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February 28, 2012

Mr. Caleb Shaffer, Manager
RCRA Facilities Management Office (WST-4)
U.S. EPA Region 9
75 Hawthorne Street
San Francisco, CA 94105

RE: Transmittal Letter for the US Ecology Nevada Screening Level Ecological Risk Assessment and Biological Evaluation – Final Report

Dear Mr. Shaffer:

Stantec Consulting Services Inc. (Stantec) is pleased to submit the attached US Ecology Nevada Screening Level Ecological Risk Assessment (SLERA) – Final Report and the Biological Evaluation, for the US Ecology (USE) Beatty, Nevada facility. The SLERA and BE were conducted in close consultation with John Beach and Ron Leach of the EPA Region 9 office. We have appreciated the responsiveness and detailed help and comments these gentlemen have provided during the planning, implementation, and report preparation phases of this work.

US Ecology is eager to obtain approval and concurrence with the findings of these reports. Please contact Bob Marchand or Scott Wisniewski with any questions.

Sincerely,

STANTEC CONSULTING SERVICES INC.

Angus E. McGrath, Ph.D.
Principal Geochemist

cc: Bob Marchand, US Ecology
John Beach, EPA Region 9
Ron Leach, EPA Region 9

Attachment:

USEN – Screening Level Ecological Risk Assessment – Final Beatty, Nevada
USEN – Biological Evaluation – Beatty, Nevada

**US Ecology Nevada Facility –
Biological Evaluation**

US Ecology Nevada
Beatty, Nevada
Stantec PN: 185702329

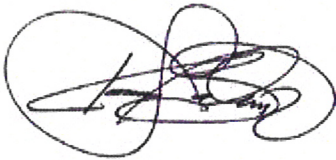


February 28, 2012

Limitations and Certifications

This report was prepared in accordance with the scope of work outlined in Stantec's contract and with generally accepted professional engineering and environmental consulting practices existing at the time this report was prepared and applicable to the location of the site. It was prepared for the exclusive use of US Ecology for the express purpose stated above. Any re-use of this report for a different purpose or by others not identified above shall be at the user's sole risk without liability to Stantec. To the extent that this report is based on information provided to Stantec by third parties, Stantec may have made efforts to verify this third party information, but Stantec cannot guarantee the completeness or accuracy of this information. The opinions expressed and data collected are based on the conditions of the site existing at the time of the field investigation. No other warranties, expressed or implied are made by Stantec.

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- Appendix C Desert Tortoise Field Survey

List of Acronyms

BE	Biological Evaluation
BLM	Bureau of Land Management
ED	Exposure Dose
ESA	Endangered Species Act
HI	Hazard Index
HQ	Hazard Quotient
JBR	JBR Environmental Consultants, Inc.
LLRWDF	Low-Level Radioactive Waste Disposal Facility
NAC	Nevada Administrative Code
NDOW	Nevada Division of Wildlife
ng/kg	nanograms per kilogram
NOAEL	No Observed Adverse Effect Level
NNHP	Nevada Natural Heritage Program
NRS	Nevada Revised Statutes
PCB	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
SLERA	Screening Level Ecological Risk Assessment
SOP	standard operating procedure
SVL	Snout to Vent Length
TCDD	2,3,7,8-Tetrachloro-dibenzo- <i>p</i> -dioxin
TEF	Toxicity Equivalency Factors
TEQ	Toxic Equivalency
TRV	Toxicity Reference Value
TSCA	Toxic Substances Control Act
USEN	US Ecology Nevada
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WAO	Wet Air Oxidation

1.0 Introduction

The U.S. Environmental Protection Agency, Region IX (USEPA) asked U.S. Ecology (USEN) to prepare this Biological Evaluation (BE) to assist the agency in making its determinations under Section 7 of the Endangered Species Act (ESA) regarding USEN's application to renew and modify its Toxic Substances Control Act (TSCA) approval for its Beatty, Nevada facility (the Facility). Consistent with the U.S. Fish & Wildlife's (USFWS) ESA regulations at 50 CFR 402.12(f), the BE includes a description of the proposed action, information on listed and proposed species and critical habitat, and an evaluation of the potential effects of the proposed action on any listed and proposed species that may occur in the area of proposed action.

1.1 OVERVIEW

This report assembles and presents information on the proposed action and listed species to help USEPA in making its determinations under the ESA. Species identified or listed as endangered or threatened under the ESA, or their designated critical habitat will be evaluated. Additionally, species listed under Nevada NRS 501, will also be included as a cautionary note.

1.1.1 Species Evaluated

USEN had previously contacted the USFWS, Bureau of Land Management (BLM), and Nevada Natural Heritage Program (NNHP) to ascertain the current status of any state or federally listed species of flora and fauna in the general vicinity of the USEN Facility (see Appendix A). Although it was suggested that data were somewhat incomplete for the area, and the NNHP stated that there were no mapped species within two miles of the USEN Facility, the Facility is within the general range of the Desert Tortoise (*Gopherus agassizii*), and the habitat surrounding the Facility is suitable for the Desert Tortoise. In an additional letter from USFWS dated August 1, 2011, the USFWS identified the Banded Gila Monster (*Heloderma suspectum cinctum*) as a recognized state species of concern, and it was thus added into this evaluation as a cautionary note recognizing its potential sensitivity. USFWS has designated critical habitat for the Desert Tortoise, but no such habitat is within approximately 100 miles of the Facility. Therefore, the proposed actions of the USEN Facility may have the potential to impact the following:

- ❑ Desert Tortoise (*Gopherus agassizii*), an ESA-listed species that occurs in the area and/or its critical habitat; and,
- ❑ Banded Gila Monster (*Heloderma suspectum cinctum*), a state species of concern that potentially may occur in the area and/or its critical habitat.

1.1.2 Brief Site Description

The USEN Facility, which is located in Nye County, Nevada, treats, stores and disposes of hazardous waste, including polychlorinated biphenyls (PCBs). USEN is approved for the storage and landfill disposal of articles and fluids containing PCBs, which are regulated by TSCA.

The USEN Facility is located approximately 11 miles south of Beatty, and approximately 125 miles northwest of Las Vegas, Nevada. The USEN Facility (as leased from the State of Nevada) covers approximately 80 acres that consists of flat desert land. The property is completely surrounded by a 6-foot tall chain-link fence that is topped with barbed wire. The lower 6 inches of the fence is supplemented by a gravel berm to prevent burrowing animals from gaining access to the Facility. Regular inspections and maintenance are performed to sustain the integrity of this barrier.

In addition, the State of Nevada leases and maintains a 1,200-foot wide buffer zone (400 acres) surrounding the 80 acre site from the U.S. BLM. This surrounding property is operated as range land by the BLM. The BLM manages lands, such as sagebrush habitat, which are under statutory authority of the Federal Land Policy and Management Act of 1976 (43 U.S.C 1701 et seq.), as amended (Nevada Division of Wildlife; NDOW, 2005).

Additional pertinent information about the site, its operations, and its environmental description are presented in previously prepared reports, including the Proposed Installation and Operation of a Wet Air Oxidation (WAO) System, Environmental Impact Statement, Ecological/Biological Assessment, January 2005 (Shaw, 2005), which was prepared and submitted as part of the TSCA Approval Renewal Application package on January 8, 2010 (US Ecology, 2010).

2.0 Description of the Proposed Action and Action Area

2.1 PROPOSED ACTION

The proposed action is USEN's application to renew and modify the Facility's TSCA approval, to allow on-site storage of PCBs and disposal of PCBs in Trench 11 and Trench 12. Trench 12 has been used for hazardous waste disposal under a Resource Conservation and Recovery Act (RCRA) permit since 2008. The current TSCA approval does not authorize disposal of PCB waste in Trench 12. Currently, only Trench 11 is approved to accept PCBs for disposal and is quickly running out of capacity.

USEN requested that USEPA renew and modify its approval to store, manage, and dispose of PCB wastes at the Facility in accordance with 40 CFR, §§761.60, 761.65 and 761.75. USEN's approval application provides a detailed description of the proposed action that is summarized below. The Facility was issued prior approvals in 1978, 1982, 1987, 1988, 1989, and 1996 for the current PCB storage and disposal operations; operational reports are submitted to USEPA annually. The Facility is also permitted under the RCRA to treat, store, and dispose hazardous wastes. The Facility initially operated as a Low-Level Radioactive Waste Disposal Facility (LLRWDF) in areas which were not subsequently used for disposal of hazardous or PCB wastes. Radioactive waste disposal ceased in 1993.

The TSCA Renewal Application (February 2011 revision) that USEN submitted to USEPA outlines in detail the activities and processes that will be performed at the Facility.

PCB-related activities performed within the Facility's 80 acres include the following:

- Storage of PCB containers/articles;
- Draining and flushing of PCB transformers;
- Storage of fluids containing PCBs in tanks;
- Stabilization of PCB contaminated waste (RCRA/TSCA waste); and,
- Landfill disposal.

2.2 ACTION AREA

USEN is situated in a remote desert environment which is located in Nye County, Nevada, approximately 125 miles northwest of Las Vegas and 11 miles south of Beatty, Nevada. The latitude of this Facility is 36 degrees 46 min 9 sec, and the longitude of this Facility is 116 degrees 41 min 23 sec. The proposed action will take place within the current Facility's boundaries, inclusive of a 30-foot wide dirt road surrounding the exclusionary fencing, which are considered to be previously disturbed; no additional land impacts are expected.

The USEN Facility consists of:

- One PCB Storage Building;
- Five Container Storage Units;
- Five PCB Storage Tanks;
- One Leachate Storage Tank;
- One Evaporation Tank;
- Five Batch Stabilization Tanks;
- Three Subtitle C landfills consisting of Trench 10 (closed), Trench 11 (currently approved for TSCA PCB waste), and newly-constructed Trench 12; and,
- Numerous buildings.

The USEN Facility consists of a combination of buildings, roads, landfills, waste storage areas, and waste processing areas in a rectangular footprint approximately 1,200 feet wide and 3,000 feet long, comprising 80 acres. These 80 acres have been in continual use since 1962 and are surrounded by a chain linked fence. In addition to the 80 acres, the action area includes a 400-acre buffer zone. The buffer zone includes access roads around the perimeter of the Facility and to the highway, an employee parking lot, a groundwater pump house, a groundwater storage pond, groundwater monitoring wells, and a large spoil pile (excavated soil). The buffer zone is primarily hard, gravel, desert pavement layer with low shrub cover. Vegetation within the buffer zone is typical Mojave Desert creosote scrub brush. Under the proposed action, USEN will continue to operate within the established 80 acres property delineation.

2.3 SUMMARY OF SITE INSPECTIONS

The Facility fence line is inspected weekly; the standard operating procedure (SOP) for these inspections is provided as Appendix B. Personnel drive the perimeter of the Facility on the adjacent access road inspecting property boundaries including the integrity of the fence line; these inspections also include visually evaluating the immediate area for federally listed species such as the Desert Tortoise (*Gopherus agassizii*), as well as the Gila Monster (species of State concern). If a listed species is encountered, it is monitored while near the premises, and the area surrounding the listed species is cordoned off until the species has left the area. It should be noted that the Desert Tortoise has never been observed on or in the buffer zone surrounding the Facility.

3.0 Listed Species and Critical Habitat in the Action Area

In a letter dated October 18, 2010 (see Appendix A), the USFWS identified the Desert Tortoise (*Gopherus agassizii*) as the only federally listed or candidate species likely to occur near the action area. In a second letter dated August 01, 2011 (see Appendix A), the USFWS identified the Banded Gila Monster (*Heloderma suspectum cinctum*) as a species that is not listed under the ESA as an endangered or threatened species, but that the State of Nevada has identified as a species of concern. Therefore, although not required under the ESA, the Banded Gila Monster is discussed in this BE out of caution to identify any potential impacts to this Nevada species of concern. In addition, no designated or proposed critical habitat occurs near the subject project area.

3.1 THE DESERT TORTOISE – HABITAT AND LIFE HISTORY

The following information on the Desert Tortoise was obtained from the numerous sources listed in Section 6 – References. Populations of the Desert Tortoise have declined by as much as 90 percent since the 1980s, and the Mojave population of Desert Tortoise has been recently federally listed as a threatened species (Federal Register 2010; USFWS, 2010, 2011). State and federal wildlife and land management agencies, as well as local jurisdictions are actively involved in conservation programs to help the recovery of the Desert Tortoise throughout the Mojave Desert. For these reasons, a semi-quantitative evaluation was conducted for the Desert Tortoise to determine potential for risk associated with PCB operations at the Facility.

3.1.1 Species Description

The Desert Tortoise (*Gopherus agassizii*) is one of most elusive inhabitants of the desert, spending up to 95 percent of its life underground. The Desert Tortoise lives in a variety of habitats from sandy flats to rocky foothills, including alluvial fans, washes, and canyons where suitable soils for den construction might be found.

The major habitat of the Mojave population of the Desert Tortoise is found below 5,000 feet elevation in the Creosote Bush-Bursage series of the Mojave Desert scrub biome; dominant plants are creosote bush (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). The Desert Tortoise habitat may also include various cacti species, saltbush (*Atriplex* spp.), and Joshua tree (*Yucca brevifolia*) woodlands at elevations up to approximately 5,000 feet. The Desert Tortoise is generally active when annual plants are most abundant, during spring and early summer, and during the fall following rain events. The Desert Tortoise usually spends the remainder of the year in shelter-sites, escaping the extreme weather conditions of the desert in burrows. Shelter-sites/burrows may be located under or between bushes, in the banks or beds of washes, in rock outcrops, or in caliche caves.

The Desert Tortoise has a high-domed shell and elephant-like legs and is easily distinguishable from its turtle cousins. They range in size from 2 inches up to 15 inches for a mature male. The top shells are brown, gray, or black, often with distinctive growth lines, while the shell underneath is lighter.

Tortoises can completely withdraw their head and limbs within their shells, leaving only horny scales visible to predators. They have a short tail and their claws aid them in digging burrows. Males have curved, longer gular horns which protrude from their lower shells underneath their neck and head. They use these horns to combat other males and for butting and nudging females during courtship. Males also have shallow depressions in their lower shells while the females' lower shell is flat.

The Desert Tortoise produces a variety of sounds (hisses, grunts, pops, whoops, huhs, echs, bips, etc.) which seem to be the most important when vocalized to an unfamiliar tortoise. Social behavior consists of a series of head bobs for species and gender recognition, courtship, and threat. Head bobbing normally precedes agonistic (combative) behavior between males, although females may also be aggressive.

The Desert Tortoise may live 50 or more years in the wild. Their diet consists primarily of wildflowers, grasses, and cacti. The Desert Tortoise derives almost all their water intake from the plants they eat. A large urinary bladder can store over 40 percent of the tortoise's body weight in water, urea, uric acid, and nitrogenous wastes. During periods of sufficient rainfall, tortoises drink from temporary rain pools. A common defensive behavior when molested or handled is to empty the bladder, leaving the tortoise at a considerable disadvantage during dry periods. For this reason, the Desert Tortoise should not be handled when encountered in the wild.

Reproduction begins between ages 12 to 20, with clutch sizes of 1 to 14 eggs. In years with low rainfall, females may lay few to no eggs. Females can store sperm for five years or longer, meaning they can reproduce for several years after mating. Nests are built and eggs are laid in late spring or early summer. The hatchlings appear in 90 to 120 days. The mother leaves the nest, so once the hatchlings appear, they must survive on their own.

Tortoises depend on bushes for shade and protection from predators such as ravens and coyotes. To escape the temperatures of cold winters and very hot summers, many tortoises live in burrows. The spring and summer burrows vary from 18 inches to 5 feet long, but may be only a few inches from the surface. Winter burrows tend to be about 8 feet long and may be 2 to 3 feet from the surface. They often share burrows and may use multiple burrows scattered across the landscape. They hibernate for up to nine months each year, becoming most active from March to June and September to October. When they are young, they seldom venture more than 150 feet from their burrow. As they get older, they may go as far as $\frac{3}{4}$ mile in a day and use a network of burrows. In the most densely populated areas, you may find one tortoise per 2.5 acres. Typically, tortoise densities are closer to one tortoise per 100 acres.

3.1.2 Species Status

The Mojave population of the Desert Tortoise is federally listed as threatened under the ESA, which was listed by emergency rule as endangered on August 4, 1989, and by final rule as a threatened species on April 2, 1990. The Mojave population includes all Desert Tortoises north and west of the Colorado River in California, southern Nevada, northwestern Arizona, and southwestern Utah. The original reasons the Desert Tortoise was listed as a threatened species included loss of habitat from construction projects, such as roads, housing and energy developments, and conversion of native habitat to agriculture. Additionally, livestock grazing and off-road vehicles have degraded significant habitat of the Desert Tortoise. It has also been stated that illegal collection, upper respiratory tract disease, and raven predation on juvenile Desert Tortoises are also threatening the existence of the Desert Tortoise (55 Federal Register 12178; Federal Register, 2010).

3.1.3 Distribution and Habitat

For purposes of the ESA, Desert Tortoise habitat is defined as:

1. Areas with presence of Desert Tortoises or Desert Tortoise sign (e.g., shells, bones, scutes, limbs, scats, shelter-sites (burrows), tracks, egg shell fragments, courtship rings, drinking sites, mineral licks) that are likely to be part or all of a home range;
2. Dispersal corridors;
3. Critical habitat published in the Federal Register; or,
4. Habitat identified in a recovery document.

If the action area and/or adjacent areas include one or more of these four criteria then, in most cases, the agency action "may affect" the Desert Tortoise.

The USFWS strongly recommends surveys within the "zone of influence" which surrounds an action area. Such surveys provide information regarding occurrence of Desert Tortoises adjacent to the action area, which may be indirectly affected by the action. Especially with linear projects, the action area may not directly affect an existing shelter-site, but may sever the home range of Desert Tortoises existing nearby in the "zone of influence" (Clement Associates Inc., 1990).

3.2 THE BANDED GILA MONSTER – HABITAT AND LIFE HISTORY

The Gila monster (*Heloderma suspectum*) is a state protected species in Nevada, but is not federally listed as threatened or endangered. However, the Banded Gila Monster is identified as a sensitive species by the BLM and is classified as protected by the state of Nevada. Based on available information, this species has not been observed on or near the USEN Facility. The following information on the Banded Gila Monster was obtained from the sources identified in Section 6 – References.

3.2.1 Species Description

The Banded Gila Monster (*Heloderma suspectum cinctum*) is one of two venomous lizards in the world (Fry *et al.*, 2006). The venom is thought to be used for defensive purposes, rather than for assisting in prey capture. The Banded Gila Monster is found within the southwestern United States and its geographic range approximates that of the Desert Tortoise (NDOW, 2005). Gila monsters are large, thick-bodied lizards with a large-head, rounded body and short, thick tail, and can reach a total length of up to 22 inches (56 centimeters), and are recognized as a slow-moving lizard. Their legs are short and muscular with large feet and toes. Its fourth toe is nearly as long as its third toe, which is unusual among lizards (Stebbins, 2003). The species has colorfully ornate skin patterns, in which coloration is primarily black and pink, with some color variations that can range from orange to yellowish (Jennings and Hayes, 1994). The dorsal surfaces of the animal are covered with bead-like scales, and the ventral (belly) scales are squarer in shape. This species has a well-developed gular fold and loose folds of skin on the neck. This species also has a dark colored forked tongue that it uses in a snake-like fashion (Stebbins, 2003).

Gila monsters spend the majority of their life underground and are active primarily during the day. The Banded Gila Monster is primarily ground dwelling and subterranean, spending greater than 95 percent of their lives underground (NDOW, 2005), but will occasionally climb trees in search of food resources (Saint Louis Zoo, *No Date*). Gila monsters often seek shelter or find refuge in self-excavated burrows or alternatively, those made by small mammals, and occasionally in wood rat nests, as well as in spaces under rock, dense shrubs, or other natural cavities. These subsurface shelters are important components of their habitat, and certain sanctuaries are used with a high degree of recurrence, particularly in winter, and sometimes by multiple individuals simultaneously (Jennings and Hayes, 1994; Bechtel Nevada, 2001). This species seems to prefer rocky areas and are often found at dawn or dusk following warm summer rains.

3.2.2 Distribution and Habitat

The Gila monster ranges from extreme southwestern Utah, southern Nevada, and adjacent southeastern California south through southern Arizona, southwestern New Mexico, and much of Sonora to Sinaloa, Mexico (NatureServe, 2011). The Banded Gila Monster is found primarily in the Eastern Mojave Desert of southern California and southern Nevada and the northern Sonoran Desert in northern Arizona. In Nevada, the Gila monster is found across Clark, southeastern Lincoln, and extreme southern Nye counties (NDOW, 2005). Although the species is not expected to occur in or near the Facility, Nye County is the northern-most distribution range that has been identified for the Banded Gila Monster; therefore, having only a slight potential of being found in the area. Distribution maps and records show the Gila monster is only present as far north as Ash Meadows (Stebbins, 1985). Therefore, no Banded Gila Monsters are expected to be present on or near the site.

The Gila monster is found in most habitats throughout its range. They typically inhabit desert washes and are occasionally found in alluvial fans, as well as in canyon bottoms or arroyos with perennial or intermittent streams. The Banded Gila Monsters inhabit semi-arid, rocky foothills near washes and arroyos with at least some moisture, and tend to avoid open conditions and farmland (Jennings and Hayes, 1994). It is limited in its range to regions that receive very little rain during the summer months

and that also have mild winters and hot summers (NDOW, 2007). The Gila monster inhabits vegetation types that include desert grassland, Mohave and Sonoran desert scrub, and thorn scrub (Sonora). It appears that the Gila monster prefers scrubland or succulent desert as well as oak woodland (Stebbins, 2003); however, they are less often found in oak or pine-oak woodland habitats (NatureServe, 2011).

In this region of Nevada, the Banded Gila Monster is found primarily in the Mojave Desert Scrub, as well as shrubby, grassy, and succulent desert type habitats. The species can also occur in mesquite-grassland and desert riparian habitats, including blackbrush, creosote bush, and single-leaf pinyon and western juniper vegetation types (Jennings and Hayes, 1994). Based on habitat characteristics found in the preferred areas, the Banded Gila Monster appears to prefer lower slopes of canyons, riparian habitats, and areas with large rocks and deep burrows, which it uses for cover.

The Banded Gila Monsters find refuge in natural crevices that are generally found on rocky slopes in both the winter and summer (NDOW, 2005). It has been reported that significant differences exist between winter and summer home sites (Jennings and Hayes, 1994). The Banded Gila Monster spends its winters at more elevated locations (*i.e.*, on rocky slopes, in rocky outcrops, or below cliffs) often with other reptiles such as rattlesnakes and the Desert Tortoise. Summer ranges, however, are located in adjacent lower valleys or alluvial fans (Jennings and Hayes, 1994). Preferred shelters normally face to the east, southeast, or south, and appear to be similar for both juveniles and adults (Jennings and Hayes, 1994).

3.2.3 Species Status

Although the Banded Gila Monster occurs in Clark, Lincoln, and Nye counties in Nevada, and portions of Arizona, California, and Utah, the range-wide population status is not currently known. While there is not much known about the abundance of the banded subspecies, the species' (*H. suspectum*) numbers are estimated to include a least several thousand individuals (NatureServe, 2011). In a study by Degenhardt *et al.*, (1996), it was determined that the density of Gila monsters in one locality in New Mexico was approximately five animals per acre. Beck (1985) estimated that the population in Utah has declined from a range of 2,000 to 5,000 individuals in the 1930s to between 450 and 800 individuals at the time the study was conducted.

The Banded Gila Monster is not currently federally listed or proposed as threatened or endangered, or a candidate for listing, under the ESA. However, the Banded Gila Monster has had various considerations for federal protection, including the following:

- 1996: Category 2 of candidate species was removed, no longer a candidate species, 61 CFR 7596-7613;
- November 15, 1994: Candidate for federal listing, Category 2, 59 CFR 58994;
- 1989: Removed from candidate list, 54 CFR 559; and,
- 1985: Candidate for federal listing, 50 CFR 37963.

Although the Gila monster is not a federally listed species and not recognized by USFWS as requiring federal protection, the State of Nevada extends special protection to certain species that are considered to be endangered or rare within Nevada. Therefore, species that fall within either of these State-protected classifications are offered state protection, thus including the Banded Gila Monster as a potentially rare species. This species is recognized by BLM as a sensitive species in Nevada and Arizona (Bechtel Nevada, 2001), and in Nevada, the Banded Gila Monster is protected under the Nevada Revised Statutes (NRS) 501 (NNHP, 2004). The NNHP also lists this species as an S2 Imperiled¹, meaning that its continued presence in the state is imperiled (NatureServe, 2011). According to the most recent Nevada Natural Heritage database records, 12 occurrences of the Gila monster have been documented mainly in southeastern Lincoln County.

NRS were amended to expand the State's requirement to classify wildlife (NRS, 501.110). The classification of species occurs through administrative regulation by the Nevada Board of Wildlife Commissioners (NRS, 501.105 and 501.181) and is codified in the Nevada Administrative Code (NAC). NDOW is the entity vested with statutory authority, through the NRS, to protect and manage resident wildlife in the state. The Nevada Board of Wildlife Commissioners establishes policy and regulations for the protection, propagation, transplanting, introduction, and management of wildlife (NRS, 501.105, 501.181, 501.331, 501.337). The Desert Tortoise (*Gopherus agassizii*) is listed as protected and further classified as threatened in Nevada (NAC, 503.080). Gila monster (*Heloderma suspectum*) is listed as a State Protected reptile (NAC, 503.080). Specific regulations providing protection for all wildlife species classified as protected are set forth in NAC 503.090 and 503.093.

3.2.4 Life History

The breeding season of the Banded Gila Monster typically occurs in early summer. Mating adults pair up, occupying the same burrow, and probably mate underground (Jennings and Hayes, 1994). Males appear to be territorial during the mating season and often engage in battles with other males (Jennings and Hayes, 1994). Gravid females deposit 2 to 12 eggs (averaging five); average egg size is 2.4 by 1.2 inches (6 by 3.1 centimeters) long, in a shallow depression excavated in moist sand arroyos or similar soils (Jennings and Hayes, 1994). Oviposition occurs just before or during the start of the rainy season (*i.e.*, July and August). Deposited eggs over winter underground, incubating approximately ten months, and hatch the following year. The timing of hatching is dependent on soil temperature, which may vary depending on latitude and elevation across the species' range (AZGFD, 2002), and hatch between late April and early June (NatureServe, 2011). According to Jennings and Hayes (1994), hatchlings average 4.7 inches (12 centimeters) for snout to vent length (SVL) at birth, growing approximately 0.28 to 0.39 inch (0.7 to 0.1 centimeter) SVL per year, slowing to 0.16 to 0.28 inch (0.4 to 0.7 centimeters) per year as adults (Jennings and Hayes, 1994). Sexual maturity is reached at around four years of age, and individuals have lived up to 40 years old in captivity (BLM, 2007).

¹ **S2 Imperiled:** Classification of S2 Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province (BLM, 2007).

The Banded Gila Monster is a diurnal predator, but has also been known to forage at night, feeding primarily on bird eggs and young mammals. The Gila monster has a forked tongue that is used similar to that of a snake, using their tongue to locate prey. Primary prey include Mourning Dove (*Zenaida macroura*), Gambel's Quail (*Lophortyx gambelii*), Desert Tortoise eggs, Desert Cottontail (*Sylvilagus audubonii*), and Ground Squirrel (*Ammospermophilus leucurus*) young, which it finds while robbing nests over a broad area (Jennings and Hayes, 1994). This species may travel up to one kilometer (0.6 mile) per day looking for food (Jennings and Hayes, 1994). Prey resources tend to be abundant in the spring, during which time the Gila monster will accumulate fat stores in their tail, to use as energy when food resources are scarce (Jennings and Hayes, 1994).

Threats to the Banded Gila Monster and its habitat include natural and exotic predators, habitat alteration, development, habitat fragmentation, illegal collection, and pets. Population decline in Nevada and elsewhere is mainly due to habitat loss created by urbanization and agricultural uses. In Nevada, illegal collection, restricted range, and limited knowledge and information also have contributed to the population decline (NDOW, 2007). Continued road construction and the building of concrete-lined canals have created barriers to the movement of this species, and mortality on roads has increased proportional to the increase in traffic volume (NatureServe, 2011; BLM, 2007).

Destruction of habitat due to the rapid urbanization within this species' range is considered the main reason for significant declines. With rapid urbanization within the Banded Gila Monster's range comes the rapid construction of infrastructure. The fragmentation of habitat caused by roads isolates or fragments populations from each other. As such, animals crossing roads for habitat use, foraging, or locating mates are subject to collision with vehicles. Other factors contributing to population declines are off-road vehicles and events causing habitat degradation, as well as direct mortality of this species.

Proper permits are required for the collection of the Banded Gila Monster, and it is illegal to collect the species without proper permits. However, poaching for black market sales is thought to be contributing to Banded Gila Monster declines (Jennings and Hayes, 1994). Stringent prohibitions against commercial exploitation and unnecessary killing are needed (NDOW, 2007).

The Banded Gila Monster is included in the Nevada Comprehensive Wildlife Conservation Strategy (NDOW, 2007). Single-species investigations are recommended to develop an adequate conservation strategy. The Banded Gila Monster was identified in the Conservation Strategy as one of the highest priority reptilian species on which to conduct studies (NDOW, 2007).

4.0 Report Results

The Desert Tortoise was included in previous investigations for the USEN Facility, including a field survey and a Screening Level Ecological Risk Assessment (SLERA, Stantec, 2012). However, although the Banded Gila Monster was not included in these mentioned reports, it has been included in this evaluation as well as qualitatively within the SLERA.

4.1 DESERT TORTOISE SURVEY

USEN contracted JBR Environmental Consultants, Inc. (JBR) to perform a Desert Tortoise field survey (see Appendix C) of the 400 acre buffer zone. The survey was completed on August 14 through 18 2009. As a result of that field survey, no desert tortoises or signs of the desert tortoise were found within the action area.

4.2 SURFACE SOIL SAMPLING

As a result of USEPA soil sampling findings in June 2008, USEN performed a self-implementing PCB cleanup at its PCB storage tank area at the Facility, which it confirmed to USEPA in a report dated January 29, 2010. Based on the results of the sampling efforts of USEPA and USEN, USEPA requested USEN to conduct a soil sampling and analytical program at the Facility perimeter. USEN presented the results of that sampling in a PCB Surface Soil Sampling Report dated June 24, 2011 (Stantec, 2011)

4.3 ECOLOGICAL RISK ASSESSMENT

USEN contracted Stantec to perform a SLERA and PCB Surface Soil Sampling Report (Stantec, 2012; and Stantec, 2011). The goal of the SLERA was to evaluate whether the 12 dioxin-like PCB congeners detected in surface soil near the Facility could pose significant risks of harm to the environment and wildlife known or expected to occur near the USEN Facility.

The SLERA assessed the potential for impacts to the environment and ecological receptors for site-related PCBs in soil by conducting the exposure and effects assessments and risk characterization. Results of the SLERA indicated that the detected PCBs do not pose unacceptable risk of harm or adverse impacts to plants, birds or wildlife. There were no Hazard Quotients (HQs)² that exceeded the threshold value of "1".

² **Hazard Quotient (HQ):** The HQ method was used to characterize level of the risk posed to the ecological receptors from contaminants present at the perimeter. If a calculated HQ is less than or equal to '1', USEPA considers the risk of harm from site-related contaminants to be *negligible* (based upon the specific measurement endpoint). If the HQ is greater than '1', it is concluded that the risk of harm from site-related contaminants may be *low, moderate, or substantial*, depending upon the magnitude of the HQ.

As discussed in Section 3 (above), the only ESA listed species addressed herein is the Desert Tortoise. The toxicological data available for the desert tortoise or other reptiles is scant and there are no Toxicity Equivalency Factors (TEFs)³ available for reptiles. Accordingly, potential exposure of the Desert Tortoise to PCBs was evaluated semi-qualitatively, using mammal and bird receptors as surrogates. The semi-quantitative exposure and risk analysis for the Desert Tortoise used a food chain model and incidental soil ingestion. The potential contributions from dermal and inhalation exposures were shown to be negligible and were not quantified. Exposure calculations for mammals and birds used the same exposure pathways and TEFs for mammals and birds. The exposure estimates for mammals were divided by receptor-specific toxicity reference values (TRVs) to calculate HQs and hazard indices (HI) for each receptor. To evaluate risk to the Desert Tortoise, the exposure dose (ED) values for the tortoise were compared to the ED (calculated without TEFs) for the Little Pocket Mouse, both herbivores, in the context of the HI for the Little Pocket Mouse.

The ED of 8.75 nanograms per kilogram (ng/kg)-day for the Desert Tortoise was compared to the ED value of 326 ng/kg-day for an herbivorous rodent (the Little Pocket Mouse). The Pocket Mouse ED produces a corresponding Toxic Equivalency (TEQ) of 0.24 ng/kg-day, and a resulting HI of 0.12 based on a TRV reflecting a No Observed Adverse Effect Level (NOAEL), projecting an absence of adverse effects. Exposure and risk estimates for the other mammalian and the avian receptors considered in the SLERA are consistent with those for the Little Pocket Mouse. This finding is consistent with expectations of a far lower food consumption rate for the Desert Tortoise based on much lower metabolic demand. In addition to lower exposures, reptiles appear to be less sensitive to dioxin-like compounds than mammals or birds (USEPA, 2008). Given both the lower exposure and lower sensitivity of the tortoise, the avian and mammalian HIs discussed above are likely to be conservative when used to evaluate the potential for toxic effects on the Desert Tortoise. Based on this analysis, the Desert Tortoise would not be expected to be at risk of harm from PCBs from the USEN Facility.

4.4 PREVIOUS STUDIES

In addition to the above studies, previous studies were also reviewed for information on potential effects to listed species, including the 2005 Environmental Assessment for the Wet Air Oxidation Unit and associated decision documents, and the 2003-2004 "Shaw Survey" discussed in the 2005 Environmental Assessment (Shaw, 2005). The referenced studies concluded that borrows are observed in the buffer zone that may be associated with the Desert Tortoise, but no desert tortoises have been observed near the site. In addition, because the surrounding area is heavily disturbed, industrial in character, and little utilized by terrestrial species, these activities would not be expected to impact wildlife.

³ **Toxicity Equivalency Factors (TEFs)** are the ratios of the toxicities of the 12 dioxin-like PCB congeners relative to that of 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD). TEFs are used in the Toxic Equivalency (TEQ) of 2,3,7,8-TCDD Approach to evaluate the exposure to dioxin-like PCB congeners.

5.0 Conclusions

Based on all of the information reviewed and referenced in this BE, we have concluded that the proposed action will not affect the ESA threatened Desert Tortoise or the Nevada species of concern Banded Gila Monster for the following reasons:

- No adverse effect was predicted from the SLERA conducted for Desert Tortoise;
- No Desert Tortoise were observed in the surrounding area of the property, and no signs of tortoise were observed in the area during the 2009 survey;
- Banded Gila Monsters are evaluated much in the same way as the Desert Tortoise. Like the Desert Tortoise, Banded Gila Monsters are not expected to be present on or near the site;
- The decision/action will not authorize or trigger any ground-disturbing activities outside of the existing site boundary and will include no additional actions that will occur within the surrounding area (*i.e.* buffer zone);
- Efforts for monitoring the Desert Tortoise that are currently in-place will be unchanged by this action. Currently, visual observations for the presence of Desert Tortoise are conducted during regularly scheduled Facility inspections, see SOP in Appendix B);
- Habitat and populations of the Desert Tortoise will continue to be protected under the ESA, and USFWS and plans at the USEN Facility were developed to comply with the provisions of the ESA; and,
- Habitat and populations of Gila monster will continue to be protected by the State of Nevada, and plans at the USEN Facility were developed to comply with the provisions of the ESA that will be protective of the banded Gila monster as well.

5.1 DETERMINATION OF EFFECTS

Under the ESA, USEPA must determine whether and, if appropriate, how the proposed action may affect listed species, here the threatened Desert Tortoise, and any designated critical habitat. The three possible effects determinations under the ESA for the Desert Tortoise are:

- 1) No Effect;
- 2) May Affect, but Not Likely to Adversely Affect; and,
- 3) May Affect, and Likely to Adversely Affect.

With this BE, we submit for USEPA's review, our conclusion that the proposed action will not affect the Desert Tortoise or any of its critical habitat. If USEPA makes a "No Effect" determination, formal consultation with the USFWS is not required for the Desert Tortoise. Additionally, through discussions with USFWS regarding the Desert Tortoise and Gila Monster and the unlikely occurrence of these two species in the area of the USEN Facility, it was determined that there was a "No Effect" interpretation based on an informal verbal concurrence from the USFWS, (personal communication, Susan Cooper, dated 23 August, 2011).

We have similarly concluded that the proposed action will not affect the Nevada species of concern – the Banded Gila Monster.

In conclusion, based on evaluation of the Desert Tortoise via survey and the SLERA, as well as the available scientific and commercial information on the Desert Tortoise and the Gila Monster, USEN has concluded that the proposed action will not effect the Desert Tortoise or Gila Monster or any critical habitat that may be designated for the Desert Tortoise and Gila Monster.

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APPENDIX A
Agencies Wildlife Letters

Biological Evaluation

US Ecology Nevada

Beatty, Nevada

Stantec PN: 185702329 300.0001

February 28, 2012

Stantec

US ECOLOGY NEVADA FACILITY – BIOLOGICAL EVALUATION

**Fish and Wildlife Service Letter
Dated August 01, 2011**



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

4701 North Torrey Pines Drive

Las Vegas, Nevada 89130

Ph: (702) 515-5230 ~ Fax: (702) 515-5231

Date: August 1, 2011

File No. 84320-2011-SL-0355

Mr. Scott Wisniewski
US Ecology Nevada, Inc.
Post Office Box 578
Beatty, Nevada 89003

Dear Mr. Wisniewski,

Subject: Species List for US Ecology Nevada Site, Beatty, Nye County, Nevada

This responds to your letter dated July 14, 2011, requesting information on threatened and endangered species that may occur near the project area within Township 13S, Range 47E, Section 20 in Beatty, Nye County, Nevada. We have determined that the following federally listed species is likely to occur in the project area:

- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened

This response fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on federally listed species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), for projects that are authorized, funded, or carried out by a Federal agency.

The proposed project does not occur within federally designated critical habitat; however, the entire site occurs within desert tortoise habitat; therefore, desert tortoises may be encountered in the project area. Spatial data and maps are available from the Service at <http://crithab.fws.gov>. On Federal land, the lead Federal agency or its designated representative is responsible for determining whether or not the proposed project may affect a listed species.

Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*), we are concerned about potential impacts the proposed project may have on migratory birds in the area. Under the MBTA, nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Given these concerns, we recommend that land clearing or other surface disturbance associated with proposed actions within the project area be conducted outside the avian breeding season to avoid potential destruction of bird nests or young, or birds that breed in the area. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat

TAKE PRIDE
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requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

The following general recommendations would minimize possible impacts to migratory birds from construction of new structures in the Mojave Desert. Holes, gaps, or hollow spaces in the proposed facilities or structures could cause cavity-nesting migratory birds to enter and become entrapped in these spaces; holes as small as 0.75-inch in diameter could trap birds. Gaps or narrow open hollow spaces in the proposed facilities or structures should be closed during construction to prevent bird entry. In addition, open-ended posts of any material or color, used to mark boundaries at construction sites should be capped; however, since caps can deteriorate over time, use of solid posts is preferred. To prevent raptors and other migratory birds from getting their feet trapped in metal sign posts, any exposed holes near the top of posts should be filled with rivets, bolts or nuts. These conservation measures for migratory birds should be included as part of the proposed project.

Most of the species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk List and are partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. As you may know, the mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from <http://heritage.nv.gov/forms.htm> or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, NV 89701-5245, 775-684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

It should be noted that many of the species on Nevada's critically endangered list are not federally listed by the Service because of the protection afforded to them under the State law. Consideration of these species during project planning and early coordination with the State is important to assist with species conservation efforts and to prevent the need for Federal listing actions in the future.


We also are concerned that the project may impact the banded Gila monster (*Heloderma suspectum cinctum*), a species listed as sensitive by Heritage and a protected species under Nevada Administrative Code 503.080. Per Nevada Administrative Codes 503.090 and 503.093, no person shall capture, kill, or possess any part of protected wildlife without the prior written permission from Nevada Department of Wildlife (NDOW). The banded Gila monster occurs primarily in the Mojave Desert scrub and salt desert scrub ecosystems in southern Nevada, southeastern California, southwestern Utah, and western Arizona. The banded Gila monster is one of only two venomous lizard species in the world. Gila monsters are difficult to locate as they spend the majority of the year in underground burrows; however, illegal collection, construction of roads, and loss of habitat continue to threaten this sensitive species. Given that the Gila monster may occur within the project

area, we ask that you evaluate project impacts to any existing populations and suitable habitat for this species. If it is determined that the project may result in impacts to Gila monsters, we recommend that you contact NDOW.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). You must first obtain the appropriate license, permit, or written authorization from the NDOW to take or possess any parts of protected wildlife species. Please visit <http://www.ndow.org> or contact NDOW at 4747 Vegas Dr., Las Vegas, NV 89108, 702-486-5127.

Please reference File No. 84320-2011-SL-0355 in future correspondence concerning this species list. If you have questions regarding this correspondence or require additional information, please contact Susan Cooper in the Nevada Fish and Wildlife Office in Las Vegas at 702-515-5230.

Sincerely,


for Tiffany Parson
Assistant Field Supervisor

Stantec

US ECOLOGY NEVADA FACILITY – BIOLOGICAL EVALUATION

**Fish and Wildlife Service Letter
Dated October 18, 2010**



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

Date: October 18, 2010
File No. 84320-2010-SL-0467

Ms. Xuangga Mahini
Principal Toxicologist
Stantec Consulting Corporation
57 Lafayette Circle 2nd Floor
Lafayette, California 94549

Dear Ms. Mahini,

Subject: Species List for US Ecology Nevada Facility Site Assessment,
Nye County, Nevada

This responds to your letter dated September 1, 2010, requesting information on threatened and endangered species that may occur near the project area at 36 degrees 46 minutes 9 seconds North latitude, 116 degrees 41 minutes, 23 seconds West longitude near Beatty, Nye County, Nevada. We have determined that the following federally listed or candidate species are likely to occur near the project area:

- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened

Desert tortoises have been found near the project area; however, it is our opinion that they are unlikely to occur within the project area itself. The perimeter has been fenced and substrates within the project area are highly disturbed.

To the best of our knowledge, no designated or proposed critical habitat occurs near the subject project area. This response fulfills the requirement of the Fish and Wildlife Service (Service) to provide information on federally listed species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), for projects that are authorized, funded, or carried out by a Federal agency

The Service holds the conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et seq.*). Under the MBTA, nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Such destruction may be in violation of the MBTA. Therefore,



we recommend land clearing, or other surface disturbance associated with the proposed project, be conducted outside the avian breeding season to avoid potential destruction of bird nests or young, or birds that breed in the area. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Most of the species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. As you may know, the mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats; particularly those most vulnerable to extinction or are in serious decline. In order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from <http://heritage.nv.gov/forms.htm> or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Endangered Species Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Many of the species on Nevada's critically endangered list are not federally listed by the Service because of the protection afforded to them under the State law. Consideration of these species during project planning and early coordination with the State is important to assist you with species conservation efforts and to prevent the need for Federal listing actions in the future.


Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see <http://www.leg.state.nv.us/NAC/NAC-503.html>). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife to take or possess any parts of protected wildlife species. Please visit <http://www.ndow.org> or contact Nevada Department of Wildlife at 4747 Vegas Drive, Las Vegas, Nevada 89108, (702) 486-5127.

Ms. Xuangga Mahini

File No. 84320-2010-SL-0467

Please reference File No. 84320-2010-SL-0467 in future correspondence concerning this species list. If you have questions regarding this correspondence or require additional information, please contact Phillip Cunningham in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert D. Williams". The signature is fluid and cursive, with the first name "Robert" being the most prominent part.

for

Robert D. Williams
State Supervisor

Stantec

US ECOLOGY NEVADA FACILITY – BIOLOGICAL EVALUATION

**Fish and Wildlife Service Letter
Dated January 31, 2005**



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, Nevada 89502
(775) 861-6300 ~ Fax: (775) 861-6301



January 31, 2005
File No. 1-5-05-SP-424

Mr. Robert Marchand, General Manager
US Ecology
Post Office Box 578
Beatty, Nevada 89003

Dear Mr. Marchand:

Subject: Species List for the Installation and Operation of a Wet Air Oxidation Unit at the US Ecology Facility, Beatty, Nye County, Nevada

This is in response to your letter received on November 12, 2004, regarding the proposed installation and operation of a Wet Air Oxidation (WAO) system for the treatment of liquid hazardous waste at US Ecology, Nye County, Nevada. The liquid waste would be transported by truck from a U.S. Army facility in Arkansas, processed using the WAO system, then solidified and landfilled in an onsite lined disposal cell. The WAO system would be installed in a previously disturbed area within the existing US Ecology fenced complex (Section 35, T 13 S, R 47 E). The site occurs within the range of the desert tortoise, a species listed as threatened under the Endangered Species Act of 1973, as amended. Additionally, suitable habitat for the species occurs immediately outside of the project site. Unless a barrier exists around the site that would restrict tortoise movement from adjacent areas, desert tortoises could appear in the project area. A suitable desert tortoise barrier should consist of 1-inch horizontal by 2-inch vertical or smaller mesh wire fencing material, buried 6-12 inches below ground and extend at least 18 inches above ground. The fence should be inspected on a regular basis to insure that zero ground clearance is maintained around the entire perimeter of the project area. This response fulfills the requirement of the Fish and Wildlife Service to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended, for projects that are authorized, funded, or carried out by a Federal agency.

Per our phone conversation on December 17, 2004, and your subsequent facsimile, you have already contacted the State of Nevada's Natural Heritage Program regarding sensitive species in the project area.

Mr. Robert Marchand

File No. 1-5-05-SP-424

Finally, based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.), our review of the proposed project included consideration of potential impacts to migratory birds. Under the Act, active nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. The Federal list of migratory birds (50 CFR 10, April 15, 1985) includes nearly every bird species found in the State of Nevada. Since the installation and operation of the WAO system does not involve open bodies of water that would attract migratory birds to the area, we do not anticipate adverse impacts to occur.

Please reference File No. 1-5-05-SP-424 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact Erik Orsak in our Southern Nevada Field Office at (702) 515-5230.

Sincerely,



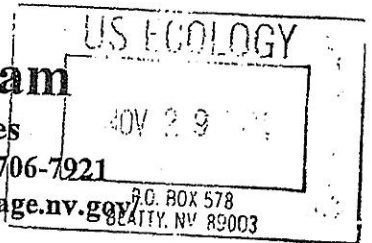
for Robert D. Williams
Field Supervisor

Stantec

US ECOLOGY NEVADA FACILITY – BIOLOGICAL EVALUATION

**Nevada Natural Heritage Program Wildlife Letter
Dated November 23, 2004**

Nevada Natural Heritage Program
Department of Conservation and Natural Resources
1550 East College Parkway, Suite 137 * Carson City, Nevada 89706-7921
voice: (775) 687-4245 fax: (775) 687-1288 web: www.heritage.nv.gov



23 November 2004

Robert Marchand
US Ecology, Inc.
P.O. Box 578
Beatty, NV 89003

RE: Data request received 16 November 2004

Dear Mr. Marchand:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or sensitive plant and animal taxa recorded within or near the US Ecology Hazardous Waste Management Facility project area. We searched our database and maps for the following: a two mile radius around,

Township 13S Range 47E Section 35

There are no sensitive taxa recorded within the given area. However, habitat may be available for: the endemic ant, *Neivamyrmex nevadensis*, a Taxon determined to be Critically Imperiled by the Nevada Natural Heritage Program; the desert tortoise (Mojave Desert pop.), *Gopherus agassizii*, a Federally Threatened Species; and the Mountain Plover, *Charadrius montanus*, a Federally Proposed Threatened Species as well as a Nevada Bureau of Land Management Special Status Species. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for onsite surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Eric S. Miskow".

Eric S. Miskow
Biologist/Data Manager

APPENDIX B
**US Ecology Standard Operating Procedure (SOP) for General
Facility Inspections and Desert Tortoise Presence/Absence**

Biological Evaluation

US Ecology Nevada

Beatty, Nevada

Stantec PN: 185702329 300.0001

February 28, 2012

**US Ecology Nevada Facility
Beatty, Nevada**

Standard Operating Procedure (SOP)
for General Facility Inspections and
Desert Tortoise Presence/Absence



Version: December, 2011



Photo by Paul Condon, AZGFD, 2011.

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1.0 Introduction

This Standard Operating Procedure (SOP) was developed for the US Ecology Nevada (USEN) Facility, which is located outside of Beatty, Nevada, for the purpose of general site and perimeter inspections of the property, as well as the presence or absence of protected species in the area of the Facility (Figure 1-1).

Because there is the potential for the presence of federally listed Desert Tortoise (*Gopheri agazzii*) and the possible presence of the state species of concern, the Banded Gila Monster (*Heloderma suspectum cinctum*), this SOP was also developed to provide guidance and direction to conduct these activities, such as fence integrity and if these species are observed in the area of the USEN Facility. These survey efforts help to minimize and mitigate any potential impact of incidental take of the desert tortoise and its habitat.

The purpose of this SOP is to provide general information, as well as direction for conducting Facility inspections and procedures for addressing the presence/absence of the protected species Desert Tortoise. This SOP version dated December 2011, supersedes any previous versions as maintained by the USEN Facility, and therefore, is the current and authoritative version to be used.

1.1 SITE BACKGROUND

The USEN Facility is a processing and disposal facility for a limited list of organic and inorganic contaminants that is located in Nye County, Nevada. The USEN Facility is located approximately 11 miles south of Beatty, and approximately 125 miles northwest of Las Vegas, Nevada. The Facility is owned by the State of Nevada, and is subsequently leased and operated by USEN. The USEN Facility is permitted for the handling and disposal of articles and fluids containing polychlorinated biphenyls (PCB), chemicals regulated by the Toxic Substances Control Act (TSCA). The entire property (as leased by USEN) covers approximately 80 acres that consists of flat desert land. The Facility is surrounded by several miles of federally-owned property abutting the Facility. This surrounding property is operated as range land by the Bureau of Land Management (BLM).

The disposal area of the USEN Facility is completely surrounded by a 6-foot tall chain link fence that is topped with barbed wire that maintains perimeter protection for the active Facility area. The base of the fence is bermed with gravel to prevent burrowing animals from gaining access to the Facility. Regular inspections and maintenance ensure the integrity of this barrier.

Additionally, there is a buffer zone that extends approximately 1,320 feet from the fence line that surrounds the 80-acre property that is visually inspected for the presence/absence of protected species. Access to the Facility is by way of an entrance from U.S. Highway 95. An unimproved perimeter access road encircles the property. Waste transport vehicles accessing the interior portions of the Facility are not allowed to exit the Facility until they are confirmed to be free of any contamination as outlined in TSCA Permit Condition #2 (see Figure 1 for the site location).

1.2 INSPECTION HISTORY

In brief, Facility inspections have been conducted since 1979 when the fence was installed for protection of the Facility area, and to provide a barrier to deny unlawful entrance onto said property. Additionally, the fence acted to protect species from entering the Facility, as a means to preclude exposure of property related constituents. Inspection forms are filled out during each inspection and copies are maintained in the Facility's main office. During the history of Site Inspections, no desert tortoise has been observed near the Facility or within the surrounding buffer zone. However, for the protection of any individual tortoise that may at some point be observed, USEN continues its efforts to protect the species.

2.0 Inspection Methodology

There are two primary components of the general inspections for USEN Facility. Inspections will be expected to include:

1. General Facility and perimeter inspection; and
2. Species presence/absence surveys.

Collectively, the purpose of this SOP is to provide necessary activities and measures to protect the Facility, as well as the protected species surrounding the Facility.

2.1 WEEKLY GENERAL FACILITY INSPECTION

A Weekly Facility Inspection Report shall be completed and shall include any deficiencies noted and corrective action taken. The following items shall be addressed in the inspection. A report form to be completed is provided in Appendix A, the following areas are targeted during regularly scheduled inspections of the USEN Facility:

1. Landfill - various cells;
 - Ditches are inspected for signs of erosion or deposition of sand, silt, or other materials, which could impede stormwater flow
 - Control mechanisms are checked
2. Truck parking pad
 - Inspect containers (leaks, damage, labels, etc.)
3. Lab waste water
 - Control equipment
 - Pipes inspected for damage, leaks, accumulation of liquids
4. Portable water tank
 - Readiness of fire truck
5. Safety shed/trench
6. Security fence and perimeter check
 - Inspect fence and barriers surrounding the Facility for damage/vandalism
 - Inspect the outside perimeter for indication of unauthorized entry
 - Visual observations for presence of desert tortoise in the area
7. Closed cells
8. Container management building
9. DHWSA 3
10. Maintenance area

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In brief, these areas should be inspected for any damage, leaks, erosion, or deposition of earthen particles (sand, silt, etc.), water or liquid accumulation; ensure correct labeling, control mechanisms functioning properly; etc.

2.2 SPECIES PRESENCE/ABSENCE SURVEYS

The USEN Facility area is visually surveyed for the presence of desert tortoises (and potentially Gila monster) during the regularly scheduled Facility and perimeter inspections, as well as any time a desert tortoise has been reportedly observed in the general vicinity. These surveys are conducted by USEN employees and consist of complete visual sweeps of the property by at least one individual during a vehicle drive inspection of the fence and property boundary.

To survey for desert tortoises, live/dead animals as well as any tortoise sign (e.g., burrows or scat) should be included in the reporting process and reported on the **Weekly Inspection Form** (Appendix A). Each survey should be of sufficiently short duration as to avoid any double counting of live animals. The following sighting and sign categories can be used to identify the presence/absence of the desert tortoise, as well as the Gila monster:

- ___ live animal;
- ___ carcasses/skeletal remains;
- ___ active burrows;
- ___ inactive burrows; and
- ___ occurrences of scat.

Any reported sightings and/or signs should be included in the report, as well as mapped for future reference. Do not move or remove any observed sign of desert tortoise; record observations appropriately.

Observations can also be made of additional fauna and flora observed in the area during inspections. This practice assists in tracking any major changes or disturbances to the local area that may have future ramifications on the fence line and species in the area.

2.3 CONSERVATION MEASURES: AVOIDANCE/ MINIMIZATION MEASURES

USEN has an educational program to introduce new employees to the Facility's efforts of conservation and protection of the desert tortoise that may occur in the vicinity of the USEN Facility. Employees are provided an introduction and general information as related to the desert tortoise and are required to comply with the established protocols and activities outlined within the educational program.

As determined by the USFWS:

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“The program contains information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the project area, the definition of “take” and associated penalties under the Endangered Species Act, the terms of the HCP and Permit, the means by which employees can facilitate this process, responsibilities of workers, the County qualified biologist, and supervisors, and reporting procedures to be implemented in case of desert tortoise encounters or non-compliance with the Permit. All informed persons shall sign a statement indicating that they have completed the education program and understand fully its provisions.”

Following the introductory training, each employee signs a statement of conduct, which is kept on file during their employment. Any violation of the measures as outlined within the training can be grounds for disciplinary action and possible dismissal. A copy of an Approval Statement is provided in Appendix B.

USEN is proud of its conservation efforts, of which are similar to those identified within the Pahrump Valley Desert Tortoise Habitat Conservation Plan (HCP) (Nye County) (HCP, 2009). For example, avoidance/ minimization measures identified in the HCP also consist of the following:

- Desert tortoise clearance surveys;
- An Education program; and
- Fencing/ barriers around new development.

2.3.1 Contribution to Desert Tortoise Conservation and Recovery Actions

Most of the identified or mapped desert tortoise habitat found within Nye County is managed by the BLM, as it falls under the category for multiple use purposes. Only seven (7) percent of known desert tortoise habitat is in non-Federal ownership (USFWS, 2011, 1992). No designated critical habitat or desert tortoise *Areas of Critical Environmental Concern* occur within Nye County (USFWS, 2011). Since the desert tortoise needs large expanses of unfragmented habitat to support a viable population, the availability of appropriate locations to manage specifically for the tortoise in Nye County may be limited. As such it is also critical to protect any individual tortoise that may be present in the Facility’s vicinity.

2.3.2 Avoid Take (Disturbance) of Protected Species

Project personnel shall be notified that they are not authorized to handle or otherwise move desert tortoises encountered during an inspection/survey. Instead, project personnel shall immediately contact the County qualified biologist. Any additional “Take” of desert tortoise will be conducted by a County qualified biologist, including: all desert tortoise handling and removal, and burrow excavations, including nests, in accordance with the USFWS-approved protocol (Desert Tortoise Council 1994, revised 1999). The County qualified biologist will inform project personnel on how to proceed and/or will move the desert tortoise out of harm’s way.

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Any unauthorized take¹ of desert tortoises that results from activities carried out in a manner not consistent with or not authorized under the provisions of Section 7 of the Endangered Species Act (ESA) may be subject to investigation by the US Fish and Wildlife Service (USFWS) pursuant to Section 9 of the ESA. Penalties for illegally taking a threatened species include up to \$25,000 in fines and 6 months in prison (USFWS, 2011). There are no actions expected to affect either listed species, as determined by the FWS as "No Effect" below.

No Effect: This conclusion was previously reached as the proposed actions (i.e., perimeter inspections) and its interrelated and interdependent effects have no potential for affecting any listed species or modifying or destroying critical habitat either directly or indirectly. Therefore, this conclusion does not require consultation with the USFWS.

If an animal (desert tortoise or Gila monster) is observed and/or encountered in close proximity to the property fence, and especially on the roadway surrounding the Facility, it should not be moved or harassed in any way. Personnel should provide a means of protection for the animal so that it is not hit by passing vehicles or other threats, and other non-invasive actions to avoid harm to the animal. In these situations, the FWS has recommended that the project proponent initiate a dialogue with the FWS to discuss the potential risk of incidental take (USFWS, 1992), as it relates to the provided definition.

Please note that a Federal Fish and Wildlife License/Permit is required before a surveyor can capture, touch, or "harass" a live desert tortoise, even for the purposes of taking measurements or determining its sex. A permit may also be required from the appropriate state wildlife resource agency (e.g., Nevada Department of Wildlife) prior to any handling (touching) or physical interaction of any type with a live desert tortoise. The USFWS emphasizes that without such permits, the surveyor should only estimate the size and sex of observed desert tortoises encountered for reporting purposes.

Please do not collect any desert tortoise sign. Tortoise scats may be used by tortoises to mark or identify travel areas and shelter sites. Tortoise shells may be an important source of minerals for reptiles and mammals (USFWS, 1992).

2.3.3 Survey Time Period

It is important to be aware that the desert tortoise is more active during specific times and conditions of the year. The active season varies within the geographic range of the desert tortoise, but generally the active season is restricted to the period around March 25 to May 31 in the western Mojave Desert, and this season tends to extend into summer months in the eastern Mojave Desert. The typical inactive period

¹ **Take:** Take is defined by the FWS as the following, from Section 3(18) of the Federal Endangered Species Act: "*The term 'take' means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.*"

- **Incidental Take** - Take that results from, but is not the purpose of, carrying out an otherwise lawful activity (FWS).

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of the desert tortoise is during November to February, during which time tortoise are usually found within their nests with limited movement.

Therefore, the critical window for tortoise surveys is based on the activity period for the desert tortoise throughout its range during a typical year and equates to the period of time when a tortoise is active above ground (USFWS, 2011, 1992). During dry years, this activity period may be shorter and in wet years it may be longer. Desert tortoises may also become active during and after summer rains. Surveys conducted at other times of year will be subject to close scrutiny by the USFWS, unless they are supplemental to the aforementioned surveys.

3.0 Fences and Barriers

The 6-foot tall chain link fence that surrounds the USEN Facility maintains perimeter protection for the active Facility area. In addition, the gravel-bermed base of the fence is designed to prevent burrowing animals such as the desert tortoise from gaining access to the Facility.

There is an unimproved perimeter access road that encircles the Facility property, which allows visual access for the perimeter and fence inspections as part of this SOP. Regular inspections and maintenance are meant to ensure the integrity of this barrier, as well as observe the presence, if any, of the desert tortoise in the area.

USEN Facility conformed to the specific information on fence construction, materials, and installation recommendations that were available at the time of construction. These recommendations, as provided, can be reviewed in the DRAFT Pahrump Valley Desert Tortoise Habitat Conservation Plan (HCP, 2009) in the USFWS Appendix B of that document. The goal for installing and maintaining appropriate barriers at the urban wildland interface, as well as areas adjacent to other uses that may be incompatible with desert tortoise populations, is for the protection of desert tortoise as a protected species.

3.1 RECOMMENDED SPECIFICATIONS FOR DESERT TORTOISE FENCING

The specifications provided by FWS were developed to standardize fence materials and construction procedures to exclude tortoises from harmful situations, including roads and highways.

3.1.1 Inspection of Desert Tortoise Barriers – FWS

The risk level for a desert tortoise encountering a breach in the fence is greatest in the spring and fall, particularly around the time of precipitation including the period during which precipitation occurs and at least several days afterward. All desert tortoise fences should be inspected on a regular basis sufficient to maintain an effective barrier to tortoise movement. Inspections should be documented in writing and include any observations of entrapped animals; tortoises and tortoise burrows including carcasses; any repairs needed such as a bent T-post, leaning or non-perpendicular fencing, fence cuts, breaks, and gaps; and recommendations for supplies and equipment needed to complete repairs and maintenance (USFWS, 2011).

Fence inspections should identify and document any fence breaches, as well as problem areas such as wash-outs, vandalism, and other issues that could compromise the integrity of the fence. Follow-up inspections should be done following the report of any fence-line issue, and should focus on known problem areas. Additionally, areas prone to wash-outs should be inspected following precipitation events that may produce potentially fence damaging water flow.

3.1.2 Repair and Maintenance of Desert Tortoise Barriers

Based on the recommendations of the USFWS (2011), repairs of fence wash-outs:

- realign the fence out of the washout area if possible to avoid the problem area, or
- re-construct tortoise-proof fencing using techniques that will ensure that an effective desert tortoise barrier is established that will not require frequent repairs and maintenance.

Gaps and breaks will require either:

- repairs to the existing fence in place, with similar diameter and composition of original material,
- replacement of the damaged section to the nearest post, with new fence material that original fence standards,
- burying fence, and/or
- restoring zero ground clearance by filling in gaps or holes under the fence and replacing cobble over fence constructed.

All fence damage should be repaired in a timely manner to ensure that tortoises do not travel through damaged sections. In addition to inspections, debris that accumulates along the fence should be removed. If applicable, tortoise-proof fencing should be constructed and maintained at cattle guards to ensure that a desert tortoise barrier exists at all times.

4.0 Protected Species

This section provides the background information for the two species identified as known to or potentially occurring within the area of the USEN Facility: the desert tortoise and the Gila monster. Species descriptions are provided below, followed by survey methods and guidelines.

Please note that a Federal Fish and Wildlife License/Permit is required before a surveyor can capture, touch, or "harass" a live desert tortoise, even for the purposes of taking measurements or determining its sex. A permit may also be required from the appropriate state wildlife resource agency (e.g., Nevada Department of Wildlife). The FWS emphasizes that without such permits, the surveyor should not attempt to move, pickup, or touch the tortoise (USFWS, 2011).

4.1 DESERT TORTOISE (*GOPHERUS AGASSIZII*)

The Desert Tortoise (*Gopherus agassizii*) is one of four tortoise species found in the United States. Their range includes the Mojave and Sonoran deserts and extends southeastern into California, southern Nevada, and south through Arizona into Mexico. It is a high-domed turtle, with columnar or "elephant-shaped" legs. The Desert Tortoise is an herbivore that may attain a length of 9 to 15 inches in upper shell (carapace) length. The tortoise is able to live where ground temperatures may exceed 140 degrees Fahrenheit (F), because of its ability to dig underground burrows and escape the heat (USFWS, 2010). At least 95 percent of its life is spent in burrows (USFWS, 2010).

Habitat likely exists in the area of the USEN Facility for the desert tortoise. Tortoises have well established home ranges, with established resources of food, water, and minerals, and as such, tortoises tend to demonstrate strong site fidelity. The presence of soil suitable for digging burrows is a limiting factor to desert tortoise distribution. Additionally, a single tortoise may have a dozen or more burrows distributed over its home range. It has been reported that these burrows may be used by different tortoises at different times. The desert tortoise may live to be 80 to 100 years, although predation, disease, and habitat loss have created significant challenges for the population at large (USFWS, 2010).

4.1.1 Survey Presence of Desert Tortoise

The zone of influence for the desert tortoise is defined as the area where tortoises on adjacent lands may be directly or indirectly affected by maintenance, operation, monitoring, and/or project associated activities. Destruction of tortoise habitat used for feeding, breeding, or shelter may increase the risk of incidental take under the ESA.

Through the BLM document entitled "*Desert Tortoise Habitat Management on Public Lands: A Rangewide Plan*" (Spang *et al.*, 1988 as cited in FWS 1994), the BLM was directed to categorize all tortoise habitat into three categories based on the following:

- importance of the habitat to maintaining viable tortoise populations;

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- resolvability of conflicts;
- tortoise population density (based on the standard transects); and
- population status (stable, increasing, or decreasing).

The BLM's management goal for public lands within *Category I* desert tortoise habitat is to maintain stable, viable populations, protect existing desert tortoise habitat values, and increase desert tortoise populations. Criteria used by the BLM to classify public lands as *Category I* include:

- 1) habitat is essential to the maintenance of large viable populations;
- 2) conflicts are resolvable;
- 3) a medium- to high-density population exists or is contiguous with a medium- or high-density desert tortoise population; and
- 4) the desert tortoise population is increasing, stable, or decreasing.

The goal for *Category II* is to maintain stable, viable desert tortoise populations and halt further declines in desert tortoise habitat values. Criteria for *Category II* include:

- 1) habitat is essential to the maintenance of viable populations;
- 2) most conflicts are resolvable;
- 3) a medium- to high-density population exists or is contiguous with a medium- or high-density desert tortoise population; and
- 4) the desert tortoise population is stable or decreasing.

The goal for *Category III* is to limit desert tortoise habitat loss and population declines by mitigating impacts. Criteria for *Category III* include:

- 1) habitat is not essential to the maintenance of viable populations;
- 2) most conflicts are not resolvable;
- 3) a low- to medium-density population exists that is not contiguous with a medium- or high-density desert tortoise population; and
- 4) the desert tortoise population is stable or decreasing.

Additional information can also be obtained from the BLM's *Interim Techniques Handbook for Collecting Arid Analyzing Data on Desert Tortoise Populations and Habitats*.

4.1.2 Encountering a Desert Tortoise

Desert tortoises have many remarkable adaptations that allow them to withstand the harsh conditions of the desert. Disturbing the tortoise in any way, such as picking it up, can cause it to release the contents of its bladder which could lead to dehydration and death.

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The only situation in which a wild tortoise should be handled is if it is crossing the road and is in immediate danger. In this case the tortoise should be gently directed across the road in the direction it was moving, being mindful of traffic, until it is safely on the other side, facing the same direction it was going (AZGFD, 2011).

Please remember, do not collect any desert tortoise sign. Tortoise scats may be used by tortoises to mark or identify travel areas and shelter sites. Tortoise shells may be an important source of minerals for reptiles and mammals.

4.2 OTHER SPECIES OF CONCERN

4.2.1 Banded Gila Monster (*Heloderma suspectum cinctum*)

The Banded Gila Monster is found primarily in the Eastern Mojave Desert of southern California and southern Nevada, and the northern Sonoran Desert in northern Arizona. In Nevada, the Gila monster is found across Clark, southeastern Lincoln, and extreme southern Nye counties (NDOW, 2005). Although the species is not expected to occur in or near the Facility, Nye County is the northern-most distribution range that has been identified for the banded Gila monster, therefore, having only a slight potential of being found in the area. Distribution maps and records show the Gila monster is only present as far north as Ash Meadows (Stebbins, 1985). Therefore, no Gila monsters are expected to be present on or near the USEN Facility.

The banded Gila monster is not currently federally listed or proposed as threatened or endangered, or a candidate for listing, under the Endangered Species Act (ESA) of 1973, as amended. Although the Gila monster is not a federally listed species and not recognized by USFWS as requiring federal protection, the State of Nevada extends special protection to certain species that are considered to be endangered or rare within Nevada. Therefore, species that fall within either of these State-protected classifications are offered state protection, thus including the Banded Gila Monster as a potentially rare species (Bechtel Nevada, 2001). This species is also recognized by BLM as a sensitive species in Nevada and Arizona (Bechtel Nevada, 2001).

In Nevada, the banded Gila monster is protected under the Nevada Revised Statutes (NRS) 501 (NNHP, 2004). The Nevada Natural Heritage Program (NNHP) lists this species as an S2 Imperiled², meaning that its continued presence in the state is imperiled (NatureServe, 2011). According to the most recent Nevada Natural Heritage database records, 12 occurrences of the Gila monster have been documented mainly in southeastern Lincoln County.

Although the banded Gila monster is not federally listed as threatened or endangered, it is a state protected species in Nevada and is classified as protected by the State of Nevada. However, as the

² S2 Imperiled: Classification of S2 Imperiled in the nation or state/province because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or state/province .

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USEN Facility is at the northernmost distribution range of the banded Gila monster, and information suggesting that this species has not been observed on or near the USEN Facility – it is unlikely that the Gila monster would be present near the Facility.

Because the geographic range of the banded Gila monster approximates that of the desert tortoise (NDOW, 2005), and they are a Nevada species of concern, the Gila monster will be considered similarly to the desert tortoise during inspections and presence/absence surveys.

5.0 Summary / Conclusions

In closing, this SOP is intended to provide guidance to workers at USEN conducting fence line and property surveys. The purpose is to train personnel to be vigilant of signs for endangered species and know how to conduct themselves when endangered species are encountered. In addition, the SOP provides guidance with respect to record keeping should an endangered species be identified during site or fence line inspections.

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APPENDICES

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Appendix A

Beatty, Nevada WEEKLY FACILITY INSPECTION REPORT FORM

WEEKLY FACILITY INSPECTION REPORT FORM

**US Ecology
Beatty, Nevada**

DATE: _____

TIME: _____

EMPLOYEE PERFORMING INSPECTION: _____

A Weekly Facility Inspection Report shall be completed and shall include any deficiencies noted and corrective action taken. The following items shall be addressed in the inspection. Please check satisfactory or unsatisfactory for each item inspected.

LANDFILL- CELL 11	<i>Sat.</i>	<i>Unsat.</i>	TRUCK PARKING PAD	<i>Sat.</i>	<i>Unsat.</i>
Inspect run-on control ditches for signs of erosion or sand, silt, or other deposits which might impede storm water flow.			Inspect for signs of damaged or leaking drums.		
Inspect run-off control mechanisms to ensure proper performance, ie: Inspect above-grade dikes for signs of instability erosion, or other problems and ensure waste placement elevations are maintained at a minimum of one foot below crest elevation.			Inspect all containers for proper labeling.		
Inspect leak detection/collection system for presence of leachate.			Remove any accumulated liquid.		
Inspect wind dispersal control systems for proper functioning.			Inspect for sign of spillage on pad.		
LANDFILL- CELL 12	<i>Sat.</i>	<i>Unsat.</i>			
Inspect run-on control ditches for signs of erosion or sand, silt, or other deposits which might impede storm water flow.			LAB WASTE WATER ACCUMULATION CONTAINERS	<i>Sat.</i>	<i>Unsat.</i>
Inspect run-off control mechanisms to ensure proper performance, ie: Inspect above-grade dikes for signs of instability erosion, or other problems and ensure waste placement elevations are maintained at a minimum of one foot below crest elevation.			Ensure proper functioning of overfill control equipment.		
Inspect leak detection/collection system for presence of Leachate.			Inspect all piping for evidence of damage or leakage.		

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BEATTY, NEVADA**

Inspect wind dispersal control systems for proper functioning.			Inspect accumulation container for signs of leakage / check accumulation start date.		
Ensure emergency response radios are operational and readily available.			Inspect containment structure for presence of spills, standing liquid and signs of cracks or other damage.		
Test Claxon warning system			Perform a lab eyewash alarm test		
PORTABLE WATER TANK	<i>Sat.</i>	<i>Unsat.</i>	SAFETY SHED/TRENCH 12	<i>Sat.</i>	<i>Unsat.</i>
Ensure the water truck is full and available for fire control.			Ensure that safety and fire control equipment is readily available.		

SECURITY FENCE AND PERIMETER CHECK	<i>Sat.</i>	<i>Unsat.</i>	CLOSED CELLS	<i>Sat.</i>	<i>Unsat.</i>
Inspect fence and barriers surrounding the Facility for damage/vandalism.			Inspect for signs of erosion, cracks, and integrity		
Survey perimeter for presence of Desert Tortoise (If an endangered species or its sign is observed, please fill in additional information below.)					
DHWSA 2	<i>Sat</i>	<i>Unsat</i>	CONTAINER MANAGEMENT BUILDING	<i>Sat.</i>	<i>Unsat.</i>
Inspect for signs of damage, leakage or fugitive odors from roll-offs.			Inspect for liquids in secondary containment		
Inspect all containers for proper labels and identification.			Inspect containment structure for cracks, damage or structural defects that could cause failure.		
Inspect for signs of spillage on pad.			Ensure stored containers are closed.		
			Ensure proper container labeling and adequate aisle space.		
DHWSA 3	<i>Sat.</i>	<i>Unsat.</i>	Inspect containers for leakage, severe rusting or structural defects.		
Inspect for signs of damage, leakage or fugitive odors from roll-offs.					
Inspect all containers for proper labels and identification.			MAINTENANCE AREA	<i>Sat</i>	<i>Unsat.</i>

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Inspect for signs of spillage on pad.			Inspect Empty roll-off bins (waiting for repairs) for residual waste		
---------------------------------------	--	--	--	--	--

Any item which had been determined as "Unsatisfactory" shall be noted in remarks with an explanation and "Corrective Action" to be taken.

DESERT TORTOISE OBSERVATIONS:	
Fill this section out for each sighting of Desert Tortoise or sign of Desert Tortoise that was observed during property inspection. (Please fill out one for each observation)	
Location:	
Observation(s):	<input type="checkbox"/> live animal (total number) <input type="checkbox"/> carcass/skeletal remains <input type="checkbox"/> active burrow <input type="checkbox"/> inactive burrow <input type="checkbox"/> occurrence of scat
Observer:	
Signature	_____ Date _____
Print Name	

Appendix B

US Ecology: Desert Tortoise Protection at the Beatty, Nevada Site



Desert Tortoise Protection at the Beatty, Nevada Site

The desert tortoise, *Gopherus agassizli*, has been in existence for over 30,000 years. It is one of four large terrestrial turtles in the United States, and the only one that inhabits the southwest. It is restricted to the desert communities of California, Nevada and Arizona, primarily below 4,000 feet in elevation. Desert tortoises are present in the vicinity of Beatty, Nevada in low densities.

The desert tortoise is less than two inches long at birth, but grows to a length of approximately 12 inches in adulthood. It is long-lived, possibly reaching 80 years, and sexual maturity is probably reached near annual forbs and grasses, but also on some low perennials, including beavertail cactus. Tortoises are burrowing animals with front legs highly adapted for scraping away soil. Not only will tortoises dig their own burrows, but also they will inhabit the burrows of kit foxes and occupy crevices on rocky slopes and in caliche wash banks.

The desert tortoise is an ectoderm (i.e. it cannot generate its own heat and must obtain it from external sources, namely the sun and soil) and a heterotherm (i.e. its body temperature varies). Thus, its activity patterns are closely aligned with environmental temperatures as well as with food and water availability. Consequently, you will be most likely to see a tortoise in spring when food is plentiful, and in autumn before cold weather sets in. Tortoises burrow underground when temperatures are high. During the hot summer months they surface only during and after thunderstorms to drink puddle water. In late fall and winter they remain underground emerging in approximately March.

Although the desert tortoise may seem like a hardy animal because it has withstood the harsh climate of the desert for thousands of years, it is in fact, fragile and poorly adaptive to changes in its natural environment. Its numbers are declining because of the continuing loss of its habitat to other land uses, including off-road vehicle activity, urbanization, grazing, agriculture, and energy development. Concern for the losses of tortoises and their habitat has prompted their protection by both federal and state governments. **IT IS ILLEGAL TO COLLECT, KILL, HARASS OR SELL A DESERT**

TORTISE IN ALL STATES. The U.S. Fish and Wildlife Service in Nevada and several other western states now formally list the tortoise as a "threatened species".

To protect tortoises which may be in the vicinity of the US Ecology, Beatty, Nevada site, the following rules must be observed:

1. Vehicle speeds on the road to the site must be kept below 15mph. This will facilitate sighting and tortoises crossing the roads and stopping for those tortoises.
2. If a tortoise is sighted on a road, it is best to allow it to continue crossing. However, if the tortoise has stopped in response to sighting the vehicle, gently pick it up and remove it several feet off the road (several hundred feet if several vehicles are expected to pass soon.) Careful handling of the tortoise is especially important. Take care not to tip the tortoise because intestinal twisting and death can result. Also, handle the tortoise quietly. Tortoises tend to urinate when frightened and can lose vital, stored water. This can result in eventual death.
3. All locations to be used for drilling, soil sampling or other site characterization activities where removal of vegetation or other major surface disturbance is necessary must be approved by a qualified staff tortoise observer to ensure that tortoise burrows are protected. Tortoise burrows will be marked, flagged and avoided where applicable.
4. Tortoises frequently take refuge in the shade when temperatures are warm. Refuge sites include shade underneath vehicles, especially next to tires. In areas of the site which are not fenced to exclude tortoises, check under all vehicles which have been stopped for even a few minutes before driving away.
5. Keep trash and garbage covered. Foxes, coyotes and ravens are predators of desert tortoises and are also very attracted to human trash. Increases in predator populations can result in decreases in tortoise population.

REMEMBER, the desert tortoise is not only a natural, longtime resident of the desert community, but it is illegal to collect or kill a tortoise. Captured tortoises frequently die in captivity because of poor feeding and care by "owners" or escape, only to be killed by dogs or cars.

Failure to comply with the above rules for the Beatty site is grounds for immediate suspension and related personnel actions.

Stantec

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BEATTY, NEVADA**

One Team. Infinite Solutions.

tms i:\us ecology\biological evaluation\app d_sop_facility inspection and species presence.docx



Desert Tortoise Protection at the Beatty Nevada Site

REMEMBER, the desert tortoise is not only a natural, longtime resident of the desert community, but it is illegal to collect or kill a tortoise. Captured tortoises frequently die in captivity because of poor feeding and care by "owners" or escape, only to be killed by dogs or cats.

I certify that I have read and understand the above information and the consequences of failure to observe the stated rules.

Signature

Date

APPENDIX C
Desert Tortoise Field Survey

Biological Evaluation

US Ecology Nevada

Beatty, Nevada

Stantec PN: 185702329 300.0001

February 28, 2012

Desert Tortoise Survey Report
US Ecology Buffer Area
Nye County, Nevada



Prepared By

JBR Environmental Consultants, Inc.
321 N. Mall Drive #I-202
St. George, Utah 84790

Contact: Greg Sharp
(435) 652-8301

Prepared For

US Ecology Nevada, Inc.
PO Box 578
Beatty, Nevada 89003

Contact: Bob Marchand
(775) 553-2203

September 28, 2009

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Figure 2. Action Area..... 3

Appendices

- Appendix A – Data Sheets
- Appendix B – Vegetation and Wildlife Observations
- Appendix C – Photos

1.0 Introduction

On August 14 - 17, 2009, JBR Environmental Consultants, Inc (JBR) conducted a protocol (USFWS 2009) Pre-project Field Survey for Mohave desert tortoises (*Gopherus agassizii*) near Beatty, Nevada. The Action Area includes a 1,300-foot buffer around the existing US Ecology facility and is located in Township 13 South, Range 47 East, Sections 26 and 35 (Figure 1). Surveys were conducted by four JBR biologists with previous desert tortoise survey experience. Seth Topham and Greg Sharp have extensive tortoise experience and have worked on many projects as Authorized/Qualified Desert Tortoise Biologists. Laura Arneson and Dwayne Winslow each hold MS degrees in biology and have over 100 hours of tortoise survey experience.

2.0 Methods

The desert tortoise is listed as threatened under the Endangered Species Act and the study area is located in the Eastern Mojave recovery unit for the species. For this reason, JBR biologists conducted a protocol (USFWS 2009) desert tortoise survey within the Action Area.

The Action Area and belt transects were mapped in a GIS and uploaded to Trimble GPSs prior to the survey. Using the GPSs, JBR biologists walked parallel transects spaced 10 meters apart to achieve 100% coverage of the Action Area (Figure 2). During the survey, special attention was given to the identification of desert tortoises and their sign (e.g., burrows, scat, carcasses, etc.). Survey information was recorded on established data sheets (Appendix A). Air temperatures were measured through out the day at 5 centimeters from the soil surface in an area of full sun, but in the shade of the observer. Surveys were stopped when the air temperature exceeded 40 degrees Celsius. JBR also recorded all vegetation and other wildlife observed in the Action Area (Appendix B) and photos were taken to document the habitat (Appendix C).

3.0 Results

No desert tortoises or sign were found in the Action Area. The Action Area measures approximately 414 acres, and per the Protocol's Decision Tree, no transects were surveyed at 200-meter intervals around the project.

The entire Action Area had a hard, gravel, desert pavement layer with low shrub cover. Vegetation within the Action Area was a typical Mojave Desert creosote bush scrub community. The dominant vegetation consisted of creosote bush (*Larrea tridentata*), shadescale (*Atriplex confertifolia*), burrow bush (*Ambrosia dumosa*), and boxthorn (*Lycium* spp). A complete vegetation list and wildlife observations are found in Appendix B.

Many predator burrows were found in the Action Area (Figure 2). Some of these burrows had collapsed and formed a half moon shape similar to desert tortoise burrows. However, examination of these burrows showed that the half moon shape did not continue down into the ground; the burrow floors were rounded.

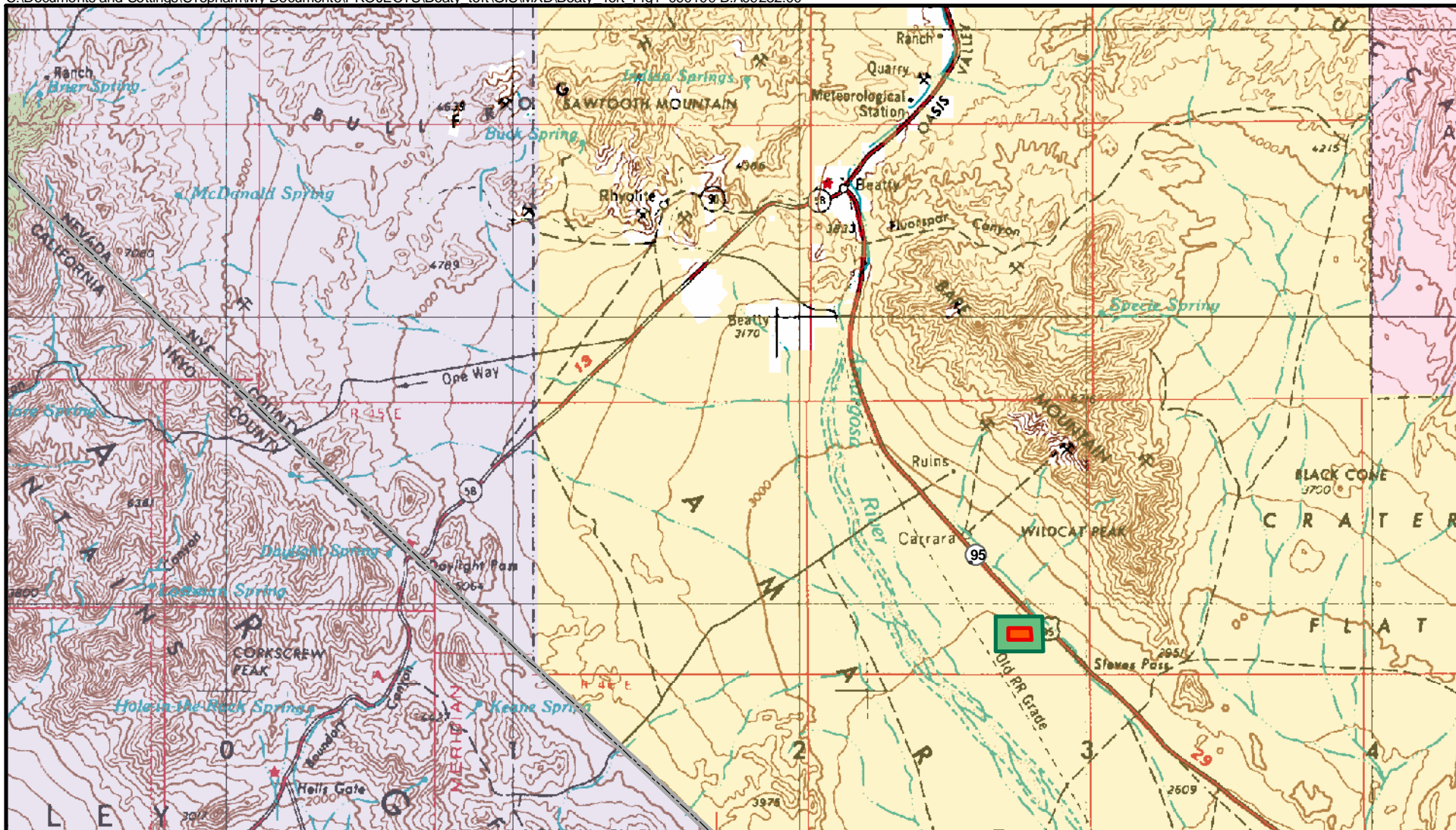
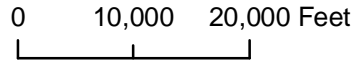


FIGURE. 1 Project Location

- Facility
- Bureau of Land Management
- Survey Area
- Department of Defense
- National Park Service
- Private



**US Ecology
PCBs Tortoise Survey**

Disclaimer:
This document is for reference purposes only and should not be used as a legal document. JBR make no guarantees to the accuracy of the data contained herein or any loss resulting there from.

Data Source:
Death Valley - 1:250,000 USGS
Land Ownership, State of Nevada, Survey Area - JBR Map Index
Facility Boundaries - US Ecology



DESIGN BY **S Topham** DRAWN BY **S Topham** SCALE **1:12,000**

DATE DRAWN **09-21-09**

DATE REVISED **09-21-09**

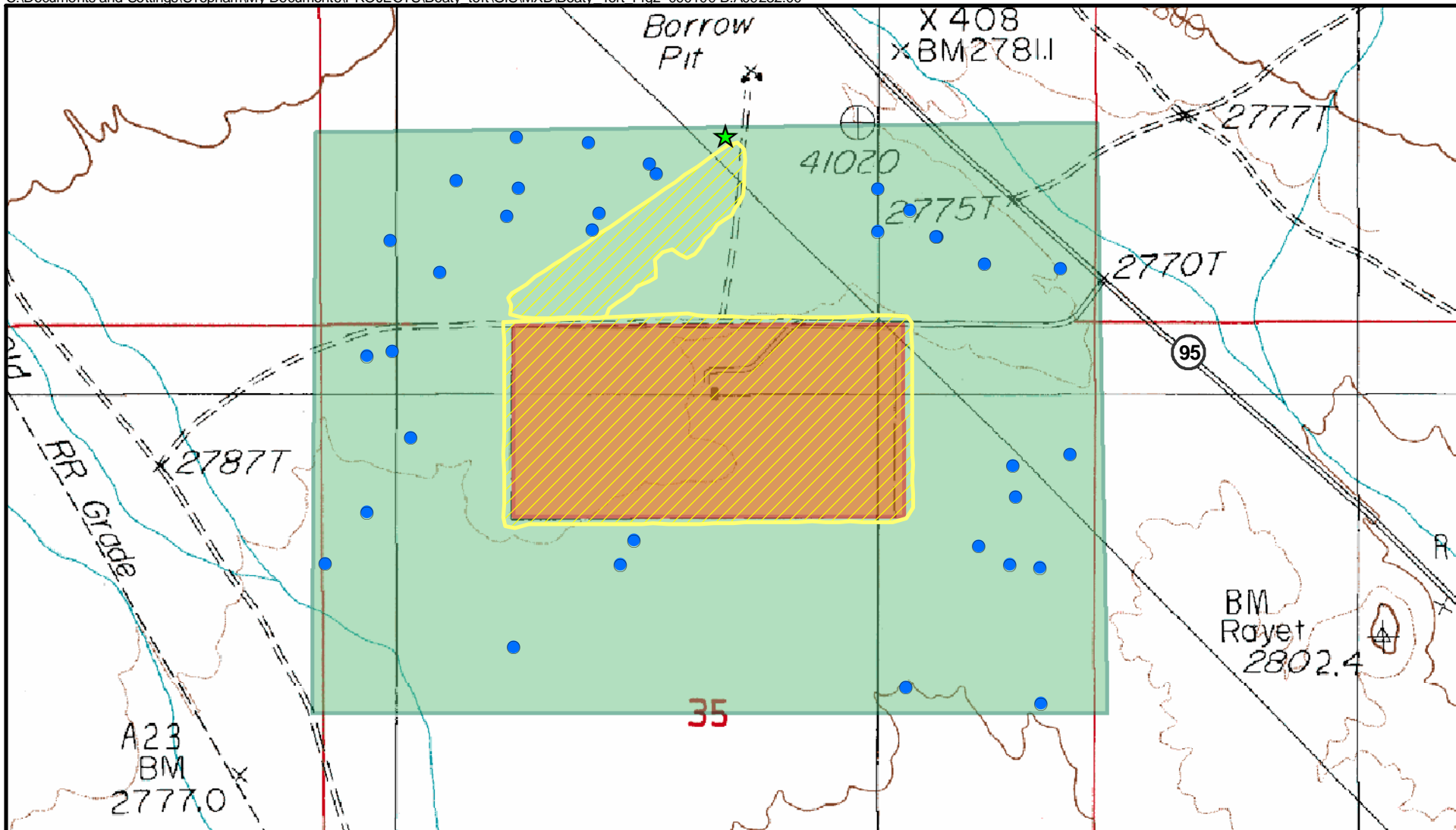
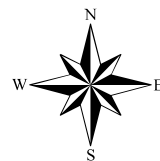


FIGURE. 2 Survey Results

- Facility
- Survey Area
- Facility Disturbance Areas
- Predator Burrow
- Sidewinder Rattlesnake

0 600 1,200 Feet



**US Ecology
PCBs Tortoise Survey**

Disclaimer:
This document is for reference purposes only and should not be used as a legal document. JBR make no guarantees to the accuracy of the data contained herein or any loss resulting there from.

Data Source:
Carrara Canyon - 1:24,000 USGS Facility - US Ecology
State of Nevada, Survey Area - JBR Map Index
Facility Disturbance Polygon and Point Data - JBR Trimble GPS



DESIGN BY: S Topham DRAWN BY: S Topham SCALE: 1:12,000

DATE DRAWN: 09-01-09

DATE REVISED: 09-21-09

4.0 References

US Fish and Wildlife Service (USFWS). 2009. Preparing for any action that may occur within the range of the Mojave desert tortoise (*Gopherus agassizii*). April 2009. US Fish and Wildlife Service.

APPENDIX A
DATA SHEETS

USFWS 2009 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 9/14/09 Survey biologist(s): G. Sharp, S. Topham, L. Arneson, D. Winslow
(day, month, year)

Site description: US Ecology Buffer Zone, 414 Acres, 11 miles south of Beatty NV.
(project name and size, general location)

County: Nye Quad: Carrara Canyon Location: Part of S26 T13S, R47E and S35 T13S, R47E
(UTM coordinates, lat-long, and/or TRS, map datum)

Transect # 1 Transect length: 1.03 Mi Type of survey: 414 Acres; 100% Coverage
(project area size to be surveyed, 100% coverage/probabilistic sampling)

GPS Start-point: 522314.108mN 4005501.95mE 830.33m Start time: 8:00 am/pm
(easting, northing, elevation in meters)

GPS End-point: 522309.71mE 4010440.42mN End time: 2:00 am/pm
(easting, northing, elevation in meters)

Start Temp: 22.6 °C Weather: CLEAR, BREEZE 3-5 MPH,

End Temp: 35.4 °C

Live Tortoises

Detection number	GPS location		Time	Tortoise location <small>(in burrow, all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL >160 mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
	Easting	Northing				
1						
2						
3						
4						
5						
6						
7						
8						

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location		Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

NONE

USFWS 2009 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 9/15/09 Survey biologist(s): G. Sharp, S. Topham, L. Arneson, D. Winslow
(day/month, year)

Site description: US Ecology Buffer Zone, 414 Acres, 11 miles south of Beatty NV.
(project name and size, general location)

County: Nye Quad: Carrara Canyon Location: Part of S26 T13S, R47E and S45 T13S, R47E
(UTM coordinates, lat-long, and/or TRS, map datum)

Transect #: 2 Transect length: 1.03 Mi Type of survey: 114 Acres; 100% Coverage
(project area size to be surveyed, 100% coverage/probabilistic sampling)

GPS Start-point: 527643.97 mE 408183.18 mN 850.40 Start time: 7:30 am/pm
(easting, northing, elevation in meters)

GPS End-point: 527407.9 mE 408102.23 mN 847.80 m(mn) End time: 2:27 am/pm
(easting, northing, elevation in meters)

Start Temp: 17.3 °C Weather: CLIM, CALM, NO CLOUDS.

End Temp: 30.0 °C

Live Tortoises

Detection number	GPS location Easting Northing		Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL >160-mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing		Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

NONE

USFWS 2009 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 9/16/09 Survey biologist(s): G. Sharp, S. Topham, L. Arneson, D. Winslow
(day, month, year)

Site description: US Ecology Buffer Zone, 414 Acres, 11 miles south of Beatty NV.
(project name and size, general location)

County: Nye Quad: Carrara Canyon Location: Part of S26 T13S, R47E and S35 T13S, R47E
(UTM coordinates, lat-long, and/or TRS, map datum)

Transect #: 3 Transect length: 1.03 Mi Type of survey: 414 Acres; 100% Coverage
(project area size to be surveyed, 100% coverage/probabilistic sampling)

GPS Start-point: 527986.11 NE 406926.94 NE 943.41 m Start time: 7:30 am/pm
(easting, northing, elevation in meters)

GPS End-point: 527643.97 NE 4069683.18 N 850.90 End time: 2:45 am/pm
(easting, northing, elevation in meters)

Start Temp: 20.7 °C Weather: Clear, calm, 3% cloud

End Temp: 40.7 °C

Live Tortoises

Detection number	GPS location Easting Northing		Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL >160-mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing		Type of sign <small>(burrows, scats, carcasses, etc)</small>	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

NONE

USFWS 2009 DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEET

Date of survey: 08/17/09 Survey biologist(s): G. Sharp, S. Topham, L. Arneson, D. Winslow
(day, month, year)

Site description: US Ecology Buffer Zone, 414 Acres, 11 miles south of Beatty NV.
(project name and size, general location)

County: Nye Quad: Carrara Canyon Location: Part of S26 T13S, R47E and S35 T13S, R47E
(UTM coordinates, lat-long, and/or TRS, map datum)

Transect #: 4 Transect length: 1.03 Mi Type of survey: 414 Acres; 100% Coverage
(project area size to be surveyed, 100% coverage/probabilistic sampling)

GPS Start-point: 527407.19 m E 4369622.23 m N 847.80 m Start time: 7:19 am/pm
(easting, northing, elevation in meters)

GPS End-point: 629372.378 m E 4069257.44 m N 837.71 m End time: 10:45 am/pm
(easting, northing, elevation in meters)

Start Temp: 19.1 °C Weather: clear, calm, no wind

End Temp: 32.1 °C

Live Tortoises

Detection number	GPS location Easting Northing		Time	Tortoise location <small>(in burrow: all of tortoise beneath plane of burrow opening, or not in burrow)</small>	Approx MCL >160-mm? <small>(Yes, No or Unknown)</small>	Existing tag # and color, if present
1						
2						
3						
4						
5						
6						
7						
8						

NONE

Tortoise Sign (burrows, scats, carcasses, etc)

Detection number	GPS location Easting Northing		Type of sign <small>(burrows, scats, carcass, etc)</small>	Description and comments
1				
2				
3				
4				
5				
6				
7				
8				

NONE

APPENDIX B
VEGETATION AND WILDLIFE OBSERVATIONS

Vegetation

burrow- bush	<i>Ambrosia dumosa</i>
alkali saltbush	<i>Atriplex polycarpa</i>
shadscale	<i>Atriplex confertifolia</i>
devils spine flower	<i>Chorizanthe Rigida</i>
Mormon tea	<i>Ephedra nevadensis</i>
desert trumpet	<i>Eriogonum Inflatum</i>
cheese bush	<i>Hymenoclea salsola</i>
creosote	<i>Larrea tridentata</i>
desert pepperweed	<i>Lepidium fremontii</i>
Anderson boxthorn	<i>Lycium andersonii</i>
pallid boxthorn	<i>Lycium pallidum</i>
beaver tail cactus	<i>Opuntia basilaris</i>
buckhorn cholla	<i>Opuntia acanthocarpa</i>
wire lettuce	<i>Stephanomeria pauciflora</i>

Reptile

tiger whiptail	<i>Aspidoscelis tigris</i>
zebra-tailed lizard	<i>Callisaurus draconoides</i>
sidewinder rattlesnake	<i>Crotalus cerastes</i>
desert iguana	<i>Dipsosaurus dorsalis</i>
desert horned lizard	<i>Phrynosoma platyrhinus</i>
ground snake	<i>Sonora semiannulata</i>
side-blotch lizard	<i>Uta stansburiana</i>

Bird

lesser nighthawk	<i>Chordeiles acutipennis</i>
common raven	<i>Corvus corax</i>
horned lark	<i>Eremophila alpestris</i>
yellow-headed blackbird	<i>Xanthocephalus xanthocephalus</i>
mourning dove	<i>Zenaida macroura</i>

Mammal

white-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>
black-tailed jack rabbit	<i>Lepus californicus</i>

**APPENDIX C
PHOTOS**



Habitat in the southern part of the Action Area.



Habitat in the western part of the Action Area.



Habitat in the northern part of the Action Area.



Habitat in the eastern part of the Action Area.