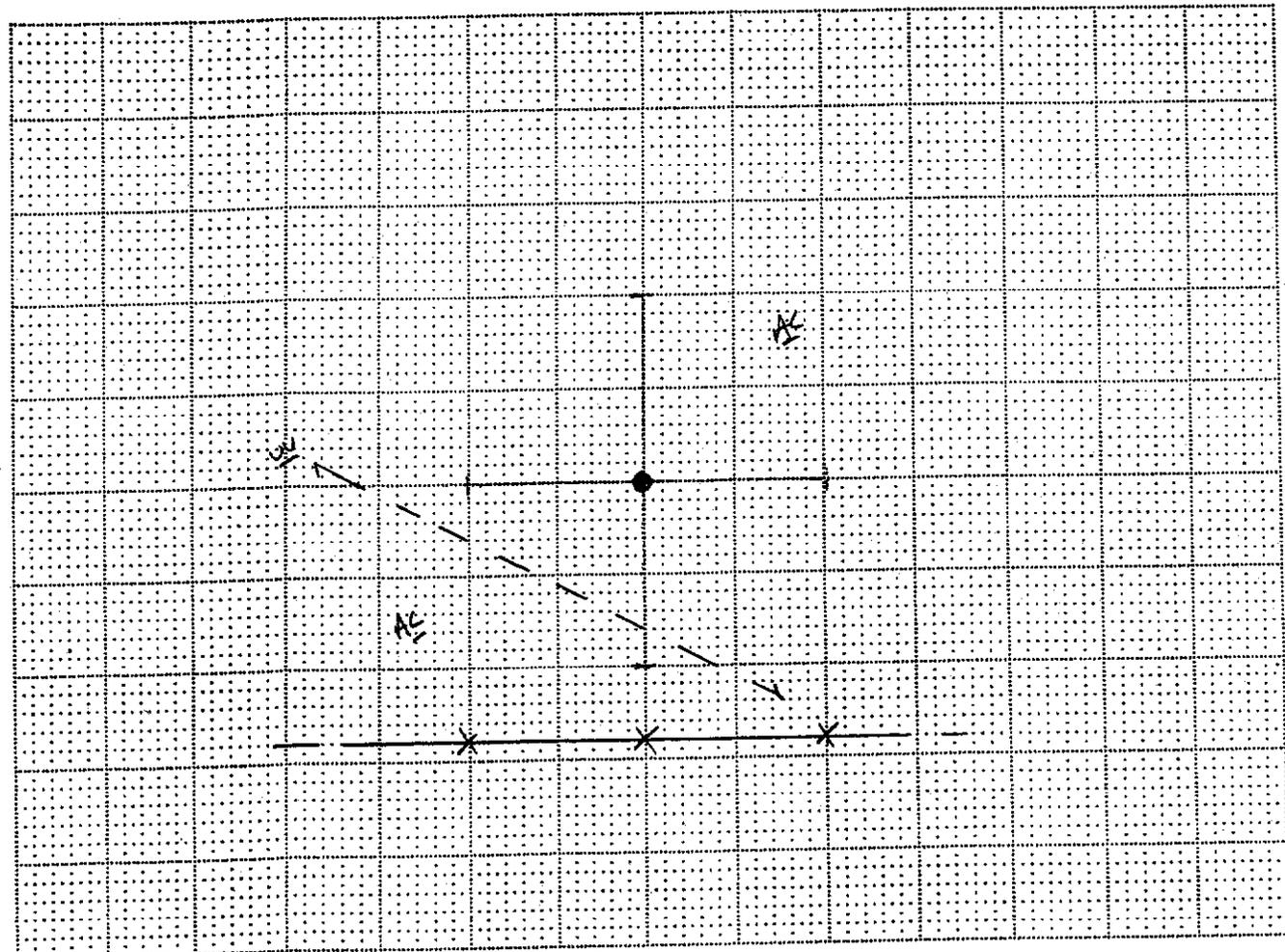
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|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B²C
 LOCATION: BENICIA
 BORING: SWAMPBHPOOS



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

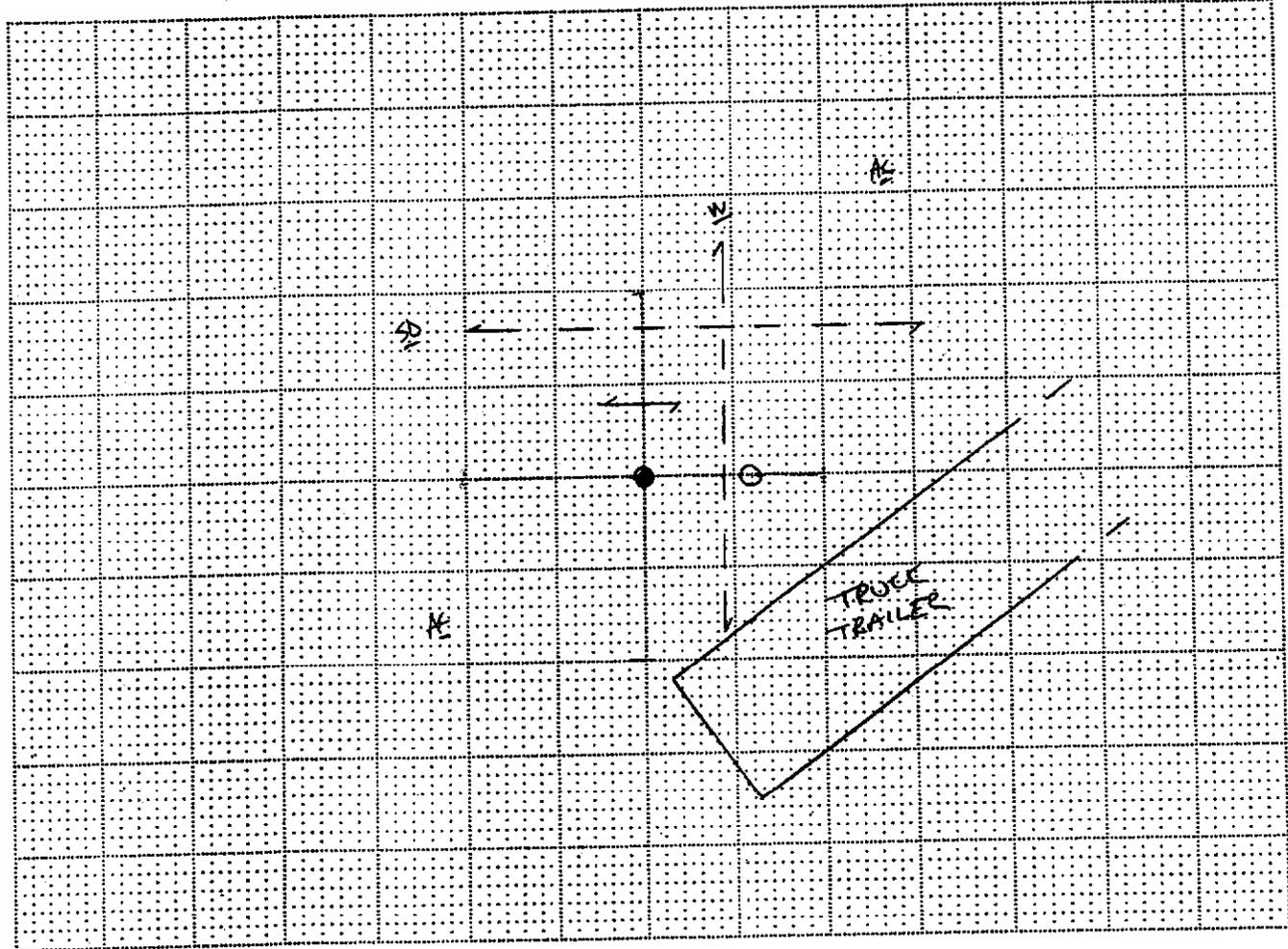
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B2C
 LOCATION: BENICIA
 BORING: SWAMP BH P006



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

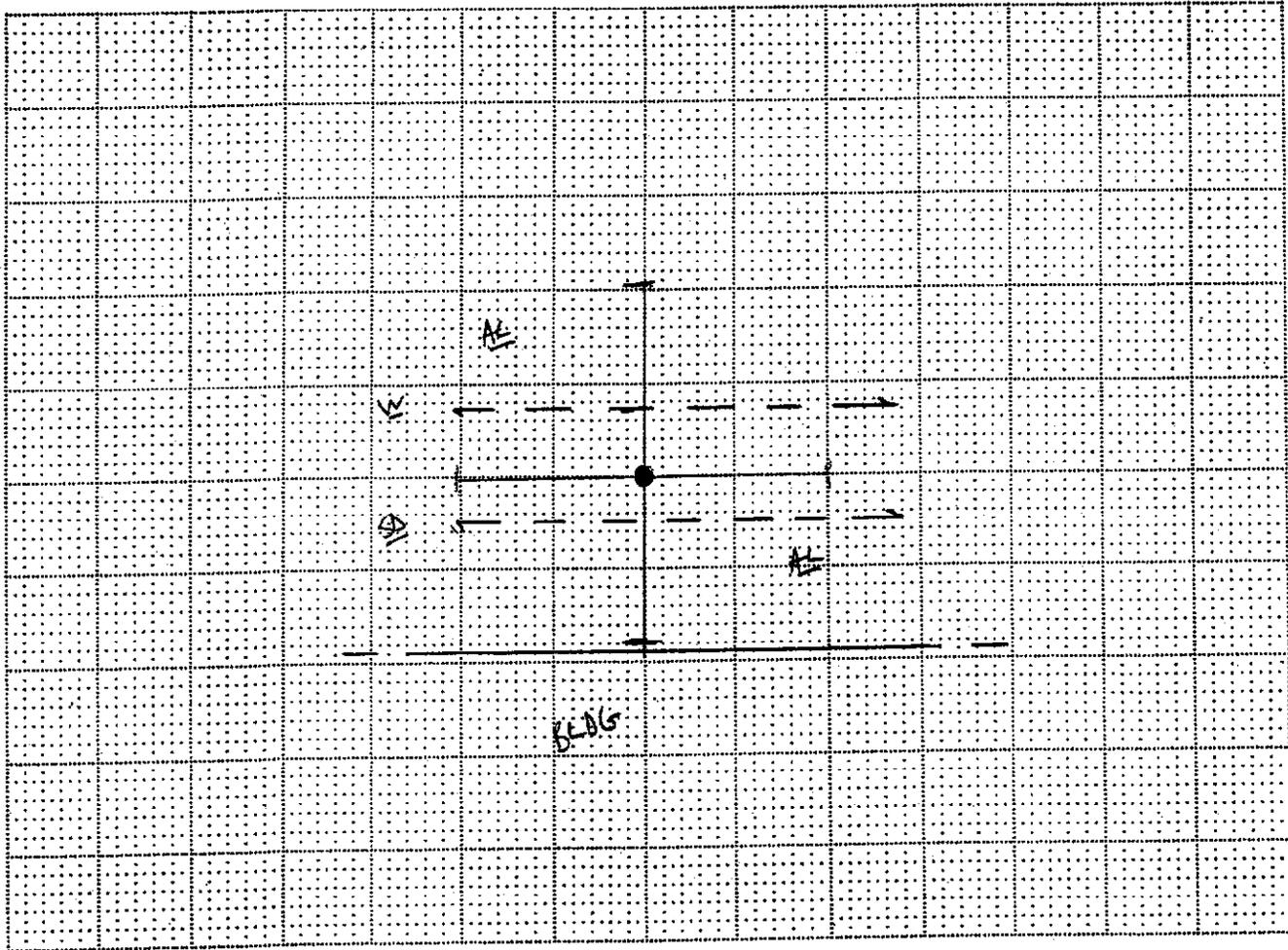
- | | | |
|---|--------------------|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | - EMI (Induction) | <input type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | - Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | - GPR | |

REMARKS



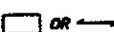
PERSONNEL: DJK JB
 OB: DATE: 4-22-04
 NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B + C
 LOCATION: BENICIA
 BORING: B120HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL:

DJK JB

CLIENT:

BSC

JOB:

DATE: 4-22-04

LOCATION:

BENICIA

NORCAL

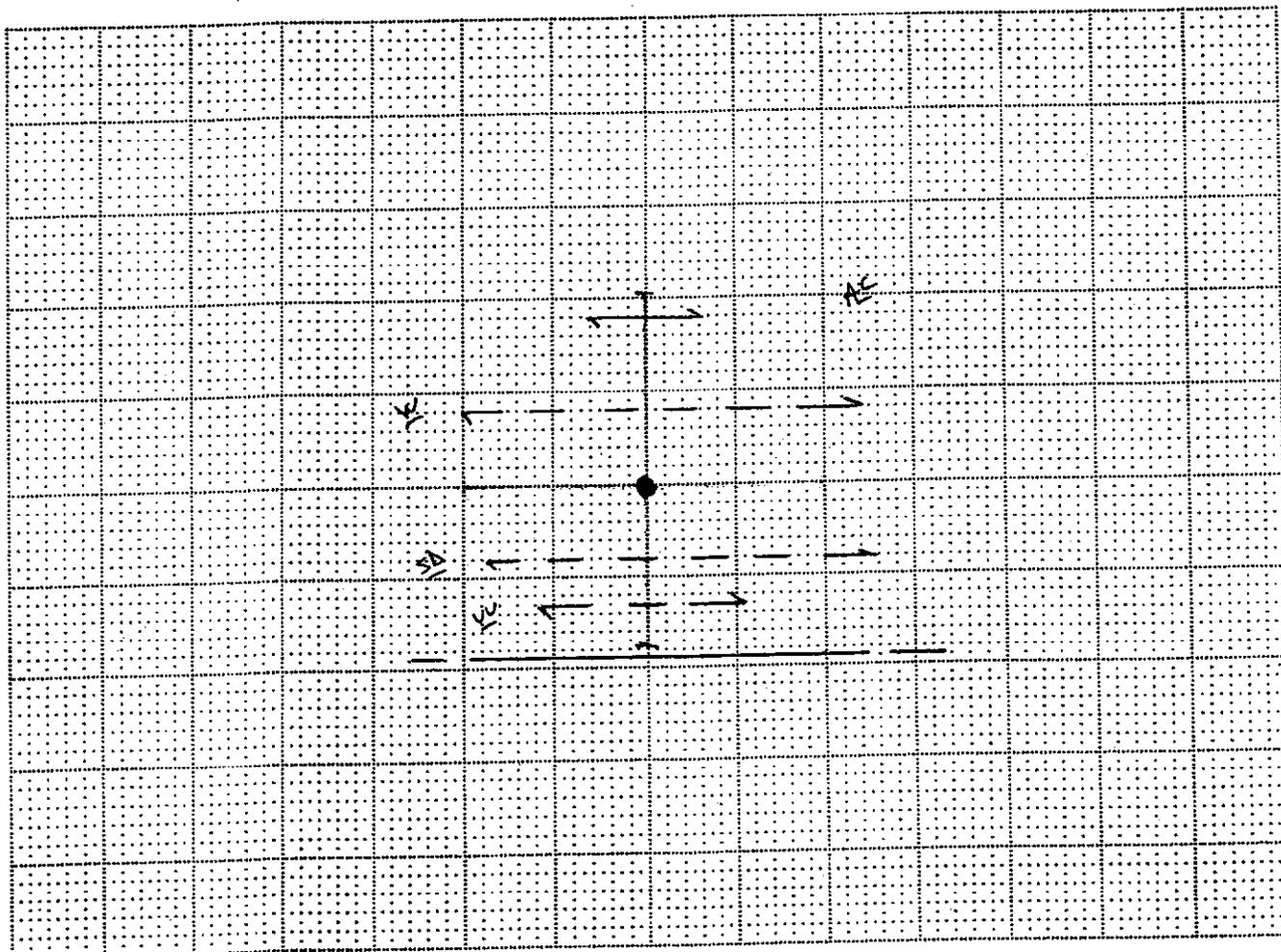
GEO PHYSICAL CONSULTANTS INC.



NORCAL

BORING:

B120HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS

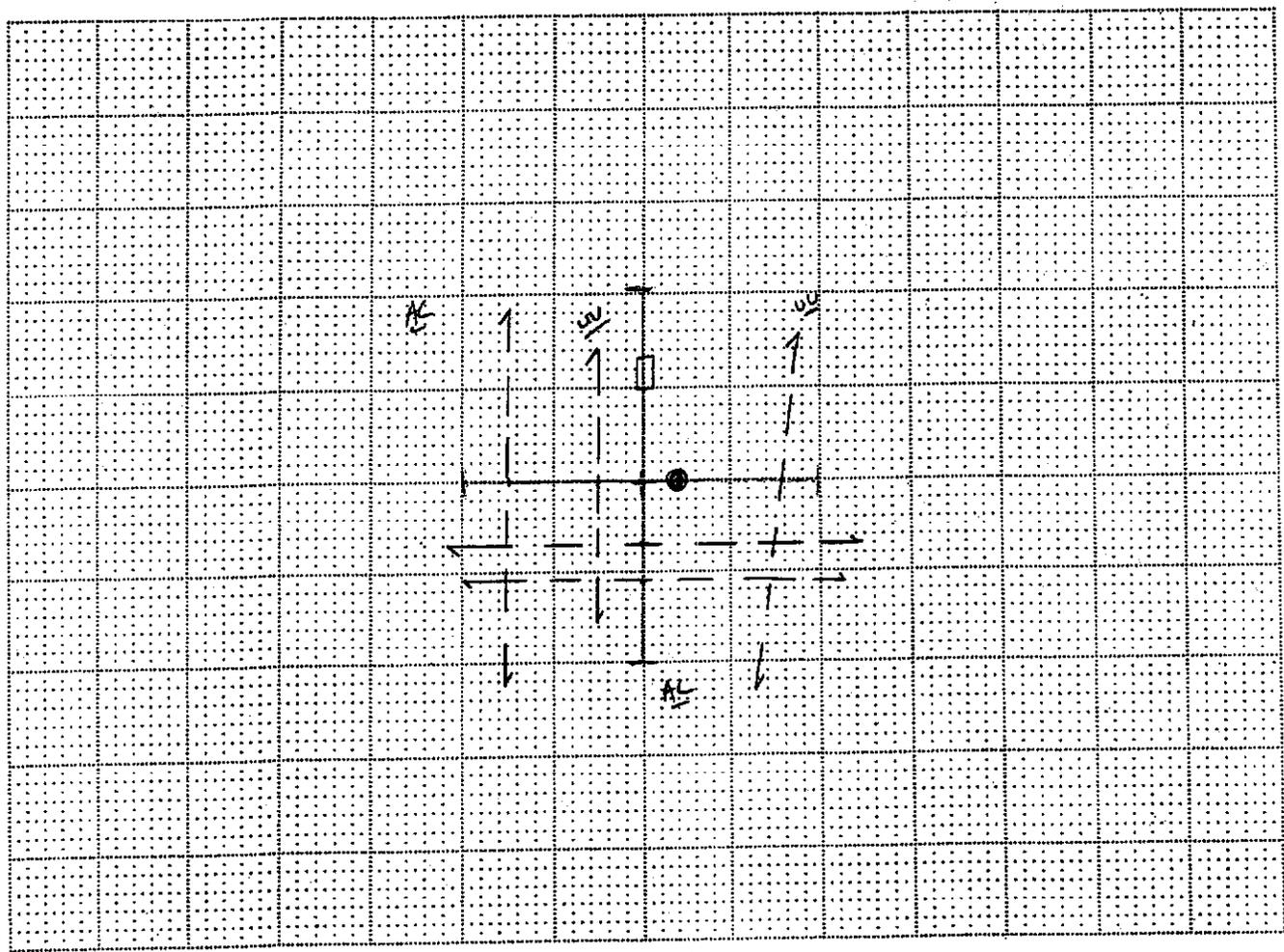


PERSONNEL: DJK JB
 IOB: DATE: 4-22-04

CLIENT: B & C
 LOCATION: BENICIA



BORING: B120HP004



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- PS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

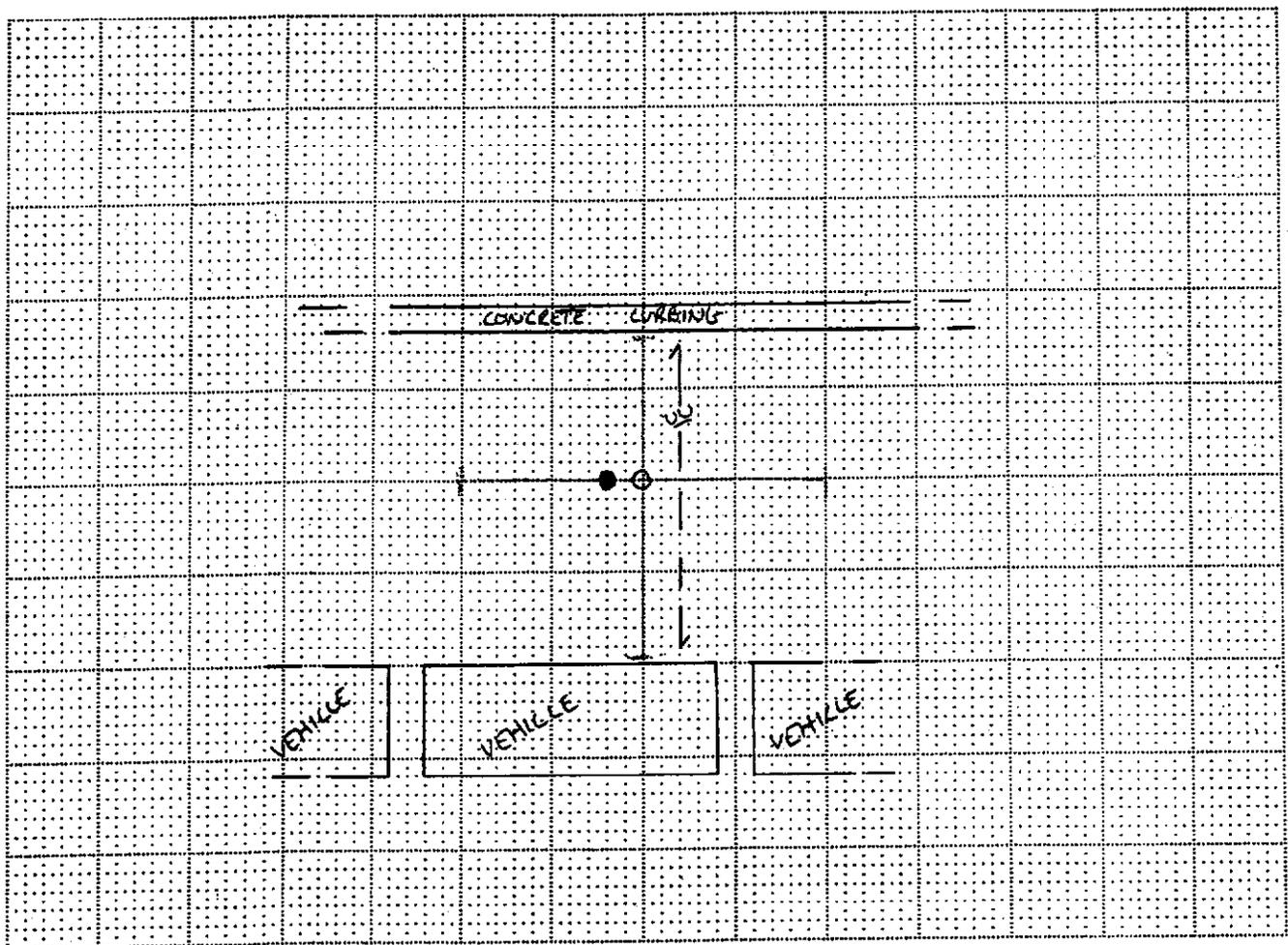
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-23-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: BOSBAHP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

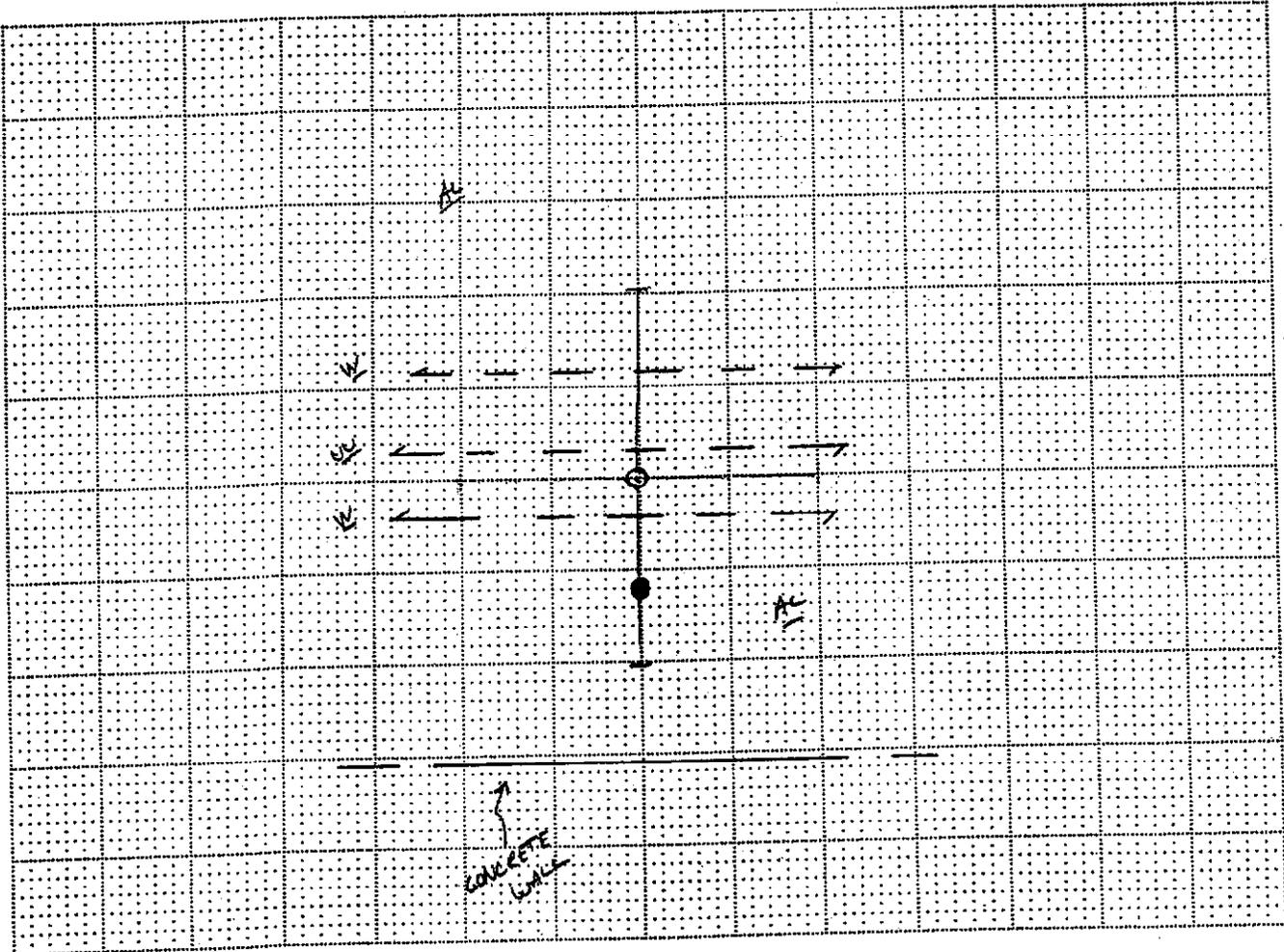
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JSB
 JOB: DATE: 4-22-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: BOSBHP01



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or ← Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

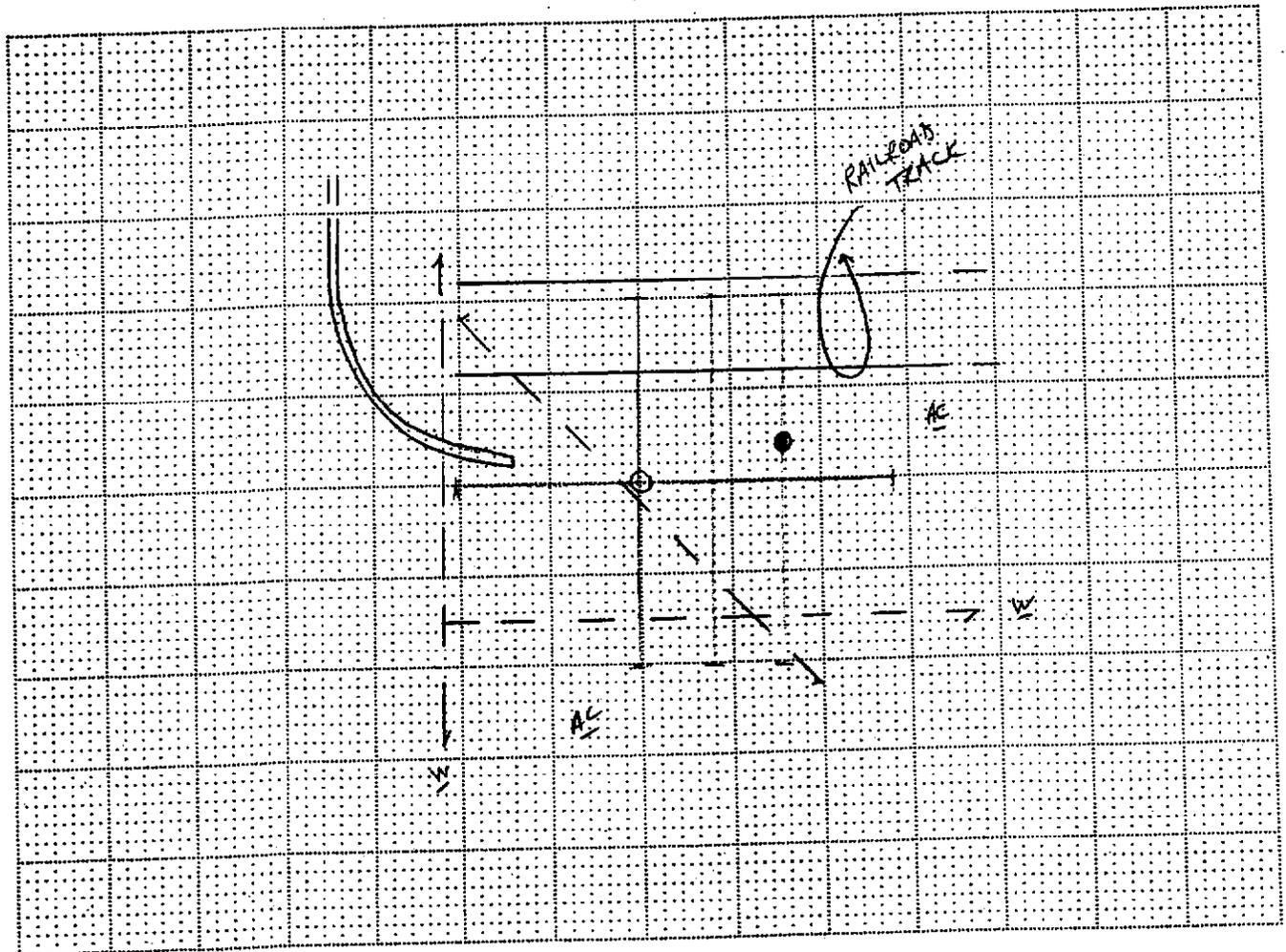
- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | - GPR | |

REMARKS



PERSONNEL: DJK JB
 OB: DATE:
NORCAL GEOPHYSICAL CONSULTANTS INC.
 NORCAL

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B031 HPO01



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- ✓ W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

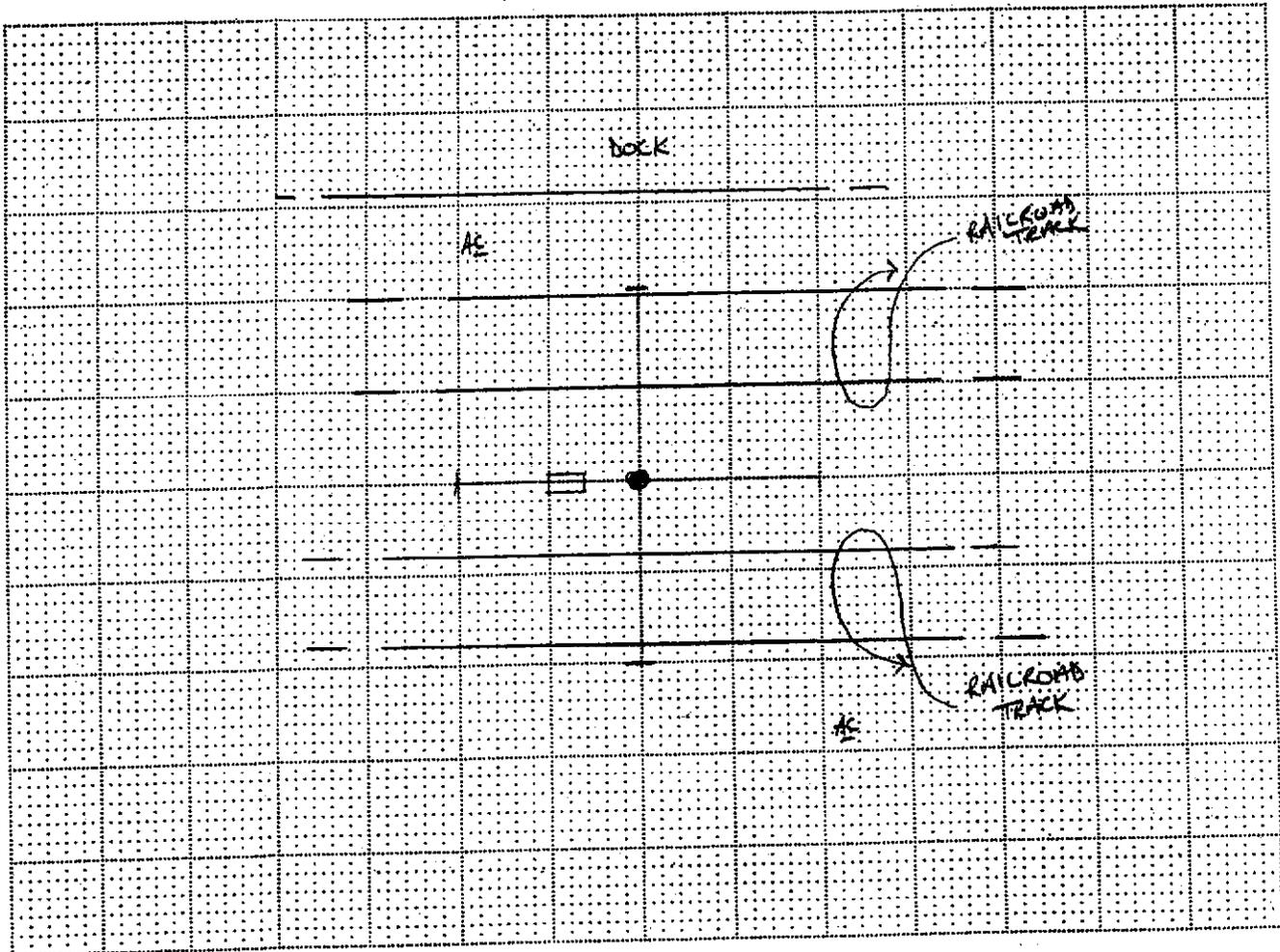
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | - GPR | |

REMARKS



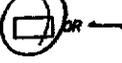
PERSONNEL: DJK JB
 JOB: DATE: 4-22-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B/C
 LOCATION: BENICIA
 BORING: B031 HPOOZ



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

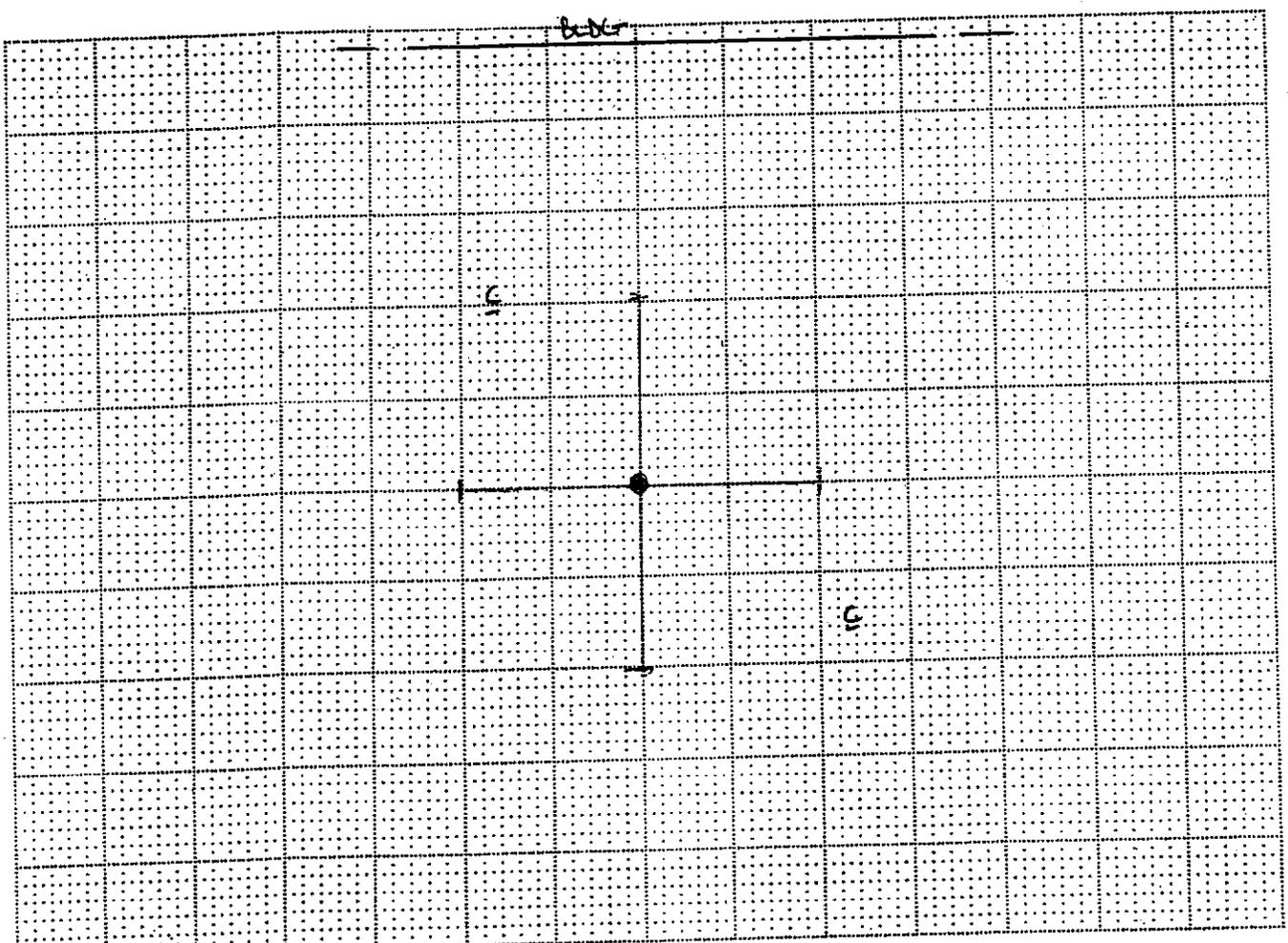
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| - M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-22-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B³C
 LOCATION: BENICIA
 BORING: B091A HPO01



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |— GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

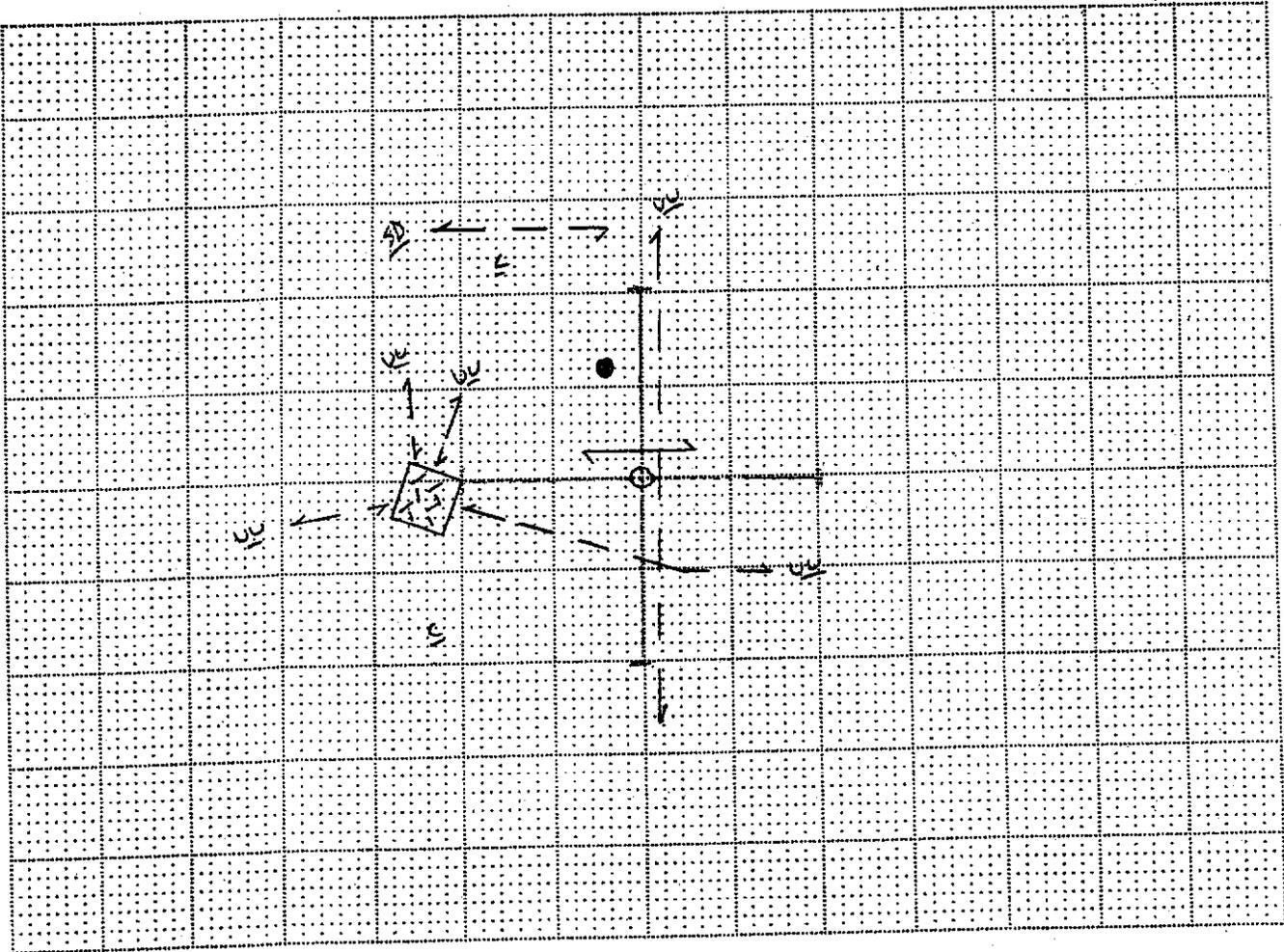
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|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | - Ambient | - other |
| - other | ✓ GPR | |

REMARKS

↑
 CANNOT DETECT STORM DRAIN AND WATER. EVIDENT ALONG BLDG NORTH OF BORING.

PERSONNEL: DJK JB
 JOB: DATE: 4-22-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B091HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS

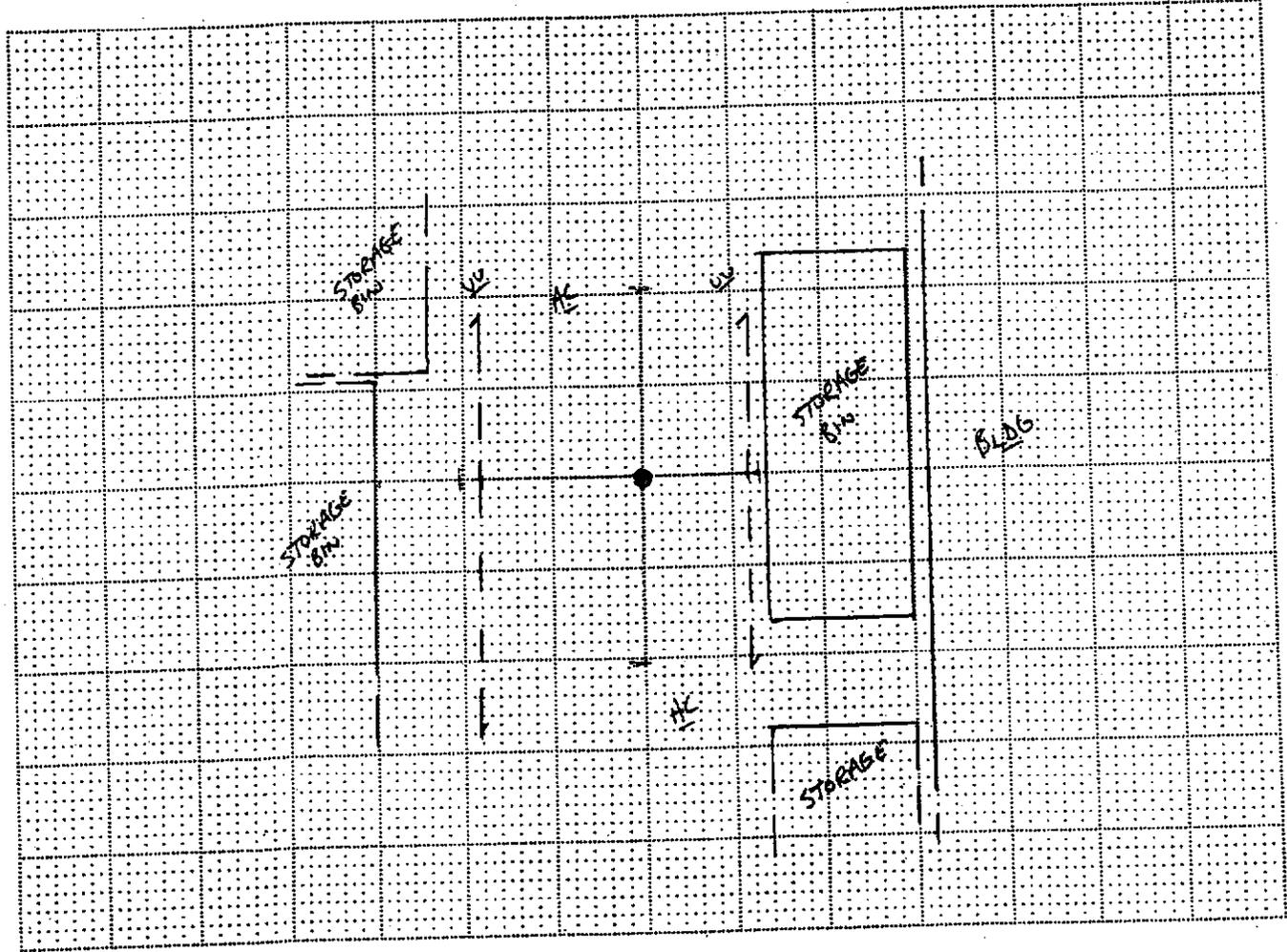


PERSONNEL: DJK JB
 DATE: 4-23-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B156 HP001

NORCAL

GEO PHYSICAL
 CONSULTANTS
 INC.



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|—| GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

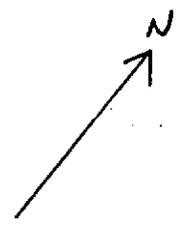
Surface

- ✓ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | - Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | - GPR | |

REMARKS



PERSONNEL: DJK JB

CLIENT: Btc

JOB: DATE: 4-23-04

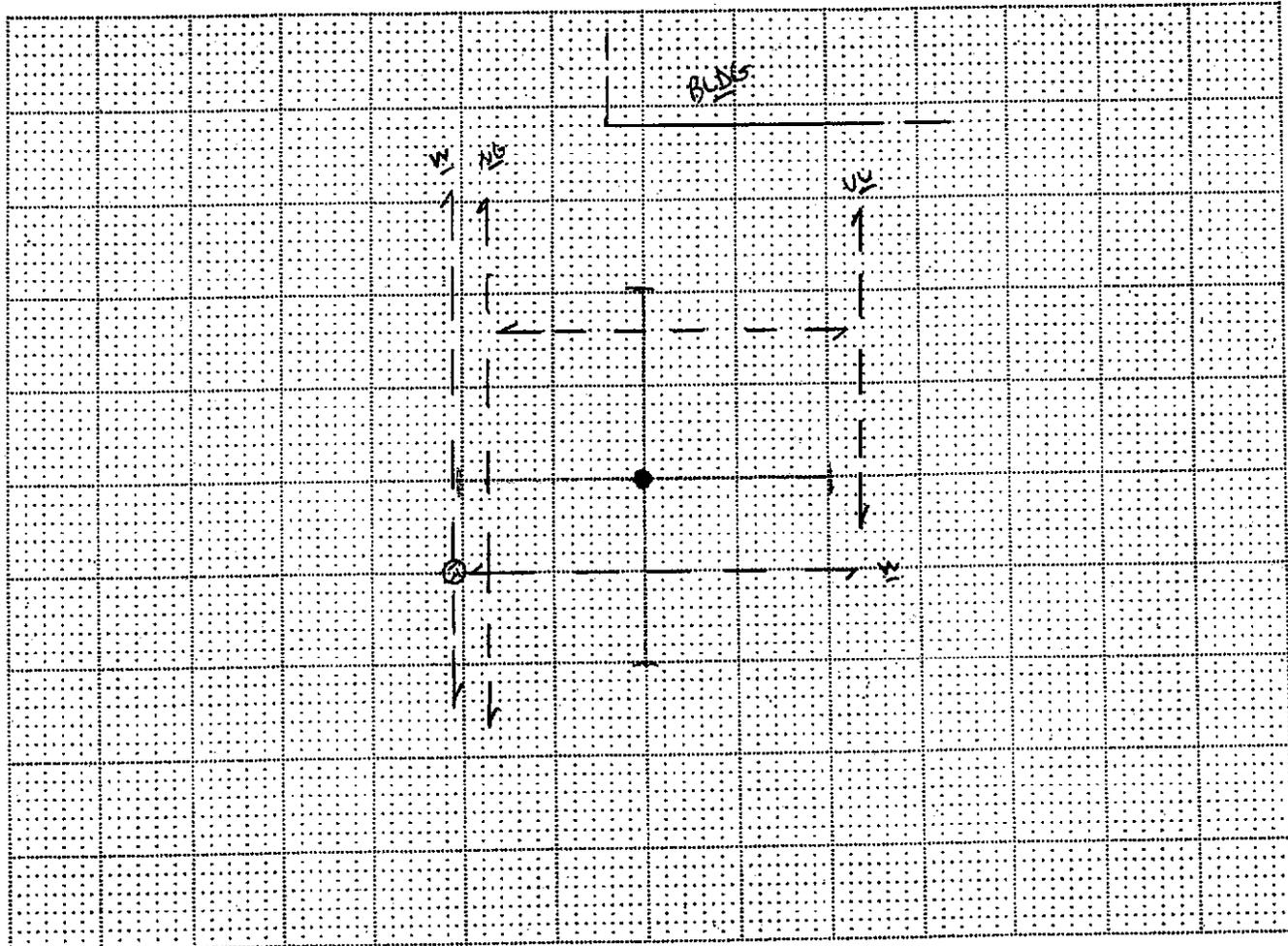
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: B156HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- SS (Sanitary Sewer)
- E (Electric)
- SD (Storm Drain)
- NG (Natural Gas)
- W (Water)
- CA (Compressed Air)
- FS (Fire Supresasion)
- STM (Steam)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- Soil
- AC (Asphalt)
- Gravel
- C (Concrete)
- other

NOTES

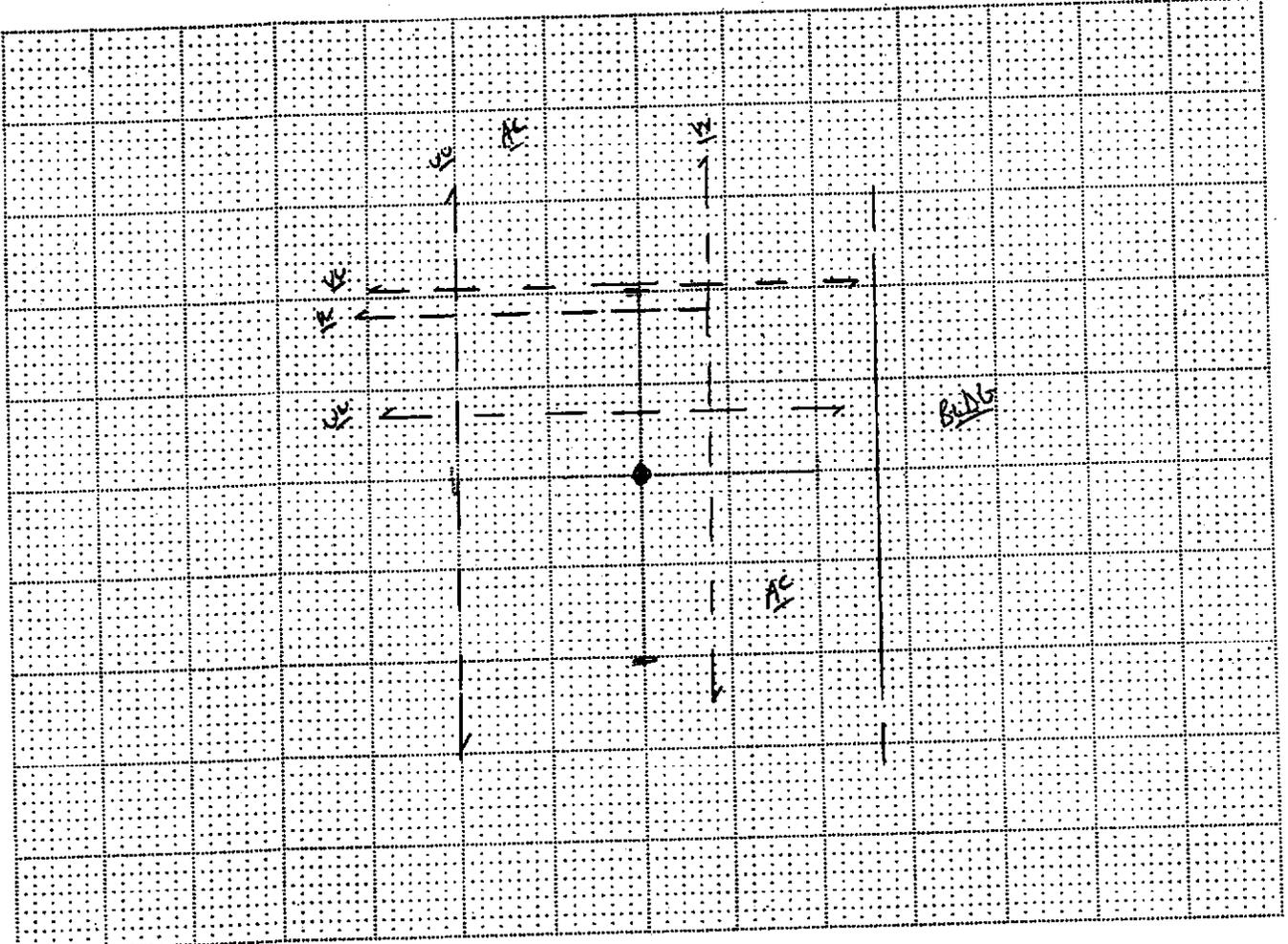
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 B: DATE: 4-23-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B+C
 LOCATION: BENICIA
 BORING: B090 HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- ✓ W (Water)
- ✓ FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

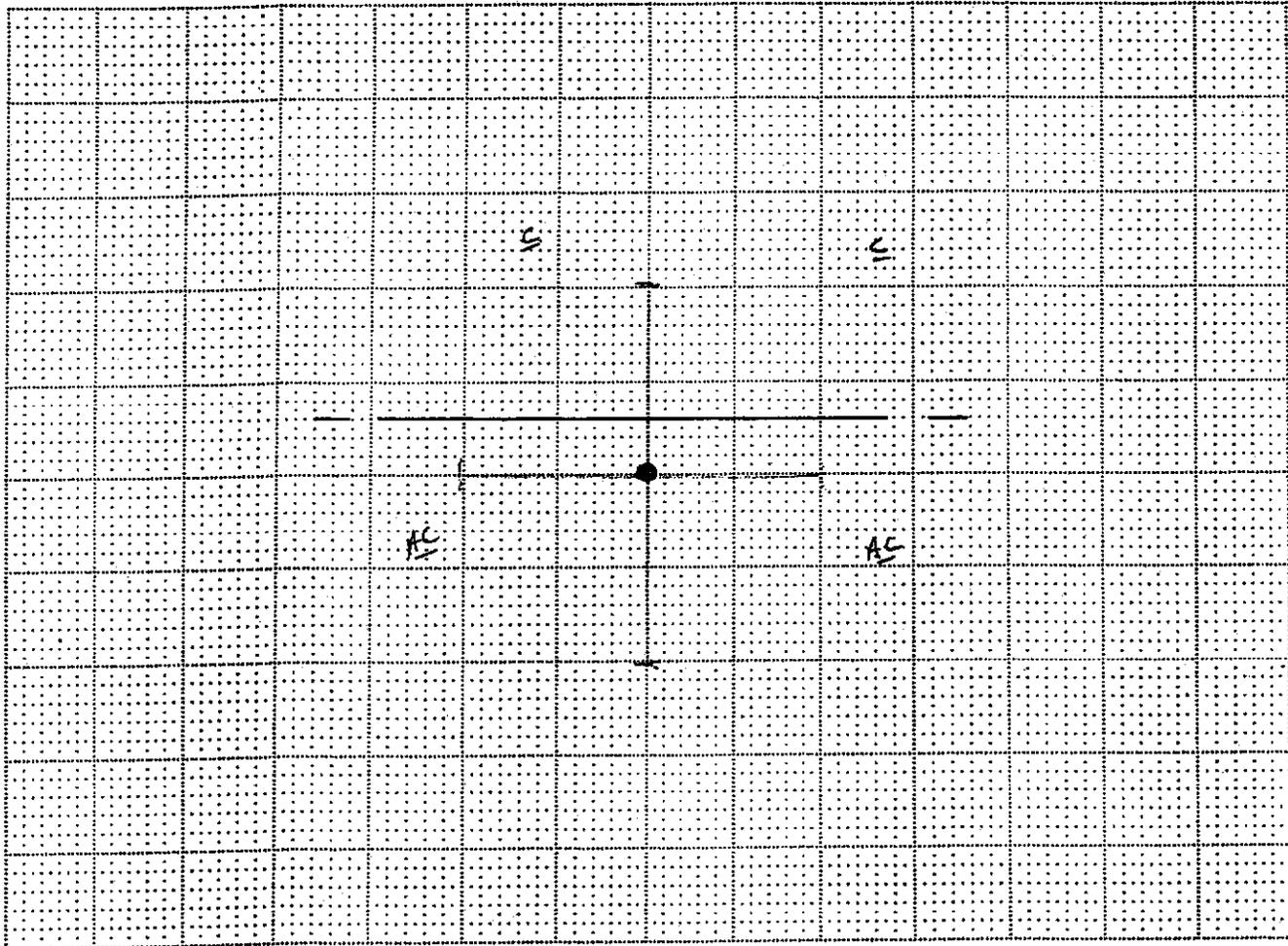
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|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | - Dry |
| ✓ M Scope | - Ambient | - other |
| - other | ✓ GPR | |

REMARKS



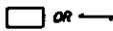
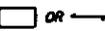
PERSONNEL: DJK TB
 JOB: _____ DATE: 4-26-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BIC
 LOCATION: BENICIA
 BORING: T0131HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  or  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB

CLIENT: B&C

JOB:

DATE: 4-23-04

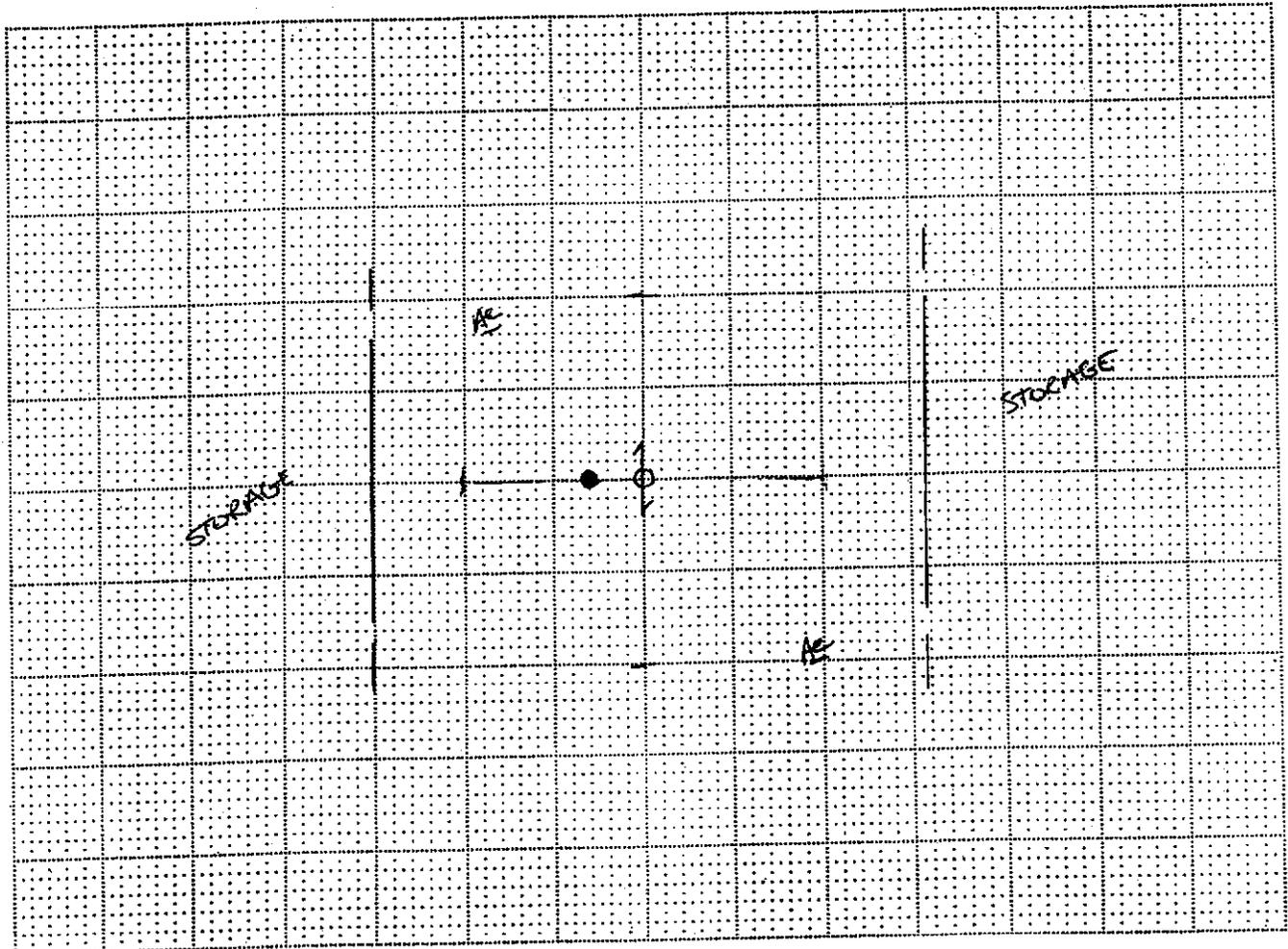
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: B165HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

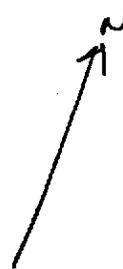
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

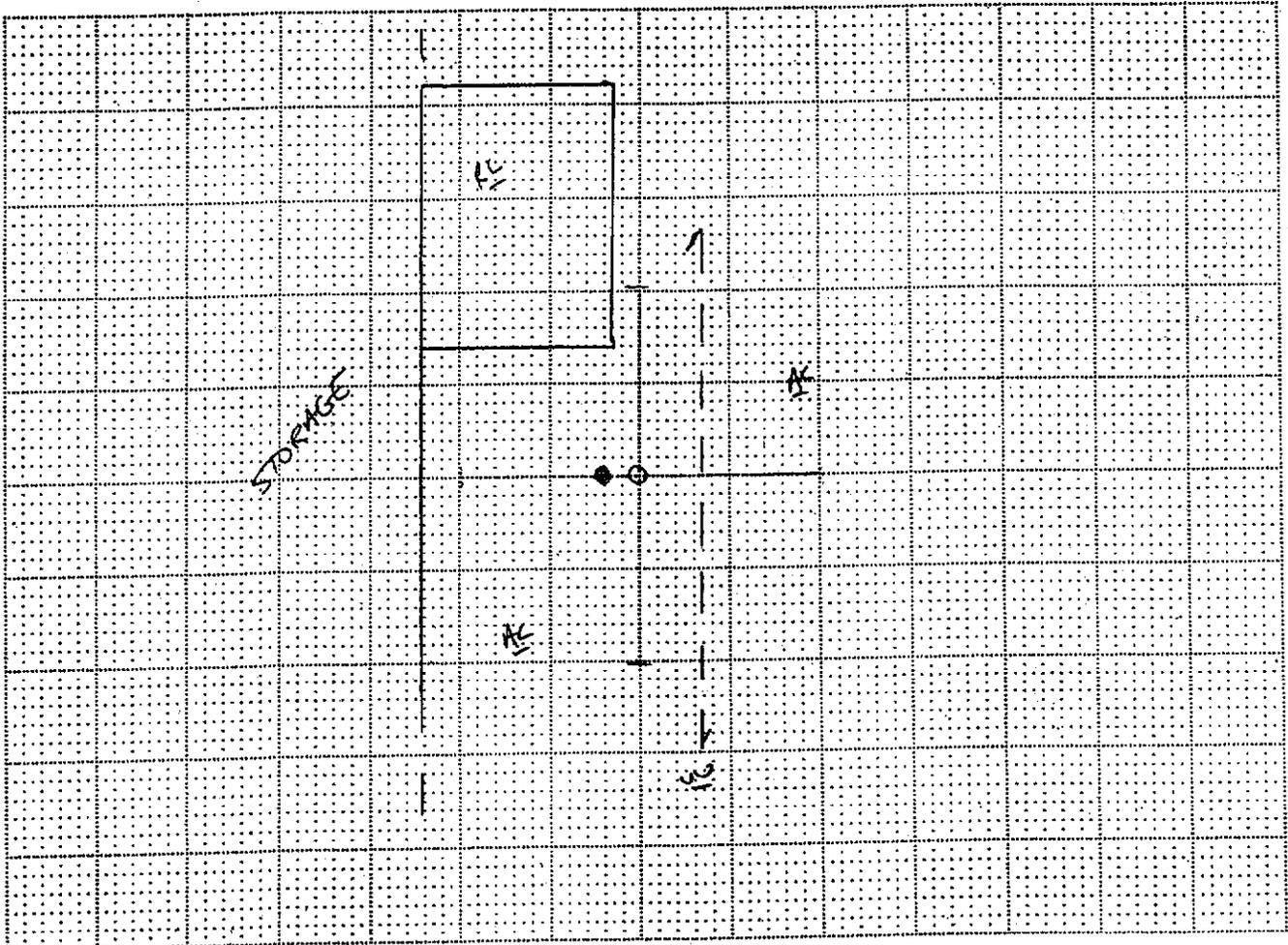
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-23-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B165 HPOO 2



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

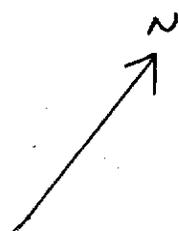
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

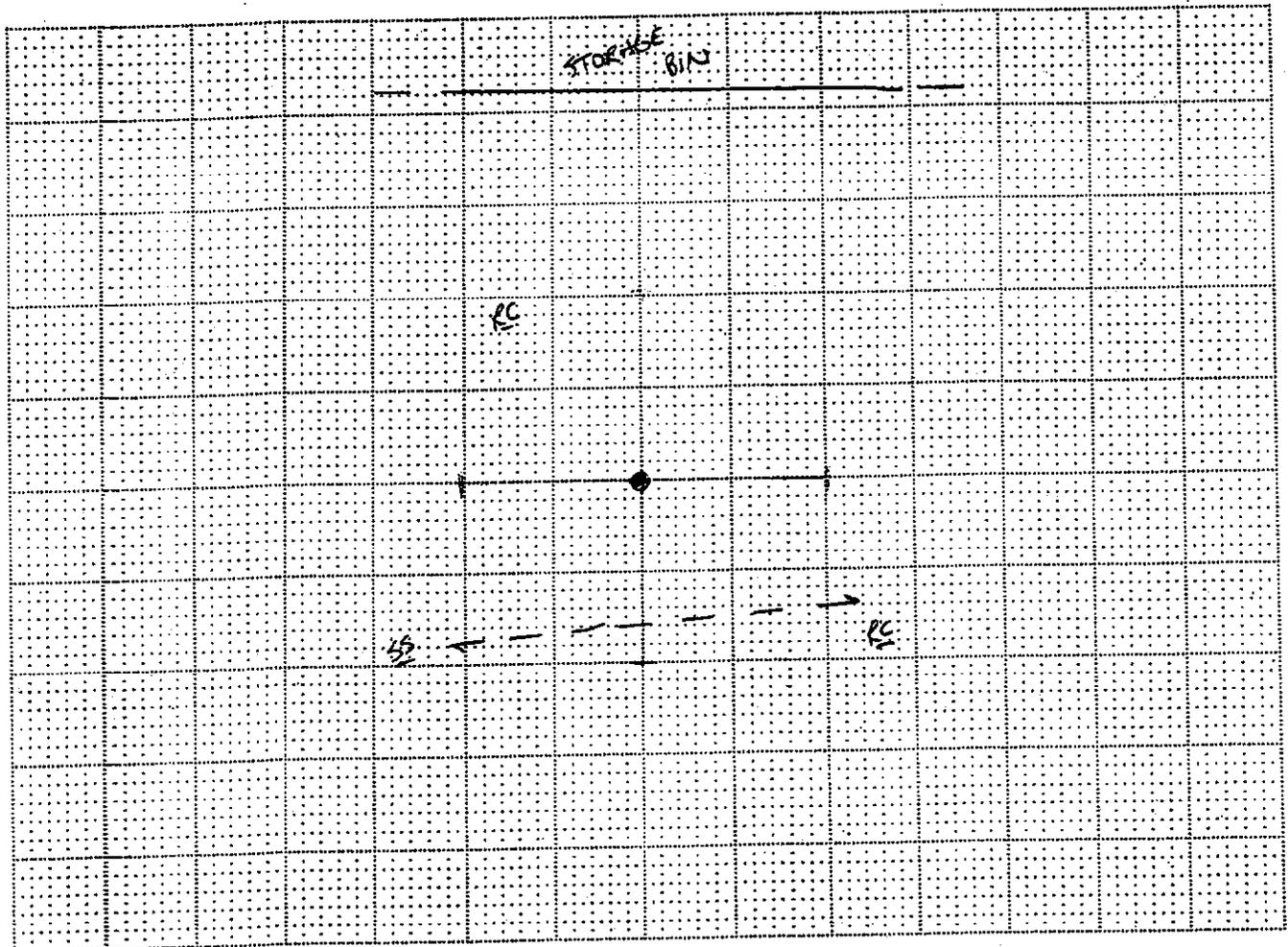
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB
 OB: DATE: 4-23-04

CLIENT: BSC
 LOCATION: BENICIA
 BORING: B165HP003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- ✓ SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

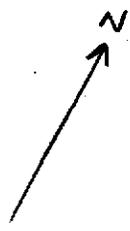
- ✓ RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 400 | - EMI (Induction) | ✓ Dry |
| - M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

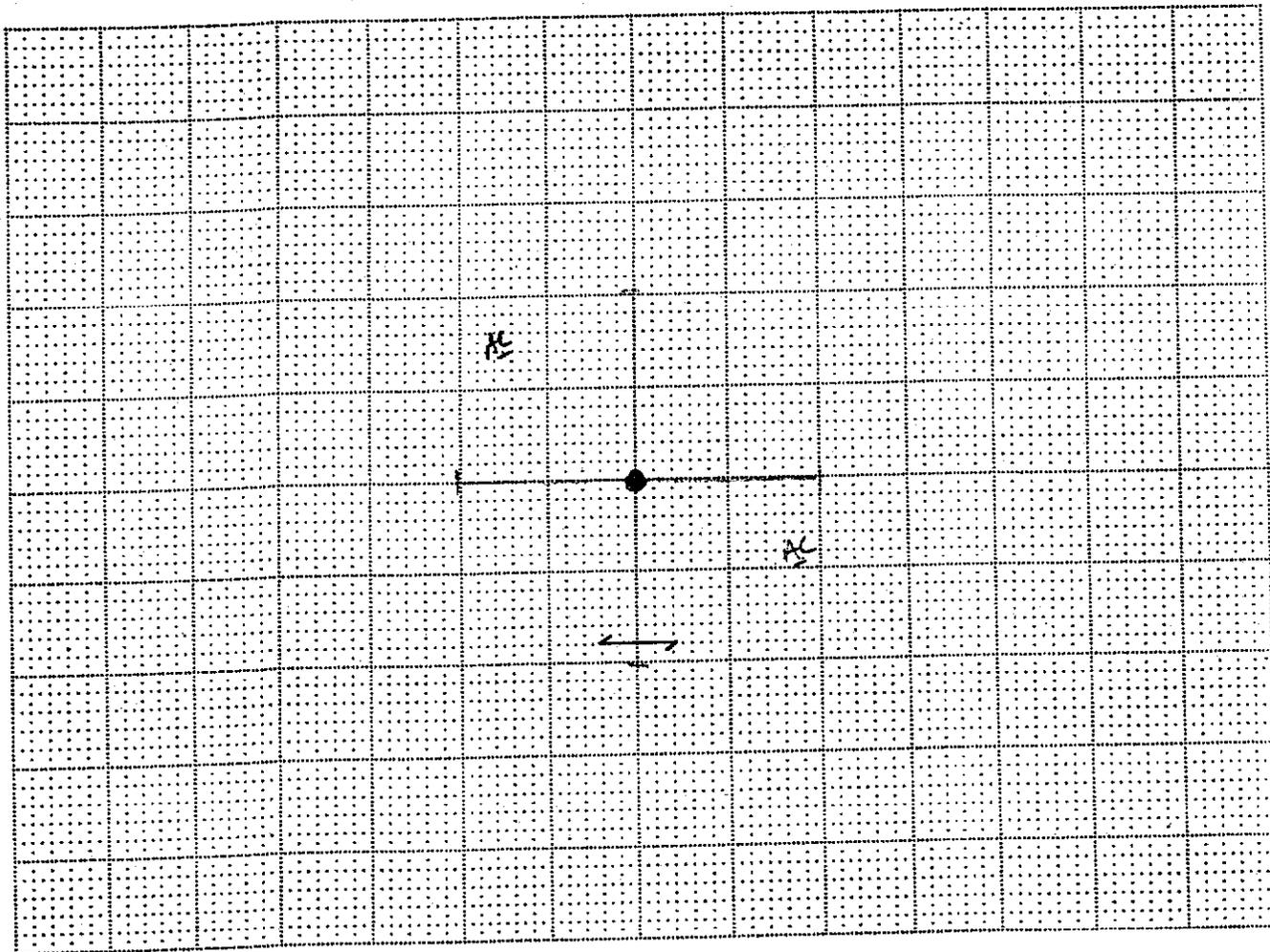
REMARKS

MAGNETIC INTERFERENCE FROM REBAR IN CONCRETE PRELUDED USE OF METAL DETECTOR



PERSONNEL: DJK JS
 JOB: DATE: 4-23-04

CLIENT: BTC
 LOCATION: BENICIA
 BORING: B165A001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or ⊙ Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

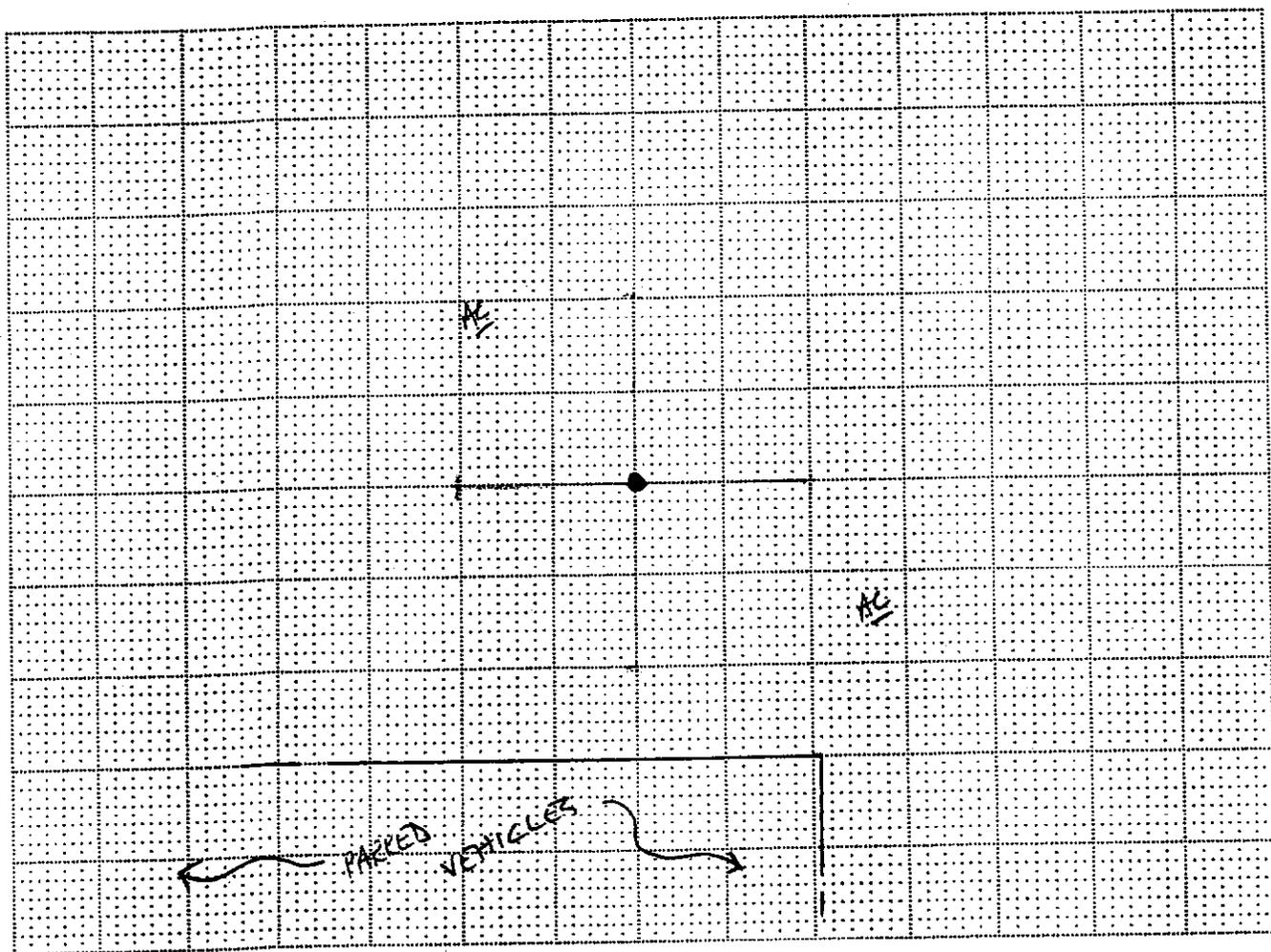
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | - Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-23-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B165AHP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|— GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

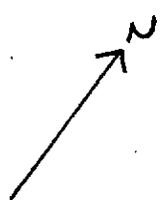
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

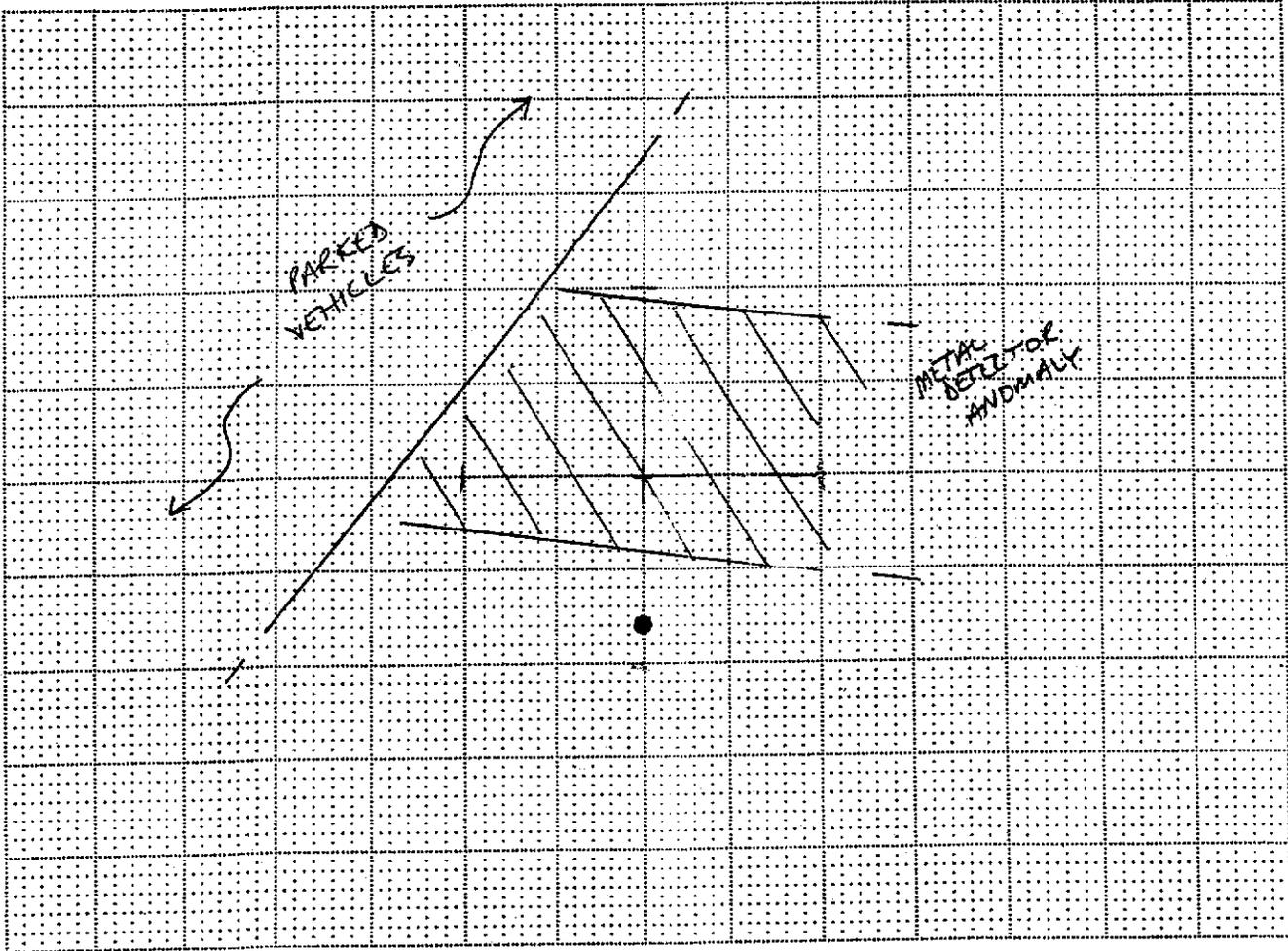
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 OB: DATE: 4-26-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: B168 HPOO1



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

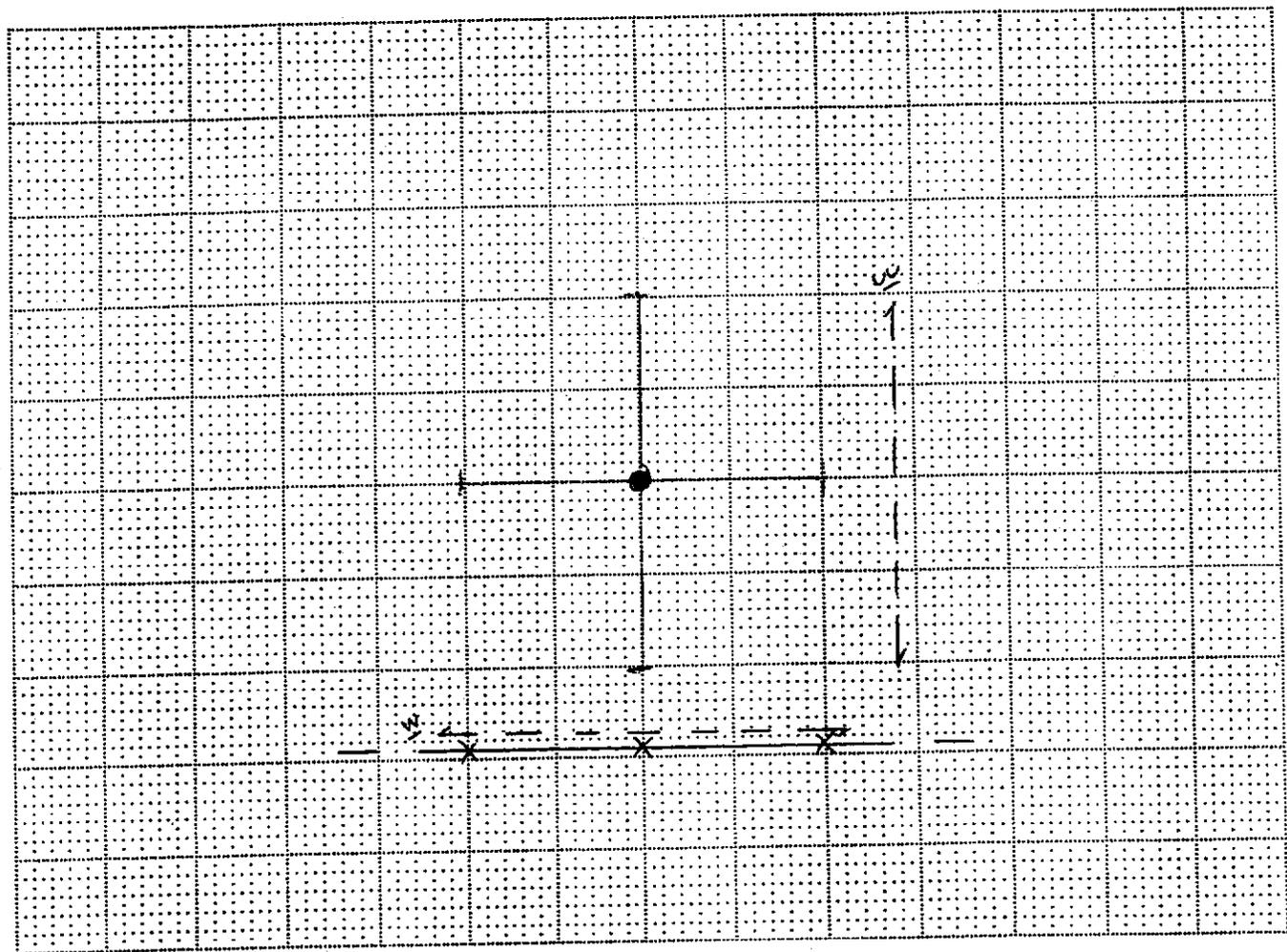
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B168 HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|— GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

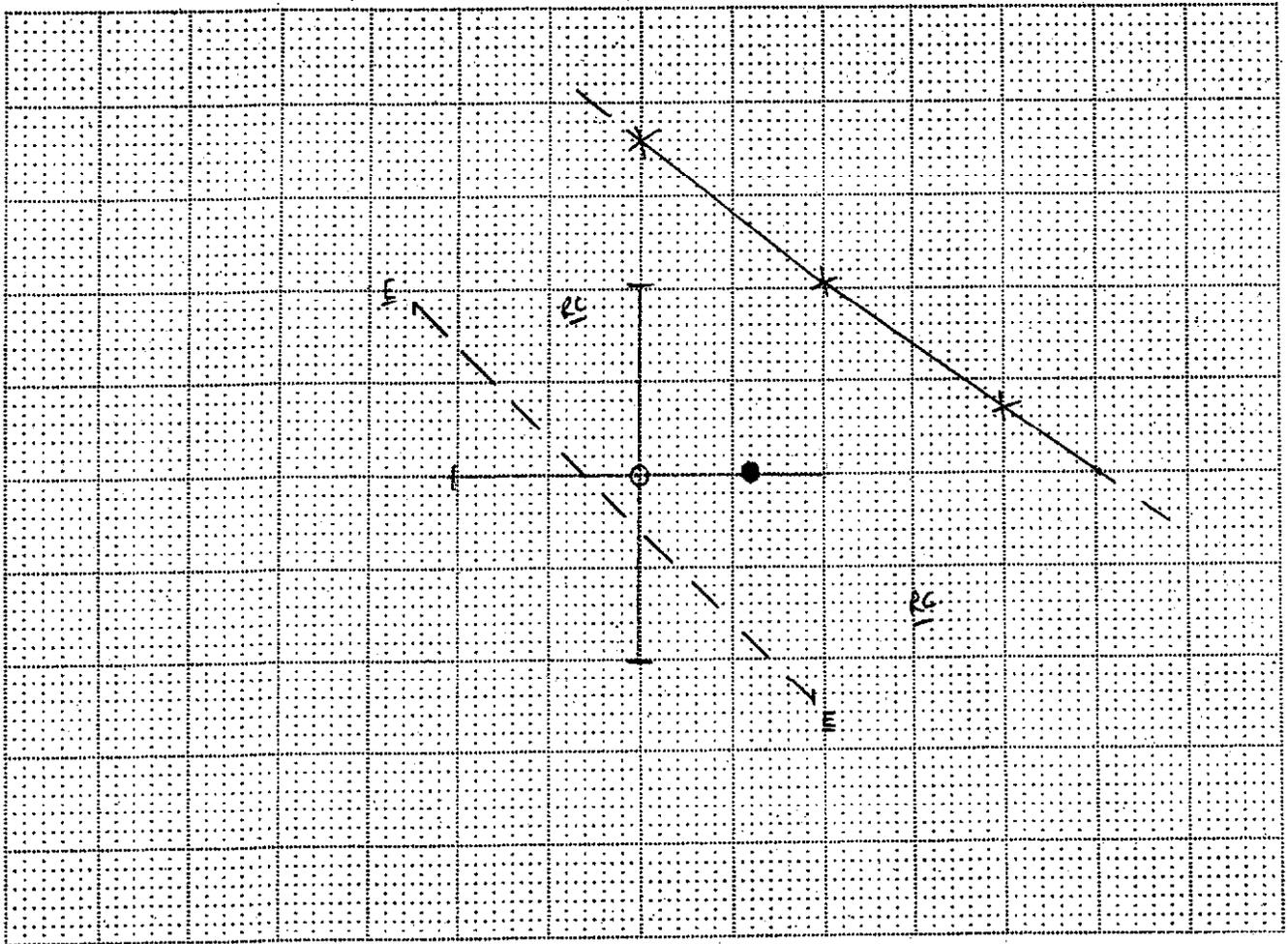
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|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-23-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BIC
 LOCATION: BENICIA
 BORING: B154HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | - EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| - M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS

MAGNETIC INTERFERENCE FROM REBAR IN CONCRETE PRELUDED USE OF METAL DETECTOR



PERSONNEL: DJK JB

CLIENT: BIC

JOB: DATE: 4-23-04

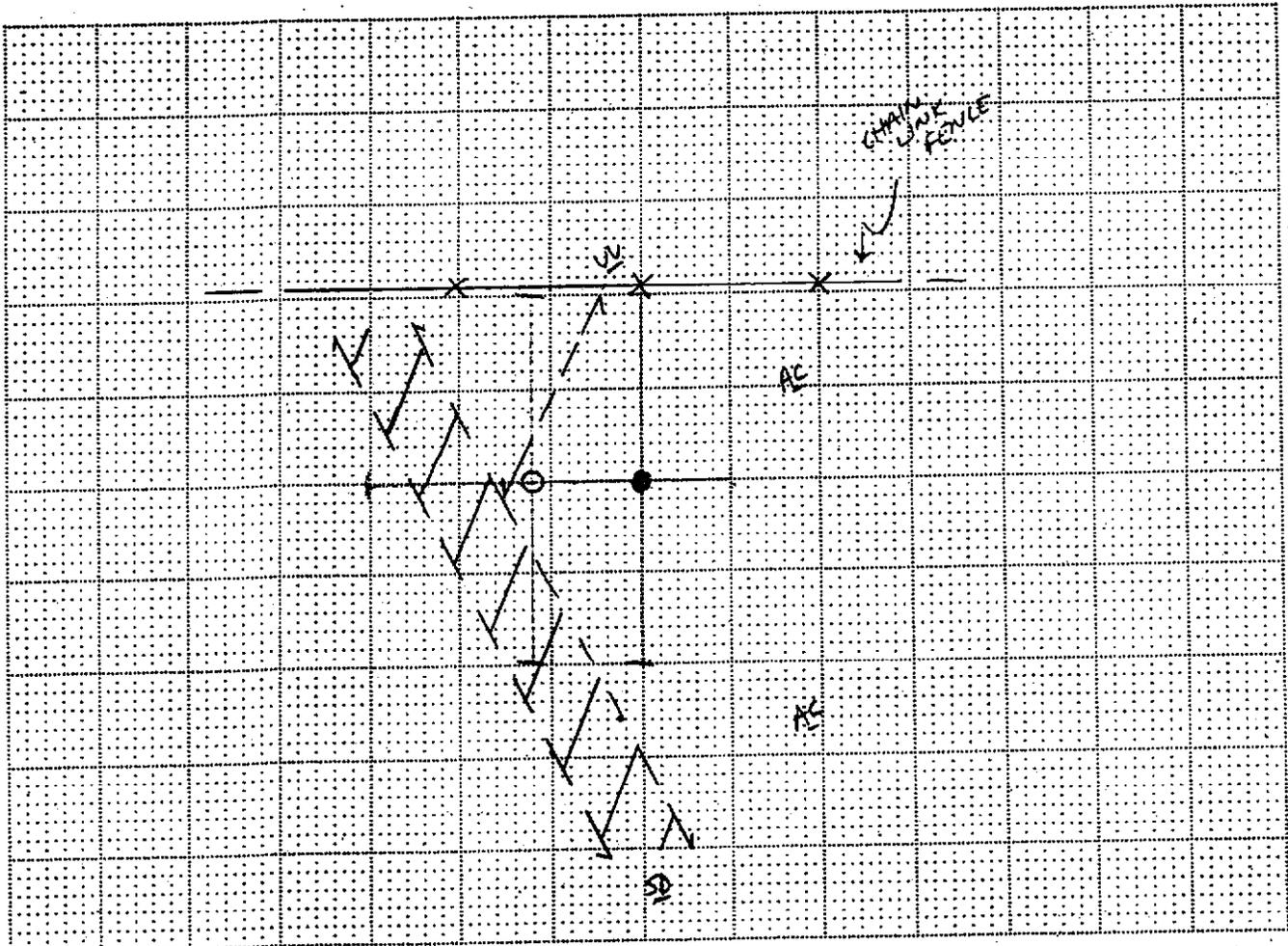
LOCATION: BENICIA

NORCAL

GEO PHYSICAL CONSULTANTS INC.



BORING: B154 HPOOZ



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

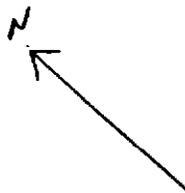
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

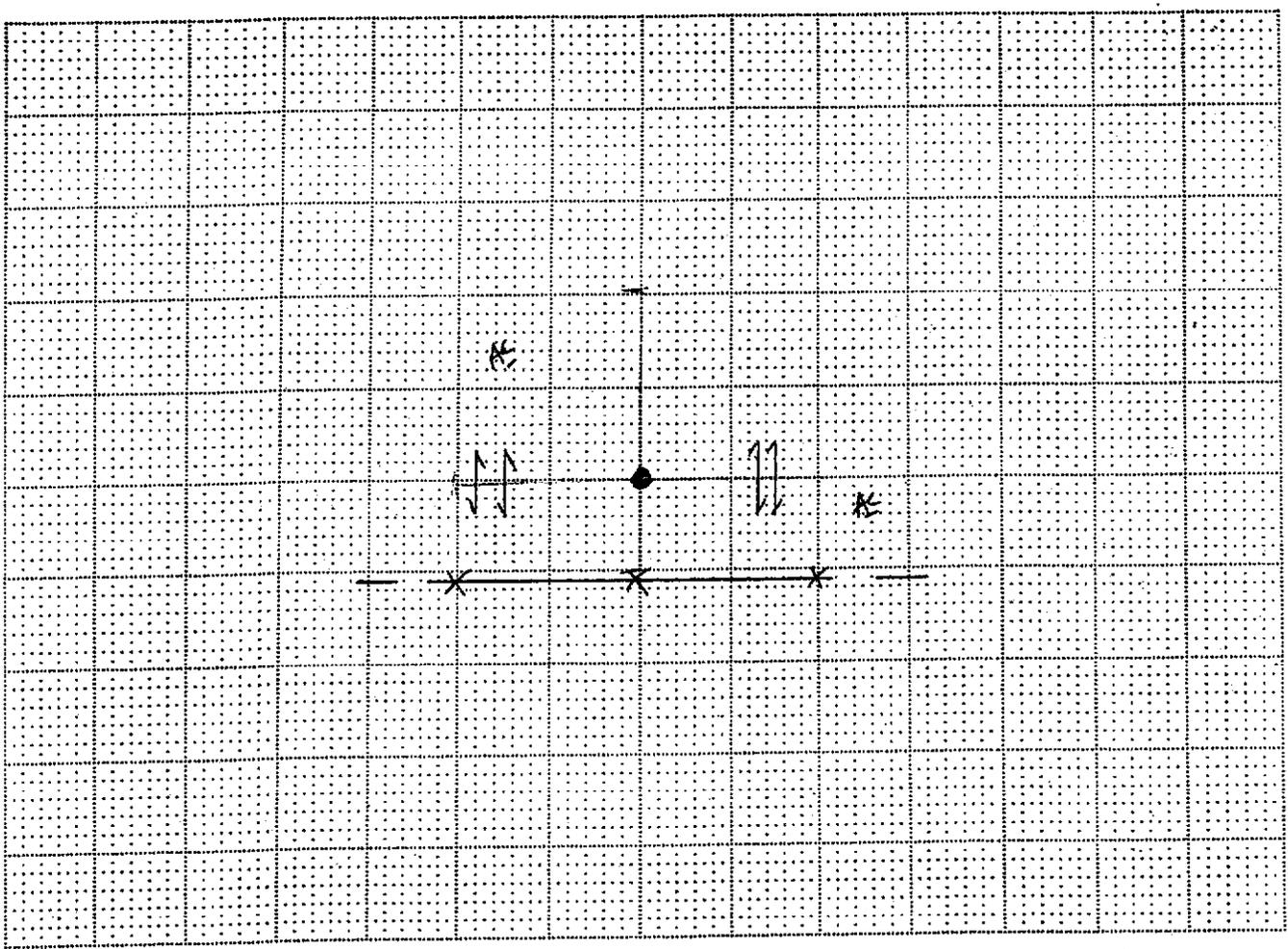
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|---|--|---|
| Equipment: | Procedure: | Surface Conditions: |
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| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



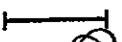
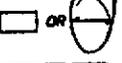
PERSONNEL: DJK JB
 JOB: DATE: 4-22-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: B & C
 LOCATION: BENICIA
 BORING: FS1HP001



Scale: 1" = 10'

EXPLANATION

-  Original Boring Location
-  Final Boring Location
-  GPR Traverse
-  Localized GPR Anomaly
-  Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

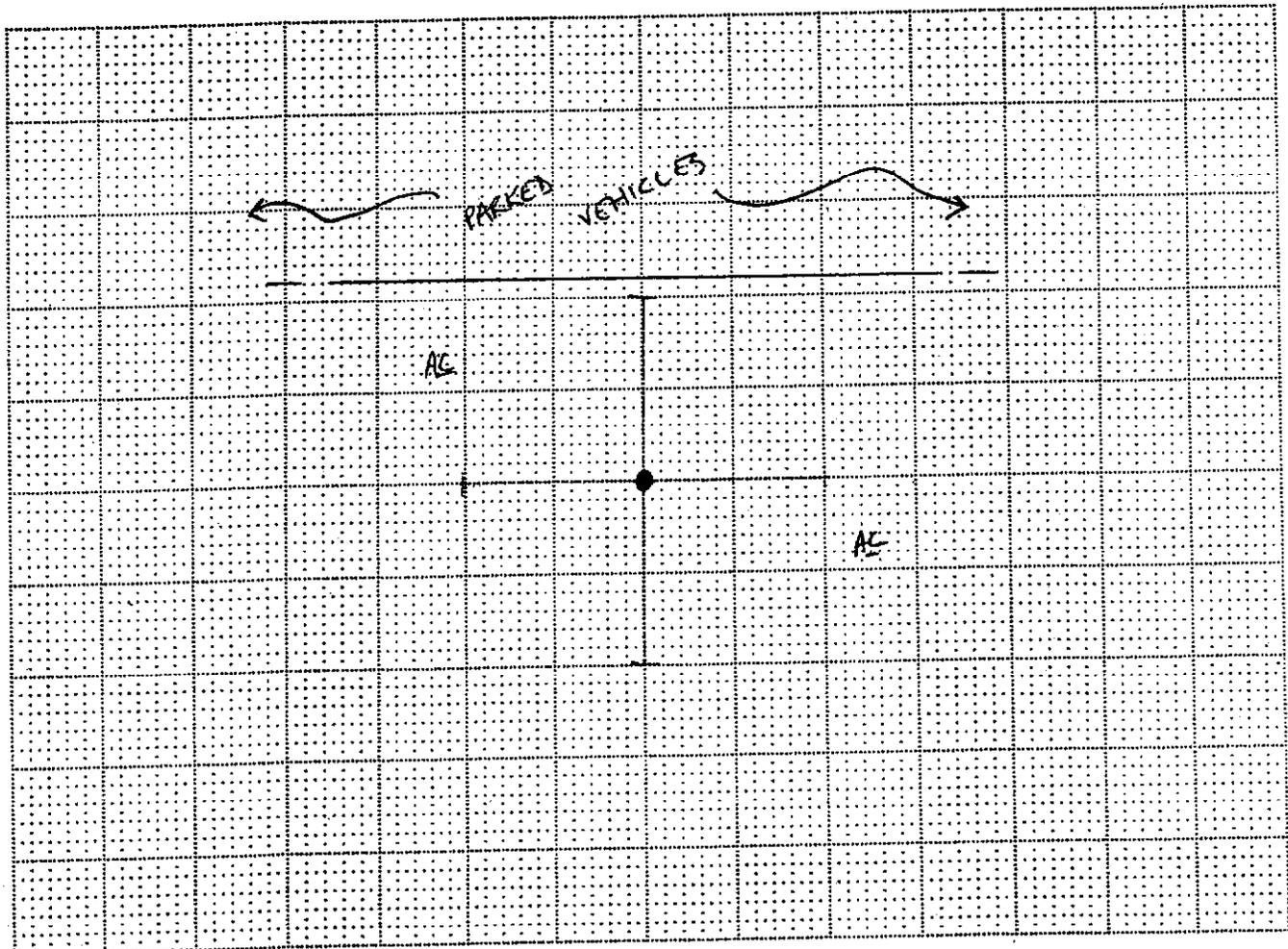
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input checked="" type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 JOB: DATE: 4-23-04

CLIENT: B³C
 LOCATION: BENICIA
 BORING: FS1HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephones, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: bjk JB

CLIENT: B+C

OB: DATE: 4-23-04

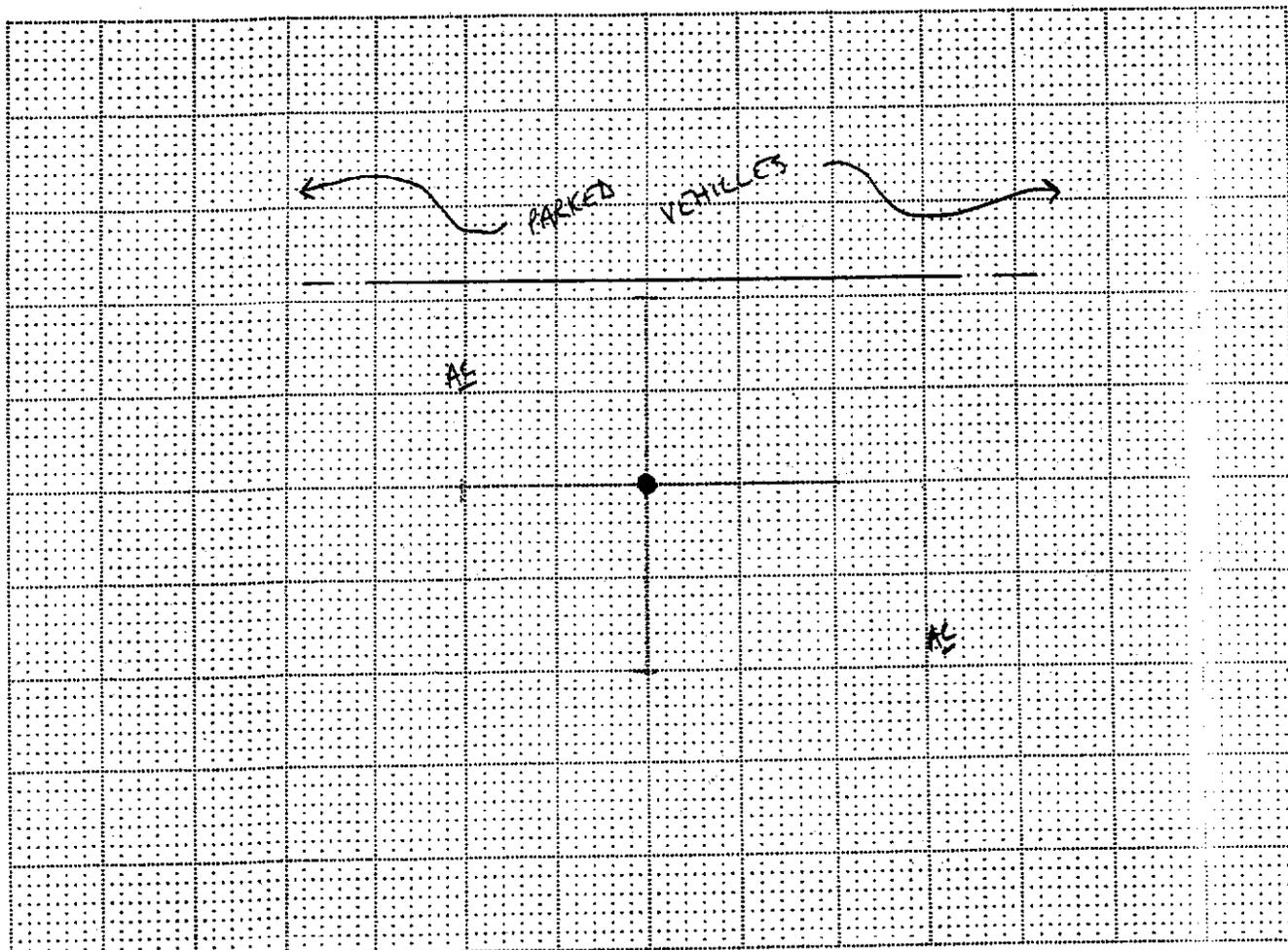
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: FSIHP003



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

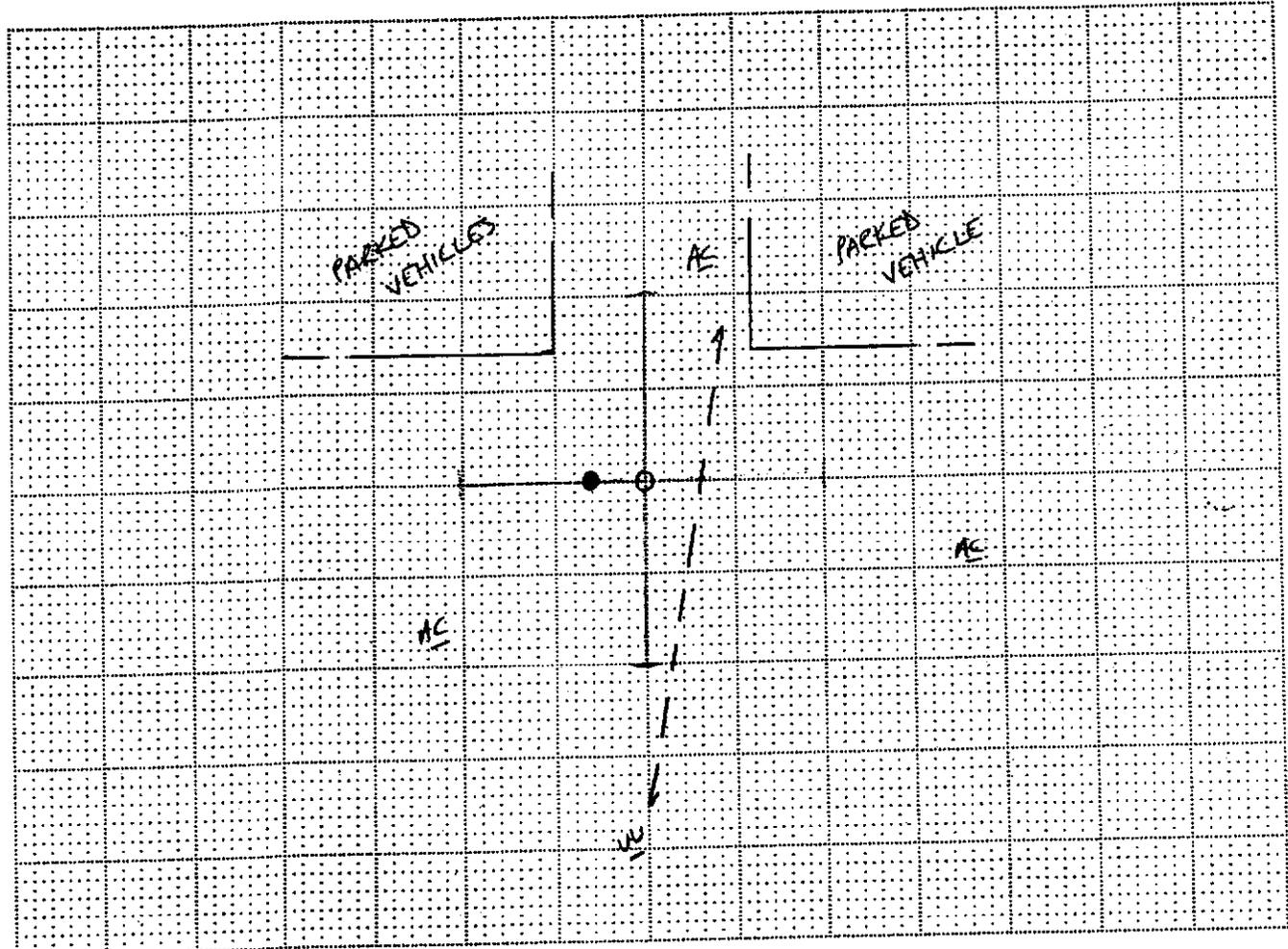
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|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| - RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DSK JB
 JOB: DATE: 4-23-04

CLIENT: B³C
 LOCATION: BENICIA
 BORING: FSIH P004



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

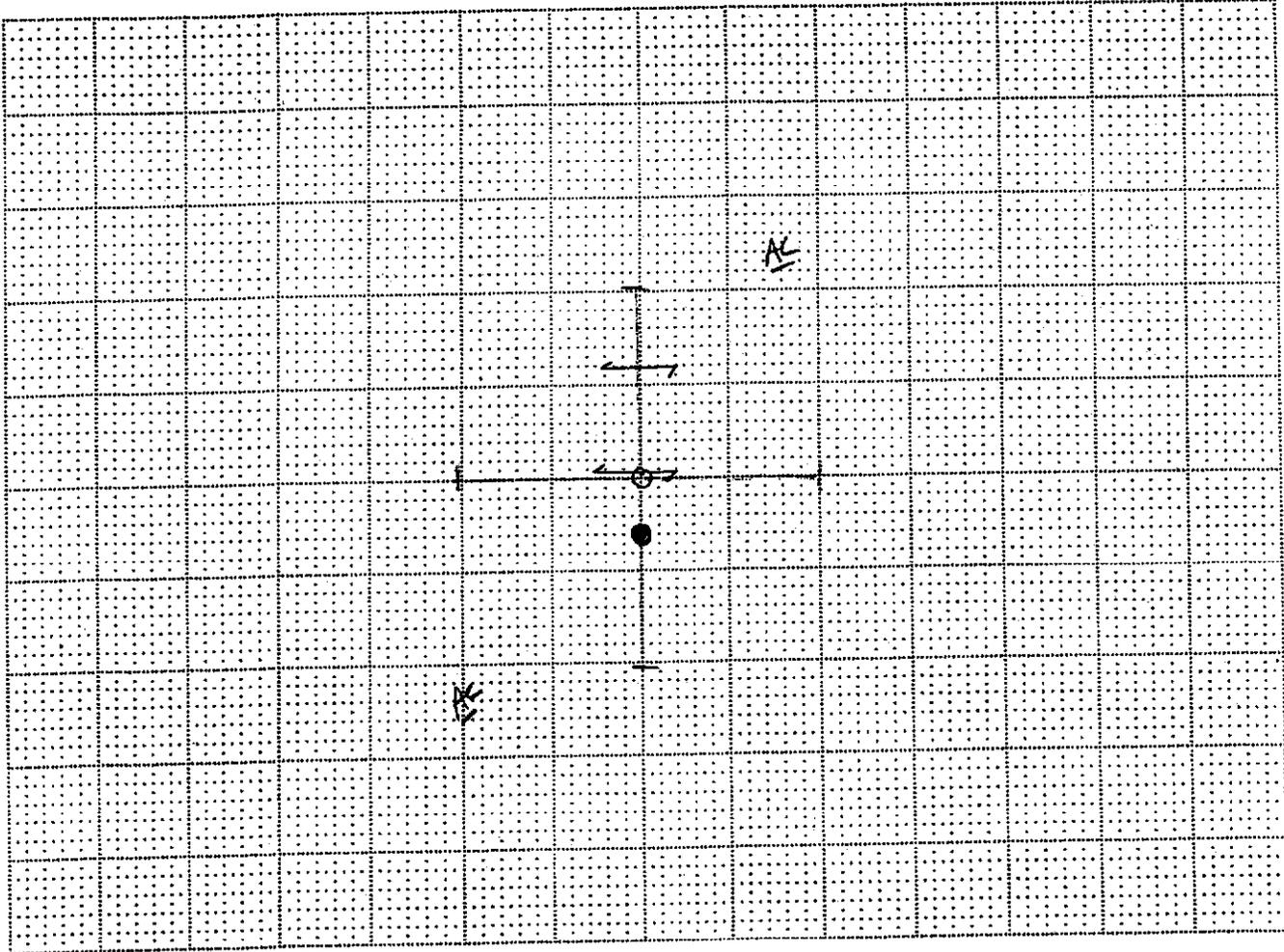
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B' C
 LOCATION: BENICIA
 BORING: FSIHP005



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB

CLIENT: BFC

B: DATE: 4-23-04

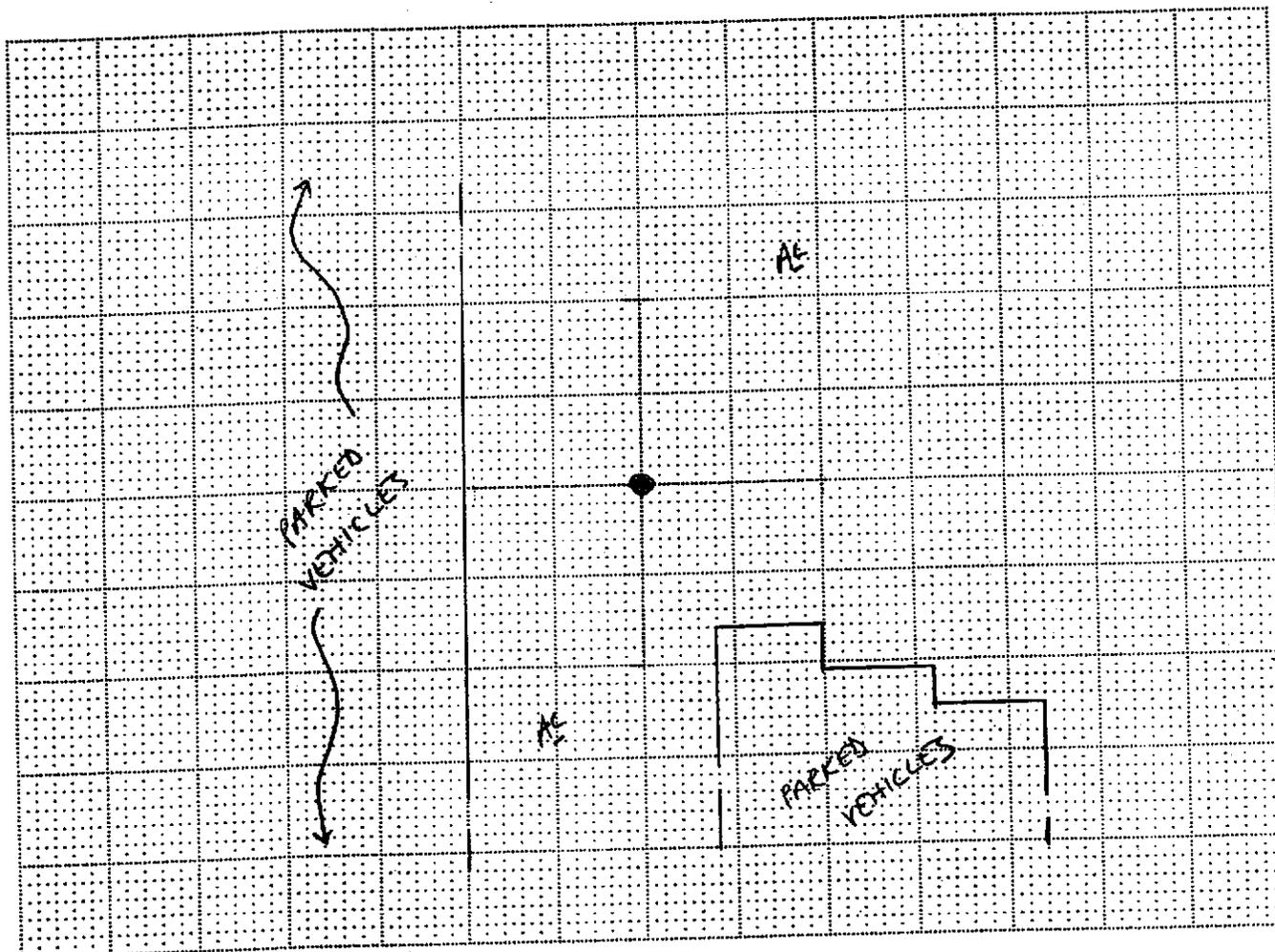
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: FSHP006



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

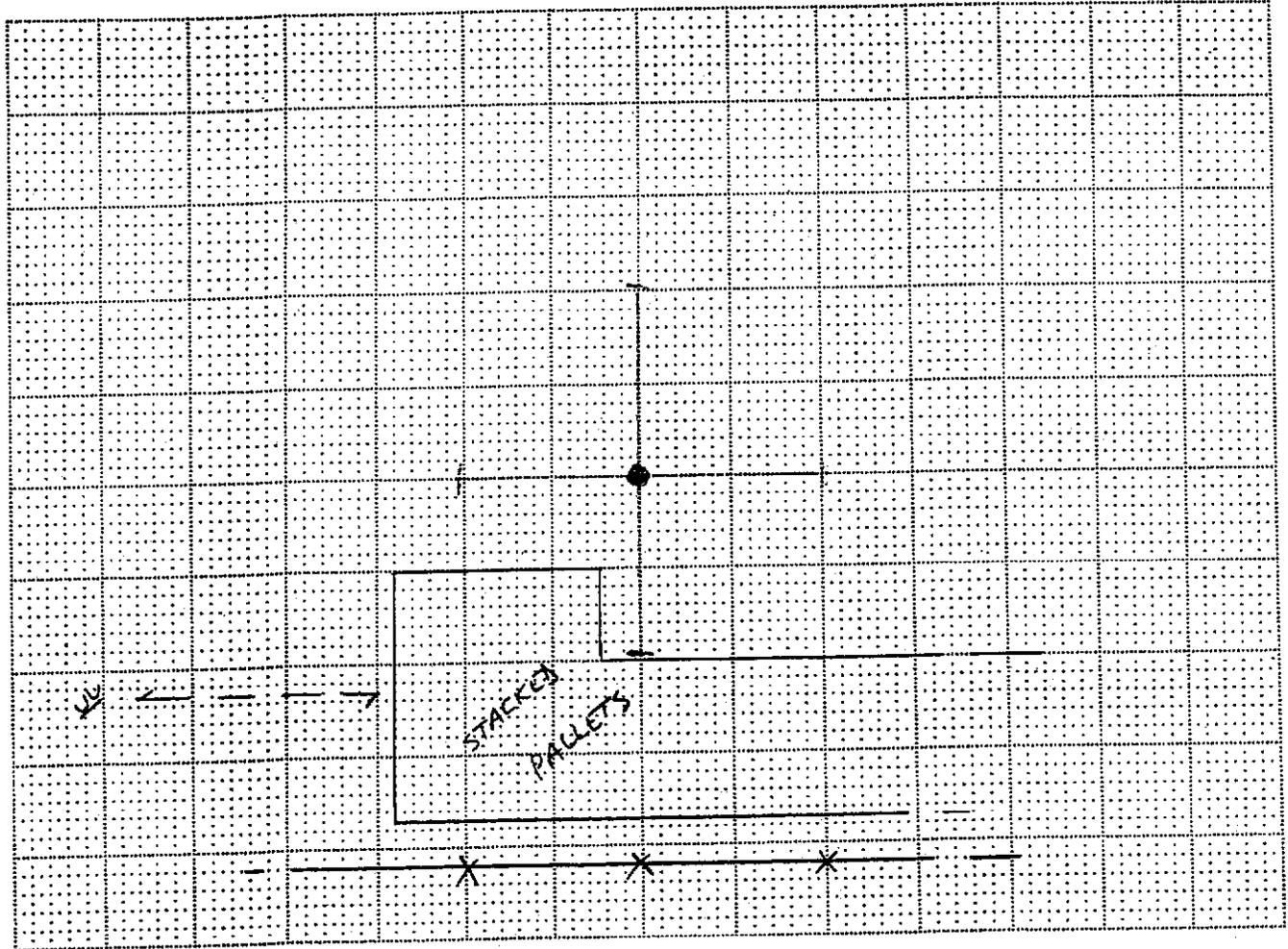
- | Equipment: | Procedure: | Surface Conditions: |
|---|---|---|
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B/C
 LOCATION: BENICIA
 BORING: B167HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

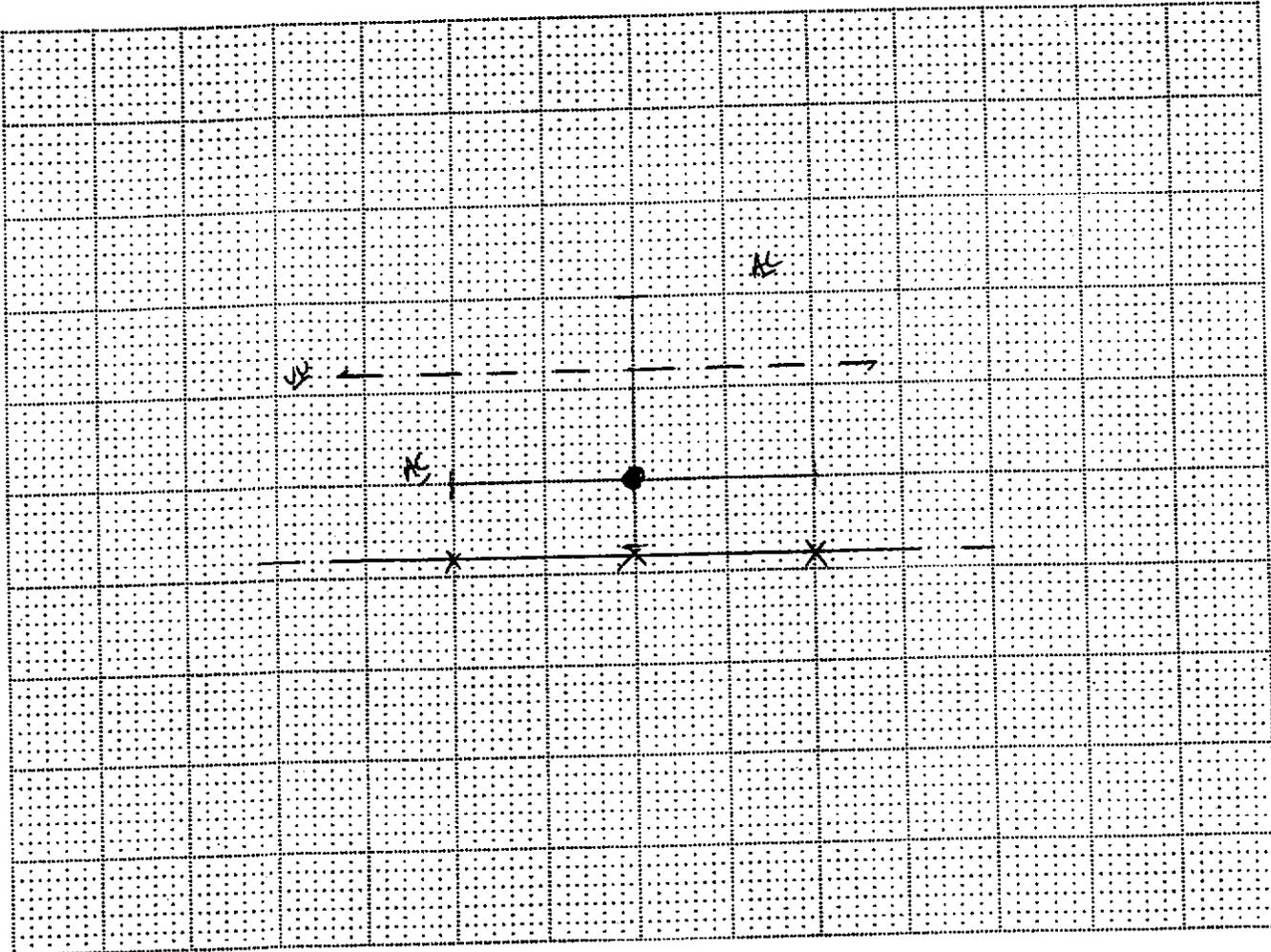
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: B167 HPOOZ



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- |—|— GPR Traverse
- or — Localized GPR Anomaly
- - - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

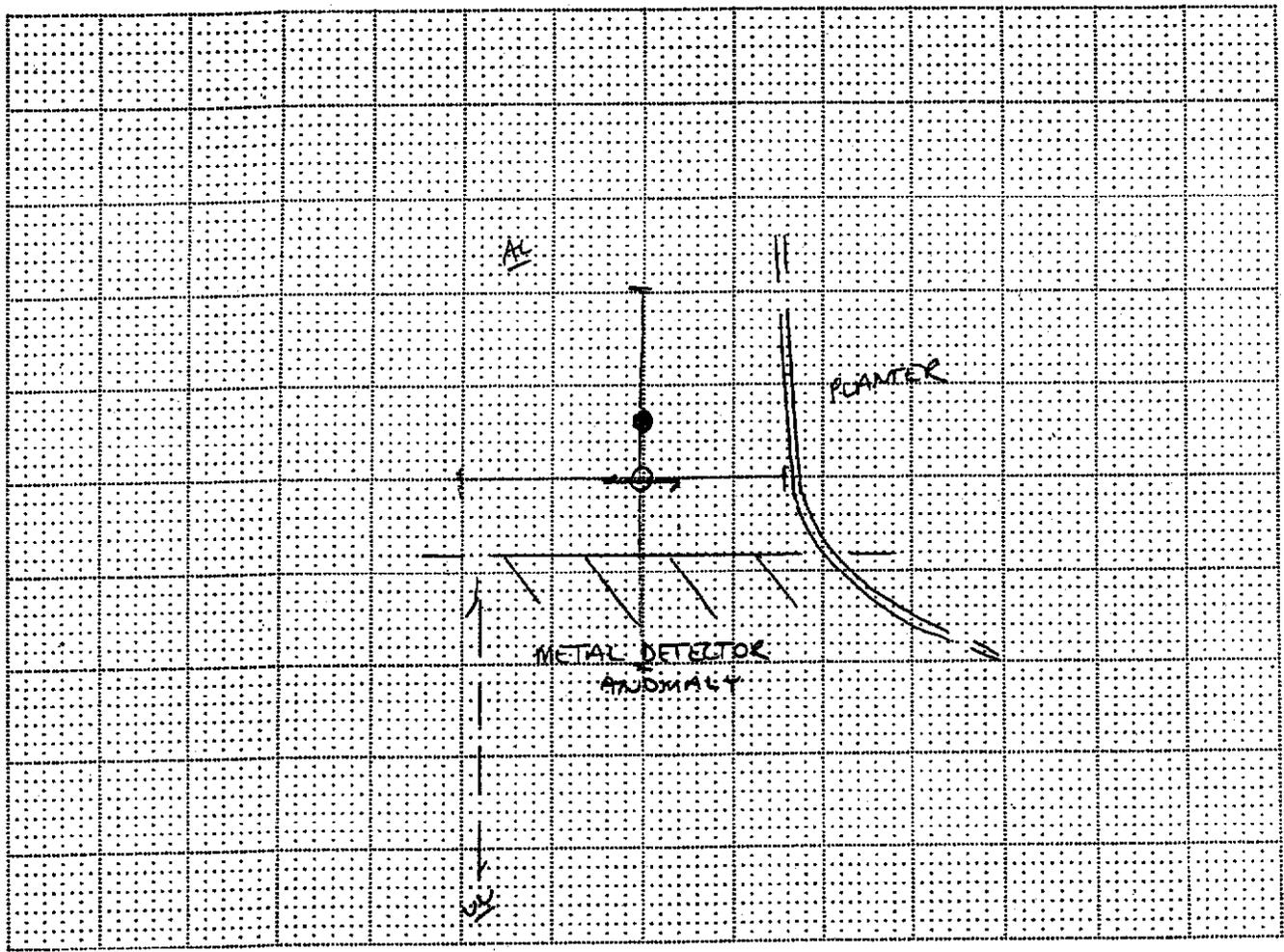
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | - EMC (Conduction) | - Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | - other |
| - other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK TB
 OB: DATE: 4-26-04

CLIENT: BIC
 LOCATION: BENICIA
 BORING: B042HP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- - - Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Supression)
- ✓ UU (Undifferentiated Utility)

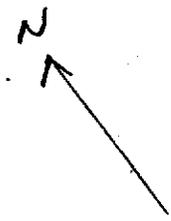
Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | Equipment: | Procedure: | Surface Conditions: |
|---------------|--------------------|---------------------|
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK TB

CLIENT: BTL

JOB: DATE: 4-26-04

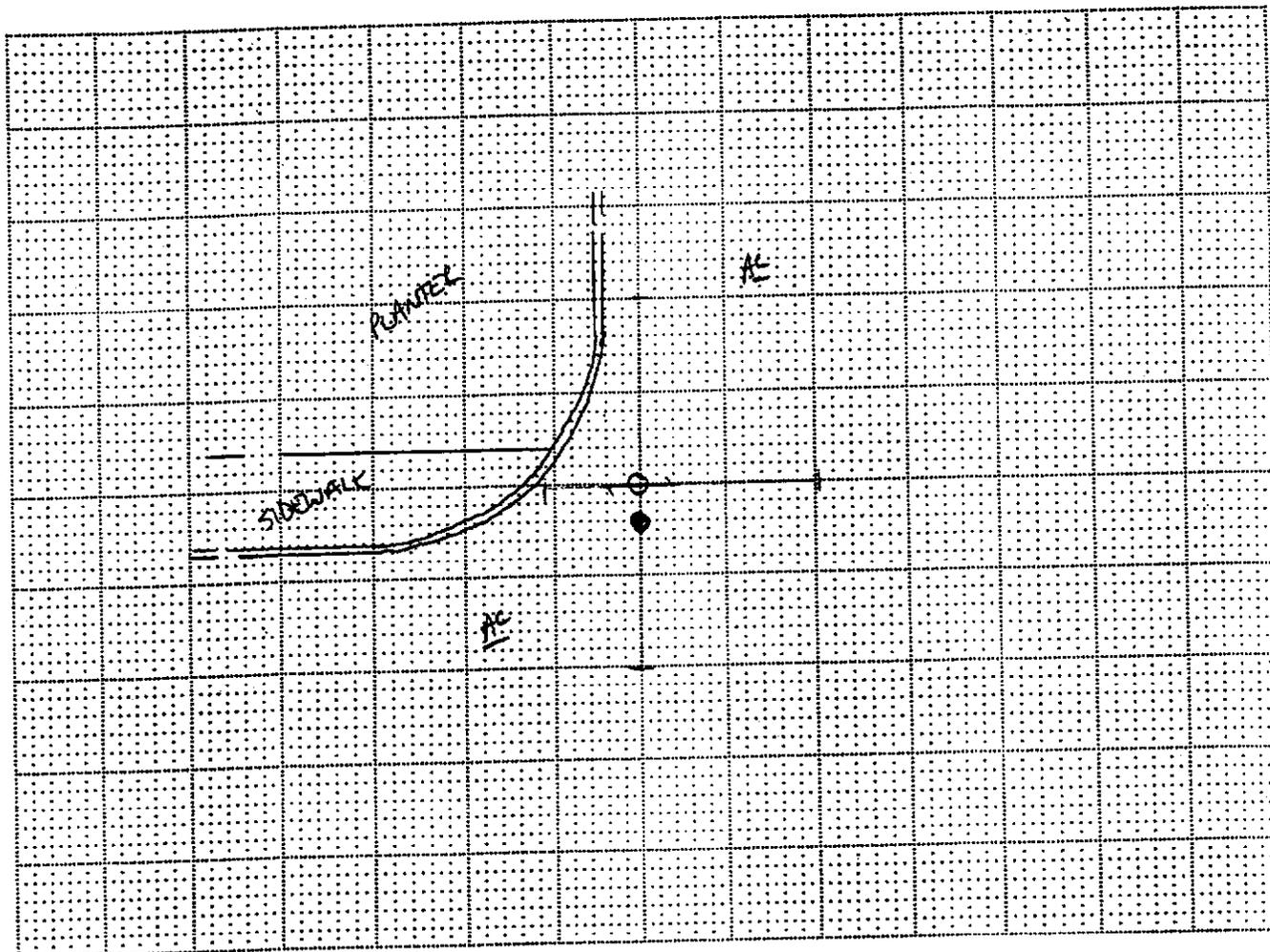
LOCATION: BENICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: B042HP002



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

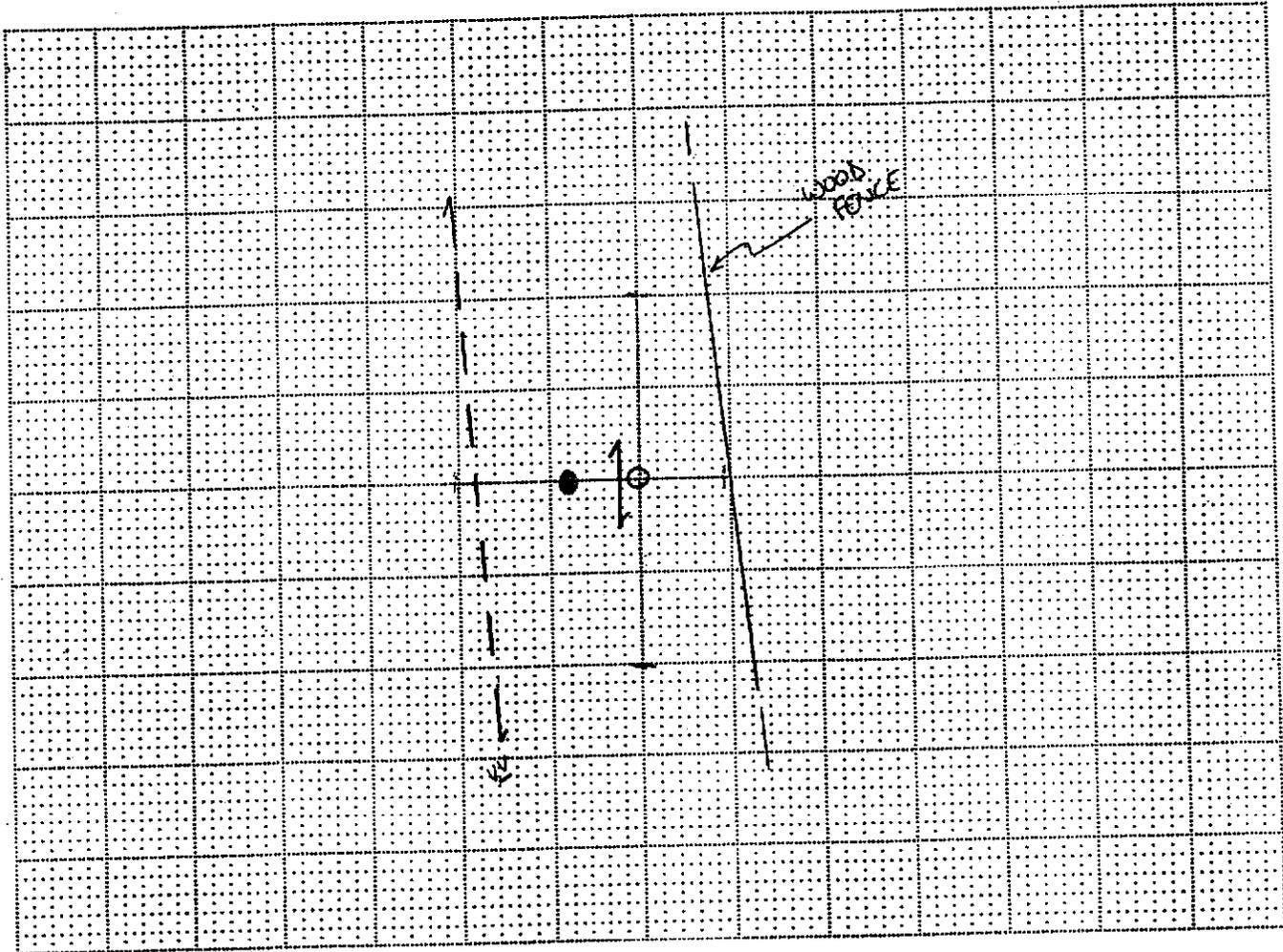
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|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | - GPR | |

REMARKS



PERSONNEL: DJK TB
 JOB: DATE: 4-26-04

CLIENT: B+C
 LOCATION: BENICIA
 BORING: B118AHPOOZ



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- ✓ UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- ✓ C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS

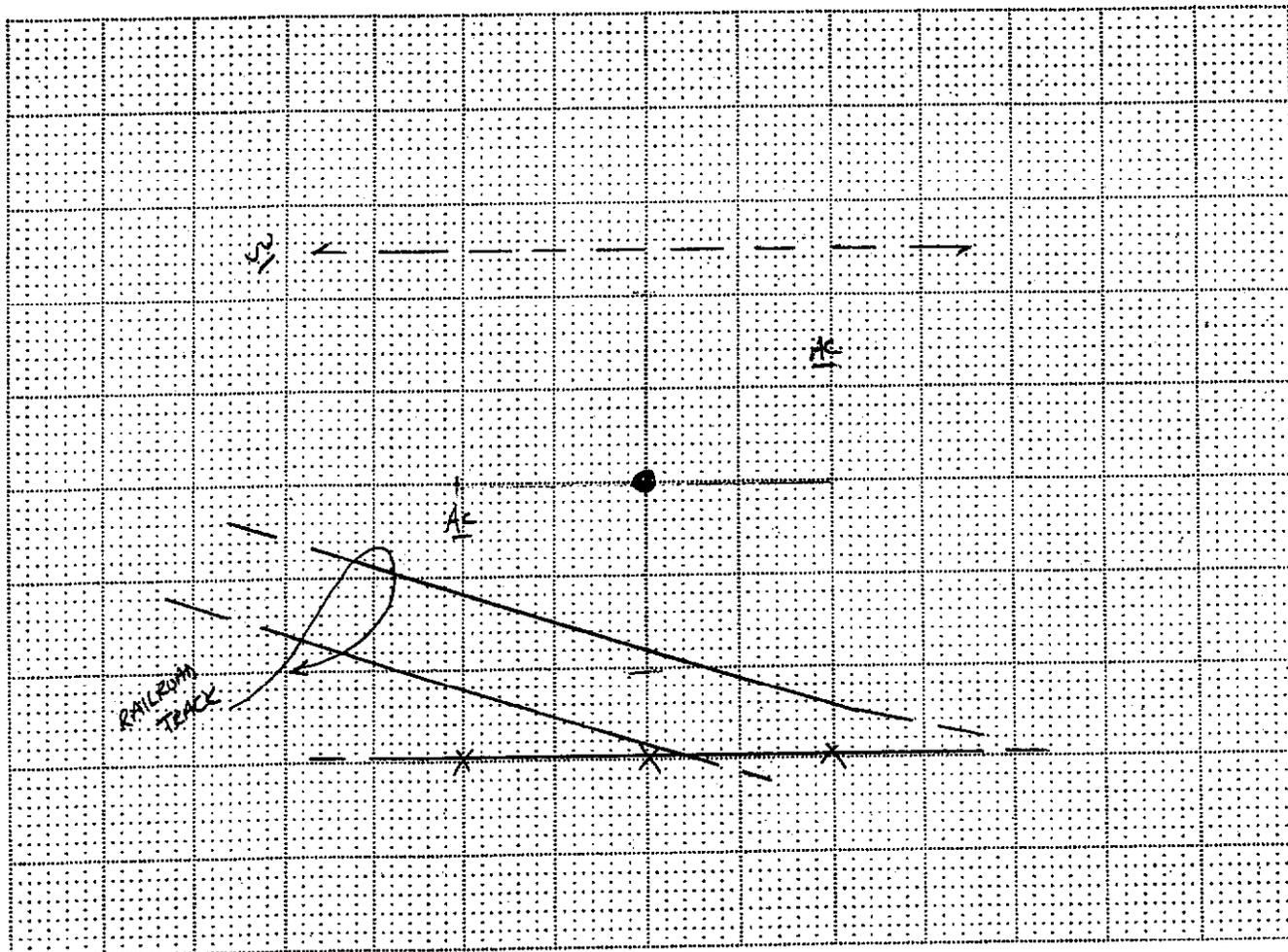


PERSONNEL: DJK JB
 OB: DATE: 4-23-04

CLIENT: B7C
 LOCATION: BENICIA
 BORING: B053HP001

NORCAL

GEO PHYSICAL
 CONSULTANTS
 INC.



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

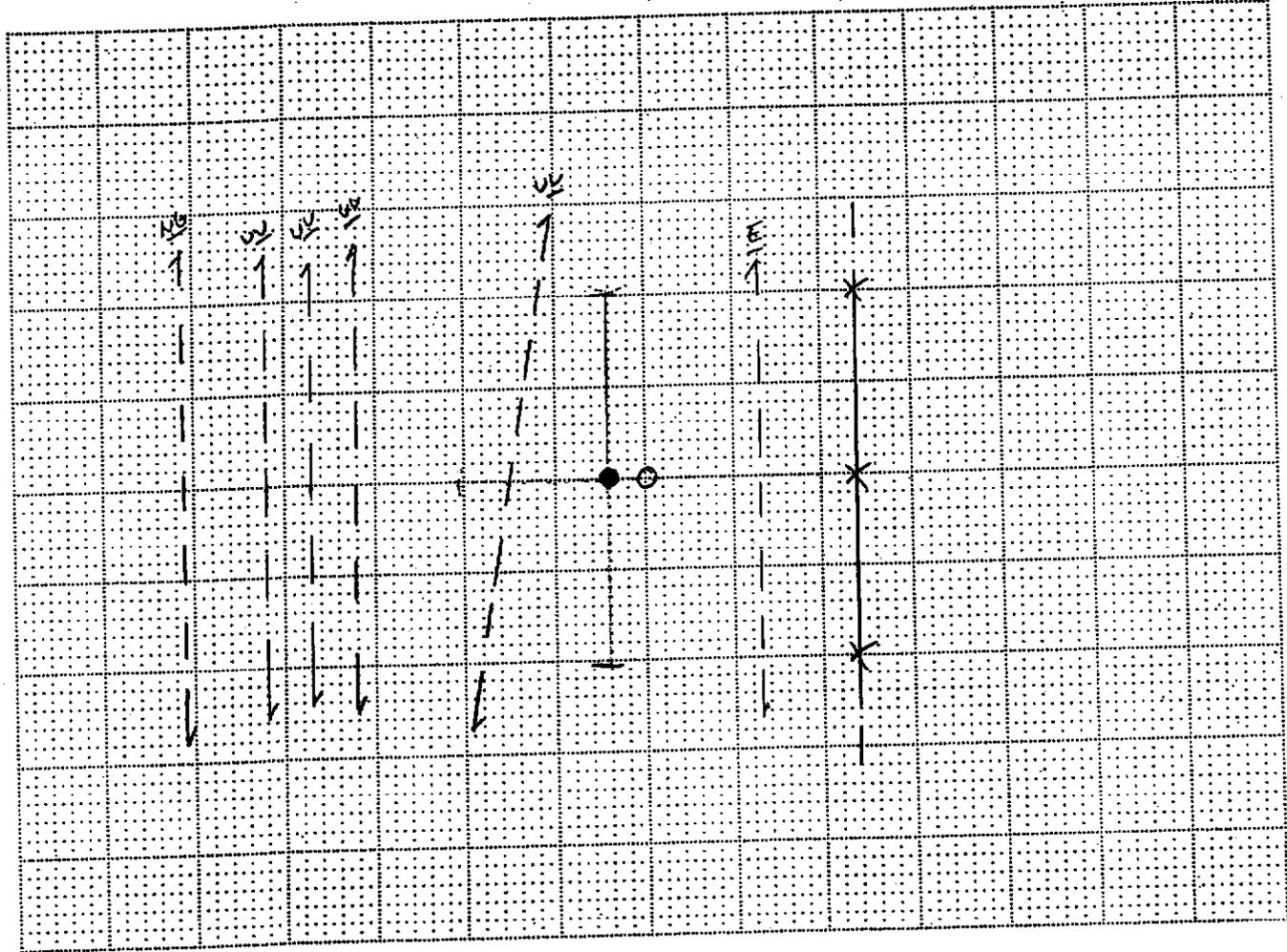
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JB
 B: DATE: 4-23-04

CLIENT: BCC
 LOCATION: BENICIA
 BORING: B059H001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- RC (Reinforced Concrete)
- AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

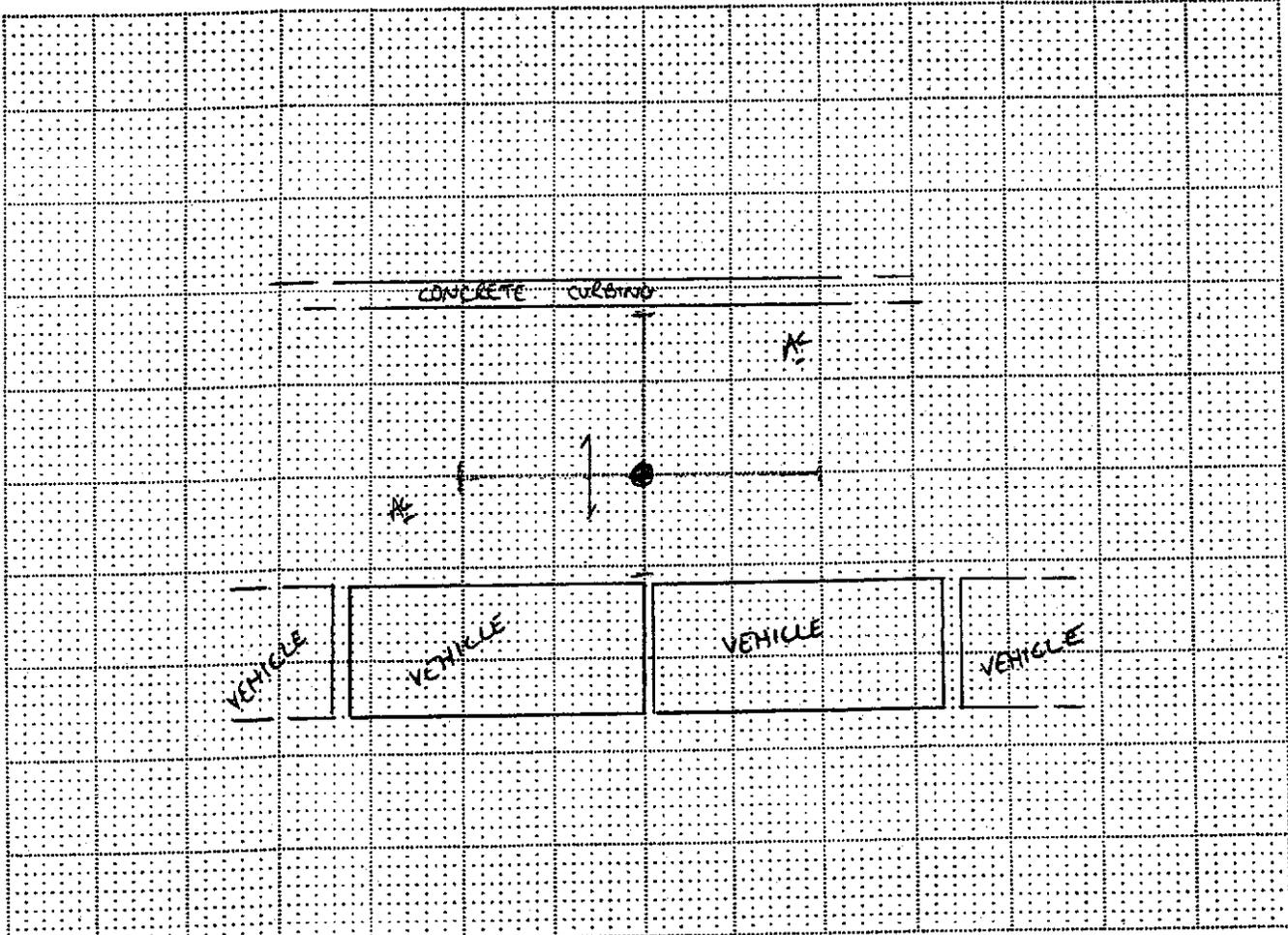
- | | | |
|---|---|---|
| Equipment: | Procedure: | Surface Conditions: |
| <input checked="" type="checkbox"/> GPR (Radar) | <input type="checkbox"/> EMC (Conduction) | <input type="checkbox"/> Wet |
| <input checked="" type="checkbox"/> RD 400 | <input checked="" type="checkbox"/> EMI (Induction) | <input checked="" type="checkbox"/> Dry |
| <input checked="" type="checkbox"/> M Scope | <input checked="" type="checkbox"/> Ambient | <input type="checkbox"/> other |
| <input type="checkbox"/> other | <input checked="" type="checkbox"/> GPR | |

REMARKS



PERSONNEL: DJK JTS
 JOB: DATE: 4-23-04

CLIENT: B³C
 LOCATION: BENICIA
 BORING: 6059AHP001



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- or — Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- 7 RC (Reinforced Concrete)
- 7 AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

- | | | |
|---------------|--------------------|---------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: DJK JB

CLIENT: B+C

B: DATE: 4-23-04

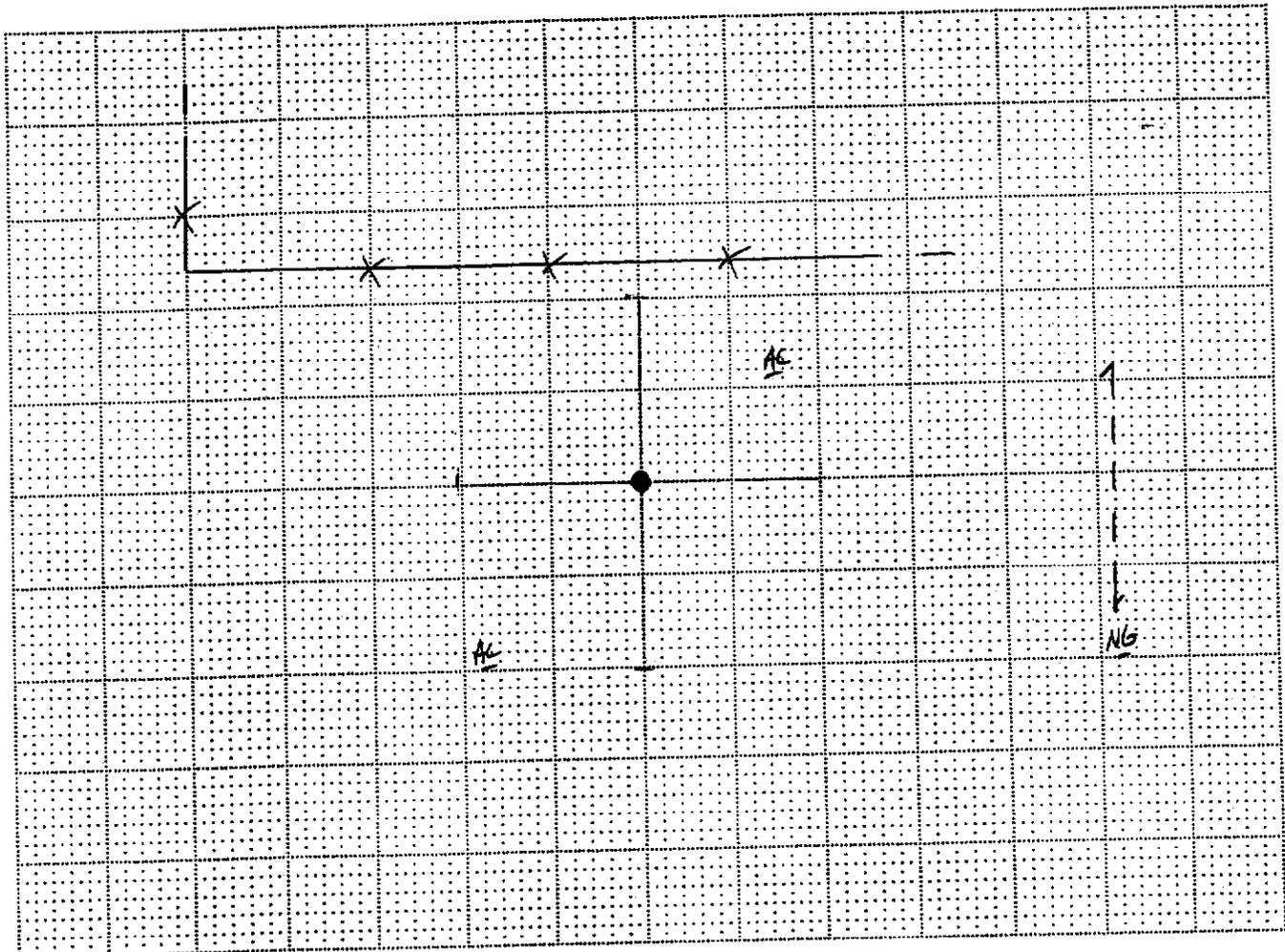
LOCATION: BEVICIA

NORCAL

GEOPHYSICAL CONSULTANTS INC.



BORING: 8004 HPOO1



Scale: 1" = 10'

EXPLANATION

- Original Boring Location
- Final Boring Location
- GPR Traverse
- Localized GPR Anomaly
- Utility Alignment

Utilities

- T (Telephone, Comm.)
- E (Electric)
- ✓ NG (Natural Gas)
- CA (Compressed Air)
- STM (Steam)
- SS (Sanitary Sewer)
- SD (Storm Drain)
- W (Water)
- FS (Fire Suppression)
- UU (Undifferentiated Utility)

Surface

- ✓ RC (Reinforced Concrete)
- ✓ AC (Asphalt)
- C (Concrete)
- Soil
- Gravel
- other

NOTES

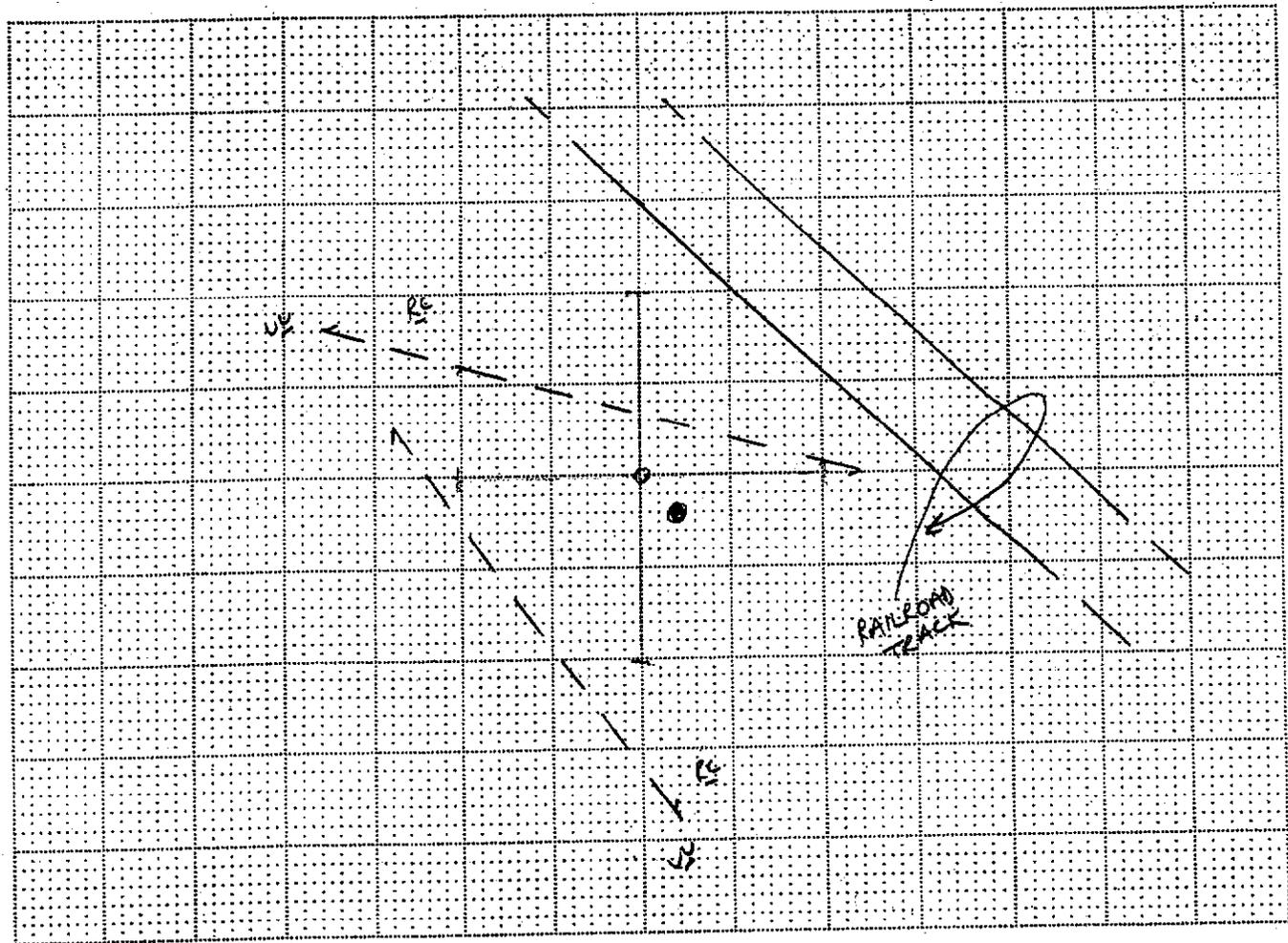
- | Equipment: | Procedure: | Surface Conditions: |
|---------------|--------------------|---------------------|
| ✓ GPR (Radar) | - EMC (Conduction) | - Wet |
| ✓ RD 400 | ✓ EMI (Induction) | ✓ Dry |
| ✓ M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS



PERSONNEL: BJK JB
 JOB: DATE: 4-23-04
NORCAL GEOPHYSICAL CONSULTANTS INC.


CLIENT: BFC
 LOCATION: BENICIA
 BORING: B004HP002



Scale: 1" = 10'

EXPLANATION

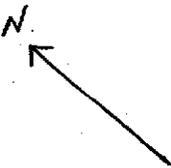
- Original Boring Location
 - Final Boring Location
 - GPR Traverse
 - OR → Localized GPR Anomaly
 - Utility Alignment
- Utilities
- T (Telephone, Comm.)
 - E (Electric)
 - NG (Natural Gas)
 - CA (Compressed Air)
 - STM (Steam)
 - SS (Sanitary Sewer)
 - SD (Storm Drain)
 - W (Water)
 - FS (Fire Suppression)
 - ✓ UU (Undifferentiated Utility)
- Surface
- ✓ RC (Reinforced Concrete)
 - AC (Asphalt)
 - C (Concrete)
 - Soil
 - Gravel
 - other

NOTES

- | | | |
|-------------------|--------------------|----------------------------|
| Equipment: | Procedure: | Surface Conditions: |
| ✓ GPR (Radar) | - EMC (Conduction) | ✓ Wet |
| ✓ RD 400 | - EMI (Induction) | ✓ Dry |
| - M Scope | ✓ Ambient | - other |
| - other | ✓ GPR | |

REMARKS

REINFORCEMENT IN
 CONCRETE PRECLUDED
 USE OF METAL
 DETECTOR

N


APPENDIX C

Legend for Analytical Result Tables

Appendix C
Legend for Analytical Result Tables

1074-43-7	1-METHYL-3-PROPYLBENZENE
108-87-2	METHYLCYCLOHEXANE
1120-21-4	UNDECANE
112-40-3	DODECANE
17301-23-4	2,6-DIMETHYLUNDECANE
292-64-8	CYCLOOCTANE
526-73-8	1,2,3-TRIMETHYLBENZENE
592-27-8	2-METHYLHEPTANE
611-14-3	2-ETHYLTOLUENE
629-50-5	N-TRIDECANE (C13)
7045-71-8	2-METHYL-UNDECANE
95-63-6	1,2,4-Trimethylbenzene
95-93-2	1,2,4,5-TETRAMETHYLBENZENE
99-87-6	P-CYMENE
ACE	ACETONE
ACNPY	ACENAPHTHYLENE
AG	SILVER
ANTH	ANTHRACENE
BE	BERYLLIUM
BRME	BROMOMETHANE
BTBZN	n-BUTYLBENZENE
BTBZS	SEC-BUTYLBENZENE
BZAA	BENZO(a)ANTHRACENE
BZAP	BENZO(a)PYRENE
BZBF	BENZO(b)FLUORANTHENE
BZGHIP	BENZO(g,h,i)PERYLENE
BZKF	BENZO(k)FLUORANTHENE
BZME	TOLUENE
CD	CADMIUM
CHRYSENE	CHRYSENE
CYMP	P-CYMENE (p-ISOPROPYLTOLUENE)
DRO	DIESEL (C10-C24)
FC11	TRICHLOROFLUOROMETHANE
FC12	DICHLORODIFLUOROMETHANE
FL	FLUORENE
FLA	FLUORANTHENE
GRO	GASOLINE (~C6-C10)
HG	MERCURY
IME	IODOMETHANE (METHYL IODIDE)
INP123	INDENO(1,2,3-c,d)PYRENE
IPBZ	ISOPROPYLBENZENE (CUMENE)
MEK	METHYL ETHYL KETONE (2-BUTANONE)
MIBK	METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)

Appendix C
Legend for Analytical Result Tables

Analyte ID	Analyte Description
MO	MOLYBDENUM
NA	SODIUM
NAPH	NAPHTHALENE
PB	LEAD
PHAN	PHENANTHRENE
RRO	MOTOR OIL (C20-C36)
SB	ANTIMONY
SN	TIN
TBME	BROMOFORM
TL	THALLIUM
TMB124	1,2,4-TRIMETHYLBENZENE
TMB135	1,3,5-TRIMETHYLBENZENE (MESITYLENE)
ZN	ZINC

Paqg ID	Paqg Description
=	Detected Above Reporting Limit
ND	Not Detected Above Detection Limit
TI	Tentatively Identified Compound
TR	Trace Detection; Below RL, Above DL

Qualifier	Qualifier Description
NJ	The analyte identification is presumptive. Reported value is an estimated concentration.
U	The analyte was not detected above the reported sample quantitation limit.
UU	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in
J+	The analyte was positively identified with high bias; the associated numerical value is the approximate concentration of the analyte in the sample.
J-	The analyte was positively identified with low bias; the associated numerical value is the approximate concentration of the analyte in the sample.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UR	The material was analyzed for and was reported as not detected by the laboratory. The data are unusable. The analyte may or may not be present.

Appendix C
Legend for Analytical Result Tables

2	Method blank contamination
3	Surrogate recovery outside limits
3H	Surrogate recovery above normal limits
3L	Surrogate recovery below normal limits
4H	MS/MSD recovery above normal limits
5	MS/MSD precision outside limits
6L	LCS recovery below normal limits
9	Other deficiencies
A	Absence of supporting QC
P	1C/2C precision outside limits
T	Trace level compound, poor quantitation

MG/KG	Milligrams per Kilogram
MG/L	Milligrams per Liter
UG/L	Micrograms/Liter