BURROWING OWL HABITAT ASSESSMENT
CONTRA COSTA CO. APN 002-200-01 (Portion),
ALAMEDA CO. APN 099B-7020-1-8,
APN 099B-7010-002-07 & APN 099B-7010002-09

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INTRODUCTION

This report provides the results of a habitat assessment for burrowing owls (*Athena cunicularia*) conducted between 29 October and 6 November 1998 on four parcels in eastern Contra Costa and Alameda Counties, California. The parcels are being considered for acquisition to mitigate for loss of burrowing owl habitat resulting from proposed development projects elsewhere in the Bay Area. This study provides a standardized habitat assessment and burrow survey as recommended by the California Burrowing Owl Consortium (CBOC 1993, 1997) and endorsed by the California Department of Fish and Game (CDFG 1995). A ground survey was conducted throughout each parcel to assess habitat conditions and search for evidence of occupation by the species. This study was conducted outside of the appropriate survey window to determine the nesting status of burrowing owls.

The burrowing owl is a resident of the grassland and scrub communities of the western United States. The species occupies burrows excavated by other species, which in the Bay Area include California ground squirrel (*Spermophilus beecheyi*) and American badger (*Taxidea taxus*). These burrows are used for roosting, nesting and escape from predators. Burrowing owls will also use manmade cover-sites such as culverts and artificial dens, particularly when natural cover-sites are uncommon (CBOC 1993, 1997; Trulio 1997). Burrowing owls prefer areas with no trees, minimal shrub cover and short grass height, including non-native grasslands grazed by livestock (Plumpton and Lutz 1993). The species shows strong site fidelity from year to year, often returning to the same burrows to nest (Feeney 1992; Plumpton and Lutz 1993). It is active both at night and during the day, hunting a variety of small prey including insects, mammals, birds and reptiles (Haug, *et al.* 1993). Habitat conversion and secondary poisoning resulting from ground squirrel control efforts have caused declines throughout much of its range, particularly in the Bay Area (DeSante and Ruhlen 1995). The burrowing owl is listed as a state Species of Special Concern and is a federal Special Concern Species, and has been the subject of increased public interest and conservation efforts in recent years.

METHODS

A ground survey of each parcel was performed by wildlife biologists David Laabs and Mark Allaback and field assistants Sara Higgins and Caleb Murphy to characterize wildlife habitats and identify evidence of occupation by burrowing owls. Transects (approximately 75- to 100-foot spacing) were walked to provide 100% visual coverage of each parcel. All potential burrows with burrowing owl sign (whitewash plus any or all of the following: feathers, pellets, prey remains) were recorded and mapped. The locations

of individual owls were mapped and behavioral observations recorded. All California ground squirrel burrows were tallied on each parcel, whether or not they were considered active or inactive. The number of burrows divided by the number of acres was used as an index of ground squirrel abundance. Concentrations of ground squirrel burrows were mapped. Surveys were conducted on 29 October, 30 October, 2 November and 6 November 1998. The weather was clear on every survey date. At least one significant rain event occurred prior to the survey. Therefore, some sign may have degraded and may not have been detectable, especially at cover-sites that were not used frequently.

The results of previous surveys in the vicinity were reviewed (Jones & Stokes 1990; Stromberg 1991; CCWD 1993; ESA 1993; Stromberg 1994; Biosearch Wildlife Surveys 1995, 1996, 1997, 1998a, 1998b). A record search of the California Natural Diversity Data Base (NDDB) was performed for the Byron Hot Springs and Clifton Court Forebay quadrangles. Other researchers who have conducted wildlife surveys in the vicinity were contacted. All records of burrowing owls within three miles of each parcel are included in the following descriptions.

RESULTS

Parcel B (Contra Costa Co., portion of APN 002-200-01)

Site Description

This parcel covers 120 acres situated immediately north of Armstrong Road (portion of the S ½ of the S ½ of Section 15; T1S; R3E). Elevations range from approximately 40 to 120 feet above sea level. The site is regularly used to graze cattle, although none were present at the time of ground surveys. Adjacent land use to the west and north is primarily grazing. The Byron Airport and associated Habitat Management Lands are situated immediately across Armstrong Road to the south (Stromberg 1991). Byron Hot Springs, a collection of mostly abandoned buildings, is present north of the site. Lands to the east are primarily irrigated pasture.

The dominant habitat consists of non-native grassland. Brushy Creek, a perennial stream supporting emergent freshwater marsh vegetation, crosses the southeastern corner of the site. An intermittent drainage course crosses the southern part of the site and meets Brushy Creek near its confluence with the 45 Canal just off the east border. An alkali wetland is present in a depression north of the two hills, in a drainage that feeds into a large alkali pond off-site. Vernal pools are present in the western and northeastern portions of the site (Stromberg 1994). A number of sensitive plant species have been detected on the parcel (Stromberg 1994). Two low hills occupy the central portion of the site. In 1993, the westernmost hill was lowered and used to provide fill for a portion of the Byron Airport Expansion, and has since been invaded by weedy species (Stromberg 1991; pers. obs.). The western portion of the site is flat, with mima mounds evident. It appears that an attempt was made last winter to control the thistles by disking on portions of the site.

Previous and Regional Burrowing Owl Observations

Burrowing owls have been seen on Parcel B every year since 1990 (Stromberg 1991; Stromberg 1994; Biosearch Wildlife Surveys 1997; pers. obs.). During most of these years, young were successfully fledged. Six pairs of owls were observed on the site in the spring of 1994 (Stromberg 1994). Three pairs nested on the site in 1996 (Biosearch Wildlife Surveys 1997). Four pairs nested on the site in 1998 (Biosearch Wildlife Surveys 1998a). However, none of the pairs successfully fledged young in 1998.

Three pairs of owls were observed within ½ mile of the site along the west side of Byron Hot Springs Road north of Armstrong Road in 1998 (Biosearch Wildlife Surveys 1998a). Two pairs of owls were observed 1½ miles south of the site in the spring of 1998 (pers. obs.). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands to the south of Parcel B conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys in prep.). A colony of up to eight pairs of burrowing owls, located ½ mile south of Armstrong Road, was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Habitat Management Lands in 1994 (Biosearch Wildlife Surveys 1995). Three pairs of burrowing owls were seen approximately 1 mile to the northwest in 1994 (Stromberg, 1994). Burrowing owls were seen along Holey Road one mile southeast of the site in 1981 and 1982 (NDDB) and annually since 1991 (NDDB; pers. obs).

Results of Burrow Survey

Four burrowing owls were observed on Parcel B on 6 November 1998 (Figure 1). Two were observed in close proximity to one another in the southwestern part of the site, while the other two were seen close together in the southeastern part of the site. Twenty-two burrows showed evidence of use by the species. These burrows were found throughout much of the site, with the exception of the westernmost hill and the northeastern portion of the site. California ground squirrels are abundant on Parcel B. A total of 1,745 burrows were counted, for an average of 14.5 burrows per acre.

Other Special-status Species

Numerous other special-status species were seen during November 1998 or have been observed in the past on Parcel B. A northern harrier (*Circus cyaneus*), a loggerhead shrike (*Lanius ludovicianus*) and several horned larks (*Eremophila alpestris*) were seen during ground surveys. Several potential San Joaquin kit fox (*Vulpes macrotis mutica*) dens were observed, many of which appeared to be ground squirrel burrows expanded by American badger. Golden eagles (*Aquila chrysaetos*), white-tailed kites (*Elanus leucurus*), ferruginous hawks (*Falco regalis*), prairie falcons (*Falco mexicanus*) and American badgers have been observed on the parcel in the past (Stromberg 1990; 1994, pers. obs.). California red-legged frog (*Rana aurora draytonii*) larvae, juveniles and

adults were seen in Brushy Creek where it crosses Armstrong Road in the summer and fall of 1998 (Biosearch Wildlife Surveys, in prep.). California tiger salamanders are known to breed in a fire pond at the Byron Airport, within ½ mile of the site to the south, and in a large seasonal wetland at Byron Hot Springs (Skenfield 1993; Stromberg 1997). Much of Parcel B is likely to provide upland aestivation habitat for California tiger salamander. Western pond turtles (*Clemmys marmorata*) have been observed in the 45 Canal and at the seasonal pond near Byron Hot Springs (Skenfield 1993; pers. obs.), and they probably use Brushy Creek as well.

Parcel D (Alameda Co. APN 099B-7020-1-8)

Site Description

Parcel D is located southwest of the corner of Bruns Avenue and Kelso Road (Portion of NE ¼ Sec 2; T2S; R3E). Christianson Road forms the southern border of the parcel, which covers 144 acres. Elevation ranges between 120 feet to 180 feet above sea level.

The habitat on the site consists primarily of annual grassland. The topography of the northern half of the parcel is dominated by low hills. Small rock outcrops are scattered along the ridge tops. The southern portion of the site is mostly flat. A perennial creek flows along the western edge of the site. This creek supports emergent vegetation that has been heavily affected by cattle grazing. An intermittent stream that supports alkali wetland flows across the southeastern part of the parcel. An old homestead is located in the southern corner of the site, with scattered eucalyptus and pepper trees. A portion of the land near the old homestead has been furrowed in the past. Some large patches of star thistle are present, mostly in the southern portion of the parcel. The site is primarily used to graze cattle, and approximately 50 cows with calves were onsite during the ground survey. Land-use on adjacent parcels is primarily grazing. A small cornfield, which had already been harvested, was present adjacent to the northwest corner of the site. The California Aqueduct and the Delta Pumping Plant are within ½ mile to the northwest. The Bethany Reservoir is located ½ mile south.

Previous and Regional Burrowing Owl Observations

Active burrowing owl burrows were observed on Parcel D between 1992 and 1994 (NDDB). Active owl dens were also observed northwest and northeast of the intersection of Bruns Avenue and Kelso Road during the same period.

Two pairs of burrowing owls were observed along Kelso Road approximately 1½ miles north of the site in 1998 (Biosearch Wildlife Surveys 1998b). Ten burrowing owls were observed on the adjacent parcel to the north (Parcel F) and five owls on the adjacent parcel to the east (Parcel E) during the present study. Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between 1½ and 2½ miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively. A colony of up to eight pairs of burrowing owls, located 2½ miles NNW,

was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, one mile NW of the site (Biosearch Wildlife Surveys, 1995). Burrowing owls were observed and subsequently relocated from a pipeline route 2 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3 miles southeast of the parcel in 1992 (NDDB).

Results of Burrow Survey

A single burrowing owl was observed on Parcel D on 30 October 1998 (Figure 2). The individual was present in the northwestern portion of the site. The owl was observed at a burrow that showed evidence of use by burrowing owls. There were no other burrows on the site that showed similar sign. California ground squirrels were present on the site, mostly in patches in the hills and in the northwest corner of the site adjacent to a cornfield located offsite. Very few burrows were seen in the flat areas south of the ridges. A total of 455 ground squirrel burrows were tallied, for an average of 3.2 burrows per acre.

Other Special-status Species

Several other special-status species were observed or detected by sign on Parcel D. A northern harrier and a loggerhead shrike were observed on 30 October 1998. A white-tailed kite was observed just offsite to the west. The entire parcel provides potential habitat for the San Joaquin kit fox, and a potential fox scat was located onsite. Evidence of occupation by American badgers was located on the ridges in the northern part of the parcel. The perennial stream provides potential habitat for California red-legged frog, although no deep pools or impoundments were seen.

Parcel E (Alameda Co. APN 099B-7010-002-07)

Site Description

Parcel E is located immediately southeast of the intersection of Bruns Avenue and Kelso Road (NW ¼ Section 1; T2S; R3E) (Figure 2). These roads form the northern and western borders of the site, respectively.

Parcel E consists primarily of annual grassland. Elevations range between approximately 80 feet and 180 feet above sea level. Most of this site is typified by low hills, with the exception of the north-central and northeast portions of the site, which are fairly flat with a limited amount of mima terrain. An intermittent drainage course crossed the northwestern portion of the site. This drainage has been impounded and forms a pond that covers approximately 1½ acres. The pond was dry at the time of the burrow survey. A seasonal swale in the southeastern corner of the site is impounded, and held approximately two feet of water during the site visit. The Byron Power Company, a fenced facility covering approximately two acres, is situated near the center of the site. A small number of windmills, which may not be functional, are present east of the Byron

Power Company. Two parallel lines of metal transmission towers cross the site along the eastern edge. An underground pipeline corridor crossed the middle of the site. The site is primarily used to graze cattle, although none were present during the ground survey. Land-use on adjacent parcels is primarily agricultural. A PG&E substation is located across Kelso Road to the north. Lands to the east of the 70 Canal, located ½ mile east of the project, have been largely converted to cropland.

Previous and Regional Burrowing Owl Observations

No previous burrowing owl records have been reported from Parcel E. However, active owl dens were observed northwest, northeast and southwest of the intersection of Bruns Avenue and Kelso Road between 1992 and 1994 (NDDB) and during the present study (See parcels D and F). Two pairs of burrowing owls were observed along Kelso Road approximately 1.5 miles north of the site in 1998 and in previous years (Biosearch Wildlife Surveys 1998b). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between 1½ and 2½ miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys in prep.). A colony of up to eight pairs of burrowing owls, located 3 miles NNW, was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, 1.5 miles NW of the site (Biosearch Wildlife Surveys, 1995). Burrowing owls were observed and subsequently relocated from a pipeline route 2 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3 miles southeast of the parcel in 1992 (NDDB).

Results of Burrow Survey

Five burrowing owls were observed on Parcel E on 2 November 1998 (Figure 2). Three individuals were observed on the ridge in the southeastern portion of the site, and two individuals were observed just off Kelso Road in the northeast part of the site. One of the latter pair of individuals flushed across Kelso Road offsite to the north. Nine burrows showing signs of burrowing owl activity were located. These burrows were in close proximity to the locations at which the individuals were observed, with the exception of a single burrow in the northwest corner of the site. California ground squirrels are abundant across much of the site. A total of 2,084 ground squirrel burrows were tallied, for an average of 13.2 burrows per acre.

Other Special-status Species

Several other special-status species were observed or detected by sign on Parcel E. A northern harrier was seen on 2 November. The entire parcel provides potential habitat for the San Joaquin kit fox, and several potential fox dens were located on the site. Evidence of occupation by American badgers was observed in several different areas of the site, and a dead American badger pup was found near the power facility. Both ponds onsite provide potential breeding habitat for California tiger salamander. Numerous

observations of adult California tiger salamanders have been made in the vicinity (NDDB).

Parcel F (Alameda Co. APN 099B-7010-002-09)

Site Description

This parcel covers 140 acres situated in the SE ¼ of Section 35 (T1S; R3E). It is bordered by Bruns Avenue on the east and by portions of Kelso Road on the south and west (Figure 3). Two low ridges cross the site from southwest to northeast. Three drainage courses cross the site, two of which have been impounded into a series of permanent ponds. The ponds have been negatively affected by grazing and very little emergent vegetation is currently present. Elevations range from 80 feet along Bruns Road to 160 feet along the ridges. A warehouse is situated in the southeastern corner. The site is currently used for grazing cattle. An old quarry is present in the southwestern portion of the site. Surrounding land-use is primarily grazing. A substation is present to the east and the Delta Pumping Plant is situated to the northwest. The site supports annual grassland with no shrubs.

Previous and Regional Burrowing Owl Observations

Active burrowing owl burrows were observed on the site between 1992 and 1994 (NDDB). Active owl dens were also observed southwest and northeast of the intersection of Bruns Avenue and Kelso Road during this time. Two pairs of burrowing owls were observed along Kelso Road approximately one mile north of the site in 1998, as well as in previous years (Biosearch Wildlife Surveys 1998b). A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, one mile NW of the site (Biosearch Wildlife Surveys, 1995). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between one and two miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys, in prep.). A colony of up to eight pairs of burrowing owls, located 2 miles NNW, was relocated during the expansion of the Byron Airport in 1992. Burrowing owls were observed and subsequently relocated from a pipeline route 2.5 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3.5 miles southeast of the parcel in 1992 (NDDB). Burrowing owls were observed approximately 3.5 miles west of the site in 1990 (CCWD 1993).

Results of Burrow Survey

Ten burrowing owls were observed on Parcel F on 29 October 1998 (Figure 2). Four were seen in close proximity in the flat area in the northeastern corner, three were observed near the old quarry in the southwestern portion, two individuals were seen in the main drainage course, and a single individual was observed in the northwestern portion of the site. Twenty-four burrows showing evidence of burrowing owl occupation (pellets,

feathers, whitewash) were located. These burrows are fairly well distributed throughout the site. California ground squirrels are abundant across most of the site. A total of 1,993 ground squirrels were tallied, for an average of 14.2 burrows/acre.

Other Special-status Species

Several other special-status species were observed on Parcel F. Numerous potential San Joaquin kit fox burrows were seen on the site, as well as fox-sized scat. American badgers are active on the site, based on the presence of recent diggings and fresh burrows. A white-tailed kite and a northern harrier were observed on 29 October 1998. An immature golden eagle was found dead near the southwestern corner of the site. The impoundments in the drainage courses provide potential breeding habitat for California red-legged frogs. Much of this site represents potential aestivation habitat for the California tiger salamander. Western pond turtles have been observed ½ mile downstream along the drainage that crosses the northwestern part of the site (pers. obs.). It is likely that western pond turtles occupy the impoundments on the site.

Site	# Acres	# Burrowing Owls Observed	# Burrowing Owl Dens Observed	# Ground Squirrel Burrows Observed	# Ground Squirrel Burrows/Acre
B	120	4	22	1745	14.5
D	144	1	1	455	3.2
E	158	5	9	2084	13.2
F	140	10	24	1993	14.2

Table 1. Results of burrowing owl burrow surveys, 29 October to 6 November 1998.

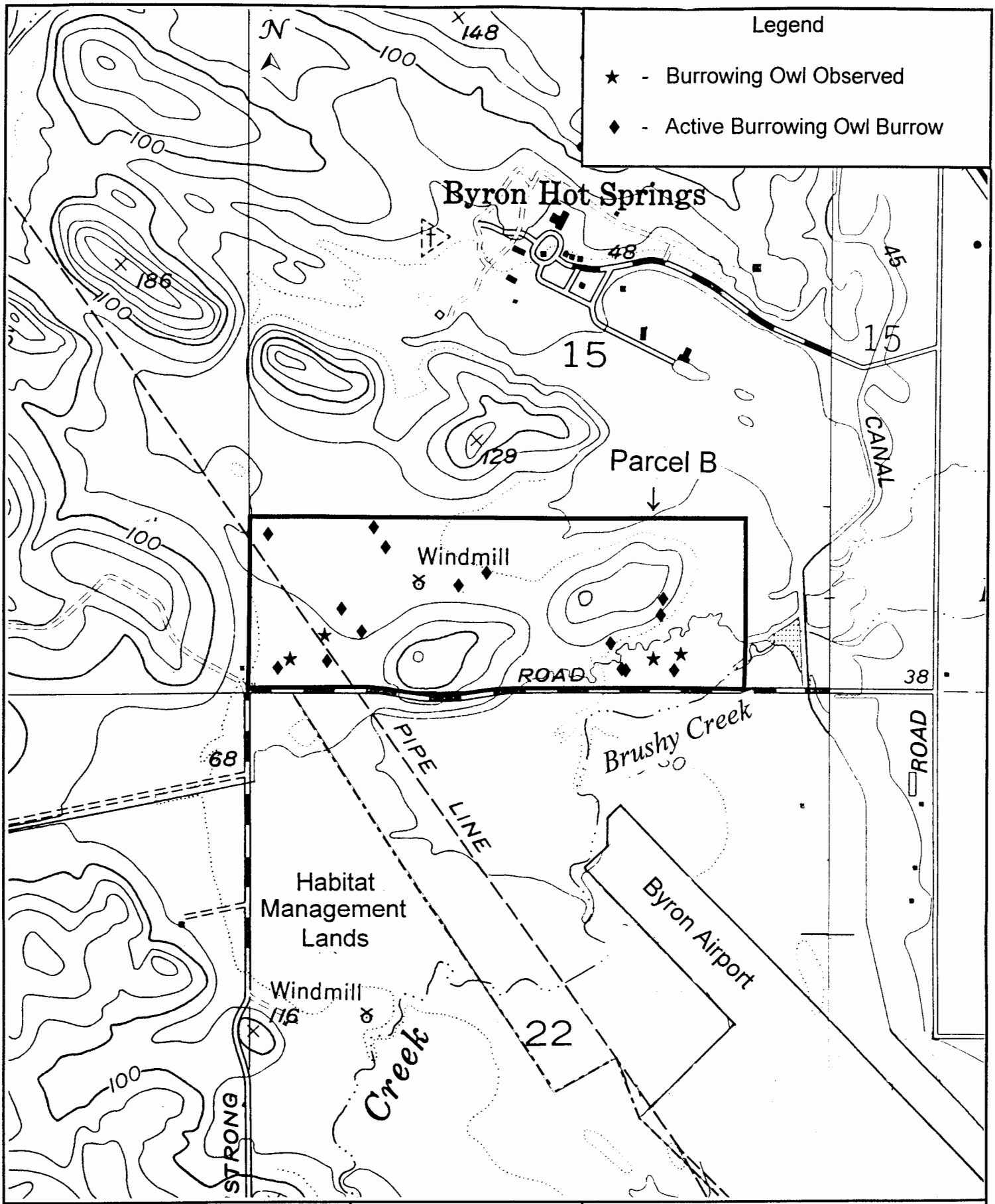

Figure 1. Burrowing Owl Habitat Assessment – APN: Contra Costa Co. Prtn. 002-200-01

Biosearch Wildlife Surveys
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0 ¼ ½
Scale in Miles

Source: Byron Hot Springs & Clifton Court Forebay USGS Quads

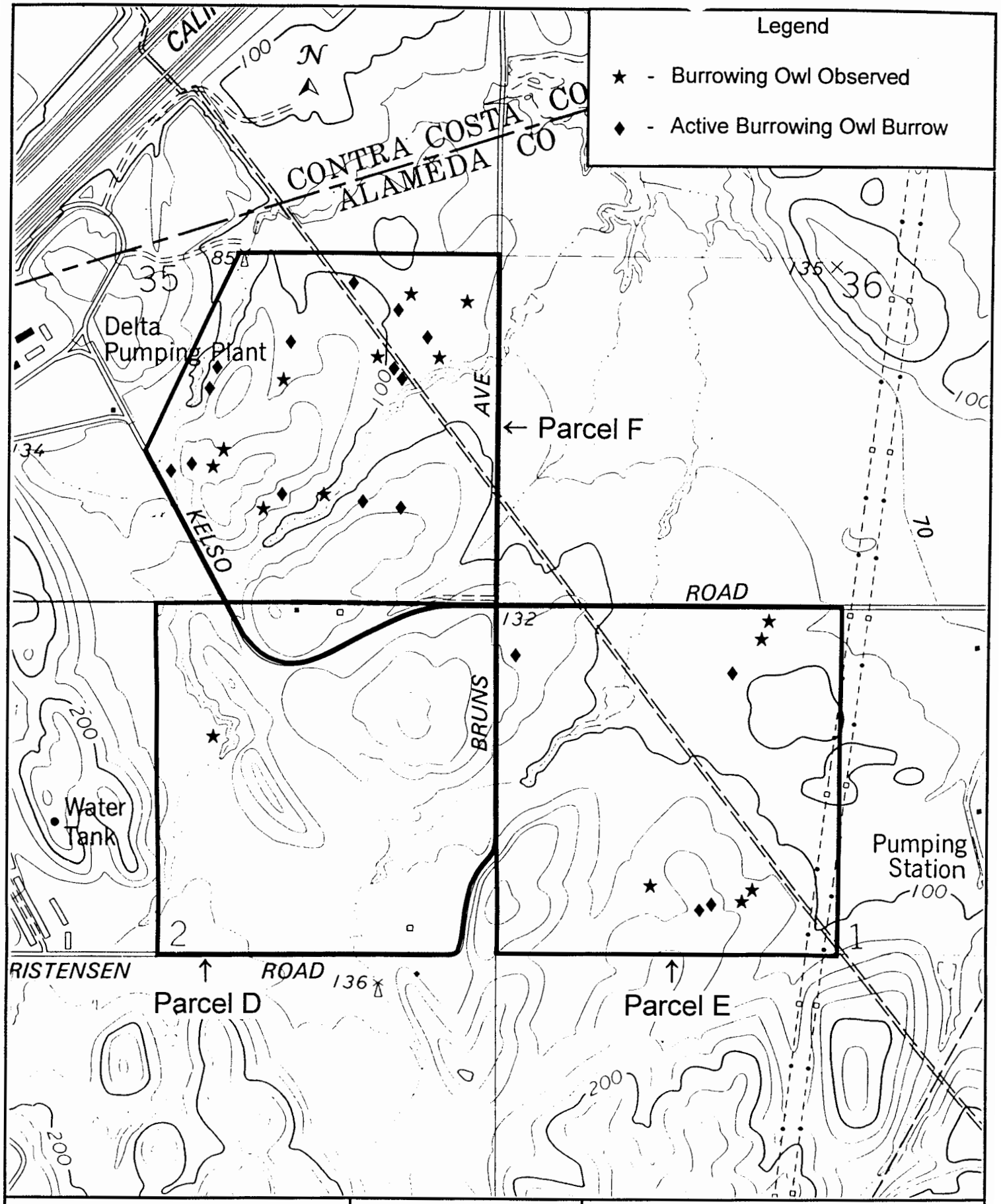

Figure 2. Burrowing Owl Habitat Assessment – APN: Alameda Co. 099B -7020-1-8; -7010-002-07; -7010-002-09

Biosearch Wildlife Surveys
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0 ¼ ½
Scale in Miles

Source: Clifton Court Forebay USGS 7.5' Series Quadrangle

DISCUSSION

Suitable habitat for burrowing owls is present on all four parcels and burrowing owls occupied portions of each site surveyed during this study. All of the sites consist primarily of annual grassland habitat that is used to graze cattle. California ground squirrels, which provide nesting and sheltering opportunities for burrowing owls, are active on all of the parcels. American badgers, which also increase the number of cover-sites, are present throughout the region. All the sites are in a rural area away from human population centers. Parcels B and F supported the highest numbers of active burrowing owl dens. By contrast, only a single burrow was detected on Parcel D. Since burrowing owls in the region are highly dependent on burrows dug by California ground squirrel, the low relative abundance of ground squirrel burrows on Parcel D has likely resulted in lower abundance of owls. However, the timing of surveys was not appropriate to detect nesting burrowing owls, and the relative abundance of owls may change during the nesting season. Based primarily on relative abundance numbers, it is assumed that some burrowing owls migrant and some remain resident in the Bay Area Region.

A review of previous biological investigations indicates that burrowing owls are regular inhabitants of the grasslands along the lower foothills of the Diablo Range and western fringe of the San Joaquin Valley floor between Altamont Pass and the town of Byron. Flat to rolling hill topography, short vegetation, presence of ground squirrels and lack of development combine to provide high-quality habitat for the species. Burrowing owls have been observed annually for the past eight years on Parcel B, and in four of the past seven years on or adjacent to Parcels D, E and F. The region remains relatively undeveloped, although development pressure will doubtless increase in the future. Recent land-use changes include the realignment of Vasco Road to accommodate Los Vaqueros Reservoir and the installation of vineyards in the vicinity of the town of Byron.

Parcels B, E and F all provide excellent opportunities to mitigate for impacts to burrowing owls in other parts of the Bay Area Region. Suitable, occupied habitat exists throughout most of all three parcels. Parcel B is located immediately north of a portion of the Habitat Management Lands at Byron Airport, which are to be managed for wildlife in perpetuity. Artificial burrows would not be necessary on these sites due to high numbers of natural sheltering opportunities. Parcel D, which has significantly fewer den opportunities due to a lower abundance of ground squirrels, may require more extensive enhancement and restoration activities to become suitable for higher numbers of burrowing owls.

A management plan should be prepared to ensure that the mitigation lands continue to provide suitable habitat for burrowing owls. Management should center around the continuation of cattle grazing and maintaining a moderate level of ground squirrel abundance. Keeping grass height relatively low by regular cattle grazing appears to be an effective means of optimizing conditions for both ground squirrels and burrowing owls in annual grassland habitat. However, if grazing were to cease habitat suitability for the

species could decrease dramatically and the species could abandon the site. Leasing the lands for grazing would provide income that could be used for low-level management of the parcels. Several items should be written into the cattle operator's lease including a prohibition on ground squirrel poisoning, hunting and trespass. Ideally, cattle watering should be restricted to portions of impoundments and short segments of riparian areas or troughs.

Parcel D provides suitable habitat for burrowing owls and has been occupied in at least three of the past seven years. However, the relatively low numbers of ground squirrel burrows has resulted in fewer sheltering and nesting opportunities compared to the other parcels. The reason for a lower relative abundance of ground squirrels at Parcel D is unknown. Ground squirrel numbers are dynamic both temporally and spatially, and the parcel could support higher numbers of squirrels in the future.

Although this study provides useful information regarding presence of burrowing owls and quality of habitat during the fall months, it is necessary to conduct breeding season surveys to determine numbers of pairs and estimate recruitment. These data are important to acquire useful baseline information to monitor changes in the population over time. A monitoring program, which should be conducted by a qualified biologist, is recommended for any parcel that is acquired. The monitoring effort should be similar to existing standardized methods and should be approved by CDFG (CBOC, 1993, 1997; CDFG 1995).

All of the parcels also provide opportunities to secure habitat for other special-status species. All of the parcels provide potential habitat for San Joaquin kit fox and American badger. The sites provide year-round foraging habitat for golden eagle, white-tailed kite and northern harrier, and winter foraging habitat for ferruginous hawk, prairie falcon, merlin and California horned lark. California red-legged frog inhabits Brushy Creek, which passes by the southwest corner of Parcel B. The series of impoundments on Parcel F may also be inhabited by red-legged frog. The stock ponds on Parcel E provide potential breeding habitat for the California tiger salamander, while Parcels B, D, E and F all provide suitable upland aestivation habitat for the species.

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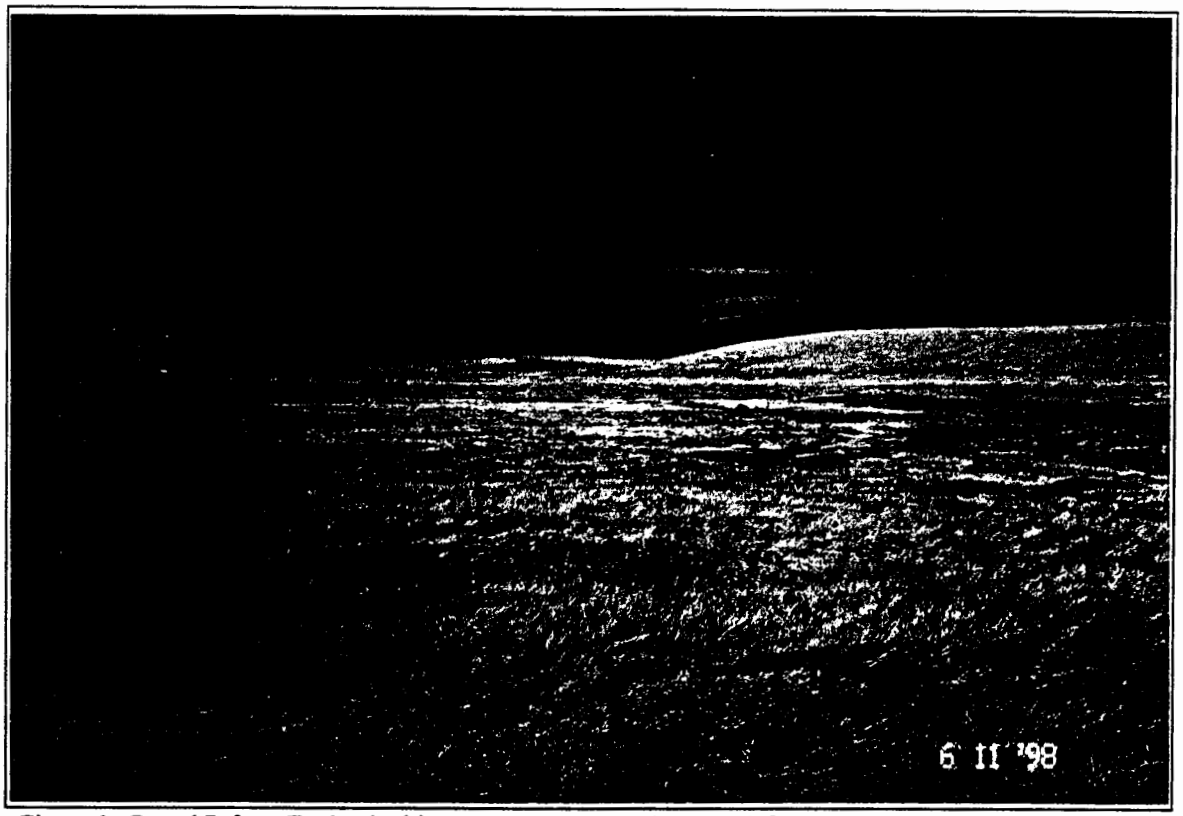

Figure 3. Parcel B from E edge looking west. Armstrong Road on left.

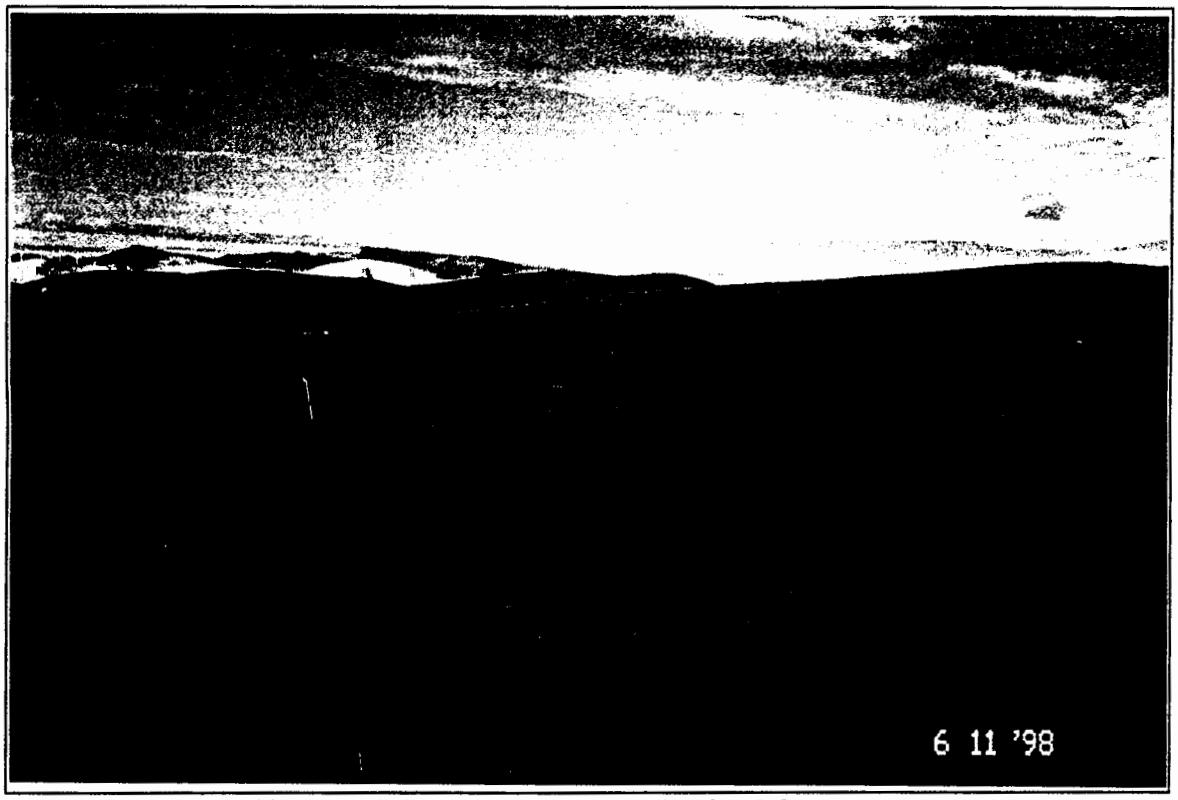

Figure 4. Parcel B looking towards SW corner. Armstrong Road on left.

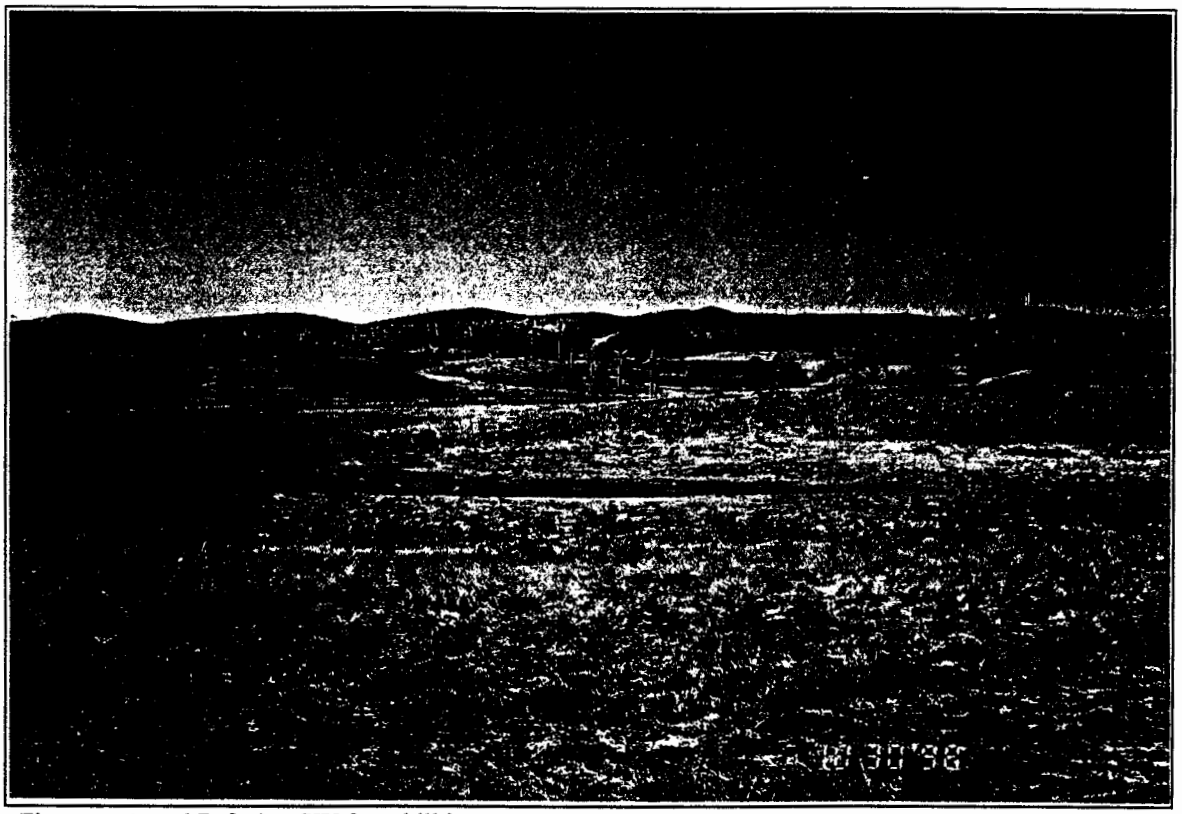

Figure 5. Parcel D facing SW from hill in NE corner.

Figure 6. Parcel D facing NW from S border. Delta Pumping Plant in background.

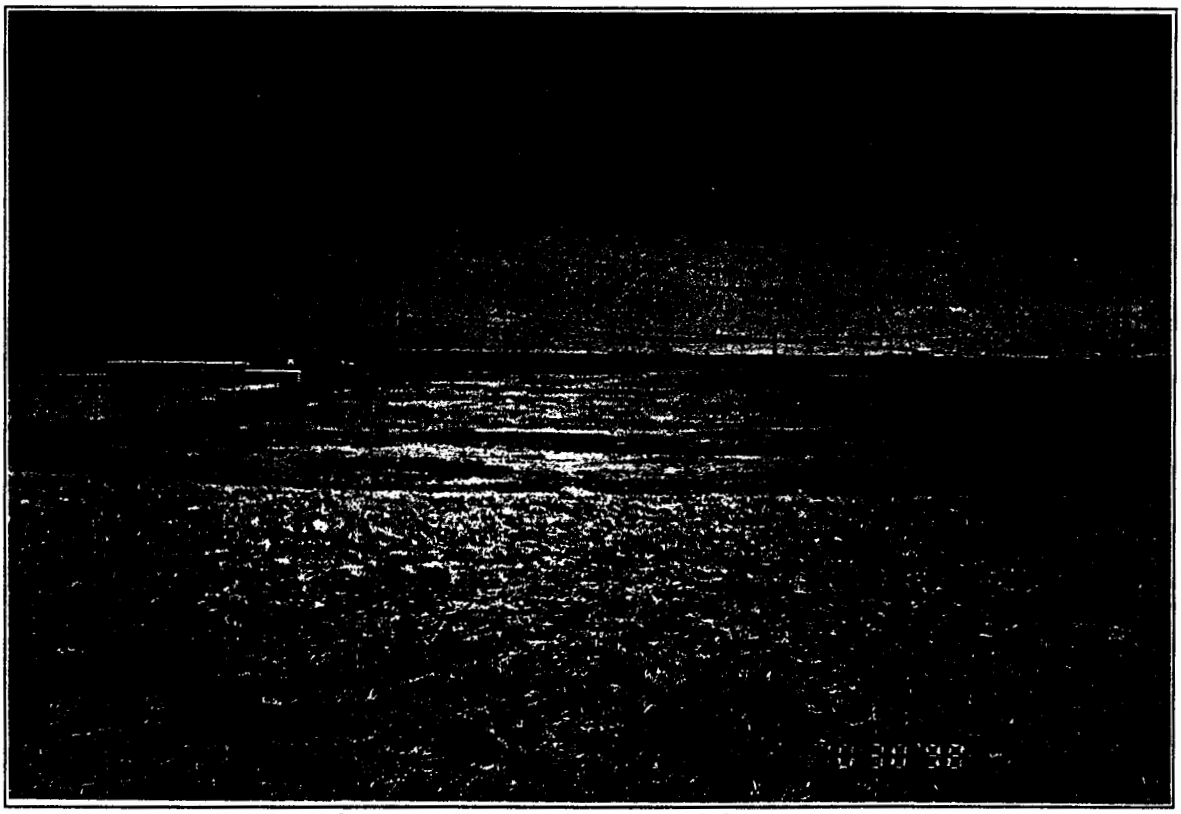

Figure 7. Parcel E looking E from NW corner. Kelso Road on left.

Figure 8. Parcel E looking N form SW corner. Bruns Road on left. Impoundment (dry) on right.

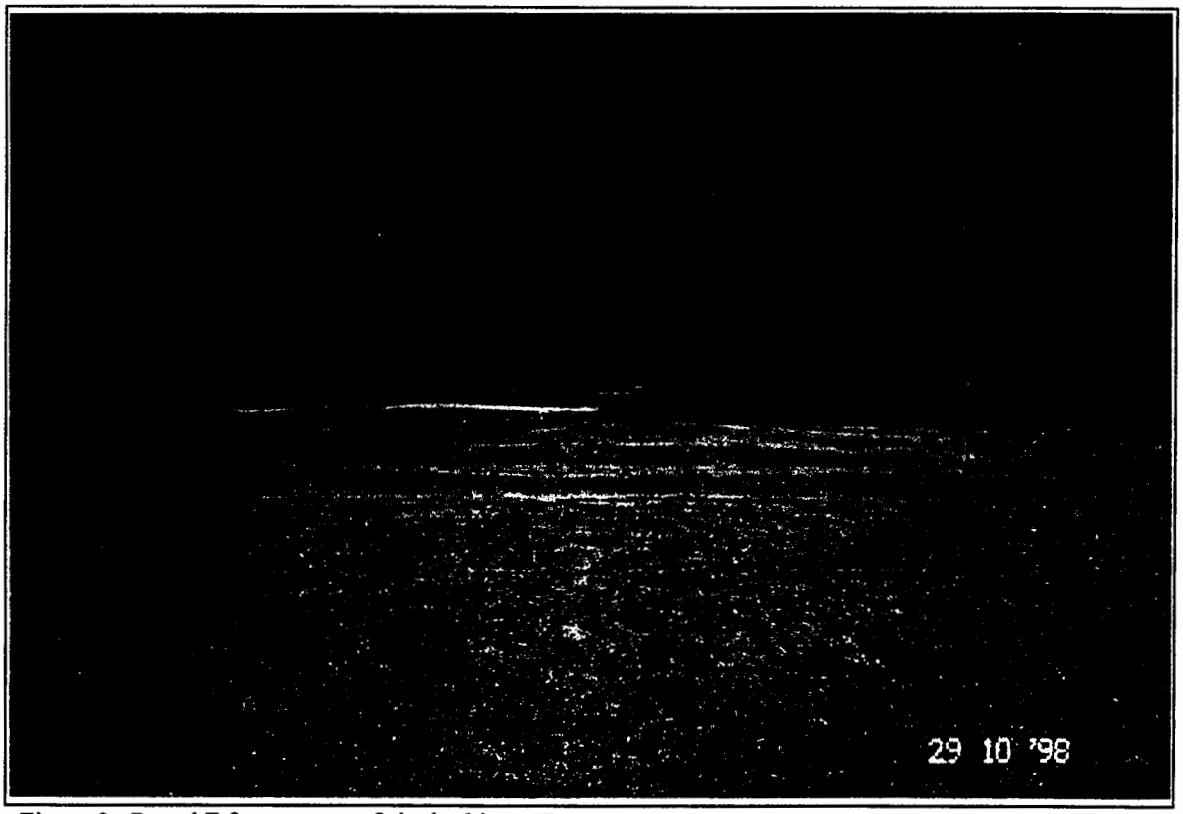

Figure 9. Parcel F from center of site looking NE.

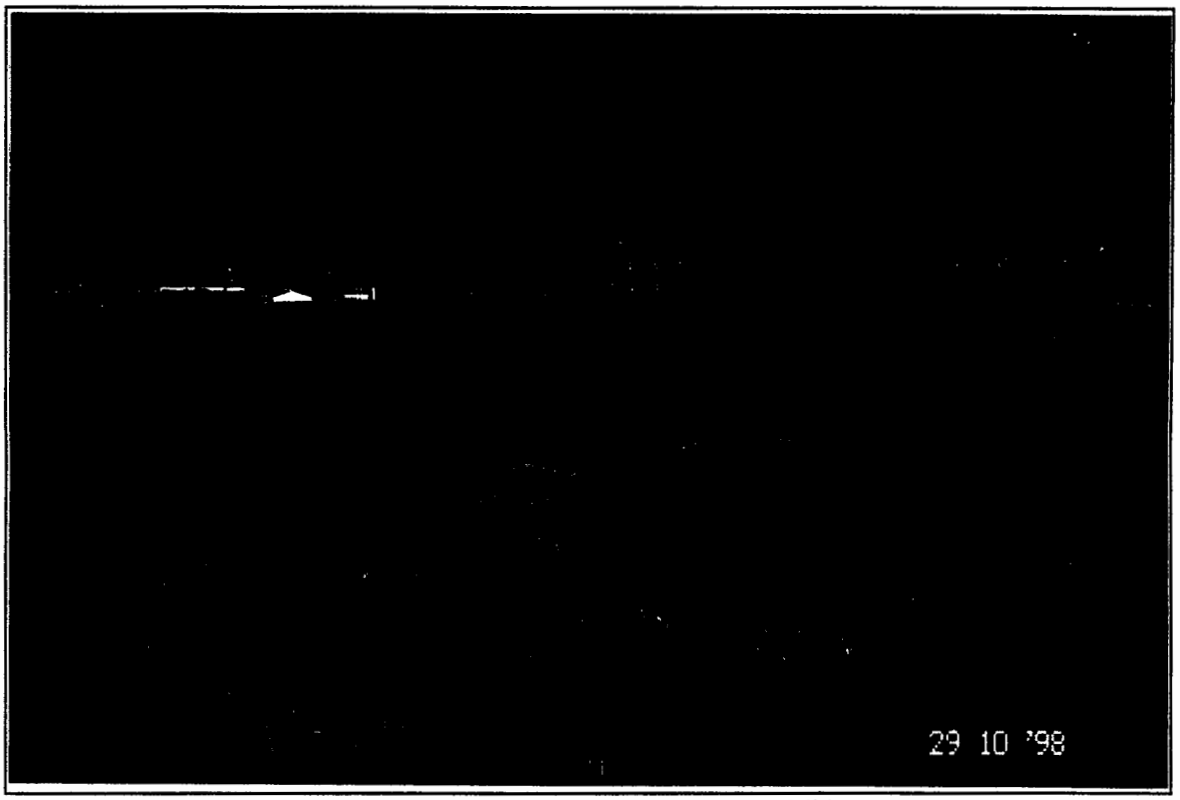

Figure 10. Parcel F looking south. Impoundments of central drainage visible.

EXHIBIT E (40 PAGES)

BURROWING OWL HABITAT ASSESSMENT
CONTRA COSTA CO. APN 002-200-01 (Portion), ALAMEDA CO. APN 099B-7020-1-8, APN 099B-7010-002-07 & APN 099B-7010002-09

Prepared for:

Gruen, Gruen and Associates
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San Francisco, CA 94105

Prepared by:

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95061

18 November 1998

BURROWING OWL HABITAT ASSESSMENT
CONTRA COSTA CO. APN 002-200-01 (Portion), ALAMEDA CO. APN 099B-7020-1-8, APN 099B-7010-002-07 & APN 099B-7010002-09

INTRODUCTION

This report provides the results of a habitat assessment for burrowing owls (*Athena cunicularia*) conducted between 29 October and 6 November 1998 on four parcels in eastern Contra Costa and Alameda Counties, California. The parcels are being considered for acquisition to mitigate for loss of burrowing owl habitat resulting from proposed development projects elsewhere in the Bay Area. This study provides a standardized habitat assessment and burrow survey as recommended by the California Burrowing Owl Consortium (CBOC 1993, 1997) and endorsed by the California Department of Fish and Game (CDFG 1995). A ground survey was conducted throughout each parcel to assess habitat conditions and search for evidence of occupation by the species. This study was conducted outside of the appropriate survey window to determine the nesting status of burrowing owls.

The burrowing owl is a resident of the grassland and scrub communities of the western United States. The species occupies burrows excavated by other species, which in the Bay Area include California ground squirrel (*Spermophilus beecheyi*) and American badger (*Taxidea taxus*). These burrows are used for roosting, nesting and escape from predators. Burrowing owls will also use manmade cover-sites such as culverts and artificial dens, particularly when natural cover-sites are uncommon (CBOC 1993, 1997; Trulio 1997). Burrowing owls prefer areas with no trees, minimal shrub cover and short grass height, including non-native grasslands grazed by livestock (Plumpton and Lutz 1993). The species shows strong site fidelity from year to year, often returning to the same burrows to nest (Feeney 1992; Plumpton and Lutz 1993). It is active both at night and during the day, hunting a variety of small prey including insects, mammals, birds and reptiles (Haug, *et al.* 1993). Habitat conversion and secondary poisoning resulting from ground squirrel control efforts have caused declines throughout much of its range, particularly in the Bay Area (DeSante and Ruhlen 1995). The burrowing owl is listed as a state Species of Special Concern and is a federal Special Concern Species, and has been the subject of increased public interest and conservation efforts in recent years.

METHODS

A ground survey of each parcel was performed by wildlife biologists David Laabs and Mark Allaback and field assistants Sara Higgins and Caleb Murphy to characterize wildlife habitats and identify evidence of occupation by burrowing owls. Transects (approximately 75- to 100-foot spacing) were walked to provide 100% visual coverage of each parcel. All potential burrows with burrowing owl sign (whitewash plus any or all of the following: feathers, pellets, prey remains) were recorded and mapped. The locations

of individual owls were mapped and behavioral observations recorded. All California ground squirrel burrows were tallied on each parcel, whether or not they were considered active or inactive. The number of burrows divided by the number of acres was used as an index of ground squirrel abundance. Concentrations of ground squirrel burrows were mapped. Surveys were conducted on 29 October, 30 October, 2 November and 6 November 1998. The weather was clear on every survey date. At least one significant rain event occurred prior to the survey. Therefore, some sign may have degraded and may not have been detectable, especially at cover-sites that were not used frequently.

The results of previous surveys in the vicinity were reviewed (Jones & Stokes 1990; Stromberg 1991; CCWD 1993; ESA 1993; Stromberg 1994; Biosearch Wildlife Surveys 1995, 1996, 1997, 1998a, 1998b). A record search of the California Natural Diversity Data Base (NDDB) was performed for the Byron Hot Springs and Clifton Court Forebay quadrangles. Other researchers who have conducted wildlife surveys in the vicinity were contacted. All records of burrowing owls within three miles of each parcel are included in the following descriptions.

RESULTS

Parcel B (Contra Costa Co., portion of APN 002-200-01)

Site Description

This parcel covers 120 acres situated immediately north of Armstrong Road (portion of the S ½ of the S ½ of Section 15; T1S; R3E). Elevations range from approximately 40 to 120 feet above sea level. The site is regularly used to graze cattle, although none were present at the time of ground surveys. Adjacent land use to the west and north is primarily grazing. The Byron Airport and associated Habitat Management Lands are situated immediately across Armstrong Road to the south (Stromberg 1991). Byron Hot Springs, a collection of mostly abandoned buildings, is present north of the site. Lands to the east are primarily irrigated pasture.

The dominant habitat consists of non-native grassland. Brushy Creek, a perennial stream supporting emergent freshwater marsh vegetation, crosses the southeastern corner of the site. An intermittent drainage course crosses the southern part of the site and meets Brushy Creek near its confluence with the 45 Canal just off the east border. An alkali wetland is present in a depression north of the two hills, in a drainage that feeds into a large alkali pond off-site. Vernal pools are present in the western and northeastern portions of the site (Stromberg 1994). A number of sensitive plant species have been detected on the parcel (Stromberg 1994). Two low hills occupy the central portion of the site. In 1993, the westernmost hill was lowered and used to provide fill for a portion of the Byron Airport Expansion, and has since been invaded by weedy species (Stromberg 1991; pers. obs.). The western portion of the site is flat, with mima mounds evident. It appears that an attempt was made last winter to control the thistles by disking on portions of the site.

Previous and Regional Burrowing Owl Observations

Burrowing owls have been seen on Parcel B every year since 1990 (Stromberg 1991; Stromberg 1994; Biosearch Wildlife Surveys 1997; pers. obs.). During most of these years, young were successfully fledged. Six pairs of owls were observed on the site in the spring of 1994 (Stromberg 1994). Three pairs nested on the site in 1996 (Biosearch Wildlife Surveys 1997). Four pairs nested on the site in 1998 (Biosearch Wildlife Surveys 1998a). However, none of the pairs successfully fledged young in 1998.

Three pairs of owls were observed within ½ mile of the site along the west side of Byron Hot Springs Road north of Armstrong Road in 1998 (Biosearch Wildlife Surveys 1998a). Two pairs of owls were observed 1½ miles south of the site in the spring of 1998 (pers. obs.). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands to the south of Parcel B conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys in prep.). A colony of up to eight pairs of burrowing owls, located ½ mile south of Armstrong Road, was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Habitat Management Lands in 1994 (Biosearch Wildlife Surveys 1995). Three pairs of burrowing owls were seen approximately 1 mile to the northwest in 1994 (Stromberg, 1994). Burrowing owls were seen along Holey Road one mile southeast of the site in 1981 and 1982 (NDDB) and annually since 1991 (NDDB; pers. obs).

Results of Burrow Survey

Four burrowing owls were observed on Parcel B on 6 November 1998 (Figure 1). Two were observed in close proximity to one another in the southwestern part of the site, while the other two were seen close together in the southeastern part of the site. Twenty-two burrows showed evidence of use by the species. These burrows were found throughout much of the site, with the exception of the westernmost hill and the northeastern portion of the site. California ground squirrels are abundant on Parcel B. A total of 1,745 burrows were counted, for an average of 14.5 burrows per acre.

Other Special-status Species

Numerous other special-status species were seen during November 1998 or have been observed in the past on Parcel B. A northern harrier (*Circus cyaneus*), a loggerhead shrike (*Lanius ludovicianus*) and several horned larks (*Eremophila alpestris*) were seen during ground surveys. Several potential San Joaquin kit fox (*Vulpes macrotis mutica*) dens were observed, many of which appeared to be ground squirrel burrows expanded by American badger. Golden eagles (*Aquila chrysaetos*), white-tailed kites (*Elanus leucurus*), ferruginous hawks (*Falco regalis*), prairie falcons (*Falco mexicanus*) and American badgers have been observed on the parcel in the past (Stromberg 1990; 1994, pers. obs.). California red-legged frog (*Rana aurora draytonii*) larvae, juveniles and

adults were seen in Brushy Creek where it crosses Armstrong Road in the summer and fall of 1998 (Biosearch Wildlife Surveys, in prep.). California tiger salamanders are known to breed in a fire pond at the Byron Airport, within ½ mile of the site to the south, and in a large seasonal wetland at Byron Hot Springs (Skenfield 1993; Stromberg 1997). Much of Parcel B is likely to provide upland aestivation habitat for California tiger salamander. Western pond turtles (*Clemmys marmorata*) have been observed in the 45 Canal and at the seasonal pond near Byron Hot Springs (Skenfield 1993; pers. obs.), and they probably use Brushy Creek as well.

Parcel D (Alameda Co. APN 099B-7020-1-8)

Site Description

Parcel D is located southwest of the corner of Bruns Avenue and Kelso Road (Portion of NE ¼ Sec 2; T2S; R3E). Christianson Road forms the southern border of the parcel, which covers 144 acres. Elevation ranges between 120 feet to 180 feet above sea level.

The habitat on the site consists primarily of annual grassland. The topography of the northern half of the parcel is dominated by low hills. Small rock outcrops are scattered along the ridge tops. The southern portion of the site is mostly flat. A perennial creek flows along the western edge of the site. This creek supports emergent vegetation that has been heavily affected by cattle grazing. An intermittent stream that supports alkali wetland flows across the southeastern part of the parcel. An old homestead is located in the southern corner of the site, with scattered eucalyptus and pepper trees. A portion of the land near the old homestead has been furrowed in the past. Some large patches of star thistle are present, mostly in the southern portion of the parcel. The site is primarily used to graze cattle, and approximately 50 cows with calves were onsite during the ground survey. Land-use on adjacent parcels is primarily grazing. A small cornfield, which had already been harvested, was present adjacent to the northwest corner of the site. The California Aqueduct and the Delta Pumping Plant are within ½ mile to the northwest. The Bethany Reservoir is located ½ mile south.

Previous and Regional Burrowing Owl Observations

Active burrowing owl burrows were observed on Parcel D between 1992 and 1994 (NDDB). Active owl dens were also observed northwest and northeast of the intersection of Bruns Avenue and Kelso Road during the same period.

Two pairs of burrowing owls were observed along Kelso Road approximately 1½ miles north of the site in 1998 (Biosearch Wildlife Surveys 1998b). Ten burrowing owls were observed on the adjacent parcel to the north (Parcel F) and five owls on the adjacent parcel to the east (Parcel E) during the present study. Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between 1½ and 2½ miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively. A colony of up to eight pairs of burrowing owls, located 2½ miles NNW,

was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, one mile NW of the site (Biosearch Wildlife Surveys, 1995). Burrowing owls were observed and subsequently relocated from a pipeline route 2 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3 miles southeast of the parcel in 1992 (NDDB).

Results of Burrow Survey

A single burrowing owl was observed on Parcel D on 30 October 1998 (Figure 2). The individual was present in the northwestern portion of the site. The owl was observed at a burrow that showed evidence of use by burrowing owls. There were no other burrows on the site that showed similar sign. California ground squirrels were present on the site, mostly in patches in the hills and in the northwest corner of the site adjacent to a cornfield located offsite. Very few burrows were seen in the flat areas south of the ridges. A total of 455 ground squirrel burrows were tallied, for an average of 3.2 burrows per acre.

Other Special-status Species

Several other special-status species were observed or detected by sign on Parcel D. A northern harrier and a loggerhead shrike were observed on 30 October 1998. A white-tailed kite was observed just offsite to the west. The entire parcel provides potential habitat for the San Joaquin kit fox, and a potential fox scat was located onsite. Evidence of occupation by American badgers was located on the ridges in the northern part of the parcel. The perennial stream provides potential habitat for California red-legged frog, although no deep pools or impoundments were seen.

Parcel E (Alameda Co. APN 099B-7010-002-07)

Site Description

Parcel E is located immediately southeast of the intersection of Bruns Avenue and Kelso Road (NW ¼ Section 1; T2S; R3E) (Figure 2). These roads form the northern and western borders of the site, respectively.

Parcel E consists primarily of annual grassland. Elevations range between approximately 80 feet and 180 feet above sea level. Most of this site is typified by low hills, with the exception of the north-central and northeast portions of the site, which are fairly flat with a limited amount of mima terrain. An intermittent drainage course crossed the northwestern portion of the site. This drainage has been impounded and forms a pond that covers approximately 1½ acres. The pond was dry at the time of the burrow survey. A seasonal swale in the southeastern corner of the site is impounded, and held approximately two feet of water during the site visit. The Byron Power Company, a fenced facility covering approximately two acres, is situated near the center of the site. A small number of windmills, which may not be functional, are present east of the Byron

Power Company. Two parallel lines of metal transmission towers cross the site along the eastern edge. An underground pipeline corridor crossed the middle of the site. The site is primarily used to graze cattle, although none were present during the ground survey. Land-use on adjacent parcels is primarily agricultural. A PG&E substation is located across Kelso Road to the north. Lands to the east of the 70 Canal, located ½ mile east of the project, have been largely converted to cropland.

Previous and Regional Burrowing Owl Observations

No previous burrowing owl records have been reported from Parcel E. However, active owl dens were observed northwest, northeast and southwest of the intersection of Bruns Avenue and Kelso Road between 1992 and 1994 (NDDB) and during the present study (See parcels D and F). Two pairs of burrowing owls were observed along Kelso Road approximately 1.5 miles north of the site in 1998 and in previous years (Biosearch Wildlife Surveys 1998b). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between 1½ and 2½ miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys in prep.). A colony of up to eight pairs of burrowing owls, located 3 miles NNW, was relocated during the expansion of the Byron Airport in 1992. A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, 1.5 miles NW of the site (Biosearch Wildlife Surveys, 1995). Burrowing owls were observed and subsequently relocated from a pipeline route 2 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3 miles southeast of the parcel in 1992 (NDDB).

Results of Burrow Survey

Five burrowing owls were observed on Parcel E on 2 November 1998 (Figure 2). Three individuals were observed on the ridge in the southeastern portion of the site, and two individuals were observed just off Kelso Road in the northeast part of the site. One of the latter pair of individuals flushed across Kelso Road offsite to the north. Nine burrows showing signs of burrowing owl activity were located. These burrows were in close proximity to the locations at which the individuals were observed, with the exception of a single burrow in the northwest corner of the site. California ground squirrels are abundant across much of the site. A total of 2,084 ground squirrel burrows were tallied, for an average of 13.2 burrows per acre.

Other Special-status Species

Several other special-status species were observed or detected by sign on Parcel E. A northern harrier was seen on 2 November. The entire parcel provides potential habitat for the San Joaquin kit fox, and several potential fox dens were located on the site. Evidence of occupation by American badgers was observed in several different areas of the site, and a dead American badger pup was found near the power facility. Both ponds onsite provide potential breeding habitat for California tiger salamander. Numerous

observations of adult California tiger salamanders have been made in the vicinity (NDDB).

Parcel F (Alameda Co. APN 099B-7010-002-09)

Site Description

This parcel covers 140 acres situated in the SE ¼ of Section 35 (T1S; R3E). It is bordered by Bruns Avenue on the east and by portions of Kelso Road on the south and west (Figure 3). Two low ridges cross the site from southwest to northeast. Three drainage courses cross the site, two of which have been impounded into a series of permanent ponds. The ponds have been negatively affected by grazing and very little emergent vegetation is currently present. Elevations range from 80 feet along Bruns Road to 160 feet along the ridges. A warehouse is situated in the southeastern corner. The site is currently used for grazing cattle. An old quarry is present in the southwestern portion of the site. Surrounding land-use is primarily grazing. A substation is present to the east and the Delta Pumping Plant is situated to the northwest. The site supports annual grassland with no shrubs.

Previous and Regional Burrowing Owl Observations

Active burrowing owl burrows were observed on the site between 1992 and 1994 (NDDB). Active owl dens were also observed southwest and northeast of the intersection of Bruns Avenue and Kelso Road during this time. Two pairs of burrowing owls were observed along Kelso Road approximately one mile north of the site in 1998, as well as in previous years (Biosearch Wildlife Surveys 1998b). A colony of eight pairs of burrowing owls was observed just south of Byron Airport Habitat Management Lands in 1994, one mile NW of the site (Biosearch Wildlife Surveys, 1995). Surveys for burrowing owls on the 714-acre Byron Airport Habitat Management Lands between one and two miles northwest of Parcel D conducted in 1994, 1996 and 1998 detected ten, four and seven pairs of owls, respectively (Biosearch Wildlife Surveys, in prep.). A colony of up to eight pairs of burrowing owls, located 2 miles NNW, was relocated during the expansion of the Byron Airport in 1992. Burrowing owls were observed and subsequently relocated from a pipeline route 2.5 miles southeast of the parcel in 1993 (NDDB). A burrowing owl was observed during the nesting season 3.5 miles southeast of the parcel in 1992 (NDDB). Burrowing owls were observed approximately 3.5 miles west of the site in 1990 (CCWD 1993).

Results of Burrow Survey

Ten burrowing owls were observed on Parcel F on 29 October 1998 (Figure 2). Four were seen in close proximity in the flat area in the northeastern corner, three were observed near the old quarry in the southwestern portion, two individuals were seen in the main drainage course, and a single individual was observed in the northwestern portion of the site. Twenty-four burrows showing evidence of burrowing owl occupation (pellets,

feathers, whitewash) were located. These burrows are fairly well distributed throughout the site. California ground squirrels are abundant across most of the site. A total of 1,993 ground squirrels were tallied, for an average of 14.2 burrows/acre.

Other Special-status Species

Several other special-status species were observed on Parcel F. Numerous potential San Joaquin kit fox burrows were seen on the site, as well as fox-sized scat. American badgers are active on the site, based on the presence of recent diggings and fresh burrows. A white-tailed kite and a northern harrier were observed on 29 October 1998. An immature golden eagle was found dead near the southwestern corner of the site. The impoundments in the drainage courses provide potential breeding habitat for California red-legged frogs. Much of this site represents potential aestivation habitat for the California tiger salamander. Western pond turtles have been observed ½ mile downstream along the drainage that crosses the northwestern part of the site (pers. obs.). It is likely that western pond turtles occupy the impoundments on the site.

Site	# Acres	# Burrowing Owls Observed	# Burrowing Owl Dens Observed	# Ground Squirrel Burrows Observed	# Ground Squirrel Burrows/Acre
B	120	4	22	1745	14.5
D	144	1	1	455	3.2
E	158	5	9	2084	13.2
F	140	10	24	1993	14.2

Table 1. Results of burrowing owl burrow surveys, 29 October to 6 November 1998.

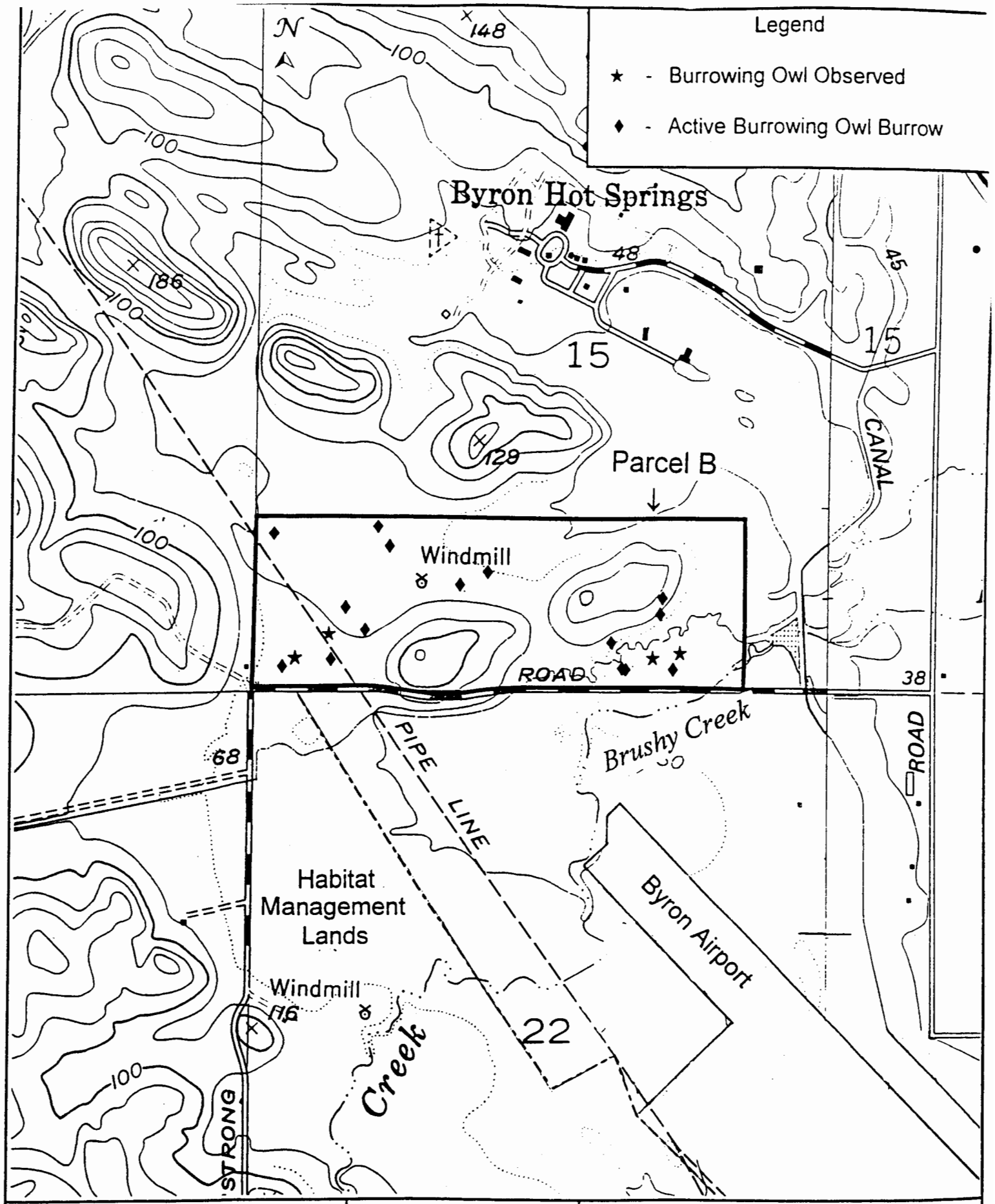

Figure 1. Burrowing Owl Habitat Assessment – APN: Contra Costa Co. Prtn. 002-200-01

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles

Source: Byron Hot Springs & Clifton Court Forebay USGS Quads

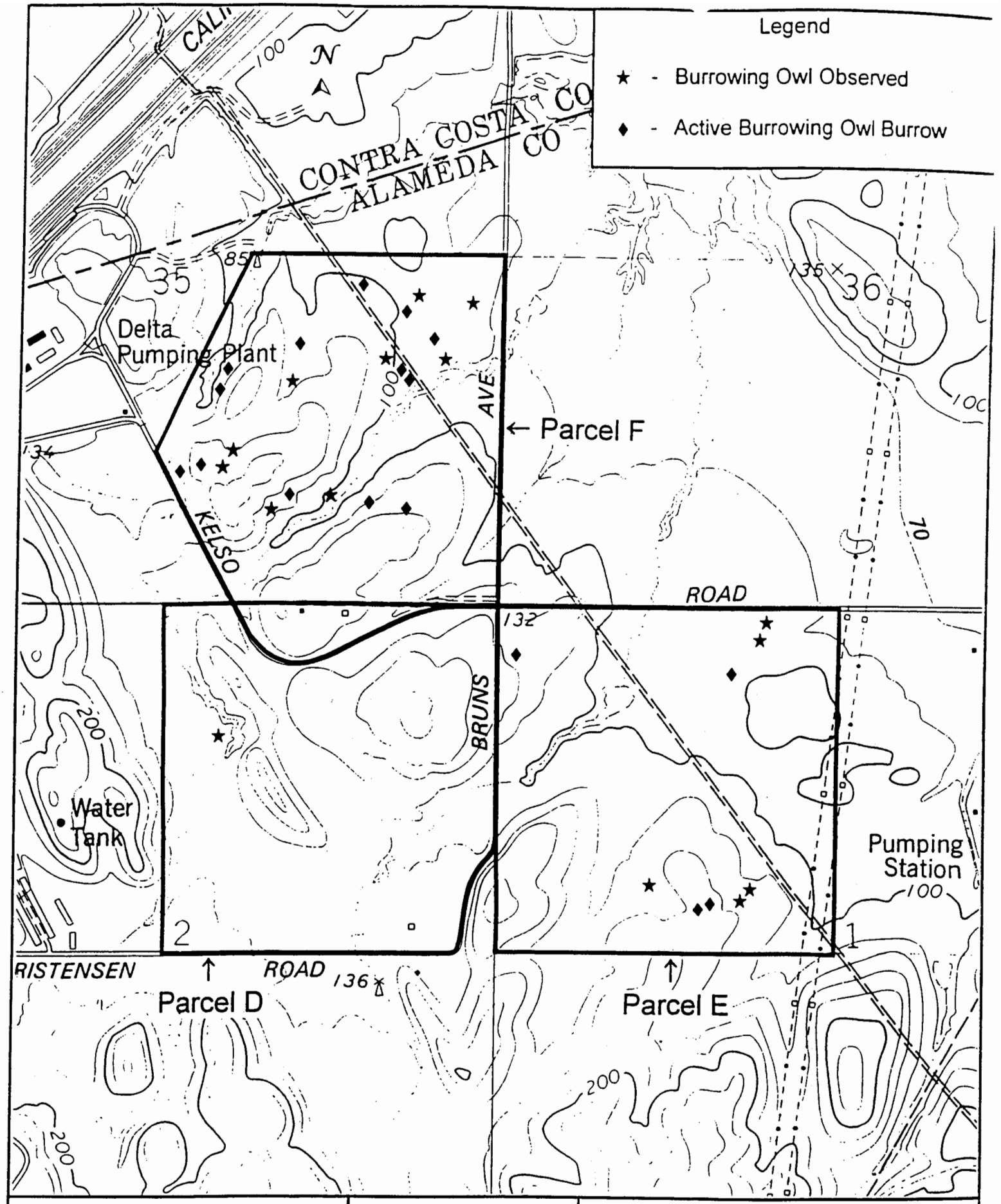

Figure 2. Burrowing Owl Habitat Assessment – APN: Alameda Co. 099B -7020-1-8; -7010-002-07; -7010-002-09

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles

Source: Clifton Court Forebay USGS 7.5' Series Quadrangle

DISCUSSION

Suitable habitat for burrowing owls is present on all four parcels and burrowing owls occupied portions of each site surveyed during this study. All of the sites consist primarily of annual grassland habitat that is used to graze cattle. California ground squirrels, which provide nesting and sheltering opportunities for burrowing owls, are active on all of the parcels. American badgers, which also increase the number of cover-sites, are present throughout the region. All the sites are in a rural area away from human population centers. Parcels B and F supported the highest numbers of active burrowing owl dens. By contrast, only a single burrow was detected on Parcel D. Since burrowing owls in the region are highly dependent on burrows dug by California ground squirrel, the low relative abundance of ground squirrel burrows on Parcel D has likely resulted in lower abundance of owls. However, the timing of surveys was not appropriate to detect nesting burrowing owls, and the relative abundance of owls may change during the nesting season. Based primarily on relative abundance numbers, it is assumed that some burrowing owls migrant and some remain resident in the Bay Area Region.

A review of previous biological investigations indicates that burrowing owls are regular inhabitants of the grasslands along the lower foothills of the Diablo Range and western fringe of the San Joaquin Valley floor between Altamont Pass and the town of Byron. Flat to rolling hill topography, short vegetation, presence of ground squirrels and lack of development combine to provide high-quality habitat for the species. Burrowing owls have been observed annually for the past eight years on Parcel B, and in four of the past seven years on or adjacent to Parcels D, E and F. The region remains relatively undeveloped, although development pressure will doubtless increase in the future. Recent land-use changes include the realignment of Vasco Road to accommodate Los Vaqueros Reservoir and the installation of vineyards in the vicinity of the town of Byron.

Parcels B, E and F all provide excellent opportunities to mitigate for impacts to burrowing owls in other parts of the Bay Area Region. Suitable, occupied habitat exists throughout most of all three parcels. Parcel B is located immediately north of a portion of the Habitat Management Lands at Byron Airport, which are to be managed for wildlife in perpetuity. Artificial burrows would not be necessary on these sites due to high numbers of natural sheltering opportunities. Parcel D, which has significantly fewer den opportunities due to a lower abundance of ground squirrels, may require more extensive enhancement and restoration activities to become suitable for higher numbers of burrowing owls.

A management plan should be prepared to ensure that the mitigation lands continue to provide suitable habitat for burrowing owls. Management should center around the continuation of cattle grazing and maintaining a moderate level of ground squirrel abundance. Keeping grass height relatively low by regular cattle grazing appears to be an effective means of optimizing conditions for both ground squirrels and burrowing owls in annual grassland habitat. However, if grazing were to cease habitat suitability for the

species could decrease dramatically and the species could abandon the site. Leasing the lands for grazing would provide income that could be used for low-level management of the parcels. Several items should be written into the cattle operator's lease including a prohibition on ground squirrel poisoning, hunting and trespass. Ideally, cattle watering should be restricted to portions of impoundments and short segments of riparian areas or troughs.

Parcel D provides suitable habitat for burrowing owls and has been occupied in at least three of the past seven years. However, the relatively low numbers of ground squirrel burrows has resulted in fewer sheltering and nesting opportunities compared to the other parcels. The reason for a lower relative abundance of ground squirrels at Parcel D is unknown. Ground squirrel numbers are dynamic both temporally and spatially, and the parcel could support higher numbers of squirrels in the future.

Although this study provides useful information regarding presence of burrowing owls and quality of habitat during the fall months, it is necessary to conduct breeding season surveys to determine numbers of pairs and estimate recruitment. These data are important to acquire useful baseline information to monitor changes in the population over time. A monitoring program, which should be conducted by a qualified biologist, is recommended for any parcel that is acquired. The monitoring effort should be similar to existing standardized methods and should be approved by CDFG (CBOC, 1993, 1997; CDFG 1995).

All of the parcels also provide opportunities to secure habitat for other special-status species. All of the parcels provide potential habitat for San Joaquin kit fox and American badger. The sites provide year-round foraging habitat for golden eagle, white-tailed kite and northern harrier, and winter foraging habitat for ferruginous hawk, prairie falcon, merlin and California horned lark. California red-legged frog inhabits Brushy Creek, which passes by the southwest corner of Parcel B. The series of impoundments on Parcel F may also be inhabited by red-legged frog. The stock ponds on Parcel E provide potential breeding habitat for the California tiger salamander, while Parcels B, D, E and F all provide suitable upland aestivation habitat for the species.

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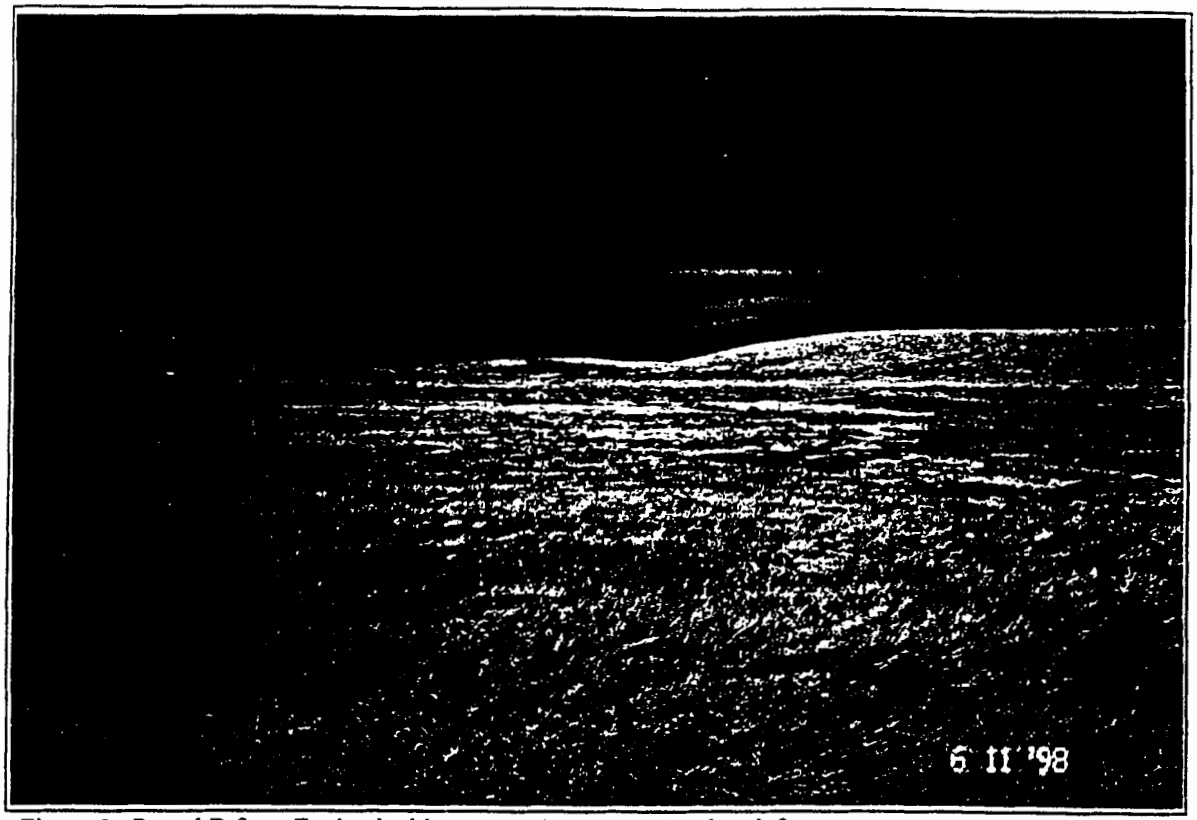

Figure 3. Parcel B from E edge looking west. Armstrong Road on left.

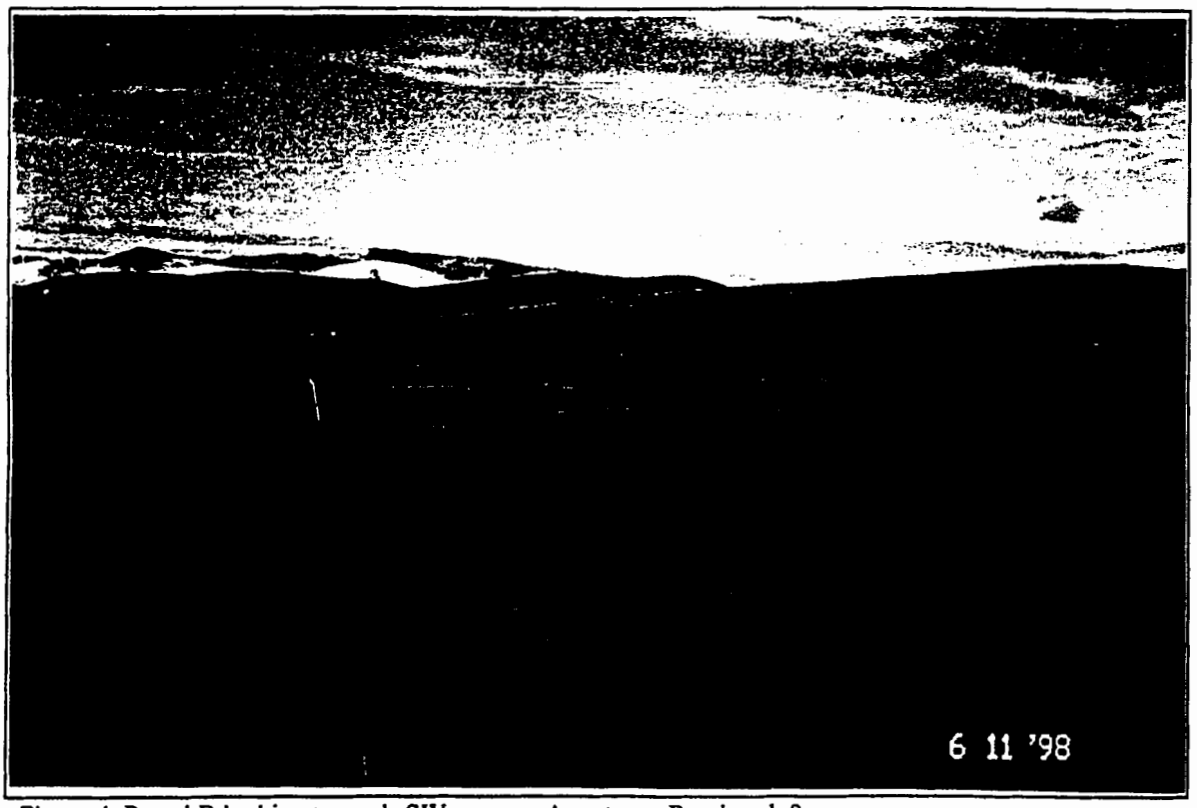

Figure 4. Parcel B looking towards SW corner. Armstrong Road on left.

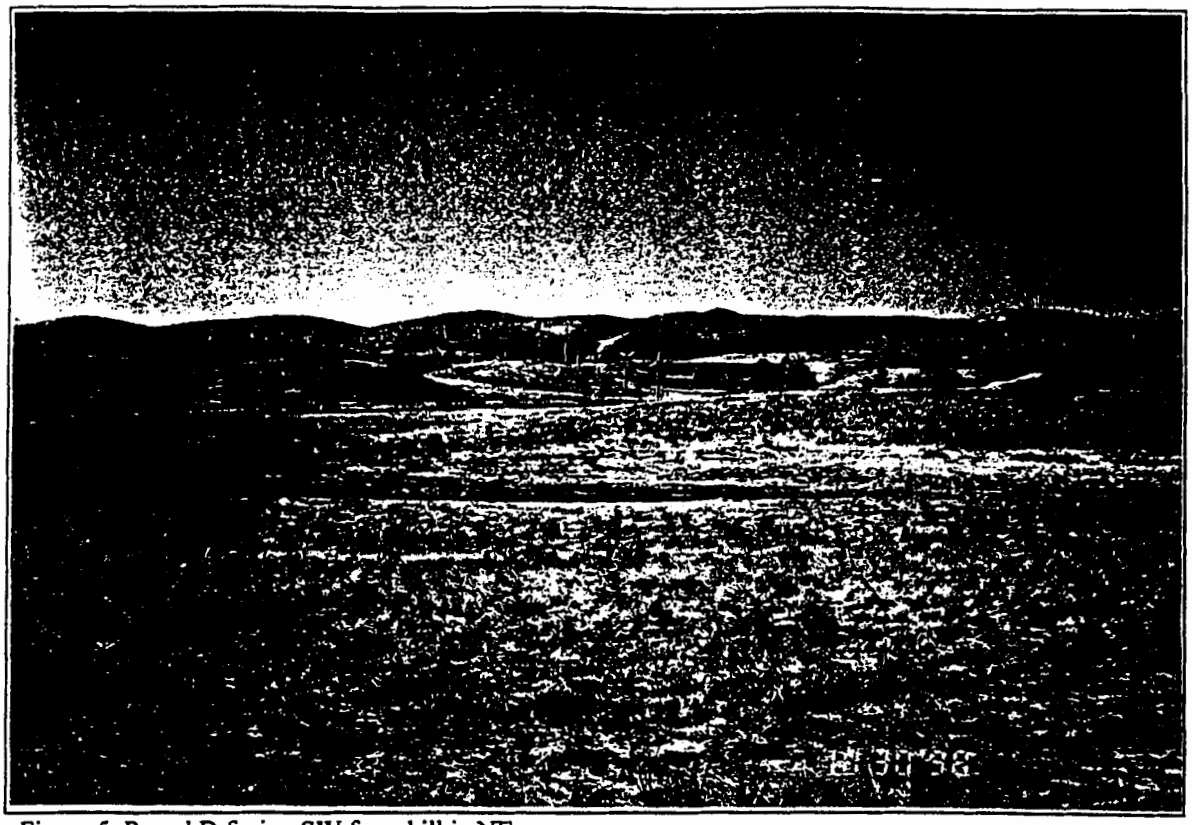

Figure 5. Parcel D facing SW from hill in NE corner.

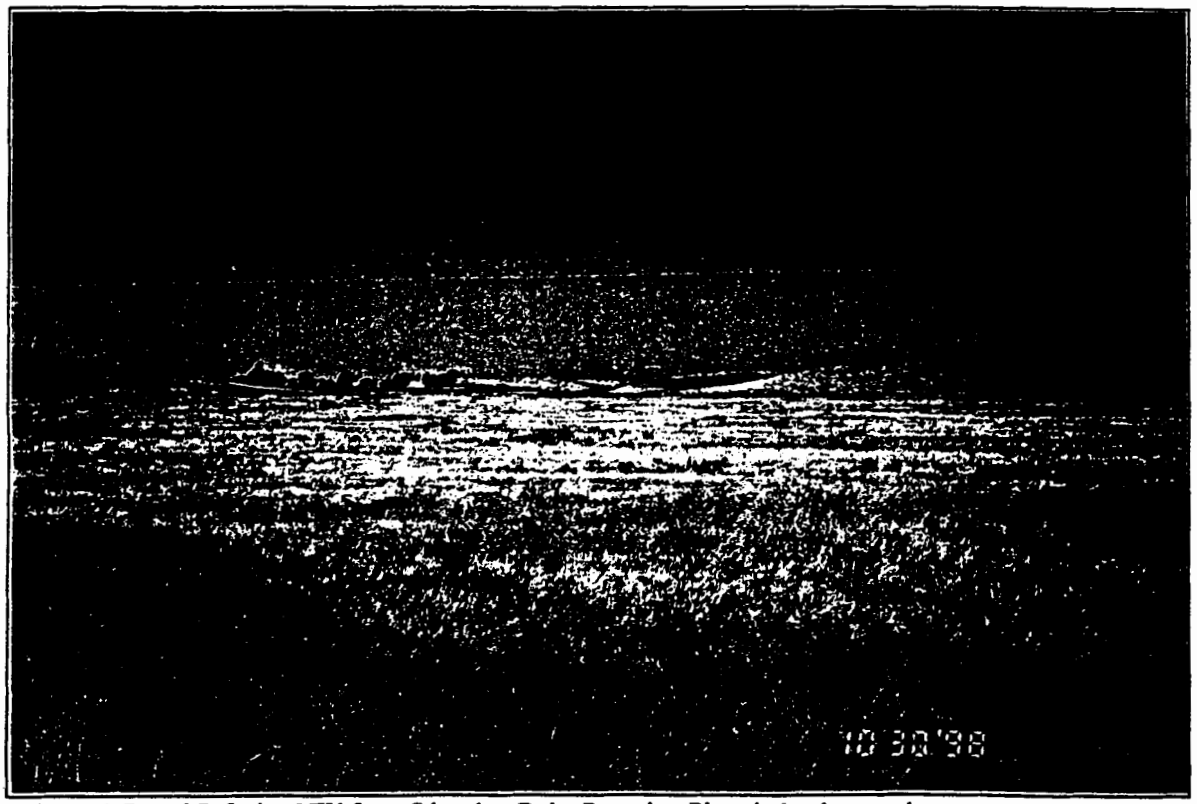

Figure 6. Parcel D facing NW from S border. Delta Pumping Plant in background.

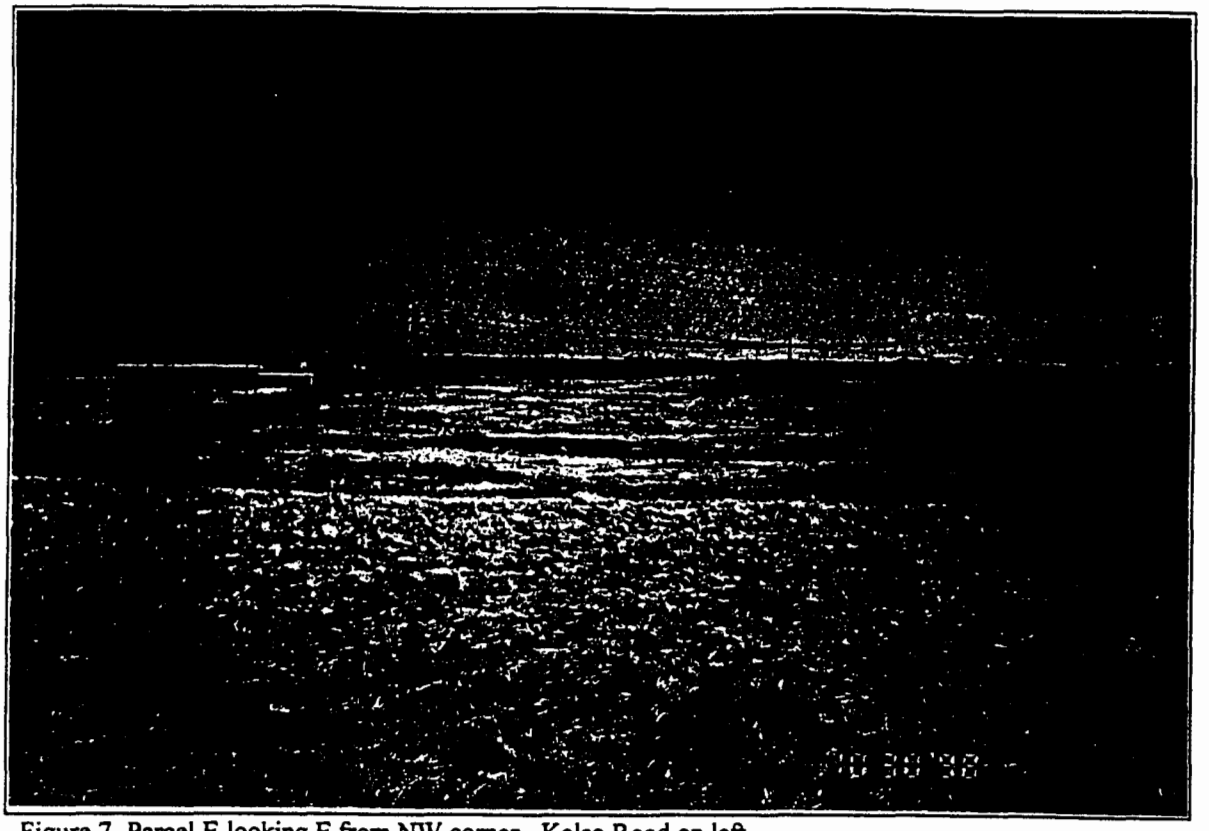

Figure 7. Parcel E looking E from NW corner. Kelso Road on left.

Figure 8. Parcel E looking N form SW corner. Bruns Road on left. Impoundment (dry) on right.

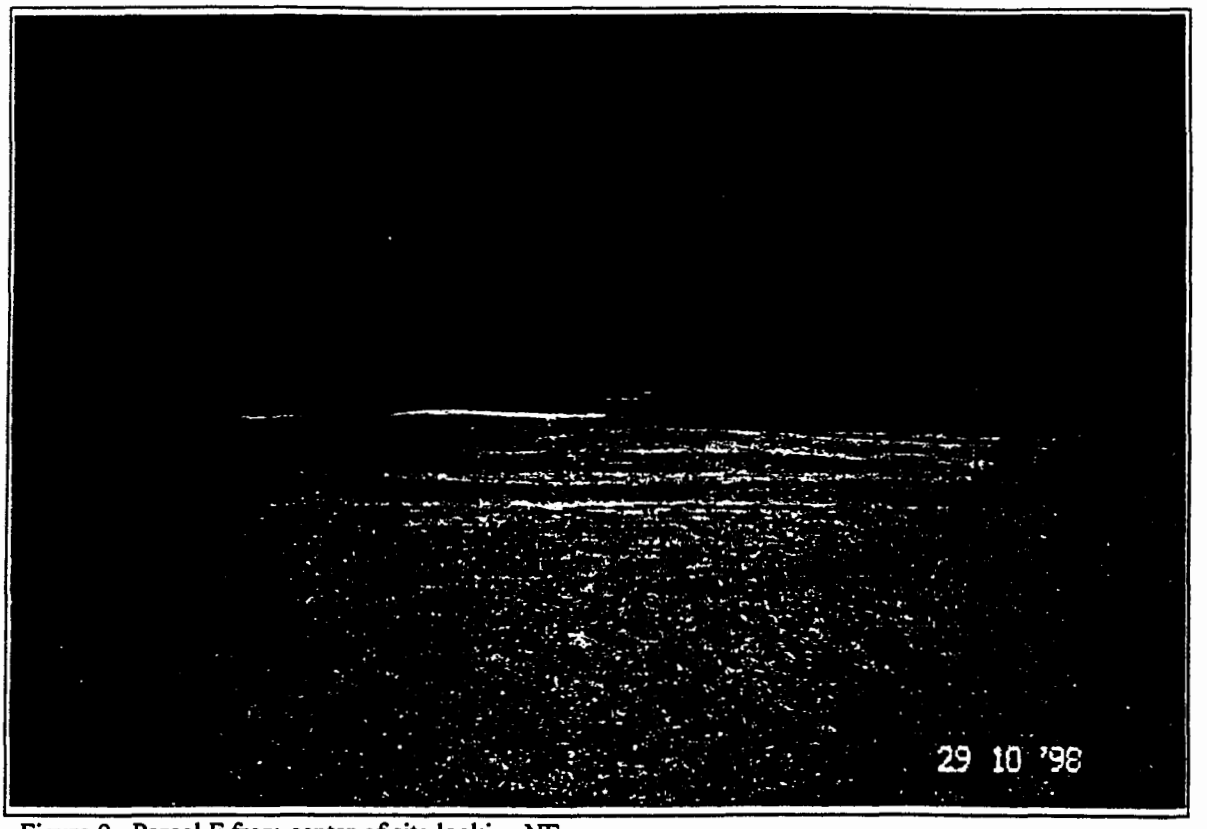

Figure 9. Parcel F from center of site looking NE.

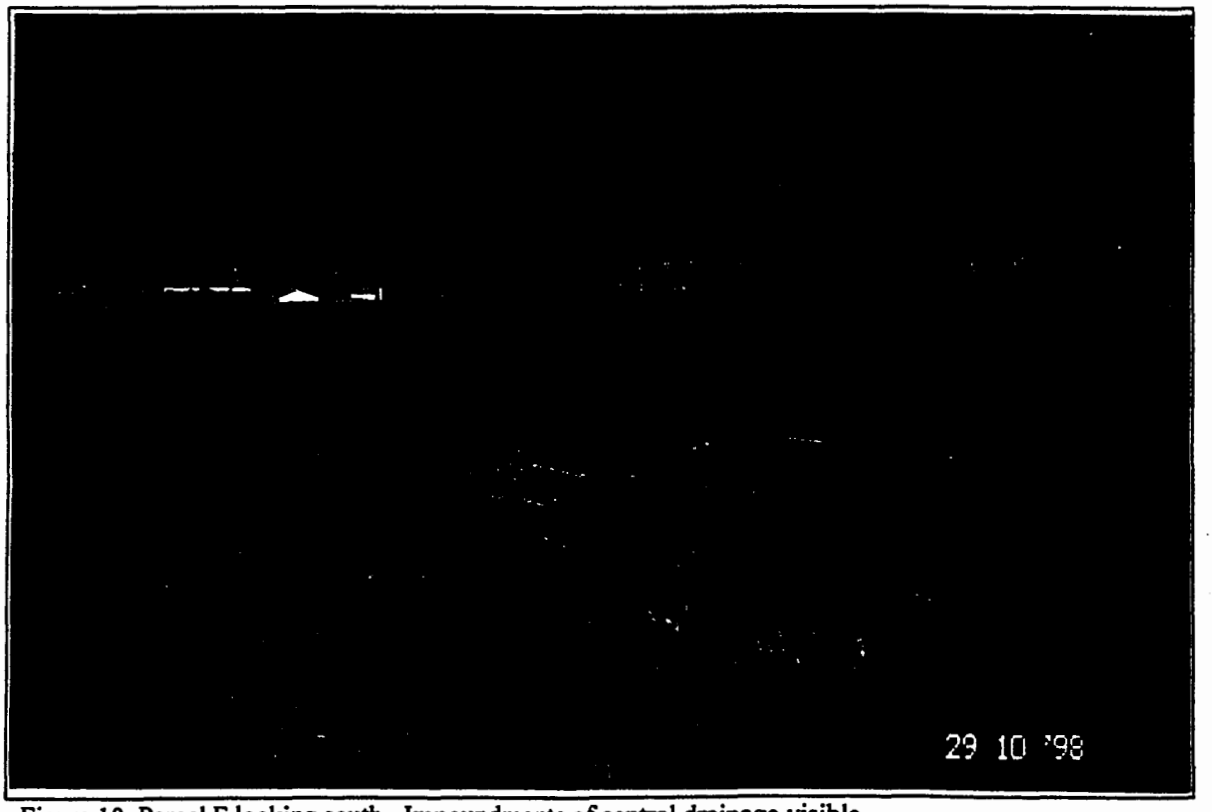

Figure 10. Parcel F looking south. Impoundments of central drainage visible.

EXHIBIT E

BIOSEARCH
WILDLIFE SURVEYS

PO Box 8043
Santa Cruz, CA 95061
(408) 458-9349
FAX (408) 458-9349

• Endangered Species Surveys
• Research • Consulting

Claude Gruen
Gruen Gruen & Associates
564 Howard Street
San Francisco, CA 94105

21 December 1998

Dear Mr. Gruen.

I am writing to provide additional information regarding two parcels in eastern Contra Costa and Alameda Counties. Biosearch Wildlife Surveys previously conducted a habitat assessment for burrowing owls (*Athena cunicularia*) on these parcels and submitted a report on 18 November 1998. On 7 December 1998, I met onsite with Larry Buczyk of the Department of General Services and Caitlin Bean of the Department of Fish and Game. At their request, I am providing an estimate of the amount of acreage that represents suitable burrowing owl habitat on Parcels B (Contra Costa Co., portion of APN 002-200-01) and F (Alameda Co. APN 099B-7010-002-09). To this end, I have identified areas on each parcel that have no potential burrowing owl burrows, and subtracted these areas from the total acreage of each parcel. These figures are based on a review of aerial photographs (dated 8/14/96) and notes made during field surveys.

Parcel B

As described previously, the bulk of Parcel B supports annual grassland habitat. California ground squirrel burrows, which provide potential nesting and denning opportunities for burrowing owls, are distributed throughout most of the site. The only portions of the parcel that do not contain potential burrowing owl burrows are: Brushy Creek (~0.2 acres); two alkali wetland/scrub areas along the northern edge of the site (~2.3 acres); and a portion of the western hill, which was graded during expansion of the airport and disced earlier this year (~7.4 acres). The total of these areas is ~9.9 acres, which leaves ~110.1 acres of the 120-acre site as suitable burrowing owl habitat.

Parcel F

As described previously, the bulk of Parcel F supports annual grassland habitat. California ground squirrel burrows, which provide potential nesting and denning opportunities for burrowing owls, are distributed throughout most of the site. The only portions of the parcel that do not contain potential burrowing owl burrows are: the two unnamed drainage basins that have been impounded (~4.6 acres); and the facility in the southeast corner (~3.1 acres). The total of these areas is ~7.7 acres, which leaves ~132.3 of the 140-acre parcel as suitable burrowing owl habitat.

Please feel free to contact me if you have any questions or require additional information

Best regards.

David Laabs
Wildlife Biologist

cc: Caitlin Bean
Larry Buczyk

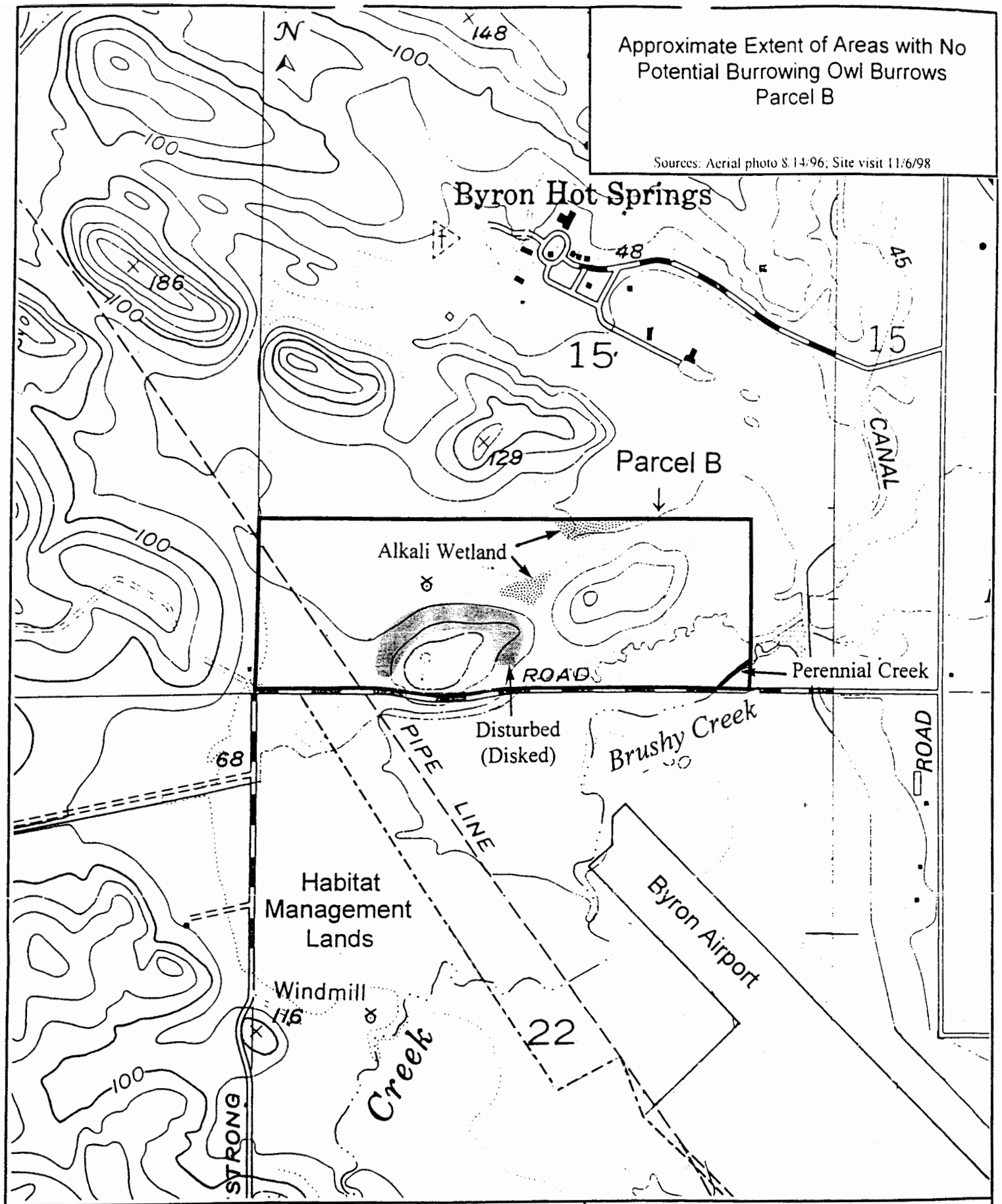

Figure 1. Burrowing Owl Habitat Assessment – APN: Contra Costa Co. Prtn. 002-200-01

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles

Source: Byron Hot Springs & Clifton Court Forebay USGS Quads

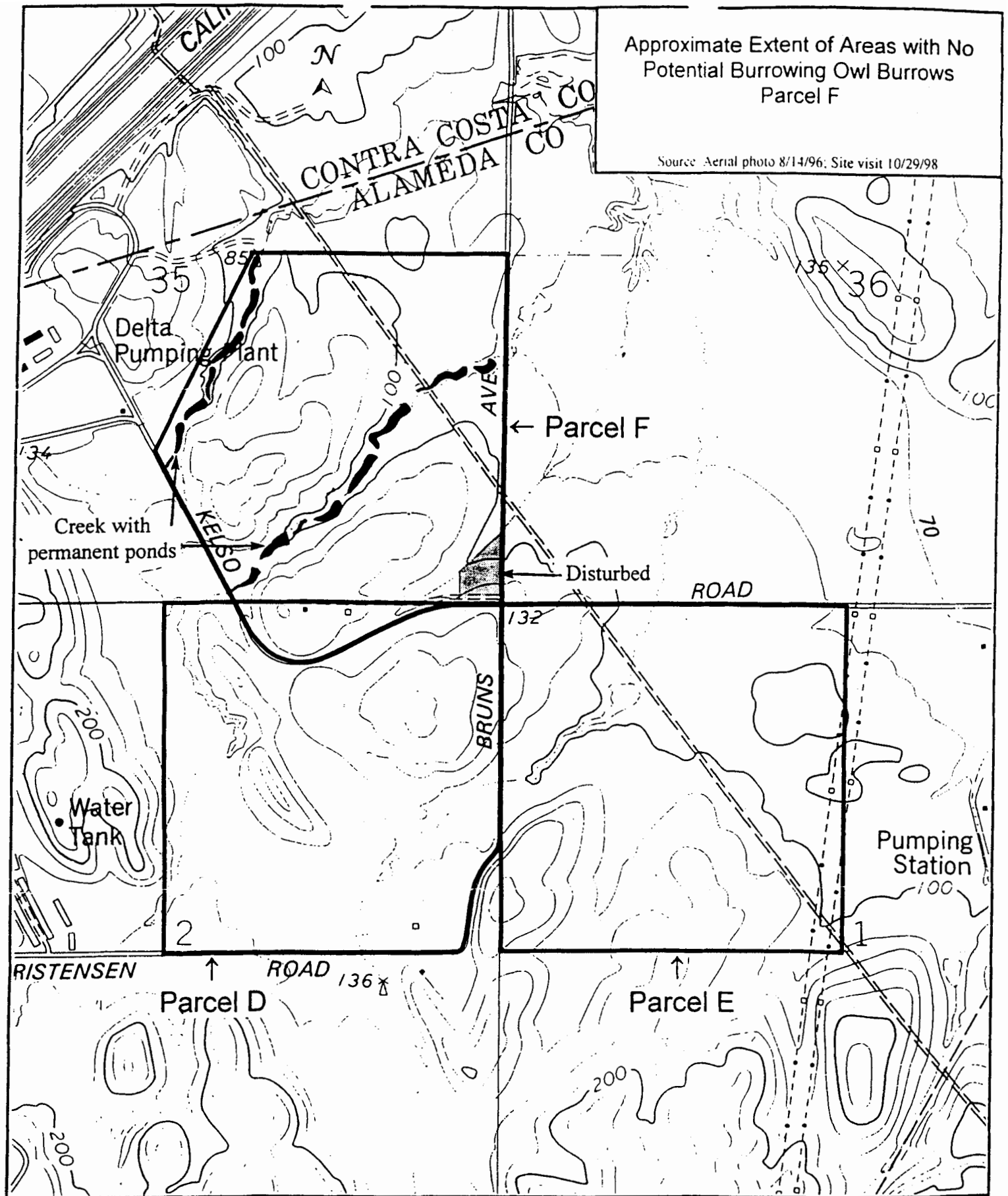

Figure 2. Burrowing Owl Habitat Assessment – APN: Alameda Co. 099B -7020-1-8; -7010-002-07; -7010-002-09

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles

Source: Clifton Court Forebay USGS 7.5' Series Quadrangle

EXHIBIT E

CALIFORNIA RED-LEGGED FROG, CALIFORNIA TIGER SALAMANDER AND WESTERN POND TURTLE SURVEYS, ALAMEDA COUNTY APN 099B-7010002-09

Prepared for:

Gruen, Gruen and Associates
546 Howard Street
San Francisco, CA 94105

Prepared by:

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95061
(831) 662-3938

21 July 1999

CALIFORNIA RED-LEGGED FROG, CALIFORNIA TIGER SALAMANDER AND WESTERN POND TURTLE SURVEYS, ALAMEDA COUNTY APN 099B-7010002-09

SUMMARY

A field study and habitat assessment for two special-status amphibians and one special-status reptile were performed at an undeveloped 140-acre parcel (Alameda Co. APN 099B-7010002-09) located approximately five miles south of the town of Byron in Alameda County, California. The primary wildlife habitat on the site is non-native grassland. Two drainage courses that cross the site have been impounded to form thirteen permanent ponds. A seasonal pond is present in the southeast corner of the site. The site is currently used to graze cattle.

California red-legged frogs (*Rana aurora draytonii*) inhabit both drainage systems on the site, and close to 100 individuals were observed. California red-legged frog tadpoles were found in six of the ponds, and breeding is suspected in four other ponds. Suitable upland habitat occurs adjacent to occupied ponds. California tiger salamander (*Ambystoma californiense*) larvae were located in the seasonal pond in the southeast corner of the study site, and suitable upland habitat is present throughout most of the parcel. Ten western pond turtles (*Clemmys marmorata*) were present, and both drainage courses provide suitable aquatic habitat. The presence of a juvenile pond turtle confirms that the species breeds in the vicinity. Suitable nesting habitat is present throughout most of the parcel.

INTRODUCTION

This report provides the results of focused surveys and habitat assessments for special-status amphibians and aquatic reptiles on a 140-acre parcel located in northeastern Alameda County, California. Diurnal surveys were conducted for California red-legged frog and western pond turtle and nocturnal surveys were carried out for red-legged frog. Aquatic surveys were carried out for California red-legged frog and California tiger salamander, although surveys were conducted outside the optimal survey period to detect the latter species.

The parcel is being acquired to mitigate for loss of special-status species habitat resulting from proposed development projects elsewhere in the Bay Area Region. The purpose of this study was to locate the target species and determine if the site provides breeding habitat to support the species over time. Locality records for each species in the region are presented. Estimates of the acreage of aquatic habitat and potential upland habitat are generated for each species. General management recommendations are provided.

SITE DESCRIPTION

The subject parcel (Alameda Co. APN 099B-7010002-09) covers 140 acres situated in the SE ¼ of Section 35 (T1S; R3E). It is bordered by Bruns Avenue on the east and by portions of Kelso Road on the south and west. The primary wildlife habitat on the site is annual grassland dominated by *Bromus* and *Avena*. Two low ridges cross the parcel from southwest to northeast. Three drainage courses flow towards the northeast across the site, two of which have been impounded into a series of permanent ponds. The central drainage contains eight ponds (Ponds 1-7; Figures 2-5). Pond 1 has an island in its center. Ponds 1, 2, 3, 4, 5a and 6 are greater than three feet deep. Pond 5b is relatively small and no more than two feet deep. Pond 7 is filled with sediment and is no more than a few inches deep (Figure 5). All the ponds have a deep layer of sediment. As the result of cattle grazing, little emergent vegetation is present in any of these ponds with the exception of Pond 7. The western drainage contains five ponds (Ponds 9-13; Figures 2, 7-8). Ponds 9, 10, 11 and 13 are greater than three feet deep and support small patches of emergent vegetation. Pond 12 is mostly filled with sediment and is no more than a few inches deep. There was once a pond situated between Ponds 12 and 13, but the berm has been breached. The creek between these ponds supports freshwater marsh vegetation. The easternmost drainage has a single pond (Pond 8; Figure 6) that holds water into mid-summer. There is very little emergent vegetation at this pond.

Elevations on the site range from 80 feet along Bruns Road to 160 feet along the central ridge. The site is currently used for grazing cattle. California ground squirrels (*Spermophilus beecheyi*) are distributed throughout the site. A wood pole transmission line and two underground pipelines pass through the site. A warehouse is situated in the southeastern corner. An old quarry is present in the southwestern portion of the site. Surrounding lands are used primarily for cattle grazing, wind energy production and agriculture. A substation is present across Bruns Road to the east and the Delta Pumping Plant is situated to the northwest. The main drainage courses appear to receive water from seepage from the Bethany Reservoir located less than 1½ miles to the south.

BACKGROUND INFORMATION - SPECIES ACCOUNTS

California red-legged frog (*Rana aurora draytonii*)

The California red-legged frog is the largest native frog in California and can reach a body length of 5½". It historically occupied many of the Pacific drainage basins in California, but has been eliminated from 70-75% of its range (Jennings & Hayes 1994; Miller, *et al.* 1996). The species requires still or slow-moving water during the breeding season, where it deposits large egg masses, usually attached to submergent or emergent vegetation. Breeding typically occurs between December and April, depending on annual environmental conditions. Eggs require 6 to 12 days before hatching and metamorphosis occurs 3.5 to 7 months after hatching (Stebbins 1985), normally between July and September. Radio-telemetry data indicates that during the breeding season, adults engage in straight-line movements irrespective of riparian corridors, and may move up to two miles between non-breeding and breeding sites (Bulger 1999). They may take refuge in

small mammal burrows, leaf litter or other moist areas in order to avoid dessication (Rathbun, *et al.* 1993; Jennings and Hayes 1994). California red-legged frogs emerge to forage after dark, and may move up to 300 feet into surrounding uplands, especially following rains, when individuals may spend days or weeks in upland habitats (Bulger 1999). During the non-breeding season, a wider variety of aquatic habitats are used, including small pools in coastal streams (Bulger, pers. comm.; Allaback and Laabs, pers. observ.). Occurrence of this frog has shown to be negatively correlated with presence of introduced bullfrogs (Moyle 1973; Hayes & Jennings 1986, 1988), although both species may be able to persist at certain locations (pers. observ.; Jennings, pers. comm.). On 23 May 1996, the California red-legged frog was listed as Threatened under the federal Endangered Species Act (USFWS 1973; Miller, *et. al.* 1996).

California tiger salamander (*Ambystoma californiense*)

The California tiger salamander inhabits grassland and oak savanna habitats in the valleys and low hills of central and coastal California. Adults spend most of their lives underground, typically in burrows of ground squirrels and other animals. During winter rains between November and March, adults emerge from underground retreats to breed (Jennings & Hayes 1994; Loredo and Van Vuren 1996). Vernal pool and semi-permanent, quiet waters provide sites for egg-laying. After hatching in two to three weeks, larvae are 10-15 mm in length. They continue to develop in the pools for three to four months until they metamorphose at about 100-125mm (50-70mm snout-vent length). Annual recruitment is variable and appears to be related to the timing and amount of rainfall (Loredo and Van Vuren 1996). Following transformation, juvenile salamanders seek refugia, typically mammal burrows, in which they may remain until the next winter rains (Stebbins 1985; Jennings 1996). However, movements of juveniles are unpredictable and mass migrations have been observed in the summer months and during the first fall rains (Holland et al. 1990). Habitat conversion has eliminated the species from much of its former range (Shaffer *et al.* 1993; Fisher and Shaffer 1996). The California tiger salamander is currently listed as a federal Candidate species following a ruling by the USFWS (Sorensen 1994), which found Endangered status "warranted but precluded" by higher priority species. A ruling is supposed to be published annually by USFWS regarding the species' status.

Western pond turtle (*Clemmys marmorata*)

The western pond turtle ranges from western Washington to northern Baja California, mostly west of the Sierra Nevada-Cascade crest (Stebbins 1985). It can reach a length of just over 8 inches (21cm) with a low carapace that is generally olive, brownish or blackish (Stebbins 1985; Jennings and Hayes 1994). It primarily inhabits permanent water sources including ponds, streams and rivers. It is often seen basking on logs, mud banks or mats of vegetation. The species can be difficult to detect, particularly if no obvious basking sites are present or if the environmental conditions are not favorable. Pond turtles can move across terrestrial habitats in response to fluctuating water level, an apparent adaptation to the variable rainfall and unpredictable flows that occur in many

coastal California drainage basins (Rathbun, *et al.* 1992). In addition, it can over-winter on land or in water or remain active in the winter, depending on environmental conditions (Rathbun, *et al.* 1993; Jennings and Hayes 1994). Females travel from aquatic sites into open, grassy areas to lay eggs in shallow nests (Holland 1992; Rathbun, *et al.* 1992). Nests have been reported from 2-400 meters or more away from water bodies (Jennings and Hayes 1994). It appears that most hatchlings over-winter in the nest (Holland 1992; Jennings and Hayes 1994), and placing nests away from watercourses makes young less susceptible to death by flood events that commonly occur during the winter weather year (Rathbun, *et al.* 1992). Pond turtles may live for 40 years or more (Jennings and Hayes 1994), and are therefore able to persist in certain degraded areas even without successful reproduction. The western pond turtle has been separated into two subspecies (*C. m. marmorata* is the northwestern subspecies and *C. m. pallida* is the southwestern subspecies), both of which are listed as Species of Special Concern by the CDFG. Current research suggests, however, that the taxon may be represented by three distinct populations throughout its range in California and may therefore require a taxonomic revision (Jennings and Hayes 1994).

METHODS

Field surveys were conducted by wildlife biologists David Laabs, Mark Allaback and field assistant Sara Higgins. Field surveys for California red-legged frogs followed survey guidelines provided by the U.S. Fish and Wildlife Service (USFWS 1997), with the addition of a third nocturnal survey. Nocturnal surveys were conducted on 1 June, 7 June and 22 June 1999. The perimeter of each pond was walked slowly with headlamps and binoculars. The shoreline, water surface and adjacent upland areas were inspected. All amphibians were identified to species (if possible) and recorded by pond number. Environmental conditions (air temperature, cloud cover and wind speed) were recorded.

Diurnal visual surveys were conducted for California red-legged frogs and western pond turtles on 1 June and 16 June 1999. Each pond was surveyed with binoculars at a distance, then the edge of each pond was walked slowly. All vertebrates observed or detected by sign were recorded. Environmental conditions were recorded.

Aquatic sampling was performed for California red-legged frog and California tiger salamander larvae on 1 June and 16 June using a combination of seines, dip-nets and minnow traps. Surveys for California tiger salamanders followed the Aquatic Surveys portion of the CDFG survey protocol for the species, with the exception that surveys were conducted later in the season than is optimal (CDFG 1996). Sampling for red-legged frog larvae was conducted under authority of a federal Fish and Wildlife Permit (PRT-768-251). Pond bottoms were covered in a deep layer of sediment, which made seining difficult or impractical in most of the ponds. Minnow traps were placed along the shoreline of each pond in which larvae had not been detected by other methods. Floats were placed inside each trap to provide an air space for any air-breathing vertebrates that might be captured. Traps were staked to the shoreline with nylon rope. Traps were kept in place between three and six hours before checking.

The results of previous biological surveys in the vicinity were reviewed (JSA 1990; Stromberg 1991, 1994, 1997; Contra Costa County Water District 1993; Environmental Sciences Associates 1993; Skenfeld 1993; Biosearch Wildlife Surveys 1995, 1996, 1997, 1998a, 1998b, 1998c). A record search of the California Natural Diversity Data Base was performed for the Byron Hot Springs and Clifton Court Forebay quadrangles.

RESULTS

Previous Observations in Vicinity

All records of California red-legged frog, California tiger salamander and western pond turtle within one mile of each parcel are included in the following descriptions, while all observations within five miles are presented in Figure 1.

California red-legged frogs are known from numerous localities to the north, west and south of the property (Figure 1), and observations have been recorded over the past 20 years. Red-legged frogs are known from the Brushy Creek, Mountain House and Kellogg Creek drainage basins and can be found in stock ponds and slow-moving creeks throughout much of the region. In 1982, California red-legged frogs were recorded near Christensen Road, 0.7 miles S of the site. In 1997, the species was documented near the end of Byron Hot Springs Road, 0.7 miles W of the site, and along Christensen Road near the California Aqueduct, 0.8 miles SW of the site. This latter record is further upstream one of the drainage courses that cross the subject property.

California tiger salamanders have been recorded in several locations to the north, west and south of the property (Figure 1). California tiger salamanders are known from the Brushy Creek, Mountain House and Kellogg Creek drainage basins, and can be found in stock ponds and vernal pools throughout much of the region. In 1981, an adult was seen on the parcel just west of Bruns Avenue. In 1982, juvenile tiger salamanders were observed at a stock pond near the California Aqueduct 0.8 miles north of the parcel. In 1986, tiger salamander larvae were observed at two locations near the intersection of Christensen Road and Bruns Avenue, one mile south of the parcel.

Western pond turtles are known from scattered localities in the Brushy Creek, Mountain House and Kellogg Creek drainage basins (Figure 1). In March 1996, four adult pond turtles were observed in a pond 0.5 miles to the northeast, along the same drainage that crosses the study site (Laabs, pers. obs.).

Field Surveys

Results of Nocturnal Surveys

Nocturnal surveys were conducted on 1 June, 7 June and 22 June 1999. Air temperatures were 58°, 55° and 78° F at the beginning of each survey, respectively. Surveys on 1 and

22 June were performed in relatively poor conditions due to strong winds ranging from an estimated 10 to 25 miles per hour. The nocturnal survey on 7 June was conducted under extreme conditions with winds estimated to be over 30 miles per hour, and numbers were correspondingly lower. California red-legged frog adults were observed in twelve ponds (all except Ponds 7 and 8). Ninety-nine red-legged frogs were observed on 22 June 1999. An estimated 60-75% of these individuals were considered to be of reproductive age based on size (greater than or equal to approximately 80mm, snout-vent length). Large frogs that could not be identified to species were observed on 2 and 6 occasions on 7 June and 22 June, respectively. A single adult bullfrog (*Rana catesbeiana*) was observed at Pond 9 on 22 June. Pacific tree frog adults were observed and heard in several locations. Muskrats (*Ondatra zibethica*) or their sign were observed in all ponds except Ponds 7, 8 and 12.

Results of Diurnal Surveys

Diurnal surveys were conducted on 1 June and 16 June 1999. Temperatures were 72° and 76° F at the beginning of each survey, respectively. Western pond turtles were observed in six ponds (Ponds 1, 2, 3, 5a, 6 and 11). Ten turtles were observed on 1 June, while eight were observed on 16 June. All individuals except one were adults (>140 mm). A single juvenile turtle was observed in Pond 1 on 16 June 1999. Two California red-legged frogs, one bullfrog and two unidentified frogs were observed on 1 June, while 19 California red-legged frogs and three unidentified frogs were observed on 16 June 1999. Because diurnal surveys are much less reliable for locating red-legged frogs, only results of nocturnal visits are given in Table 1.

Three bird species with young were observed on the site. American avocets (*Recurvirostra americana*) were observed in Pond 2, mallards (*Anas platyrhynchos*) in Pond 3 and cinnamon teal (*Anas cyanoptera*) in Pond 4.

Results of Aquatic Surveys

Aquatic sampling was performed at twelve of the fourteen ponds. Ponds 7 and 12 are filled with sediment, and are not currently deep enough to support red-legged frog tadpoles. Red-legged frog tadpoles were captured in six ponds (Ponds 1, 2, 3, 5a, 10 and 11). All tadpoles appeared healthy, and within the expected range of development for the time of year. Pacific tree frog (*Hyla regilla*) tadpoles were present in all permanent ponds. Two non-native species were captured in both permanent drainages: mosquitofish (*Gambusia affinis*) and red swamp crayfish (*Procambarus clarkii*).

California tiger salamander larvae were captured in a single pond (Pond 8). This is the only pond that dries during the summer on the study site. All tiger salamander larvae appeared healthy and within the expected stage of development for the time of year. No other vertebrates were detected in Pond 8.

Pond #	WPT 6/1/99 Diurnal	WPT 6/16/99 Diurnal	RLF 6/1/99 Nocturnal	RLF 6/7/99 Nocturnal	RLF 6/22/99 Nocturnal	RLF/CTS Larvae 6/1/99; 6/22/99 Aquatic
1	2	1	2	1	2	RLF
2	4	4	6	0	3	RLF
3	2	1	19	2	9	RLF
4	0	0	12	2	8	
5a	1	0	8	0	6	RLF
5b	0	0	0	0	7	
6	0	1	6	0	8	
7	0	0	0	0	0	
8	0	0	0	0	0	CTS
9	0	0	3	0	1	
10	0	0	6	4	5	RLF
11	1	1	2	1	24	RLF
12	0	0	0	0	3	
13	0	0	6	5	23	
Total	10	8	70	15	99	6 RLF/1 CTS

Table 1. Results of nocturnal surveys for California red-legged frog (RLF), diurnal surveys for western pond turtles (WPT) and aquatic surveys for California red-legged frogs and California tiger salamanders (CTS) at parcel APN 099B-7010002-09, Alameda County.

Other Special-status Species

Several other special-status species were observed on Parcel F. Two loggerhead shrikes (*Lanius ludovicianus*) were present along the western edge of the parcel on 1 June and 16 June. A northern harrier (*Circus cyaneus*) was observed foraging near Pond 11. A group of four burrowing owls (*Athena cunicularia*) was observed in the southwest portion of the site on 16 June. Burrowing owl calls were heard during every night survey in the vicinity of Pond 6. During previous field surveys on the site in October 1998, ten burrowing owls and 24 owl burrows with sign were identified (Biosearch Wildlife Surveys and 1998). Potential San Joaquin kit fox burrows were also seen, as well as fox-sized scat, and the species has been recorded on numerous occasions in the vicinity. American badgers are active on the site, based on the presence of recent diggings and fresh burrows. A white-tailed kite and a northern harrier were observed on 29 October 1998. An immature golden eagle was found dead near the southwestern corner of the site last year (Biosearch Wildlife Surveys 1998).

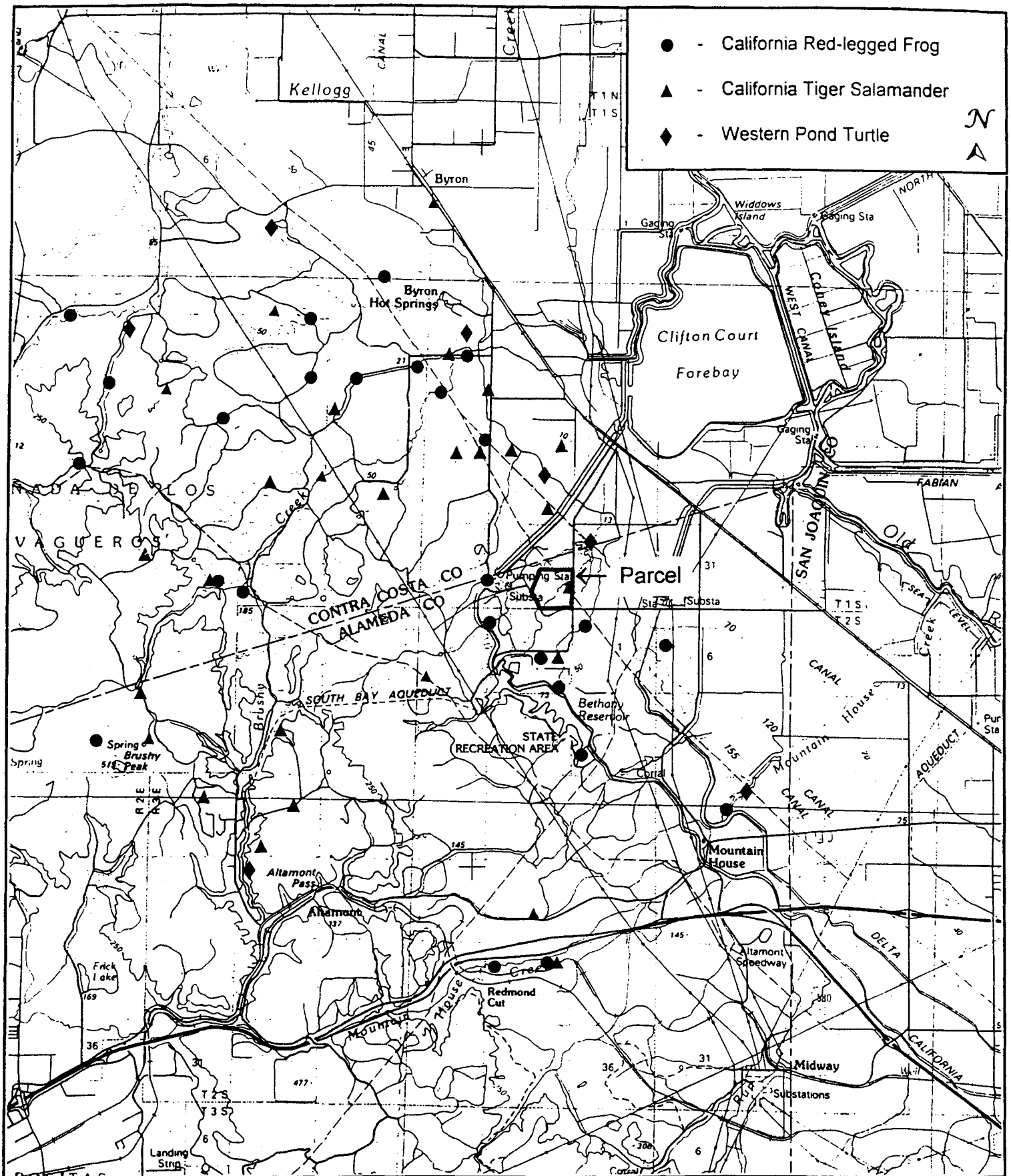

Figure 1. Red-legged Frog, Tiger Salamander & Pond Turtle – Regional Observations

Biosearch Wildlife Surveys
PO Box 8043
Santa Cruz CA 95061

Scale in Miles
0 1 2 3 4

Source: USGS Stockton 1:100,000 Scale

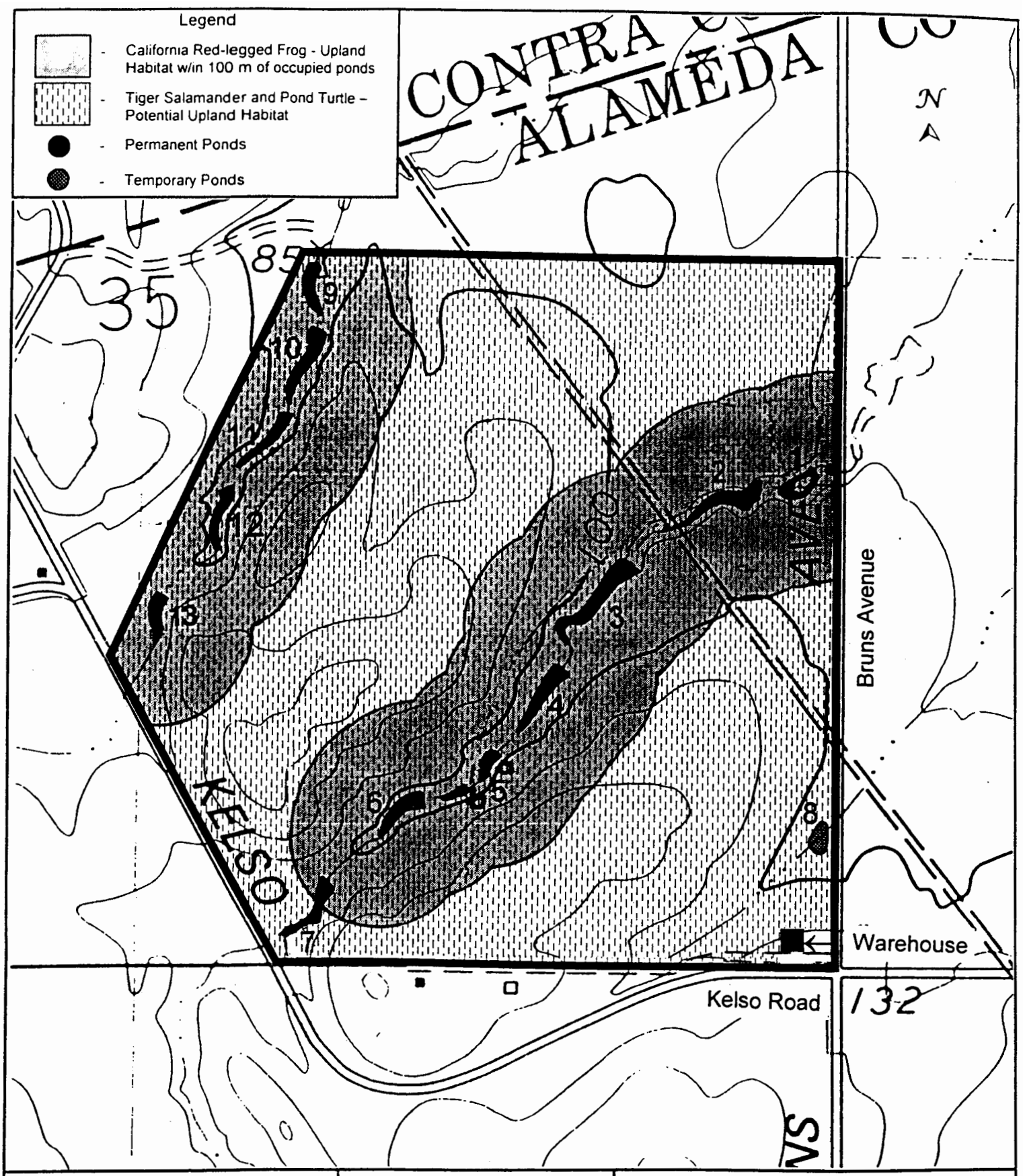

Figure 2. Red-legged Frog, Tiger Salamander & Pond Turtle - Potential Habitat

Biosearch Wildlife Surveys
PO Box 8043
Santa Cruz CA 95061

Scale in Feet

0 200 400 600 800 1000

Source: Clifton Court Forebay USGS Quad

DISCUSSION

The study site currently provides suitable habitat for California red-legged frogs based on the presence of nearly 100 adults, six breeding sites, and undeveloped upland habitat. Due to the windy conditions encountered during surveys, the numbers of frogs are probably higher than were counted. Introduced bullfrogs are present in both drainage courses, but only two individuals were observed (one at Pond 2 and one at Pond 9). Even taking into account the possibility that the unidentified frogs were bullfrogs, the relative frequency of bullfrogs is very low compared to that of red-legged frogs. However, since the drainage systems contain water year-round, bullfrog abundance could increase rapidly. Two other species implicated in declines of native amphibians, red swamp crayfish and mosquitofish, are also present. A full inventory of fishes was not performed, and if larger predatory fishes are present or become established in the future, they could have a profound negative effect on red-legged frog reproduction. Red-legged frogs inhabited twelve of the fourteen ponds surveyed (Ponds 1, 2, 3, 4, 5a, 5b, 6, 9, 10, 11, 12 and 13). These ponds occupy ~2.5 acres of the site. Red-legged frogs were confirmed to be breeding in six ponds (Ponds 1, 2, 3, 5a, 10, and 11). Breeding in Ponds 4, 6, 9 and 13 is suspected, given the similarities to confirmed breeding sites, and the difficulties in sampling the ponds effectively. Therefore, breeding is confirmed or suspected in ponds that occupy ~2.3 acres of the site. The acreage calculations are approximations made in the field and checked with aerial photographs. A formal wetland delineation has not been conducted.

California red-legged frogs make use of upland habitats in the vicinity of occupied aquatic habitats (Rathbun, *et al.* 1993; Miller, *et al.*, 1996; Bulger, 1999). The use of such habitats varies seasonally. Data on the use of upland habitats in the relatively arid region that includes the subject parcel are lacking. Recent radio-telemetry data collected in northern Santa Cruz County indicates that red-legged frogs frequently spent days or weeks in upland areas away from breeding sites (Bulger 1999). Use of uplands increased following rain events. These data showed that 50% of all non-dispersing activity was within 25 m of occupied aquatic sites, while 90% was within 60 meters. Virtually all non-dispersing activity occurred within 100 meters of occupied aquatic habitats. Uplands within 100 meters of occupied ponds on the study parcel make up ~60.9 acres of the site. During dispersal behaviors (e.g. during winter when red-legged frogs migrate between non-breeding and breeding habitat), long-range movements of up to two miles have been documented. This indicates that during the winter months, virtually the entire site could be utilized by red-legged frogs dispersing to or from breeding ponds on and off the study site.

The site provides suitable habitat for California tiger salamander based on the presence of a known breeding pond and suitable upland habitat. It is estimated that Pond 8 supported hundreds of tiger salamander larvae on 1 June, and the pond continued to hold water in mid-June. Although the aquatic sampling effort was performed late in the year, it is unlikely that the other ponds are used for breeding, since they all contain year-round water, and are atypical of native tiger salamander breeding sites in the vicinity. Additional

sampling earlier in the season would be necessary to confirm this. The breeding pond on the parcel covers 0.1 acres.

California tiger salamanders occupy uplands for most of the year. Data on the distances traveled between upland aestivation sites and breeding sites is limited. CDFG considers all suitable habitat within one kilometer of breeding sites to be potential upland habitat. During a complete ground survey of the site conducted in the fall of 1998, 1,993 California ground squirrel burrows were counted on the site, for an average of 14.2 burrows/acre (Biosearch Wildlife Surveys 1998c). Ground squirrel burrows were scattered throughout the site. Burrows of Botta's pocket gopher (*Thomomys bottae*) and California vole (*Microtus californicus*) were also observed, indicating that the site has an abundance of potential aestivation sites. Therefore, 136.9 acres of the site (excluding the ponds, the channels between the ponds and the warehouse) represents suitable upland habitat for the species.

The site provides appropriate habitat for western pond turtle based on the presence of ten individuals, permanent aquatic habitat and adjacent undeveloped upland habitat. The presence of a juvenile turtle suggests that the species is successfully breeding in the area. Western pond turtles were observed in five of the ponds in the central drainage and a single pond in the western drainage. However, all of the deeper ponds on the site provide appropriate conditions for the species. Only Ponds 5b, 7 and 12 are too shallow to provide escape cover for pond turtles. Therefore, ~2.3 acres of the site is appropriate aquatic habitat. Upland habitat in the vicinity of occupied aquatic habitat is likely used by western pond turtles for egg-laying as well as during periods of dormancy, although the use of upland habitats by the species is still poorly understood. A radio-telemetry study from Monterey County documented that pond turtles will nest up to 400 meters from aquatic habitats. Therefore, ~136.9 acres of the site (excluding the ponds, drainage courses and the warehouse) represents potential upland habitat for the species.

A management plan should be prepared to ensure that mitigation lands continue to provide suitable habitat for California red-legged frogs, California tiger salamanders and western pond turtles as well as burrowing owls. Management should center on the continuation of cattle grazing and maintenance of current ground squirrel abundance. Keeping grass height relatively low by regular cattle grazing appears to be an effective means of optimizing conditions for both ground squirrels and burrowing owls in annual grassland habitat. Ground squirrel burrows also provide important cover-sites for both California tiger salamanders and California red-legged frogs. If grazing were to cease habitat suitability for these species could decrease dramatically and ground squirrels could abandon the site. The current level of grazing appears to benefit resident special-status species. Leasing the lands for grazing would provide income that could be used for low-level management of the parcel. Several items should be written into the cattle operator's lease including a prohibition on ground squirrel poisoning, hunting and trespass.

The relative abundance of bullfrogs on the site is currently low, and control measures are not warranted at this time. Although a fish inventory was not part of this study, it seems unlikely that large predatory fishes such as bass are present, since red-legged frogs and tadpoles are numerous. However, if relative abundance of bullfrogs or exotic fishes increases significantly, control measures should be considered. Since the site contains permanent waters and introduction of exotic aquatic predators and competitors are a constant threat, a biological monitoring program is justifiable. Monitoring methods should compare with those used in the present study. A management plan for the parcel should provide various options to control or reduce abundance of exotic species.

Ensuring the integrity of the man-made berms that form the ponds should also be included in the management plan. This is particularly important for Pond 8, which represents the only breeding site for California tiger salamanders on the site.

The ponds on the site are used to water cattle, although not all the ponds are necessary for this purpose. Excluding cattle from some of the ponds may increase habitat quality for California red-legged frogs and western pond turtles by increasing emergent vegetation. However, such a change could also result in an increase in the numbers of bullfrogs on the site. Experimental exclosures of some of the ponds should be attempted and the results assessed prior to any large-scale exclusion of cattle. Western pond turtles could benefit from introduction of floating basking sites, which are not currently present.

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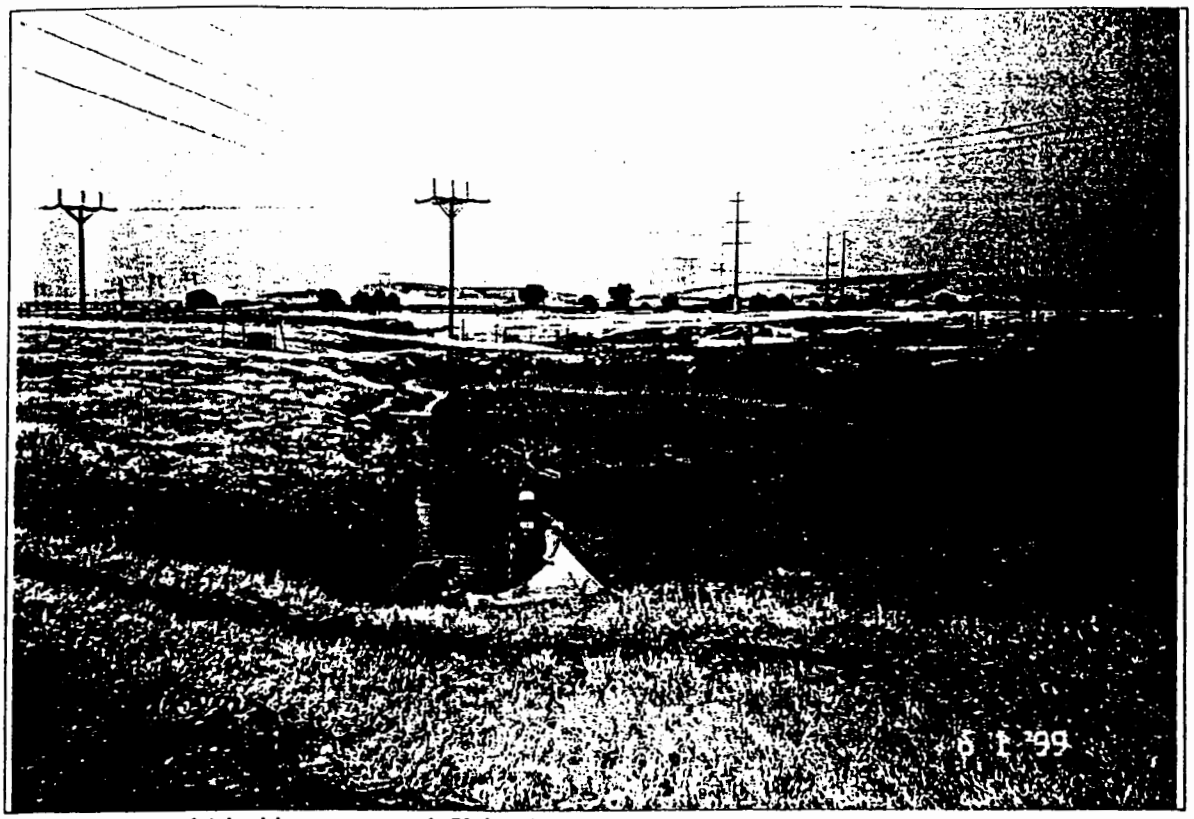

Figure 3. Pond 1 looking east towards Kelso Avenue.

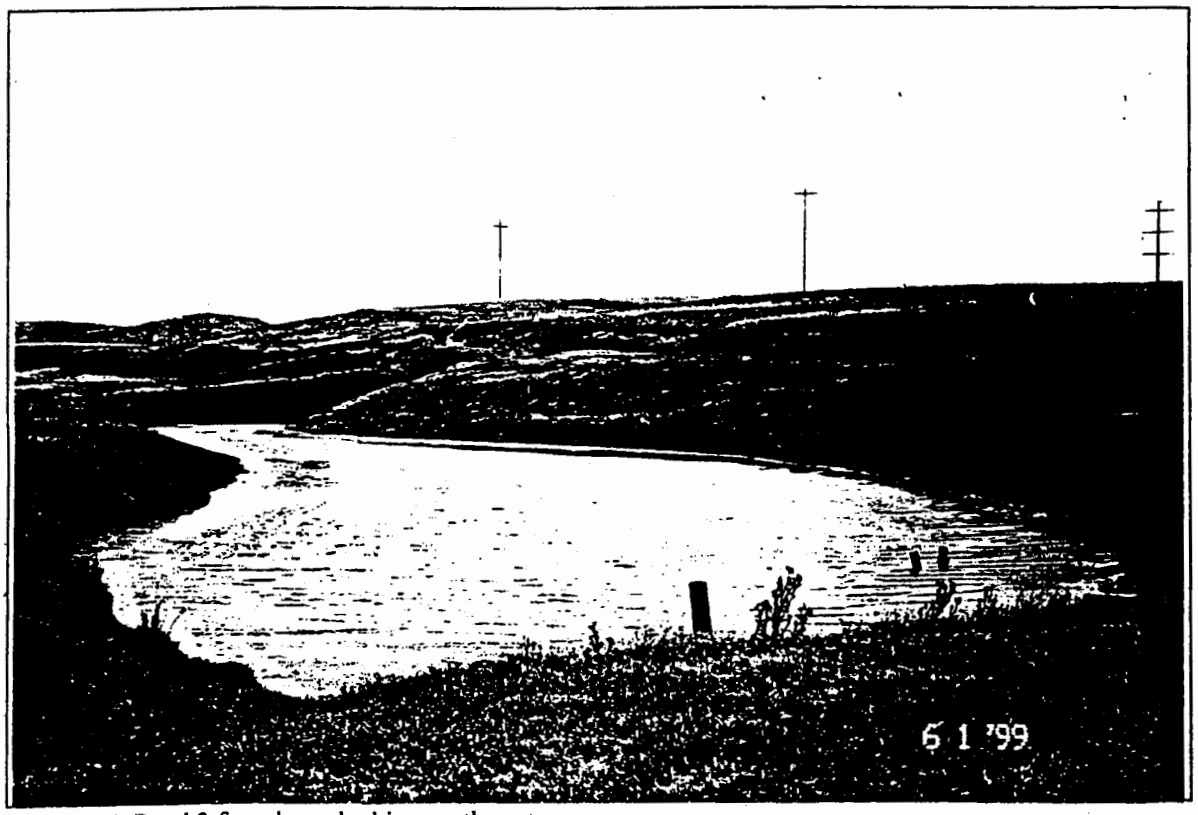

Figure 4. Pond 3 from berm looking southwest.

Figure 5. Pond 7 from berm looking southwest.

Figure 6. Pond 8 from berm looking south.

Figure 7. Pond 11 from berm looking south.

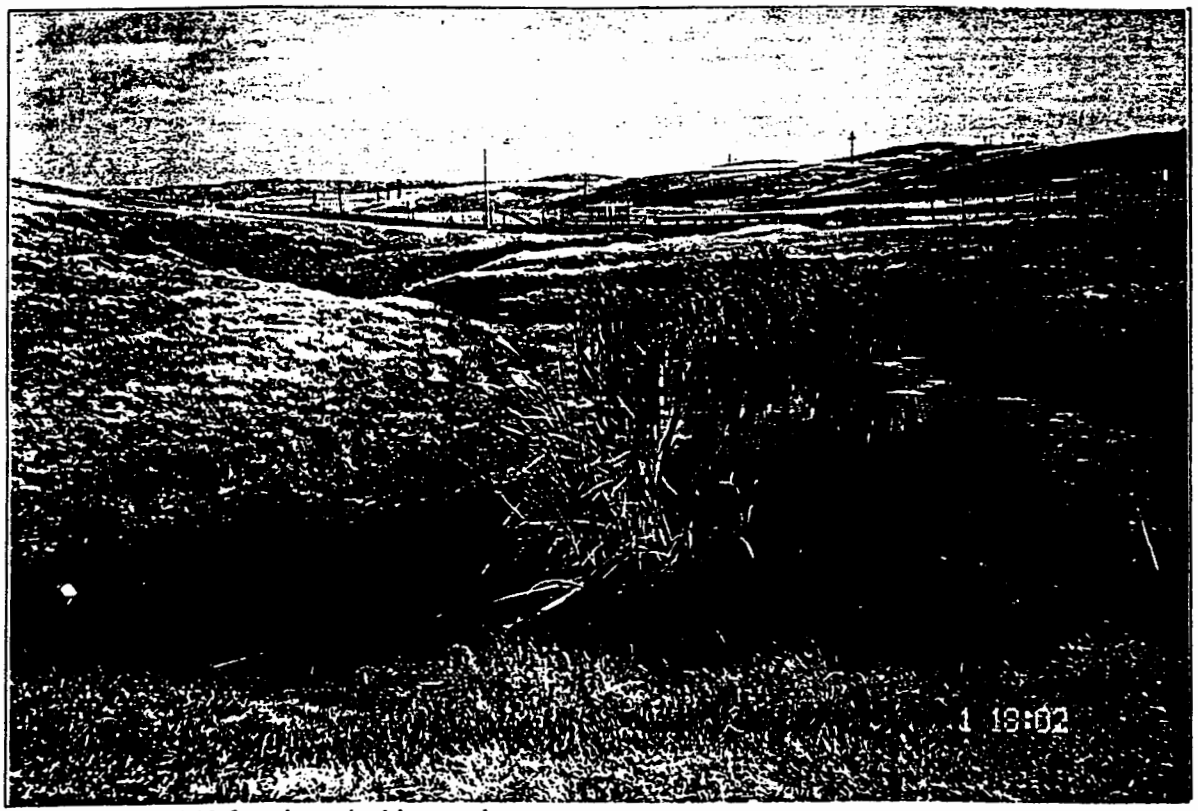

Figure 8. Pond 13 from berm looking south.

EXHIBIT F (10 PAGES)

Applicant:

Mr. Larry Buczyk
State of California
Department of General Services
Real Estate Services Division
Asset Planning & Enhancement
400 R Street, Suite 5000
Sacramento, CA 95814
Tel:916:445-9693
Fax:916:327-9654

RE: Escrow No. 515923/Title No. SP851408
"Parcel F"
Selwyn & Loretta Vos
Bruns Avenue, City of Mountain House School, CA
Alameda County

PRELIMINARY REPORT

ALL INQUIRIES AND CORRESPONDENCE REGARDING THIS ESCROW SHOULD BE DIRECTED TO:

First American Title
1737 North First Street
San Jose, Ca 95112
Tel:408:451-7800
Fax:408:451-7836

Escrow Officer: Susan Melton
Telephone No. 408:451-7858

APPLICANT:

First American Title
1737 North First Street
San Jose, CA 95112
Attention: Pete Phillips
(408) 451-7826
(408) 451-7836 (Fax)

YOUR CONTACT PERSON IS: **Susan Melton**

CALL	:	~~(408) 451-7826~~
ESCROW FAX NO.	:	(408) 451-7836
ESCROW ORDER NO.	:	515923
TITLE ORDER NO.	:	SP851408
TITLE OFFICER	:	Paul Donahue (tb) 1535 Harrison Street Oakland, CA 94612
TITLE PHONE NO.	:	(510) 464-5419
TITLE FAX NO.	:	(510) 839-0532
CUSTOMER REFERENCE	:	State of California
PROPERTY ADDRESS	:	Bruns Avenue Mountain House School, California

COPIES TO: **None**

Subject to a minimum charge required by Section 12404 of the Insurance Code. The form of policy of title insurance contemplated by this report is: **TO BE DETERMINED.**

In response to the above-referenced application for a policy of title insurance, this Company hereby reports that it is prepared to issue, or cause to be issued, as of the date hereof, a Policy or Policies of Title Insurance in the form specified above, describing the land and the estate or interest therein hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an Exception below or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations of said Policy forms.

The printed Exceptions and Exclusions from the coverage of said Policy or Policies are set forth in Exhibit A attached. Copies of the Policy forms should be read. They are available from the office which issued this report.

Please read the exceptions shown or referred to below and the exceptions and exclusions set forth in Exhibit A of this report carefully. The exceptions and exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects, and encumbrances affecting title to the land.

This report (and any supplements or amendments thereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby. If it is desired that liability be assumed prior to the issuance of a policy of title insurance, a Binder or Commitment should be requested.

Title Operations Manager

t120398pf

Alt-F **851408**

Dated as of **November 9, 1998** at 7:30 a.m.

Title to said estate or interest at the date hereof is vested in:

SELWYN D. J. VOS and LORETTA SODERLUND VOS, husband and wife as joint tenants, and SELWYN D. J. VOS and LORETTA SODERLUND VOS, as their interests may appear

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A FEE

AT THE DATE HEREOF EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS CONTAINED IN SAID POLICY FORM WOULD BE AS FOLLOWS:

1. TAXES for the fiscal year 1998-1999

1st Installment	: **$1,673.21 OPEN**
2nd Installment	: **$1,673.21 OPEN**
Land	: **$254,152.00**
Improvements	: **$65,148.00**
Personal Property	: **$None shown**
Exemption	: **$None shown**
Assessee	: **Vos Selwyn D & Loretta S**
A. P. No.	: **099B-7010-002-09**
Code Area	: **70-000**

2. THE LIEN of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

3. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Transmission line**
Granted to	: **The Standard Electric Co. of California**
Recorded	: **October 13, 1899, Book 709, Page 241, Official Records**
Affects	: **A 100 foot strip traversing through a central portion of said land**

4. RIGHTS OF THE PUBLIC over that portion of said land lying within **Bruns Avenue** as it now exists.

5. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Pipe lines and the appurtenances thereof, for the transportation of oil, petroleum, gas, water and other liquid substances or any thereof**
Granted to	: **Federal Engineering Co.**
Recorded	: **March 6, 1930, Book 2292, Page 410, Official Records**
Affects	: **A Northwesterly portion of said land**

Said Easement was assigned by Deed and Bill of Sale to Standard Oil Company of California, a corporation, recorded June 10, 1932, Book 2842, Page 93, Official Records.

MODIFICATION thereof recorded **August 2, 1945, Book 4738, Page 341, Official Records.**

Said Easement was assigned by deed to Standard Pacific Gas Line Incorporated, a corporation, recorded September 14, 1945, Book 4761, Page 342, Official Records.

6. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Pipe line**
Granted to	: **Standard Oil Company of California, a corporation**
Recorded	: **September 6, 1946, Book 4962, Page 257, Official Records**
Affects	: **A Northeasterly portion of said land**

7. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Drainage facility**
Granted to	: **State of California**
Recorded	: **May 20, 1964, Series No. AW80211, Reel 1207, Image 941, Official Records**
Affects	: **A Westerly portion of said land**

Excepting and reserving to the said grantor, its successors, and assigns, all minerals, oil, gas and other hydrocarbon substances lying below a level plane located 500.00 feet below the lowest point on the surface of said property, provided however, that in no event shall the grantor, its successors, or assigns have the right to use, enter upon, or disturb either the surface of the lands herein granted, or any portion of said land which lies above a level plane located 500.00 feet below the lowest point on the surface of said lands.

8. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Drainage facility**
Granted to	: **State of California**
Recorded	: **May 20, 1964, Series No. AW80211, Reel 1207, Image 941, Official Records**
Affects	: **A Southerly portion of said land**

the lowest point on the surface of said property, provided however, that in no event shall the grantor, its successors, or assigns have the right to use, enter upon, or disturb either the surface of the lands herein granted, or any portion of said land which lies above a level plane located 500.00 feet below the lowest point on the surface of said lands.

9. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Right of way for transmission of electrical energy**
Granted to	: **State of California**
Recorded	: **March 30, 1967, Series No. AZ28525, Reel 1938, Image 858, Official Records**
Affects	: **A 125 foot strip traversing through a central portion of said land**

10. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:

Purpose	: **Transmission line**
Condemned to	: **United States of America**
Recorded	: **October 23, 1990, Series No. 90-280618**, Official Records
Affects	: **A 120 foot strip traversing through a central portion of said land**

Subject to the terms and conditions as contained therein.

11. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:

Purpose	: **Access road**
Condemned to	: **United States of America**
Recorded	: **October 23, 1990, Series No. 90-280618**, Official Records
Affects	: **A portion of said land**

Subject to the terms and conditions as contained therein.

12. A Deed of Trust to secure an indebtedness in the amount shown below and any other amounts and/or obligations secured thereby

Amount	: **$415,000.00**
Dated	: **May 14, 1993**
Trustor	: **Selwyn D. J. Vos and Loretta Soderlund Vos, husband and wife as joint tenants**
Trustee	: **The Goldworthy Corporation, a California corporation**
Beneficiary	: **Alf Carstens and (Doris) Carolyn Carstens as Trustees of The Carstens Family Trust U.T.D. July 11, 1990, as to an 80,000/415,000ths interest; Thomas J. Kelvie, Trustee of The Thomas J. Kelvie Trust dated September 5, 1990, as to a 60,000/415,000ths interest; John J. Sherwood, Trustee O.C.I. Pension Plan and Trust, as to a 50,000/415,000ths interest; R. B. Turner and Columbia Turner, Husband and Wife as Joint Tenants, as to a 50,000/415,000ths interest; Walter S. Rask, a single man, as to a 50,000/415,000ths interest; Bruce Yarian, a married man, as to a 25,000/415,000ths interest; Patrick Perkins,**

Trustee of The Ivan P. Perkins Trust U.T.D. 5/7/79, as to a 25,000/415,000ths interest; Charles Reimers, a single man, as to a 25,000/415,000ths interest; Willard H. Campbell and Catherine J. Campbell, Husband and Wife as Joint Tenants, as to a 25,000/415,000ths interest; and James L. Gayner and Eleanor A. Gayner, Trustees U.T.D. 2/4/81, as to a 25,000/415,000ths interest

Address : **c/o The Goldworthy Corp., 111 Anza Blvd. #430, Burlingame, CA 94011**

Loan No. : **None shown**

Recorded : **May 21, 1993, Series No. 933175452, Official Records.**

The Beneficial interest of **Patrick Perkins, Trustee of the Ivan P. Perkins Trust U.T.D. 5/7/79** thereunder has been assigned to **Thomas and Margaret Rey, Trustees of the Rey Family Revocable Trust dated 9/9/92 as to a 25,000/415,000ths interest** by instrument recorded **July 12, 1995, Series No. 95151828,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

The Beneficial interest of **John J. Sherwood, Trustee O.C.I. Pension Plan and Trust** thereunder has been assigned to **The Goldworthy Fund, LLC, a California limited liability company, as to a 50,000/415,000ths interest** by instrument recorded **August 8, 1998, Series No. 97199787,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

The Beneficial interest of **James L. Gayner, Trustee, and Eleanor A. Gayner, Trustee** thereunder has been assigned to **Hammerman Family Partnership, John M. Hammerman, General Partner, as to a 25,000/415,000ths interest** by instrument recorded **August 8, 1997, Series No. 97199788,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

The Beneficial interest of **R. B. Turner and Columbia Turner** thereunder has been assigned to **Hammerman Family Partnership, John M. Hammerman, General Partner, as to a 50,000/415,000ths interest** by instrument recorded **August 8, 1997, Series No. 97199789,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

LEGAL DESCRIPTION

REAL PROPERTY in the City of Mountain House School, County of Alameda, State of California, described as follows:

The Southeast quarter of Section 35, in Township 1 South, in Range 3 East of the Mount Diablo Base and Meridian, according to the United States Public Survey thereof.

Excepting therefrom: Those portions thereof described in the deed from Arden Hans Christensen, a single man, to State of California, dated November 8, 1963, recorded May 20, 1964, on Reel 1207, Image 941, Series No. AW-80211, Alameda County Records.

Also excepting therefrom that portion thereof described in the Deed from Arden H. Christensen to Franklin D. Beck and D'Ette G. Beck, dated January 21, 1972, recorded February 1, 1972, Series No. 72-13886, Reel 3051, Image 958, Alameda County Records.

Also excepting therefrom: All oil, gas, casinghead gasoline and other hydrocarbons and mineral substances below a point 500 feet below the surface of the land, hereinabove described together with the right to take, remove, mine, pas through and dispose of all oil, gas, casinghead gasoline and other hydrocarbons and mineral substances but without any right whatsoever to enter upon the surface of said land, as reserved in the Deed from Ida B. Hayes Christensen, a widow, recorded June 30, 1988, Series No. 88-157279.

A.P. No.: 099B-7010-002-09

*****

EXHIBIT A

17. Matters which may be disclosed by an inspection or by a survey of said land that is satisfactory to this Company, or by inquiry of the parties in possession thereof.

INFORMATION NOTES:

A. Short term rate does not apply.

B. LENDER'S SPECIAL INFORMATION

According to the public records, there have been no deeds conveying the herein described property recorded within two years prior to the date hereof except as follows:

None

C. ALTA SUPPLEMENTAL REPORT FOR LENDER'S

This Report is issued in contemplation of the issuance of an ALTA Loan Policy. We have no knowledge of any fact which would preclude the issuance of said ALTA Loan Policy with endorsements 100, 116 or 116.2.

There is located on said land rural agricultural land known as Bruns Avenue, Mountain House School, California.

NOTICE

Section 12413.1 of the California Insurance Code effective January 1, 1990, requires that any Title Insurance Company, underwritten Title Company, or controlled Escrow Company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for funds deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effect of this new law, please contact your local First American Office for more details.

NOTICE

In accordance with Sections 18662 and 18668 of the Revenue and Taxation Code, a buyer may be required to withhold an amount equal to three and one-third percent of the sales price in the case of the disposition of California real property interest by either:

1. A seller who is an individual with a last known street address outside of California or when the disbursement instructions authorize the proceeds be sent to a financial intermediary of the seller, OR

2. A corporate seller which has no permanent place of business in California.

The buyer may become subject to penalty for failure to withhold an amount equal to the greater of 10 percent of the amount required to be withheld or five hundred dollars ($500).

However, notwithstanding any other provision included in the California statutes referenced above, no buyer will be required to withhold any amount or be subject to penalty for failure to withhold if:

1. The sales price of the California real property conveyed does not exceed one hundred thousand dollars ($100,000), OR

2. The seller executes a written certificate, under the penalty of perjury, certifying that the seller is a resident of California, or if a corporation, has a permanent place of business in California, OR

3. The seller, who is an individual, executes a written certificate, under the penalty of perjury, that the California real property being conveyed is the seller's principal residence (as defined in Section 1034 of the Internal Revenue Code).

The seller is subject to penalty for knowingly filing a fraudulent certificate for the purpose of avoiding the withholding requirement.

The California statutes referenced above include provisions which authorize the Franchise Tax Board to grant reduced withholding and waivers from withholding on a case-by-case basis.

The parties to this transaction should seek an attorney's, accountant's, or other tax specialist's opinion concerning the effect of this law on this transaction and should not act on any statements made or omitted by the escrow or closing officer.

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First Look Checklist

Will any of the following situations potentially affect your transaction:

- ☐ Will your principals be using a *Power of Attorney*?
- ☐ Are any of the parties in title *incapacitated or deceased*?
- ☐ Has a *change in marital status* occurred for any of the principals?
- ☐ Will the property be transferred to a *new trust, partnership or corporation*?
- ☐ Do the sellers of the property *reside outside of California or the United States*?
- ☐ Have any of the principals *recently filed bankruptcy*?
- ☐ Are your principals involved in an *exchange with this property*?

If you answered *YES* to any of these questions, please contact your escrow officer right away, so we can assure a smooth closing!

Remember, all parties signing documents must have a valid photo I.D. or driver's license for a notarial acknowledgment

Thank you for helping FIRST AMERICAN TITLE serve you *better*!

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EXHIBIT G (106 PAGES)

Phase I Environmental Site Assessment
Proposed Burrowing Owl Mitigation Site
Alameda County, California

Prepared for

Gruen Gruen & Associates
564 Howard Street
San Francisco, California 94105-3002

HLA Project No. 47442 1

E. Tunstall Lang, Esq.
Project Regulatory Specialist

July 14, 1999

Harding Lawson Associates
Engineering and Environmental Services
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Phase I Environmental Site Assessment
Proposed Burrowing Owl Mitigation Site
Alameda County, California

HLA Project No. 47442 1

This document was prepared by Harding Lawson Associates (HLA) at the direction of Gruen Gruen & Associates on behalf of the State of California Department of General Services – Real Estate Services Division, the only intended beneficiaries of this work. No other party should rely on the information contained herein without the prior written consent of HLA and the Agency. This report and the interpretations, conclusions, and recommendations contained within are based in part on information presented in other documents that are cited in the text and listed in the references. Therefore, this report is subject to the limitations and qualifications presented in the referenced documents.

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1.0 EXECUTIVE SUMMARY

Harding Lawson Associates (HLA) has prepared this Phase I Environmental Site Assessment (ESA) for Gruen Gruen & Associates on behalf of the State of California Department of General Services - Real Estate Services Division (RESD). The site is Alameda County APN 099B-7010-002-09 (Site), which comprises approximately 140 acres of cattle grazing land at the junction of Alameda, Contra Costa, and San Joaquin counties (Plate 1). The Site is in the northwest corner of the intersection of Bruns Avenue and Kelso Road. The Site will become a burrowing owl sanctuary as mitigation habitat for burrowing owls to be displaced at Agnews State Hospital in Santa Clara, about 40 miles away. Burrowing owls, *Athene cunicularia hypugea*, have been observed on the Site. The owl is a federal, California Department of Fish and Game (DFG), and Audubon Special Concern species and ranked on the DFG's Natural Diversity Data Base as endangered in the state. The RESD is acquiring the Site from the current property owners, Mr. and Mrs. Selwyn Vos, and will turn it over the DFG upon completion of the acquisition.

The purpose of the ESA was to identify recognized environmental conditions at the Site, as defined by the American Society for Testing and Materials (ASTM) Standard E 1527-97, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.* The scope of services for this ESA included review of historical and environmental data, a Site and area reconnaissance, interviews with people familiar with the Site, and report preparation. No subsurface investigation was undertaken or determined to be necessary as part of the ESA.

The Site is in eastern Alameda County, at the transition between low Coast Ranges hills to the west and flat, level farmland at lower elevations to the east (Plate 1). The area is crossed with electric power transmission lines and natural gas and oil pipelines. Power generation windmills dot the hillsides to the west. The California Department of Water Resources (DWR) California Aqueduct begins northeast of the Site. Historically the area was used for cattle grazing and some dry land farming.

The Delta Pumping Plant, which is the first (northernmost) pumping plant along the California Aquaduct, is adjacent to the Site on the northwest. East of the Site, across Bruns Avenue is a Pacific Gas & Electric Company (PG&E) natural gas compressor station, which was constructed in the early 1990s in conjunction with construction of a new natural gas pipeline. To the south is a residence with associated outbuildings that is accessed via a gravel road along the south boundary of the Site.

The Site is a roughly pentagonal parcel of hilly grassland/rangeland. The Site is fenced use and used for cattle grazing. Elevations range from about 80 feet above mean sea level (MSL) in the northeast portion of the Site to 170 feet MSL in the higher hills onsite and at the west side (*USGS, 1978*). Two creeks (the northern and southern creeks) cross the Site from roughly southwest to northeast as seen on Plate 1. At least one of the creeks is identified as a jurisdictional wetland. One source of water for the creeks is drainage from the adjacent Delta Pumping Plant for the California Aqueduct. The present property owners have dammed the creeks at several points, creating ponds along the creek beds; drain pipes through the dammed earth connect the "ponds." Supporting information about the Site is in Appendix A; photos are in Appendix B.

Several pipelines and transmission lines cross the Site. Two PG&E natural gas pipelines and a Chevron oil pipeline cross the Site in the pipeline corridor seen on Plate 1. One of the PG&E pipelines is a 42-inch natural gas line installed in the early 1990s. Five years of post-construction environmental monitoring of jurisdictional wetlands through which the pipeline passes was successfully completed, with approval by the U.S. Army Corps of Engineers, Sacramento District, in October 1998. A 60 kV PG&E electric transmission line and a 230 kV transmission line owned and maintained by the U.S. Department

of Energy's Western Area Power Administration (WAPA) cross the Site in separate roughly west – east easements.

There is one building onsite. Mr. and Mrs. Vos constructed an approximately 4,200-square-foot wood frame warehouse in the southeast corner of the Site in the early 1990s. The building is used for storage.

Depth to standing water ranges from 7 to 12 feet, based on the driller's logs (*Hennings, 1990 – 1991*). The lithologic logs indicate that below 2 to 3 feet of top soil, clays, rock, hard rock and black shale occur, with only thin layers of sand and/or gravel. On the basis of site and area topography, groundwater is likely to flow toward the east.

Four types of soil occur onsite (*USDA, 1943*). Surface soil on most of the Site is identified as Linne adobe clay; in the higher, western third of the Site, soil is identified as Altamont clay loam. In the southwest and possibly northwest corners of the Site is Herdlyn loam soil. At the east end of the south creek is Solano loam. Near the southeast corner of the Site, downhill and north from the building, is a likely alkali area.

Recently conducted wildlife surveys on the Site found burrowing owls, red-legged frogs, the California tiger salamander, and western pond turtles. The alkali area described above is a breeding pond for California tiger salamander, according to the wildlife biologist who conducted the surveys.

HLA obtained and evaluated an environmental regulatory agency database report from Environmental Data Resources, Inc., to identify properties within ASTM-recommended search distances from the Site that have documented hazardous materials/wastes problems or the potential to impact the Site. The database report covers the ASTM-recommended databases and provides information on listed properties useful in assessing whether additional records review is necessary.

The EDR report indicates that no properties within the respective ASTM search distances are listed in any of the environmental regulatory agency databases required to be reviewed and that the Site is not listed in any of these databases. The EDR report is in Appendix C.

During HLA's site visit on June 25, 1999, no evidence of recognized environmental conditions was observed onsite.

HLA's Phase I ESA has revealed no evidence of recognized environmental conditions in connection with the Site.

2.0 INTRODUCTION

Harding Lawson Associates (HLA) has prepared this Phase I Environmental Site Assessment (ESA) for Gruen Gruen & Associates on behalf of the State of California Department of General Services - Real Estate Services Division (RESD). The Site is Alameda County APN 099B-7010-002-09 (Site), which comprises approximately 140 acres of grazing land outside Byron, California, at the junction of Alameda, Contra Costa, and San Joaquin counties (Plate 1). The Site will become a burrowing owl sanctuary as mitigation habitat for burrowing owls to be displaced at Agnews State Hospital in Santa Clara, about 40 miles away. Burrowing owls, *Athene cunicularia hypugea*, have been observed on the Site. The owl is a federal, California Department of Fish and Game (DFG), and Audubon Special Concern species and ranked on the DFG's Natural Diversity Data Base as endangered in the state. The RESD is acquiring the Site from the current property owners, Mr. and Mrs. Selwyn Vos, and will turn it over the DFG upon completion of the acquisition.

2.1 Purpose and Scope of Services

The purpose of the ESA was to identify recognized environmental conditions at the Site, as defined by the American Society for Testing and Materials (ASTM) Standard E 1527-97, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process:*

> The term *recognized environmental conditions* means the presence or likely presence of any *hazardous substances* or *petroleum products* on a *property* under conditions that indicate an existing release, a past release, or a material threat of a release of any *hazardous substances* or *petroleum products* into structures on the *property* or into the ground, groundwater, or surface water of the *property*. The term includes *hazardous substances* or *petroleum products* even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

The scope of services for this ESA included the following tasks:

- Records review
  - Site-specific documents provided by the property owner
  - Site-specific environmental regulatory agency database report prepared by Environmental Data Resources, Inc. (EDR)
  - Historical aerial photographs
  - Other related documents and reports
- Site and area reconnaissance
- Interviews with people familiar with the Site
- Report preparation.

No subsurface investigation was undertaken as part of this ESA. The scope of services also did not include surveys for asbestos-containing materials, lead-based paint, or lead in drinking water, nor testing for radon.

2.2 Special Terms and Conditions

This document was prepared for the sole use of Gruen Gruen & Associates, the RESD, and their successors and assigns. No other party should rely on the information contained herein without the prior written consent of HLA and the parties listed above. Our professional judgment to assess the potential for contamination is based on limited data; no other warranty is given or implied by this report.

2.3 Limitations and Exceptions of Assessment

Specific to the ESA, lack of evidence of the presence of recognized environmental conditions following completion of the tasks of a reasonable and mutually agreed-upon scope of work does not guarantee the absence of such conditions; rather, it indicates only that none were found as a result of the services provided. Although the limited nature of HLA's scope of work precludes us from providing a warranty or guarantee regarding the presence or absence of recognized environmental conditions that could potentially affect the Site, HLA has provided its best professional judgment of possible environmental issues and performed the practices and procedures generally accepted in the consulting engineering field.

2.4 Limiting Conditions and Methodology Used

This ESA was conducted in accordance with practices and procedures generally accepted in the environmental consulting field. More extensive assessment that includes surface and/or subsurface investigation and chemical analysis of soil and/or groundwater samples from the Site would provide more definitive information concerning site-specific conditions.

HLA has made no attempt to address future financial impacts to the Site (e.g., reduced property value, difficulty selling the property) as a result of potential subsurface contaminant migration.

3.0 SITE DESCRIPTION

3.1 Location and Legal Description

The Site comprises approximately 140 acres in Alameda County near the junction of Alameda, Contra Costa, and San Joaquin counties (Plate 1). It is in the northwest corner of the intersection of Bruns Avenue and Kelso Road and just southeast of the Harvey O. Banks Delta Pumping Plant (Delta Pumping Plant or Plant) for the California Aqueduct. The property is Alameda County Assessor's Parcel 099B-7010-002-09. The legal description, taken from the May 3. 1999, preliminary title report prepared by First American Title Guaranty Company is as follows:

REAL PROPERTY in the City of Mountain House School, County of Alameda, State of California, described as follows:

The Southeast quarter of Section 35, in Township 1 South, in Range 3 East of the Mount Diablo Base and Meridian, according to the United States Public Survey thereof.

Excepting therefrom: Those portions thereof described in the deed from Arden Hans Christensen, a single man, to State of California, dated November 8, 1963, recorded May 20, 1964, on Reel 1207, Image 941, Series No. AW-80211, Alameda County Records.

Also excepting therefrom that portion thereof described in the Deed from Arden H. Christensen to Franklin D. Beck and D'Ette G. Beck, dated January 21, 1972, recorded February 1, 1972, Series No. 72-13886, Reel 3051, Image 958, Alameda County Records.

Also excepting therefrom: All oil, gas, casinghead gasoline and other hydrocarbons and mineral substances below a point 500 feet below the surface of the land, hereinabove described together with the right to take, remove, mine, pas [sic] through and dispose of all oil, gas, casinghead gasoline and other hydrocarbons and mineral substances but without any right whatsoever to enter upon the surface of said land, as reserved in the Deed from Ida B. Hays Christensen, a widow, recorded June 30, 1988, Series No. 88-157279.

3.2 Site and Vicinity Characteristics

Vicinity. The Site is in eastern Alameda County, at the transition between low Coast Ranges hills to the west, identified as Canada de Los Vaqueros (*USGS, 1968*) and flat, level farmland at lower elevations to the east (Plate 1). The dry hilly grasslands west of the Site are dotted with power-generating windmills and also used for cattle grazing. Row crops and wine grapes are grown on the farmland to the east. The area is crossed with electric power transmission lines and natural gas and oil pipelines, and is the starting point for the California Department of Water Resources (DWR) State Water Project and the Project's California Aqueduct. In addition to the California Aqueduct, several other bodies of water are nearby. Water from the Delta flows into the Clifton Court Forebay, about 1½ miles northeast of the Site, and is channeled from there to the Delta Pumping Plant. Water leaves the Plant and flows through Bethany Reservoir, about a mile south of the Site, before being diverted to the Aqueduct itself or to serve Alameda and Santa Clara counties. The reservoir is a DWR recreation area.

The Delta Pumping Plant is adjacent to the Site on the northwest. East of the Site, across Bruns Avenue is a Pacific Gas & Electric Company (PG&E) natural gas compressor station constructed in the early 1990s in conjunction with construction of a new natural gas pipeline. To the south is a residence with associated outbuildings that is accessed via a gravel road along the south boundary of the Site.

The Site: The Site is a roughly pentagonal fenced parcel of hilly grassland/rangeland. Elevations range from about 80 feet above mean sea level (MSL) in the northeast portion of the Site to 170 feet MSL in the higher hills onsite and at the west side (*USGS, 1978*). The Site is zoned A for agricultural use and is used for cattle grazing. Two creeks (the northern and southern creeks) cross the Site from roughly southwest to northeast as seen on Plate 1 and in the photos in Appendix B. At least one of the creeks (the southern creek) has been identified as a jurisdictional wetland. One current source of water for the creeks, according to Mrs. Vos, is drainage from the adjacent Delta Pumping Plant, although this is probably minimal given topography and creek structure. The present property owners have dammed the creeks at several points, creating ponds along the creek beds; drain pipes through the dammed earth connect the "ponds."

Several pipelines and transmission lines cross the Site. Easements for these facilities are noted in the preliminary title report in Appendix A. Two PG&E natural gas pipelines and a Chevron oil pipeline cross the Site in the pipeline corridor seen on Plate 1. A 60 kV PG&E electric transmission line runs diagonally across the Site from southwest to northeast; seven utility poles onsite support the line. The U.S. Department of Energy's Western Area Power Administration (WAPA) constructed a 230 kV transmission line across the Site in the early 1990s; three utility poles support these lines, which run roughly west to east across the Site.

There is one building onsite. Mr. and Mrs. Vos constructed an approximately 4,200-square-foot wood frame warehouse in the southeast corner of the Site in the early 1990s.

Geology/Hydrogeology. Mr. and Mrs. Vos installed several wells to provide domestic and stock/irrigation water. Depth to standing water in the wells ranges from 7 to 12 feet, based on the well driller's logs (*Hennings, 1990 – 1991*). Borehole lithology, however, suggests that there are few sand or gravel (water-bearing) strata to the maximum depth drilled (145 feet), and it is likely that the water is confined and under artesian conditions. The lithologic logs indicate that below 2 to 3 feet of top soil (in some boreholes), clays, rock, hard rock and black shale occur, with only thin layers of sand and/or gravel encountered in only 4 of the 10 borings drilled. On the basis of site and area topography, groundwater is likely to flow toward the east.

Soils. A U.S. Department of Agriculture (USDA) soil survey of the Tracy, California, area included the Site (*USDA, 1943*). The soil map shows that four types of soil occur onsite. Surface soil on most of the Site is identified as Linne adobe clay; in the higher, western third of the Site, soil is identified as Altamont clay loam. In the southwest and possibly northwest corners of the Site is Herdlyn loam soil. At the east end of the south creek is Solano loam. Descriptions of these soils are excerpted from the soil survey in Appendix A, together with the relevant portion of the soil map. Near the southeast corner of the Site, downhill and north from the building is a small (less that 10 feet square) lighter colored area that may be a "moderate" alkali area, based on the soil map, aerial photos, and personal observation. Another possible alkali zone shown on the soil map is at the east end of the southern creek; no alkali conditions were observed in this area.

Endangered Species and Habitat. HLA spoke with Mark Allaback, a wildlife biologist with Biosearch Wildlife Surveys, Santa Cruz, California. Mr. Allaback recently conducted wildlife surveys on the Site, as part of the pre-acquisition studies being conducted on behalf of the RESD. He looked for burrowing owls, red-legged frogs, the California tiger salamander, and western pond turtles. All were observed onsite. Mr. Allaback noted that the ponded area in the extreme southeast portion of the Site just north and downhill of the building (i.e., the alkali area described above) is particularly important as a breeding pond for California tiger salamander. His report describing his findings is in progress.

3.3 Descriptions of Structures, Roads, Other Improvements on the Site

Building: Mr. and Mrs. Vos constructed a wood-frame warehouse/shed building on the southeast corner of the property in 1992-1993. The approximately 4,224-square-foot building includes a gravel-paved garage/storage area and a framed but unfinished open area designed to be suitable for multiple purposes. The building is used for storage.

Wells. Mr. and Mrs. Vos had domestic and irrigation wells installed on the Site between August 1990 and May 1991. HLA was provided with State of California Well Completion Reports for three wells, and lithologic data for 10 well borings, including the three completed wells. Drilling was accomplished by Hennings Brothers Drilling Company, Modesto. Well and lithologic logs indicate that boreholes were drilled to between 70 and 145 feet below ground surface (bgs). One domestic well was installed south of the southern creek. The boring was drilled to a depth of 145 feet and an 8-inch diameter well was installed in the borehole to 100 feet bgs. The interval between 50 and 100 feet bgs was screened. Following well completion, standing water level was 12 feet bgs. Two 110-foot-deep 8-inch-diameter irrigation/stock wells were completed with well screen between 30 and 110 feet bgs. Depth to first water is identified on these well logs as 7 feet. Mrs. Vos indicated that several other irrigation wells were installed by another well driller..

Roads. No paved roads are present onsite. Several dirt roads run across the Site. There is a gravel parking area around the warehouse.

60kv Transmission Line, seven poles. According to a September 1990 letter to Mr. Vos from J.P. Hirko, Acquisition Supervisor, PGT-PG&E Pipeline Expansion Project, the line was constructed by The Standard Electric Company, a predecessor in interest to PG&E, some time between 1899 and 1919. PG&E's earliest records indicate that it was operating at 60 kV in 1919, and has continued to operate at 60 kV. The insulators were apparently changed out in about 1990. The preliminary title report indicates that a 100-foot-wide easement "traversing through a central portion of said land" was recorded in October 1899. A copy of the letter to Mr. Vos and a map showing the locations of the poles are in Appendix A. Photos of this transmission line are in Appendix B.

230 kV Transmission Line, three poles. The three 230 kV poles on the Site are part of the Tracy-Lawrence Livermore Laboratory transmission line constructed by the U.S. Department of Energy Western Area Power Administration (WAPA) in the early 1990s. HLA reviewed project maps showing the right-of-way for the line and its access road that are dated in March, May, and December 1987. The easements to the United States of America for "A 120 foot strip traversing through a central portion of said land" for a transmission line and "A portion of said land" for an access road were recorded in October 1990, according to the preliminary title report. A map showing the transmission line route is in Appendix A.

PG&E Natural Gas Pipelines, Chevron Pipeline. HLA spoke with Ross Kilpatrick, Jr., PG&E's District Foreman, Northern Gas System Maintenance, Tracy District. He indicated that the two PG&E natural gas pipelines that cross the Site are steel pipelines with cathodic protection. Monitoring devices at the compressor station and at the terminal are used to indicate any breaches in the line. The older gas pipeline was installed in 1929, but has been upgraded at various times. This 26-inch-diameter pipeline is visible as it crosses the southern creek onsite. The pipeline installed in the early 1990s is 42 inches in diameter. Both are buried 4 to 5 feet deep in accordance with Department of Transportation regulations.

Environmental monitoring was conducted for 5 years following construction of the 42-inch pipeline. PG&E was required to restore the jurisdictional wetland onsite through which the pipeline passes (i.e., a

portion of the southern creek) and monitor the area for 3 years for the California Public Utilities Commission and 5 years for the Sacramento District, U.S. Army Corps of Engineers (COE), to assure the restored area met Section 404 success criteria. HLA spoke with Ms. Carol Witham, a botanist and vernal pool specialist who conducted the post-construction vegetation monitoring under contract to PG&E. The area received signoff in a letter dated October 13, 1998 from Art Champ, Chief of the Regulatory Branch, Sacramento COE, to Christoffer Ellis, PG&E, Sacramento.

The pipeline corridor is shared with a Chevron oil pipeline, which is west of the PG&E right-of-way. The new 42-inch PG&E pipeline is 25 feet east of the older 26-inch PG&E pipeline, based on a pipeline expansion project wetland delineation map (see Appendix A).

Fiber Optic Line. Mrs. Vos indicated that a buried fiber optic transmission line was installed across the Site (east-west) about 3 years ago, however no further information regarding this line was available.

3.4 Information Reported by User Regarding Environmental Liens or Specialized Knowledge or Experience

Mrs. Vos knew of no environmental liens on the property. No environmental liens are listed in the preliminary title report in Appendix A.

3.5 Current Uses of the Property

The property is currently used for cattle grazing.

3.6 Past Uses of the Property

HLA conducted a telephone interview with Linda Phillips Silvera, Realtor-Associate with Prudential California Realty in Brentwood. Ms. Silvera is the listing agent for the Site. The previous owner of the property was Dr. Arden H. Christensen; the Voses bought the land from the Christensen estate in 1988. Ms. Silvera was the listing agent. In the 1940s and 1950s, according to Ms. Silvera, the Internal Revenue Service provided tax incentives for purchases of farms, and Dr. Christensen took advantage of this tax shelter by owning the Site, which at the time included the 5-acre residential parcel south of the Site. Ms. Silvera indicated that Dr. Christensen leased the land to a local rancher for cattle grazing.

3.7 Current and Past Uses of Adjoining Properties

During the interview with HLA, Ms. Silvera, a long-time resident of the area, indicated that land in the area has historically been used for cattle grazing and some dry farming. Dry farming typically includes crops such as oat hay, for which no fertilizer or irrigation is required. Ms. Silvera also indicated that in the 1950s and 1960s, the area was considered "worthless land," given that the small communities nearby such as Mountain House were becoming "ghost towns" after their post offices were closed.

The following paragraphs describe current uses of adjacent lands.

Northwest – Delta Pumping Plant. Northwest of the Site is the Harvey O. Banks Delta Pumping Plant. The Plant marks the beginning of the California Aqueduct, which extends 444 miles southward to Lake Perris in Riverside County. The Plant and Aqueduct are part of the DWR State Water Project, the largest state-built multipurpose water project in the U.S. (*DWR, 1996*). Construction of the plant began in 1963 and was completed in 1969. It was built and is operated and maintained by the DWR. Water flows from Delta channels into Clifton Court Forebay, then into an open intake channel and through a fish protection facility before entering the pumping plant. The plant lifts the water 244 feet into the California Aqueduct,

where it flows south by gravity to the San Luis Joint-Use facilities in Merced County. Some water is diverted from nearby Bethany Reservoir to the South Bay Aqueduct, which serves Alameda and Santa Clara counties. The plant was originally constructed with seven pumps; four additional pumps were installed in 1986 to help improve water supply reliability. The plant has a capacity of 6.7 billion gallons of water per day (~21,000 acre-feet). Most pumping is done during "off peak" hours, at night and on weekends when power is cheaper. A photo of the Pumping Plant is included in Appendix B. According to the receptionist at the Plant, the area east-southeast of the Plant's buildings that is adjacent to the Site is the Plant's "boneyard," where unused/discarded items are stored in one of two buildings or on the ground (e.g., pipes, wooden pallets).

East – Bethany Gas Compressor Station. PG&E's natural gas compressor station was constructed in 1992-1993 as part of construction of the new 42-inch-diameter natural gas pipeline that crosses the Site. The facility is east of the Site across Bruns Avenue and occupies approximately 100 acres in the northeast corner of the intersection of Bruns Avenue and Kelso Road. Two 8,800-horsepower variable speed motor-driven centrifugal compressors are operated onsite (*Pipe Line Industry, 1992*). The facility includes several buildings and parking areas. Land at the south end of the facility is burrowing owl habitat/sanctuary (*Kilpatrick, 1999*).

South – Residence. South of the Site is a residential property with several outbuildings.

The remainder of the adjacent lands are used for grazing or are grassland/rangeland.

3.8 Site Rendering, Map, or Site Plan

Plate 1 is a vicinity map. Site and vicinity photographs are in Appendix B.

4.0 RECORDS REVIEW

HLA reviewed a suite-specific environmental regulatory agency database report, historical aerial photographs, and several site-specific reports provided by Mrs. Vos. This section describes the results of our review.

4.1 Environmental Regulatory Agency Records

The American Society for Testing and Materials (ASTM) standard practice for conducting Phase I ESAs to identify "recognized environmental conditions." The practice, ASTM standard E 1527-97, describes and recommends activities for conducting ESAs, identifies standard federal and state "record sources" (e.g., the federal Superfund list), and defines approximate minimum search distances from the Site being assessed for each of these record sources. HLA obtained and evaluated an environmental regulatory agency database report from Environmental Data Resources, Inc., to identify properties within ASTM-recommended search distances from the Site that have documented hazardous materials/wastes problems or the potential to impact the Site. The database report covers the ASTM-recommended databases and provides information on listed properties useful in assessing whether additional records review is necessary.

The EDR report indicates that no properties within the respective ASTM search distances are listed in any of the environmental regulatory agency databases required to be reviewed and that the Site is not listed in any of these databases. The EDR report is in Appendix C.

The databases from which information is compiled include the following. Each database is described in the appendix of the EDR report:

- U.S. Environmental Protection Agency's (EPA) National Priorities List (NPL) for Uncontrolled Hazardous Waste Sites
- EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS)
- EPA's Resource Conservation and Recovery Information System (RCRIS), which includes lists of large- and small-quantity hazardous waste generators, transporters, and treatment, storage and disposal facilities; Resource Conservation and Recovery Act (RCRA) corrective action and violators lists
- EPA's Emergency Response Notification System (ERNS) List.
- California Department of Health Services (DHS) Bond Expenditure Plan (BEP)
- California Environmental Protection Agency (Cal/EPA) CalSites Annual Work Plan (AWP)
- California Department of Toxic Substances Control (DTSC) CalSites (ASPIS)
- California Office of Emergency Services (OES) California Hazardous Material Incident Report System (CHMIRS)
- Cal-EPA's Hazardous Material Sites (Cortese)

- California State Water Resources Control Board (SWRCB) Leaking Underground Storage Tank Information System (LUST)
- SWRCB Proposition 65 Notification Records (NOTIFY 65)
- California Integrated Waste Management Board Solid Waste Information System (SWIS)
- SWRCB Toxic Pits Cleanup Act Sites (Toxic Pits)
- SWRCB/Cal-EPA Hazardous Substance Storage Container Database (UST) and Facility Inventory Database (FID)
- SWRCB Waste Management Unit Database System (WMUDS/SWAT).

The EDR report also lists "orphan" sites, that is, properties for which insufficient information is available on a property to identify their locations. Nine properties were in the orphan list. HLA attempted to locate these properties during the site visit or by finding the listed road on a map and estimating the distance from the Site. All "orphan" properties were eliminated as having any potential effect on the Site because of distance:

- Addresses for two properties identified as Leaking Underground Storage Tank (LUST) properties were given. These properties were eliminated because they were located during the site visit and are ½ or more mile from the Site; the search distance for LUSTs is ½ mile (Byron-Bethany Irrigation District, 7995 Bruns Road, and U.S. Bureau of Reclamation, 16800 Kelso Road)
- The Tracy Pumping Plant, listed in a non-ASTM database, is over 1 mile east of the Site.
- Sites on Holey Road and Camino Diablo roads are 2 to 5 miles north of the Site.
- Marciel Ranch Landspreading on Jess Ranch Road, a disposal site, and the San Antone Valley Ranch Corporation at Star Route Box 53, where a registered UST may have been, could not be located. Jess Ranch Road is not listed in either the Contra Costa or Alameda County Thomas Guides, and the ZIP code for the San Antone Valley Ranch Corporation is a Livermore ZIP code.
- Two properties are listed on Byron Hot Springs Road: Byron Hot Springs Landspreading and Windgeneration LLC. Most of Byron Hot Springs Road is a mile or more north or northwest of the Site, but one portion is about ¼ mile west of the Site on the opposite side of the California Aqueduct. These facilities are not listed in MSN Yellow Pages and may not still be in business; in any case, it is unlikely, based on distance and the barrier of the Aqueduct, that they would be likely to impact the Site. HLA did not observe such facilities.

4.3 Physical Setting Sources

HLA reviewed the USGS 7.5-minute series quadrangle maps for Clifton Court Forebay (*USGS, 1978*) and Byron Hot Springs (*USGS, 1953; photorevised 1968*). See Plate 1 and Section 3.2.

4.4 Additional Record Sources

Four soils/geology studies have been conducted in the last 10 years for Mr. and Mrs. Vos. HLA reviewed three of the reports; one is not available. One report is the well installation report, discussed in Section 3.3.

In August 1998, Western Farm Service on behalf of Wente Brothers winery drilled and sampled five borings to between 4½ and 8¼ feet bgs at five locations interior to the perimeter of the Site to assess the feasibility of planting a vineyard onsite. The soils were classified as clay, clay loam, sandy loam, loamy sand, and loam. The samples were tested for a suite of analytes including organic content; phosphorus, potassium, magnesium, calcium, sodium; for nitrate and sulfur, and zinc, manganese, iron, copper, and boron; as well as for pH, and for percent sand, silt, and clay. Mrs. Vos was informed that soil conditions onsite would support viticulture.

In August 1994, three samples of silty sand and sandstone taken from the western portion of the Site were tested by Construction Materials Testing, Inc., Concord, California, to assess whether they were suitable for use in construction. Particle size analyses were completed using ASTM D 1140/ D 422. Review of the results indicates that some of the materials could feasibly be used for "Class 2 ASB."

4.5 Historical Aerial Photographs

HLA reviewed seven aerial photographs of the area taken between 1957 and May 1999 for Pacific Aerial Surveys, Oakland, California.

1957. May 21. Scale: 1:12000. In 1957, the Site and area are undeveloped. The pipeline easement crossing the northeast portion of the Site from northwest to southeast is present, as is the 60 kV power line that runs southwest to northeast. The two creeks that cross the Site are there, another apparent low-lying area in the southeast corner of the Site is visible, and Bruns Road is present. The Delta Pumping Plant and Kelso Road have not been constructed.

1968. May 2. Scale: 1:30000. In the 1968 photo, the new Delta Pumping Plant is seen northwest of and adjacent to the Site. Kelso Road has been constructed between the Pumping Plant and Bruns Road. Otherwise, the Site and vicinity are unchanged.

1975. December 17. Scale: 1:54000. The residential/farm buildings adjacent to the Site on the south have been constructed. No other significant changes are visible.

1985. June 27. Scale: 1:36000. The Site and area appear unchanged from the previous photo.

1988. August 31. Scale: 1:12000. The Site appears unchanged. Wind turbines have been installed on land southwest of the Site. No other significant changes are observable.

1992. August 3. Scale: 1:12000. In the 1992 photo the new natural gas pipeline is being installed in the pipeline easement. Construction vehicles are visible in the easement. Construction is also evident on the land east of the Site at the corner of Bruns and Kelso roads. In addition, three new large power poles and power line have been installed west to east across the Site and the building constructed by the current owners has been built in the southeast corner of the Site.

1995. June 21. Scale: 1:12000. Portions of the Site appear to have been disturbed or plowed. Mrs. Vos indicated that portions of the Site were graded that year in areas where they had intended to plant a vineyard. The creek that runs through the middle of the Site has been dammed in several places to create ponded areas along the creek-bed. The area east of the Site that was observed to be under construction in the 1992 photo has been completed; this facility is a PG&E natural gas compressor station. No other significant changes onsite or in the vicinity are apparent.

1999. May 14. Scale: 1:12000. No significant changes onsite or in the vicinity are apparent.

5.0 INFORMATION FROM SITE RECONNAISSANCE

5.1 Access to the Site

The Site is in the northwest corner of the intersection of Bruns Avenue and Kelso Road. From I-580 it is accessed via the Grant Line Road exit, then northeast on Grant Line Road to Mountain House Road; north on Mountain House Road to Kelso Road; then west on Kelso Road to Bruns Avenue. From the north, it is accessed from Byron, the nearest community, by traveling southeast on the Byron-Bethany Road, then south on Bruns Road to Kelso Road.

5.2 Site Visit

On June 25, 1999, Tunstall Lang conducted a site visit and interview with Mrs. Loretta Vos, property owner. Mrs. Vos indicated that she and her husband purchased the land in 1987 as a prospective retirement site and planned to build a home in the central portion of the Site. They installed drinking water and irrigation wells. They decided to sell the property after PG&E constructed the Bethany compressor station across Bruns Road. The land was acquired from the estate of Dr. Arden Christensen. Mrs. Vos indicated that the land was, to her knowledge, always used for grazing. She and her husband have had a grazing contract with a local rancher since they bought the land. The rancher grazes cattle onsite and maintains fire trails and fences.

Mrs. Vos indicated that there are three pipelines in the easement that runs northwest-southeast across the property: two are PG&E natural gas pipelines, one is a Chevron Oil pipeline; Chevron is the successor corporation to Standard Oil, which originally had the easement. Mrs. Vos indicated that the pipelines are 42 to 48 inches below ground surface. The older, 26-inch-diameter natural gas pipeline, however, is exposed as it crosses the southern creek. In addition, the PG&E 60 kV power line crosses the Site southwest to northeast. The newer power line that crosses west to east is owned by the Western Area Power Administration (WAPA), part of the U.S. Department of Energy Power Marketing Administration. Also, approximately 3 years ago, a fiber optic line was installed across the Site to the Delta Pumping Plant.

Mr. and Mrs. Vos built the warehouse onsite in the early 1990s; with uncertainty about the future use of the Site, the interior has remained unfinished past the framing stage. It is currently used for storage of household goods. On the basis of the date of construction (post 1978), it is highly unlikely that any of the building materials contain asbestos or that lead-based paint was used on the exterior.

Other activity onsite since Mr. and Mrs. Vos bought the property includes testing several years ago by Wente vineyards to assess the suitability of the Site for growing wine grapes, and soils in the northwest corner of the Site along the rock ridge were tested for their appropriateness as roadbed material. HLA reviewed copies of these reports; see Section 4.4.

During the pipeline construction in 1992, consultants conducted wetlands monitoring; subsequently, five years of wetlands monitoring was conducted in a wetland area adjacent to the pipeline, which is exposed as it crosses the creek. A description of the monitoring results is in Section 3.3.

During the site visit, HLA looked for but saw no evidence of the following onsite:

- Pits, ponds or lagoons, other than the creeks/ponds described herein
- Stained soil or pavement

- Stressed vegetation
- Solid waste disposal
- Wastewater discharge
- Septic systems. (Mrs. Vos indicated that they had not put a septic system or installed a leachfield on the Site.)
- Aboveground or underground storage tanks
- Building ruins
- Obvious odors
- Heavy equipment
- Landfills, dumping, or burial activities
- Surface impoundments or holding ponds
- Air emissions or wastewater discharge
- Industrial or manufacturing activities
- Monitoring wells or remedial activities
- Stained or discolored soil
- Leachate or seeps
- Distressed, discolored, or stained vegetation
- Chemical spills or releases
- Groundwater or surface water contamination
- Oil or gas wells exploration, production, or refinery activities
- Farm waste
- Discharges, leachate, migration, or runoff of potential contaminants from offsite sources ,
- Asbestos-containing materials.

No other environmentally sensitive conditions were observed or are known to be present at the Site.

5.3 Onsite Utilities

Utility providers are:

Water — Domestic and stock/irrigation wells were installed onsite by the property owners. None of the wells are currently used.

Sewer — No sewer/septic system is present onsite.

Electricity — Pacific Gas & Electric Company.

Telephone — Pacific Bell.

5.4 Area Reconnaissance

During the site visit, Ms. Lang and Mrs. Vos visited the Delta Pumping Plant, including the "boneyard" area adjacent to the Site. The area is adjacent to the northern creek. One large steel warehouse-type storage building on a concrete pad was observed; it appeared to be about 40 feet by 25 feet. There is also a smaller, similar building. Articles stored in the area include wooden pallets, stacked piping, and the like, and appear unlikely to impact the Site. We also drove south on Bruns Avenue, then west on Christensen Road (parallel to and south of Kelso; see Plate 1) past grazing cattle and an abandoned homestead to Bethany Reservoir. We also observed the PG&E compressor station across Bruns Avenue from the Site; the station is gated and was inaccessible at the time of HLA's visit. Photos of the pumping plant, its "boneyard," and the compressor station are in Appendix B.

6.0 FINDINGS AND CONCLUSIONS

On the basis of the information provided to HLA, as described in the foregoing sections, this Phase I ESA has revealed no evidence of "recognized environmental conditions," as defined by ASTM Standard E 1527-97, in connection with the property. The property is proposed to be used as a sanctuary for burrowing owls. Wildlife surveys have identified the owls, as well as several other endangered species on the Site. The land is used only for grazing and historically has been used for this purpose. The presence of transmission lines and pipelines onsite does not appear to affect the species observed onsite.

The environmental regulatory database report identified no potential offsite sources within the ASTM record search distances. The locations of the "orphan" properties listed in the database report were researched and these properties were found to be beyond the ASTM search distances; no further research into the current conditions of these properties was therefore found to be necessary. HLA recommends no further investigation.

7.0 REFERENCES

A & L Western Agricultural Laboratories, Modesto, CA, 1998. *Soil Analysis Report # 98-226-041.* Re: Vos Ranch/Blk1/Wente Bros, sent to Western Farm Service, Vernalis, Ca 95385. August 18.

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Thiede, Kris. L., 1992. "Design and engineering for PGT-PG&E expansion project," in *Pipe Line Industry*®, Gulf Publishing Co., Houston, TX. April.

U.S. Department of Agriculture, 1943. *Soil Survey of the Tracy Area, California.* Series 1938, No. 5. December.

U.S. Department of Energy, Western Area Power Administration, 1987. Tract Plats and Legal Descriptions, Tracts 103ET and 103EA, Lawrence Livermore Lab – Tracy Transmission Line.

U.S. Geological Survey, 1978. *Clifton Court Forebay Quadrangle, California, 7.5-Minute Series (Topographic).*

_____, 1953 (photorevised 1968). *Byron Hot Springs, California Quadrangle, California, 7.5-Minute Series (Topographic).*

Interviewees:

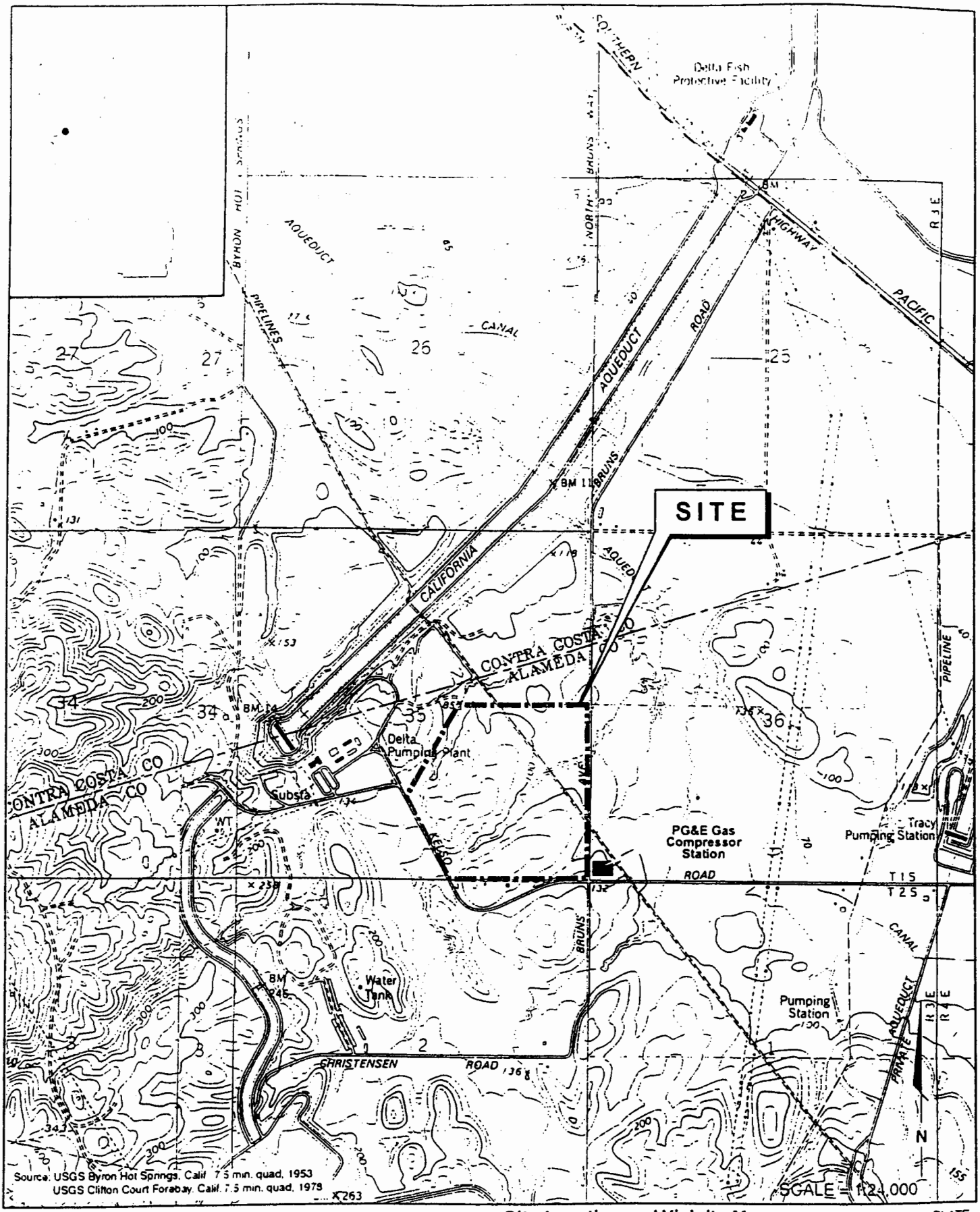
Mark Allaback, wildlife biologist, Biosearch Wildlife Surveys, P.O. Box 8043, Santa Cruz, California 95061. (831) 662-3938.

Ross Kilpatrick, Jr., District Foreman, Northern Gas System Maintenance, PG&E, Tracy District, P.O. Box 270, Tracy CA 95376. (209) 835-1983.

Linda Phillips Silvera, Realtor-Associate/Notary Public, Prudential California Realty, 248 Oak Street, Brentwood, CA 94513. (925) 634-3200.

Carol Witham, botanist and vernal pool specialist. Contractor and subcontractor (through Prunuske-Chatham, Inc., Occidental, CA) to PG&E. (530) 753-5872.

PLATE



Source: USGS Byron Hot Springs, Calif. 7.5 min. quad, 1953
USGS Clifton Court Forebay, Calif. 7.5 min. quad, 1978

Harding Lawson Associates
Engineering and Environmental Services

Site Location and Vicinity Map
Phase I Environmental Site Assessment
Burrowing Owl Mitigation Property
Alameda County, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
DJP	47442 1		7/99	

Appendix A

APPENDIX A

SITE-SPECIFIC INFORMATION

TRANSMISSION LINES

PGT–PG&E Pipeline Expansion Project

45 Fremont Street
San Francisco, CA 94105
PO Box 193965
San Francisco, CA 94119-3965
FAX (415) 768-0358

September 11, 1990

Mr. Selwyn D. Vos
1118 Dainty Avenue
Brentwood, CA 94513

RE: CA-1130
APN: 009B-7010-002

Dear Mr. Vos:

In response to your phone call of August 30, 1990, I have been able to gather some information on the PG&E electric line that crosses your parcel.

The line was constructed by The Standard Electric Company, a predecessor in interest to PG&E, sometime between 1899 and 1919.

PG&E's earliest records of the line indicate that it was operating at 60kv in 1919.

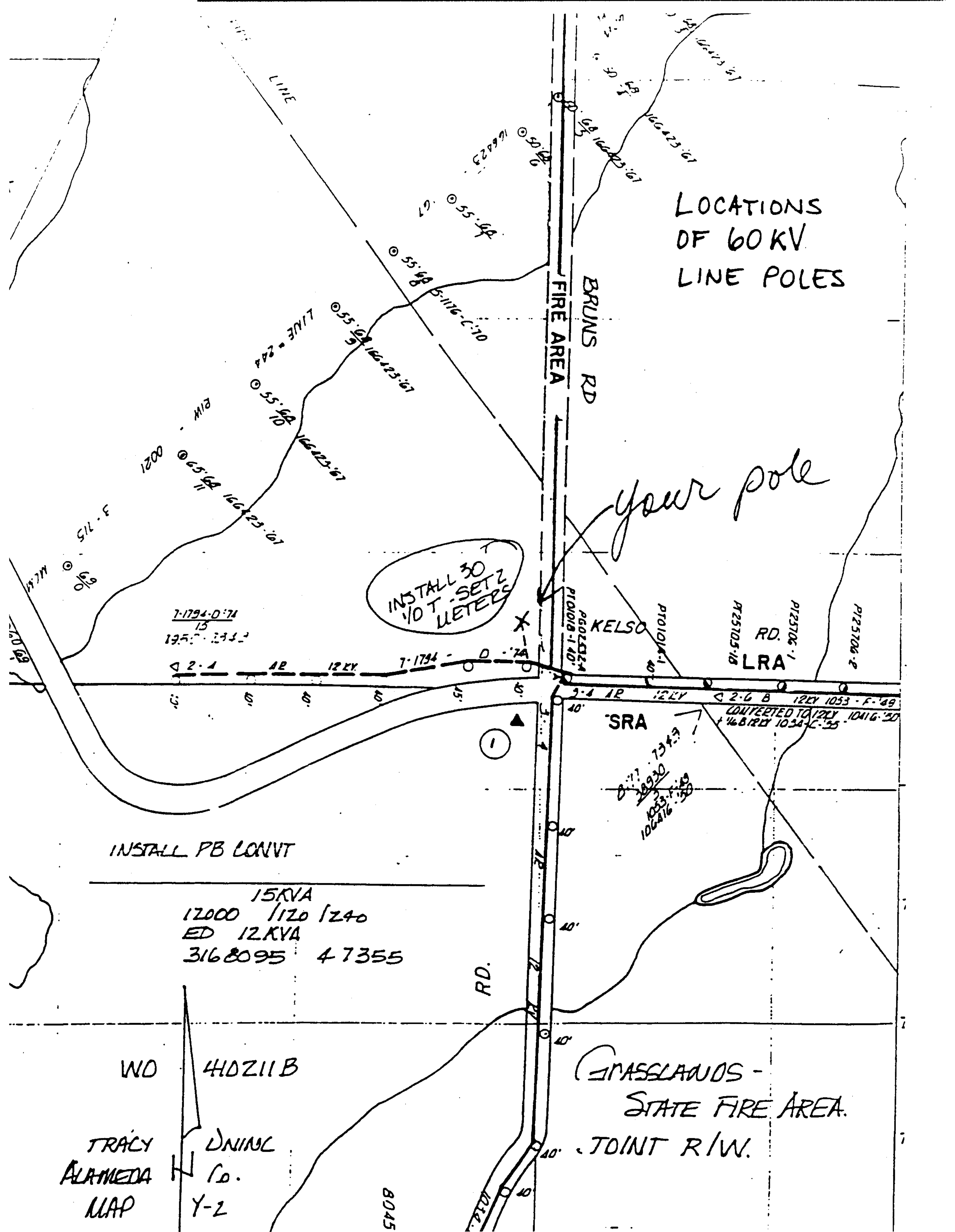
Personnel from the San Joaquin Region Electric Transmission Department who are responsible for the operation of the line assured me that the line is currently operating at 60kv. Further that the reasons for changing out the insulators was for increased safety and to take advantage of the latest technology in insulator technology.

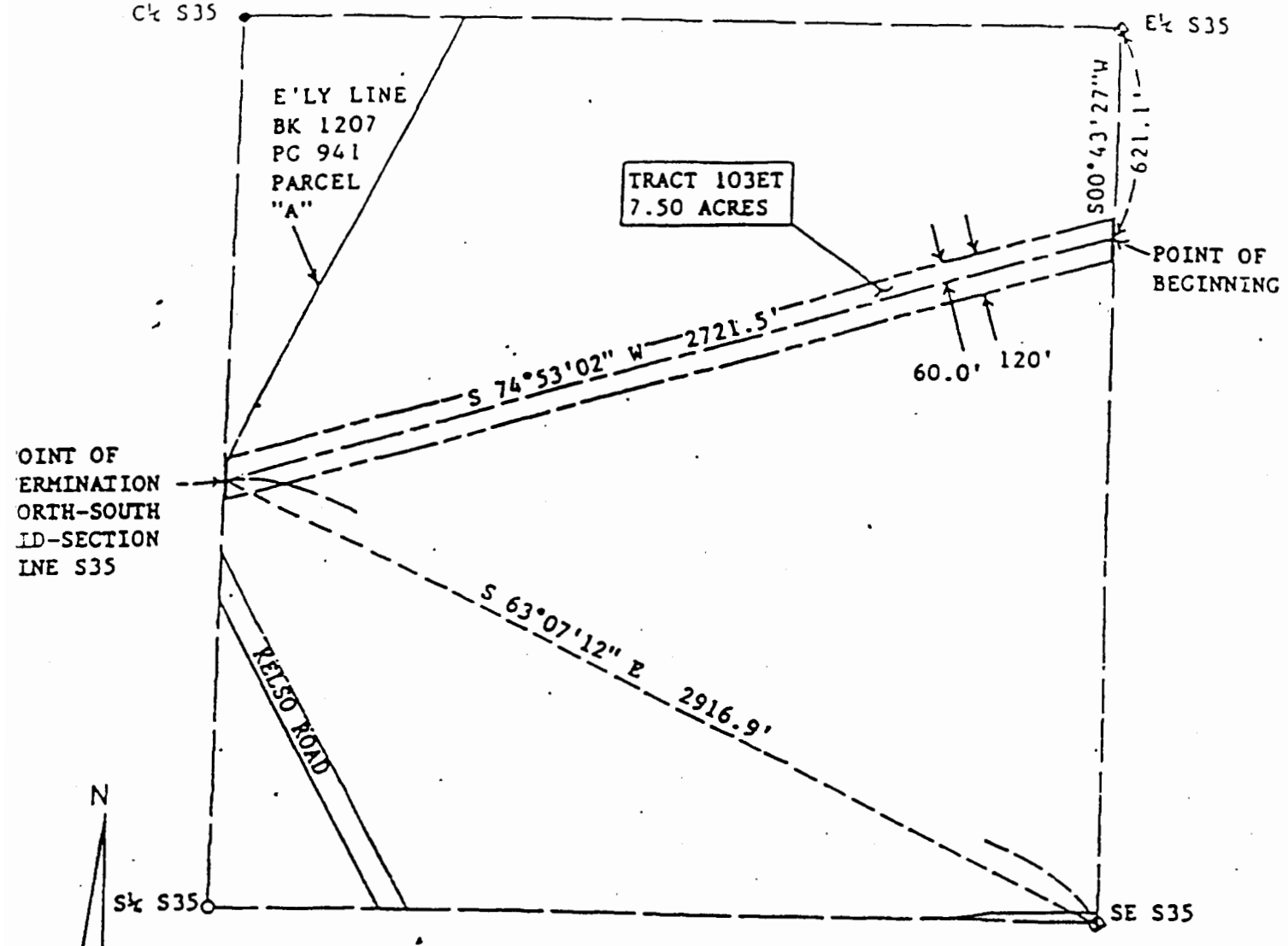
If we can provide additional information or answer any additional questions, please do not hesitate to call either myself or Jim Armstrong in Antioch at (415) 779-7355.

Sincerely,

J. P. HIRKO
Acquisition Supervisor

JPH:ce


LOCATIONS OF 60KV LINE POLES
FIRE AREA
BRUNS RD
your pole
INSTALL 30 1/0 T-SET 2 METERS
KELSO RD.
LRA
SRA
INSTALL PB CONVT
15KVA
12000 /120 /240
ED 12KVA
3168095 47355
RD.
WO 4D211B
GRASSLANDS - STATE FIRE AREA.
JOINT R/W.
TRACY ALAMEDA MAP
UNINC CO.
Y-2
8045



LEGEND

- ◆ SECTION OR FRACTIONAL CORNER
- ○ MONUMENT
- ● CALCULATED CORNER
- ——— SECTION LINE
- ——— OWNERSHIP LINE
- — — — TRANSMISSION LINE CENTERLINE
- — — — TRANSMISSION LINE RIGHT-OF-WAY

0 250 500 1000

SCALE OF FEET

COMPILED FROM RECORD DATA
EARINGS USED HEREIN ARE REFERENCED TO THE
ALIFORNIA STATE SYSTEM OF PLANE COORDINATES.
ONE 3. DISTANCES ARE SHOWN AS GROUND
ISTANCE. GROUND DISTANCE MULTIPLIED BY
.99990831 EQUALS GRID DISTANCE.

ART OF THE SE¼ OF SECTION 35, T1S, R3E, MOUNT DIABLO
ERIDIAN, ALAMEDA COUNTY, CALIFORNIA.

SCHEDULE C, PLAN

UNITED STATES DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
HEADQUARTERS - GOLDEN COLORADO

LAWRENCE LIV. LAB- TRACY
TRANSMISSION LINE

TRACT PLAT
TRACT NO. 103ET

DESIGNED		RECOMMENDED	
DRAWN	DKD	APPROVED	
CHECKED		PAGE	OF

5-MAY-87	LLL-TRY	103ET

SCHEDULE B, ATTACHMENT 2

FACILITY: LLL-TRY
TRACT: 103ET

LEGAL DESCRIPTION

WESTERN AREA POWER ADMINISTRATION
LAWRENCE LIVERMORE LAB - TRACY TRANSMISSION LINE

A strip of land 120.0 feet wide, being part of the southeast one-quarter (SE1/4) of Section Thirty-five (35), Township One (1) South, Range Three (3) East of the Mt. Diablo Meridian, County of Alameda, State of California, said strip lying 60.0 feet on each side of the following described centerline:

Commencing at the east one-quarter (E1/4) corner of said Section 35; thence along the east line of said section 35, South 00°43'27" West, 621.1 feet to the intersection of said east line with said centerline, the Point of Beginning;

Thence South 74°53'02" West, 2721.5 feet to a point on the north-south mid-section line of said Section 35, the Point of Termination, from which the southeast corner of said Section 35 bears South 63°07'12" East, 2916.9 feet.

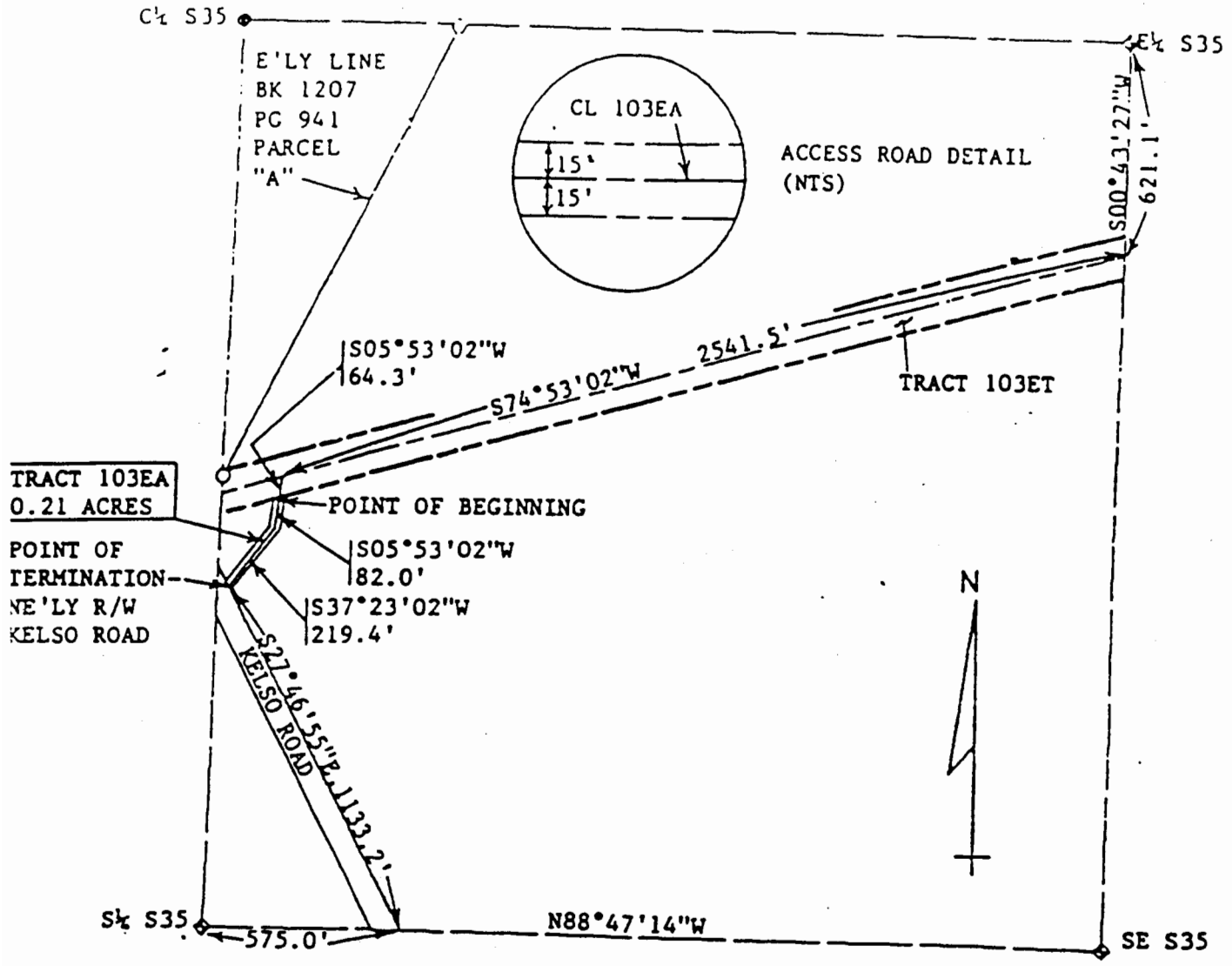
The sidelines of said parcel are shortened or lengthened to intersect the said east line and said north-south mid-section line of said Section 35 and/or the easterly line of that parcel of land described as Parcel A in Book 1207 Page 941, et seq. of the official records of said Alameda County.

Containing 7.50 acres, more or less.

Bearings are referenced to the California State System of Plane Coordinates, Zone 3. Distances are shown as ground distance. Prepared from photogrammetric data, field surveys, and record data.

Checked as to engineering data:

By: Harry S. Pierce Title: Realty Specialist Date: 9/22/97



LEGEND

- ◆ SECTION OR FRACTIONAL CORNER
- O MONUMENT
- ● CALCULATED CORNER
- ——— SECTION LINE
- ——— OWNERSHIP LINE
- — — — TRANSMISSION LINE CENTERLINE
- ——— TRANSMISSION LINE RIGHT-OF-WAY

0 250 500 1000

SCALE OF FEET

:ARINGS USED HEREIN ARE REFERENCED TO THE
ILIFORNIA STATE SYSTEM OF PLANE COORDINATES
INE 3. DISTANCES ARE SHOWN AS GROUND
STANCE. GROUND DISTANCE MULTIPLIED BY
99990831 EQUALS GRID DISTANCE.

PORTION OF THE SE¼ OF SECTION 35, T1S, R3E, MOUNT
ABLO MERIDIAN, ALAMEDA COUNTY, CALIFORNIA.

CHEDULE C, PLAN

UNITED STATES DEPARTMENT OF ENERGY
WESTERN AREA POWER ADMINISTRATION
HEADQUARTERS - GOLDEN COLORADO

LAWRENCE LIV.LAB- TRACY
TRANSMISSION LINE

TRACT PLAT
TRACT NO. 103EA

DESIGNED _____ RECOMMENDED _____
DRAWN DKD APPROVED _____
CHECKED _____ PAGE OF

29-DEC-87 | LLL-TRY | 103EA

SCHEDULE B, ATTACHMENT 2

FACILITY: LLL-TRY
TRACT: 103EA

LEGAL DESCRIPTION

WESTERN AREA POWER ADMINISTRATION
LAWRENCE LIVERMORE LAB - TRACY ACCESS ROAD

A strip of land 30.0 feet wide, being part of the southeast one-quarter (SE1/4) of Section Thirty-five (35), Township One (1) South, Range Three (3) East of the Mt. Diablo Meridian, County of Alameda, State of California, said strip lying 15.0 feet on each side of the following described centerline:

Commencing at the east one-quarter (E1/4) corner of said Section 35; thence along the east line of said section, South 00°43'27" West, 621.1 feet to the intersection of said east line with the centerline of Tract 103ET, as said tract is to be recorded in the official records of said Alameda County; thence South 74°53'02" West along said centerline of Tract 103ET, 2541.5 feet; thence South 05°53'02" West, 64.3 feet to the southerly right-of-way line of said Tract 103ET, the Point of Beginning;

Thence continuing South 05°53'02" West, 82.0 feet;
Thence South 37°23'02" West, 219.4 feet to the northeasterly right-of-way line of Kelso Road, the Point of Termination.

Thence South 27°46'55" East along said northeasterly right-of-way line of Kelso Raod, 1133.2 feet to the south line of said Section 35; thence North 88°47'14" West along said south line, 575.0 feet to the south one-quarter (S1/4) corner of said Section 35.

The sidelines of said parcel are shortened or lengthened to intersect at angle points, said southerly right-of-way line of said Tract 103ET, and said northeasterly right-of-way line of Kelso Road.

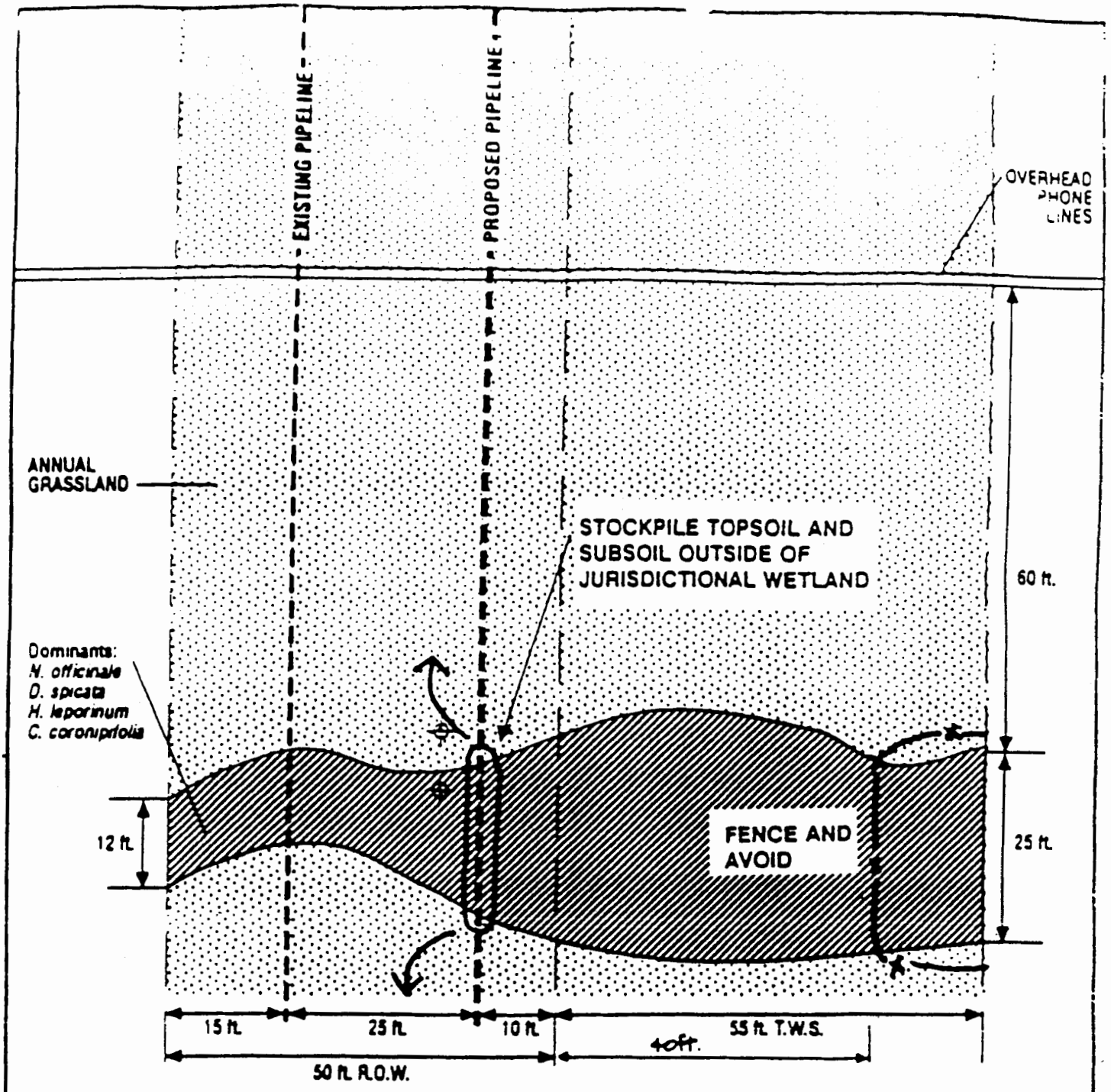
Containing 0.21 acres, more or less.

Bearings are referenced to the California State System of Plane Coordinates, Zone 3. Distances are shown as ground distance. Prepared from photogrammetric data, field surveys, and record data.

Checked as to engineering data:

By: Harry A. Price Title: Realty Specialist Date: 12/30/87

WETLANDS



PGT-PG&E PIPELINE EXPANSION PROJECT
WETLAND DELINEATION MAP

SITE Cal 62/Creek north of Bethany Reservoir

STATE NO. CAL-202

MILEPOST 317.2

PARCEL 1130 V(1)

0 20' 40'

SCALE: 1" = 20'

Legend

Jurisdictional wetland

Soil sample

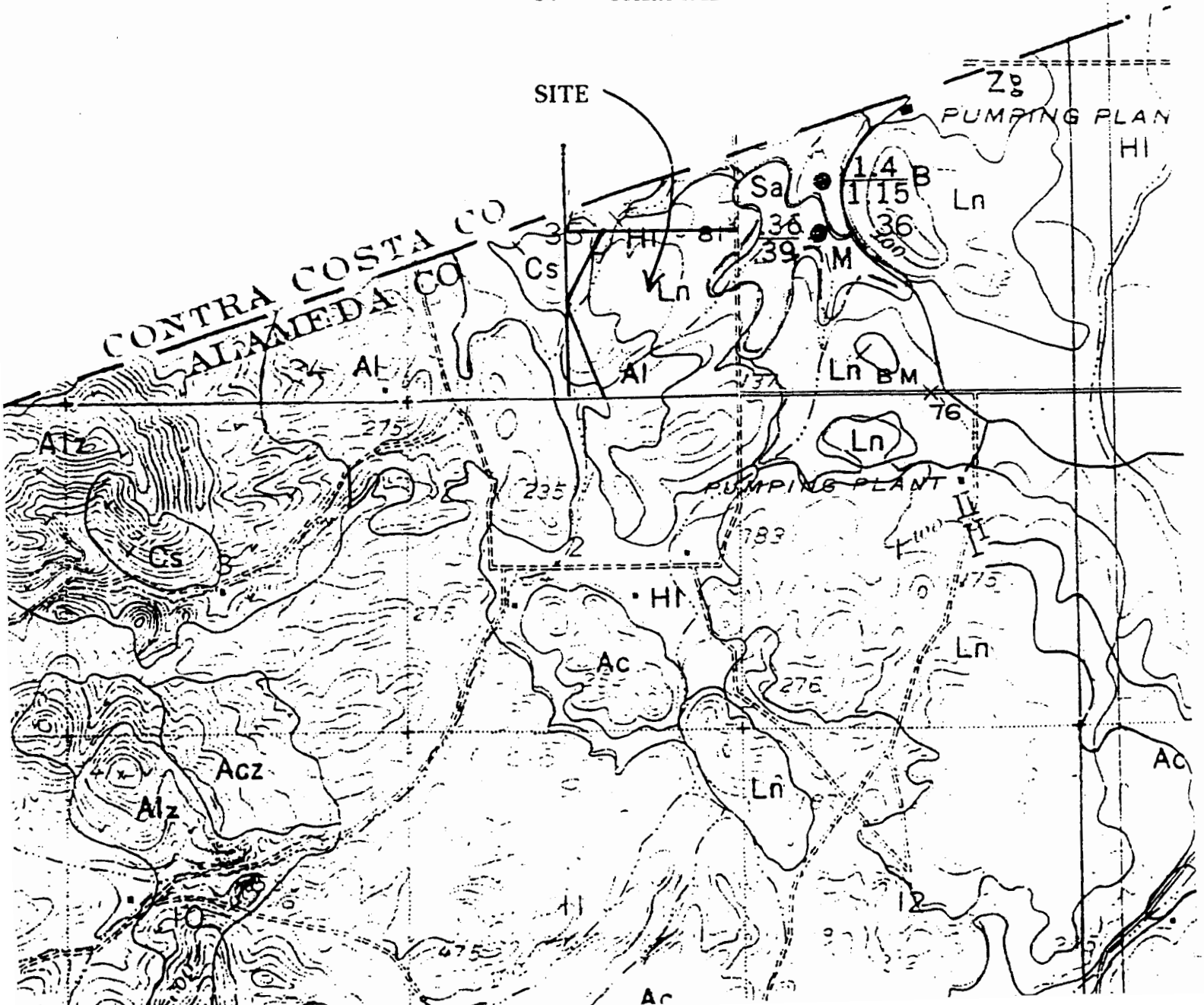
REV. 8/1/91

SOIL SURVEY INFORMATION

(from USDA, 1943, *Soil Survey of the Tracy Area, California*)

KEY:

Al	Altamont clay loam
HI	Herdlyn loam
Ln	Linne adobe clay
Sa	Solano loam



Altamont clay loam.—The surface soil of this type is olive-brown or brownish-gray noncalcareous clay loam that breaks up cloddy when dry. The clods crumble readily to a granular condition, and, unless puddled by working at excessive moisture content, the surface soil [illegible] At a depth ranging from a few inches to almost 2 feet, the subsoil, of somewhat lighter color and slightly heavier texture, is reached. The subsoil is generally calcareous and many of the rock fragments within the layer are coated with lime. The material breaks into rather soft clods and is easily penetrated by roots and moisture. This layer is underlain by brown or yellowish-brown sandstone or shale bedrock, which is soft in the upper part and may have a little segregated lime in the cracks, although the bedrock proper in most places is noncalcareous. Bedrock occurs at a depth ranging from a few inches to as much as 5 feet and in a few spots rock outcrops occur.

This soil occupies rolling or hilly land and, although fairly resistant to erosion, it is more erosive than the heavier textured Altamont adobe clay.

Altamont clay loam is not extensive and is used mostly for range pasture. It supports a fairly heavy grass cover that has a very good carrying capacity for livestock. Some small areas are used for dry-farmed grain and grain hay. The yields are extremely variable and depend mainly on the seasonal rainfall. In years of favorable rainfall, yields and quality of grain and grain hay are good.

USDA, Soil Survey of the Tracy Area, p.24

Herdlyn loam.—The surface soil of Herdlyn loam, to a depth ranging from 8 to 12 inches, is pale-brown or light yellowish-brown noncalcareous cloddy loam with a slight red tinge on the surface of moist fields. It bakes on drying, and the surface crust becomes very hard. The upper part of the subsoil, to a depth ranging from 15 to 24 inches, is medium-brown, dark-brown, or chocolate-brown noncalcareous cloddy clay with a fairly well defined prismatic structure. The prism-shaped clods are 4 to 6 inches in diameter at the base and 6 to 8 inches in length. They are very hard when dry and are tough and plastic when moist. Some colloidal stains coat the faces of the aggregates. Fine grass roots are numerous and do not have a tendency to concentrate along the breakage planes but are about evenly distributed throughout. This layer rests rather abruptly on a light-brown compact calcareous clay layer with a somewhat blocky structure. The aggregates here are much smaller but are more compact and more heavily coated with colloidal stains. Some segregated lime is present in this layer, the lower part of which does not have quite so well defined structural units but has more segregated lime and gypsum and a few dark shiny streaks of manganese. At a depth ranging from 36 to 60 inches this layer grades into the substratum of lighter colored and somewhat lighter textured material composed of rather stratified calcareous sediments.

USDA, Soil Survey of the Tracy Area, pp. 49-50

This soil occupies old alluvial fans with well-entrenched drainageways. The slope in few places is more than 2 percent, but small mounds and depressions give the land a mild hog-wallow microrelief. No new alluvial material is being deposited on this soil, and erosion is very slight.

Drainage through this soil is somewhat retarded, yet it is not so poor as to have caused mottling in the soil mass. The soil is normally free from salts. Because of its heavy claypan subsoil, this soil is not very well suited to irrigation, but it may be used with fair success for dry-farmed grain. It supports a good stand of native grasses and can well be used for range pasture.

Linne adobe clay.—The surface soil of this type is dark brownish-gray calcareous clay with a characteristic blocky structure. It is very dark when wet but dries to a distinctly lighter gray color. It cracks into large adobe blocks that develop numerous secondary cracks breaking the material down to a fine-granular structure (pl. 2, *B*).

The subsoil lies at a depth ranging from 8 to 26 inches below the surface. It is lighter colored and is slightly more compact than the surface soil. It is strongly calcareous, in many places containing considerable segregated lime. The material in this layer is also very friable and breaks into clods that are easily crumbled.

The upper part of the bedrock lies at a depth ranging from 12 to 60 inches, is generally soft, and has considerable segregated lime along the seams and cracks, although the bedrock proper is noncalcareous. Just west of Patterson Pass in a small body of this soil many large oystershells are found on the surface and throughout the soil.

This soil contains a fair or moderate amount of organic matter and has a high water-holding capacity. Drainage is good, and, although the soil is resistant to erosion, it seems to erode a little more readily than Altamont adobe clay under similar conditions.

Linne adobe clay is used for range pasture and dry-farmed grain and grain hay (pl. 3, *A*). The yields and quality of the crops are fairly high. Slopes of 35 percent or slightly more are being cultivated with fair success without excessive erosion, although in a few areas slopes of 35 to 40 percent are eroding rather badly. Some areas along the contact between this soil and the soils of the Vallecitos series south of Corral Hollow Creek are severely gullied. The gullies have been developed in localities where the bedrock has been shattered and weakened as a result of faulting.

USDA, Soil Survey of the Tracy Area, p.28

Solano loam.—The surface soil is pale brown or light brownish-gray noncalcareous loam. It breaks into clods that may be worked down rather readily. The upper subsoil layer, occurring at a depth ranging from 6 to 18 inches, is grayish-brown heavy clay loam or clay with a faintly developed columnar structure. The columns are short and slightly rounded on the top. Roots are strongly concentrated along the cracks between the soil aggregates, which are coated with colloidal stains. The lower part of this layer does not have so definite a structure and is slightly calcareous. This passes, at a depth ranging from 18 to 30 inches, into yellowish-brown somewhat compact calcareous clay. Wherever this soil was observed this layer was moist and the structural units were very indefinite, although colloidal stains were numerous. If allowed to dry out, the material in this layer would probably break into a block structure. Segregated lime and gypsum occur throughout this layer, also a few lenses of calcareous hardpan. Very few roots extend down into this layer. The lower subsoil layer, at a depth ranging from 26 to 48 inches, is calcareous light grayish-brown or yellowish-brown clay or clay loam that is less compact than the material in the layer above and appears to be structureless. Segregated lime and some gypsum occur throughout, and a few hardpan-like lenses similar to those in the layer above are present. This layer grades into a light yellowish-brown calcareous layer of stratified variably textured sediments generally of lighter texture than those in the layers above.

USDA, Soil Survey of the TrACY Area, pp.54-55

Solano loam occurs on the lower parts of alluvial fans, but the streamways are sufficiently entrenched so that no fresh alluvial material is being deposited. The surface generally is comparatively flat, with hog-wallow microrelief. Both sheet and gully erosion are evident, and in most places this soil is high in accumulated salts. The land is used only for pasture, and its principal cover is saltgrass together with some greasewood and other salt-tolerant plants. Drainage is very poor, and the water table is high.

PRELIMINARY TITLE REPORT

PTR-3A (REV. 3-90)

FIRST AMERICAN TITLE Guaranty COMPANY

PRELIMINARY REPORT

Note:

Before the transaction contemplated by this report can be closed, the **seller** must furnish a correct **Taxpayer Identification Number** to us so that we can file an IRS Form 1099, or its equivalent, with the Internal Revenue Service. This procedure is required by Section 6045 of the Internal Revenue Code and the seller may be subject to civil or criminal penalties for failing to furnish a correct Taxpayer Identification Number.

FIRST AMERICAN

TITLE GUARANTY

ALL INQUIRIES AND **CORRESPONDENCE** REGARDING THE ESCROW PERTAINING TO THE PROPERTY COVERED BY THE ATTACHED PRELIMINARY REPORT SHOULD BE DIRECTED TO THE **ESCROW OFFICER** WHOSE NAME APPEARS IN THE UPPER RIGHT HAND CORNER OF THE FOLLOWING PAGE AND WHOSE ADDRESS AND PHONE NUMBER ARE SET FORTH BELOW:

First American Title Guaranty Company
1737 North First Street
San Jose, CA 95112

(408) 451-7826

Dated as of **May 3, 1999** at 7:30 a.m.

Title to said estate or interest at the date hereof is vested in:

SELWYN D. J. VOS and LORETTA SODERLUND VOS, husband and wife as joint tenants, and SELWYN D. J. VOS and LORETTA SODERLUND VOS, as their interests may appear

The estate or interest in the land hereinafter described or referred to covered by this Report is:

A FEE

AT THE DATE HEREOF EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS CONTAINED IN SAID POLICY FORM WOULD BE AS FOLLOWS:

1. PROPERTY TAXES, including any assessments collected with taxes, for the fiscal year 1999-2000, a lien not yet due or payable.

2. TAXES for the fiscal year 1998-1999

1st Installment	: **$1,673.21 DELINQUENT, Penalty $167.32**
2nd Installment	: **$1,673.21 DELINQUENT, Penalty $167.32, plus $10.00 cost**
Land	: **$254,152.00**
Improvements	: **$65,148.00**
Personal Property	: **$None shown**
Exemption	: **$None shown**
Assessee	: **Vos Selwyn D & Loretta S**
A. P. No.	: **099B-7010-002-09**
Code Area	: **70-000**

3. THE LIEN of supplemental taxes, if any, assessed pursuant to Chapter 3.5 commencing with Section 75 of the California Revenue and Taxation Code.

4. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Transmission line**
Granted to	: **The Standard Electric Co. of California**
Recorded	: **October 13, 1899, Book 709, Page 241, Official Records**
Affects	: **A 100 foot strip traversing through a central portion of said land**

5. RIGHTS OF THE PUBLIC over that portion of said land lying within **Bruns Avenue** as it now exists.

6. EASEMENT for the purposes stated herein and incidents thereto
Purpose : **Pipe lines and the appurtenances thereof, for the transportation of oil, petroleum, gas, water and other liquid substances or any thereof**
Granted to : **Federal Engineering Co.**
Recorded : **March 6, 1930, Book 2292, Page 410, Official Records**
Affects : **A Northwesterly portion of said land**

Said Easement was assigned by Deed and Bill of Sale to Standard Oil Company of California, a corporation, recorded June 10, 1932, Book 2842, Page 93, Official Records.

MODIFICATION thereof recorded **August 2, 1945, Book 4738, Page 341, Official Records.**

Said Easement was assigned by deed to Standard Pacific Gas Line Incorporated, a corporation, recorded September 14, 1945, Book 4761, Page 342, Official Records.

7. EASEMENT for the purposes stated herein and incidents thereto
Purpose : **Pipe line**
Granted to : **Standard Oil Company of California, a corporation**
Recorded : **September 6, 1946, Book 4962, Page 257, Official Records**
Affects : **A Northeasterly portion of said land**

8. EASEMENT for the purposes stated herein and incidents thereto
Purpose : **Drainage facility**
Granted to : **State of California**
Recorded : **May 20, 1964, Series No. AW80211, Reel 1207, Image 941, Official Records**
Affects : **A Westerly portion of said land**

Excepting and reserving to the said grantor, its successors, and assigns, all minerals, oil, gas and other hydrocarbon substances lying below a level plane located 500.00 feet below the lowest point on the surface of said property, provided however, that in no event shall the grantor, its successors, or assigns have the right to use, enter upon, or disturb either the surface of the lands herein granted, or any portion of said land which lies above a level plane located 500.00 feet below the lowest point on the surface of said lands.

9. EASEMENT for the purposes stated herein and incidents thereto
Purpose : **Drainage facility**
Granted to : **State of California**
Recorded : **May 20, 1964, Series No. AW80211, Reel 1207, Image 941, Official Records**
Affects : **A Southerly portion of said land**

Excepting and reserving to the said grantor, its successors, and assigns, all minerals, oil, gas and other hydrocarbon substances lying below a level plane located 500.00 feet below the lowest point on the surface of said property, provided however, that in no event shall the grantor, its successors, or assigns have the right to use, enter upon, or disturb either the surface of the lands herein granted, or any portion of said land which lies above a level plane located 500.00 feet below the lowest point on the surface of said lands.

10. EASEMENT for the purposes stated herein and incidents thereto

Purpose	: **Right of way for transmission of electrical energy**
Granted to	: **State of California**
Recorded	: **March 30, 1967, Series No. AZ28525, Reel 1938, Image 858, Official Records**
Affects	: **A 125 foot strip traversing through a central portion of said land**

11. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:

Purpose	: **Transmission line**
Condemned to	: **United States of America**
Recorded	: **October 23, 1990, Series No. 90-280618**, Official Records
Affects	: **A 120 foot strip traversing through a central portion of said land**

Subject to the terms and conditions as contained therein.

12. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:

Purpose	: **Access road**
Condemned to	: **United States of America**
Recorded	: **October 23, 1990, Series No. 90-280618**, Official Records
Affects	: **A portion of said land**

Subject to the terms and conditions as contained therein.

13. A Deed of Trust to secure an indebtedness in the amount shown below and any other amounts and/or obligations secured thereby

Amount	: $415,000.00
Dated	: May 14, 1993
Trustor	: Selwyn D. J. Vos and Loretta Soderlund Vos, husband and wife as joint tenants
Trustee	: The Goldworthy Corporation, a California corporation
Beneficiary	: Alf Carstens and (Doris) Carolyn Carstens as Trustees of The Carstens Family Trust U.T.D. July 11, 1990, as to an 80,000/415,000ths interest; Thomas J. Kelvie, Trustee of The Thomas J. Kelvie Trust dated September 5, 1990, as to a 60,000/415,000ths interest; John J. Sherwood, Trustee O.C.I. Pension Plan and Trust, as to a 50,000/415,000ths interest; R. B. Turner and Columbia Turner, Husband and Wife as Joint Tenants, as to a 50,000/415,000ths interest; Walter S. Rask, a single man, as to a 50,000/415,000ths interest; Bruce Yarian, a married man, as to a 25,000/415,000ths interest; Patrick Perkins, Trustee of The Ivan P. Perkins Trust U.T.D. 5/7/79, as to a 25,000/415,000ths interest; Charles Reimers, a single man, as to a 25,000/415,000ths interest; Willard H. Campbell and Catherine J. Campbell, Husband and Wife as Joint Tenants, as to a 25,000/415,000ths interest; and James L. Gayner and Eleanor A. Gayner, Trustees U.T.D. 2/4/81, as to a 25,000/415,000ths interest
Address	: c/o The Goldworthy Corp., 111 Anza Blvd. #430, Burlingame, CA 94011
Loan No.	: None shown
Recorded	: May 21, 1993, Series No. 93-175452, Official Records.

The Beneficial interest of **Patrick Perkins, Trustee of the Ivan P. Perkins Trust U.T.D. 5/7/79** thereunder has been assigned to **Thomas and Margaret Rey, Trustees of the Rey Family Revocable Trust dated 9/9/92 as to a 25,000/415,000ths interest** by instrument recorded **July 12, 1995, Series No. 95151828,** Official Records.

Address	: c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727
Loan No.	: None shown

The Beneficial interest of **John J. Sherwood, Trustee O.C.I. Pension Plan and Trust** thereunder has been assigned to **The Goldworthy Fund, LLC, a California limited liability company, as to a 50,000/415,000ths interest** by instrument recorded **August 8, 1998, Series No. 97199787,** Official Records.

Address	: c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727
Loan No.	: None shown

The Beneficial interest of **James L. Gayner, Trustee, and Eleanor A. Gayner, Trustee** thereunder has been assigned to **Hammerman Family Partnership, John M. Hammerman, General Partner, as to a 25,000/415,000ths interest** by instrument recorded **August 8, 1997, Series No. 97199788,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

The Beneficial interest of **R. B. Turner and Columbia Turner** thereunder has been assigned to **Hammerman Family Partnership, John M. Hammerman, General Partner, as to a 50,000/415,000ths interest** by instrument recorded **August 8, 1997, Series No. 97199789,** Official Records.

Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**

Loan No. : **None shown**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126888, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126889, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126890, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126891, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126892, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126893, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126894, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126895, Official Records.**

SUBSTITUTION OF TRUSTEE under said Deed of Trust
New Trustee : **Am-Cal Services, Inc., a California corporation**
Recorded : **March 24, 1999, Series No. 99126896, Official Records.**

NOTICE OF DEFAULT under the terms of said Deed of Trust
Recorded : **March 24, 1999, Series No. 99126897, Official Records.**

As additional security under said Deed of Trust, said trustors executed an **Absolute Assignment of Rents Conditioned on Default**
To : **Alf Carstens and (Doris) Carolyn Carstens as Trustees of The Carstens Family Trust U.T.D. July 11, 1990, as to an 80,000/415,000ths interest; Thomas J. Kelvie, Trustee of The Thomas J. Kelvie Trust dated September 5, 1990, as to a 60,000/415,000ths interest; John J. Sherwood, Trustee O.C.I. Pension Plan and Trust, as to a 50,000/415,000ths interest; R. B. Turner and Columbia Turner, Husband and Wife as Joint Tenants, as to a 50,000/415,000ths interest; Walter S. Rask, a single man, as to a 50,000/415,000ths interest; Bruce Yarian, a married man, as to a 25,000/415,000ths interest; Patrick Perkins, Trustee of The Ivan P. Perkins Trust U.T.D. 5/7/79, as to a 25,000/415,000ths interest; Charles Reimers, a single man, as to a 25,000/415,000ths interest; Willard H. Campbell and Catherine J. Campbell, Husband and Wife as Joint Tenants, as to a 25,000/415,000ths interest; and James L. Gayner and Eleanor A. Gayner, Trustees U.T.D. 2/4/81, as to a 25,000/415,000ths interest**
Address : **c/o The Goldworthy Corporation, P.O. Box 1727, Burlingame, CA 94011-1727**
Recorded : **May 21, 1993, Series No. 93175453, Official Records.**

14. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:
Purpose : **Gas transmission pipeline**
Condemned to : **Pacific Gas and Electric Company**
Recorded : **October 20, 1994, Series No. 94338639,,** Official Records
Affects : **A 50 foot strip of land traversing through a central portion of said land**

15. EASEMENT affecting that portion of said land and for the purposes stated herein and incidental purposes as created by the following instrument:
Purpose : **Temporary work area**
Condemned to : **Pacific Gas and Electric Company**
Recorded : **October 20, 1994, Series No. 94338639,** Official Records
Affects : **A strip of land 50 feet wide traversing through a central portion of said land**

LEGAL DESCRIPTION

REAL PROPERTY in the City of Mountain House School, County of Alameda, State of California, described as follows:

The Southeast quarter of Section 35, in Township 1 South, in Range 3 East of the Mount Diablo Base and Meridian, according to the United States Public Survey thereof.

Excepting therefrom: Those portions thereof described in the deed from Arden Hans Christensen, a single man, to State of California, dated November 8, 1963, recorded May 20, 1964, on Reel 1207, Image 941, Series No. AW-80211, Alameda County Records.

Also excepting therefrom that portion thereof described in the Deed from Arden H. Christensen to Franklin D. Beck and D'Ette G. Beck, dated January 21, 1972, recorded February 1, 1972, Series No. 72-13886, Reel 3051, Image 958, Alameda County Records.

Also excepting therefrom: All oil, gas, casinghead gasoline and other hydrocarbons and mineral substances below a point 500 feet below the surface of the land, hereinabove described together with the right to take, remove, mine, pas through and dispose of all oil, gas, casinghead gasoline and other hydrocarbons and mineral substances but without any right whatsoever to enter upon the surface of said land, as reserved in the Deed from Ida B. Hayes Christensen, a widow, recorded June 30, 1988, Series No. 88-157279.

A.P. No.: 099B-7010-002-09

*****

EXHIBIT A

1-800-345-7334

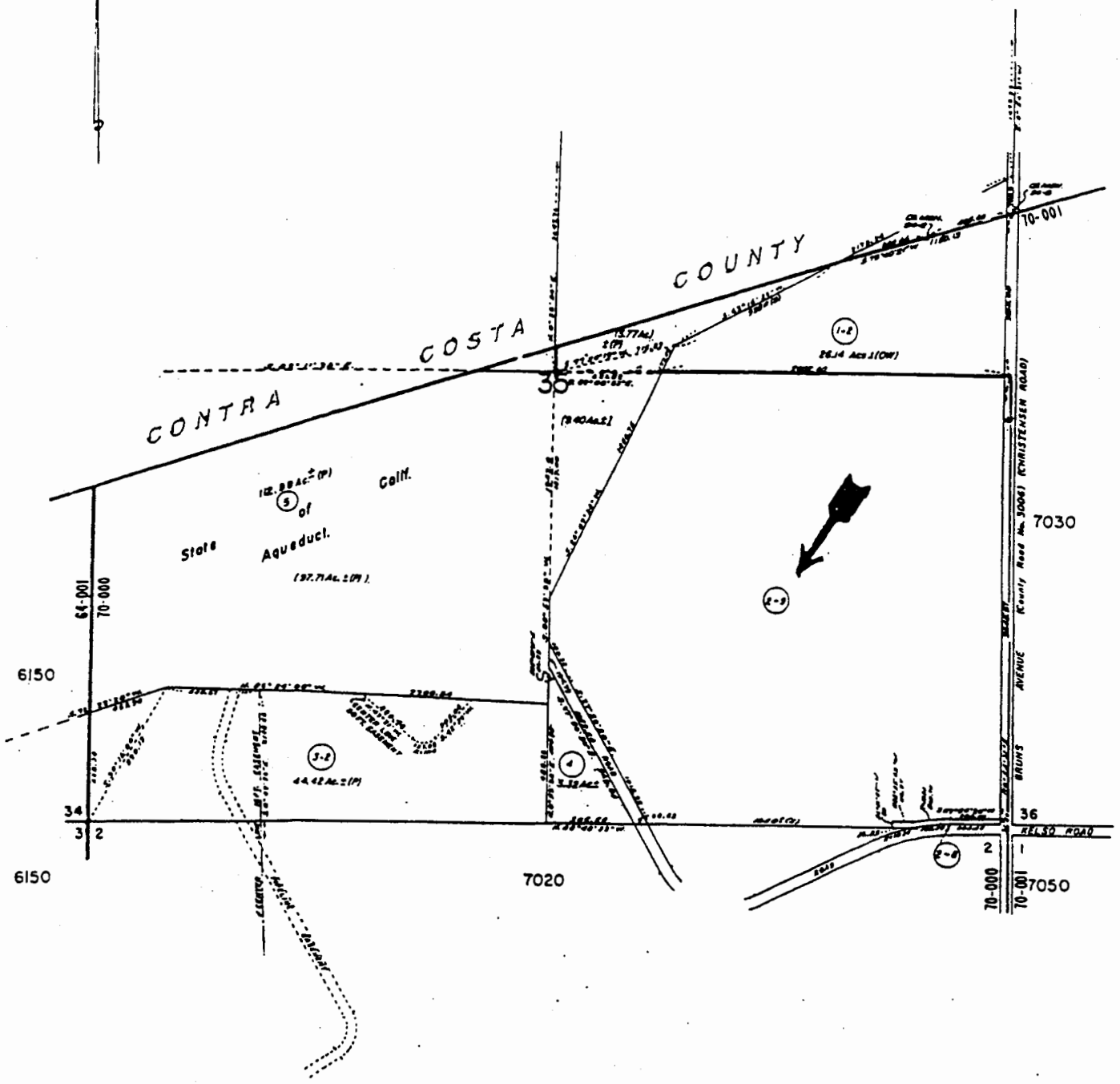
SCALE IN 1/10 OF AN INCH

Code Area Nos. 70-000 70-001

ASSESSOR'S MAP 998

7010 Scale 1" = 500'

T. 1 S., R. 3 E. (Portion Section 35)



NOTICE

THIS MAP MAY OR MAY NOT BE A SURVEY OF THE LAND DE PICTED HEREON. IT IS NOT TO BE RELIED UPON FOR ANY PURPOSE OTHER THAN ORIENTATING ONE'S SELF AS TO THE GENERAL LOCATION OF THE PARCEL OR PARCELS OF INTEREST FIRST AMERICAN TITLE COMPANY ASSUMES NO LIABILITY FOR LOSS OR DAMAGE RESULTING FROM RELIANCE THEREON

A.C.M. 50

Reference: OWNERS INFO FILE

NOTICE

Section 12413.1 of the California Insurance Code effective January 1, 1990, requires that any Title Insurance Company, underwritten Title Company, or controlled Escrow Company handling funds in an escrow or sub-escrow capacity, wait a specified number of days after depositing funds, before recording any documents in connection with the transaction or disbursing funds. This statute allows for funds deposited by wire transfer to be disbursed the same day as deposit. In the case of cashier's checks or certified checks, funds may be disbursed the next day after deposit. In order to avoid unnecessary delays of three to seven days, or more, please use wire transfer, cashier's checks, or certified checks whenever possible.

If you have any questions about the effect of this new law, please contact your local First American Office for more details.

NOTICE

In accordance with Sections 18662 and 18668 of the Revenue and Taxation Code, a buyer may be required to withhold an amount equal to three and one-third percent of the sales price in the case of the disposition of California real property interest by either:

1. A seller who is an individual with a last known street address outside of California or when the disbursement instructions authorize the proceeds be sent to a financial intermediary of the seller, OR

2. A corporate seller which has no permanent place of business in California.

The buyer may become subject to penalty for failure to withhold an amount equal to the greater of 10 percent of the amount required to be withheld or five hundred dollars ($500).

However, notwithstanding any other provision included in the California statutes referenced above, no buyer will be required to withhold any amount or be subject to penalty for failure to withhold if:

1. The sales price of the California real property conveyed does not exceed one hundred thousand dollars ($100,000), OR

2. The seller executes a written certificate, under the penalty of perjury, certifying that the seller is a resident of California, or if a corporation, has a permanent place of business in California, OR

3. The seller, who is an individual, executes a written certificate, under the penalty of perjury, that the California real property being conveyed is the seller's principal residence (as defined in Section 1034 of the Internal Revenue Code).

The seller is subject to penalty for knowingly filing a fraudulent certificate for the purpose of avoiding the withholding requirement.

The California statutes referenced above include provisions which authorize the Franchise Tax Board to grant reduced withholding and waivers from withholding on a case-by-case basis.

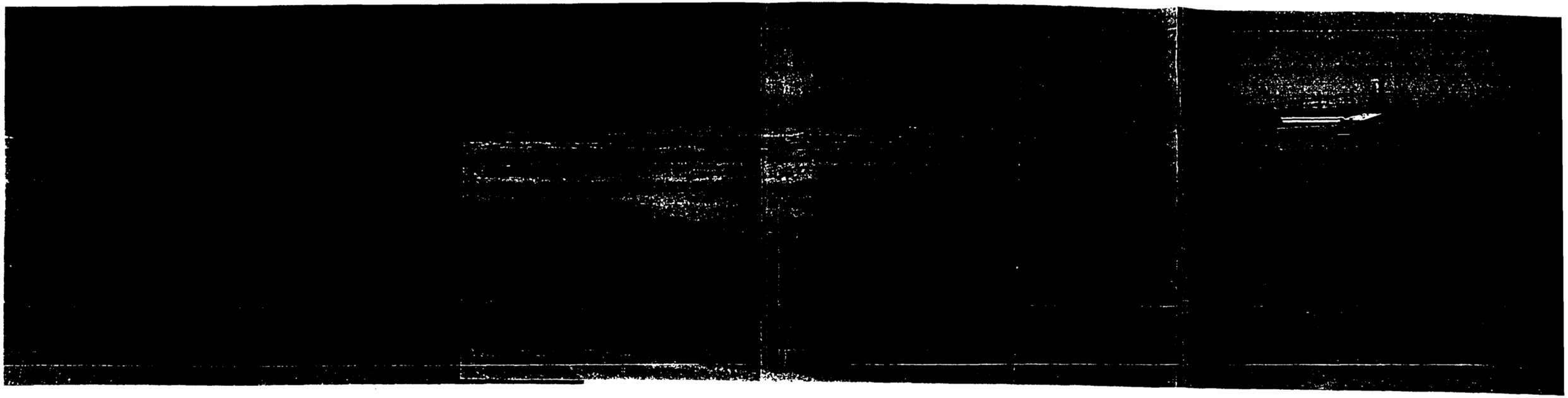
The parties to this transaction should seek an attorney's, accountant's, or other tax specialist's opinion concerning the effect of this law on this transaction and should not act on any statements made or omitted by the escrow or closing officer.

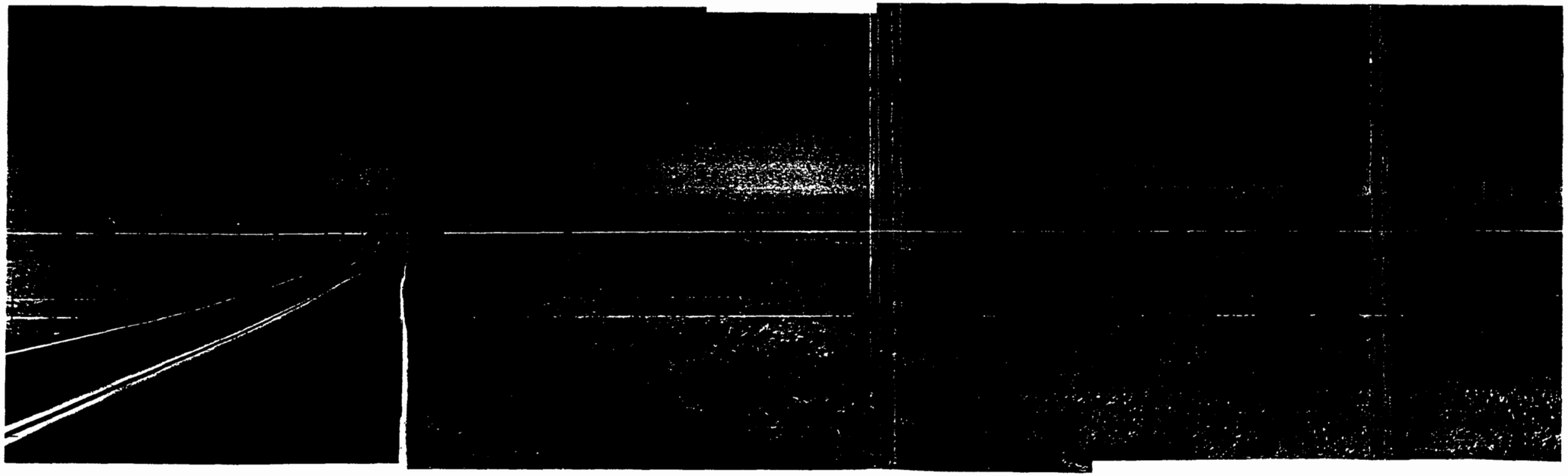
FIRST AMERICAN

TITLE GUARANTY

APPENDIX B

SITE PHOTOGRAPHS





Top: Looking east and south from center of Site Note southern creek with 26-inch pipeline at east end, PG&E natural gas compressor statio at far right, and Clifton Court Foreb at extreme left corner of photo.

Bottom: Looking south and west from northeast boundary of Site. Note compressor station to left, onsite warehouse at southeast corner of Site, residential property south of Site. 60 kV and 230 kV transmission lines.

Harding Lawson Associates
Engineering and
Environmental Services

Site and Vicinity Photographs
Phase I Environmental Site Assessment
Burrowing Owl Mitigation Property
Alameda County, California

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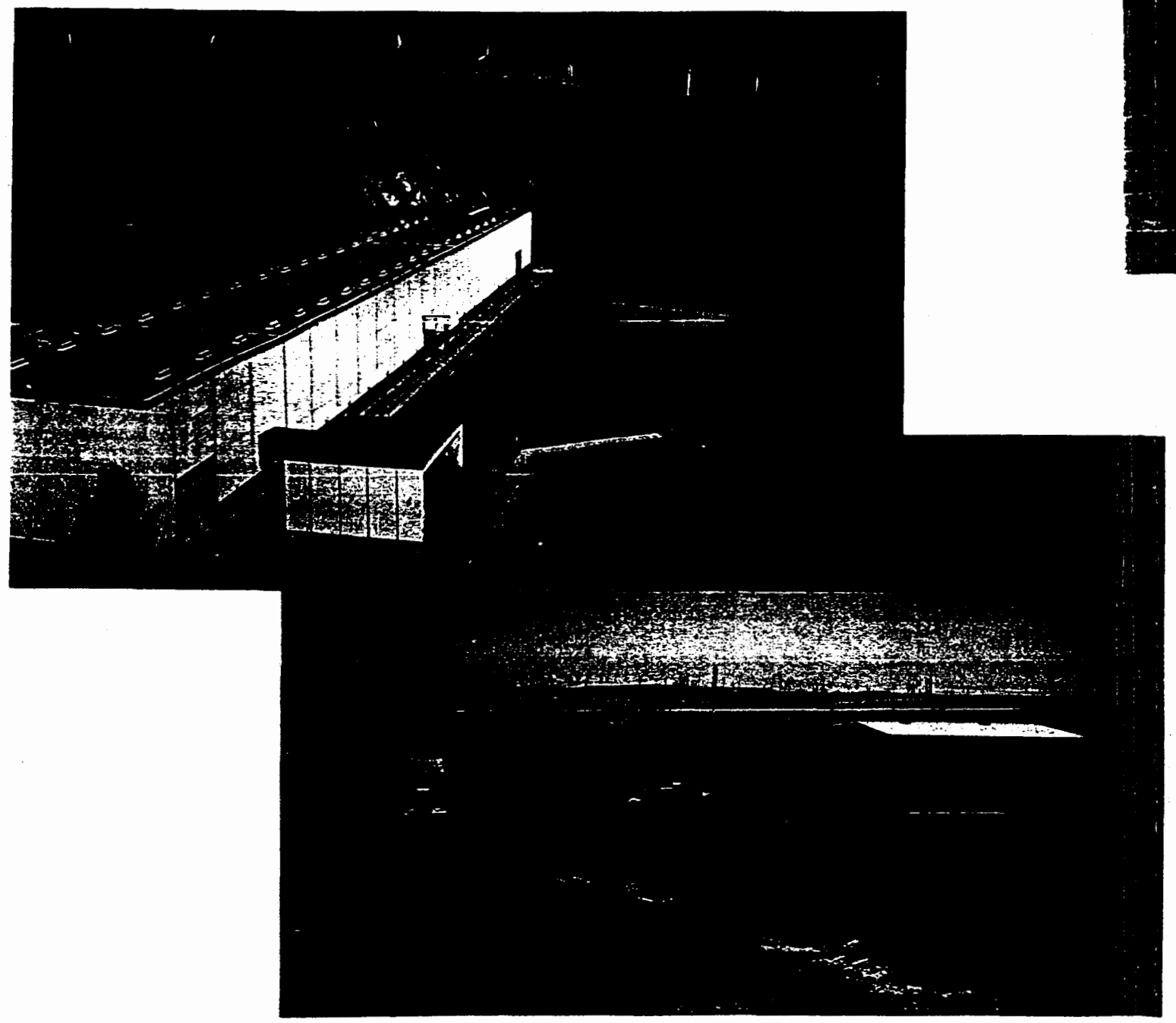
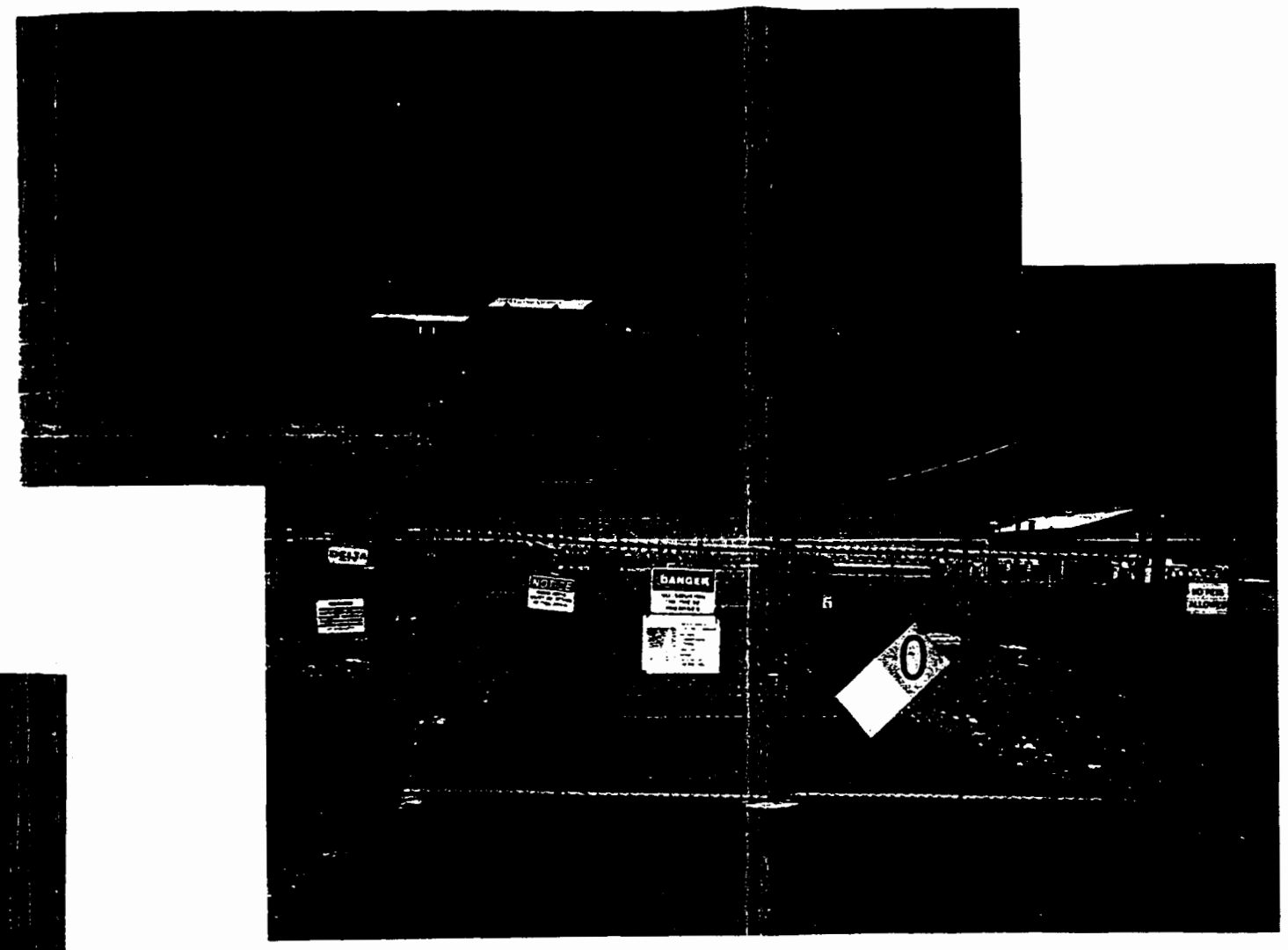
1

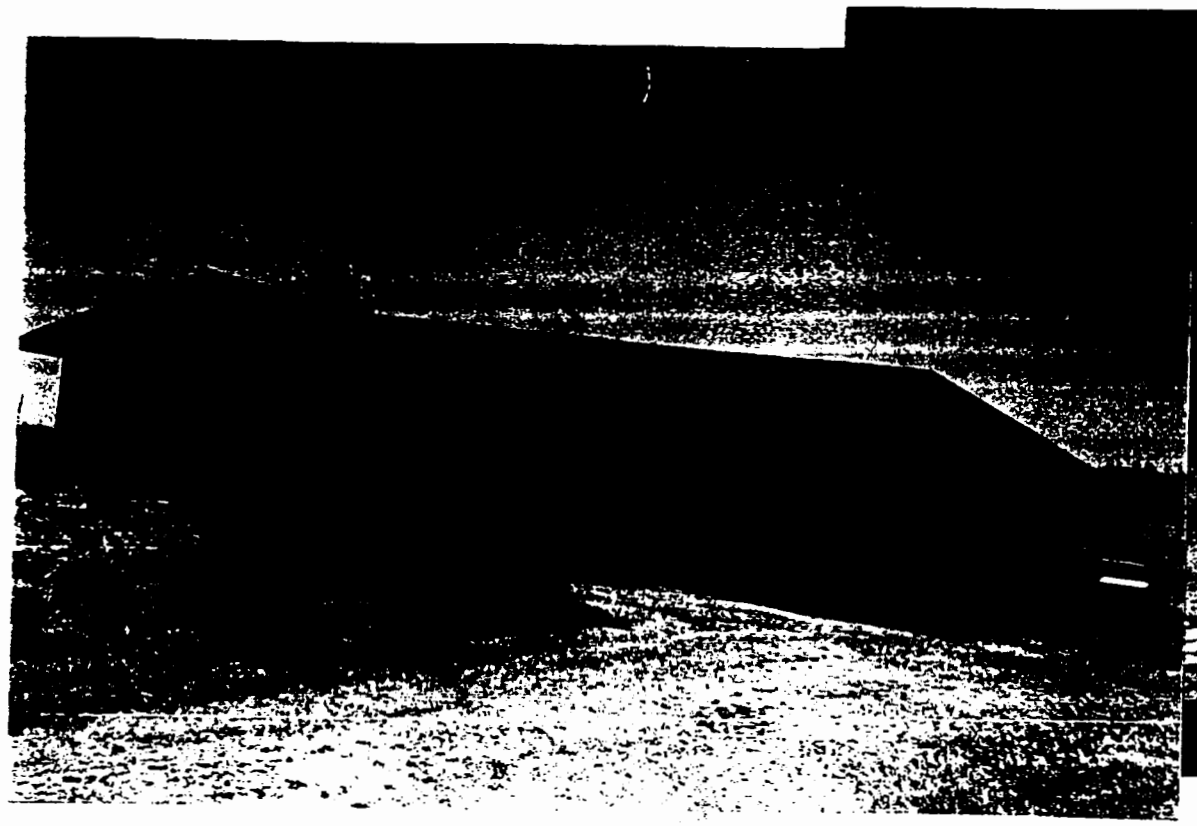
DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
GEJ	47442 1		7/99	

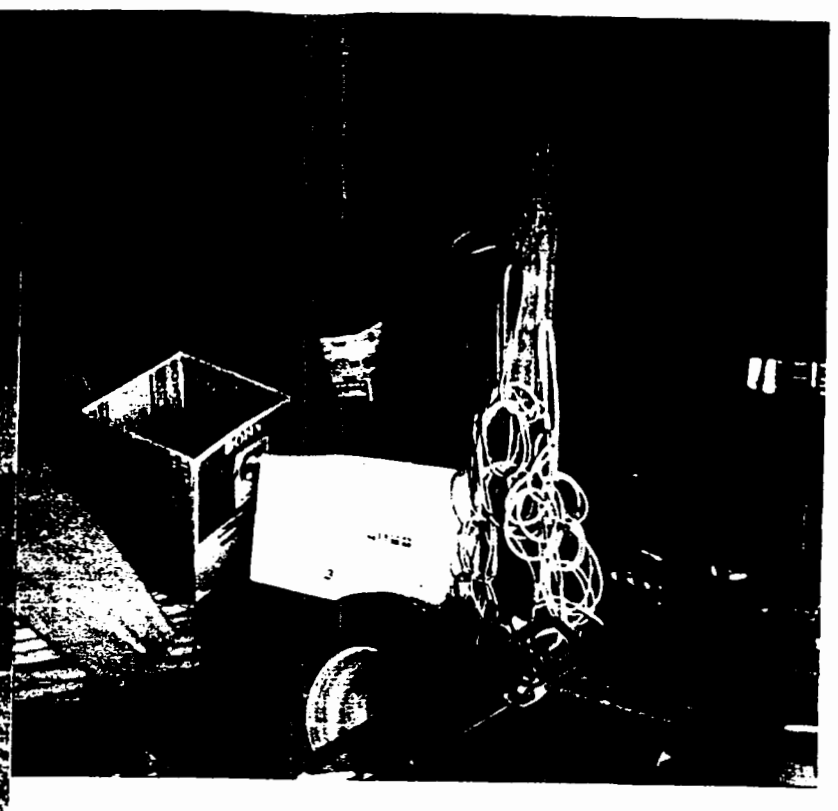




Left: Harvey O. Banks Delta Pumping Plant and "boneyard" northwest of Site.

Right: PG&E natural gas compressor station and entrance east of Site

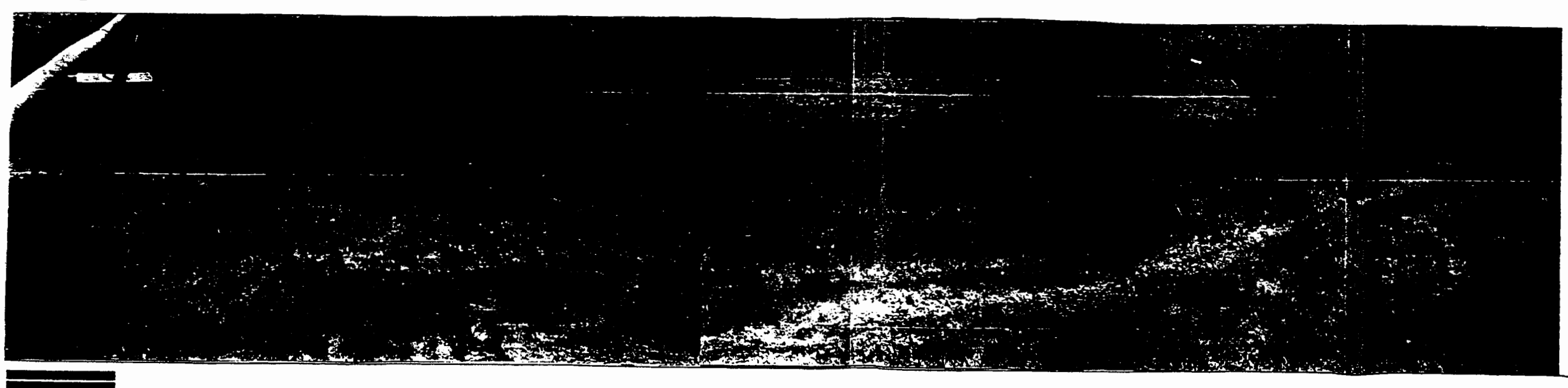




Top left: Onsite warehouse exterior and portion of interior.

Top right: Small alkali pond at southeast corner of Site. Wildlife survey indicates pond is breeding pond for tiger salamander.

Bottom: Post-construction mitigation area along southern creek. Area was monitored following construction of 42-inch PG&E natural gas pipeline. U.S. Army Corps of Engineers signed off on mitigation in October 1998.



Harding Lawson Associates
Engineering and
Environmental Services

Site and Vicinity Photographs
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DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
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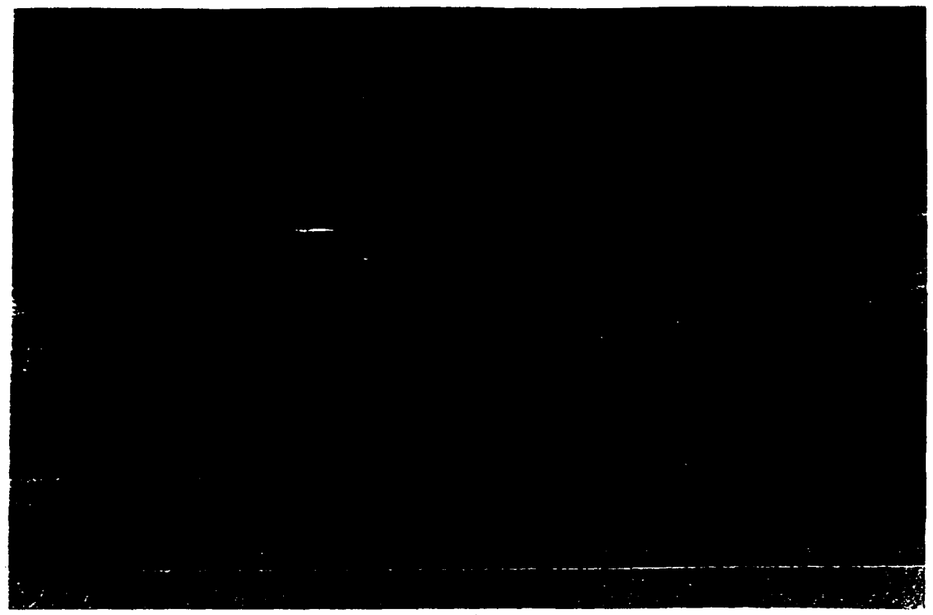
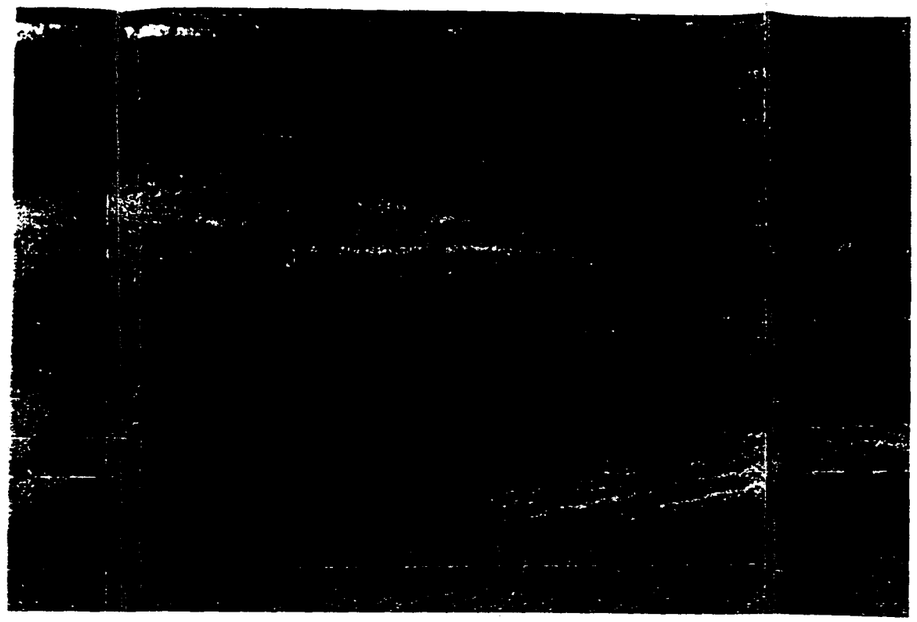


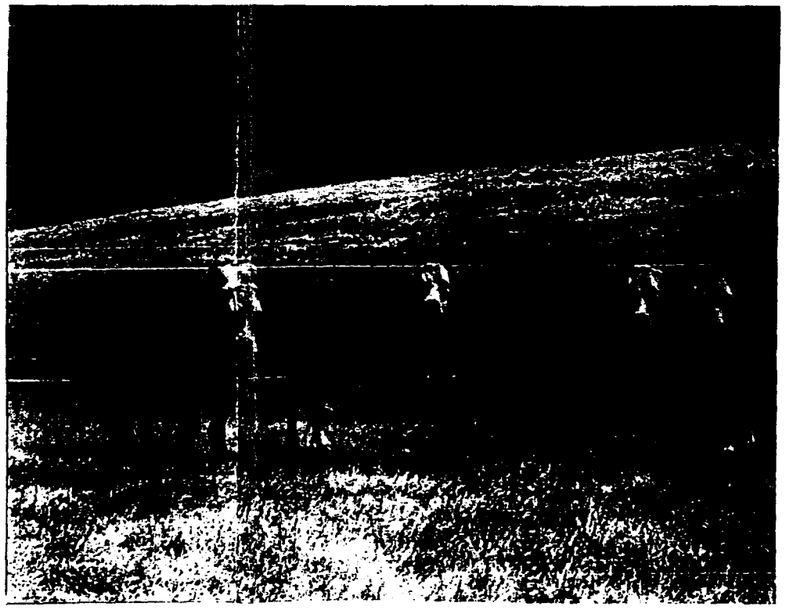


Top left: Looking northwest from center of Site. Delta Pumping Plant "boneyard" building at left center.

Top right: Looking northwest at west end of Site. Note northern creek in foreground; entrance road (Kelso Road) to Delta Pumping Plant visible in left rear of photo.

Bottom left: Looking east from western boundary of Site.

Bottom right: Cattle onsite.



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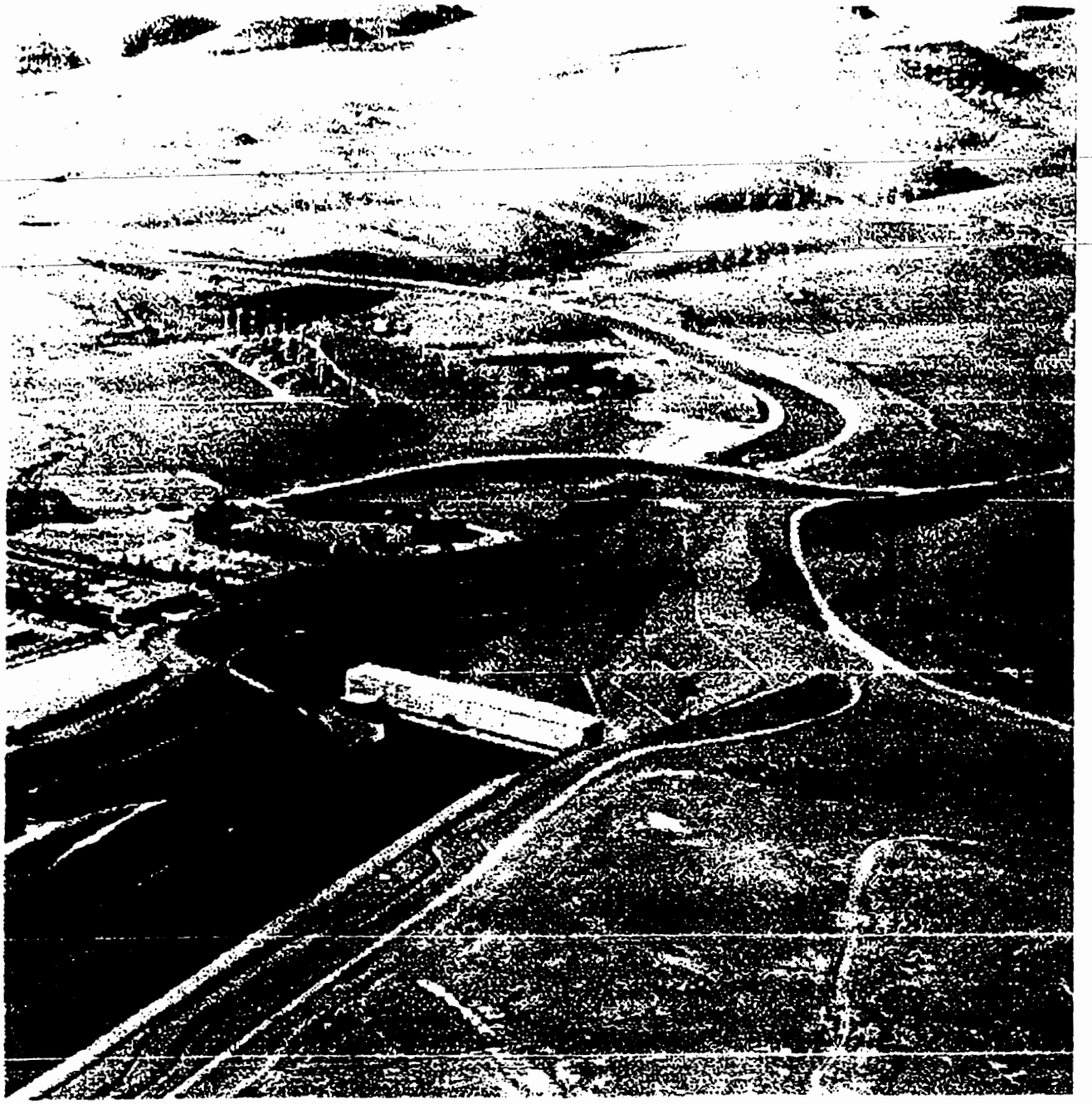


Harvey O. Banks Delta Pumping Plant
(looking southwest; Site is not visible in this photo, but would be to left of Plant)

Photo: California Department of Water Resources

APPENDIX C

ENVIRONMENTAL DATA RESOURCES, INC., REPORT

The EDR-Radius Map
with GeoCheck®

Phase I ESA
Mount Diablo Base + Meridian
Livermore, CA 94550

Inquiry Number: 0379681.1r

June 11, 1999

Environmental Data Resources, Inc.
an edr company

***The* Source For Environmental Risk Management Data**

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

MOUNT DIABLO BASE + MERIDIAN
LIVERMORE, CA 94550

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

NPL:	National Priority List
Delisted NPL:	NPL Deletions
RCRIS-TSD:	Resource Conservation and Recovery Information System
AWP:	AWP
Cal-Sites:	Cal-Sites
Notify 65:	Notify 65
CHMIRS:	California Hazardous Material Incident Report System
Cortese:	Cortese
Toxic Pits:	Toxic Pits
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP:	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS:	Corrective Action Report
SWF/LF:	State Landfill
LUST:	Leaking Underground Storage Tank Information System
UST:	Hazardous Substance Storage Container Database
Ca. FID:	CA FID
AST:	Aboveground Petroleum Storage Tank Facilities
RAATS:	RCRA Administrative Action Tracking System
WMUDS:	WMUDS/SWAT
HAZNET:	HAZNET
RCRIS-SQG:	Resource Conservation and Recovery Information System
RCRIS-LQG:	Resource Conservation and Recovery Information System
HMIRS:	Hazardous Materials Information Reporting System
PADS:	PCB Activity Database System
ERNS:	Emergency Response Notification System
FINDS:	Facility Index System/Facility Identification Initiative Program Summary Report
TRIS:	Toxic Chemical Release Inventory System
TSCA:	Toxic Substances Control Act
MLTS:	Material Licensing Tracking System
NPL Lien:	NPL Liens
CA SLIC:	CA SLIC regions.
Ca. BEP:	CA Bond Exp. Plan
ROD:	ROD
CONSENT:	Superfund (CERCLA) Consent Decrees
Ca. WDS:	CA WDS
S Bay Reg. 2:	South Bay Region 2
Coal Gas:	Former Manufactured gas (Coal Gas) Sites.
MINES:	Mines Master Index File

Unmapped (orphan) sites are not considered in the foregoing analysis.

EXECUTIVE SUMMARY

Search Results:

Search results for the subject property and the search radius, are listed below:

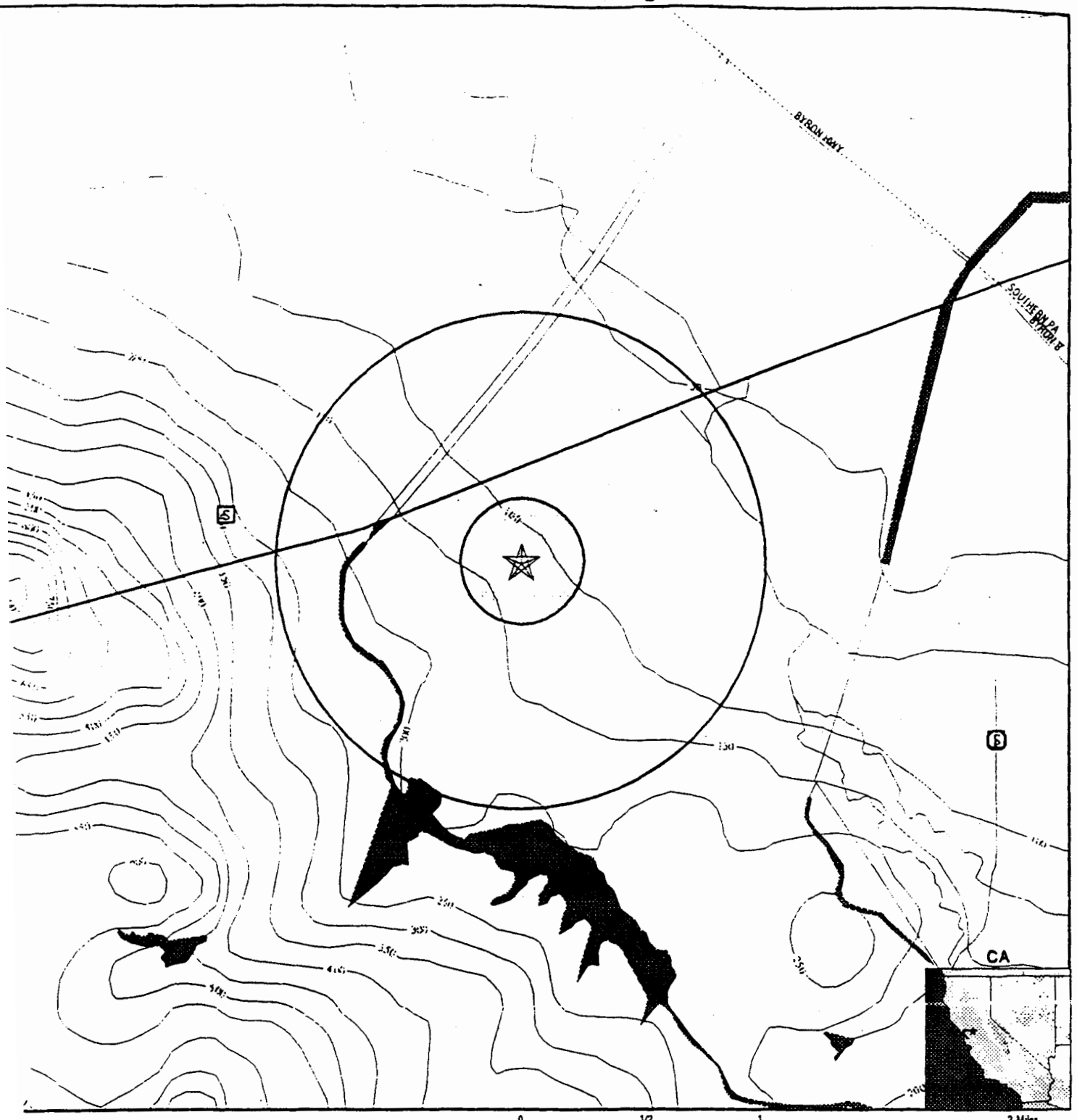
Subject Property:

The subject property was not listed in any of the databases searched by EDR.

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
BYRON SANITARY DISTRICT	CERC-NFRAP,Cal-Sites
BYRON HOT SPRINGS LANDSPREADING	SWF/LF,Ca. WDS
WINDGENERATION LLC	Ca. SL,SWF/LF
AIRPORT RANCH SLUDGE SPREADING	SWF/LF
MARCIEL RANCH LANDSPREADING	SWF/LF
BYRON BETHANY IRR. DIST.	LUST
U S BUREAU OF RECLAMATION	LUST
US BUREAU OF RECLAMATION	LUST
SAN ANTONE VALLEY RANCH CORP.	UST
TRACY PUMPING PLANT & SUBSTATION	CA SLIC



ajor Roads
ontour Lines
aterways
rthquake Fault Lines
rthquake epicenter, Richter 5 or greater
osest Federal Well in quadrant
osest State Well in quadrant
osest Public Water Supply Well

HD Closest Hydrogeological Data
● Oil, gas or related wells

ET PROPERTY:	Phase I ESA	CUSTOMER:	Harding Lawson Associates
ESS:	Mount Diablo Base + Meridian	CONTACT:	Tunstall Lang
STATE/ZIP:	Livermore CA 94550	INQUIRY #:	0379681.1r
ONG:	37.7973 / 121.6113	DATE:	June 11, 1999 7:48 pm

GEOCHECK VERSION 2.1
SUMMARY

TARGET PROPERTY COORDINATES

Latitude (North):	37.797298 - 37° 47' 50.3"
Longitude (West):	121.611298 - 121° 36' 40.7"
Universal Transverse Mercator:	Zone 10
UTM X (Meters):	622265.0
UTM Y (Meters):	4184028.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2437121-G5 CLIFTON COURT FOREBAY, CA

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	uK
Era:	Mesozoic
System:	Cretaceous
Series:	Upper Cretaceous

ROCK STRATIGRAPHIC UNIT†

Category:	Stratified Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles

MAP ID	DISTANCE FROM TP	DIRECTION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported			

General Topographic Gradient at Target Property: General NE
General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.
Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Status:	Not found

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
Northern	>2 Miles	Alluvium	Not Reported
Eastern	>2 Miles	Not Reported	Not Reported

STATE DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP
Northern	>2 Miles
Eastern	>2 Miles
Western	1 - 2 Miles

STATE OIL/GAS WELL INFORMATION

API #	DISTANCE FROM TP
NO WELLS FOUND	

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec: Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994)
‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a,Chapter 4, page 78, September 1990
** EDR AQUIFLOW™ information System of hydrogeologically determined groundwater flow directions at specific locations. See the data pages at the end of this report for a complete description.

GEOCHECK VERSION 2.1
SUMMARY

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.
NOTE: PWS System location is not always the same as well location.

PWS Name: BYRON UNION ELEMENTARY SCHOOL
BYRON UNION ELEMENTARY SCHOOL
RTE 1 BOX 4
BYRON, CA 94514

Location Relative to TP: >2 Miles North

PWS currently has or has had major violation(s) or enforcement: Yes

AREA RADON INFORMATION

EPA Radon Zone for ALAMEDA County: 2

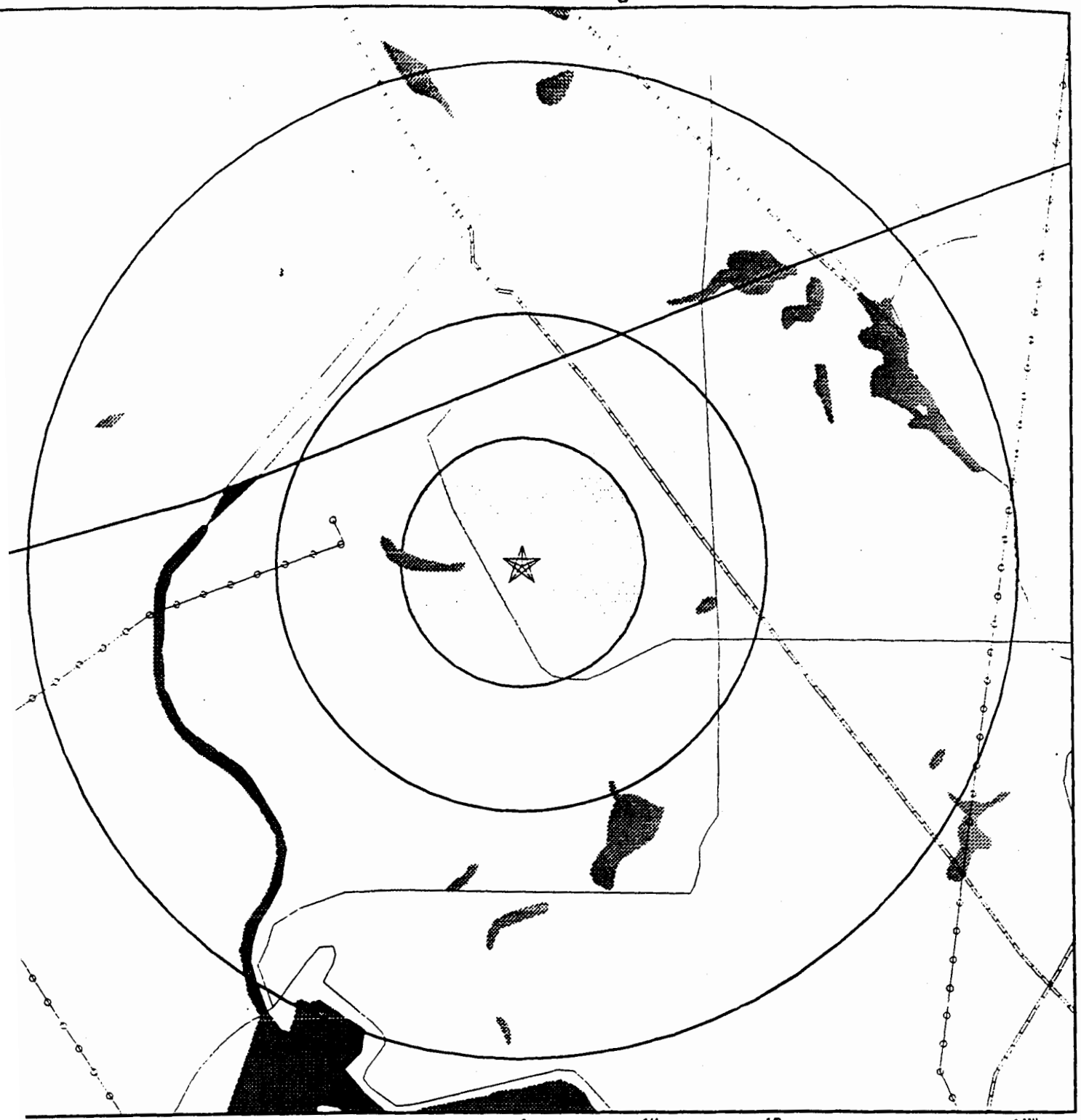
Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Zip Code: 94550

Number of sites tested: 6

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.567 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

OVERVIEW MAP - 0379681.1r - Harding Lawson Associates



arget Property

ites at elevations higher than
r equal to the target property

tes at elevations lower than
ie target property

oal Gasification Sites (if requested)

ational Priority List Sites

ndfill Sites

Power transmission lines

Oil & Gas pipelines

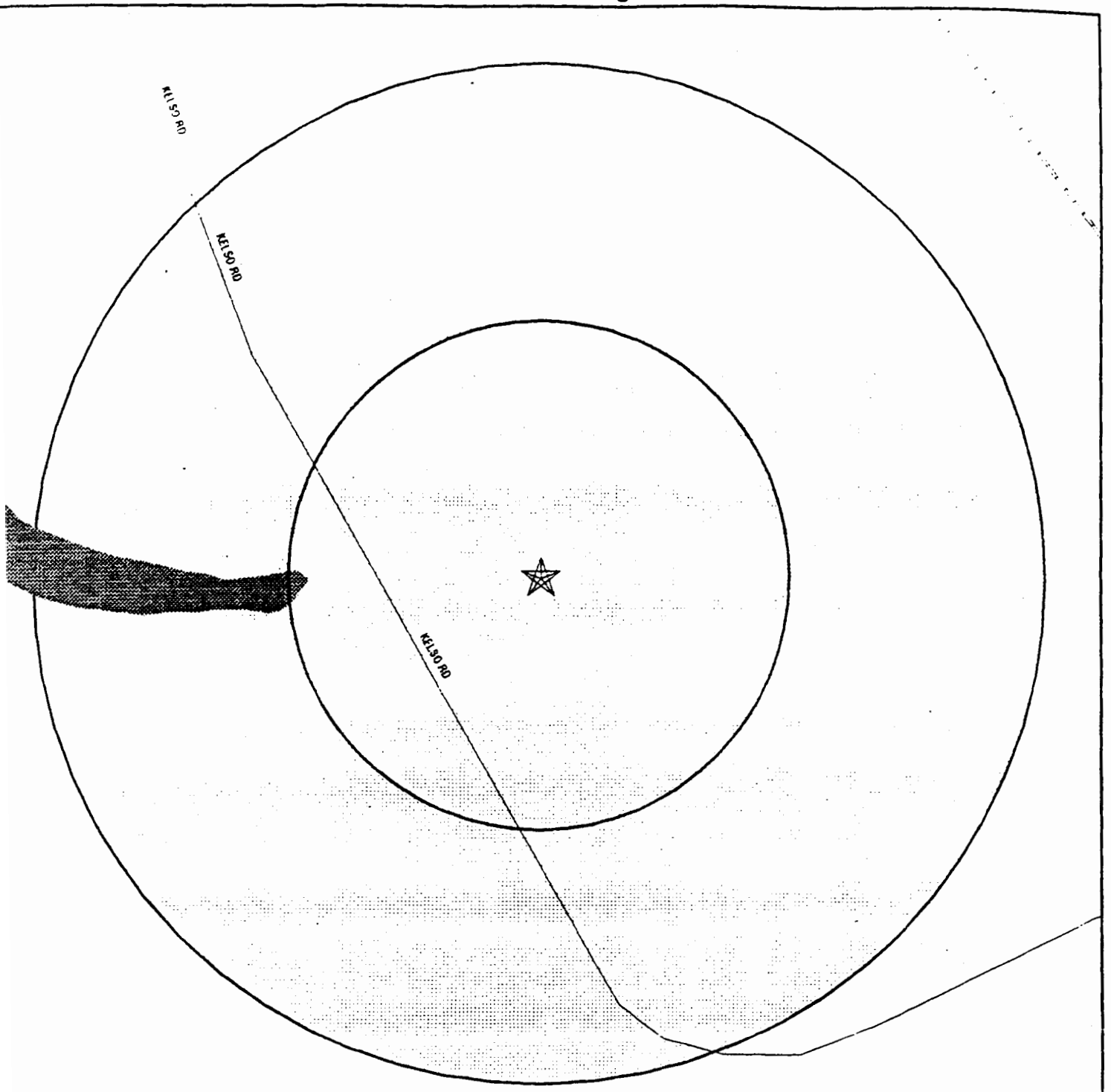
100-year flood zone

500-year flood zone

Wetlands per National Wetlands Inventory (1994)

ET PROPERTY:	Phase I ESA	CUSTOMER:	Harding Lawson Associates
RESS:	Mount Diablo Base + Meridian	CONTACT:	Tunstall Lang
STATE/ZIP:	Livermore CA 94550	INQUIRY #:	0379681.1r
ONG:	37.7973 / 121.6113	DATE:	June 11, 1999 7:45 [illegible]

DETAIL MAP - 0379681.1r - Harding Lawson Associates



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Coal Gasification Sites (if requested)

Sensitive Receptors

National Priority List Sites

Landfill Sites

Power transmission lines

Oil & Gas pipelines

100-year flood zone

500-year flood zone

Wetlands per National Wetlands Inventory (1994)

GET PROPERTY:	Phase I ESA	CUSTOMER:	Harding Lawson Associates
DRESS:	Mount Diablo Base + Meridian	CONTACT:	Tunstall Lang
/STATE/ZIP:	Livermore CA 94550	INQUIRY #:	0379681.1r
LONG:	37.7973 / 121.6113	DATE:	June 11, 1999 7:47 pm

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
AWP		1.000	0	0	0	0	NR	0
Cal-Sites		1.000	0	0	0	0	NR	0
Notify 65		1.000	0	0	0	0	NR	0
CHMIRS		1.000	0	0	0	0	NR	0
Cortese		1.000	0	0	0	0	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
CA FID		0.250	0	0	NR	NR	NR	0
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
HAZNET		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
CA SLIC		0.500	0	0	0	NR	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
South Bay Region 2		TP	NR	NR	NR	NR	NR	0
Coal Gas		1.000	0	0	0	0	NR	0
MINES		0.250	0	0	NR	NR	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING
ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		TP	NR	NR	NR	NR	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
AWP		1.000	0	0	0	0	NR	0
Cal-Sites		1.000	0	0	0	0	NR	0
Notify 65		1.000	0	0	0	0	NR	0
CHMIRS		1.000	0	0	0	0	NR	0
Cortese		1.000	0	0	0	0	NR	0
Toxic Pits		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		TP	NR	NR	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		0.500	0	0	0	NR	NR	0
LUST		0.500	0	0	0	NR	NR	0
UST		0.250	0	0	NR	NR	NR	0
CA FID		0.250	0	0	NR	NR	NR	0
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
WMUDS/SWAT		0.500	0	0	0	NR	NR	0
HAZNET		0.250	0	0	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
CA SLIC		0.500	0	0	0	NR	NR	0
CA Bond Exp. Plan		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
CA WDS		TP	NR	NR	NR	NR	NR	0
South Bay Region 2		TP	NR	NR	NR	NR	NR	0
Coal Gas		1.000	0	0	0	0	NR	0
MINES		0.250	0	0	NR	NR	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: No site was found in a search of Real Property Scan's ENVIROHAZ database.

NO SITES FOUND

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
BYRON	S102425946	BYRON BETHANY IRR. DIST.	7995 BRUNS RD	94514	LUST	070072
BYRON	S102002823	BYRON HOT SPRINGS LANDSPREADING	BYRON HOT SPRINGS ROAD	94514	SWF/LF, Ca. WDS	07-AA-0037
BYRON	S102260161	WINDGENERATION LLC	BYRON HOT SPRINGS RD	94514	Ca. SL, SWF/LF	07-AA-0045
BYRON	S103587919	AIRPORT RANCH SLUDGE SPREADING	HOLEY ROAD	94514	SWF/LF	07-AA-0054
BYRON	S102680587	TRACY PUMPING PLANT & SUBSTATION	KELSO / MOUNTAINHOUSE ROADS, BYRON	94514	CA SLIC	
BYRON	S100873197	U S BUREAU OF RECLAMATION	16800 KELSO RD	94514	LUST	
BYRON	S103472183	US BUREAU OF RECLAMATION	16800 KELSO RD	94514	LUST	01-2389
LIVERMORE	S102359662	MARCIEL RANCH LANDSPREADING	JESS RANCH ROAD		SWF/LF	01-AA-0273
LIVERMORE	U001597354	SAN ANTONE VALLEY RANCH CORP.	STAR ROUTE BOX 53	94550	UST	00000033788
RICHMOND	1000337902	BYRON SANITARY DISTRICT	3288 CAMINO BRABLE RD	94514	CERC-NFRAP, Cal-Sites	07490020

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Northern Quadrant)

BASIC WELL DATA

Site ID:	375106121372201	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1973	County:	Contra Costa
Altitude:	23.00 ft.	State:	California
Well Depth:	45.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Cenozoic-Quaternary-Pleistocene
Principal Lithology of Unit:	Alluvium
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID:	374713121343401	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	Not Reported	County:	Alameda
Altitude:	88.00 ft.	State:	California
Well Depth:	72.00 ft.	Topographic Setting:	Valley flat
Depth to Water Table:	Not Reported	Prim. Use of Site:	Withdrawal of water
Date Measured:	Not Reported	Prim. Use of Water:	Domestic

LITHOLOGIC DATA

Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
STATE DATABASE WELL INFORMATION

Water Wells:

Well Within >2 Miles of Target Property (Northern Quadrant)

Water System Information:

Prime Station Code:	01S/03E-15C01 M	User ID:	07C
FRDS Number Number:	0706024001	County:	Contra Costa
District Number:	37	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	375000.0 1213753.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	0706024		
System Name:	BYRON HOT SPRINGS RESORT		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

Well Within >2 Miles of Target Property (Eastern Quadrant)

Water System Information:

Prime Station Code:	02S/04E-06L01 M	User ID:	01C
FRDS Number Number:	0105004001	County:	Alameda
District Number:	31	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	374713.0 1213434.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	WELL 01		
System Number:	0105004		
System Name:	MOUNTAIN HOUSE SCHOOL		
Organization That Operates System:	Not Reported		
Pop Served:	Unknown, Small System	Connections:	Unknown, Small System
Area Served:	Not Reported		

Well Within 1 - 2 Miles of Target Property (Western Quadrant)

Water System Information:

Prime Station Code:	0110650-001	User ID:	ENG
FRDS Number Number:	0110650001	County:	Alameda
District Number:	04	Station Type:	RIVER/CANAL/INTAKE/SUPPLY
Water Type:	Surface Water	Well Status:	CR
Source Lat/Long:	374800.0 1213800.0	Precision:	1 Mile (One Minute)
Source Name:	SJ RIVER/DELTA MENDOTA CANAL-RAW		
System Number:	0110650		
System Name:	BUREAU OF REC-CVP TRACY PUMPING PLANT		
Organization That Operates System:	ROUTE 1 BOX 35 BYRON, CA 94514		
Pop Served:	50	Connections:	1
Area Served:	Not Reported		

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS

PWS SUMMARY:

PWS ID:	CA0706029	PWS Status:	Active	Distance from TP:	>2 Miles
Date Initiated:	June / 1977	Date Deactivated:	Not Reported	Dir relative to TP:	North
PWS Name:	BYRON UNION ELEMENTARY SCHOOL BYRON UNION ELEMENTARY SCHOOL RTE 1 BOX 4 BYRON, CA 94514				
Addressee / Facility:	System Owner/Responsible Party BYRON UNION ELEMENTARY SCHOOL ROUTE 1 BOX BYRON, CA 94514				
Facility Latitude:	37 52 01	Facility Longitude:	121 38 12		
City Served:	Not Reported				
Treatment Class:	Untreated	Population Served:	101 - 500 Persons		

PWS currently has or has had major violation(s) or enforcement: Yes

VIOLATIONS INFORMATION:

Violation ID:	94V0001	Source ID:	Not Reported	PWS Phone:	Not Reported
Vio. beginning Date:	07/01/93	Vio. end Date:	12/31/93	Vio. Period:	6 Months
Num of required Samples:	Not Reported	Number of Samples Taken:		Not Reported	
Analysis Result:	Not Reported	Maximum Contaminant Level:		Not Reported	
Analysis Method:	Not Reported				
Violation Type:	Initial Tap Sampling for Pb and Cu				
Contaminant:	LEAD & COPPER RULE				
Vio. Awareness Date:	Not Reported				

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 04/21/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 05/14/99
Elapsed ASTM days: 26
Date of Last EDR Contact: 03/03/99

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 12/31/98
Date Made Active at EDR: 01/18/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 01/13/99
Elapsed ASTM days: 5
Date of Last EDR Contact: 01/04/99

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 05/10/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/12/99
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/08/99

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 04/26/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/14/99
Elapsed ASTM days: 26
Date of Last EDR Contact: 03/31/99

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/99
Date Made Active at EDR: 04/16/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 03/17/99
Elapsed ASTM days: 30
Date of Last EDR Contact: 03/16/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/95
Database Release Frequency: Biennially
Date of Last EDR Contact: 03/25/99
Date of Next Scheduled EDR Contact: 06/21/99

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies
Database Release Frequency: Varies
Date of Last EDR Contact: Varies
Date of Next Scheduled EDR Contact: N/A

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 04/16/99
Date of Next Scheduled EDR Contact: 07/12/99

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/97
Database Release Frequency: Annually
Date of Last EDR Contact: 03/24/99
Date of Next Scheduled EDR Contact: 04/26/99

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/08/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 03/02/99
Date of Next Scheduled EDR Contact: 05/31/99

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 02/22/98
Date of Next Scheduled EDR Contact: 05/24/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 03/05/99
Date of Next Scheduled EDR Contact: 05/17/99

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/31/99
Database Release Frequency: Annually
Date of Last EDR Contact: 04/19/99
Date of Next Scheduled EDR Contact: 07/19/99

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/97
Database Release Frequency: Annually
Date of Last EDR Contact: 04/01/99
Date of Next Scheduled EDR Contact: 06/28/99

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/94
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 04/26/99
Date of Next Scheduled EDR Contact: 07/26/99

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/01/98
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 04/08/99
Date of Next Scheduled EDR Contact: 07/05/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF CALIFORNIA ASTM RECORDS:

BEP: Bond Expenditure Plan
Source: Department of Health Services
Telephone: 916-255-2118
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/89
Date Made Active at EDR: 08/02/94
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 07/27/94
Elapsed ASTM days: 6
Date of Last EDR Contact: 05/31/94

CAL-SITES (AWP): Annual Workplan
Source: California Environmental Protection Agency
Telephone: 916-323-3400
Known Hazardous Waste Sites. California DTSC's Annual Workplan (AWP), formerly BEP, identifies known hazardous substance sites targeted for cleanup.

Date of Government Version: 11/04/97
Date Made Active at EDR: 12/20/97
Database Release Frequency: Annually
Date of Data Arrival at EDR: 11/21/97
Elapsed ASTM days: 29
Date of Last EDR Contact: 02/02/99

CAL-SITES (ASPIS): Calsites
Source: Department of Toxic Substance Control
Telephone: 916-323-3400
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database.

Date of Government Version: 01/04/99
Date Made Active at EDR: 03/03/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 02/05/99
Elapsed ASTM days: 26
Date of Last EDR Contact: 12/08/98

CHMIRS: California Hazardous Material Incident Report System
Source: Office of Emergency Services
Telephone: 916-464-3277
California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/31/94
Date Made Active at EDR: 04/24/95
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 03/13/95
Elapsed ASTM days: 42
Date of Last EDR Contact: 03/02/99

CORTESE: Cortese
Source: CAL EPA/Office of Emergency Information
Telephone: 916-327-1848
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 04/01/98
Date Made Active at EDR: 09/23/98
Database Release Frequency: Annually
Date of Data Arrival at EDR: 08/26/98
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/03/99

LUST: Leaking Underground Storage Tank Information System
Source: State Water Resources Control Board
Telephone: 916-445-6532
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 01/31/99
Date Made Active at EDR: 04/02/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 03/05/99
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/08/99

NOTIFY 65: Proposition 65
Source: State Water Resources Control Board
Telephone: 916-657-0696
Proposition 65 Notification Records. NOTIFY 65 contains facility notifications about any release which could impact drinking water and thereby expose the public to a potential health risk.

Date of Government Version: 10/21/93
Date Made Active at EDR: 11/19/93
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 11/01/93
Elapsed ASTM days: 18
Date of Last EDR Contact: 04/26/99

SWF/LF (SWIS): Solid Waste Information System
Source: Integrated Waste Management Board
Telephone: 916-255-4035
Active, Closed and Inactive Landfills. SWF/LF records typically contain an inventory of solid waste disposal facilities or landfills. These may be active or inactive facilities or open dumps that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/08/99
Date Made Active at EDR: 04/07/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 03/08/99
Elapsed ASTM days: 30
Date of Last EDR Contact: 03/08/99

TOXIC PITS: Toxic Pits
Source: State Water Resources Control Board
Telephone: 916-227-4364
Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/95
Date Made Active at EDR: 09/26/95
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 08/30/95
Elapsed ASTM days: 27
Date of Last EDR Contact: 02/08/99

CA UST:

UST: Hazardous Substance Storage Container Database
Source: State Water Resources Control Board
Telephone: 916-227-4408
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/90
Date Made Active at EDR: 02/12/91
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 01/25/91
Elapsed ASTM days: 18
Date of Last EDR Contact: 04/19/99

FID: Facility Inventory Database
Source: California Environmental Protection Agency
Telephone: 916-445-6532
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/94
Date Made Active at EDR: 09/29/95
Database Release Frequency: No Update Planned
Date of Data Arrival at EDR: 09/05/95
Elapsed ASTM days: 24
Date of Last EDR Contact: 12/28/98

WMUDS/SWAT: Waste Management Unit Database
Source: State Water Resources Control Board
Telephone: 916-227-4448
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 12/01/98
Date Made Active at EDR: 02/15/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 01/11/99
Elapsed ASTM days: 35
Date of Last EDR Contact: 03/24/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STATE OF CALIFORNIA NON-ASTM RECORDS:

AST: Aboveground Petroleum Storage Tank Facilities
Source: State Water Resources Control Board
Telephone: 916-227-4382
Registered Aboveground Storage Tanks.

Date of Government Version: 02/22/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/08/99
Date of Next Scheduled EDR Contact: 05/10/99

HAZMAT: Hazmat Facilities
Source: City of San Jose Fire Department
Telephone: 408-277-4659

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/22/99
Date of Next Scheduled EDR Contact: 05/24/99

HAZNET: Hazardous Waste Information System
Source: California Environmental Protection Agency
Telephone: 916-324-1781
Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method.

Date of Government Version: 12/31/97
Database Release Frequency: Annually

Date of Last EDR Contact: 04/19/99
Date of Next Scheduled EDR Contact: 07/19/99

SOUTH BAY: South Bay Site Management System
Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Groundwater pollution cases in the Santa Clara Valley where the regulatory lead is the San Francisco Bay Regional Water Quality Control Board.

Date of Government Version: 09/01/96
Database Release Frequency: Annually

Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

WDS: Waste Discharge System
Source: State Water Resources Control Board
Telephone: 916-657-1571
Sites which have been issued waste discharge requirements.

Date of Government Version: 03/01/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/22/99
Date of Next Scheduled EDR Contact: 05/24/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CALIFORNIA COUNTY RECORDS

ALAMEDA COUNTY:

Underground Tanks
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700

Date of Government Version: 01/04/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/12/99
Date of Next Scheduled EDR Contact: 05/03/99

Local Oversight Program Listing of UGT Cleanup Sites
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700

Date of Government Version: 01/04/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/12/99
Date of Next Scheduled EDR Contact: 05/03/99

CONTRA COSTA COUNTY:

SL: Site List
Source: Contra Costa Health Services Department
Telephone: 925-646-2286
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 01/04/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/08/99
Date of Next Scheduled EDR Contact: 06/07/99

KERN COUNTY:

UST: Sites & Tanks Listing
Source: Kern County Environment Health Services Department
Telephone: 805-862-8700
Kern County Sites and Tanks Listing.

Date of Government Version: 03/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/08/99
Date of Next Scheduled EDR Contact: 06/07/99

LOS ANGELES COUNTY:

HMS: Street Number List
Source: Department of Public Works
Telephone: 626-458-3517
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 12/31/98
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

SWF/LF: List of Solid Waste Facilities
Source: La County Department of Public Works
Telephone: 818-458-5185

Date of Government Version: 09/16/98
Database Release Frequency: Annually

Date of Last EDR Contact: 02/22/99
Date of Next Scheduled EDR Contact: 05/24/99

Site Mitigation List
Source: Community Health Services
Telephone: 213-890-7806
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/23/99
Database Release Frequency: Annually

Date of Last EDR Contact: 02/22/99
Date of Next Scheduled EDR Contact: 05/24/99

MARIN COUNTY:

UST Sites
Source: Public Works Department Waste Management
Telephone: 415-499-6647
Currently permitted USTs in Marin County.

Date of Government Version: 03/01/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/10/99
Date of Next Scheduled EDR Contact: 05/10/99

NAPA COUNTY:

LUST: Sites With Reported Contamination
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269

Date of Government Version: 10/27/97
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/22/99
Date of Next Scheduled EDR Contact: 06/21/99

UST: Closed and Operating Underground Storage Tank Sites
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269

Date of Government Version: 02/17/98
Database Release Frequency: Annually

Date of Last EDR Contact: 03/22/99
Date of Next Scheduled EDR Contact: 06/21/99

ORANGE COUNTY:

List of Industrial Site Cleanups
Source: Health Care Agency
Telephone: 714-834-3446
Petroleum and non-petroleum spills.

Date of Government Version: 01/19/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

LUST: List of Underground Storage Tank Cleanups
Source: Health Care Agency
Telephone: 714-834-3446
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

UST: List of Underground Storage Tank Facilities
Source: Health Care Agency
Telephone: 714-834-3446
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/24/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PLACER COUNTY:

MS: **Master List of Facilities**
Source: Placer County Health and Human Services
Telephone: 530-889-7335
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 01/20/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/30/99
Date of Next Scheduled EDR Contact: 06/28/99

RIVERSIDE COUNTY:

LUST: **Listing of Underground Tank Cleanup Sites**
Source: Department of Public Health
Telephone: 909-358-5055
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 01/06/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/26/99
Date of Next Scheduled EDR Contact: 07/26/99

UST: **Tank List**
Source: Health Services Agency
Telephone: 909-358-5055

Date of Government Version: 01/06/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/26/99
Date of Next Scheduled EDR Contact: 07/26/99

SACRAMENTO COUNTY:

Toxisite List
Source: Sacramento County Environmental Management
Telephone: 916-875-8450

Date of Government Version: 12/01/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 12/15/98
Date of Next Scheduled EDR Contact: 05/10/99

ML: **Regulatory Compliance Master List**
Source: Sacramento County Environmental Management
Telephone: 916-875-8450
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 01/06/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/08/99
Date of Next Scheduled EDR Contact: 08/09/99

SAN BERNARDINO COUNTY:

DEHS Permit System Print-Out By Location
Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/15/99
Date of Next Scheduled EDR Contact: 06/14/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SAN DIEGO COUNTY:

SWF/LF: **Solid Waste Facilities**
Source: Department of Health Services
Telephone: 619-338-2209
San Diego County Solid Waste Facilities.

Date of Government Version: 07/01/98
Database Release Frequency: Annually

Date of Last EDR Contact: 03/05/99
Date of Next Scheduled EDR Contact: 05/31/99

HMMD: Hazardous Materials Management Division Database
Source: Hazardous Materials Management Division
Telephone: 619-338-2268
The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

SAN FRANCISCO COUNTY:

LUST: **Local Oversite Facilities**
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920

Date of Government Version: 01/05/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/20/99
Date of Next Scheduled EDR Contact: 07/19/99

Underground Storage Tank Information
Source: Department of Public Health
Telephone: 415-252-3920

Date of Government Version: 02/01/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/17/99
Date of Next Scheduled EDR Contact: 05/17/99

SAN MATEO COUNTY:

Business Inventory
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 04/01/98
Database Release Frequency: Annually

Date of Last EDR Contact: 04/20/99
Date of Next Scheduled EDR Contact: 07/19/99

LUST: **Fuel Leak List**
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921

Date of Government Version: 01/14/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/08/99
Date of Next Scheduled EDR Contact: 05/03/99

SANTA CLARA COUNTY:

LUST: **Fuel Leak Site Activity Report**
Source: Santa Clara Valley Water District
Telephone: 408-927-0710

Date of Government Version: 12/01/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

SOLANO COUNTY:

LUST: **Leaking Undergroung Storage Tanks**
Source: Solano County Department of Environmental Management
Telephone: 707-421-6770

Date of Government Version: 02/25/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/25/99
Date of Next Scheduled EDR Contact: 06/21/99

UST: **Underground Storage Tanks**
Source: Solano County Department of Environmental Management
Telephone: 707-421-6770

Date of Government Version: 02/17/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/25/99
Date of Next Scheduled EDR Contact: 06/21/99

SONOMA COUNTY:

LUST Sites
Source: Department of Health Services
Telephone: 707-525-6565

Date of Government Version: 02/23/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/08/99
Date of Next Scheduled EDR Contact: 05/03/99

SUTTER COUNTY:

UST: **Underground Storage Tanks**
Source: Sutter County Department of Agriculture
Telephone: 530-741-7504

Date of Government Version: 01/04/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

VENTURA COUNTY:

BWT: **Business Plan, Hazardous Waste Producers, and Operating Underground Tanks**
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 02/25/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/22/98
Date of Next Scheduled EDR Contact: 06/21/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Listing of Underground Tank Cleanup Sites
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 02/25/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/22/99
Date of Next Scheduled EDR Contact: 06/21/99

UST: Underground Tank Closed Sites List
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 03/29/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/22/99
Date of Next Scheduled EDR Contact: 06/21/99

SWF/LF: Inventory of Illegal Abandoned and Inactive Sites
Source: Environmental Health Division
Telephone: 805-654-2813
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 06/01/97
Database Release Frequency: Annually

Date of Last EDR Contact: 03/02/99
Date of Next Scheduled EDR Contact: 05/31/99

California Regional Water Quality Control Board (RWQCB) LUST Records

LUST REG 1: Active Toxic Site Investigation
Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-576-2220

Date of Government Version: 10/14/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/05/99
Date of Next Scheduled EDR Contact: 05/31/99

LUST REG 2: Fuel Leak List
Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/20/99
Date of Next Scheduled EDR Contact: 07/19/99

LUST REG 3: LUSTIS Database
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147

Date of Government Version: 02/01/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 02/23/99
Date of Next Scheduled EDR Contact: 05/24/99

LUST REG 4: Underground Storage Tank Leak List
Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-266-7544

Date of Government Version: 02/26/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 03/02/99
Date of Next Scheduled EDR Contact: 05/31/99

LUST REG 5: Leaking Underground Storage Tank Database
Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-255-3125

Date of Government Version: 01/20/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

LUST REG 6L: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 916-542-5424

Date of Government Version: 12/01/98
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/23/99
Date of Next Scheduled EDR Contact: 07/12/99

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-346-7491

Date of Government Version: 02/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

LUST REG 7: Leaking Underground Storage Tank Case Listing
Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-346-7491

Date of Government Version: 03/02/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 03/02/99
Date of Next Scheduled EDR Contact: 05/31/99

LUST REG 8: (LUSTIS) Leaking Underground Storage Tanks
Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4498

Date of Government Version: 01/19/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST REG 9: Leaking Underground Storage Tank Report
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 619-467-2952

Date of Government Version: 01/21/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/26/99
Date of Next Scheduled EDR Contact: 07/26/99

California Regional Water Quality Control Board (RWQCB) SLIC Records

SLIC REG 1: Active Toxic Site Investigations
Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220

Date of Government Version: 10/14/98
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/05/99
Date of Next Scheduled EDR Contact: 05/31/99

SLIC REG 2: North and South Bay Slic Report
Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 01/04/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 04/20/99
Date of Next Scheduled EDR Contact: 07/19/99

SLIC REG 3: SLIC Data
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 02/01/99
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 02/23/99
Date of Next Scheduled EDR Contact: 05/24/99

SLIC REG 4: SLIC Sites
Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Any contaminated site that impacts groundwater or has the potential to impact groundwater.

Date of Government Version: 02/01/99
Database Release Frequency: Quarterly

Date of Last EDR Contact: 01/11/99
Date of Next Scheduled EDR Contact: 05/03/99

SLIC REG 5: SLIC List
Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-855-3075
Unregulated sites that impact groundwater or have the potential to impact groundwater.

Date of Government Version: 10/01/98
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/15/99
Date of Next Scheduled EDR Contact: 07/12/99

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583

Date of Government Version: 12/01/98
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/12/99
Date of Next Scheduled EDR Contact: 07/12/99

SLIC REG 8: SLIC List
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-3298

Date of Government Version: 10/31/97
Database Release Frequency: Semi-Annually

Date of Last EDR Contact: 04/15/99
Date of Next Scheduled EDR Contact: 07/12/99

SLIC REG 9: WDS NURD List
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 619-467-2980

Date of Government Version: 03/12/99
Database Release Frequency: Annually

Date of Last EDR Contact: 03/12/99
Date of Next Scheduled EDR Contact: 06/07/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

Disclaimer Provided by Real Property Scan, Inc.

The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: NPL Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/23/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 05/12/99
Elapsed ASTM days: 28
Date of Last EDR Contact: 02/08/99

NFRAP: No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 04/21/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 05/14/99
Elapsed ASTM days: 26
Date of Last EDR Contact: 03/03/99

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

California Drinking Water Quality Database
Source: Department of Health Services
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations for District 2 and 6
Source: Department of Conservation
Telephone: 916-323-1779

Fax To: Harding Lawson Associates
Contact: Tunstall Lang
Fax : 415-884-3300
Date: 6/11/99

Fax From: Paul Konnik
EDR
Phone: 1-800-352-0050

EDR PUR-IQ™ Report

"the intelligent way to conduct historical research"

for
Phase I ESA
Mount Diablo Base + Meridian
Livermore, CA 94550
Lat./Long. 37.79730 / 121.61130
EDR Inquiry # 0379681.1r

The EDR PUR-IQ report facilitates historical research planning required to complete the Phase I ESA process. The report identifies the *likelihood* of prior use coverage by searching EDR's proprietary historical source(s) database comprising nationwide information on: city directories, fire insurance maps, aerial photographs, historical topographic maps, flood maps and National Wetland Inventory maps.

Potential for EDR Historical (Prior Use) Coverage - Coverage in the following historical information sources may be used as a guide to develop your historical research strategy:

1. **City Directory:** Coverage exists for portions of Livermore, CA for the following years: 1967-68, 1989, 1993.
2. **Fire Insurance Map:** An online Sanborn Map Search provides site specific coverage information at no charge when ordering the EDR Radius Map via the EDR Web Site.
3. **Aerial Photograph:** Coverage exists for portions of Alameda County, CA for the following decades: 1930s, 1940s, 1950s, 1960s, 1970s, 1980s, 1990s.
4. **Topographic Map:** The USGS 7.5 min. quad topo sheet(s) associated with this site:

   Historical: Coverage exists for CLIFTON COURT FOREBAY, CA quad sheet for the following years: 1978
   Coverage exists for BYRON HOT SPRINGS, CA quad sheet for the following years: 1953, 1968

   Current: Target Property: 2437121-G5 Clifton Court Forebay, CA
   Additional required for 1 Mile radius: 2437121-G6 Byron Hot Springs, CA

5. **Flood Prone Maps :** Coverage is available for Alameda county.

EDR's network of professional researchers, located throughout the United States, accesses the most extensive national collections of city directory, fire insurance maps, aerial photographs and historical topographic map resources available for Livermore, CA. These collections may be located in multiple libraries throughout the country. To insure maximum coverage, EDR will often assign researchers at these multiple locations on your behalf. Please call or fax your EDR representative to authorize a search.

Environmental Data Resources, Inc.

EDR - HISTORICAL SOURCE(S) ORDER FORM

Harding Lawson Associates
Tunstall Lang
Account # 1181999

Phase I ESA
Mount Diablo Base + Meridian
Livermore, CA 94550
Alameda County
Lat./Long. 37.79730 / 121.61130
EDR Inquiry # 0379681.1r

Should you wish to change or add to your order, fax this form to your EDR account executive:

Paul Konnik
Ph: 1-800-352-0050 Fax: 1-800-231-6802

Product	Standard Price**	Standard Turnaround time
___ **Historical** Topographic Map(s)	ALL AVAIL. YRS $45/95	3 - 5 BUSINESS DAYS
___ **Current** Topographic Map(s)*	$30 EACH	3 - 5 BUSINESS DAYS
___ City Directory Abstract	SEARCH/ABSTRACT $45/95	3 - 5 BUSINESS DAYS
___ Fire Insurance Map Search/Abstract	SEARCH/ABSTRACT $45/95	3 - 5 BUSINESS DAYS
___ Sanborn Map Search/Print		
___ a la Carte	SEARCH/PRINT $45/125	2 - 3 BUSINESS DAYS
___ with Radius map	SEARCH/PRINT $15/75	2 - 3 BUSINESS DAYS
___ Aerial Photograph Search Summary	$49	48 HOURS
___ Aerial Photograph Prints (1 photo per decade, where available)		
___ Digital Copies (CA,CO,DC,FL,GA,IL,IN,MA,MD,MI,MN,NC,NJ,NY,OH,PA,TX,VA)	CA,MI $145, OTHER $95	3 - 5 BUSINESS DAYS
___ Oldest Public	$95	3 - 4 WEEKS
___ Oldest Private	$95	7 - 10 BUSINESS DAYS
___ Telephone Interviews	$95	48 HOURS
___ Expanded Telephone Interviews	$145	3 - 5 BUSINESS DAYS
___ Prior Use Report	$395	3 - 5 BUSINESS DAYS
___ Prior Use Report with Expanded Telephone Interviews	$540	3 - 5 BUSINESS DAYS
___ Historical Shopping Center Occupant Report		
___ a la Carte	$295	5 - 7 BUSINESS DAYS
___ with Radius map	$245	5 - 7 BUSINESS DAYS
___ Flood Insurance Maps (FEMA)	$95	3 - 5 BUSINESS DAYS
___ Flood Prone Maps	$95	3 - 5 BUSINESS DAYS

Shipping:

___ Email (Text Reports/Abstracts)	No charge	
___ Express. Next Day Delivery	$15	RUSH SERVICE IS AVAILABLE
___ Express. Second Day Delivery	$10	
___ Express. Next day Delivery	Customer Account	Acct # _____
___ Express. Second Day Delivery	Customer Account	Acct # _____
___ U.S. Mail	$5	

***May be ordered directly from Map Express at 1-800-627-0039. The cost is $6.50 each plus shipping.**
****Special pricing, depending on volume, may exist for your account.**

Thank you.

APPENDIX D

QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONALS PARTICIPATING IN PHASE I ENVIRONMENTAL SITE ASSESSMENT

Tunstall Lang, Esq.
Regulatory Specialist

Experience

Ms. Lang has 15 years of environmental consulting experience. As an environmental attorney, she is familiar with the requirements of the major environmental statutes, including the Endangered Species Act, the federal Clean Water and Clean Air acts, the federal and California Safe Drinking Water acts, and California's Porter-Cologne Water Quality Control Act. She has co-authored, reviewed, or provided substantive guidance on all types of environmental compliance documents.

She also has a strong background in community relations. Ms. Lang has prepared, reviewed, and consulted on newsletters, brochures, information papers, and displays for the public as well as for technical audiences. Her community relations expertise and experience with Base Closure and Realignment Act (BRAC) facilitate her activities as community co-chairperson for the Hamilton Army Air Field Restoration Advisory Board (RAB), for which she provides liaison between DOD and regulatory agency personnel and other RAB community members.

Ms. Lang has been closely involved in the preparation of remedial investigation/feasibility study (RI/FS) reports, especially the RI/FS report for Fort Ord, California. She has also been involved in BRAC activities at Fort Ord. Additionally, she is knowledgeable in the areas of underground storage tank (UST) management, asbestos and lead-based paint management, and OSHA and Cal OSHA requirements.

Registration

Attorney -- California, 1993, No. 167741

Education

J.D., Empire College School of Law, Santa Rosa, California, 1992
B.A., English, Hollins College, Virginia

Training and Continuing Education

Hazardous Waste Operations and Emergency Response Training
Cardiopulmonary Resuscitation and Emergency Cardiac Care Training
First Aid Training
Environmental Law Institute at Yosemite. The Environmental Law Section of the State Bar of California, October 1992, 1994, and 1996
Alternative Dispute Resolution in Environmental Matters. Orrick, Herrington & Sutcliffe, San Francisco, March 1994
Getting on Board II: Restoration Advisory Board Training Seminar. Career/Pro, a project of the San Francisco Urban Institute for the U.S. Environmental Protection Agency, July 1995
Evolving Perspectives on Groundwater Remediation: Containment Zones, Non-Attainment, and the Lawrence Livermore Report. Barristers Club of San Francisco, March 1996
Brownfield Development. Barristers Club of San Francisco, April 1996
Environmental Law for California Lawyers: Hot Topics and Recent Developments. The Bar Association of San Francisco, May 1996

Environmental Regulation in Newly Developing Asian Countries. Golden Gate University, June 1996

Regional Forum on Military Base Cleanup Technology. U.S. Environmental Protection Agency, Regions 9 and 10, Millbrae, California, September 1996

Meeting the Challenge: Cooperative Solutions for Base Closure Cleanup. University of California Extension, UC Davis, January 1997

Representative Projects

Regulatory and Technical Support, Proposed University of California at San Francisco Mission Bay Campus, San Francisco, California. Provides ongoing support and interpretation of legal and technical documents related to property transfer and development of new UCSF campus on 43 acres of former industrial/warehouse property near San Francisco waterfront. Client: UCSF

Review and Revision of Draft Umbrella Banking Instrument, Clark County Mitigation Bank, Clark County, Nevada. Reviewed and substantially rewrote umbrella banking instrument for the establishment, use, operation, maintenance, and closure of Clark County Wetland Mitigation Bank. Intended instrument signatories included the County, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, the Natural Resources Conservation Service, and the Nevada Division of Wildlife. Client: Clark County, Nevada

Response to Coastal Commission Appeal, Buena Vista Landfill Soil Stockpile Project, Santa Cruz County, California. Conducted regulatory review and analysis in support of landfill soil stockpile project proposed by County. Project opponent contended that project was inconsistent with the Coastal Zone Act; would adversely impact sensitive biological resources, thus violating Public Resource Code section 30240; and would adversely affect air quality. Client: Santa Cruz County

Site Investigation and Data Review, Solid Waste Management Units, Fort Ord, California -- Evaluated over 70 active and inactive RCRA solid waste management units (SWMUs) at closing military base. SWMUs included former sewage treatment plants, landfills, fire drill burn pits, RCRA-regulated treatment, storage and disposal facilities, waste oil storage tanks, and temporary hazardous waste storage areas at motor pools. Made recommendations regarding closure of units prior to transfer of base parcels under BRAC. Client: U.S. Army Corps of Engineers, Sacramento District

Phase I Environmental Site Assessment, Amy's Kitchen, Santa Rosa, California -- Project manager for Phase I environmental site assessment for manufacturer of frozen vegetarian foods seeking to purchase production facility building that firm had previously leased. Conducted site visit and records review and prepared report in accordance with ASTM E 1527-97 and lender standards. Client: Amy's Kitchen

Phase I ESA for prospective purchaser of 3.8-acre property in Berkeley, CA. Building onsite was formerly a steel storage warehouse but was gutted and completely renovated in the mid-1990s and houses

biotechnology firms. Underground storage tanks and contaminated soil onsite were removed in the 1980s. Although groundwater onsite contains petroleum hydrocarbons and BTEX the site is considered a low priority by regulatory agency. Prudential Real Estate Investors.

Phase I ESA for prospective purchaser of 2.75-acre site improved with 4 buildings constructed between the 1920s and the 1980s and used for laboratory, research, and office space by large biotechnology firm. Property is in redeveloped area of Emeryville, CA, and was previously part of an oil company energy and petrochemical research facility and tank farm prior to building construction in the late 1980s. Previous investigations onsite identified soil and groundwater contamination that will be addressed during future site development, which may include razing the buildings. Prudential Real Estate Investors.

Phase I ESA for prospective purchaser of 30,000-square-foot building leased to biotechnology firm and housing biotechnology laboratories. Property is in redeveloped area of Emeryville, CA, and was previously part of an oil company energy and petrochemical research facility and tank farm prior to building construction in the late 1980s. Prudential Real Estate Investors

Phase 1 ESA for prospective purchaser of three parcels in Santa Rosa, CA, totaling approximately 10 acres. Two parcels in an office park were developed with office buildings in the late 1980s, the other parcel is a retail shopping center across the street constructed in the same timeframe. Previous land use was agricultural. ANDREA Associates.

Phase I ESA for prospective purchaser of four-story office building in downtown Santa Rosa, CA, adjacent to former coal gasification plant site. ANDREA Associates.

Three Phase I ESAs for prospective purchaser of automobile body shop business in San Rafael, CA. One ESA addressed former gasoline service station/brake shop site, one addressed building used as body shop since early 1980s, and one addressed building constructed in late 1980s and used as auto body paint shop. Phase II work recommended for former service station parcel. M2 Collision Centers.

Phase I ESA for prospective purchaser of automobile dealership in Seaside, CA. File review revealed four "case-closed" petroleum UST properties upgradient of site. Sam Linder, Inc.

Phase I Environmental Site Assessment, The Westin Maui, Lahaina,Maui, Hawaii - Wrote environmental site assessment report to meet ASTM E 1527-97 and lender standards and to provide operational information for client decision-making. Conducted telephone interviews with site personnel and aerial photograph and records review. Expanded ESA included sampling of drinking water, suspected asbestos containing materials, and possible lead-based paint in accordance with client-specific scope of work. Client: Starwood Hotels & Resorts Worldwide, Inc., and Westin Hotels & Resorts

Phase I Environmental Site Assessment, Vacant Lot, San Jose, California -- Project manager for Phase I environmental site assessment for potential purchaser and developer of former Christmas tree lot adjacent to interstate freeway Conducted site visit and records review and prepared report in accordance with ASTM E 1527-97 and lender standards. Client: Imwalle Stegner

Phase I Environmental Site Assessment, 2.85-Acre Vacant Lot, San Jose, California -- Project manager for Phase I environmental site assessment for owner of lot near downtown San Jose. Property had initially been occupied by residences and vehicle maintenance businesses, and susequently had been used as loading facility by local canneries. Conducted site visit and records review and prepared report in accordance with ASTM E 1527-97 and lender standards. Client: Confidential

Phase I Environmental Site Assessment, Two 40-Acre Parcels, Napa County,California -- Project manager for Phase I environmental site assessment conducted for potential purchaser of two undeveloped 40-acre parcels in accordance with ASTM E 1527-97. Client: Glendale Ranch Vineyards

Underground Storage Tank Management Plan Update, Former Fort Ord and Presidio of Monterey, Monterey County, California -- Researched and wrote report summarizing information on the removal, investigation, and closure of 274 USTs identified at former Fort Ord and Presidio of Monterey in original UST management plan, prepared in 1991. In accordance with federal and state regulations, all USTs installed before January 1, 1984, must be removed or closed in place, upgraded, or replaced by December 22, 1998. USTs at these bases were removed or, in some cases, closed in place, in compliance with these regulations. Following confirmation sampling or investigation and cleanup, most UST sites have been granted closure by Monterey County Department of Health. Client:: U.S. Army Corps of Engineers, Sacramento District

Program Health and Safety Plan (HASP), Engineering and Environmental Investigation Services, Former Fort Ord, Fort Hunter Liggett, and Presidio of Monterey, Monterey County, California -- Prepared programmatic HASP in accordance with U.S. Army Corps of Engineers requirements and guidelines for all work to be performed by HLA and its subcontractors at above-referenced facilities. Client: U.S. Army Corps of Engineers, Sacramento District

Site Investigation, Building 509, Fritzsche Army Airfield, Fort Ord, Monterey County, California -- Prepared report summarizing results of previous underground storage tank removal and interim removal action activities and more recent trenching investigation conducted at former fueling facility to characterize lateral and vertical extent of petroleum hydrocarbon contamination. Report included results of vadose zone leaching and groundwater mixing computer modeling and screening risk evaluation. Project was particularly complex because UST and interim action cleanup criteria were both applicable to contaminated area. Client: U.S. Army Corps of Engineers, Sacramento District

Wipe Sampling for Lead in Dust, Capehart Housing, Former Hamilton Army Airfield, Marin County, California -- Conducted wipe sampling for lead in dust in 60 vacant former military housing units at closed military base prior to transfer of housing to City of Novato. Wrote report. Client: City of Novato, California

Public Participation Plan, Proposed Office Park, San Rafael, California -- Prepared public participation plan to address public's environmental and health and safety concerns related to development of office park on former gasification plant waste disposal site in downtown San Rafael. Soil and groundwater onsite contain polynuclear aromatic hydrocarbons and volatile organic compounds. Groundwater extraction and treatment system has been in operation on part of site since 1986. Client: Fair, Isaac and Company, Inc.

Health and Safety Plan, Proposed Office Park, San Rafael, California -- Prepared health and safety plan for site remediation and construction operations related to construction of proposed five-building office park on former gasification plant waste disposal site in downtown San Rafael. Soil and groundwater onsite contain polynuclear aromatic hydrocarbons and volatile organic compounds. Groundwater extraction and treatment system has been in operation on part of site since 1986. Client: Village Properties

Health, Safety, and Work Plan, Cypress Freeway Realignment, Bobo's Junkyard, Oakland, California -- Prepared health, safety, and work plan for driving piles and installing footings at three bents and one abutment along alignment of freeway being constructed to replace Cypress Freeway destroyed in 1989 Loma Prieta earthquake. Soil and groundwater at one bent were contaminated with vinyl chloride. Work plan for air monitoring was particularly complex and addressed sensitive issues related to DTSC concerns and community fears regarding potential exposures to vinyl chloride vapors. Received spot bonus for work on project. Client: Performance Excavators

Public Participation Plan, Former Circuit Board Manufacturing Facility, Santa Rosa, California -- Prepared Public Participation Plan and ancillary deliverables to inform local residents and businesses of planned investigative and remedial activities at former manufacturing facility. Work involved regulatory agency liaison, interviews with local residents and officials, preparation of fact sheets, and public meeting agenda and handouts. Client: Clayton, Carrillo, Carston Cleanup Fund

Public Participation Plan, Chemical Packaging and Distribution Facility, Los Angeles, California -- Prepared Public Participation Plan for facility conducting RCRA Facility Investigation and implementing Corrective Action Program under Corrective Action Consent Agreement with Cal/EPA Department of Toxic Substances Control (DTSC). Client: Confidential

Public Participation Activities, Chemical Packaging and Distribution Facility, Los Angeles, California -- Designed, wrote, and produced information sheets and posters in Spanish and English for neighborhood open house to explain proposed offsite investigation activities to local residents and other concerned citizens and citizen groups. Work proposed

was part of RCRA Facility Investigation and Corrective Action Program being conducted under client's Consent Agreement with DTSC. Client: Confidential

Environmental Impact Study, Geothermal Concession Area, El Ñajo-Santa Isabel, Telica, Department of León, Nicaragua -- Researched and wrote hydrology, hydrogeology, and biology sections of EIS for planned geothermal exploration in western Nicaragua. Client: UNOCAL

Health, Safety and Work Plan, Bay Street Extension, Emeryville, California -- Wrote health, safety, and work plan for roadway construction project in commercial area near Emery Bay Public Market. Project involved removal and disposal of old pavement and petroleum-contaminated soil and construction of new roadway and associated improvements. Client: Performance Excavators

Health and Safety Plan, Rowland Boulevard Park and Ride, Novato, California -- Wrote health and safety plan for activities related to construction of commuter park and ride lot adjacent to U.S. Highway 101. Client: Performance Excavators

Report of Waste Discharge, Report of Disposal Site Information, and Closure/Postclosure Maintenance Plan, Redwood Landfill, Marin County, California -- Managed completion and production of required landfill planning documents in support of permit application. Client: Redwood Landfill.

Janet Peters, R.G.
Principal Geologist

Experience

Ms. Peters has 12 years of experience as a project manager and geologist for a wide variety of private and government projects, including work at state and federal Superfund sites, municipal landfills, Resource Conservation and Recovery Act (RCRA) sites, and other remedial investigation sites. She has conducted hydrogeologic studies in a range of geologic settings and has been involved with and managed contaminant hydrogeology and soil and groundwater remediation projects. In addition, she has provided technical guidance and management for multidisciplinary project teams that have included hydrogeologists, hydrologists, engineers, industrial hygienists, and air quality specialists. Ms. Peters has conducted large-scale hydrogeologic site characterizations and solid waste assessment tests (SWATs) for landfills and has been involved with leachate quantification, migration, and management studies and the preparation of reports of waste discharge, reports of disposal site information, and other supporting documents.

Ms. Peters routinely provides technical quality control during project development, implementation, and report preparation. She negotiates frequently with regulatory agencies on behalf of clients and has broad knowledge of federal, state, and local environmental regulations. Her additional responsibilities include managing staff, providing technical guidance and leadership, and business development.

Registration and Certification

Registered Geologist - California, No. 5544
Certified Professional Geologist - Indiana, No. 1089

Training

HLA Project Management Training
Hazardous waste operations and emergency response training
Eight-hour hazardous materials supervisory course

Education

M.S., Geology, Indiana University, Bloomington, 1985
B.S., Magna Cum Laude, Geology, Eastern Illinois University, Charleston, 1982

Awards

Dick Harding Technical Excellence Award for development of accelerated remedial investigation plan that streamlined the RI/FS process at Fort Ord, a 28,000-acre former military base in Monterey County, California. RI/FS process was completed in 3 years to meet congressionally mandated deadline.

Representative Projects

Former PG&E manufactured gas plant, northern California - Project Manager for the development of a 12-acre former coal gasification plant contaminated with polycyclic aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs). The site is slated to be a corporate campus for a large, national software company. Tasks include site characterization activities, risk assessment, remedial action design and construction, construction health and safety plans, air monitoring during construction, community relations, preparation of portions of the environmental impact report, groundwater modeling and extraction system effectiveness evaluation and design, geotechnical analysis, and horticultural suitability analyses. Remedial action activities include excavation of the contaminated soil with onsite entombment and capping; groundwater will continue to be remediated using a slurry wall and a series of extraction trenches and wells. Client: Fair Isaac, Incorporated

Former circuit-board manufacturing site, Santa Rosa, California - Project Manager for remedial investigation and remedial action activities. The Preliminary Endangerment Assessment included intrusive activities, soil and groundwater sampling, utility vault sampling, development of a conceptual site hydrologic model, a human health screening evaluation, ecological screening, community profiling and communication, and reporting. Work was completed under tight legal schedule demands which allowed the project to be accepted into the California Department of Toxic Substances Control's (DTSC) newly formed Expedited Remedial Action Program (ERAP) and to qualify for orphan shares from the state. Current ERAP activities include conducting remedial investigation activities in the shallow and deep aquifer zones to define the lateral and vertical extent of contamination and to continue to refine the conceptual hydrogeologic model, development of site-specific target cleanup levels (TCLs) and subsequent remedial action for the onsite soil, and development of a full-scale community relations program. Client: Clayton, Carrillo, Carston Cleanup Fund.

Active chemical distribution facility, Bonnie Beach, Los Angeles, California - Project Manager for a 9-acre RCRA site located in a mixed industrial and residential area. Several phases of subsurface investigations show that solvents, including 1,4-dioxane, perchloroethylene (PCE), 1,1,1-trichloroethane (TCA), trichloroethene (TCE), and 1,1-dichloroethene (1,1-DCE), have migrated beneath an underground storage tank farm to depths as great as 110 feet. Currently, an interim remedial measure (IRM) is being implemented at the site using large scale soil vapor extraction and treatment with catalytic oxidation. The IRM will allow for safe and cost-effective removal of the underground storage tanks to comply with the federally mandated date of July 1998. Other activities include several phases of soil boring and sampling programs, soil vapor sampling, groundwater characterization, basin characterization, flux chamber sampling, and conducting a risk assessment. In addition, a community relations program including preparation of a pubic participation plan, fact sheets; and conducting public meeting, open houses, and neighborhood interviews, was implemented. Client: Univar Corporation

950-acre Superfund site, Hunters Point Annex, San Francisco, California - Provided project management, technical oversight, and negotiations with state and federal regulatory agencies relative to implementation of remedial investigations, feasibility studies, and public health and environmental evaluations. Ms. Peters developed approaches to accelerate cleanup and reuse of facility, presentations to community and Restoration Advisory Board, and ideas for involving community members in site cleanup. Studies were conducted at over 100 sites ranging from fuel storage lines to a pickling and plating yard. Project has included collection and analysis of soil and groundwater samples, soil gas and geophysical surveys, air sampling, dense nonaqueous phase liquid (DNAPL) investigations, a large-scale aquifer testing program, stormwater and sanitary sewer investigations, and a vertical profile HydroPunch™ program. Client: PRC Environmental Management, Inc., as prime contractor for the U.S. Navy under the Navy CLEAN Program

Chemical distribution facility, northern California - Provided technical oversight and quality control review for RCRA facility investigation and corrective measures study for large site with significant soil and groundwater contamination. Contaminants include organohalides, ketones, alcohols, and glycols. Interim remedial action implemented onsite consists of a multi-well soil vapor extraction operation. Client: Confidential

Former petroleum bulk distribution facility, Monterey County, California - Served as project manager for remedial investigation and remedial action plan. Project included characterization of soil and groundwater, development and screening of remedial action alternatives, risk assessment, and negotiation with state and county representatives. Project was executed within accelerated time frame to allow California Coastal Conservancy to purchase a portion of the property while funding was available. Client: Borg Warner Corporation

Nursery site, Alameda County, California - Was project manager for site characterization and feasibility study for site contaminated with DDT and hydrocarbons. Investigations included surface soil sampling for DDT and related compounds and soil and groundwater sampling for hydrocarbons. Responsible for data analysis, development of target cleanup levels, development and screening of remedial action alternatives, oversight of risk assessment activities, design of groundwater extraction system, and preparation of remedial action plan to meet California EPA and local regulatory agency requirements. Client: Confidential

Solvent-contaminated site, California - Was project manager for remedial investigation, agency reporting, and implementation of remedial action. Site investigation included boring programs, soil and groundwater sampling, well installation, soil vapor extraction pilot studies, and aquifer testing. Client: Confidential

Groundwater protection studies, California - Was responsible for evaluation of remedial alternatives for hydrocarbon spills; preparation of budget and proposals for hydraulic control systems, soil venting systems, and other field

projects, design and installation of monitoring and recovery wells and evaluation of recovery systems; design of computer simulation of groundwater capture; analysis and management of water-level and chemistry data; and design, performance, and evaluation of aquifer tests and soil vapor extraction pilot studies. Client: Confidential

Remedial predesign investigation, California - Was task manager for large-scale hydrogeologic site characterization and remedial predesign investigation for shallow aquifer restoration. Developed work plans and cost estimates for predesign field investigations and data evaluation. Field investigation activities included large-scale boring programs with soil and groundwater sampling, piezometer installations, and aquifer testing. Site characterization included comprehensive evaluation of geologic, hydrogeologic, and subsurface chemical data, culminating in preliminary design recommendations for groundwater and soil vapor extraction system. Client: Confidential

Hydraulic control pilot study, California - Assisted in development and implementation of 10-day pilot test designed to evaluate hydraulic control of dissolved and free-phase petroleum hydrocarbons in fine-grained sediments of low transmissivity. Test results were analyzed to estimate aquifer hydraulic properties, evaluate effects of groundwater extraction in free-phase and dissolved hydrocarbon migration, and develop remedial action recommendations. Client: Confidential

Site characterization program, Oakland, California - Was responsible for site characterization, including well installation and sampling, aquifer testing, data analysis, and report preparation. Client: City of Oakland

Landfill Experience

600-ton-per-day Class II and III landfill, Novato, California - Was project manager and project hydrogeologist responsible for preparation of Report of Waste Discharge, Report of Disposal Site Information, and supporting documents; negotiations with regulatory agencies; and administrative oversight. Managed leachate characterization and migration investigations, groundwater modeling studies, and data analysis; investigation of magnitude and extent of leachate mounding; excavation and design of interior and exterior leachate extraction systems; design and installation of new groundwater monitoring network to achieve compliance with Title 23, California Code of Regulations, Chapter 15; and development of a conceptual model of site hydrogeology to substantiate monitoring network and develop release scenarios and related financial assurance cost estimates. Client: Redwood Landfill, Inc.

Landfill, northern California - Was project manager for landfill investigation requiring characterization and remediation. Proposed residential development site contaminated with heavy metals was characterized under SWAT and Chapter 15 guidelines. Was involved with site characterization investigation

and design of closure plan and postclosure monitoring plan. Project also involved extensive regulatory interaction. Client: Confidential

Landfill, northern California - Served as project manager for large-scale hydrogeologic and chemical assessment of landfill site. Investigations included well installation and cone penetrometer testing programs, aquifer testing, tidal studies, detailed geologic evaluation, leachate and groundwater quality determination, a SWAT program, and report preparation. Designed perimeter monitoring network and prepared leachate management plan including design of leachate dewatering system. Client: Confidential

Acme Landfill, Contra Costa County, California - Was involved in large-scale assessment to characterize landfill's hydrogeologic system. Responsibilities included oversight of exploratory boring and well installation programs and chemical analysis activities, management of aquifer testing program, and preparation of comprehensive report integrating data from all aspects of investigation. Client: Acme Fill Corporation

Small incinerator ash landfill, Merced County, California - As project manager, was responsible for designing soil boring and groundwater monitoring program for landfill contaminated with heavy metals. Also was involved in regulatory agency interaction to expedite closure of site to enable proposed development. Client: National Park Service

Burlingame Landfill, San Mateo County, California - Served as quality control manager responsible for technical QC of water quality monitoring program developed to comply with SWAT and Chapter 15 requirements. Program was approved by regulatory agencies. Client: Burlingame Landfill

Private landfill, Kern County, California - Was project manager for SWAT program that evaluated whether hazardous chemicals had migrated from landfill into soil or groundwater. Contaminants included VOCs and heavy metals. Investigation involved design and monitoring of vadose zone lysimeters, groundwater monitoring wells, and surface water stations. Client: Confidential

Landfill site, Fort Ord, California - Served as task manager for interim remedial measures at landfill site. Responsibilities included preparation of destruction plan for 10 water supply wells and associated underground fuel storage tanks. Responsibilities also included supervision of field crews, regulatory compliance, development of closure/postclosure monitoring plans, and report generation. Client: U.S. Army Corps of Engineers, Sacramento District

Memberships

Society of Economic Paleontologists and Mineralogists
American Geophysical Union
National Ground Water Association

DISTRIBUTION

Phase I Environmental Site Assessment
Proposed Burrowing Owl Mitigation Site
Alameda County, California

July 14, 1999

Copy No. 3

Copy 1:	Mr. Claude Gruen Gruen Gruen & Associates 564 Howard Street San Francisco, California 94105-3002
Copy 2:	Mr. Brian L. Moore, C.E. The Spink Corporation 2590 Venture Oaks Way Sacramento, California 95833-3288
Copies 3 - 6:	Mr. Larry M. Buczyk State of California Department of General Services Real Estate Services Division 400 R Street, Suite 5000 Sacramento, California 95814
Copy 7:	Melwyn and LorettaVos 5500 Bruns Road Byron, California 94514
Copies 8 - 9:	HLA Project Files
Copy 10:	HLA Corporate Records

Quality Control Reviewer

Janet Peters, R.G.
Principal Geologist

ETL/JP:gj/GJ54284.DOC-IH

EXHIBIT H

BYRON CONSERVATION BANK
CONSERVATION CREDIT PURCHASE AGREEMENT

RECITALS

This Agreement is made and entered into the _____day of _____, _____ (Effective Date) between the State of California, Department of General Services (DGS), Seller, and _____ (Purchaser) for the sale and purchase of Conservation Credits held at the Byron Conservation Bank.

Whereas, The State of California, through the Department of General Services (DGS), is the owner/administrator of the Byron Conservation Bank (Conservation Bank) located in the northeastern corner of Alameda County, near the town of Byron (depicted on attached Exhibit A). The Bank was established to provide for mitigation of adverse impacts to habitat of various wildlife species affected by State construction projects within the Credit Area; and,

Whereas, The Land Bank has been authorized by the California Department of Fish and Game (CDFG) pursuant to the Byron Conservation Bank Implementation Agreement, dated _____, and has received approval of CDFG to operate as a Conservation Bank with habitat credits available for sale for the special status species identified below, with available conservation credits on a basis of a 1 acre = 1 unit of conservation credit. A maximum total of 139.2 credits are designated in the Conservation Bank.

Western Burrowing Owl	*(Speotyto cuniculara)*	132.2	credits
California Tiger Salamander	*(Ambystoma californiense)*	136.9	credits
California Red legged frog	*(Rana aurora draytonii)*	63.4	credits
Western Pond Turtle	*(Clemmys marmorata)*	139.2	credits
San Joaquin Kit Fox	*(Vulpes macrotis mutica)*	132.2	credits

Whereas, DGS has determined that excess credits will be available at the Land Bank and intends to offer credits for sale to purchasers selected by DGS as providing the greatest benefit to the State of California; and

Whereas, the Project Proponent is seeking to implement the project described on Exhibit B, attached hereto (Project), which would unavoidably and adversely impact habitat thereon, and seeks to compensate for the loss of habitat by purchasing habitat conservation credits from the Bank; and

Whereas, the Proponent's proposed project has been authorized by CDFG under Mitigation Agreement (or Permit) Number _____;

Now therefore, the parties agree to arrange for the sale and purchase of Conservation Credits under the terms and conditions set forth herein.

TERMS AND CONDITIONS

Credits to be sold

1. DGS agrees to sell to _____ (Purchaser) _____ units of mitigation credit(s) for the _____ (named species) which is known to occur at the Byron Conservation Bank. Each credit shall equate to one acre of habitat as approved and accepted by CDFG.

Consideration/Sales Price

2. The purchase price shall be based on the amount of $_____ per credit unit. The total purchase price to be paid by Purchaser (excluding other fees herein described) is $_____, and shall be made by check, draft or money order payable to the STATE OF CALIFORNIA, **DEPARTMENT OF GENERAL SERVICES.**

3. Purchaser agrees to pay an additional sum (endowment fund) to be used for the maintenance and management of the Conservation Bank. This payment shall be $1,000 per credit unit purchased. A total payment for the endowment fund shall be $_____ , and shall be made by check, draft or money order payable to the STATE OF CALIFORNIA, **DEPARTMENT OF FISH AND GAME.**

Satisfaction of CDFG Mitigation

4. Within 10 days after the effective date of this Agreement DGS shall notify CDFG of a pending sale to the Purchaser and shall arrange for a letter notification from CDFG to the Purchaser indicating the acceptability or non-acceptability of the Conservation Credits as mitigation to comply with CDFG requirements imposed or to be imposed on Purchaser's project(s). Said notification letter shall also address, if appropriate, the disposition of any deposits made by the Purchaser under its Mitigation Agreement with CDFG.

The Parties agree that consideration to be paid in clauses 2 and 3 of this

Agreement shall be made within 15 days after Purchaser's receipt of an acceptable notification by CDFG as provided herein above. Purchaser retains the right to cancel this Agreement if the notification is unacceptable and shall , within the 15 days after receipt of the unacceptable CDFG notification, provide a written request to DGS to terminate this Agreement.

Notices

5. All notices or other communications required or permitted hereunder including transmittal of payments shall be in writing, and shall be personally delivered (including by means of professional messenger service) or sent by overnight courier, or sent by registered or certified mail, postage prepaid, return receipt requested to the addresses set forth below, or sent by electronic facsimile, where available and appropriate, to the facsimile numbers set forth below. All such notices or other communications shall be deemed received upon the earlier of (i) if personally delivered or sent by overnight courier, the date of delivery to the address of the person to receive such notice, (ii) if mailed as provided above, on the date of receipt or rejection, or (iii) if given by electronic facsimile, when received by the other party if received Monday through Friday between 9:00 am and 5:00 p.m. so long as such day is not a state or federal holiday and otherwise on the next day provided that if the next day is a Saturday, Sunday, or a state or federal holiday, such notice shall be effective on the following business day.

TO DGS:

State of California
Department of General Services
Real Estate Services Division
1102 Q Street, Suite 6000
Sacramento, California 95814-6511

Attention: Larry M. Buczyk
Telephone: (916) 323-5528
Telefacsimile: (916) 327-9654

TO THE PURCHASER:

_____
_____
_____

Representations

6. This transaction involves the sale and conveyance of Conservation Credits only, from the property designated as the Byron Conservation Bank. The sale does not include any real property rights and the State of California shall retain ownership and fee title in the property.

Educational Uses of the Property

7. The Purchaser agrees to co-operate with the State of California to encourage and promote educational uses of the Conservation Bank property for the study, improvement, protection and enhancement of the species and habitat located on the property. Any use of the property shall be subject to restrictions imposed by CDFG in accordance with the Management Plan prepared for the property.

Effective Date

8. This Agreement shall commence on the herein effective date.

Federal Approval

9. Sales of Conservation Credits for the federally listed Threatened California red-legged frog and Endangered San Joaquin kit fox are subject to review and approval by the U.S. Fish and Wildlife Service. Such approval where necessary shall be obtained by DGS from USFWS and shall be included in the Notification of Acceptance referred to in Clause 5 herein above.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as to the date herein above set forth.

SELLER: **PURCHASER:**

STATE OF CALIFORNIA
DEPARTMENT OF GENERAL SERVICES

_____

_____

By: _____ By_____

J. Frank Davidson
Assistant Chief, Real Estate Services Division
Asset Planning and Enhancement Branch

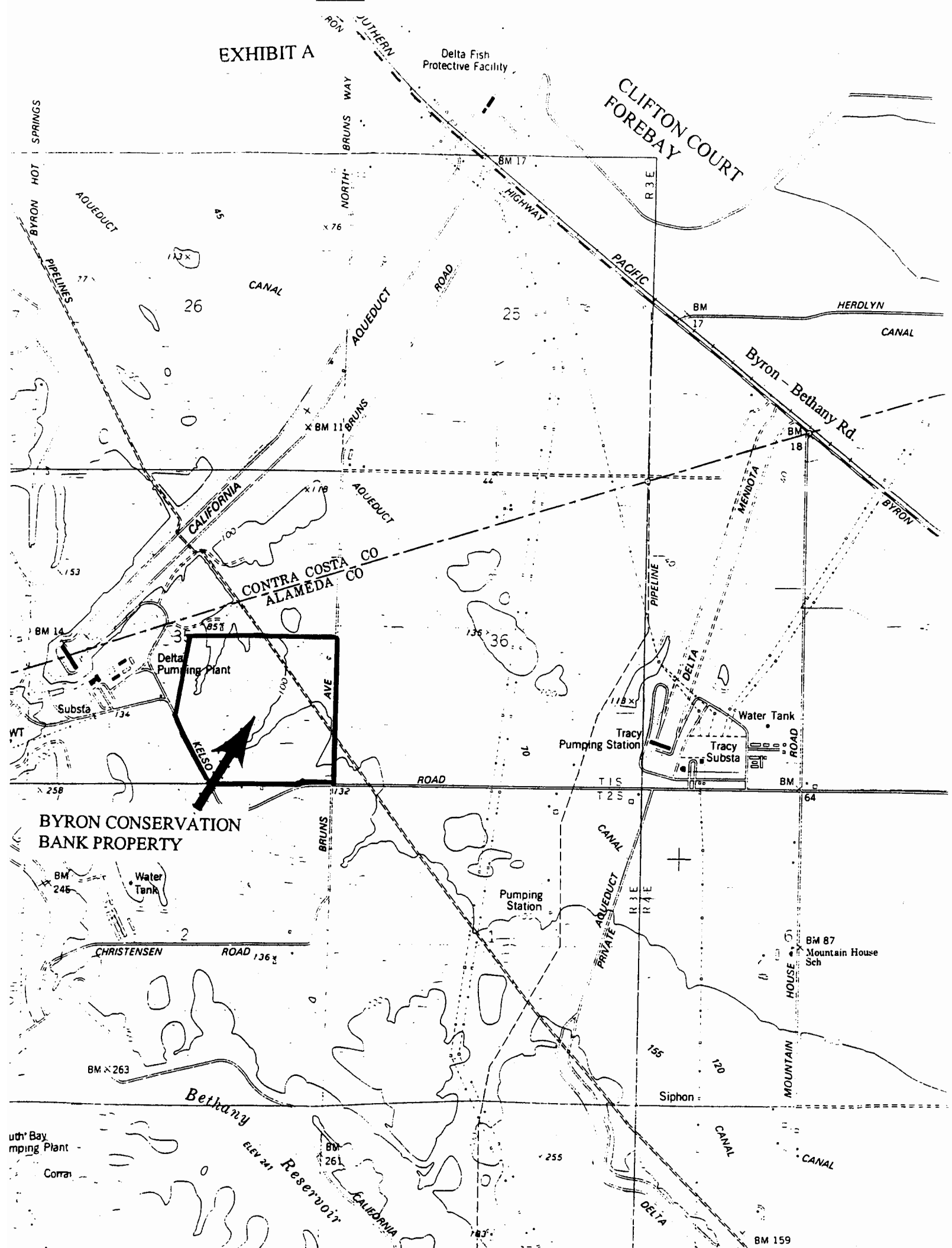


EXHIBIT A
Delta Fish Protective Facility
CLIFTON COURT FOREBAY
BRUNS WAY
NORTH
BYRON HOT SPRINGS
AQUEDUCT
PIPELINES
CANAL
ROAD
PACIFIC
HIGHWAY
R3E
BM 17
HERDLYN
CANAL
Byron – Bethany Rd.
BM 18
BM 11
BRUNS
CALIFORNIA
AQUEDUCT
MENDOTA
BYRON
CONTRA COSTA CO
ALAMEDA CO
PIPELINE
DELTA
BM 14
Delta Pumping Plant
Substa
KELSO
AVE
Water Tank
Tracy Pumping Station
Tracy Substa
ROAD
T1S
T2S
BM 64
BYRON CONSERVATION BANK PROPERTY
BM 245
Water Tank
CHRISTENSEN
ROAD
Pumping Station
PRIVATE
AQUEDUCT
R3E
R4E
BM 87
Mountain House Sch
HOUSE
MOUNTAIN
BM 263
Bethany
Siphon
CANAL
Reservoir
ELEV 241
BM 261
CALIFORNIA
DELTA
BM 159

EXHIBIT I

CONSERVATION CREDIT PURCHASE ACKNOWLEDGMENT

The undersigned Seller, Department of General Services, hereby acknowledges that it has entered into an Agreement to sell and convey to (Purchaser), (e.g. four (**4**)) Conservation Credits from the Byron Conservation Bank. All terms of this conveyance shall be governed by the provision of the Conservation Credit Purchase Agreement between Purchaser and the undersigned dated _____, 2000.

SELLER:

DEPARTMENT OF GENERAL SERVICES

By:_____

Name:_____

Its:_____

PURCHASER:

By:_____

Name:_____

Its:_____

Dated:_____

EXHIBIT J HABITAT MAP

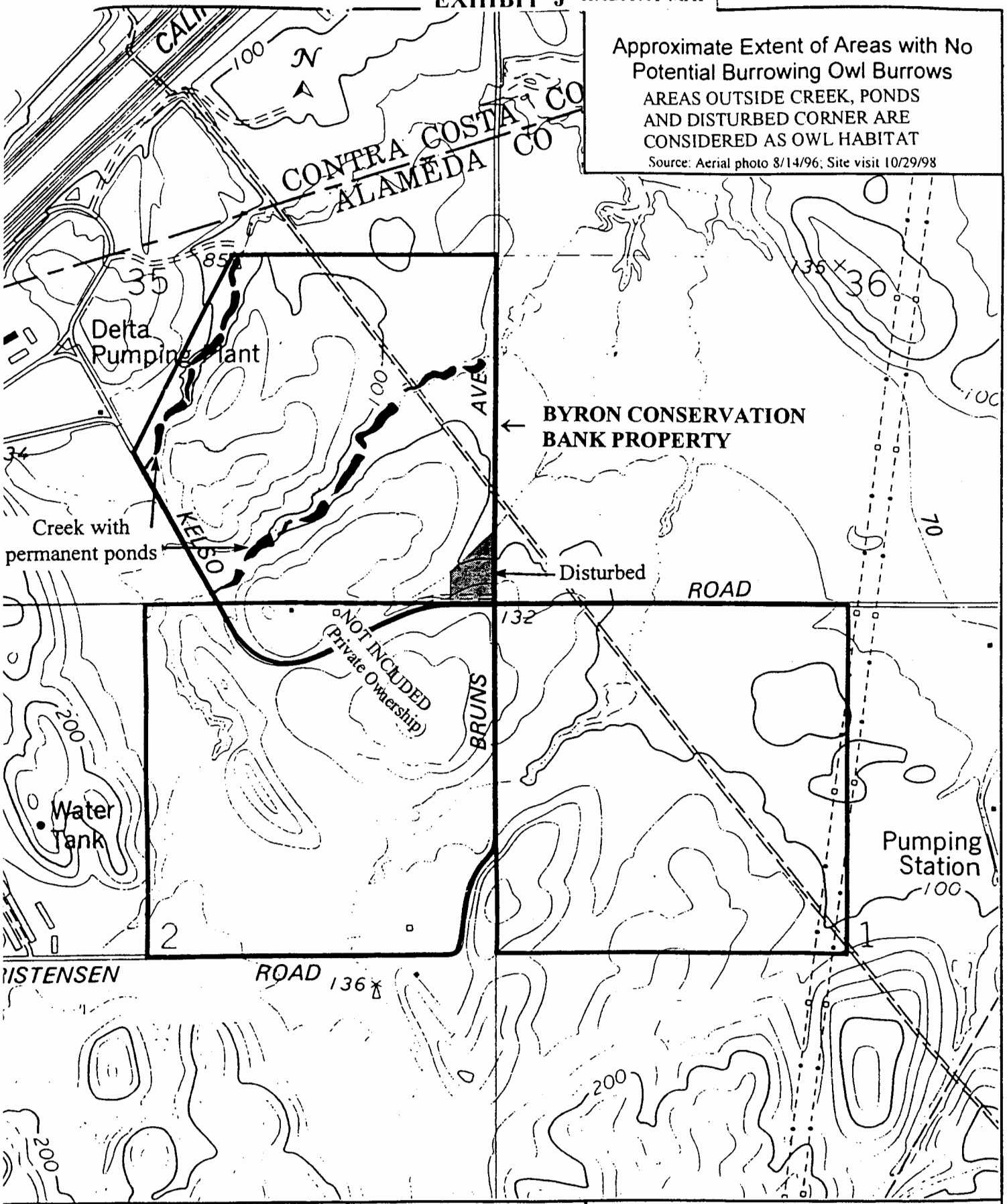


Figure 2. Burrowing Owl Habitat Assessment – APN: Alameda Co. 099B -7020-1-8; -7010-002-07; -7010-002-09

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles

Source: Clifton Court Forebay USGS 7.5' Series Quadrangle

BURROWING OWL HABITAT MAP

HABITAT MAP

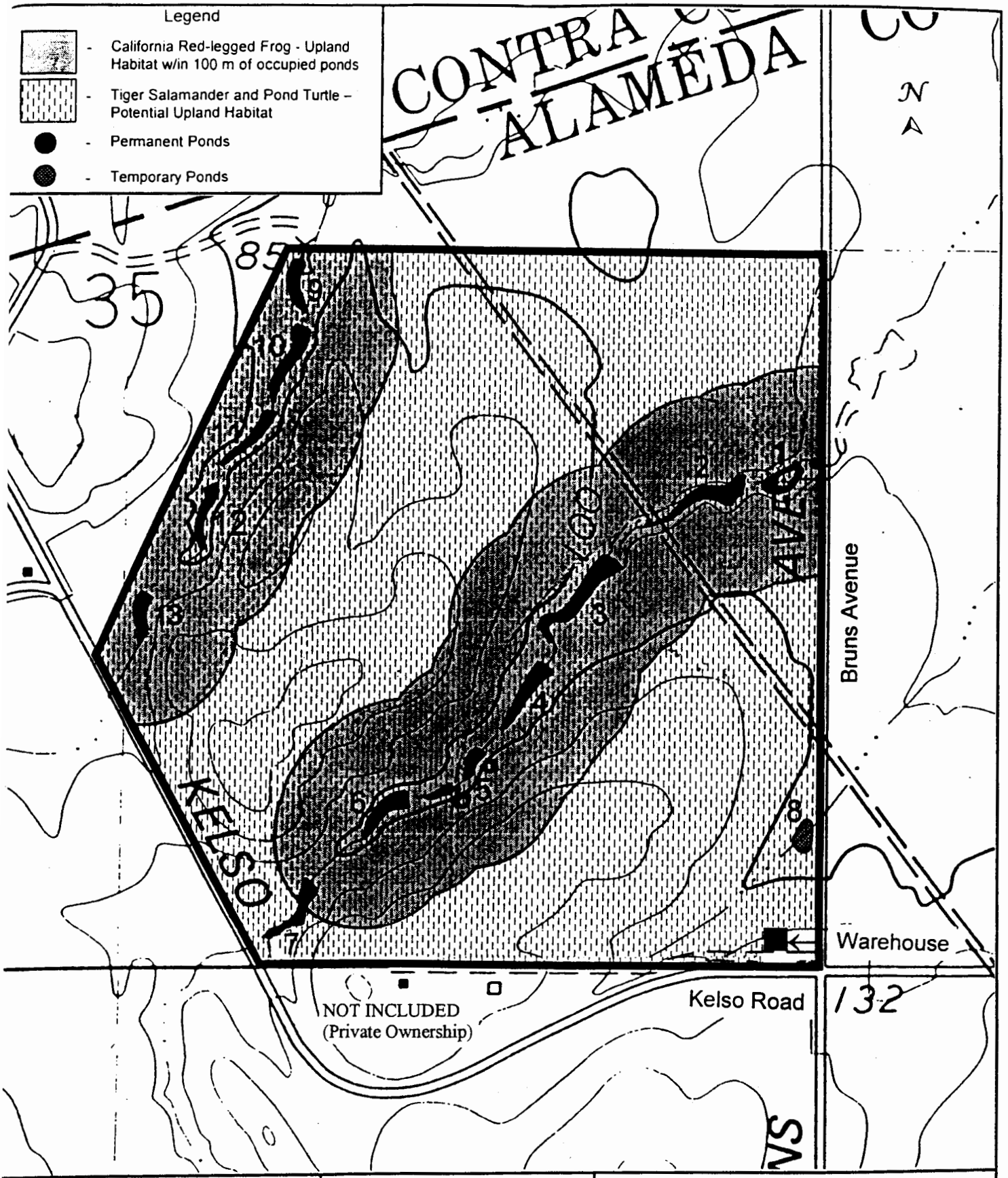


Figure 2. Red-legged Frog, Tiger Salamander & Pond Turtle - Potential Habitat

Biosearch Wildlife Surveys
PO Box 8043
Santa Cruz CA 95061

Scale in Feet
0 200 400 600 800 1000

Source: Clifton Court Forebay USGS Quad

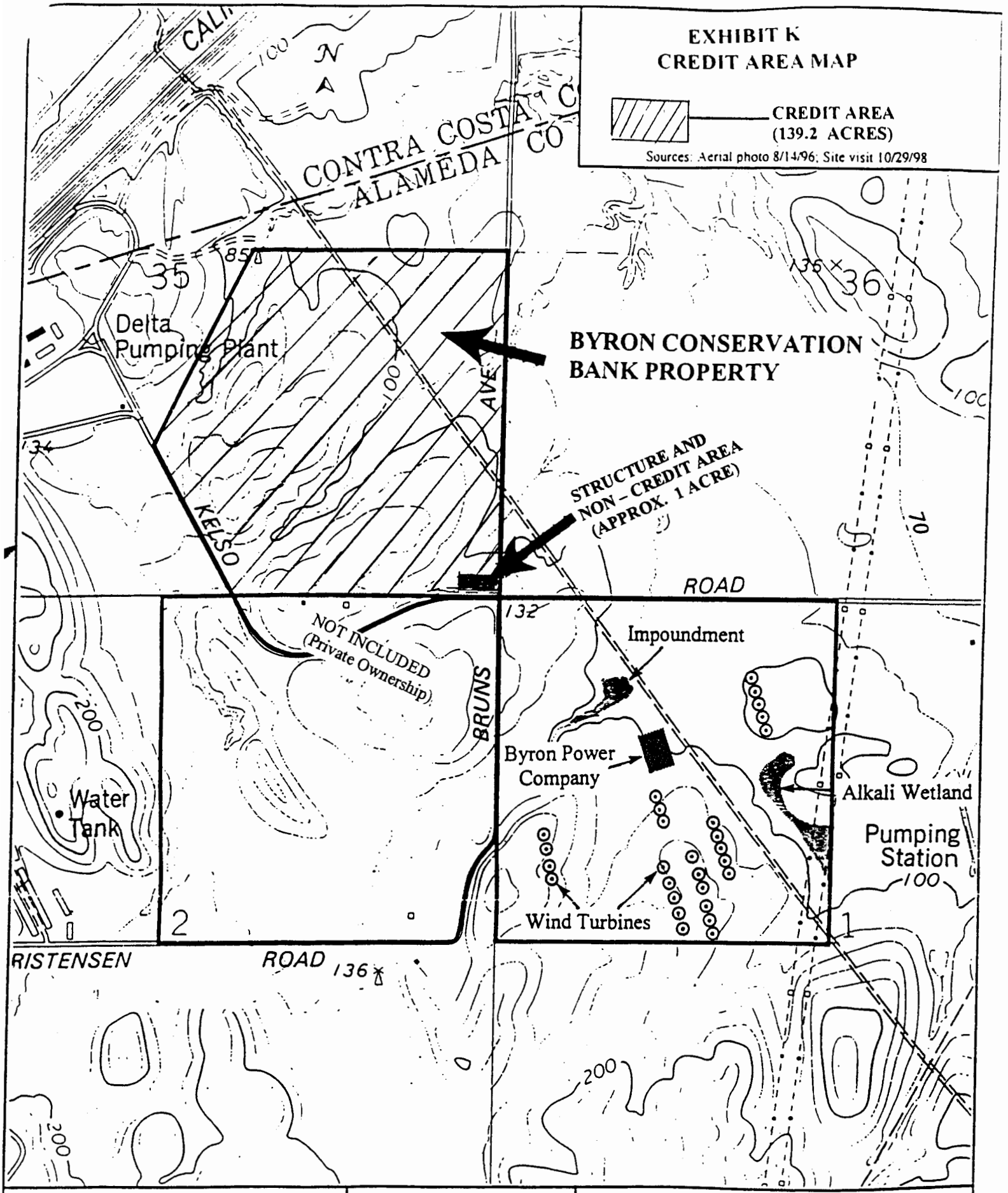


EXHIBIT K

Biosearch Wildlife Surveys
P.O. Box 8043
Santa Cruz, CA 95060

0 ¼ ½
Scale in Miles