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

AUG 07 2001

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 2001.

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

Stephan Brocoum
Assistant Manager, Office of
Licensing and Regulatory Compliance

OL&RC:BMT-1516

Enclosure:
Ltr, 7/12/01, Craig to Trebules, w/encl

NMSS07

YMP-5

cc w/o encl:
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M. A. Lugo, BSC, Las Vegas, NV

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 12, 2001

Victor W. Trebules
Director, Office of Project Control
Yucca Mountain Site Characterization
Project Office
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, 2001

Attached is the USGS progress report in the required format for the month of June, 2001.

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 2001

GEOLOGY

Geological work directed at evaluation of borehole lithostratigraphy in the Nye County early warning drilling program continued. Trace element analysis was performed on samples from borehole NC-EWDP-19D1 to determine if Zr and Ti concentrations match those of any of the tuffs of the Paintbrush and/or Crater Flat Group(s). Exposures of younger volcanic rocks (unit Tvy) south of Stagecoach Road were visited to determine if any characteristics of that tuff match those of the tuff identified in NC-EWDP-19D. Assembly of the data package for submittal of Phase II borehole lithologic studies continued and will be completed with the now-available data (provided by the YMP surveying group) regarding location and elevation of the surface at borehole NC-EWDP-75C. Construction of a Nye2 cross section continued. Cross sections Nye1 and Nye2 have been sent to C. Faunt of the USGS for preliminary colleague examination, prior to submittal for technical review.

Geotechnical and underground mapping efforts produced on-going progress. Mapping continued in new excavations at Busted Butte. In work on supplemental surface fracture studies, fracture surveys of the middle nonlithophysal zone of the Topopah Spring Tuff (Tptpmn) were completed at sites in WT-11 Wash and at the extreme southern end of Solitario Canyon. Data were collected on more than 1200 fractures. Those field activities continued. Other work continued on resolution of QA issues related to geotechnical field data collected for design of the Waste Handling Building (WHB). In particular, responses to technical review comments were completed. Preparation of borehole logs for the technical checking process began.

HYDROLOGY

Unsaturated-Zone Hydrology

Routine, on-going work produced manual depth-to-water measurements in numerous wells and boreholes, including UE-25 WT #6 and UE-25 WT #12 on June 5; USW WT-24 on June 6; USW H-4 (lower interval) on June 7; USW H-5 (upper interval), USW WT-1, USW H-3 (upper interval), UE-25 WT #17, USW SD-6 ST1, and UE-25 WT #3 on June 11; UE-25 J-13, USW H-6 (lower interval), USW WT-10, USW WT-7, and USW H-6 (upper interval) on June 12; USW H-1 (tubes 1, 2, 3, and 4) and USW H-4 (upper interval) on June 14; UE-25 WT #14, UE-25 p #1, and UE-25 J-11 on June 18; UE-25 WT #15, UE-25 WT #4, UE-25 J-12, and UE-25 WT #13 on June 19; USW VH-1 on June 20; USW H-5 (lower interval) and USW H-3 (lower interval) on June 25; and UE-25 WT #16, UE-25 c #2, USW WT-2, UE-29 UZN #91, UE-29 a #1, and UE-29 a #2

on June 26. In other routine work, calibration runs were performed to calibrate the powered electric tape to the 2800-ft reference tape. Closing calibration was made on the pressure transmitter and data-logger system used in the USW H-4 upper interval.

Additional on-going work focused on preparation of water-level data reports. The second-quarter FY2000 data package and the third-quarter FY2000 package are in Denver awaiting checker review. The water-level report for calendar year 1999 was revised to incorporate colleague review comments and was submitted for further processing.

Transition operations and preparations (for transition of water-level work to UNLV) continued. Staff attended a meeting with the UNLV-Harry Reid Center (HRC) staff and the TCO to facilitate work-instruction transition. Copies of spreadsheets used to determine water-level altitudes from depth-to-water data were made available to the UNLV-HRC staff. Hands-on training for HRC personnel was conducted, and status reports on transition efforts were submitted. A progress report on the transition efforts was prepared and submitted to the TPO on June 29 in completion of Level 5 **milestone SPW396M5 [Status of Transition—Memo to TPO]**.

The USGS continued to monitor pressure, temperature, and water potential in surface-based boreholes at stations located in boreholes UE-25 UZ #5, UE-25 UZ #4, and USW NRG-7a. The data from UZ #4 and UZ #5 have been analyzed to provide infiltration estimates in Pagany Wash associated with the Winter 1998 El Niño rainfall events. At the request of the NRC, the shutdown of UZ borehole monitoring has been postponed until the NRC has reviewed the data and reached agreement that the program should be halted. Preparations for shutdown of power to the boreholes noted above continued, pending resolution of the NRC's position on cessation of surface-based monitoring. The DOE has requested that the USGS prepare an Appendix 7 presentation for the NRC on the surface-based monitoring program and continue the monitoring program until that Appendix 7 presentation. The date and place of the presentation has not been determined.

Isotopic and chemical support to the Drift-Scale Test in the ESF continued. Staff participated in the Thermal Test workshop held on June 7 and 8 in Las Vegas. In laboratory work, four samples of water were analyzed for Sr and U isotopes. Some samples contained such low concentrations that the isotopic data likely are not representative. Water sampling was conducted in Alcove #5 on June 26, with special attention to current procedures and suggestions for improvement. An integration meeting was held at LLNL on June 19 to discuss methods and preliminary data obtained from water samples extracted (spun) from core samples taken in the ECRB drift. Those data may be used in characterization of initial pore water in the Cross-Drift Thermal Test area. The water content also was measured on a core sample from the Cross-Drift Thermal Test area, and the water content was determined to be too low for extraction by ultracentrifuge. Additional samples will be evaluated, with possible extractions to follow.

Saturated-Zone Hydrology

Work related to the Alluvial Testing Complex (ATC) continued on several fronts. Review comments on Software Routine Reports were resolved in June, and Software Configuration Management Group approval was obtained for data-acquisition routines used to collect hydraulic-testing data. Some routines inadvertently were not sent and are being submitted for installation and execution tests. Performing the execution test(s) at the site, with access to instrumentation, is necessary to demonstrate proper functioning of the data-acquisition routine which acquires data from pressure transmitters and flowmeters. The closing calibration for the third flowmeter used in single-hole hydraulic and tracer testing at borehole NC-EWDP-19D1 was obtained from Endress & Houser in June 2001. ParoScientific (Paro) transducers used during the testing have remained in borehole NC-EWDP-19D1 while Nye County established a contract to remove the transducers, which would then be sent for closing calibrations. On June 19 and 20, those Paro transducers were removed from NC-EWDP-19D1 and were packaged for shipment to ParoScientific, Inc. for closing calibrations. The closing calibration for the Keithley 2001 multimeter used for obtaining voltages from flowmeters was obtained during May. Work on data spreadsheets, the data-summary sheet, links to scientific notebook pages for supporting information, and other components of the record for the data package for the ATC single-hole hydraulic testing continued. The data package is expected to be at sufficient completion to be submitted to checker review at the end of July.

Preparations continued for several efforts at compilation of AMR text from existing in-progress USGS documents to describe hydraulic testing and conservative-tracer testing at the C-holes complex. Additional new text will complete description of conservative-tracer testing, augmenting existing text. Qualification of software routines will be initiated. Other new initiatives were directed at improvement of the preliminary analysis of single-hole hydraulic testing results at borehole NC-EWDP-19D1 and development of software routine INJPMPBK.VI for analysis of single-hole conservative-tracer testing at borehole NC-EWDP-19D1. (That routine utilizes LABVIEW, National Instruments, Inc.'s implementation of graphical programming language, using existing analytical solutions to the advection-dispersion equation to simulate all three stages of injection, drift, and pump-back of the single-hole tracer testing. Anticipated further analysis of 19D1 results would use those improvements.) New text supporting the AMR in presentation of tracer testing and analysis described the analytical solution of the Crank (1956) advection-dispersion equation which is used in routine INJPMPBK.VI.

Several avenues of work on the Death Valley regional flow system (DVRFS) modeling continued. Work on the regional modeling data base included correction of errors in the regional spring coverage. Nye County Phase II data were given to the Nevada District (USGS) for entry into the NWIS data base. Refinement of the hydrogeologic framework model (HFM) continued with work on assigning attributes to cross sections. Preparations to incorporate the new Nye County EWDP cross sections into the HFM continued; one section is completed, and the second is well along. Plans are underway for comparison of the site-scale SZ HFM and the geologic framework/integrated site (GFM/ISM) models, as well as for resolution of discrepancies. Attribution of the UGTA (Underground Test Area) Phase I cross section was incorporated into the data set for the transient HFM. A

letter report documenting progress on the transient HFM construction was prepared and submitted, in completion of Level 5 **milestone SPH684M5 [Progress HFM Update—Transient Model]** on June 28. Development of illustrations for the report documenting the HFM used in the steady-state flow modeling continued. Responses to review comments on the HFM for that steady-state flow model were prepared. Differences between the YMP geologic model, gravity data, and the various hydrogeologic framework models were examined. Work continued on several draft reports intended as USGS open-file reports, including *Facies analysis of Late Proterozoic through early Cambrian clastic rocks of the Death Valley regional ground-water system and surrounding areas, Nevada and California*, by D. Sweetkind and D. White; *Facies analysis of Tertiary basin-filling rocks of the Death Valley regional ground-water system and surrounding areas, Nevada and California*, by D. Sweetkind, E. Taylor, and R. Drake, II; and *Hydrogeologic facies maps of six Tertiary volcanic units in the southwestern Nevada volcanic field, Nevada and California*, by R. Drake, II, and D. Sweetkind.

Ground-water flow modeling continued on several fronts. Revision of the draft modeling report continued in response to review comments. Planning continued for upcoming work on the transient model. Flow-model barriers were updated to include the Eleana Range. That barrier should depict a greater block to ground-water flow into Yucca Flat. Other barrier updates incorporated information for barriers in the Las Vegas Shear Zone. Flow budgets were calculated for various basins. Efforts toward model construction and calibration included installation of ground-water information-retrieval software (GWSI UTILITIES) to generate updated versions of the DVRFS data base, verification of UTM coordinate conversions used in those retrieval programs, computation of total areas of evapotranspiration units within model cells for use in estimation of spring conductance values, and creation of an additional discharge zone in Ash Meadows to separate the King Spring area from the remainder of Ash Meadows. Coordination with the water-use group continued in regard to determination of well depths for township-and-range and model-grid coordinate systems. Development of pumpage-history plots and evaluation of long-term hydrographs in major withdrawal areas continued.

Several efforts related to AMR development continued. Work continued on modifications to the draft of the water-level AMR. Work on reference-document system (DIRS) and QA- and data-related issues also continued. Initial check is anticipated to begin during the first week in July. Review-comment concurrence for the draft of the potentiometric-surface map was received from the two technical reviewers. That map has been sent to the USGS Central Region reports specialist for approval. The map has received a data-tracking number, DTN GS010608312332.001. Required paperwork to get the map into the technical database continued. Scientific notebook, SN-USGS-SCI-126-V1, received compliance review on June 14 and was submitted for technical review by L. Anna. Technical review was completed with no mandatory comments.

CLIMATE and PALEOHYDROLOGY

Several aspects of work proceeded on hydrochemistry and isotopic geology. Work continued on revisions to three papers intended for publication in a special Yucca Mountain geochemistry issue of APPLIED GEOCHEMISTRY; those revisions are incomplete but are expected in July for submittal of the papers to the Reports unit. In addition, all three papers still require Director's approval prior to the journal submission deadline of September 2001. Validation of surficial carbonate sources continued, and strontium, oxygen, and carbon isotopic analyses were completed for the last group of nine samples. Compilation of those validation data continued. In other efforts providing support to the Nye County drilling project, work continued on the draft open-file report describing the hydrochemical data base.

Analytical efforts in the study of calcite and opal fluid inclusions continued. Some 435 homogenization temperatures were measured from fluid-inclusion assemblages in 10 samples during the third quarter of FY2001. About 12 U-Pb age determinations of opal or chalcedony associated with calcite-hosted fluid inclusions were determined during the quarter. (These measurements were made at the Royal Ontario Museum in Toronto.)

Work on determination of the effects of water-rock interaction of EBS (engineered-barrier) materials continued. Phase I final analyses of major and trace elements in 27 samples of dust collected throughout the ESF have been completed and are currently being synthesized for inclusion in a data package and report. Quality control was attained by submittal of three splits each of two USGS rock standards with certified compositions (standards GSP-2 and RGM-1). The major element analyses were within tolerances specified in the Task Agreement with the USGS Crustal Imaging and Characterization Team (CICT). However, many of the trace elements analyzed by ICPMS (inductively coupled plasma mass spectrometry) were not within tolerance, and the problem was discussed with the CICT analytical liaison. The cause of the problem was traced to an inadequate digestion procedure resulting from a misinterpretation of directions for the digestion of these specific splits of the same samples and blind standards. The repeat ICPMS analyses using HF dissolution are within the specified tolerances. Among the major elements, analyses for FeO were deemed erroneous because of the presence of organic carbon which resulted in anomalously large FeO values. FeO was then determined by titration, and the organic carbon apparently also was oxidized by the highly oxidizing titration solution. The analyses are now being evaluated to determine the specific contributions from sources introduced into the ESF during construction and subsequent operation. Phase II collection of dust is being designed. A heavy-duty battery-powered vacuum cleaner has been procured, and a miniature dust-collecting cyclone is being constructed and will be interfaced with the vacuum cleaner. This system will facilitate the Phase II collection and will provide better estimates of the mass of dust accumulated per unit surface area of accumulation. Phase II will also include deployment of passive dust collectors throughout the ESF.

Preliminary analyses of pore-water geochemistry, including selected trace elements, have been completed on six samples of water extracted from ECRB core by ultra-

centrifugation. All of the samples are from the upper lithophysal zone of the crystal-poor Topopah Spring Tuff. Previous measurements of moisture content suggested values of 4 to 8 percent water in those rocks. The cation/anion analyses indicate substantial heterogeneity of pore-water composition at the decimeter scale, which has important implications with regard to the scale of flow zones relative to the efficacy of diffusion in smoothing compositional variations at this scale. The chloride contents, a parameter of particular interest to the UZ flow model because of the conservative nature of chloride, are within the range of previously determined chloride values reported by LANL (approximately 10 to 50 mg/L) and are significantly larger than values for perched water or saturated-zone water beneath Yucca Mountain. Both extraction and analyses of pore water are being conducted with procedural blanks interspersed every 10 samples. Further, alternative methods are being explored to improve the fluoride and bromide analyses.

Preparations continued for isotopic dating of ground water. Necessary requisitions are being processed.

In unscheduled work at the request of C. Carrigan of Lawrence Livermore National Laboratory (an integrator for EBS seepage problems), USGS staff attended a workshop on the chemistry of seepage water at Livermore on June 19. B. Marshall presented information on the USGS ultracentrifuge and the procedures used for extracting pore water. Z. Peterman presented preliminary analyses for a few samples recently extracted and analyzed by the USGS Environmental Science Team (EST) from the Topopah Spring Tuff (unit Tptpull). Representatives from the DOE peer-review Committee for Waste Package presented the geochemical-data needs of the waste-canister group with regard to corrosion. There was general agreement that pore-water chemistry is a high-priority issue for the Project, and the group strongly supported the USGS-EST efforts in this area. Peterman also presented a brief overview of the geochemical study of dust in the ESF being conducted by the USGS-EST. It was agreed that in addition to bulk dust characterization, analyses of water-soluble components is also critical and that water-leaching studies at different temperatures will have to be conducted.

The USGS EST and the UZ Department organized a geochemical technical exchange held on June 14. Twenty five people attended from the USGS, LBNL, LLNL, LANL, DOE, and BSC. USGS-EST personnel gave presentations on pore-water chemistry in the repository units, uranium isotopes as indicators of flow zones in the UZ, fluid inclusions and implications on the long-term thermal history of Yucca Mountain, modeling of the thermal impact of the Timber Mountain caldera, the applicability of uranium isotopes to mapping flow zones, the present distribution of tritium in the ESF, and the vertical distribution of calcite in WT-24 and SD-6 as surrogates for percolation. R. Roback (LANL) gave an update on his ^{36}Cl studies of the reference sample prepared by the USGS. Isotopic analyses of time-series leachates indicated that a preponderance of meteoric ^{36}Cl is released even earlier than anticipated by earlier LANL and LBNL sample-preparation studies. Accordingly, the standard protocol for passive leaching will be reduced from the currently accepted value of 24 hours. M. Caffee (LLNL) was unable to attend the meeting but has indicated that additional ^{36}Cl analyses of his leachates have

been completed and will be reported shortly. With regard to crushing additional samples from the ^{36}Cl validation coreholes, the SMF has conducted preliminary tests on similar tuff samples to determine optimum settings to maximize particles in the size range of ¼ to ½ inch. Those results currently are being evaluated.

WATER-RESOURCES MONITORING

Ground-water levels were measured at 33 sites, and ground-water discharge was measured at one flowing well. Ground-water data collected during May were checked and filed. Compilation of historical ground-water levels, spring-flow discharges, precipitation, and water-use data from the study area continued, as part of on-going work in preparation of the third-quarter trend-analysis report.

USGS Milestone Report

October 1, 2000 - June 29, 2001

Sorted by Baseline Date

Level: 3

Deliverable		Due Date	Expected Date	Completed Date
SSH015M3	Occupational Training Needs Assessment	6/29/01	6/12/01	6/12/01
SSH014M3	Annual Training Plan	6/29/01	6/12/01	6/12/01

USGS Milestone Report

October 1, 2000 - June 29, 2001

Sorted by Baseline Date

Level: 5

Deliverable		Due Date	Expected Date	Completed Date
SPH398CM5	Report: WL Data for Calendar Year 1999	3/30/01	7/31/01	
SPH854CM5	Cross Over Infiltration DP to RPC/TDB	3/30/01	7/31/01	
SPH856CM5	Document Missing Closing Calibrations	3/30/01	7/31/01	
SPH956CM5	Fluid Inclusion Data to RPC/TDB	3/30/01	9/14/01	
SPH715M5	Steady-State Model Report to Review	3/30/01	4/26/01	4/26/01
SPH459CM5	Document Missing Closing Calibrations	3/30/01	7/31/01	
SPH477CM5	Descript & DP: Dissolved Ion & Isotopic Anal	3/30/01	3/30/01	3/30/01
SPH737CM5	Moisture Monitoring DP to RPC/TDB	3/30/01	7/31/01	
SPI026CM5	Strat Workbook: 4th Qtr Data Submittal	3/30/01	9/28/01	
SPH45BCM5	Uranium/Strontium Anlys Data Pkg to RPC/TDB	3/30/01	7/30/01	
SPI022CM5	Strat Workbook: 2nd Qtr Data Submittal	3/30/01	9/28/01	
SPM311M5	ATC Hydraulic Testing Data to TDB/RPC	3/30/01	7/31/01	
SPH396CM5	Water-Level Data 3rd Qtr FY00 DP to RPC/TDB	3/30/01	3/9/01	3/9/01
SPH394CM5	Water-Level Data 2nd Qtr FY00 DP to RPC/TDB	3/30/01	3/9/01	3/9/01
SPH291CM5	Diss Ion & Iso Anlys of Perched Wtr to RPC/TDB	3/30/01	3/30/01	3/30/01
SPH876CM5	Document Missing Closing Calibrations	3/30/01	7/31/01	
SPH872CM5	Alcove 1 DP to RPC/TDB	3/30/01	7/31/01	
SPH747CM5	Document Missing Closing Calibrations	3/30/01	7/31/01	
SPI024CM5	Strat Workbook: 3rd Qtr Data Submittal	3/30/01	9/28/01	

USGS Milestone Report

October 1, 2000 - June 29, 2001

Sorted by Baseline Date

Level: 5

Deliverable		Due Date	Expected Date	Completed Date
SPH689M5	Progress HFM Update - Litho/Struct	3/30/01	3/29/01	3/29/01
SPH490CM5	Alluvium Tstg Complex Results DP to RPC/TDB	3/30/01	7/31/01	
SPH457CM5	EBS DP to TDB/RPC	3/30/01	7/31/01	
SPH48CM5	Dissolved Ion/Iso Anlys Data Pkg to RPC/TDB	3/30/01	7/30/01	
SPH3491CM5	RPC/TDB: SD-6 Pumping/Monitoring Data Pkg	4/2/01	3/21/01	3/21/01
SPM403M5	Status of Water-Level AMR, Rev 1	4/11/01	4/2/01	4/2/01
SPM341M5	Phase 2 Borehole Lithologies to TDB/RPC	4/16/01	7/30/01	
SSH615CM5	Tipping Bucket Monitoring Data to RPC/TDB	4/26/01	7/31/01	
SSH617CM5	Document Missing Closing Calibrations	4/26/01	7/31/01	
SPM509M5	Status of HFM Update	4/27/01	4/19/01	4/19/01
SPH345CM5	Closing Calibration Data to TDB/RPC	4/30/01	7/9/01	
SPH965CM5	Submit Borehole Logs	4/30/01	9/28/01	
SSW702M5	Letter Update: 2nd Qtr FY01	4/30/01	4/30/01	4/30/01
SPH970CM5	Submit Ring Density TDIF	5/30/01	8/27/01	
SPH703M5	Transient Target Heads Progress Report	5/31/01	5/23/01	5/23/01
SPW393BM5	Continuous WL Data Aug 00-Mar 01 to TDB/RPC	5/31/01	8/31/01	
SPW393AM5	Manual WL Data Jul-Dec 00 to TDB/RPC	5/31/01	7/31/01	
SPW396M5	Status of Transition Memo to TPO	6/29/01	6/29/01	
SPH717M5	Steady-State Mdl Rpt for USGS Director's Appr	6/29/01	9/28/01	

USGS Milestone Report

October 1, 2000 - June 29, 2001

Sorted by Baseline Date

Level: 5

Deliverable		Due Date	Expected Date	Completed Date
SPH684M5	Progress HFM Update - Transient Model	6/29/01	6/28/01	6/28/01

YMP PLANNING AND CONTROL SYSTEM (PACS)

MONTHLY COST/FTE REPORT

Participant U.S. Geological Survey
Date Prepared: 7/11/01 10:30 AM

Fiscal Month/Year June 30, 2001

	CURRENT MONTH END						FISCAL YEAR		
WBS ELEMENT	ACTUAL COSTS	PARTICIPANT HOURS	SUBCONTRACT HOURS	PURCHASE COMMITMENTS	SUBCONTRACT COMMITMENTS	ACCRUED COSTS	APPROVED BUDGET	APPROVED FUNDS	CUMMULATIVE COSTS
1.2.21.1.0	0	0	0	0	0	0	40	0	0
1.2.21.2.1	0	0	0	0	0	0	25	0	11
1.2.21.2.2	2	0	0	0	0	0	74	0	2
1.2.21.3.2	0	0	0	0	0	0	155	0	0
1.2.21.3.D	0	0	0	0	0	0	77	0	0
1.2.21.3.S	0	0	0	0	0	0	75	0	0
1.2.21.3.U	0	108	0	0	157	0	478	0	3
1.2.21.5.2	40	2447	0	0	0	0	598	0	416
1.2.21.5.3	35	14320	1846	0	269	0	1480	0	1582
1.2.21.5.4	130	24577	355	0	47	0	1600	0	1520
1.2.21.5.T	21	2432	465	0	72	0	634	0	378
1.2.21.6.1	67	9817	772	0	127	0	2068	0	1175
1.2.22.4.6	27	4900	253	0	68	0	533	0	409
1.2.22.4.E	23	910	79	0	32	0	212	0	68
1.2.22.4.S	118	20177	61	0	139	0	2261	0	1046
1.2.22.4.U	300	15370	1110	0	51	0	2454	0	1528
1.2.22.6.T	-2	80	0	0	0	0	350	0	333
1.2.22.8.0	1	332	0	0	0	0	50	0	28
	762	95470	4941	0	962	0	13164	0	8499

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4889-10716 Support to Chief Science Organization	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
81912110U1 Support to Chief Science Organizatio	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
2018 Basis for Recommendation	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
1.2.21.1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
1.2.21.1	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
4889-21211 Science Support to Vol. 1 SR (LOE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	11.17
81912121U1 Science Support to Volume 1 - SR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	11.17
2016 Site Recommendation Rprt Vol. 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	11.17
1.2.21.2.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0	0.0	0.0	11.17
4889-21225 Qualitative Natural Analog Study UZ Move	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.90
81912122U1 Geology and Natural Analogs Liaison	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.90
GS6105 USGS YMSD-Science Support to SR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.90
1.2.21.2.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	1.90
1.2.21.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.2	1.9	0.0	0.0	0.0	13.07
4889-21318 International TSPA-SR Peer Review	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
4889-21319 Science Support to TSPA-SR (LOE)	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
4889-21320 TSPA Checker Support	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
81912132U2 Science Support to TSPA - SR	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
GS2397 USGS TSPA for SR	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
1.2.21.3.2	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
4889-22209 Support to Disruptive Events	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
8191213DU1 Disruptive Events Process Model Rep	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
GS9093 USGS - Tectonic Hazards PMR - SR	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
1.2.21.3.D	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
4889-21350 Saturated Zone PMR Finalize Field Data	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
4889-21351 Saturated Zone PMR Comment Resolutio	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
4889-21355 Saturated Zone PMR rev. 1	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17

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8191213SU7 Science Support to SZ PMR for SR	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
2031 SZ Flow and Transport PMR-SR	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
1.2.21.3.S	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.17
4889-21360 Unsaturated Zone PMR Finalize Field Dat	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.08
4889-21361 Unsaturated Zone PMR Comment Resolut	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
4889-21365 Unsaturated Zone PMR rev. 1	0.0	2.1	1.0	0.8	-3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.31
8191213UU7 Science Support to UZ PMR for SR	0.0	2.1	1.0	0.8	-3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.39
4889-21372 Infiltration Footprint	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
8191213UU8 UZ F&T Analysis and Documentation	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
4889-21399 DEFERRED - Alcove Moisture Monitoring	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
8191213UUM DEFERRED - Alcove Moisture Monito	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
2027 UZ Flow and Transport PMR-SR	0.0	2.1	1.0	0.8	-3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.39
1.2.21.3.U	0.0	2.1	1.0	0.8	-3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.39
1.2.21.3	0.0	2.2	1.0	0.8	-3.8	3.3	0.0	0.0	0.0	0.0	0.0	0.0	3.56
4732-16300 Water Resources	35.8	35.8	35.8	2.8	45.1	26.7	18.5	46.0	32.7	0.0	0.0	0.0	279.30
81912152U5 Water Resources	35.8	35.8	35.8	2.8	45.1	26.7	18.5	46.0	32.7	0.0	0.0	0.0	279.30
4889-10715 Federal Occuational Safety & Health	8.4	10.8	7.6	8.5	7.8	10.6	6.9	9.7	7.6	0.0	0.0	0.0	77.94
81912152U6 Federal Occupational Safety and Hea	8.4	10.8	7.6	8.5	7.8	10.6	6.9	9.7	7.6	0.0	0.0	0.0	77.94
4889-84099 DEFERRED - Precipitation Gage Monitori	4.3	16.3	15.1	8.3	9.8	3.0	1.3	0.8	-0.4	0.0	0.0	0.0	58.51
81912152UM DEFERRED - Precipitation Gage Mon	4.3	16.3	15.1	8.3	9.8	3.0	1.3	0.8	-0.4	0.0	0.0	0.0	58.51
GS9121 USGS ES & H Core Program - SR	48.5	62.9	58.5	19.7	62.7	40.3	26.7	56.5	40.0	0.0	0.0	0.0	415.74
1.2.21.5.2	48.5	62.9	58.5	19.7	62.7	40.3	26.7	56.5	40.0	0.0	0.0	0.0	415.74
4889-10535 Technical Data Management	36.3	35.5	48.3	36.6	35.7	38.3	36.0	68.1	7.8	0.0	0.0	0.0	342.63
81912153U3 Technical Data Management	36.3	35.5	48.3	36.6	35.7	38.3	36.0	68.1	7.8	0.0	0.0	0.0	342.63
4889-21111 Data Q/V & Software V for SR Products	149.1	163.0	122.0	166.7	168.0	143.0	112.3	96.8	33.8	0.0	0.0	0.0	1,154.57
81912153U5 Data Q/V & Software V for SR Produc	149.1	163.0	122.0	166.7	168.0	143.0	112.3	96.8	33.8	0.0	0.0	0.0	1,154.57

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GS2470 USGS Tech. Data Mngmnt - SR	185.5	198.4	170.3	203.3	203.7	181.3	148.3	164.9	41.6	0.0	0.0	0.0	1,497.20
4889-10714 Records	6.0	5.9	9.8	10.9	11.5	11.2	12.4	23.9	-6.6	0.0	0.0	0.0	84.93
81912153U4 Records	6.0	5.9	9.8	10.9	11.5	11.2	12.4	23.9	-6.6	0.0	0.0	0.0	84.93
GS9197 USGS Dcmnt Cntrl, Rcrds & Mngmnt	6.0	5.9	9.8	10.9	11.5	11.2	12.4	23.9	-6.6	0.0	0.0	0.0	84.93
1.2.21.5.3	191.4	204.3	180.1	214.1	215.2	192.5	160.7	188.8	35.0	0.0	0.0	0.0	1,582.13
4889-10710 TPO	99.6	106.3	90.9	104.9	84.7	154.5	61.1	132.4	87.0	0.0	0.0	0.0	921.37
81912154U4 USGS TPO	99.6	106.3	90.9	104.9	84.7	154.5	61.1	132.4	87.0	0.0	0.0	0.0	921.37
4889-10713 Project Control	55.7	21.4	28.1	30.2	27.9	33.1	26.8	44.1	17.5	0.0	0.0	0.0	284.62
81912154U5 Project Control	55.7	21.4	28.1	30.2	27.9	33.1	26.8	44.1	17.5	0.0	0.0	0.0	284.62
4889-11201 Regulatory Product Integrity	35.8	34.0	33.1	34.8	33.8	39.6	31.8	46.4	25.2	0.0	0.0	0.0	314.40
81912154U6 Regulatory Product Integrity	35.8	34.0	33.1	34.8	33.8	39.6	31.8	46.4	25.2	0.0	0.0	0.0	314.40
GS9135 USGS Project Planning & Control	191.0	161.7	152.0	169.9	146.4	227.2	119.7	222.8	129.7	0.0	0.0	0.0	1,520.40
1.2.21.5.4	191.0	161.7	152.0	169.9	146.4	227.2	119.7	222.8	129.7	0.0	0.0	0.0	1,520.40
4889-21599 DEFERRED - Water Level Monitoring Clo	19.3	13.9	17.2	16.5	37.0	21.2	19.9	37.6	6.7	0.0	0.0	0.0	189.29
4889-23099 DEFERRED - Surface Base Boreholes Cl	18.4	17.7	21.2	21.2	23.4	25.0	12.2	35.5	14.0	0.0	0.0	0.0	188.70
8191215TUM DEFERRED - Testing and Analysis C	37.7	31.7	38.4	37.7	60.4	46.2	32.1	73.1	20.7	0.0	0.0	0.0	377.99
8621 USGS Tst Coord/Sup for Site Activitie	37.7	31.7	38.4	37.7	60.4	46.2	32.1	73.1	20.7	0.0	0.0	0.0	377.99
1.2.21.5.T	37.7	31.7	38.4	37.7	60.4	46.2	32.1	73.1	20.7	0.0	0.0	0.0	377.99
1.2.21.5	468.7	460.6	429.0	441.4	484.6	506.1	339.2	541.3	225.4	0.0	0.0	0.0	3,896.25
4889-10401 Support & Personnel Services	19.3	36.3	22.0	30.3	22.6	29.2	22.4	26.3	27.3	0.0	0.0	0.0	235.68
4889-10402 Procurement & Property Mgt.	14.6	15.1	13.7	13.7	13.6	11.6	8.1	19.7	8.6	0.0	0.0	0.0	118.75
4889-10403 Facilities Management - Space	74.7	-44.7	149.7	-11.4	-40.6	26.0	126.8	0.0	0.0	0.0	0.0	0.0	280.44
4889-10404 Facilities Management - Computers/Phon	0.0	2.4	0.9	7.9	0.4	2.7	0.4	22.5	5.9	0.0	0.0	0.0	43.20
4889-10405 Facilities Management - Other	20.7	31.1	-19.1	0.0	0.8	0.7	1.5	34.6	-2.5	0.0	0.0	0.0	67.81
4889-10406 Computer Support	20.7	20.2	16.7	14.2	17.2	15.6	13.6	24.0	20.1	0.0	0.0	0.0	162.32
81912161U3 Support and Personnel Services	150.0	60.4	184.0	54.8	14.0	85.8	172.8	127.1	59.4	0.0	0.0	0.0	908.21
4889-10409 DEFERRED - Space and Facilities	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

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81912161UM DEFERRED - Space and Facilities	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
GS533 USGS Administrative Support - SR	150.0	60.4	184.0	54.8	14.0	85.8	172.8	127.1	59.4	0.0	0.0	0.0	908.21
4889-10711 Training Support	7.5	60.6	25.7	23.6	22.4	20.7	18.6	80.3	7.6	0.0	0.0	0.0	266.97
81912161U4 Training Support	7.5	60.6	25.7	23.6	22.4	20.7	18.6	80.3	7.6	0.0	0.0	0.0	266.97
GS9111 USGS Training Program - SR	7.5	60.6	25.7	23.6	22.4	20.7	18.6	80.3	7.6	0.0	0.0	0.0	266.97
1.2.21.6.1	157.5	121.0	209.6	78.4	36.5	106.4	191.4	207.5	66.9	0.0	0.0	0.0	1,175.17
1.2.21.6	157.5	121.0	209.6	78.4	36.5	106.4	191.4	207.5	66.9	0.0	0.0	0.0	1,175.17
1.2.21	**626.2**	**583.8**	**639.6**	**520.6**	**517.3**	**615.9**	**530.5**	**759.9**	**294.2**	**0.0**	**0.0**	**0.0**	**5,088.06**
4889-21501 Lithostratigraphic Support to Nye Co.	18.8	11.1	13.5	18.5	15.7	9.2	7.0	8.5	7.1	0.0	0.0	0.0	109.50
4889-21511 Hydrostratigraphic Cross-Sections of Nye	0.0	0.0	17.6	6.3	12.0	24.5	15.5	28.6	13.5	0.0	0.0	0.0	118.04
81912246U1 Lithostratigraphic Support to Nye Cou	18.8	11.1	31.1	24.8	27.7	33.7	22.5	37.1	20.7	0.0	0.0	0.0	227.54
4889-21502 Isotope/Hydrochemical Support to Nye Co	23.4	17.0	20.8	17.7	37.5	29.2	12.7	16.7	6.3	0.0	0.0	0.0	181.20
81912246U2 Isotope/Hydrochemical Support to Ny	23.4	17.0	20.8	17.7	37.5	29.2	12.7	16.7	6.3	0.0	0.0	0.0	181.20
RMX25LA Nye County Drilling	42.2	28.2	51.8	42.5	65.2	62.9	35.2	53.8	26.9	0.0	0.0	0.0	408.74
1.2.22.4.6	42.2	28.2	51.8	42.5	65.2	62.9	35.2	53.8	26.9	0.0	0.0	0.0	408.74
4889-21322 Effects of Water-Rock Interaction on EBS	0.0	3.0	5.3	0.0	17.3	0.6	19.3	-0.3	12.0	0.0	0.0	0.0	57.24
8191224EU2 Effects of Water-Rock Interaction on	0.0	3.0	5.3	0.0	17.3	0.6	19.3	-0.3	12.0	0.0	0.0	0.0	57.24
4889-21321 Laboratory Support for EBS Thermal Testi	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	10.97
8191224EU3 Thermal Conductivity (EBS)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.0	0.0	0.0	0.0	10.97
GS532 USGS-EBS Dgrdtn Flow & Trnsprt P	0.0	3.0	5.3	0.0	17.3	0.6	19.3	-0.3	22.9	0.0	0.0	0.0	68.21
1.2.22.4.E	0.0	3.0	5.3	0.0	17.3	0.6	19.3	-0.3	22.9	0.0	0.0	0.0	68.21
4889-21357 Hydrogeologic Framework AMR	0.0	0.4	0.0	0.0	11.5	12.0	18.3	-1.3	3.2	0.0	0.0	0.0	44.08
4889-21358 Water Level AMR	7.9	3.8	4.1	3.6	4.4	6.3	2.9	5.4	3.9	0.0	0.0	0.0	42.25
4889-22451 SZ AMRs/PMRs	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
8191224SU1 Science Support to SZ AMRs/PMR fo	7.9	4.2	4.1	3.6	15.9	18.4	21.2	4.0	7.1	0.0	0.0	0.0	86.33
4889-12013 Alluvial Testing Complex	60.9	33.1	45.5	27.1	24.5	43.6	25.7	36.7	26.5	0.0	0.0	0.0	323.53
4889-12014 Support to In-Situ AMR, Rev.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	0.00

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8191224SU3	SZ Investigations	60.9	33.1	45.5	27.1	24.5	43.6	25.7	36.7	26.5	0.0	0.0	0.0	323.53
4889-12015	Monitor Isotope/Hydrochemical Conditions	1.2	5.9	2.6	6.3	5.6	1.9	4.3	5.3	2.9	0.0	0.0	0.0	36.11
4889-12017	Isotopic Dating of Groundwater	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	2.5	0.0	0.0	0.0	3.39
8191224SU4	SZ Isotope Hydrology	1.2	5.9	2.6	6.3	5.6	1.9	4.3	6.2	5.4	0.0	0.0	0.0	39.50
4889-11012	Regional Modeling Data Base	5.5	6.4	7.3	38.8	21.6	46.2	60.7	35.7	31.7	0.0	0.0	0.0	253.94
4889-11017	Hydrogeologic Framework Model - Refine/	8.8	6.5	-2.0	51.0	13.6	18.2	-3.9	40.6	24.9	0.0	0.0	0.0	157.61
4889-11020	Groundwater Flow Modeling	13.0	27.8	12.3	47.1	13.8	7.5	2.0	21.1	18.1	0.0	0.0	0.0	162.61
4889-11021	Technical Interactions - Regional Model	1.8	-1.8	0.0	0.0	10.6	5.7	0.1	1.4	4.2	0.0	0.0	0.0	22.06
8191224SU5	Regional Model	29.1	38.9	17.6	136.9	59.6	77.7	58.8	98.8	78.8	0.0	0.0	0.0	596.22
GS522	USGS - SZ Flow & Trnsprt PMR - LA	99.2	82.1	69.7	174.0	105.6	141.5	110.1	145.6	117.8	0.0	0.0	0.0	1,045.58
1.2.22.4.S		99.2	82.1	69.7	174.0	105.6	141.5	110.1	145.6	117.8	0.0	0.0	0.0	1,045.58
4889-21345	Drift-Scale Test ESF	11.8	-2.5	7.5	4.7	-2.7	21.5	8.0	-0.9	21.2	0.0	0.0	0.0	68.63
8191224UU7	Drift-Scale Test ESF	11.8	-2.5	7.5	4.7	-2.7	21.5	8.0	-0.9	21.2	0.0	0.0	0.0	68.63
GS502	USGS - Near Field Envrn. PMR - LA	11.8	-2.5	7.5	4.7	-2.7	21.5	8.0	-0.9	21.2	0.0	0.0	0.0	68.63
4889-21303	Crossover Alcove (Alcove 8)	29.2	28.3	31.6	12.5	22.1	24.1	29.8	44.8	100.7	0.0	0.0	0.0	323.13
4889-21384	ESF/Cross Drift Moisture Monitoring	12.0	9.8	16.2	13.7	16.5	19.6	18.2	0.2	10.7	0.0	0.0	0.0	116.81
4889-21385	ECRB (Bulkhead) Moisture Monitoring	10.4	-3.0	3.4	15.3	6.5	8.2	8.0	31.6	62.1	0.0	0.0	0.0	142.56
4889-66666	Monitor for Liquid Water	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
8191224UU3	UZ Moisture Studies	51.5	35.1	51.2	41.5	45.1	51.9	56.1	76.6	173.5	0.0	0.0	0.0	582.50
4889-22424	Surficial Carbonate Source Validation - Cr	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
4889-22425	Pore Water Geochemistry	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	1.2	0.0	0.0	0.0	7.52
4889-27009	Cl-36 Validation in the ESF	10.7	11.9	9.3	9.6	18.7	15.2	8.7	31.8	7.0	0.0	0.0	0.0	123.00
4889-62213	Ages of Calcite/Opal Fracture/Cavity Coati	38.7	33.0	24.7	60.0	11.3	32.3	25.3	65.0	27.2	0.0	0.0	0.0	317.49
4889-62219	Fluid Inclusions in Calcite/Opal	20.8	25.9	26.6	28.7	55.8	43.7	25.3	73.1	15.0	0.0	0.0	0.0	314.90
8191224UU4	UZ Isotope Hydrology	70.3	70.8	60.6	98.3	85.8	91.2	59.3	176.1	50.5	0.0	0.0	0.0	762.90
4889-21368	Busted Butte Mapping (Mineback)	0.0	5.9	16.5	7.3	2.8	0.4	5.0	21.3	55.0	0.0	0.0	0.0	114.11
4889-22401	Excavation-induced Fracture Study	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
4889-22402	Supplemental Surface Fracture Study	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

U.S. GEOLOGICAL SURVEY
ESTIMATED COSTS FOR October 1, 1999 - June 30, 2001
7/6/01 6:22:10 AM

	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
4889-22403 Lithophysal Study in the ECRB Tptpll for E	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
4889-22404 3-D Fracture Network Depiction	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
8191224UU5 Mapping (USBR)	0.0	5.9	16.5	7.3	2.8	0.4	5.0	21.3	55.0	0.0	0.0	0.0	114.11
GS520 USGS - UZ Flow & Trnsprt PMR - LA	121.8	111.8	128.3	147.1	133.7	143.5	120.4	274.0	279.0	0.0	0.0	0.0	1,459.52
1.2.22.4.U	133.6	109.3	135.8	151.8	131.0	165.0	128.4	273.1	300.2	0.0	0.0	0.0	1,528.15
1.2.22.4	274.9	222.5	262.7	368.2	319.1	370.0	293.0	472.3	467.9	0.0	0.0	0.0	3,050.68
4889-22607 Interpret WHB Geotechnical Data	1.8	4.0	0.0	-4.0	39.0	2.7	58.1	26.1	0.0	0.0	0.0	0.0	127.64
8191226TU4 Interpret WHB Geotechnical Data	1.8	4.0	0.0	-4.0	39.0	2.7	58.1	26.1	0.0	0.0	0.0	0.0	127.64
4889-22602 Deferred - Field Effort for WHB Geotechni	12.5	28.1	27.8	34.6	27.0	44.3	32.9	0.0	-1.8	0.0	0.0	0.0	205.39
8191226TUM DEFERRED - Field Effort for WHB G	12.5	28.1	27.8	34.6	27.0	44.3	32.9	0.0	-1.8	0.0	0.0	0.0	205.39
GS8622 USGS Tst Coord/Sup for Site Activitie	14.3	32.1	27.9	30.6	66.0	46.9	91.0	26.1	-1.8	0.0	0.0	0.0	333.03
1.2.22.6.T	14.3	32.1	27.9	30.6	66.0	46.9	91.0	26.1	-1.8	0.0	0.0	0.0	333.03
1.2.22.6	14.3	32.1	27.9	30.6	66.0	46.9	91.0	26.1	-1.8	0.0	0.0	0.0	333.03
4889-10712 KTI Meeting Support	0.0	0.4	4.4	13.2	8.6	0.1	0.0	0.1	1.1	0.0	0.0	0.0	27.87
81912280U1 KTI Meeting Support	0.0	0.4	4.4	13.2	8.6	0.1	0.0	0.1	1.1	0.0	0.0	0.0	27.87
GS503 Support Closure of NRC Key Technic	0.0	0.4	4.4	13.2	8.6	0.1	0.0	0.1	1.1	0.0	0.0	0.0	27.87
1.2.22.8.0	0.0	0.4	4.4	13.2	8.6	0.1	0.0	0.1	1.1	0.0	0.0	0.0	27.87
1.2.22.8	0.0	0.4	4.4	13.2	8.6	0.1	0.0	0.1	1.1	0.0	0.0	0.0	27.87
1.2.22	**289.2**	**255.1**	**295.0**	**412.0**	**393.6**	**417.0**	**384.0**	**498.5**	**467.2**	**0.0**	**0.0**	**0.0**	**3,411.58**
1.2 OPERATING	915.4	838.9	934.5	932.6	911.0	1,032.9	914.6	1,258.4	761.4	0.0	0.0	0.0	8,499.64
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	915.4	838.9	934.5	932.6	911.0	1,032.9	914.6	1,258.4	761.4	0.0	0.0	0.0	8,499.64
FTEs													
FEDERAL	57.8	61.5	58.2	65.4	85.9	73.9	56.8	65.8	62.3	0.0	0.0	0.0	
CONTRACT	42.0	37.3	35.1	39.7	34.3	36.8	34.5	34.6	31.7	0.0	0.0	0.0	
TOTAL	99.8	98.7	93.3	105.1	120.2	110.7	91.3	100.5	94.0	0.0	0.0	0.0	