
MOHAVE GROUND SQUIRREL SURVEY
AT THE PROPOSED PHOENIX COMBINED HEAT AND POWER PROJECT SITE,
TRONA, SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for

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29 July 2013

Certification: *I hereby certify that the statements furnished herein present data and information required for this Biological Survey to the best of my ability, and the facts, statements, and information presented are true and correct to the best of my knowledge and belief.*

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SUMMARY

Ace Cogeneration Company proposes to construct a natural gas pipeline along a 1.1 mi corridor from the existing PG&E line in Argus, San Bernardino County, California, to its cogeneration facility in nearby Trona. Visual and trapping surveys were conducted on the proposed project site to determine the presence or absence of Mohave ground squirrels (*Xerospermophilus mohavensis*), a State-listed threatened species. One trapping grid was established at the site. No Mohave ground squirrels were seen during the visual survey or captured during the three trapping periods. The negative result does not necessarily prove that Mohave ground squirrels do not exist on the site or that the site is not actual or potential habitat for the species. However, in the circumstance of such a negative result, the California Department of Fish and Wildlife will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the ending date of the last trapping on the project site, which was 21 June 2013.

This study was conducted under the authority of a Memorandum of Understanding between EREMICO Biological Services and the California Department of Fish and Wildlife, dated 28 August 2007.

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1. INTRODUCTION

1.1. PROJECT DESCRIPTION

ACE Cogeneration Company is proposing to redevelop their existing cogeneration power plant in Trona, San Bernardino County, California, converting from a coal-fired power plant to a natural gas-fired plant. The redevelopment, entitled the Phoenix Combined Heat and Power Project, would occur within the current limits of their property on developed/disturbed habitat. A new, 5,900-ft pipeline would be constructed to connect the power plant to an existing PG&E gas line along Trona Road in the neighboring town of Argus (Figures 1a and 1b).

The proposed project site lies within the known range of the Mohave ground squirrel (*Xerospermophilus mohavensis*) (Gustafson 1993), a State-listed threatened species (State of California 2013b). In 1989, a trapping survey associated with the construction of the ACE Cogeneration power plant found Mohave ground squirrels in an area adjacent to and northwest of the plant site (State of California 2013a). Dr. Phil Leitner conducted a habitat assessment for this species over the entire project site in 2012. He determined that potential habitat for the squirrel exists along 4,752 ft (0.9 mi) of the proposed pipeline route from the cogeneration power plant to the PG&E connection (Leitner 2012). Since the construction of the natural gas pipeline may negatively impact a State-listed species, surveys following standardized protocols (California Department of Fish and Game [CDFG] 2003) were initiated to determine the status of Mohave ground squirrels in the project area.

1.2. PROJECT SITE

The proposed natural gas pipeline is located in a portion of the east half of Section 18 and in a portion of the north half of the northwest quarter of the northeast quarter of Section 19, Township 25 South, Range 43 East, Mt. Diablo Base Meridian (Trona West Quadrangle, U.S. Geological Survey 7.5-minute Series) (Figure 1a). The elevation ranges from approximately 1630 to 1750 ft above sea level. The project site consists of disturbed and natural habitats. Adjacent land uses include vacant property (open desert) mainly towards the west; industrial development towards the north, east, and south; evaporation ponds towards the southeast; and single-family residences towards the southwest (Figure 1b).

Figure 1a. Proposed Phoenix Combined Heat and Power project site and natural gas pipeline route, Trona, California (USGS Trona West Quadrangle, 7.5 minute series).

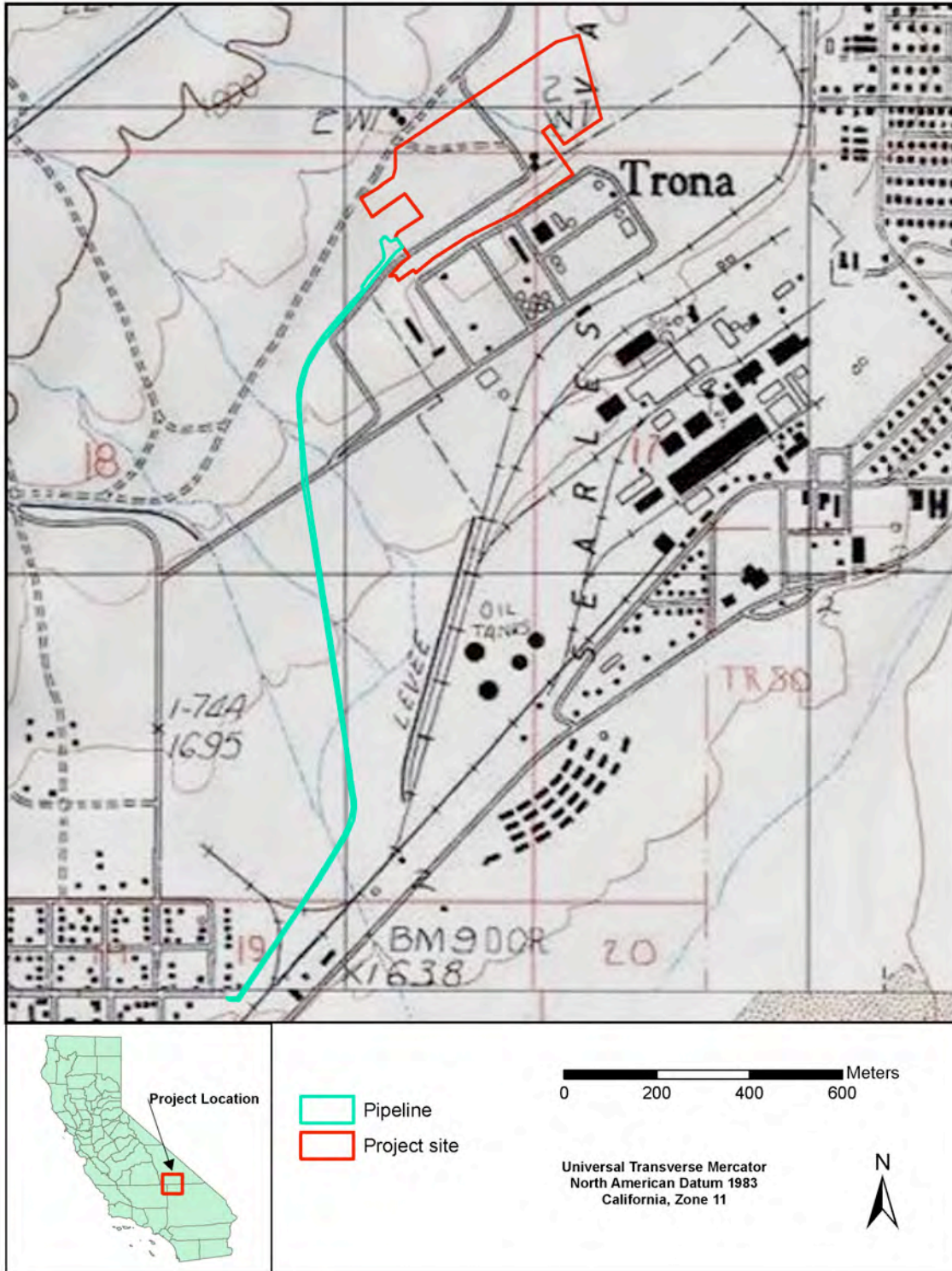
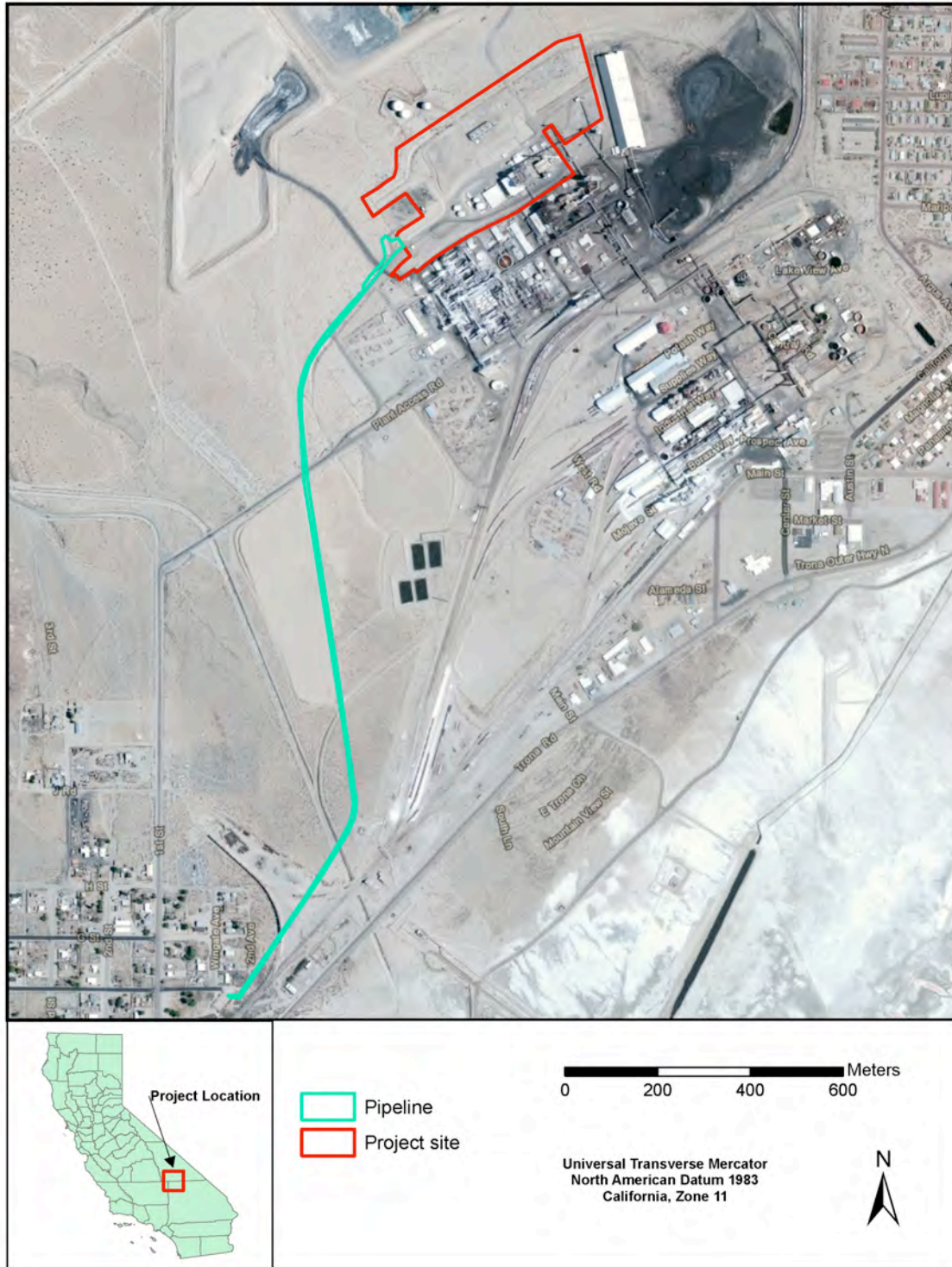


Figure 1b. Proposed Phoenix Combined Heat and Power project site and natural gas pipeline route, Trona, California.



2. METHODS

To determine presence of Mohave ground squirrels on the project site, a visual survey and then a trapping survey were conducted. The visual survey was conducted by walking a meandering transect through the project site. The purpose of this survey was to unobtrusively search for Mohave ground squirrels, to evaluate the habitat for its potential to support this squirrel, and to select the site for the trapping grid. The Mohave ground squirrel presence-or-absence trapping study was conducted using standardized survey guidelines (California Department of Fish and Game [CDFG] 2003). One grid is required per linear mile of potential Mohave ground squirrel habitat on the project site (CDFG 2003). The proposed gas line route supports 0.9 linear mile of potential habitat. Therefore, one grid was established at the site.

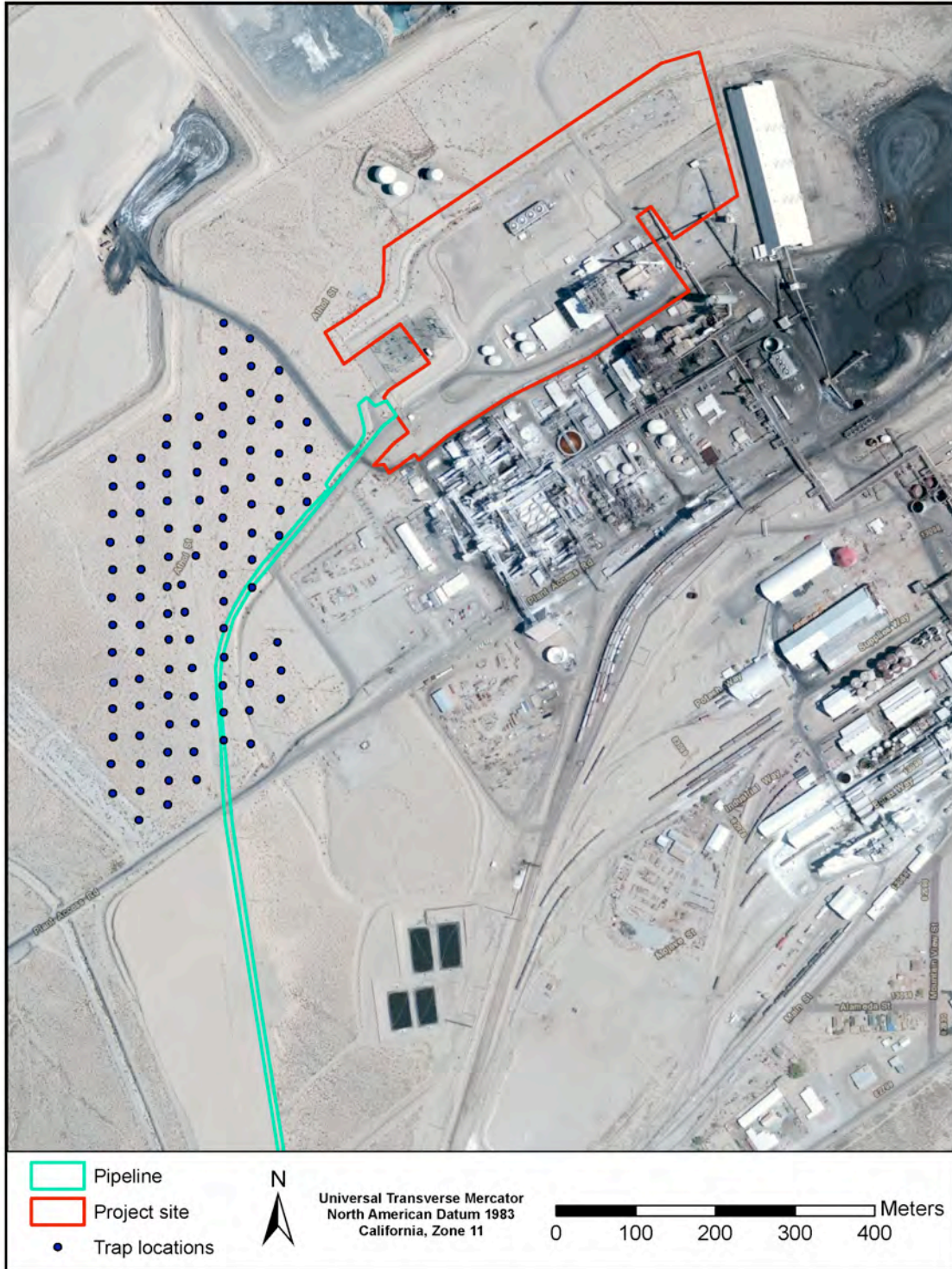
The grid consisted of 100 Sherman live traps (12-inch kangaroo rat model). The distance between traps was 115 ft. Each trap was placed in a 5 x 5 x 17-inch open-ended corrugated cardboard box. The boxes not only provided shade but also insulation to minimize thermal stress on captured animals. Traps and shelters were placed on the north-south axis and were baited with a mixture of sweet horse grain and a blend of peanut butter and rolled oats. The traps were opened by one hour after sunrise or when the air temperature at 1 ft above the ground reached 50°F. The ambient air temperature 1 ft above the ground and surface temperature, both in the shade, were recorded every hour during the trapping effort. Cloud cover and wind speed and direction were also recorded three times during trapping. If the air temperature exceeded 90°F, then the traps were closed until the temperature fell below 90°F. Traps were also closed during periods of rain and high wind. Traps were checked every 2-4 hours and closed by sunset.

The trapping grid was placed in northern portion of the proposed pipeline alignment, in mostly undisturbed habitat (Figure 2). The southern portion of the proposed pipeline alignment was not trapped due to access constraints. Native habitat in both areas was similar, so the likelihood of detecting a Mohave ground squirrel in any of these areas was judged to be identical.

The following data were recorded on all captured animals: capture time, trap number, species, sex, age (adult or juvenile), and reproductive condition. No animals were marked. After each animal was processed, it was released at the point of capture. A California Native Species Field Survey Form for Mohave ground squirrels was completed for the project site regardless of the outcome of trapping.

The grid was trapped for a maximum of three, 5-consecutive day periods. According to the trapping protocol (CDFG 2003) the first trapping session was to occur between 15 March and 30 April 2013. The second session was to occur at least two weeks after the end of the first trapping session and between 1 May and 31 May 2013. The third session was to occur at least two weeks after the end of the second trapping session and between 15 June and 15 July 2013. Trapping was to cease upon the capture of a Mohave ground squirrel. Hence, if a Mohave ground squirrel was captured during the first trapping period, then the second and third trapping sessions would not be necessary.

Figure 2. Mohave ground squirrel trapping grid at the proposed project site, Trona, California.



The Mohave ground squirrel survey was conducted under the authority of a Memorandum of Understanding between EREMICO Biological Services and the CDFW, dated 28 August 2007. Biologists Denise LaBerteaux and Bruce Garlinger conducted the visual and trapping surveys. Ms LaBerteaux is designated as principal investigator and Mr. Garlinger as field investigator on the Letter of Authorization under the MOU.

During the course of the Mohave ground squirrel survey, the biologists recorded incidental observations of other wildlife species occurring in the project area.

3. RESULTS AND DISCUSSION

3.1. PHYSICAL ENVIRONMENT

The project site is located in the northwestern Mojave Desert, in the Searles Valley. The site is on an alluvial fan with a 4% grade, draining towards the southeast. The soils consist of alkaline lake sediments (silts), windblown sand, and granitic and metamorphic gravel and boulders. The site supports an *Atriplex hymenelytra* shrubland alliance (desert holly scrub), as defined by Sawyer et al. (2009). Other perennial species on the project site include bush seepweed (*Suaeda nigra*), allscale (*Atriplex polycarpa*), shadscale (*Atriplex confertifolia*), and creosote bush (*Larrea tridentata*).

Annual plants were nearly absent from the project site due to below normal precipitation during the previous fall/winter. The only annual species detected on-site were Mojave stinkweed (*Cleomella obtusifolia*) and Coville's orach (*Atriplex covillei*).

Existing impacts at the project site include 2 interior dirt roads, 2 perimeter dirt roads, one paved perimeter road, an aboveground utility line, and an underground water line. Photographs of the trapping site are provided in Appendix A.

3.2. MOHAVE GROUND SQUIRRELS

The Mohave ground squirrel's range is limited to the western Mojave Desert, generally from Lucerne Valley in San Bernardino County to Cartago in Inyo County. Within its range it has a patchy distribution but occupies a variety of habitats, including desert saltbush scrub, creosote bush scrub, Joshua tree woodland, shadscale scrub, blackbrush scrub, and sagebrush scrub. It occurs at elevations up to at least 5,600 feet. Mohave ground squirrels eat mainly leaves of forbs, shrubs, and grasses; fruit and flowers of forbs; seeds of forbs, grasses, shrubs, and Joshua trees; fungi; and anthropods (Gustafson 1993). Under drought conditions, saltbush (*Atriplex* spp.), winter fat (*Krascheninnikovia lanata*), spiny hop-sage (*Grayia spinosa*), and box-thorn (*Lycium* spp.) are probably the most important food plants, helping to sustain viable populations of Mohave ground squirrels throughout their range (Leitner and Leitner 1998).

Reasons for decline and extirpation of local populations include persistent drought, habitat destruction, degradation and fragmentation; use of pesticides for rodent control; domestic cat predation; and, possibly, shooting and vehicle strike (Gustafson 1993).

Twenty-four years ago Mohave ground squirrels occupied an area north of the proposed pipeline (State of California 2013a). Recent studies, from 2006, 2010, and 2011, have found Mohave ground squirrels at the north end of the Searles Valley, within 8-12 miles of the project site, and at the south end of Searles Valley, within 6-7 miles of the project site (Leitner 2013, State of California 2013a). The habitats at the southern locations are similar to those found on the project site. Therefore, Mohave ground squirrels have the potential to occur on-site.

3.2.1. Visual Survey Results

Visual surveys were conducted on 15 March 2013 between 0900 and 1115 hours along the northern end of the pipeline route and on 26 March 2013 between 0930 and 1100 hours along the southern end. No Mohave ground squirrels were observed during the visual surveys.

3.2.2. Trapping Results

The first trapping period occurred from 25-29 March 2013 and consisted of 4,200 trap-hours. Prevailing weather conditions during trapping are provided in Appendix B. Results of the trapping effort during the first period are summarized in Table 1. There were 21 captures of white-tailed antelope squirrels (*Ammospermophilus leucurus*). One red racer (*Masticophis flagellum piceus*) was also captured. No Mohave ground squirrels were trapped or observed during this period.

The second trapping period occurred from 2-6 May 2013. The effort totaled 4,100 trap-hours. Prevailing weather conditions during trapping are provided in Appendix B. Results of the trapping effort during the second period are summarized in Table 1. There were 11 captures of white-tailed antelope squirrels. No other animals, including Mohave ground squirrels, were trapped during this period.

The third trapping period occurred from 17-21 June 2013. Prevailing weather conditions are provided in Appendix B. Temperatures exceeded 90°F on all five days of trapping; hence, trap closures were necessary, and the trapping effort totaled only 2,900 trap-hours. Results of the trapping effort during the third period are summarized in Table 1. Captures included 31 white-tailed antelope squirrels. No Mohave ground squirrels were trapped or sighted during this period.

A standardized form, included in the survey guidelines (CDFG 2003), summarizing the Mohave ground squirrel survey and trapping effort is provided in Appendix B. A completed California Native Species Field Survey Form that documents the negative trapping result is provided in Appendix C.

3.3. OTHER WILDLIFE

Other wildlife species that were incidentally observed during the Mohave ground squirrel survey include Long-nosed Leopard Lizard (*Gambelia wislizenii*), Zebra-tailed Lizard (*Callisaurus draconoides*), Side-blotched Lizard (*Uta stansburiana*), Desert Horned Lizard (*Phrynosoma platyrhinos*), California Whiptail (*Aspidoscelis tigris munda*), Sidewinder (*Crotalus cerastes*), Turkey Vulture (*Cathartes aura*), Red-tailed Hawk (*Buteo jamaicensis*), Prairie Falcon (*Falco mexicanus*), Mourning Dove (*Zenaida macroura*), White-throated Swift (*Aeronautes saxatalis*), Say's Phoebe (*Sayornis saya*), Western Kingbird (*Tyrannus verticalis*), Common Raven (*Corvus corax*), Horned Lark (*Eremophila alpestris*), Verdin (*Auriparus flaviceps*), Loggerhead Shrike (*Lanius ludovicianus*), Wilson's Warbler (*Phylloscopus trochilus*), Yellow-rumped Warbler (*Stenophaga coronata*), Sage Sparrow (*Amphispiza belli*), House Finch (*Carpodacus mexicanus*), Lesser Goldfinch (*Spinus psaltria*), and Black-tailed Jackrabbit (*Lepus californicus*). Most of these species are commonly found in the Mojave Desert. The Loggerhead Shrike is a California Species of Special Concern (Shuford and Gardali 2008).

Table 1. Results of the Mohave ground squirrel trapping effort at the proposed project site, Trona, California.

PERIOD	DATE	TRAP-HOURS	SPECIES	Ad. M	Ad. F	Juv. M	Juv. F	Unk.	TOTAL CAPTURES
1	25 March 2013	800	white-tailed antelope squirrel	5	4				9
	26 March 2013	900	white-tailed antelope squirrel	3	2				5
			red racer					1	1
	27 March 2013	900	white-tailed antelope squirrel	1	2				3
	28 March 2013	950	white-tailed antelope squirrel	1	1				2
	29 March 2013	650	white-tailed antelope squirrel		2				2
2	2 May 2013	1025	white-tailed antelope squirrel	1	3				4
	3 May 2013	625	white-tailed antelope squirrel	1	1				2
	4 May 2013	650	white-tailed antelope squirrel	1	1				2
	5 May 2013	1050	white-tailed antelope squirrel	1	1				2
	6 May 2013	750	white-tailed antelope squirrel	1					1
3	17 June 2013	500	white-tailed antelope squirrel		1	1	8		10
	18 June 2013	550	white-tailed antelope squirrel			3	4		7
	19 June 2013	650	white-tailed antelope squirrel	1	2	3	3		9
	20 June 2013	650	white-tailed antelope squirrel		1	1	1		3
	21 June 2013	550	white-tailed antelope squirrel			1	1		2

CONCLUSION

Surveys were conducted from late March through June 2013 to determine the presence or absence of Mohave ground squirrels along the proposed natural gas pipeline route for the Phoenix Combined Heat and Power Project in Trona, California following standardized survey guidelines (CDFG 2003). No Mohave ground squirrels were captured or otherwise detected during the surveys. The negative result does not necessarily prove that Mohave ground squirrels do not exist on the site or that the site is not actual or potential habitat for the species. Indeed, an area adjacent to the project site supported Mohave ground squirrels in 1989. However, prolonged drought and habitat modifications can lead to local extirpations.

With the negative result from the current trapping study, the California Department of Fish and Wildlife will stipulate that the project site harbors no Mohave ground squirrels. This stipulation will expire one year from the last day of trapping. Therefore, the results of this study expire on 21 June 2014.

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APPENDIX A

PHOTOGRAPHS OF THE PROJECT SITE

Trapping Site, Phoenix Combined Heat and Power Project, Trona, California

from east portion of trapping grid towards north



from east portion of trapping grid towards south



Trapping Site, Phoenix Combined Heat and Power Project, Trona, California

from west portion of trapping grid towards south



from west portion of trapping grid towards north



APPENDIX B

**MOHAVE GROUND SQUIRREL SURVEY
AND TRAPPING SUMMARY FORMS**

MOHAVE GROUND SQUIRREL (MGS) SURVEY AND TRAPPING FORM

PART 1 – PROJECT INFORMATION

Project Name: Phoenix Combined Heat & Power, Natural Gas Pipeline **Owner:** ACE Cogeneration Co.

Location (Township, Range, Section): a portion of the east half of Section 18 and in a portion of the north half of the northwest quarter of the northeast quarter of Section 19, Township 25 South, Range 43 East, MDBM, in the Town of Trona, San Bernardino County

Quad Map/Series: Trona West, 7.5 Minute Series

UTM Coordinates of Trapping Grid Corners: (NAD 83, Zone 11) NW Corner 464697E, 3957828N; NE Corner 464941E, 3957874N; SE Corner 464908E, 3957526N; SW Corner 464697E, 3957408N

Acreage of Project Site: 3.9 acres **Acreage of Potential MGS Habitat on Site:** 2.73 acres

Total Acreage Visually Surveyed on Project Site: 30 acres **Date(s) of Visual Survey:** 15, 26 March 2013

Visual Survey Conducted By: Denise LaBerteaux, Bruce Garlinger

Total Acres Trapped: 30 acres **Number of Sampling Grids:** 1

Trapping Conducted By: Bruce Garlinger (BG) and Denise LaBerteaux (DL)

Dates of Sampling Term(s): FIRST (BG) 25-29 Mar 2013; SECOND (DL) 2-6 May 2013; THIRD (DL) 17-21 June 2013

PART II – GENERAL HABITAT DESCRIPTION

Vegetation Type: *Atriplex hymenelytra* shrubland alliance (desert holly scrub)

Dominant Perennials: desert holly (*Atriplex hymenelytra*), bush seepweed (*Suaeda nigra*)

Other Perennials: allscale (*Atriplex polycarpa*), shadscale (*Atriplex confertifolia*), and a few creosote bush (*Larrea tridentata*).

Dominant Annuals: Mojave stinkweed (*Cleomella obtusifolia*).

Other Annuals: Coville's orach (*Atriplex covillei*) was the only other annual present.

Land Form: alluvial fan

Soils Description: alkaline lake sediments (silts), windblown sand, and granitic and metamorphic gravel and boulders

Elevation: 1630 to 1750 ft

Slope Aspect: southeast **Percent Slope:** 4%

PART III – WEATHER

Project Name: **Phoenix Combined Heat and Power Project, Natural Gas Pipeline**

Property Owner: **ACE Cogeneration Company**

Year: 2013 (Trapping Period 1)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 15 March 2013 **ACTIVITY:** visual survey

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	21	0900
AIR TEMPERATURE, MAX.	26.5	1115
SOIL TEMPERATURE, MIN.	20.8	0900
SOIL TEMPERATURE, MAX.	27	1115
CLOUD COVER, AM	50	0900
CLOUD COVER, PM		
WIND SPEED, AM	1.8	0900
WIND SPEED, PM		

DATE: 25 March 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	13.2	0700
AIR TEMPERATURE, MAX.	27.2	1400
SOIL TEMPERATURE, MIN.	14.5	0700
SOIL TEMPERATURE, MAX.	28.7	1400
CLOUD COVER, AM	100	0800
CLOUD COVER, PM	99	1600
WIND SPEED, AM	0	0800
WIND SPEED, PM	1.3	1600

DATE: 26 March 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	15.2	0700
AIR TEMPERATURE, MAX.	30.6	1500
SOIL TEMPERATURE, MIN.	15.5	0700
SOIL TEMPERATURE, MAX.	30.3	1400
CLOUD COVER, AM	95	0800
CLOUD COVER, PM	30	1600
WIND SPEED, AM	1.8	0800
WIND SPEED, PM	6.0	1600

DATE: 27 March 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	14.8	0700
AIR TEMPERATURE, MAX.	29.3	1400
SOIL TEMPERATURE, MIN.	16.2	0700
SOIL TEMPERATURE, MAX.	28.9	1500
CLOUD COVER, AM	90	0800
CLOUD COVER, PM	30	1600
WIND SPEED, AM	6.1	0800
WIND SPEED, PM	7.1	1600

DATE: 28 March 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	14.3	0700
AIR TEMPERATURE, MAX.	31.0	1400
SOIL TEMPERATURE, MIN.	15.8	0700
SOIL TEMPERATURE, MAX.	31.6	1600
CLOUD COVER, AM	70	0800
CLOUD COVER, PM	60	1600
WIND SPEED, AM	1.8	0800
WIND SPEED, PM	3.1	1600

DATE: 29 March 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	12.2	0700
AIR TEMPERATURE, MAX.	32.5	1400
SOIL TEMPERATURE, MIN.	14.5	0700
SOIL TEMPERATURE, MAX.	31.7	1400
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1200
WIND SPEED, AM	0.8	0800
WIND SPEED, PM	4.6	1200

Project Name: **Phoenix Combined Heat and Power Project, Natural Gas Pipeline**
 Property Owner: **ACE Cogeneration Company**

Year: 2013 (Trapping Period 2)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 2 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	17	0700
AIR TEMPERATURE, MAX.	28.5	1400
SOIL TEMPERATURE, MIN.	16	0700
SOIL TEMPERATURE, MAX.	31	1600
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1600
WIND SPEED, AM	13.6	0800
WIND SPEED, PM	10.7	1600

DATE: 3 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	12	0630
AIR TEMPERATURE, MAX.	33	1400
SOIL TEMPERATURE, MIN.	11	0630
SOIL TEMPERATURE, MAX.	34	1400
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	5	1200
WIND SPEED, AM	1.8	0800
WIND SPEED, PM	4.1	1200

DATE: 4 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	16	0630
AIR TEMPERATURE, MAX.	33	1400
SOIL TEMPERATURE, MIN.	15.5	0630
SOIL TEMPERATURE, MAX.	35	1400
CLOUD COVER, AM	10	0800
CLOUD COVER, PM	5	1200
WIND SPEED, AM	4.3	0800
WIND SPEED, PM	7.1	1200

DATE: 5 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	16	0630
AIR TEMPERATURE, MAX.	23.5	1500
SOIL TEMPERATURE, MIN.	16	0630
SOIL TEMPERATURE, MAX.	24.5	1500
CLOUD COVER, AM	85	0800
CLOUD COVER, PM	100	1600
WIND SPEED, AM	13.7	0800
WIND SPEED, PM	8.0	1600

DATE: 6 May 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	12	0630
AIR TEMPERATURE, MAX.	21.5	1400
SOIL TEMPERATURE, MIN.	12	0630
SOIL TEMPERATURE, MAX.	21.5	1400
CLOUD COVER, AM	25	0800
CLOUD COVER, PM	60	1200
WIND SPEED, AM	6.0	0800
WIND SPEED, PM	7.6	1200

Project Name: **Phoenix Combined Heat and Power Project, Natural Gas Pipeline**
 Property Owner: **ACE Cogeneration Company**

Year: 2013 (Trapping Period 3)

Grid Number: 1

WEATHER (temperature = °C; cloud cover = %; wind speed = km/h)

DATE: 17 June 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	18.5	0530
AIR TEMPERATURE, MAX.	35.5	1200
SOIL TEMPERATURE, MIN.	18.5	0530
SOIL TEMPERATURE, MAX.	34.5	1200
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1200
WIND SPEED, AM	4.8	0800
WIND SPEED, PM	6.9	1200

DATE: 18 June 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	23	0530
AIR TEMPERATURE, MAX.	34.5	1215
SOIL TEMPERATURE, MIN.	19.5	0530
SOIL TEMPERATURE, MAX.	35	1215
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1215
WIND SPEED, AM	6.4	0800
WIND SPEED, PM	8.7	1215

DATE: 19 June 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	22	0530
AIR TEMPERATURE, MAX.	33	1315
SOIL TEMPERATURE, MIN.	21	0530
SOIL TEMPERATURE, MAX.	34	1315
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1200
WIND SPEED, AM	5.1	0800
WIND SPEED, PM	6.7	1200

DATE: 20 June 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	19.5	0700
AIR TEMPERATURE, MAX.	32.5	1315
SOIL TEMPERATURE, MIN.	19	0530
SOIL TEMPERATURE, MAX.	33	1315
CLOUD COVER, AM	0	0800
CLOUD COVER, PM	0	1200
WIND SPEED, AM	5.9	0800
WIND SPEED, PM	3.5	1200

DATE: 21 June 2013 **ACTIVITY:** trapping

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	19.5	0530
AIR TEMPERATURE, MAX.	33	1215
SOIL TEMPERATURE, MIN.	19.5	0530
SOIL TEMPERATURE, MAX.	34	1215
CLOUD COVER, AM	25	0800
CLOUD COVER, PM	5	1215
WIND SPEED, AM	3	0800
WIND SPEED, PM	3.5	1215

APPENDIX C

CALIFORNIA NATIVE SPECIES FIELD FORM

Mail to:
 California Natural Diversity Database
 Department of Fish and Game
 1807 13th Street, Suite 202
 Sacramento, CA 95814
 Fax: (916) 324-0475 email: WHDAB@dfg.ca.gov

For Office Use Only

Source Code _____ Quad Code _____
 Elm Code _____ Occ. No. _____
 EO Index No. _____ Map Index No. _____

Date of Field Work mm/dd/yyyy: 06/21/2013

Reset

California Native Species Field Survey Form

Send Form

Scientific Name: Xerospermophilus mohavensis

Common Name: Mohave Ground Squirrel

Species Found? Yes No _____
If not, why?

Total No. Individuals 0 Subsequent Visit? yes no
 Is this an existing NDDDB occurrence? no unk.
Yes, Occ. #

Collection? If yes: _____
Number Museum / Herbarium

Reporter: Denise L. LaBerteaux
 Address: 211 Snow Street
Weldon, CA 93283
 E-mail Address: eremico@aol.com
 Phone: (760) 378-3021

Plant Information

Phenology: _____% vegetative _____% flowering _____% fruiting

Animal Information

adults # juveniles # larvae # egg masses # unknown
 breeding wintering burrow site rookery nesting other

Location Description (please attach map AND/OR fill out your choice of coordinates, below)
 ADJACENT TO THE ACE COGENERATION FACILITY IN TRONA, CA

County: San Bernardino Landowner / Mgr.: ACE Cogeneration
 Quad Name: Trona West Elevation: 1700 ft
 T 25S R 43E Sec 18, _____% of NE _____%, Meridian: H M S D Source of Coordinates (GPS, topo. map & type): GPS
 T _____ R _____ Sec _____, _____% of _____, Meridian: H M S D GPS Make & Model GARMIN 76CS
 Datum: NAD27 NAD83 WGS84 Horizontal Accuracy 3 meters meters/feet
 Coordinate System: UTM Zone 10 UTM Zone 11 OR Geographic (Latitude & Longitude)
 Coordinates: Easting/Longitude 464799 Northing/Latitude 3957530

Habitat Description (plant communities, dominants, associates, substrates/soils, aspects/slope):
 Alluvial fan. Atriplex hymenelytra shrubland alliance with Atriplex polycarpa, Atriplex confertifolia, Suaeda nigra, a few Larrea tridentata. Soils: alkaline lake sediments (silts), windblown sand, granitic and metamorphic gravel and boulders. Aspect: southeast. Slope: 4%.

Other rare taxa seen at THIS site on THIS date:

Site Information Overall site quality: Excellent Good Fair Poor
 Current / surrounding land use: open desert; light industrial developments
 Visible disturbances: dirt roads, fly ash disposal sites, above ground and buried utilities, OHV tracks
 Threats: proposed natural gas line
 Comments: One grid trapped on 25-29 March, 2-6 May, 17-21 June 2013. Trapping grid corners: NW 464697E, 3957828N; NE 464941E, 3957874N; SE 464908E, 3957526N; SW 464697E, 3957408N. No Mohave G.S. observed. Trapping was conducted by Bruce Garlinger, Denise LaBerteaux.

Determination: (check one or more, and fill in blanks)

Keyed (cite reference): _____
 Compared with specimen housed at: _____
 Compared with photo / drawing in: _____
 By another person (name): _____
 Other: _____

Photographs: (check one or more)

Plant / animal	Slide <input type="checkbox"/>	Print <input type="checkbox"/>	Digital <input type="checkbox"/>
Habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Diagnostic feature	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

May we obtain duplicates at our expense? yes no