



**Department of Energy**  
Office of Civilian Radioactive Waste Management  
Yucca Mountain Site Characterization Office  
P.O. Box 30307  
North Las Vegas, NV 89036-0307

QA: N/A

JUL 28 2000

**OVERNIGHT MAIL**

N. King Stablein  
High Level Waste & Uranium Recovery  
Division of Waste Management  
Office of Nuclear Material Safety & Safeguards  
U.S. Nuclear Regulatory Commission  
Two White Flint North  
Rockville, MD 20852

**SUBMITTAL OF PARTICIPANTS' MONTHLY PROGRESS REPORT**

As you have requested, the U.S. Nuclear Regulatory Commission is on distribution to receive a copy of the Yucca Mountain Site Characterization Project participants' monthly status report on a regular basis. Enclosed is the U.S. Geological Survey Progress Report for June 2000.

If you have any questions, please contact Bertha M. Terrell at (702) 794-1348.

A handwritten signature in cursive script, appearing to read "Stephan Brocoun".

Stephan Brocoun  
Assistant Manager, Office of  
Licensing and Regulatory Compliance

OL&RC:BMT-1738

Enclosure:  
Ltr, 7/17/00, Craig to Kozai, w/encl

WM-11  
NM507

JUL 28 2000

cc w/encl:

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# United States Department of the Interior

U.S. GEOLOGICAL SURVEY

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IN REPLY REFER TO:

## INFORMATION ONLY

July 17, 2000

Wayne Kozai  
Yucca Mountain Site Characterization  
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U. S. Department of Energy  
P.O. Box 30307  
Las Vegas, Nevada 89036-0307

SUBJECT: Yucca Mountain Project Branch - U.S. Geological Survey (YMPB-USGS)  
Progress Report, June 2000

Attached is the USGS progress report in the required format for the month of June, 2000.

If you have any questions or need further information, please call Raye Ritchey Arnold at (303)236-5050, ext 296.

Sincerely,

*Raye Ritchey Arnold*

for Robert W. Craig  
Technical Project Officer  
Yucca Mountain Project Branch  
U.S. Geological Survey

### Enclosure:

cc: J. Bresee, DOE/OCRWM-HQ/Forrestal  
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## **U.S. GEOLOGICAL SURVEY EXECUTIVE SUMMARY**

**June 2000**

### **COORDINATION and PLANNING**

Processing of some 46 documents prepared by U.S. Geological Survey authors continued during June. Informal-series reports included 14 Open-File Reports (OFRs) and 13 Water-Resources Investigations Reports (WRIRs), with nine of the OFRs covering geologic subject matter and 11 of the WRIRs involving hydrologic topics. In addition, one administrative report (geologic) was in processing. A USGS Fact Sheet (containing hydrologic subject matter) was processed under the informal series. Formal-series reports included one Investigations-series geologic map. One geologic data set was processed under the formal Digital Data Series for release on CD-ROM. Five journal articles, all on geologic topics, were being processed, as were six Proceedings papers (split between one of geologic and five of hydrologic subject matter). Four abstracts (mostly on hydrologic subjects) were processed.

### **GEOLOGY**

Geologic studies continued during the period. Compilation, checking, and review of lithostratigraphic workbooks containing various geologic, geophysical, and lithologic data from available boreholes continued. The stratigraphic team provided ongoing support to Nye County investigations and submitted a data package that summarizes the subsurface lithostratigraphy in Nye County boreholes NC-EWDP-01Dx, NC-EWDP-09sx, NC-EWDP03D, and NC-EWDP-02D.

The Underground Mapping Team continued to draft full-periphery geologic maps of Alcove #8 based on mapping completed in late May. Additional effort went to support of AMR and PMR issues, including data-management work on rock-mechanics data from the North Ramp and the Main Drift, as well as on the small-scale fracture data and detailed line-survey data from the ECRB. In work in support of the Waste Handling building effort, the Underground Mapping Team developed a template for borehole logs and compiled data from borehole RF-13 into that new format. Staff began compilation of data and construction of surface profiles in order to generate generalized geologic cross sections. Development of plan-view borehole and trench-location maps continued. Ongoing efforts focused on compilation of data packages and additional QA documents.

In other geologic efforts, work continued on the AMR "Analysis of Fracture Map." CLUSTRAN analytical software was checked. A best data set was created with known distribution properties; this step represents the start of the software check on CLUSTRAN. Documentation was entered in the scientific notebook for calculation of HP values for composite fracture data from the rock mechanics data.

## HYDROLOGY

### Unsaturated-Zone Hydrology

The infiltration experiment at Alcove #1 has ended. A total of 170,780 gallons of water were applied to the surface above the alcove during the second phase of the experiment. To date, some 30,747 gallons of water have been collected in the alcove. Although the water applications have stopped, water is still seeping into the alcove, and monitoring of seepage will continue during the month of July. Preparation of the Alcove #1 data packages is underway. Final data packages will be assembled after seepage into the alcove ceases. A draft outline of the Alcove #1 interpretive report has been prepared, and work on the text is underway.

Planning, procurement, and QA work continued for the Cross-Over infiltration experiment (evaluation of seepage into Niche #3). A ring 30 cm in diameter will be used to run a saturated infiltration experiment to provide DIE recovery data and to provide infiltration data on fracture flow. Those data will be fed into planning for the large plot test. Testing of the video-camera system neared completion. (That system will monitor both water application in Alcove #8 and seepage into Niche #3.) Similar planning, procurement, and QA work continued for the tracer parts of the investigation. Maximum tracer concentrations were evaluated using laboratory column tests to develop breakthrough curves for each tracer. Scientific Notebook SN-0120 was opened and is being used to document work not covered by technical procedures.

Several efforts in hydrochemistry continued. Revision of the draft paper describing correction of  $^{14}\text{C}$  perched-water ages continued. Responses to editorial comments were prepared for the UZ hydrochemistry and isotopic data interpretive report. Some 80 water samples were analyzed, along with standards and reference waters. Alkalinity analyses were performed on some 13 water samples, mostly from Nye County well water. Several of the samples were from the Engineered Barrier System column-test experiment. Several ESF core samples underwent pore-water extraction using distillation. That extracted water will be analyzed for tritium as part of the  $^{36}\text{Cl}$  validation study. Data-management work received much attention. Responses were prepared to reviewer's comments on UZ-1  $^{14}\text{C}$  data (DTN GS930108312271.010, titled "Carbon-14 Analysis of Gas Samples from Borehole USW UZ-1." That package was submitted for final check prior to submittal to the USGS Data Management Group. Another  $^{14}\text{C}$  data package (DTN GS930408312271.020) was reworked, as were stable isotopic data ( $^{18}\text{O}/^{16}\text{O}$  and  $\text{D}/\text{H}$ ) from boreholes SD-7, SD-9, and SD-12. A hydrochemical package (DTN GS981008312272.004, "Analysis of Chemical Composition for Pore Water from Boreholes UZ-7A, WT-24, SD-6, SD-7, and SD-12 during FY97 and FY98") was prepared for checker review. Review comments were resolved for an isotopic data package (DTN GS951208312272.002, "Tritium Analysis of Pore Water from UZ-14, UZ-16, NRG-6, NRG-7A, and Perched Water from SD-7, SD-9, UZ-14, and NRG-7A from 7/92 to 5/95"), and revisions to the package were underway. Scientific Notebook SN-0102 was updated and prepared for technical review.

### Saturated-Zone Hydrology

Depth-to-water measurements were conducted in numerous boreholes, including UE-29 UZN #91, UE-29 a #2, and UE-29 a #1 on June 5; USW VH-1, USW H-6, USW WT-7, and USW WT-10 on June 6; USW G-2, UE-25 WT #4, UE-25 WT #6, UE-25 WT #16, and UE-25 WT #15 on June 7; UE-25 WT #12 on June 12; USW H-1 on June 13; UE-29 UZN #91, UE-29 a #1, and UE-29 a #2 on June 15; USW SD-6 ST1, USW H-3, USW WT-1, and USW WT-2 on June 19; UE-25 c #2, UE-25 p #1, UE-25 WT #14, UE-25 WT #13, UE-25 J-11, and USW WT-24 on June 20; UE-25 J-12, UE-25 J-13, and USW H-5 on June 21; USW H-4 and USW H-5 on June 22; UE-25 WT #17 and UE-25 WT #3 on June 26; and UE-29 UZN #91, UE-29 a #1, and UE-29 a #2 on June 29. [Fortymile Canyon boreholes UE-29 UZN #91, UE-29 a #1, and UE-29 a #2 were measured more frequently to document recharge processes from stream flow.] Field data needed for calibrations were collected. Revisions to technical procedure HP-99 were drafted for inclusion of motorized electric tapes and calibration to the reference steel tape. Processing of first-quarter FY2000 water-level data continued. Technical review has been conducted. Completion of the second-quarter FY2000 data package awaits resolution of comments from previous packages still in QA processing. The second- and third-quarter data packages will be combined to minimize duplicated effort. Drafting of the annual water-level graphs for all wells and boreholes began. In related work, the report on water-level data for calendar year 1997—1998 has been submitted to the Colorado District for preparation for printing; the report remained in that process.

Work continued on the Alluvial Testing Complex (ATC). All components of the final instrumentation string to be used in the pumped well, NC-EWDP-19D/D1, have been ordered through Nye County. In addition to ordering components of the final instrumentation string, interim off-the-shelf packers were procured to conduct open-hole and isolated-interval hydraulic testing in NC-EWDP-19D/D1. This approach allowed instrumentation in June 2000 of NC-EWDP-19D/D1 for the upcoming open-hole test in the valley-fill aquifer. Equipment presently placed in the hole consists of a packer at the bottom of the instrumentation string to isolate the valley-fill from the tuff below it, a Centrilift pump further up the string, and transducers above and below the packer. Seven intervals were selected for testing, and gravel packs and embedded screens were installed during completion of the borehole. Instrumentation was completed on June 21 and was followed by shakedown testing which revealed problems in the pump electronics. Revisions were made to improve the pumping rate (to match planned rates). A step-drawdown test to determine well efficiency is expected in early July, to be followed by the 7-day pumping part of the open-hole test. Isolated-interval tests would follow the open-hole testing.

Various efforts with modeling of the Death Valley regional flow system (DVRFS) and the supporting data bases continued, especially work on data-base enhancements, incorporation of geologic mapping, and revisions to the flow modeling and the hydrogeologic framework model (HFM). The Ingres Client and Visual Basic are being used to automate data retrievals from GWSI. That system will be used to populate the

DVRFS database with NWIS data. Modifications and enhancements of the DVRFS ArcView hydrograph extension (called "Hydrograph Analyst") continued to be made. Conversion of the DVRFS Access data base into the SQL server was completed, to allow multiple users to connect simultaneously to the data base. Documentation (instructions for use) also was completed. Research into methods and data structures necessary to incorporate data types not currently in the DVRFS data base began. Additional modifications were made to Access and Visual Basic code to enhance operations. Water-level observation sensitivities were reviewed so that important observations could be identified. Those observations will be targeted for future field measurements. It was determined advisable to make model modifications and then to re-evaluate the observations. Model changes could significantly change which observations are important. The methodology for identifying the observations has been established. Work also continued on development of processors for HFM packages. Upgrades to preprocessing packages continued, as did improvements to post-processing capabilities and parameter-estimation packages. Model evaluation continued during calibration exercises. Scientific Notebook SN-0119 received technical review and compliance evaluation. Necessary revisions were made.

In geologic work related to the regional modeling, preliminary interpretation of surficial units was completed. Digital compilation and compatibility checks (relative to bedrock units) were underway. Additional field work was completed in the northeastern part of the DVRFS model area covered by the Timpahute Range and Pahrnagat Range 1:100,000-scale sheets, as well as in a small area adjoining the northwestern corner of the Cactus Flat and Goldfield sheets. That field work was designed to provide control for interpretative surficial mapping in those areas that had not been calibrated previously. Data from PLGR GPS units were downloaded and submitted for plotting. That work completed the minimum field control required for completing the surficial mapping across the entire DVRFS model area. Initial testing of digital procedures required for surficial mapping directly by computer on the digital image maps also was completed. A conversion from conventional methods to digital mapping for some remaining areas of the map is planned. That process requires digital registration of the existing image maps. Some mapping will continue to use the current mapping digitization methods, with reference to the digitally registered image maps. Similar conversion of interpretive mapping on the Beatty sheet into a digitally mapped image has been completed, for incorporation into the existing digital bedrock coverage. Revisions for such incorporation of surficial units into digital format are underway for the Pahute Mesa 1:100,000-scale sheet, using modification and generalization of relevant sections of the NTS (rev. 4) geologic mapping. Original interpretative mapping of surficial units for the central and eastern parts of the Death Valley Junction 1:100,000-scale sheet was completed, in turn completing coverage for the sheet. Mapping in the areas completed during the past month has been submitted for digitization. Mapping currently is underway for the Owlshhead Mountains 1:100,000-scale sheet to the south. Digitization continued, to incorporate the surficial work into the digital bedrock compilations. Final editing and revision of the text accompanying the DVRFS tectonic map was completed in preparation for internal USGS technical review.



Modelers continued to refine the hydrogeologic flow model (HFM). Flow modeling indicated that breakdown of the undifferentiated volcanic unit (VU) would aid calibration, and that premise was investigated with Project geologists. The VU will be divided into northern and southern parts, representing the Southwest Nevada Volcanic Field (the northern part) and the Greenfield Volcanic Field (the southern part). Those volcanic centers contain different types of volcanism, resulting in differing hydraulic properties. Differentiation of the two units currently is being accomplished within the flow model. Immediate plans are to update the HFM to reflect those new developments, and when completed, those breakdowns of volcanic units will be exported from the updated HFM for use by the flow modelers. In other work, the user-command macro to digitize and attribute hydrogeologic horizons automatically in depictions on cross sections in MicroStation (recently updated by Intergraph Corp.) was tested and found to be working. Problems with the interaction of the ERMA Site Geologist program used in the development of data sets from those cross sections revealed that certain types of graphical elements in the cross-section file did not work well with Site Geologist. A script was written to modify problematic graphical elements into versions compatible with the functions of Site Geologist.

## CLIMATE and PALEOHYDROLOGY

Work on the analysis and interpretation of fluid inclusions continued. USGS scientists met with counterparts from the UNLV and the State of Nevada during June 19—21 to exchange data and interpretations on their parallel studies of the thermochronology of fluid inclusions in calcite from the UZ. There is general agreement between the USGS and UNLV as to the existence of fluid inclusions in the early calcite and to the premise that those inclusions formed at temperatures ranging from below 40°C to perhaps 90°C. No convincing constraints on the timing of formation of the fluid inclusion-bearing calcite are as yet understood. Petrographically, the calcite occurs paragenetically below a prominent silica stage formed of chalcedony and quartz; reconnaissance age determinations of that silica indicate that it formed at least 7 to 8 Ma. Work continued on examination and paragenetic analysis of polished thin sections of samples collected during the summer of 1999 by the USGS and UNLV. Two-phase fluid-inclusion assemblages have now been recognized in some 31 of 70 sample locations. Homogenization temperatures have been measured on fluid inclusions from nine samples.

Work on fracture-mineral studies continued during the period. Additional subsamples of opal from outermost layers of mineral coatings from the Cross Drift were prepared for U-series dating. Calculated initial  $^{234}\text{U}/^{238}\text{U}$  activity ratios from subsamples with ages younger than 100 ka will be used to model the evolution of  $^{234}\text{U}/^{238}\text{U}$  ratios in fracture water as that water percolates downward through the welded units of the Topopah Spring Tuff. Analyses (by XRF) of selected major and trace elements in powdered SD-6 samples were completed. Variations in calcium are of particular interest and will be used as a proxy for fracture-coating calcite abundances.

Evaluation of paleodischarge at Nye County sites also continued. Staff initiated processing of a new set of water samples collected from Nye County boreholes during the late May sampling trip. Analyses will include determination of  $^{234}\text{U}/^{238}\text{U}$ ,  $^{87}\text{Sr}/^{86}\text{Sr}$ ,  $\delta^{18}\text{O}$ ,  $\delta^2\text{H}$ ,  $\delta^{13}\text{C}$ , and isotope dilution concentrations of Sr and U. Calibration exercises were conducted to provide closing calibrations for the U-series spike, and compilation of the uranium-isotope data package continued.

## WATER-RESOURCES MONITORING

Ground-water levels were measured at 27 sites, and ground-water discharge was measured at one flowing well. Ground-water data collected during June were checked and filed.

Final compilations of the data package of the summary monitoring report for calendar-year 1999 (CY1999) for technical and QA/policy reviews continued during the month. Technical reviews were completed for all data collected or compiled as part of that program, with the exception of ground-water withdrawal information for the Amargosa Valley area. Requests for additional data from private and government entities continued. The initial draft of the summary monitoring report for CY1999 was completed, except for the section on ground-water withdrawals. The summary monitoring report for CY1998 remained in QA/policy review.

**USGS Level 3 Milestone Report**  
**October 1, 1999 - June 30, 2000**  
Sorted by Baseline Date

Deliverable		Due Date	Expected Date	Completed Date
<b>SP3515M3</b>	Ghost Dance Fault Data Pkg and Testing Report	10/15/99	11/12/99	11/12/99
<b>SPG42GM3</b>	Geology of ECRB X-Drift	10/29/99	11/1/99	11/1/99
<b>SPG258M3</b>	Preliminary Geologic Map for SZ Site Area	12/30/99	12/3/99	12/3/99
<b>SSH010M3</b>	Training Cost Information Update	1/18/00	1/10/00	1/10/00

**USGS Level 4 Milestone Report**  
**October 1, 1999 - June 30, 2000**  
Sorted by Baseline Date

<b>Deliverable</b>	<b>Due Date</b>	<b>Expected Date</b>	<b>Completed Date</b>
<b>SPI018M4</b> Strat Workbook-Qualified/Verified Data Available	10/29/99	11/19/99	11/19/99
<b>SPP203M4</b> Compl AMR Climate Model	11/29/99	3/14/00	3/14/00
<b>SPP100M4</b> Compl AMR Hydrogeologic Framework Model	11/30/99	7/7/00	
<b>SPP205M4</b> Compl AMR Infiltration Model	11/30/99	6/16/00	6/16/00
<b>SPS162M4</b> Hydrogeol Frmwork-Qualified/Verified Data Availa	3/6/00	8/14/00	
<b>SPU054M4</b> Climate Mdl-Qualified/Verified Data Available	3/6/00	8/7/00	
<b>SPU098M4</b> Infiltr Mdl-Qualified/Verified Data Available	3/6/00	7/26/00	
<b>SPS018M4</b> Lev & Data Rel-Qualified/Verified Data Available	4/3/00	7/28/00	
<b>SPP206M4</b> Compl AMR Infiltration Model	4/17/00	11/16/00	

**USGS Level 5 Milestone Report**  
**October 1, 1999 - June 30, 2000**  
Sorted by Baseline Date

<b>Deliverable</b>	<b>Due Date</b>	<b>Expected Date</b>	<b>Completed Date</b>
<b>SPH110M5</b> UZ Monit Data to RPC/TDB	10/15/99	2/18/00	2/18/00
<b>SPH39TM5</b> Water-Level Data 3rd Qtr FY99 DP to RPC/TDB	10/29/99	7/31/00	
<b>SP6B341M5</b> TDMS/RPC: Submit USW SD-6 Strat Data	10/29/99	1/31/00	1/31/00
<b>SPG461M5</b> Strat Interps (for ISM) DP to RPC/TDB	10/29/99	2/9/00	2/9/00
<b>SPH504M5</b> Prelim X-Sects to Hydrologists	10/29/99	8/31/00	
<b>SPH338M5</b> ESF Monitoring Data Pkg to RPC/TDB	10/29/99	12/23/99	12/23/99
<b>SSH525M5</b> Tipping Bucket Monitoring Data to RPC/TDB	10/29/99	10/29/99	10/29/99
<b>SSH15HM5</b> Letter Report: 4th Qtr FY99	10/29/99	11/1/99	11/1/99
<b>SPH918M5</b> Hydro Prop Busted Butte to RPC/TDB	10/29/99	12/23/99	12/23/99
<b>SPH355M5</b> X-Drift Moist Monitoring Data Pkg to RPC/TDB	10/29/99	12/23/99	12/23/99
<b>SPH506M5</b> Work Plan-Detail Geol Invest	10/29/99	1/31/00	1/31/00
<b>SPH508M5</b> Preliminary Maps to Hydrologists	10/29/99	9/29/00	
<b>SPH35M5</b> Alcove 1 Infil Expmt DP to RPC/TDB	11/30/99	3/17/00	3/17/00
<b>SPH3491M5</b> RPC/TDB: SD-6 Pumping/Monitoring Data Pkg	12/17/99	8/31/00	
<b>SPH291M5</b> Diss Ion & Iso Anlys of Perched Wtr to RPC/TDB	12/17/99	7/31/00	
<b>SPH537M5</b> Interp Rpt: Corrctn Pchd Wtr C-14 Ages	12/29/99	8/31/00	
<b>SPH48BM5</b> Dissolved Ion & Iso Anlys Data Pkg to RPC/TDB	12/30/99	8/15/00	
<b>SPH520M5</b> Prelim Eval of Regional Flow Paths to Review	12/30/99	9/26/00	
<b>SPH345M5</b> Closing Calibration Data to TDB/RPC	12/30/99	7/31/00	
<b>SPG851M5</b> TDB/RPC: Structural Data & Observations	12/30/99	1/27/00	1/27/00

<b>Deliverable</b>	<b>Due Date</b>	<b>Expected Date</b>	<b>Completed Date</b>
<b>SPH477M5</b> Descript & DP: Dissolved Ion & Isotopic Analyses	1/4/00	8/16/00	
<b>SPH647M5</b> Mid-Year Progress HFM Discretization	1/14/00	1/14/00	1/14/00
<b>SPH628M5</b> Mid-Year Update on Regional Spatial Data Merge	1/14/00	1/18/00	1/18/00
<b>SPH644M5</b> Mid-Year Progress Updates to HFM I	1/14/00	1/14/00	1/14/00
<b>SPH621M5</b> Mid-Year Update Reg DB Integ & Anlys	1/14/00	1/18/00	1/18/00
<b>SPI020M5</b> Strat Workbook: 1st Qtr Data Submittal	1/31/00	1/31/00	1/31/00
<b>SSH15IM5</b> Letter Report: 1st Qtr FY00	1/31/00	1/27/00	1/27/00
<b>SPH535M5</b> Sr Isotope Pore-Water Anlys DP to RPC/TDB	2/2/00	7/31/00	
<b>SPG166M5</b> Maps to TDMS	2/18/00	5/31/00	5/31/00
<b>SPH39QM5</b> Water-Level Data 1st Qtr FY00 DP to RPC/TDB	2/28/00	7/31/00	
<b>SPH533M5</b> Interp Rpt & DP: UZ Hydrochem & Isotopic Data	3/15/00	7/31/00	
<b>SPH872M5</b> Alcove 1 DP to RPC/TDB	3/30/00	9/29/00	
<b>SPH868M5</b> Document Missing Closing Calibrations	3/30/00	3/30/00	3/30/00
<b>SPH866M5</b> ESF Niches DP to RPC/TDB	3/30/00	3/30/00	3/30/00
<b>SPH659M5</b> Mid-Year Progress Model Calibration	3/31/00	3/31/00	3/31/00
<b>SPH3481M5</b> Report: Hydraulic Properties Testing SD-6	3/31/00	9/29/00	
<b>SPH767M5</b> Hydrologic Property DP to RPC/TDB	3/31/00	5/18/00	5/18/00
<b>SPH188M5</b> Report: WL Data for CY 97/98	3/31/00	5/2/00	5/2/00
<b>SPI022M5</b> Strat Workbook: 2nd Qtr Data Submittal	3/31/00	9/29/00	
<b>SSH15JM5</b> Letter Report: 2nd Qtr FY00	4/28/00	4/26/00	4/26/00
<b>SPH295M5</b> Paleodis Dep & Sign to Perf of Pot Repos at YM	5/26/00	7/26/00	
<b>SPH39RM5</b> Water-Level Data 2nd Qtr FY00 DP to RPC/TDB	5/31/00	8/31/00	
<b>SPI024M5</b> Strat Workbook: 3rd Qtr Data Submittal	6/30/00	9/29/00	

## YMP PLANNING AND CONTROL SYSTEM (PACS)

## MONTHLY COST/FTE REPORT

Participant U.S. Geological Survey

Date Prepared 7/11/00 12:40 PM

Fiscal Month/Year June 30, 2000

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	<u>CURRENT MONTH END</u>						<u>FISCAL YEAR</u>		
WBS ELEMENT	ACTUAL COSTS	PARTICIPANT HOURS	SUBCONTRACT HOURS	PURCHASE COMMITMENTS	SUBCONTRACT COMMITMENTS	ACCRUED COSTS	APPROVED BUDGET	APPROVED FUNDS	CUMMULATIVE COSTS
1.2.21.2.2	46	703	0	0	4	0	590	590	352
1.2.21.3.2	8	144	0	0	0	0	100	100	38
1.2.21.3.D	-112	454	-2036	0	137	0	335	335	243
1.2.21.3.E	74	272	601	0	56	0	617	617	454
1.2.21.3.I	119	1360	2150	0	157	0	1242	1242	964
1.2.21.3.N	-4	-128	0	0	0	0	130	130	47
1.2.21.3.S	320	2330	1906	0	116	0	3215	3215	1670
1.2.21.3.U	457	3087	4117	0	331	0	3095	3095	2747
1.2.21.5.2	52	597	30	0	6	0	625	625	397
1.2.21.5.3	15	352	376	0	102	0	585	585	384
1.2.21.5.4	83	1142	396	0	64	0	1047	1047	759
1.2.21.5.T	162	1399	685	0	71	0	1319	1319	959
1.2.21.6.1	165	940	1137	0	137	0	1946	1946	1440
1.2.22.6.T	35	483	0	0	10	0	153	153	110
	1420	13135	9362	0	1191	0	14999	14999	10564

U.S. GEOLOGICAL SURVEY  
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4889-21221 YMSD Rev. 1 for SRCR Analysis & Writin	0.3	3.8	25.3	29.7	23.1	35.4	7.2	13.7	-0.4	0.0	0.0	0.0	138.27
81912122U1 YMSD Rev.1 for SRCR Anlys & Wrtn	0.3	3.8	25.3	29.7	23.1	35.4	7.2	13.7	-0.4	0.0	0.0	0.0	138.27
4889-21222 YMSD Porduct Checking - FY00	0.0	0.0	3.7	-0.1	0.0	0.0	1.3	0.0	3.8	0.0	0.0	0.0	8.64
81912122U2 YMSD Product Checking - FY00	0.0	0.0	3.7	-0.1	0.0	0.0	1.3	0.0	3.8	0.0	0.0	0.0	8.64
4889-21223 YMSD Data, Models, Software V/Q; PVA	2.5	14.3	-2.6	5.9	7.8	2.9	13.3	14.5	19.2	0.0	0.0	0.0	77.91
81912122U3 YMSD Data, Software V/Q; PVAR - F	2.5	14.3	-2.6	5.9	7.8	2.9	13.3	14.5	19.2	0.0	0.0	0.0	77.91
4889-21224 YMSD M&I & Regulatory Support - FY00	27.3	15.0	-2.2	19.7	5.8	7.2	14.4	16.0	23.8	0.0	0.0	0.0	126.86
81912122U4 YMSD M&I & Regulatory Support - F	27.3	15.0	-2.2	19.7	5.8	7.2	14.4	16.0	23.8	0.0	0.0	0.0	126.86
GS6105 USGS YMSD-Science Support to SR	30.2	33.1	24.1	55.2	36.7	45.6	36.1	44.3	46.4	0.0	0.0	0.0	351.67
1.2.21.2.2	30.2	33.1	24.1	55.2	36.7	45.6	36.1	44.3	46.4	0.0	0.0	0.0	351.67
1.2.21.2	30.2	33.1	24.1	55.2	36.7	45.6	36.1	44.3	46.4	0.0	0.0	0.0	351.67
4889-10506 Performance Assessment	5.8	0.0	-2.5	10.1	2.4	4.5	0.3	10.0	7.9	0.0	0.0	0.0	38.42
81912132U1 Support to Performance Assessment	5.8	0.0	-2.5	10.1	2.4	4.5	0.3	10.0	7.9	0.0	0.0	0.0	38.42
GS2397 USGS TSPA for SR	5.8	0.0	-2.5	10.1	2.4	4.5	0.3	10.0	7.9	0.0	0.0	0.0	38.42
1.2.21.3.2	5.8	0.0	-2.5	10.1	2.4	4.5	0.3	10.0	7.9	0.0	0.0	0.0	38.42
4889-21311 DE PMR rev. 0 for SRCR Analysis & Writi	19.7	32.7	18.1	19.7	14.6	15.0	14.9	17.6	-26.1	0.0	0.0	0.0	126.17
8191213DU1 DE PMR Rev.0 for SRCR Anlys & Wr	19.7	32.7	18.1	19.7	14.6	15.0	14.9	17.6	-26.1	0.0	0.0	0.0	126.17
4889-21312 DE Product Checking - FY00	2.5	10.3	5.8	18.9	3.3	8.6	7.2	7.9	-14.4	0.0	0.0	0.0	50.22
8191213DU2 DE Product Checking - FY00	2.5	10.3	5.8	18.9	3.3	8.6	7.2	7.9	-14.4	0.0	0.0	0.0	50.22
4889-21310 DE Data Verification	8.7	4.5	5.4	5.1	5.1	6.1	5.4	5.2	-39.5	0.0	0.0	0.0	5.94
4889-21313 DE Data, Models, Software V/Q; PVAR -	6.7	6.1	9.1	17.6	11.8	11.0	9.8	0.9	-30.4	0.0	0.0	0.0	42.61
8191213DU3 DE Data, Software V/Q; PVAR - FY0	15.4	10.6	14.6	22.7	16.9	17.1	15.2	6.0	-69.9	0.0	0.0	0.0	48.55
4889-21314 DE M&I & Regulatory Support - FY00	0.0	0.0	0.0	0.0	0.5	4.4	0.4	14.1	-1.2	0.0	0.0	0.0	18.33
8191213DU4 DE M&I & Regulatory Support - FY00	0.0	0.0	0.0	0.0	0.5	4.4	0.4	14.1	-1.2	0.0	0.0	0.0	18.33
GS9093 USGS - Tectonic Hazards PMR - Sr	37.5	53.6	38.4	61.3	35.3	45.1	37.8	45.7	-111.5	0.0	0.0	0.0	243.27
1.2.21.3.D	37.5	53.6	38.4	61.3	35.3	45.1	37.8	45.7	-111.5	0.0	0.0	0.0	243.27



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	OCT EST	NOV EST	DEC EST	JAN EST	FEB EST	MAR EST	APR EST	MAY EST	JUN EST	JUL EST	AUG EST	SEP EST	TOTAL
4889-21321 Hydrologic Characterization of Backfill Ma	17.7	38.5	27.1	34.5	34.3	31.2	34.0	37.8	30.8	0.0	0.0	0.0	285.99
4889-21322 Geochemical/Mineralogical Characterizati	3.3	6.7	6.3	13.8	9.7	13.5	8.8	45.9	42.0	0.0	0.0	0.0	150.17
4889-21323 Support to Sandia (USBR)	0.0	0.0	0.0	0.0	6.3	1.1	3.6	5.3	1.3	0.0	0.0	0.0	17.53
8191213EU1 EBS PMR Support - FY00	21.0	45.3	33.4	48.3	50.2	45.9	46.5	89.0	74.1	0.0	0.0	0.0	453.68
GS9099 USGS - EBS Degradation Flow and Tr	21.0	45.3	33.4	48.3	50.2	45.9	46.5	89.0	74.1	0.0	0.0	0.0	453.68
1.2.21.3.E	21.0	45.3	33.4	48.3	50.2	45.9	46.5	89.0	74.1	0.0	0.0	0.0	453.68
4889-21336 Stratigraphic Workbooks	20.9	21.1	44.7	52.1	42.6	36.2	22.5	20.7	43.4	0.0	0.0	0.0	304.16
8191213IU1 ISM PMR Rev.0 for SRCR Anlys & W	20.9	21.1	44.7	52.1	42.6	36.2	22.5	20.7	43.4	0.0	0.0	0.0	304.16
4889-21332 ISM Product Checking - FY00	2.2	15.3	-2.9	11.4	31.9	12.0	28.9	41.2	52.5	0.0	0.0	0.0	192.64
8191213IU2 ISM Product Checking - FY00	2.2	15.3	-2.9	11.4	31.9	12.0	28.9	41.2	52.5	0.0	0.0	0.0	192.64
4889-21330 ISM Data Verification	54.0	56.4	39.3	18.9	4.9	-4.7	9.8	7.9	5.7	0.0	0.0	0.0	192.19
4889-21333 ISM Data, Models, Software V/Q; PVAR -	6.4	24.4	13.5	21.7	22.2	12.4	17.9	22.5	12.1	0.0	0.0	0.0	153.06
8191213IU3 ISM Data, Software V/Q; PVAR - FY0	60.4	80.8	52.8	40.6	27.2	7.7	27.7	30.4	17.8	0.0	0.0	0.0	345.24
4889-21334 ISM M&I & Regulatory Support - FY00	5.8	11.2	5.3	11.5	5.4	17.5	8.4	8.3	5.5	0.0	0.0	0.0	78.93
8191213IU4 ISM M&I & Regulatory Support - FY0	5.8	11.2	5.3	11.5	5.4	17.5	8.4	8.3	5.5	0.0	0.0	0.0	78.93
4889-21198 Stratigraphic Descriptions UZ-7a & UZ14	15.2	0.0	-15.2	1.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.63
4889-21199 Support Stratigraphic Workbooks - USBR	16.5	17.0	8.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.00
8191213IUX Geologic Investigations - Deferred	31.7	17.0	-6.7	1.0	-0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.63
GS2210 USGS - Integrated Site Model PMR - S	121.0	145.4	93.2	116.6	106.7	73.4	87.4	100.7	119.2	0.0	0.0	0.0	963.60
1.2.21.3.I	121.0	145.4	93.2	116.6	106.7	73.4	87.4	100.7	119.2	0.0	0.0	0.0	963.60
4889-21341 NF Support - FY00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
8191213NU1 NF Support - FY00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
4889-21345 NF/Thermal Investigations	9.5	16.8	-3.3	-0.5	7.9	9.7	4.1	6.8	-4.0	0.0	0.0	0.0	47.13
8191213NU5 NF/Thermal Investigations - FY00	9.5	16.8	-3.3	-0.5	7.9	9.7	4.1	6.8	-4.0	0.0	0.0	0.0	47.13
GS2253 USGS Near Field Environment PMR -	9.5	16.8	-3.3	-0.5	7.9	9.7	4.1	6.8	-4.0	0.0	0.0	0.0	47.13
1.2.21.3.N	9.5	16.8	-3.3	-0.5	7.9	9.7	4.1	6.8	-4.0	0.0	0.0	0.0	47.13
4889-21357 Hydrogeologic Framework AMR	0.0	1.3	7.3	15.4	5.1	7.7	1.5	5.7	-1.9	0.0	0.0	0.0	42.15

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4889-21358 Water Level AMR	5.4	4.1	3.4	10.4	0.2	5.6	8.9	4.6	11.6	0.0	0.0	0.0	54.10
<b>8191213SU1</b> SZ PMR Rev.0 for SRCR Anlys & Wr	5.4	5.4	10.8	25.8	5.3	13.3	10.4	10.2	9.6	0.0	0.0	0.0	96.25
4889-21352 SZ Product Checking - FY00	8.2	5.7	6.7	2.5	11.9	12.7	9.7	12.1	3.3	0.0	0.0	0.0	72.92
<b>8191213SU2</b> SZ Product Checking - FY00	8.2	5.7	6.7	2.5	11.9	12.7	9.7	12.1	3.3	0.0	0.0	0.0	72.92
4889-21350 SZ Data Verification	4.0	3.9	8.6	4.6	6.0	8.2	23.3	15.4	40.3	0.0	0.0	0.0	114.21
4889-21353 SZ Data, Models, Software V/Q; PVAR -	9.6	7.3	74.3	35.3	13.2	34.3	27.0	23.5	96.1	0.0	0.0	0.0	320.41
<b>8191213SU3</b> SZ Data, Software V/Q; PVAR - FY0	13.5	11.1	82.9	39.8	19.1	42.5	50.3	38.9	136.4	0.0	0.0	0.0	434.63
4889-21354 SZ M&I & Regulatory Support - FY00	3.5	13.4	0.9	8.4	10.0	2.5	6.7	12.5	42.1	0.0	0.0	0.0	99.96
<b>8191213SU4</b> SZ M&I & Regulatory Support - FY00	3.5	13.4	0.9	8.4	10.0	2.5	6.7	12.5	42.1	0.0	0.0	0.0	99.96
4889-11012 Merge Regional Flow Model SZ Data Bas	13.5	16.4	14.3	23.4	9.9	7.4	57.3	21.0	-1.0	0.0	0.0	0.0	162.00
4889-11017 Hydrogeologic Framework Model - Refine	44.5	5.1	19.2	19.5	-66.1	18.0	78.6	40.7	33.6	0.0	0.0	0.0	193.09
4889-11019 Reduce Uncertainty - Hydrochemical Flow	14.6	7.7	-2.4	-0.3	0.0	-12.5	3.8	0.0	-7.1	0.0	0.0	0.0	3.86
4889-11020 Conduct Regional SZ Flow Model Calibrat	17.5	27.9	21.9	32.5	22.4	27.0	22.0	61.1	60.2	0.0	0.0	0.0	292.40
4889-11021 Interactions Regional Model	0.0	9.7	1.0	10.2	-1.3	4.2	0.9	9.5	2.8	0.0	0.0	0.0	36.92
4889-12013 Alluvial Testing Complex Using Nye Coun	9.9	31.6	10.4	24.5	20.4	26.1	29.0	48.5	33.7	0.0	0.0	0.0	234.27
<b>8191213SU5</b> SZ Investigations - FY00	100.1	98.3	64.4	109.8	-14.7	70.2	191.6	180.7	122.1	0.0	0.0	0.0	922.54
4889-12099 SZ Hydrologic Testing SD-6	3.3	1.7	2.9	1.1	1.1	3.0	1.2	1.7	6.1	0.0	0.0	0.0	22.07
4889-12199 C-Well Demobilization	4.5	3.6	0.0	5.1	3.4	2.0	1.5	1.2	0.0	0.0	0.0	0.0	21.30
<b>8191213SUX</b> SZ Investigations - Deferred	7.8	5.3	2.9	6.2	4.5	5.0	2.6	2.9	6.1	0.0	0.0	0.0	43.37
<b>GS2031</b> USGS - SZ Flow and Transport PMR -	138.5	139.3	168.5	192.6	36.1	146.3	271.4	257.4	319.5	0.0	0.0	0.0	1,669.66
1.2.21.3.S	138.5	139.3	168.5	192.6	36.1	146.3	271.4	257.4	319.5	0.0	0.0	0.0	1,669.66
4889-21371 Climate AMR	6.3	20.7	9.6	11.7	4.5	-9.0	1.2	5.2	0.0	0.0	0.0	0.0	50.10
4889-21372 Infiltration AMR	1.9	12.5	30.1	33.6	30.9	5.0	11.1	15.8	5.2	0.0	0.0	0.0	146.01
4889-21373 Support to Geochemistry AMR	15.0	13.7	16.8	36.6	7.6	11.0	0.2	4.9	-8.4	0.0	0.0	0.0	97.46
4889-21374 Climate AMR Appendix	0.0	0.0	0.0	0.0	0.0	95.0	0.0	0.0	0.0	0.0	0.0	0.0	94.97
<b>8191213UU1</b> UZ PMR Rev.0 for SRCR Anlys & Wr	23.2	46.9	56.4	81.9	43.0	101.9	12.5	25.9	-3.2	0.0	0.0	0.0	388.55
4889-21362 UZ Product Checking - FY00	3.7	34.8	-17.5	20.9	4.8	13.4	8.9	7.1	5.8	0.0	0.0	0.0	81.73

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<b>8191213UU2</b> UZ Product Checking - FY00	3.7	34.8	-17.5	20.9	4.8	13.4	8.9	7.1	5.8	0.0	0.0	0.0	81.73
4889-21360 UZ Data/Software Verification	4.0	6.1	14.5	27.1	35.8	29.5	23.6	35.5	52.7	0.0	0.0	0.0	229.01
4889-21363 UZ Data, Models, Software V/Q; PVAR -	12.8	17.5	12.2	29.4	17.9	39.1	32.0	29.3	105.6	0.0	0.0	0.0	295.80
<b>8191213UU3</b> UZ Data, Software V/Q; PVAR - FY0	16.8	23.6	26.7	56.5	53.8	68.6	55.6	64.8	158.3	0.0	0.0	0.0	524.81
4889-21364 UZ M&I & Regulatory Support - FY00	3.4	0.2	4.4	4.8	7.6	8.5	8.3	4.3	11.6	0.0	0.0	0.0	53.22
<b>8191213UU4</b> UZ M&I & Regulatory Support - FY00	3.4	0.2	4.4	4.8	7.6	8.5	8.3	4.3	11.6	0.0	0.0	0.0	53.22
4889-21301 EW Bulkhead & Alcove 7 Moisture Monito	34.6	15.6	25.9	14.0	24.3	16.5	28.5	44.1	30.6	0.0	0.0	0.0	234.19
4889-21302 Crossover Alcove (Seepage into Niche 3)	4.6	15.5	4.9	22.6	7.7	9.7	14.3	16.3	24.2	0.0	0.0	0.0	119.71
4889-21303 Crossover Alcove ( Tracer Testing)	0.6	0.9	1.3	2.0	0.0	9.2	17.4	22.7	21.7	0.0	0.0	0.0	75.92
4889-21304 Complete ESF Niche Analysis	15.8	14.2	6.2	10.9	9.5	1.0	0.1	4.8	5.1	0.0	0.0	0.0	67.70
4889-21305 Complete Alcove 1 Analysis	9.7	21.9	20.6	2.1	20.6	55.8	21.6	7.2	-6.4	0.0	0.0	0.0	153.04
4889-21306 Geochemistry of Repository Block	0.0	0.0	1.8	0.4	0.0	14.4	5.5	0.0	0.2	0.0	0.0	0.0	22.22
4889-27009 Complete CL36 Validation Anaysis	0.9	9.1	1.1	7.8	10.4	3.2	4.5	46.8	39.6	0.0	0.0	0.0	123.37
4889-62213 Complete Fracture Mineral Analysis	13.6	15.9	31.5	23.5	61.3	19.3	27.5	57.1	68.6	0.0	0.0	0.0	318.39
4889-62219 Complete Fluid Inclusions Analysis	20.9	23.2	7.3	47.7	29.2	16.7	25.1	81.9	83.5	0.0	0.0	0.0	335.47
<b>8191213UU5</b> UZ Investigations - FY00	100.8	116.3	100.6	131.0	163.1	145.6	144.6	280.9	267.1	0.0	0.0	0.0	1,450.02
4889-21365 Hydrologic Properties - Busted Butte Core	16.9	9.0	4.8	5.0	11.9	12.4	8.6	17.1	2.8	0.0	0.0	0.0	88.58
4889-21368 Busted Butte Mapping - USBR	12.6	26.2	2.2	24.3	16.5	14.5	0.0	0.0	0.0	0.0	0.0	0.0	96.27
<b>8191213UU6</b> UZ Investigations - Busted Butte - FY	29.6	35.2	7.0	29.3	28.4	26.9	8.6	17.1	2.8	0.0	0.0	0.0	184.84
4889-21299 Geologic Framework	7.2	5.6	1.0	3.1	3.8	7.1	16.3	5.4	14.1	0.0	0.0	0.0	63.77
<b>8191213UUX</b> UZ Investigations - Deferred	7.2	5.6	1.0	3.1	3.8	7.1	16.3	5.4	14.1	0.0	0.0	0.0	63.77
<b>GS2027</b> USGS - UZ Flow and Transport PMR -	184.7	262.6	178.6	327.4	304.4	372.2	254.9	405.6	456.6	0.0	0.0	0.0	2,746.93
1.2.21.3.U	184.7	262.6	178.6	327.4	304.4	372.2	254.9	405.6	456.6	0.0	0.0	0.0	2,746.93
1.2.21.3	517.9	663.0	506.3	755.7	543.1	697.1	702.4	915.3	861.8	0.0	0.0	0.0	6,162.70
4732-16300 Water Resources	16.8	18.3	16.6	15.2	28.7	39.8	52.2	30.1	33.3	0.0	0.0	0.0	251.04
<b>81912152U1</b> Water Resources - FY00	16.8	18.3	16.6	15.2	28.7	39.8	52.2	30.1	33.3	0.0	0.0	0.0	251.04
4889-10715 Federal Occupational Health/Safety	7.6	9.2	5.6	11.5	8.5	8.2	7.5	10.3	9.3	0.0	0.0	0.0	77.78

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<b>81912152U2</b> Federal Occupational Safety & Health	7.6	9.2	5.6	11.5	8.5	8.2	7.5	10.3	9.3	0.0	0.0	0.0	77.78
4889-84001 Precipitation Gage Monitoring	5.7	4.7	2.9	2.0	0.6	2.2	3.8	3.3	9.0	0.0	0.0	0.0	34.13
<b>81912152U3</b> Precipitation Gage Monitoring	5.7	4.7	2.9	2.0	0.6	2.2	3.8	3.3	9.0	0.0	0.0	0.0	34.13
4889-84709 Water Appropriation Hearings	2.3	32.7	0.2	-0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.39
<b>81912152U4</b> Support to Water Appropriation Hearings	2.3	32.7	0.2	-0.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	34.39
<b>GS9121</b> USGS ES & H Core Program - SR	32.3	64.9	25.2	28.0	37.9	50.2	63.6	43.7	51.5	0.0	0.0	0.0	397.34
1.2.21.5.2	32.3	64.9	25.2	28.0	37.9	50.2	63.6	43.7	51.5	0.0	0.0	0.0	397.34
4889-10535 Technical Data Management	28.8	25.7	34.3	42.5	41.3	47.1	39.9	42.2	39.2	0.0	0.0	0.0	340.96
<b>81912153U1</b> Technical Data Management - FY00	28.8	25.7	34.3	42.5	41.3	47.1	39.9	42.2	39.2	0.0	0.0	0.0	340.96
<b>GS2470</b> Technical Data Management - SR	28.8	25.7	34.3	42.5	41.3	47.1	39.9	42.2	39.2	0.0	0.0	0.0	340.96
4889-10714 Records	7.0	7.2	7.3	8.7	9.5	8.9	8.9	9.4	-24.4	0.0	0.0	0.0	42.63
<b>81912153U2</b> Satellite Records Operations - FY00	7.0	7.2	7.3	8.7	9.5	8.9	8.9	9.4	-24.4	0.0	0.0	0.0	42.63
<b>GS9197</b> USGS Document Control, Records & Information Management	7.0	7.2	7.3	8.7	9.5	8.9	8.9	9.4	-24.4	0.0	0.0	0.0	42.63
1.2.21.5.3	35.8	33.0	41.6	51.2	50.8	56.0	48.8	51.6	14.9	0.0	0.0	0.0	383.59
4889-10710 Project Management TPO	24.7	29.5	20.6	41.5	27.4	32.0	34.1	36.3	32.1	0.0	0.0	0.0	278.26
<b>81912154U1</b> Project Management TPO - FY00	24.7	29.5	20.6	41.5	27.4	32.0	34.1	36.3	32.1	0.0	0.0	0.0	278.26
4889-10713 Project Control/Planning	40.7	19.1	22.2	22.2	19.3	19.0	18.6	20.3	19.5	0.0	0.0	0.0	200.92
<b>81912154U2</b> Project Control/Planning - FY00	40.7	19.1	22.2	22.2	19.3	19.0	18.6	20.3	19.5	0.0	0.0	0.0	200.92
4889-11201 Regulatory Product Integrity (formerly EA)	27.2	32.6	17.9	44.4	31.2	32.0	29.5	33.6	31.1	0.0	0.0	0.0	279.39
<b>81912154U3</b> Regulatory Product Integrity - FY00	27.2	32.6	17.9	44.4	31.2	32.0	29.5	33.6	31.1	0.0	0.0	0.0	279.39
<b>GS9135</b> USGS Project Planning & Control - SR	92.6	81.2	60.8	108.1	77.9	83.0	82.2	90.1	82.7	0.0	0.0	0.0	758.56
1.2.21.5.4	92.6	81.2	60.8	108.1	77.9	83.0	82.2	90.1	82.7	0.0	0.0	0.0	758.56
4889-21501 Lithostratigraphy of Nye County Borehole	4.2	1.4	0.2	3.4	5.6	12.0	10.9	11.8	16.3	0.0	0.0	0.0	65.80
4889-21502 SZ Hydrochemistry of Nye County Borehole	9.2	27.0	20.9	21.5	16.4	1.3	-12.5	11.4	43.2	0.0	0.0	0.0	138.36
4889-21504 Monitory UNLV Fluid Inclusion Studies	0.0	1.9	-0.2	5.6	7.0	8.0	0.7	45.9	48.5	0.0	0.0	0.0	117.27
<b>8191215TU1</b> Support to Nye County/Cooperative	13.4	30.3	20.9	30.5	29.0	21.2	-0.9	69.1	108.0	0.0	0.0	0.0	321.42

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4889-23009 Shut Down Pneumatic Monitoring Borehol	46.0	67.9	11.7	50.4	39.7	33.2	49.5	39.6	26.4	0.0	0.0	0.0	364.46
8191215TU8 Shut Down Pneumatic Monitoring Bor	46.0	67.9	11.7	50.4	39.7	33.2	49.5	39.6	26.4	0.0	0.0	0.0	364.46
4889-21509 Long-Term PC Monitoring - FY00	30.3	28.8	14.5	26.3	27.6	24.9	24.7	26.9	24.3	0.0	0.0	0.0	228.23
8191215TU9 Long-Term PC Monitoring - SR - FY0	30.3	28.8	14.5	26.3	27.6	24.9	24.7	26.9	24.3	0.0	0.0	0.0	228.23
4889-21599 Water Level Monitoring	1.4	9.2	-2.4	-0.2	0.0	1.4	0.6	0.7	0.0	0.0	0.0	0.0	10.66
4889-62299 Paleodischarge at Nye County Sites	0.0	0.7	9.1	11.7	-2.3	3.8	4.6	3.4	2.9	0.0	0.0	0.0	33.93
8191215TUX Testing and Analysis - Deferred	1.4	9.9	6.7	11.5	-2.3	5.1	5.3	4.1	2.9	0.0	0.0	0.0	44.59
GS8621 USGS Test Coordination/Support for S	91.0	136.9	53.8	118.7	94.0	84.4	78.6	139.7	161.7	0.0	0.0	0.0	958.70
1.2.21.5.T	91.0	136.9	53.8	118.7	94.0	84.4	78.6	139.7	161.7	0.0	0.0	0.0	958.70
1.2.21.5	251.7	316.0	181.4	305.9	260.6	273.6	273.2	325.0	310.8	0.0	0.0	0.0	2,498.19
4889-10401 Support & Personnel Services	26.8	15.6	12.4	33.0	50.5	33.0	15.6	20.5	30.0	0.0	0.0	0.0	237.44
4889-10402 Procurement & Property Management	21.9	20.5	19.9	22.4	-13.0	14.5	16.7	13.3	13.5	0.0	0.0	0.0	129.76
4889-10403 Facilities Management (Space)	0.0	107.4	53.7	16.9	44.5	45.4	43.6	44.5	44.5	0.0	0.0	0.0	400.35
4889-10404 Facilities Management (Computers/Phone	1.7	33.4	17.5	17.5	17.5	45.4	17.5	19.1	17.5	0.0	0.0	0.0	187.15
4889-10405 Facilities Management (Other)	51.8	-23.3	4.0	3.5	-16.1	64.7	31.9	11.5	4.0	0.0	0.0	0.0	132.09
4889-10406 Computer Support	28.7	23.4	25.3	32.2	27.7	23.3	34.9	51.1	47.9	0.0	0.0	0.0	294.40
81912161U1 Administration - FY00	130.9	176.9	132.8	125.6	111.1	226.3	160.3	159.9	157.4	0.0	0.0	0.0	1,381.19
GS9110 USGS Administrative Support - SR	130.9	176.9	132.8	125.6	111.1	226.3	160.3	159.9	157.4	0.0	0.0	0.0	1,381.19
4889-10711 Training	0.0	0.0	8.0	7.2	9.1	8.2	9.7	9.1	7.3	0.0	0.0	0.0	58.51
81912161U2 Training - FY00	0.0	0.0	8.0	7.2	9.1	8.2	9.7	9.1	7.3	0.0	0.0	0.0	58.51
GS9111 USGS Training Program - SR	0.0	0.0	8.0	7.2	9.1	8.2	9.7	9.1	7.3	0.0	0.0	0.0	58.51
1.2.21.6.1	130.9	176.9	140.8	132.7	120.2	234.4	169.9	169.1	164.8	0.0	0.0	0.0	1,439.70
1.2.21.6	130.9	176.9	140.8	132.7	120.2	234.4	169.9	169.1	164.8	0.0	0.0	0.0	1,439.70
1.2.21	930.6	1,189.0	852.6	1,249.6	960.6	1,250.8	1,181.6	1,453.7	1,383.7	0.0	0.0	0.0	10,452.27
4889-22602 WHB Field Support	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49
8191226TU1 WHB Field Support	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49
GS8622 USGS Test Coordination/Support for S	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49
1.2.22.6.T	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49

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1.2.22.6	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49
1.2.22	0.0	0.0	0.0	0.0	0.0	12.7	28.6	34.4	34.7	0.0	0.0	0.0	110.49
1.2 OPERATING	930.6	1,189.0	852.6	1,249.6	960.6	1,263.5	1,210.2	1,488.2	1,418.4	0.0	0.0	0.0	10,562.75
CAPITAL EQUIPMENT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GRAND TOTAL	930.6	1,189.0	852.6	1,249.6	960.6	1,263.5	1,210.2	1,488.2	1,418.4	0.0	0.0	0.0	10,562.75
FTEs													
FEDERAL	69.6	82.7	71.5	79.6	72.7	78.8	67.1	76.1	74.6	0.0	0.0	0.0	
CONTRACT	40.9	38.4	40.9	45.1	40.1	51.0	45.5	52.6	60.0	0.0	0.0	0.0	
TOTAL	110.5	121.1	112.4	124.7	112.8	129.8	112.6	128.7	134.6	0.0	0.0	0.0	