

at the other permitted CMUs for subsequent treatment (e.g.; stabilization). If appropriate, some treatment can occur at the CMU. The unit meets RCRA container management requirements for wastes without free-standing liquids. Waste with free-standing liquids must either be moved to an area with secondary containment, the liquid must be treated (e.g.; solidified), it must be decanted, or the container must be placed in containment by the end of the next work day following receipt.

- **CMU #17** (future) The Dry Hazardous Waste Storage Area #3 (DHWSA #3) will be located on the northeast side of the facility, on top of the closed Trench 10 landfill, and will be used as a general containerized waste storage area. The unit is an external area, meeting RCRA container management requirements for waste without free-standing liquids.

**Table 1 – Summary of Container Management Units**

CMU	Common Name			Secondary Containment Capacity [gal]	Storage Capacity		
	Common Name	Status	Permit Required <sup>3</sup>		Gallons	55-gallon Drums	yds <sup>3</sup>
#1	PCB Building	Existing	Yes	26,928	59,400	1080	294
#5	Dry Hazardous Waste Storage Area #1	Existing	Yes	0	694,516	12,627	3,438
#6	Dry Hazardous Waste Storage Area #2	Existing	Yes	0	250,696	4,588	1,241
#7	Bin Storage Pad	Existing	Yes	20,287 <sup>4</sup>	80,778	1,469	400
#8	Lab Waste Storage Area	Existing	No	0	700	13	3.5
#16	Container Management Building	Existing	Yes	61,630	246,520	4,482	1,220
#17	Dry Hazardous Waste Storage Area #3	Future	Yes	0	694,516	12,627	3,438

The facility has fourteen tank management units, which are described below.

- **Stabilization Tanks** (T-1, T-2, & T-3, T-18, & T-19) capable of storing and treating wastes with variable physical and chemical consistencies in order to solidify and/or immobilize hazardous constituents in compliance with 40 CFR Part 268 Land Disposal Restriction requirements;
- **The PCB Storage Tank Farm** (T-4, T-5, T-6, T-7, T-8, T-9, & T-10) for storage and bulking of RCRA wastes (e.g.; high BTU containing materials) and PCB-containing liquids prior to on-site management or shipment to an off-site facility. Details on this unit are provided in the PCB Tank Farm Report; and
- **Evaporation Tank** (T-11) to manage liquid waste (including wash water generated from vehicle decontamination and the facility laboratory, leachate and other contaminated waters). Details on this unit are provided in the Tank Systems Report.

<sup>3</sup> Separate permits are not required for CMUs operated under the provisions of 40 CFR §262.34, temporary staging areas in support of facility operations, units located within permitted areas or units which are ancillary to or supportive of other facility operations (e.g.; CMUs #8 and #9).

<sup>4</sup> There are 10 bays @ 271.2 ft<sup>3</sup> each for a total of 2,712 ft<sup>3</sup>. There are 7.48 gallons / ft<sup>3</sup>, for a total of 20,287 gallons of secondary containment capacity.

Tank	Common Name			Capacity [gallons]
	Common Name	Status	Permit Required	
#1	Stabilization Tank (Pan 1)	Existing	Yes	6,400
#2	Stabilization Tank (Pan 2)	Existing	Yes	35,500
#3	Stabilization Tank (Pan 3)	Existing	Yes	35,500
#4	PCB Storage & Treatment Tank	Existing	Yes	7,500
#5	PCB Storage & Treatment Tank	Existing	Yes	7,500
#6	PCB Storage & Treatment Tank	Existing	Yes	5,000
#7	PCB Storage & Treatment Tank	Existing	Yes	5,000
#8	PCB Storage & Treatment Tank	Existing	Yes	3,000
#9	PCB Storage & Treatment Tank	Future	Yes	12,500
#10	PCB Storage & Treatment Tank	Future	Yes	12,500
#11	Evaporation Tank	Existing	Yes	10,000
#15	Leachate Storage Tank	Existing	Yes	10,000
#18	Stabilization Tank (Pan 4)	Existing	Yes	17,250
#19	Stabilization Tank (Pan 5)	Existing	Yes	17,250

- **Leachate Storage Tank (T-15)** for management of Leachate collected from active and inactive disposal cells.

### 3.2.0 Topographic Map Requirements

A topographic map of the area surrounding the facility is included in Appendix B. The map illustrates the topography of the area to 2,500 feet or more beyond the facility boundaries.

The requirements of 40 CFR §270.14(b)(19), as adopted by the Nevada Division of Environmental Management (NVDEP), are addressed as follows:

- Scale and date – Although the map scale used is greater than one inch equals 200 feet, the map contains sufficient detail for engineering analysis. Map contour intervals are 2 feet. Site-specific features are illustrated on a larger scale map (1 inch = 100 feet) included in Appendix C.
- Intermittent stream shown - there are no perennial streams located within a mile of the facility.
- Surrounding land use – BLM rangeland, except for buffer zone leased by the State of Nevada.
- Wind rose
- Map orientation

The following site-specific requirements are addressed in the Site Access map included as Appendix D.

- Access control fences.
- On-site/off-site injection and withdrawal wells – There are no injection wells on or off site. On-site withdrawal and monitoring wells are illustrated on the site-specific map and the site access diagram.
- Buildings, treatment, storage and disposal units, and other structures
- Facility access road
- Fire control facilities

Appendix E includes a map that identifies drainage diversion ditches as constructed.

The location of the 100-year floodplain in relation to the facility is illustrated on the Flood Insurance Rate Map included in Appendix E.

### **3.3.0 Facility Location Information**

#### **3.3.1 Seismic Standard**

The facility is not located in a recognized fault zone. The nearest major fault zones are Death Valley Fault zone (20 miles from the facility) and the Las Vegas Fault zone (100 miles from the facility). An analysis of geologic maps for the Bare Mountain and Big Dune quadrangles (USGS Maps I-1767 and I-1826) showed no evidence of Holocene faults within a one-mile radius of the facility.

#### **3.3.2 Floodplain Standard**

The Flood Insurance Rate Map (FIRM) for Community Panel No. 320019-4000-C (facility location) in Nye County, Nevada is included in Appendix E. The FIRM map demonstrates that the facility is located outside the identified floodplain areas.

#### **3.3.3 Stationary Facilities Standard (NAC 444.8456)**

The USEN Facility complies with the location criteria identified in NAC 444.8456. The nearest dwelling, school, church, community center or Public Park is located in the town of Beatty, ~ 11 miles from the facility. The area where the facility is located has not been identified as a key habitat for any wildlife or endangered species. Ash Meadows National Wildlife Refuge, ~ 30 miles southeast of the facility, is the nearest wildlife habitat. No surface water bodies, drinking water supply wells, or wetlands exist within one (1) mile of the facility.

As discussed in the Landfill Report and Groundwater Monitoring Plan, the groundwater table doesn't exhibit significant seasonal fluctuations. The depth to the top of saturation, as measured from the ground surface, ranges between 285' to the facility's north and to 360' at the southwest corner of the LLRW site. The facility is not located on the 100-year floodplain, or in an area identified by the Division of Historic Preservation as a historical or archaeological site.

#### **3.3.4 Site Legal Description**

The USEN facility is located in Nye County, Nevada, approximately 11 miles south of Beatty, in the Amargosa Desert (Latitude - 36° 46' 9", Longitude - 116° 41" 23"). A detailed legal description of the facility is included as appendix F.

#### **3.4.0 Traffic Information**

The only public road in the vicinity of the Beatty hazardous waste facility is Highway 95 (see Appendix G), which is a primary two (2) lane, hard-surfaced road bordered by BLM range fence (a deterrent to off-road vehicle traffic). The facility entrance (off the southwest side of Highway 95) is a 100-foot wide asphalt concrete apron transitioning into a two-lane road. The entrance road, which is well crowned with graded

shoulders and ditches, passes through the range fence by way of a cattle guard. It enters the facility property at the north end of the buffer zone and administration area through a security gate. Gravelly material is generally employed to surface facility roads. No studies have been conducted to determine the road bearing capacity, but it is expected to be in the range of 230-380 psi, which is the site soil bearing capacity, as determined from a geotechnical evaluation conducted during construction of the Bin Storage Area.

#### **3.4.1 On-site Traffic Patterns**

General access to the facility is through main site entrance, which remains open during normal business hours under the general surveillance of facility personnel. Access is also possible through other gates as described in the Security Plan. A vehicle transporting waste typically proceeds to the scale to weigh-in and deliver the waste shipment documentation to the Receiving Office. Bulk waste delivery vehicles then precede to a staging area, where they remain until the shipment and accompanying documentation are reviewed to confirm its acceptability. The vehicle is then sent to the waste management unit for processing or storage. Deliveries of containerized wastes are sent to the appropriate CMU for off-loading and waste verification.

#### **3.4.2 Vehicle Types and Volume**

Traffic to the facility typically includes tractor-trailer trucks, tankers for bulked liquids, and dump trucks used to transport bulk solids. Traffic volumes vary according to the volume of waste received. Operational records for the period between January 1, 2008, and December 31, 2008, indicate an average weekly traffic volume of 130 shipments.

### **3.5.0 Preventive Procedures, Structures and Equipment**

#### **3.5.1 Hazard Prevention during Unloading Operations**

Waste entering the facility may be unloaded from the transport vehicle into one of several areas:

- Containerized wastes will be unloaded at one or more of the container management units or directly into the disposal unit, and
- Bulk solid wastes will be unloaded directly into the disposal unit, or if treatment is required, shipments may be unloaded into any of the treatment units.

Containerized hazardous wastes will typically be removed from the transport vehicle using a forklift or front-end loader equipped with drum handling mechanisms. When unloading into the landfill, containers are typically placed into the bucket of a front-end loader prior to final placement. An alternative method to unload containerized waste is to place them directly in the cell using a forklift. A forklift is also typically employed to unload and transfer containers at storage areas, as necessary.

Operations personnel are trained to ensure appropriate care is exercised during unloading and transfer activities to minimize dropping, damaging or careless management of containers.

Unloading of bulk materials into the landfill takes place within the active disposal area to minimize the likelihood of waste spillage. The transport vehicle driver is directed by operating personnel to bring the vehicle to a stable area or to the landfill dock where unloading takes place. Prior to leaving the active cell area, the truck tailgates and mud flaps are inspected, and any excess residue present is removed.

Bulk solid waste requiring treatment is unloaded by bringing the transport vehicle as close as practical to the treatment unit, and unloading directly into the unit. To prevent the generation of excessive dusting or odor during unloading of bulk materials, USEN evaluates candidate waste streams during the approval process to ensure that materials which could create these types of emissions are either not approved for disposal, or are managed on-site to minimize fugitive emission generation.

### **3.5.2 Run-off Prevention**

Diversion dikes and site drainage are employed as control measures to prevent run-on into the disposal areas. There are two (2) run-on control ditches: a trapezoidal ditch designed to provide run-on control for the 25-year, 24-hour storm, and a smaller triangle ditch that diverts any run-on inside the main diversion ditch. A detailed description of these run-on control mechanisms is provided in the Landfill Report.

With the run-on control measures in place, the only water expected to come in contact with the waste management units is from falling precipitation. Run-off is contained within the disposal units since temporary and/or permanent dikes in the below-grade and above-grade sections of the landfills contain precipitation within the cells themselves.

Run-off from treatment and storage units is of minimal concern due to the sparse rainfall in the region and the dry, well-graded nature of the facility soils. Outdoor waste management units generally have waste stored in closed containers and/or are provided with adequate secondary containment to eliminate the possibility of contaminated run-off.

### **3.5.3 Prevention of Water Supply Contamination**

Facility operating procedures and design constitute the best assurance that the facility does not represent a potential for contamination of water supplies. In addition, the lack of surface water bodies or groundwater supplies within 10 miles or more of the facility, further assures protection of water supplies.

The upgradient location of the facility withdrawal well and its construction features protect it from any potential contamination. The well is cased with an eight-inch steel casing from the surface to the first perforations at a depth of 300 feet, sealed at the surface with steel, and the annular space between the casing and the borehole is filled with grout. This water is used for waste treatment and dust control and is not used as drinking water.

#### **3.5.4 Prevention of Adverse Effects from Equipment Failure and Power Outages**

Sufficient supplies of emergency/safety equipment ensure that replacements are available in the event of equipment failure. Safety equipment is subject to regular inspections to ensure that adequate supplies are maintained.

Adverse effects due to failure of any component of the facility's communication system are prevented by maintaining back-up units and systems. For example, multiple FM radios are available, but should all units fail, the Claxon warning system will serve as a back up.

Failure of heavy equipment would not impact the facility's ability to respond effectively to an emergency since multiple units are available and easily interchangeable during a response effort with similar effectiveness and margin of safety.

Due to the type of waste management activities conducted at the facility, no adverse effects are anticipated from a power outage. In the event of a power outage, a portable power generator is available on-site to minimize disruption of facility activities.

A power outage would not impact any emergency response effort since all pumps devoted to emergency use are gas or air operated. Portable, self-contained lighting units are maintained at the facility for use at night if extended operations are required, or in response to an emergency situation at night.

#### **3.5.5 Prevention of Undue Personnel Exposure to Hazardous Waste**

All operating personnel have been issued personal protective equipment (PPE), including respiratory protection as well as hard hats, safety glasses, and safety shoes. Additional PPE (e.g.; Tyvek suits, chemical splash goggles) is required when performing specific tasks, and is readily available at various locations throughout the facility (see the Contingency Plan).

Employees required to work in active areas of the facility where wastes are received, handled, stored or disposed, are provided with initial training within six months of employment. Continuous training is provided to ensure safe performance of the tasks associated with each position. The training program includes, among other things:

- Basic chemistry training to familiarize employees with waste properties and behaviors;
- USEN's chemical compatibility segregation system;
- Contingency Plan implementation;
- Proper use and maintenance of PPE, and
- Compliance with the permit's provisions.

### **3.5.6 Prevent Releases to Atmosphere**

#### **3.5.6.1 Containers**

To prevent releases to the atmosphere all containers will be maintained in the closed position except when it is necessary to open the container to add, remove, inspect, or sample the material in the container. All bulk loads stored in roll-off bins will be covered utilizing a vinyl tarp or its equivalent except when it is necessary to remove the cover to add, remove, inspect or the sample the material in the roll-off bin. All containers and bulk roll-offs will be inspected on a daily basis to ensure there integrity.

#### **3.5.6.2 Treatment Tanks**

To prevent releases to the atmosphere from the batch treatment tanks only RCRA hazardous waste with Volatile Organic Compound (VOCs) concentrations of less then 500 ppm will be treated. To minimize fugitive dust emissions, upon arrival, waste will be visually inspected and its dusting potential is assessed. Should facility personnel find that a waste has a medium or high dusting potential, water sprays are used to control emissions. These operations are monitored and controlled during the course of the work to minimize fugitive process emissions from the waste

### **3.6.0 Waste Minimization Program**

As part of the Hazardous and Solid Waste Amendments of 1984 (HSWA), Congress amended Section 3002 of RCRA to add a new subsection requiring that generators have a program in place to reduce the volume and toxicity of waste generated, to the degree determined by the generator to be economically practical. The generator must certify that the proposed method of treatment, storage, or disposal is the practical method currently available, which minimizes the present and future threat to human health and the environment.

Daily waste management activities at the facility generate hazardous wastes in excess of 1,000 kilograms per calendar month. USEN has developed a written program to achieve HSWA waste minimization goals for on-site generated waste, a copy of which is included in Appendix H.

Certification of compliance with the waste minimization requirements is maintained as part of the facility's operating record.

**Appendix A**  
**Summary of Permitted Regulated Waste Management Units**

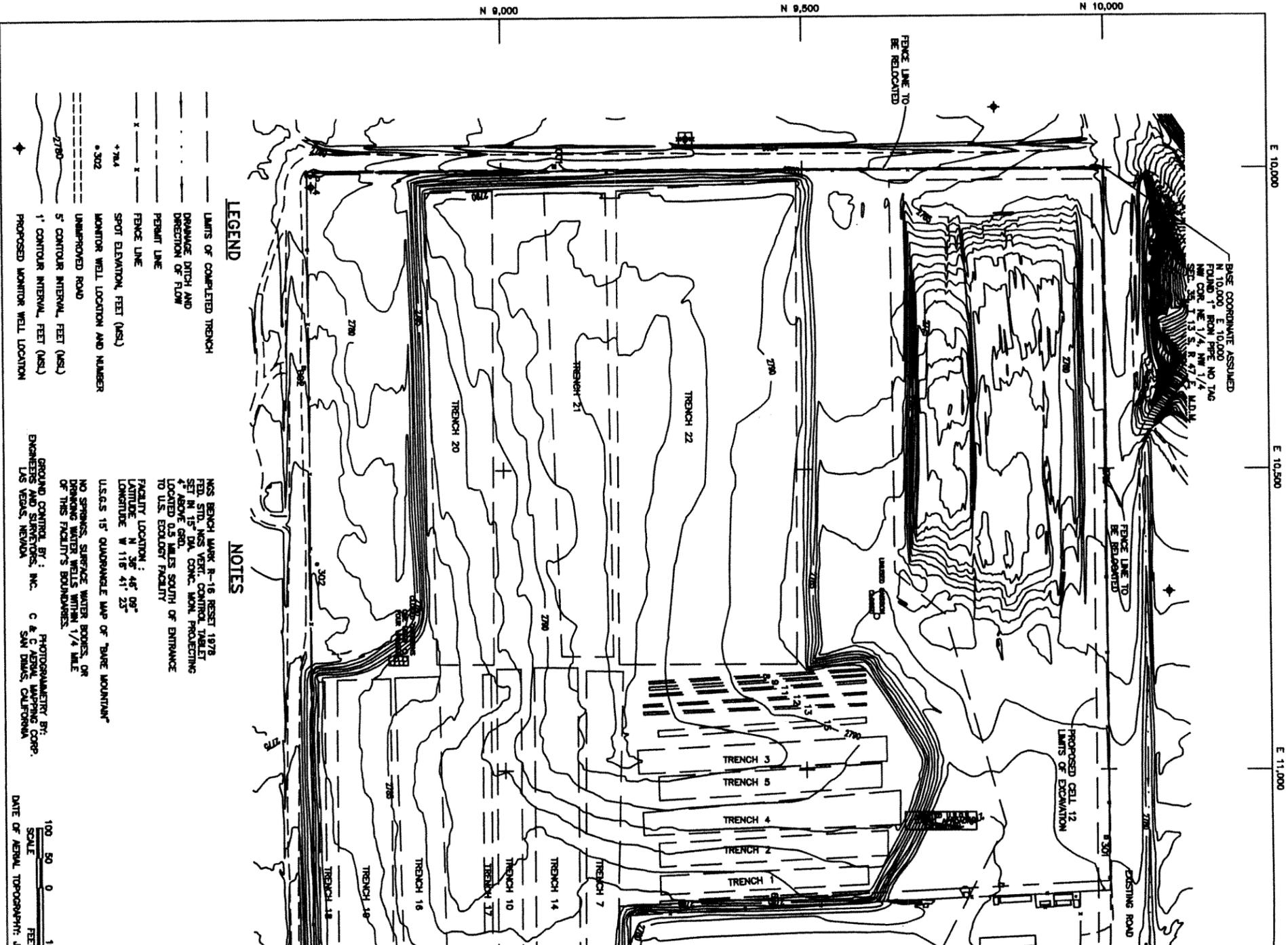
Waste Management Unit Designation [WMU]		WMU Name / Activity	Permitted Waste Management Units		ID #	Status
			Sub-Unit(s) or Associate Unit(s)			
#1	Landfill Cell #11		Landfill Cell #11		none	Active
			Landfill Cell #12		None	Active
#2	Landfill Cell #12		PCB Building		CMU #1	Active
			PCB Storage Tank		T-4	Active
			PCB Storage Tank		T-5	Active
			PCB Storage Tank		T-6	Active
			PCB Storage Tank		T-7	Active
			PCB Storage Tank		T-8	Active
			PCB Storage Tank		T-9	Future
			PCB Storage Tank		T-10	Future
			Container Management Building (CMS Building)		CMU #16	Active
			Dry Hazardous Waste Storage Area #2		CMU #6	Active
#3	Container Storage Building		Dry Hazardous Waste Storage Area #3		CMU #17	Active
			Stabilization Bin Storage Pad		CMU #7	Active
			Stabilization Tank #1 (Pan 1)		T-1	Active
			Stabilization Tank #2 (Pan 2)		T-2	Active
			Stabilization Tank #3 (Pan 3)		T-3	Active
			Stabilization Tank #4 (Pan 4)		T-18	Active
			Stabilization Tank #5 (Pan 5)		T-19	Active
#7	Truck Decontamination Pad & Evaporation Tank		Truck Decontamination Pad & Evaporation Tank		T-11	Active
			Leachate Storage Tank		T-15	Active
#8	Waste Liquids Storage Tanks		Laboratory Waste Storage		CMU #8	Active
#9	Laboratory Waste Storage					

**Appendix A**  
**Summary of Permitted Regulated Waste Management Units**

Permitted Waste Manag		
Waste Management Unit Designation [WMU]	WMU Name / Activity	
#1	Landfill Cell #11	Landfill Cell #11
	Landfill Cell #12	Landfill Cell #12
#2	Container Storage Building	PCB Building
		PCB Storage Tank
#3	Container Storage Building	PCB Storage Tank
		PCB Storage Tank
		PCB Storage Tank
#4	Containerized Waste Consolidation / Aggregation Activities	Container Manageme
		Dry Hazardous Waste
#5	Bulk Solids / Roll-Off Storage	Dry Hazardous Waste
		Dry Hazardous Waste
		Stabilization Bin Store
		Stabilization Tank #1
#6	Stabilization System	Stabilization Tank #2
		Stabilization Tank #3
		Stabilization Tank #4
		Stabilization Tank #5
		Truck Decontaminatic
#7	Truck Decontamination Pad & Evaporation Tank	Truck Decontaminatic
#8	Waste Liquids Storage Tanks	Leachate Storage Tai
#9	Laboratory Waste Storage	Laboratory Waste Stc

**Appendix B**  
**Area Topographic Map**

**Appendix C**  
**Site-Specific Topographic Map**



BASE COORDINATE ASSUMED  
 N 10,000 E 10,000  
 FOUND 1" FROM PIPE NO 746  
 NW COR. NE 1/4, NW 1/4  
 SEC. 25, T. 13 S. R. 47 E. M.D.M.

**LEGEND**

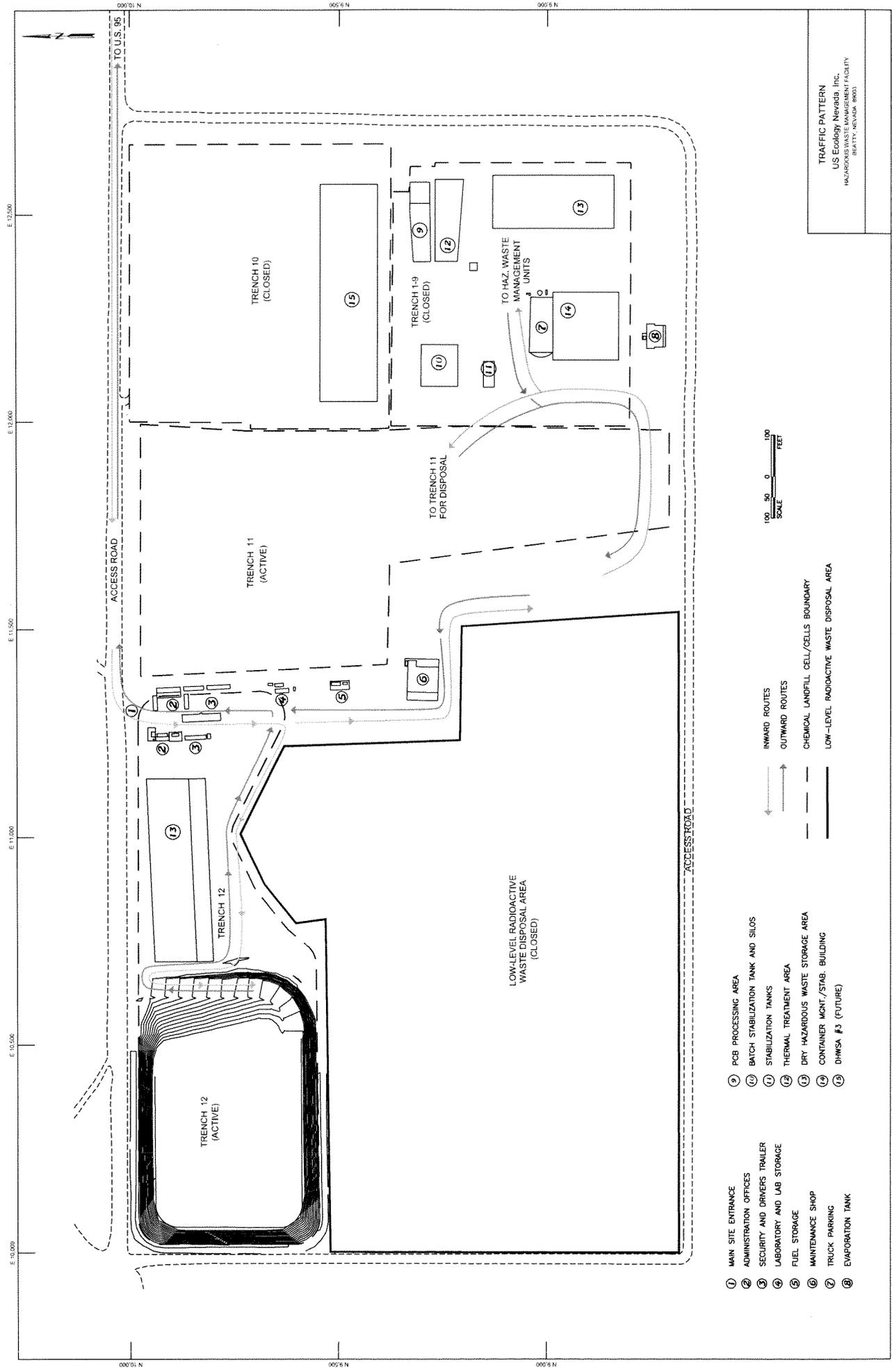
- LIMITS OF COMPLETED TRENCH
- - - DRAINAGE DITCH AND DIRECTION OF FLOW
- - - PERMIT LINE
- - - FENCE LINE
- +7M4 SPOT ELEVATION, FEET (MSL)
- +302 MONITOR WELL LOCATION AND NUMBER
- UNIMPROVED ROAD
- 5' CONTOUR INTERVAL, FEET (MSL)
- 1' CONTOUR INTERVAL, FEET (MSL)
- ◆ PROPOSED MONITOR WELL LOCATION

**NOTES**

- N85 BENCH MARK B-16 RESET 1978
- FED. STD. N85 VERT. CONTROL TABLET SET IN 15" DIA. CONC. MON. PROJECTING 4" ABOVE GND.
- LOCATED 0.5 MILES SOUTH OF ENTRANCE TO U.S. ECOLOGY FACILITY
- FACILITY LOCATION:
  - LATITUDE N 36° 47' 09"
  - LONGITUDE W 118° 41' 25"
- U.S.G.S 15' QUADRANGLE MAP OF 'BAKE MOUNTAIN'
- NO SPRINGS, SURFACE WATER BOUES, OR DRINKING WATER WELLS WITHIN 1/4 MILE OF THIS FACILITY'S BOUNDARIES.
- GROUND CONTROL BY: PHOTOGRAMMETRY BY: C & G AERIAL MAPPING CORP., SAN DIEGO, CALIFORNIA
- ENGINEERS AND SURVEYORS, INC. L/S VERA, NEWTON

100 50 0 1  
 SCALE  
 FEET  
 DATE OF AERIAL PHOTOGRAPH: J

**Appendix D**  
**Facility Access Diagram**



E 10,000      E 11,000      E 12,000      E 13,000      E 14,000

000'0" N      000'6" N      000'6" N

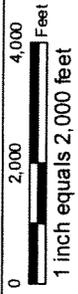
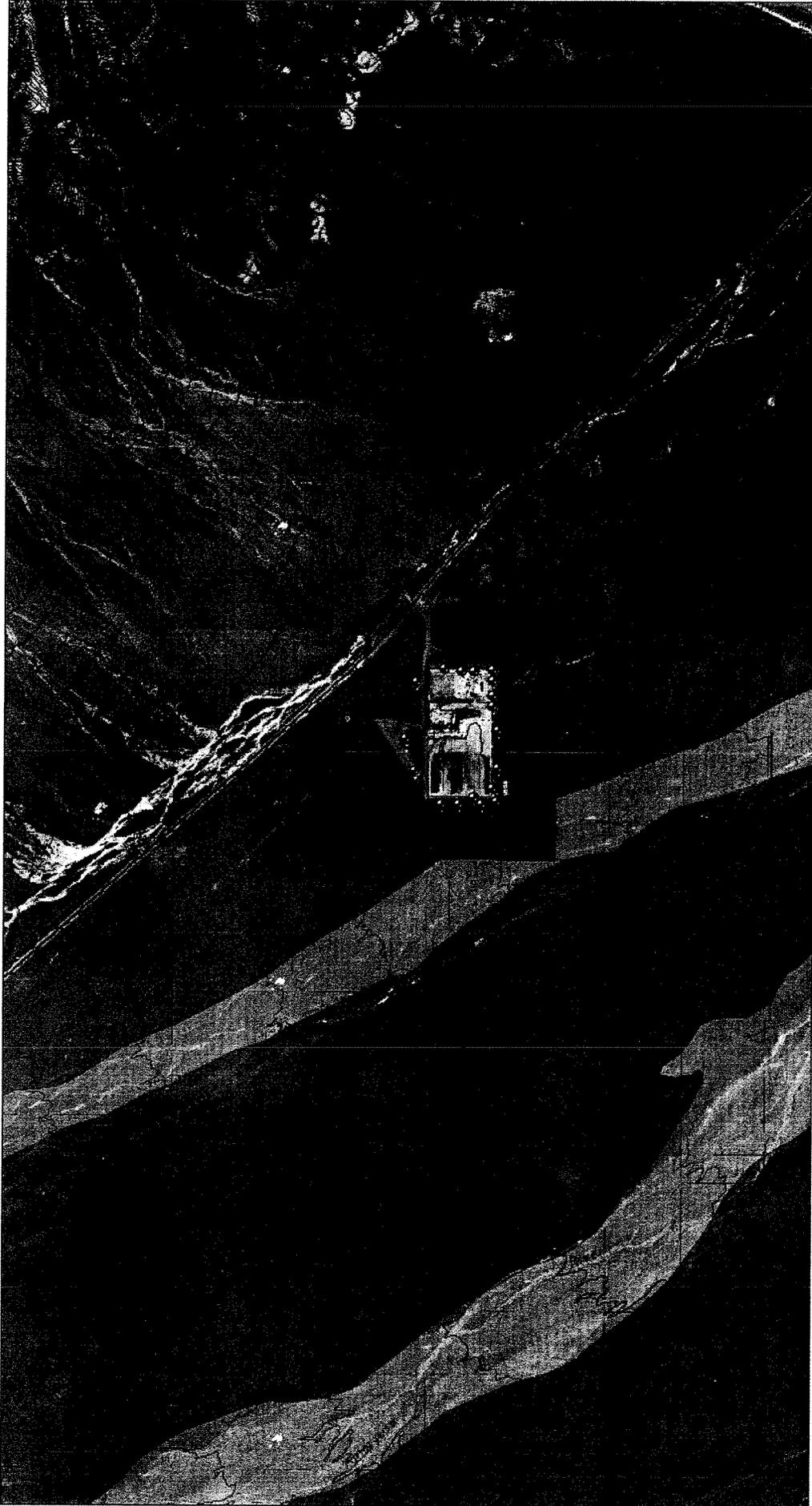
- ① MAIN SITE ENTRANCE
- ② ADMINISTRATION OFFICES
- ③ SECURITY AND DRIVERS TRAILER
- ④ LABORATORY AND LAB STORAGE
- ⑤ FUEL STORAGE
- ⑥ MAINTENANCE SHOP
- ⑦ TRUCK PARKING
- ⑧ EVAPORATION TANK
- ⑨ PCB PROCESSING AREA
- ⑩ BATCH STABILIZATION TANK AND SILOS
- ⑪ STABILIZATION TANKS
- ⑫ THERMAL TREATMENT AREA
- ⑬ DRY HAZARDOUS WASTE STORAGE AREA
- ⑭ CONTAINER MGMT./STAB. BUILDING
- ⑮ DHWSA #3 (FUTURE)

- INWARD ROUTES
- OUTWARD ROUTES
- CHEMICAL LANDFILL CELL/CELLS BOUNDARY
- LOW-LEVEL RADIOACTIVE WASTE DISPOSAL AREA

100 50 0 100  
SCALE  
FEET

TRAFFIC PATTERN  
US Ecology Nevada, Inc.  
HAZARDOUS WASTE MANAGEMENT FACILITY  
BEAULTY, NEVADA 89003

**Appendix E**  
**Flood Insurance Rate Map**



- Legend**
-  FEMA Flood Zone
  -  Buffer Zone
  -  Existing Drainage
  -  Detection Monitor Well



**FIGURE 1**  
**CURRENT SITE CONDITION**  
 US Ecology Nevada, Inc.  
 Hazardous Waste Management Facility  
 Beatty, Nevada

**Appendix F**  
**Legal Description and Facility Boundaries**

NW CORNER SECTION 35

N 1/4 CORNER SECTION 35  
POINT OF COMMENCING

N89°44'03"E 1319.69'

N89°44'27"E 1320.45'

42.11 ACRES

TRUE POINT OF BEGINNING  
67.62'

1252.83'

N89°44'27"E  
1320.45'



N00°13'47"W 1319.05'

N00°13'47"N 355.14'

150.00'

150 FT. BUFFER ZONE

S03°31'22"E 62.10'

S89°24'32"W 674.84'

S74°32'54"W 436.16'

N63°08'02"W 361.68'

150.00'

200.00'

N31°16'59"W 201.66'

N89°07'19"W 245.03'

200 FT. BUFFER ZONE

N61°14'55"W 701.44'

S89°44'32"W 1320.31'

S89°44'32"W 901.50'

S00°14'03"E 1319.19'

LINE HELD FOR BASIS OF BEARINGS  
N00°13'10"W 2637.87'

S 1/4 CORNER SECTION 35

S89°44'37"W 2640.33'

S 1/4 CORNER SECTION 35

S89°44'37"W 2640.35'

E 1/4 CORNER SECTION 35

SEC 35  
T13S  
R47E  
M.D.M.

- ⊙ INDICATES A FOUND BRASS CAP MARKING THE CORNER.
- ⊙ INDICATES A SET 5/8" x 18" IRON ROD

Thomas A. Surveying Company  
Land Surveying/Mapping/GIS/GIS  
ONE MCLEOD DRIVE  
DALLAS, TEXAS 75244

100 50 0 100  
SCALE  
FEET

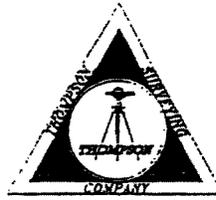
Rev	Drawn	Checked	Date	Description

**US Ecology**  
an American Ecology company  
US Ecology, Inc.  
5333 WESTHEBER  
SUITE 1000  
HOUSTON, TEXAS 77056

**47.15 ACRE CHEMICAL WASTE AREA  
PROPOSED PERMIT LIMITS**  
HAZARDOUS WASTE MANAGEMENT FACILITY,  
U.S. Ecology, Inc.  
BEATTY, NEVADA

Drawing No. NV-148-FIG-013

Revision 0



## Thompson Surveying Company

P.O. Box 801405  
Houston, TX 77280

Metes and Bounds Description of  
42.11 Acre Site  
in the North half of Section 35,  
T 13 S, R 47 E, Mount Diablo Base Meridian  
Nye County, Nevada

(713) 895-734  
Fax (713) 895-852

Being a 42.11 acre tract of land in the North half of Section 35, T 13 S, R 47 E, Mount Diablo Base Meridian, Nye County, Nevada being more particularly described as follows:

Commencing at the North quarter corner of said Section 35, being a 1" pipe with brass cap set by G.L.O. thence N 89 deg 44' 27" E, a distance of 67.62 feet to the TRUE POINT OF BEGINNING;

THENCE continuing N 89 deg 44' 27" E, a distance of 1252.83 feet to the NE corner of the NW 1/4, NE 1/4 of said Section 35, from which a point for the NE corner of said Section 35 bears N 89 deg 44' 27" E, a distance of 1320.45 feet;

THENCE S 00 deg 14' 03" E, a distance of 1319.19 feet to the SE corner of the NW 1/4, NE 1/4 of said Section 35;

THENCE along and with the south line of said NW 1/4, NE 1/4 a bearing of S 89 deg 44' 32" W, a distance of 901.50 feet to a point;

THENCE N 06 deg 14' 55" W, a distance of 701.44 feet to a point for a corner;

THENCE N 89 deg 07' 19" W, a distance of 245.03 feet to a point for a corner;

THENCE N 03 deg 16' 59" W, a distance of 281.66 feet to a point for a corner;

THENCE N 63 deg 08' 02" W, a distance of 351.69 feet to a point for a corner;

THENCE S 74 deg 32' 54" W, a distance of 436.16 feet to a point for a corner;

THENCE S 03 deg 31' 22" E, a distance of 62.10 feet to a point for a corner;

THENCE S 89 deg 24' 32" W, a distance of 674.84 feet to a point in the west line of the NE 1/4, NW 1/4 of said Section 35;

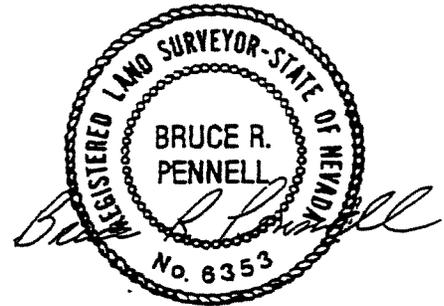
page two  
Metes and Bounds Description

THENCE with said west line of NE 1/4, NW 1/4 a bearing of N 00 deg 13' 47" W, a distance of 355.14 feet to a point for the NW corner of the NE 1/4, NW 1/4 from which a 2" iron pipe with brass cap set by G.L.O. for the northwest corner of said Section 35 bears S 89 deg 44' 03" W, a distance of 1319.69 feet;

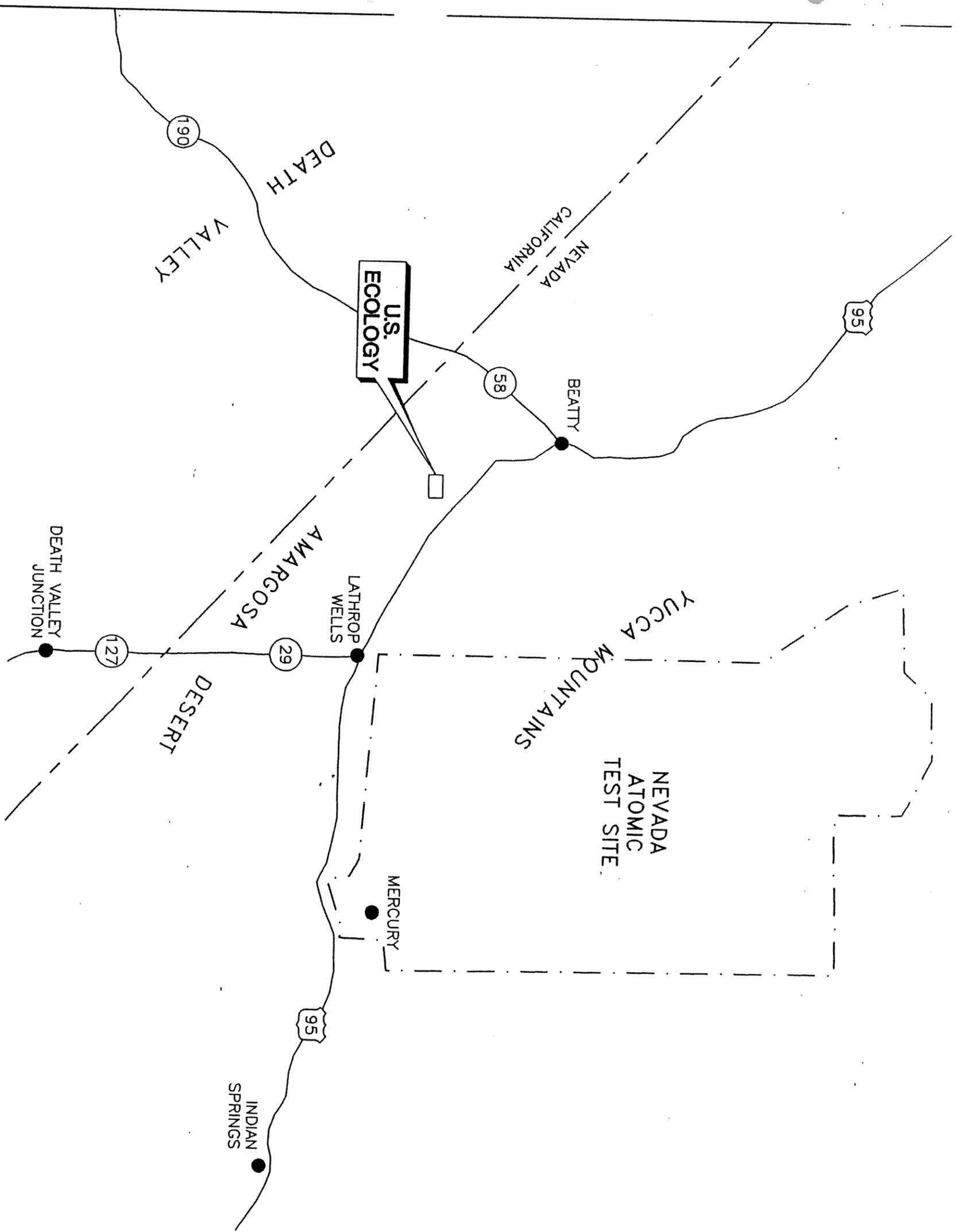
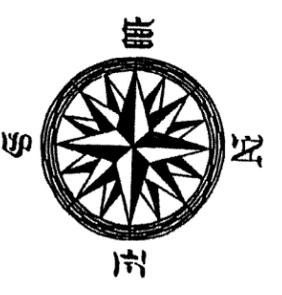
THENCE N 89 deg 44' 03" E, a distance of 1319.69 feet to the North quarter corner of said Section 35;

THENCE N 89 deg 44' 27" E, a distance of 67.62 feet to the POINT OF BEGINNING, delineating and encompassing 42.11 acres more or less.

Compiled by:  
Thompson Surveying Company  
July 26, 1994  
Job Number 940710



**Appendix G**  
**Facility Access from Highway 95**



Drawn By: <b>DKK</b> Checked By: <b>AS</b> Date: <b>11-83</b> Scale: <b>AS NOTED</b> Project No.: <b>NV148</b>		<b>US Ecology</b> an American Ecology company US Ecology, Inc. 5133 WESTHEIMER SUITE 1000 HOUSTON, TEXAS 77056		<b>REGIONAL SITE LOCATION MAP</b> CELL 12 HAZARDOUS WASTE MANAGEMENT FACILITY U.S. Ecology, Inc. BEATTY, NEVADA	
Revision No.: <b>0</b>		Drawing No.: <b>NV-148-FIG-001</b>		Revision No.: <b>0</b>	

**Appendix H**  
**Waste Minimization Program**

## **WASTE MINIMIZATION PROGRAM**

### **US Ecology - Beatty, Nevada**

#### **1.0 INTRODUCTION**

US Ecology, Inc. operates a commercial hazardous waste management facility located near Beatty, Nevada. The facility disposes of containerized and bulk hazardous waste in a Resource Conservation and Recovery Act (RCRA) and Toxic Substances Control Act (TSCA) landfill which meets RCRA minimum technical requirements. Disposal is based on established compatibility requirements. Waste management capabilities include: PCB waste management (storage & drain & flush activities), bulk & container storage, bulk & container treatment, and solidification and / or stabilization of waste, thermal treatment, and landfill disposal.

#### **2.0 PROGRAM PURPOSE**

As part of the Hazardous and Solid Waste Amendment of 1984 (HSWA), Congress amended Section 3002 of RCRA to add a new subsection requiring that generators have a program in place to reduce the volume and toxicity of waste generated, to the degree determined by the generator to be economically practical. The generator must also certify that the proposed method of treatment, storage, or disposal is the practical method currently available, which minimizes the present and future threat to human health and the environment.

US Ecology, through its daily activities of industrial waste management generates hazardous wastes in excess of 1000 kilograms per calendar month. A program had been established to reduce the volume and toxicity of waste generated at the facility during waste management operations.

#### **3.0 PROGRAM RESPONSIBILITY**

The Environmental Manager is primarily responsible for the waste minimization program, including development and coordination of specific waste minimization efforts. The Environmental Manager in cooperation with the other facility managers is responsible for monitoring waste generation, ensuring maintenance of equipment and structure, which reduce waste generation, and establishing and implementing waste minimization practices. Site personnel may be assigned to these responsibilities as the Facility Manager determines necessary.

#### **4.0 BASIS OF THE WASTE MINIMIZATION PROGRAM**

US Ecology's waste minimization program is designed to incorporate employee training, operational procedures and facility design to minimize the generation of hazardous waste during waste management operations conducted at the facility. Because of the nature of its business, waste generation at the facility is not associated with product manufacture, and therefore the reduction in generated waste toxicity and volume through substitution of less toxic raw materials or process changes is not appropriate. Consequently, waste minimization concentrates on reduction of waste generation. Recycling of generated waste is considered whenever practical and feasible.

#### **5.0 FACILITY WASTE STREAMS AND WASTE MINIMIZATION EFFORTS**

##### **5.1 Landfill Leachate**

Leachate generation is primarily due to the amount of precipitation that occurs each year. Waste is deposited in the cell so as to promptly cover the cell floor, minimizing the percolation of rainfall and therefore, the generation of leachate.

Leachate minimization is also accomplished by facility berms and other water control measures, which provide run-on control to active areas. Closed cell's caps have been designed to inhibit or preclude rainfall infiltration; these systems are inspected on a routine basis and maintained as needed. No hazardous waste liquids are accepted for direct disposal with the exception of lab

packs, which are packed with excess absorbents to preclude any migration from the overall packaging.

Generated leachate is either reutilized in the landfill for dust suppression or disposed of off-site at permitted facilities.

## **5.2 Miscellaneous Lab Waste**

There are three (3) main sources for waste generated in the facility laboratory:

- Discarded lab supplies;
- Samples from incoming waste load; and
- Laboratory wastewater.

Through purchasing and tracking procedures, only the amounts of lab chemicals needed are ordered. Laboratory personnel will try, to the extent practical, to order, stock and use those items that have a "shelf life" prior to expiration.

Samples from incoming waste loads and samples used in stabilization treatability studies taken for on-site verification will be disposed of in the active cell once all analyses are finished, if permitted for land disposal. If the waste is not approved for treatment or shipped to the facility, the sample will be managed in accordance with the Waste Analysis Plan.

Wastewater is generated in the facility laboratory as a result of glassware cleansing. The generation of this waste stream is minimized through proper training of the facility personnel in the use of adequate cleansing methods while using only the amount of water reasonably necessary to accomplish the task. Refresher training is provided at least annually.

Lab wastewater is stored in less than 90 days accumulation containers and transferred to the Evaporation Pad to allow evaporation. Any volume that does not evaporate will be removed for on-site or off-site disposal.

## **5.3 Decontamination Pad Solids**

The generation of decontamination pad solids is minimized by the use of shovels and brushes to remove visible waste from each delivery truck prior to exiting the active disposal cell. Traffic areas and access ramps are covered with clean backfill soil to avoid vehicle contact with waste as they exit the cell.

Customers and/or transporters are strongly encouraged to install a truck bed liner on all trucks bringing bulk waste shipments to the facility. Additional fees are assessed of the generator if the truck is not provided with a bed liner.

Decontamination pad solids are allowed to dry in the evaporation pad and removed for on-site disposal in the active cell.

## **5.4 Decontamination Pad Wastewater**

To minimize generation of this waste stream high-pressure water wash is used to decontaminate the trucks. High-pressure water is not only an effective cleaning method, but also generates less water. The water that is generated is permitted to evaporate in the Evaporation Pad and the remaining sludge is stabilized prior to placing it in the disposal cell. Any water remaining in the pad that does not evaporate will be removed for off-site disposal at a permitted deepwell injection facility. As stated earlier in Section 5.3, the use of washwater is further minimized by removing all visible residue in the cell and by implementing the truck liner mandate.

## **5.5 Contaminated Soil from Deminimis Spills**

Training of site personnel in spill prevention and spill cleanup is conducted on a regular basis. Any minor spills, which may occur, will be contained as soon as possible to keep the spill and

contaminated materials to a minimum. The waste is will be disposed of in the active cell or sent off-site for proper treatment and disposal, depending on the spilled material.

## **5.6 Contaminated Personal Protective Equipment**

Caution is taken to minimize the potential for exposure by personnel when handling waste materials. Personal protective equipment (PPE) is used to protect facility personnel. The volume of contaminated PPE generated is minimized by training facility personnel on proper use of PPE, reuse of protective clothing when practical and feasible, and operating procedures, which minimize personal contact with, waste materials. Contaminated clothing, which has exceeded its useful life, is disposed of in the on-site disposal cell.

## **6.0 SUMMARY**

US Ecology has historically implemented operational procedures and complied with permit provisions for waste minimization. The facility has been committed over the course of its operations, to maximize its efforts to control on-site generation of waste and has incorporated those features into its daily operating programs.

**Appendix I**  
**Desert Tortoise Survey Report**

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



*Prepared By*

JBR Environmental Consultants, Inc.  
321 N. Mall Drive #1-202  
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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2.0 Methods..... 1  
3.0 Results ..... 1  
4.0 References ..... 4

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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.

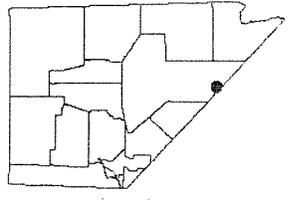
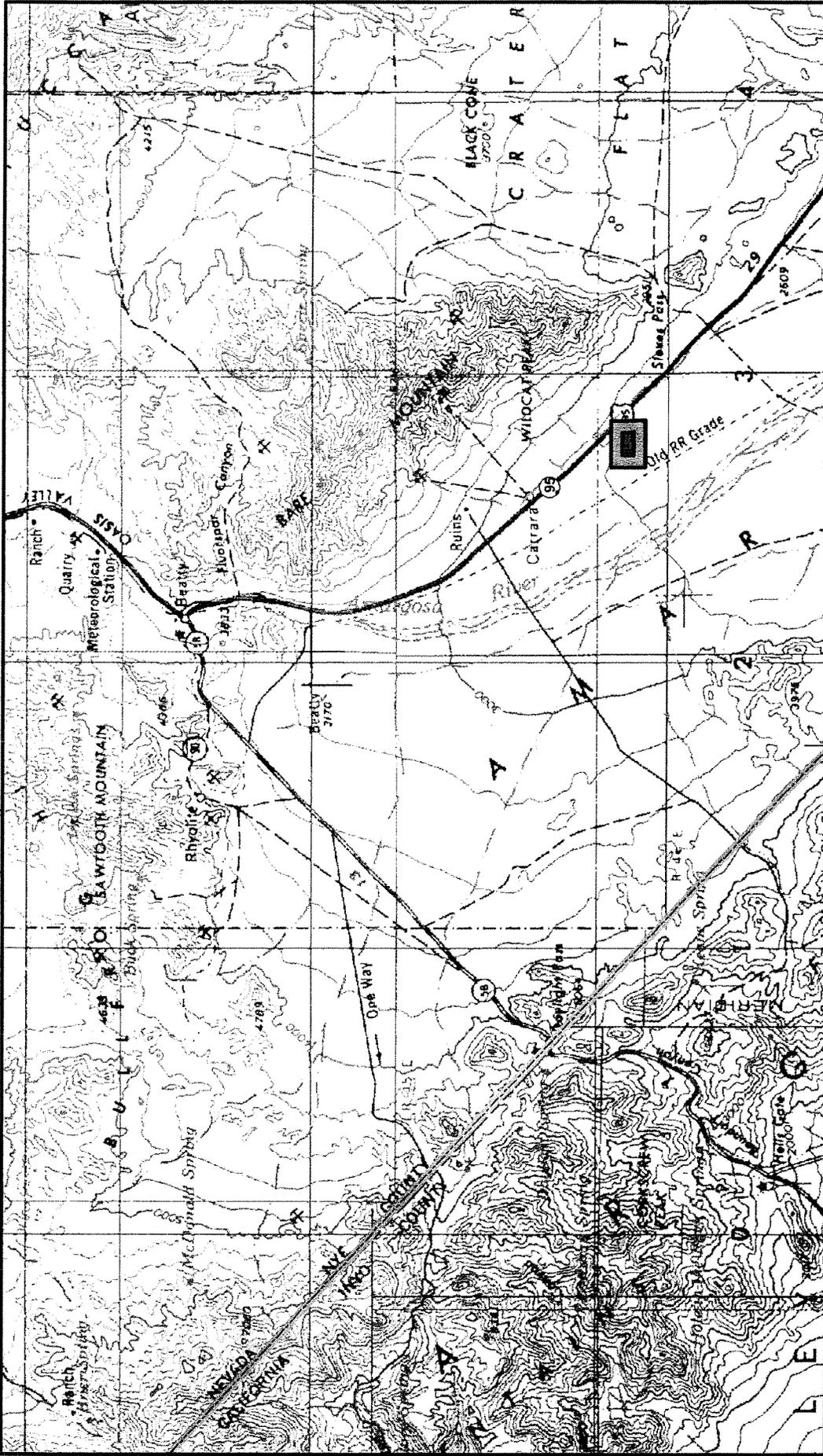
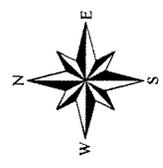
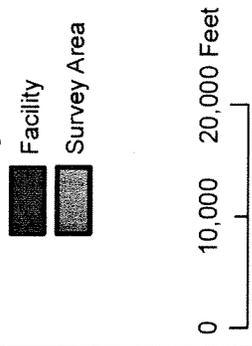


FIGURE 1 Project Location

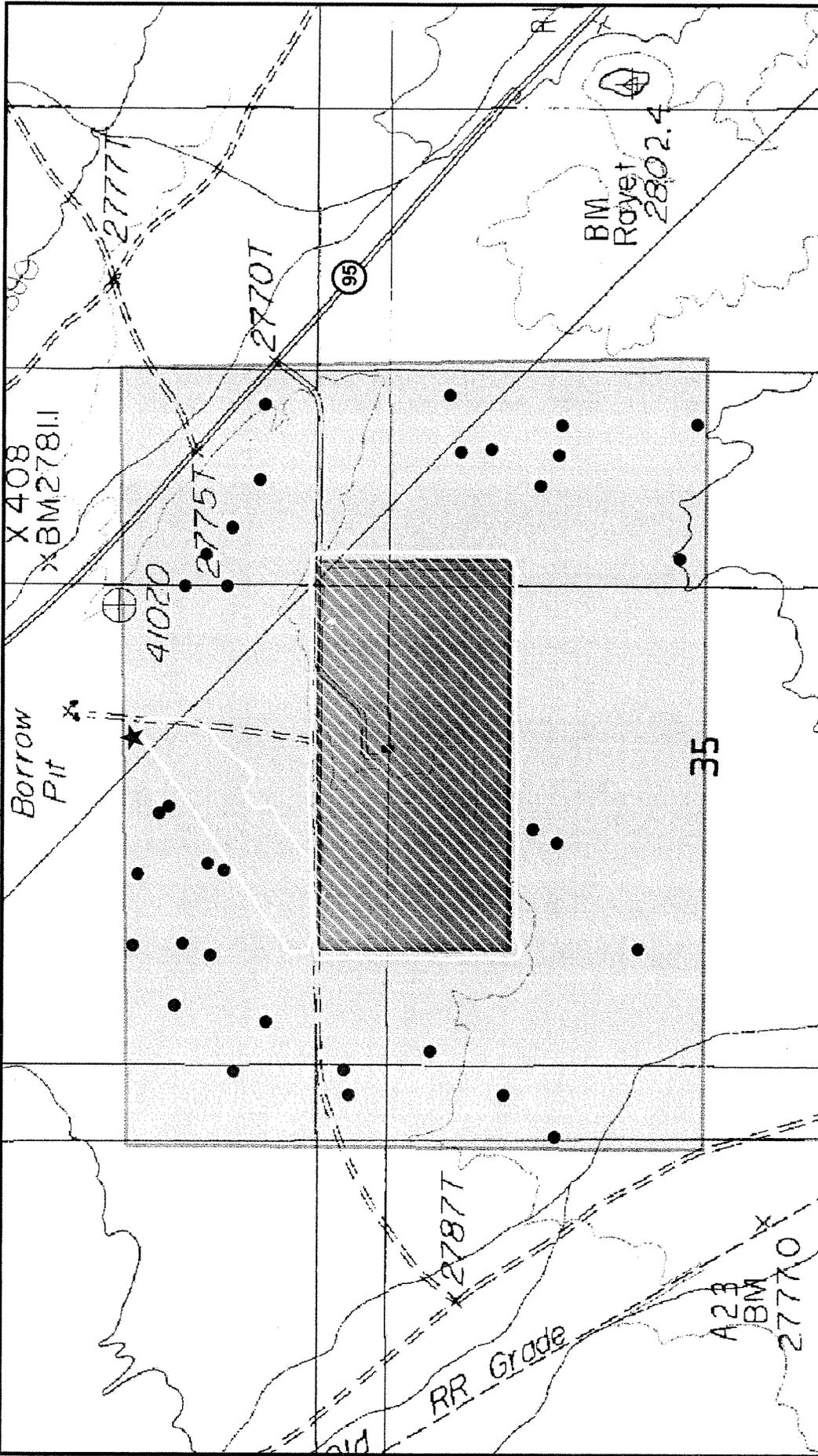


**US Ecology**  
**PCBs Tortoise Survey**

Disclaimer:  
 This document is for reference purposes only and should not be used as a legal document. JBR makes no guarantee as to the accuracy of the data contained herein or any data resulting there from.  
 Data Source:  
 Death Valley - 1:250,000 USGS  
 Land Ownership - State of Nevada, Survey Area - JBR Maps Index  
 Field Boundaries - US Ecology

**jbr**  
 environmental consultants, inc.

DESIGN BY	S Topham	DRAWN BY	S Topham	SCALE	1:12,000
DATE DRAWN	09-21-09	DATE REVISED	09-21-09		



<b>US Ecology</b>		<p><b>PCBs Tortoise Survey</b></p> <p><small>Disclaimer: This document is for reference purposes only and should not be used as a basis for any legal action. The accuracy of the data contained herein or any data resulting therefrom.</small></p> <p><small>Date Source: Service Contract - 1-14-09 USGS; Survey Data - 1-14-09 USGS; Map Data - Facility Disturbance Polygon and Point Data - BR Trimble GPS</small></p> <p><small>Facility - US Ecology</small></p>	DATE DRAWN	09-01-09
DESIGN BY	S. Topham		DATE REVISED	09-21-09
		SCALE	1:12,000	
DRAWN BY	S. Topham			

#### 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: 522314.68mN 400561.95mE 438.33m Start time: 8:00 am/pm  
(easting, northing, elevation in meters)

GPS End-point: 523501.71mE 406940.42mN 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 S35 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: 527643.97mE 4088083.18mN 850.40 Start time: 7:30 am/pm  
(easting, northing, elevation in meters)

GPS End-point: 527407.19mE 4088022.23mN 847.80m(unn) End time: 2:27 am/pm  
(easting, northing, elevation in meters)

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

End Temp: 30.0 °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: 9/16/09 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 S45 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 469926.94 NE 848.41 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: 2:15 am/pm  
(easting, northing, elevation in meters)

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

End Temp: 40.7 °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, carcasses, 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: 09/17/09 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: 527467.19 mE 4369622.23 mN 897.80 m Start time: 7:19 am/pm  
(easting, northing, elevation in meters)

GPS End-point: 628372.378 mE 4069757.44 mN 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		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, carcasses, etc)</small>	Description and comments
	Easting	Northing		
1				
2				
3				
4				
5				
6				
7				
8				

NONE

**APPENDIX B**  
**VEGETATION AND WILDLIFE OBSERVATIONS**

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**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 platyrhinos</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**

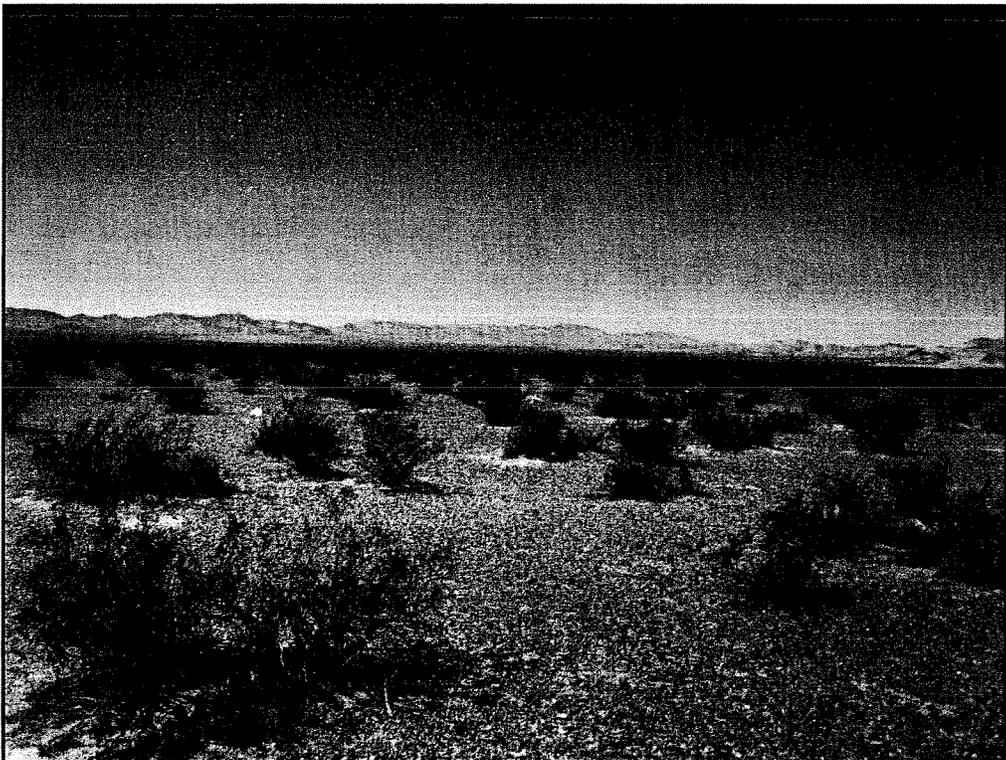
white-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>
black-tailed jack rabbit	<i>Lepus californicus</i>

**APPENDIX C  
PHOTOS**

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**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.**

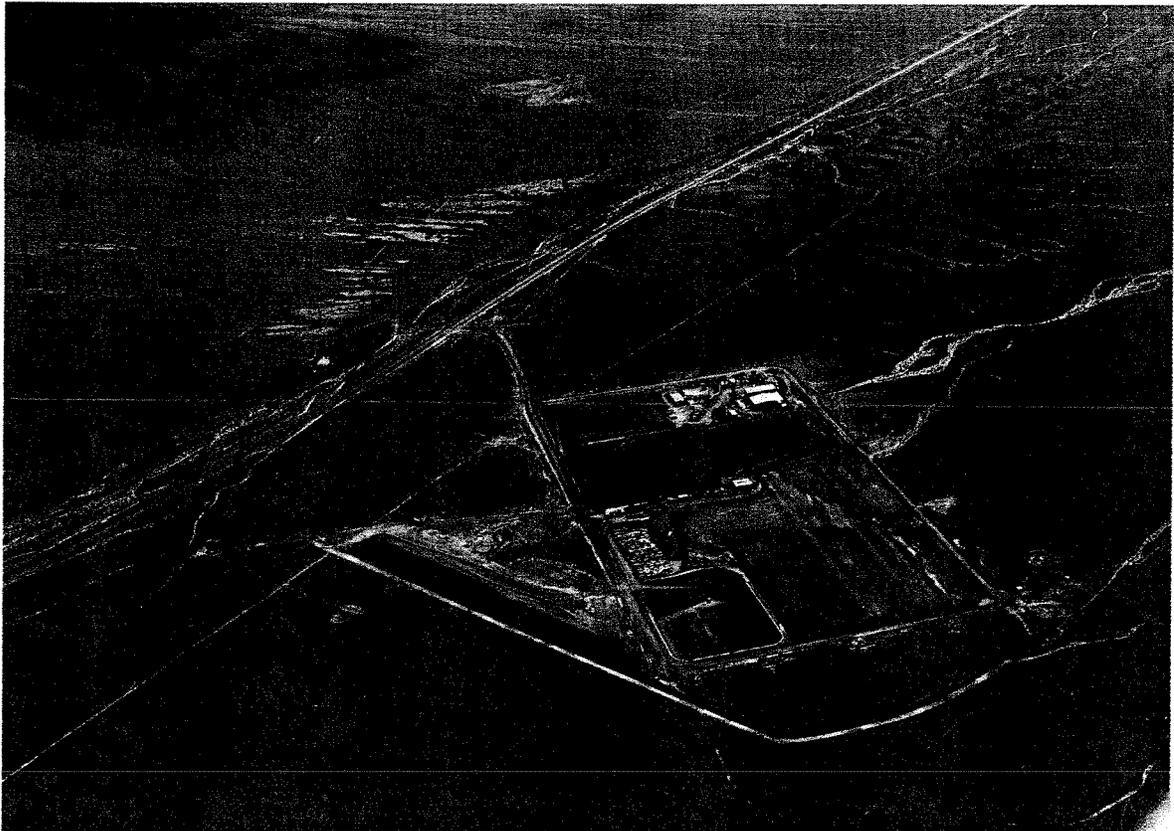


**Habitat in the eastern part of the Action Area.**

**Appendix J**  
**Environmental Impact Statement**

**TOXIC SUBSTANCES CONTROL ACT (TSCA)  
PERMIT RENEWAL APPLICATION**

**US Ecology Nevada  
Beatty, NV**



**Environmental Impact Statement – January 2005  
Ecological / Biological Assessments**

March 3, 2009

## 4 ALTERNATIVE SITE #2: US ECOLOGY (BEATTY, NEVADA)

### 4.1 LAND USE

#### 4.1.1 Description of Existing Environment

The USE Beatty facility is located in Nye County, Nevada, approximately 125 miles northwest of Las Vegas and 11 miles south of Beatty (Figure 2-9). The facility is owned by the State of Nevada and is leased by USE, which operates it. The entire property leased by USE covers approximately 80 acres, part of which was previously used for the disposal of LLRW. The closed LLRW portion of the property is separated from the RCRA disposal area by a buffer zone where no below-grade waste disposal activities take place. All adjacent property within several miles of the facility is federally-owned and administered by the Bureau of Land Management (BLM) as rangeland. BLM leases the sections bordering the facility boundaries to the State of Nevada as a buffer zone (400 acres in extent; approximately 1,320 feet from the facility fence line). Neither the buffer zone nor the facilities are located on or adjacent to tribal lands (Shaw 2004d, USE 2004b)

The USE disposal facility near Beatty, Nevada provides full RCRA and TSCA treatment and disposal services. The Beatty facility provides RCRA treatment and solidification services for industrial and government customers. The facility also provides chemical oxidation and thermal desorption for organic contaminated wastes and oil refinery catalysts. USE operates two onsite thermal desorption units at the Beatty facility. These patented thermal desorption units utilize a vacuum-enhanced, low temperature distillation process. This batch treatment process has been in operation since 1999, and has treated tens of thousands of tons of waste (USE 2004c).

The proposed WAO system and tank storage would be located in the southeastern portion of the facility property in an area currently used for containerized waste storage and reagent storage (Figure 2-10). The WAO unit would be constructed on top of closed landfill cells. These cells include approximately 20 feet of cover (Shaw 2004d).

#### 4.1.2 Effects of the Proposed Action

The area required for the new storage facilities and the WAO system is approximately 15,000 ft<sup>2</sup>. An additional 15,000 ft<sup>2</sup> is required for construction laydown. The areas proposed for this project are considered to be disturbed and no land use impacts are expected from construction or operation of the WAO system at this site. Use of the site for the storage and treatment of neutralent waste should have no impact on the use of any of the surrounding lands. After completion of the treatment of waste, the WAO system will either remain in place and be used for commercial treatment of wastes, or it will be dismantled and removed from the site. The installation of the WAO system is compatible with the existing uses on the facility property. All of the construction activity would be confined to the facility boundary, and operations would be confined to the WAO unit, solidification operation and active landfill Cell 11. Therefore no impacts to off-site land uses are anticipated (Shaw 2004d).

## **4.2 AESTHETICS AND VISUAL RESOURCES**

### **4.2.1 Description of Existing Environment**

The USE Beatty facility is situated in a remote desert environment in southwestern Nevada. The topography is flat and there are no sensitive receptors within view of the facility. There are surrounding public lands including nearby mountains from which one can view the facility, however, public vehicle access is limited to existing roads. The closest mountains overlooking the facility with existing roadways include patented inactive mining claims which are posted with no trespassing signs (USE 2004j). There are no known parks, recreation areas or landmarks from which the USE facility is visible.

### **4.2.2 Effects of the Proposed Action**

The proposed action will take place in an existing industrial setting and will be sited entirely within the boundaries of the USE Beatty facility. The storage and treatment of waste will require the construction of six new storage tanks and the WAO system facilities. Although these facilities will be visible from off site areas, there are no sensitive receptors, and the new facilities will not differ from the existing character of the present site. Since the proposed action would take place in an existing industrial setting, there would be no noticeable effects on aesthetics and visual character of the area.

## **4.3 GEOLOGIC RESOURCES**

### **4.3.1 Description of Existing Environment**

The USE Beatty facility is located in the Amargosa Desert basin. This basin was formed by normal block faulting, which displaced the surrounding strata upward with respect to the crustal block underlying the valley. This widespread structural process formed the characteristic topography of the entire Basin and Range province. Erosion of the uplifted areas, during and after their displacement, has filled the basin with a variety of sedimentary deposits. These deposits have reached a depth of 1000 feet in the center of the basin near Lathrop Wells.

The sediments of the valley floor are unconsolidated to partly indurated, and Tertiary to Quaternary in age. Deposited as alluvial fans, debris flows, streambeds, dunes, and lake or marsh beds, they exhibit a very wide range of shapes and grain size distributions. The mineralogy of the sediments varies widely as well, reflecting the diversity of their source rocks.

Details on the nature of the unconsolidated strata beneath the facility have been determined from the various borings and well installations which have been made since 1961. Extensive hydrogeologic investigations have been conducted at the site to determine the soil properties and hydrologic characteristics.

Stratigraphic information derived from the site characterization and monitoring well installation programs for the RCRA disposal facility describe a sequence of deposits consistent with alluvial fan and playa depositional processes. Deposits from the ground surface to a depth of approximately 300 feet beneath the RCRA facility are alluvial in nature. The alluvial sediments are predominantly gravelly sands with poorly sorted gravel or sand deposits which occur in

discontinuous intervals. The gravelly sand extends deeper (approximately 350 feet below ground surface [bgs]) at the southwestern area of the LLRW facility.

Generally, the next 50 to 150 feet of deposits beneath the RCRA facility consist of silt, clay and indurated deposits. The fine-grained sediments are typical of playa deposits and may change composition relatively quickly with depth.

The silt-clay deposits were also observed in borings completed at the site. The upper surface of the silt-clay unit is relatively flat beneath the northern half of the RCRA facility and appears to deepen to the southwest beneath the LLRW facility. Surface soils in the area are shown on Figure 4-1.

Drilling investigations indicate that the upper saturated zone occurs near the contact of the silt-clay and indurated sediments with the overlying gravelly sands. The confined aquifer occurs in a sandy gravel formation underlying the silt-clay deposits.

This sandy gravel generally becomes coarser as it extends to depths exceeding 650 feet below ground level. The deeper gravels, cobbles, and boulders represent a higher energy, fluvial environment (USE 2004b).

The facility is not in a recognized fault zone, the nearest major fault zones being the Death Valley Fault Zone and the Las Vegas Fault Zone, 20 miles and 100 miles from the facility, respectively. An analysis of aerial photographs showed no faults or lineations that would indicate the presence of a fault within a 3,000-foot radius of the site.

Published data lists no record of any historic earthquake epicenter in the area around Beatty for the period (since 1800) that records have been kept. A review of geologic data gathered on site indicates the absence of any evidence of subsurface faulting to the total explored depth of 575 feet (USE 2004f).

#### **4.3.2 Effects of the Proposed Action**

The WAO Unit will be constructed on top of the previously closed landfill area which is currently used for storage. Excavation for the WAO Unit is not expected to be deeper than 5 feet (into the 20 feet of cover) and therefore, will not effect below grade geologic features. Activities associated with the WAO system proposed to occur on top of the capped landfill are permitted by NDEP (USE 2005). Following the solidification process, solids will be placed in the active Subtitle C Landfill, Cell 11 at the site. No impacts to geological features are expected from the proposed project. The additional withdrawal of groundwater will not impact geologic features. USE has existing permitted and leased ground water rights, which have been fully utilized in the past, and full utilization of these rights are not expected to create a new impact (USE2005).

### **4.4 AIR RESOURCES**

#### **4.4.1 Description of Existing Environment**

The USE Beatty facility is located in Nye County, in the Nevada AQCR (AQCR Code 147). The State of Nevada currently has standards for seven air pollutants under the SAAQS. In addition to the criteria pollutants of SO<sub>2</sub>, CO, O<sub>3</sub>, NO<sub>2</sub>, Pb and PM<sub>10</sub>, Nevada also has a 1-hour

standard for hydrogen sulfide (i.e., 0.08 ppm). The criteria pollutant standards are identical to the NAAQS with the exception of a lower 1-hour O<sub>3</sub> standard for the Lake Tahoe Basin (i.e., 0.10 ppm) and a lower 8-hour CO standard at elevations equal to or greater than 5,000 feet above Mean Sea Level (i.e., 6.0 ppm). These lower standards are not applicable to the USE site. The closest Class 1 area to the USE site is the John Muir Wilderness Area located approximately 90 miles west of the site in California.

Nye County is listed as an "attainment/unclassifiable" area for CO and O<sub>3</sub> (1- and 8-hour), an "unclassifiable" area for PM<sub>10</sub>, a "cannot be classified or better than national standards" area for NO<sub>2</sub>, a "better than national" area for SO<sub>2</sub>, and "not designated" for Pb per 40CFR81.329 for Nevada.

The nearest ambient air quality monitoring stations with at least five years of data for CO, NO<sub>2</sub>, O<sub>3</sub>, PM<sub>10</sub>, and SO<sub>2</sub> are located in Clark County in greater Las Vegas. Table 4-1 presents the highest recorded air quality levels that are representative of the USE facility area compared against the SAAQS for each pollutant (EPA 2004).

Two exceedances of the applicable NAAQS are noted in Table 4-1: 24-hour and annual average PM<sub>10</sub> concentrations of 535 and 56 µg/m<sup>3</sup>, respectively. Monitoring data since 1999 indicates that PM<sub>10</sub> concentrations exhibit a downward trend in time, except for the concentrations observed in 2002 and 1999.

USE currently has a Class II Air Quality Operating Permit dated July 16, 2002 for the operation of stabilization and solidification units, thermal desorption units, and a PCB processing unit.

#### **4.4.2 Effects of the Proposed Action**

##### **4.4.2.1 Site Preparation and Installation of the WAO System**

During installation of the proposed WAO system at USE's Beatty facility temporary and localized increases in atmospheric concentrations of NO<sub>x</sub>, CO, SO<sub>2</sub>, VOC, and PM<sub>10</sub> would result from exhaust emissions of workers' vehicles, heavy construction vehicles, and other machinery and tools. Construction vehicles and machinery would be equipped with pollution-control devices to minimize emissions, and the vehicles would be required to meet federal emissions standards. Thus, the vehicles used in conjunction with this project would conform to those standards. The resulting temporary and localized emissions are expected to be very small compared to regulatory thresholds typically used to determine whether further air quality impact analysis is necessary.

NDEP regulations NAC 445B.22037 Emissions of PM<sub>10</sub>: Fugitive dust (NRS 445B.210), regulate the emission of fugitive dust and require dust control programs be implemented prior to construction activities. Fugitive dust could result from earthwork and movement of construction vehicles. No clearing of vegetation and minimal excavation is expected. Dust control is a requirement of USE's operating permits, held by the NDEP. Dust will be controlled by wetting all active surface areas (roadways, cell cover material, etc), ensuring dusty wastes are covered immediately, complying with daily cover requirements, and utilizing chemical dust suppression agents as appropriate as part of normal operations. USE has developed a facility specific dust control plan to ensure compliance with the dust control provisions of its permits.

**Table 4-1  
 National Ambient Air Quality Standards (NAAQS) and  
 Highest Regional Levels Representative of the US Ecology Facility**

Pollutant	Averaging period	NAAQS			Highest Regional Air Quality Value	
		Standard Value	Notes	Standard Type	Concentration	Location (year)
CO	1-hour	35 ppm (40 µg/m <sup>3</sup> )	1	Primary	3.3 ppm	N. Las Vegas (2000)
	8-hour	9 ppm (10 µg/m <sup>3</sup> )	1	Primary	2.8 ppm	N. Las Vegas (1999)
NO <sub>2</sub>	Annual	0.053 ppm (100 µg/m <sup>3</sup> )	1	Primary & Secondary	0.008 ppm	N. Las Vegas (2002)
O <sub>3</sub>	1-hour	0.12 ppm (235 µg/m <sup>3</sup> )	2	Primary & Secondary	0.11 ppm	N. Las Vegas (2003)
Pb	Calendar quarter	1.5 µg/m <sup>3</sup>	1	Primary & Secondary	NA	NA
PM <sub>10</sub>	24-hour	150 µg/m <sup>3</sup>	3	Primary & Secondary	535 µg/m <sup>3</sup>	N. Las Vegas (2002)
	Annual	50 µg/m <sup>3</sup>	1	Primary & Secondary	56 µg/m <sup>3</sup>	N. Las Vegas (1999)
SO <sub>2</sub>	3-hour	0.50 ppm (1300 µg/m <sup>3</sup> )	1	Secondary	0.006 ppm	N. Las Vegas (2003)
	24-hour	0.14 ppm (365 µg/m <sup>3</sup> )	1	Primary	0.002 ppm	N. Las Vegas (2003)
	Annual	0.03 ppm (80 µg/m <sup>3</sup> )	1	Primary	0.001 ppm	N. Las Vegas (2003)
Hydrogen Sulfide	1-hour	112 µg/m <sup>3</sup> (0.08 ppm)		-	NA	NA

Notes: 1 - These standards, other than for O<sub>3</sub>, PM<sub>10</sub>, and those based on annual averages, must not be exceeded more than once per year.  
 2 - The 1-hour O<sub>3</sub> standard is attained when the expected number of days per calendar year with a maximum hourly average concentration above the standard is equal to or less than one.  
 3 - The PM<sub>10</sub> 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above the standard, rounded to the nearest 10 µg/m<sup>3</sup>, is equal to or less than one. The expected number of days per calendar year is generally based on an average of the number of times the standard has been exceeded per year for the last 3 years.  
 NA = Not available

#### 4.4.2.2 Operation

The operation of the WAO system will result in minimal air pollutant emissions from a RTO, used to control the WAO off-gas emissions, and from a propane fired hot oil heater. There will also be minimal PM<sub>10</sub> emissions from the operation of a small cooling tower. The expected annual air pollutant emissions from the operation of the WAO, along with the most recent available actual emissions from the USE site, are provided in Table 4-2. The WAO operational emissions estimate conservatively assumes full operation for one year (i.e., 8,760 hours per year).

With the addition of the new combustion sources and cooling tower at the USE facility, resulting in new air pollutant emissions, the existing Class II Air Quality Operating Permit will need to be modified and approved by the NDEP under Nevada Administrative Code (Part 445B), Chapter 287, "Operating Permits and Permits to Construct: General Requirements; Exception; Restrictions on Transfer".

**Table 4-2**  
**Comparison of Expected WAO Air Pollutant Emissions with**  
**Existing US Ecology Emissions (tons per year)**

Pollutant	WAO Sources			Total	Existing Actual Emissions
	Cooling Tower	Hot Oil Heater	Thermal Oxidizer		
CO	N/A	1.8	0.08	1.9	5.3
NO <sub>x</sub>	N/A	5.3	0.06	5.3	0.6
SO <sub>2</sub>	N/A	0.05	0.004	0.05	1.8
PM <sub>10</sub>	4.1	0.3	0.03	4.4	2.7
VOC	N/A	0.2	0.02	0.2	0.8

Air emissions from the new WAO equipment (RTO and hot oil heater) and cooling tower would not constitute a "major modification" under the applicable Prevention of Significant Deterioration (PSD) regulations implemented by the NDEP. Each source would comply with the pertinent EPA and NDEP standards applicable to small emissions sources. The NDEP does not typically require ambient air impact analysis (modeling) for small sources because of their typically insignificant impacts. Thus the new emission sources will contribute minimally to local air pollution but without significant impact.

#### 4.5 NOISE

##### 4.5.1 Description of Existing Environment

The proposed facility is located in a remote area approximately 11 miles from the nearest occupied or inhabited area. No ambient noise measurements are available for the site. Area sound levels were estimated based on the industrial activity currently occurring at this facility. The onsite sound levels were estimated to range from 60 to 70 dBA during the daytime and from 50 to 60 dBA during the nighttime. The types of noise generated at the USE facility generally include earth moving equipment operating in various work areas; trucks accessing, traversing and exiting the site, and other mechanical equipment sounds related to the operation. The facility currently conducts operations 24 hours per day Monday through Friday. It is anticipated that construction and operation of the WAO unit may require 24 hour per day operations 7 days per week (USE 2004i).

There are no noise sensitive receptors located near the USE Beatty facility. Noise sensitive receptors typically include; residences, schools, hospitals, parks, and cemeteries. The closest noise sensitive receptor is a residence in Beatty, Nevada, approximately 11 miles away.

The State of Nevada does not have any noise regulations applicable for stationary noise sources. There are also no county or local noise regulations. The EPA has published noise level guidelines that have been used when there are no applicable state or local noise regulations. However, these guidelines apply only to residential areas, and since the nearest residence is 11 miles away, these guidelines do not apply.

#### **4.5.2 Effects of the Proposed Action**

##### **4.5.2.1 Site Preparation and Installation of the WAO System**

The construction equipment anticipated to be used on this project includes backhoes for excavation work, and fork lifts and cranes for unloading the equipment from trucks and for installation of the WAO and BOP equipment. The equipment will operate intermittently and under varying loads throughout the day. Of the equipment to be used at the WAO site, the backhoe has the loudest noise emission, estimated at 80 dBA (measured at 50 feet away).

The closest sensitive receptor to the site is 11 miles to the north; therefore construction noise is not anticipated to impact the general public.

##### **4.5.2.2 Operation**

The WAO system and BOP will be situated within the boundaries of the existing USE facility. The WAO system and BOP will be located on a small lot, approximately 100 by 150 feet, about 300 feet from the southeast corner of the USE fenceline near the proposed new tanks. The nearest USE site property line is about 250 feet east of the nearest WAO/BOP system boundary.

The WAO system and BOP equipment noise sources are discussed in more detail in Section 2. Based on the equipment list and specifications, the process air compressor package was identified as the loudest piece of equipment. Other noise sources considered were the high pressure pumps, and step-down transformer. The predicted sound level at the nearest property line (east) is 58 dBA.

USE will support this facility with the addition of a new mechanical draft cooling tower, small transfer pumps, and storage tanks located near the WAO and BOP facility. The cooling tower is the loudest of these new noise sources and at this time its specific location has not been determined. The predicted noise level for a representative mechanical draft cooling tower is 53 dBA at a 400-foot distance from the rim or basin edge.

Currently, USE operates an active landfill with mobile diesel-powered equipment operating at various locations around the property. These noise sources are relatively large when compared to the smaller electric-powered equipment used for the operation of the WAO and BOP.

The noise from the WAO and BOP operation will only be noticeable near the facility. Beyond the USE property lines, sound levels including the operating WAO and BOP is expected to be about the same as the existing site noise levels. Therefore, the expected sound level increase offsite is expected to be minimal. Since the closest sensitive receptor to the site is 11 miles to the north, operational noise is not anticipated to impact the general public.

## **4.6 WATER RESOURCES**

### **4.6.1 Water Use**

#### **4.6.1.1 Description of Existing Environment**

Water is supplied to the site from a well located 556 feet bgs on the facility property. USE has a Permit to Appropriate Public Waters from the State of Nevada, which expires December 1, 2008. This permit allows withdrawals up to 4.3 million gal/year. USE also has Leased Water Rights to Appropriate Public Waters from the State of Nevada in the amount of 6.5 million gal/year. This permit expires December 31, 2007. These two permits constitute an available water source of 10.8 million gal/year. Current consumption at the facility is approximately 3 million gal/year (USE 2004g, 2004i)

#### **4.6.1.2 Effects of the Proposed Action**

The maximum total water required for service and cooling of the WAO system at USE has been estimated to be 11.2 million gallons. Approximately 6.4 million gallons is required for WAO process water and 4.8 million gallons is required for the cooling system during the entire campaign. USE currently has a surplus of 7 million gal/year from their existing permitted well and water rights permits, but will need to obtain the additional 4.2 million gallons from other sources. USE has obtained a commitment from a private local source for additional water needed to operate the WAO unit. It is estimated that approximately 15,185 gallons per day (gpd) would be required to meet the additional demand. This water would be delivered to the site in approximately three tanker truck loads per day (USE 2004f, 2004g).

This water is a small portion of a very large water right held by a local mining company. USE's use of this amount of water will not deprive any other entity of such water right (USE 2005).

### **4.6.2 Groundwater**

#### **4.6.2.1 Description of Existing Environment**

The surficial drainage area of the Amargosa Desert covers about 2600 square miles and is part of two regional groundwater systems. These two groundwater systems converge in the Amargosa Desert and probably continue to the south into Death Valley. Groundwater flow directions in the Amargosa Desert are generally to the southeast and southwest. Groundwater flow is controlled by alluvium, volcanic rock, and carbonate rocks. Thick volcanic sequences associated with calderas of the Nevada Test Site and areas to the west become less significant to the south, and thick carbonate rock sequences are assumed to be present beneath the Amargosa Desert (USE 2004b). Groundwater at the facility is approximately 285 feet deep. The closest public drinking water supply well is located in Beatty, approximately 11 miles to the north of the site. Aside from the well which supplies water to the site, the nearest private water well is located approximately 10.5 miles north of the facility at the Vanderbilt Mine.

A network of monitoring wells has been installed to monitor groundwater conditions at/near the site. A groundwater-monitoring plan has been developed to describe in detail the sampling, maintenance, and analytical methodologies and procedures necessary to assure consistent

groundwater quality data. The groundwater monitoring plan has been prepared in compliance with the requirements of 40CFR264, Subpart F and 270.14(c)(6)(iv), and in accordance with procedures described in the 1992 RCRA Groundwater Monitoring Technical Enforcement Guidance (TEGD) published by EPA Office of Solid Waste.

Data from the groundwater monitoring wells indicates that groundwater is contaminated in the immediate vicinity of the pre-RCRA units at the site. A RCRA Facility Investigation and Corrective Measures Study has been completed and accepted by NDEP. Soil vapor extraction wells are being installed to remove the volatile contaminants, which are the identified cause of the groundwater contamination (AEC 2004).

#### **4.6.2.2 Effects of the Proposed Action**

As described above, the total water requirements over the life of the proposed action (about 9 months of operations) amount to 11.2 million gallons. This volume exceeds the permitted capacity of the existing well on site, and other sources of water are required to meet the demand. As described in Section 4.6.1.2, USE will purchase and truck three tanker truck loads of water per day from an identified committed source. The increased use of groundwater will be temporary, extending over an approximately nine month period. USE has indicated that the additional identified source of water has confirmed that it has sufficient permitted and available capacity to meet the approximate 15,185 gpd additional requirement and is permitted for industrial applications for the water (USE 2004g, 2004i). Further, US Ecology's existing permitted and leased water sources, and obligated additional water source are groundwater sources, drawn from deep aquifers that are not affected by seasonal, short-duration (5-10 year) droughts. The facility has never experienced restricted water use due to drought conditions and has no expectation that facility water use shall become subject to restriction due to drought conditions during the proposed term of this project (USE 2005). Therefore, the impact to groundwater resources is not considered to be significant.

The RCRA Corrective Action Program is directed at remediating subsurface soil vapor contamination related to pre-RCRA waste management practices that occurred at the USE facility. The contamination is not hydraulically connected to the water supply well utilized at the the facility, therefore no impact to the RCRA Corrective Action is anticipated.

#### **4.6.3 Surface Water**

##### **4.6.3.1 Description of Existing Environment**

The USE Beatty facility is located in the Amargosa Desert. Average annual rainfall is approximately four inches. The Amargosa River Channel is the closest surface water body, however it is predominantly dry, except after periods of heavy rainfall. The Amargosa River Channel has a drainage area of 15,540 km<sup>2</sup> and ranges in elevation from <2,400 m in its Pahute Mesa headwaters, to -86 m at its modern terminus in Badwater Basin, Death Valley (Desert Research Institute 2004). Figure 4-2 presents surface water resources in the vicinity of the project site. The resources shown on the figure, including the Amargosa River, are dry river beds and washes, which flow only during heavy rain events.

#### **4.6.3.2 Effects of the Proposed Action**

The proposed action will generate no liquid effluents that will be discharged to off-site sources. Furthermore, due to the great distance to the nearest surface water body (approximately 27 miles), there will be no impacts to surface water resources as a result of the project.

#### **4.6.4 Wastewater Treatment**

##### **4.6.4.1 Description of Existing Environment**

There is currently no wastewater treatment facility at the USE Beatty facility. Portable toilets are utilized in operational areas of the facility. These units are serviced by a licensed sanitary waste disposal company. Sanitary waste generated in the administrative area is disposed through existing permitted septic systems. Wastewater generated from the laboratory is discharged to the facility's permitted wash pad/evaporation pad. Waste water from laundry is utilized as dust suppression within the active disposal cell (USE 2004j). Diversion dikes and site drainage are employed as control measures to prevent run-on into the disposal areas. There are two (2) run-on control ditches: a trapezoidal ditch designed to provide run-on control for the 25-year, 24-hour storm, and a smaller triangle ditch that diverts any run-on inside the main diversion ditch (AEC 2004)

With the run-on control measures in place, the only water expected to come in contact with the waste management units is from falling precipitation. Run-off is contained within the disposal units since temporary and / or permanent dikes in the below-ground and above-grade sections of the landfills contain precipitation within the cells themselves (AEC 2004).

Run-off from treatment and storage units is of minimal concern due to the sparse rainfall in the region and the dry, well-graded nature of the facility soils. Storm water that comes in contact with active waste management areas at the facility is managed through utilization as process water for waste stabilization activities or if non-hazardous, as dust suppression in the active disposal cell (USE 2004j). Outdoor waste management units generally have waste stored in closed containers or are provided with adequate secondary containment to eliminate the possibility of contaminated run-off (AEC 2004).

##### **4.6.4.2 Effects of the Proposed Action**

USE proposes to solidify all treated water and dispose of the solidified mixture in their onsite RCRA Subtitle C landfill disposal Cell 11. There will be no release of any treated wastewater offsite, nor will there be any offsite transportation of wastewater (USE 2004c). In addition, WAO construction and operation will create minimal additional wastewater. The 8 additional employees and visitors will add minor additional use of USE's system. USE currently has 33 full-time employees utilizing this system, and has had as many as 40 facility employees in the past. Past experience with additional full-time employees, and experience hosting large school tours (up to 75 people), and regular customer audits verify that USE's wastewater disposal capacity is adequate for this project (USE 2005). No impact to this system is anticipated.

## 4.7 BIOLOGICAL RESOURCES

### 4.7.1 Terrestrial Resources

#### 4.7.1.1 Description of Existing Environment

The USE Beatty facility, located in the Amargosa Desert, covers a total of approximately 80 acres with a 400-acre buffer zone surrounding the site. The site is approximately 12.5 miles east of Death Valley National Park. The Amargosa Desert is in the northern Mojave Desert separated from Death Valley by the Amargosa Range, and is one of the driest regions in the United States. Annual precipitation averages approximately four inches per year at the site and has ranged from 0.08 inches during 2002 to approximately 9 inches during 1983. About 70% of the precipitation is associated with frontal systems during October through April. Snow, however, is rare. Summer rainfall occurs predominantly during localized, short-duration, convective storms. Monthly mean air temperatures range from 37.4°F during December to 91.4°F during July. The site is approximately 2,770 feet above sea level (USGS 2004).

Vegetation in the area surrounding the site is sparse, in part due to the arid climate, but also due in part to the physiology of the dominant shrub species. Creosote-bush, white bur-sage, hop-sage and big sagebrush were the dominant shrub species observed on the site. Creosote bush and white bur-sage are known to secrete substances into the soil that keep the roots of adjacent creosote bushes and white bur-sages from elongating (MacKay 2003). The result is an evenly-spaced shrub community with open areas of desert floor. Table 4-3, below, includes a list of the plant species observed on the site during a site assessment conducted on November 18 and 19, 2004.

Table 4-3  
 Vegetation Observed on the Site

Scientific Name	Common Name	Habit
<i>Amaranthus fimbriatus</i> (Torrey) Benth.	Fringed Amaranth	Herb
<i>Ambrosia dumosa</i> (A. Gray) Payne	White Bur-sage	Shrub
<i>Artemisia tridentata</i> Nutt.	Big Sagebrush	Shrub
<i>Atriplex confertifolia</i> (Torrey & Fremont) S. Watson	Shadscale	Shrub
<i>Chorizanthe rigida</i> (Torrey) Torrey & A. Gray	Spiny-herb	Herb
<i>Cryptantha</i> (Lehm.) sp.	Forget-me-not	Herb
<i>Ephedra nevadensis</i> S. Watson	Mormon Tea	Shrub
<i>Eriogonum inflatum</i> Torrey & Fremont var. <i>inflatum</i>	Desert Trumpet	Herb
<i>Grayia spinosa</i> (Hook) Moq.	Hop-sage	Shrub
<i>Hymenoclea salsola</i> A. Gray	Cheesebush	Shrub
<i>Larrea tridentata</i> D.C. (Cov.)	Creosote Bush	Shrub
<i>Plantago ovata</i> Forsskal	Desert Plantain	Herb
<i>Salsola tragus</i> L.	Russian Thistle	Herb

Soils and sediments are typically coarse textured and highly stratified. Sediments in the area are largely unconsolidated fluvial and alluvial fan deposits that are at least 550 feet thick. The water table in the area ranges from about 280 to 380 feet below land surface (USGS 2004).

Due to the time of the year, few wildlife species were observed during the November 18 and 19, 2004 site inspection. A total of 11 transects were established throughout the site in order to

conduct a comprehensive survey of the plant and animal species. A total of eight species were confirmed, but many others would be expected to utilize the buffer area around the facility. The observed wildlife species in the vicinity of the USE site were typical of high desert communities. Wildlife observed were mammals, birds and reptiles. Due to the lack of suitable breeding habitat, it is highly unlikely that amphibians are present at the USE site. However, about 10 miles north of the site there is a roadside wetland dominated by bulrush (*Scirpus* sp.), which is near a cottonwood (*Populus fremontii* S. Watson) dominated riparian forest that may offer suitable amphibian habitat. Table 4-4, below, includes a list of the animal species observed on the site during the November 2004 site inspection. In some cases, the species was not seen, but evidence of the species was observed such as tracks, burrows, etc.

**Table 4-4  
 Wildlife Observed or Evidenced on the Site**

Scientific Name	Common Name	Evidence/Location
<i>Amphispiza belli</i>	Sage Sparrow	Sighted in buffer area to north
<i>Carduelis psaltria</i>	Lesser Goldfinch	Sighted in buffer area to north
<i>Columba livia</i>	Rock Dove (Pigeon)	Sighted within existing facility
<i>Corvus brachyrhynchos</i>	American Crow	Throughout existing facility and buffer area
<i>Gopherus agassizii</i>	Desert Tortoise	Burrows distributed throughout buffer area
<i>Lepus californicus</i>	Blacktail Jackrabbit	Sighted in buffer area to north
<i>Passer domesticus</i>	House Sparrow	Sighted within existing facility
<i>Sceloporus magister</i>	Desert Spiny Lizard	Throughout buffer area

The desert tortoise is a species listed as a threatened species at the federal level, as well as protected under N.R.S. 501 at the state level. The desert tortoise 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. 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 tortoise. The closest tortoise burrows to the site were observed at approximately 75 feet from the facility's western fence line and 100 feet north of the parking area. Since animals would be hibernating at the time of the site inspection, there was no way to determine if the burrows were inhabited.

Additional common species that are within the geographic range of the site include those listed in Table 4-5. Due to the relatively small size of the site, it is likely that a small percentage of the animals listed in Table 4-5 would actually be present, and many other species could likely migrate through the area.

**Table 4-5  
 Possible Additional Wildlife on the Site**

Scientific Name	Common Name	Scientific Name	Common Name
<i>Ammospermophilus leucurus</i>	White-tailed Antelope Squirrel	<i>Masticophis taeniatus</i>	Striped Whipsnake
<i>Buteo jamaicensis</i>	Red-tailed Hawk	<i>Neotoma lepida</i>	Desert Woodrat
<i>Callisaurus draconoides</i>	Zebra-tailed Lizard	<i>Onychomys torridus</i>	Southern Grasshopper Mouse

Scientific Name	Common Name	Scientific Name	Common Name
<i>Campylorhynchus brunneicapillus</i>	Cactus Wren	<i>Perognathus longimembris</i>	Little Pocket Mouse
<i>Canis latrans</i>	Coyote	<i>Perognathus parvus</i>	Great Basin Pocket Mouse
<i>Cathartes aura</i>	Turkey Vulture	<i>Peromyscus eremicus</i>	Cactus Mouse
<i>Chionactis occipitalis</i>	Western Shovel-nosed Snake	<i>Phrynosoma platyrhinos</i>	Desert Horned Lizard
<i>Citellus tereticaudatus</i>	Round-tail Ground Squirrel	<i>Phyllorhynchus decurtatus</i>	Spotted Leaf-nosed Snake
<i>Cnemidophorus tigris</i>	Western Whiptail	<i>Rhinocheilus lecontei</i>	Long-nosed Snake
<i>Crotalus scutulatus</i>	Mojave Rattlesnake	<i>Salvadora hexalepis</i>	Western Patch-nosed Snake
<i>Crotaphytus insularis</i>	Desert Collared Lizard	<i>Sceloporus graciosus</i>	Sagebrush Lizard
<i>Dipodomys deserti</i>	Desert Kangaroo Rat	<i>Sonora semiannulata</i>	Ground Snake
<i>Dipsosaurus dorsalis</i>	Desert Iguana	<i>Tantilla planiceps</i>	Western Black-headed Snake
<i>Gambelia wislizenii</i>	Leopard Lizard	<i>Uta stansburiana</i>	Side-blotched Lizard
<i>Geococcyx californianus</i>	Greater Roadrunner	<i>Vulpes macrotis</i>	Kit Fox
<i>Hypsiglena torquata</i>	Night Snake	<i>Reithrodontomys megalotis</i>	Western Harvest Mouse
<i>Lampropeltis getulus</i>	Common Kingsnake	<i>Xantusia vigilis</i>	Desert Night Lizard

#### 4.7.1.2 Effects of the Proposed Action

Activities associated with construction and operation of the WAO system would be confined to the existing, fenced facility. The proposed WAO system would be located in the previously disturbed, southeastern part of the facility. It appears that little, if any clearing and grading would be required to accommodate the WAO system at this location, and no vegetation would be affected. Staging areas for construction vehicles would be located within the existing facility. 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. The construction of the WAO system would not disturb any existing habitat.

To protect tortoises which may be in the vicinity of the USE's Beatty, Nevada site, the company has instituted a Desert Tortoise training program for all employees at the site. This training includes an awareness program and procedures to follow in the event an animal is discovered. Failure to comply with the procedures is grounds for immediate suspension and related personnel actions. USE has no record of any observations of Desert tortoise on site (USE 2004d).

#### 4.7.2 Aquatic Resources

##### 4.7.2.1 Description of Existing Environment

Due to the desert climate and lack of surface water bodies, there are no permanent aquatic resources in the vicinity of the facility. The southwestern part of the buffer area has several intermittent washes and small intermittent riparian corridors which direct water offsite to the south. An existing man-made drainage diversion structure directs water runoff from US 95 westward through the northern part of the buffer area, and then southward to the intermittent washes in the southwest part of the buffer area. Another intermittent wash was noted within the

buffer area east of US 95. This feature directs runoff offsite to the south. All of the drainage for the site is eventually directed southward to the headwaters of the Amargosa River.

#### **4.7.2.2 Effects of the Proposed Action**

There are no aquatic ecological resources or habitats in the area of the proposed project. The WAO site is located within a highly disturbed, open industrial area. No impacts to aquatic ecological resources are anticipated as a result of this project.

#### **4.7.3 Wetlands**

##### **4.7.3.1 Description of Existing Environment**

There are no wetland resources located on or near the site. The closest wetland resource is located approximately 10 miles north, just south of the town of Beatty, where a roadside wetland dominated by bulrush (*Scirpus* sp.) was observed. This wetland was in turn near a cottonwood (*Populus fremontii* S. Watson) dominated riparian forest along the headwaters of the Amargosa River.

##### **4.7.3.2 Effects of the Proposed Action**

There are no wetlands on or near the proposed WAO site or the USE Beatty facility. Therefore, the project would not result in any impact to wetland resources.

#### **4.7.4 Threatened & Endangered Species**

##### **4.7.4.1 Description of Existing Environment**

The presence of endangered or threatened species whose geographic range includes the proposed project area was investigated. The U.S. Fish and Wildlife Service Field Office, BLM and Nevada Natural Heritage Commission were contacted to ascertain the current status of any state or federal listed endangered and threatened species of flora and fauna in the general vicinity of the proposed WAO system.

A November 23, 2004 letter from the Nevada Natural Heritage Program indicated that there were no mapped species within two miles of the site. Natural Heritage also indicated that their data was incomplete for this area and recommended a survey, which was conducted by Shaw and is summarized above. Responses from U.S. Fish and Wildlife Service and BLM are pending.

The November 23 letter did indicate that habitat for the Endemic Ant, determined to be "critically imperiled" by the Nevada Natural Heritage Program; the Desert Tortoise, a federally threatened species; and the Mountain Plover, a federally proposed threatened species, likely exist in the area.

##### **4.7.4.2 Effects of the Proposed Action**

It is unlikely that any threatened or endangered species are present within the fenced portion of the facility, including the proposed location of the WAO System. No appropriate habitat is

present in areas where the proposed activities would occur, and the surrounding area has been previously disturbed.

As described above, USE has instituted a Desert Tortoise training program for all employees at the site. This training includes an awareness program and procedures to follow in the event an animal is discovered. Failure to comply with the procedures is grounds for immediate suspension and related personnel actions (USE 2004d).

#### **4.8 CULTURAL, ARCAEOLOGICAL, & HISTORIC RESOURCES**

##### **4.8.1 Description of Existing Environment**

The Nevada Historical Commission was contacted to ascertain the presence of any cultural, archeological, and historic resources in the proposed project area. In a December 8, 2004 letter to USE, the Department of Cultural Affairs indicated that no archaeological or historical properties are likely to be found in the project area. The site is extensively disturbed and there are no known properties on or near the site.

##### **4.8.2 Effects of the Proposed Action**

Because WAO installation and operations would involve a previously disturbed area where no cultural, archaeological, or historic resources have been identified, no impacts are expected. The Department of Cultural Affairs indicated that given the limited archaeological sensitivity of the project area, an archaeological inventory of the project site would not be recommended. If any cultural materials are encountered during WAO installation or operations, activities will cease immediately, and the Nevada Historical Commission will be contacted.

#### **4.9 SOCIOECONOMIC RESOURCES: POPULATION, COMMUNITY RESOURCES, EMPLOYMENT, ECONOMIC, TRAFFIC**

##### **4.9.1 Description of Existing Environment**

Beatty and Pahrump Nevada are the closest towns to the USE facility and are 11 and 70 miles away, respectively. The 2000 population of Beatty and Pahrump was 1,154 and 24,631, respectively. Table 4-6 compares the population of the United States, the State of Nevada, Nye County, Beatty, NV and Pahrump, NV.

The total population in the labor force in Beatty in 2000 was estimated to be about 492 people, with USE employment being about 39. Unemployment in Beatty was estimated to be 3.5% in 2000 which was below the State unemployment rate of 4.0%. The sector providing the highest percentage of employment in Beatty is arts, entertainment, recreation, accommodation and food services at 33%. Educational, health, and social services is second at 15.3%; agricultural, forestry, fishing, hunting and mining is third at 13.1% and Professional, scientific, management, administrative and waste management services is fourth at 10.1% (U.S. Census Bureau 2000).

Housing units in Beatty in 2000 totaled 740 units, with 205 or 27.7% being vacant. This is significantly above the state of Nevada's vacant housing percentage of 9%. The closest residential area to the facility is 11 miles away in the town of Beatty.

Beatty supports a High School (grades 9-12) with approximately 135 students and an elementary School (Grades PK through 8) with 145 students. The Beatty High School is closest to the facility and is 11 miles away. There is a medical clinic in the town of Beatty, but the closest full service hospital is Southern Inyo Hospital located approximately 94 miles away in Lone Pine, CA and the Nye Regional Medical Center in Tonopah, NV, located approximately 97 miles away (city-data.com 2004).

Traffic through the main gate of the USE facility averages approximately 39 worker vehicles per day and an average of 27 truck deliveries per day. Route 95, which passes by the site, is a two lane, paved highway (USE 2004e).

#### **4.9.2 Effects of the Proposed Action**

Installation and operation of the WAO system at USE Beatty facility would have, at most, a minor impact on the socioeconomic resources of the local area. Prior to commissioning of the WAO system, USE will hire and train 8 new full-time employees for the operation of the system. Although this is a small number of new employees, it represents approximately 1.6% of the workforce in Beatty, NV. Construction work force involves approximately 10 to 25 workers. Workers will be drawn from the local work force and therefore will not impact housing, schools, and other public services. Impacts of worker vehicles on traffic in and around the facility also would be negligible.

The vehicle trip generation for the WAO project has been estimated for the "construction and startup phase" and for the "operations" phase. During the 6+ month construction period there will be 24 laborers and foremen on-site, with additional traffic entering the site to deliver materials (steel, concrete, equipment on skids, etc.). The total daily trips during the construction phase will be approximately 106 vehicles per day (53 in, 53 out). The peak hour trips are estimated to be 31 morning inbound and 5 morning outbound. This is a temporary traffic condition lasting about 6 months.

During the operations phase, the total daily trips are estimated to be 34 vehicles per day (17 in, 17 out). The peak hour trips are estimated to be 6 morning inbound and 4 morning outbound. This is a minimal traffic impact to the adjacent roadways during both peak periods. USE may also have an additional 3 inbound and 3 outbound truck trips daily to deliver water to the site.

Since local labor will be utilized, there will be no impact on housing, schools, and other public services. Impacts of worker vehicles and truck trips on traffic in and around the USE facility would be negligible both during construction and operation.

#### **4.10 MINORITY & LOW INCOME POPULATIONS (ENVIRONMENTAL JUSTICE)**

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on February 11, 1994 (59FR7629). The goal of the Executive Order is to ensure that all federal agencies identify and address, as appropriate, any disproportionately high and adverse impacts of their programs and activities on minority or low-income groups.

#### 4.10.1 Description of Existing Environment

The following information represented in Tables 4-6 and 4-7 were created using data from the U.S. Bureau of the Census for the year 2000. Table 4-6 compares the poverty status of the United States, the State of Nevada, Nye County, Beatty, NV and Pahrump, NV while Table 4-7 compares the racial and ethnic composition of the same areas. Beatty has a higher percentage of individuals and families living in poverty when compared to the State of Nevada and Nye County and neighboring Pahrump, NV. Median income is higher in Beatty than Nye County and Pahrump and is nearly equal the national median income figure.

As shown in Table 4-7, the ethnic make up of both Beatty and Pahrump is almost 91% white, which is higher than the State of Nevada at 75.2% and slightly higher than Nye County at 89.6%.

**Table 4-6  
 Poverty Status**

Location	Population Data <sup>1</sup>			
	Total Population	Persons Below Poverty Level, 2000	Families Below the Poverty Level	Estimated Median Household Income, 2000
United States	281,421,906	33,899,812 (12.4%)	6,620,945 (9.2%)	\$41,994
State of Nevada	1,998,257	205,685 (10.5%)	37,877 (7.5%)	\$44,581
Nye County	32,485	3,454 (12.4%)	663 (7.3%)	\$36,024
Beatty, NV	1,154	144 (13.4%)	28 (10.4%)	\$41,250
Pahrump, NV	24,631	2,641 (10.7%)	524 (7.3%)	\$34,860

<sup>1</sup> U.S. Census Bureau 2000 Census

**Table 4-7  
 Ethnic & Racial Composition**

Location	Ethnic & Racial Composition <sup>1</sup>								
	Total Population	White	Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Other Race	Two or More Races	Hispanic or Latino Origin
United States	281,421,906	75.1%	12.3%	0.9%	3.6%	0.1%	5.5%	2.4%	12.5%
State of Nevada	1,998,257	75.2%	6.8%	1.3%	4.5%	0.4%	8%	3.8%	19.7%
Nye County	32,485	89.6%	1.2%	2%	0.8%	0.3%	3%	3.1%	8.4%
Beatty, NV	1,154	90.9%	0.1%	1.5%	1.2	0%	3.1%	3.2%	8.9%
Pahrump, NV	24,631	91%	1.3%	1.3%	0.9%	0.4%	2.3%	2.9%	7.6%

<sup>1</sup> U.S. Census Bureau 2000

#### 4.10.2 Effects of the Proposed Action

As discussed in previous sections, the proposed action should have no adverse effects to land use, air quality, water resources and water quality, and visual resources. No significant impacts to human health and safety are anticipated from installation and operation of the WAO system. Under normal operations, the risk of any health impacts to workers and public from releases of hazardous materials would be very low. All construction activities associated with the proposed

project will be conducted within the vicinity of the WAO system and within the boundaries of the facility. Population groups outside of the facility will not be affected by project activities. The project will generate approximately eight new temporary jobs for the duration of operation of the WAO system and a small number of temporary jobs for the local labor force during construction.

Final treatment and ultimate disposal of WAO wastes are unlikely to result in impacts to low-income and minority populations in the vicinity of the facility. Disposal of the liquid wastes would be fully permitted under RCRA and other applicable federal, state, and local statutes. The amounts of wastes generated would be small in comparison to the available capacity of this facility. Thus, no disproportionate and adverse impacts to minority or low-income populations from installing and operating the WAO system at USE would be expected.

#### **4.11 WASTE MANAGEMENT**

The WAO system will produce liquid waste during operations. All wastes would be managed, transported, treated and disposed of in compliance with federal, state, and local regulations. This section examines the effects of the proposed action on waste management systems on and off the USE site that would be affected by the proposed action.

##### **4.11.1 Description of Existing Environment**

USE's disposal facility provides full RCRA and TSCA treatment and disposal services. The Beatty facility was the first hazardous waste site in the nation to receive authorization to receive TSCA regulated materials, and remains a major national outlet for TSCA regulated transformers and capacitors. The Beatty facility provides full RCRA treatment and solidification services and disposal via a Subtitle C landfill for industrial and government customers. Operations at the Beatty facility include the following technologies and processes (AEC 2004).

###### **4.11.1.1 Landfill Disposal**

The active landfill at the USE facility is Cell 11, which has an approximate ground surface footprint of 11.3 acres. Cell 11 employs a liner and leachate collection systems equivalent to the Hazardous and Solid Waste Amendments (HSWA) of 1984 as Minimum Technological Requirements (MTR) to prevent the migration of hazardous wastes from land disposal units to groundwater and the surrounding environment. The Cell 11 double liner system incorporates a primary and a secondary leachate collection (i.e., leak detection/collection) and removal system (LCRS). The primary LCRS is located above the primary liner, and is designed to collect and allow removal of liquids within the cell. The secondary system is located between the two (2) liners, and its main function is to provide detection and removal of any leakage through the top liner (AEC 2004).

###### **4.11.1.2 Low Temperature Thermal Desorption**

The Low Temperature Thermal Desorption (LTTD) System is used for the treatment of waste containing hazardous organic chemicals, petroleum products, volatile and semi-volatile compounds, chlorinated solvents, pesticides and other RCRA hazardous wastes. The LTTD technology is a vacuum enhanced, low temperature distillation system; patented by Industrial

Recovery Services International, Inc. Treatment in LTTD units is intended to achieve Best Demonstrated Available Technology (BDAT) concentration levels for constituents subject to 40CFR268 LDRs (AEC 2004).

#### **4.11.1.3 Stabilization/Chemical Oxidation**

USE operates three (3) outdoor stabilization tanks to treat hazardous wastes requiring immobilization of hazardous constituents to comply with applicable 40CFR268 LDR constituent concentrations or treatment methods. The units are also used for other purposes, including (but not limited to): solidification of wastes containing free liquids, transferring wastes between containers, and to sort and treat hazardous debris. Also, USE is permitted to treat organic wastes by chemical oxidation at the waste stabilization units (AEC 2004).

#### **4.11.1.4 PCB Processing**

USE operates an enclosed building for the processing of PCB articles. Processing includes draining and/or flushing articles as required prior to disposal. PCB liquids are transported offsite for incineration (AEC 2004).

#### **4.11.1.5 Small Quantity Consolidation**

Containerized waste is aggregated and the contents placed into bulk containers for subsequent treatment or disposal allowing for the efficient use of the stabilization process for similar waste types. Once aggregated, the contents of the roll-off may be homogenized, and a sample is taken of the aggregated material for characterization and/or recipe development (AEC 2004).

### **4.11.2 Effects of the Proposed Action**

#### **4.11.2.1 Liquid Wastes**

USE proposes to solidify all treated water and dispose of the solid material in their onsite RCRA Subtitle C landfill disposal Cell 11. There will be no release of any treated wastewater offsite, nor will there be any offsite transportation of wastewater. USE will utilize one of the six new 50,000 gallon storage tanks for interim management of the treated water prior to solidification and disposal. From the interim storage tank, piping will feed directly to the existing RCRA Subpart J stabilization tanks where the reagents will be added to solidify the treated waters to pass the EPA's Method 9095A "Paint Filter Liquids Test."

Following successful solidification, the solidified material will be placed into the RCRA Subtitle C disposal Cell 11, disposal coordinates will be recorded, and certificates of disposal produced (USE 2004c). A diagram showing USE's RCRA Subtitle C disposal cell is provided in Figure 2-12.

Operation of the WAO system would generate the following primary liquid waste streams over a 9-month period: approximately 6,400,000 gallons of effluent from the treatment of the DF neutralent, and approximately 1,300,000 gallons of effluent from the treatment of the QL neutralent (see Section 2.1.3). Ultimate disposal of the WAO effluent will be via USE's solidification/stabilization process and then landfilled. The remaining capacity of the existing landfill is 530,000 cubic yards. It is expected that 40,000 cubic yards of solidified waste will be

landfilled into Cell 11 as a result of this project. This accounts for approximately 7.5% of the remaining landfill capacity. USE has permits in place to open another cell (Cell 12) at the facility. Although plans to open this cell have not been finalized, it is expected that it will be opened within the next five years. Storm water collected from the WAO site will be directed into the facility's existing site runoff system. Due to the low precipitation in this area, storm water is not expected to be an issue. The proposed action would generate no other liquid effluents.

#### **4.12 HUMAN HEALTH & SAFETY**

##### **4.12.1 Worker Health & Safety**

###### **4.12.1.1 Description of Existing Environment**

USE has an approved Health and Safety Plan (HASP) which addresses potential hazards associated with activities to be performed at the facility. Site operations include the transport, storage, treatment, and disposal of hazardous waste. The EPA has established regulations governing these types of activities. These regulations are found in 40CFR264 and overseen by the EPA, under the RCRA. NDEP has received EPA authorization for the implementation of the RCRA program and has promulgated regulations governing these types of activities. The facility's HASP establishes the general chemical safety criteria and safety standards as required by 29CFR1910.120 for TSDF and RCRA and state regulations, to ensure that all facility operations involving hazardous wastes are conducted in a consistent and safe manner.

The HASP stipulates that all work be performed in accordance with the regulations and guidelines outlined in:

- OSHA 29CFR1910 "Safety and Health Regulations for General Industry"
- OSHA 29CFR1926 "Safety and Health Regulations for Construction"
- OSHA 29CFR1926.65 "Hazardous Waste Operations and Emergency Response"
- 40CFR264

A Facility Inspection Plan has been developed by USE to comply with the regulatory requirements of 40CFR264.15, as adopted by the NDEP. The plan describes the inspection procedures employed at the facility to identify operator errors and structure/equipment malfunctions or deterioration that may pose a threat to human health and the environment, if not corrected in a timely manner. The inspection plan will be implemented by individuals trained, per the RCRA Part B Application, in hazardous waste management, inspection/remedial action procedures, and adherence to proper documentation and record keeping requirements. The Facility Manager is responsible for the delegation and review of the facility inspections. USE's inspection program provides for the overall inspection of the facility operations according to these schedules: daily, weekly, monthly, bimonthly, quarterly, and annually.

In the event that an emergency condition occurs at the facility which has the potential to threaten human health or the environment, the HASP includes a contingency plan which would be implemented and maintained until the condition has been stabilized (USE 2004a).

#### 4.12.1.2 Effects of the Proposed Action

The construction and operation of the WAO system may present some possible hazards to the workers at the site. Possible impacts from these hazards are discussed below.

##### Construction Impacts

Section 2.2.1 describes the proposed WAO system site. The construction hazards to the workers would not be unique and would be characteristic of those for any similar project.

##### Operational Impacts

The WAO feed streams and effluent are characterized in Section 2.1.1. Normal operation of the WAO system should have no health and safety impact on people outside the facility. USE has an approved HASP which addresses a wide variety of potential hazards at the facility. Training and inspection programs verify implementation of USE's health and safety initiatives.

During the solidification of WAO wastes, the potential exists for health and safety issues when adding quicklime. Significant amounts of heat may be released if quicklime is added to water (heat of hydration) and from the reactions with any acids, if present. USE has significant experience with adding quicklime to liquids and will implement procedures including slowly added quicklime and mixing well to control the rate of heat released.

#### 4.12.2 Accident Analysis

Shaw has evaluated the potential impacts of a "worst-case" accidental release of binary neutralent and/or WAO process liquid/effluent. That scenario was determined to be loss of contents of a 140,000 gallon DF neutralent storage tank into its containment area (WAO process liquid/effluent is both significantly diluted and quickly broken down into dissolved inorganic salts). A modeling analysis was conducted to determine potential impacts based on a generic WAO/storage installation design. The analysis found that the worst-case condition resulted in a HF vapor plume at or above the IDLH value extending 35 m downwind of the (generic) containment area.

Based on site-specific conditions at the USE facility, no potentially significant off-site effects would occur from this type of release at the USE Beatty facility. The total surface area of USE's proposed new containment structure is approximately 209 m<sup>2</sup>. The surface area for each tank will be approximately 19 m<sup>2</sup>. Since there would be two tanks in each containment area, the total surface area exposed to the atmosphere in the event of a release is approximately 171 m<sup>2</sup> which is less than the 245 m<sup>2</sup> used in the generic analysis of the DF neutralent release (USE 2004k). It is at least 60 m from the proposed tank storage location to the facility's fenced boundary. The analysis indicated that IDLH levels would not be exceeded beyond 35 m of the release. Therefore, based on the analysis, no IDLH levels of HF would be encountered beyond the facility's boundary. In addition, the State of Nevada controlled buffer zone surrounding the facility extends an additional 400 m beyond the facility's boundary. The nearest likely potential public receptor would be on U.S. Highway 95 which is approximately 610 m from the fenced boundary of the facility and is occupied by transient traffic only. The nearest permanent residence is located at least 17 kilometers from the facility.

USE has an existing approved contingency plan that addresses responses to sudden or non-sudden releases or spills of hazardous materials. The contingency plan is routinely evaluated through on-site drills and exercises. This plan requires that the following actions be implemented in the event of such a release.

1. All facility personnel will be notified and communication established in accordance with the plan.
2. All facility operations will cease and personnel will proceed to designated muster areas.
3. The Emergency Coordinator, or designee, will assess the incident by considering:
  - The extent of the incident
  - The location of the incident
  - The nature and quantities of the materials involved
  - Wind direction and speed
  - The potential for short and long-term effects, with regards to human health and the environment
  - The potential for fire and/or explosion
  - The need for additional outside assistance and/or evacuation
4. The Emergency Coordinator will direct all on-scene response efforts and ensure that the incident does not escalate to include other facility processing areas.
5. When the emergency has been brought under control and the threat to human life or the environment has been minimized, the Emergency Coordinator will immediately initiate remedial actions in order to restore the facility to operational readiness. All response and remedial activities will be conducted in accordance with facility health and safety requirements to ensure personnel exposure to hazardous materials is minimized.

USE also intends to install sensors and alarms as part of the proposed tank system to ensure that any releases will be immediately identified in order to minimize any potential impact. USE also expects to evaluate specific aspects of toxicology, employee training, equipment design, construction, operations, and remedial actions as detailed project planning proceeds. Based on the analysis provided and the remote location of the facility, no off-site impacts are expected to occur in the unlikely event of a significant release (USE 2004h).

#### **4.13 CUMULATIVE IMPACTS**

Cumulative impacts are those "which result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40CFR1508.7). As discussed in this EA, the proposed action to install and operate the WAO Unit and landfill solidified WAO effluent in the RCRA Subtitle C Cell 11 Landfill at the USE Beatty facility is unlikely to result in significant project-specific impacts. Further, the existing USE facility conducts hazardous waste treatment, storage and disposal operations within the limits of its existing permits, without significant environmental impacts. Potential cumulative impacts from the WAO project would be expected to be similarly limited by the constraints of the new and amended permits required for the project. This section discusses the incremental

impacts of the proposed project in the context of on-going and planned projects at USE and evaluates its incremental impacts when added to the impacts of these other projects.

#### **4.13.1 Opening of Cell 12 Subtitle C Landfill**

Ongoing and planned projects at the facility include normal operations at the site, the opening of the new Cell 12 Subtitle C Landfill and the construction of a 17,500 ft<sup>2</sup> RCRA containment building. Although the opening of Cell 12 is permitted, there are no plans to begin operations at this cell at this time. Construction of the containment building is planned for 2005. As discussed in previous sections of this EA, no significant impacts are expected from the proposed construction and operation of the WAO system. This coupled with the fact that there are no other known major projects ongoing for the duration of the proposed project, indicates there will be no cumulative impacts.

#### **4.13.2 Potential Future Use of the WAO System**

At the conclusion of the binary neutralent treatment and disposal campaigns, USE may elect to negotiate an agreement with NSCMP and Shaw to retain the WAO system for future use. This use could potentially include either waste processing of other NSCMP or CMA wastes generated from the destruction of RCWM at off-site locations nationwide, or commercial waste processing.

Application of the WAO system to processing of other waste streams would have to be evaluated on a case-by-case basis to determine the necessary reagent feed and moderation water ratios, and to evaluate MOC compatibility. Waste streams determined to be treatable with the WAO system would be expected to result in air emissions that would not present additional environmental impacts because of the WAO system's integral emission control system (RTO). Similarly, WAO effluent resulting from treatment of additional NSMCP or commercial wastes would consist of primarily non-hazardous inorganic wastes that would be readily disposed of in the existing stabilization/solidification and landfill operation. Any hazardous constituents present in the initial waste feed that would pass through the WAO system such as RCRA regulated (TCLP) metals can still be disposed of in the existing on-site stabilization/solidification and landfill operation.

The WAO system throughput, if retained, would be limited by the system flow design parameters and the necessary reagent feed and moderation water ratios; in other words, organics loading to the WAO system in the future waste feed could not significantly exceed that of the binary neutralent feed (i.e., actual waste feed rate would depend on the organics concentration in the waste). Actual quantities or rates of other NSMCP or commercial waste could not be predicted at this time, but would have to operate within those parameters.

Potential impacts to other environmental resources from on-going WAO operations would not be expected to differ significantly from those associated with the binary neutralent campaign, which are insignificant. At worst, treatment of more dilute waste feeds might mean additional tank truck traffic deliveries, but treatment of more concentrated waste (requiring more reagent and moderation water feed) might mean slightly lower traffic. Additional RCRA permit modifications might be required for USE to process other NSCMP or commercial wastes in the WAO system.

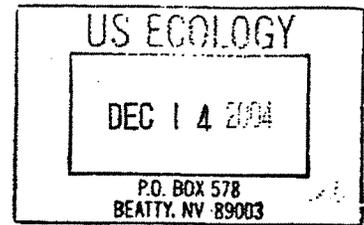
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KENNY C. GUINN  
Governor

SCOTT K. SISCO  
Interim Director

STATE OF NEVADA  
DEPARTMENT OF CULTURAL AFFAIRS  
Nevada State Historic Preservation Office  
100 N. Stewart Street  
Carson City, Nevada 89701  
(775) 684-3448 • Fax (775) 684-3442  
www.nvshpo.org



RONALD M. JAMES  
State Historic Preservation Officer

December 8, 2004

Robert Marchand  
General Manager  
US Ecology  
P.O. Box 578  
Beatty NV 89003

RE: Proposed Installation and Operation of Wet Air Oxidation Unit to Treat  
Hazardous Waste at the US Ecology, Beatty, Amargosa Desert, Nye County.

Dear Mr. Marchand:

The Nevada State Historic Preservation Office (SHPO) reviewed the proposed undertaking. In order to determine the archaeological sensitivity of the proposed project area, the SHPO consulted the online statewide archaeological inventory. According to their records, only a small portion of the proposed project area has been inventoried for cultural resources. No cultural resources were found as a result of this effort. Given the limited archaeological sensitivity of the project area and the previous disturbance in the project area the SHPO does not recommend an archaeological inventory of the project area.

As no historic properties are likely to be found within the area of potential effects (APE) for the subject undertaking, the SHPO would concur with a U.S. Army determination that historic properties will not be affected by the proposed undertaking. According to the National Historic Preservation Act of 1966, as amended, federal agencies are required to make determinations of eligibility and effect. In this case, if the U.S. Army were to request our concurrence with a determination of 'No Historic Properties Affected' our office would be happy to expedite the request.

If you have any questions concerning this correspondence, please contact me by phone at (775) 684-3443 or by E-mail at [rlpalmer@clan.lib.nv.us](mailto:rlpalmer@clan.lib.nv.us).

Sincerely,

  
Rebecca Lynn Palmer  
Historic Preservation Specialist



## 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.

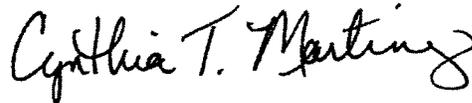
Mr. Robert Marchand

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.

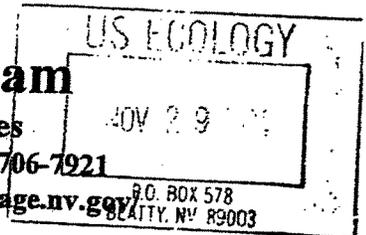
Sincerely,



for Robert D. Williams  
Field Supervisor

# 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](http://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 nyensis*, 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