

The URI Archaeological Protection Program for
the Church Rock Mine-Survey and Preservation of
the Archaeological Antiquities

A Survey Project Directed by Dan Hurley
and Completed by Michael P. Marshall

July 1988

Project Introduction

This report presents the the initial results of an archeological program designed to protect cultural antiquities within the proposed URI Churchrock In Situ Uranium Mine. This archeological protection project has been initiated under the authorization of Mr. Mark Pelizza of Uranium Resources Inc. and under the direction of Mr. Dan Hurley. The objective of the project is to prevent adverse impact to the significance cultural resources which exist in the proposed mine area. In Situ mining , which involves the removal of Uranium Oxide in solution, is effected by the development of a series of injection, extraction an and monitoring wells. Possible adverse impact to the cultural antiquities might therefore result from the drilling activities and associated road developments.

The URI Archeological Protection Program is designed to prevent disturbance to the cultural resources during the mining development. This protective action is modeled on former projects developed by Mr. Dan Hurley for Mobil Corporation in the Kin Ya'a and Muddy Waters Archeological Districts. This protective action involves the systematic location and documentation of archeological sites in the development area and fencing of the site boundaries. Recommendations for protective actions during the mining project and occasional monitor inspection of the sites is incorporated in the program. In this report the protective plan for the initial URI Churchrock development area in the SE $\frac{1}{4}$ of Section 8 is presented.

Archeological Survey

Archeological survey of the area included within the proposed URI mine was formerly conducted in 1977 for United Nuclear Corporation by the San Juan Campus Cultural Resources Division (Ford and DeHoff 1977) This earlier survey included the private lands in the initial (SE $\frac{1}{4}$ Section 8) development area. Four archeological sites (Nos. 8-10,8-11,8-14 and 8-15) were located in the development area. Under the dirction of Mr. Dan Hurley a renewed project was initiated to relocate and document these sites and to define the site boundaries for protective fencing. This project was conducted by Cibola Research Consultants and Mr. Dan Hurley in July of 1988. A comprehensive documentation of the sites is presented in this text. The recommended protection zone and the location of the fence barrier to be constructed around the sites was marked in the field with lath, flagging and pin flags. These protection areas are indicated on the detailed topographic map of the development area (Figure No. 2).

A brief inspection of the SE $\frac{1}{4}$ of Section No. 8 failed to reveal additional cultural resources. Various additional sites not subject to previous archeological documentation were,however, located in the NE $\frac{1}{4}$ of Section 8. It is recommended, therefore that any additional expansion of the URI development involve a systematic archeological survey of the area and the completion of protection procedures similar to those which have been effected in this project.

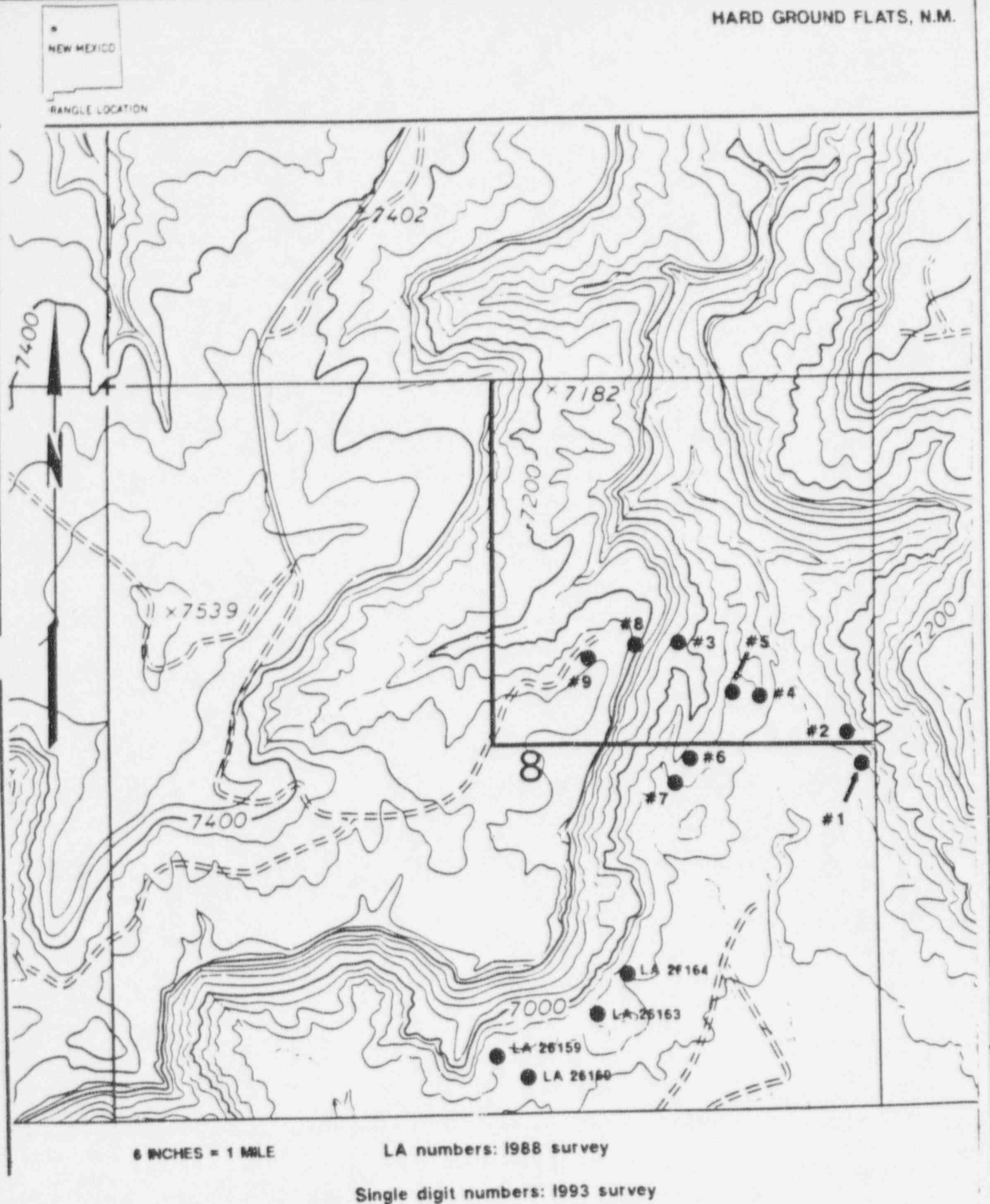


Figure 1. Location of Sites in the Section 8 Church Rock Study Area

Location of the Study Area and the Archeological sites.

All four archeological sites subject to examination in this study are located within the proposed initial development area of the Uranium Resources Inc. Churchrock In Situ Uranium Mine. This location is approximately six miles north of Churchrock New Mexico in the SE $\frac{1}{4}$ of Section 8, Township 16 North, Range 16 West. The Site locations illustrated in Figure No. 1 of the Hard Ground Flats 7.5 Minute Quadrangle are situated at the base of a canyon-mesaland escarpment in the Puerco River Drainage area. The sites under consideration here are settlements of a rather extensive Anasazi settlement complex which is known to exist in the Springstead area of the Puerco Valley district.

Universal Transverse Mercator locations:

Site No. 10	721450 Easting by 3945100 Northing
Site No. 11	721500 Easting by 3945100 Northing
Site No. 14	721525 Easting by 3945100 Northing
Site No. 15	721675 Easting by 3945150 Northing

The archeological sites under consideration here are situated on the northern margin of the Puerco River Valley at the talus base of a high forested mesa. They appear at an elevation of 6950 feet. The Rio Puerco an intermitent stream is located 1.5 kilometers to the south. The sites are placed on the lower talus base on the west side entrance to a deep sandstone canyon. Scattered pinyon and juniper trees appear on the slopes adjacent to the sites and within the adjacent canyonlands are ponderosa pine and other upland species. All four of the documented sites are placed on open lands with a gentle south facing exposure. The placement of these ancient settlements is probably related to the adjacent runoff farmlands along the talus base and in the canyon entrance floodplain and to the availability of stone and wood building materials.

Site Documentation

Archeological survey which has been conducted in the SE $\frac{1}{4}$ of Section 8 has revealed the presence of four sites of such significance to justify preservation. These four sites, designed as 8-10, 8-11, 8-14 and 8-15, are all Anasazi unit pueblos which appear to be allied primarily with the Chacoan culture area. Both Early Formative BMIII (Ca. 500-600) and PII-Early PIII (Ca.A.D. 950-1100) occupations have been identified.

Each of the site areas contained two roomblock areas and an abundance of midden debris. It is estimated that over 60 rooms exist in the group. Three of the sites (Nos. 10, 11 and 14) appear in close proximity and are considered to represent a neighborhood cluster of a larger Anasazi community complex which is known to exist in the Springstead area of the Rio Puerco Valley. Due to the direct proximity of sites 10, 11 and 14 there are enclosed within a single contiguous protection zone.

Site No. 15 Description LA 2616+

Site No. 15 is an Anasazi Pueblo settlement which is comprised of two unit pueblos and four midden areas. The site which is located on the western side of canyon entranceland extends over an area approximately 90 meters north-south by 70 meters east-west. This masonry pueblo complex is estimated to contain 20 rooms and a substantial quantity of midden fill (estimated 400 cubic meters of midden fill is present). Ceramic types observed at the site indicate an occupation in the PII-Early PIII periods and the great quantity of midden suggests a lengthy occupation of ca. A.D. 950-1100.

The Upper Roomblock, which has been badly damaged by bulldozer activity, is a massive "L" shaped structure estimated to contain 15 rooms. The substantial mound elevation of 1.0m to 1.5m is probably more an indication of massive wall constructions than of multistoried architecture. The long east-west axis of this building is approximately 24 meters. Wall alignments are difficult to define. No kiva depression is visible.

The Lower Roomblock is a linear unit pueblo, oriented north-south, which is 16 meters long and contains an estimated five rooms. This structure is defined by a low rubble mound 25cm to 50cm in elevation. This building does not have the massive quality exhibited by the Upper Roomblock. It may have been a partial jacal construction or a diminutive simple masonry structure. Ceramics from the adjacent Midden No. 1 area indicate that the Lower Roomblock was abandoned in the Late PII Era whereas; the the Upper Roomblock continued to be occupied into the Early PIII era. The notable difference in the construction of the Upper and Lower Roomblocks at site No. 15 is also exhibited in structures at the nearby site No. 14. A functional rather than cultural developmental difference in these differing architectural styles is most probable.

There is also a possible small roomblock on the Midden No. 3 area as stones are scattered over an area 8 by 3 meters in size.

The four midden areas at site No. 15 contain a substantial quantity of midden fill estimated to be approximately 400 cubic meters. It is estimated based on surface densities that about 25,000 surface artifacts are present.

Midden Area	Size	estimated depth	Cubic Meters	Artifact densi
Midden No. 1	20X25= 500 M2	50cm.	250M3	30 per M2
Midden No. 2	10X15= 150 M2	25cm.	37.5M3	5 per M2
Midden No. 3	20X12= 240 M2	25cm.	60.0M3	20 per M2
Midden No. 4	10X18= 180 M2	25cm.	45.0M3	15 per M2

Site No. 15

Site Condition:

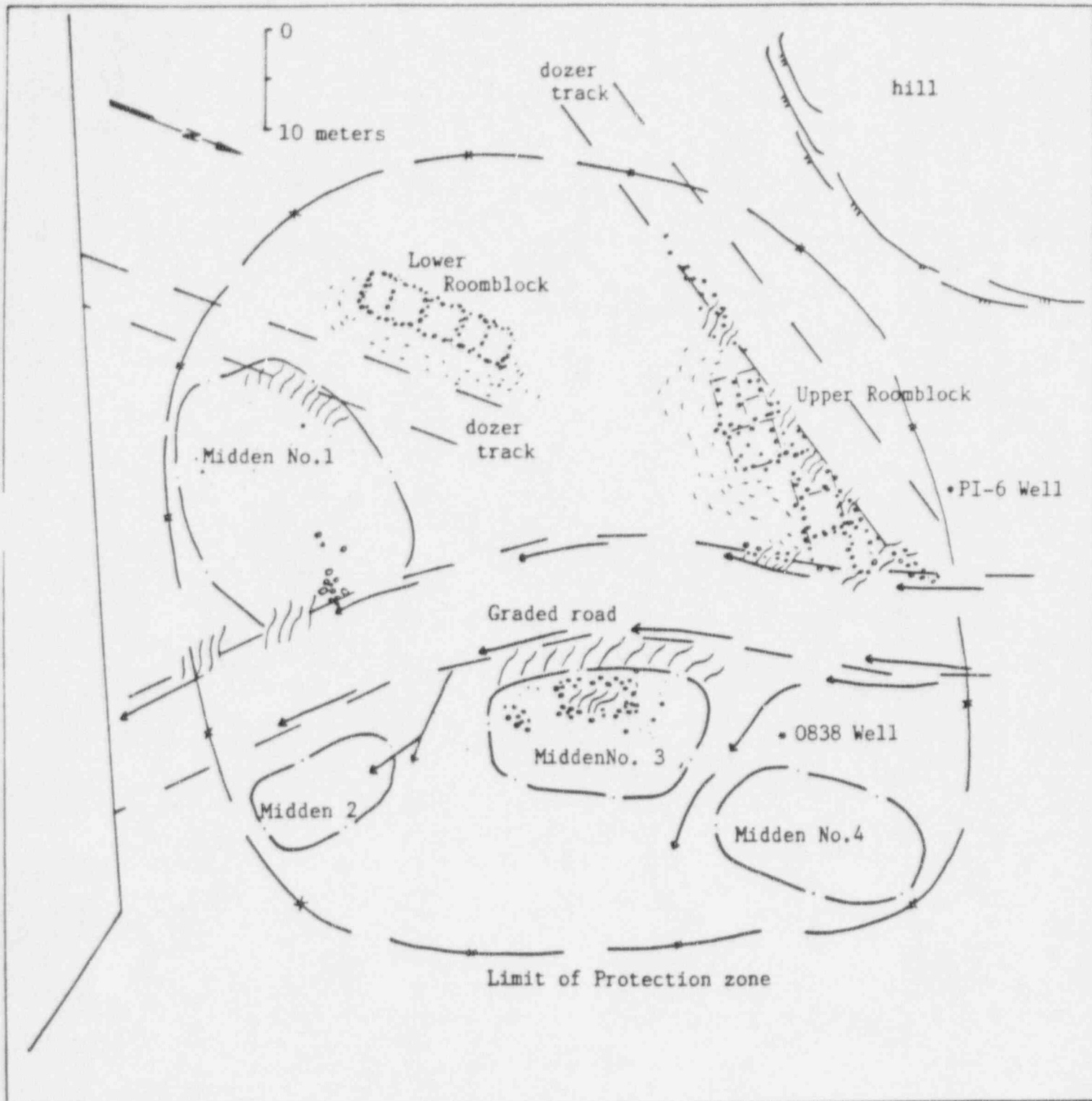
Site No. 15 has been partially destroyed by dozer activities associated with drilling explorations. At least four drill holes have been placed in the site area. A wide graded road and two bulldozer paths have also been made. It is estimated that about one half of the Upper Roomblock has been destroyed by dozer activity although other parts of the site remain largely intact. Portions of Midden No. 1 and Midden No. 2 have been removed but most of the midden debris remains undisturbed. Despite these impacts much of the site is intact and justifies preservation. The limits of the site area have been flagged for a proposed fence construction. This fenced enclosure should prevent further disturbance during the proposed URI development project.

Site No. 15
Ceramic Type Frequencies:

Ceramic Type	Midden No. 1	Midden No. 3
Cibola Gray Ware:		
Plain	2	2
Corrugated Indented	29	13
Incised	1	1
Cibola White Ware:		
La Plata B/W		1
Red Mesa B/W	9	2
Escavada B/W	7	2
Gallup B/W	28	5
Chaco B/W	2	
Chaco-McElmo B/W		3
Puerco B/W(solid style)	2	
Puerco B/W(hatched style)	7	1
Tsegi Orange Ware		1
Unidentified		
White Mt. Red Ware:		
Puerco B/R		2
Unidentified Style		3
Socorro White Ware		
Socorro B/W		1

Ceramic Discussion and Cultural-Temporal affiliation:

Ceramic inventories from the site No. 15 complex indicate a Chacoan Anasazi occupation during the late PII into the early PIII periods from Ca.A.D. 950 to about 1100. Ceramic frequencies were recorded from two province areas : the Midden No. 1 and Midden No. 3 areas. These frequencies indicate that the South Roomblock and associated midden No. 3 were abandoned in the Late PII Period Ca. 1000 to 1050 A.D. where the North Roomblock and nearby Midden No. 3 (which contain types not present in midden No. 1 such as Chaco McElmo B/W, Socorro B/W, Tsegi Orange Ware, and Puerco B/R) continued to be inhabited into the Early PIII Era to about 1100 A.D. The absence of Wingate Polychrome and St. Johns Polychrome at the site indicate that the complex was entirely abandoned before the second half of the 12th Century.



Site No. 10 Description:

LA 26157

Site No. 10 is the westernmost of the pueblo triplex which exists at the western entrance to the Puerco north canyonland in the study area. The site shows evidence of both a Formative BMIII occupation and a Pueblo II-III occupation which appear in an area approximately 110 meters north-south by 55 meters east-west. The structure of this site is similar to that of the adjacent site No. 11 complex.

An early formative occupation area is evident in the south site by a 15 by 18 meter concentration of lino horizon artifacts about scattered spalls and a hearth area. One hearth 1.0m in diameter is visible and other concealed structures are no doubt present.

Between the Upper Pueblo and midden area and the lower BMIII component there is a possible small unit house of PII-PIII affinity. This is identical to Site No. 11. A probable hearth 1.5m in diameter is visible as are scattered and partial stone alignments.

A large "L" shaped unit pueblo of massive construction appears in the north site area. The blocks of the pueblo are both 20 meters in length and 5 to 6 meters wide. Mound elevations are 1.0 to 1.5m. A kiva depression, 6m in diameter, exists adjacent and within the roomblock enclosure toward the southeast. A midden concentrated in an area 20 by 25 meters exists directly south of the pueblo. It is estimated to have a mean depth of 50cm. Scattered artifacts also extend an additional 25 meters to the south.

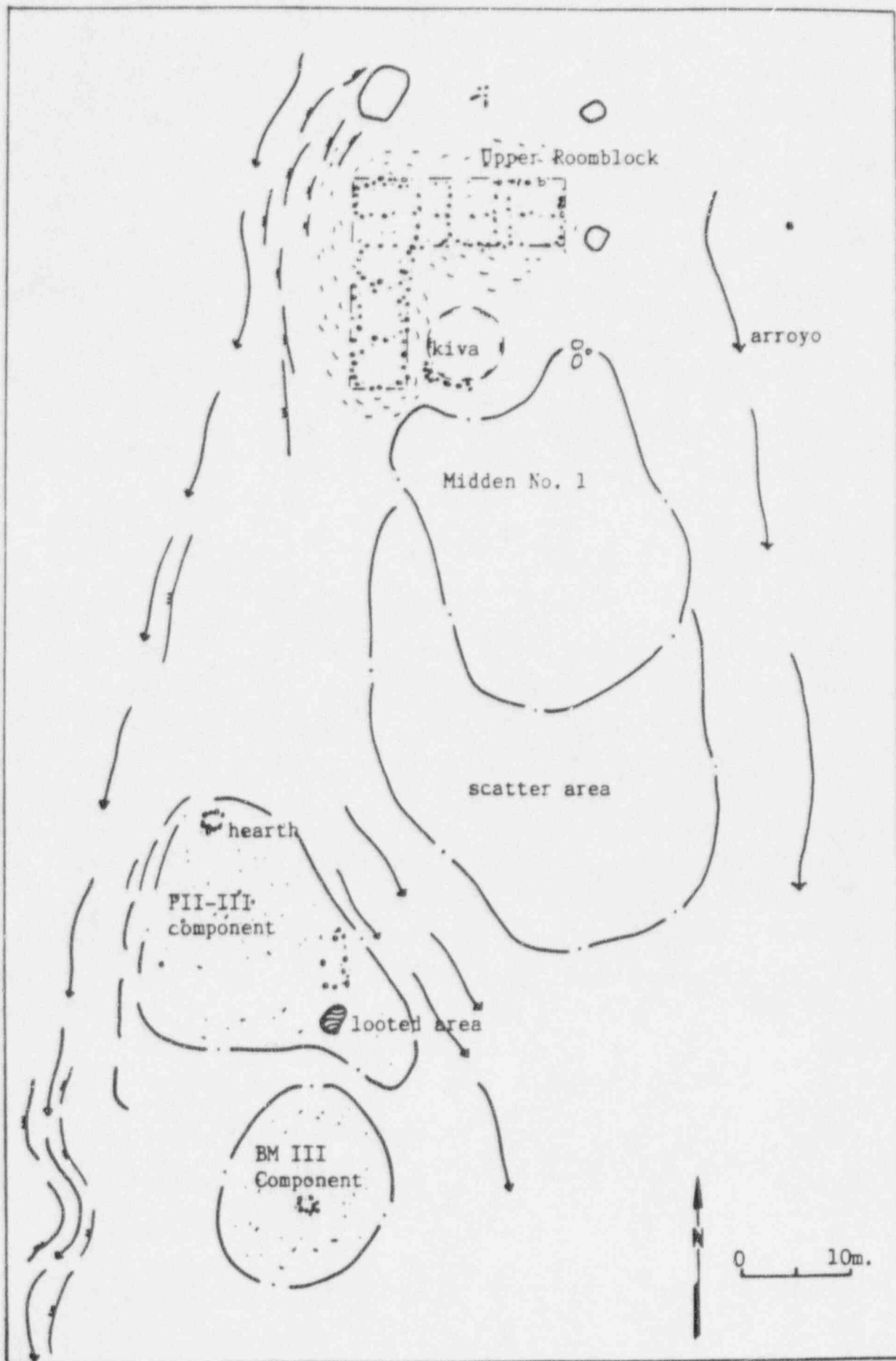
Site Condition: This pueblo appears to be undisturbed. It is in excellent condition. The site is included in a protection zone and is to be enclosed in a fenced area together with sites 11 and 14 prior to the URI development project. In this manner the site will be protected from possible disturbance during the drilling operation and subsequent development.

Ceramic Ware-Type Frequencies:

Ceramic Ware-Type	South Component	Midden No.1
Cibola Gray Ware:		
Lino Gray	27	4
Corrugated Indented (early style)	2	
Corrugated Indented		39
Incised		1
Cibola White Ware:		
Lino Black on Grey	1	
La Plata Black on Grey	1	
Red Mesa Black on White		15
Escavada Black on White		13
Gallup Black on White	1	15
Chaco-McElmo Black on White		2
White Mt. Red Ware:		
Puerco Black on Red		2
Wingate Black on Red		6
Chuska Grey Ware:		
Chuska Corrugated Indented		1

Ceramic Discussion

Ceramics were inspected from two areas in the site complex; from midden No. 1 directly south of the large upper pueblo and from the south area. Ceramics from the South component indicate a Formative Pueblo BMIII occupation (Ca.A.D. 400-600) whereas the Upper Pueblo is of the PII-Early PIII affinity. Ceramics observed on the low knoll south of Midden No.1 and north of the South component appear to be also pf PII-Early PIII affiliation. The structure and temporal affinities of this site appear similiar to the adjacent site 11 complex. The rather frequent incidence of Red Mesa style in the Midden No 1 sample suggests that the Upper Pueblo was established in the Early PII Period Ca.A.D. 950 while the presence of Puerco and Wingate Black on Red indicate that it continued to be inhabited into the last half of the 12th Century. Ceramics in the South Component clearly indicate an early Formative occupation also traces of later material , probable comtaminates from the nearby Upper Pueblo, area present.



Site No. 11 Description: LA 26100

Site No. 11 is the central unit of a three site complex which exists at the western entrance to the Puerco North canyonland. The site exhibits two major occupations: one is Formative Period BMIII settlement (Ca. A.D. 500-600) and the other is a PII-Early PIII pueblo (1000-1100 A.D.). These cultural antiquities appear in an area approximately 110 meters north-south by 45 meters east-west.

The Formative Period component is located in the south site area. It consists of scattered sandstone slabs and artifact materials in a 20 by 15 meter area. A concentration of burned stone is visible in the southwest area. It is probable that both hearths and slab-lined domicile structures are present in this area.

The PII-Early PIII occupation at the site is represented by a massive masonry roomblock and associated kiva, another smaller unit house and by a large midden area. The principal structure at the site is a large masonry roomblock 20 by 8 meters in size with an adjacent 6.0m diameter kiva depression. The rubble mound is 1.0m to 1.5m high. The roomblock is estimated to contain 10 to 15 rooms of rather massive but probable single story construction. A single room defined by a low alignment of stone in a 4 by 2.5m area is present east of the roomblock.

A large midden area 35meters by 20 meters in size is located to the south of the massive roomblock. The midden has a estimated mean depth of 50cm. Numerous 'burial slabs' litter the midden surface.

To the south of the midden is a scatter of artifacts which appear about what appears to be a small unit pueblo. The structure is defined by simple wall alignments with a low mound elevation. This structure may be yet another example of the diminutive but contemporaneous roomblock as noted at other sites in the area.

Also present at Site No. 11 is a slab unit constructed against a boulder, two stone basins in a bedrock boulder and a historic Navajo rock art panel. The rock art panel portrays two old style Model T trucks.

Site Condition:

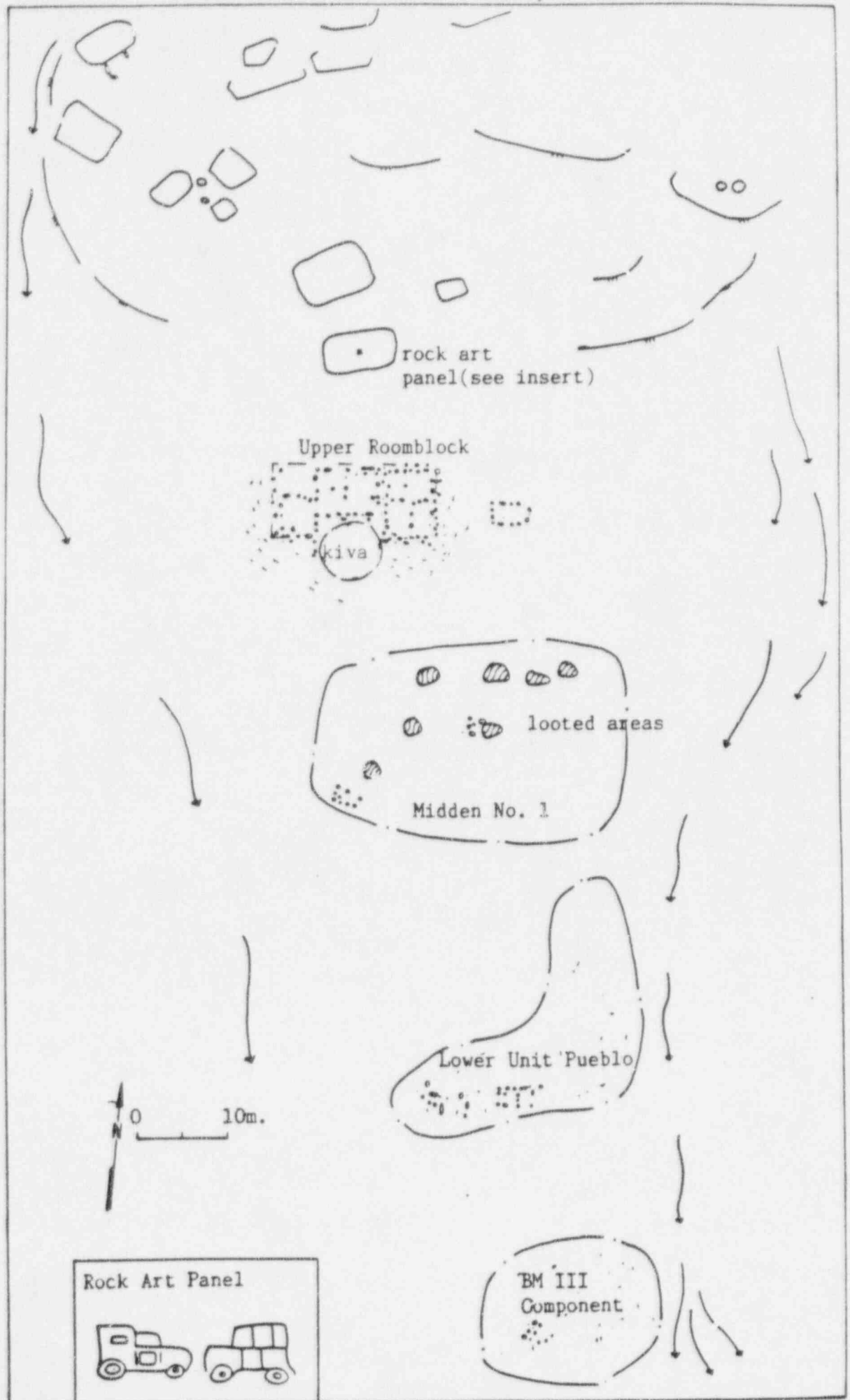
Most of the Site No. 11 area remains intact. There is, however, evidence of considerable looting in the midden area. Numerous potholes are visible in the midden which appear to represent burial excavations. Burial slabs lie littered about and some scattered human bone is present. Elsewhere the site remains undisturbed and in good condition. Site No. 11 is included in a proposed fenced protection zone contiguous with adjacent sites No. 10 and No. 14. This site is clearly a significant cultural resource and justifies preservation.

Site No. 11
Ceramic Type Frequencies:

Ceramic Ware-Type	Midden No. 1	South Component
Cibola Gray Ware:		
Lino Gray	9	33
Corrugated-Indented (Old style)		1
Cibola White Ware:		
La Plata Black on White	1	
Red Mesa Black on White	6	
Escavada Black on White	9	1
Gallup Black on White	18	
Chaco McElmo B/W	1	
White Mt. Red Ware:		
Wingate B/W	2	
Unidentified Style	1	
Socorro White Ware:		
Socorro Black on White	1	
Tusayan White Ware:		
Lino Black on Grey		3

Ceramic Discussion and Cultural-Temporal Affiliation.

Two ceramic samples were recored in the Site No. 11 area: one in the large Midden(Midden No. 1) South of the upper roomblock and one from among the scattered slabs in the south component area. These samples indicate a PII-Early PIII occupation for the Upper Pueblo complex and a Formative Period BMIII (Ca. 500-600 A.D.) for the South Component. Ceramics observed among the alignments in the site area south of Midden No. 1 also appear to be of PII-PIII affinity. The predominance of Cibolan material and the stylistic types present in the PII-PIII occupation suggest an affiliation with the Chacoan Anasazi culture area.



Site No. 14 Description LA 26103

Site No. 14 is the easternmost of three Anasazi settlements which comprise a "neighborhood complex" at the western entrance to the canyonland. The site is located at the talus base on a low rise between two south flowing arroyos. Alluvial fill from the eastern arroyo has partially covered the site area.

Site No. 14 consists of two masonry roomblocks, each with an associated midden which appear in an area 70 meters north-south by 45 meters east-west. Also present adjacent to this area are two check dams in the west arroyo, two rock alignments along the same arroyo and a large slab-lined roasting pit in the rocks above the site.

The Lower Roomblock is a massive masonry construction with a 24 meter east-west dimension which contains an estimated 15 rooms. The rather substantial mound elevation of 1.0 meter is probably a result of massive wall and large room construction rather than indicative of multistoried architecture. A midden area (No. 1) located adjacent and south of the Lower Roomblock is 20 by 25 meters in size with an estimated mean depth of 50cm. (250 cubic meters of midden fill). Some apparent "burial slabs" are present in the midden area. No kiva depressions are visible, contrary to previous record, but dozer activity associated with drill hole 0630 may conceal a depression adjacent and southeast of the Lower Roomblock.

The Upper Roomblock is located at the base of the talus slope 20 meters north of the Lower Roomblock. It is a diminutive "L" shaped block 8 meters in east-west dimension. It is estimated to contain 5 to 6 rooms. A low 25cm high rubble mound and a simple masonry wall alignment is present. Ceramics observed from the adjacent Midden No. 2 area indicate an occupation contemporaneous with the massive Lower Roomblock. The midden area adjacent to the Upper Roomblock is 10X22 meters in size with a mean estimated depth of 25cm.

Located in the west arroyo floor adjacent to the roomblock area are two check dams. These dams both 10m in length are comprised of stacked stone 20 to 50cm in size. These dams appear to have been constructed to reduce runoff velocity rather than to retain moisture. The fields were most likely paced in the deep soils of the alluvial fan below the site where the arroyo opens out and where runoff waters are dissipated. The check dams are placed in a rather active scoured out area of the arroyo where runoff waters first pour off the steep slopes.

Located among the rocks on the the talus slope about the roomblocks and west of the arroyo are three areas where vertical sandstone slabs are visible. One area is a defined roasting pit 1.0m in diameter which is built of large sandstone slabs. The slabs are oxidized. The fill of the structure has been excavated (looted).

Site No. 14 Condition:

A bulldozer cut associated with drill hole 0630 has been placed in the Site No. 14 area resulting in the partial destruction of the Lower Roomblock. It is estimated that two to four rooms in the pueblo have been removed. Fill from the dozer path may conceal a kiva depression. There is also some evidence of looting in the site area. A number of potholes are visible in the Midden No. 1 area presumably made by pothunters excavating burials. The slab roasting pit along the west arroyo has also been excavated. Most of the Site No. 14 area remains intact despite these impacts. It is estimated that 90% of the cultural remains at the site are undisturbed. Preservation of this is certainly justified. The site is enclosed within a protection zone to be fenced in a contiguous enclosure with nearby sites No. 10 and 11.

Site No. 14

Ceramic Type Frequencies:

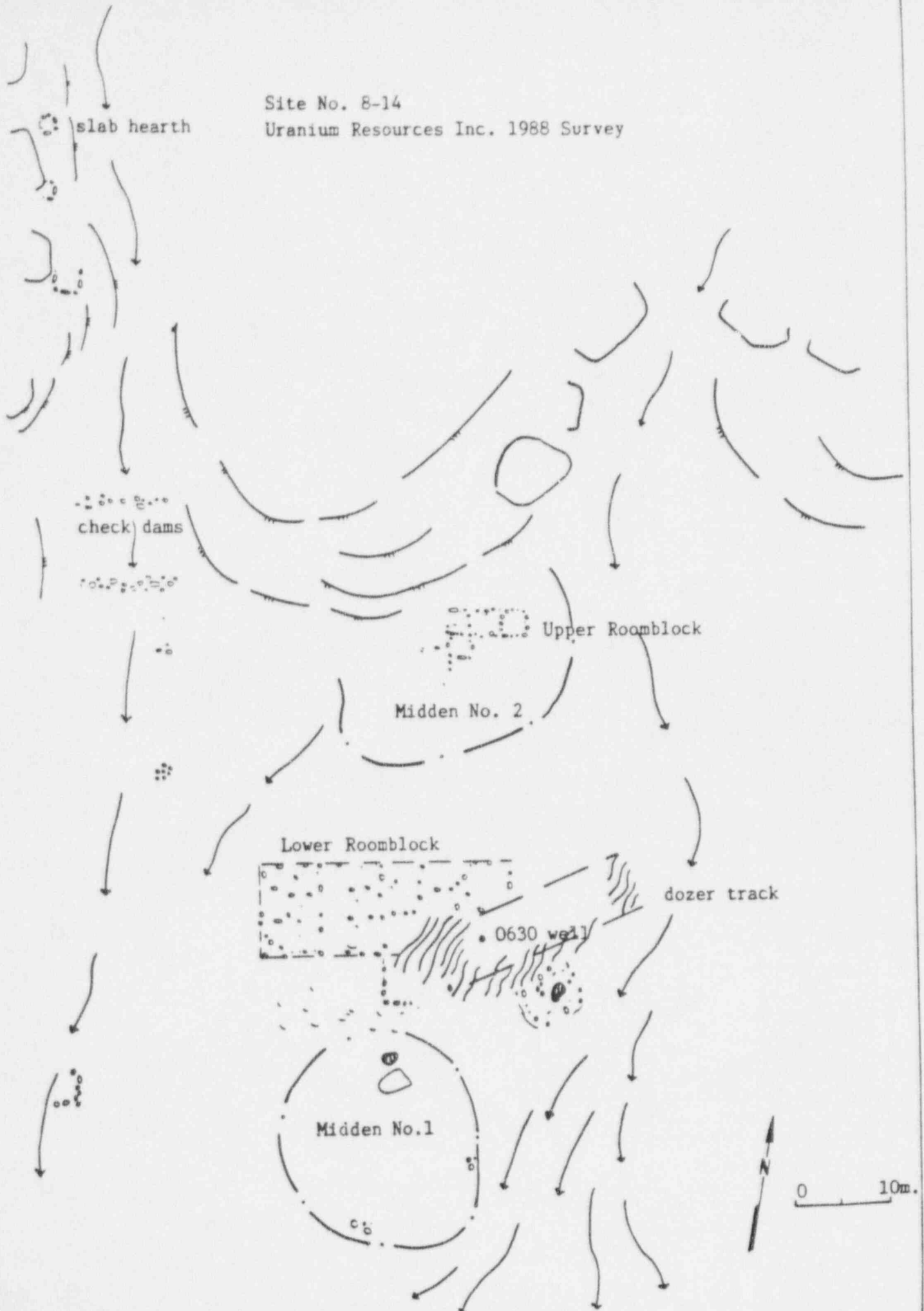
Ceramic Ware-Type	Midden No. 1	Midden No. 2
Cibola Gray Ware:		
Plain	8	
Corrugated Indented (early style)	1	1
Corrugated Indented	14	25
Plain neckbanded	1	
Cibola White Ware:		
Red Mesa Black on White	6	2
Escavada Black on White	6	4
Gallup Black on White	12	6
Chaco Black on White		1
Puerco B/W (solid style)	2	
White Mt. Red Ware:		
Puerco B/R	1	
Wingate B/R		1
Unidentified style	1	

Ceramic Discussion-Cultural Temporal Affinity:

Ceramic samples were obtained to two areas in the site complex; one from midden No. 1 adjacent to large lower pueblo and from Midden No. 2 adjacent to the talus base unit house. Both samples appear similar indicating an occupation in the Pueblo II-Early PIII Periods from Ca. A.D. 950 to 1100. Ceramic Types suggest an affiliation with the Chaco Anasazi culture area. Examination of the slope below the site to the south failed to reveal a formative period component as noted in the Adjacent site 10 and 11 areas but this area is substantially alluviated by an arroyo which fringes the site and such a component may be buried.

Site No. 8-14

Uranium Resources Inc. 1988 Survey



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