

CROW CANYON ARCHAEOLOGICAL CENTER

Advancing Knowledge of the Human Past Through Research and Education

September 4, 2007

MARK D. VARIEN, PH.D.
Director of Research

Cindy Hardgrave
Executive Director
Canyonlands Natural History Association
3031 South Highway 191
Moab, UT 84532

RE: The Discovery Pool Grant "Final" Report

Dear Ms. Hardgrave:

On behalf of the Crow Canyon Archaeological I am pleased to submit this final report for the Canyonlands Natural History Association Discovery Pool grant, *Tree-Ring Dating of Goodman Point Pueblo*, and to request the final payment of \$3,000 for tree-ring analysis. The \$7,500 grant supported a workshop on tree-analysis at Crow Canyon and the analysis of tree-ring samples collected during of the 2005 and 2006 field seasons as part of the *Goodman Point Archaeological Project: Community Center and Cultural Landscape Study*. The deliverables for the grant include the annual reports for the 2005 and 2006 field seasons and a list of tree-ring dates. The deliverables are all complete, and the list of tree-ring dates and a CD with the 2005 and 2006 reports are included in this package. The reports were authored by Kristin Kuckelman and Grant Coffee and are published on Crow Canyon's Web site at the following address:

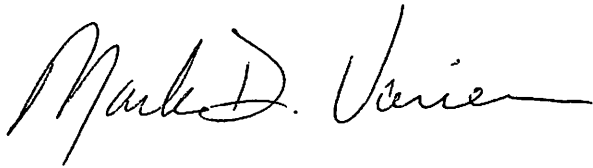
http://www.crowcanyon.org/publications/goodman_point_pueblo.asp

The Southeast Utah Group of the National Park Service manages the Goodman Point Unit as a part of Hovenweep National Monument and is in the process of developing a General Management Plan that will benefit from the results of the research, which will serve as a foundation for future interpretive and educational programs. In partnership with the National Park Service, Crow Canyon is undertaking archaeological research, analysis, publication, and public outreach at the site. The Laboratory of Tree Ring Research consulted with Crow Canyon archaeologists to select samples and then completed the dendrochronological analysis that will underpin the Center's work at Goodman Point Pueblo. Tree-ring dating will provide absolute dates for the construction, remodeling, and abandonment of Goodman Point Pueblo, and this chronological control will provide the framework for all subsequent analyses and interpretation at the site.

Crow Canyon's nationally recognized research and education programs make it uniquely qualified to undertake this research at the Goodman Point Unit. Building upon 24 years of research focused on the ancestral Pueblo Indians of this region, this project is furthering the world's understanding of culture and this land. Results of the research explore intra- and intercommunity networks of interaction and how these changed through time, the relationship between public buildings and social organization in the community, the nature

and extent of Chaco influence, the ecological and social factors that determined the distribution of people on the landscape, and the social processes of migration.

Thank you again for your interest and support,

A handwritten signature in black ink, reading "Mark D. Varie". The signature is written in a cursive style with a long horizontal flourish at the end.

Attachments: CNHA final report
Reports (CD) from the 2005 and 2006 Goodman Point Pueblo field seasons
Lists of tree-ring dates from the 2005 and 2006 field seasons
Invoice for final payment of \$3,000

DISCOVERY POOL Final Report
 CANYONLANDS NATURAL HISTORY ASSOCIATION
 JUNE 30, 2007

<i>Project Name</i>	<i>Tree-Ring Dating of Goodman Point Pueblo as part of the Goodman Point Archaeological Project: Community Center and Cultural Landscape Study.</i>
<i>Principal Investigator And Phone Number:</i>	Mark D. Varien, Ph.D. 970-565-8975 (direct: 970-564-4351) Dan Mooney, Vice President of Advancement 970-564-4358
<i>Partner Agency:</i>	Crow Canyon Archaeological Center and the Southeast Utah Group of the National Park Service, Hovenweep National Monument
<i>Date of Application:</i>	30 June 2006
<i>Amount Requested:</i>	\$3,000 of the \$7,500 grant; see attached invoice

This report constitutes the Discovery Pool Final Report for purposes of invoicing for the remaining \$3,000 of the \$7,500 grant. The deliverables for the grant—a CD with the annual reports for the 2005 and 2006 field seasons at Goodman Point Pueblo and a list of tree-ring dates are included in this package. The 2005 and 2006 annual reports, authored by Kristin Kuckelman and Grant Coffey, also are published on Crow Canyon’s Web site.

Why the Research Project is Needed. First and foremost, the archaeological sites that are the focus of this project possess tremendous potential for informing the public about the region’s past and for understanding why and how cultures change. They are some of the largest, longest occupied, and best preserved archaeological sites in the Four Corners, and as part of the Hovenweep National Monument they are open to public visitation. Further, despite their antiquity, almost nothing is known about these important sites, which occupy an esteemed place in the history of the historic preservation movement in the United States. Second, the excellent preservation of the cultural remains in the Goodman Point Unit allows for a reconstruction of the entire cultural landscape, which is impossible to achieve for most areas of the region. This includes habitation sites, monumental public architecture, ancient roads and footpaths, and agricultural fields. Third, the project will provide the NPS with the information they need—but do not currently have—to develop a new general management plan, manage this property, and interpret it to the public.

Research Questions Addressed:

- When did construction begin at Goodman Point Pueblo?
- How did the Pueblo grow and how often was it remodeled?
- When was the pueblo abandoned?

Methodology

Tree-ring dating of Goodman Point Pueblo is the foundation upon which the entire research project rests. Tree-ring dating will allow archaeologists to specify when construction began at the site, how often the Pueblo was expanded and remodeled, and when it was abandoned. Resolving these chronological issues provides the framework needed to answer all other research questions. Crow Canyon has designed a sampling strategy for testing areas where tree-ring samples are likely to be found, and over 300 samples have already been recovered.

Tree-ring dates will be used to reconstruct the occupational history of the village and the community. These dates will also be used to structure artifact analyses that examine the types of activities that occurred at the village, and to investigate intra- and intercommunity networks of interaction and how these changed through time. Tree-ring and artifact data will also be used to evaluate the relationship between public buildings and social organization in the community, the nature and extent of Chaco influence, the ecological and social factors that determined the distribution of people on the landscape, and the social processes of migration. These data will also be used for quantitative studies that evaluate the variation between artifact assemblages, compare the composition of artifact-assemblage data, estimate total artifact populations, and calculate the degree to which the sample is quantitatively representative of the entire population of artifacts. Studies of fauna, pottery, and vegetal remains will be used to evaluate whether ceremonial feasting occurred at the village or at other locations within the community, and if present, whether feasting was communal or competitive in nature.

a. Method applied:

Tree-ring samples from the 2005 and 2006 seasons were sent to the Laboratory of Tree-Ring Research (LTRR) at the University of Arizona. Before this was done, Ronald H. Towner, a consultant from the University of Arizona, traveled to Crow Canyon to work with the Center's archaeologists to identify which samples should be sent to the LTRR for dating. This consultation reduced the cost of the project by eliminating those samples that are too small to produce dates.

Personnel

Crow Canyon Research Director **Mark D. Varien**, (Ph.D., Arizona State University, 1997), has been with the Crow Canyon Research Department since 1987. Varien directed the Sand Canyon Project Site Testing Program from 1988 to 1991. A Colorado Historical Society (CHS) grant supported the 1998 publication of the results of this project, with publication occurring over Internet and on CD-ROM. Varien's Ph.D. dissertation on Mesa Verde region settlement patterns was awarded the Society for American Archaeology's 1998 Best Dissertation Award. Varien's book, *Sedentism and Mobility in a Social Landscape*, was published in 1999 by the University of Arizona Press. His recent research publications include the edited volume *Seeking the Center Place*:

Archaeology and Ancient Communities in the Mesa Verde Region (2002) and articles in the following peer-reviewed journals: *Kiva*, *American Antiquity*, *Journal of Archaeological Method and Theory*, and *World Archaeology*.

Crow Canyon Senior Research Archaeologist, Project Director Goodman Point Pueblo Field Education Project, **Kristin A. Kuckelman** (M.A., University of Texas, Austin, 1977), has been with the Crow Canyon Research Department since 1989. Kuckelman has been the director or co-director of the following Crow Canyon projects: the Sand Canyon Project Site Testing Program (1988-1991), the Castle Rock Pueblo Project (1992-1994), the Yellow Jacket Pueblo Project (1994-1998), and she is the editor of the Sand Canyon Pueblo report. Kuckelman serves as the project director on the Goodman Point Pueblo field project. Kuckelman's research interests include site formation processes, vernacular architecture, and warfare. She is the author and editor of numerous research publications, including work published in the edited volumes *Deadly Landscapes: Case Studies in Southwestern Warfare*, and *Seeking the Center Place: Archaeology and Ancient Communities in the Mesa Verde Region*, and articles in the peer-reviewed journals *American Antiquity* and *Kiva*.

Crow Canyon Laboratory Director-Database Manager, Goodman Point Pueblo Laboratory Education Project, **Scott G. Ortman** (M.A. Arizona State University, 1998), has worked with the Crow Canyon Research Department since 1994. He co-directed the CHS-funded large-site survey project (grant # 94-02-095) with William D. Lipe, and the Hedley Pueblo Rescue Archaeology Project with Richard Wilshusen. He has done extensive research on all types of material culture. Ortman has published three book-length reports on the artifacts from Castle Rock, Woods Canyon, and Yellow Jacket Pueblos as part of Crow Canyon's electronic site report series. He has also published book chapters in three edited volumes: *Seeking the Center Place: Archaeology and Ancient Communities in the Mesa Verde Region*, *Traditions, Migration and Reorganization: The Pueblo IV Period in the American Southwest*, and *Women and Men in the Prehispanic Southwest*. He has also published articles in the journals *Kiva* and *American Antiquity*.

Laboratory of Tree-Ring Research, Assistant Professor, University of Arizona, **Ronald H. Towner** (Ph.D., University of Arizona, 1997) specializes in of Dendrochronology and Chronometry, Navajo Archaeology, Southwest Archaeology, Spatial Analysis, Hunter-gatherers, Pastoralists. Geographic areas: Southwest, Northern Mexico, Great Basin, Northwest. Towner has authored and edited numerous peer reviewed books, articles, chapters and book reviews including *Defending the Dinétah: Tree-Rings and Pueblitos in the Ancestral Navajo Heartland*, published by University of Utah Press; and peer-reviewed articles in *Kiva*, *Tree-Ring Research*, *American Antiquity* and *Evolutionary Anthropology*. He has taught college-level anthropology courses since 1985 and Dendrochronology since 1998.

Projected Results

The *Goodman Point Archaeological Project* includes research and education programs that are briefly described below. This grant was used for the single most important research product needed to successfully complete these two programs: the tree-ring dating of Goodman Point Pueblo. Tree-ring dating provides absolute dates for the construction, remodeling, and abandonment of Goodman Point Pueblo.

Goodman Point Unit Field and Laboratory Public Archaeology Program. This archaeological research program allows about 1,000 students annually to participate directly in archaeological research and historic preservation. Field research takes place at Goodman Point Pueblo, and artifacts are analyzed at Crow Canyon's campus laboratory. The Center developed a detailed research design for this field work and analysis that was reviewed favorably by the NPS and by Native American tribes; a summary of this research design is included below. The field and laboratory methods used in this research are documented in manuals that were written and published by Crow Canyon. Students work alongside Crow Canyon archaeologists and educators to learn about field research, laboratory analysis, and the importance of preserving the region's archaeological resources. By participating in this program, students gain a deeper understanding of the cultural history of the region, of the methods used to investigate the past, and of their role as the stewards of historic resources.

Goodman Point Community Center Public Education Program. The *Goodman Point Archaeological Project* includes an educational program that supports and enhances the research program. The educational program reaches out to hundreds of thousands of people through the multimedia documentation of the Goodman Point Unit and the research conducted there. A smaller but equally important audience, American Indian educators and students, are also a part of this program through the on-site educational programs for American Indian youth that Crow Canyon has developed in partnership with American Indian educators. Finally, the education program reaches archaeologists and the interested public throughout the world by publishing the results of the Center's research on the Center's web site (<http://www.crowcanyon.org>).

Crow Canyon initiated the Goodman Point Unit American Indian Youth Curriculum Project with a series of partnership meetings. These included invitational meetings with American Indian educators and cultural resource specialists. Individuals familiarized themselves with the work at the Goodman Point Unit and discussed the potential for co-developing and delivering programs for Native youth that focus on this research. To date Crow Canyon has hosted three meetings with the following groups: Southern Ute and Ute Mountain Ute tribes, the eastern Pueblos, and the western Pueblos. These meetings stressed the importance of obtaining an accurate history of Goodman Point Pueblo and creating products that help American Indian students visualize one of their largest ancestral villages.

Actual Results

In January 2007, Ronald H. Towner, Ph.D. from the Laboratory of Tree-Ring Research provided a Tree-Ring Analysis Workshop to Crow Canyon education and research staff. This workshop allowed Crow Canyon archaeologists to learn more about the process of tree-ring dating and reduce the number of tree-ring samples submitted to the tree-ring lab that are unsuitable for tree-ring dating. Ron assisted the Crow Canyon research staff in working with the samples collected from Goodman Point Pueblo (5MT604) during the 2005 and 2006 field season, and returned to the Lab with selected samples.

Recently, Crow Canyon Archaeological Center received dates from tree-ring samples collected during the 2005 and 2006 excavation seasons at Goodman Point Pueblo. The Canyonlands Natural History Association's Discovery Pool grant provided funding for the analysis of 274 samples at the Laboratory of Tree-Ring Research in Tucson. Although samples from only five kivas yielded cutting dates, we are pleased to receive these all-important dates while excavations at the pueblo are ongoing.

The tree-ring data indicate that many of the buildings in this large canyon-rim village were constructed in the A.D. 1260s. More specifically, the dates reflect a building boom that began about A.D. 1262 and continued until sometime after 1269. At this point, too few kivas are firmly dated to formulate a fine-grained construction chronology within the village; therefore, we cannot yet confirm our theory, formulated on the relative abundance of refuse, that the canyon-rim structures were built first and the village expanded to the north and east. However, the latest date thus far, 1269vv (the code "vv" means that many rings may be lost and thus there is no way of estimating when the tree died), indicates that tiny Block 600 might have been one of the final blocks constructed. This date is consistent with the village being depopulated during migrations from the region between A.D. 1276 and 1280.

A few beams dated between A.D. 1229 and 1247; these timbers may have been salvaged from the small farmsteads that dotted the surrounding landscape. If so, this would support our standing theory that structures in existing community farmsteads were dismantled to glean materials needed for village construction in the mid-1200s. We're hoping for more such dates this season to help refine the dating of the farmsteads—it's possible that, if the farmstead roofs were indeed dismantled, we'll find no datable beams at those sites.

The Goodman Point Pueblo tree-ring dates establish the contemporaneity of this pueblo with other villages such as Sand Canyon and enables us to develop and advance our reconstruction of the activities that took place at the village. The information is also steering the collection of additional data that may help us fill informational gaps during the final season of excavation at this important and interesting site.

Conclusions and application of research results to future educational or interpretive efforts

DISSEMINATION OF RESULTS

b. Peer Review of Draft Report

The deliverables for this grant are annual reports for the 2005 and 2006 field season and the lists of tree-ring dates. A CD with the annual reports, authored by Kristin Kuckelman and Grant Coffey, is included in this package, and they are published on Crow Canyon's Web site. The list of dates that result from the LTRR analysis is also included.

In addition to these grant deliverables, Crow Canyon will publish its research on Goodman Point Pueblo in a number reports and articles in a variety of formats. Crow Canyon will publish two documents about Goodman Point Pueblo on its Web site. The first will be a monograph that describes the excavations and interprets the site. The second is a site database that includes the following sections: Site Overview, History of Investigations, Physiography, Field Methods, Maps, Photographs, Tree-ring dates, Site-wide dating, Excavation Units, Architecture, and Artifacts. The monograph will be edited by Kristin Kuckelman. She will be the primary author on this manuscript, but it will have many other specialists who write specific, analytical chapters. This report will be finished in approximately 2011, three years after the completion of field work at Goodman Point Pueblo. The databases are compiled by many researchers at Crow Canyon. See examples of these monographs and databases:
<http://www.crowcanyon.org/Research/publications.html>

The annual reports are reviewed by the Crow Canyon research staff and the National Park Service staff. Additional publications have different types of peer review. The final monograph and databases is reviewed by the Center's research staff, the NPS, and Crow Canyon's Native American Advisory group. In addition, Crow Canyon will present the findings of its research at professional meetings, and we will publish peer-reviewed articles in books and journals. Outside researchers selected by the publisher provide the peer-review for these publications. Crow Canyon has a strong publication record, and there is not a single project we have conducted that does not include peer-reviewed journal articles and books.

c. Dissemination of Final Report

The Center's Web site will provide for extensive dissemination of research results. Crow Canyon's web site received 7,993,126 successful requests for information in 2005, and the site reports on Crow Canyon's web site accounted for 973,651 of these requests. These requests come from throughout the world, and they may make the Crow Canyon reports the most intensively used archaeological reports in the world.

As noted above, the annual reports and the final monograph and databases will be published on Crow Canyon's Web site. Articles will be published in archaeological journals and edited books published by university presses.

d. Use in educational and interpretive programs

Crow Canyon's work at Goodman Point Pueblo is the centerpiece of its public educational and interpretive programs. Crow Canyon education programs directly involved 2,640 students and teachers last year, averaging nearly 27 hours of contact time with each student. Approximately 800 additional members of the public participated in the Center's excavation and education programs at the Goodman Point research site in 2005. In addition, during that year the education-related pages of the Center's Web site received 1,148,521 requests for information.

The results of this research will also play an important role in informing the development of the site's General Management Plan. Elements of this program will result in long-term plans for interpretation and education by the National Park System.

e. CD of report

The CD is included in this package. The dynamic and relational character of the interactive database, and the links between the text report and the database report, are not available via a CD. This is why we began to developing the systems to publish our reports on the Center's web site in the late 1990s, and revolutionized the archaeological research publications field with the first on-line research publication in 2000. Visitors to the CNHA scientific paper web page will be directed on how to best explore the research findings that will be facilitated through this grant.

Future Research Needs

Future research will focus on the collection and analysis of additional tree-ring samples necessary to develop a fine-grained chronometric framework for interpretation of the *Goodman Point Archaeological Project: Community Center and Cultural Landscape Study*. Tree-ring dating of Goodman Point Pueblo and—eventually—many of the other 41 sites in the unit, is the foundation upon which the entire research project lies. Tree-ring dating will allow archaeologists to specify when construction began at the site, when and how often the Pueblo was expanded and remodeled, and when it was abandoned.

Additional tree-ring dates will be used:

- to reconstruct the occupational history of the village and surrounding community,

- to structure artifact analyses designed to determine the kinds of activities that occurred at the village, and to investigate intra- and intercommunity networks of interaction and how these changed through time,
- to evaluate the relationship between public buildings and social organization in the community, the nature and extent of Chaco influence, the ecological and social factors that determined the distribution of people on the landscape, and the social processes of migration, and
- for quantitative studies that evaluate the variation between artifact assemblages, compare the composition of artifact-assemblage data, estimate total artifact populations, and calculate the degree to which the sample is quantitatively representative of the entire population of artifacts.

The tree-ring data will be supplemented by studies of fauna, pottery, and vegetal remains will be used to evaluate whether ceremonial feasting occurred at the village or at other locations within the community, and if present, whether feasting was communal or competitive in nature.

Crow Canyon's work for the final seasons of the Goodman Point Archaeological Project will focus on collection of additional data that will help us fill informational gaps. In the case of tree-ring dates, we will attempt to recover sample from those blocks that remain un- or inadequately dated. And, we will focus on collecting dates from the small farmsteads that dotted the surrounding landscape. If the early, A.D. 1229 and 1247 dates from Goodman Point are from timbers that were salvaged from the farmsteads, then our standing theory is correct—that structures in the farmsteads predated Good Point Pueblo, and that the farmstead roofs were dismantled in the mid-1200s to glean materials needed for village construction. If the farmstead roofs were indeed dismantled, we may find no datable beams at those sites.

Thus far, the Goodman Point Pueblo tree-ring dates have established that Goodman Point was contemporaneous with other villages such as Sand Canyon. Additionally, the dates have enabled us to develop and advance our reconstruction of the activities that took place at the village. This information will steer the strategy for collection of additional samples during the final season of excavation at this important and interesting site.

Appendix A

List of Dated Tree-Ring Samples from Goodman Point Pueblo

(4)

**Laboratory of Tree-Ring Research
104 W. Stadium
The University of Arizona
Tucson, AZ 85721**

Dr. Mark Varien
Crow Canyon Archaeological Center
23390 CR K
Cortez, CO 81323

Dear Mark:

Enclosed are the results from our analysis of A-1786, the 2005 samples from Goodman Point Pueblo.

I think these results are generally very good. Of the 144 samples submitted, 80 were accessioned into our permanent collection. We derived 70 dates (almost 50% success rate), and there were 18 cutting or near cutting dates.

As usual, the species are almost all juniper. All the accessioned samples were juniper, and in the unaccessioned samples there was one Douglas-fir and two spruce/fir..

The dates range from 794 (inside of CCC-3051) to 1265 v comp (outside of CCC-3067); the outside dates range from 947vv (CCC-3095) to 1265 v comp. You all certainly know the site better than I, but from strictly a tree-ring perspective, all of the Str proveniences could have been contemporaneously occupied in the mid 1260s, with the possible exception of STR 405 which contains cutting dates in the late 1220s and early 1230s, but no later dates. Str 501, with 9 cutting dates in 1264 also shows some probably reuse of beams with its two 1246-1247 cutting dates.

If you have any questions, feel free to contact me at 520-621-6465 or rtowner@ltrr.arizona.edu

Thank you,

Sincerely,



Ronald H. Towner
Assistant Professor of Dendrochronology

SITE Goodman Pt Pueblo
Date 3/5/2007

ACCESSION # A-1786

TRL #	Field # PD	Field # FS	SP	Proven	Inside date	outside date
CCC-3020	65	9,10,11,14,15	JUN	Str 107	1141+-p	1230vv
CCC-3021	65	13	JUN	Str 107	1137+-	1259vv
CCC-3022	111	19	JUN	Str 107	no date	no date
CCC-3023	111	20	JUN	Str 107	1165+_	1265v inc
CCC-3024	116	9	JUN	Str 107	no date	no date
CCC-3025	78	18	JUN	Str 307	no date	
CCC-3026	78	19, 20	JUN	Str 307	1063+-	1178vv
CCC-3027	78	21	JUN	Str 307	1119	1208vv
CCC-3028	78	22	JUN	Str 307	876+-p	1021vv
CCC-3029	78	23	JUN	Str 307	1067p	1201vv
CCC-3030	78	25	JUN	Str 307	1128p	1256vv
CCC-3031	78	15, 24	JUN	Str 307	876+-	1039vv
CCC-3032	78	16	JUN	Str 307	1163	1265vv
CCC-3033	78	17	JUN	Str 307	1124+-p	1244vv
CCC-3034	78	29	JUN	Str 307	****	****
CCC-3035	143	2, 6	JUN	Str 307	1141+-p	1265v inc
CCC-3036	143	9	JUN	Str 307	1078p	1162vv
CCC-3037	224	2	JUN	Str 307	874+-	1053vv
CCC-3038	224	4	JUN	Str 307	873+-	963vv
CCC-3039	224	7	JUN	Str 307	898	1040vv
CCC-3040	224	10	JUN	Str 307	1029+-	1241vv
CCC-3041	224	10	JUN	Str 307	1189p	1265vv
CCC-3042	224	11	JUN	Str 307	855	1049+vv
CCC-3043	224	11	JUN	Str 307	1162	1265vv
CCC-3044	224	12	JUN	Str 307	950	1158+vv
CCC-3045	224	13	JUN	Str 307	813+-p	1063++vv
CCC-3067	143	4	JUN	Str 307	1161	1265v comp
CCC-3068	143	3	JUN	Str 307	no date	no date
CCC-3069	143	11	JUN	Str 307	1190p	1231vv
CCC-3070	143	8	JUN	Str 307	1098	1178vv
CCC-3071	143	5	JUN	Str 307	no date	no date

CCC-3046	90	1	JUN	Str 405	1126+-p	1229v comp
CCC-3047	90	2	JUN	Str 405	815+-p	1073++vv
CCC-3048	90	3, 6	JUN	Str 405	802p	1047vv
CCC-3049	90	5	JUN	Str 405	950+-p	1094vv
CCC-3050	90	7	JUN	Str 405	961p	1197vv
CCC-3051	90	8	JUN	Str 405	794	1070vv
CCC-3052	90	10	JUN	Str 405	872p	1210++vv
CCC-3053	90	13	JUN	Str 405	1022+-	1218+vv
CCC-3054	90	14	JUN	Str 405	985	1128vv
CCC-3055	90	15	JUN	Str 405	798	1079++vv
CCC-3056	90	17	JUN	Str 405	913	1175++vv
CCC-3057	90	28	JUN	Str 405	1082	1233+B
CCC-3058	90	20	JUN	Str 405	884+-	1234++vv
CCC-3059	90	21	JUN	Str 405	959p	1196++vv
CCC-3060	90	11	JUN	Str 405	1098p	1183vv
CCC-3061	90	25	JUN	Str 405	910p	1142++vv
CCC-3062	90	23	JUN	Str 405	833+-	1148++vv
CCC-3063	90	27	JUN	Str 405	1005	1110vv
CCC-3064	273	1	JUN	Str 405	949+-p	1117vv
CCC-3065	273	2	JUN	Str 405	no date	no date
CCC-3066	273	3	JUN	Str 405	895+-p	1131+vv
CCC-3072	132	7	JUN	Str 501	820	997vv
CCC-3073	132	8	JUN	Str 501	Lost?	no date
CCC-3074	132	10	JUN	Str 501	1161p	1246v comp
CCC-3075	240	1	JUN	Str 501	986	1167vv
CCC-3076	240	2	JUN	Str 501	961	1198vv
	242	3				
CCC-3077	242	1	JUN	Str 501	1186p	1264B comp
CCC-3078	242	17	JUN	Str 501	12112	1264v inc
CCC-3079	242	4	JUN	Str 501	1168p	1264v inc
CCC-3080	242	5	JUN	Str 501	12112+-p	1264r comp
CCC-3081	242	7	JUN	Str 501	1184p	1246+r inc
CCC-3082	242	9	JUN	Str 501	887	1059vv
CCC-3083	242	11	JUN	Str 501	915	1072+vv
CCC-3084	242	16	JUN	Str 501	1186p	1264v inc
CCC-3085	242	19, 20	JUN	Str 501	1187+-p	1264B comp
CCC-3086	296	4	JUN	Str 501	no date	no date

SITE: dman Pt Pueblo
 Species ID by RLW

ACCESSION # 1786
 Date: 4/9/2007

FieldPD	FS	DF	PP	PNN	JUN	S/F	POP	QUER	Non-Con
65	12				x				
76	11				x				
78	26				x				
90	4				x				
90	9				x				
90	11				x				
90	12				x				
90	16				x				
90	18				x				
90	19				x				
90	24				x				
90	26				x				
90	29				x				
90	30				x				
114	8				x				
132	8				x				
132	9				x				
142	4				x				
142	5				x				
143	1				x				
143	7				x				
143	10				x				
215	6				x				
215	7				x				
215	8				x				
215	9				x				
224	1				x				
224	3				x				
224	6				x				
224	8				x				
224	9				x				
241	13					x			
242	2				x				
242	6				x				
242	8				x				
242	10				x				
242	12				x				
242	13				x				
242	14				x				
242	15				x				
242	18				x				
242	21				x				
242	22				x				
242	23				x				
264	1				x				
296	1				x				
296	2				x				
296	3				x				

6019

**Laboratory of Tree-Ring Research
104 W. Stadium
The University of Arizona
Tucson, AZ 85721**

Dr. Mark Varien
Crow Canyon Archaeological Center
23390 CR K
Cortez, CO 81323

Dear Mark:

Enclosed are the results from our analysis of A-1827, the 2006 samples from Goodman Point Pueblo.

In some ways the results are encouraging, but in others a little disappointing. Of the 111 samples submitted, 56 were accessioned into our permanent collection. We derived 47 dates, but only two cutting dates (CCC-3128 and 3130), both from Structure 501.

As usual, the species are almost all juniper. In the accessioned samples, there was one pinyon, and in the unaccessioned samples there were four pinyons and one Douglas-fir.

The dates range from 783+- (inside of CCC-3145) to 1269vv (outside of CCC-3146); the outside dates range from 976vv (CCC-3148) to 1269vv. As I said in an e-mail, you know the site better than I, but from strictly a tree-ring perspective, all of the Str proveniences could have been contemporaneously occupied in the mid-late 1260s, with the possible exception of STR 1007 and/or 405. Every other provenience has a noncutting date somewhere in the 1250s or later.

If you have any questions, feel free to contact me at 520-621-6465 or rtowner@lrr.arizona.edu

Thank you,

Sincerely,



Ronald H. Towner
Assistant Professor of Dendrochronology

SITE
Date

Goodman Pt Pueblo
4/9/2007

ACCESSION # A-1827

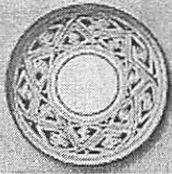
TRL #	Field # PD	Field # FS	SP	Proven	Inside date	outside date
CCC-3101	330	17	JUN	STR 1007	No date	No date
CCC-3102	330	18	JUN	STR 1007	No date	No date
CCC-3103	330	25	JUN	STR 1007	1110	1172vv
CCC-3104	330	19	JUN	STR 1007	1074p	1162vv
CCC-3105	330	24	JUN	STR 1007	1050+-p	1163vv
CCC-3106	330	22	JUN	STR 1007	946p	1149vv
CCC-3107	564	3	JUN	STR 1007	1115	1178vv
CCC-3108	564	2	JUN	STR 1007	1089	1193vv
CCC-3109 a-c	309	22	PNN	STR 1101	No date	No date
CCC-3110	309	22	JUN	STR 1101	No date	No date
CCC-3111a,b	309	23	JUN	STR 1101	1163	1259vv
CCC-3112	309	24	JUN	STR 1101	No date	No date
CCC-3113	90	61	JUN	STR 405	929	1101++vv
CCC-3114	273	20	JUN	STR 405	842	1068++vv
CCC-3115	258	1	JUN	STR 914	No date	No date
CCC-3116	258	2	JUN	STR 914	917	1004vv
CCC-3117	258	3	JUN	STR 914	891	1004vv
CCC-3118	258	6, 7	JUN	STR 914	898	1166+vv
CCC-3119 a-d	258	8	JUN	STR 914	1070	1211vv
CCC-3120	780	1	JUN	STR 914	950p	1126+vv
CCC-3121 a,b	457	1	JUN	STR 914	868	1064vv
CCC-3122	382	4	JUN	STR 807	1005+-p	1229vv
CCC-3123	548	2	JUN	STR 501	No date	No date
CCC-3124 a, b	548	3	JUN	STR 501	1086+-p	1145vv
CCC-3125	548	5	JUN	STR 501	1056	1119vv
CCC-3126	548	4	JUN	STR 501	1064	1218+vv
CCC-3127	548	8	JUN	STR 501	1037	1112vv
CCC-3128 a, b	548	9	JUN	STR 501	1170p	1264v comp
CCC-3129	548	10	JUN	STR 501	No date	No date
CCC-3130	548	12	JUN	STR 501	1194p	1267r inc
CCC-3131	548	13, 14	JUN	STR 501	854	1076vv

CCC-3132	605	8	JUN	STR 1204	1084p	1183w
CCC-3133 a,b	605	10	JUN	STR 1204	1061	1153++vv
CCC-3134a, b	605	11	JUN	STR 1204	836+-p	1003w
CCC-3135 a-c	605	12, 13, 14	JUN	STR 1204	1052p	1255w
CCC-3136	605	15	JUN	STR 1204	1119p	1238w
CCC-3137	605	16	JUN	STR 1204	1098+-p	1256+vv
CCC-3138	605	17, 18, 19	JUN	STR 1204	1063p	1193w
CCC-3139	619	1, 5	JUN	STR 1204	1129+-p	1197w
CCC-3140	619	2	JUN	STR 1204	1122+-p	1255w
CCC-3141 a,b	619	4	JUN	STR 1204	1185p	1237w
CCC-3142	619	6	JUN	STR 1204	1069p	1180w
CCC-3143	619	7	JUN	STR 1204	900	982w
CCC-3156	605	7	JUN	STR 1204	956	1089w
CCC-3144	587	2	JUN	STR 605	1203	1259w
CCC-3145	587	3	JUN	STR 605	783+-	989w
CCC-3146	587	4	JUN	STR 605	1222	1269w
CCC-3147	587	10, 17	JUN	STR 605	1148p	1238w
CCC-3148 a,b	587	14, 21, 22	JUN	STR 605	787	976w
CCC-3149	587	19	JUN	STR 605	No date	No date
CCC-3150 a,b	587	20	JUN	STR 605	1044p	1183w
CCC-3151	587	23, 35, 36	JUN	STR 605	1149p	1237w
CCC-3152	587	24, 25, 29	JUN	STR 605	879p	983w
CCC-3153 a-c	587	26, 27	JUN	STR 605	1111	1248w
CCC-3154 a,b	587	33	JUN	STR 605	933	1111w
CCC-3155	587	36	JUN	STR 605	1038	1129w

SITE: ...dman Pt Pueblo
 Species ID by RLW

ACCESSION # 1827
 Date: 4/9/2007

FieldPD	FS	DF	PP	PNN	JUN	POP	QUER	NON-CON
258	4				x			
258	5			x				
273	18				x			
273	19				x			
309	25				x			
309	26				x			
309	27			x				
309	28				x			
330	20				x			
330	23				x			
346	9				x			
382	1				x			
382	2	x						
382	3				x			
382	5				x			
382	6				x			
548	6				x			
548	7				x			
548	11				x			
564	4				x			
572	2			x				
587	5				x			
587	6				x			
587	7				x			
587	8				x			
587	9				x			
587	11				x			
587	12				x			
587	13				x			
587	15				x			
587	16				x			
587	18				x			
587	30				x			
587	31				x			
587	32				x			
587	34				x			
605	20				x			
616	1				x			
619	3				x			
693	1				x			
700	2				x			
700	3				x			
712	1				x			
733	1				x			
738	3			x				



CROW CANYON ARCHAEOLOGICAL CENTER

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Tree-Ring Dates for Goodman Point Pueblo

Discovery Pool Grant from the Canyonlands Natural History Association
by Kristin Kuckelman and Grant Coffey

We recently received dates from tree-ring samples collected during the first two years of excavations at Goodman Point Pueblo. A Discovery Pool grant from the Canyonlands Natural History Association provided funding for the analysis of 274 samples at the Laboratory of Tree-Ring Research in Tucson. Although samples from only five kivas yielded cutting dates, we are really pleased to receive these all-important dates while excavations at the pueblo are ongoing.

The tree-ring data indicate that many of the buildings in this large canyon-rim village were constructed in the A.D. 1260s. More specifically, the dates reflect a building boom that began about A.D. 1262 and continued until sometime after 1269. At this point, too few kivas are firmly dated to formulate a fine-grained construction chronology within the village; therefore, we cannot yet confirm our theory, formulated on the relative abundance of refuse, that the canyon-rim structures were built first and the village expanded to the north and east. However, the latest date thus far, 1269vv (the code "vv" means that many rings may be lost and thus there is no way of estimating when the tree died), indicates that tiny [Block 600](#) might have been one of the final blocks constructed. This date is consistent with the village being depopulated during migrations from the region between A.D. 1276 and 1280.

A few beams dated between A.D. 1229 and 1247; these timbers may have been salvaged from the small farmsteads that dotted the surrounding landscape. If so, this would support our standing theory that structures in existing community farmsteads were dismantled to glean materials needed for village construction in the mid-1200s. We're hoping for more such dates this season to help refine the dating of the farmsteads—it's possible that, if the farmstead roofs were indeed dismantled, we'll find no datable beams at those sites.

The knowledge of Goodman Point Pueblo that these tree-ring dates provide establishes the contemporaneity of this pueblo with other villages such as Sand Canyon and enables us to develop and advance our inferences about the village. The information is also steering the collection of additional data that may help us fill informational gaps during the final season of excavation at this important and interesting site.

*Authors for this article are: Kristin A. Kuckelman, senior research archaeologist and Goodman Point project director, and Grant D. Coffey, field/laboratory archaeologist. Due to the software used to create this newsletter, the full names and titles could not be made available on the front page.

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TELL A



CROW CANYON ARCHAEOLOGICAL CENTER

Monday, April 23, 2007

VOLUME 2 ISSUE 4

FRONT PAGE

Dr. Ron Towner Leads Tree-Ring Workshop

by Jamie Merewether, Collections Manager

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The Lab Lags but Doggedly Digs

Dr. Ron Towner Leads Tree-Ring Workshop

Volunteers Refurbish Intern Cabins

Crow Canyon in the News!

Early this year, Dr. Ron Towner of the Laboratory of Tree-Ring Research (University of Arizona, Tucson) conducted a two-day workshop for research and education staff members on the Crow Canyon campus. The workshop was designed to teach staff who work in the field and lab how to assess whether a tree-ring sample has the potential to yield a date. Crow Canyon received funding for the workshop from a grant awarded by the Canyonlands Natural History Association's "Discovery Pool." The Discovery Pool is a new program that promotes science and research at many Southwestern national parks and monuments, including those managed by our partners at the Southeast Utah Group of the National Park Service.

Dr. Towner began the workshop with a general introduction to tree-ring dating. After presenting a brief history of tree-ring dating in the Southwest, he discussed factors relevant to the dating process, including the mechanism by which trees grow, the conditions that affect growth, and the species of tree. He showed staff how to identify tree species when looking at a cross section of a wood sample, which—because some species are better for dating than others—should help staff make better assessments.

Dr. Towner also described how the Tree-Ring Lab examines a wood sample, collects specific data, and compares the results with the Lab's master chronology for the Southwest. He explained how to interpret the analysis results, especially the codes describing sample condition, and he illustrated how each condition appears on a sample. Importantly, staff learned which characteristics to look for when trying to determine if a sample has good dating potential.

The introductory session provided the background for the second part of the workshop, during which the participating research and education staff members examined all 274 samples collected from Goodman Point Pueblo during Crow Canyon's first two field seasons (2005–2006). As each sample was examined under a microscope, the tree species and ring-width variation were recorded. After staff completed their evaluations, the samples were boxed and loaded into Dr. Towner's truck to be taken to the Tree-Ring Lab.

As a result of the knowledge gained from this experience, Crow Canyon staff will be able to assess the quality of tree-ring samples collected in all future excavations *before* the samples are sent to the Tree-Ring Lab. This should help the Lab analyze the samples—and provide Crow Canyon researchers with crucial dating information—quicker than ever before.

Thank you, Canyonlands Natural History Association, for providing the funding for the workshop, and thank you, Dr. Towner, for sharing your wealth of information!

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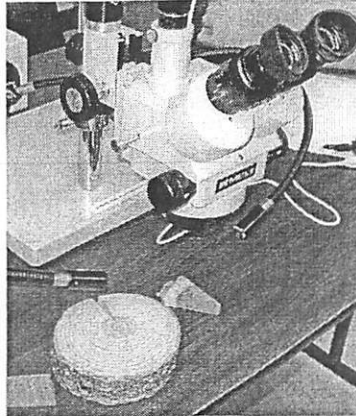
TELL A

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FRIEND

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Wood specimens awaiting examination under the microscope. Photo by Joyce Alexander.

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