

HANFORD ORIGINATED DOCUMENTS  
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REPORT NUMBER	TITLE	AUTHORS	DATE
HW-41860	STUDIES ON THE HYDRAULIC CHARACTERISTICS OF PUREX OFF-GAS JETS	MICHELS LR	03/14/56
HW-41899	NUCLEAR SAFETY OF VESSELS IN ARRAYS	KETZLACH N	03/13/56
HW-42111	COUNTING METHODS AND CALCULATIONS USED BY THE ANALYTICAL LABS - SEPARATIONS SECTION	HELMHOLZ HR BRUNSTAD A	03/21/56
HW-42181	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD JULY, AUGUST, SEPTEMBER 1955	ROSTERBACH RE	03/22/56
HW-42225	APPLICATION AND OPERATION OF THE 325 BUILDING WELL COUNTER	BRAUER FP	03/00/56
HW-42230	200 AREA WASTE STORAGE STUDY	HANTORN HE	03/27/56
HW-42235	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, OCTOBER, 1955	MCCONIGA HW KNOLL KC	03/27/56
HW-42301	RADIOLOGICAL SCIENCES DEPARTMENT MONTHLY SECTION REPORTS MARCH 1956	MICKELSON ML, KORNERO HA, MCMURRAY PR, PEARCE DU, STEVENS AJ	04/06/56
HW-42331	ADMINISTRATION OF NUCLEAR SAFETY AT HANFORD	OICKERMAN RL	04/10/56
HW-42367	RUPTURED SLUG DATA - JANUARY 1956	ANDERSON JK HARTSE LW	03/01/56
HW-42403	RADIOLOGICAL SCIENCES DEPARTMENT QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES JANUARY - MARCH, 1956	PARKER IM	04/13/56
HW-42408	CHEMISTRY OF THE "SILVER REACTOR"	BARTON GB MCCLANAHAN ED	03/05/56
HW-42446	USEFUL FORMULAS AND REFERENCES FOR PROCESS TECHNOLOGY UNIT ENGINEERS	SPENCER RG	04/09/56
HW-42612	COBALT-60 IN GROUND WATER AND SEPARATIONS WASTE STREAMS	THOMAS CW REID DL TREIJA HA	04/20/56
HW-42654	RUPTURED SLUG DATA FEBRUARY 1956	SONARDS JW	04/01/56
HW-42670	SILVER SALTS TO REDOX CRIBS	CLUKEY RV	02/26/56
HW-42699	ADSORPTION BY SOIL OF STRONTIUM FROM 216-S CRIB WASTE	RHODES DW	02/15/56
HW-42700	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, NOVEMBER, 1955	MICKELSON ML, KORNERO HA, MCMURRAY PR, PEARCE DU, STEVENS AJ	05/04/56
HW-42715	RADIOLOGICAL SCIENCES DEPARTMENT MONTHLY SECTION REPORTS APRIL 1956	ROSTENBACH RE	05/01/56
HW-42946	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD OCTOBER, NOVEMBER, DECEMBER 1955	SONARDS JW HARTSE LW	04/30/56
HW-42953	RADIOACTIVITY LEVELS AND TEMPERATURE VARIATIONS OF THE COLUMBIA RIVER	SONARDS JW HARTSE LW	05/01/56
HW-42962	RUPTURED SLUG DATA - MARCH 1956	ANDERSEN BY SOLDAT JK	05/28/56
HW-43012	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD JANUARY, FEBRUARY, MARCH 1956	SONARDS JW HARTSE LW	05/14/56
HW-43065	RUPTURED SLUG DATA - APRIL 1956	JAECH JL	05/15/56
HW-43071	HANFORD RELEASE CALCULATIONS FOR APRIL, 1956	INGALLS WP SANBORN KL	05/11/56
HW-43099	REDUCTION OF AIR BORNE CONTAMINATION UO-3 PLANT	CLUKEY RV	05/10/56
HW-43121	TABULATION OF RADIOACTIVE LIQUID WASTE DISPOSAL FACILITIES	PARKER IM	06/04/56
HW-43137-E	RADIOLOGICAL SCIENCES DEPARTMENT REPORT FOR MONTH OF MAY 1956	UNDERWOOD JW	05/31/56
HW-43148	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, DECEMBER, 1955	MICKELSON ML	05/22/56
HW-43149	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JANUARY, 1956	06/04/56	
HW-43199	HAZARDOUS MATERIALS - REDOX PLANT	05/31/56	
HW-43419	RADIOLOGICAL SCIENCES DEPARTMENT MONTHLY SECTION REPORTS FOR MAY 1956	ROSTENBACH RE	05/22/56
HW-43441	PHYSICS RESEARCH QUARTERLY REPORT - JANUARY, FEBRUARY, MARCH 1956	DAVIS WV FOWLER HA	06/04/56
HW-43457	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, FEBRUARY, 1956	MALLETT CR	05/31/56
HW-43529	COLUMBIA RIVER SURVEY - 1954 - 1955	SONARDS JW HARTSE LW	06/08/56
HW-43547	HANFORD TEST PILE	DAVIS WV FOWLER HA	05/10/56
HW-43557	METALLURGICAL EXAMINATION OF II-LOOP FUEL ELEMENTS RESULTING FROM RUPTURE INCIDENT	MALLETT CR	06/07/56
HW-43591	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MARCH, 1956	HAYAKOTO WY HARTSE LW	06/10/56
HW-43630	EFFECT OF REACTOR POWER PURGES ON RADIOACTIVE CONTAMINATION OF COOLANT	SONARDS JW HARTSE LW	06/13/56
HW-43630	RUPTURED SLUG DATA - MAY 1956	SONARDS JW HARTSE LW	06/20/56

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HV-43899	HANFORD RELEASE CALCULATIONS FOR MAY, 1956	JAECH JL	06/22/56
HV-43930-E	RADIOLOGICAL SCIENCES DEPARTMENT REPORT FOR JUNE 1956	PARKER RH	07/06/56
HV-43946	STUDY OF THE CONTAMINATION SPREAD RESULTING FROM WIND ACTION ON EXPOSED CONTAMINATED WASTE SEPARATIONS SECTION RADIATION INCIDENT INVESTIGATION	WOLSEY RT KOBORG DR	06/29/56 06/28/56
HV-43964-DEL	CORROSION OF STAINLESS STEEL AND TITANIUM IN PUREX 2W	FRASER MC	03/24/58
HV-43986	RADIOLOGICAL SCIENCES DEPARTMENT INVESTIGATION: RADIATION INCIDENT CLASS 1, NO. 608-C	VANDERBEEK JH	06/28/56
HV-44008	REDOX PLANT CONTAMINATION INCIDENT	HOBLEY WH	06/28/56
HV-44041	RADIOLOGICAL SCIENCES DEPARTMENT QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES APRIL - JUNE, 1956	PARKER RH	07/13/56
HV-44054	ORGANIC REACTOR COOLANT SURVEY	ATWOOD JH COOK HW HANTHORN HE	07/09/56
HV-44215	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD APRIL, MAY, JUNE 1956	ANDERSEN BV SOLDAT JK	08/07/56
HV-44260	SLUG RUPTURE EXPERIENCE AT HANFORD - APRIL THROUGH SEPTEMBER 1955	ANDERSON JK	07/11/56
HV-44261	RUPTURED SLUG DATA - JUNE 1956	SCHARDS JH HARTSE LW	07/01/56
HV-44332	HANFORD RELEASE CALCULATIONS FOR JUNE, 1956	JAECH JL	07/17/56
HV-44354	EARTH SCIENCES' WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, APRIL, 1956		11/30/55
HV-44525	PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE 1956		07/25/56
HV-44526	DECONTAMINATION OF PIG SKIN CONTAMINATED WITH PLUTONIUM SOLUTION	GEORGE LA DOCKUM ML BUSTAD LK	08/20/56
HV-44708 V2	HAZARDS SUMMARY REPORT PROJECTS CG-55B AND CG-600 REACTOR PLANT MODIFICATIONS VOLUME 2	TRUMBLE	12/21/56
HV-44769	NEUTRON LEAKAGE THROUGH IRON	WOOD DE	07/23/56
HV-44773	ANALYSIS OF REACTOR SECTION RUPTURE EXPERIENCE IN REGULAR METAL EXPOSED TO HIGH CONCENTRATION	YOUNG JR	08/06/56
HV-44879	T PLANT IODINE STUDY - FINAL REPORT	HELGESON GL	08/08/56
HV-44890	FOLIAR SORPTION OF IODINE BY PLANTS	SELTERS AA HUNGATE FP	09/01/56
HV-45058	REVIEW OF RADIOACTIVE LIQUID WASTE DISPOSAL PRACTICES FOR HANFORD SEPARATIONS PLANTS	HANEY VA CLUKEY HV	08/24/56
HV-45070	WATER TREATMENT HISTORY AT HANFORD REACTORS THRU AUGUST 20, 1956	RICHMAN RB	08/21/56
HV-45092	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER JANUARY-MAY 1956	JACKSON PD	08/31/56
HV-45124	REVIEW AND ANALYSIS OF HYDROLOGICAL AND RADIOCHEMICAL COLUMBIA RIVER SURVEYS	BOGAN RH	08/29/56
HV-45125	INFLUENCE OF PURGES DURING REACTOR OPERATION ON THE CONCENTRATION OF RADIOISOTOPES IN THE COLUMBIA RIVER	THE KOOP WH	08/31/56
HV-45144	RUPTURED SLUG DATA - JULY & AUGUST 1956	BLOOMSTRAND R	09/01/56
HV-45512	HANFORD RELEASE CALCULATIONS FOR JULY, 1956	JAECH JL	09/11/56
HV-45519	REDUCTION OF GOAL EXPOSURE	REID RN	09/12/56
HV-45725	REACTOR EFFLUENT MONITORING	HEALY JH	10/12/56
HV-45747	ROUTINE 107 BASIN INLET SAMPLES	REID DL	08/25/56
HV-45983	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD JANUARY, FEBRUARY, MARCH 1956	CLUKEY HV	10/09/56
HV-45999	BIOLOGY MONTHLY REPORT - SEPTEMBER 1956	KORRBERG HA	10/09/56
HV-46002	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JULY, 1956		10/08/56
HV-46075	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, AUGUST, 1956		10/13/56
HV-46094	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD APRIL, MAY, JUNE 1956	CLUKEY HV	10/17/56
HV-46119	RUPTURED SLUG DATA - SEPTEMBER, 1956		10/01/56
HV-46120-RD	GAMMA MONITOR AND SUB-CRITICAL MONITOR	BLOOMSTRAND R	10/18/56
HV-46333	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JULY - SEPTEMBER, 1956	POJMO DC HEALY JH	10/30/56
HV-46395	HANFORD RELEASE CALCULATIONS FOR AUGUST AND SEPTEMBER, 1956 CORRECTIONS OF PU FIGURES FOR JUNE AND JULY, 1956	JAECH JL	10/31/56

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REPORT NUMBER	TITLE	AUTHORS	DATE
HW-46436	STANDARD PRACTICES RADIOCHEMICAL CALCULATION MANUAL	MORTON HT JACKSON PO REID DL	11/01/56
HW-46439	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, SEPTEMBER, 1956	MCCONIGA MW	12/10/56
HW-46440	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, OCTOBER, 1956	MCCONIGA MW	12/17/56
HW-46447	RAISING K REACTOR POWER LEVELS: RUPTURED SLUG ASPECTS	BLOOMSTRAND R	11/05/56
HW-46451	BIOLOGY MONTHLY REPORT - OCTOBER 1956	KORNBERG HA	11/05/56
HW-46680	RUPTURED SLUG DATA - OCTOBER, 1956	BLOOMSTRAND R	11/01/56
HW-46709	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER JUNE-JULY-AUGUST 1956	POLINSKY DM	11/14/56
HW-46715	UNCONTAINED UNDERGROUND RADIOACTIVE WASTE AND CONTAMINATION - 100 AREAS	HEID KR	11/14/56
HW-46726	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD JULY, AUGUST, SEPTEMBER 1956	ANDERSEN, BV MCCONIGA MW SOLDAT JK	12/07/56
HW-47012	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER 1956	HEID KR	11/05/56
HW-47055	SUMMARY OF LIQUID RADIOACTIVE WASTES DISCHARGED TO GROUND - 300 AREAS THROUGH OCTOBER 1956	KORNBERG HA	12/07/56
HW-47091	BIOLOGY MONTHLY REPORT - NOVEMBER 1956	MCCONIGA MW	12/04/56
HW-47120	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, NOVEMBER, 1956	JAECH JL	12/18/56
HW-47122	HANFORD RELEASE CALCULATIONS FOR OCTOBER, 1956	JAECH JL	12/06/56
HW-47152	CORRECTIONS FOR JUNE THROUGH SEPTEMBER	CLUKEY HV	12/07/56
HW-47170	RADIATION ASPECTS FOR RIVER NAVIGATION THROUGH HANFORD PROJECT	CLUKEY HV	12/10/56
HW-47253	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD JULY, AUGUST, SEPTEMBER 1956	JAECH JL	12/14/56
HW-47260	HANFORD RELEASE CALCULATIONS FOR NOVEMBER, 1956	LAKE TV	12/18/56
HW-47261	313 BUILDING FUME CONTROL INVESTIGATION SUMMARY REPORT	POLINSKY DM	12/17/56
HW-47261-REV	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER SEPTEMBER 1956	POLINSKY DM	12/17/56
HW-47500	REVISION	KORNBERG HA	01/04/57
HW-47559	BIOLOGY RESEARCH ANNUAL REPORT 1956	SKILLERR CP ADLEY FE	01/31/57
HW-47572	PORTABLE MULTI-RANGE NO2 GAS MONITOR	BLOOMSTRAND R	12/01/56
HW-47578	RUPTURED SLUG DATA - NOVEMBER, 1956	STILKER WB	01/14/57
HW-47676	CONTINUOUS RIVER SAMPLING SYSTEM AND METHODS OF RADIOCHEMICAL ANALYSES FOR STRONTIUM-89,90, BARIUM-140, AND PHOSPHORUS-32	MCCLAIVAN ED, JR CARTER JL, JR	11/15/56
HW-47720	REMOVAL OF IODINE-131 FROM DISSOLVER OFF-GAS STREAMS BY ISOTOPIC EXCHANGE	MCCONIGA MW	02/11/57
HW-47721A	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, DECEMBER, 1956	FUGUAY JJ	01/15/57
HW-47740	METEOROLOGY AS RELATED TO WASTE DISPOSAL AND WEAPONS TESTS	KORNBERG HA	01/07/57
HW-47811	BIOLOGY MONTHLY REPORT - DECEMBER 1956	POLINSKY DM	01/14/57
HW-47855	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER OCTOBER 1956	HEID KR	01/17/57
HW-47873	ESTIMATED CURVES OF LONG-LIVED BETA PARTICLE EMITTERS DISCHARGED TO GROUND AT WAPO THROUGH DECEMBER 1956	HONSTEAD JF BROWN DJ	01/11/57
HW-47880	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MAY, 1956	JAECH JL	01/18/57
HW-47940	HANFORD RELEASE CALCULATIONS FOR DECEMBER, 1956	BLOOMSTRAND R	01/01/57
HW-47941	RUPTURED SLUG DATA - DECEMBER, 1956	SOLDAT JK	11/22/57
HW-48021	SPECIAL FILTER SAMPLES OF HANFORD PROCESS EFFLUENT GASES	SILKER WB KIRBY LJ	01/07/57
HW-48044	SEPARATION AND DETERMINATION OF RADIOACTIVE RARE EARTHS IN REACTOR EFFLUENT WATER	HEALY JM	01/28/57
HW-48066-REV2	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES OCTOBER - DECEMBER, 1956	MCCONIGA MW	01/01/64
HW-48135	HANFORD LABORATORIES RADIATION PROTECTION PRACTICES MANUAL		03/14/57
HW-48135	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JANUARY, 1957		

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HN-48308	RADIOCHEMICAL ANALYSIS OF EFFLUENT FROM LOW CONCENTRATION OPERATING PURGE - 105 F - REACTOR EFFLUENT 12-10-56	MATSUMOTO WY	01/31/57
HN-48310	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JUNE, 1956	HONSTEAD JF BROWN DJ	02/04/57
HN-48350	REACTOR EFFLUENT WATER ANALYTICAL DATA	REID DL	02/06/57
HN-48356	INVESTIGATION OF THE EFFECTS OF WASTE DISPOSAL PROCEDURE MODIFICATIONS ON DISPOSAL OF D-2 WASTE TO THE GROUND	RHODES DV	02/07/57
HN-48374	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD OCTOBER, NOVEMBER, DECEMBER 1956	ANDERSEN BV MCCONIGA MW SOLDAT JK	02/25/57
HN-48381	CONTAMINATION OF RIVER ORGANISMS GROWN IN RETAINED AND NONRETAINED REACTOR EFFLUENT	PENDLETON RC	11/21/57
HN-48461	RADIOCHEMICAL DATA AND CALCULATIONS CONCERNING PRINCIPAL FISSION PRODUCTS	YARTUFL H	02/14/57
HN-48469	MINUTES OF THE COLUMBIA RIVER ADVISORY GROUP MEETING FEBRUARY 7-8, 1957	CLUKEY WV	02/12/57
HN-48501	RUPTURED SLUG DATA - JANUARY, 1957	BLOOMSTRAND R	02/01/57
HN-48523	CONCENTRATION OF RADIOISOTOPES IN COLUMBIA RIVER WHITEFISH IN THE VICINITY OF THE HANFORD ATOMIC PRODUCTS OPERATION	HATSON DG DAVIS JJ	02/18/57
HN-48525	HANFORD RELEASE CALCULATIONS FOR JANUARY, 1957	JAECH JL	02/14/57
HN-48530	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER NOVEMBER-DECEMBER 1956	POLINSKY DM	03/22/57
HN-48741-D	BIOLOGY OPERATION MONTHLY REPORT FEBRUARY 1957	KORBERG HA	03/04/57
HN-48826	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, FEBRUARY, 1957	MCCONIGA MW	03/27/57
HN-48893	DISPOSAL OF HIGH COBALT-60 SCORCHED WASTES	HAKEY WA	03/04/57
HN-48916	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER 1956		03/06/57
HN-49008	HYDRAULIC CHARACTERISTICS OF HANFORD AQUIFERS	BIERSCHENK WH	03/03/57
HN-49146	DISPERSION OF DISSOLVED MATERIAL IN THE COLUMBIA RIVER	HONSTEAD JF	03/12/57
HN-49195	REACTOR EFFLUENT WATER ANALYTICAL DATA JANUARY 1957	REID DL	03/21/57
HN-49214	TURBULENT DIFFUSION OF RIVER CONTAMINANTS	HORTON HT	03/25/57
HN-49417	METHOD OF CALCULATING COLUMBIA RIVER DRINKING WATER EXPOSURE	CLUKEY WV	03/18/57
HN-49465	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MARCH, 1957	MCCONIGA MW	05/06/57
HN-49485	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY, AUGUST, SEPTEMBER, 1956	BROWN DJ	04/12/57
HN-49549	ORIGIN OF CERTAIN RADIOISOTOPES IN HANFORD REACTOR COOLING WATER	EWING RE	04/24/57
HN-49575	TREATMENT OF GASEOUS EFFLUENTS	SCHMIDT WC	04/10/57
HN-49580	RUPTURED SLUG DATA - FEBRUARY, 1957	BLOOMSTRAND R	03/01/57
HN-49713	REACTOR EFFLUENT WATER ANALYTICAL DATA FEBRUARY 1957	REID DL	04/09/57
HN-49728	RECOMMENDED LIMIT ON ADDITION OF DICHROMATE TO THE COLUMBIA RIVER	FOSTER RF	04/17/57
HN-49782	EFFECT OF GROUND-WATER MOUNDS ON THE PUREX OPERATIONS	BIERSCHENK WH	04/18/57
HN-49784-RD	HANFORD RELEASE CALCULATIONS FOR FEBRUARY AND MARCH, 1957	JAECH JL	04/23/57
HN-49793	EFFECTS ON HANFORD OPERATION AND ENVIRONMENT CHARGEABLE TO FRIEST RAPIDS DAM OPERATION	FOSTER LE	08/03/55
	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JANUARY - MARCH, 1957	HEALY JW	04/24/57
HN-49840	RADIOACTIVITY LEVELS OF THE COLUMBIA RIVER BELOW RICHLAND, WASHINGTON FOR THE PERIOD OCTOBER, NOVEMBER, DECEMBER 1956	CLUKEY WV	04/23/57
HN-49843	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER JANUARY-MARCH 1957	KORTON HT	05/01/57
HN-50137	REACTOR EFFLUENT MONITORING	HALL RB	05/08/57
HN-50138	RADIOACTIVE GASES ORIGINATING IN REACTOR PROCESS TUBES	CARTER LA	04/23/57
HN-50144	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, APRIL, 1957	MCCONIGA MW	05/14/57
HN-50182	RUPTURED SLUG DATA - MARCH & APRIL, 1957	BLOOMSTRAND R	05/01/57
HN-50186	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS OCTOBER, NOVEMBER, DECEMBER, 1956	BROWN DJ	05/14/57

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HW-50198	ECONOMICS OF DISPOSING OF COATING WASTE AS A GEL - PRELIMINARY ESTIMATES	LINDEROTH CE	05/14/57
HW-50259	REMOVAL OF IODINE FROM DISSOLVER OFF-GAS BY CAUSTIC SCRUBBING	SEYFRIT KV	05/20/57
HW-50292	REACTOR EFFLUENT WATER ANALYTICAL DATA MARCH 1957	REID DL	04/01/57
HW-50311	RADIOCHEMICAL PROCEDURES FOR THE SEPARATION OF TRACER AMOUNTS OF NA-24, MN-56, CU-64 AND NP-239 FROM REACTOR EFFLUENT WATER	PERKINS RW	06/04/57
HW-50598	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH 1957	FAULKNER JE CLAYTON ED HENRY HL	05/31/57
HW-50601	EFFECT OF REACTOR PURGES WHEN RIVER TEMPERATURE EXCEEDS 15C	LEONARD BR STUART GH	06/10/57
HW-50686	HANFORD RELEASE CALCULATIONS FOR APRIL, 1957	KEOP WN	06/10/57
HW-50726	COMMENTS ON THE TWO METHODS USED TO REPORT KRYPTON RELEASES AT THE WAPO	JAECH JL	06/12/57
HW-50769	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER APRIL 1957	JAECH JL	06/14/57
HW-51009	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD JANUARY, FEBRUARY, MARCH 1957	MORTON HT MCCONIGA MH SOLDAT JK	06/17/57
HW-51018	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MAY 1957	MCCONIGA MW	06/21/57
HW-51026	LEAK DETECTION - UNDERGROUND STORAGE TANKS	WANEY WA	06/20/57
HW-51095	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JANUARY, FEBRUARY, MARCH, 1957	BROWN DJ	06/26/57
HW-51179-DEL	CHANGES IN REPORTING WAPO RELEASES	JAECH JL	06/26/57
HW-51188	HANFORD HISTORY, TECHNOLOGY, EXPANSION AND PRESENT EFFORTS	HANTHORN HE	10/21/57
HW-51216	GAMMA-RAY SPECTROMETRIC SYSTEM OF ANALYSIS FOR ELEVEN REACTOR EFFLUENT WATER RADIOISOTOPES	PERKINS RW	06/11/58
HW-51277	CHANGES IN THE HANFORD WATER TABLE, 1944-1957	BIERSCHENK WH MCCONIGA MW	07/09/57
HW-51321	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES APRIL - JUNE, 1957	HEALY JW	07/10/57
HW-51383	REACTOR EFFLUENT WATER ANALYSIS DATA APRIL MAY 1957	REID DL	05/31/57
HW-51397	TABULATION OF REACTOR EFFLUENT WATER CONTAMINANTS IN THE COLUMBIA RIVER MAY 1957	REID DL	07/17/57
HW-51413	HANFORD RELEASE CALCULATIONS FOR JULY, 1956 THROUGH JUNE, 1957	JAECH JL	07/17/57
HW-51443	RUPTURED SLUG DATA - MAY & JUNE, 1957	BLOONSTRAND R	07/01/57
HW-51667	NITROGEN OXIDES IN THE ENVIRONS OF PUREX AND REDOX STACKS	SKILLERN CP	07/25/57
HW-51682	THERMAL CONSIDERATIONS IN THE DISPOSAL OF GELLED HIGH LEVEL RADIOACTIVE WASTES	LINDEROTH CE	09/10/57
HW-51763	REACTOR EFFLUENT WATER ANALYTICAL DATA JUNE 1957	REID DL	06/30/57
HW-51821	CURIE CALCULATIONS FOR ISOTOPES IN ROUTINE PRODUCTION AT HANFORD	FRY WE	08/08/57
HW-51827	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JUNE, 1957	MCCONIGA MW	08/05/57
HW-51856-CH3	IPD PHYSICS PRIMER CHAPTER 3 - THE PILE STRUCTURE	LOCKHOOD EH	05/01/58
HW-51873	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JULY, 1957	MCCONIGA MW	09/16/57
HW-51925	PROJECT REPORT FOR AEE-AEC SUMMER 1957 PROGRAM REMOVAL OF I-131 FROM OFF-GASES	THOMPSON RD	08/16/57
HW-51952	CHARTED MATERIAL FOR NUCLEAR SAFETY REVIEW - JULY 30, 1957	GREGGER OH	07/30/57
HW-51956	SPARE SILVER REACTORS FOR PUREX	MICHELIS LR	08/19/57
HW-51983	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY JUNE 1957	FAULKNER JE CLAYTON ED LEONARD BR STUART GH	08/14/57
HW-52038	REGIONAL MONITORING PROGRAM	ANDERSEN BV	08/26/57
HW-52264	HANFORD RELEASE CALCULATIONS FOR JULY, 1957	JAECH JL	08/26/57
HW-52401	DILUTION OF 300 AREA URANIUM WASTES ENTERING THE COLUMBIA RIVER	WANEY WA	09/09/57
HW-52410	RADIOACTIVITY IN 100-AREA WATER	HALL RB	09/09/57
HW-52411	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, AUGUST, 1957	MCCONIGA MW	09/23/57
HW-52753	EFFECT OF HEATING IRRADIATED URANIUM, A LITERATURE SURVEY	HILLIARD RK	11/01/57
HW-52789	PUREX DEEP-BED FIBERGLAS FILTER	SKILLERN CP	09/25/57
HW-52802	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, SEPTEMBER, 1957	MCCONIGA MW	12/16/57

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HW-52803	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD APRIL, MAY, JUNE 1957	MCCONIGA MW SOLDAT JK	10/28/57
HW-52843	FORMULAE RELATING THERMAL NEUTRON FLUX AND THERMAL NEUTRON EXPOSURE TO URANIUM COLUMN POWER	FRY WE	09/27/57
HW-52866	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JULY - SEPTEMBER, 1957	HEALY JW	10/01/57
HW-52872	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, OCTOBER, 1958	MCCONIGA MW	12/26/57
HW-52908	DEPLETION OF RADIOISOTOPES FROM THE COLUMBIA RIVER BY NATURAL PROCESSES	NIELSEN JM PERKINS RW	10/04/57
HW-52918	SPECIAL INCIDENT REPORT POWER EXCURSION - H REACTOR FOR SEPTEMBER 29, 1957	JESSEN RT	10/07/57
HW-53001-RD	H PILE START-UP OF 9-28-57	GALLEGHER JR, MOORE DL	10/11/57
HW-53221	SPECIAL HAZARDS REPORT - I & E FUEL LOADS	BROWN JH FULLNER GC TRUMBUE RE VAINORMER FH	10/15/57
HW-53225	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS APRIL, MAY, JUNE, 1957	BROWN DJ	09/25/57
HW-53362	ACCUMULATION OF RADIOISOTOPES IN RATS CHRONICALLY EXPOSED TO REACTOR EFFLUENT WATER	PALMER RF	05/13/58
HW-53372	DISPOSAL OF DECONTAMINATING AGENTS FOR REACTOR REAR FACE PIPING	KOOP WN	11/20/57
HW-53429	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, NOVEMBER, 1957	BERNARD RH	01/07/58
HW-53481	H REACTOR STARTUP CAUSING FUEL ELEMENT RUPTURES	WALKUP PC	10/20/57
HW-53482	RUPTURED SLUG DATA - AUGUST 26, 1957 THROUGH SEPTEMBER 11, 1957	BLOOMSTRAND R	09/15/57
HW-53483	RUPTURED SLUG DATA - JULY 2, 1957 THROUGH AUGUST 24, 1957	BLOOMSTRAND R	09/01/57
HW-53492	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER 1957	FAULKNER JE CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR NEUMANN H	11/06/57
HW-53500	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1957	KORNBERG HA	01/10/58
HW-53501	CALCULATED EFFECT OF H-388 ALLOY JACKETED SLUGS ON REACTOR EFFLUENT WATER ACTIVITY	HALL RB CHITWOOD RA	11/06/57
HW-53599	FLUCTUATIONS OF HANFORD WATER LEVELS	BIERSCHENK WH	11/14/57
HW-53638	EVALUATION OF REACTOR HAZARDS (PART 1) & RADIOLOGICAL CONSIDERATIONS (PART 2)	TRUMBUE RE HEALY JW	11/18/57
HW-53954	RUPTURED SLUG DATA - SEPTEMBER 12, THRU OCTOBER 17, 1957	BLOOMSTRAND R	10/30/57
HW-54128	CALCULATIONS ON ENVIRONMENTAL CONSEQUENCES OF REACTOR ACCIDENTS INTERIM REPORT	HEALY JW	12/11/57
HW-54225	REACTOR EFFLUENT DILUTION FACTORS	CORLEY JP	12/23/57
HW-54243-REV	HANFORD ATOMIC PROJECT AND COLUMBIA RIVER POLLUTION	CLUKEY HV	12/23/57
HW-54257	OVERREATED METAL CHARGES DR REACTORS	O'RORKE EH	12/23/57
HW-54286	METEOROLOGICAL FACTORS IN THE CONTROL OF SHORT-PERIOD, GROUND LEVEL CONCENTRATIONS OF SEPARATIONS STACK EFFLUENT	FUQUAY J	12/27/57
HW-54316	DEFINITIONS OF TERMS USED IN THE PERIODIC RUPTURED SLUG DATA REPORTS	BLOOMSTRAND RR	12/31/57
HW-54351	PRELIMINARY CONSIDERATIONS REGARDING BURNING SLUG INCIDENTS	BOOK NE	01/02/58
HW-54359	HANFORD RELEASE CALCULATIONS FOR AUGUST, 1957 - NOVEMBER, 1957	JAECH JL	01/03/58
HW-54380	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, DECEMBER, 1957	BERNARD RM	01/23/58
HW-54591	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER 1957	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	03/05/58
HW-54591-RD	NUCLEAR PHYSICS QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER, 1957 ROUGH DRAFT	HANEY WA HOWSTEAD JF	03/04/58
HW-54599	HISTORY AND DISCUSSION OF SPECIFIC RETENTION DISPOSAL OF RADIOACTIVE LIQUID WASTES IN THE 200 AREAS	SELBY JM SOLDAT JK	04/18/58
HW-54636	SUMMARY OF ENVIRONMENTAL CONTAMINATION INCIDENTS AT HANFORD 1952 - 1957	BROWN DJ	01/25/58
HW-54655	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY, AUGUST, SEPTEMBER, 1957	BLOOMSTRAND R	12/27/57
HW-54658	RUPTURED SLUG DATA OCTOBER 18, THRU DECEMBER 4, 1957	BLOOMSTRAND R	01/01/58
HW-54659	RUPTURED SLUG DATA DECEMBER 5, THRU DECEMBER 31, 1957	BLOOMSTRAND R	01/01/58
HW-54676	SEMI-PORTABLE HIGH SENSITIVITY SCINTILLATION COUNTER	MCCALL RC	01/01/58
HW-54721	DISPOSAL OF RADIOACTIVE LIQUID WASTES FROM THE URANIUM RECOVERY PLANT	RHODES DV NELSON JL	01/24/58 06/05/57

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HV-54730	HANFORD RELEASE CALCULATIONS FOR DECEMBER, 1957	JAECH JL	01/27/58
HV-54756	PREDICTED EFFECTS ON 100-D AREA WATER SUPPLY FROM 100-K AREA OUTFALL LINE FAILURE	MCCONIGA MW SOLDAT JK	02/10/58
HV-54836	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JANUARY, 1958	BERNARD RM	02/17/58
HV-54841	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD JULY, AUGUST, SEPTEMBER 1957	MCCONIGA MW SELBY JM SOLDAT JK	02/24/58
HV-54842	RADIOACTIVE CONTAMINATION IN THE HANFORD ENVIRONS FOR THE PERIOD OCTOBER, NOVEMBER, DECEMBER 1957	MCCONIGA MW SELBY JM SOLDAT JK	02/28/58
HV-54848	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS OCTOBER, NOVEMBER, DECEMBER, 1957	BIERSCHENK WII	01/30/58
HV-54858	EFFECT ON FISH OF INCREASING THE TEMPERATURE OF THE COLUMBIA RIVER	FOSTER RF	03/14/58
HV-54913	MEASUREMENT OF I-131 AND OTHER FISSION PRODUCTS ON VEGETATION BY GAMMA-RAY SPECTROMETRIC ANALYSIS	PERKINS RV	02/10/58
HV-54938	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES OCTOBER - DECEMBER, 1957	HEALY JM	02/12/58
HV-54953	ENVIRONMENTAL CONSEQUENCES OF PROPOSED CHANGES IN REACTOR OPERATIONS	ANDERSEN BY SOLDAT JK HEALY JW UNRUH CM	04/11/58
HV-55098	HANFORD RELEASE CALCULATIONS FOR JANUARY, 1958	JAECH JL	02/25/58
HV-55117	STRONTIUM-90 CONCENTRATIONS IN THE HANFORD ENVIRONS	SILKER WB	05/20/58
HV-55171	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, FEBRUARY, 1958	BERNARD RM	03/20/58
HV-55223	INVESTIGATION REPORT - PUREX PLANT SILVER REACTOR INCIDENT	SCHROEDER OC	02/27/58
HV-55249	EFFECTS OF DIRECT DISPOSAL OF REACTOR EFFLUENT WATER TO THE RIVER	HALL RB KOOP WJ MCCORHACK JD	03/06/58
HV-55292	EFFECT OF SEPARAN ON RAINBOW TROUT	OLSON PA FOSTER RF	03/11/58
HV-55377	ANALYSES AND CORRELATIONS OF HAPORUPTURE EXPERIENCE WITH NATURAL URANIUM MATERIAL	BLOOMSTRAND RR NEEF VI	04/23/58
HV-55505	HANFORD RELEASE CALCULATIONS FOR FEBRUARY, 1958	JAECH JL	03/26/58
HV-55520	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MARCH, 1958	BERNARD RM	04/24/58
HV-55569-RD	HISTORY OF AIRBORNE CONTAMINATION AND CONTROL - 200 AREAS	ROBERTS RE	04/01/58
HV-55586	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JANUARY - MARCH, 1958	HEALY JW	04/03/58
HV-55712	HANFORD RELEASE CALCULATIONS FOR MARCH, 1958	JAECH JL	04/14/58
HV-55724	REGIONAL MONITORING ACTIVITIES MARCH, 1958	STROWATT RV	04/15/58
HV-55735	REMOVAL OF RADIO-IODINE FROM PUREX OFF-GAS WITH NITRIC ACID AND WITH NITRIC ACID-MERCURIC NITRATE SOLUTIONS	DICKEMAN RL HEALY JW TOMLINSON RE	04/16/58
HV-55756	REPORT FOR ADVISORY COMMITTEE ON REACTOR SAFEGUARDS	NEEF VI	04/22/58
HV-55823	RUPTURED SLUG DATA JANUARY 1, THRU MARCH 31, 1958	PILKEY OH PLATT AM ROHRMANN CA	04/23/58
HV-55830	STORAGE OF HIGH LEVEL RADIOACTIVE WASTES		
HV-55841-RD	DESIGN AND OPERATING EXPERIENCE IN THE UNITED STATES	BIERSCHENK WII	04/24/58
HV-55858	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JANUARY, FEBRUARY, MARCH, 1958	BERNARD RM	05/16/58
HV-55879	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, APRIL, 1958	FAULKNER JE	04/29/58
HV-55879-RD	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH 1958	HEINEMAN FE HEALY JW LEONARD BR	04/29/58
HV-55925	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH 1958		
HV-55950	REGIONAL MONITORING ACTIVITIES APRIL, 1958	JASKE RT BRINKMAN LB CORLEY JP HALL	05/08/58
HV-55974	EFFECTS ON HANFORD WORKS OF A NAVIGATION CHANNEL IN THE COLUMBIA RIVER	RB KRAHER HA LINDEROTH CE	06/06/58
HV-56001-E	TEMPERATURE OBSERVATIONS - REDOX PLANT SILVER REACTORS	HANSON GL	05/07/58
	INTERNAL DECONTAMINATION WITH TURCO 4306-B - DISPOSAL ASPECTS II	KOOP WJ	01/29/59

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HW-56140	RUPTURED SLUG DATA APRIL 1, THRU APRIL 13, 1958	NEEF WJ	05/21/58
HW-56146	DEVELOPMENT OF CONTINUOUS CALCINER OFF GAS SCRUBBER	LYON RY	10/31/58
HW-56151-REV	STACK EFFLUENT RADIOISOTOPE MONITOR	HARVEY RA	10/15/58
HW-56213	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MAY, 1958	BERNARD RM	06/16/58
HW-56226	REGIONAL MONITORING ACTIVITIES MAY, 1958		06/10/58
HW-56231	HANFORD RELEASE CALCULATIONS FOR APRIL, 1958	JAECH JL	06/03/58
HW-56242	INTERIM REPORT ON THE ORIGIN OF REACTOR EFFLUENT WATER RADIOISOTOPES. ANALYSIS OF TURCO PURGE MATERIAL	PERKINS RW	06/03/58
HW-56390	DETERMINATION OF GALLIUM-72 IN REACTOR EFFLUENT WATER AND COLUMBIA RIVER WATER	KIRBY LJ	06/13/58
HW-56539	REGIONAL MONITORING ACTIVITIES JUNE, 1958	ANDERSEN DV	07/17/58
HW-56542	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JUNE 1958	BERNARD RM	07/16/58
HW-56548-RD	REDOX PLANT URANIUM DISSOLVING STUDIES, 1957	HANSON GL	07/26/58
HW-56623	HANFORD MID-YEAR REPORT TO COLUMBIA RIVER ADVISORY GROUP	CLUKEY IV MCCOHLIGA MW	07/07/58
HW-56701	NUCLEAR SAFETY DISCUSSIONS WITH AEC-APRIL 21, 1958	HEALY JW TOMLINSON RE	07/10/58
HW-56764	MEETING WITH ADVISORY COMMITTEE ON REACTOR SAFEGUARDS, HANFORD - JUNE 5 AND 6, 1958 AND SUMMARY OF MAY 9, 1958 MEETING	DICKEMAN RL	07/14/58
HW-56916	HANFORD RELEASE CALCULATIONS FOR JULY, 1957 THROUGH JUNE, 1958	JAECH JL	07/25/58
HW-56919	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, AND JUNE, 1958	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	07/21/58
HW-56928	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES APRIL-JUNE, 1958	HEALY JW	07/28/58
HW-56985	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JULY, 1958	BERNARD RM	08/15/58
HW-56993	REGIONAL MONITORING ACTIVITIES JULY, 1958	ANDERSEN BV	08/04/58
HW-57002-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS APRIL, MAY, JUNE, 1958	BIERSCHENK WH	07/10/58
HW-57004	COMPOSITED 107 RETENTION BASIN OUTLET SAMPLES	MATSUMOTO WY	06/04/57
HW-57048	SEPARATIONS PLANT SILVER REACTOR INCIDENT	IRISH ER	09/15/58
HW-57103	HANFORD RELEASE CALCULATIONS FOR JULY, 1958	JAECH JL	08/15/58
HW-57208-RD	DESIGN AND OPERATING CONSIDERATIONS FOR OFF-GAS SYSTEMS IN NUCLEAR PROCESSING PLANTS	NICHOLS LR	08/29/58
HW-57240	INVESTIGATION OF RAPID OXIDATION OF COMPACT ALPHA PLUTONIUM CHIPS	BRECKE LI	08/21/58
HW-57255	RUPTURED SLUG DATA APRIL 11 THROUGH JULY 6, 1958	NEEF WJ	08/22/58
HW-57304	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, AUGUST, 1958	BALDRIDGE KF	09/18/58
HW-57306	REGIONAL MONITORING ACTIVITIES AUGUST, 1958	ANDERSEN BV	09/08/58
HW-57411	CALCULATION OF DRINKING-WATER RADIATION EXPOSURES FROM COLUMBIA RIVER WATER SOURCES	CLUKEY IV MCCOHLIGA MW	09/16/58
HW-57436	CORRECTIONS OF HAPD RELEASES FOR FISCAL YEAR 1958	JAECH JL	09/12/58
HW-57592	RUPTURED SLUG DATA JULY 7 THROUGH AUGUST 4, 1958	NEEF WJ	09/25/58
HW-57643	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, SEPTEMBER 1958	BALDRIDGE KF	11/15/58
HW-57644	REGIONAL MONITORING ACTIVITIES SEPTEMBER, 1958	ANDERSEN BV	10/07/58
HW-57648	RUPTURED SLUG DATA AUGUST 5, THROUGH AUGUST 14, 1958	NEEF WJ	10/01/58
HW-57649	RADIOACTIVE CONTAMINATION IN LIQUID WASTES DISCHARGED TO GROUND AT SEPARATIONS FACILITIES THROUGH JUNE 1958	BALDRIDGE KF	10/03/58
HW-57861	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER 1958	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	10/20/58
HW-57908	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JULY-SEPTEMBER, 1958	HEALY JW	10/15/58
HW-57936	HANFORD RELEASE CALCULATIONS FOR AUGUST AND SEPTEMBER, 1958	JAECH JL	10/28/58
HW-57946	RUPTURED SLUG DATA AUGUST 15 THROUGH SEPTEMBER 30, 1958	NEEF WJ	10/01/58



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HW-50022	OXIDATION OF URANIUM IN AIR AT HIGH TEMPERATURES	HILLIARD RK	12/10/58
HW-50023-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY, AUGUST, SEPTEMBER, 1958	BIERSCHENK WH	10/30/58
HW-50072	REGIONAL MONITORING ACTIVITIES OCTOBER, 1958	ANDERSEN BV	11/07/58
HW-58073	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, OCTOBER, 1958	BALDRIDGE KF	12/05/58
HW-58115-DEL	TECHNOLOGY OF THE HAPD LEAD DIP FUEL ELEMENT CANNING PROCESS	WEAKLEY EA	12/15/58
HW-58101	REDOX PROTOTYPE SILVER REACTOR INFORMATION MANUAL	BARNES RG	11/12/58
HW-58211	STATUS REPORT - DISPOSAL OF ALUMINUM BEARING RADIOACTIVE WASTES BY GELATION	HANEY WA	11/24/58
HW-58312-REV	COLUMBIA RIVER FLOW TIME CALCULATIONS	SOLDAT JK	07/01/62
HW-58330	REGIONAL MONITORING ACTIVITIES NOVEMBER, 1958	ANDERSEN BV	12/04/58
HW-50331	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, NOVEMBER 1958	BALDRIDGE KF	12/30/58
HW-58471	HANFORD RELEASE CALCULATIONS FOR OCTOBER, 1958	JAECH JL	12/09/58
HW-58560	SPECIAL INCIDENT REPORT	BROHN JH	12/15/58
HW-58741	HANFORD RELEASE CALCULATIONS FOR NOVEMBER, 1958	JAECH JL	12/31/58
HW-58760	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, DECEMBER 1958	BALDRIDGE KF	01/23/59
HW-58761	REGIONAL MONITORING ACTIVITIES DECEMBER, 1958	ANDERSEN BV	01/07/59
HW-58768	EFFECTS OF PROCESS VARIABLES ON I-131 EMISSIONS FROM PUREX PLANT	SMITH PV	01/05/59
HW-58811-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS OCTOBER, NOVEMBER, DECEMBER, 1958	BIERSCHENK WH	01/09/59
HW-58833	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES OCTOBER - DECEMBER, 1958.	HEALY JV	01/12/59
HW-58894	DESIGN AND OPERATING CONSIDERATIONS FOR OFF-GAS SYSTEMS IN NUCLEAR PROCESSING PLANTS	MICHELIS LR	01/13/59
HW-58965	RUPTURED SLUG DATA OCTOBER 1, 1958, THROUGH DECEMBER 11, 1958	NEEF WI	01/22/59
HW-59026	EFFECT OF WATER QUALITY ON EFFLUENT ACTIVITY	PITMAN RV HALL RB MILLER MR	01/27/59
HW-59029	DECONTAMINATION OF REACTOR COOLING WATER WITH ALUMINUM	SILKER WB	01/28/59
HW-59071	ALTERNATE METHODS OF REMOVING RADIO-HALOGENS FROM AIR STREAMS	ETHIERIDGE EL	10/28/59
HW-59092	REGIONAL MONITORING ACTIVITIES JANUARY, 1959	ANDERSEN BV	02/06/59
HW-59093	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JANUARY 1959	BALDRIDGE KF	02/12/59
HW-59100	EFFECT OF WATER QUALITY ON EFFLUENT ACTIVITY	CONLEY MR HALL RB	11/04/58
HW-59116	HANFORD SEMI-ANNUAL REPORT TO COLUMBIA RIVER ADVISORY GROUP - THROUGH DECEMBER, 1958	MCCONIGA MU CLUKEY HV	02/03/59
HW-59126	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER 1958	HEINEMAN RE HENRY HL LEONARD BR	01/20/59
HW-59367	HANFORD RELEASE CALCULATIONS FOR DECEMBER, 1958 AND JANUARY, 1959	JAECH JL	02/24/59
HW-59431-E	FSSION PRODUCT VOLATILIZATION STUDIES	LINDEROTH CE	09/18/59
HW-59454	REGIONAL MONITORING ACTIVITIES FEBRUARY, 1959	ANDERSEN BV	03/06/59
HW-59455	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, FEBRUARY 1959	BALDRIDGE KF	03/13/59
HW-59500	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1958	KORBERG HA DAVIS JJ	01/05/59
HW-59702	SILVER REACTOR RECLAMATION	MALOY CV MCKERZIE TR POLLOCK CH	01/05/59
HW-59717-A	REACTOR AND FUELS RESEARCH AND DEVELOPMENT OPERATION MONTHLY REPORT MARCH 1959	ALBAUGH TH	04/15/59
HW-59717-B	PHYSICS AND INSTRUMENT RESEARCH AND DEVELOPMENT OPERATION - MONTHLY REPORT MARCH 1959	GAST PF	04/10/59
HW-59823	RUPTURED SLUG DATA DECEMBER 12, 1958, THROUGH MARCH 6, 1959	NEEF WI	03/31/59
HW-59800	WASTE DISPOSAL MONITORING ACTIVITIES MARCH, 1959	BALDRIDGE KF	04/24/59
HW-59918	REGIONAL MONITORING ACTIVITIES MARCH, 1959	ANDERSEN BV	04/07/59
HW-59933	HANFORD RELEASE CALCULATIONS FOR FEBRUARY, 1959	JAECH JL	04/09/59
HW-60057	RADIOISOTOPE PROPORTIONAL BETA COUNTER FACTORS	TREIBS HA	/ /
HW-60137	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JANUARY - MARCH, 1959	HEALY JV	04/23/59

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HW-60154	CHEMICAL FORM OF PHOSPHORUS-32 IN HANFORD REACTOR EFFLUENT WATER	SILKER WB	04/24/59
HW-60163-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS, JANUARY, FEBRUARY, MARCH, 1959	BIERSCHENK WH	04/20/59
HW-60209	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, APRIL, 1959	BALDRIDGE KF	05/25/59
HW-60220	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH 1959	FAULKNER JE HEINEMAN RE STEVENS AJ	06/20/59
HW-60225	RADIATION MONITORING OPERATION HANFORD LABORATORIES OPERATION - MONTHLY REPORT APRIL 1959	CARTER JL CLAYTON ED HENRY HL LEONARD BR	04/30/59
HW-60270	HANFORD RELEASE CALCULATIONS FOR MARCH, 1959	JAECH JL	05/05/59
HW-60413	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF APRIL, 1959	JUNKINS RL	05/14/59
HW-60529	DIRECT DISPOSAL OF REACTOR EFFLUENT	HEALY JW	05/27/59
HW-60530	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, MAY 1959	BALDRIDGE KF	06/22/59
HW-60601	AQUIFER CHARACTERISTICS AND GROUND-WATER MOVEMENT AT HANFORD	BIERSCHENK WH	06/09/59
HW-60642	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF MAY, 1959	JUNKINS RL	06/08/59
HW-60807	UNCONFINED UNDERGROUND RADIOACTIVE WASTE AND CONTAMINATION IN THE 200 AREAS 1959	BALDRIDGE KF	07/15/59
HW-60880	SCINTILLATOR CORRELATION AND COLUMBIA RIVER RADIATION SURVEY MARCH - APRIL, 1959	PERKINS RW	09/15/59
HW-60890	ORIGIN OF REACTOR EFFLUENT WATER RADIOISOTOPES	MCCONIGA WV RISING FL	06/29/59
HW-60896	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JUNE, 1959	BALDRIDGE KF	07/10/59
HW-61029-REV	HANFORD MID-YEAR REPORT TO COLUMBIA RIVER ADVISORY GROUP - THROUGH JUNE, 1959	JUNKINS RL MCCONIGA WM	08/11/59
HW-61117	AUTOMATIC ANALYZING MONITOR FOR REACTOR EFFLUENT COOLING TIME	RUECK HG RATCLIFFE CA	05/01/59
HW-61137	WASTE DISPOSAL MONITORING ACTIVITIES SUMMARY, JULY, 1959	BALDRIDGE KF	08/20/59
HW-61181	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE 1959	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	07/20/59
HW-61194	STACK EFFLUENT MONITOR OPERATION AND MAINTENANCE	HEINEMAN RE HARVEY RA CROUCH GO	07/21/59
HW-61197-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS APRIL, MAY, JUNE, 1959	BIERSCHENK WH	07/22/59
HW-61247	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES APRIL - JUNE, 1959	MCCORMACK JD SCHWENDIMAN LC	08/17/59
HW-61325	SIGNIFICANCE OF RUPTURE DEBRIS IN THE COLUMBIA RIVER	MCCORMACK JD SCHWENDIMAN LC	11/13/59
HW-61326	CALIBRATION OF RUPTURE MONITORS	JUNKINS RL	08/06/59
HW-61441	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JULY, 1959	BENNETT CA	08/10/59
HW-61479	PRECISION AND ACCURACY OF RELEASES	TRUMBLE RE	08/17/59
HW-61580	HAZARDS REVIEW POWER LEVEL LIMITS FOR HANFORD REACTORS	ANDERSEN BV	08/27/59
HW-61676	HANFORD ENVIRONMENTAL MONITORING ANNUAL REPORT 1958	JUNKINS RL	09/09/59
HW-61826	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF AUGUST, 1959	JUNKINS RL	10/09/59
HW-62277	FISSION PRODUCT RELEASE BY THE HIGH TEMPERATURE URANIUM-STEAM REACTION	JUNKINS RL	11/18/59
HW-62604	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JULY - SEPTEMBER, 1959	SCOTT AJ	11/05/59
HW-62692-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY, AUGUST, SEPTEMBER, 1959	HANEY WA	11/20/59
HW-62699	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF OCTOBER, 1959	JUNKINS RL	11/10/59
HW-62727	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER 1959	FAULKNER JE HEINEMAN RE HENRY HL LEONARD BR	10/20/59
HW-62874	EFFECT OF TEMPERATURE AND FLOW VELOCITY ON THE DECONTAMINATION OF REACTOR EFFLUENT WATER WITH ALUMINUM	SILKER WB	12/01/59
HW-63076	105-KV URANIUM FIRE APRIL 29, 1959	HALL RB	12/14/49
HW-63179	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF NOVEMBER, 1959	JUNKINS RL	12/10/59
HW-63557-REV	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF DECEMBER, 1959	JUNKINS RL	01/11/60

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HH-63576	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER 1959	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR SILKER RB	01/20/60
HH-63633	KINETICS OF ARSENIC RETENTION IN HANFORD REACTOR COOLING SYSTEMS		02/11/60
HH-63643	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES OCTOBER - DECEMBER, 1959		01/25/60
HH-63653	REACTOR EFFLUENT WATER DISPOSAL	HALL RB JERMAN PC	02/01/60
HH-63654	OFF-PROJECT EXPOSURE FROM HANFORD REACTOR EFFLUENT	FOSTER RF JUNKINS RL	02/01/60
HH-63654-REV	OFF-PROJECT EXPOSURE FROM HANFORD REACTOR EFFLUENT	FOSTER RF JUNKINS RL	02/01/60
HH-63809	HANFORD RELEASE CALCULATIONS FOR JULY, 1959 THROUGH DECEMBER, 1959	JAECH JL	02/05/60
HH-63824	RADIOLOGICAL CHEMISTRY OPERATION SEMIANNUAL REPORT JULY - DECEMBER, 1959	NIELSEN JH	03/15/60
HH-63910	MEASUREMENTS OF EU-152 AND TB-160 IN REACTOR EFFLUENT WATER	PERKINS RV	02/13/60
HH-63920	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JANUARY, 1960	JUNKINS RL	02/10/60
HH-63985	REDOX DISSOLVER OFF-GAS MONITOR, CALIBRATION AND TEST	HUCK CE	05/04/60
HH-63996	COOLEE DISASTER REPORT	CORLEY JP	09/12/57
HH-64094-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS OCTOBER, NOVEMBER, DECEMBER, 1959	HANEY WA	03/01/60
HH-64253	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF FEBRUARY, 1960	JUNKINS RL	03/10/60
HH-64292	DISPOSAL OF RADIOACTIVE LIQUID WASTES FROM 300 AREA LABORATORY FACILITIES	HANEY WA	03/14/60
HH-64371	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1959	JUNKINS RL HATSON EC NELSON IC MERLE RC	05/09/59
HH-64492	HANFORD RELEASE CALCULATIONS FOR JANUARY, 1960	JAECH JL	03/28/60
HH-64517	EFFECT OF PROPOSED HAPD REACTOR PRODUCTION INCREASES ON RADIOACTIVITY DISCHARGED TO THE COLUMBIA RIVER	HALL RB JERMAN PC	03/29/60
HH-64552	REACTOR EFFLUENT WATER ANALYSES AUGUST 1958 - DECEMBER 1959	HALL RB	03/31/60
HH-64757	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF MARCH, 1960	JUNKINS RL	04/11/60
HH-64824	REACTOR EFFLUENT WATER ANALYSES JANUARY AND FEBRUARY 1960	HALL RB	04/18/60
HH-64866	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH, 1960	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	04/20/60
HH-64887	HANFORD RELEASE CALCULATIONS FOR MARCH, 1960	JAECH JL	04/22/60
HH-64894	SUMMARY OF PRESENTATION TO ADVISORY COMMITTEE ON REACTOR SAFEGUARDS SUBCOMMITTEE FEBRUARY 18, 1960	TRUMBULE RE	04/22/60
HH-64945	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES JANUARY - MARCH, 1960		04/27/60
HH-64961	RADIOISOTOPE CONCENTRATION IN THE EFFLUENT WATER FROM A ZIRCALOY-2 PROCESS TUBE	PERKINS RV	05/02/60
HH-64966	TUBING FITTING FAILURE AND SUBSEQUENT LINE HEATER DAMAGE - H-1 LOOP	DEARING FE	04/29/60
HH-64991-G	CHEMICAL PROCESSING DEPARTMENT RESEARCH AND ENGINEERING OPERATION MONTHLY REPORT APRIL 1960	UNKNOWN	05/06/60
HH-65022	REDOX PLANT DISSOLVER INCIDENT	RUPP LP CHRISTY JT COOPER VR GROSSMITH CT WARREN JH	05/03/60
HH-65154	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF APRIL, 1960	JUNKINS RL	05/10/60
HH-65414	METHODS FOR REDUCING REACTOR EFFLUENT RADIOISOTOPE RELEASE	HEACOCK IH JERMAN PC	05/27/60
HH-65464-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JANUARY, FEBRUARY, MARCH, 1960	HANEY WA	05/19/60
HH-65500	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1959	KORNBERG WA WARNER DE	01/15/60
HH-65534	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD JANUARY THROUGH MARCH 1960	JUNKINS RL HATSON EC NELSON JC BACKMAN GE HENLE RC	05/31/60
HH-65613	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF MAY, 1960	JUNKINS RL	06/10/60

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HV-65767	ARTIFICIAL COOLING OF THE COLUMBIA RIVER BY DAM REGULATION	KRAMER HA	06/20/60
HV-65914	HANFORD RELEASE CALCULATIONS FOR APRIL AND MAY, 1960	JAECH JL	06/29/60
HV-66009	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JUNE, 1960	JUNKINS RL	07/10/60
HV-66015	RARE EARTH ANALYSIS ON A COMPOSITE REACTOR EFFLUENT WATER SAMPLE	JACKSON PO	06/17/60
HV-66023	EFFECT OF WATER QUALITY ON EFFLUENT ACTIVITY	HALL RB NESSELSOHN EJ PITMAN RW	07/11/60
HV-66026	MPC'S FOR INGESTION OF RARE EARTHS IN COLUMBIA RIVER WATER	MCCONIGA MW	09/01/60
HV-66147	INVENTORY RADIOACTIVE LIQUID WASTE TO GROUND 200 AREAS - 1945-1959	BROWN GD MCCONIGA MW	07/20/60
HV-66215	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE 1960	FAULKNER JE CARTER JL CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	07/20/60
HV-66287	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD APRIL THROUGH JUNE - 1960	JUNKINS RL WATSON EC NELSON IC	08/05/60
HV-66306	QUARTERLY PROGRESS REPORT RESEARCH AND DEVELOPMENT ACTIVITIES IN THE FIELD OF RADIOLOGICAL SCIENCES APRIL - JUNE, 1960	BACKMAN GE HENLE RC	08/05/60
HV-66415	ENVIRONMENTAL RADIOLOGICAL CONSEQUENCES OF INCREASED REACTOR PRODUCTION	NELSON IC	08/12/60
HV-66420	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JULY, 1960	JUNKINS RL	08/10/60
HV-66453	REACTOR EFFLUENT WATER ANALYSES MARCH AND APRIL 1960	HALL RB	08/16/60
HV-66689	REACTOR EFFLUENT MONITORING DEVICES	RATCLIFFE CA	09/30/60
HV-66736	USE OF HIGH ALUM FEED FOR WATER TREATMENT	HALL RB	09/08/64
HV-66778	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF AUGUST, 1960	JUNKINS RL	09/12/60
HV-66850-DEL	REDOX DISSOLVER INCIDENT COMPREHENSIVE REPORT	HARKON HK	09/13/60
HV-66859-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS APRIL, MAY, JUNE, 1960	HANEY WA	09/22/60
HV-66891	AUTOMATIC COLUMBIA RIVER MONITORING STATION	MEHAS TC	10/06/60
HV-67045	HANFORD WHOLE BODY COUNTER 1959 ACTIVITIES	ROESCH WC MCCALL RC PALMER HE	12/01/60
HV-67068	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF SEPTEMBER, 1960	JUNKINS RL	10/10/60
HV-67164	RADIATION ASPECTS OF THE REDOX MULTIPURPOSE DISSOLVER INCIDENT	UEBELACKER DL	10/25/60
HV-67219	NUCLEAR PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER, 1960	HEINEMAN RE HENRY HL CLAYTON ED SWANBERG F	10/20/60
HV-67245-REV	HANFORD WHOLE BODY COUNTER RESULTS FOR 1960	MCCORMACK JD	06/01/61
HV-67283	MONITORING NOBLE GASES TO DETERMINE RADIOLOGICAL SIGNIFICANCE OF FISSION PRODUCTS IN REACTOR EFFLUENT		02/06/61
HV-67326	100-N AREA AQUIFER EVALUATION	BROWN DJ ROWE P	11/04/60
HV-67390	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD JULY THROUGH SEPTEMBER 1960	JUNKINS RL WATSON EC NELSON IC BACKMAN GE HENLE RC	11/10/60
HV-67432-DEL	IRRADIATION PROCESSING DEPARTMENT	SMITH RH	11/15/60
HV-67439	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF OCTOBER, 1960	JUNKINS RL	11/10/60
HV-67514	PREDICTED CHARACTERISTICS OF PRRR LIQUID EFFLUENTS	HANEY WA	11/22/60
HV-67520	SOURCE OF ACTIVITY CONTAINED IN RADIOACTIVE FALLOUT FROM THE REDOX 291-S STACK	UEBELACKER DL	12/09/60
HV-67749-DEL	IRRADIATION PROCESSING DEPARTMENT RADIATION OCCURRENCE INVESTIGATION REPORT	SMITH RH	12/12/60
HV-67752	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF NOVEMBER, 1960	WATSON EC	12/12/60
HV-67753-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY, AUGUST, SEPTEMBER, 1960	HANEY WA	12/09/60
HV-68096	COLUMBIA RIVER CONDITIONS	JUNKINS RL	01/10/61
HV-68127	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF DECEMBER, 1960	WATSON EC	01/11/61
HV-68224	REACTOR TEST PROGRAM FOR COLUMBIA RIVER RADIOISOTOPE REDUCTION STUDIES	NIELSEN JM	01/20/61
HV-68309	PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER, 1960	DAWSON FG CARTER JL TRIPLETT JR FAULKNER JE CALYTON ED HEINEMAN RE HENRY HL LEONARD BR	01/20/61

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HW-60392	CONTROL OF I-131 RELEASES TO ATMOSPHERE	WARREN JH	02/06/61
HW-60413	HANFORD RELEASE CALCULATIONS FOR JULY THROUGH DECEMBER, 1960	JAECH JL	02/06/61
HW-60425	SPECIFIC ACTIVITY OF THE HPR PRIMARY COOLANT LOOP	BITZ DA	02/10/61
HW-60435	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1960	FOSTER RF NELSON IC	06/03/61
HW-60471	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JANUARY, 1961	WATSON EC	02/10/61
HW-60521	REACTOR EFFLUENT ACTIVITY REDUCTION PROCESS WATER TREATMENT TESTS PART 1 - RADIOLOGICAL EFFECTS	HALL RB	02/15/61
HW-60533	RADIOLOGICAL CHEMISTRY OPERATION ANNUAL REPORT JANUARY - DECEMBER, 1960	NIELSEN JH	01/15/61
HW-60543-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS OCTOBER, NOVEMBER, DECEMBER, 1960	HANEY WA	03/07/61
HW-60581	DESIGN TEST NO. 1120 G.M. TUBES (FINAL PRODUCTION) FOR FUEL RUPTURE MONITOR SYSTEM	RICHARDS WA	07/26/61
HW-60751-REV	CONTROL LIMITS FOR THE CONCENTRATION OF RADIOACTIVE MATERIALS IN AQUEOUS AND GASEOUS EFFLUENTS FROM THE PLUTONIUM RECYCLE TEST REACTOR	BACKMAN GE	06/17/61
HW-60851	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF FEBRUARY, 1961	FOSTER RF	03/13/61
HW-69003	STATUS OF RADIOLOGICAL DATA FOR THE MONTH OF FEBRUARY, 1961	SILKER WB	04/20/61
HW-69205-REV	ON THE ORIGIN OF RADIOPHOSPHORUS IN HANFORD REACTOR EFFLUENT WATER	MCCONNON D	09/27/62
HW-69266	FOUR HOUR PURGE	HALL RB SOEHLLEIN	04/14/61
HW-69278	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF MARCH, 1961	FOSTER RF	04/13/61
HW-69368-0,1,2	COMPILATION OF BASIC DATA RELATING TO THE COLUMBIA RIVER, SECTIONS 0,1,2	FOSTER RF CARTER LA SOLDAT JK	11/11/61
HW-69368-3	COMPILATION OF BASIC DATA RELATING TO THE COLUMBIA RIVER	CORLEY JP KRAHER WA SOLDAT JK	11/11/61
HW-69368-4,5	COMPILATION OF BASIC DATA RELATING TO THE COLUMBIA RIVER	CORLEY JP KRAHER WA SOLDAT JK	11/11/61
HW-69368-6,1,6.2	COMPILATION OF BASIC DATA RELATING TO THE COLUMBIA RIVER	CARTER LA	11/11/61
HW-69368-6.3,7	COMPILATION OF BASIC DATA RELATING TO THE COLUMBIA RIVER SECTION 0	SOLDAT JK	11/11/61
HW-69369	PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH, 1961	SOLDAT JK	11/16/62
HW-69475	PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH, 1961	DAWSON FO CARTER JL TRIPLETT JR FAULKNER JE CLAYTON ED HEINEHAN RE HENRY HL LEONARD BR	04/20/61
HW-69500	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1960	HUNDATE FP SNEZEA EG	01/10/61
HW-69618	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF APRIL, 1961	FOSTER RF	05/15/61
HW-69723	EXISTING AND PROPOSED STUDIES AT HAPD RELATING TO THE COLUMBIA RIVER	FOSTER RF	05/24/61
HW-69969	SOURCE OF EFFLUENT WATER RADIOISOTOPES	PERKINS RV	05/01/61
HW-69900-REV2	DESIGN LIMITS FOR RADIOACTIVE WASTE DISPOSAL FROM THE FUELS RECYCLE PILOT PLANT	BACKMAN GE	09/16/62
HW-70050	RESEARCH AND DEVELOPMENT ACTIVITIES IN THE RADIOLOGICAL SCIENCES	JUHKINS RL ASHBOOK PF	01/16/61
HW-70103	EVALUATION OF RADIOLOGICAL DATA FOR THE MONTH OF MAY, 1961	FOSTER RF	06/22/61
HW-70411	ANALYSIS OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD JANUARY-MARCH, 1961	FOSTER RF NELSON IC	08/01/61
HW-70431	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JUNE, 1961	FOSTER RF	07/18/61
HW-70526	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT JULY, 1961	FOSTER RF	07/21/61
HW-70552	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD APRIL-JUNE, 1961	FOSTER RF NELSON IC	08/15/61
HW-70609	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF JULY, 1961	FOSTER RF	08/15/61
HW-70716	PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE, 1961	DAWSON FO CARTER JL TRIPLETT JR FAULKNER JE CLAYTON ED HEINEHAN RE HENRY HL LEONARD BR	07/20/61
HW-70733	REACTOR EFFLUENT WATER ANALYSES MAY 1960 THROUGH JUNE 1961	FOSTER RF NELSON IC	08/15/61
HW-70784	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT AUGUST, 1961	FOSTER RF	08/18/61
HW-70806-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JANUARY - JUNE, 1961	DAWSON FO CARTER JL TRIPLETT JR FAULKNER JE CLAYTON ED HEINEHAN RE	08/20/61
HW-70844	FILTER EFFICIENCIES AND ACTIVITY LEVEL OF THE OFF-GAS SYSTEM FOR THE REDOX MULTIPURPOSE DISSOLVER	HENRY HL LEONARD BR HALL RB JONES JR	08/24/61
		HANEY WA	
		UEBELACKER DL	

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HW-70937	REDUCTION OF RADIOISOTOPES IN REACTOR EFFLUENT WATER	HALL RD	09/05/60
HW-71041	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF AUGUST, 1961	FOSTER RF	09/12/61
HW-71105	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT SEPTEMBER, 1961	FOSTER RF NELSON IC	09/20/61
HW-71203	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF MANFORD JULY-SEPTEMBER, 1961	FOSTER RF	09/29/61
HW-71329	ANALYSIS OF RADIOLOGICAL DATA FOR THE MONTH OF SEPTEMBER, 1961	FOSTER RF	10/12/61
HW-71411	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT OCTOBER, 1961	FOSTER RF	10/20/61
HW-71678	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF OCTOBER, 1961	HALL RD	11/13/61
HW-71718	EFFECT OF HIGH ALUM FEED ON THE RELEASE OF P-32 TO THE COLUMBIA RIVER		11/09/61
HW-71724	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT NOVEMBER, 1961		11/20/61
HW-71747	PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER, 1961	DAWSON FG CARTER FL TRIPLETT TR FAULKNER JE CLAYTON ED HEINEMAN RE	10/13/61
HW-71999	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF MANFORD FOR 1961	FAULKNER JE CLAYTON ED HENRY HL LEONARD BR	03/01/62
HW-72012	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF NOVEMBER, 1961	FOSTER RF NELSON IC	12/13/61
HW-72042	IMPROVED FACILITIES FOR THE REMOVAL OF IODINE-131 FROM PUREX PROCESS VENT OFF-GAS	FOSTER RF	04/02/62
HW-72065	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT DECEMBER, 1961	MICHEL'S LR ZAHN L	12/20/61
HW-72107	UPTAKE OF STRONTIUM FROM DIET AND WATER BY RAINBOW TROUT	SCHITTMAN RH	12/01/61
HW-72215	PILOT SCALE ALUMINUM BED DECONTAMINATION OF REACTOR EFFLUENT	RIECK NO	03/31/62
HW-72229-REV	DOSE-RATE MEASUREMENTS OF BEACHES AND ISLANDS ON THE COLUMBIA RIVER BETWEEN RINGOLD AND RICHLAND	MCCOMMON D	06/10/62
HW-72338	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF DECEMBER, 1961	FOSTER RF	01/15/62
HW-72381	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT JANUARY, 1962	KORBERG WA SWEZEA ED	01/22/62
HW-72500	MANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1961	DAWSON FG CARTER JL FAULKNER JE CLAYTON ED HEINEMAN RE HENRY HL LEONARD BR	01/15/62 01/31/62
HW-72506	PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER, 1961	BROHN DJ	02/01/62
HW-72645-RD	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY - DECEMBER, 1961	FOSTER RF	02/14/62
HW-72691-1	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF JANUARY, 1962	FOSTER RF	03/14/62
HW-72691-2	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF FEBRUARY, 1962	FOSTER RF	04/12/62
HW-72691-3	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF MARCH, 1962	FOSTER RF	04/12/62
HW-72691-4	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF APRIL, 1962	FOSTER RF	05/11/62
HW-72691-5	SUMMARY OF RADIOLOGICAL DATA FOR THE MONTH OF MAY, 1962	FOSTER RF	06/11/62
HW-72744	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT FEBRUARY, 1962	KEENE LM	02/20/62
HW-72819	RIVER CONTAMINATION REDUCTION STUDIES AN EVALUATION OF THE ARTIFICIAL LAKE CONCEPT	VAHORNOR FW	02/26/62
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HW-73280	I-131 SAMPLING SYSTEM EFFICIENCIES AT PUREX AND REDOX STACKS	LEONARD BR	06/01/62
HW-73337	RESEARCH AND DEVELOPMENT ACTIVITIES IN THE RADIOLOGICAL SCIENCES PORTION JANUARY THROUGH DECEMBER, 1961	JUNKINS RL BROHN JE	01/15/62
HW-73366	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF MANFORD JANUARY-MARCH, 1962	FOSTER RF NELSON IC	04/23/62
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HW-75782	REDUCTION OF THE EFFLUENT WATER RADIONUCLIDES BY ADDITION OF SODIUM SILICATE TO PROCESS WATER	ROBERTSON DE PERKINS RW	12/10/62
HW-75949	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT DECEMBER, 1962	GEIER RG	12/20/62
HW-76000	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1962	KORHBERG WA SHEZEA EG	01/15/63
HW-76103	REACTOR EFFLUENT ANALYTICAL DATA - JULY, AUGUST, AND SEPTEMBER, 1962	CORLEY JP	01/07/63
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HW-76266	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT JANUARY, 1963	GEIER RG	01/21/63
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HW-76525-12	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR DECEMBER, 1963	FOSTER RF	01/10/64
HW-76526	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1962	WILSON TH FOSTER RF	02/25/63
HW-76637	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT FEBRUARY, 1963	GEIER RG	02/20/63
HW-76772	RADIOLOGICAL ASPECTS OF HANFORD LAND UTILIZATION	FOSTER RF	02/26/63
HW-76894	REACTOR EFFLUENT ANALYTICAL DATA OCTOBER, NOVEMBER, AND DECEMBER, 1962	FOSTER RF	03/08/63
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HW-77533	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD JANUARY - MARCH, 1963	FOSTER RF WILSON TH	04/01/63
HW-77609	HANFORD RADIOLOGICAL SCIENCES RESEARCH AND DEVELOPMENT ANNUAL REPORT FOR 1962	GAMERTSFELDER CC GREEN JK	01/31/63
HW-77707	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT MAY, 1963	GEIER RG	05/24/63
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HW-77871	PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE, 1963	DAWSON FG CARTER JL REARDON WA FAULKNER JE CLAYTON ED HEINEMAN RE	07/15/63
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HW-79038	PHYSICS RESEARCH QUARTERLY REPORT JULY, AUGUST, SEPTEMBER, 1963	DAMSON FG	10/15/63
HW-79054		RS CLAYTON ED REARDON WA PAUL LEONARD BR	
HW-79073	ENVIRONMENTAL EFFECTS OF A FUEL ELEMENT FAILURE	HALL RB	09/27/63
HW-79130	RADIONUCLIDE DISTRIBUTION IN FUEL COLUMN FILMS: PROGRESS REPORT	PERRIGO LD	10/01/63
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HW-79279	PRELIMINARY MEASUREMENTS OF THE ADSORPTION OF REACTOR EFFLUENT WATER RADIONUCLIDES BY COLUMBIA RIVER PARTICULATE MATERIAL	MUMPHREYS L PERKINS RM	
HW-79348	REACTOR EFFLUENT ANALYTICAL DATA JULY, AUGUST, AND SEPTEMBER, 1963	KOOP WN	10/25/63
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HW-80020	PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER, 1963	DAMSON FG LINDENMEIER CV REARDON WA HOTHAMN PL HENRY HL HEINEMAN RE	01/15/64
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HW-80216	HANFORD MOBILE WHOLE BODY COUNTER	FURJAY J SIMPSON CL HINDS WT	
HW-80405-DEL	SOURCES OF RADIOACTIVITY	SWANBERG F	12/31/63
HW-80500	HANFORD BIOLOGY RESEARCH ANNUAL REPORT FOR 1963	PARKER IM	01/14/64
HW-80520	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT JANUARY, 1964	KORBERG HA SWEZEZ EG	01/15/64
HW-80557	REDUCTION OF RADIONUCLIDES IN REACTOR EFFLUENT WATER: FIN RPT: EFFECT OF CHEMICAL ADDITIVES & COATING MATERIALS ON THE ADSORPTION OF RADIONUCLIDE PARENT ELEMENTS IN PROCESS WATER ON ALUMINUM SURFACES	GEIER RG	01/22/64
HW-80649	REPORT TO THE WORKING COMMITTEE FOR COLUMBIA RIVER STUDIES ON PROGRESS SINCE SEPTEMBER, 1962 FOR PROJECTS CARRIED OUT BY THE GENERAL ELECTRIC COMPANY AT HANFORD	ROBERTSON DE PERKINS RM	12/23/63
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HW-80760	SLUG RUPTURE REPORTS - 1960 (AVAILABLE FOR READING UPON REQUEST FROM 712)	NEVELL LJ	02/05/64
HW-80761	SLUG RUPTURE REPORTS - 1961 (AVAILABLE FOR READING UPON REQUEST FROM 712)	NEVELL LJ	02/05/64
HW-80762	SLUG RUPTURE REPORTS 1962 (AVAILABLE FOR READING UPON REQUEST FROM 712)	NEVELL LJ	02/05/64
HW-80763	SLUG RUPTURE REPORTS - 1963 (AVAILABLE FOR READING UPON REQUEST FROM 712)	NEVELL LJ	02/05/64
HW-80764	SLUG RUPTURE REPORTS - 1964	NEVELL LJ	02/05/64
HW-80892-01	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR JANUARY, 1964	FOSTER RF	02/14/64
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HV-80892-04	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR APRIL, 1964	FOSTER RF	05/18/64
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HV-80892-06	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR JUNE, 1964	FOSTER RF	07/13/64
HV-80892-07	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR JULY, 1964	FOSTER RF	08/11/64
HV-80892-08	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR AUGUST, 1964	FOSTER RF	09/14/64
HV-80892-09	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR SEPTEMBER, 1964	FOSTER RF	10/16/64
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HV-80892-12	RADIOLOGICAL STATUS OF THE HANFORD ENVIRONS FOR DECEMBER, 1964	FOSTER RF	01/18/65
HV-80909	CHEMICAL EFFLUENT'S TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JULY-DECEMBER, 1963	BROWN DJ HANEY WA	02/18/64
HV-81055	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD FOR 1963	WILSON RH FOSTER RF	02/26/64
HV-81063-DEL	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT FEBRUARY, 1964	GEIER RG	02/28/64
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HV-81567	EFFECT OF DEIONIZED WATER ON REACTOR EFFLUENT ACTIVITIES PART II - ZIRCONIUM AND ALUMINUM CHARGES	GEIER RG	10/01/64
HV-81659	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT MARCH, 1964	GEIER RG	03/31/64
HV-81746	PHYSICS RESEARCH QUARTERLY REPORT JANUARY, FEBRUARY, MARCH 1964	DAWSON FG LINDENMEIER CH REARDON WA	04/15/64
HV-81873	HANFORD RADIOLOGICAL SCIENCES RESEARCH AND DEVELOPMENT ANNUAL REPORT FOR 1963	HOFMANN PL HENRY IL HEINEMAN RE	01/01/64
HV-81983	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT APRIL, 1964	LEONARD BR CLAYTON ED	04/20/64
HV-82409	REACTOR EFFLUENT ANALYTICAL DATA JANUARY, FEBRUARY, MARCH, 1964	CAHRTSFELDER CC GREEN JK	04/24/64
HV-82491	HANFORD WHOLE BODY COUNTER ACTIVITIES FOR 1961-1963	GEIER RG	05/01/64
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HV-83187	CONTAMINATION CONTROL - COLUMBIA RIVER - MONTHLY REPORT JUNE, 1964	GEIER RG	06/25/64
HV-83392	PHYSICS RESEARCH QUARTERLY REPORT APRIL, MAY, JUNE, 1964	DAWSON FG LINDENMEIER CH REARDON WA	07/15/64
HV-83423	CONTAMINATION CONTROL - COLUMBIA RIVER MONTHLY REPORT JULY, 1964	HOFMANN PL HENRY IL HEINEMAN RE	07/24/64
HV-83605	REACTOR EFFLUENT ANALYTICAL DATA APRIL, MAY, JUNE, 1964	LEONARD BR CLAYTON ED	07/27/64
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HV-83775	CONTROL OF UNDERGROUND RADIOACTIVE MATERIALS IN DEACTIVATED REACTOR AREAS	FOSTER RF	08/19/64
HV-84182	EVALUATION OF RADIOLOGICAL CONDITIONS IN THE VICINITY OF HANFORD JANUARY-JUNE, 1964	GEIER RG	08/24/64
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HW-84481	MONITOR FOR RADIOIODINE IN REACTOR COOLING WATER	RIECK HG	11/05/64
HW-84549	CHEMICAL EFFLUENTS TECHNOLOGY WASTE DISPOSAL INVESTIGATIONS JANUARY - DECEMBER 1964	BROWN DJ	12/31/64
HW-84569	REPORT ON CARBON-14 GENERATION AND RELEASE AT SOME OF THE HANFORD REACTORS	BARTON GB	12/14/64
HW-84608	PHYSICS RESEARCH QUARTERLY REPORT OCTOBER, NOVEMBER, DECEMBER, 1964	DAWSON FG LINDERMEIER CV REARDON WA HOFMANN PL HENRY HL HEINEKMAN RE LEONARD DR CLAYTON ED	01/15/65
HW-84619	SUMMARY OF ENVIRONMENTAL CONTAMINATION INCIDENTS AT HANFORD, 1958 - 1964	HOFMANN PL HENRY HL HEINEKMAN RE LEONARD DR CLAYTON ED	04/12/65
HW-89066	REGIONAL MONITORING - DATA SUMMARY ALL RESULTS FOR YEAR 1957	BACKMAN GE	10/10/61
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HW-89069	COLLECTION OF NOTES, MEMOS & MONTHLY RPTS RE: CHEMICAL SEPARATION & EARLY GAMMA SPECTROMETRY TECHNIQUES FOR DETERMINING I-131 LEVELS ON VEGETATION	BACKMAN GE KEENE A ETAL	/ /
HW-89070	COMPARISON OF RESULTS BY THE 2 METHODS ETC.	PAAS IJ	/ /
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HW-SA-1748	HANFORD'S NEW HIGH-LEVEL RADIOCHEMISTRY FACILITY	HAHMIL KH BROWN JE	12/17/59
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HW-SA-2171	COLUMBIA RIVER CONTINUOUS MONITORING SYSTEM	DAVIS J HANSON HC	/ /
HW-SA-2178	EXPERIENCE WITH THE IONIZATION CHAMBER PULSE READER AT HANFORD	MEAS TC RISING FL	06/01/61

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HV-SA-2197	QUANTITATIVE MEASUREMENTS OF SOME GAMMA-RAY EMITTING RADIONUCLIDES IN NUCLEAR INDUSTRIAL WORKERS BY WHOLE BODY COUNTING TECHNIQUES	SHANBERG F	06/01/61
HV-SA-2236	IODINE IN THE ENVIRONMENT	IRISH ER	08/02/61
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HV-SA-2475	HANFORD PROGRAM FOR MANAGEMENT OF HIGH-LEVEL WASTE	FOSTER RF BACKMAN GE SKARPELOS JM	03/06/62
HV-SA-2515	HANFORD EXPERIENCE IN THE RADIOLOGICAL MONITORING OF GROUND WATER	WITTEBROCK NG	07/30/62
HV-SA-2566	DETERMINATION OF LOW LEVEL I-131 IN HUMAN THYROIDS RESULTING FROM NUCLEAR TEST FALLOUT	TOMLINSON RE	05/01/62
HV-SA-2612	MANAGEMENT OF RADIOACTIVE EFFLUENT GASES AT HANFORD ATOMIC PRODUCTS OPERATION	BROWN DJ RAYMOND JR	05/25/62
HV-SA-2629	RELATIONSHIPS BETWEEN THE CONCENTRATION OF RADIONUCLIDES IN COLUMBIA RIVER WATER AND FISH	PALMER HE SHANBERG F	10/16/62
HV-SA-2688	ANALOG SIMULATION OF HANFORD GROUND WATER FLOW	SOLDAT JK	07/25/62
HV-SA-2739	EVALUATION OF DISCHARGING RADIOACTIVE WASTES INTO FRESH WATER STREAMS	FOSTER RF MCCOMMON D	08/15/62
HV-SA-2748	ACCUMULATION OF RADIONUCLIDES BY AQUATIC INSECTS	NELSON RW HANEY WA	10/16/62
HV-SA-2848	INTERSPECIES DIFFERENCES IN ACCUMULATION GAMMA EMITTERS BY MARINE ORGANISMS NEAR THE COLUMBIA RIVER MOUTH	HALL RB WILSON RH	11/29/62
HV-SA-2857	RINGOLD - A HANFORD ENVIRONMENTAL STUDY	DAVIS JJ	12/16/62
HV-SA-2882	RADIOIODINE IN NORTH AMERICAN DEER AND CARIBOU THYROIDS FOLLOWING RUSSIAN NUCLEAR TESTS	WATSON DG DAVIS JJ HANSON WC	01/29/63
HV-SA-2883	RELATIONSHIP BETWEEN I-131 CONCENTRATIONS IN VARIOUS ENVIRONMENTAL SAMPLES	NELSON WC	05/29/63
HV-SA-2887	RELATIONSHIP BETWEEN I-131 CONCENTRATIONS IN VARIOUS ENVIRONMENTAL SAMPLES	WHICKER FW DAHL AH	06/05/63
HV-SA-2887-REV	PLUTONIUM FUEL CASTING FACILITY	SOLDAT JK	/
HV-SA-3029	ACCUMULATION OF ZN-65 FROM PROLONGED CONSUMPTION OF COLUMBIA RIVER FISH	MERKER LG BLOOMSTER CH	07/22/63
HV-SA-3060	PHYSICAL AND CHEMICAL FORM OF I-131 IN FALLOUT	FOSTER RF	05/29/63
HV-SA-3071	METABOLISM OF Te-132 - I-132 IN LACTATING SHEEP	PERKINS RW	06/14/63
HV-SA-3073	I-131 IN MILK AND THYROID OF DAIRY CATTLE FOLLOWING A SINGLE CONTAMINATION EVENT AND PROLONGED DAILY ADMINISTRATION	CASEY HW CASE AC MCCLELLAN RO BUSTAD LK	08/06/63
HV-SA-3142	FOLIAR SORPTION OF I-131 BY PLANTS	BUSTAD LK WOOD DH ELEFSON E RAGAN HA	07/25/63
HV-SA-3147	VARIATIONS IN ELEMENTAL CONCENTRATIONS IN THE COLUMBIA RIVER	MCCLELLAN RO	08/05/63
HV-SA-3187	SOME OBSERVATIONS ON IODINE REMOVAL FROM PLANT STREAMS WITH CHARCOAL	HUNGATE FP CLINE JF UHLER RL SELDERS AA	08/05/63
HV-SA-3229	PREDICTION OF ENVIRONMENTAL EXPOSURES FROM SOURCES NEAR THE GROUND, BASED ON HANFORD EXPERIMENTAL DATA	SILKER WB	07/22/63
HV-SA-3338	ENVIRONMENTAL EVALUATION OF AN ACUTE RELEASE OF I-131 TO THE ATMOSPHERE	MCCORMACK JD	09/16/63
HV-SA-3559	HANFORD MOBILE WHOLE BODY COUNTER	FURUYA JJ STIMPSON CL HINDS WT	09/01/63
HV-SA-3562	EFFECT OF PHYSICAL AND BIOLOGICAL CONDITIONS ON DEPOSITION AND RETENTION OF I-131 ON PLANTS	SOLDAT JK	06/10/64
HV-SA-3607	HANFORD ISOTOPES PLANT	BRADY DN SHANBERG F	06/01/64
HV-SA-3742	AIR-BORNE RADIONUCLIDE MEASUREMENTS AND PHYSICAL CHARACTERISTICS DETERMINATION	CLINE JF WILSON DD HUNGATE FP	09/21/64
HMN-1991-DEL IN-6263	CPD WASTE STORAGE AND EXPERIENCE DESIGN AND PROCUREMENT HISTORY OF HANFORD ENGINEER WORKS AND CLINTON SEMI-WORKS IN TWO VOLUMES	ROHRMANN CA PERKINS RW THOMAS CW NIELSEN JM ROBERTS RE	09/06/64 10/15/64 07/26/57 12/31/45

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ISO-648	STUDY OF LAND REQUIREMENTS	SLOAT RJ	01/16/67
ISO-981	HANFORD HIGH LEVEL WASTE MANAGEMENT REEVALUATION STUDY	SMITH PW TOMLINSON RE	08/31/67
ISO-SA-32	MIGRATION CHARACTERISTICS OF RADIONUCLIDES THROUGH SEDIMENTS UNDERLYING THE HANFORD RESERVATION	BROWN DJ	11/30/65
M-4181	MEDICAL DEPARTMENT HEALTH INSTRUMENT SECTION MANUAL OF STANDARD PROCEDURES: COUNTING ROOM AND PERSONNEL METERS	PATTERSON CM HART JC	05/01/66
MED-1007	100 AREA DAILY DATA SHEETS - B, D, & F - START-UP THRU MAY 1945		09/26/44
MED-1008	100 AREA DAILY DATA SHEETS - B, D, & F - JUNE 1 THRU JULY 17, 1945		07/31/45
MUREG/CR-2675-V1	RELEVANCE OF BIOTIC PATHWAYS TO THE LONG-TERM REGULATION OF NUCLEAR WASTE DISPOSAL	MCKENZIE OH CADWELL LL CUSHING CE HARTY R KENNEDY WE SIMMONS MA SOLDAT JK SHWARTZMAN G	07/01/82
MUREG/CR-2675-V2	RELEVANCE OF BIOTIC PATHWAYS TO THE LONG-TERM REGULATION OF NUCLEAR WASTE DISPOSAL	KENNEDY WE PELOQUIN RA SIMMONS MA MCKENZIE OH CADWELL LL EBERHARDT LE	10/01/82
MUREG/CR-2675-V3	RELEVANCE OF BIOTIC PATHWAYS TO THE LONG-TERM REGULATION OF NUCLEAR WASTE DISPOSAL	KENNEDY WE PELOQUIN RA SIMMONS MA MCKENZIE OH CADWELL LL EBERHARDT LE	01/01/83
MUREG/CR-2675-V4	RELEVANCE OF BIOTIC PATHWAYS TO THE LONG-TERM REGULATION OF NUCLEAR WASTE DISPOSAL	MCKENZIE DY CADWELL LL EBERHARDT LE KENNEDY WE PELOQUIN RA SIMMONS MA	05/01/84
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MUREG/CR-2675-V6	RELEVANCE OF BIOTIC PATHWAYS TO THE LONG-TERM REGULATION OF NUCLEAR WASTE DISPOSAL	PROHAMMER LA SIMMONS MA MCKENZIE DH CADWELL LL KENNEDY WE	11/01/86
MUREG/CR-3344	MESORAD DOSE ASSESSMENT MODEL: TECHNICAL BASIS	PROHAMMER LA SIMMONS MA RAMSDELL JV ATHEY GF	11/30/83
MUREG/CR-4000-V1	MESORAD DOSE ASSESSMENT MODEL: COMPUTER CODE	SCHERPELZ RI BANDER TJ ATHEY GR RAMSDELL JV	01/31/86
MUREG/CR-4000-V2	MESORAD DOSE ASSESSMENT MODEL: COMPUTER CODE	RAMSDELL JV ATHEY GF BANDER TJ SCHERPELZ RI	10/31/87
OUT-1642	SHIPMENT HISTORIES	MATTHIAS FT	04/23/45
OUT-1651	SHIPMENT HISTORIES	MATTHIAS FT	04/24/45
PHL-1948	RADIOACTIVITY ASSOCIATED WITH BIOTA AND SOILS OF THE 216-A-24 CRIB	KLEPPER EL ROGERS LE HEDLUND JD SCHRECKHUISE RG	03/01/79
PHL-2080-9	CONTROL OF RADIOIODINE IN THE EXCESS WATER STREAM OF A NUCLEAR FUELS REPROCESSING PLANT	SWANSON JL	05/31/78
PHL-2253	ECOLOGY OF THE 200 AREA PLATEAU WASTE MANAGEMENT ENVIRONS: A STATUS REPORT	ROGERS LE RICKARD WH	10/01/77
PHL-2303	RADIONUCLIDE CONCENTRATIONS IN SELECTED FOODSTUFFS AND WILDLIFE FROM THE HANFORD ENVIRONS, 1971-1975	ROGERS LE RICKARD WH FIX JJ LEE TE SC BRANSON PE	11/01/77
PHL-2426	ESTIMATION OF AIR CONCENTRATIONS DUE TO THE DIFFUSION, DEPOSITION AND RESUSPENSION OF CONTAMINANTS BY THE WIND	HORST TV	10/01/77
PHL-2454	REVEGETATION OF A WASTE DISPOSAL SITE IN THE 200 AREAS OF THE HANFORD RESERVATION	CLINE JF URESK VA	11/01/77
PHL-2462	AMERICAN COOT (FULICA AMERICANA) ON THE HANFORD SITE PART 1: NESTING BIOLOGY	FITZNER RE SCHRECKHUISE RG	05/01/79
PHL-2465	DARKLING BEETLE POPULATIONS (TENEBRIONIDAE) OF THE HANFORD SITE IN SOUTHCENTRAL WASHINGTON	ROGERS LE WOODLEY N SHELDON JK URESK VA	02/01/78
PHL-2479	ANALYSIS OF SMALL MAMMAL POPULATIONS INHABITING THE ENVIRONS OF A LOW-LEVEL RADIOACTIVE WASTE POND	GANO KA	03/01/79
PHL-2499	COMPARATIVE ECOLOGY OF NUCLEAR WASTE PONDS AND STREAMS ON THE HANFORD SITE	EMERY RM MCSHAHE MC	10/01/78
PHL-2500-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1977 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 1 BIONMEDICAL SCIENCES	WILEY WR	02/01/78

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PNL-2500-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1977 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 3 ATMOSPHERIC SCIENCES	SIMPSON CL	02/01/78
PNL-2500-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1977 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 4 PHYSICAL SCIENCES	NIELSEN JM	02/01/78
PNL-2500-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1977 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 5 CONTROL TECHNOLOGY, OVERVIEW, HEALTH, SAFETY, AND POLICY ANALYSIS	BATR WJ	02/01/78
PNL-2557	CHARACTERIZATION OF THE HANFORD 300 AREA BURIAL GROUNDS	PHILLIPS SJ AMER LL FITZNER RE GEE GH SAMOHNESS GA SIMMONS CS HOUSTON JR BLUMER PJ MYERS DA	01/01/80 04/01/78 04/01/78
PNL-2614	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY-1977	MCGRAN VL	10/31/78
PNL-2624	ENVIRONMENTAL MONITORING REPORT ON THE STATUS OF GROUND WATER BENEATH THE HANFORD SITE JANUARY-DECEMBER 1977	HARTY II ETAL	09/30/78
PNL-2635	WELL MAINTENANCE EVALUATION	HOUSTON JR BLUMER PJ	06/01/78
PNL-2640	HANFORD NUCLEAR ENERGY CENTER: A CONCEPTUAL STUDY	ROGERS LE	10/01/79
PNL-2677	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY-1977	EDDY PA MYERS DA RAYMOND JR	08/01/78
PNL-2713	SHRUB-INHABITING INSECTS OF THE 200 AREA PLATEAU, SOUTHCENTRAL WASHINGTON	WILEY WR	02/01/79
PNL-2724	VERTICAL CONTAMINATION IN THE UNCONFINED GROUNDWATER AT THE HANFORD SITE, WASHINGTON	VAUGHAN BE	02/01/79
PNL-2850-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1978 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 1 BIOMEDICAL SCIENCES	SIMPSON CL	02/01/79
PNL-2850-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1978 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 2 ECOLOGICAL SCIENCES	NIELSEN JM	02/01/79
PNL-2850-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1978 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 3 PHYSICAL SCIENCES	BAIR WJ	02/01/79
PNL-2850-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1978 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 4 PHYSICAL SCIENCES	EDDY PA CLINE JF	04/01/79 03/01/79
PNL-2850-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1978 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 5 ENVIRONMENTAL ASSESSMENT, CONTROL, HEALTH AND SAFETY	HOUSTON JR BLUMER PJ BLUMER PJ LINDBERG JH BOND FW SULA HJ	04/01/79 08/01/79 06/01/79 04/01/80
PNL-2899	RADIOLOGICAL STATUS OF THE GROUND-WATER BENEATH THE HANFORD PROJECT JANUARY-DECEMBER 1978	EBERHARDT LE HEDLUND JD RICKARD WH	10/01/79
PNL-2918	BIOBARRIERS USED IN SHALLOW-BURIAL GROUND STABILIZATION	BURGER LL BURNS RE	11/01/79
PNL-2932	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY 1978	FITZNER RE RICKARD WH CADWELL LL	05/01/81
PNL-2933	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY 1978	ROGERS LE	12/01/79
PNL-2949	GEOHYDROLOGY AND GROUND-WATER QUALITY BENEATH THE 300 AREA, HANFORD SITE, WASHINGTON	BLUMER PJ HOUJSTON JR EDDY PA	03/01/80
PNL-3127	RADIOLOGICAL SURVEY OF EXPOSED SHORELINES AND ISLANDS OF THE COLUMBIA RIVER BETWEEN VERNITA AND THE SHAKE RIVER CONFLUENCE	CUSHING CE WATSON DG SCOTT AJ	06/01/80
PNL-3147	TAGGING STUDIES OF MULE DEER FARMS ON THE HANFORD SITE, 1969-1977	GURTISEN JH	02/01/80
PNL-3186	TECHNICAL REQUIREMENTS FOR THE CONTROL OF I-129 IN A NUCLEAR FUELS REPROCESSING PLANT	HOUSTON JR BLUMER PJ	08/01/80
PNL-3212	RAPTORS OF THE HANFORD SITE AND NEARBY AREAS OF SOUTHCENTRAL WASHINGTON	HOUSTON JR BLUMER PJ DRUCKER H	02/01/80
PNL-3222	MASTER SCHEDULE FOR CY-1980 HANFORD ENVIRONMENTAL SURVEILLANCE ROUTINE PROGRAM		
PNL-3269	DECLINE OF RADIONUCLIDES IN COLUMBIA RIVER BIOTA		
PNL-3283	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY-1979		
PNL-3284	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY 1979		
PNL-3300-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1979 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 1 BIOMEDICAL SCIENCES		

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PHL-3300-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1979 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE	02/01/80
PHL-3300-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1979 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 3 ATMOSPHERIC SCIENCES	ELDERKIN CE	02/01/80
PHL-3300-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1979 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 4 PHYSICAL SCIENCES	NIELSEN JM	02/01/80
PHL-3300-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1979 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 5 ENVIRONMENTAL ASSESSMENT, CONTROL, HEALTH, AND SAFETY	BAIR WJ	02/01/80
PHL-3346	RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD PROJECT JANUARY-DECEMBER 1979	EDDY PA WILBUR JS	04/01/80
PHL-3357	IODINE-129 IN FORAGE AND DEER ON THE HANFORD SITE AND OTHER PACIFIC NORTHWEST LOCATIONS	PRICE KR CADWELL LL SCHRECKHOISE RG GRAUER FP	02/01/81
PHL-3359	LABORATORY STUDIES ON THE EVOLUTION OF IODINE-129 DURING PUREX-URANIUM METAL DISSOLUTION	BRAY LA	03/31/80
PHL-3496	DETERMINING CRITERIA FOR THE DISPOSAL OF IODINE-129	BURGER L	10/31/80
PHL-3509-PT1	STANDARDIZED INPUT FOR HANFORD ENVIRONMENTAL IMPACT STATEMENTS - PART I	HAPIER BA	05/01/81
PHL-3509-PT2	STANDARDIZED INPUT FOR HANFORD ENVIRONMENTAL IMPACT STATEMENTS PART II: SITE DESCRIPTION	JAMISON JD	07/01/82
PHL-3639	MASTER SCHEDULE FOR CY-1981 HANFORD ENVIRONMENTAL SURVEILLANCE ROUTINE PROGRAM	BLUMER PJ SULA MJ EDDY PA	12/01/80
PHL-3647	PLUTONIUM IN SURFACE SOIL NEAR THE SOUTHWESTERN BOUNDARY OF THE HANFORD PROJECT	PRICE KR DIRKES RL	05/01/81
PHL-3700-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 1 BIOMEDICAL SCIENCES	DRUCKER H	02/01/81
PHL-3700-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE	02/01/81
PHL-3700-PT2-S	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE	06/01/81
PHL-3700-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 2 SUPPLEMENT ECOLOGICAL SCIENCES	ELDERKIN CE	02/01/91
PHL-3700-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 3 ATMOSPHERIC SCIENCES	NIELSEN JM	02/01/81
PHL-3700-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 4 PHYSICAL SCIENCES	BAIR WJ	02/01/81
PHL-3728	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1980 TO THE DOE ASSISTANT SECRETARY FOR ENVIRONMENT PART 5 ENVIRONMENTAL ASSESSMENT, CONTROL, HEALTH AND SAFETY	SULA MJ BLUMER PJ	04/01/81
PHL-3729	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY-1980	SULA MJ BLUMER PJ DIRKES RL	08/01/81
PHL-3731	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY-1980	PRICE KR GILBERT RO GAND KA	05/01/81
PHL-3766	AMERICIUM-241 IN SURFACE SOIL ASSOCIATED WITH THE HANFORD SITE AND VICINITY	PRICE KR	07/01/81
PHL-3768	CARBON-14 IN SAGEBRUSH ON THE HANFORD SITE AND VICINITY	EDDY PA WILBUR JS	04/01/81
PHL-3777	RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD SITE JANUARY-DECEMBER 1980	HCCORMACK WD	09/01/82
PHL-3777-REV1	HANFORD DOSE OVERVIEW PROGRAM: STANDARDIZED METHODS AND DATA FOR HANFORD ENVIRONMENTAL DOSE CALCULATIONS	MCCORMACK WD RAMSBELL JV HAPIER BA	05/01/84
PHL-4010	HANFORD DOSE OVERVIEW PROGRAM: STANDARDIZED METHODS AND DATA FOR HANFORD ENVIRONMENTAL DOSE CALCULATIONS	MCCORMACK WD RAMSBELL JV HAPIER BA	11/01/81
PHL-4045	POPULATION ESTIMATES FOR THE AREAS WITHIN A 50-MILE RADIUS OF FOUR REFERENCE POINTS ON THE SOMMER DJ RAU RG ROBINSON DC HANFORD SITE	BAIR WJ	02/01/81
PHL-4100-PT1	SELECTION OF A FORM FOR FIXATION OF IODINE-129	BURGER LL SCHEELE RD WIEMERS KD	12/01/81
PHL-4100-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1981 TO THE DOE OFFICE OF ENERGY RESEARCH PART 1 BIOMEDICAL SCIENCES	DRUCKER H	02/01/82
PHL-4100-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1981 TO THE DOE OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENTAL PROTECTION, SAFETY, AND EMERGENCY PREPAREDNESS PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE	02/01/82

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PNL-4100-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1981 TO THE DOE OFFICE OF ENERGY RESEARCH PART 3 ATMOSPHERIC SCIENCES	ELDERKIN CE	02/01/82
PNL-4100-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1981 TO THE DOE OFFICE OF ENERGY RESEARCH PART 4 PHYSICAL SCIENCES	NIELSEN JM	02/01/82
PNL-4100-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1981 TO THE DOE OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENTAL PROTECTION, SAFETY AND EMERGENCY PREPAREDNESS	GLASS WA	02/01/82
PNL-4120	MASTER SCHEDULE FOR CY-1982 HANFORD ENVIRONMENTAL SURVEILLANCE ROUTINE PROGRAM	BLUMER PJ SULA MJ EDDY PA	12/01/81
PNL-4211	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY-1981	SULA MJ MCCORMACK MD DIRKES RL PRICE KR EDDY PA	05/01/82
PNL-4212	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY-1981	SULA MJ BLUMER PJ DIRKES RL	08/01/82
PNL-4237	RADIOLOGICAL STATUS OF THE GROUND WATER BENEATH THE HANFORD SITE JANUARY-DECEMBER 1981	EDDY PA CLINE CB PRATER LS	04/01/82
PNL-4250-1	NUCLEAR WASTE MANAGEMENT SEMIANNUAL PROGRESS REPORT OCTOBER 1981 THROUGH MARCH 1982	CHIKALLA TD POWELL JA	06/01/82
PNL-4369	USER'S GUIDE TO THE MESOI DIFFUSION MODEL - VERSION 1.1 (FOR DATA GENERAL ECLIPSE S/230 WITH AFOS)	ATHEY GF RAMSDALE JV	09/30/82
PNL-4420	ANALYSIS OF RADIONUCLIDE CONCENTRATIONS AND MOVEMENT PATTERNS OF HANFORD SITE MULE DEER	EDERHARDT LE HANSON EE CADWELL LL	10/01/82
PNL-4456	DIITY-A COMPUTER PROGRAM FOR CALCULATING POPULATION DOSE INTEGRATED OVER TEN THOUSAND YEARS	HAPIER BA PELOQUIN RA STRENGE DL	03/31/86
PNL-4466	URANIUM AND OTHER HEAVY METALS IN SOIL AND VEGETATION FROM THE HANFORD ENVIRONS	PRICE KR KINNISON RR	11/01/82
PNL-4489	METHYL IODIDE SORPTION BY REDUCED SILVER MORDENITE	SCHIELE RD BURGER L MATSUZAKI CL	06/30/83
PNL-4600-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1982 TO THE DOE OFFICE OF ENERGY RESEARCH PART 1 BIOMEDICAL SCIENCES	DRUCKER II BAIR WJ	02/01/83
PNL-4600-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1982 TO THE DOE OFFICE OF ENERGY RESEARCH PART 2 ENVIRONMENTAL SCIENCES	VAUGHAN BE BAIR WJ	02/01/83
PNL-4600-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1982 TO THE DOE OFFICE OF ENERGY RESEARCH PART 3 ATMOSPHERIC SCIENCES	ELDERKIN CE BAIR WJ	02/01/83
PNL-4600-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1982 TO THE DOE OFFICE OF ENERGY RESEARCH PT 4 PHYSICAL SCIENCES	NIELSEN JM BAIR WJ	02/01/83
PNL-4600-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1982 TO THE DOE OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENTAL PROTECTION, SAFETY AND EMERGENCY PREPAREDNESS	MARKS S GLASS WA BAIR WJ	02/01/83
PNL-4622	CLIMATOLOGICAL SUMMARY FOR THE HANFORD AREA	STONE WA THORP JM GIFFORD OP HOITINK DJ	06/01/83
PNL-4657	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY 1982	SULA JM CARLILE JMV PRICE KR MCCORMACK MD	05/01/83
PNL-4658	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY 1982	SULA MJ BLUMER PJ DIRKES RL CARLILE JMV	08/01/83
PNL-4659	GROUND-WATER SURVEILLANCE AT THE HANFORD SITE FOR CY 1982	EDDY PA PRATER LS RIEGER JT	06/01/83
PNL-4689	STATUS OF RADIOISOTOPE CONTROL FOR NUCLEAR FUEL REPROCESSING PLANTS	BURGER LL SCHEELE RD	07/01/83
PNL-4713	COMPARISON OF ENVIRONMENTAL RADIATION DOSES ESTIMATED FOR HANFORD OPERATIONS, 1977 THROUGH 1982	MCCORMACK MD CARLILE JMV PELOQUIN RA HAPIER BA	12/01/83
PNL-4822	PUREX ENVIRONMENTAL RADIOLOGICAL SURVEILLANCE - PREOPERATIONAL AND OPERATIONAL SUPPORT PROGRAM CONDUCTED BY PACIFIC NORTHWEST LABORATORY	SULA MJ PRICE KR	10/01/83
PNL-5000-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1983 TO THE DOE OFFICE OF ENERGY RESEARCH PART 1 BIOMEDICAL SCIENCES	PARK JF BAIR WJ	02/01/84
PNL-5000-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1983 TO THE DOE OFFICE OF ENERGY RESEARCH PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE BAIR WJ	02/01/84
PNL-5000-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1983 TO THE DOE OFFICE OF ENERGY RESEARCH PART 3 ATMOSPHERIC SCIENCES	ELDERKIN CE BAIR WJ	02/01/84

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PNL-5000-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1983 TO THE DOE OFFICE OF ENERGY RESEARCH PART 4, PHYSICAL SCIENCES	NIELSEN JN BAIR WJ	02/01/84
PNL-5000-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1983 TO THE DOE OFFICE OF THE ASSISTANT SECRETARY FOR ENVIRONMENTAL PROTECTION, SAFETY AND EMERGENCY PREPAREDNESS PART 5 OVERVIEW AND ASSESSMENT	BAIR WJ MARKS S GLASS WA	02/01/84
PNL-5038	ENVIRONMENTAL SURVEILLANCE AT HANFORD FOR CY 1983	PRICE KR CARLILE JMV DIRKES RL TREVATHAN MS	05/01/84
PNL-5039	ENVIRONMENTAL STATUS OF THE HANFORD SITE FOR CY 1983	PRICE KR BLUMER PJ CARLILE JMV DIRKES RL TREVATHAN MS	08/01/84
PNL-5041	GROUND-WATER SURVEILLANCE AT THE HANFORD SITE FOR CY 1983	PRATER LS RIEGER JT CLINE CS EJ LIKALA TL OSTER KR EDDY PA	07/01/84
PNL-5108 PNL-5247	ADEQUACY OF RADIOIODINE CONTROL AND MONITORING AT NUCLEAR FUELS REPROCESSING PLANTS ROOTING DEPTH AND DISTRIBUTIONS OF DEEP-ROOTED PLANTS IN THE 200 AREA CONTROL ZONE OF THE HANFORD SITE	SCHIELE RD BURGER L SOLDAT JK KLEPPER EL GANO KA CADWELL LL	06/30/84 01/01/85
PNL-5289 PNL-5345	INVESTIGATION OF GROUND-WATER SEEPAGE FROM THE HANFORD SHORELINE OF THE COLUMBIA RIVER HANFORD ENVIRONMENTAL MONITORING PROGRAM SCHEDULE FOR SAMPLES, ANALYSES, AND MEASUREMENTS FOR CALENDAR YEAR 1985	MCCORMACK WD CARLILE JMV BLUMER PJ PRICE KR	11/01/84 12/31/84
PNL-5371 PNL-5397 PNL-5407	ANADROMOUS SALMONIDS OF THE HANFORD REACH, COLUMBIA RIVER: 1984 STATUS HANFORD WELLS ENVIRONMENTAL MONITORING AT HANFORD FOR 1984	BECKER CD MCGHAN VL MITCHELL PJ ARGO RS PRICE KR CARLILE JMV DIRKES RL JAJUSHI RE TREVATHAN MS WOODRUFF RK PRICE KR CARLILE JMV DIRKES RL	09/01/85 02/01/85 05/01/85
PNL-5407-SUPPL	ENVIRONMENTAL MONITORING AT HANFORD FOR 1984 SUPPLEMENT	JAJUSHI RE TREVATHAN MS WOODRUFF RK PRICE KR CARLILE JMV DIRKES RL CLINE CS RIEGER JT RAYMOND JR EDDY PA GEE GW HELLER PR	01/01/86 09/01/85 05/01/85
PNL-5408 PNL-5428	GROUND-WATER MONITORING AT THE HANFORD SITE, JANUARY-DECEMBER 1984 UNSATURATED WATER FLOW AT THE HANFORD SITE: A REVIEW OF LITERATURE AND ANNOTATED BIBLIOGRAPHY	POSTON TH KLOPFER DC	09/01/86
PNL-5484	LITERATURE REVIEW OF THE CONCENTRATION RATIOS OF SELECTED RADIONUCLIDES IN FRESHWATER AND MARINE FISH		
PNL-5486 PNL-5500-PT1	HANFORD GROUND-WATER DATA BASE MANAGEMENT GUIDE AND USER'S MANUAL PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1984 TO THE DOE OFFICE OF ENERGY RESEARCH PART 1 BIOMEDICAL SCIENCES	MITCHELL PJ ARGO RS PARK JF BAIR WJ	05/31/85 02/01/85
PNL-5500-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1984 TO THE DOE OFFICE OF ENERGY RESEARCH PART 2 ECOLOGICAL SCIENCES	VAUGHAN BE BAIR WJ	02/01/85
PNL-5500-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1984 TO THE DOE OFFICE OF ENERGY RESEARCH PART 3 ATMOSPHERIC SCIENCES	ELDERKIN CE BAIR WJ	02/01/85
PNL-5500-PT4	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1984 TO THE DOE OFFICE OF ENERGY RESEARCH PART 4 PHYSICAL SCIENCES	NIELSEN JN BAIR WJ	02/01/85
PNL-5500-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1984 TO THE DOE OFFICE OF THE ASSISTANT SECRETARY FOR POLICY, SAFETY, AND ENVIRONMENT PART 5 OVERVIEW AND ASSESSMENT	GLASS WA BAIR WJ	02/01/85
PNL-5506	HANFORD SITE WATER TABLE CHANGES 1950 THROUGH 1980 - DATA OBSERVATIONS AND EVALUATION	ZIMMERMAN DA REISENAUER AE BLACK GD YOUNG MA GEE GW JONES JL FAYER HJ GEE GW	04/01/86 01/31/85 10/31/85
PNL-5578 PNL-5585	LYSIMETERS AT THE HANFORD SITE: PRESENT USE AND FUTURE NEEDS UNSAT-II, AN UNSATURATED SOIL WATER FLOW CODE FOR USE AT THE HANFORD SITE: CODE DOCUMENTATION		
PNL-5649 PNL-5607	COMPARISON OF UNCERTAINTY ANALYSIS METHODS USING A GROUNDWATER FLOW MODEL PRELIMINARY EXAMINATION OF THE IMPACTS OF REPOSITORY SITE CHARACTERIZATION ACTIVITIES AND FACILITY CONSTRUCTION AND OPERATION ACTIVITIES ON HANFORD AIR QUALITY	DOCTOR PG JACOBSON EA BUCHANAN JA GLANTZ CS RAMSDALE JV	06/30/88 04/30/86

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PNL-5750-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	PARK JF BAIR WJ	02/01/86
PNL-5750-PT2	PART 1 BIOMEDICAL SCIENCES		
PNL-5750-PT3	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	WILDUNG RE BAIR WJ	03/01/86
PNL-5750-PT4	PART 2 ENVIRONMENTAL SCIENCES		
PNL-5750-PT5	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	ELDERKIN CE BAIR WJ	02/01/86
PNL-5795	PART 3 ATMOSPHERIC SCIENCES		
PNL-5817	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	TOBUREN LH BAIR WJ	02/01/86
PNL-6041	PART 4 PHYSICAL SCIENCES		
PNL-6100-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	FAUST LG BAIR WJ	02/01/86
PNL-6100-PT2	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH		
PNL-6100-PT3	SECRETARY FOR ENVIRONMENT, SAFETY AND HEALTH PART 5 OVERVIEW AND ASSESSMENT		
PNL-6100-PT4	OFFSITE RADIATION DOSES SUMMARIZED FROM HANFORD ENVIRONMENTAL MONITORING REPORTS FOR THE YEARS 1957 - 1984	SOLDAT JK PRICE KR MCCORMACK WD	05/01/86
PNL-6100-PT5	ENVIRONMENTAL MONITORING AT HANFORD FOR 1985		
PNL-6120	COLUMBIA RIVER STATISTICAL UPDATE MODEL - VERSION 4.0 (COLSTAT4): BACKGROUND DOCUMENTATION	PRICE KR WIELAN G DAMSCIEN DW BROCKHAUS RD	08/01/87
PNL-6125	AND USER'S GUIDE		
PNL-6313	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1986 TO THE DOE OFFICE OF ENERGY RESEARCH	PARK JF BAIR WJ	02/01/87
PNL-6450-01	PART 1 BIOMEDICAL SCIENCES		
PNL-6450-02	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	WILDUNG RE BAIR WJ	09/01/87
PNL-6450-03	PART 2 ENVIRONMENTAL SCIENCES		
PNL-6450-04	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1985 TO THE DOE OFFICE OF ENERGY RESEARCH	ELDERKIN CE BAIR WJ	06/01/87
PNL-6450-05	PART 3 ATMOSPHERIC SCIENCES		
PNL-6450-06	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1986 TO THE DOE OFFICE OF ENERGY RESEARCH	TOBUREN LH BAIR WJ	02/01/87
PNL-6450-07	PART 4 PHYSICAL SCIENCES		
PNL-6450-08	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1986 TO THE DOE OFFICE OF ENERGY RESEARCH	FAUST LG KENNEDY WE STEELMAN BL SELBY JM BAIR WJ	02/01/87
PNL-6450-09	ENVIRONMENT, SAFETY AND HEALTH PART 5 NUCLEAR AND OPERATIONAL SAFETY		
PNL-6450-10	ENVIRONMENTAL MONITORING AT HANFORD FOR 1986		
PNL-6450-11	HISTORICAL REVIEW OF PERSONNEL DOSIMETRY DEVELOPMENT AND ITS USE IN RADIATION PROTECTION PROGRAMS AT HANFORD 1944 TO THE 1980S	WILSON RH	05/01/87
PNL-6450-12	EVALUATION OF AQUIFER INTERCOMMUNICATION BETWEEN THE UNCONFINED AND RATTLESNAKE RIDGE AQUIFERS ON THE HANFORD SITE	JENSEN EJ	02/01/87
PNL-6450-13	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT NOVEMBER 1987		
PNL-6450-14	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT DECEMBER 1987	HAERER HA	11/30/87
PNL-6450-15	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT JANUARY 1988	HAERER HA	12/31/87
PNL-6450-16	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT FEBRUARY 1988	HAERER HA	01/31/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT MARCH 1988	HAERER HA	02/29/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT APRIL 1988	HAERER HA	03/31/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT MAY 1988	HAERER HA	04/30/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT JUNE 1988	HAERER HA	05/31/88
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	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT AUGUST 1988	HAERER HA	07/31/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT SEPTEMBER 1988	HAERER HA	08/31/88
	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY TECHNICAL REPORT OCTOBER 1988	HAERER HA	09/30/88
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PHL-6450-17	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT MARCH 1989	DENNIS BS	03/30/89
PHL-6450-18	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT APRIL 1989	DENNIS BS	04/30/89
PHL-6450-19	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT MAY 1989	DENNIS BS	05/31/89
PHL-6450-20	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JUNE 1989	DENNIS BS	06/30/89
PHL-6450-21	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JULY 1989	DENNIS BS	07/31/89
PHL-6450-22	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT AUGUST 1989	DENNIS BS	08/31/89
PHL-6450-23	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT SEPTEMBER 1989	DENNIS BS	09/30/89
PHL-6450-24	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT OCTOBER 1989	DENNIS BS	10/31/89
PHL-6450-25	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT NOVEMBER 1989	DENNIS BS	11/30/89
PHL-6450-26	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT DECEMBER 1989	DENNIS BS	12/31/89
PHL-6450-27	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JANUARY 1990	DENNIS BS	01/31/90
PHL-6450-28	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT FEBRUARY 1990	DENNIS BS	02/28/90
PHL-6450-29	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT MARCH 1990	DENNIS BS	03/31/90
PHL-6450-30	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT APRIL 1990	DENNIS BS	04/30/90
PHL-6450-32	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JUNE 1990	FINCH SM	06/30/90
PHL-6450-33	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JULY 1990	FINCH SM	07/31/90
PHL-6450-34	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT AUGUST 1990	FINCH SM	08/31/90
PHL-6450-35	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT SEPTEMBER 1990	FINCH SM	09/30/90
PHL-6450-36	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT OCTOBER 1990	FINCH SM	10/31/90
PHL-6450-37	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT NOVEMBER 1990	FINCH SM	11/30/90
PHL-6450-38	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT DECEMBER 1990	FINCH SM	12/31/90
PHL-6450-39	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT JANUARY 1991	FINCH SM	01/31/91
PHL-6450-40	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT FEBRUARY 1991	FINCH SM	02/28/91
PHL-6450-41	HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT MONTHLY REPORT MARCH 1991	FINCH SM	03/29/91
PHL-6464	ENVIRONMENTAL MONITORING AT HANFORD FOR 1987	JACUISH RE MITCHELL PJ	11/30/87
PHL-6534	HEALTH PHYSICS MANUAL OF GOOD PRACTICES FOR PLUTONIUM FACILITIES	FAUST LG ETAL	05/01/88
PHL-6584	GENII - THE HANFORD ENVIRONMENTAL RADIATION DOSIMETRY SOFTWARE SYSTEM	HAPIER BA PELOQUIN RA STRENGE DL RAMSDELL JV	12/31/88
PHL-6696-REV1	WORK PLAN FOR THE HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT	JACUISH RE BRYCE RH	12/31/89
PHL-6825	HANFORD SITE ENVIRONMENTAL REPORT FOR CALENDAR YEAR 1988	BECK DM BRUNEAU CL DARWIN RF ECKERT	05/31/89
PHL-6834	DEMOGRAPHIC, AGRICULTURAL, FOOD CONSUMPTION, AND LIFESTYLE RESEARCH FOR THE HEDR PROJECT	RL HARKREADER SA RIDDADS RE	05/31/89
PHL-6889	FEASIBILITY OF USING I-129 CONCENTRATIONS IN HUMAN TISSUE TO ESTIMATE RADIATION DOES FROM I-131	NECCORMACK MD	10/31/89
PHL-6907	HANFORD WELLS	MCGHAN VL	06/30/89
PHL-6952	HANFORD RADIOLOGICAL PROTECTION SUPPORT SERVICES ANNUAL REPORT FOR 1988	LYON M FIX J KENOYER JL LEONOHICH JA PALMER HE SULA MJ	06/30/89
PHL-6964	HISTORY OF MAJOR HANFORD OPERATIONS INVOLVING RADIOACTIVE MATERIAL	BALLINGER MY HALL RB	06/01/89
PHL-6975	SUMMARY OF WORKSHOP ON MILK PRODUCTION AND DISTRIBUTION, NOVEMBER 30, 1988 - HEDR	BECK DM DARWIN RF ECKERT RL	11/30/88
PHL-6980	HISTORICAL REVIEW OF PORTABLE HEALTH PHYSICS INSTRUMENTS AND THEIR USE IN RADIATION PROTECTION PROGRAMS AT HANFORD, 1944 THROUGH 1988	HOWELL WP KENOYER JL KRESS ML SWINTH KL CORBIT CD ZUERHER LV FLEMING DM	09/30/89
PHL-6992	TRENDS IN RADIONUCLIDE CONCENTRATIONS FOR SELECTED WILDLIFE AND FOOD PRODUCTS NEAR THE HANFORD SITE FROM 1971 THROUGH 1988	DEHAYEN IM EBERHARDT LE CADWELL L PRICE KR	09/30/89
PHL-7120	HANFORD SITE GROUND-WATER MONITORING FOR JULY THROUGH DECEMBER 1988	CARLILE DH EVANS JC BRYCE RW SHERWOOD DR KENNER ML NEWCOMER DR	10/31/89

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PHL-7177	RADIONUCLIDE SOURCES AND RADIOACTIVE DECAY FIGURES PERTINENT TO THE HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT	HEEB CH	03/31/89
PHL-7198	ATMOSPHERIC TRANSPORT AND DISPERSION MODELING FOR THE IEDR PROJECT	RAMSDELL JF	12/31/89
PHL-7200-PT1	PACIFIC NORTHWEST LABORATORY ANNUAL REPORT FOR 1989 TO THE DOE OFFICE OF ENERGY RESEARCH: BIOMEDICAL SCIENCES	PARK JF	05/31/90
PHL-7200-PT2	PNL ANNUAL RPT FOR 1989 TO THE DOE OFFICE OF ENERGY RESEARCH: ENVIRONMENTAL SCIENCES	WILDUNG RE	03/31/90
PHL-7200-PT3	PNL ANNUAL RPT FOR 1989 TO THE DOE OFFICE OF ENERGY RESEARCH: ATMOSPHERIC SCIENCES	ELDERKIN CE	06/30/90
PHL-7200-PT4	PNL ANNUAL RPT FOR 1989 TO THE DOE OFFICE OF ENERGY RESEARCH: PHYSICAL SCIENCES	TORBURN LH STULTS BR MAHAFFEY JA	04/30/90
PHL-7200-PT5	PNL ANNUAL RPT FOR 1989 TO THE ASST SEC FOR ENVIR, SAFETY, & HEALTH: ENVIRONMENT, SAFETY, HEALTH, & QUALITY ASSURANCE	FAUST LG DOCTOR PG SELBY JM	04/30/90
PHL-7210	FISSION PRODUCT IODINE DURING EARLY HANFORD-SITE OPERATIONS: ITS PRODUCTION AND BEHAVIOR DURING FUEL PROCESSING, OFF-GAS TREATMENT, AND RELEASE TO THE ATMOSPHERE	BURGER L	12/31/89
PHL-7223	UNCERTAINTIES IN SOURCE TERM CALCULATIONS GENERATED BY THE ORIGEN2 COMPUTER CODE FOR HANFORD PRODUCTION REACTORS	HEEB CH	12/31/89
PHL-7226	SUMMARY OF LITERATURE REVIEW OF RISK COMMUNICATION - IEDR PROJECT	BYRAM SJ	12/31/89
PHL-7227	MILK COW FEED INTAKE AND MILK PRODUCTION AND DISTRIBUTION ESTIMATES FOR PHASE I IEDR	BECK CH DARWIN RF ERICKSON AR ECKERT RL	01/31/90
PHL-7231	PRELIMINARY EXAMINATION OF AUDIENCE-RELATED COMMUNICATIONS ISSUES FOR THE HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT	HOLMES CH	04/30/91
PHL-7248	ESTIMATES OF COLUMBIA RIVER RADIONUCLIDE CONCENTRATIONS: DATA FOR PHASE I DOSE CALCULATIONS	RICHMOND MC WALTERS WH	01/31/90
PHL-7253	IODINE-131 IN IRRADIATED FUEL AT TIME OF PROCESSING FROM DECEMBER 1944 THROUGH DECEMBER 1947	HEEB CH MORGAN LG	01/31/90
PHL-7254	EVALUATION OF THYROID RADIOACTIVITY MEASUREMENT DATA FROM HANFORD WORKERS, 1944-1946	IKENBERRY TA	05/31/91
PHL-7257	ENVIRONMENTAL MONITORING MASTER SAMPLING SCHEDULE JANUARY-DECEMBER 1990	BISPING LE	01/31/90
PHL-7260	ESTIMATION OF FOOD CONSUMPTION	CALLAWAY JM	11/30/89
PHL-7263	POPULATION ESTIMATES FOR PHASE I	BECK DM ERICKSON AR HARKRENDER SA	02/28/90
PHL-7274	COMPUTATIONAL MODEL DESIGN SPECIFICATION FOR PHASE I OF THE IEDR PROJECT	HOLMES CH	02/28/90
PHL-7321	PRELIMINARY EXAMINATION OF AUDIENCE-RELATED COMMUNICATIONS ISSUES FOR THE IEDR PROJECT	NAPIER BA	01/31/90
PHL-7321	SELECTION OF DOMINANT RADIONUCLIDES FOR PHASE I OF THE IEDR PROJECT	NAPIER BA	01/31/90
PHL-7340	MESQILTZ-A LAGRANGIAN TRAJECTORY CLIMATOLOGICAL DISPERSION MODEL	BURK KW RAMSDELL JR	03/12/91
PHL-7346	HANFORD SITE ENVIRONMENTAL REPORT FOR CALENDAR YEAR 1989	JAGUISH RE BRYCE RV	05/30/90
PHL-7360	HANFORD SITE ENVIRONMENTAL DATA FOR CALENDAR YEAR 1989 - SURFACE AND COLUMBIA RIVER	BISPING LE WOODRUFF RK	06/30/90
PHL-7390	HANFORD SITE ENVIRONMENTAL DATA FOR CALENDAR YEAR 1989 - GROUND WATER	BRYCE RV GORST MR	06/30/90
PHL-7396	HANFORD SITE GROUND-WATER SURVEILLANCE FOR 1989	EVANS JC BRYCE RV BATES DJ KENNER HL	06/30/90
PHL-7417	HANFORD RADIOLOGICAL PROTECTION SUPPORT SERVICES ANNUAL REPORT FOR 1989	LYON M BIHL DE FIX J KENDYER JL	07/31/90
PHL-7563	FY 1991 PROJECT PLAN FOR THE HANFORD ENVIRONMENTAL DOSE RECONSTRUCTION PROJECT, PHASE I	LEONOVICH JA PALMER HE	02/28/91
PHL-WA-558	HANFORD GROUND-WATER DATA BASE MANAGEMENT GUIDE	SHIPLEY DB	03/01/90
PHL-WA-580	SURFACE ENVIRONMENTAL SURVEILLANCE PROCEDURES MANUAL	RIEGER JT MITCHELL PJ MUFFETT DM	03/01/90
PHL-SA-06416	LEACHING OF IRRADIATED LWR FUEL PELLETS IN DEIONIZED WATER, SEA BRINE, AND TYPICAL GROUND WATER	FRULAND RM MOORE SB MARSHALL SM	03/01/90
PHL-SA-06575	TRACE ELEMENTS IN A COLUMBIA RIVER FOOD WEB	BIANF RV DIRKES RL	12/01/77
PHL-SA-06720	PLUTONIUM CONCENTRATIONS IN AIRBORNE SOIL AT ROCKY FLATS AND HANFORD DETERMINED DURING RESUSPENSION EXPERIMENTS	KATAYAMA YB MENDEL JE	10/31/77
		CUSHING CE	01/01/78
		SEHMEL GA	

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PNL-SA-06721-R1	MODEL FOR PREDICTING DRY DEPOSITION OF PARTICLES AND GASES TO ENVIRONMENTAL SURFACES	SEIMEL GA HOOBSON WH	01/01/77
PNL-SA-07155	USE OF HANFORD WASTE WATER PONDS BY WATERFOWL	PRICE KR FITZNER RE	01/01/77
PNL-SA-07167	CESIUM-137 IN COOTS (FULICA AMERICANA) ON HANFORD WASTE PONDS: CONTRIBUTION TO POPULATION DOSE AND OFFSITE TRANSPORT ESTIMATES	CAWELL LL SCHRECKNISE RO FITZNER RE	04/01/77
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# Exhibit 5

Exh. 5

**ESTIMATION OF PU-239 RELEASES TO THE  
ATMOSPHERE FROM THE HANFORD SITE**

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December 21, 1995

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## INTRODUCTION

HEDR estimates of the amounts of Pu-239 released to the atmosphere were reported in [He94]. Four separations plants stacks were considered in [He94] as the sources of the releases. Since then, new operational data compiled from the historical records pertaining to the Pu-239 releases from the Hanford Site became available. The data are presented in this report in Appendix A, Table A1. The new operational data were used in this report for reestimation of the Pu-239 releases accounting for more than the four sources considered in [He94]. Following groups of the Pu-239 emitters were analyzed in this report:

- Separations plant stacks;
- 100 areas reactor stacks;
- 224 concentration building roof fans;
- Z-plant stack.

### 1. DEFINITIONS

The concept of Pu-239 release factor calculation is presented on Figure 1. Amount of Pu-239 dissolved during a given unit of time is suggested to be equal to  $PU_1$ . Part of it,  $PU_2$ , will leave the solution, will enter the ventilation systems, and eventually it

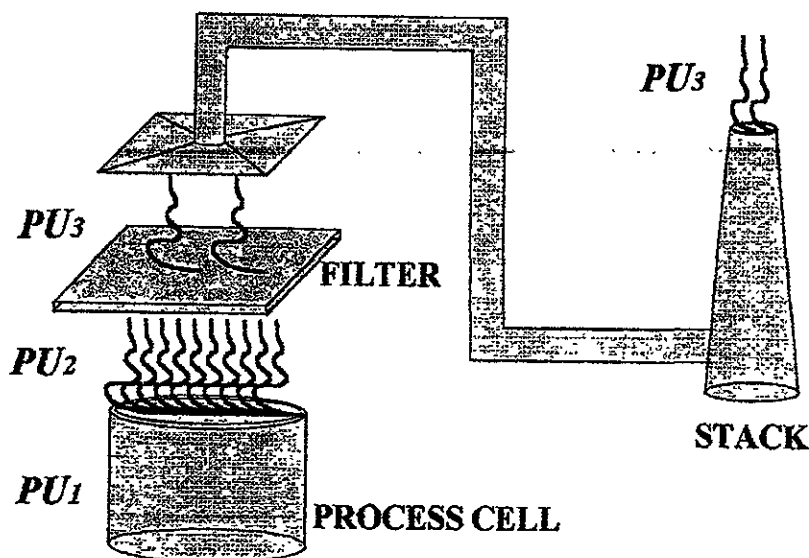


Figure 1

Concept of release factor calculation

will enter the particulate decontamination system. As much Pu-239 activity as  $PU_3$  will be released from the decontamination system through the stack into the atmosphere. Following notations based on this concept will be used throughout the text:

*Generic release ratio (GRR)* is determined by chemical properties of the solution and separations technology. It is defined as the portion of Pu-239 that left the solution:

$$(1) \quad GRR = PU_2 / PU_1 .$$

*Decontamination factor (DF)* of a filter is defined as

$$(2) \quad DF = 1 - PU_3 / PU_2 .$$

*Overall release factor (ORF)* is as portion of processed Pu-239 that was released through the stack, defined as:

$$(3) \quad ORF = PU_3 / PU_1 = GRR (1 - DF).$$

## 2. METHOD OF THE Pu-239 RELEASES ESTIMATION: HEDR APPROACH

HEDR estimates of Pu-239 releases were based on the records of Pu-239 release measurements from each separations plant vent stack, available from [So93]. For PUREX, for example, those measurements are presented in the Table 1.

Table 1

Measurements of Pu-239 releases, Dec.1957,  
PUREX Plant, compiled from [He94, p.4.28]

Release number.	Date	Pu-239 Release, $\mu\text{Ci/day}$
$i$		$R(i)$
1	12/4-5/57	0.068
2	12/5-6/57	0.039
3	12/6-7/57	1.6
4	12/7-9/57	0.018
5	12/9-10/57	0.03
6	12/10-11/57	4.8
7	12/11-12/57	0.2
8	12/14-16/57	0.036
9	12/16-17/57	1.1

Generic release ratios were calculated in [He94] by dividing the curies ( $Pu^R$ ) of Pu-239 released during a given time period by the curies ( $Pu^D$ ) of Pu-239 processed during that period.

For the data presented in the Table 1, the average value  $Pu^R$  of the daily Pu 239 release is 0.8768  $\mu$ Ci/day, found according to the formula

$$(4) \quad Pu^R = (1/N) \sum R(i),$$

where  $N$  is the number of measurements. In the case of Table 1 it is equal to 9.

Amount of Pu-239 processed in PUREX during December 1957 is equal to 13,500 Ci. It is calculated according to the formula [He94]:

$$(5) \quad Pu^D = T * 0.08382 * BU - 3.331E-5 * BU^{**2} + 9.163E-9 * BU^{**3} - 1.16E-12 * BU^{**4} + 9.906E-5 * PD * BU$$

where  $T$  (tons) is the mass of spent fuel processed during the month, having average burnup  $BU$  (MWd/ton) and power density  $PD$  (MW/ton).

Overall release factor attributed to PUREX, December 1957, is found according to

$$(6) \quad ORF(12/57) = (0.8768 \mu\text{Ci/day} * 31\text{day}) / 13,500 \text{ Ci} = 2E-9.$$

Release factors for the rest of the separations plants were found in the similar way. The HEDR reconstructed values of the release factor are represented in Table 2.

Table 2

HEDR reconstructed values of the release factor

	12/44-5/48	After 5/48	Entire period of operation
T and B Plant	4E-5	4E-7	
REDOX			2E-7
PUREX			2E-9

The values of release factor for T and B plants related to the period 12/44-5/48 are found under the suggestion that the overall plant efficiency for radioactive particles was 99%.

HEDR estimates of amounts of Pu-239 released in month  $k$  were calculated with the use of formula

$$(7) \quad Pu^R(k) = ORF(k) * Pu^D(k),$$

where  $Pu^D(k)$  are calculated according to (2), and  $RF(k)$  found from Table 2.

### 3. BLASEWITZ' CRITICISM

Blasewitz questioned the HEDR estimation of the radionuclide releases to the atmosphere in [B193] and [B194] where he pointed out the following three major problems:

1. Incorrect estimation of the overall release factors for the period 1944 - 1951

"The release factors, and of course, the releases [*estimated in HEDR, A.K.*] from B and T Plants for the period of 1944 until early 1951 are in error"[B193, p.1].

2. The input data are significantly uncertain

"The data upon which the release factors ... are based are exceedingly sketchy and tenuous"[B193, p.1];

3. PUREX overall release factor was dramatically underestimated

"In view of the mechanisms involved in the formation of the radioactive aerosols and the decontamination equipment used, it would be expected that the release factors for all of the particulate radionuclides would be essentially the same fro a given separations plant and they would be similar for all of the plants... . The release factor for plutonium at PUREX is, however, reported [*in HEDR, A.K.*] as 2 orders of magnitude lower than the other radionuclides." [B193, p.2].

All three aspects of Blasewitz criticism of the HEDR estimation of Pu-239 releases from the Hanford Site were taken into consideration in the study presented in this report.

### 4. CHRONOLOGY

A diagram of the B and T Plant ventilation systems and the particulate decontamination equipment which was installed at various times and their respective removal efficiencies compiled from [B193] is presented in Appendix B. Four major stages in development of the emission control equipment indicated in the diagram are depicted on Table 3.

One can see from the diagram that two different ventilation lines existed in the processing plants: one was *canyon ventilation air line*, having decontamination factor  $DF^C$ , and another one was *dissolver off-gases line*, having decontamination factor  $DF^D$ . According to [B193], 3,900 units of activity were vented into the off-gas line per each 10,000 units vented into the canyon ventilation system. Or, the proportion was 28% to 72%. Values of  $DF^C(k)$  and  $DF^D(k)$  pertaining to each particular period of the emission



Table 3

Major stages in development of the emission control equipment

	Dec 1944		May 1948	Dissolver off-gases ventilation system	Oct 1948	Canyon ventilation air	Oct 1950 Feb 1951	Dissolver off-gases ventilation system
		No emission control equipment installed		Water scrubbers installed		Sand filter installed		Silver reactor and fiberglass filter installed instead of water scrubbers
Decontamination factor <i>DF</i>		0.0%		75%		99.7%		99.9%
Overall particulate decontamination factor <i>ODF</i>		0%		21%		92.8%		99.76%
Overall release factor <i>ORF</i>		<i>GRR-1</i>		<i>GRR-0.79</i>		<i>GRR-0.072</i>		<i>GRR-0.0024</i>

control development are presented in the 3rd row in Table 3. Clearly, overall particulate decontamination factor (when both ventilation lines are considered) during month *k* is equal to

$$ODF(k)\% = (0.72 \cdot DF^C(k) + 0.28 \cdot DF^D(k))100\%.$$

Values of *ODF(k)* pertaining to each particular period of the emission control development are presented in the 4th row in Table 3.

## 5. ESTIMATION OF THE OVERALL RELEASE FACTOR

Two figures must be known to estimate the amounts of Pu-239 released during a month *k*: monthly averaged release factor *ORF(k)* and  $Pu^D(k)$  - amount of Pu-239 processed during the month. The latter figures are available from historical records.

The values  $RF(k)$  are unknown, but they can be found from the overall decontamination efficiency figures in the following way.

Let two figures be known for a month  $k^*$ : the overall release factor  $ORF(k^*)$  and overall decontamination factor  $ODF(k^*)\%$ . With the use of (3) we can estimate generic release ratio as:

$$(8) \quad GRR(k^*) = (ORF(k^*) / (100\% - ODF(k^*)\%)) \cdot 100\%.$$

Note that  $ORF(k^*)$  is known for some given month  $k^*$  only, and it is still unknown for the arbitrary month  $k$ .

For example, after the silver reactor and fiberglass filter were installed in B and T Plants instead of the water scrubbers, the overall particulate decontamination factor became equal to 99.76% [BI93]. On the other hand, overall release factor pertaining to B and T Plants operations in the first four months of 1952 is reported in [He94] as equal to  $4 \cdot 10^{-7}$ . Therefore,

$$GRR = 4 \cdot 10^{-7} / (100\% - 99.76\%) \cdot 100\% = 1.7 \cdot 10^{-4}.$$

It should be noted that  $4 \cdot 10^{-7}$  is not the only estimate of the overall release factor available from the historical records. Three different estimates of  $GRR$  based on different overall release factor measurements are given in Table 4.

Table 4

Estimates of generic release ratio based on different overall release factor measurements

<i>GRR</i> reference	B & T Plants, 1-4/52 [He94]	B Plant, 4/52 [He94] and this report	B Plant, 4/52, T Plant, 4/52, 4/55 This report
Generic release ratio <i>GRR</i>	$4 \cdot 10^{-7}$	$6.7 \cdot 10^{-7}$	$1.4 \cdot 10^{-6}$
Overall release factor <i>ORF</i>	$1.7 \cdot 10^{-4}$	$2.8 \cdot 10^{-4}$	$5.8 \cdot 10^{-4}$

We now assume that the value of generic release ratio remains the same for all months of production, and it is equal to  $GRR$ . Next step is to find the overall release factor  $ORF(k)$  for an arbitrary month  $k$ . It is, by definition, equal to

$$(9) \quad ORF(k) = GRR (100\% - ODF(k)\%) / 100\%,$$

where  $ODF(k)$  can be found from the last row in Table 5.

Table 5

Estimates of the overall release factor

Generic release ratio <i>GRR</i>	Dec.1944- May 1948	<i>Ratio</i> <i>Alternat.:</i> <i>HEDR</i>	June 1948- Oct. 1948	<i>Ratio</i> <i>Alternat.:</i> <i>HEDR</i>	Nov.1948- Jan.1951	<i>Ratio</i> <i>Alternat.:</i> <i>HEDR</i>	Feb.1951+	<i>Ratio</i> <i>Alternat.:</i> <i>HEDR</i>
$1.7 \cdot 10^{-4}$	$1.7 \cdot 10^{-4}$	4.25	$1.3 \cdot 10^{-4}$	325	$1.2 \cdot 10^{-5}$	30	$4.0 \cdot 10^{-7}$	1.0
$2.8 \cdot 10^{-4}$	$2.8 \cdot 10^{-4}$	7.00	$2.2 \cdot 10^{-4}$	550	$2.0 \cdot 10^{-5}$	50	$6.7 \cdot 10^{-7}$	1.7
$5.8 \cdot 10^{-4}$	$5.8 \cdot 10^{-4}$	14.50	$4.6 \cdot 10^{-4}$	1150	$4.2 \cdot 10^{-5}$	105	$1.4 \cdot 10^{-6}$	3.5

**6. ESTIMATION OF THE RELEASES FROM THE SEPARATIONS PLANT STACKS**

Alternative estimation of Pu-239 released from the separations plant stacks in the period from December 1944 to December 1969 was done with the use of formula (7). The amounts of Pu-239 released after 1969 were found to be relatively small, so they were not included in the study. Results of calculation are presented in Table 6.

Total amount of Pu-239 released into the atmosphere in period 1944 - 1969 is estimated in HEDR as 1.75Ci. This estimate does not account for three factors pointed out in section 3 in this report. However, these three factors were taken into account when alternative estimates were calculated. One can see from the Table 6 that if only the first factor (i.e. timing of the decontamination equipment installation) is taken into consideration, the total estimate becomes equal to 7.7Ci.

The set of measurements of Pu-239 releases used by HEDR [So93] for the estimation of release factor is not the only one available from the historical records. Analysis of the additional data from the source spreadsheet allows one to suggest that releases could be up to about 3.5 times higher than those reported in [So93]. It means that if both the alternative measurements of the releases and the timing of the decontamination equipment installation are taken into account, the total estimate of the Pu-239 releases becomes equal to 26.4 Ci.

If the PUREX release factor is considered two orders of magnitude higher than it was suggested in HEDR, another 2Ci should be added to the previous estimate making total 28.4 Ci.

A.A.Klementiev *Estimation of the Pu-239 Releases to the Atmosphere from the Hanford Site*, December 21, 1995.  
 Report to Tom H. Foulds, Hanford Litigation Office, Seattle.

Estimates of Pu-239 releases: 1944 - 1969  
 Table 6

	HEDR B & T	HEDR REDOX	HEDR PUREX	1.70E-04 B & T	1.70E-04 REDOX	1.70E-04 PUREX	2.80E-04 B & T	2.80E-04 REDOX	2.80E-04 PUREX	5.80E-04 B & T	5.80E-04 REDOX	5.80E-04 PUREX
1945	0.380			1.6133			2.657			5.504		
1946	0.571			2.4266			3.997			8.279		
1947	0.403			1.7144			2.824			5.849		
1948	0.161			1.2637			2.081			4.311		
1949	0.006			0.1853			0.305			0.632		
1950	0.010			0.3043			0.501			1.038		
1951	0.014			0.0143			0.023			0.049		
1952	0.007	0.0066		0.0065	0.0066		0.011	0.0109		0.022	0.0227	
1953	0.003	0.0112		0.0034	0.0112		0.006	0.0184		0.012	0.0382	
1954	0.007	0.0132		0.0073	0.0132		0.012	0.0217		0.025	0.0450	
1955	0.009	0.0154		0.0090	0.0154		0.015	0.0254		0.031	0.0525	
1956		0.0129	0.00018		0.0129	0.00018		0.0212	0.00030		0.0439	0.00061
1957		0.0139	0.00034		0.0139	0.00034		0.0229	0.00056		0.0474	0.00115
1958		0.0104	0.00039		0.0104	0.00039		0.0172	0.00064		0.0356	0.00133
1959		0.0076	0.00047		0.0076	0.00047		0.0126	0.00077		0.0260	0.00159
1960		0.0063	0.00055		0.0063	0.00055		0.0104	0.00091		0.0216	0.00189
1961		0.0104	0.00055		0.0104	0.00055		0.0171	0.00090		0.0354	0.00187
1962		0.0082	0.00053		0.0082	0.00053		0.0136	0.00087		0.0281	0.00180
1963		0.0103	0.00046		0.0103	0.00046		0.0170	0.00076		0.0352	0.00158
1964		0.0140	0.00039		0.0140	0.00039		0.0230	0.00063		0.0477	0.00131
1965		0.0131	0.00050		0.0131	0.00050		0.0216	0.00082		0.0446	0.00170
1966		0.0175	0.00033		0.0175	0.00033		0.0288	0.00054		0.0597	0.00112
1967			0.00049			0.00049			0.00081			0.00167
1968			0.00049			0.00049			0.00081			0.00168
1969			0.00038			0.00038			0.00063			0.00131
Total	1.5715	0.1711	0.00604	7.548002	0.171061	0.006043	12.432	0.281748	0.00995	25.75201	0.5836	0.02062
			1.75			7.73			12.72			26.36

## 7. 100 AREAS REACTOR STACKS

Measurements of the Pu-239 releases from four 100 areas reactor stacks compiled from the source spreadsheet are presented in Table 7. The average total release of Pu-239 equal to

Table 7

Measurements of the Pu-239 releases from 100 areas reactor stacks

Bates No.	Reference	Stack location	Period begin	Period end	Pu-239 release Ci/day	Averaged Pu-239 release Ci/mo
17739	HW-27641	105-F STACK	10/1/52	12/31/52	1.100E-06	
17740	HW-27641	105-D STACK	10/1/52	12/31/52	3.100E-07	
17741	HW-27641	105-DR STACK	10/1/52	12/31/52	3.700E-07	
17742	HW-27641	105-H STACK	10/1/52	12/31/52	1.100E-06	2.16E-5

2.16E-5 Ci/month is about two orders of magnitude lower than the total release from the processing plants stacks. So, the releases from the reactor stacks can be considered as negligible and they are not included in the further analysis.

## 8. 224 CONCENTRATION BUILDING ROOF FANS

224 concentration building was located behind each canyon building. "Ventilation was supplied to each cell (of the 224 concentration building, A.K.) by fans in the pipe gallery and was exhausted through roof fans on each cell" [Ba89, p.4.13]. This statement as well as identification of the 224 roof fans as the individual separate sources of the Pu-239 releases (Table A1), allows one to suggest that Pu-239 exhausted from the cells was not vented to the 200 area stack exhaust system, but it was rather vented directly to the atmosphere.

If the last suggestion is true, <sup>then</sup> the amounts of Pu-239 released from the 224 concentration building might be comparable, or even much higher than the amounts released from the separations plant stacks considered in HEDR. The calculations presented in Table 8 show that in 1952 and 1953 the releases from the 224 concentration buildings were either comparable with the releases from the corresponding separations plant stacks, or about one order of magnitude higher.

For example, 650 Ci was processed in T-Plant in May 1952. From this amount, 0.26 millicurie was released from the T-Plant stack during the separation process. On the next

stage, additional 2.8 millicurie was released from 224 concentration building roof fans. the T-Plant stack during the separation process. Clearly, the amount of Pu-239 released from the roof fans of the 224 building was about 11 times higher than what was released from the T-Plant stack. One can see from three examples presented in Table 8 that the releases from the 224 building roof fans always exceeded the releases from the corresponding separation plant stacks.

Table 8

Releases from 224 concentration building roof fans

Reference	Stack location	Period begin	Period end	Pu-239 released: Alternative estimate Ci/day	Pu-239 released: Alternative estimate Ci/mo	Pu-239 processed: Ci/Mo	Pu-239 released: HEDR estimate Ci/mo	Ratio: Alternative to HEDR
HW-24664	CONCENT. BLDG CELL VENT B 224-T	5/1/52	5/31/52	2.106E-05				
HW-24664	CONCENT. BLDG CELL VENT C 224-T	5/1/52	5/31/52	3.862E-05				
HW-24664	CONCENT. BLDG CELL VENT D 224-T	5/1/52	5/31/52	3.070E-05	2.80E-03	650	2.60E-04	11
HW-25531	CONCENT. BLDG CELL VENT B 224-T	8/1/52	8/31/52	2.198E-05				
HW-25531	CONCENT. BLDG CELL VENT C 224-T	8/1/52	8/31/52	3.684E-06				
HW-25531	CONCENT. BLDG CELL VENT D 224-T	8/1/52	8/31/52	2.229E-04	7.70E-03	1050	4.19E-04	18
HW-27938	CONCENT. BLDG CELL VENT B	4/1/53	4/30/53	6.754E-06				
HW-27938	CONCENT. BLDG CELL VENT C	4/1/53	4/30/53	4.912E-06				
HW-27938	CONCENT. BLDG CELL VENT D	4/1/53	4/30/53	6.754E-06	5.53E-04	427	1.71E-04	3

## 9. Z-PLANT

The plutonium recovery and finishing operation facility, or Z Plant, began operation in late 1949 to process plutonium and to prepare plutonium products. Plutonium was brought to Z Plant as the liquid nitrate solution, then processed forming the metal. Z-Plant had individual vent system and stack as it is indicated in [Ja72].

Let us define release factor for Z Plant (RF-Z) as the ratio

RF-Z = Amount of Pu-239 released from Z Plant / Amount of Pu-239 processed in Z Plant.

The values of RF-Z based on the data from the source spreadsheet and on the assumption that all Pu-239 from the separation plants was brought to Z Plant, are presented in Table 9.

Table 9

Calculating release factor for Z Plant

Bates number	Document number	Period begin	Period end	Adjusted amount: Ci/day	Pu-239 Processed in REDOX Ci	Pu-239 Processed in PUREX Ci	Z Plant release factor	Averaged release factor (RF-Z)
2166110	HW-59849	3/1/59	3/31/59	1.100E-05	1930	20700	1.458E-08	
2159955	HW-60915	6/1/59	6/30/59	1.671E-05	3210	26300	1.699E-08	
2166134	HW-61366	7/1/59	7/31/59	1.130E-05	3750	13600	1.954E-08	
2166155	HW-62179	9/1/59	9/30/59	2.200E-05	2580	19200	3.03E-08	
2166178	HW-62593	10/1/59	10/31/59	1.300E-05	2790	18600	1.823E-08	
2159995	HW-62864	11/1/59	11/30/59	1.620E-05	4180	19000	2.097E-08	
2166214	HW-63706	12/1/59	12/31/59	7.120E-05	5360	23800	7.325E-08	
2166214	HW-63706	1/1/60	1/31/60	1.070E-05	837	28800	1.083E-08	
2160063	HW-66646	8/1/60	8/31/60	1.060E-04	1810	33900	8.905E-08	
2160076	HW-66958	9/1/60	9/30/60	3.600E-05	775	33500	3.151E-08	
2160099	HW-67252	10/1/60	10/31/60	1.240E-05	2960	17900	1.783E-08	
2160112	HW-67459	11/1/60	11/30/60	1.271E-04	3830	32200	1.058E-07	3.741E-08
150160	HW-69205	12/1/61	12/31/61	2.300E-05	0	4620	1.494E-07	
150161	HW-69205	12/1/61	12/31/61	2.200E-05	0	5270	1.252E-07	
150161	HW-69205	12/1/61	12/31/61	1.500E-05	14	4980	9.011E-08	
150161	HW-69205	12/1/61	12/31/61	1.500E-05	0.5	1560	2.884E-07	
150161	HW-69205	12/1/61	12/31/61	1.100E-05	0.1	3340	9.88E-08	
150161	HW-69205	12/1/61	12/31/61	1.700E-05	0	4990	1.022E-07	
150161	HW-69205	12/1/61	12/31/61	2.000E-05	14.7	2440	2.444E-07	
150161	HW-69205	12/1/61	12/31/61	3.100E-05	54	5530	1.665E-07	
150161	HW-69205	12/1/61	12/31/61	2.900E-05	59	3390	2.522E-07	
150161	HW-69205	12/1/61	12/31/61	2.600E-05	104	3960	1.919E-07	
150161	HW-69205	12/1/61	12/31/61	1.700E-05	390	2010	2.125E-07	
150161	HW-69205	12/1/61	12/31/61	1.000E-05	4.7	79.9	3.546E-06	4.557E-07

The estimated values of RF-Z are related to the period 1959 - 1961 when most of Pu-249 went to Z Plant from PUREX. Averaged value of RF-Z is 3.7E-8 for 1959 - 1960, and it is 4.6E-7 for 1961. Both estimates are significantly higher than the estimate of PUREX release factor offered in [He94].

## 10. FINDINGS

Estimates of Pu-239 releases pertaining to different periods of time were compared in this report with corresponding figures reported in the HEDR publication [He94]. Four groups of the Pu-239 emitters were analyzed in this report:

- Separations plants stacks;
- 100 areas reactor stacks;
- 224 concentration building roof fans;
- Z plant stack.

- It was found that Pu-239 releases from 100 areas reactor stacks can be considered as negligible when compared with the releases from the separations plant stacks.
- Amounts of Pu-239 released from 224 concentration building roof fans and from Z-plant stack were comparable, or even much higher than the amounts released from the separations plant stacks. It means that it can be expected as much as from 2Ci to 20Ci of Pu-239 activity, in addition to the HEDR estimate. It is not clear why 224 facility and Z Plant were excluded from the HEDR plutonium study.
- Total amount of Pu-239 released into the atmosphere from the separations plant stacks in period 1944 - 1969 is estimated in HEDR as 1.75Ci. If timing of the decontamination equipment installation is taken into account the total estimate of Pu-239 release becomes equal to 7.7Ci. If both the alternative measurements of the releases and the timing of the decontamination equipment installation are taken into account, the total estimate of the Pu-239 releases becomes equal to 26.4 Ci. If (as it was suggested in [B193] ) the PUREX release factor is considered two orders of magnitude higher than it was suggested in HEDR, another 2Ci should be added to the previous estimate making total 28.4 Ci.
- Depending on what set of suggestions is considered, the total amount of Pu-239 released into the atmosphere in the period from December 1944 to December 1969 is estimated in this report approximately from 10Ci to 50Ci which is significantly higher than 1.75Ci offered in HEDR.



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1	A	B	C	D	E	F	G	H	I	J	K
											Handford
2	Serial number	Period begin	Period end	Document number	Stack location	Stack amount (microcuries Pu per day)	Stack amount (microcuries Pu per week)	Stack amount (microcuries Pu per month)	Stack amount (microcuries Pu per quarter)	Stack amount (microcuries Pu per year)	Stack amount (microcuries Pu per day)
3	134389	1/15/48	12/1/48	HW-8853	200 AREAS AND ASSOC. LABS						
4	18118	4/01/55	4/30/55	HW-38566	T-PLANT						6.00E-05
5	18118	5/01/55	5/31/55	HW-38566	T-PLANT						1.70E-04
6	18118	6/01/55	6/30/55	HW-38566	T-PLANT						1.90E-04
7	18118	4/01/55	4/30/55	HW-38566	S-PLANT						2.00E-05
8	18118	5/01/55	5/31/55	HW-38566	S-PLANT						2.00E-05
9	18118	6/01/55	6/30/55	HW-38566	S-PLANT						5.00E-05
10	33126	1/01/55	1/31/55	HW-36506	T-PLANT						1.50E-04
11	33126	2/01/55	2/28/55	HW-36506	T-PLANT						1.50E-04
12	33126	3/01/55	3/31/55	HW-36506	T-PLANT						1.50E-04
13	33126	1/01/55	1/31/55	HW-36506	S-PLANT						3.30E-06
14	33126	2/01/55	2/28/55	HW-36506	S-PLANT						4.40E-06
15	33126	3/01/55	3/31/55	HW-36506	S-PLANT						1.50E-05
16	24553	4/01/74	4/30/74	SNWL-1811	100 AREAS						
17	144920	8/01/50	8/31/50	HW-18740	CONCENT. BLDG. - C CELL						
18	144920	8/01/50	8/31/50	HW-18740	B-PLANT - D CELL						
19	144898	7/01/50	7/31/50	HW-18473-E	T-PLANT - C CELL						
20	144898	7/01/50	7/31/50	HW-18473-E	B-PLANT - D CELL						
21	144825	6/01/50	6/30/50	HW-18221-E	T-PLANT - CELL VENT A						
22	144825	6/01/50	6/30/50	HW-18221-E	T-PLANT - CELL VENT B						
23	144825	6/01/50	6/30/50	HW-18221-E	T-PLANT - CELL VENT C						
24	144825	6/01/50	6/30/50	HW-18221-E	T-PLANT - CELL VENT E						
25	144825	6/01/50	6/30/50	HW-18221-E	B-PLANT - CELL VENT A						
26	144825	6/01/50	6/30/50	HW-18221-E	B-PLANT - CELL VENT B						
27	144825	6/01/50	6/30/50	HW-18221-E	B-PLANT - CELL VENT D						
28	144853	8/01/50	8/30/50	HW-19021-E	T-PLANT - A CELL						
29	144853	8/01/50	8/30/50	HW-19021-E	B-PLANT - D CELL						
30	144853	8/01/50	8/30/50	HW-19021-E	ISOLATION BLDG. EXHAUST						
31	144974	10/01/50	10/31/50	HW-19325-E	T-PLANT - A CELL						
32	144974	10/01/50	10/31/50	HW-19325-E	B-PLANT - D CELL						
33	144974	10/01/50	10/31/50	HW-19325-E	CANYON BLDG. HOOD EXHAUST						
34	150143	1/01/61	12/31/61	HW-69205	202-S BLDG. ROOF VENTS	2.00E+00					
35	150143	1/01/61	12/31/61	HW-69205	222-S REDOX TECH. LAB. STACK	7.00E+00					
36	150143	1/01/61	12/31/61	HW-69205	PLUTONIUM METALLURGY BLDG.		2.10E+00				
37	150143	1/01/61	12/31/61	HW-69205	PLUTONIUM METAL FABRICAT BLDG.	2.00E+01					
38	150143	1/01/61	12/31/61	HW-69205	PLUTONIUM METAL FABRICAT BLDG.					1.630E+02	

1	L	M	N	O	P	Q	R	S	T	U	V	W
2	Iutonium Releases											
3	Stack amount (curies Pu per week)	Stack amount (curies Pu per year)	Stack amount (micrograms Pu per day)	Stack amount (micrograms Pu per day)	Stack amount (grams Pu per day)	Stack amount (micrograms Pu per cubic centimeter)	Stack amount (microcuries Pu per cubic centimeter)	Stack amount (microcuries Pu per milliliter)	Vegetation location	Vegetation amount (micrograms Pu per gram)	Vegetation amount (micrograms Pu per kilogram)	Vegetation amount (microcuries Pu per gram)
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17			1.00E+02									
18			4.50E+01									
19			8.60E+01									
20			2.50E+01									
21			3.70E+01									
22			1.00E+01									
23			1.00E+00									
24			1.80E+01									
25			1.10E+01									
26			1.10E+01									
27			1.40E+01									
28			1.94E+02									
29			6.00E+01									
30			6.00E+10									
31			2.08E+02									
32			5.10E+01									
33								1.00E-10				
34												
35												
36												
37												
38												





2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100		
100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200















A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
1316	10141	60242	300	WEST EAST CENTER															
1317	10142	60243	300	WEST EAST CENTER															
1318	10143	60244	300	WEST EAST CENTER															
1319	10144	60245	300	WEST EAST CENTER															
1320	10145	60246	300	WEST EAST CENTER															
1321	10146	60247	300	WEST EAST CENTER															
1322	10147	60248	300	WEST EAST CENTER															
1323	10148	60249	300	WEST EAST CENTER															
1324	10149	60250	300	WEST EAST CENTER															
1325	10150	60251	300	WEST EAST CENTER															
1326	10151	60252	300	WEST EAST CENTER															
1327	10152	60253	300	WEST EAST CENTER															
1328	10153	60254	300	WEST EAST CENTER															
1329	10154	60255	300	WEST EAST CENTER															
1330	10155	60256	300	WEST EAST CENTER															
1331	10156	60257	300	WEST EAST CENTER															
1332	10157	60258	300	WEST EAST CENTER															
1333	10158	60259	300	WEST EAST CENTER															
1334	10159	60260	300	WEST EAST CENTER															
1335	10160	60261	300	WEST EAST CENTER															
1336	10161	60262	300	WEST EAST CENTER															
1337	10162	60263	300	WEST EAST CENTER															
1338	10163	60264	300	WEST EAST CENTER															
1339	10164	60265	300	WEST EAST CENTER															
1340	10165	60266	300	WEST EAST CENTER															
1341	10166	60267	300	WEST EAST CENTER															
1342	10167	60268	300	WEST EAST CENTER															
1343	10168	60269	300	WEST EAST CENTER															
1344	10169	60270	300	WEST EAST CENTER															
1345	10170	60271	300	WEST EAST CENTER															
1346	10171	60272	300	WEST EAST CENTER															
1347	10172	60273	300	WEST EAST CENTER															
1348	10173	60274	300	WEST EAST CENTER															
1349	10174	60275	300	WEST EAST CENTER															
1350	10175	60276	300	WEST EAST CENTER															
1351	10176	60277	300	WEST EAST CENTER															
1352	10177	60278	300	WEST EAST CENTER															
1353	10178	60279	300	WEST EAST CENTER															
1354	10179	60280	300	WEST EAST CENTER															
1355	10180	60281	300	WEST EAST CENTER															
1356	10181	60282	300	WEST EAST CENTER															
1357	10182	60283	300	WEST EAST CENTER															
1358	10183	60284	300	WEST EAST CENTER															
1359	10184	60285	300	WEST EAST CENTER															
1360	10185	60286	300	WEST EAST CENTER															
1361	10186	60287	300	WEST EAST CENTER															
1362	10187	60288	300	WEST EAST CENTER															
1363	10188	60289	300	WEST EAST CENTER															
1364	10189	60290	300	WEST EAST CENTER															
1365	10190	60291	300	WEST EAST CENTER															
1366	10191	60292	300	WEST EAST CENTER															
1367	10192	60293	300	WEST EAST CENTER															
1368	10193	60294	300	WEST EAST CENTER															
1369	10194	60295	300	WEST EAST CENTER															
1370	10195	60296	300	WEST EAST CENTER															
1371	10196	60297	300	WEST EAST CENTER															
1372	10197	60298	300	WEST EAST CENTER															
1373	10198	60299	300	WEST EAST CENTER															
1374	10199	60300	300	WEST EAST CENTER															
1375	10200	60301	300	WEST EAST CENTER															

Sheet amount (Micrograms Pu per cubic centimeter) 1,400E+17

Sheet amount (Micrograms Pu per cubic centimeter) 1,400E+17

Sheet amount (Micrograms Pu per cubic centimeter) 1,400E+17























# Exhibit 6

Ex. 6

## Hanford Litigation – HEDR Vegetation Radiation Model Comparison

Prepared for  
Tom H. Foulds and Associated Counsel  
for the  
Hanford Radiation Litigation

by

Prof. Jesse L. Thé, Ph.D., P.Eng.

Lakes Environmental Consultants Inc.

February 26, 1999

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## ***1.0 Introduction***

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Tom Foulds and Associated Counsel have retained me to compare the concentration predictions by the HEDR codes against the vegetation concentration measurements. This study is part of the investigation of the exposure of radioiodine resulting from nuclear fuel processing and other activities at the Hanford site, near Richland, WA.

A number of review activities were carried out from June 17 to June 30, 1997 and from Jan 12 to Mar 26, 1998. This report will discuss only activities during those time period relevant to determine the radiation measurements, based on sagebrush leaves samples, of iodine-131 from the Hanford emissions.

The reconstruction of the source-term executed by the Pacific Northwest Laboratories requires a reassembly and considerable restoration. The set of computer codes developed, known as the Hanford Environmental Reconstruction (HEDR) codes, are composed of separate codes for various related simulations. The documentation, computer codes, and data are loosely dispersed over paper records, file formats, and computer platforms. Measurement tables are reported without proper units and sample geographical location is difficult to determine. Most sample locations are indicated by cell numbers, others by node numbers, and some by road number. Errors and revisions are not readily and concisely available, which causes confusion and delays in the analysis of the procedures.

Therefore, this report represents my best effort to achieve its objectives:

Namely to take the output of the HEDR model known as DESCARTES, which calculates vegetation concentrations and compares these predictions with the historical vegetation records as given in PNWD-2177 and PNWD-2145 over the same years, 1945 through 1951.

## 2.0 Background and Qualifications

I am a professional engineer with over 12 years of experience in the power production and environmental field. My doctoral research involved computational fluid dynamics (CFD), with focus on environmental flows.

My understanding of the environmental field comes, among other experiences, from being the:

- Main author of ISC View, one of the three leading air dispersion models used in the U.S.A. and abroad.
- Main author of BPIP View, the most advanced commercial Building Profile Input Program, to predict the effect of building downwash on elevated point sources.
- Main author of Screen View, a screening air dispersion model adopted by major U.S.A. and Canadian universities within various their air dispersion modelling courses.
- Main Author of SLAB View, a dense gas dispersion model, used for emergency release analysis and predictions.
- Main Author of IRAP View, a health and ecological risk assessment package from toxic air emissions. The U.S. EPA as their main chronic health risk assessment package in this area has adopted this package.
- Author of "Air Dispersion Modelling – A Visual Approach", a book to be published by December 1999. This book deals with air dispersion models for short term, Gaussian plume, dense gas releases, Gaussian puff models for long-range transport, and risk assessment using a multi-pathway approach.
- Co-author of Visual MODFLOW, a three-dimensional groundwater flow and transport code which sold more than 1,000 copies.
- Co-authors of Flowpath 5.0, a two-dimensional groundwater flow and water table drawdown analyses package, which sold more than 1,000 copies.
- Co-author of Airflow Soil Vapour Extraction, a package to compute the extraction of volatile organic compounds from the vadose zone of contaminated soils.

Note that ISC View, BPIP View, and Screen View were published in book format and have their own ISBN numbers.

My experience on air dispersion modelling include more then 60 different works, such as:

- Risk assessment support work and review for the new U.S. EPA risk assessment protocol, "Screening Level Human Health Risk Assessment at Hazardous Waste Combustion Facilities".
- Transit pollution in the City of Toronto and the City of Vaughan.
- Dense gas dispersion in oil refineries.
- Regulatory models for various industries, particulate emissions from quarries and cement plants.
- Pollution impacts from coal fired power plants and coke manufacturing units.
- External consultant to various engineering consulting companies on topics related to air dispersion modelling, such as meteorological data, emergency dense gas releases, regulatory modelling, odors, particulates, and VOCs.

Additionally, I develop research work with the Canadian National Research Council. I am also a trainer in international courses in topics related to air dispersion modelling, risk assessment, and environmental management systems.