

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
SURF009666	Memo: General Inorganic Chemical Analysis of Samples from Tuba City Site.	8/4/1993	R. Muniz	E. Artiglia	TUB 699.19(B)	TUBS 15
SURF009667	Memo: Uranium Analysis of Samples from Tuba City Site.	8/4/1993	R. Muniz	E. Artiglia	TUB 699.19(B)	TUBS 15
SURF009668	Memo: Analysis of Samples for the University of Arizona Plant Uptake Study and Field Blank Reagent Water.	10/18/1994	R. Muniz	P. Zietz	TUB 699.19(B)	TUBS 15
SURF009669	Memo: Request for Final Report for TUB01, Delivery Order No. 018-A and W1-A.	2/8/1994	S. Habermehl	P. Zietz	TUB 699.19(B)	TUBS 15
SURF009670	Memo: Water Chemical Analysis at the Tuba City Site.	8/2/1991	D. Nienow	M. Minter	TUB 699.19(B)	TUBS 15
SURF009671	Letter: We prefer you use the format for reporting revisions as specified in the new contract, which is the same format as specified for total and final reports.	12/18/1991	M. Burkhardt	K. Turnham, Jacobs Engineering	TUB 699.19(B)	TUBS 15
SURF009672	Letter: Deficiencies were noted in analytical results. These deficiencies will all necessitate submission of reanalysis results. The deficiencies are listed.	10/24/1991	M. Burkhardt	M. Minter	TUB 699.19(B)	TUBS 15
SURF009673	Memo: Water Chemical Analysis at the Tuba City Site. 95642	6/6/1991	D. Nienow	K. Turnham	TUB 699.19(B)	TUBS 15
SURF009674	Letter: In accordance with the terms and conditions of subcontract Number 05-62350-S-91-0009 for radiochemical analysis of water samples.	6/6/1991	C. Ramsay	D. Nienow	TUB 699.19(B)	TUBS 15
SURF009675	Memo: Radiochemical Analysis of Water Samples from the Tuba City Site.	3/3/1992	D. Nienow	M. Minter	TUB 699.19(B)	TUBS 15
SURF009676	Memo: Analysis for Tuba Ion Exchange Treated Water.	1/22/1996	P. Zietz	G. Hartman	TUB 699.19(B)	TUBS 15
SURF009677	Letter: Enclosed per your request is water quality sampling data from the two wells at Tuba City, Arizona that we are planning to send to you for denitrification treatability analysis.	12/12/1995	D. Liles, Accurex	G. Hartman, Jacobs Engineering	TUB 699.19(B)	TUBS 15
SURF009678	Memo: General Inorganic Analysis of Samples for the Tuba City Plant Uptake Study.	5/1/1995	R. Muniz	P. Zietz	TUB 699.19(B)	TUBS 15
SURF009679	Letter: In response to conversations concerning nitrate analytical	9/16/1992	M. Minter	L. Benkers	TUB 699.19(B)	TUBS 15

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	values reported on two separate jobs for your TUB01 Tuba City Sampling Site.					
SURF009680	Memo: Due to loss of staff and supervisory personnel, they would be unable to provide analytical data in the contractually required time frame.	6/8/1992	E. Artiglia	W. Downs	TUB 699.19(B)	TUBS 15
SURF009681	Memo: Water Sampling team will be sending a maximum of 17 water samples, including knowns and replicates, to Core Laboratories starting the week of November 28, 1988.	11/10/1988	A. Archuleta	M. Gilbert	TUB 699.19(B)	TUBS 15
SURF009682	Letter and Attachment: Tuba City Water Analysis. Please prepare known solutions as indicated below. Labeled bottles will be sent to you by our sampling team manager.	11/10/1988	M. Hollenbach, UNC	F. Titus, Jacobs Engineering	TUB 699.19(B)	TUBS 15
SURF009683	Package: Water Quality Analytical Reports, Barringer Laboratories.	11/12/1991	File	Jacobs Engineering	TUB 699.19(B)	TUBS 15
SURF009684	Package: Water Quality Analytical Reports. (Barringer, DO Number 011, 019, 023, 012, and 006).	3/3/1986	File	Barringer Laboratories	TUB 699.19(B)	TUBS 15
SURF009685	Package: Water Quality Analytical Reports. (Barringer DO Number 011).	6/29/1990	File	Barringer Laboratories	TUB 699.19(B)	TUBS 15
SURF009686	Package: Water Quality Analytical Reports. (Barringer DO Number 012)	9/18/1992	File	Barringer Laboratories	TUB 699.19(B)	TUBS 15
SURF009687	Package: Water Quality Analytical Reports. (Barringer DO Number 019)	9/13/1988	File	Barringer Laboratories	TUB 699.19(B)	TUBS 15
SURF009688	Package: Water Quality Analytical Reports. (DO Number 023)	4/1/1986	File	Barringer Laboratories	TUB 699.19(B)	TUBS 15

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SURF009689	Package: Water Quality Analytical Reports. (Weyerhaeuser DO Number 090C TUB01)	4/30/1996	File	Weyerhaeuser Laboratories	TUB 699.19(C)	TUBS 16
SURF009690	Package: UMTRA TAC Chemical Analytical Results, DO Number 090W TUB01.	4/2/1996	File	Weyerhaeuser Laboratories	TUB 699.19(C)	TUBS 16
SURF009691	Package: Water Quality Analytical Results. 95660	7/17/1984	File	Anonymous Labwork	TUB 699.19(C)	TUBS 16
SURF009692	Letter: UMTRA project is gathering background ground water quality information for the Navajo Sandstone Aquifer in order to assess ground water in the vicinity of Tuba City UMTRA site.	9/14/1994	J. Sorrell, Bureau of Indian Affairs	A. Groffman, Jacobs Engineering	TUB 699.19(C)	TUBS 16
SURF009693	Memo: Validation Data Package for August 1993 Tuba City Sample Analysis.	4/19/1994	D. Metzler, UMTRA	E. Artiglia, TAC	TUB 699.19(C)	TUBS 16
SURF009694	Memo: Validated Data Package for May 1994 Sampling Round at the Tuba City, UMTRA Project Site.	11/30/1994	R. Edge, UMTRA	E. Artiglia, TAC	TUB 699.19(C)	TUBS 16
SURF009695	Memo: Data Package for August September and May 1994, Tuba City, Sample Analysis. (Attachment)	11/18/1994	E. Artiglia	P. Zietz	TUB 699.19(C)	TUBS 16
SURF009696	Memo: Data Package for April 1995 Tuba City, AZ Sample Analysis.	7/17/1995	E. Artiglia	P. Zietz	TUB 699.19(C)	TUBS 16
SURF009697	Letter: Validated data packages for the following UMTRA sites located on Navajo Nation Lands: Monument Valley, Arizona, Mexican Hat, Utah, Tuba City, Arizona.	3/10/1995	B. Martin, UMTRA	R. Edge, DOE	TUB 699.19(C)	TUBS 16
SURF009698	Memo: Data Package for August 1993, Tuba City AZ Sample Analysis.	3/11/1994	E. Artiglia	P. Zietz	TUB 699.19(C)	TUBS 16
SURF009699	Letter: Summary of Tuba City Organic Compound Sampling Results from December 1995.	3/25/1996	S. Wright, TAC	A. Holm, TAC	TUB 699.19(C)	TUBS 16
SURF009700	Data Management Narrative: General Inorganic Analysis; Several analytical spike analyses outside the control limit of + or - 15% were reported for selenium. All selenium results associated with t	12/9/1995	File	P. Zietz	TUB 699.19(C)	TUBS 16

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	hese					
SURF009701	Letter: In response to your request for groundwater data from the Tuba City and Lakeview UMTRA Sites.	8/30/1988	T. Olsen, NRC	J. Garcia	TUB 699.19(C)	TUBS 16
SURF009702	Letter: Final water quality analyses for Tuba City, watersampling . This data package is the result of sampling monitor wells in the vicinity of the Tuba City UMTRA disposal cell for needed information	6/3/1993	A. Taylor, Hopi Tribe	D. Metzler, DOE	TUB 699.19(C)	TUBS 16
SURF009703	Memo: Client comments on recent FCT and TUB Sampling Data Packages.	8/16/1993	E. Artiglia	L. Pinkel	TUB 699.19(C)	TUBS 16
SURF009704	Memo and Attachments: Data Package for March and April 1996 Tuba City Sample Analysis. Attached TAC Hydrogeologist/Toxicologist Summary provides brief response to questions regarding ground water and	7/1/1996	S. Wright, TAC	J. Carman	TUB 699.19(C)	TUBS 16
SURF009705	Memo and Attachments: Review of Data package for April 1993, Tuba City Sample Analysis. Two surface water and two sediment samples were collected from Moenkopi Wash for baseline risk assessment purp	10/4/1993	E. Artiglia	E. Storms	TUB 699.19(C)	TUBS 16
SURF009706	Memo and Attachments: Data Package for December 1995, Tuba City. TAC Hydrogeologist/Toxicologist summary provides brief responses to questions regarding ground water and surface water compliance for	3/22/1996	S. Wright	A. Holm	TUB 699.19(C)	TUBS 16
SURF009707	Memo And Attachments: Data Package for April, 1992 Tuba City Water Sampling. Tnsi data package is being submitted in accordance with the data Validation and release procedures that are now being impl	9/15/1992	E. Artiglia	P. Zietz	TUB 699.19(C)	TUBS 16
SURF009708	Memo and Attachments: Data package for December 1992, Tuba City Sample Analysis. Enclosed in the package are the data a	5/4/1993	D. Metzler, UMTRA	E. Artiglia, TAC	TUB 699.19(C)	TUBS 16

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	assessment package, data management narrative, suspected anomalies report, anomalies					
SURF009709	Memo and Attachments: Data Package for September 1992, Tuba City, Sample Analysis. Enclosed in the package are the data assessment package, data management narrative, suspected anomalies report, and	8/4/1993	D. Metzler, UMTRA	E. Artiglia, TAC	TUB 699.19(C)	TUBS 16
SURF009710	Report: The Tuba City Uranium Tailing Pile. (1 Introduction (2 History of the Milling Operations (5 Present Condition of Site (7 Previous Work (10 Discussion (14 Research Strategy and Design (17 Notes	6/30/1983	File	K. Vandemoer, University of Arizona	TUB 699.19(C)	TUBS 16
SURF009711	Report: DOE "Pollution of Ground Water Due to Inactive Uranium Mill Tailings Piles", also, FY 1980 Milestone Chart.	2/6/1980	File	G. Markos	TUB 699.19(C)	TUBS 16
SURF009712	Report: Hydrology and Geology of Uranium Tailings site at Tuba City. (Center for Health and Environmental Studies)	7/1/1976	File	K. Fuhrman, Civil Engineering	TUB 699.19(C)	TUBS 16
SURF009713	Report: This is a paper that C. Vandemoer wrote for a class she was taking concerning an aquifer test for the Navajo Sandstone at Tuba City.	6/7/1984	P. Darr	C. Vandemoer	TUB 699.19(C)	TUBS 16
SURF009714	Memo and Report: Tuba City Field Work; This material is provided for your use in developing the field program for subsurface investigation.	7/22/1983	K. Baker	W. Mason	TUB 699.19(C)	TUBS 16
SURF009715	Letter and Report: Groundwater Monitoring Reports; Per your request of December 7, 1988, please find enclosed Groundwater Monitoring Reports for the following UMTRA project Sites- Ambrasia Lake, Dura	2/1/1989	J. Oldham, MK	D. Dubois, Jacobs	TUB 699.19(C)	TUBS 16
SURF009716	Letter and Report: Analysis of Tuba City Groundwater Flushing Time; The report provides details on the different approaches to estimating the flushing time, and the reasons why different times a	9/28/1987	J. Anderson, UMTRA	D. Dubois, Jacobs Engineering	TUB 699.19(C)	TUBS 16

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SURF009722	Letter and Calculations: Enclosed is a copy of the revised calculation of contaminant dispersion in uppermost aquifer. The calculation, computer output and supporting documentation are provided as Enc	3/29/1989	L. Shingoitewa, Navajo Nation	M. Matthews	TUB 699.19(D)	TUBS 17
SURF009723	Letter: Reviewed Comments from A. Brown consultants, Inc. Concerning the Methodology used for Concluding Nitrate Concentrations.	2/23/1989	L. Shingoitewa	M. Matthews	TUB 699.19(D)	TUBS 17
SURF009724	Letter: Tuba City UMTRA Project Site: Response to questions from Adrial Brown Consultants, Inc.	2/15/1989	M. Matthews, UMTRA	D. Dubois, Jacobs Engineering	TUB 699.19(D)	TUBS 17
SURF009725	Report: Tuba City UMTRA Project: Comments on DOE Recalculation of Lateral Extent of Nitrate Travel.	1/27/1989	File	Adrian Brown Consultants, Inc.	TUB 699.19(D)	TUBS 17
SURF009726	Letter: States MK request to pump Rare Metals for water supply during remediation of the Tuba City Site. Attached are calculations used to predict the impact of pumping this well at 60 gpm for a period	2/12/1987	D. Mann, DOE-AL	L. Shingoitewa, Hopi Tribe	TUB 699.19(D)	TUBS 17
SURF009727	Memo: Nitrate Analyses for TUB Ground Water.	1/3/1986	G. Rice	B. Deutsch	TUB 699.19(D)	TUBS 17
SURF009728	Memo with Attachments: TUB DEA/DRAP Calculation Checks. TUB DEA and DRAP calculations have been Checked according to SOP guidelines for Analysis of data and peer review as specified in the Albuquerque	10/24/1985	J. Thackston	S. Colarullo	TUB 699.19(D)	TUBS 17
SURF009729	Documents: Estimate of percolation from Tailings Pile.	2/15/1983	File	Ford, Bacon, and Davis Utah Inc.	TUB 699.19(D)	TUBS 17
SURF009730	Report: Environmental Assessment of Remedial Action at the Tuba City Uranium Mill Tailings site, Tuba City.	11/1/1986	File	DOE-UMTRA	TUB 699.19(D)	TUBS 17
SURF009731	Calculation Sheet: UMTRA Tuba City, Dispersivity Analysis, Hydrology-7 sheets.	3/15/1989	File	Jacobs Engineering	TUB 699.19(D)	TUBS 17

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SURF009732	Package, Reports: Site-TUB01, DO No. 32, Water Quality Analytical Results, Subcontract Number 34-6705-S-90-00033.	11/19/1990	File	Barringer Laboratories	TUB 699.19(D)	TUBS 17
SURF009733	Letter with Attachments: A report of the analytical results is contained in the attached "Water Quality Analytical Results" form supplied by Jacobs Engineering Group, Inc.	2/15/1985	J. Themelis,	R. Chessmore	TUB 699.19(D)	TUBS 17
SURF009734	Letter with Attachments: A report of the analytical results with the exception of Ra-228 was sent previously. The Ra-228 results are reported on the attached "Water Quality Analytical Results" forms	4/2/1985	J. Themelis	R. Chessmore	TUB 699.19(D)	TUBS 17
SURF009735	Letter with Attachments: The known values for these samples, the results obtained by the Bendix Laboratory, and the results reported by Jacobs field personnel are contained in the attached report.	4/30/1986	J. Themelis	R. Chessmore	TUB 699.19(D)	TUBS 17
SURF009736	Memo with Attachments: Preliminary Water-Quality Results for Tuba City. Maps, etc.	2/11/1985	J. Brinkman	D. Betsill	TUB 699.19(D)	TUBS 17
SURF009737	Letter and Attachments: Attached are chemical analyses of water from NTUA wells 3 and 5 at Tuba City.	12/17/1971	F. Alexander	E. McGavock	TUB 699.19(D)	TUBS 17
SURF009738	Package Reports: Site-TUB01, Water Quality Analytical Results, Subcontract Number 05-62350-S-93-0031.	11/17/1994	File	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009739	Memo with attachment: Tuba City Water Analyses. The water sampling team will be sending 17 water samples, including known and replicates, to Core Laboratories starting the week of November 28, 1988.	11/10/1988	A. Archuleta	M. Gilbert	TUB 699.19(D)	TUBS 17
SURF009740	Memo and Attachments: Please prepare known solutions as indicated below. Labeled Bottles will be sent to you by our sampling team manager. The known solutions should be bottled as indicated on the at	11/9/1988	M. Hollenbach	F. Titus	TUB 699.19(D)	TUBS 17

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SURF009741	Memo: Analytical Testing for Tuba City. Submit work order plan from the last round of analytical testing.	10/20/1988	E. Storms	M. Gilbert	TUB 699.19(D)	TUBS 17
SURF009742	Memo: Tuba City Water Sampling. The latest round of sampling has been completed at the Tuba City Site.	1/9/1989	E. Storms	J. Fritts	TUB 699.19(D)	TUBS 17
SURF009743	Letter: Sample Analysis; Approximately 17 samples will be sent to your lab from the Tuba City UMTRA site beginning about November 30, 1988, barring weather delays. All tests shall be performed strictly	12/7/1988	D. Hummel	C. Nester	TUB 699.19(D)	TUBS 17
SURF009744	Memo and Attachment: Radiochemical Analysis of Samples from Tuba City. A Maximum of 14 samples from the TUB01 site will be sent to Core Laboratories of Casper for radiochemical analysis.	11/30/1992	R. Muniz	P. Zietz	TUB 699.19(D)	TUBS 17
SURF009745	Package Documents: Water Quality Analytical Results, TUB01, DO Number G4C.	7/9/1993	Jacobs Engineering	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009746	Package: Water Quality Analytical Results, Core Laboratories, DO Number 005.	12/6/1988	File	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009747	Memo and Package: Isotopic Uranium Analysis of Tuba City Samples. Two water samples from the TUB01 site will be shipped to Core Laboratories of Casper, for isotopic analysis.	12/1/1995	A. Archuleta	P. Zietz	TUB 699.19(D)	TUBS 17
SURF009748	Package: Water Quality Analytical Results, Core Laboratories, DO Number 007.	12/19/1991	File	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009749	Package: Water Quality Analytical Results, Core Laboratories, DO Number 012.	1/24/1990	File	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009750	Package: Water Quality Analytical Results, Core Laboratories, DO Number 021.	5/16/1991	File	Core Laboratories	TUB 699.19(D)	TUBS 17
SURF009751	Package: Water Quality Analytical Results, Core Laboratories, DO Number 030.	10/6/1990	File	Core Laboratories	TUB 699.19(D)	TUBS 17

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SURF009767	Letter: Ground Water Sampling Activities at the DOE UMTRA Project Site in Tuba City. The enclosed plan identifies and justifies the sampling locations, analytical parameters, detection limits, and sampling	2/9/1996	R. Edge, UMTRA	S. Wright, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009768	Report: UMTRA Project Water Sampling and Analysis Plan Tuba City.	2/1/1996	File	Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009769	Memo: UMTRA Water Sampling and Analysis Plan, Tuba City. Document is ready for signature and transmittal.	12/22/1995	E. Artiglia	S. Wright	TUB 699.19(F)	TUBS 19
SURF009770	Memo: Proposed Sampling and Analysis Plan for Soil and Ground Water for the Current Drilling Program at the Tuba City Project Site.	10/19/1995	S. Wright	A. Holm	TUB 699.19(F)	TUBS 19
SURF009771	Report: The sampling of ground water is being conducted to and requirements in the and the water sampling and analysis plan. The wells sampled in this effort will be used to support the delineation of	4/1/1995	File	G. Ruskauff	TUB 699.19(F)	TUBS 19
SURF009772	Report: Final Audit Report for Water Sampling and Analysis Plan, Tuba City. This report presents the final summary of findings, observations, conclusions and recommendations resulting from the audit of	4/29/1994	R. Bennett, UMTRA TAC	J. Carman	TUB 699.19(F)	TUBS 19
SURF009773	Letter: UMTRA Water Sampling and Analysis Plan, Tuba City. The purpose of this document is to provide background, guidance, and justification for FY 1994 water sampling activities for the uranium mill	9/30/1993	A. Chernoff, UMTRA	R. Nelson, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009774	Memo: TAC Surface CCB S2137 to Add Support Activities for University of Arizona Plant Propagation Demonstration, Containment of Transient Drainage Plume, and Monitoring for Cell Performance.	6/5/1995	R. Edge, UMTRA	E. Artiglia, TAC	TUB 699.19(F)	TUBS 19

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SURF009775	Reports: Assessment of Transient Drainage at Tuba City, and from the stabilized tailings cell.	4/26/1995	E. Artiglia, TAC	R. Edge, UMTRA	TUB 699.19(F)	TUBS 19
SURF009776	Report: Method of Characteristics Model for Solute Transport in Ground Water Tuba City Vertical Dispersion Model-Transient Drainage.		File	Ground Water Modeling Center	TUB 699.19(F)	TUBS 19
SURF009777	Letter: Near term activities include but are not limited to the installation of approximately 22 wells, construction of 3 retention ponds, construction of a greenhouse, office trailer and various supplies.	6/18/1995	N. Honie, Hopi Tribe	R. Edge, UMTRA	TUB 699.19(F)	TUBS 19
SURF009778	Report Meeting: Tracer Test Feasibility at Tuba City. Discuss the feasibility of performing tracer test in the Navajo Sandstone.	10/7/1994	File	E. Artiglia, UMTARA TAC	TUB 699.19(F)	TUBS 19
SURF009779	Letter: POC Modeling at Tuba City Site. Concerning their technical review of DOE's point of compliance revised modeling at Tuba City.	8/4/1989	M. Matthews, DOE-AL	D. Dubois, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009780	Letter: The U.S. Department of Energy has received and reviewed the comments from A. Brown Consultants, concerning the methodology used for concluding nitrate concentrations will not exceed maximum concentration.	2/23/1989	L. Shingoitewa, Hopi Tribe	M. Matthews, UMTARA	TUB 699.19(F)	TUBS 19
SURF009781	Letter: No substantive activities can be undertaken until final EPA water protection standards are promulgated.	10/28/1987	L. Shingoitewa	D. Mann	TUB 699.19(F)	TUBS 19
SURF009782	Letter: Analysis of Tuba City Groundwater Flushing Time. We evaluated the reasons for the differences in times predicted for natural flushing to clean the groundwater at Tuba City to meet the proposed	9/28/1987	J. Anderson, DOE-AL	D. Dubois, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009783	Letter: As you are aware, the Hopi Tribe considers that the resolution of the remaining issues over groundwater are of paramount importance in this matter. We are concerned that the planning for the	9/8/1987	D. Mann, UMTARA	L. Shingoitewa, Hopi Tribe	TUB 699.19(F)	TUBS 19

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SURF009786	Document: Analysis is on samples of soil received on May 11, 1976 under PO-130-01-38-020.	6/3/1976	File	L. Ford, Ford Laboratories	TUB 699.19(F)	TUBS 19
SURF009787	Memo: TUB/HAT Soil Samples. Attached for your use are borehole logs from Tuba City and Mexican Hat sites which were prepared by M. Silva during soil sampling by the SH and B drill rig September 25, -	10/19/1984	R. Rager	W. Mason	TUB 699.19(F)	TUBS 19
SURF009788	Letter: Rock Core Analysis Tuba City. The TAC would like Bendix Field Engineering Corporation in Grand Junction, Colorado and Lawrence Berkly Laboratory in Berkley, California to prepare a written pr	7/25/1984	J. Morley, DOE-AL	R. Krishnan, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009789	Letter: Based on your measurements of the physical properties of samples from Tuba City, the following test information is being provided to allow measurement of the emanating fraction of Rn-222 for	7/9/1984	V. Rogers, Rogers and Associates	J. Smith, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009790	Report: Explanation of Sample Number System. (Construction Control Data)	4/22/1988	File	Western Technology	TUB 699.19(F)	TUBS 19
SURF009791	Report: Herewith submitted are completed test data for delivery order Number A001-Tuba City, including summary sheets, graphics and work sheets.	1/4/1985	D. Dzaack, Jacobs Engineering	K. Criley, Chen and Associates	TUB 699.19(F)	TUBS 19
SURF009792	Letter: Tuba City, AZ Moisture/Density Data.	11/2/1989	M. Matthews, DOE-AL	J. Oldham, MK	TUB 699.19(F)	TUBS 19
SURF009793	Letter: Data required for Tuba City-Placement moisture content and density measurements of the radon barrier; Placement moisture and density measurement of the windblown materials; Placement moisture	10/17/1989	J. Oldham, MK	M. Matthews	TUB 699.19(F)	TUBS 19
SURF009794	Letter: Soil Samples for PCB Analysis. Collected 3 composite soil samples from under old transformer.	6/16/1995	M. Minter	A. Vollmer, UMTRA	TUB 699.19(F)	TUBS 19

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SURF009795	Letter: Concerning the transformers in Tuba City. You can have concentrations of 50>500 ppm, without actually sampling the contents.	7/7/1995	R. Edge, DOE-AL	A. Vollmer, UMTRA	TUB 699.19(F)	TUBS 19
SURF009796	Letter: Priority Contractor will be Dine'Bi Ghan Construction. He proposes to ship the transformers to USPCI in Utah. USPCI requires waste profiles prior to receipt.	8/16/1995	A. Artiglia	A. Vollmer	TUB 699.19(F)	TUBS 19
SURF009797	Letter: Permeability Testing, Tuba City UMTRA Test Plots; Computation of Compliance with EPA Standards for Nitrate.	9/23/1988	J. Arthur, DOE-AL	M. Logsdon, Adrian Brown Consultants	TUB 699.19(F)	TUBS 19
SURF009798	Letter and Attachment: The attached test plot description confirms the test plot features that we mutually agreed on.	5/7/1987	C. Strachan, Water Waste and Land Inc.	N. Larson, Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009799	Package- Informational Copies of Tub-Ph II Embankment Radon Barrier - 200 Washes and Atterberg Limits		P. Cate	W. Hayes	TUB 699.19(F)	TUBS 19
SURF009800	Letter: Proposed Sampling and Analysis Plan for Soil and Ground Water for the Current Drilling Program at the Tuba City UMTRA Project Site.	10/19/1995	S. Wright	D. Tarbox	TUB 699.19(F)	TUBS 19
SURF009801	Memo with Attachment: Estimated Costs for Split-Spoon Sampling at the Tuba City UMTRA Project Site. Attached you will find a scope of work and technical specifications and a pricing schedule for a month.	10/16/1995	A. Holm	A. Miller	TUB 699.19(F)	TUBS 19
SURF009802	Memo: Analysis of Core Samples from the Tuba City Site	1/4/1995	E. Artiglia	G. Ruskauff	TUB 699.19(F)	TUBS 19
SURF009803	Documents: Groundwater Seep at Surface. The seep area is located at the base of a sandstone formation of the second scarp downgradient from the disposal cell.	5/20/1993	File	Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF009819	Report: Completed Test Results for delivery order A-005, including	2/12/1985	D. Dzaack, J	K. Criley, Chen	TUB 699.19(F)	TUBS 19

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
	ng summary sheets, graphics and worksheets. All testing requested has been completed with the exception of two triaxial permeability tes		acobs Engineering	and Associates		
SURF009820	Report: Submitted are completed test results for delivery order Number A-017, including test result summaries and worksheets. All assigned testing has been completed.	1/20/1986	R. Wege, Jacobs Engineering	S. Miller, Chen and Associates	TUB 699.19(F)	TUBS 19
SURF011822	Report: Completed permeability test results for eight samples obtained in May, 1988, from the Tuba City UMTRAP Site. All testing assigned to date has now been completed.	8/30/1988	R. Waddinton, MK-Ferguson	K. Criley, Chen and Associates	TUB 699.19(F)	TUBS 19
SURF011823	Laboratory Test Data: Please find enclosed the results of our laboratory testing on your samples from Tuba City. The following test results are enclosed.	6/10/1988	R. Heneks, MK	H. Allen Gruen, P.E.	TUB 699.19(F)	TUBS 19
SURF011824	Report, Laboratory Testing Results: Enclosed are results of the laboratory testing program conducted on samples from the Tuba City Rock Core. The Testing performed for this program was conducted in g	3/15/1996	J. Carman, Jacobs Engineering	K. Tan, Keanta n Laboratories	TUB 699.19(F)	TUBS 19
SURF011825	Letter and Report: Enclosed are three copies to the results of the soil test on the eight uranium tailings samples received June 5, 1984. These samples were from the Tuba City Site. These results con	7/2/1984	D. Dzaack, Jacobs Engineering	K. Nielson, Rogers and Associates	TUB 699.19(F)	TUBS 19
SURF011826	Report: Analytical reports for samples taken from the Tuba City project site. Analyses were performed as per your request.	9/2/1988	D. Schmidt, Jacobs Engineering	R. Chessmore, UNC Geotech Labwork	TUB 699.19(F)	TUBS 19
SURF011827	Calculation Cover Sheet: Tuba City long term moisture content for Rogers and Associates for retention coefficient.	2/3/1986	File	B. Keshian, Weston	TUB 699.19(F)	TUBS 19
SURF011828	Memo: Synopsis of radon barrier/sand filter infiltration positions at Tuba City Site.	10/27/1986	T. Begay, Navajo Site Pr	C. Heaton, Navajo Site Progra	TUB 699.19(F)	TUBS 19

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SURF011829	Technical Memorandum: Analysis of infiltration at the Tuba City UMTRA Site.	2/20/1987	L. Shingoite wa, Hopi Tribe	F. Marinelli, Terra Therma Inc.	TUB 699.19(F)	TUBS 19
SURF011830	Package Calculations: UMTRA Tuba City, Unsaturated Hydraulic Conductivity, Source of data Chen Laboratories.	3/3/1987	File	Jacobs Engineering Inc.	TUB 699.19(F)	TUBS 19
SURF011831	Memo and Calculations: Copies of the test results from the recent samples of arrow pit material are enclosed. The specific gravity and sodium sulfate soundness are close to the required specification	5/22/1989	M. Matthews, DOE	J. Oldham, MK	TUB 699.19(F)	TUBS 19
SURF011832	Memo and Calculations: PCB Analysis for Soils Obtained at Tuba City. There is no need for a special Statement of Work because the specifications of SW-846 Method 8080 adequately address our needs in	6/19/1995	R. Muniz	M. Minter	TUB 699.19(F)	TUBS 19
SURF011833	Calculation Cover Sheet and Package: Project UMTRA, Site TUB01, Feature Piezocone-Classification Correlations; Results of Piezocone Sounding Tests; Summaries of Piezocone Analysis; Chemical Analysis	2/3/1986	File	Jacobs Engineering	TUB 699.19(F)	TUBS 19
SURF011834	Package: Letter and Record of Telephone Conversation: Letter: Received technical memo from Terra Therma on their recommended Tuba City Modeling strategy. In addition, I have thought about the Riverton	3/11/1987	W. Deutsch, Jacobs Engineering	G. Gee, Battelle	TUB 699.19(F)	TUBS 19
SURF011835	Memo: Response to V. Rogers TUB Review. The Rogers correlation has no technical basis and is not an accepted method by the TAC for determining the long term moisture content. The correlation is based	3/12/1986	B. Knight	B. Keshian	TUB 699.19(F)	TUBS 19
SURF011836	Letter: Documents describing the soils and range near Halchita a	7/12/1985	S. Beranich,	M. Roth, Bureau	TUB 699.19(F)	TUBS 19

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
SURF011838	Facsimile: Tuba City Site Precipitation Data.	3/1/1996	J. Ritchie, Jacobs Engineering	National Climatic Data Center	TUB 699.19(G)	TUBS 20
SURF011839	Letter: Requesting assistance in determining the 100-year water surface elevation of Greasewood Lake, the estimated 100-year water surface elevation of Greasewood Lake is 5,104 ft. NGVD.	12/20/1985	D. Lechel, Jacobs Engineering	C. Enson, Corps of Engineers	TUB 699.19(G)	TUBS 20
SURF011840	Report: Request for data in the pasture canyon area, please find enclosed copies of our site schedules for four springs in that area (District 3, Quad 77).	7/31/1980	M. Zaman	W. Smith	TUB 699.19(G)	TUBS 20
SURF011841	Calculation Package: Project UMTRA, Site Tuba City, Feature-Site Drainage, Interstitial flow velocity on top slopes, Erosion protection top slopes, Maximum precipitation estimates.	2/3/1986	File	Jacobs Engineering	TUB 699.19(G)	TUBS 20
SURF011842	Report: Surface water review of the Tuba City Draft Environmental Assessment and Draft Remedial Action Plan. Technical memorandum is a draft document.	11/10/1986	Hopi Tribe	Terra Therma Inc.	TUB 699.19(G)	TUBS 20
SURF011843	Letter: Information about floodplain/wetland delineations for the proposed clean up of the inactive uranium mill tailings pile near Tuba City.	4/24/1985	D. Lechel, Jacobs Engineering	J. Fast, Department of the Army	TUB 699.19(G)	TUBS 20
SURF011844	Charts and Graphs: Drainage Peak Discharge, Little Colorado River Basin Discharge.	9/25/1985	File	Department of Interior	TUB 699.19(G)	TUBS 20
SURF011845	Letter, EPA Forms and NPDES Permits: MK-Ferguson requests a National Pollution Discharge Elimination System (NPDES) permit for the management of potentially contaminated stormwater runoff during the	10/13/1987	J. Breitlow, EPA	J. Oldham, MK	TUB 699.19(G)	TUBS 20
SURF011846	Letter and Permit: Enclosed is a copy of the draft permit, statement of basis and public notice of our proposed action on your application for a National Pollutant Discharge Elimination System (N	6/13/1988	J. Oldham, MK	K. Greenburg, EPA	TUB 699.19(G)	TUBS 20

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
	PDES					
SURF011847	Letter: In response to questions and concerns that have been expressed by A. Poentis of your staff during his review of the above referenced permit application that we submitted to you. Revisions and	2/9/1988	J. Breitlow, EPA	J. Oldham, MK	TUB 699.19(G)	TUBS 20
SURF011848	Letter: In response to your letter of March 14, 1988, MK-Ferguson Company offers the following comments, which are intended to serve as a supplement to our original application.	4/22/1988	K. Greenberg, EPA	J. Oldham, MK	TUB 699.19(G)	TUBS 20
SURF011849	Permit: Application for issuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge pollutant to waters of the United States: The Environmental Protection Agency (EPA),	6/16/1988	File	K. Greenberg, EPA	TUB 699.19(G)	TUBS 20
SURF011850	Authorization to Discharge Under the National Pollutant Discharge Elimination System: MK-Ferguson is authorized to discharge from their retention pond, located in Coconino County.	6/16/1988	File	H. Seraydarian, EPA	TUB 699.19(G)	TUBS 20
SURF011851	Memo: MK-Ferguson Company requests your consideration of the following changes to the draft NPDES permit for the storm water retention basin at the Uranium Mill Tailings Remedial Action Project site	7/19/1988	K. Greenberg, EPA	J. Oldham, MK-Ferguson	TUB 699.19(G)	TUBS 20
SURF011852	Fact Sheet: DOE has contracted MK-Ferguson to remediate Uranium Mill Tailings and associated contaminated materials left abandoned at the inactive processing plant in Tuba City. Under the Clean Water	3/29/1985	File	EPA	TUB 699.19(G)	TUBS 20
SURF014078	Calculation Cover Sheet: Calculation Number-TUB-06-95-16-02-00, Discipline-Hydrogeology, Project: UMTRA Ground Water Project, Tuba City.	6/28/1995	File	J. Ptacek	TUB 699.19(G)	TUBS 20
SURF014079	Calculation Cover Sheet: Calculation Number-TUB-05-90-14-04	5/11/1990	File	E. Storms	TUB 699.19(G)	TUBS 20

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
	-01, Discipline-Hydrogeology, Project: UMTRA Gound Water Project, Tuba City.					
SURF014080	Calculation Cover Sheet: Calculation Number-TUB-03-89-14-04-00, Discipline-Hydrogeology, Project: UMTRA Gound Water Project, Tuba City. (dispersivity analysis)	3/15/1989	File	E. Storm	TUB 699.19(G)	TUBS 20
SURF014081	Package: Letters. 1) 2 Letters: dated February 18, 1987 from John D'Antonio, DOE-AL to LeRoy Shingoitewa, Meokope Village Complex and Charles Damon, Navajo Nation. As you are aware, infiltration thr	2/10/1987	L. Shingoitewa, UMTRA	J. D'Antonio	TUB 699.19(G)	TUBS 20
SURF014082	Report: Report on Downhole Geophysical Logging at the Uranium Mill Tailings Repository Site, Tuba City.	10/12/1995	File	Southwest Geophysical	TUB 699.19(G)	TUBS 20
SURF014083	Report: Water Resource Protection and the UMTRA Project. Three Case Histories, Jacobs Engineering, Roy F. Weston, Sergeant, Hauskins and Beckwith.	1/5/1982	File	Various	TUB 699.19(G)	TUBS 20
SURF014084	Reports: Results of the particle size distribution tests with hydro meter, specific gravity, moisture density, and moisture content on the cover soil samples.	1/14/1985	D. Dzaack, Jacobs Engineering	K. Nielson, Rogers and Associates	TUB 699.19(G)	TUBS 20
SURF023693	Calculation Cover Sheet. Project - UMTRA. Tuba City Site featuring Non Saturated Parameters for Transient Drainage Analysis (RETC). Sources of Data from the Remedial Action Plan.	9/1/1989	File	Jacobs Engineering	TUB 699.19(G)	TUBS 20
SURF026762	Tuba City, Arizona - Location ID 901. Acknowledgement of Receipt of Samples for Organics Analysis. Southwest Research Institute. December 1988.	12/15/1988	File	Jacobs Systems Company	TUB 699.19(G)	TUBS 20
SURF026774	Technical Report: Tuba City Site Technical Notebook, Ground Water Project, January 1995. Volume 1 of 2. Report includes Site Description, Site Remediation, Vadose Zone Properties, Aquifer Properties	1/1/1995	File	DOE-AL	TUB 699.19(G)	TUBS 20

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
SURF026775	Technical Report: Tuba City Site Technical Notebook, Ground Water Project, January 1995. Volume 2 of 2. Report includes Site Description, Site Remediation, Vadose Zone Properties, Aquifer Properties	1/1/1995	File	DOE-AL	TUB 699.19(G)	TUBS 20
SURF009807	Graphs: Cross-Sections and RAV's Depth.	4/30/1976	File	D. Jones	TUB 699.20(A)	TUBS 20
SURF009808	Form: Background Threshold Value.	10/1/1995	File	P. Goetze	TUB 699.20(A)	TUBS 20
SURF009809	Calibration Data sheet: Quarterly Calibration Data, Airport Pads, Delta Scan.	9/11/1984	File	B. Foust and R. Rangel	TUB 699.20(A)	TUBS 20
SURF009810	Documentation: Quality Control Alpha Instrumentation, Control Exposure Rate Instrumentation, Quality Control Pressurized Ionization Chamber, and Delta Quality Control.	5/29/1984	File	B. Foust	TUB 699.20(A)	TUBS 20
SURF009811	Letter: Radiological Assessment of the Tuba City Site. Please provide a work plan and cost estimate for the subject site in accordance with the enclosed memo and statement of work.	4/18/1984	W. Lauman, Bendix	Merle Crew	TUB 699.20(A)	TUBS 20
SURF009812	Memo: Radiological Assessment of the Tuba City Site. Attached is the work statement for the Tuba City Site radiological assessment.	4/10/1984	File	J. Morley	TUB 699.20(A)	TUBS 20
SURF009813	Quality Bulletin: Daily operational checks of field radiometric instruments.	4/20/1984	C. Goodnight	K. Kosanke	TUB 699.20(A)	TUBS 20
SURF009814	Letter: Approval of Tuba City Site Radiological Assessment Project Plan.	5/16/1984	W. Lauman, Bendix	M. Crew	TUB 699.20(A)	TUBS 20
SURF009815	Memo: Approval of Tuba City Site Radiological Assessment Project Plan.	4/30/1984	M. Crew	J. Morley	TUB 699.20(A)	TUBS 20
SURF009816	Memo: Proposed Project Plan for the Radiological Characterization of Tuba City Site.	4/20/1984	J. Morley	M. Crew	TUB 699.20(A)	TUBS 20
SURF009817	Plans, Package: 1. This plan describes how Bendix Field Engineering Corporation will conduct the radiologic characterization of t	4/19/1984	K. Kosanke, Bendix	C. Goodnight,	TUB 699.20(A)	TUBS 20

Barcode	Document Name	Document Date	Addressee (To)	Originator (From)	Code No	Box Code
	he Tuba City Uranium Mill Tailings Pile and Adjacent areas. 2. L and sur					
SURF009818	Memo: Additional Characterization Needs for Tuba City.	1/20/1989	R. Cooney	F. Petelka	TUB 699.20(A)	TUBS 20
SURF011864	Field Books: Radiologic Characterization-Activity Logs/Diaries.	2/13/1984	File	J. Smith, Jacobs Engineering	TUB 699.20(A)	TUBS 20
SURF011865	Report: Hazard Assessment, this is a historical account of the Health and Safety Departments involvement with a radiological assessment of the abandoned, 114 acre tract of desert occupied by the Tuba	10/2/1984	File	D. Allen	TUB 699.20(A)	TUBS 20
SURF011866	Tuba City Silica Samples: Analyses of the Tuba City Silica samples were done according to the NIOSH procedure. The resultant silical levels range from 0 to 0.019 mg alpha-quartz per cubic meter of ai	9/6/1984	D. Allen	L. Fukui, Petrology Laboratory	TUB 699.20(A)	TUBS 20
SURF011867	Health and Safety Subcontractor Finalization: Airborne Radioparticulate Data Sheet.	6/6/1984	File	D. Toeroek	TUB 699.20(A)	TUBS 20
SURF011868	Health and Safety Subcontractor Finalization: BFEC Folio Documents, Contamination Surveys. (Vehicles)	5/15/1984	File	D. Allen	TUB 699.20(A)	TUBS 20
SURF011869	Health and Safety Subcontractor Finalization: Access and Frisking Log.	5/15/1984	File	D. Allen	TUB 699.20(A)	TUBS 20
SURF011870	Access Control Log Package:	5/15/1984	File	D. Allen	TUB 699.20(A)	TUBS 20
SURF011871	Package, Drilling Subcontractor Health and Safety Checklist: Tuba City, Arizona.	5/14/1984	D. Allen	Jex and Miller Drilling	TUB 699.20(A)	TUBS 20
SURF011872	Package: Direct Surface Contamination Survey, Also, Transferable (Smear) Contamination Survey.		File	D. Allen	TUB 699.20(A)	TUBS 20
SURF011873	Memo: Acknowledge receipt of the revised boundary description for the Tuba City disposal site. The boundary settlement plates and right-of-way from U.S. Highway 160 were authorized to be sur	2/3/1993	B. Hindman, RAC	R. Edge, UMTRA	TUB 699.20(A)	TUBS 20

