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FOLDER OF INFORMATION ON WATER SURVEY ANALYSES
(1955-1967)

Author Unknown

1967

UNION CARBIDE NUCLEAR COMPANY
Operating Contractor
for the U.S. ATOMIC ENERGY COMMISSION

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J. P. Preston / Asst 7/1/96
Asst Technical Information Officer Date
Oak Ridge K-25 Site

From Box #11-4-2

WATER SURVEY ANALYSIS

1966 and 1967

	CLINCH RIVER BELOW PLANT (CW-7)		
	Number of Samples	Uranium Concentration (uc/cc x 10^{-7})	
		Total Activity	Average per Sample
First Quarter	1	0.00	0.00
Second Quarter	1	0.00	0.00
Third Quarter	1	0.00	0.00
Fourth Quarter	1	0.00	0.00
Late Rptd. (Current Year)			
YEAR 1966 Total	4	0.00	0.00
Qtly. Av.			
Late Rptd.			
YEAR 1966 (Rev) Total			
Qtly. Av.			
Base Period:			
Total			
Qtly Av			
First Quarter			
Second Quarter			
Third Quarter			
Fourth Quarter			
Late Rptd. (Current Year)			
YEAR 1967 Total			
Qtly. Av.			
Late Rptd.			
YEAR 1967 (Rev) Total			
Qtly. Av.			
Base Period:			
Total			
Qtly Av			

WATER SURVEY ANALYSIS

1964 and 1965

SAI

CALENDAR YEAR		SANITARY WATER AT POST CHLORINATOR (CW-6)			EAST FORK JUNCTION (CW-1)			CLINCH RIVER JUNCTION (CW-3)			CLINCH RIVER BELOW PLANT (CW-7)			RAW WATER INFLUENT AT K-1513 (CW-5)		
		Number of Samples	Beta (uc/cc x 10^{-7}) Total Activity	Beta (uc/cc x 10^{-7}) Av. Per Sample	Number of Samples	Uranium Concentration (uc/cc x 10^{-7}) Total Activity	Uranium Concentration (uc/cc x 10^{-7}) Av. Per Sample	Number of Samples	Uranium Concentration (uc/cc x 10^{-7}) Total Activity	Uranium Concentration (uc/cc x 10^{-7}) Av. Per Sample	Number of Samples	Uranium Concentration (uc/cc x 10^{-7}) Total Activity	Uranium Concentration (uc/cc x 10^{-7}) Av. Per Sample	Number of Samples	Uranium Concentration (uc/cc x 10^{-7}) Total Activity	Uranium Concentration (uc/cc x 10^{-7}) Av. Per Sample
1st. QUARTER		91	185.62	2.04	77	16.1	0.21	91	6.65	0.07	91	1.20	0.02	91	0.61	<0.01
2nd. QUARTER		91	107.89	1.19	91	50.71	0.56	91	9.88	0.11	91	0.81	<0.01	91	0.80	<0.01
3rd. QUARTER		3	0.25	0.08	3	0.48	0.16	3	0.42	0.14	3	0.00	0.00	3	0.02	0.01
4th. QUARTER		1	0.21	0.21	1	0.45	0.45	1	0.14	0.14	1	0.00	0.00	1	0.00	0.00
Late Rptd. (Current Year)																
YEAR 1964	Total	186	293.97	1.58	172	67.74	0.39	186	17.09	0.09	186	2.51	0.01	186	1.43	<0.01
	Qtly. Av.															
Late Rptd.																
1964 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1960-1964														
	Total			1							1,558	4072/71.43 (57.01) 4,072	(0.04)			
	Qtly. Av.															
1st. QUARTER											1	0.00	0.00			
2nd. QUARTER											1	0.00	0.00			
3rd. QUARTER											1	0.00	0.00			
4th. QUARTER											1	0.00	0.00			
Late Rptd. (Current Year)																
YEAR 1965	Total										4	0.00	0.00			
	Qtly. Av.															
Late Rptd.																
1965 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1961-1965														
	Total										1,143	2238/71.43 = (39.73) 2,238	(0.03)			
	Qtly. Av.															

SP-18 (3-58)

WATER SURVEY ANALYSIS

1962 and 1963

CALENDAR YEAR	SANITARY WATER AT POST CHLORINATOR (CW-6)			EAST FORK JUNCTION (CW-1)			CLINCH RIVER JUNCTION (CW-3)			CLINCH RIVER BELOW PLANT (CW-7)			RAW WATER INFLUENT AT K-1513 (CW-5)		
	Number of Samples	Beta ($\mu c/cc \times 10^{-7}$) Total Activity	Beta ($\mu c/cc \times 10^{-7}$) Av. Per Sample	Number of Samples	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Total Activity	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Av. Per Sample	Number of Samples	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Total Activity	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Av. Per Sample	Number of Samples	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Total Activity	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Av. Per Sample	Number of Samples	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Total Activity	Uranium Concentration ($\mu c/cc \times 10^{-7}$) Av. Per Sample
1st. QUARTER	90	433.8	4.82	90	20.53	0.23	90	11.22	0.12	90	2.86	0.03	90	1.75	0.20
2nd. QUARTER	92	341.5	3.71	92	39.83	0.43	85	7.44	0.09	92	1.15	0.01	92	1.83	0.02
3rd. QUARTER	85	146.1	1.7	85	20.7	0.24	92	4.8	0.05	92	1.23	0.01	85	0.87	0.01
4th. QUARTER	92	366.32	4.0	92	56.93	0.62	92	22.91	0.25	92	5.85	0.06	92	1.02	0.01
Late Rptd. (Current Year)															
YEAR 1962 Total	359	1,287.72	3.6	359	137.99	0.38	359	46.37	0.13	366	11.09	0.03	359	5.47	0.02
YEAR 1962 Qtly. Av.															
Late Rptd.		X 28,973.7			X 14,713.25			X 6,694.42			X 1,581.32			X 781.44	
1962 Revised Total															
1962 Revised Qtly. Av.															
BASE PERIOD Total	BASE PERIOD: 1958 – 1962														
BASE PERIOD Qtly. Av.	1,718	190,392.7 (8,461.4)	(4.9)	1,695	121,871 (853.06)	(0.50)	1,699	19,799.42 (138.59)	0.08	1,691	6,726.32 (47.08)	0.03	1,701	3,775.44 (26.43)	(0.02)
1st. QUARTER	90	325.6	3.6	90	38.4	0.43	90	60.58	0.67	90	4.87	0.05	90	1.46	0.02
2nd. QUARTER	84	182.08	2.2	84	26.7	0.32	84	10.01	0.12	91	2.19	0.02	84	1.77	0.02
3rd. QUARTER	92	76.19	0.8	92	16.22	0.18	92	10.12	0.11	92	2.21	0.02	92	1.00	0.01
4th. QUARTER	92	50.93	0.6	92	50.43	0.55	92	17.68	0.19	92	0.92	0.01	92	13.99	0.15
Late Rptd. (Current Year)															
YEAR 1963 Total	358	634.8	1.8	358	131.75	0.37	358	98.39	0.27	365	10.19	0.03	358	18.42	0.05
YEAR 1963 Qtly. Av.															
Late Rptd.		X 14,783			X 16,822			X 11,604			X 1,454			X 2,431	
1963 Revised Total															
1963 Revised Qtly. Av.															
BASE PERIOD Total	BASE PERIOD: 1959 – 1963														
BASE PERIOD Qtly. Av.	1,729	191,105.7 (8,493.6)	(4.9)	1,712	122,229 (855.04)	(0.50)	1,703	29,454 (206.17)	(0.12)	1,702	6,742.32 (49.20)	(0.03)	1,712	5,567.44 (38.22)	(0.02)

SP-18 (3-58)

WATER SURVEY ANALYSIS

1960 and 1961

(formerly K-1515)

CALENDAR YEAR		SANITARY WATER AT POST CHLORINATOR (CW-6) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Av. Per Sample	EAST FORK JUNCTION (CW-1) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av. Per Sample	CLINCH RIVER JUNCTION (CW-3) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av. Per Sample	CLINCH RIVER BELOW PLANT (CW-4) [CW7] Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av. Per Sample	RAW WATER INFLUENT AT K-1513 (CW-5) (formerly K-1515) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av. Per Sample
1st. QUARTER		86	31,388	365	86	5,376	63	86	584	7	86	256	3.0	86	116	1.3
2nd. QUARTER		86	12,599	147	86	7,132	83	86	781	9.1	86	407	4.7	86	291	3.4
3rd. QUARTER		86	4,914	57	86	5,838	68	86	615	7.2	86	410	4.8	86	167	1.9
4th. QUARTER		58	12,208	210	41	2,154	53	41	185	4.5	41	161	3.9	41	84	2.0
Late Rptd. (Current Year)																
YEAR 1960	Total	316	61,109	193	299	80,500	69	299	2,165	7.2	299	1,234	4.1	299	658	2.2
	Qtly. Av.															
Late Rptd.																
1960 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1956-1960														
	Total	1,741	114,478	66	1,697	112,528	66	1,683	24,934	15	1,685	7,137	4.2	1,224	3,110	2.5
	Qtly. Av.	-	-	-	-	-	-					-				
1st. QUARTER		84	25,109	299	84	2,210	28	77	455	5.9	77	189	2.5	84	133	1.6
2nd. QUARTER		81	24,831	307	81	4,042	50	81	574	7.2	66	301	4.6	81	271	3.3
3rd. QUARTER		90	4,939	55	90	7,050	78	90	1,008	11	70	348	3.9	90	232	2.6
4th. QUARTER		91	11,628	5.8	91	18,806	1.38	89	9.34	0.11	89	3.01	0.02	91	1.0	0.01
Late Rptd. (Current Year)																
YEAR 1961	Total	344	66,577	8.7	344	32,307	0.63	337	2,436	0.07	322	1,138	0.024	346	5.45	0.016
	Qtly. Av.															
Late Rptd.																
1961 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1957-1961														
	Total	1,724	171,401	4.5	1,691	123,796	0.51	1,667	17,313	0.07	1,655	6,923	0.03	1,570	3,896	0.017
	Qtly. Av.															

SP-18 (3-58)

WATER SURVEY ANALYSIS

1958 and 1959

SAFE

(formerly K-1515)

CALENDAR YEAR		SANITARY WATER AT POST CHLORINATOR (CW-6) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Av Per Sample	EAST FORK JUNCTION (CW-1) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av Per Sample	CLINCH RIVER JUNCTION (CW-3) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av Per Sample	CLINCH RIVER BELOW PLANT (CW-4) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av Per Sample	RAW WATER INFLUENT AT K-1513 (CW-5) (formerly K-1515) Number of Samples	Uranium Concentration (ppb) Total Activity	Uranium Concentration (ppb) Av Per Sample
1st. QUARTER		88	2,572	29	88	4,445	51	88	1,245	14	88	471	5.4	88	138	1.6
2nd. QUARTER		82	3,813	47	82	2,912	36	89	1,221	14	89	260	2.9	82	281	3.4
3rd. QUARTER		89	6,052	68	89	3,342	38	89	845	9.5	89	473	5.3	89	259	2.9
4th. QUARTER		88	1,133	13	82	7,265	88	88	1,090	12	88	236	2.7	88	161	1.8
Late Rptd. (Current Year)																
YEAR 1958	Total	347	13,570	39	341	18,464	54	354	4,401	12	354	1,440	4.1	347	839	2.4
	Qtly. Av.															
Late Rptd.																
1958 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1954–1958														
	Total	1,787	57,360	32	1,723	86,272	50	1,733	22,155	13	1,723	6,177	3.6	–	–	–
	Qtly. Av.															
1st. QUARTER		87	3,861	44	87	4,601	53	87	637	7.3	87	394	4.5	87	132	1.5
2nd. QUARTER		88	2,958	34	88	6,890	78	88	677	7.7	88	399	4.5	88	215	2.4
3rd. QUARTER		88	2,168	25	88	8,714	99	88	623	7.1	88	164	1.9	88	98	1.1
4th. QUARTER		87	11,236	129	87	10,781	124	87	1,234	14	87	372	4.3	87	266	3.1
Late Rptd. (Current Year)																
YEAR 1959	Total	350	20,223	58	350	30,986	89	350	3,171	9.1	350	1,329	3.8	350	711	2.0
	Qtly. Av.	88	–	–	88	–	–	88	–	–	88	–	–	88	–	–
Late Rptd.																
1959 Revised	Total															
	Qtly. Av.															
BASE PERIOD		BASE PERIOD: 1955–1959														
	Total	1,780	63,455	36	1,750	116,050	66	1,733	25,053	14	1,731	7,305	4.2	1957–1959 925	2,452	2.7
	Qtly. Av.	–		–	–	–	–	–		–			–	77	–	–

SP-18 (3-58)

WATER SURVEY ANALYSIS

WATER SAMPLE DATA

1956 and 1957

CALENDAR YEAR		EAST FORK JUNCTION (CW-1) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Average Per Sample	CLINCH RIVER JUNCTION (CW-3) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Average Per Sample	CLINCH RIVER BELOW PLANT (CW-4) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Average Per Sample	K-1515 (CW-5) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Average Per Sample	K-1515 (CW-6) Number of Samples	Beta (c/m/100ml) Total Activity	Beta (c/m/100ml) Average Per Sample
1st. QUARTER		87	35,786	411	87	5,710	66	87	5,437	62	91	7,359	81	91	3,792	42
2nd. QUARTER		91	1,612	18	91	2,256	25	91	3,568	39	91	1,957	22	91	1,621	18
3rd. QUARTER		92	5,917	64	92	1,982	22	92	1,851	20	92	1,709	19	92	1,351	15
4th. QUARTER		82	4,754	58	84	2,703	32	86	2,773	32	89	3,661	41	89	2,830	33
Late Rptd. (Current Year)																
YEAR 1956	Totals	352	48,069	137	354	12,651	36	356	13,629	38	363	14,686	40	363	9,594	26
	Qtly. Avg.															
Late Rptd. (1957)																
1956 Revised	Totals															
	Qtly. Avg.															
													4-yr. Period (1953-1956):	1,440	46,373	32
													3-yr. Period (1954-1956):	1,075	33,808	31
1st. QUARTER														90	2,252	25
2nd. QUARTER														91	2,469	27
3rd. QUARTER														92	2,758	30
4th. QUARTER														92	2,503	31
Late Rptd. (Current Year)																
YEAR 1957	Totals													365	9,982	27
	Qtly. Avg.															
Late Rptd. (1958)																
1957 Revised	Totals															
	Qtly. Avg.															
													4-yr. Period (1954-1957):	1,440	43,790	30
													5-yr. Period (1953-1957):	1,805	56,355	31

TH PHYSICS QUARTERLY REPORT DATA

EAST FORK JUNCTION (CW-1)			CLINCH RIVER JUNCTION (CW-3)			CLINCH BELOW PLANT (CW-4)			K-1515 (CW-5)		
Number of Samples	Uranium Concentration (ppb) Total	Uranium Concentration (ppb) Av. per Sample	Number of Samples	Uranium Concentration (ppb) Total	Uranium Concentration (ppb) Av. per Sample	Number of Samples	Uranium Concentration (ppb) Total	Uranium Concentration (ppb) Av. per Sample	Number of Samples	Uranium Concentration (ppb) Total	Uranium Concentration (ppb) Av. per Sample
352	20,940	59	353	11,059	31	352	1,352	3.8	—	—	—
1,207	47,045	39	1,178	13,974	12	1,219	2,101	2.5	—	—	—
1,027	46,170	45	1,052	13,616	13	1,039	2,956	2.8	—	—	—
90	4,090	45	62	732	12	65	221	3.4	—	—	—
91	2,676	29	91	788	8.7	91	472	5.2	54	147	2.4
92	9,271	100	92	1,214	13	92	440	4.8	92	339	3.6
82	5,331	65	82	1,404	17	82	648	7.9	82	416	5.1
355	21,638	61	327	4,138	13	330	1,781	5.4	228	902	4.0
1,382	67,808	49	1,379	17,754	13	1,369	4,737	3.5	—	—	—
1,562	68,683	44	1,525	18,112	12	1,549	4,882	3.2	—	—	—

FIVE - YEAR PERIOD 19 - 19	
Totals	
Qtly. Avg.	

FIVE - YEAR PERIOD 19 - 19	
Totals	
Qtly. Avg.	