



APPENDIX E

HAZARDS AND HAZARDOUS MATERIALS BACKGROUND INFORMATION



March 8, 2011

Mr. Shaun Cooper
San Luis Obispo County General Services Department
1087 Santa Rosa Street
San Luis Obispo, California 93408

SUBJECT: Results of Site History Research and Exploratory Trenching
Nipomo Community Park Master Plan Update
West Tefft Street at Pomeroy Road
Nipomo, California

Dear Mr. Cooper:

This letter presents the findings of historical site use research and limited subsurface exploration at Nipomo Community Park (NCP) in Nipomo, California. The purpose of this work was to research the location, occurrence and general nature of past dumping in the park, and to evaluate whether the dump areas contain materials that could cause soil/groundwater contamination, or affect future improvements to the NCP. The scope of work performed has consisted of:

- Historical research regarding past site uses
- Interviews with current and former State/County staff regarding known and suspected areas of dumping within the park boundaries
- A reconnaissance of the site to look for surface evidence of past dumping
- A limited program of exploratory trenching in areas where dumping has been documented
- Field monitoring of soils from the trenches for volatile contaminants
- Preparation of this report

Included with this report are a Vicinity Map, a Trench Location Map, site photographs, historic aerial photographs, topographic maps, trench logs and other supporting documents

Site Description

The NCP is an irregularly shaped, approximately 137-acre parcel located near the eastern edge of the Nipomo Mesa. The site is bordered by Pomeroy Road to the northeast, Tefft Street to the southeast, Osage Road to the west and residential lots along Tejas Place to the south. Development around the park is primarily residential, with the exception of a County library building and Dana Elementary School near the southern corner of the site.



Historical Research

Aerial Photographs

In order to evaluate past land uses and identify areas of past dumping, aerial photographs of the site flown between 1939 and 2005 were reviewed. A summary of this review is presented below. Copies of the aerial photographs are attached with this report.

1939: The central portion of the park property appears unimproved, with areas of dryfarmed agriculture visible in the northern and southern parts of the site. Pomeroy Road and Tefft Street are present, as well as several dirt roads or tracks that cross the park from east to west. No significant areas of ground disturbance that would suggest the presence of a dump or landfill are evident within the park boundaries. The area surrounding the park is undeveloped, with the exception of a small house at the eastern corner of Pomeroy Road and Tefft Street.

1949: Conditions over most of the park property appear similar to those shown on the 1939 photograph; however, a loop road is present in the southeastern corner of the park, southwest of the intersection of Pomeroy Road and Tefft Street. The road extends southwest from the intersection for approximately 600 feet, and curves southeastward to re-join Tefft Street just east of the present-day location of Dana Elementary School. The ground surface along the northwest edge of the road appears disturbed, and may indicate the presence of dumping. A few new residential structures are present east of the site, on the east side of Pomeroy Road.

1956: The loop road in the southeast corner of the site is still present, and the ground surface along both sides of the road appears to be disturbed. Two small structures are present in the northern part of the park property, a short distance south of the future right-of-way for Camino Caballo. Elsewhere on the site, conditions on the site appear essentially the same as those shown on earlier photographs.

1969: The southern portion of the park has been developed; two baseball fields are present along the west side of Pomeroy Road, and what appears to be an equestrian arena is present west of the ball fields, on the south side of the central ridge. Dana Elementary School has been built to the southwest of the park, and widely scattered residential development is present in the area surrounding the site. The ground surface still appears to be disturbed in the southeast part of the park in the area noted on the earlier photographs, but the loop road is no longer present, and a large number of trees have been planted in this area.

1978: Additional improvements made to the park include a third baseball field and tennis courts to the west of the original fields. The structure south of Camino Caballo observed in earlier photographs is no longer present, and residential development has increased markedly in the area northeast of the site.



1989: A fourth baseball field has been added to the southern part of the site, and the network of footpaths and trails in the northern part of the park has been expanded. No indications of dumping are visible in the photograph. Residential development continues to increase in the areas east and south of the park.

1994-2005: Conditions at the park are essentially the same as those observed during the 2010 site reconnaissance. The public library building is present in a 2002 photograph, and the equestrian arena was removed or abandoned between 1994 and 2002. Residential development has increased on all sides of the park throughout this period.

Topographic Maps

Historic topographic maps of the Nipomo area dating from 1922 to 1965 were reviewed to see if any cultural or geomorphic features indicated the likelihood of a disposal area. The NCP property spans across two maps, and only the eastern map was readily available for review. This map shows the easternmost corner of the park, near the intersection of Tefft Street and Pomeroy Road. The 1922 and 1952 maps show a closed topographic contour indicating a basin-like depression, just west of the Tefft Street/Pomeroy Road intersection. Similar depressions are shown elsewhere in the area north and southeast the park. These areas are typical topographic features in a stabilized sand dune environment, and in several locations outside the NCP have been found to contain buried debris and waste. Copies of the maps are attached with this report.

Previous Assessment Work/Reports

During construction of the Nipomo Branch library in 1996, soil vapor sampling was conducted around the library site by the California Integrated Waste Management Board (CIWMB), due to the site's proximity to a former waste disposal site. State and County records had indicated the presence of a landfill site known as the Old Nipomo Dump, reportedly located northeast of the library. Low combustible gas concentrations (a maximum of 900 parts per million by volume [ppmv]) were found at several locations in the northeastern part of the library site, although the highest were found in a planter area that had been recently mulched and fertilized. The instrumentation used to collect the readings was not compound-specific, and the CIWMB requested that the County conduct additional, more detailed analysis to evaluate soil gas conditions.

The County General Services Department retained Earth Systems Consultants Northern California (ESCNC) to provide supplemental soil gas sampling and analysis in the area around the library. ESCNC collected soil gas samples from a depth of 8 feet below grade at two locations at the rear of the library parcel, closest to the former disposal area as identified by the CIWMB. Field readings from an instrument calibrated specifically to methane ranged from 3 to 6 ppmv; soil gas samples were also collected for laboratory analysis to determine concentrations of other volatile compounds that could present health risks to occupants of the building.



Low (part per billion) levels of several volatile organic compounds were detected in the vapor samples collected in June 1996; however, the concentrations were several orders of magnitude below regulatory thresholds established for these compounds, and the ESCNC report concluded that they did not present a health risk to future occupants of the site. As a precautionary measure, the CIWMB recommended that a landfill gas monitoring system be installed for the library to provide ample warning in the event combustible gas levels in the building were to rise.

In 2002, a cultural resource report was prepared by Parker & Associates of Cayucos, California. The report focused on a historic dump site in the southeastern part of the park, but included a survey of the entire park property for surface indications of other possible dump sites, although no other sites were identified. The historic dump site was found to contain household trash dating from the 1880's to the 1930's, and consisted primarily of ceramic, glass and metal artifacts. According to the report, the dump site is located along the southwest side of Pomeroy Road, and extends from near the park entrance road near Juniper Lane southward to within 100 feet of Tefft Street. The deposit extends approximately 80 feet into the park and has a depth of at least two feet. The report did not identify any other areas of dumping within the park boundary, and did not refer to the dump area near the library building.

Staff Interviews

Earth Systems Pacific contacted various State and County employees familiar with the site to obtain anecdotal information as to where dumping had been observed in the past.

Mr. Randy Friedlander of the California Department of Resources Recycling and Recovery (CalRecycle) was contacted by telephone to discuss the site. Mr. Friedlander has been responsible for monitoring the status of the landfill gas detection system in the County library building since approximately 2005. He indicated that during his annual inspections, the monitoring system has been functioning properly, and that no detections of landfill gas had been logged. Mr. Friedlander has not directly observed the nature of the waste in the dump, and his office does not have any technical reports relating to its past operations; he was not aware of any other areas on the site where dumping had occurred. He did provide the most recent inspection form for the site, dating from November 2009, which indicates the monitoring system is functioning properly, and that no landfill gases had been detected during the previous 12 months. A copy of the form is attached with this report.

Mr. Mark Wagner of the San Luis Obispo County Parks Department was also contacted regarding past episodes of dumping at the site. Mr. Wagner was aware of the dump area near the library building, but did not know of any other large-scale dumps within the park that contained buried debris. He indicated that occasional occurrences of 'midnight' dumping had occurred along County roads that border the park, but that these had been dealt with as they occurred and were not a long-term problem.



Mr. Bill Currens, a retired County Road Department employee, was contacted regarding past dumping at the park. Mr. Currens was a Road Department Lead Man for the Nipomo area from the late 1960's until his retirement in 2000. He stated that he recalled the disposal site near the library building, but also commented that his work was related to road projects, and did not directly involve the park property. Mr. Currens also stated that during his employ at the County, surface dumping of appliances and household trash commonly occurred along County roads around the perimeter of the park, particularly along Osage Road, which until the mid-1990's was a little-used dirt road. He indicated that the dumping in this area was surficial in nature, and was he was not aware of any buried trash deposits elsewhere in the NCP.

Site Reconnaissance

Earth Systems Pacific personnel visited the site on November 18, 2010, to observe general site conditions and perform a surface reconnaissance of the park property for indications of dumping. The reconnaissance consisted of traverses across the site along established footpaths and roads, and observation of the ground surface for evidence of dumping (disturbed ground, man-made artifacts such as glass or metal in rodent burrow piles, unusual topographic features, etc.).

Small fragment of glass were present on the ground surface along the southwest side of Pomeroy Road, east of the baseball field parking lot, in the general area described in the 2002 Parker & Associates report. Similar glass shards and widely scattered ceramic and gravel fragments were observed around the off-leash dog park and unimproved areas of the park northwest of Tefft Street. No indications of large-scale disposal were observed elsewhere in the park; the majority of the park perimeter is presently protected from vehicle access by wooden fences and posts, and access roads and footpaths are secured by bollards and/or locked gates. No indications of surface disposal were noted during the November 2010 site reconnaissance.

Subsurface Assessment

On February 7, 2011, a limited program of subsurface exploration was conducted to observe the nature of the materials that had been disposed of at the site, and to make a preliminary evaluation of their potential to contain volatile compounds that could impact future development at the park. The program consisted of excavating five exploratory trenches, using a standard backhoe with an 18-inch wide bucket. The trenches were dug to depths ranging from 6.0 to 8.5 feet below ground surface (bgs), and were logged by a California-licensed Professional Geologist from Earth Systems Pacific. Trenches T-1 through T-3 were excavated in the dump area, northeast of the current library building near the off-leash dog park. Trenches T-4 and T-5 were excavated along the west side of Pomeroy Road, in the area of the disposal site identified in the 2002 Parker & Associates cultural resource report. The locations of the trenches are shown on the Site Map attached with this report.



Trench T-1 contained approximately 2 feet of fill, which consisted of sand containing abundant tree roots and a large stump. No trash-type debris was noted in the trench, which was dug to a depth of 7 feet bgs. Trench T-2 contained nearly 4 feet of fill, which contained glass fragments, brick, and metal. A metal cooking pot and tea kettle were also noted in the fill. Trench T-3 contained at least 8 feet of fill, including large amounts of broken and intact glass bottles, brick, concrete and metal, with lesser amounts of wood. The bottom of the fill was not encountered in the trench, which was dug to 8 feet bgs.

Trench T-4 was dug on the east side of the main baseball field, adjacent to Pomeroy Road. This trench encountered approximately four feet of fill, containing widely scattered glass fragments, gravel and tree roots. The soil below the fill appeared undisturbed, based on the presence of laminations in the sandy soil. Trench T-5 was excavated on the east side of the baseball field parking lot, near the entrance road opposite Juniper Avenue. Although the ground surface in this area contained abundant small glass fragments no fill was encountered in the trench, which was dug to a depth of 6 feet bgs.

Volatile organic vapors in the fill materials and underlying native soil were screened in the field using a photoionization detector (PID) calibrated to isobutylene. Head-space readings were taken by placing a sample of the materials in a sealed plastic bag, allowing the bag to off-gas for at least 5 minutes, and inserting the probe of the PID into the bag to obtain a vapor reading. No measurable organic vapors were detected in any of the samples. No other indications (odors, discoloration) of organic compound (in particular, hydrocarbon) contamination were noted in the trenches.

Logs of the materials encountered in the trenches are attached with this report.

Summary

Two areas of past dumping were identified during the current study; both of these areas were already known to the County, and no new dump areas were found within the NCP boundaries. The older of the two dumps is located along the west side of Pomeroy Road, and extends from a short distance north of Tefft Street to approximately 150 feet south of Juniper Avenue. The more recent dump is located on the north side of Tefft Street, approximately 200 feet west of Pomeroy Road, and extends several hundred feet to the southwest, in the vicinity of the existing dog park, picnic area and the unimproved area between the dog park and the County library building.

Based on the results of exploratory trenching and the information in the 2002 Parker & Associates report, the older dump along Pomeroy Road appears to be a relatively shallow feature (less than 5 feet deep) that was a surface dump along the shoulder of Pomeroy Road. The dump was apparently used between the 1880's and 1930's, and ceased operation after that time. Aerial photographs are consistent with this timeline, as no visual indications of dumping in this area were visible by 1939.



Given its location, the older dump is unlikely to substantially affect or be affected by future improvements to the park unless the main ball field is planned to be replaced with some other feature. The disposed materials in the dump appear to be generally non-organic, and consequently the likelihood of landfill gas being generated is low.

The more recent dump north of Tefft Street is more extensive, and contains debris to a depth of at least 8 feet. State and County records indicate the dump operated over a relatively short period from 1965-1972, but aerial photographs suggest that the dump first operated between 1939 and 1949 and had ceased operation by 1969, as the area had been planted with numerous trees by that time.

In the February 2011 trenches, the dumped materials appeared to be glass, metal, concrete and brick, with only minor amounts of wood or plant waste. In general, these materials were non-organic, and would be unlikely to generate significant amounts of landfill gas. The results of soil gas testing completed for County library building in 1996 and subsequent monitoring since that time support the premise that the dump is not generating significant amounts of combustible gases. However, the nature of the materials in other parts of the dump is unknown, and it should not be assumed that conditions are uniform throughout the dump if this area is to be developed, and a more site-specific study should be conducted once structures are sited.

Field monitoring of the dumps indicates that volatile organic vapors were not present in the areas trenched. These results and the nature of the debris encountered in the trenches indicates that volatile organic compounds are not likely to affect proposed development; however, they could contain non-volatile contaminants such as metals, long-chain hydrocarbons or asbestos that could present a health or disposal concern if they are disturbed.

In its current state, the former dump along the north side of Tefft Street appears to be covered with a veneer of clean surface soil and does not present an imminent health risk to users of the park. If this is considered for development, or if dumped materials will be disturbed/exposed as part of Park improvements, we recommend the following measures be considered:

- Once a building footprint or area of disturbance has been identified, exploratory trenches or borings should be excavated to determine whether it is underlain by dumped materials. Samples of the debris and soil should be collected for laboratory analysis to evaluate whether they present any health or environmental concerns.
- Soil gas testing should be conducted in and around any proposed building footprint to determine whether landfill gas is present, and whether it could accumulate in the finished building. Depending on the results of the soil gas testing, it may be necessary to incorporate design features that will prevent gas accumulation.



- If soil/and or debris from the dump area are proposed to be removed from or re-located within the Park, they should be tested for contaminants of potential concern to determine whether it is subject to disposal/placement restrictions. Based on our trenching, the testing should include analysis for metals, long-chain (semi-volatile) hydrocarbons, and semivolatile organic compounds; additional testing may be needed depending on the specific nature of the materials to be removed.

Limitation

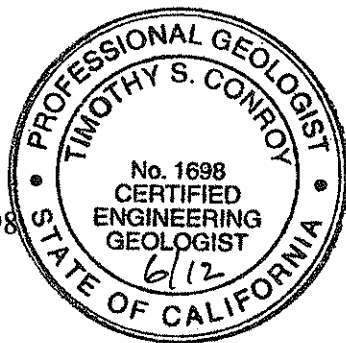
This report has been prepared for the use of the San Luis Obispo County General Services Department, regarding the Nipomo Regional Park Master Plan Update in Nipomo, California. The findings and conclusions rendered in this report are based on the results of anecdotal information, review of historic documents and a limited program of subsurface exploration. This report does not reflect subsurface variations that may exist between or beyond the locations investigated. This work has been performed in accordance with the level of care and skill normally exercised by members of our profession currently providing similar services in this area of California. No warranty, either expressed or implied, is made.

We appreciate this opportunity to be of service. Should you have any questions or comments regarding this report, please contact our office at your convenience.

Sincerely,

Earth Systems Pacific

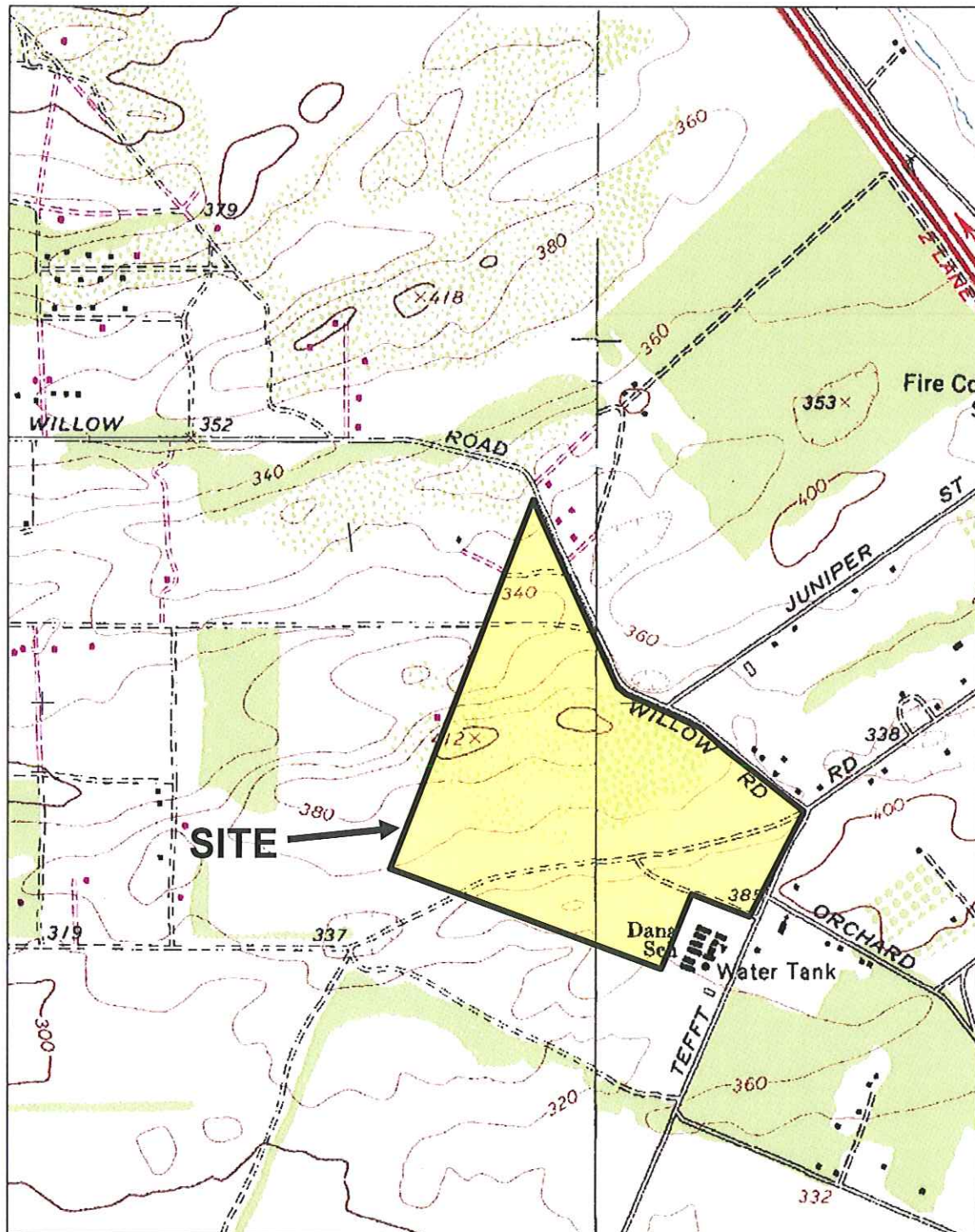
Timothy Conroy, C.E.G. 1698
Senior Geologist



Attachments: Vicinity Map
 Trench Location Map
 Site Photographs
 Historic Aerial Photographs, 1939-2005
 Historic Topographic Maps, 1922-1965
 Trench Logs
 Supporting Documents

Doc. No.: 1103-030.LTR/jr

VICINITY MAP
Nipomo Community Park Master Plan Update
Tefft Street at Pomeroy Road
Nipomo, California



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 1" = 360 ft Scale: 1:12,000 Details: 13-4 Datum: WGS84



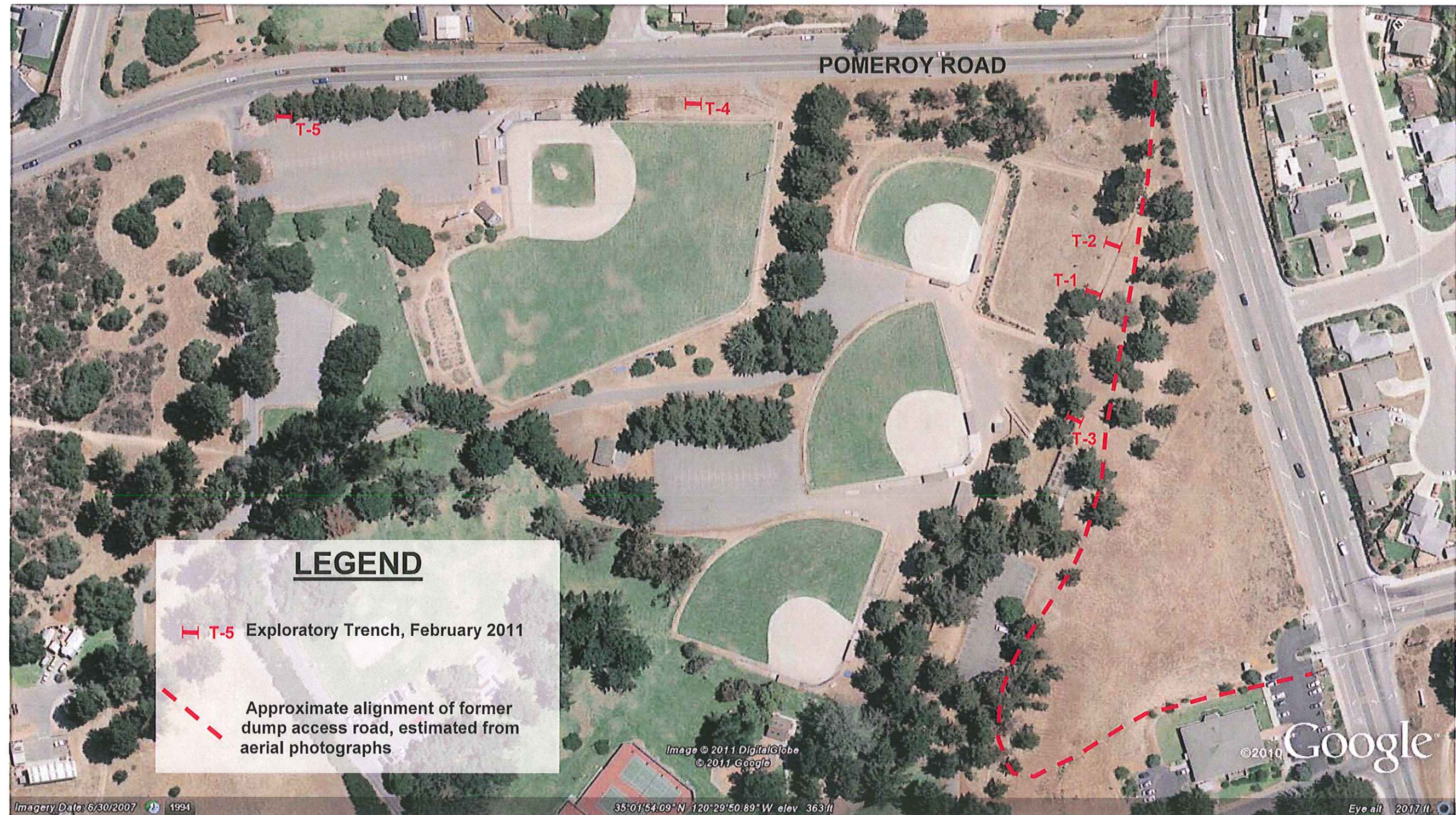
Earth Systems Pacific

Project No. SL-16172-EA

March 2011

TRENCH LOCATION MAP

Nipomo Community Park
Pomeroy Road and Tefft Street
Nipomo, California



Earth Systems Pacific

Project No. SL-16172-EA

March 2011

PHOTOGRAPHS



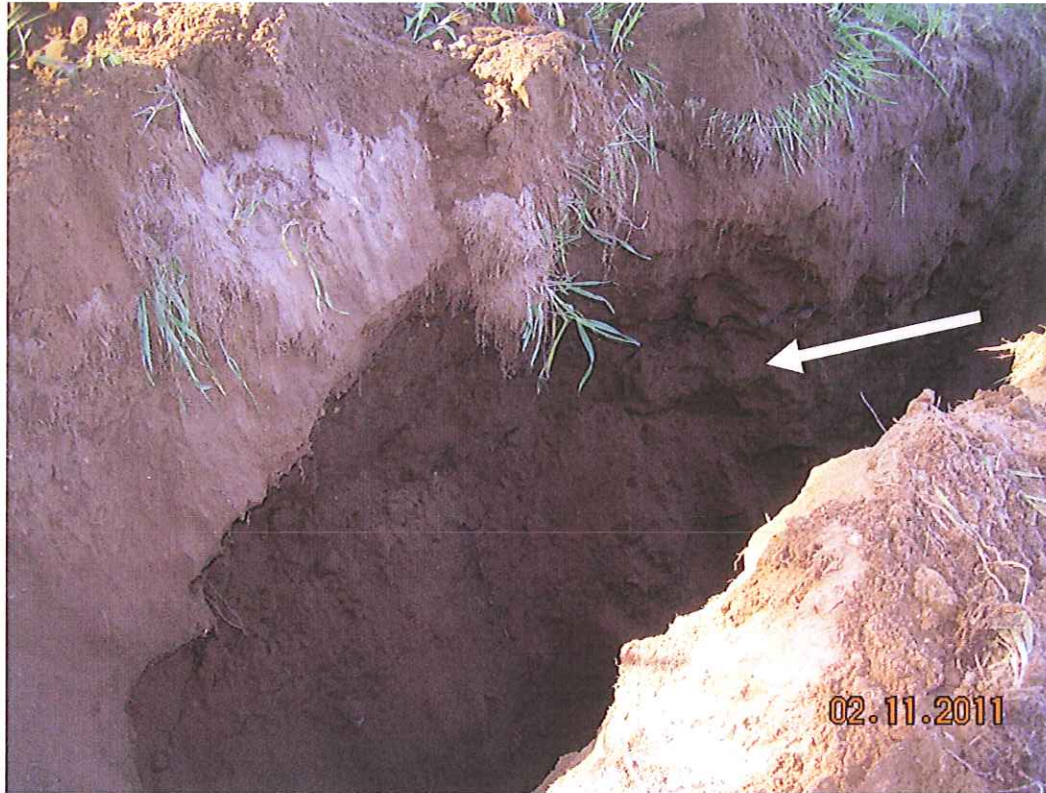
Excavated soil from trench T-1, showing lack of buried trash/debris.



Tea kettle and metal pot excavated from trench T-2.



PHOTOGRAPHS



Southern sidewall of trench T-2, arrow indicates level of buried debris.



Abundant debris, bottles and bricks in trench T-3.



PHOTOGRAPHS



Sidewall of trench T-3, arrow indicates level of buried debris.



Abundant debris, bottles and bricks in trench T-3.



PHOTOGRAPHS



Soils from trench T-4, showing only minor amounts of buried debris.



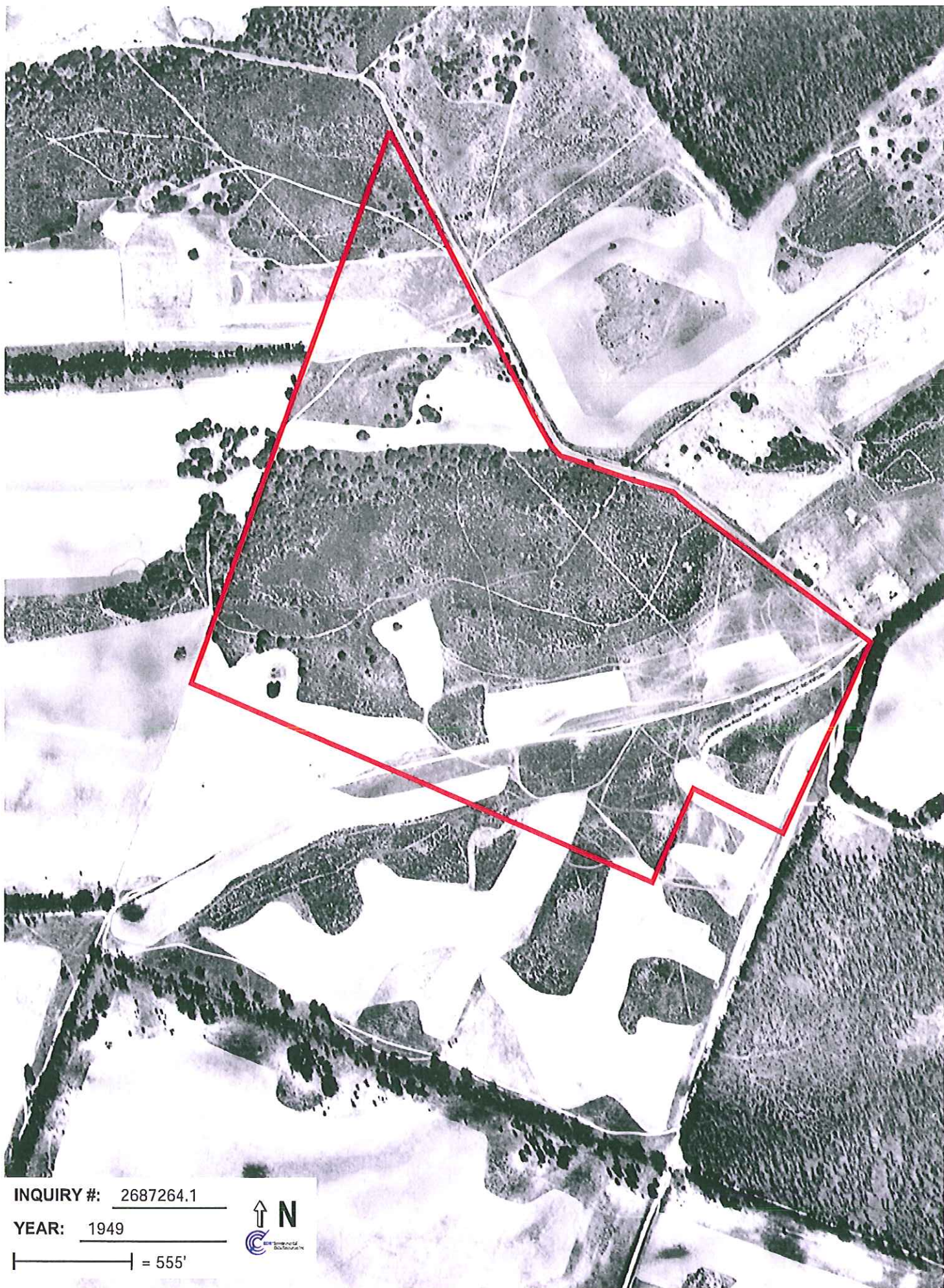


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YEAR: 1939

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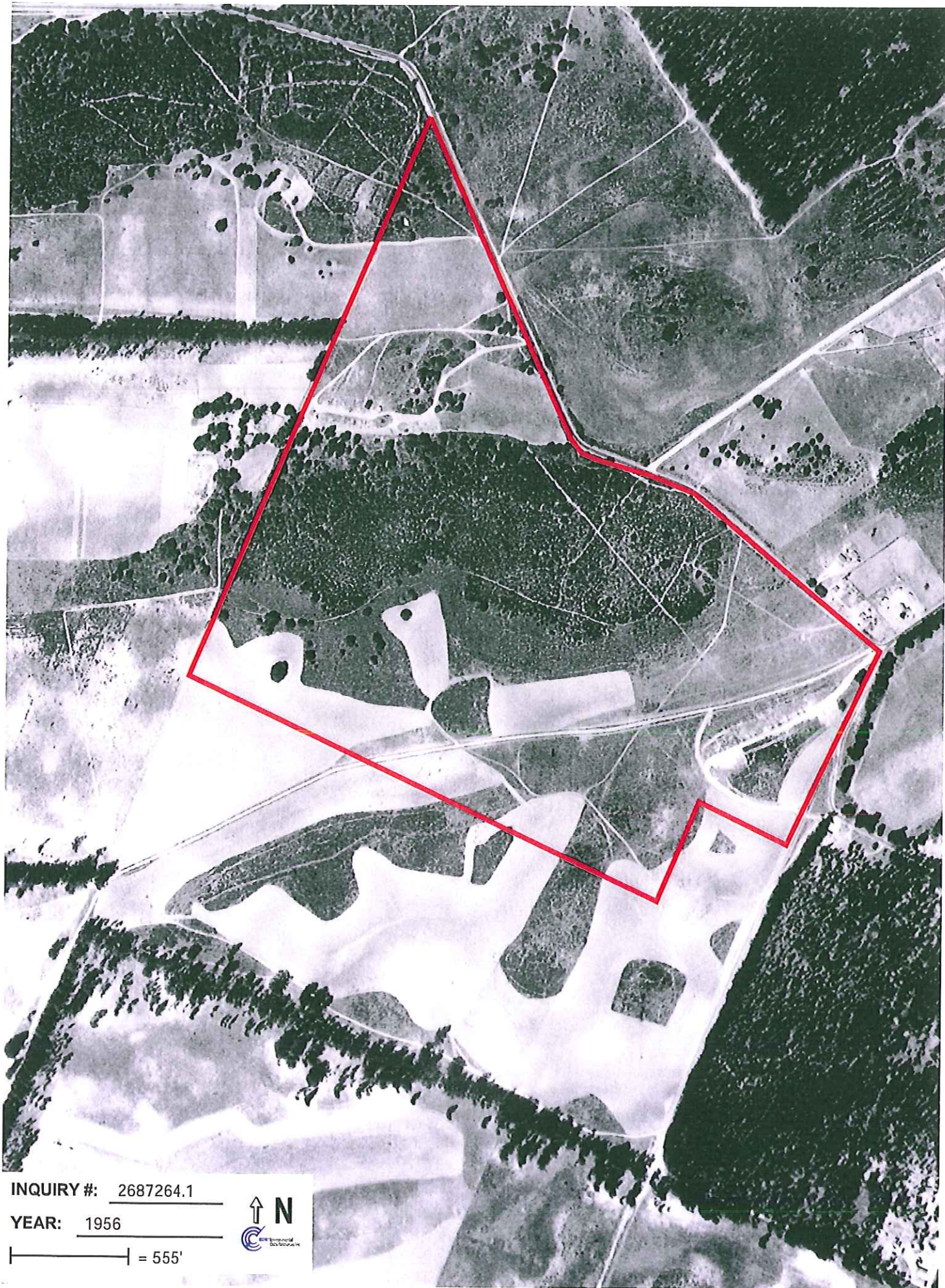


INQUIRY #: 2687264.1

YEAR: 1949

| = 555'



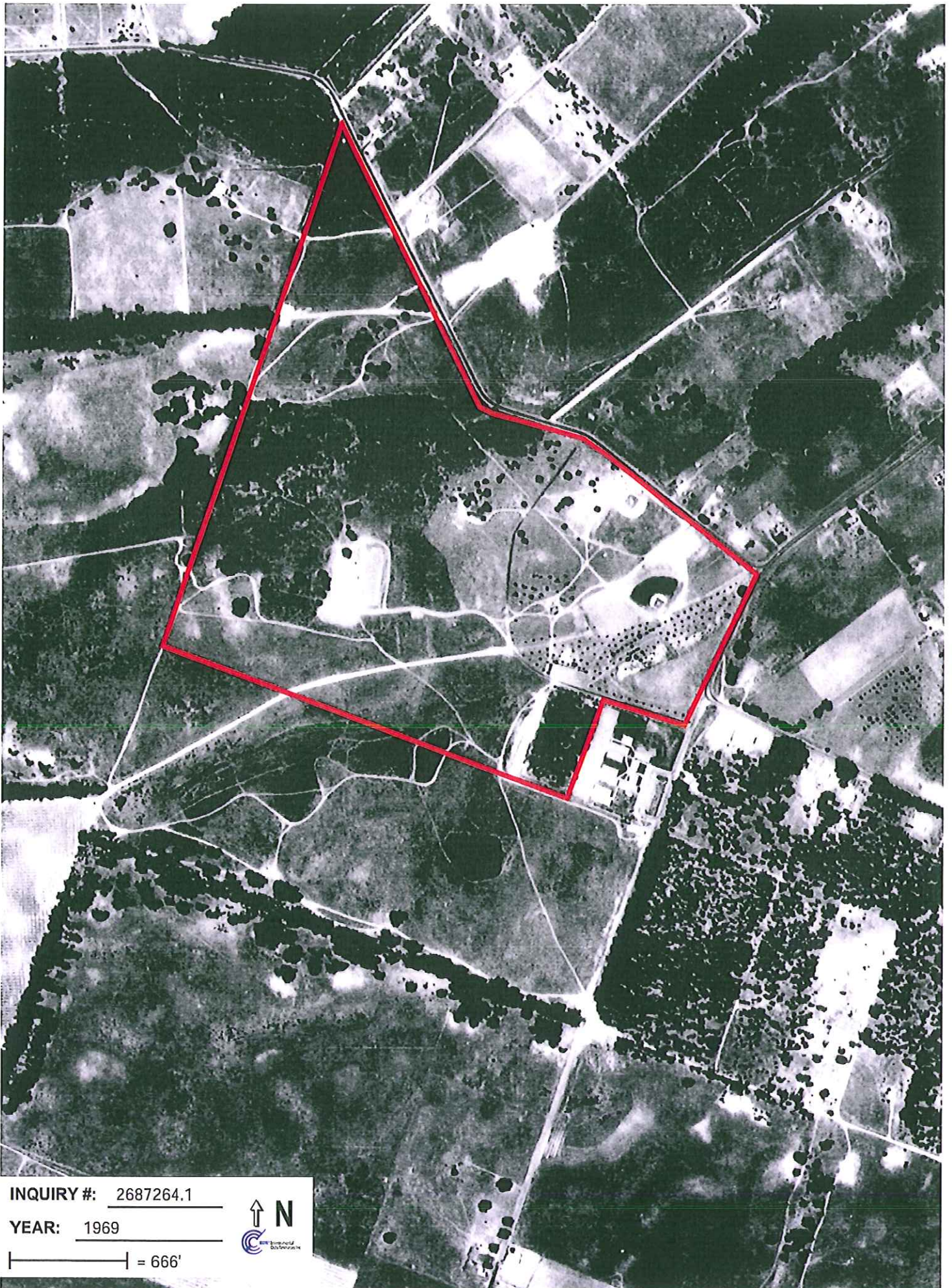


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YEAR: 1956

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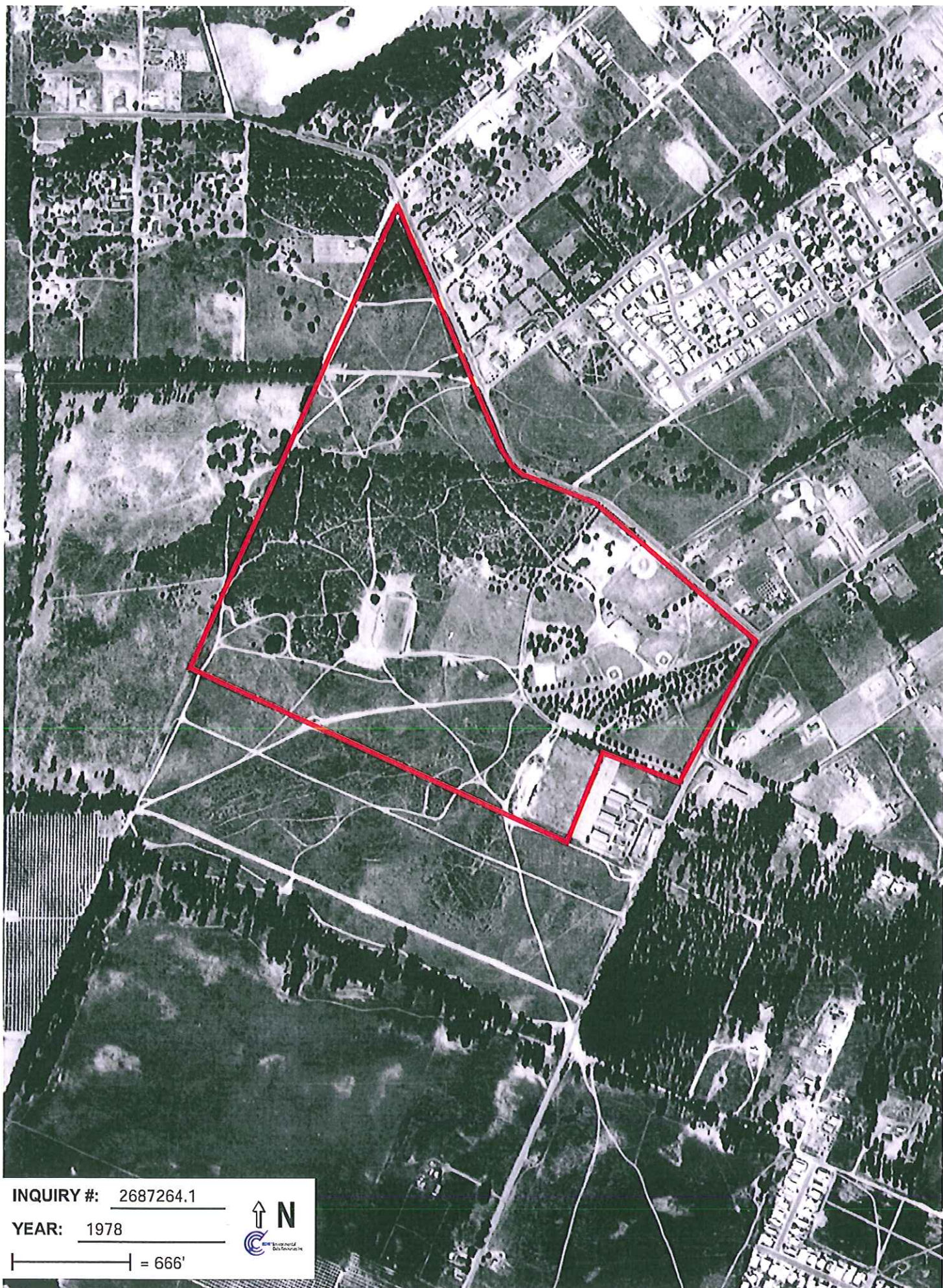


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| = 666'



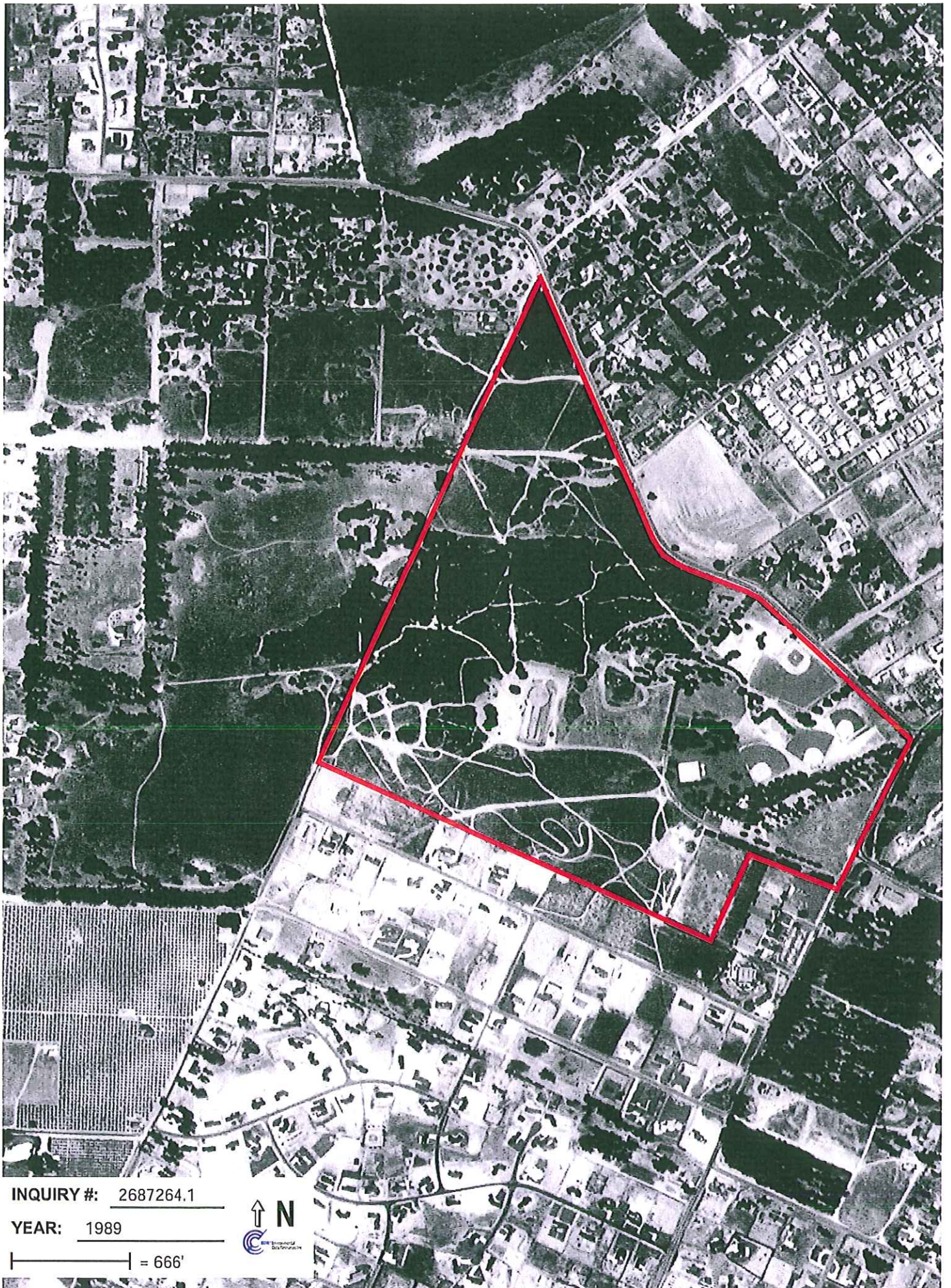


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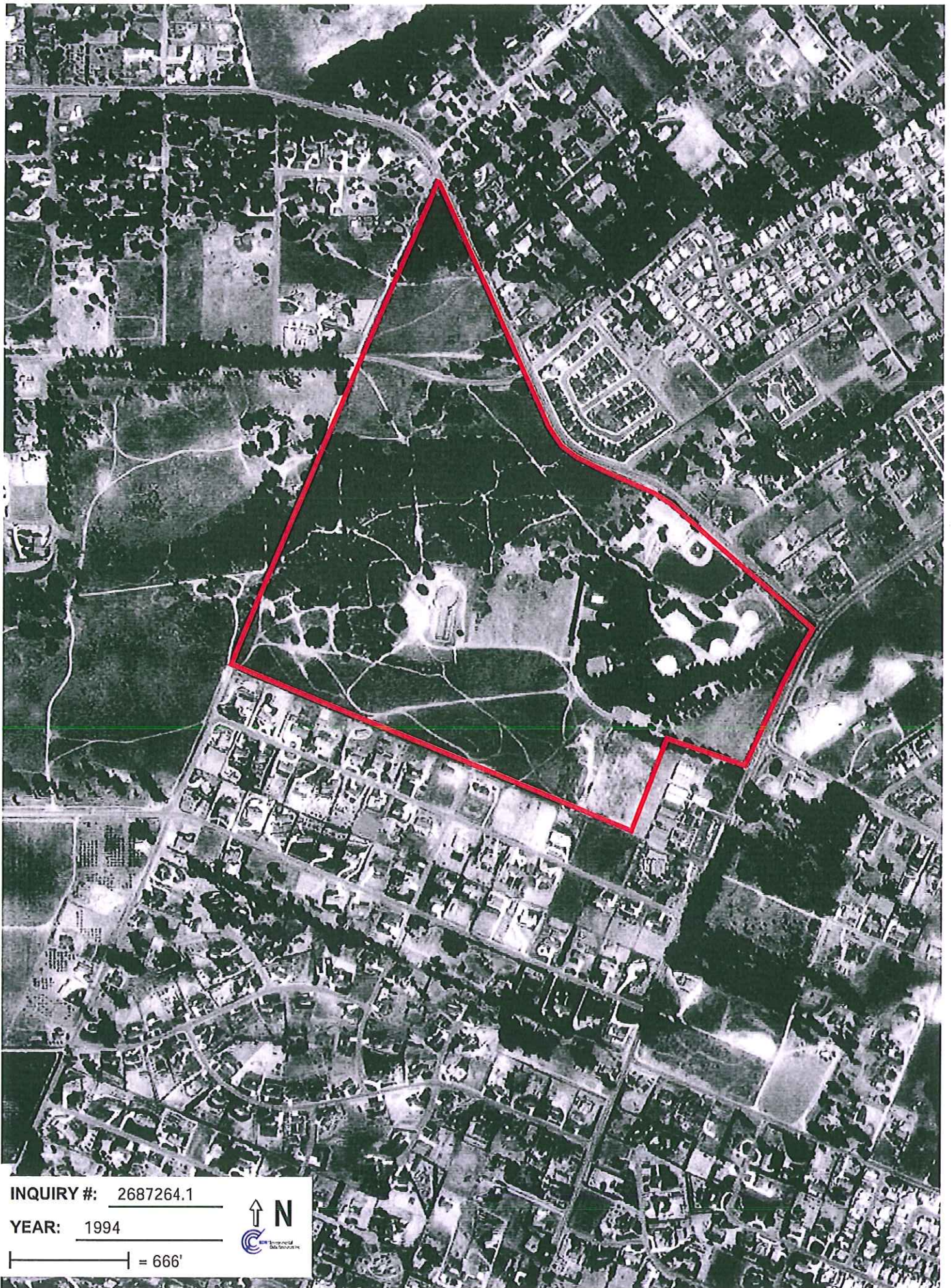


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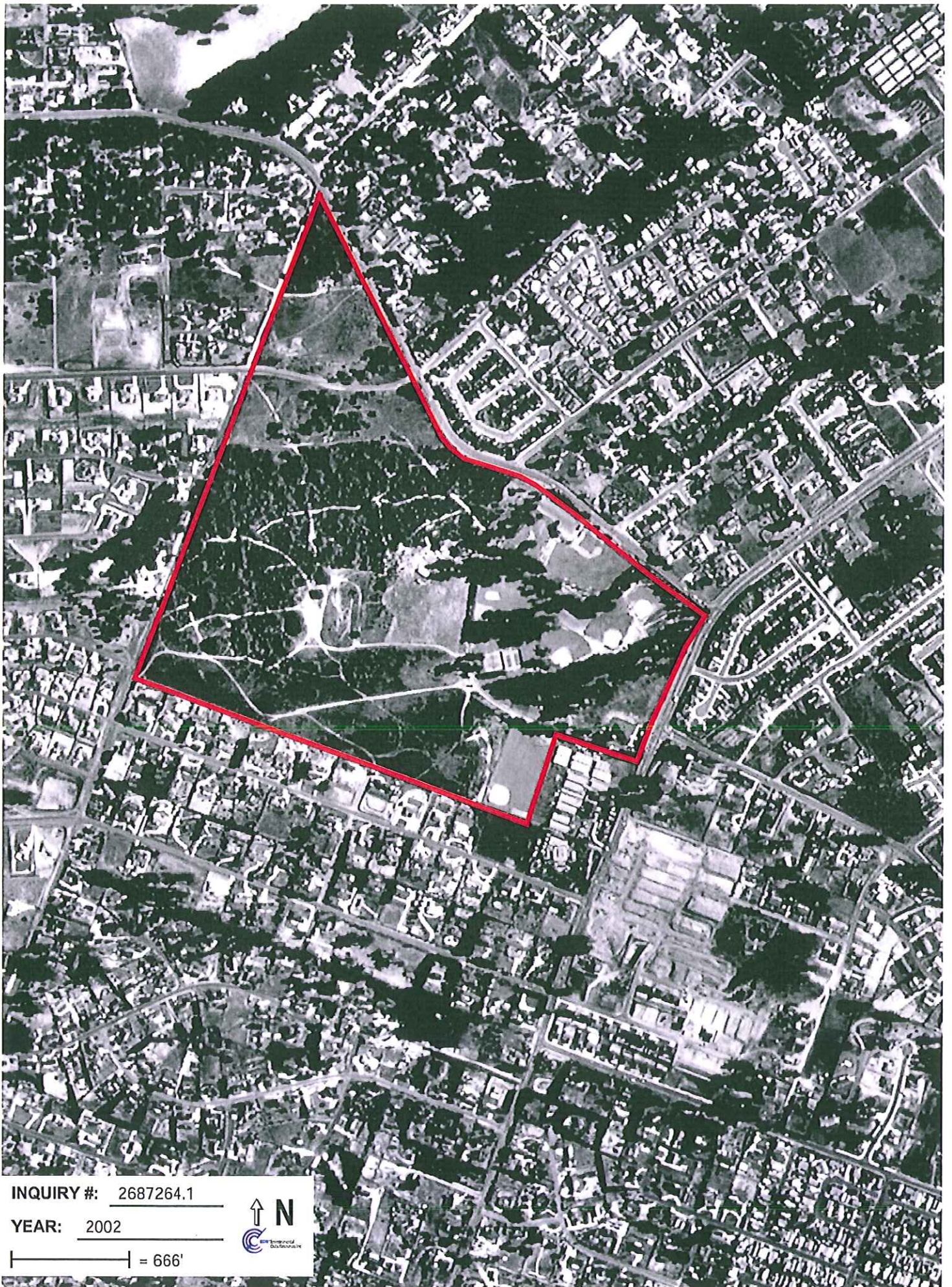


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YEAR: 1994

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INQUIRY #: 2687264.1

YEAR: 2002

| = 666'





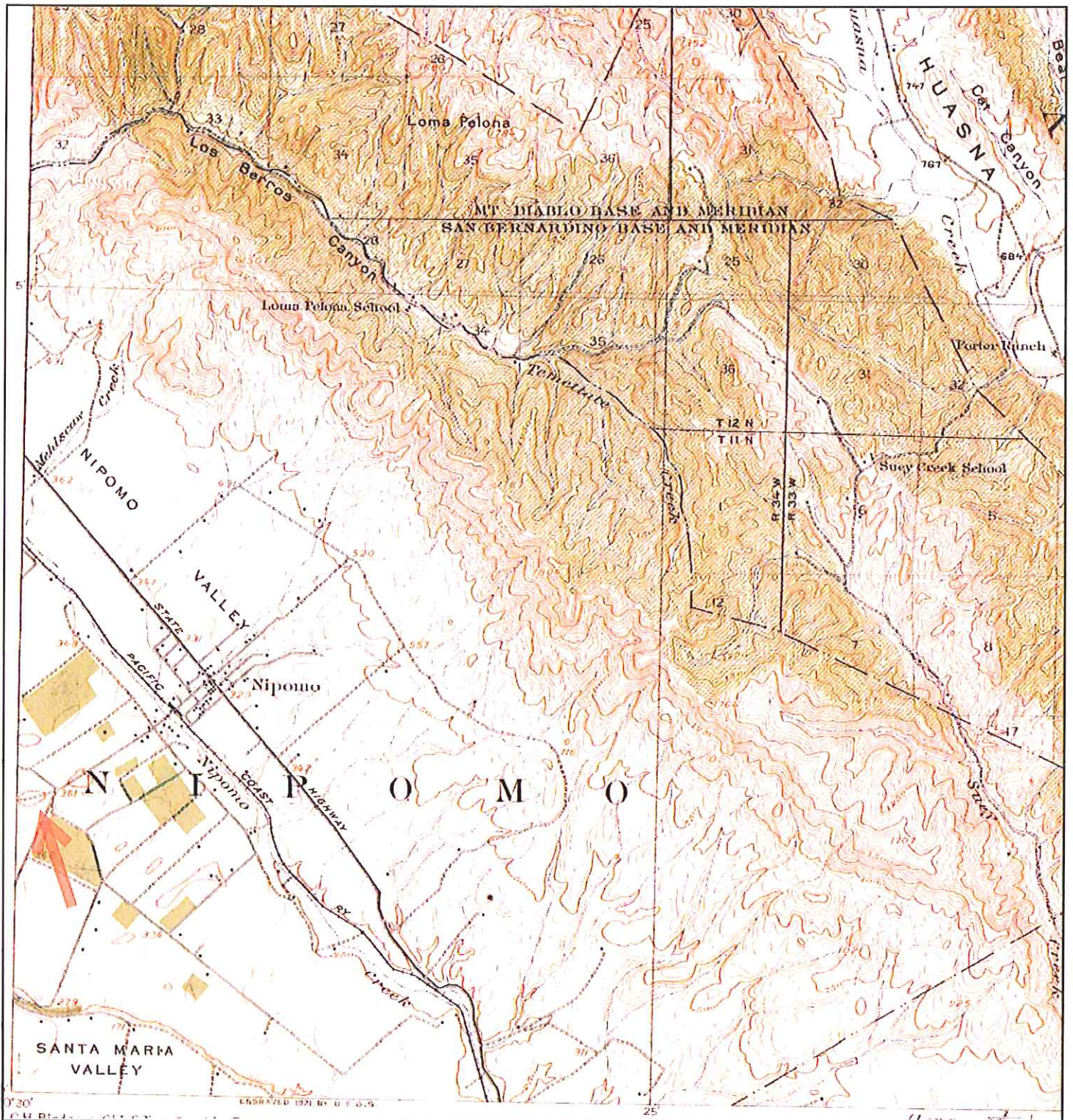
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YEAR: 2005

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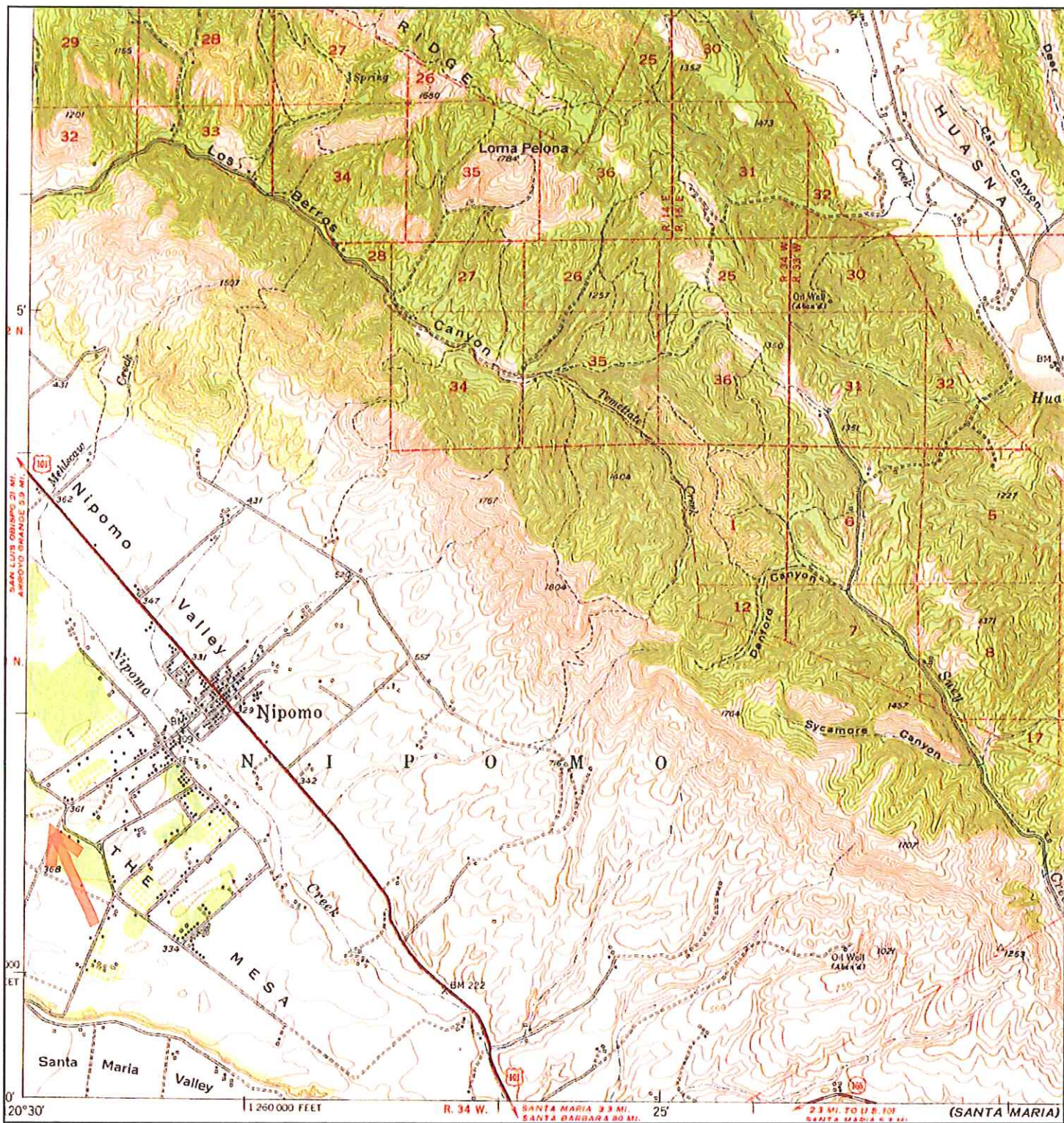


Historical Topographic Map



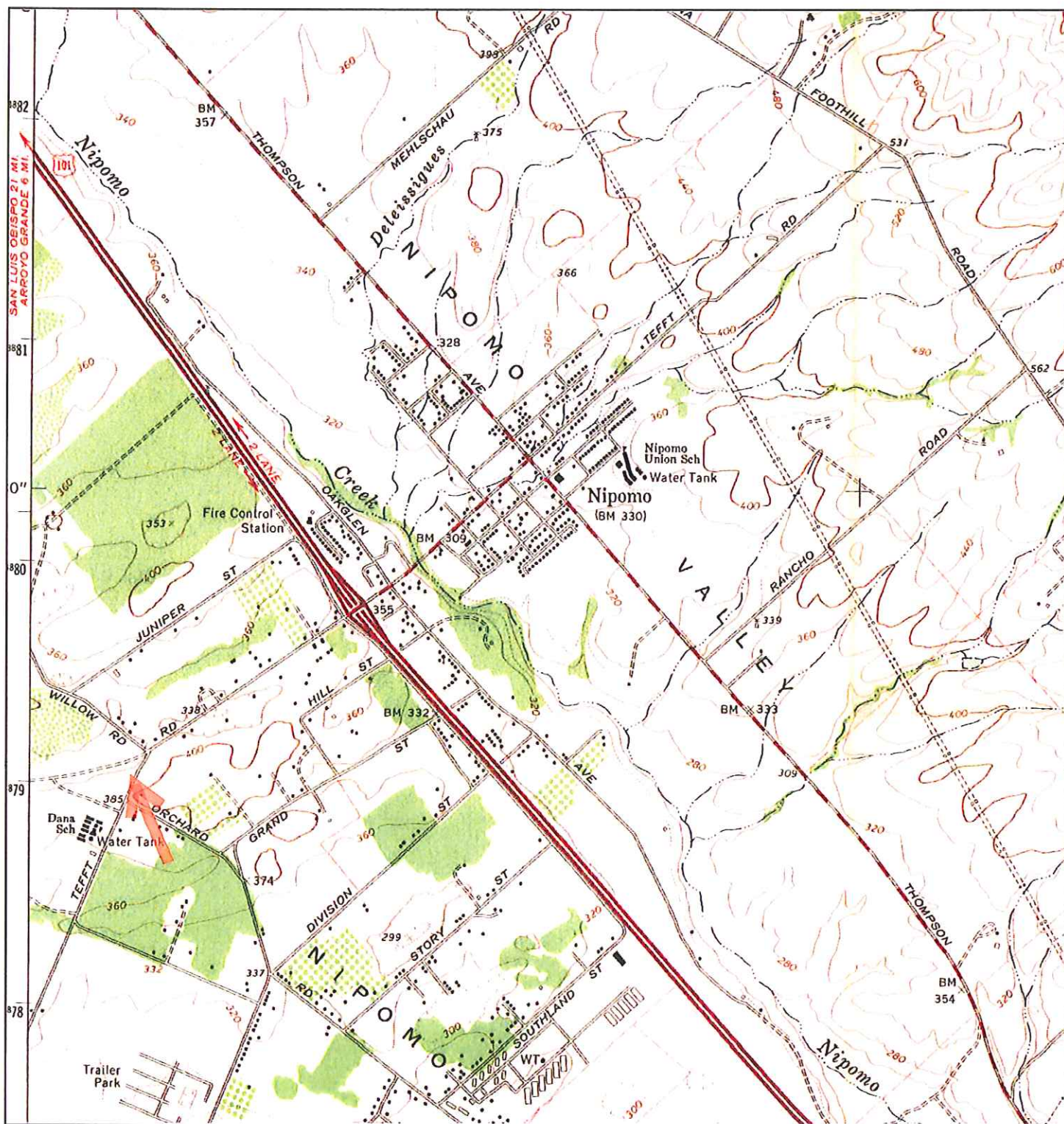
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Historical Topographic Map



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Historical Topographic Map



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Earth Systems Pacific

LOGGED BY: T. Conroy
EQUIPMENT: Backhoe
BUCKET SIZE: 18-inch

Trench No. 1
PAGE 1 OF 1
JOB NO.: SL-16172-EA
DATE: 02/10/11

DEPTH (feet)	USCS CLASS	SYMBOL	NIPOMO REGIONAL PARK Pomeroy/Tefft Streets Nipomo, California	SAMPLE DATA				
			SOIL DESCRIPTION	INTERVAL (feet)	SAMPLE TYPE	P/D	BLOWS PER 6 IN.	WELL CONST.
0	SM		SILTY SAND: red brown, loose to medium dense, moist, abundant tree roots and stump, no trash or other debris (Fill)			ND		
2	SM		SILTY SAND: light brown, medium dense, moist, fine to medium grained, poorly graded (Native Soil)					
7			Total Depth 7.0' No subsurface water encountered.					
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

LEGEND: ☒ Ring Sample ☐ Grab Sample ☐ Shelby Tube Sample ☒ SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: T. Conroy
EQUIPMENT: Backhoe
BUCKET SIZE: 18-inch

Trench No. 2
PAGE 1 OF 1
JOB NO.: SL-16172-EA
DATE: 02/10/11

DEPTH (feet)	USCS CLASS	SYMBOL	NIPOMO REGIONAL PARK Pomeroy/Tefft Streets Nipomo, California	SAMPLE DATA				
			SOIL DESCRIPTION	INTERVAL (feet)	SAMPLE TYPE	P/D	BLOWS PER 6 IN.	WELL CONST.
0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 -	SM		SILTY SAND: dark red brown, loose, moist, debris includes glass fragments, broken milk bottles, tea kettle and iron pan (Fill)			ND		
	SM		SILTY SAND: light orange brown, medium dense, moist, fine grained, poorly graded (Native Soil)					
			Total Depth 7.0' No subsurface water encountered.					

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: T. Conroy
EQUIPMENT: Backhoe
BUCKET SIZE: 18-inch

Trench No. 3
PAGE 1 OF 1
JOB NO.: SL-16172-EA
DATE: 02/10/11

DEPTH (feet)	USCS CLASS	SYMBOL	NIPOMO REGIONAL PARK Pomeroy/Tefft Streets Nipomo, California	SAMPLE DATA				
			SOIL DESCRIPTION	INTERVAL (feet)	SAMPLE TYPE	P/D	BLOWS PER 6 IN.	WELL CONST.
0 - 1 - 2 - 3 - 4 - 5 - 6 - 7 - 8	SM		SILTY SAND: red brown, loose, moist, abundant debris includes glass, bottles, brick, metal and minor amounts of wood (Fill) No deposit—no return bottles present, date form mid 1960's?					
8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26			Total Depth 8.0' No subsurface water encountered.					

LEGEND: ☒ Ring Sample ☐ Grab Sample ☐ Shelby Tube Sample ☒ SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: T. Conroy
EQUIPMENT: Backhoe
BUCKET SIZE: 18-inch

Trench No. 4
PAGE 1 OF 1
JOB NO.: SL-16172-EA
DATE: 02/10/11

DEPTH (feet)	USCS CLASS	SYMBOL	NIPOMO REGIONAL PARK Pomeroy/Tefft Streets Nipomo, California	SAMPLE DATA				
			SOIL DESCRIPTION	INTERVAL (feet)	SAMPLE TYPE	P/D	BLOWS PER 6 IN.	WELL CONST.
0 - 1 - 2 - 3 - 4	SM		SILTY SAND: light orange brown, medium dense, slightly moist to moist, fine grained, with tree roots and widely scattered gravel and glass fragments (Fill)			ND		
4 - 5 - 6 - 7 - 8	SM		SILTY SAND: light brown, medium dense, moist, fine to medium grained, poorly graded (Native Soil)			ND		
9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26			Total Depth 8.5' No subsurface water encountered.					

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.



Earth Systems Pacific

LOGGED BY: T. Conroy
EQUIPMENT: Backhoe
BUCKET SIZE: 18-inch

Trench No. 5
PAGE 1 OF 1
JOB NO.: SL-16172-EA
DATE: 02/10/11

DEPTH (feet)	USCS CLASS	SYMBOL	NIPOMO REGIONAL PARK Pomeroy/Tefft Streets Nipomo, California	SAMPLE DATA				
			SOIL DESCRIPTION	INTERVAL (feet)	SAMPLE TYPE	P/D	BLOWS PER 6 IN.	WELL CONST.
0 - 1 - 2 - 3 - 4 - 5 - 6	SM		SILTY SAND: light brown, medium dense, slightly moist to moist, tree roots to 2', fine grained, poorly graded (Native Soil)					
6 - 7 - 8 - 9 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 -			Total Depth 6.0' No subsurface water encountered.					

LEGEND: ■ Ring Sample ○ Grab Sample □ Shelby Tube Sample ● SPT

NOTE: This log of subsurface conditions is a simplification of actual conditions encountered. It applies at the location and time of drilling. Subsurface conditions may differ at other locations and times.

JUN-27-1996 16:12

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 7
To BRIAN	From KATY MAC NEIL	
Co. EARTH SYSTEMS	Co. COUNTY	
Dept.	Phone # 781-5988	
Fax #	Fax #	

P.02



Cal/EPA

California
Environmental
Protection
Agency

Integrated
Waste
Management
Board

8800 Cal Center Drive
Sacramento, CA 95836
(916) 255-2200

June 27, 1996

Michael Mc Gee
San Luis Obispo County Health Department
2156 Sierra Way
P.O. Box 1489
San Luis Obispo, CA 93406



Pete Wilson
Governor

James M. Strock
Secretary for
Environmental
Protection

Subject: Inspection Report for Nipomo Library/Nipomo Dump

Dear Mr. Mc Gee.

On May 27, 1996 during our telephone conversation you informed me that while conducting your annual Closed, Illegal and Abandoned (CIA) site inspections you had become aware that the County of San Luis Obispo, General Services Department was in the process of constructing a public library on top of the old Nipomo Landfill, which had been identified earlier during your CIA site assessment process. During that assessment process your Department with concurrence from this agency had determined that the Old Nipomo Dump posed no immediate threat to human health and the environment, therefore the quarterly site inspections were reduced to annually. As part of this agencies approval of the reduced inspection frequency was the understanding that San Luis Obispo County Environmental Health acting as the Local Enforcement Agency (LEA), would notify the County Planning Department that this landfill existed and that if permits were ever requested for development of the site that the LEA would be notified. This procedure was setup to assure that any development that may occur on the old landfill would meet all the requirements of Title 14, California Code of Regulation (14CCR) Section 17796. This section requires that all proposed construction on landfills should be submitted to the Local Enforcement Agency (LEA) and the California Integrated Waste Management Board (Board) for review and comment concerning possible construction problems, hazards to public health and safety and factors which might affect the construction.

Board staff understand that your notification to the Planning department came after the County General Services Department requested and received a building permit for construction of the library. Therefore, no one was apparently aware that the library was being constructed on an old landfill. While this situation is unfortunate I feel that actions can still be taken to assure that this project does not pose a threat to public health and safety.

JUN-27-1996 16:13

C:\MHE

916 255 4073 P.03

On June 7, 1996 myself, Steve Dolan from the Boards Enforcement Branch and yourself conducted a preliminary site inspection to check for subsurface landfill gas and/or landfill gas in the library structure. During the inspection we used the GMI GasSurveyor Instrument (GMI) serial number C9401400, to take gas readings and record them. A 36" bar hole punch was used to collect subsurface landfill gas measurements at a depth of approximately 2.5 feet.

Investigation

The first part of the investigation consisted of placing three 0.5 inch diameter PVC pipes to a depth of approximately 2.5 feet (P-1, P-2, P-3) as shown on Attachment 1. From these three probes very low, parts per million (ppm) gas levels were detected (8-20ppm) as shown in Attachment 2. Since small amounts of gas were found additional sampling was conducted. At the additional sampling locations a bar hole punch was used so shallow subsurface readings could be obtained. Sampling locations P-1 through P-17 were all taken around the library (see Attachment 1). Sample P-8 was taken inside of the library building, in the air space of the west wall. Samples P-18 through P-28 are sampling location around the Dana Elementary school. Results from sampling location P-17 and P-18 are not shown on Attachment 2 (the down loaded data from the GMI) because those samples indicated nondetect for landfill gas. They were recorded on the field notes (Attachment 3) but not logged into the GMI data recorder.

As can be seen on Attachment 2, locations P-7, P-10, P-11 and P-12 show elevated combustible gas reading in comparison with the other locations. These locations are all around the north west corner of the library structure. Since detected gas levels are relatively low there is no immediate threat to public Health and Safety. However, they do indicate that there is potential hazard from this site. At this point, it is unknown whether there are trace gases which may be a health threat to people in the library or if there is the potential for combustible levels of gas to accumulate in the library structure.

Recommendation

Based on the historical evidence, which indicates that this site was definitely used as a dump, the fact that small amounts of debris were found during preconstruction borings for the library and that gas sampling conducted by the Board and yourself indicates that combustible gas may be present below the surface, I recommend that your agency prohibit the County General Services Department from occupying the building until they can assure your agency and the Board that proper precautions have been taken to protect people using the library facility.

The two main potential hazards which exist at the site are: 1) the explosive hazard that would occur if combustible landfill gas was to accumulate in the building at high enough levels that an ignition source could ignite it; and 2) the exposure to trace gases which can accompany methane. Some trace gases can be harmful even at very low concentrations if a person has chronic exposure to that substance.

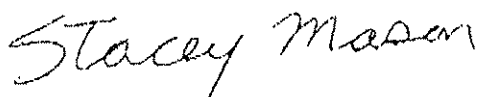
To protect against the exposure hazard a combustible gas monitoring system should be designed and installed in the building. This will assure that if methane levels ever reach unsafe levels an alarm will sound which would inform the people that they should leave the premises.

To determine if the second hazard exists subsurface gas samples need to be obtained and analyzed using the EPA test method TO 14. The gas samples should be collected using the Summa canister collection method in the same vicinity as where P-7, P-10, P-11 and P-12 were taken.

Once the sampling and analyses are complete a final report should be submitted outlining the finding and any proposed corrective actions.

Should you have any questions please call me at (916) 255-3826.

Sincerely,



Stacey Mason
Closure and Remediation Branch
Permitting and Enforcement Division

enclosures,

cc: Kathy McNeil - San Luis Obispo County, Department of General
Services

Gene Johnson - San Luis Obispo County, Department of General Services
Michael Lebrun - Regional Water Quality Control Board,

JUN-27-1996 16:14

CIWMB

916 255 4073 P.07

ATTACHMENT 3

INSPECTION REPORT

- Location: Nipomo Library, Nipomo CA.

Visitation Date: June 7, 1996

Propose for Visit: Gas sampling

Individuals Present: Steve Dolan, CIWMB

Stacey Mason, CIWMB

Michael Mc Gee, LEA

Sampling Instrument: GMI - GaSurveyor Instrument

*- Indicates gas readings which were recorded into the data bank of the GMI.

(Reproduction of hand written field notes)

Sampling Point	Time	Gas Reading / PPM	Sampling Location
P-1	11:25am	20 PPM *	east side of Building 15ft. away from building
P-2	11:29	10 PPM *	north-East (N-E) corner 50ft. away
P-3	11:31	10 PPM *	N-E of building 100ft. away
P-4	11:35	ND	north side 15ft. away
P-5	11:40	30 PPM*	N-E corner 20ft. away
P-5	11:41	10 PPM*	" " "
P-6	11:45	500 PPM (spike)	N-E behind building 1ft.
P-6	11:45	10 PPM*	" " "
P-6	11:45	10 PPM*	" " "
P-7	11:50	910 PPM (spike)	Next to P-6 1ft. away
P-7	11:50	150 PPM*	" " "
P-7	11:50	210 PPM*	" " "
P-8	11:52	ND*	inside building
P-8	11:53	5 PPM*	in building, inside of east wall near electrical panel
P-9	11:58	70 PPM *	N-E corner 12-15ft. away
P-10	12:00pm	170 PPM (spike)	N-E corner 8ft. away
P-10	12:00	140 PPM*	" " "
P-10	12:00	180 PPM*	" " "
P-11	12:01	610 PPM* (spike)	east side 6ft. away
P-11	12:02	355 PPM*	" " "
P-12	12:05	940 PPM (spike)	east side 2ft. away near windows
P-12	12:05	640 PPM*	" " " "
P-12	12:05	250 PPM*	" " " "
P-12	12:05	310 PPM*	" " " "
P-13	12:16	5 PPM*	in down spout, south-west corner (front of building)
P-14	12:20	65 PPM (spike)	S-W side 25ft. away
P-14	12:20	45 PPM*	" " "

JUN-27-1996 16:42

CIWMB

916 255 4073 P.02

P-15	12:22	175 PPM*	N-W side 25ft away
P-15	12:22	40 PPM*	" " "
P-16	12:25	ND*	N-E 75ft. away
P-17	12:26	ND	north side
<u>(P-18 - P-28) Samples taken on Dana Elementary School grounds</u>			
P-18	1:28	ND	between building at school
P-19	1:33	200 PPM(spike)	in grass next to black top
P-19	1:33	120 PPM*	" " " "
P-20	1:38	50 PPM*	south of black top
P-21		ND	along fence line
P-22	1:40	10 PPM*	20ft. from fence line in grass
P-22	1:40	15 PPM*	" " " "
P-23	1:42	ND*	near pavement
P-24	1:43	140 PPM spike	next to pavement inbetween buildings
P-24	1:43	130 PPM*	" " " "
P-25	1:46	55 PPM*	between sidewalk and blacktop
P-25	1:46	90 PPM*	" " " "
P-26	1:49	ND*	under school building east side
P-27	2:01	30 PPM*	north side of school along playground
P-28	2:04	15 PPM*	north of school in grass along fence



Earth Systems Consultants
Northern California

4378 Santa Fe Road
San Luis Obispo, CA 93401
(805) 544-3276
FAX (805) 544-1786

July 5, 1996

County of San Luis Obispo, Department of General Services
County Government Center, Room 460
San Luis Obispo, California 93408

Attention: Ms. Kathy McNeil

Subject: Results of Soil Vapor Sampling
Nipomo Branch Library

Dear Ms. McNeil:

This letter presents the results of the soil vapor analysis conducted at the Nipomo Branch Library site on June 26, 1996. The work was conducted in accordance with our proposal dated June 24, 1996, and was observed by Ms. Stacy Mason of the California Integrated Waste Management Board and Mr. Michael McGee of the San Luis Obispo County Health Agency.

The attached results are for non-methane volatile organic compounds. As we discussed by telephone this morning, I have not been able to determine the status of analysis for methane. I will discuss this issue with the project manager on Monday, July 8, and contact you so that we may resolve the matter.

I am also attaching a table which compares the concentrations of compounds detected in the samples with occupational exposure levels. The two types of exposure levels shown are Threshold Limit Values (TLVs), which are published by the American Conference of Governmental Industrial Hygienists, and Permissible Exposure Levels (PELs), which are promulgated by the Occupational Safety and Health Administration (OSHA). TLVs are scientifically based *recommendations* for worker exposure, but are not enforceable as a regulatory level. PELs are *enforceable* regulatory levels for worker exposure. As the table demonstrates, the levels detected in the soil beneath the site are at least two orders of magnitude below the allowable PELs or TLVs for the compounds.

This letter has been prepared for the exclusive use of San Luis Obispo County, regarding the Nipomo Branch Library site at the southwest corner of Tefft Street and Orchard Avenue in Nipomo, California. The conclusions rendered in this letter are opinions based on readily available information obtained to date within the scope of the work authorized by the client. Use of or reliance on the information and opinions contained in this letter by other parties without first consulting this office is at those parties' own risk.



The results contained in this letter are based upon the laboratory analysis of soil vapor samples collected during the study. It is possible that variations exist beyond or between points sampled during the course of the assessment. Also, changes in conditions found could occur at some time in the future due to contaminant migration, variations in rainfall, temperature, or other factors not apparent at the time of the field reconnaissance.

The services performed by Earth Systems Consultants have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in this area of California. No other warranty is expressed or implied.

We appreciate this opportunity to be of service. Please contact me at 544-3276 if you have any questions regarding the attached results or table.

Sincerely,

Earth Systems Consultants Northern California

A handwritten signature in cursive script, reading "Timothy Conroy".

Timothy Conroy, C.E.G. 1698
Senior Geologist

attachments



**SOIL VAPOR ANALYTICAL RESULTS COMPARED TO
OCCUPATIONAL EXPOSURE STANDARDS**

Compound	Result (S-1 @8')	Result (S-2 @8')	TLV	PEL
Benzene	0.0009	0.0009	0.1	1.0
Chloroform	0.012	0.005	10	2.0
1,1,1-trichloroethane (Methyl chloroform)	0.0007	0.0027	350	350
Toluene	0.0027	0.0029	100	100
Trichlorofluoromethane (Freon-11)	0.001	0.0011	1,000	--
1,2,4-trimethylbenzene	0.0005	0.0006	25	--
Xylenes	0.0021	0.0022	100	100

Notes:

All numbers indicate parts per million by volume (ppmv)

-- PEL not listed for this compound

TLV Threshold Limit Value, ACGIH

PEL Permissible Exposure Level, OSHA

PELs and TLVs are 8-hour time weighted averages

Client: Brian Hale Earth Systems Consultants 4378 Santa Fe Rd. San Luis Obispo, CA 93401	Lab Number: 9106-1 Collected: 06/26/96 Received: 06/26/96 Matrix: Air
Project: Nipomo Library Project Number: NGL-09839-01 Collected by: Brian Hale	Sample Description: S-1 @ 8' Analyzed: 07/01/96 Method: See Below

CONSTITUENT	PQL* ppbv	RESULT** ppbv
-------------	--------------	------------------

VOLATILE ORGANIC COMPOUNDS

Benzene	0.5	0.9
Bromomethane	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
Chloroform	0.5	12.
Chloromethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Ethylbenzene	0.5	ND
Hexachlorobutadiene	0.5	ND
Methylene Chloride	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Styrene	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Trichlorotrifluoroethane	0.5	ND
1,1,1-Trichloroethane (TCA)	0.5	0.7
Toluene	0.5	2.7

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
9106-1.xls
JMM/jgt/wr

Client: Brian Hale
Earth Systems Consultants
4378 Santa Fe Rd.
San Luis Obispo, CA 93401

Lab Number: 9106-1
Collected: 06/26/96
Received: 06/26/96
Matrix: Air

Project: Nipomo Library
Project Number: NGL-09839-01
Collected by: Brian Hale

Sample Description:
S-1 @ 8'
Analyzed: 07/01/96
Method: See Below

CONSTITUENT	PQL* ppbv	RESULT** ppbv
-------------	--------------	------------------

VOLATILE ORGANIC COMPOUNDS

1,2,4-Trichlorobenzene	1.0	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
Trichlorofluoromethane (freon 11)	0.5	1.0
1,2,4-Trimethylbenzene	0.5	0.5
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	2.1

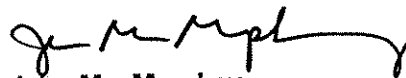
ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 aqnd GC/MS Combination.

Submitted by,
ZymaX envirotechnology, inc.



John MacMurphey
Laboratory Director

MSD #1
9106-1.xls
JMM/jgt/wr

Client: Brian Hale
Earth Systems Consultants
4378 Santa Fe Rd.
San Luis Obispo, CA 93401

Lab Number: 9106-2
Collected: 06/26/96
Received: 06/26/96
Matrix: Air

Project: Nipomo Library
Project Number: NGL-09839-01
Collected by: Brian Hale

Sample Description:
S-2 @ 8'
Analyzed: 07/01/96
Method: See Below

CONSTITUENT	PQL* ppbv	RESULT** ppbv
-------------	--------------	------------------

VOLATILE ORGANIC COMPOUNDS

Benzene	0.5	0.9
Bromomethane	0.5	ND
Carbon Tetrachloride	0.5	ND
Chlorobenzene	0.5	ND
Chloroethane	0.5	ND
Chloroform	0.5	5.0
Chloromethane	0.5	ND
1,2-Dichlorobenzene	0.5	ND
1,3-Dichlorobenzene	0.5	ND
1,4-Dichlorobenzene	0.5	ND
Dichlorodifluoromethane	0.5	ND
1,1-Dichloroethane	0.5	ND
1,2-Dichloroethane (EDC)	0.5	ND
1,1-Dichloroethene	0.5	ND
cis-1,2-Dichloroethene	0.5	ND
1,2-Dichloropropane	0.5	ND
cis-1,3-Dichloropropene	0.5	ND
trans-1,3-Dichloropropene	0.5	ND
Ethylbenzene	0.5	ND
Hexachlorobutadiene	0.5	ND
Methylene Chloride	0.5	ND
Tetrachloroethene (PCE)	0.5	ND
Styrene	0.5	ND
1,1,2,2-Tetrachloroethane	0.5	ND
Trichlorotrifluoroethane	0.5	2.7
1,1,1-Trichloroethane (TCA)	0.5	2.9
Toluene	0.5	

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 and GC/MS Combination.

MSD #1
9106-2.xls
JMM/jgt/wr

Client: Brian Hale
Earth Systems Consultants
4378 Santa Fe Rd.
San Luis Obispo, CA 93401

Lab Number: 9106-2
Collected: 06/26/96
Received: 06/26/96
Matrix: Air

Project: Nipomo Library
Project Number: NGL-09839-01
Collected by: Brian Hale

Sample Description:
S-2 @ 8'
Analyzed: 07/01/96
Method: See Below

CONSTITUENT	PQL* ppbv	RESULT** ppbv
-------------	--------------	------------------

VOLATILE ORGANIC COMPOUNDS

1,2,4-Trichlorobenzene	1.0	ND
1,1,2-Trichloroethane	0.5	ND
Trichloroethene (TCE)	0.5	ND
Trichlorofluoromethane (freon 11)	0.5	1.1
1,2,4-Trimethylbenzene	0.5	0.6
1,3,5-Trimethylbenzene	0.5	ND
Vinyl Chloride	0.5	ND
Xylenes	0.5	2.2

ZymaX envirotechnology, inc. is certified by CA Department of Health Services: Laboratory #1717

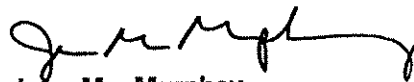
*PQL - Practical Quantitation Limit

**Results listed as ND would have been reported if present at or above the listed PQL.

Note: Analyzed by EPA 8260 aqnd GC/MS Combination.

MSD #1
9106-2.xls
JMM/jgt/wr

Submitted by,
ZymaX envirotechnology, inc.



John MacMurphey
Laboratory Director

71 zaca lane, suite 110 - san luis obispo, ca 93401 - fax 805/544 8226 - tel 805/544 4696

[illegible]