

SUMMARY REPORT

For:
**MONITORING AND MITIGATION OF MESA VERDE CACTUS
(SCLEROCACTUS MESAE-VERDAE)
NAVAJO TRIBAL UTILITY AUTHORITY POWERLINE
UMTRA GROUND WATER PROJECT, SHIPROCK SITE
ON NAVAJO NATION TRIBAL LAND
IN SAN JUAN COUNTY, NEW MEXICO**

Prepared For:
**S. M. STOLLER CORPORATION
GRAND JUNCTION, COLORADO**

On Behalf of:
**DEPARTMENT OF ENERGY
GRAND JUNCTION, COLORADO**

Prepared By:
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EXECUTIVE SUMMARY

In September of 2002, S. M. Stoller Corporation (SMSC), on behalf of the United States Department of Energy (DOE), retained Ecosphere Environmental Services (Ecosphere) to re-identify Mesa Verde cactus (*Sclerocactus mesae verdae*) and biologically monitor construction along a portion of the Many Devils Wash water/fiber optics line right-of-way (ROW). The water/fiber optics line is part of a remediation program at the Shiprock, New Mexico, Uranium Mill Tailings Remedial Action Project (UMTRA) site. The Department of Energy Grand Junction Office (DOE-GJO) is managing the UMTRA Project to remedy ground water contamination at the Shiprock Site. The remediation efforts by DOE are being coordinated with the Navajo Abandoned Mine Lands Reclamation (AML)/UMTRA Program, Division of Natural Resources, Navajo Nation.

The project area is located on Navajo Nation Tribal land in San Juan County, New Mexico. The purpose of the work was to adhere to Navajo Nation code requirements for endangered species (17NNC507) and to comply with the Endangered Species Act (ESA) of 1973, as amended. Ecosphere is authorized to conduct biological surveys and monitoring on the Navajo Nation under Navajo Fish and Wildlife Department (NFWD) Permit #011802-001. Mesa Verde cactus is a federally listed threatened flora species with a Navajo Endangered Species List (NESL) designation of Group 3.

LOCATION

The project area is located in Shiprock, New Mexico on Navajo Nation Tribal lands. The project area is found on the Shiprock 7.5-minute USGS topographic quadrangle map. The legal coordinates for the project area as follows:

Township 30 North, Range 17 West, Section 31
Township 30 North, Range 18 West, Section 36
Township 29 North, Range 18 West, Section 1
Township 29 North, Range 17 West, Section 6
New Mexico Principal Meridian (NMPM)

WORK SUMMARY

An Environmental Assessment (EA) was prepared for the proposed remediation project by the DOE in 2001. A *No Affect Determination* was outlined in the EA, therefore any disturbance or effects to Mesa Verde cacti in the project area would be in violation of the ESA and would require a §7 consultation with the United States Fish and Wildlife Service (USFWS) and NFWD.

On April 24, 2002, Ecosphere biologists located Mesa Verde cacti populations within the proposed Many Devils Wash ROW. Cacti populations were pin flagged and digitally recorded using a handheld Trimble GeoExplorer II Global Positioning System (GPS) unit. Ecosphere biologists met with Mel Madril, SMSC Project Lead, on site and informed Mr. Madril of the cacti locations within the proposed ROW. Ecosphere consulted with John Nystedt, NFWD, regarding specific mitigative measures to avoid impacts to Mesa Verde cacti. Those mitigative measures were outlined in a May 2002 report submitted to SMSC. A meeting was held on April 26, 2002 at the Ecosphere Farmington office between Mr. Madril and Joey Herring of Ecosphere. The cacti avoidance requirement and mitigative measures were again discussed.

On September 23, prior to construction, Ecosphere biologists re-identified Mesa Verde cacti populations within the proposed ROW. Cacti were pin flagged for ease in visual identification and locations were digitally recorded. Digital data was electronically submitted to SMSC on October 1, 2002.

The original pipeline alignment was staked and clearly marked with footages and flagging in the field on September 23, 2002. Ecosphere biologists met Dick McNair, SMSC Project Supervisor, and Gary Behrendt, Construction Supervisor, in the field. Neither Mr. McNair nor Mr. Behrendt had any prior knowledge of Mesa Verde cacti in the project area, including the following:

- 1) Avoidance of cacti populations,
- 2) Realignment of the centerline to approximately 15 feet east immediately adjacent to an existing road.
- 3) Other specific NFWD mitigation measures, or
- 4) Possible construction constraints to ensure avoidance

Ecosphere attempted to contact Mr. Madril, who was not available on that date. Due to the following issues, Ecosphere consulted with the NFWD, on SMSC's behalf, with concerns regarding compliance:

- 1) Inaccurate wording in the September 20, 2002 amended Scope of Work (SOW) issued by SMSC concerning avoidance of cacti populations. The amended SOW included the following language, "or minimize impacts on cactus populations" and "to avoid these areas (populations) as much as possible". Ecosphere representatives had previously consulted with SMSC to remove the following language from the original SOW (9/17/02), "Should any displacement of Mesa Verde cactus be unavoidable".
- 2) The alignment of the proposed centerline had not been shifted east as recommended by the NFWD and documented in the May 2002 report in order to avoid cacti populations.
- 3) SMSC key personnel's lack of knowledge regarding compliance issues and mitigative measures.
- 4) A resistance by SMSC construction supervisors to comply with and implement NFWD mitigative measures on the advice of Ecosphere representatives.
- 5) Construction had already commenced in the drainage area of Many Devils Wash in close proximity to previously identified Mesa Verde cacti populations (approximately Stations 21+00 to 21+50).

Per the September 20, 2002 SOW, Ecosphere representatives attended a pre construction meeting on September 25, 2002 with SMSC construction supervisors and construction crew members from subcontractors Silver State Construction and Schiller Fencing. Ecosphere presented information to attendees on Mesa Verde cactus, it's threatened status, avoidance measures, and temporary fencing/flagging that would be encountered in the project area.

At the request of the NFWD, Ecosphere representatives also attended an on site meeting with John Nystedt, NFWD, and Dick McNair, SMSC, on September 25, 2002. The purpose of the meeting was to discuss the pipeline ROW alignment, compliance with avoidance, buffer zones and mitigative measures outlined in the May 2002 report.

On September 27, Joey Herring of Ecosphere met with Gretchen Van Reyper of SMSC at the project area to erect temporary fencing to restrict construction activities in areas of cacti populations and to discuss mitigative measures, the extent of biological monitoring and compliance. Ms. Van Reyper informed Ecosphere that monitoring would be limited to three (3) areas along the ROW where cacti were nearest to the centerline and that monitoring would only be conducted during trenching activities due to funding concerns.

Biological monitoring was conducted on October 9, 2002 by Joey Herring of Ecosphere following contact on October 8, 2002 by Fred Smith, SMSC Construction Supervisor. Upon arrival at 8:00 AM, the monitor walked the proposed centerline from Stations 46+00 to 29+00 to ensure that temporary fencing was still intact. The monitor met with the construction supervisor to discuss the current status of construction and the expected rate of construction. At the request of Mr. Smith, an approximately 10 foot by 15 foot area at approximately Station 31+00 was cleared by the monitor for the construction of a drain. Mr. Smith and Ms. Herring walked the alignment to verify locations where SMSC had requested monitoring. Between 8:00AM and 12:30PM, backfilling of the trench occurred between approximately Stations 29+00 and 27+00. Trenching at Station 28+00 began at 9:40AM and concluded at Station 30+00 at 12:30PM. Ms. Herring confirmed with Mr. Smith that the entire construction crew had been informed of NFWD mitigative measures concerning Mesa Verde cactus and that any new crew members would be informed prior to entering the construction zone. The monitor left the site at 12:30PM.

Ecosphere was contacted on October 10, 2002 at 8:20AM by Mr. Smith and requested to be at the work site between 9:45-10:00AM. At 9:10AM, the monitor was approximately ½ way to the job site when contacted by Mr. Smith and instructed not to arrive on site as construction was progressing at a slower rate than expected. Mr. Smith asked for a monitor on site between approximately 1:00-1:30PM. At 11:20AM, Mr. Smith contacted Ecosphere to cancel any monitoring for the day due to construction progress.

Ecosphere was contacted on October 11, 2002 by Mr. Smith to monitor at the site. John Dodge, Ecosphere, arrived on site at 9:00AM and spent approximately 1 hour in the construction area. The monitor walked the ROW to assess the condition of Mesa Verde cacti populations. No disturbance was observed. John Maras, Silver State construction foreman, instructed Mr. Dodge that no trenching would occur that day and no monitoring was needed. The monitor left the site at 10:00AM.

On October 17, 2002, Ecosphere was contacted at 9:30AM by Mr. Smith and asked to arrive on site at 12:30PM to monitor construction. Ms. Herring arrived on site at 12:30PM. Upon arrival at the construction site, Mr. Smith notified Ms. Herring that some disturbance to Mesa Verde cacti populations had occurred within the pipeline ROW. According to Mr. Smith the disturbance was estimated to have occurred sometime on October 16, 2002 after construction had ceased. Restrictive temporary fencing had been damaged by a vehicle at Station 29+00, see Photographs 1-2. Several lathes were broken and it appeared that a vehicle (pick-up truck) had entered the work area from the south along the existing road, backed up into the temporary fencing and buffer zone for approximately 10 feet to turn around and then proceeded to travel east cross country for approximately 100 feet before merging into an existing two-track road. Tire tracks were within 18-24 inches of one cactus at Station 29+00. At that time the monitor did not observe any other disturbance.



Photograph 1: Disturbance at Station 29+00 of the SMSC Many Devil's Wash ROW showing original centerline to right, broken temporary fencing in center and tire tracks. 10/18/02

Ms. Herring explained to Mr. Smith that she would return to the site the following day to photo document the disturbance. Ms. Herring also reiterated that according to the NFWD letter dated September 30, 2002 (included as Attachment A), if any disturbance or affects to Mesa Verde cacti, construction could be shut down until consultations with the NFWD and USFWS were concluded. Additionally, Ms. Herring advised Mr. Smith and Mel Madril (by phone) that continuous construction monitoring was in SMSC's best interest to

remove any questions concerning determination of fault in regard to disturbance or affects to cacti. Ms. Herring spent approximately 4.5 hours monitoring trenching activities between stations 33+75 and 34+50.



Photograph 2: Mesa Verde cacti disturbance at SMSC Many Devil's Wash ROW showing extent of cross country vehicle traffic. 10/18/02

On October 18, 2002, Ms. Herring arrived at the work site at 8:40AM to photo document the disturbance. At that time, Ms. Herring noticed that four (4) Mesa Verde cacti had been run over by a vehicle approximately 30 feet east of the pipeline ROW at Station 30+00 during the disturbance reported the previous day, see Figure 3. Pin flags marking the individual cacti had been removed. The plants were re-flagged.

Ms. Herring met with Fred Smith at the SMSC office at 9:30AM and informed him of the disturbed cacti. Ms. Herring presented Mr. Smith with a copy of the September 30, 2002 NFWD letter outlining mitigative measures for SMSC construction in the project area. Mr. Smith said that he had not previously seen the letter. Ms. Herring asked that Mr. Smith review the letter and provide a copy to Mr. Don Gaurmer who would be replacing Mr. Smith on October 21, 2002 as Construction Supervisor. As 24 hours had passed since the disturbance had been observed by SMSC personnel, Ms. Herring initiated consultations with Gloria Tom, director of the NFWD, at 10:52AM in accordance with NFWD mitigative measures (see Attachment A). Ms. Herring was contacted (2:50PM) by the NFWD and met Jeff Cole of the NFWD at the site at 3:40PM. .



Photograph 3: Disturbed cacti located in foreground within tire tracks at SMSC Many Devils Wash project area.

On October 21, 2002 Ecosphere was contacted at 1:27PM by Dick McNair and instructed to be on site to monitor between 2:30-3:00PM. John Dodge arrived on site 2:40PM and walked the ROW to assess the condition of cacti populations. Mr. Dodge monitored trenching between approximately Stations 34+00-35+00. Mr. Dodge, John Maras, and Dick McNair also met with a Navajo Nation Ranger that was investigating the cacti disturbance at the request of the NFWD. During the investigation it was observed that water trucks associated with the construction were turning around outside of the permitted ROW in close proximity to several Mesa Verde cacti approximately 30-50 feet east of Station 29+00. Mr. McNair authorized Mr. Dodge to be on site at 8:00AM the following day to continue monitoring construction.

On October 22, 2002 Mr. Dodge arrived on site to monitor construction. Upon arrival the monitor walked the ROW to assess the condition of Mesa Verde cacti populations. Mr. Dodge observed that pin flags had been removed from several cacti located at approximately Station 40+00. The cacti were re-flagged. Flagging on temporary restrictive fencing was also replaced at Station 40+00. Dan Nordeen, SMSC, asked Mr. Dodge to erect temporary restrictive fencing in three (3) areas of Mesa Verde cacti where water trucks were making turn-a-rounds. Populations #35, #36, and #39 were marked with temporary fencing as shown in Photographs 4-5. Mr. Dodge monitored trenching activities between approximately Stations 36+00-39+50 and left the site at 4:30PM after completion of trenching.



Photograph 4: Water truck turn around area at SMSC Many Devil's Wash construction site looking west. Permitted ROW is located in background where a drain site is fenced with orange visqueen.



Photograph 5: Temporary fencing erected around Mesa Verde cacti populations on October 22, 2002 at the SMSC Many Devils Wash construction area.

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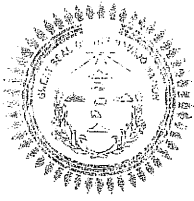
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ATTACHMENT A

NFWD SEPTEMBER 30, 2002 LETTER



**THE
NAVAJO
NATION**

FISH & WILDLIFE DEPARTMENT • P. O. BOX 1480 • WINDOW ROCK • AZ • 86515

KELSEY A. BEGAYE
PRESIDENT

TAYLOR MCKENZIE, M.D.
VICE PRESIDENT

30 September 2002

U.S. Department of Energy
Attn: Don Metzler, Program Manager
2597 B $\frac{3}{4}$ Rd
Grand Junction, CO 81503

SUBJECT: DOE Shiprock UMTRA Ground Water Remediation Pipe/Fiber Optic Line

Mr. Metzler,

This letter summarizes my discussion with Rob Bleil, Dan Nordeen, Gretchen Van Reyper and Craig Goodknight on 25 September 2002 regarding a component of the subject project and avoidance of associated *Sclerocactus mesae-verdae* (Mesa Verde cactus; Navajo Endangered Species List group 3, Federally listed threatened). The discussion was based on the Mesa Verde cactus survey report for the project (Ecosphere Environmental Services, May 2002), the environmental assessment (EA) for the project (DOE, September 2001) and a field trip conducted on 25 September 2002 with representatives from Ecosphere and Dick McNair, S.M. Stoller. The component of the project in question is a portion of the proposed Many Devils Wash Pipeline, which is a buried 1-inch water line and fiber optic line located on the west side of a dirt road running between an evaporation pond (under construction) and Many Devils Wash, in the E/2 NE/4 NE/4 section 1 T29N R18W and the W/2 NW/4 section 6 T29N R17W, NMPM.

The survey of the Many Devils Wash Pipeline found 26 groups of Mesa Verde cactus, ranging from one to 26 individuals, within and adjacent to the water/fiber optic line right-of-way (ROW). The report recommended shifting the line east (i.e., closer to the road) maximizing the distance between the trench and cacti, fencing the cacti near the trench during construction, documenting the location of the cacti for future reference during maintenance, and erecting permanent markers with instructions regarding any ground disturbance activities (similar to those associated with gas lines). Prior to the survey the Department of Energy (DOE) determined, in the EA, this project would not affect Mesa Verde cactus because surveys would be conducted and all plants would be avoided.

Based on our 25 September 2002 field trip the Navajo Nation Department of Fish and Wildlife (Department) advises the following supplemental measures to achieve avoidance.

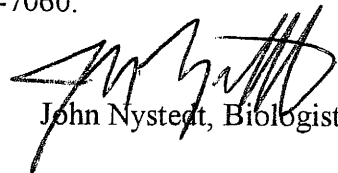
1. In general, maximize the distance between all activities and Mesa Verde cactus and restrict all construction-related activities to the road, including placement of spoil piles, except as described below
2. Except for three situations as described below, locate the trench on the road, on its west

Also, action needs to be taken to ensure the newly proposed associated power line will be aligned and installed with measures similar to the water/fiber optic line to achieve avoidance of cacti.

The above measures will place the line outside the ROW approved by the Navajo Nation and the Bureau of Indian Affairs. Obtaining an as-built ROW covering the new alignment should be routine given the justification for deviation and provided all other issues have been addressed (e.g., archaeological clearance). If you encounter any complications in obtaining an as-built please contact us for assistance.

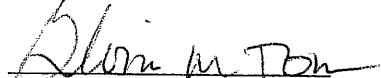
It is my understanding in discussions with your contractor (Stoller) that you must approve any modifications or additions to work scope.

If you have any questions call me at (928) 871-7060.



John Nystedt, Biologist

CONCURRENCE



Gloria M. Tom, Director

xc: Leonard Robbins, BIA
Aimee Roberson, USFWS
Craig Goodknight, Stoller
Melvin Madrill, Stoller
Gretchen Van Reyper, Stoller
Dick McNair, Stoller
Mike Eisenfeld, Ecosphere Environmental Services
File; Chrono