

GRANDFATHER MOUNTAIN

APPENDIX A. CHEMICAL ANALYSES OF ROCK SAMPLES

BFEC-1234  
3/15/78

# LAB REPORT

SHEET 1

LAB-ID 1036-2025-18 CONTRACT NO. 10-80-1245 DATE 5/15/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy L. ...

BFEC SAMPLE NO.	MHM126	MHM127	MHM526	MHM527	MHM534	MHM535	MHM542	MHM543	MHM544	MHM545
LAB SAMPLE NO.	2025-1	2025-2	2025-3	2025-4	2025-5	2025-6	2025-7	2025-8	2025-9	2025-10
U308 R (PPM)	101	34	156	11	2,080	8	428	22	13	770
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEB (PPM)										
AG	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
AL	70,000	70,000	20,000	10,000	70,000	70,000	60,000	60,000	70,000	60,000
AS	<200	<200	500	<200	<200	<200	<200	<200	<200	<200
B	<10	<10	<10	<10	10	<10	10	15	10	10
BA	1,500	1,500	200	100	700	500	700	1,000	1,500	1,000
BE	5	7	3	1	3	3	10	10	10	5
CA	3,000	3,000	<500	<500	30,000	15,000	<500	<500	<500	<500
CO	<10	<10	15	<10	50	15	15	20	10	30
CR	20	20	100	10	20	150	100	150	50	50
CU	10	15	70	7	70	20	300	70	70	<10
FE	15,000	15,000	50,000	5,000	100,000	70,000	70,000	70,000	30,000	50,000
LA	100	50	<20	<20	20	20	150	100	150	150
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	150	200	150	10	700	500	300	500	200	700
MO	<10	<10	100	<10	<10	<10	<10	<10	<10	<10
NA	20,000	20,000	3,000	2,000	15,000	20,000	5,000	3,000	5,000	3,000
NB	<20	<20	<20	<20	<20	<20	<20	10	20	<20
NI	15	15	70	15	20	70	70	50	10	50
PB	150	100	30	20	200	30	300	50	30	70
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	5	10	10	<10	50	20	30	30	20	20
SN	<10	30	200	<10	<10	10	10	50	15	10
SR	100	100	<100	<100	700	100	<100	<100	<100	<100
TI	1,500	1,000	1,500	100	3,000	3,000	3,000	3,000	5,000	7,000
V	50	15	100	10	300	150	150	150	150	150
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	50	50	30	<10	70	50	70	70	70	300
ZN	<200	<200	<200	<200	300	200	<200	200	<200	500
ZR	150	150	700	50	100	150	300	300	500	150

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3/15/78

# LAB REPORT

SHEET 2 ✓

LAB-ID 1036-2032-6 CONTRACT NO. 10-80-1245 DATE 5/22/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Juan T. ...

BFEC SAMPLE NO.	MHMS28	MHMS29	MHMS30	MHMS31	MHMS32	MHMS33			
LAB SAMPLE NO.	2032-1	2032-2	2032-3	2032-4	2032-5	2032-6			
U308 R (PPM)	34	1	1,050	3	317	65			
U308 W (PPB)									
U308 S.SS(PPM)									
LOI S.SS									
MEB (PPM)									
AG	0.5	0.5	0.5	1	<10	1			
AL	70,000	70,000	70,000	70,000	70,000	70,000			
AS	<200	<200	<200	<200	<200	<200			
B	<10	<10	<10	10	15	15			
BA	1,500	1,500	700	300	700	700			
BE	10	7	10	3	10	7			
CA	15,000	7,000	15,000	20,000	<500	<500			
CO	15	5	10	20	10	15			
CR	150	20	20	70	70	150			
CU	50	15	30	50	50	30			
FE	50,000	15,000	20,000	70,000	50,000	70,000			
LA	700	70	200	50	70	70			
LI	<10	<10	<10	<10	<10	<10			
MN	700	300	300	700	300	300			
MO	<10	<10	<10	<10	<10	<10			
NA	15,000	20,000	20,000	20,000	5,000	5,000			
NB	20	10	30	<20	<20	20			
NI	50	15	10	30	30	50			
PB	70	30	150	30	30	30			
SB	<100	<100	<100	<100	<100	<100			
SC	30	15	15	30	30	30			
SN	20	30	20	30	50	50			
SR	300	500	500	500	<100	<100			
TI	7,000	2,000	5,000	7,000	5,000	7,000			
V	100	70	50	150	150	150			
W	<100	<100	<100	<100	<100	<100			
Y	150	50	150	70	150	70			
ZN	<200	<200	<200	<200	<200	<200			
ZR	700	200	300	200	300	500			

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3/15/78

# LAB REPORT

LAB-ID 1036-2026-6 CONTRACT NO. 10-80-1245 DATE 5/20/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHMS36	MHMS37	MHMS38	MHMS39	MHMS40	MHMS41				
LAB SAMPLE NO.	2026-1	2026-2	2026-3	2026-4	2026-5	2026-6				
U308 R (PPM)										
U308 W (PPB)	1,308	257	683	10	14	6				
U308 S.SS(PPM)										
LOI S.SS										
MEB (PPM)										
AG	1	0.5	0.5	<10	<10	0.5				
AL	70,000	50,000	70,000	70,000	70,000	70,000				
AS	<200	<200	<200	<200	<200	<200				
B	10	15	15	15	15	15				
BA	2,000	700	1,500	1,500	1,500	1,500				
BE	7	5	10	7	7	10				
CA	20,000	700	500	<500	<500	700				
CO	20	15	15	15	15	20				
CR	150	70	70	150	20	30				
CU	100	15	150	30	<10	7				
FE	70,000	30,000	70,000	30,000	70,000	70,000				
LA	100	300	200	300	200	100				
LI	<10	<10	<10	<10	<10	<10				
MN	1,000	150	500	150	200	300				
MO	<10	<10	<10	<10	<10	<10				
NA	15,000	3,000	7,000	7,000	5,000	5,000				
NB	<20	20	20	<20	10	<20				
NI	100	70	50	50	30	30				
PB	150	30	300	30	30	30				
SB	<100	<100	<100	<100	<100	<100				
SC	20	20	15	20	30	30				
SN	100	30	30	30	50	50				
SR	500	<100	<100	<100	<100	<100				
TI	5,000	3,000	3,000	3,000	7,000	7,000				
V	300	300	150	100	100	100				
W	<100	<100	<100	<100	<100	<100				
Y	70	50	70	150	70	150				
ZN	200	<200	<200	<200	<200	<200				
ZR	200	300	100	300	200	200				

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# LAB REPORT

SHEET 4 ✓

LAB-ID 1036-2025-18 CONTRACT NO. 10-80-1245 DATE 5/15/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE *Judy Howard*

BFEC SAMPLE NO.	MHMS46	MHMS47	MHMS48	MHMS49	MHMS50	MHMS51	MHMS52	MHMS53		
LAB SAMPLE NO.	2025-11	2025-12	2025-13	2025-14	2025-15	2025-16	2025-17	2025-18		
U308 R (PPM)	20	7	25	14	7	298	4	428		
U308 W (PPB)										
U308 S.SS(PPM)										
LOI S.SS										
MEA (PPM)										
AG	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10		
AL	70,000	60,000	70,000	70,000	70,000	70,000	70,000	70,000		
AS	< 200	< 200	< 200	< 200	< 200	< 200	< 200	1,500		
B	10	10	< 10	< 10	< 10	15	30	15		
BA	700	1,000	1,000	700	100	1,000	1,000	2,000		
BE	2	7	3	2	15	10	10	15		
CA	20,000	2,000	5,000	5,000	1,000	< 500	< 500	< 500		
CO	20	5	< 10	< 10	< 10	5	15	10		
CR	100	20	50	100	20	70	70	200		
CU	30	5	150	50	7	30	30	100		
FE	70,000	30,000	15,000	20,000	15,000	30,000	50,000	50,000		
LA	50	50	< 20	300	< 20	200	300	300		
LI	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10		
MN	700	150	70	30	70	500	700	500		
MO	< 10	< 10	< 10	< 10	< 10	< 10	< 10	70		
NA	15,000	10,000	20,000	20,000	30,000	5,000	5,000	3,000		
NB	< 20	< 20	< 20	< 20	70	20	10	10		
NI	50	20	20	15	15	50	30	30		
PB	30	20	100	100	50	300	70	2,000		
SB	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100		
SC	30	< 10	< 10	10	< 10	20	20	30		
SN	30	150	150	150	300	50	20	20		
SR	200	< 100	200	200	< 100	< 100	< 100	< 100		
TI	5,000	150	1,500	2,000	500	3,000	3,000	3,000		
V	150	70	20	70	10	150	100	300		
W	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100		
Y	70	30	50	100	100	150	500	50		
ZN	200	< 200	< 200	< 200	< 200	200	200	200		
ZR	200	300	150	300	150	700	300	300		

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3/15/78

# LAB REPORT

SHEET 6  
(THERE IS NO SHEET 5)

LAB-ID 1036-2070-6

CONTRACT NO. 10-80-1245

DATE 6/19/80

CALL NO. \_\_\_\_\_

CERTIFY SIGNATURE

*Judy Howell*

BFEC SAMPLE NO.	MHM554	MHM555	MHM556	MHM557	MHM558	MHM559				
LAB SAMPLE NO.	2070-1	2070-2	2070-3	2070-4	2070-5	2070-6				
U308 R (PPM)	7	248	<1	50	3	980				
U308 W (PPB)										
U308 S.S.(PPM)										
LOI S.S										
MEQ (PPM)										
AG	<10	<10	<10	<10	<10	1				
AL	70,000	70,000	30,000	40,000	70,000	60,000				
AS	<200	<200	<200	<200	<200	<200				
B	<10	<10	15	<10	10	10				
BA	1,000	300	300	300	200	1,500				
BE	5	7	1	1	1	15				
CA	3,000	<500	7,000	10,000	20,000	5,000				
CO	<10	10	15	10	15	15				
CR	20	10	200	100	100	150				
CU	<10	20	30	100	30	70				
FE	10,000	10,000	50,000	50,000	70,000	50,000				
LA	100	300	20	300	20	50				
LI	<10	<10	<10	<10	<10	<10				
MN	150	500	700	1,000	700	500				
MO	<10	<10	<10	<10	<10	<10				
NA	15,000	7,000	10,000	10,000	10,000	10,000				
NB	<20	<20	<20	<20	<20	<20				
NI	15	15	70	30	50	70				
PB	30	300	30	50	30	200				
SB	<100	<100	<100	<100	<100	<100				
SC	5	5	10	15	30	20				
SN	<10	10	<10	<10	<10	<10				
SR	300	200	200	200	500	<100				
TI	1,500	300	3,000	2,000	7,000	3,000				
V	10	15	100	70	150	300				
W	<100	<100	<100	<100	<100	<100				
Y	30	300	30	100	50	70				
ZN	<200	<200	300	500	200	200				
ZR	200	150	150	500	150	200				

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# LAB REPORT

SHEET 7 ✓

LAB-ID 1036-2071-6

CONTRACT NO. 10-80-1245

DATE 6/20/80

CALL NO. \_\_\_\_\_

CERTIFY SIGNATURE \_\_\_\_\_

BFEC SAMPLE NO.	MHMS60	MHMS61	MHMS62	MHMS63	MHMS64	MHMS65				
LAB SAMPLE NO.	2071-1	2071-2	2071-3	2071-4	2071-5	2071-6				
U308 R (PPM)	4	2200	3	320	27	240				
U308 W (PPB)										
U308 S.S.(PPM)										
LOI S.S										
MEA (PPM)										
AG	<10	<10	<10	<10	<10	<10				
AL	70,000	60,000	70,000	60,000	60,000	20,000				
AS	<200	<200	<200	<200	<200	<200				
B	10	10	<10	<10	<10	<10				
BA	700	1,000	500	700	700	100				
BE	7	5	3	7	7	1				
CA	3,000	2,000	7,000	<500	1,000	<500				
CO	15	15	10	<10	<10	30				
CR	100	200	50	20	20	70				
CU	30	150	30	10	7	50				
FE	50,000	30,000	30,000	15,000	10,000	70,000				
LA	50	50	20	150	100	20				
LI	<10	<10	<10	<10	<10	<10				
MN	300	500	500	100	50	1,000				
MO	<10	<10	<10	15	<10	<10				
NA	15,000	5,000	20,000	7,000	10,000	15,000				
NB	10	<20	<20	50	50	<20				
NI	50	50	20	10	10	70				
PB	20	1,000	50	100	150	20				
SB	<100	<100	<100	<100	<100	<100				
SC	20	15	15	<10	<10	5				
SN	<10	<10	10	10	20	<10				
SR	<100	100	200	<100	<100	<100				
TI	3,000	2,000	2,000	1,500	1,000	2,000				
V	150	150	70	70	10	150				
W	<100	<100	<100	<100	<100	<100				
Y	70	50	30	100	200	10				
ZN	200	<200	<200	<200	200	<200				
ZR	300	70	100	500	500	50				

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3/15/78

# LAB REPORT

SHEET 8 ✓

LAB-10 1036-2081-6 CONTRACT NO. 10-80-1245 DATE 6/27/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHMS66	MHMS67	MHMS68	MHMS69	MHMS70	MHMS71			
LAB SAMPLE NO.	2081-1	2081-2	2081-3	2081-4	2081-5	2081-6			
U308 R (PPM)	5	257	24	203	31	28			
U308 W (PPB)									
U308 S.SS (PPM)									
LOI S.SS									
MEB (PPM)									
AG	<10	<10	<10	<10	<10	<10			
AL	50,000	60,000	70,000	60,000	70,000	30,000			
AS	<200	<200	<200	<200	<200	<200			
B	<10	10	<10	10	<10	10			
BA	150	300	300	500	500	300			
BE	3	2	1	7	3	2			
CA	7,000	<500	500	<500	700	3,000			
CO	<10	20	<10	20	5	30			
CR	20	70	30	70	30	10			
CU	15	20	15	50	10	30			
FE	2,000	50,000	10,000	50,000	15,000	70,000			
LA	20	20	20	100	50	20			
LI	<10	<10	<10	<10	<10	<10			
MN	50	700	70	1,000	100	1,000			
MO	<10	<10	<10	<10	<10	<10			
NA	20,000	3,000	5,000	2,000	7,000	1,000			
NB	<20	<20	<20	<20	<20	10			
NI	15	30	10	50	20	30			
PB	50	50	30	20	70	30			
SB	<100	<100	<100	<100	<100	<100			
SC	<10	15	<10	30	10	15			
SN	<10	<10	<10	<10	<10	<10			
SR	<100	<100	<100	<100	<100	<100			
TI	150	3,000	1,500	2,000	2,000	5,000			
V	<10	150	50	200	50	150			
W	<100	<100	<100	<100	<100	<100			
Y	<10	30	10	70	20	70			
ZN	<200	500	<200	<200	<200	500			
ZR	<10	100	150	200	300	150			



BFEC-1234  
3/15/78

# LAB REPORT

SHEET 9 ✓✓

LAB-ID 1036-2075-18

CONTRACT NO. 10-80-1245

DATE 6/27/80

CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHM572	MHM573	MHM574	MHM575	MHM576	MHM577	MHM578	MHM579	MHM580	MHM581
LAB SAMPLE NO.	2075-1	2075-2	2075-3	2075-4	2075-5	2075-6	2075-7	2075-8	2075-9	2075-10
U308 R (PPM)	<1	363	63	285	9	81	13	113	66	90
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEA (PPM)										
AG	<10	<10	<10	0.5	0.5	<10	<10	3	<10	<10
AL	70,000	50,000	50,000	70,000	60,000	60,000	20,000	60,000	70,000	60,000
AS	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	10	10	<10	<10	<10	<10	15	<10	<10	10
BA	500	300	1,500	700	700	200	100	500	700	700
BE	5	7	7	7	2	10	2	5	3	15
CA	1,000	<500	<500	1,500	2,000	700	<500	500	1,000	<500
CB	10	15	10	5	<10	10	30	10	<10	15
CR	70	70	20	10	20	30	200	10	10	200
CU	5	50	15	7	<10	30	15	10	10	50
FE	30,000	50,000	30,000	20,000	7,000	20,000	70,000	20,000	10,000	30,000
LA	150	20	150	100	70	100	50	200	150	150
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	100	500	200	150	50	300	700	150	70	700
MO	<10	100	<10	<10	<10	<10	<10	<10	<10	<10
NA	20,000	3,000	2,000	15,000	15,000	5,000	7,000	5,000	20,000	2,000
NB	20	10	50	<20	<20	10	<20	<20	<20	<20
NI	30	30	15	10	7	20	150	30	15	100
PB	50	50	150	150	70	150	30	150	150	70
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	15	15	15	10	<10	15	<10	10	10	30
SN	10	10	20	<10	<10	20	20	<10	10	20
SR	<100	<100	<100	100	200	<100	<100	<100	300	<100
TI	2,000	7,000	3,000	2,000	700	3,000	700	2,000	1,500	3,000
V	100	150	100	20	15	70	100	50	10	100
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	70	20	70	20	<10	50	70	70	50	200
ZN	<200	200	<200	<200	<200	<200	700	<200	<200	200
ZR	300	150	500	300	70	500	<10	200	100	200

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3/15/78

# LAB REPORT

SHEET 10 ✓

LAB-ID 1036-2075-18

CONTRACT NO. 10-A0-1245

DATE 6/27/80

CALL NO. \_\_\_\_\_

CERTIFY SIGNATURE \_\_\_\_\_

*Judy Howell*

BFEC SAMPLE NO.	MHMS82	MHMS83	MHMS84	MHMS85	MHMS86	MHMS87	MHMS88	MHMS89	
LAB SAMPLE NO.	2075-11	2075-12	2075-13	2075-14	2075-15	2075-16	2075-17	2075-18	
U308 R (PPM)	34	155	19	270	5	16	9	834	
U308 W (PPB)									
U308 S.SS (PPM)									
LOI S.SS									
MEB (PPM)									
AG	<10	<10	<10	0.5	<10	<10	0.5	<10	
AL	50,000	60,000	70,000	50,000	70,000	70,000	70,000	60,000	
AS	<200	<200	<200	<200	<200	<200	<200	<200	
B	<10	<10	10	<10	10	<10	<10	15	
BA	700	1,000	1,000	500	700	1,000	1,000	2,000	
BE	10	5	7	5	5	3	5	10	
CA	700	<500	<500	1,000	700	1,500	2,000	<500	
CO	10	15	15	10	20	5	5	15	
CR	10	100	150	150	300	30	20	200	
CU	50	30	70	30	70	15	<10	100	
FE	15,000	20,000	30,000	20,000	50,000	15,000	10,000	50,000	
LA	150	20	100	20	200	300	150	150	
LI	<10	<10	<10	<10	<10	<10	<10	<10	
MN	150	300	200	70	500	200	300	300	
MO	<10	20	<10	70	<10	<10	<10	150	
NA	7,000	3,000	3,000	7,000	3,000	15,000	20,000	3,000	
NB	<20	<20	10	20	<20	10	10	<20	
NI	30	15	70	10	70	10	15	30	
PB	70	50	30	100	30	70	150	700	
SB	<100	<100	<100	<100	<100	<100	<100	<100	
SC	10	20	30	20	20	10	5	30	
SN	<10	<10	<10	<10	15	<10	15	10	
SR	<100	<100	<100	<100	<100	200	200	<100	
TI	1,500	2,000	3,000	3,000	3,000	2,000	1,500	7,000	
V	20	150	150	150	200	50	20	300	
W	<100	<100	<100	<100	<100	<100	<100	<100	
Y	70	50	70	70	150	100	70	70	
ZN	<200	<200	<200	<200	500	<200	<200	<200	
ZR	200	200	300	61,000	150	500	300	100	

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# LAB REPORT

SHEET 11

LAB-ID 1036-2111-30 CONTRACT NO. 10-80-1245 DATE 7/30/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy House

BFEC SAMPLE NO.	MHMS90	MHMS91	MHMS92	MHMS93	MHMS94	MHMS95	MHMS96	MHMS97	MHMS98	MHMS99
LAB SAMPLE NO.	2111-1	2111-2	2111-3	2111-4	2111-5	2111-6	2111-7	2111-8	2111-9	2111-10
U308 R (PPM)	4	53	32	122	17	92	12	25	6	100
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEQ (PPM)										
AG	<10	<10	<10	<10	<10	<10	<10	0.5	<10	<10
AL	60,000	70,000	70,000	70,000	70,000	70,000	60,000	70,000	70,000	70,000
AS	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	20	<10	15	<10	10	10	10	<10	<10	15
BA	3,000	1,000	1,000	1,500	1,500	700	1,000	1,500	1,500	700
BE	7	7	7	7	15	3	7	5	7	7
CA	<500	<500	<500	700	7,000	700	1,500	10,000	3,000	500
CO	5	15	20	5	10	30	15	<10	<10	30
CR	150	30	300	30	50	200	150	30	50	150
CU	70	30	150	15	10	150	30	<10	<10	150
FE	30,000	30,000	70,000	15,000	30,000	70,000	50,000	20,000	15,000	70,000
LA	50	300	300	200	300	100	150	200	150	150
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	200	700	700	150	300	700	500	200	200	1,000
MO	<10	<10	10	<10	<10	<10	<10	<10	<10	20
NA	3,000	2,000	2,000	7,000	15,000	10,000	10,000	15,000	20,000	5,000
NB	<20	20	<20	10	10	70	10	10	<20	30
NI	30	70	70	15	30	70	70	15	15	70
PB	200	100	100	100	50	150	70	100	100	150
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	20	30	30	15	15	20	30	10	10	30
SN	<10	<10	<10	<10	<10	10	<10	30	200	70
SR	<100	<100	<100	<100	200	<100	<100	200	300	<100
TI	5,000	3,000	5,000	1,500	5,000	5,000	5,000	1,500	1,500	5,000
V	300	70	200	100	100	200	150	30	20	200
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	20	300	100	300	100	300	100	70	30	300
ZN	<200	200	300	<200	<200	300	300	<200	<200	300
ZR	300	500	300	150	500	500	300	300	300	300

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# LAB REPORT

SHEET 12

LAB-ID 1036-2111-30 CONTRACT NO. 10-80-1245 DATE 7/30/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHM600	MHM601	MHM602	MHM603	MHM604	MHM605	MHM606	MHM607	MHM608	MHM609
LAB SAMPLE NO.	2111-11	2111-12	2111-13	2111-14	2111-15	2111-16	2111-17	2111-18	2111-19	2111-20
U308 R (PPM)	24	1,450	1,830	137	17	84	8	53	7	430
U308 W (PPB)										
U308 S.SS(PPM)										
LOI S.SS										
MEA (PPM)										
AG	1	<10	<10	<10	<10	<10	<10	<10	<10	<10
AL	70,000	70,000	70,000	50,000	70,000	60,000	70,000	70,000	70,000	70,000
AS	<200	200	300	<200	<200	<200	<200	<200	<200	<200
B	10	30	20	10	<10	<10	<10	20	20	15
BA	1,000	2,000	2,000	150	1,500	1,000	1,500	1,500	1,500	700
BE	5	10	15	3	5	5	5	15	10	10
CA	<500	<500	<500	<500	<500	<500	<500	15,000	1,000	700
CO	30	10	10	20	10	<10	<10	10	5	15
CR	100	300	300	30	20	20	20	30	20	70
CU	50	200	300	30	20	10	5	<10	<10	200
FE	50,000	100,000	70,000	70,000	30,000	15,000	30,000	50,000	15,000	30,000
LA	100	100	100	50	300	100	200	61,000	300	200
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	500	300	300	700	300	70	70	700	200	500
MO	<10	<10	<10	5	<10	<10	<10	<10	<10	5
NA	3,000	2,000	3,000	1,500	5,000	5,000	7,000	7,000	10,000	3,000
NB	30	10	<20	<20	10	70	30	<20	<20	<20
NI	70	150	100	70	15	7	15	15	15	30
PB	100	70	70	50	150	70	30	70	50	150
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	20	30	30	20	15	<10	<10	5	10	30
SN	50	20	10	<10	<10	30	15	10	<10	<10
SR	<100	<100	<100	<100	<100	<100	<100	300	200	<100
TI	3,000	7,000	3,000	5,000	1,500	1,500	1,500	3,000	2,000	3,000
V	150	700	700	200	30	10	15	70	30	150
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	100	50	30	70	70	70	70	500	70	150
ZN	300	<200	<200	500	200	<200	<200	<200	<200	200
ZR	500	200	150	150	300	700	700	200	200	200

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# LAB REPORT

SHEET 13

LAB-ID 1036-2111-30

CONTRACT NO. 10-80-1245

DATE 7/30/80

CALL NO. \_\_\_\_\_

CERTIFY SIGNATURE

*Judy Howell*

BFEC SAMPLE NO.	MHM610	MHM611	MHM612	MHM613	MHM614	MHM615	MHM616	MHM617	MHM618	MHM619
LAB SAMPLE NO.	2111-21	2111-22	2111-23	2111-24	2111-25	2111-26	2111-27	2111-28	2111-29	2111-30
U308 R (PPM)	12	18	4	265	441	7	274	163	2	550
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEA (PPM)										
AG	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
AL	70,000	70,000	70,000	70,000	60,000	70,000	70,000	70,000	70,000	70,000
AS	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	<10	20	<10	<10	<10	<10	<10	<10	<10	15
BA	1,500	3,000	2,000	1,000	700	2,000	1,500	1,000	1,500	300
BE	3	15	10	7	5	7	7	7	7	2
CA	<500	5,000	1,500	500	<500	<500	10,000	7,000	15,000	<500
CO	10	10	5	5	5	10	5	5	10	30
CR	50	30	30	20	10	20	10	10	20	150
CU	30	5	<10	<10	10	7	<10	5	<10	30
FE	20,000	30,000	30,000	10,000	5,000	30,000	20,000	7,000	30,000	70,000
LA	300	6	300	150	50	200	200	20	200	150
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	150	500	300	200	200	200	300	150	300	700
MO	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
NA	5,000	5,000	20,000	7,000	2,000	2,000	15,000	15,000	15,000	2,000
NB	<20	<20	<20	<20	<20	10	20	<20	<20	10
NI	30	5	7	15	15	15	7	5	<10	70
PB	150	70	30	100	70	20	100	70	20	50
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	20	20	15	<10	<10	15	5	<10	15	30
SN	<10	15	<10	<10	<10	<10	20	<10	<10	<10
SR	100	200	200	<100	<100	<100	200	200	300	<100
TI	2,000	3,000	3,000	1,500	700	3,000	2,000	500	3,000	610,000
V	70	70	70	50	15	70	50	20	70	150
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	100	1,500	70	50	20	50	200	70	100	70
ZN	<200	200	<200	<200	<200	<200	<200	<200	<200	300
ZR	50	61,000	300	150	70	500	300	150	1,000	300

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# LAB REPORT

SHEET 14

LAB-ID 1036-2183-24 CONTRACT NO. 10-80-1245 DATE 8/13/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHMB22	MHMB23	MHMB24	MHMB25					
LAB SAMPLE NO.	2183-21	2183-22	2183-23	2183-24					
U308 R (PPM)	176	37	1,380	11					
U308 W (PPB)									
U308 S.S.(PPM)									
LOI S.SS									
MEB (PPM)									
AG	<10	2	<10	2					
AL	70,000	70,000	70,000	70,000					
AS	<200	<200	<200	<200					
B	10	10	10	<10					
BA	1,000	1,000	1,500	1,500					
BE	7	7	15	15					
CA	<500	2,000	700	2,000					
CO	15	15	20	5					
CR	100	70	150	20					
CU	30	20	50	30					
FE	30,000	30,000	50,000	20,000					
LA	150	50	200	200					
LI	<10	<10	<10	<10					
MN	500	500	500	300					
MO	<10	<10	<10	<10					
NA	2,000	2,000	15,000	20,000					
NB	10	<20	<20	<20					
NI	50	30	70	15					
PB	150	100	300	300					
SB	<100	<100	<100	<100					
SC	30	15	30	10					
SN	<10	<10	<10	<10					
SR	<100	<100	<100	300					
TI	5,000	3,000	5,000	2,000					
V	150	70	200	30					
W	<100	<100	<100	<100					
Y	100	50	200	70					
ZN	200	<200	<200	<200					
ZR	700	500	300	200					

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# LAB REPORT

LAB-ID 1036-2217-24 CONTRACT NO. 10-80-1245 DATE 8/29/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE [Signature]

BFEC SAMPLE NO.	MHM632	MHM631	MHM630	MHM628	MHM627	MHM626	MHM639	MHM640	MHM641	MHM651
LAB SAMPLE NO.	2217-1	2217-2	2217-3	2217-4	2217-5	2217-6	2217-7	2217-8	2217-9	2217-10
U308 R (PPM)	11	2	36	2,619	1,348	3,740	17	227	50	1,373
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEB (PPM)										
AG	0.5	5	3	7	7	7	1	0.5	5	<10
AL	70,000	70,000	70,000	70,000	70,000	70,000	70,000	50,000	70,000	50,000
AS	<200	<200	<200	<200	<200	500	<200	<200	<200	<200
B	<10	10	<10	<10	<10	<10	<10	<10	<10	10
BA	1,000	1,500	300	2,000	1,500	2,000	1,500	200	1,000	20
BE	3	7	7	5	5	7	5	10	5	10
CA	3,000	10,000	700	15,000	10,000	30,000	1,000	3,000	1,000	<500
CO	10	5	<10	5	5	10	<10	20	5	5
CR	70	30	20	20	20	30	10	70	20	10
CU	10	<10	30	20	15	70	7	70	50	20
FE	30,000	20,000	20,000	15,000	10,000	30,000	10,000	70,000	15,000	70,000
LA	100	<20	100	200	100	300	100	1.50	200	500
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	300	300	200	500	150	500	100	1,000	200	50
MO	<10	<10	<10	100	150	500	<10	<10	<10	<10
NA	20,000	20,000	20,000	15,000	20,000	15,000	15,000	3,000	15,000	7,000
NB	10	<20	2,000	<20	<20	<20	30	<20	<20	50
NI	30	10	5	20	30	30	15	70	20	<10
PB	70	50	500	700	500	1,500	50	50	100	150
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	15	10	<10	15	5	15	<10	30	10	10
SN	100	15	150	10	<10	20	15	<10	10	100
SR	300	500	<100	200	<100	200	<100	<100	<100	<100
TI	2,000	2,000	1,000	1,000	700	2,000	700	3,000	1,500	200
V	70	50	10	15	15	30	20	150	20	10
W	<100	<100	100	<100	<100	<100	<100	<100	<100	<100
Y	70	20	500	300	100	300	50	300	300	700
ZN	<200	<200	700	<200	<200	<200	<200	300	<200	500
ZR	200	300	<1,000	100	<200	50	150	150	70	6

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# LAB REPORT

SHEET 16

LAB-10 1036-2183-24 CONTRACT NO. 10-80-1245 DATE 8/13/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Howell

BFEC SAMPLE NO.	MHM633	MHM634	MHM635	MHM636	MHM637	MHM638	MHM656	MHM658	MHM659	MHM660
LAB SAMPLE NO.	2183-1	2183-2	2183-3	2183-4	2183-5	2183-6	2183-7	2183-8	2183-9	2183-10
U308 R (PPM)	52	22	10	53	2	2,510	12	3	130	7
U308 W (PPB)										
U308 S.SS (PPM)										
LGI S.SS										
MEA (PPM)										
AG	<10	<10	<10	<10	<10	<10	<10	2	<10	<10
AL	70,000	70,000	70,000	70,000	50,000	40,000	70,000	60,000	60,000	70,000
AS	<200	<200	<200	<200	<200	200	<200	<200	<200	<200
B	<10	<10	10	10	<10	<10	15	10	10	<10
BA	1,500	2,000	2,000	1,500	200	1,500	500	1,500	1,500	1,500
BE	10	5	10	5	2	15	5	3	5	5
CA	2,000	1,500	1,500	10,000	10,000	1,500	<500	<500	<500	2,000
CO	10	<10	5	15	20	10	<10	15	15	<10
CR	50	30	20	70	70	50	30	100	30	20
CU	10	5	<10	30	50	20	5	10	15	5
FE	10,000	10,000	15,000	50,000	70,000	15,000	15,000	30,000	50,000	10,000
LA	<20	150	300	200	20	20	20	70	1,000	300
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	200	150	300	700	1,000	300	100	500	500	150
MO	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
NA	15,000	20,000	20,000	10,000	20,000	2,000	3,000	2,000	2,000	15,000
NB	10	<20	<20	<20	<20	20	<20	<20	<20	<20
NI	20	10	10	30	50	10	15	30	20	5
PB	50	30	30	150	20	100	200	30	200	70
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	15	5	15	30	15	10	10	20	15	15
SN	10	10	10	<10	<10	<10	10	10	<10	<10
SR	300	300	200	200	200	<100	<100	<100	<100	300
TI	2,000	1,000	2,000	7,000	3,000	3,000	500	7,000	3,000	1,500
V	30	10	50	100	150	70	10	100	70	15
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	50	50	100	200	30	50	70	50	500	100
ZN	<200	<200	<200	200	200	<200	<200	200	200	<200
ZR	500	70	500	700	100	300	200	700	700	700



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# LAB REPORT

SHEET 17

LAB-ID 1036-2206-7 CONTRACT NO. 10-80-1245 DATE 8/13/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE \_\_\_\_\_

BFEC SAMPLE NO.	MHMB42	MHMB43	MHMB44	MHMB45	MHMB53	MHMB54	MHMB55			
LAB SAMPLE NO.	2206-1	2206-2	2206-3	2206-4	2206-5	2206-6	2206-7			
U308 R (PPM)	1,520	8	7	<1	154	17	80			
U308 W (PPB)										
U308 S,SS(PPM)										
LOI S,SS										
MEA (PPM)										
AG	5	<10	<10	<10	<10	<10	1			
AL	70,000	70,000	70,000	70,000	70,000	70,000	40,000			
AS	<200	<200	<200	<200	<200	<200	<200			
B	1,000	15	<10	<10	10	<10	10			
BA	1,500	1,500	1,500	2,000	1,000	700	500			
BE	7	15	5	10	2	5	3			
CA	1,000	2,000	2,000	7,000	<500	1,500	<500			
CC	10	15	5	15	20	<10	<10			
CR	150	150	30	30	100	20	20			
CU	100	30	15	10	30	20	15			
FE	30,000	50,000	20,000	50,000	50,000	10,000	30,000			
LA	100	100	1,000	200	200	20	150			
LI	<10	<10	<10	<10	<10	<10	<10			
MN	300	700	500	500	500	100	200			
MO	50	<10	<10	<10	<10	<10	<10			
NA	7,000	10,000	10,000	10,000	3,000	20,000	2,000			
NB	<20	<20	<20	<20	10	<20	50			
NI	30	70	30	30	70	30	20			
PB	700	20	70	50	300	70	70			
SB	<100	<100	<100	<100	<100	<100	<100			
SC	20	30	10	20	20	5	15			
SN	20	<10	10	10	10	15	30			
SR	200	100	100	500	<100	100	<100			
TI	5,000	5,000	2,000	3,000	3,000	700	2,000			
V	700	150	50	70	150	15	70			
W	<100	<100	<100	<100	<100	<100	<100			
Y	70	70	100	50	70	20	700			
ZN	<200	200	<200	<200	200	<200	<200			
ZR	300	200	500	150	200	150	100			

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# LAB REPORT

SHEET 18

LAB-ID 1036-2183-24 CONTRACT NO. 10-80-1245 DATE 8/13/80  
 CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Judy Hurrell

BFEC SAMPLE NO.	MHM661	MHM662	MHM629	MHM646	MHM647	MHM648	MHM649	MHM650	MHM620	MHM621
LAB SAMPLE NO.	2183-11	2183-12	2183-13	2183-14	2183-15	2183-16	2183-17	2183-18	2183-19	2183-20
U308 R (PPM)	2	620	14	5	128	8	711	17	65	36
U308 W (PPB)										
U308 S.SS(PPM)										
LOI S.SS										
MEA (PPM)										
AG	<10	<10	<10	<10	1	<10	<10	<10	<10	1
AL	30,000	30,000	20,000	70,000	70,000	40,000	40,000	70,000	40,000	70,000
AS	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
B	10	20	<10	<10	15	<10	10	<10	<10	<10
BA	300	1,500	100	1,500	1,000	200	1,000	2,000	700	1,500
BE	2	10	1	5	7	3	10	10	3	7
CA	<500	2,000	<500	2,000	<500	500	<500	7,000	<500	<500
CO	15	10	10	5	15	<10	5	15	50	15
CR	20	100	10	20	100	10	300	200	50	20
CU	5	<10	7	5	100	5	100	50	5	<10
FE	50,000	20,000	1,500	15,000	30,000	5,000	70,000	30,000	70,000	20,000
LA	100	1,000	20	200	20	20	20	20	50	100
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	500	300	10	150	150	50	200	700	700	300
MO	<10	<10	<10	<10	<10	<10	50	20	<10	<10
NA	2,000	2,000	2,000	15,000	2,000	3,000	1,500	2,000	2,000	3,000
NB	<20	<20	<20	<20	10	<20	<20	<20	<20	<20
NI	30	<10	50	10	30	5	70	70	30	10
PB	30	300	70	50	100	70	150	100	50	50
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	15	10	<10	10	15	<10	20	20	15	15
SN	<10	<10	15	<10	<10	<10	<10	10	<10	<10
SR	<100	200	<100	200	<100	<100	<100	100	<100	<100
TI	5,000	2,000	50	2,000	2,000	500	2,000	3,000	5,000	2,000
V	150	50	<10	20	150	10	200	200	150	100
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	70	1,000	<10	30	30	<10	100	70	10	20
ZN	500	200	<200	<200	<200	<200	1,000	<200	200	<200
ZR	100	1,000	100	300	100	50	150	300	100	1,000

BFEC-1234  
3/15/78

# LAB REPORT

SHEET 19

LAB-ID 1036-2217-24 CONTRACT NO. 10-00-1245 DATE 8/29/80  
 CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE [Signature]

BFEC SAMPLE NO.	MHM652	MHM657	MHM663	MHM664	MHM665	MHM666	MHM667	MHM668	MHM669	MHM670
LAB SAMPLE NO.	2217-13	2217-12	2217-13	2217-14	2217-15	2217-16	2217-17	2217-18	2217-19	2217-20
U308 R (PPM)	14	124	1,437	6,310	14	32,766	189	60	1,499	327
U308 W (PPB)										
U308 S.SS (PPM)										
LOI S.SS										
MEA (PPM)										
AG	1	7	2	<10	0.5	7	5	1	2	1
AL	50,000	60,000	70,000	50,000	50,000	60,000	50,000	60,000	30,000	60,000
AS	<200	<200	<200	300	<200	1,500	<200	<200	<200	<200
B	<10	15	10	10	10	<10	10	15	<10	<10
BA	50	2,000	1,500	700	700	1,500	700	700	300	1,000
BE	3	10	7	15	2	3	5	7	3	7
CA	<500	<500	<500	<500	15,000	2,000	1,000	2,000	700	20,000
CO	<10	20	20	30	30	30	5	10	15	20
CP	10	150	100	70	30	100	100	100	50	100
CU	10	10	500	50	50	30	70	70	30	30
FE	10,000	50,000	70,000	30,000	70,000	20,000	30,000	70,000	30,000	50,000
LA	100	50	100	50	50	70	20	70	50	100
LI	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
MN	30	700	300	1,000	700	300	300	500	300	700
MO	<10	<10	70	50	<10	<10	100	100	100	<10
NA	3,000	3,000	5,000	3,000	15,000	10,000	10,000	10,000	5,000	15,000
NB	100	<20	<20	<20	<20	<20	10	<20	30	10
NI	10	50	70	50	50	70	20	30	20	50
PB	70	200	300	300	20	2,000	150	30	300	100
SB	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
SC	<10	30	20	70	20	15	15	30	15	30
SN	70	<10	<10	<10	<10	10	10	10	15	15
SR	<100	<100	<100	<100	300	100	100	200	<100	500
TI	200	7,000	2,000	1,500	5,000	1,500	3,000	3,000	3,000	3,000
V	10	150	300	70	100	150	70	150	70	100
W	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100
Y	70	70	70	100	50	70	20	70	70	70
ZN	<200	500	<200	<200	200	<200	<200	300	<200	200
ZR	300	300	100	200	150	300	1,000	200	700	150

BFEC-1234  
3/15/78

# LAB REPORT

LAB-ID 1036-2217-24 CONTRACT NO. 10-80-1245 DATE 4/29/80  
CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Jim Dally

BFEC SAMPLE NO.	MHML71	MHML72	MHML73	MHML74					
LAB SAMPLE NO.	2217-21	2217-22	2217-23	2217-24					
U308 R (PPM)	70	32	9	171					
U308 W (PPB)									
U308 S.SS (PPM)									
LOI S.SS									
MEA (PPM)									
AG	5	2	7	0.5					
AL	70,000	70,000	70,000	70,000					
AS	<200	<200	<200	<200					
B	10	<10	<10	<10					
BA	700	500	1,000	1,500					
BE	7	2	3	5					
CA	<500	1,500	5,000	3,000					
CO	15	10	10	10					
CR	50	10	20	50					
CU	5	5	5	30					
FE	50,000	20,000	20,000	20,000					
LA	100	200	150	100					
LI	<10	<10	<10	<10					
MN	500	300	200	300					
MO	<10	<10	<10	<10					
NA	3,000	10,000	20,000	15,000					
NB	<20	<20	10	<20					
NI	20	10	10	15					
PB	70	150	70	70					
SB	<100	<100	<100	<100					
SC	15	10	15	15					
SN	20	<10	<10	30					
SR	<100	<100	200	<100					
TI	3,000	1,500	3,000	2,000					
V	100	20	20	70					
W	<100	<100	<100	<100					
Y	200	70	70	50					
ZN	200	<200	<200	<200					
ZR	150	300	700	150					

BFEC-1234  
3 15 78

# LAB REPORT

LAB-10 1036-2246-4 CONTRACT NO. 10-80-1245 DATE 9/10/80  
 CALL NO. \_\_\_\_\_ CERTIFY SIGNATURE Luc Dalla

BFEC SAMPLE NO.	MHM701	MHM702	MHM703	MHM704					
LAB SAMPLE NO.	2246-1	2246-2	2246-3	2246-4					
U308 R (PPM)	531	15	856	6					
U308 W (PPB)									
U308 S.SS (PPM)									
LOI S.SS									
MEQ (PPM)									
AG	<10	<10	<10	<10					
AL	70,000	70,000	10,000	70,000					
AS	<200	<200	<200	<200					
B	10	10	15	<10					
BA	1,000	1,500	300	300					
BE	7	7	<10	<10					
CA	500	<500	<500	<500					
CO	15	10	5	<10					
CR	100	100	10	10					
CU	100	100	5	5					
FE	30,000	30,000	50,000	7,000					
LA	20	200	200	50					
LI	<10	<10	<10	<10					
MN	500	200	200	70					
MO	<10	<10	<10	<10					
NA	15,000	10,000	<1,500	15,000					
NB	<20	20*62,000		100					
NI	30	15	5	7					
PB	300	100	30	10					
SB	<100	<100	<100	<100					
SC	15	20	20	<10					
SN	<10	<10	<10	30					
SR	<100	<100	<100	<100					
TI	2,000	5,000	5,000	200					
V	150	200	50	<10					
W	<100	<100	<100	<100					
Y	50	150; 62,000		150					
ZN	<200	<200	<200	<200	*Very high values Zr, Y, Nb interference				
ZR	100	300*61,000		100	No. 9916				

GRANDFATHER MOUNTAIN

APPENDIX B. URANIUM-OCCURRENCE REPORTS

URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >

Deposit No. B40 < 1 >

Deposit Name A10 < Brown Mountain Ridge occurrence >

Synonym Name(s) A11 < \_\_\_\_\_ >

District or Area A30 < Grandfather Mountain Region >

Country A40 < U, S > State North Carolina

State Code A50 < 37 > County A60 < Burke >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 2 miles (3.2 km) SE of the summit of Brown Mountain. >

Field Checked G1 < 8 0 | 10 7 > By G2 < Bruton and McHone , K.A. and J.G. >

Yr Mo

Last name

First

Initial

Latitude A70 < 35 | 15 4 | 1 6 N > Longitude A80 < 0 8 1 | 14 4 | 1 4 W >

Deg Min Sec

Deg Min Sec

Township A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >

N/S

E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 1400 ft (427 m) >

Quad Scale A91 < 2 4 0 0 0 > Quad Name A92 < Collettsville >

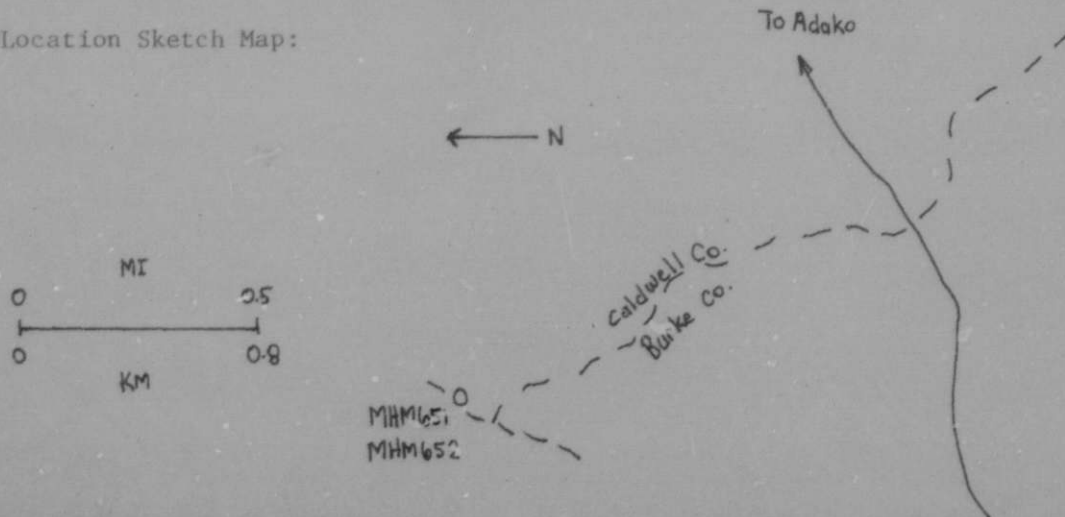
(7½' or 15' quad)

Physiographic Province A63 < 10 2 | Appalachian Highlands >

(List K)

Location Comments A83 < Up Caldwell-Burke County line road, about 1.5 miles (2.4 km) northwest of Collettsville Road, in bank and roadbed. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 1

Commodities Present:

C10 U

Commodities Produced:

MAJOR          COPROD         

MINOR          BYPROD         

Potential Commodities:

POTEN          OCCUR         

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active) (A22) (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES (NO) SML MED LGE (circle)  
DH2 accuracy thousands of lb. years grade  
G7 U < \_\_\_\_\_ > G7A < \_\_\_\_\_ > G7B < LB > G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1 < U > < \_\_\_\_\_ > E1A < \_\_\_\_\_ > E1B < LB > E1C < \_\_\_\_\_ > E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 1

Alteration N75 < Sulfidic staining, saprolitic weathering, green metamorphic products after biotite.

Reductants U5 < Sulfides (pyrite or pyrrhotite) are intimately associated with the uraninite.

Analytical Data (General) C43 < 1373 ppm U308

Radiometric Data (General) U6 < In a zone of high background (90-120 cps) over  
(No. times background and dimensions)

100 m across. Anomaly is 120-150 cps over 2 m x 25 m, reaches 10-20000 cps  
(estimated) in road (west side) over area of 0.5 x 2 m on surface (much higher\* >

Ore Controls K5 < The occurrence is associated and partly within a pegmatite  
(dike or granite facies not too clear), but also is controlled by foliation planes  
within the host granite (abundant yellow secondaries, mostly). The veins in the  
pegmatite are also mineralized by sulfides.

Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 < 7 2 0 >

Comments on Geology N85 < \_\_\_\_\_

URANIUM-OCCURRENCE

Quad Name Charlotte

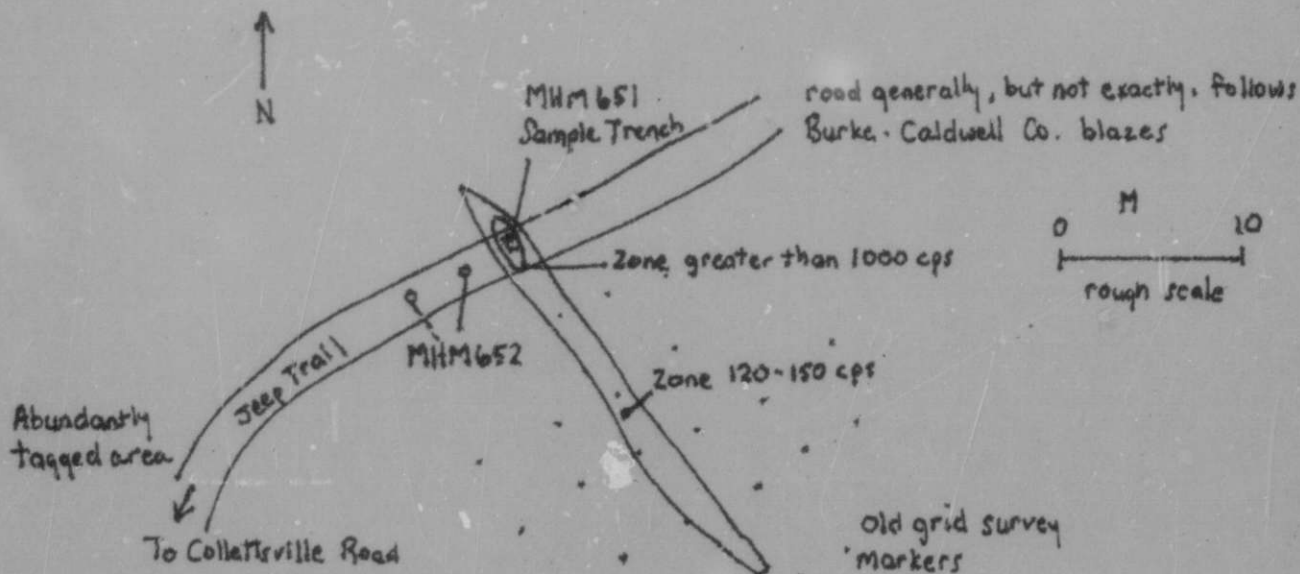
REPORT

Deposit No. 1

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 651	Very-high-grade trench samples	1373 ppm U308
MHM 652	Barren granite chips near anomaly	14 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 1

Continuation from p. 1-5:

Label

K1 < Mountain Granite in this area, as elsewhere, has included marginal slabs of hornfels. Near its margin, the granite has been sheared, granulated, and re-crystallized. I did not observe sulfide-uraninite veins. The secondary U minerals are in partly granulated granite - I do not think a sulfide-uraninite vein could survive at the stage of weathering exhibited here. It appears to me that secondary U minerals have been concentrated along a zone of shearing but in the zone of weathering. We are not looking at primary mineralization here, but secondary enrichment of a shear zone by deposition of uranium minerals from ground water.>

U6 < in hole dug at same locality). Normal background is 70-80 cps (over Brown Mountain granite).>

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1 2 5 0 0 0 0 >Deposit No. B40 < 2 >Deposit Name A10 < Trussel Branch Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U S > | U S | State North CarolinaState Code A50 < 3 7 > | 3 7 | County A60 < Caldwell >

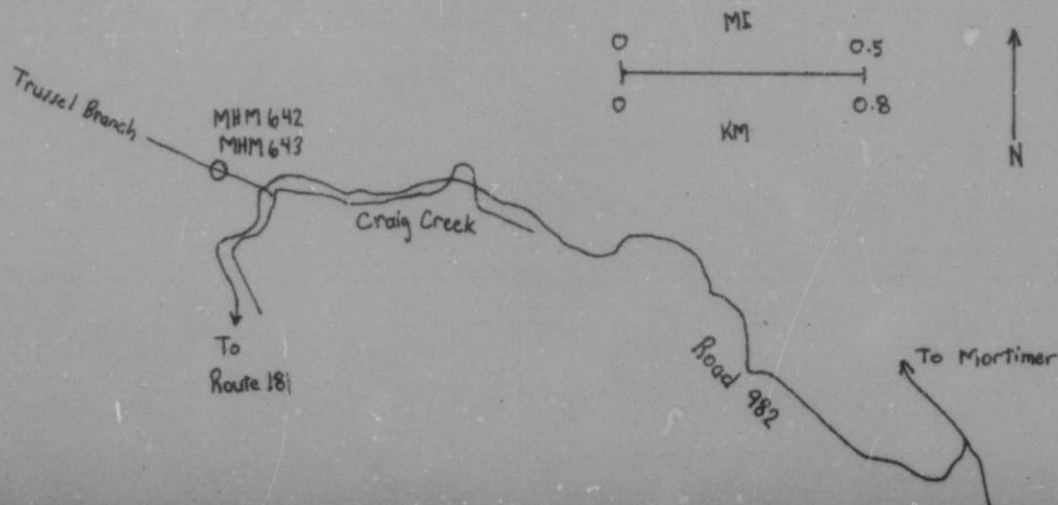
(Enter code twice from List D)

Position from Prominent Locality A82 < About 1.75 miles (2.8 km) ESE of the summit of Chestnut Mountain. >Field Checked G1 < 8 0 | 0 7 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3 5 | 5 7 | 2 7 > N Longitude A80 < 0 8 1 | 4 7 | 0 0 > W  
Deg Min Sec Deg Min Sec

Township A77 &lt; \_\_\_\_\_ &gt; N/S Range A78 &lt; \_\_\_\_\_ &gt; E/W Section A79 &lt; \_\_\_\_\_ &gt; FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 1820 ft (555 m) >Quad Scale A91 < 2 4 0 0 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Natural outcrop on NE side of trail up north side of Trussel Brook, about 160 m from Road 982, 5.30 miles (8.5 km) from Rte. 181 or\* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 2Deposit Form/Shape M10 < Lenticular, concordant >Length M40 < over 2 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.2 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < N3E >

C 200,000 - 2 million

Dip M80 < 45E >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >Major Regional Structures N5 < NE-trending thrust faults are mapped. >Local Structures N70 < Gneissic and schistose foliations same as anomaly. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Gneiss >Host Rock K1 < P, R, E, C > Medium to coarse grained, white, brown and  
(Age) (Rock type, texture, composition, color,black muscovite-albite-quartz-tourmaline schist layer in a schistose biotite-  
alteration, attitude, geometry, structure, etc.)feldspar-quartz gneiss, rusty in places (hematitic).Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < A few quartz veins are also present. >Ore Minerals C30 < Torbernite, autunite, pitchblende (?). >Gangue Minerals K4 < Quartz, tourmaline (schorl), muscovite, albite (?), hematite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 2Alteration N75 < hematitic at anomaly.Reductants U5 < Graphite and pyrite are present.Analytical Data (General) C43 < MHM 642 = 1520 ppm U308Radiometric Data (General) U6 < 800-500 cps along 20 cm x 2 m surface of anomaly;  
(No. times background and dimensions)adjacent gneiss is 110-150 cps; background is 50-80 cps.Ore Controls K5 < The visible torbernite is concentrated along pods and lamellae  
of black tourmaline; with scatterings in adjacent muscovite schist.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 720Comments on Geology N85 < This occurrence is unique in the study area due to its  
association with tourmaline.



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 2

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 642	Chips along 20 cm x 50 cm of anomaly.	1520 ppm U308
MHM 643	Chips of adjacent barren gneiss.	8 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_

&gt;

F2 &lt; \_\_\_\_\_

&gt;

F3 &lt; \_\_\_\_\_

&gt;

F4 &lt; \_\_\_\_\_

&gt;

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 2

Continuation from p. 1-5:

Label

A83 < 1.85 miles (3.0 km) from Mortimer Road.>

Lined area for report content.

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

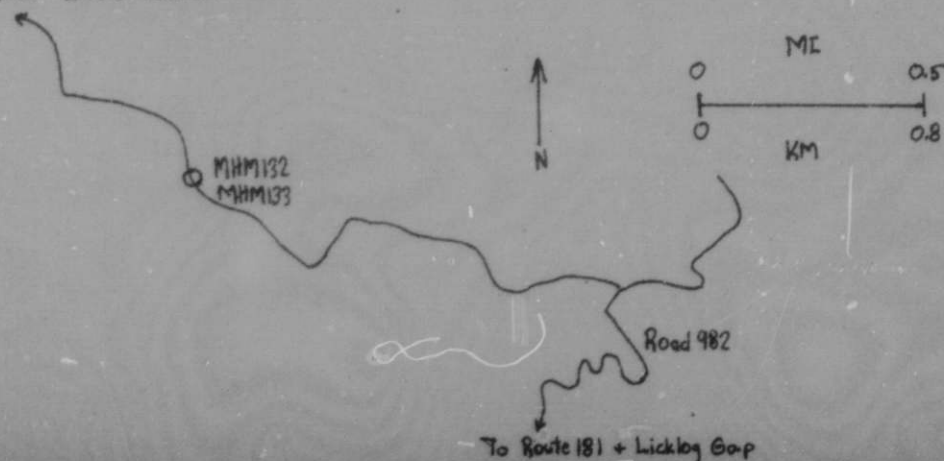
Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 3 >Deposit Name A10 < Chestnut Mountain No. 1 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Pisgah National Forest >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke Co. - Caldwell Co. line >  
(Enter code twice from List D)Position from Prominent Locality A82 < Just south of Licklog Gap on Rt. 181 take  
National Forest Service Road No. 982 east for 4.25 miles (6.8 km) then take  
Forest Service Road north towards Chestnut Mountain (this road follows the Burke\*Field Checked G1 < 8, 0 | 0, 4 > By G2 < Bruton , Keith A. >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 7 | 0, 5 | N > Longitude A80 < 0, 8, 1 | 4, 8 | 0, 2 | W >  
Deg Min Sec Deg Min SecTownship A77 < 1 | 1 | 1 > Range A78 < 1 | 1 | 1 > Section A79 < 1 | 1 >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2600 ft (793 m) >Quad Scale A91 < 1 | 2, 4, 0, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Anomaly is in small roadcut on the east side approxi-  
mately 150 ft (47 m) north of a turnoff leading to the northeast. >

## Location Sketch Map:

To Chestnut Mountain Lookout Tower





URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 3

Deposit Form/Shape M10 < Elongate along fracture surface. >

Length M40 < 0.20 > M41 < m > FT/M Size M15 (circle letter):

Width M50 < 0.30 > M51 < m > 1b U308

Thickness M60 < \_\_\_\_\_ > M61 < \_\_\_\_\_ > (A) 0 - 20,000

Strike M70 < \_\_\_\_\_ > B 20,000 - 200,000

Dip M80 < \_\_\_\_\_ > C 200,000 - 2 million

D 2 million - 20 million  
E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 < \_\_\_\_\_ >

\_\_\_\_\_ >

Local Structures N70 < \_\_\_\_\_ >

\_\_\_\_\_ >

Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Quartzite >

Host Rock K1 < E, P, R, E, C, | | | | | > Grey-green medium grained sericitic,  
(Age) (Rock type, texture, composition, color,

feldspathic quartzite. Foliation striking N40E, dipping 70 SE, tectonic striping?  
Alteration, attitude, geometry, structure, etc.)

\_\_\_\_\_ >

Host-Rock Environment U3 < Biotite zone metamorphism >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < \_\_\_\_\_ >

\_\_\_\_\_ >

Ore Minerals C30 < None observed. >

Gangue Minerals K4 < Muscovite, feldspar, quartz. >

\_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 3

Alteration N75 < Weathered, hematite stained.

Reductants U5 < None observed.

Analytical Data (General) C43 < \_\_\_\_\_

Radiometric Data (General) U6 < BG 120 cps - surface radioactivity (SR) 200-  
(No. times background and dimensions)

500 cps 1 to 4 stimes BG (20 x 30 cm)

Ore Controls K5 < \_\_\_\_\_

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7 2 0 >

Comments on Geology N85 < \_\_\_\_\_

URANIUM-OCCURRENCE

Quad Name Charlotte

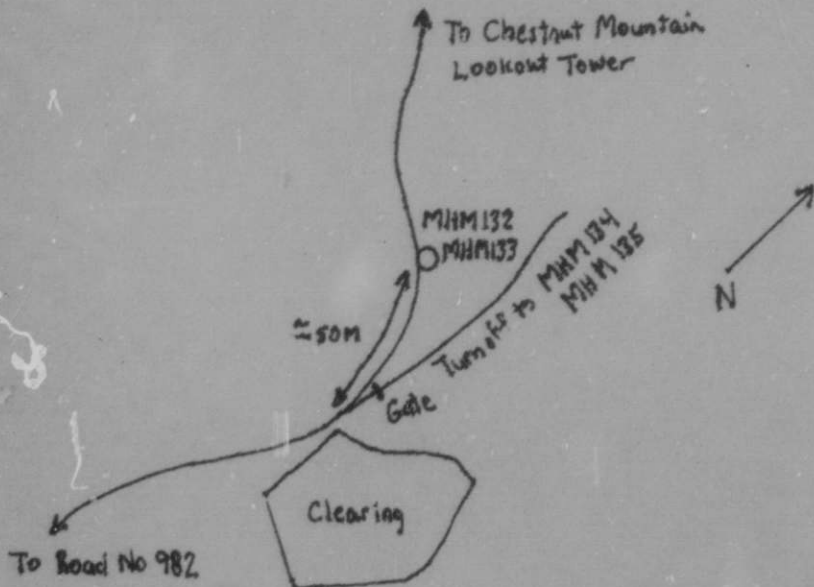
REPORT

Deposit No. 3

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 132	Chip sample from anomalous area (not analysed)	
MHM 133	Chip sample of barren rock (not analysed)	

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >





## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 4 >Deposit Name A10 < Chestnut Mountain No. 2 >

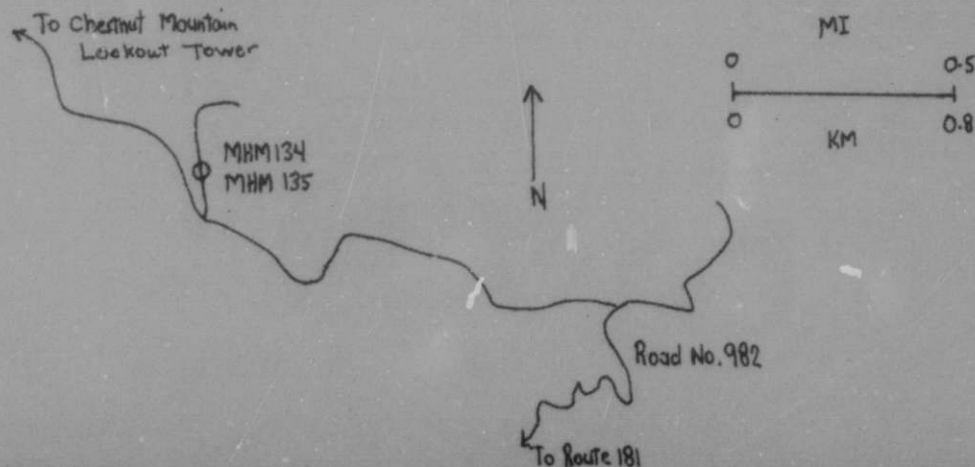
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Pisgah National Forest >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Caldwell >

(Enter code twice from List D)

Position from Prominent Locality A82 < Just south of Licklog Gap on Route 181 takeNational Forest Service Road No. 982 east for 4.25 miles (6.8 km) then take theForest Service Road north towards Chestnut Mountain (this road follows the \*Field Checked G1 < 8, 0 | 0, 4 > By G2 < Bruton , Keith A. >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 7 | 0, 7 , N > Longitude A80 < 0, 8, 1 | 4, 8 | 0, 1 , W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2585 ft (788 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Take turnoff to the northeast and continue for 0.1 miles(.16 km). Anomaly is on bank on west side of road under overhanging tree roots. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 4Alteration N75 < Quite weathered.Reductants U5 < None observed.

Analytical Data (General) C43 &lt; \_\_\_\_\_

Radiometric Data (General) U6 < RG 100-110 cps 2 to 5 times BG (.3 x .6 m)  
(No. times background and dimensions)There are several 300-350 anomalies to the western side of this anomaly.

Ore Controls K5 &lt; \_\_\_\_\_

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7,2,0 >

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 4

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 134	Chip sample of anomalous rock (SR 500) (not analysed)	
MHM 135	Chip sample of barren rock (SR 125) (not analysed)	

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 4

Continuation from p. 1-5:

Label

A82 < Burke Co. - Caldwell Co. line). >  
\_\_\_\_\_  
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## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

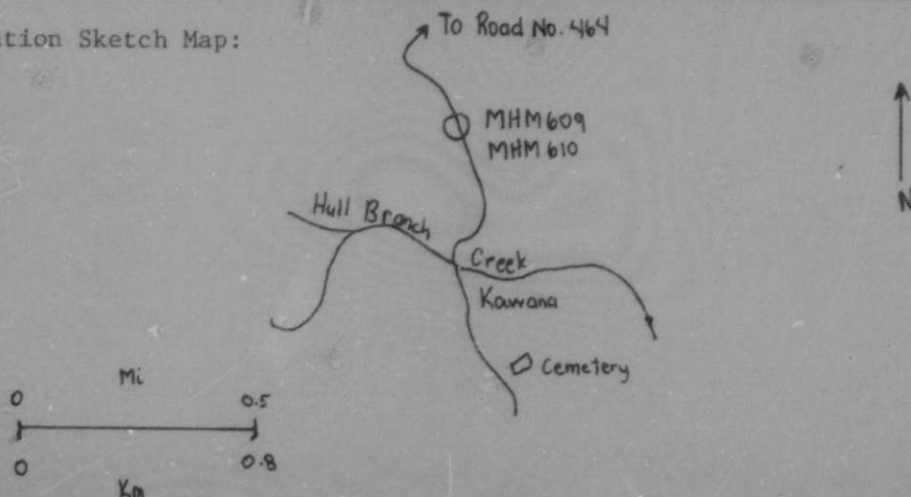
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 5 >Deposit Name A10 < Kawana anomaly >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 6 miles (9.7 km) SSE from Linville. >Field Checked G1 < 8, 0 | 10, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 9 | 0, 8, N > Longitude A80 < 0, 8, 1 | 4, 9 | 2, 4, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2400 ft (732 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mount >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On road to Kawana, 0.25 miles (0.4 km) north of bridge at Kawana (4.6 miles (7.4 km) south of Road 464), ditch on west side. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 5Deposit Form/Shape M10 < Tabular, concordant. >Length M40 < over 0.5 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.3 > M51 < m > 1b U308Thickness M60 < over 0.5 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Strike M70 < N10E >Dip M80 < 69E >Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Pegmatites concordant with foliation and anomaly. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Schist >Host Rock K1 < P R E C > Highly weathered, fine-grained, reddish  
(Age) (Rock type, texture, composition, color,brown schist (saprolite)  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on  
Associated Rocks U4 < Medium-grained pegmatites are located within 5 m of the  
anomaly. >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Clay, mica, quartz. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 5Alteration N75 < Completely weatheredReductants U5 < Pyrite (?)Analytical Data (General) C43 < MHM 609: 430 ppm U308, 500 ppm MnRadiometric Data (General) U6 < 300-600 cps over 30 cm x 50 cm of ditch face;  
(No. times background and dimensions)background = 70 cps.Ore Controls K5 < Possibly vein-type disseminations along foliations adjacent  
to pegmatite sources.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 < 71210 >Comments on Geology N85 < Similar to numerous other minor occurrences in the  
Wilson Creek complex. Very poor exposure.

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 5

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 609	Anomalous saprolite, across anomaly	430 ppm U308
MHM 610	Barren saprolite (150 cps)	12 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

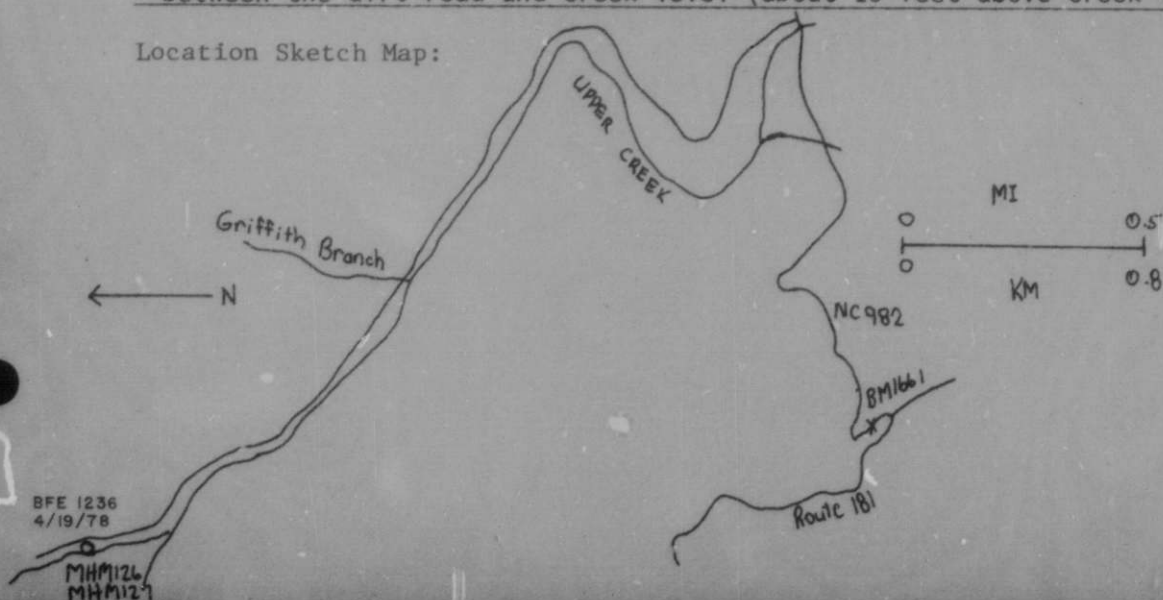
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 6 >Deposit Name A10 < Upper Creek No. 1 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < From its intersection with Route 181  
near BM1661 take NC 982 east for 1.3 miles (2.1 km). Turn north onto road  
following the east bank of Upper Creek and continue for 2.2 miles (3.5 km). >Field Checked G1 < 8, 0 | 0, 4 > By G2 < Bruton , Keith A. >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 2, 7 | N > Longitude A80 < 0, 8, 1 | 4, 8 | 5, 6 | W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1520 ft (463 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highland >  
(List K)Location Comments A83 < The anomalous outcrop is approximately halfway downslope  
between the dirt road and creek level (about 15 feet above creek level). Just \* >

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 6

## Commodities Present:

C10 &lt;U\_\_\_\_\_&gt;

## Commodities Produced:

MAJOR &lt;\_\_\_\_\_&gt; COPROD &lt;\_\_\_\_\_&gt;

MINOR &lt;\_\_\_\_\_&gt; BYPROD &lt;\_\_\_\_\_&gt;

## Potential Commodities:

POTEN &lt;\_\_\_\_\_&gt; OCCUR &lt;U\_\_\_\_\_&gt;

Commodity Comments C50 &lt;\_\_\_\_\_&gt;

Status of Exploration and Development A20 &lt;1&gt;

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 &lt;\_\_\_\_\_&gt;

Property is A21 (Active) (A22) (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220&lt;\_\_\_\_\_&gt;

Cumulative Uranium Production PROD YES (NO) SML MED LGE (circle)

DH2 accuracy thousands of lb.

years

grade

G7&lt;U\_\_\_\_\_&gt; G7A&lt;\_\_\_\_\_&gt; G7B&lt;LB&gt; G7C&lt;\_\_\_\_\_&gt; G7D&lt;\_\_\_\_\_&gt; % U308&gt;

Source of Information D9 &lt;\_\_\_\_\_&gt;

Production Comments D10 &lt;\_\_\_\_\_&gt;

Reserves and Potential Resources

EH accuracy thousands of lb.

year of est.

grade

E1&lt;U\_\_\_\_\_&gt; E1A&lt;\_\_\_\_\_&gt; E1B&lt;LB&gt; E1C&lt;\_\_\_\_\_&gt; E1D&lt;\_\_\_\_\_&gt; % U308&gt;

Source of Information E7 &lt;\_\_\_\_\_&gt;

Comments E8 &lt;\_\_\_\_\_&gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 6Deposit Form/Shape M10 < Sampled anomaly is elongate parallel to fractures. >Length M40 < 1.2 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.6 > M51 < m >1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N25E >

C 200,000 - 2 million

D 2 million - 20 million

Dip M80 < 65 SE >

E More than 20 million

Tectonic Setting N15 < Mobile belt. >Major Regional Structures N5 < Grandfather Mountain Formation is within a few  
100 m to the north, mapped as a fault contact. >Local Structures N70 < Quartz and biotite (shear) veins and lamellae are  
abundant in various orientations. >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Orthogneiss >Host Rock K1 < P R E C | W > Massive light gray biotite microcline

(Age)

(Rock type, texture, composition, color,

(plagioclase?) gneiss, very fresh and relatively unlayered. A faint foliation  
alteration, attitude, geometry, structure, etc.)runs N20E, 60NW. This is clearly meta-igneous, unlike some other feldspar-  
rich rocks of the Wilson Creek complex. >Host-Rock Environment U3 < Medium-grade (?) meta-igneous >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Did not observe any Grandfather Mountain-type metasediments,  
supposedly nearby. >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, feldspar, biotite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 6Alteration N75 < Hematite iron staining (minor)

Reductants U5 < None observed at anomaly but outcrop along road has exposures of massive leucogneiss with micaceous partings and scattered sulfide "blebs" (probably pyrite).

Analytical Data (General) C43 < 101 ppm U308; 1500 ppm Ba

Radiometric Data (General) U6 < 3 to 7 times BG (2 ft x 4 ft) (.6 x 1.2 m)  
(No. times background and dimensions)

BG 100-110 cps and surface radioactivity (SR) 300-750 cps on one small spot only. Average SR of anomaly was 450 cps.

Ore Controls K5 < Leaching and reprecipitation by groundwater (?) or other mobilization along shear fractures or lamellae.

Deposit Class C40 < Vein-type deposit in metamorphic rock > Class No. U7 < 720 >

Comments on Geology N85 < Orthogneiss is cut by several quartz veins. There are numerous exposures of orthogneiss, biotite rich metasedimentary (?) rock and micaceous quartzite (?) in the creek bed.

## URANIUM-OCCURRENCE

Quad Name Charlotte

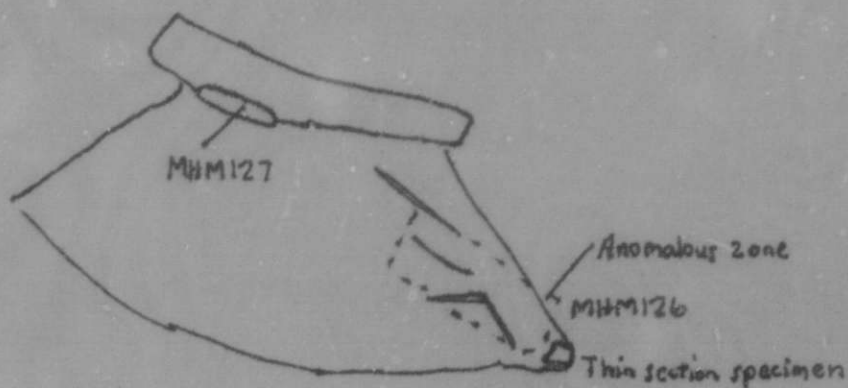
## REPORT

Deposit No. 6

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 126	Anomalous sample, channel-chip near fractures.	101 ppm U308
MHM 127	Non-anomalous, barren sample	34 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 6

Continuation from p. 1-5:

Label

A83 <upslope of this outcrop there is a continuous outcrop extending from the road to the creek. A second unsamplable anomaly is at the bottom of this outcrop at water level. >

## URANIUM-OCCURRENCE

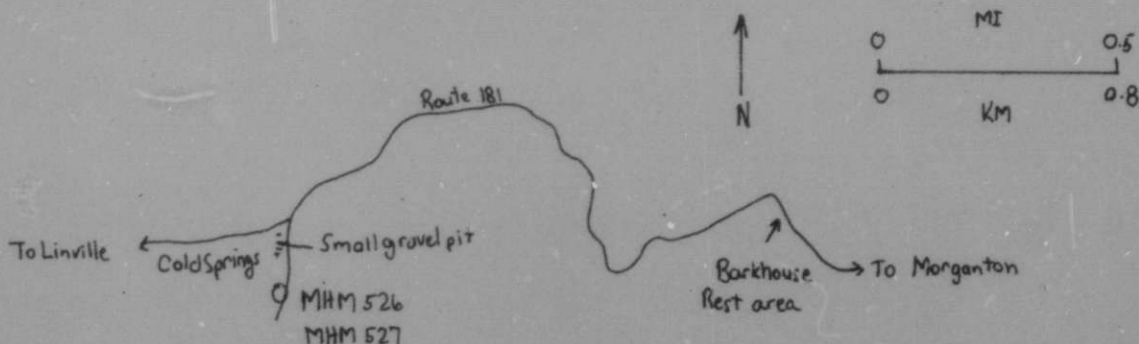
## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 7 >Deposit Name A10 < Cold Springs No. 1 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > | U, S | State North CarolinaState Code A50 < 3, 7 > | 3, 7 | County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Dirt road to south of Rte. 181, 10.4 miles (16.7 km) south of Linville. >Field Checked G1 < 8, 0 | 10, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 7 | 1, 4, N > Longitude A80 < 0, 8, 1 | 5, 2 | W, 0, 8, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3490 ft (1064 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highland >  
(List K)Location Comments A83 < Along abandoned road about 150 m from Rte. 181, small cut in colluvium on west side. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 7Deposit Form/Shape M10 < Lenticular (?) zone >

FT/M

Length M40 < over 2 > M41 < m >

Size M15 (circle letter):

Width M30 < 1 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < N85W ? >

C 200,000 - 2 million

Dip M80 < 84 N >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Contact with the overlying (possibly tectonically underlying) Grandfather Formation is within 200 m to the northwest. >Local Structures N70 < Mylonite zones (and faults) striking N15°E are exposed in nearby Rte. 181. >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Pegmatite >Host Rock K1 < P R E C | 1 | Vuggy blue-gray quartz vein, highly stained >  
(Age) (Rock type, texture, composition, color,by iron oxides, contacts poorly exposed.  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Gneissoid rocks and biotite schist occur along the road bank near the anomaly. However, in the gravel pit, saprolite of arenaceous and phyllitic rocks (Grandfather Mountain Formation) can be exposed by \* >Ore Minerals C30 < Possibly minor pitchblende >Gangue Minerals K4 < Quartz, iron oxides, manganese oxides. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 7Alteration N75 < Highly rusty and vuggy vein quartz.Reductants U5 < PyriteAnalytical Data (General) C43 < 156 ppm U308; 500 ppm As; 100 ppm Cr; 200 ppm Sn; 100 ppm V; 700 ppm Zr.Radiometric Data (General) U6 < BG = 70-90 cps, same as country rock and barren  
(No. times background and dimensions)quartz veins. Anomalous quartz vein is 300 to 600 cps, including loose boulders at site.Ore Controls K5 < The weatehred quartz vein represents a metasomatic event, which is also responsible for the mineralization, and possibly caused re-crystallization of phyllite of Grandfather Mountain Formation, producing schist.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7 2 0 >

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 7

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 526	Anomalous quartz chips.	156 ppm U308
MHM 527	Non-anomalous quartz chips	11 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 7

Continuation from p. 1-5:

Label

U4 < scraping. >

## URANIUM-OCCURRENCE

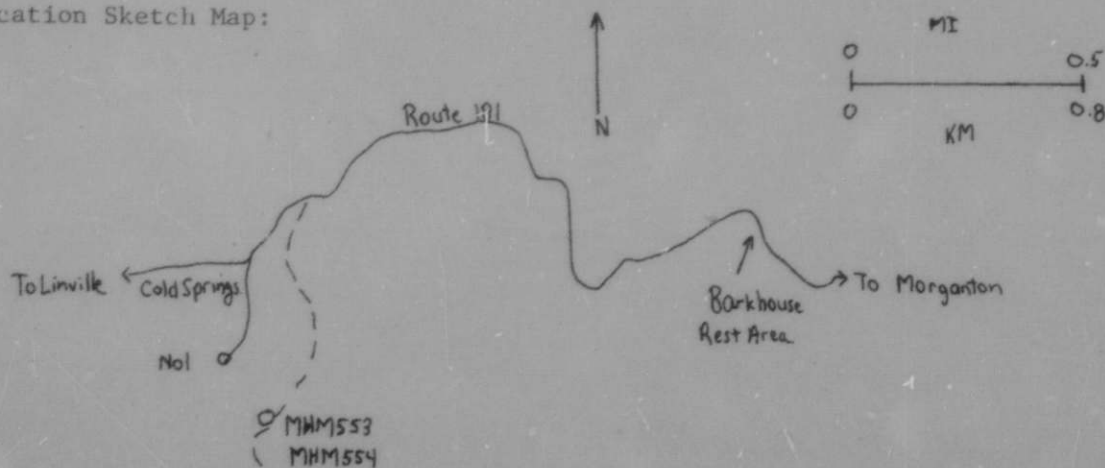
## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 8 >Deposit Name A10 < Cold Springs No. 2 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > < 3, 7 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Jeep trail to south of Rte. 181, 10.5 miles (16.9 km) south of Linville. >Field Checked G1 < 8, 0 > < 0, 4 > By G2 < McHone > , < J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 > < 5, 7 > < 0, 4, N > Longitude A80 < 0, 8, 1 > < 5, 2 > < 10, 2, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3300 ft (1006 m) >Quad Scale A91 < 2, 4, 0, 0, 0, 0 > Quad name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > < Appalachian Highlands >  
(List K)Location Comments A83 < Along jeep trail below No. 1 anomaly, at small prospect dump about 1/2 mile (0.8 km) from Rte. 181. >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 8

Commodities Present:

C10  \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < In dump of small excavation pit (probably a gc'd prospect) >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  G7A \_\_\_\_\_ G7B < LB > G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  E1A \_\_\_\_\_ E1B < LB > E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 8Deposit Form/Shape M10 < Unknown >Length M40 < over 5 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < over 5 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m >  A 0 - 20,000  
B 20,000 - 200,000  
C 200,000 - 2 million  
D 2 million - 20 million  
E More than 20 millionStrike M70 < Unknown >Dip M80 < Unknown >Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < N-E trending open folds and foliation >Local Structures N70 < Poorly exposed - could not determine. >Host-FM. Name U1 < Wilson Creek > Member U2 < Biotite gneiss >Host Rock K1 < P R E C > Medium-fine grained rusty quartz-biotite-  
(Age) (Rock type, texture, composition, color,microcline gneiss, vuggy (weathered sulfides?). No outcrop - anomalous alteration, attitude, geometry, structure, etc.)cobbles in small excavation dump were collected.Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

## Comments on

Associated Rocks U4 < Weathered quartz diorite or monzonite (foliated) is >exposed about 100 m to the southwest. Vein quartz is abundant as float nearthe anomaly.

Ore Minerals C30 &lt; &gt;

Gangue Minerals K4 < Quartz, biotite, microcline, hematite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 8

Alteration N75 < Sulfide-weathering products are abundant; the biotite is distinctly greenish (chloritized?).

Reductants U5 < Sulfides.

Analytical Data (General) C43 < 428 ppm U308; 1500 ppm As; 2000 ppm Ba; 200 ppm Cr; 70 ppm Mo; 2000 ppm Pb; 300 ppm V.

Radiometric Data (General) U6 < Background over dump is only about 150 cps  
(No. times background and dimensions)  
(about 100 m away from excavation); area about 5 x 5 m across. Anomalous gneiss cobbles are 250 cps.

Ore Controls K5 < Unclear due to poor exposure. Possibly similar to the Linville Falls occurrence (disseminated zone).

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >

Comments on Geology N85 < The massive quartz vein associated with the anomalous gneiss appears to have been prospected (for gold?).

## URANIUM-OCCURRENCE

Quarry Name Charlotte

## REPORT

Deposit No. 8

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 553	Float in small excavation dump	428 ppm U308
MHM 554	Non-anomalous float pieces	7 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >  
 \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >  
 \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >  
 \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >  
 \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 9 >Deposit Name A10 < Ripshin Ridge No. 1 >

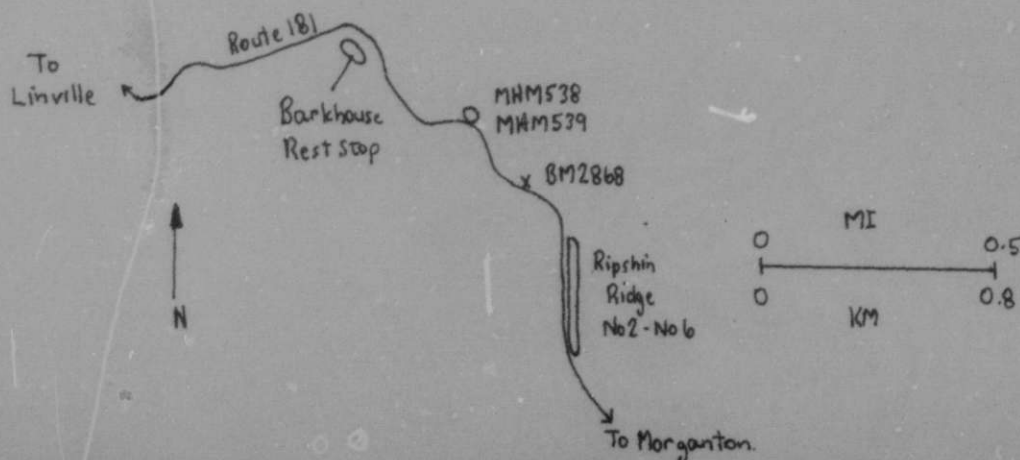
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Surke >Position from Prominent Locality A82 < North side of Rte. 181, 12.0 miles(19.2 km) south of Linville, 0.25 miles (0.4 km) south of Barkhouse reststop.Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 7 | 1, 2, N > Longitude A80 < 0, 8, 1 | 5, 0 | 5, 7, W >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3000 ft (915 m) >Quad Scale A91 <      | 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Chestnut Mountain >Physiographic Province A63 < 0, 2 > | Appalachian Uplands >  
(List K)Location Comments A83 < Roadbank at turn concave to the S, anomaly 5-10 feet(1.5-3 m) above ditch 80 feet (24 m) SE of guardrail.

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 2Alteration N75 < Sulfide-related iron staining is abundant.Reductants U5 < Pyrite

Analytical Data (General) C43 &lt; \_\_\_\_\_

Radiometric Data (General) U6 < BG = 90; anomaly = 200-1400 cps over 2 m x  
(No. times background and dimensions)4 m area.Ore Controls K5 < Disseminated minerals along the foliation typical of "base-  
ment" anomalies; apparently related to the sulfides.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 720

Comments on Geology N85 &lt; \_\_\_\_\_



URANIUM-OCCURRENCE

Quad Name Charlotte

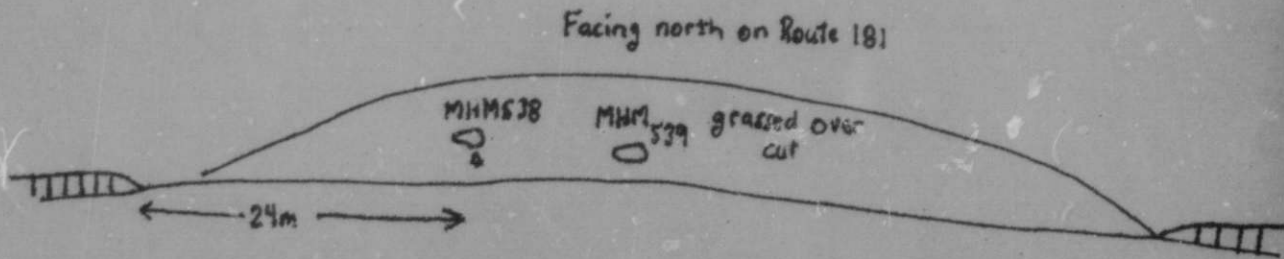
REPORT

Deposit No. 9

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 538	Chips along anomalous zone for 3 m	683 ppm U308
MHM 539	Chips in barren bedrock	10 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 10 >Deposit Name A10 < Upper Creek Trailhead >

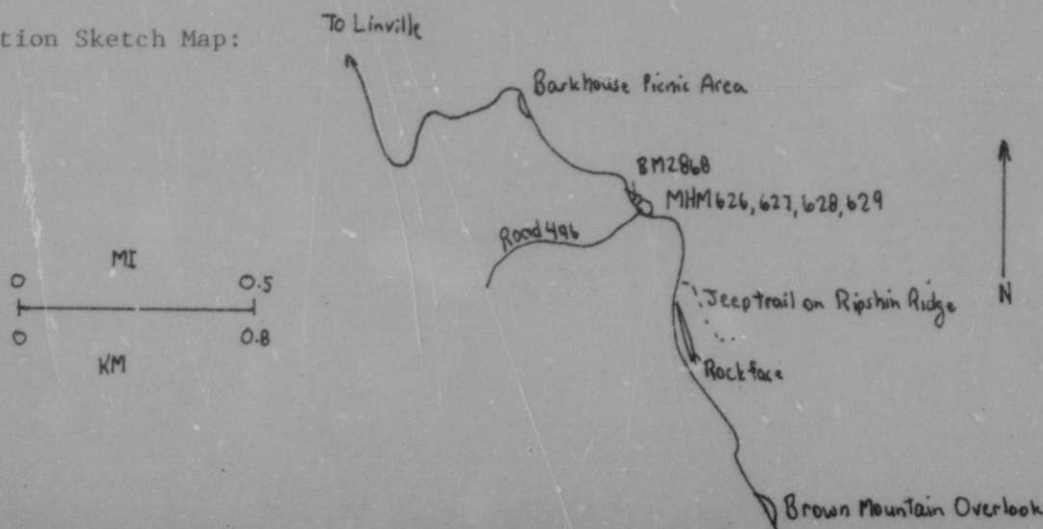
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Burke >Position from Prominent Locality A82 < On Rte. 181, 12.2 miles (19.6 km)  
south of Linville. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 7 | 0, 7, N > Longitude A80 < 0, 8, 1 | 5, 0 | 4, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2870 ft (875 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Chestnut Mountain >Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Near south end of guardrail, in bank and ground north  
of Rte. 181 0.45 miles (0.7 km) south of Barkhouse Picnic Area, northeast \* >

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 10

## Commodities Present:

C10  \_\_\_\_\_ >

## Commodities Produced:

MAJOR  \_\_\_\_\_ > COPROD  \_\_\_\_\_ >MINOR  \_\_\_\_\_ > BYPROD  \_\_\_\_\_ >

## Potential Commodities:

POTEN  \_\_\_\_\_ > OCCUR  \_\_\_\_\_ >

Commodity Comments C50 &lt; \_\_\_\_\_ &gt;

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < Roadcut \_\_\_\_\_ >Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt; \_\_\_\_\_ &gt;

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade

G7  U \_\_\_\_\_ > G7A  \_\_\_\_\_ > G7B <LB> G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 &lt; \_\_\_\_\_ &gt;

Production Comments E10 &lt; \_\_\_\_\_ &gt;

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade

E1  U \_\_\_\_\_ > E1A  \_\_\_\_\_ > E1B <LB> E1C  \_\_\_\_\_ > E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 &lt; \_\_\_\_\_ &gt;

Comments E8 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 10Deposit Form/Shape M10 < Tabular, concordant. >Length M40 < over 50 > M41 < FT/M > Size M15 (circle letter):Width M50 < 2.5 > M51 < m > 1b U308Thickness M60 < over 4 > M61 < m > (A) 0 - 20,000  
B 20,000 - 200,000  
C 200,000 - 2 million  
D 2 million - 20 million  
E More than 20 millionStrike M70 < N24E >Dip M80 < 55SE >Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < NE-trending mylonite zones. >Local Structures N70 < Foliation related to shearing (?); black glassy  
slicken sides and quartz veins are subparallel. >Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Pegmatite gneiss >Host Rock K1 < P, R, E, C, |, |, |, |, |, |, |, | > Rusty gray white medium to coarse-grained  
(Age) (Rock type, texture, composition, color,  
biotite-quartz-microcline-albite (?) pegmatite and pegmatitic granite.  
alteration, attitude, geometry, structure, etc.)Strongly sheared along anomaly. Mineralized along biotite lamellae and shear  
fractures. When this anomaly was first dug out in 1975, shortly after the \* >Host-Rock Environment U3 < Medium-grade meta-igneous and metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

## Comments on

Associated Rocks U4 < Grades into white aplite to the east, enclosing rusty  
weathered biotite schist "screens" or xenoliths. Most of the saprolite in the  
adjacent roadcut is of thinly layered schistose (biotite-rich) and mafic or \* >Ore Minerals C30 < Pitchblende (?), torbernite, autunite >Gangue Minerals K4 < Quartz, feldspar, biotite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 10

Alteration N75 < Rusty weathering of iron minerals, biotite, and possibly sulfides.

Reductants U5 < \_\_\_\_\_

Analytical Data (General) C43 < Analysis in 1975 yielded 20000 ppm U (23500 ppm U308) at pit A, which has by this time been dug out several times.

Current analyses in three pits averaged approximately 2600 ppm U308.

Radiometric Data (General) U6 < 80-300 cps on surface (background is 50-60 (No. times background and dimensions)

cps); 2000-4000 cps in series of small pits dug along anomaly for samples;

anomaly is 2.5 x 50 m. When originally dug out in 1975, this was an 18000 cps \*

Ore Controls K5 < Shearing is very evident along this zone, and shear fractures are mineralized. The reductants are not particularly evident, however.

Secondary minerals (yellow and green) are abundant in the fractures, and adjacent to biotite lamellae. The foliation is apparently related (parallel) to the shears; thus, a metamorphic (tectonic) event.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >

Comments on Geology N85 < A little digging made this anomaly much more spectacular than I originally judged from purely surface (saprolite) features. It has some similarities with more solid rock in the roadcut anomalies around the corner (Ripshin Ridge).

URANIUM-OCCURRENCE

Quad Name Charlotte

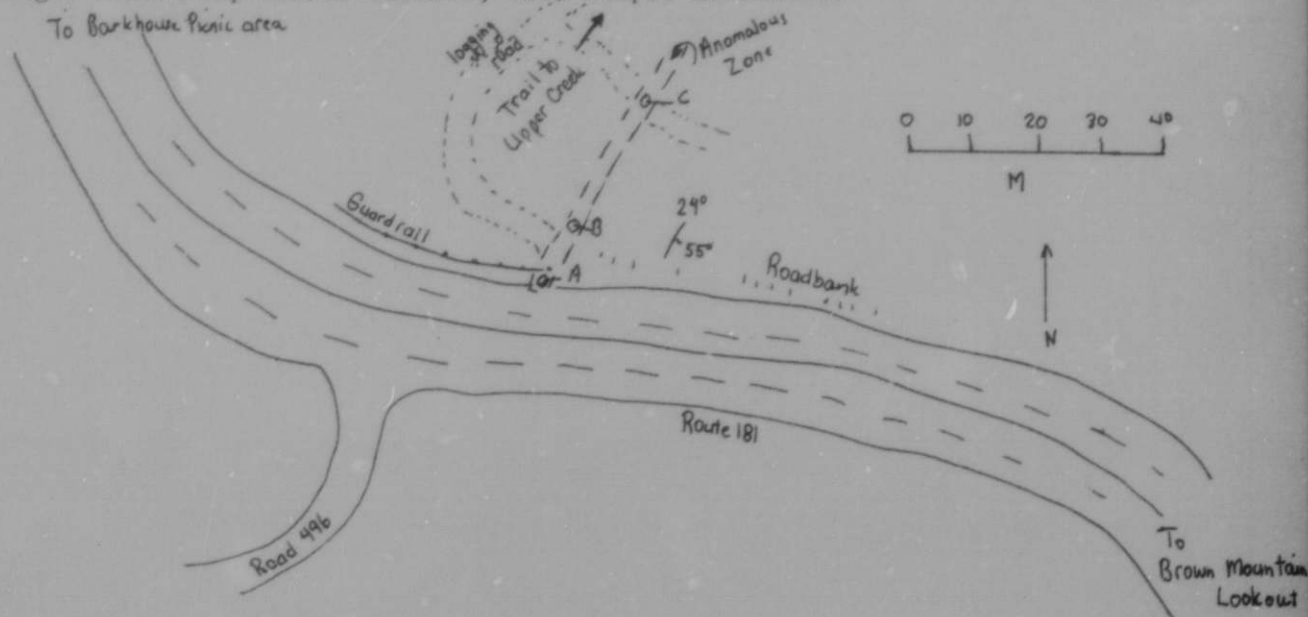
REPORT

Deposit No. 10

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 626	Anomalous rock from pit A	3740 ppm U308
MHM 627	Anomalous rock from pit B	1348 ppm U308
MHM 628	Anomalous rock from pit C	2619 ppm U308
MHM 629	Barren leucogneiss southeast of anomaly	14 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

F1 < Stowe, M.D., 1955, Report of radiometric reconnaissance: U.S. Atomic Energy Commission, Technical Information Service, Oak Ridge, TN, RME-3107, 33 p. >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 10

Continuation from p. 1-5:

Label

A83 < of the entrance of Road 496 onto 181, near BM 2868 on the quad-  
rangle map.>

U4 <intermediate volcanic rocks. The anomalous pegmatite is a sill within  
these units.>

K1 <rebuilding of Highway 181, the secondary minerals were concentrated  
along the contact between pegmatite and coarse-grained biotite schist. It  
is not clear whether this schist was originally marginal to the pegmatite or  
included within the pegmatite as a schlieren.>

U6 <anomaly. It is significant that Stow located this anomaly in 1954, and after  
widening the roadcut by about 10 m, the anomaly was not only still evident,  
but stronger.>

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 11 >Deposit Name A10 < Ripshin Ridge No. 2 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > < 3, 7 > County A60 < Burke >

(Enter code twice from List D)

Position from Prominent Locality A82 < East side Rte. 181, 12.35 miles< (20 km) south of Linville. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone > , J. Gregory >

Yr Mo

Last name

First

Initial

Latitude A70 < 3, 5 | 5, 7 | 0, 2, N > Longitude A80 < 0, 8, 1 | 5, 0 | 4, 2, W >

Deg Min Sec

Deg Min Sec

Township A77 <    |    |    > Range A78 <    |    |    > Section A79 <    >

N/S

E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2860 ft(872 m) >Quad Scale A91 <    |    |    |    |    |    > Quad Name A92 < Chestnut Mountain >

(7½' or 15' quad)

Physiographic Province A63 < 0, 2 | Appalachian Uplands >

(List K)

Location Comments A83 < In roadcut 10 m north of jeep road, about 300 m north of large rock cut below jeep road. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 11Deposit Form/Shape M10 < Lenticular >  
FT/M

Length M40 &lt; \_\_\_\_\_ &gt; M41 &lt; \_\_\_\_\_ &gt; Size M15 (circle letter):

Width M50 < \_\_\_\_\_ > M51 < \_\_\_\_\_ > 1b U308Thickness M60 < 6-7 > M61 < m > (A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < N > C 200,000 - 2 million

D 2 million - 20 million

Dip M80 < Vertical > E More than 20 millionTectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 &lt; \_\_\_\_\_ &gt;

Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Metasediment >Host Rock K1 < L P R E C > Quartzite with fat little lenses of  
(Age) (Rock type, texture, composition, color,quartz-pebble conglomerate, interlayered with gray phyllite. Thin concordant alteration, attitude, geometry, structure, etc.)lenses of pegmatite.Host-Rock Environment U3 < \_\_\_\_\_ >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < At top of cut, and along dirt jeep road, thin layers ofmafic to intermediate volcanic rock are exposed. These overly the uraniferousrock.Ore Minerals C30 < None observed. >

Gangue Minerals K4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 11Alteration N75 < None observed.Reductants U5 < Graphite schist several meters father up in section.Analytical Data (General) C43 < 317 ppm U308

Radiometric Data (General) U6 < BG in woods 75 cps. Anomalous horizons occur  
(No. times background and dimensions)  
in phyllite and quartzite, but none in pegmatite. Surface radioactivity over  
exposure generally 150-300 cps. About a dozen anomalies of 400-1200 cps are \*

Ore Controls K5 < No apparent relation between anomalies and pegmatite.

Ore is disseminated in quartzite here, as it is in phyllitic rocks elsewhere in  
the region. Anomalies are concordant with the foliation. No reductants ob-  
served. No significant signs of hydrothermal alteration. Two uraniferous black  
veins occur at localities in road cut immediately south of here (Deposits #4,  
5 and 6). However, the relationship, if any, between those veins and these  
disseminated deposits could not be determined.

Deposit Class C40 < Vein-type disseminations in metamorphic\* Class No. U7 < 720

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 11

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 532	Chips along 1 m of anomaly	317 ppm U308
MHM 533	Chips in barren rock to the NW	65 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < \_\_\_\_\_  
 \_\_\_\_\_ >

F2 < \_\_\_\_\_  
 \_\_\_\_\_ >

F3 < \_\_\_\_\_  
 \_\_\_\_\_ >

F4 < \_\_\_\_\_  
 \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 11

Continuation from p. 1-5:

Label

U6 < exposed from top to bottom of cut (4 anomalies of 1200). Anomalies are usually about one foot wide, and can be traced several feet along foliation. A section of anomalous vertical quartzite and phyllite approximately 6 to 7 meters thick is exposed here.>

C40 < rocks.>

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

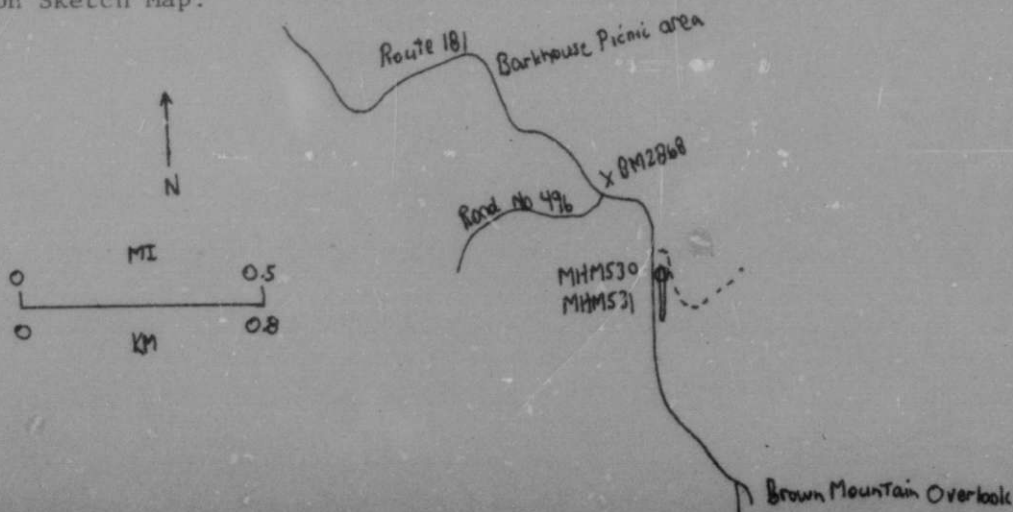
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 12 >Deposit Name A10 < Ripshin Ridge No. 3 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Burke >Position from Prominent Locality A82 < East side of Rte. 181, 12.40 miles  
(20 km) south of Linville. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHore > J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 5, 6 | 5, 5, N > Longitude A80 < 0, 8, 1 | 5, 0 | 4, 2, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2880 ft (878 m) >Quad Scale A91 <     |     |     |     |     |     >  
(7½' or 15' quad)Quad Name A92 < Chestnut Mountain >Physiographic Province A63 < 0, 2 |     > Appalachian Highlands >  
(List K)Location Comments A83 < Near top of rock cut in dark rock, about 50 m south  
of north end of major rock face. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 12Deposit Form/Shape M10 < Lenticular. >Length M40 < over 1 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.2 > M51 < m >1b U308Thickness M60 < 3 > M61 < m >

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N32E >

C 200,000 - 2 million

Dip M80 < 64SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Small shear zones trending NE and dipping SE; other fractures are abundant. >Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Gneiss >Host Rock K1 < LIPRIEIC > Dark gray granular (arkosic?) medium-  
(Age) (Rock type, texture, composition, color,grained quartz biotite microcline gneiss, mineralized along narrow shear zone.  
alteration, attitude, geometry, structure, etc.)Dark gneiss is apparently at lens about 2 x 4 m on vertical face.Host-Rock Environment U3 < Medium or high-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Surrounded by a coarse-grained (pegmatitic) quartz monzonite or leucogranite, not anomalous. >Ore Minerals C30 < Uraninite (?) >Gangue Minerals K4 < Quartz, biotite, microcline ( $\pm$  plagioclase) >



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 12Alteration N75 < None observed

Reductants U5 < Pyrite is scattered and rarely abundant in the roadcut; graphite schist exposed near top of cut several tens of meters to the north.

Analytical Data (General) C43 < 1050 ppm U308

Radiometric Data (General) U6 < Background = 70 cps; anomaly is over 200 cps  
(No. times background and dimensions)

along 15 cm x 3 m shear zone (max 1600 cps). Granite surrounding rock is about 120 cps.

Ore Controls K5 < The dark gneiss must contain reductants acting to precipitate U along the shear zone, as no anomaly is present along the shears in the leucocratic rocks.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7 2 0 >

Comments on Geology N85 < This roadcut provides the best exposures of mineralized shears (small faults) in the area. See Ripshin Ridge No. 4, 5 and 6. The dark, schistose meta-sedimentary units are the most mineralized due to their chemical environments.

URANIUM-OCCURRENCE

Quad Name Charlotte

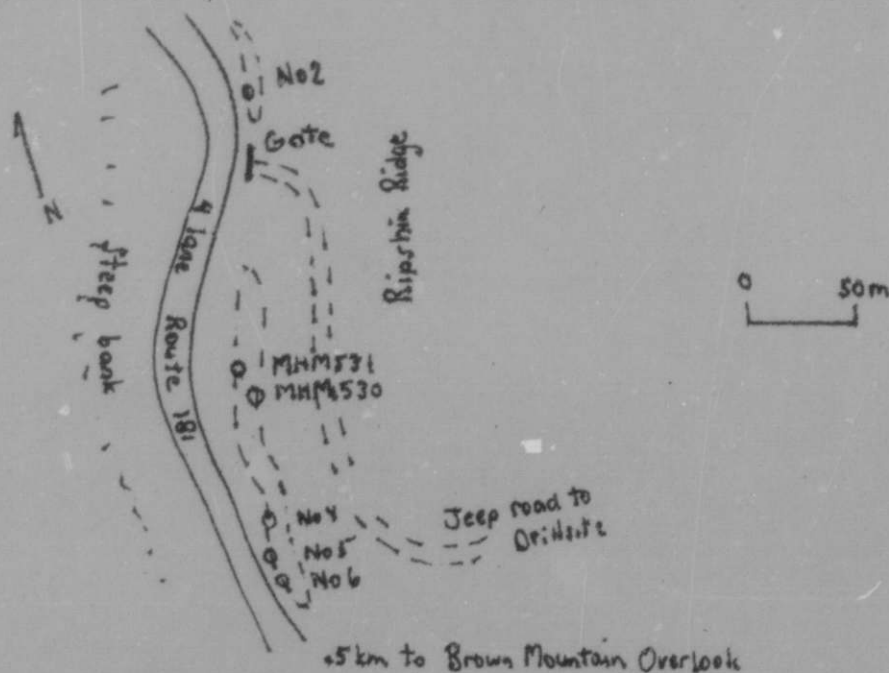
REPORT

Deposit No. 12

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 530	Chips along 0.15 x 1.5 m zone of anomaly	1050 ppm U308
MHM 531	Chips of barren gneiss north of anomaly	3 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 13 >Deposit Name A10 < Ripshin Ridge Drillsite >

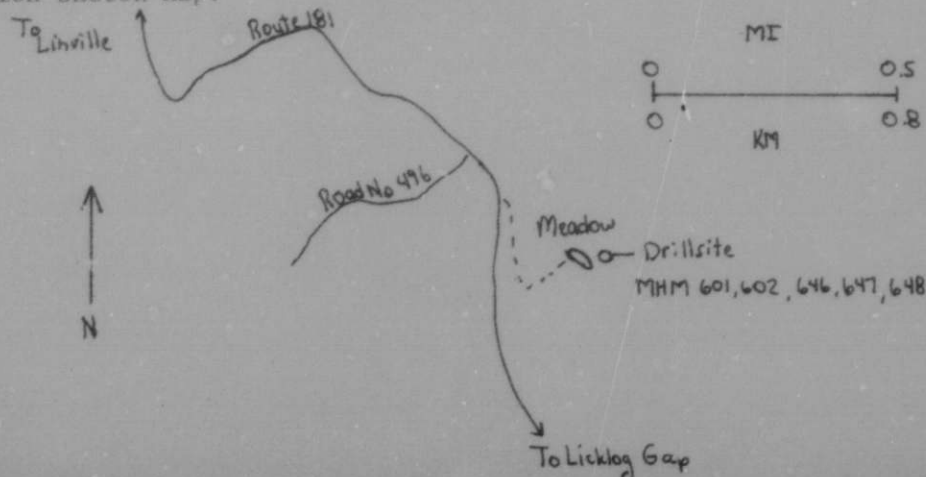
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State < North Carolina >State Code A50 < 3, 7 | 3, 7 >  
(Enter code twice from List D)County A60 < Burke >Position from Prominent Locality A82 < Jeep trail east of Rte. 181, about 2 miles (3.2 km) southwest of the summit of Chestnut Mountain (12.35 miles (20 km) south of Linville along Rte. 181). >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 5, 6 , N > Longitude A80 < 0, 8, 1 | 5, 0 | 3, 0 , W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3000 ft (915 m) >Quad Scale A91 < 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Chestnut Mountain >Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < East of Rte. 181 on jeep trail 0.6 miles (0.97 km) south of Barkhouse Picnic Area, up road through meadow about 0.4 miles (.64 km). >

## Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 13Deposit Form/Shape M10 < Lenticular, concordant? >Length M40 < over 100 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < about 50 > M51 < m > 1b U308Thickness M60 < about 50 > M61 < m > (A) 0 - 20,000Strike M70 < N5W to N40 W > B 20,000 - 200,000Dip M80 < 66 to 72 E > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < The contact with overlying Grandfather Mountain arkose is about 0.5 km south. >Local Structures N70 < Biotite-microcline gneiss foliation is N5W, 58 E; leucogranite (pegmatite) foliation is N5W, 79E. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite schist >Host Rock K1 < L P R E C > | Sheared (to mylonitic) biotite schist and  
(Age) (Rock type, texture, composition, color,  
schistose biotite-microcline gneiss, light green (sericitic) to rusty gray  
alteration, attitude, geometry, structure, etc.)biotite schist with pyrite, magnetite, and graphite (?), steep foliation  
varies in strike (NS to NW). >Host-Rock Environment U3 < Medium to high-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < The drillsite is positioned on white, saprolitic quartz-  
microcline (albitic) pegmatite or coarse leucogranite, with a N-S cataclastic  
foliation. >Ore Minerals C30 < Torbernite, pitchblende, autunite. >Gangue Minerals K4 < Quartz, biotite, microcline (or albite), pyrite, sericite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 13Alteration N75 < None observedReductants U5 < Pyrite, graphite (minor)Analytical Data (General) C43 < MHM 601: 1450 ppm U308    MHM 602: 1830 ppm U308  
MHM 647: 128 ppm U308Radiometric Data (General) U6 < 300 to 5000 cps in old trench (A) over 3 x 10 m;  
(No. times background and dimensions)  
300-900 cps at western drill pad (C) over 2.5 x 50 m; background is 70-100 cps.Ore Controls K5 < Although exposures are not excellent, the biotite schist and sheared gneiss are mineralized along definite zones, parallel with cleavage. Probably the uranium was introduced along veins and spread out in the reducing meta-sediments - the same model apparent for many other local anomalies. The drill data may indicate a bottoming or pinching out of the anomalous schists within a few hundred feet of the surface.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 720Comments on Geology N85 < The mineralized schistose rocks are probably a lens or "screen" surrounded by pegmatitic and granite (monzonitic) orthogneisses, exposed along the access road and Rte. 181. It is also possible that there are fault boundaries and/or mylonites at this occurrence.

URANIUM-OCCURRENCE

Quad Name Charlotte

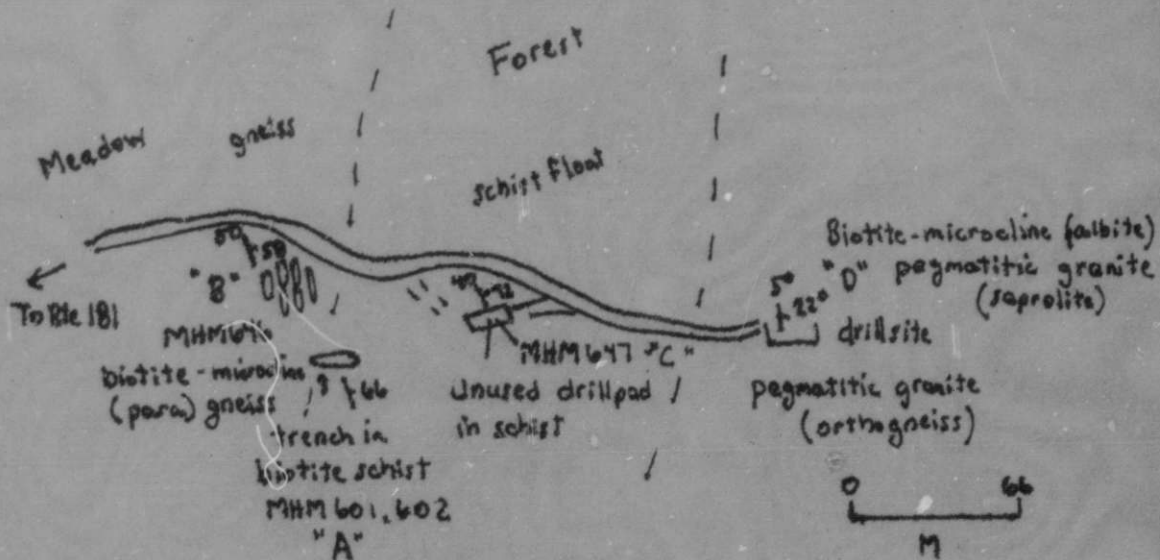
REPORT

Deposit No. 13

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 601	Schist from anomalous trench (A1)	1450 ppm U308
MHM 602	Schist from anomalous trench (A2)	1830 ppm U308
MHM 646	Barren, pink biotite-microcline gneiss B	5 ppm U308
MHM 647	Sheared schist and gneiss (anomaly) C	128 ppm U308
MHM 648	Saprolitic, white leucogranite D	8 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 14 >Deposit Name A10 < Ripshin Ridge No. 4 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > | U, S | State North CarolinaState Code A50 < 3, 7 > | 3, 7 | County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < East side Rte. 181, 12.45 miles (20 km)  
south of Linville. >Field Checked G1 < 8, 0 | 10, 4 > By G2 < McHone > | J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 5, 0, N > Longitude A80 < 0, 8, 1 | 5, 0 | 4, 2, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2900 ft (885 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Southern part of big roadcut, about 10 feet (3 m) above  
ditch, about 130 feet (40 m) north of concrete culvert. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 14

## Commodities Present:

C10 &lt;U&gt;

## Commodities Produced:

MAJOR &lt; &gt; COPROD &lt; &gt;

MINOR &lt; &gt; BYPROD &lt; &gt;

## Potential Commodities:

POTEN &lt; &gt; OCCUR &lt; &gt;

Commodity Comments C50 &lt; &gt;

Status of Exploration and Development A20 &lt; 1 &gt;

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 &lt; &gt;

Property is A21 (Active) A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt; &gt;

Cumulative Uranium Production PROD YES NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade

G7 &lt; U &gt; G7A &lt; &gt; G7B &lt; LB &gt; G7C &lt; &gt; G7D &lt; &gt; % U308 &gt;

Source of Information D9 &lt; &gt;

Production Comments D10 &lt; &gt;

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade

E1 &lt; U &gt; E1A &lt; &gt; E1B &lt; LB &gt; E1C &lt; &gt; E1D &lt; &gt; % U308 &gt;

Source of Information E7 &lt; &gt;

Comments E8 &lt; &gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 14Deposit Form/Shape M10 < Lenticular >Length M40 < 1.4 > M41 < m >

Size M15 (circle letter):

Width M50 < 1.8 > M51 < m >1b U308Thickness M60 < 0.2 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N42E >

B 20,000 - 200,000

Dip M80 < 61SE >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < This and other small-offset shears trend NE; other slickensided microfaults in area trend NS, EW, and NW. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Gneiss >Host Rock K1 < L, P, R, E, C, | M > Dark gray hornblend gneiss fine grained

(Age)

(Rock type, texture, composition, color,

gneissic foliation N150E, 75°SE. This rock is either metadiorite or meta-alteration, attitude, geometry, structure, etc.)graywacke.Host-Rock Environment U3 < Medium to high-grade metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Injections of pegmatite and aplite in paragneiss, schists, and orthogneiss. >Ore Minerals C30 < Pitchblende (?) >Gangue Minerals K4 < Quartz, biotite, microcline (± plagioclase) >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 14Alteration N75 < None observedReductants U5 < Pyrite is commonAnalytical Data (General) C43 < 2080 ppm U3O8; 700 ppm Ba; 3% Ca; 50 ppm Co;  
10% Fe; 200 ppm Pb; 50 ppm Sc; 700 ppm Sr; 300 ppm V; 300 ppm Zn.Radiometric Data (General) U6 < BG = 100 cps; anomaly is 1000-8000 cps along  
(No. times background and dimensions)  
zone 140 cm long, 180 deep, and 20 cm thick (as exposed on rock faces).Surrounding gneiss is 130 cps.Ore Controls K5 < The rock is enriched along a small fault with offsets of 1-2  
cm in a right-lateral sense. The enrichment occurred only in the dark rock,  
not in surrounding leucogneiss. A seam of black rock about 0.5 cm thick follows  
the fault. The seam appears to be a moderate to high-temperature metasomatic  
or igneous-metasomatic phenomenon.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 720 >

Comments on Geology N85 &lt; \_\_\_\_\_

URANIUM-OCCURRENCE

Quad Name Charlotte

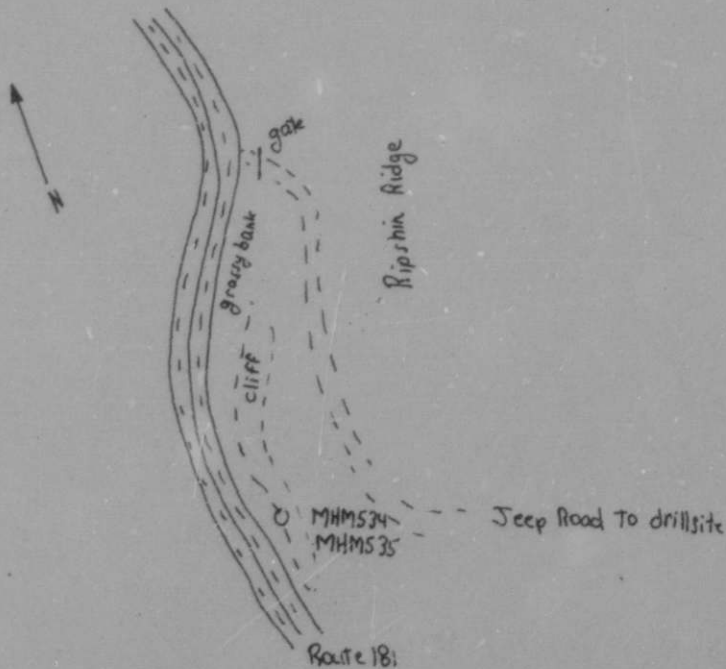
REPORT

Deposit No. 14

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 534	Chips along zone 10 cm x 30 cm in anomaly	2080 ppm U308
MHM 535	Chips of barren dark gneiss to south	8 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

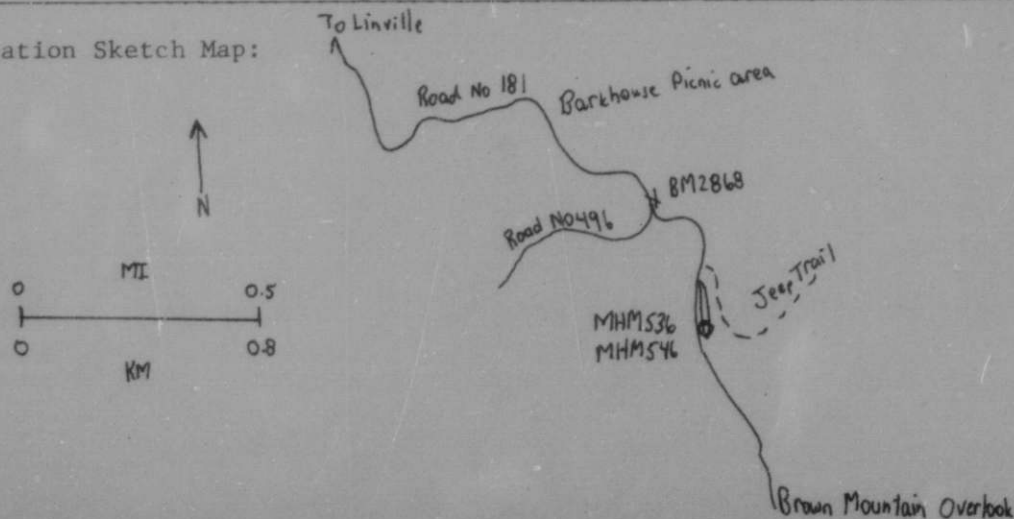
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 15 >Deposit Name A10 < Ripshin Ridge No. 5 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < East side of Rte. 181, 12.45 miles (20 km)  
south of Linville. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 15, 6 | 4, 9, N > Longitude A80 < 0, 8, 1 | 15, 0 | 4, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2900 ft (884 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < About 15 feet (5 m) above south end of concrete culvert  
along southern part of big rock cut. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 15

Commodities Present:

C10  U

Commodities Produced:

MAJOR   COPROD

MINOR   BYPROD

Potential Commodities:

POTEN   OCCUR

Commodity Comments C50 <  >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 <  >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 <  >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U  G7A   G7B < LB > G7C  G7D  % U308 >

Source of Information D9 <  >

Production Comments D10 <  >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U  E1A   E1B < LB > E1C   E1D  % U308 >

Source of Information E7 <  >

Comments E8 <  >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 15Deposit Form/Shape M10 < Lenticular (?) >Length M40 < 1.5 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 1.5 > M51 < m >1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

Ⓐ 0 - 20,000

Strike M70 &lt; \_\_\_\_\_ &gt;

B 20,000 - 200,000

Dip M80 &lt; \_\_\_\_\_ &gt;

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Microfaults in area trend N-S, E-W, and NW >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < \_\_\_\_\_ >Host Rock K1 < L.P.R.E.C. | | | | | W > Dark greenish gray, aphanitic schist or

(Age)

(Rock type, texture, composition, color,

phyllitic graywacke; foliation poorly developed, N17E, 52SE  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Greenschist or higher metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Intrusions of pegmatite and aplite in schists and para-  
gneisses. >Ore Minerals C30 < Pitchblende (?) >Gangue Minerals K4 < Quartz, biotite, pyrite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 15Alteration N75 < None observedReductants U5 < Fresh to partly weathered pyriteAnalytical Data (General) C43 < 1308 ppm U308; 1 ppm Ag; 150 ppm Cr; 100 ppm Cu;  
7% Fe; 100 ppm Ni; 150 ppm Pb; 100 ppm Sn; 500 ppm Sr; 300 ppm V.Radiometric Data (General) U6 < BG = 100 cps; anomaly is 500 to 800 cps in small  
(No. times background and dimensions)  
area 30 cm x 60 cmOre Controls K5 < Most likely a structural (fault or fracture) pathway.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 720Comments on Geology N85 < Paragneiss facies of the Wilson Creek Gneiss; according  
to Wagener (1979), may be a recrystallized Grandfather Mountain facies.



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 15

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 536	Chips across 30 cm of anomaly	1308 ppm U308
MHM 546	Barren sample of adjacent dark gneiss	20 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < Bryant, and Reed, 1970, Geology of the Grandfather Mountain Window and Vicinity, North Carolina and Tennessee; U.S. Geol. Survey Prof. Paper 615, 190 p. >

F2 < Wagener, H.D., 1979, Petrology of the Wilson Creek Gneiss, Western North Carolina and its Relation to the Grandfather Mountain Formation, Cranberry \* >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 15

Continuation from p. 1-5:

Label

F2 < Gneiss, and Inner Piedmont: Chiasma Consultants, Inc., 57 p.>

## URANIUM-OCCURRENCE

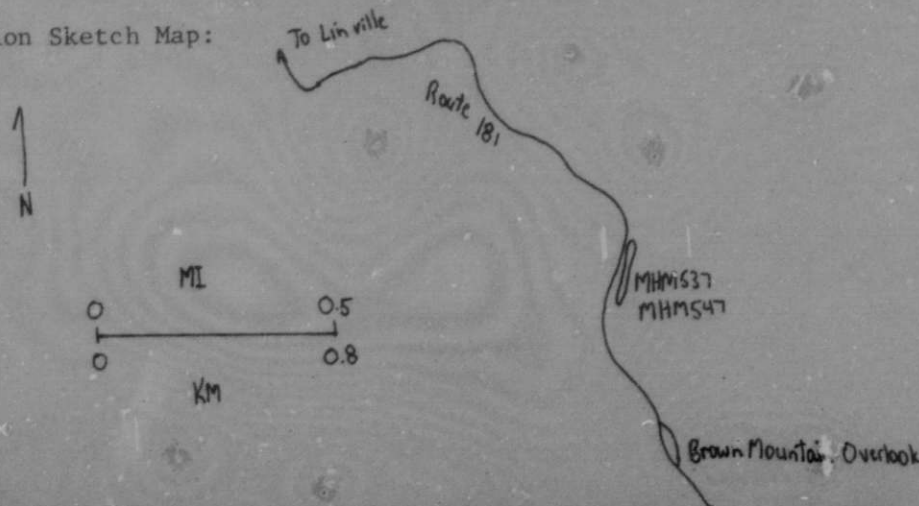
## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 16 >Deposit Name A10 < Ripshin Ridge 6 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < East side Rte. 181, 12.45 miles (20 km)  
south of Linville. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 4, 9, N > Longitude A80 < 0, 8, 1 | 5, 0 | 4, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2930 ft (893 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < South about 10 m from concrete culvert near Deposit #15,  
along southern part of rock cut, 3/4 of the way up road bank. >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 16

Deposit Form/Shape M10 < Lenticular >

Length M40 < over 1 > M41 < m > FT/M

Width M50 < 1.5 > M51 < m > Size M15 (circle letter):

Thickness M60 < 1.5 > M61 < m > 1b U308

Strike M70 < N37E > (A) 0 - 20,000

Dip M80 < 51SE > B 20,000 - 200,000

Tectonic Setting N15 < Mobile belt. > C 200,000 - 2 million

Major Regional Structures N5 < \_\_\_\_\_ > D 2 million - 20 million

\_\_\_\_\_ > E More than 20 million

\_\_\_\_\_ >

Local Structures N70 < Slickensided microfault - N2W, 53E; other microfaults >

trend E-W and N50W. >

\_\_\_\_\_ >

Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Gneiss >

Host Rock K1 < L, P, R, E, C, | | | | | | | > Dark gray-green fine-grained meta-graywacke

(Age) (Rock type, texture, composition, color,

or mafic gneiss, grades into migmatitic leucogranite above and to the south,

alteration, attitude, geometry, structure, etc.)

becomes more schistose (biotitic) to the south and below. >

Host-Rock Environment U3 < High-grade metamorphic (migmatitic) >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < Most of the rock cut in the immediate vicinity is granitic >

migmatite or gneiss. >

\_\_\_\_\_ >

Ore Minerals C30 < Not observed. >

\_\_\_\_\_ >

Gangue Minerals K4 < Quartz, biotite, feldspar. >

\_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 16Alteration N75 < Rusty fractures have a greenish cast (chloritic?).Reductants U5 < Minor sulfides.Analytical Data (General) C43 < MHM 537: 257 ppm U308    MHM 547: 7ppm U308Radiometric Data (General) U6 < 300-700 cps over dark lens, Background = 60 cps;  
(No. times background and dimensions)  
surrounding migmatite = 120 cps.Ore Controls K5 < The mafic zone may have been a reducing environment for U  
liberated from the surrounding pegmatite and granitic gneiss.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 4720Comments on Geology N85 < Similar to Ripshin Ridge No. 3 and No. 4.

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 16

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 537	Anomaly-chips across mafic lens	257 ppm U308
MHM 547	Barren gneiss	7 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

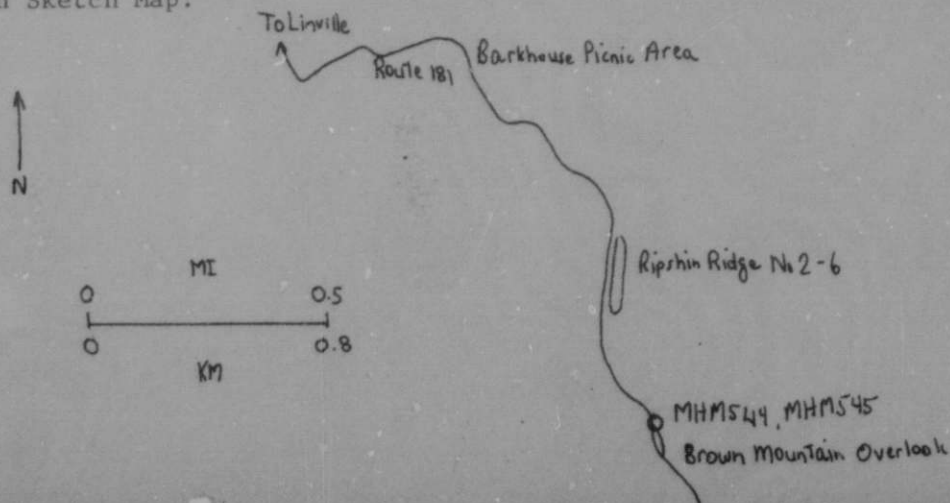
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 17 >Deposit Name A10 < Ripshin Ridge No. 7 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < East side of Rte. 181, 12.75 miles (20.5 km)  
south of Linville intersection with Rte. 221. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 2, 8, N > Longitude A30 < 0, 8, 1 | 4, 0 | 3, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2760 ft (840 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < In ditch 25 ft (8 m) north of entrance to Brown Moun-  
tain lookout, 1.1 miles (1.7 km) south of Barkhouse Park. >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 17

Commodities Present:

C10  U \_\_\_\_\_ ▶

Commodities Produced:

MAJOR  \_\_\_\_\_ ▶ COPROD  \_\_\_\_\_ ▶

MINOR  \_\_\_\_\_ ▶ BYPROD  \_\_\_\_\_ ▶

Potential Commodities:

POTEN  \_\_\_\_\_ ▶ OCCUR  \_\_\_\_\_ ▶

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ ▶ G7A  \_\_\_\_\_ ▶ G7B <LB> G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ ▶ E1A  \_\_\_\_\_ ▶ E1B <LB> E1C  \_\_\_\_\_ ▶ E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 17Deposit Form/Shape M10 < Lensoidal >

FT/M

Length M40 < 4 > M41 < m >

Size M15 (circle letter):

Width M50 < 1.5 > M51 < m >1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N60E >

C 200,000 - 2 million

Dip M80 &lt; \_\_\_\_\_ &gt;

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Phyllitic (schistose) foliation is N34E, 66SE at anomaly. >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < \_\_\_\_\_ >

Host Rock K1 < L P R E C | W | Weathered gray to rusty brown quartz-biotite-  
 (Age) (Rock type, texture, composition, color,  
 feldspar schist with anomalous layer of black biotite phyllite (or fine-  
 alteration, attitude, geometry, structure, etc.)  
 grained schist).

Host-Rock Environment U3 &lt; \_\_\_\_\_ &gt;

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Bleached phyllites and meta sedimentary rocks are located  
nearby to the NE, and a foliated conglomerate is found nearby to the S.

Ore Minerals C30 &lt; \_\_\_\_\_ &gt;

Gangue Minerals K4 < Quartz, biotite, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 17Alteration N75 < Rusty from pyrite weathering; biotite is greenish (chloritized?).Reductants U5 < Pyrite, biotite.Analytical Data (General) C43 < 770 ppm U308; 1000 ppm Ba; 300 ppm Y.Radiometric Data (General) U6 < BG = 70 cps; anomaly is 300-800 cps over 1.5 x 4 m  
(No. times background and dimensions)on surface, 2000 cps in shallow sample hole. Normal bedrock is 80-100 cps.Ore Controls K5 < Difficult to tell due to poor exposure, but some structural control  
may be inferred, with the pyrite and biotite acting as a reductant on meta-  
morphic solutions.Deposit Class C40 < Vein-type dissemination in meta- \* > Class No. U7 7 2 0Comments on Geology N85 < According to Bryant and Reed (1970) this site is within  
50 m of contact with basal (overlying) Grandfather Mountain Formation arkosic  
conglomerate. Wagener (1979) has reinterpreted the anomalous schist as re-  
crystallized Grandfather Mountain siltstone or arkose.

URANIUM-OCCURRENCE

Quad Name Charlotte

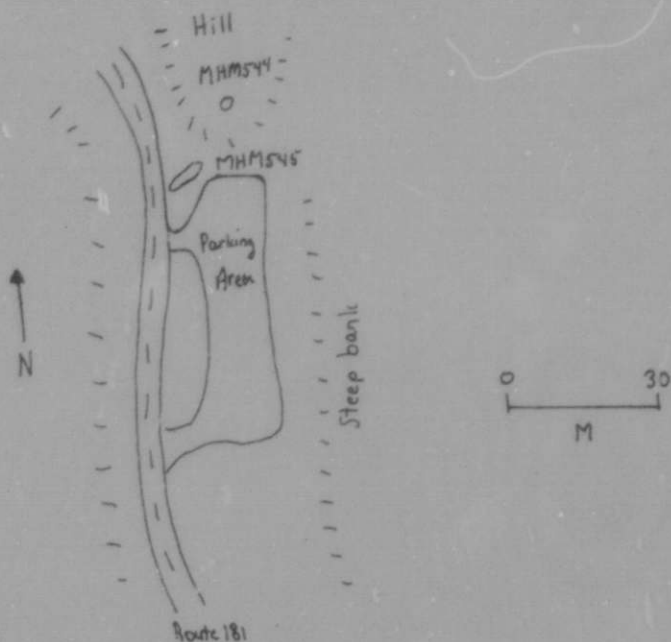
REPORT

Deposit No. 17

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 545	Chips from 10 x 20 x 30 cm hole	770 ppm U308
MHM 544	Chips from phyllitic schist on nearby hill	13 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 17

Continuation from p. 1-5:

Label

C40 < morphic rocks. >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 18 >Deposit Name A10 < Ripshin Ridge No. 8 >

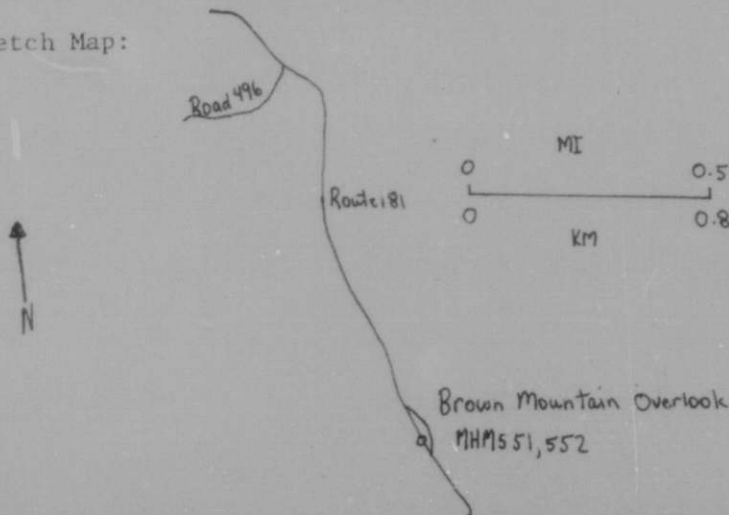
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > | U, S | State North CarolinaState Code A50 < 3, 7 > | 3, 7 | County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < East side Rte. 181, 12.8 miles (20.6 km)  
south of the Linville intersection with Rte. 221. >Field Checked G1 < 8, 0 | 10, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 2, 7, N > Longitude A80 < 0, 8, 1 | 4, 9 | 3, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/M

Meridian A81 &lt; \_\_\_\_\_ &gt; Altitude A107 &lt; \_\_\_\_\_ &gt;

Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < In ditch by Brown Mountain Lookout, 42 feet (13 m) north  
of southern end of guardrail (between entrances). >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 18Deposit Form/Shape M10 < Tabular, concordant. >Length M40 < over 0.5 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < over 0.5 > M51 < m > 1b U308Thickness M60 < over 0.5 > M61 < m > (A) 0 - 20,000Strike M70 < N65E > B 20,000 - 200,000Dip M80 < 49SE > C 200,000 - 2 millionD 2 million - 20 millionE More than 20 millionTectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Anomaly follows foliation. >Host-FM. Name U1 < Grandfather Mountain > Member U2 < Arkose >Host Rock K1 < L P R E C > 1/2 Fine-grained, brown-gray phyllitic meta-  
(Age) (Rock type, texture, composition, color,siltstone, interlaminated with arkosic and conglomeratic horizons 5-30 cm thick  
alteration, attitude, geometry, structure, etc.)near anomaly.Host-Rock Environment U3 < Low-grade (biotite) metamorphic clastics >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < A thick meta-conglomerate lens is present along strikeimmediately above (south) of the anomaly. For a detailed interpretation of  
rock relations at Deposits #10-19, see Wagener (1979). >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, feldspar, sericite, clays. >



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 18Alteration N75 < None observedReductants U5 < Minor graphite (?)

Analytical Data (General) C43 < 298 ppm U308; 1000 ppm Ba; 10 ppm Be;  
200 ppm La; 500 ppm Mn; 300 ppm Pb; 150 ppm V; 150 ppm Y; 700 ppm Zr.

Radiometric Data (General) U6 < Background = 60 cps; anomaly is 400 cps over  
(No. times background and dimensions)

0.5 x 0.5 m along foliation (bedding) - covered along strike. Adjacent barren  
siltstone is 100 cps.

Ore Controls K5 &lt; \_\_\_\_\_

Deposit Class C40 < Vein-type disseminations in metamorphic\* Class No. U7 < 7 2 0 >

Comments on Geology N85 < This anomaly is not unlike that in the siltstone of  
Ripshin Ridge #9.

## URANIUM-OCCURRENCE

Quad Name Charlotte

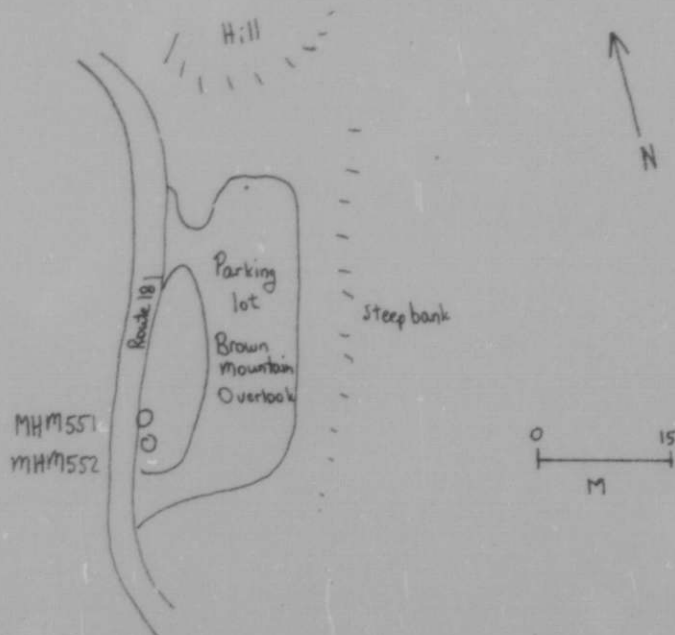
## REPORT

Deposit No. 18

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 551	Anomaly-chips of siltstone	298 ppm U308
MHM 552	Barren sample of siltstone	4 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 < Wagener, H.D., 1979, Petrology of the Wilson Creek Gneiss, Western North Carolina, and its relation to the Grandfather Mountain Formation, Cranberry \* >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 18

Continuation from p. 1-5:

Label

C40 < rock >

F1 < Gneiss, and Inner Piedmont: Chiasma Consultants, Inc., South Portland, ME,  
57 p. >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

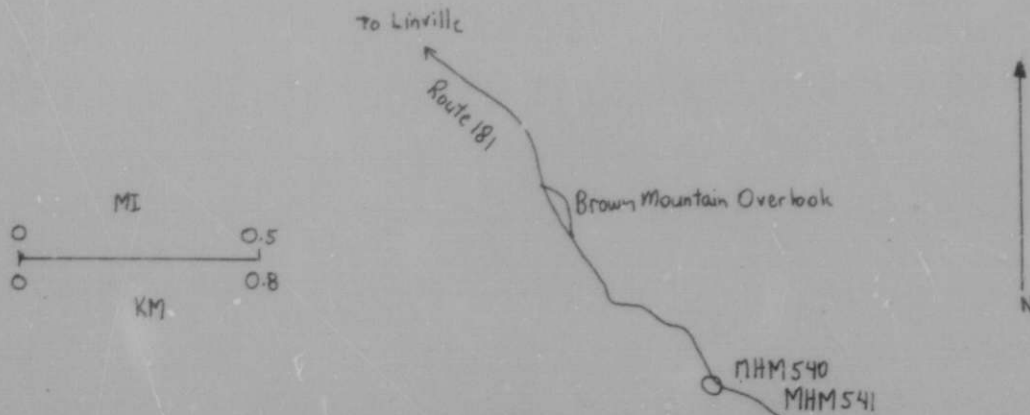
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 19 >Deposit Name A10 < Ripshin Ridge No. 9 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < West side of Rte. 181, 13.35 miles  
(21.5 km) south of Linville intersection with Rte. 221. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 1, 0 | N > Longitude A80 < 0, 8, 1 | 45, 0 | 11, 1 | W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2640 ft (805 m) >Quad Scale A91 < 2, 4, 0, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < Along base of roadcut near south end of bank, 0.60 miles  
(1.0 km) south of northern entrance to Brown Mountain Overlook. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 19

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 19Deposit Form/Shape M10 < Lenticular, concordant. >Length M40 < over 1 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.5 > M51 < m >

1b U308

Thickness M60 < 2 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < N30E >

C 200,000 - 2 million

Dip M80 < 44SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Adjacent to underlying Wilson Creek complex lithologies. >Local Structures N70 < Anomaly elongated along quartz vein, crosscuts cleavage of N20E, 26SE. >Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Meta-arkose >Host Rock K1 < L P R E C > Light green, foliated, highly weathered  
(Age) (Rock type, texture, composition, color,sandy meta-arkose with scattered gravel-sized quartz pebbles and thin, dark alteration, attitude, geometry, structure, etc.)phyllite (shale?) lenses.Host-Rock Environment U3 < Greenschist-facies metamorphism of terrigenous sediment >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Not far above (less than 200 m) the "contact" with more re-crystallized "Wilson Creek" metasediments (paragneiss). >Ore Minerals C30 < None observed >Gangue Minerals K4 < K-feldspar, quartz, sericite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 19Alteration N75 < None observed.Reductants U5 < Minor graphite and pyrite.Analytical Data (General) C43 < 6-14 ppm U308; 7% Al; 1500 Ba; 7% Fe; 0.7% TRadiometric Data (General) U6 < BG = 70 cps; Anomaly is 200-400 cps over  
(No. times background and dimensions)0.5 x 2 m; normal rock is 120 cps.Ore Controls K5 < U (or Th) is apparently disseminated along bedding foliations.  
The low U may indicate a resistate mineral concentration in sedimentary clastics  
(high Fe and Ba associated).Deposit Class C40 < Vein-type disseminations in metamorphic \*class No. U7 <7 2 0>

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 19

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 540	Chips along anomalous zone	14 ppm U308
MHM 541	Chips from barren rock	6 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 19

Continuation from p. 1-5:

Label

U1 < Formation.>

C40 < rock.>

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

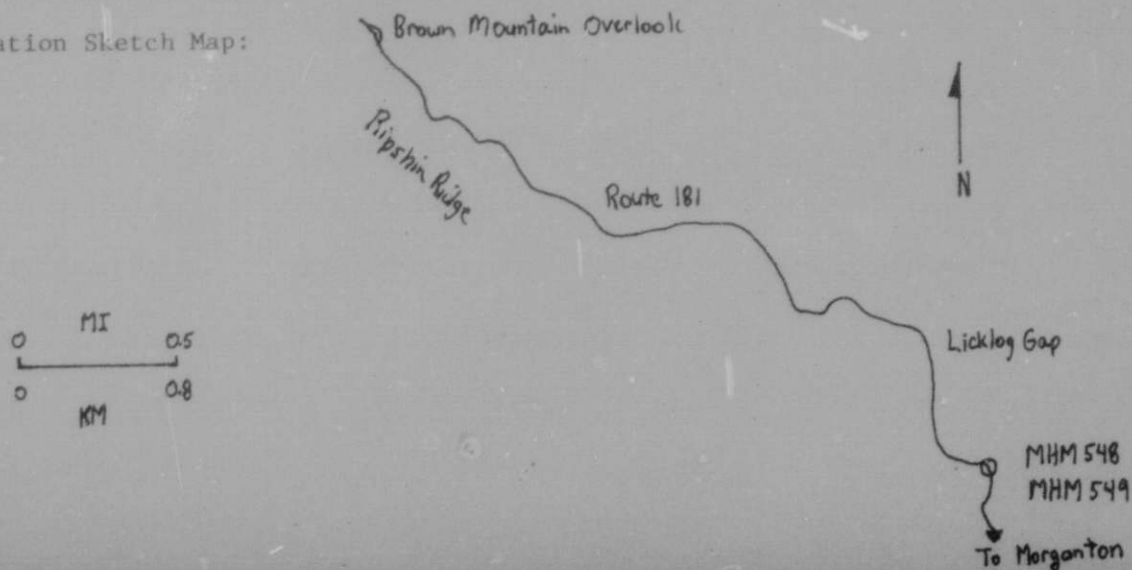
## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 20 >Deposit Name A10 < Licklog Gap >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < South of Linville on Rte. 181 past Brown Mountain Overlook >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 5 | 1, 2, N > Longitude A80 < 0, 8, 1 | 4, 9 | 1, 0, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2210 ft(674 m) >Quad Scale A91 < 2, 4, 0, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Northeast side of Rte. 181, in rusty outcrop about 50 m south of natural outcrops at northern end of cut. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 20

Commodities Present:

C10  \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < Roadcut \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
 G7  \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ > G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 20Deposit Form/Shape M10 < Lenticular >

FT/M

Length M40 < over 2 > M41 < m >

Size M15 (circle letter):

Width M50 < over 4 > M51 < m >1b U308Thickness M60 < over 3 > M61 < m >(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < N22E >

C 200,000 - 2 million

Dip M80 < 56SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Mylonite zones cutting Wilson Creek and Grandfather Mountain lithologies. >Local Structures N70 < Slickensided foliation planes and mylonitic shears are common in the local rocks. >Host-FM. Name U1 < Wilson Creek Complex > Member U2 < >Host Rock K1 < P R E C | W > Quartz-biotite-plagioclase granitoid rock.  
(Age) (Rock type, texture, composition, color,Rusty (pyritic) at anomaly. No discrete anomaly; rusty cleavages and joints alteration, attitude, geometry, structure, etc.)cut a coarse, chloritized granitoid rock.Host-Rock Environment U3 < Metamorphosed granitoid rock. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Gneisses, pegmatites, and schists. >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, plagioclase, microcline, biotite, pyrite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 20Alteration N75 < Rusty, chloritizedReductants U5 < PyriteAnalytical Data (General) C43 < MHM 548 25 ppm U308MHM 549 14 ppm U308Radiometric Data (General) U6 < 150-400 cps over entire outcrop (about 3 x 4 m);  
(No. times background and dimensions)BG = 80 cps.

Ore Controls K5 < The mechanism of concentration is unclear, but the rusty appearance of the rock suggests a reducing environment for mobile fluids (epigenetic). However, the granitoid rock may have been enriched in primary U-Th minerals at this site.

Deposit Class C40 < Unclear > Class No. U7     

Comments on Geology N85 < This rock or units like it are common in the Wilson Creek complex.

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 20

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 548	Chips of rusty rock at anomaly	25 ppm U308
MHM 549	Chips of less radioactive granitoid rock to the southeast.	14 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

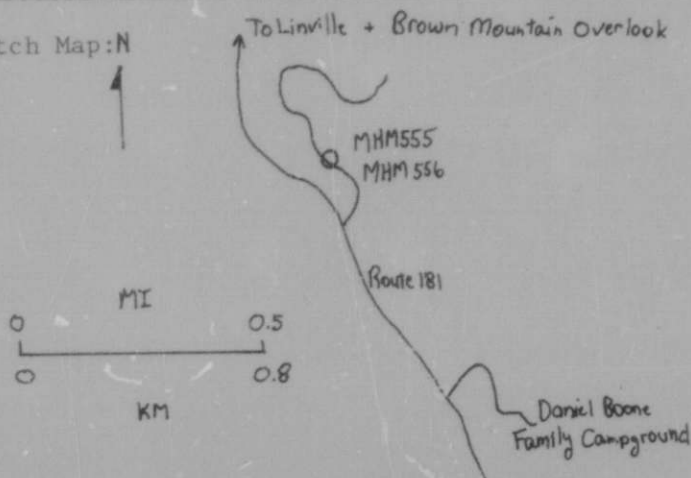
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 21 >Deposit Name A10 < Upper Creek No. 3 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 37 > < 37 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Off Route 181 approximately 9.5 km south  
of Brown Mountain Overlook >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 3 | 1, 5, N > Longitude A80 < 0, 8, 1 | 4, 8 | 0, 0, W >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1320 ft (402 m) >Quad Scale A91 <      | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Anomaly in road and ditch 0.20 miles (.32 km) east of  
Rte. 181, road turns off Rte. 181 5.9 miles (9.5 km) south of Brown Mountain \* >

Location Sketch Map: N



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 21

## Commodities Present:

C10  U

## Commodities Produced:

MAJOR  COPROD MINOR  BYPROD 

## Potential Commodities:

POTEN  OCCUR 

Commodity Comments C50 &lt; \_\_\_\_\_ &gt;

Status of Exploration and Development A20 < 1 >  
 (1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 &lt; \_\_\_\_\_ &gt;

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt; \_\_\_\_\_ &gt;

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
 G7  U  G7A  G7B  LB  G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 &lt; \_\_\_\_\_ &gt;

Production Comments D10 &lt; \_\_\_\_\_ &gt;

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U  E1A  E1B  LB  E1C  E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 &lt; \_\_\_\_\_ &gt;

Comments E8 &lt; \_\_\_\_\_ &gt;



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 21Deposit Form/Shape M10 < Tabular >Length M40 < over 4 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.44 > M51 < m >

1b U308

Thickness M60 < over 1 > M61 < m >

(A) 0 - 20,000

Strike M70 < N15E >

B 20,000 - 200,000

Dip M80 < 62SE >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Gneissic country-rock foliation same as in anomalous dike. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Gneiss >Host Rock K1 < P, R, E, C > Saprolitic, white, medium-grained pegmatite,  
(Age) (Rock type, texture, composition, color,  
dark mineral residuum scattered in kaolinite (after feldspar); concordant with  
alteration, attitude, geometry, structure, etc.)

foliation.

Host-Rock Environment U3 < Medium-high grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Country-rock is a weathered biotite - amphibole gneiss >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, feldspar, iron oxide. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 21Alteration N75 < None observedReductants U5 < None observedAnalytical Data (General) C43 < 248 ppm U308; 300 ppm La; 300 ppm Pb; 300 ppm Y.

Radiometric Data (General) U6 < 1000-6000 cps over 0.44 x 4 m on traced dike;  
 (No. times background and dimensions)  
gneiss = 60 cps; Background = 60 cps.

Ore Controls K5 < Many occurrences in the Wilson Creek gneiss are associated  
with pegmatites, but this one is unusual in that the pegmatite itself is anomalous  
rather than the country-rock.

Deposit Class C40 < Pegmatitic > Class No. U7 < 31210 >

Comments on Geology N85 < Perhaps this dike is a member of the Spruce Pine  
pegmatites, which are known to contain U minerals.

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 21

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 555	Chips across dike (saprolite)	248 ppm U308
MHM 556	Barren country-rock gneiss	< 1 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 21

Continuation from p. 1-5:

Label

A83 < Overlook.>

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

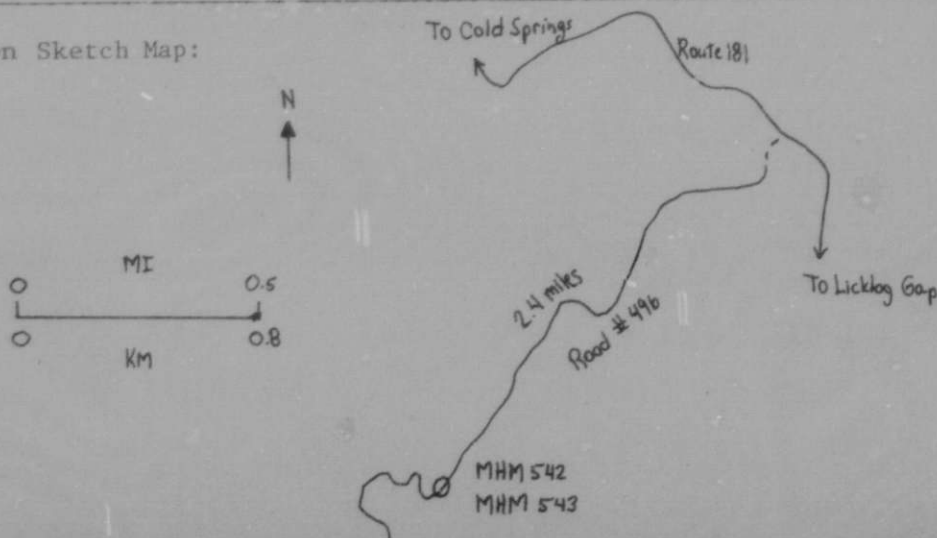
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 22 >Deposit Name A10 < Road 496, No. 1 Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Unmapped road west of Rte. 181, 0.9 miles  
(1.5 km) southwest of Ripshin Ridge (or about 3.25 miles (5.25 km) southwest of  
summit of Chestnut Mountain). >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone \_\_\_\_\_, J. Gregory \_\_\_\_\_ >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 2, 9, N > Longitude A80 < 0, 8, 1 | 5, 1 | 3, 5, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2560 ft(780 m) >Quad Scale A91 < \_\_\_\_\_ | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | \_\_\_\_\_ > Appalachian Highlands >  
(List K)Location Comments A83 < West side Road 496, 2.4 miles (3.9 km) southwest of  
Rte. 181, northern end of bank before curve. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 22Alteration N75 < Sulfide-stains (iron oxides)Reductants U5 < Pyrite, minor graphiteAnalytical Data (General) C43 < Mhm 542:428 ppm U308 MHM 543:22 ppm U308Radiometric Data (General) U6 < Background = 100 cps; anomaly is 1000-2000 cps  
(No. times background and dimensions)along exposure 0.3 x 2 x 2 m; up to 400 cps along foliation for 4 m to south.Ore Controls K5 < Dissemination of U along foliation planes, adjacent to sulfide  
reducing horizon.Deposit Class C40 < Vein-type dissemination in metamorphic\* Class No. U7 7 2 0Comments on Geology N85 < Rocks more similar to Grandfather Mountain Formation  
than "normal" Wilson Creek complex.



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 22

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 542	Chip-channel, 1 m along foliation	428 ppm U308
MHM 543	Chips of barren rock 15 m to the SW	22 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 22

Continuation from p. 1-5:

Label

C40 &lt; rock. &gt;

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

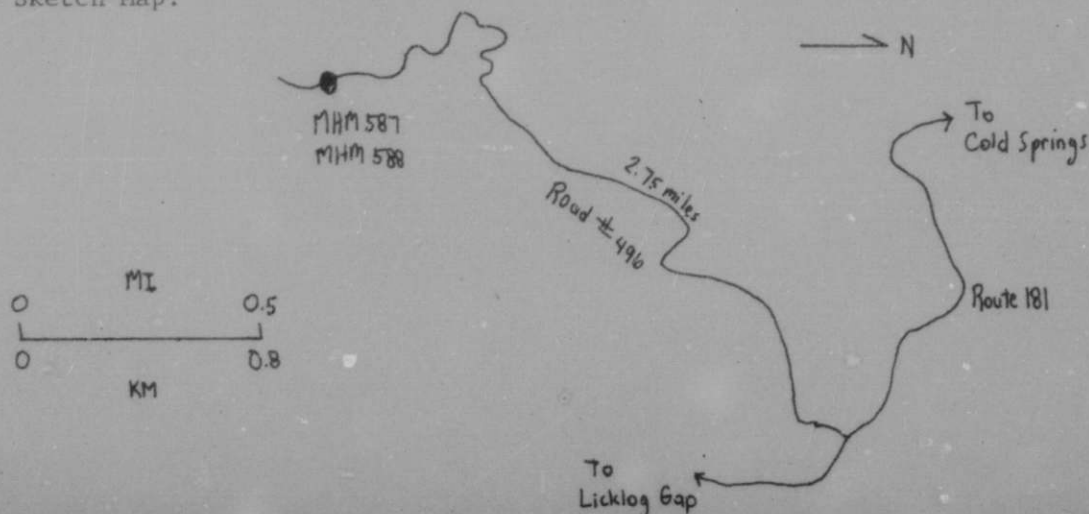
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 23 >Deposit Name A10 < Road 496, No. 2 Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Unmapped road southwest of Rte. 181, about  
1.2 miles (1.9 km) southwest of Ripshin Ridge (or 3.5 miles (5.6 km) southwest  
of summit of Chestnut Mountain). >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 1, 2, N > Longitude A80 < 0, 8, 1 | 5, 1 | 3, 9, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2600 ft (793 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < West side of Road 496, 2.75 miles (4.4 km) from Rte. 181,  
anomaly occupies much of 30 m bank and ditch. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 23

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
C7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 23

Deposit Form/Shape M10 < Massive body >

Length M40 < over 3 > M41 < m > FT/M  
Size M15 (circle letter):

Width M50 < 30 > M51 < m > 1b U308

Thickness M60 < over 6 > M61 < m > (A) 0 - 20,000

Strike M70 < N31E > B 20,000 - 200,000

Dip M80 < 26SE > C 200,000 - 2 million

Tectonic Setting N15 < Mobile belt > D 2 million - 20 million

Major Regional Structures N5 < \_\_\_\_\_ >

Local Structures N70 < Foliation given above. >

Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Gneiss >

Host Rock K1 < P.R.E.C. > (Age) (Rock type, texture, composition, color,

microcline gneiss, medium to fine grained (low grade?). Possibly a paragneiss.  
alteration, attitude, geometry, structure, etc.)

Host-Rock Environment U3 < Medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < Coarse-grained, white orthogneiss is apparently infolded  
or interlayered with the blue-gray gneiss at the northern end of the bank. >

Ore Minerals C30 < Not recognized. >

Gangue Minerals K4 < Quartz, chloritized biotite, microcline. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 23Alteration N75 < None observedReductants U5 < Minor graphite

Analytical Data (General) C43 < MHM 587: 16 ppm U308; 300 ppm La; 200 ppm Mn;  
200 ppm Sr; 300 ppm Zr. MHM 588: 300 ppm Mn; 150 ppm Pb; 9 ppm U308.

Radiometric Data (General) U6 < Background = 60 cps off road. Anomalous gneiss  
(No. times background and dimensions)  
is 200-260 cps over 30 m along ditch, 6 m up bank.

Ore Controls K5 < This low-grade occurrence is massive; that is, it is relatively  
uniform over the bedrock and saprolite. Possibly a syngenetic occurrence (U  
and Th in zircon, etc.). However, its association with tabular, vein-like  
anomalies nearby may indicate disseminated U introduced during metamorphism.

Deposit Class C40 < Vein-type dissemination metamorphic \* > Class No. U7 < 7,2,0 >

Comments on Geology N85 < Coarse-grained orthogneiss is associated with this  
anomaly, in like manner to pegmatite-schist anomalies elsewhere in the Wilson  
Creek Complex.

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 23

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 587	Chips of anomalous bedrock in ditch	16 ppm U308
MHM 588	Chips of barren gneiss on N end of bank	9 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 23

Continuation from p. 1-5:

Label

C40 < rock. >

Lined area for report content.



## URANIUM-OCCURRENCE

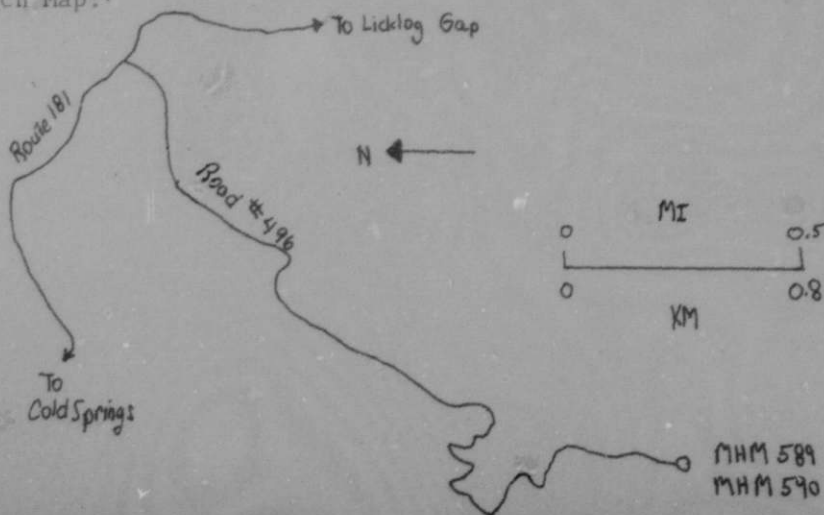
## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1 2 5 0 0 0 0 0 >Deposit No. B40 < 24 >Deposit Name A10 < Road 496, No. 3 Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U S > State North CarolinaState Code A50 < 3 7 > County A60 < Burke >  
(Enter code twice from List D)Position from Prominent Locality A82 < Unmapped road off Rte. 181, about 1.2 miles (1.9 km) southwest of Ripshin Ridge, or about 3.5 miles (5.6 km) southwest of summit of Chestnut Mountain. >Field Checked G1 < 8 0 | 0 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3 5 | 5 6 | 0 4 > Longitude A80 < 0 8 1 | 1 5 1 | 4 0 >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/WMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2640 ft(805 m) >Quad Scale A91 <     2 4 0 0 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0 2 |      > Appalachian Highlands >  
(List K)Location Comments A83 < North side of Road 496, 2.40 miles (3.9 km) south of Rte. 181, in ditch near center of bank cut. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 24Deposit Form/Shape M10 < Tabular, concordant. >Length M40 < over 1 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.8 > M51 < m > 1b U308Thickness M60 < over 3 > M61 < m > A 0 - 20,000Strike M70 < N48E > B 20,000 - 200,000Dip M80 < 67SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile Belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Only foliation is recognizable, concordant with anomaly. >Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Schist. >Host Rock K1 < L P R E C > 10 Fine-grained, finely layered gray-green  
(Age) (Rock type, texture, composition, color,granular biotite schist; interlayered with quartz-feldspar lenses, graphite-  
alteration, attitude, geometry, structure, etc.)feldspar rich schists, and sheared, white pegmatite (?).Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Brick-red clay and highly-weathered felsic rocks, usuallygraphite-rich, are abundant along the bank and ditch.Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Quartz, microcline, chloritized biotite. >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 24

Alteration N75 < None observed >

Reductants U5 < Graphite, sulfides >

Analytical Data (General) C43 < MHM 589: 839 ppm U308; 200 ppm Cr; 150 ppm La; 150 ppm Mo; 700 ppm Pb. >

Radiometric Data (General) U6 < Background = 60 cps well away from exposure; rock (No. times background and dimensions) and saprolite is about 200 cps, rising to 800 cps at narrow anomalies (0.5 - 1m) running up bank. >

Ore Controls K5 < The anomalies follow parallel foliation and lithic contrasts, with abundant reductants (both graphite and pyrite) nearby. Apparently U was precipitated from solutions moving along the foliation. >

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 720

Comments on Geology N85 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

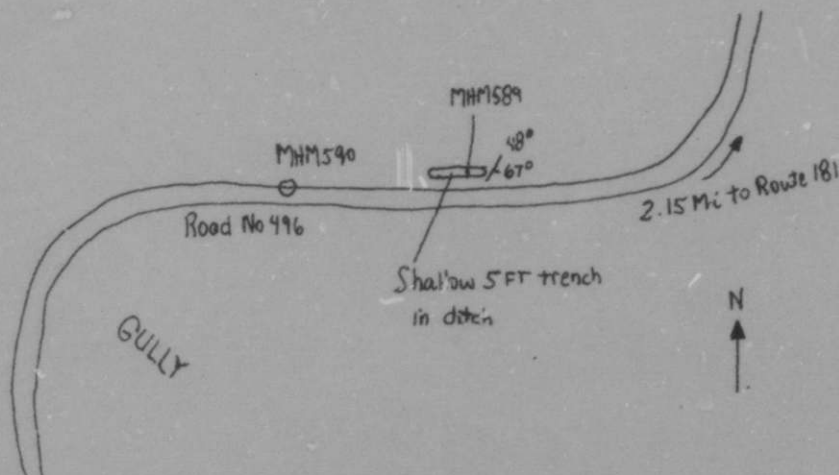
REPORT

Deposit No. 24

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 589	Chips across 0.8 m width of anomaly	834 ppm U308
MHM 590	Chips of schist at west end of bank	4 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 25 >Deposit Name A10 < Steels Creek Anomaly >

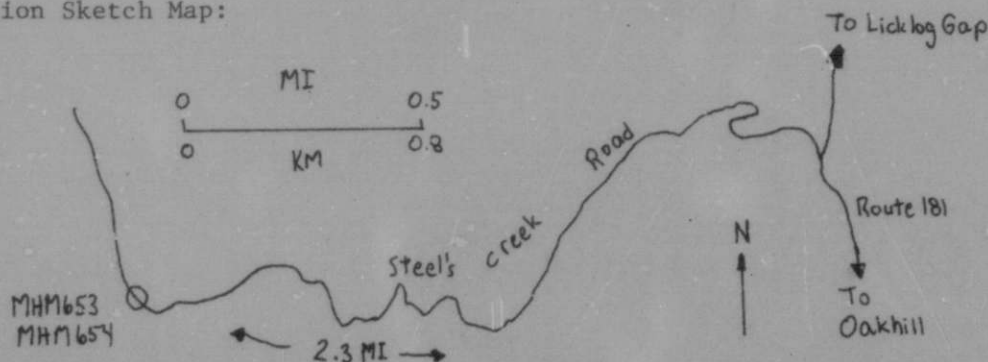
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3 7 > County A60 < Burke >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 2.5 miles (4 km) east of TableRock Mountain, or 0.9 miles (1.45 km) NE of Bandy Cove Mountain.Field Checked G1 < 8, 0 | 0, 7 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 4 | 1, 4, N > Longitude A80 < 0, 8, 1 | 5, 0 | 0, 3, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1410 ft(430 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < North roadbank of Steels Creek Road, 2.30 miles (3.7 km)west of Rte. 181, in ditch and bank.

Location Sketch Map:









## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 25Alteration N75 < None observed

Reductants U5 &lt;

Analytical Data (General) C43 < MHM 653: 154 ppm U308 MHM 654: 17 ppm U308Radiometric Data (General) U6 < 300-450 cps over 2 x 2.5 m of surface; background  
(No. times background and dimensions)  
is 80 cps.Ore Controls K5 < Uranium may have moved into the biotite schist in small  
amounts from the nearby meta-igneous rocks.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 7,2,10Comments on Geology N85 < Similar to many other Wilson Creek anomalies:

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 25

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 653	Anomalous saprolite along 1.5 m ditch	154 ppm U308
MHM 654	Barren orthogneiss to east	17 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Charlotte >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 26 >Deposit Name A10 < Road 210 Anomaly >

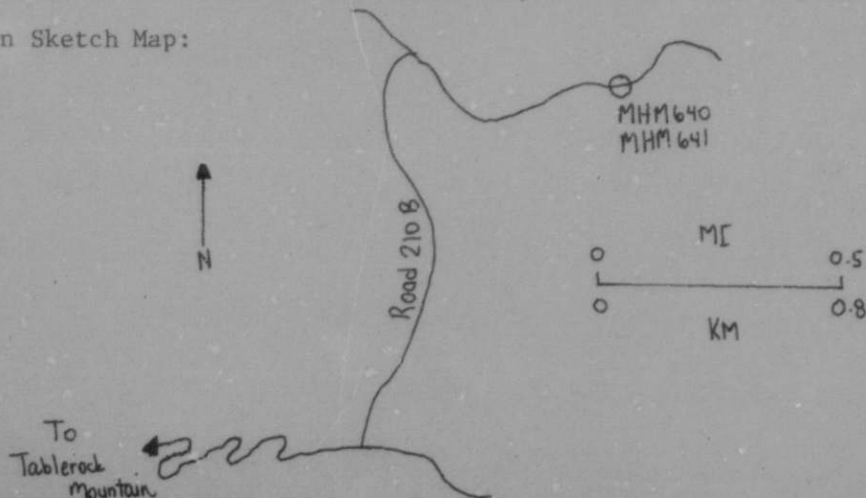
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 1.3 miles (2.0 km) due east ofTable Rock Mountain. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 3 | 4, 5, N > Longitude A80 < 0, 8, 1 | 5, 1 | 5, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2280 ft (695 m) >Quad Scale A91 <     |     |     |     |     |     > Quad Name A92 < Chestnut Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On Road 210 at red tag at turn on south bank of road,  
3.75 miles (6.0 km) south of Rte. 181, 0.45 miles (.72 km) South of Road 210. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 26

Commodities Present:

C10  \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)  
DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A  \_\_\_\_\_ G7B  LB G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A  \_\_\_\_\_ E1B  LB E1C  \_\_\_\_\_ E1D < \_\_\_\_\_ > % U308

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 26Deposit Form/Shape M10 < Tabular >Length M40 < over 3 > M41 < FT/M > Size M15 (circle letter):Width M50 < over 1 > M51 < m > 1b U308Thickness M60 < over 1.5 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Strike M70 < N40E >Dip M80 < 10SE >Tectonic Setting N15 < Mobilé Belt. >Major Regional Structures N5 < Near contacts (thrusts?) with overlying  
Chilhowee formation. >

Local Structures N70 &lt; \_\_\_\_\_ &gt;

Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Schist >Host Rock K1 < P, R, E, C > W Saprolite of brown, micaceous schistose rock,  
(Age) (Rock type, texture, composition, color,near contact with coarse orthogneiss or pegmatite.  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < The pegmatite is coarse, white quartz-microcline (?) - rich  
rock apparently grades into adjacent coarse leuco-gneiss. >Ore Minerals C30 < Not observed. >Gangue Minerals K4 < Quartz, biotite >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 26Alteration N75 < None observedReductants U5 < Minor sulfidesAnalytical Data (General) C43 < 227 ppm U308, 150 ppm V

Radiometric Data (General) U6 < 300-550 cps over 3 m x 1.5 m on surface at  
(No. times background and dimensions)  
anomaly, 150-250 cps elsewhere. Pegmatite is 150 cps. Background is 70 cps.

Ore Controls K5 < Black bands are prominent in the saprolite-schist, and  
probably contain much of the uranium.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 720 >Comments on Geology N85 < This is typical of many Wilson Creek anomalies.

URANIUM-OCCURRENCE

Quad Name Charlotte

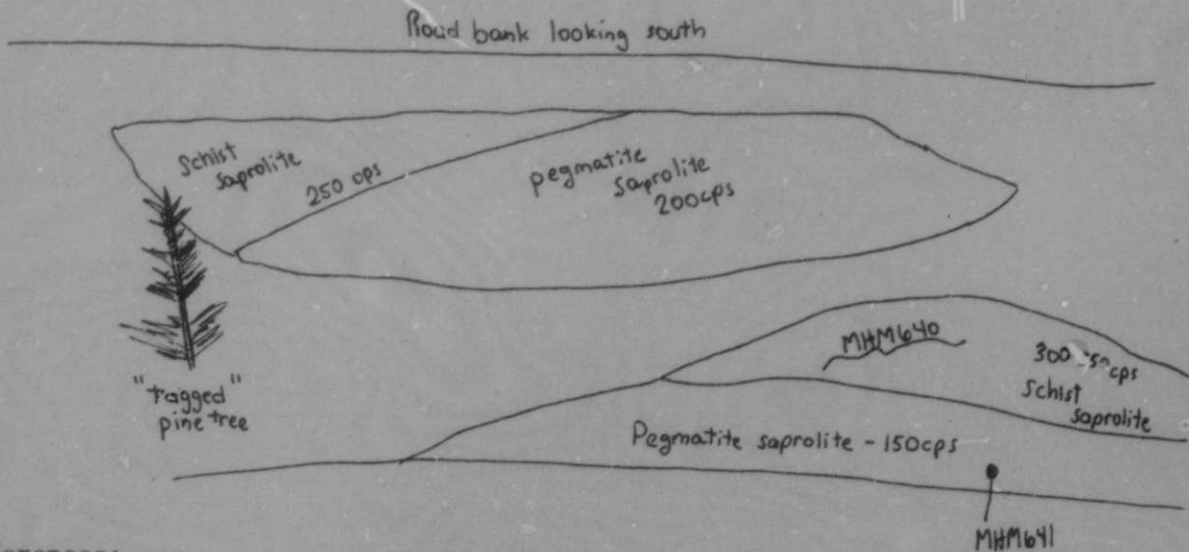
REPORT

Deposit No. 26

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 640	Anomalous saprolite-schist	227 ppm U308
MHM 641	Low-grade saprolite-pegmatite	50 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 27 >Deposit Name A10 < Roses Creek Prospect >

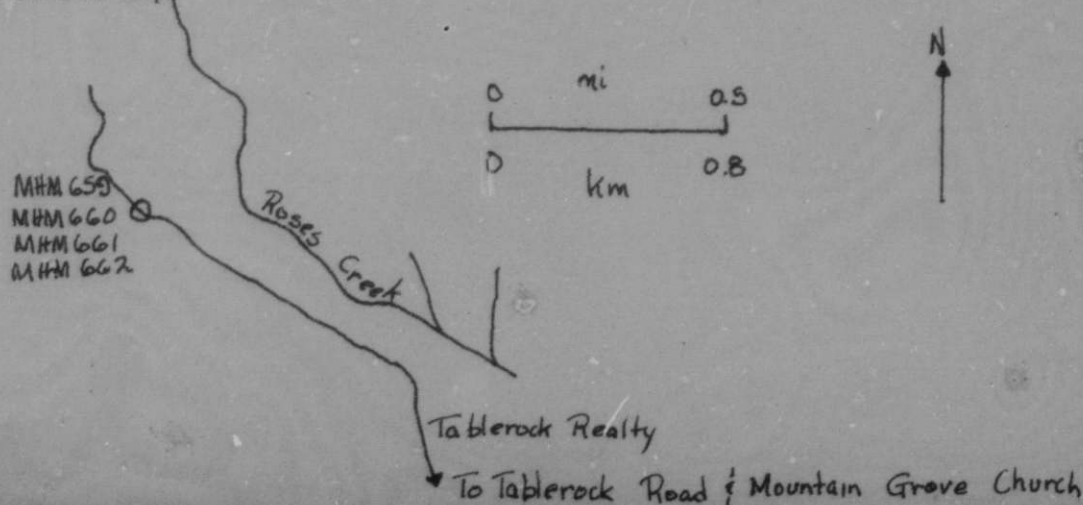
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Burke >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 3.1 miles (5 km) southeast of Table-  
rock Mountain, or 2.9 miles (4.7 km) due west of Optimist Park. >Field Checked G1 < 8, 0 | 10, 7 > By G2 < Bruton and McHone , K.A. and J.G. >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 1 | 4, 8, N > Longitude A80 < 0, 8, 1 | 5, 0 | 3, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1560 ft (476 km) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Oak Hill >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < From Tablerock community (northeast of Lake James)  
proceed northwest past Mountain Grove Church, bearing right (north) onto NC 1261\* >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 27Deposit Form/Shape M10 < Tabular >  
FT/MLength M40 < over 100 > M41 < m >

Size M15 (circle letter):

Width M50 < 3-5 > M51 < m >1b U308Thickness M60 < over 4 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N33E >

Ⓑ 20,000 - 200,000

Dip M80 < 64SE >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile Belt. >Major Regional Structures N5 < Shear zones (mylonite) trend NE in the area. >Local Structures N70 < Gneissic and schistose foliations in the area are EW to NE - trending and dip southward. >Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Schist and gneiss >Host Rock K1 < P, R, E, C | W > Sheared biotite-rich quartz-microcline  
(Age) (Rock type, texture, composition, color,  
orthogneiss, and lenses of granular to phyllitic biotite schist. The saprolite alteration, attitude, geometry, structure, etc.)zone is relatively thick (over 5 m).Host-Rock Environment U3 < Biotite-grade cataclastic (?) metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Boulders of sugary to gneissic mylonite appear to the north. >The orthogneiss has lenses and stringers of medium-grained pegmatite.Ore Minerals C30 < Minor autunite and torbernite observed; principal source of high radioactivity not identified. >Gangue Minerals K4 < Quartz, biotite, feldspars, muscovite. >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 27

Alteration N75 < Silicified along veins that crosscut the foliation. The veins are black but generally no more anomalous than adjacent material.

Reductants U5 < Biotite (and sulfides(?)).

Analytical Data (General) C43 < MHM 659: 132 ppm U308    MHM 662: 620 ppm U308; 1000 ppm La; 300 ppm Pb; 1000 ppm Y.

Radiometric Data (General) U6 < 1500-8000 cps over biotite-rich lenses (5 m x 100 m) 110 cps in saprolitic orthogneiss and schist. Background is over 100 within 10 m of anomaly, 60 cps elsewhere.

Ore Controls K5 < \_\_\_\_\_

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 <      >

Comments on Geology N85 < This is a spectacular and most revealing occurrence (due to the trenching), surpassing even the Harper Creek Occurrence. Why has it been recently ignored? NOTE: The very low chemical U values relative to surface radioactivity here and at occurrence 28 may indicate enrichment in Th.

URANIUM-OCCURRENCE

Quad Name Charlotte

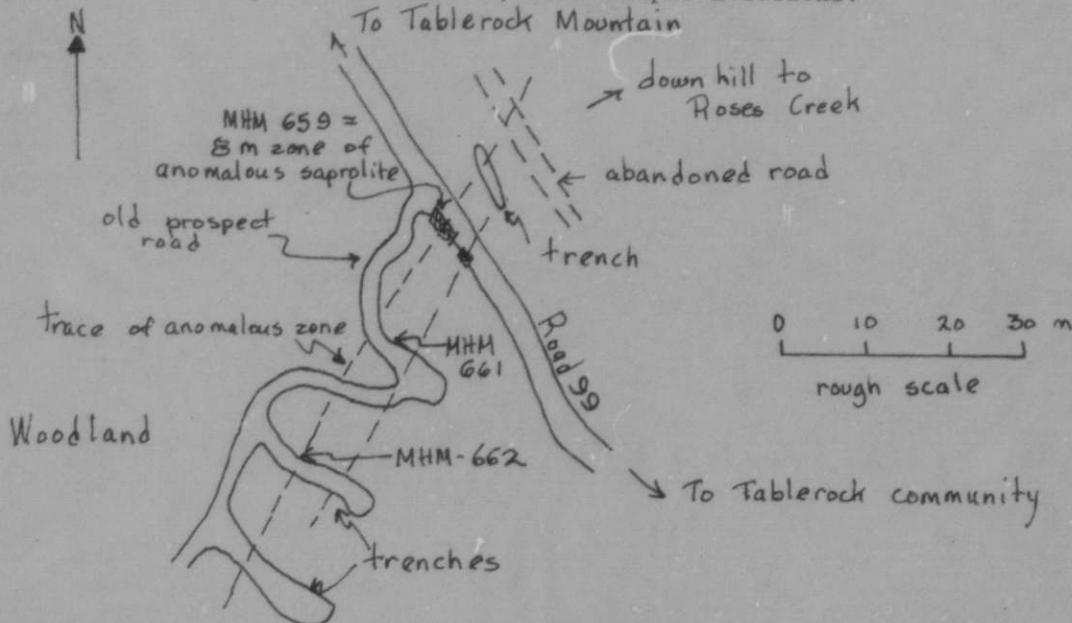
REPORT

Deposit No. 27

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 659	Channel along biotite-rich saprolite roadbed anomaly in	130 ppm U308
MHM 660	Barren orthogneiss (bedrock)	7 ppm U308
MHM 661	Barren phyllite lens in orthogneiss	2 ppm U308
MHM 662	Chips across 20 cm of biotite-rich lens	620 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References: ~~ORR~~ MHM-660

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 27

Continuation from p. 1-5:

Label

A83 < (National Forest Road 99). Continue on this road for 2.60 miles (4.2 km). Anomaly crosses through the roadbanks, and is trenched off the road to the southwest.

NOTES by H.D. Wagener, 7/30/79:

In first trench SW of road, dike of pegmatite-aplite in sheared Brown Mountain Granite and phyllite observed by scraping of cut bank. Saprolite of pegmatite-aplite has SR 1000-2000 in section 7 m long roughly normal to strike. No biotite schist in this bank. Highly anomalous biotite schist does occur in roadcut saprolite, however.

Relations in deeper trench to SW (site of MHM 662) are:

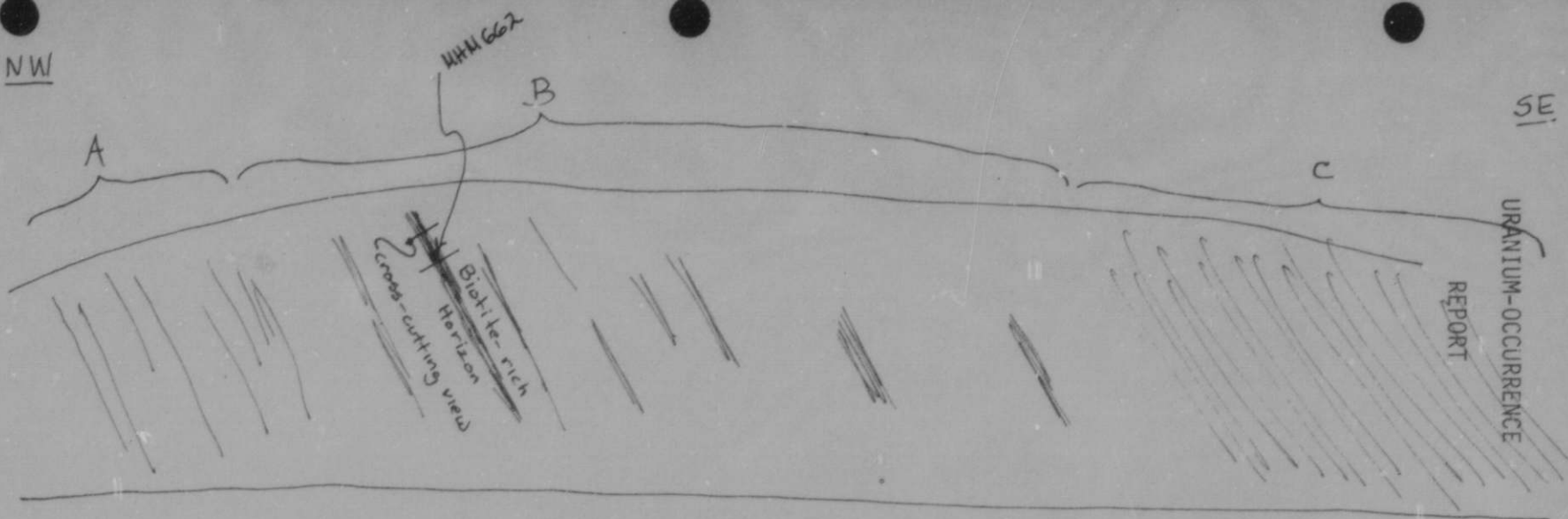
Saprolite is principally that of a medium- to fine-grained biotite granite or biotite meta-arkose. The rock is strongly foliated, but not necessarily sheared. Biotite content varies in zones parallel to foliation: biotite flakes or books are 1-3 mm across, unusually large for this region. Some biotite-rich zones may be granoblastic. Metasomatic enrichment of the rock in biotite may be a factor here. Little pegmatite occurs here, and none occurs adjacent to the largest anomaly. The mesoscopic "pitchblende veins" described by McHone are not more radioactive than adjacent rock. The veins (whatever they were composed of) fill late extension fractures.

Radioactivity varies directly with biotite content. Leucosomes in the saprolite have the lowest SR. At point of maximum SR, in a biotite-rich lens, occurs a pod of microcrystalline gray silica (jasperoid); this material has tensile fractures less than 1 mm thick, filled with a black mineral.

See sketch on page 7.

NW

SE



- A. Phyllite and meta-arenite, unequivocal.
- B. Anomalous zone; zone of metasomatism.
- C. Homogeneous saprolite of strongly foliated biotite granite (Brown Mountain Gr?)

This schematic cross-section serves to emphasize that these anomalies occur within a zone of metasomatism at the margin of a body of granite. It is not clear whether the phyllites and meta-arenites were intruded by the granite, or unconformably overly it, overturned. Inclusions of slabs of phyllite in zone B are suggestive of an intrusive relation.

Quad Name Charlotte  
Deposit No. 27

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 28 >Deposit Name A10 < Roses Creek No. 1 >

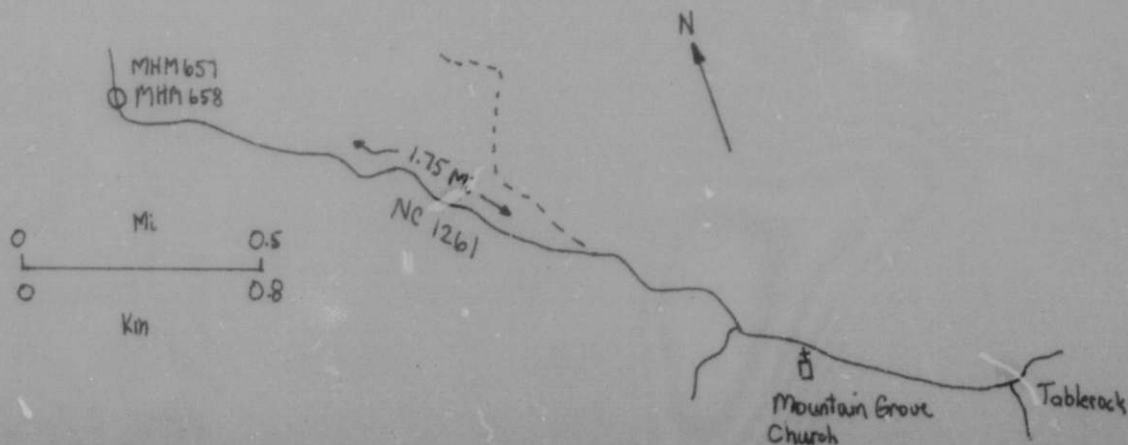
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Burke >Position from Prominent Locality A82 < From the community of Table Rock proceed west past Mountain Grove Church and take NC 1261 (National Forest Road 99) 1.75 miles (2.8 km). >Field Checked G1 < 8, 0 | 0, 7 > By G2 < Bruton and McHone , K.A. and J.G. >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 1 | 2, 5, N > Longitude A80 < 0, 8, 1 | 4, 9 | 5, 8, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 1610 ft(491 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Oak Hill >Physiographic Province A63 < 0, 2 | Appalachian Highland >  
(List K)Location Comments A83 < Anomaly is in roadcut on northside of road just west of driveway to realtor for Tablerock Heights. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 28

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
 G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 28Deposit Form/Shape M10 < Lenticular, concordant >Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < 1 > M51 < m >1b U302Thickness M60 < over 2.5 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N88W >

C 200,000 - 2 million

Dip M80 < 42S >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile Belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < E-W trending schistose foliation >Host-FM. Name U1 < Wilson Creek > Member U2 < Biotite schist >Host Rock K1 < P, R, E, C > Weathered (saprock) medium-grained muscovite-  
(Age) (Rock type, texture, composition, color,biotite schist, with scattered quartz-muscovite pods and veins.  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Biotite-zone greenschist facies. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < Local rocks are more biotite schist with pods of quartz. >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, biotite, muscovite (?), feldspar >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 28Alteration N75 < None observed

Reductants U5 &lt; \_\_\_\_\_

Analytical Data (General) C43 < 124 ppm U308Radiometric Data (General) U6 < 300-450 cps over 1 x 2.5 m exposure of anomaly  
(No. times background and dimensions)in roadcut. Normal schist is 90 cps; background is 60 cps.Ore Controls K5 < Disseminated U from solutions along foliation planes.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 720 >Comments on Geology N85 < A much larger anomaly (over 6000 cps) has been reported  
for this locality, but was not found. There are several "background jumps" north  
of this anomaly but no bedrock found has surface radioactivity in excess of 250 cps.

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 28

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 657	Chips along 2 m of anomaly	124 ppm U308
MHM 658	Chips of 90 cps schist to north	3 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte

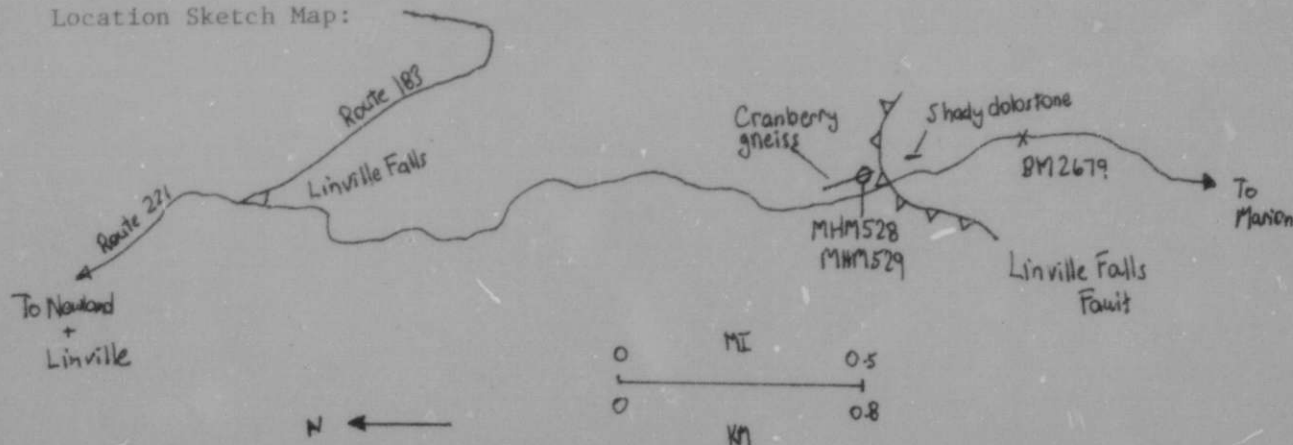
## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0Deposit No. B40 < 29Deposit Name A10 < Linville Falls Occurrence

Synonym Name(s) All &lt; \_\_\_\_\_

District or Area A30 < Grandfather Mountain RegionCountry A40 < U, SState North CarolinaState Code A50 < 3, 7 3 7  
(Enter code twice from List D)County A60 < McDowellPosition from Prominent Locality A82 < East side Rte. 221, 2.5 km south of  
intersection with Rte. 183 at Linville Falls.Field Checked G1 < 8, 0 | 0, 4 By G2 < McHone , J. Gregory  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 5, 6 | 2, 6, N Longitude A80 < 0, 8, 1 | 5, 6 | 2, 5, W  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ Range A78 < \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ Section A79 < \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 850 mQuad Scale A91 < 2, 4, 0, 0, 0, 0  
(7½' or 15' quad)Quad Name A92 < Linville FallsPhysiographic Province A63 < 0, 2 | Appalachian Uplands  
(List K)Location Comments A83 < In roadcut 5 m from southern end of exposure, about  
1.3 m above ditch.

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 29

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B < LB > G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B < LB > E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 29Deposit Form/Shape M10 < Discontinuous, lenticular >Length M40 < 30 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.5 > M51 < m >1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N20W >

C 200,000 - 2 million

Dip M80 < 15NE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >Major Regional Structures N5 < Adjacent to Linville Falls thrust fault (on upper plate), with Cambrian Shady dolostone of the Tablerock plate underlying the gneiss. >Local Structures N70 < Anomaly oriented along gneissic foliation. A small fault (?) disturbs the foliation above the anomaly; fault strikes due N, dips 30° W. >Host-FM. Name U1 < Cranberry Gneiss > Member U2 < \_\_\_\_\_ >Host Rock K1 < P, R, E, C > Coarse-grained purplish brown quartz-biotite-  
(Age) (Rock type, texture, composition, color,  
muscovite-microcline gneiss; microcline is lenticular (augens?), possibly a  
alteration, attitude, geometry, structure, etc.)cataclastic texture. Many foliation planes have purple-black Mn oxide coatings  
due to weathering. >Host-Rock Environment U3 < Medium-grade (garnet-stauroilite) metamorphic. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < The Cranberry Gneiss contains migmatites, amphibolites,  
meta-granites, and meta-sedimentary units like those in the Wilson Creek complex. >Ore Minerals C30 < Possibly zircon or allanite >Gangue Minerals K4 < Biotite, quartz, microcline, muscovite. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 29Alteration N75 < None observedReductants U5 < Minor sulfides (?)Analytical Data (General) C43 < 34 ppm U308, 700 ppm La

Radiometric Data (General) U6 < BG = 50 cps; anomaly is 200-400 cps over 0.5 x  
(No. times background and dimensions)  
30 m, 400-950 cps over 0.5 x 2 m area; normal rock is 80-110 cps.

Ore Controls K5 < Not clear if radioactivity is secondary, but mineralization  
may have been controlled by the movement of solutions along foliation in the  
presence of reductants like pyrite and graphite.

Deposit Class C40 < Metamorphic vein-type > Class No. U7 < 7,2,0 >

Comments on Geology N85 < The westernmost of the Grandfather Mountain Region  
anomalies, possibly related to the Linville Falls fault.

URANIUM-OCCURRENCE

Quad Name Charlotte

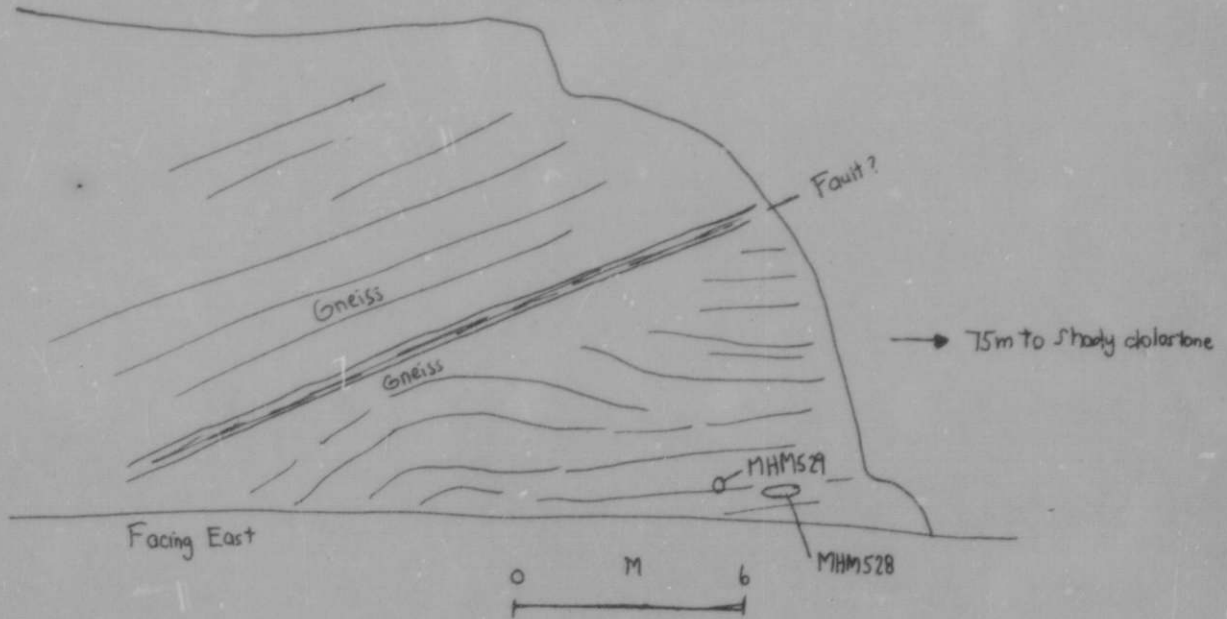
REPORT

Deposit No. 29

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 528	Chips across anomaly	34 ppm U308
MHM 529	Barren rock adjacent to 528	1 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name A90 < Charlotte >

## REPORT

Quad Scale A100 < 1 2 5 0 0 0 0 >Deposit No. B40 < 30 >Deposit Name A10 < Table Rock Mountain anomaly >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

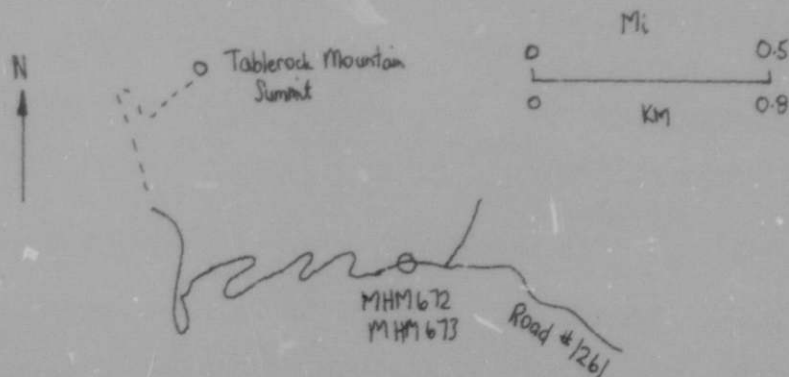
District or Area A30 < Grandfather Mountain Region >Country A40 < U S >State North CarolinaState Code A50 < 3 7 > 3 7  
(Enter code twice from List D)County A60 < Burke >Position from Prominent Locality A82 < From the community of Table Rock (North-Central rectangle of Oak Hill Quad) proceed west past Mountain Grove Church and take NC 1261 (National Forest Road 99) to intersection with National Forest \* >Field Checked G1 < 8 0 | 0 6 > By G2 < McHone & Bruton , J.G. and K.A. >  
Yr Mo Last name First InitialLatitude A70 < 3 5 | 5 3 | 1 5 N >  
Deg Min SecLongitude A80 < 0 8 1 | 5 2 | 3 2 W >  
Deg Min SecTownship A77 < \_\_\_\_\_ >  
N/SRange A78 < \_\_\_\_\_ >  
E/W

Section A79 &lt; \_\_\_\_\_ &gt;

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2635 ft (804 m) >Quad Scale A91 < 2 4 0 0 0 >  
(7½' or 15' quad)Quad Name A92 < Linville Falls >Physiographic Province A63 < 0 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Take Road 210B west towards Table Rock Park 0.15 miles (0.25 km). Anomaly is in saprolite on north side of road in a ditch. >

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 30

## Commodities Present:

C10  U \_\_\_\_\_ >

## Commodities Produced:

MAJOR  \_\_\_\_\_ > COPROD  \_\_\_\_\_ >MINOR  \_\_\_\_\_ > BYPROD  \_\_\_\_\_ >

## Potential Commodities:

POTEN  \_\_\_\_\_ > OCCUR  \_\_\_\_\_ >

Commodity Comments C50 &lt; \_\_\_\_\_ &gt;

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < Roadcut >Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt; \_\_\_\_\_ &gt;

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ > G7A \_\_\_\_\_ > G7B <LB> G7C \_\_\_\_\_ > G7D \_\_\_\_\_ > % U308

Source of Information D9 &lt; \_\_\_\_\_ &gt;

Production Comments D10 &lt; \_\_\_\_\_ &gt;

Reserves and Potential ResourcesEH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ > E1A \_\_\_\_\_ > E1B <LB> E1C \_\_\_\_\_ > E1D \_\_\_\_\_ > % U308

Source of Information E7 &lt; \_\_\_\_\_ &gt;

Comments E8 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 30Deposit Form/Shape M10 < Tabular, discordant >Length M40 < over 1 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.15 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m >

A 0 - 20,000

Strike M70 < N20W >

B 20,000 - 200,000

Dip M80 < 85SW >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile Belt. >Major Regional Structures N5 < Linville Falls thrust plane is about 1500 ft (457 m) vertically above the anomaly. >Local Structures N70 < Gneissosity is about N30E, 30SE; it may have another cleavage at a steeper dip. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite orthogneiss >Host Rock K1 < P, R, E, C, | W > Vein in biotite-quartz-plagioclase-microcline  
(Age) (Rock type, texture, composition, color,  
gneiss, partly recrystallized (foliated). Vein is rich in hematite and smoky-  
alteration, attitude, geometry, structure, etc.)  
quartz, has altered zone of 15 cm (veins are 2-5 cm).. Saprolitic at anomaly.Host-Rock Environment U3 < Metamorphosed granite. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < The orthogneiss characteristically grades into pegmatite  
in many places. >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, biotite, hematite, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Charlotte

## REPORT

Deposit No. 30Alteration N75 < Iron-stained halo in saprolite.Reductants U5 < Sulfides (?)Analytical Data (General) C43 < MHM 672: 32 ppm U308    MHM 673: 9 ppm U308Radiometric Data (General) U6 < 400-500 cps along 0.2 x 0.5 m exposure in  
(No. times background and dimensions)ditch; 100-150 cps along strike of anomaly up bank; gneiss is 120 cps; background  
70.Ore Controls K5 < This is clearly a vein cutting through the Wilson Creek  
orthogneiss. Its extent is not measurable.Deposit Class C40 Vein-type in metamorphic rocks. > Class No. U7 720Comments on Geology N85 < This anomaly may be related to the anomalous, low-grade  
(sub-occurrence) schist exposed about 100 m up the road, typical of Wilson Creek  
occurrence.

## URANIUM-OCCURRENCE

Quad Name Charlotte

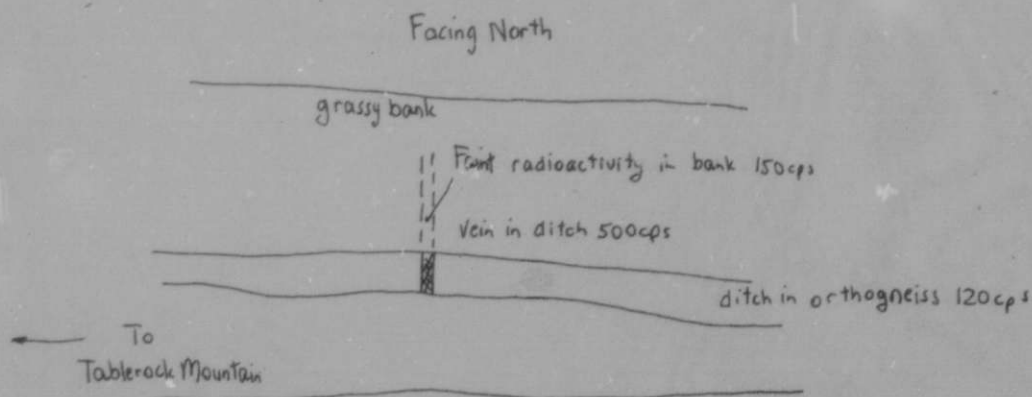
## REPORT

Deposit No. 30

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 672	Channel across 15 cm vein in sap.	32 ppm U308
MHM 673	Chips of saprolitic orthogneiss	9 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

URANIUM-OCCURRENCE

Quad Name Charlotte

REPORT

Deposit No. 30

Continuation from p. 1-5:

Label

A82 < Road 210B. >

Blank lined area for report content.

URANIUM-OCCURRENCE

Quad Name A90 < Johnson City >

REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >

Deposit No. B40 < 1 >

Deposit Name A10 < Rich Gap >

Synonym Name(s) A11 < >

District or Area A30 < Grandfather Mountain Region >

Country A40 < U, S > [U, S]

State Tennessee

State Code A50 < 4, 7 > [4, 7]  
(Enter code twice from List D)

County A60 < Carter >

Position from Prominent Locality A82 < 0.8 km east of Walnut Mountain in the south-central rectangle of the Watauga Dam Quadrangle >

Field Checked G1 < 8, 0 | 0, 7 > By G2 < Wagener > , H.D.  
Yr Mo Last name First Initial

Latitude A70 < 3, 6 | 16 | 2, 0, N > Longitude A80 < 0, 8, 2 | 10, 3 | 11, 6, W >  
Deg Min Sec Deg Min Sec

Township A77 < | | | > Range A78 < | | | > Section A79 < | | | >  
N/S E/W

FT/M

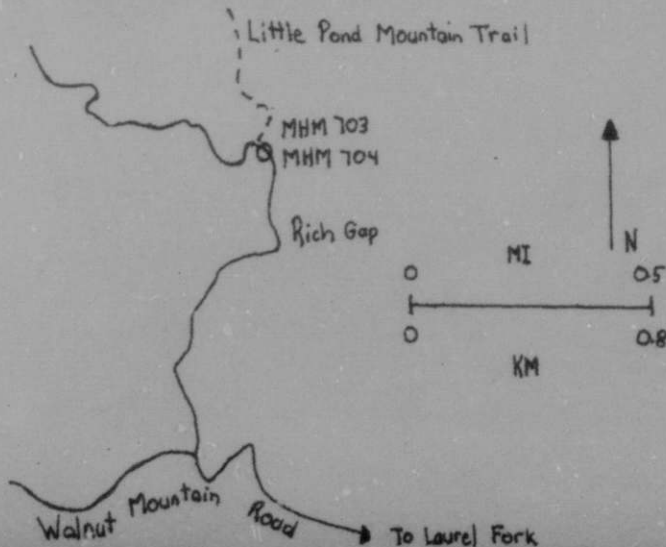
Meridian A81 < > Altitude A107 < 3640 ft (1110 m) >

Quad Scale A91 < 2 4 0 0 0 > Quad Name A92 < Watauga Dam >  
(7½' or 15' quad)

Physiographic Province A63 < 0 2 Appalachian Highlands >  
(List K)

Location Comments A83 < Anomaly #1 is in dirt bank on Walnut Mountain Rd., about 90 m south of entrance to Little Pond Mountain trail. Scrape away thick soil \* >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Johnson City

REPORT

Deposit No. 1

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
 (1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)  
 DH2 accuracy thousands of lb. years grade  
 G7  U| \_\_\_\_\_ G7A  \_\_\_\_\_ G7B <LB> G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U| \_\_\_\_\_ E1A  \_\_\_\_\_ E1B <LB> E1C  \_\_\_\_\_ E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 1Deposit Form/Shape M10 < tabular >

FT/M

Length M40 < at least 7 > M41 < m >

Size M15 (circle letter):

Width M50 &lt; \_\_\_\_\_ &gt; M51 &lt; \_\_\_\_\_ &gt;

1b U308Thickness M60 < 0.15 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

Strike M70 < \_\_\_\_\_ 45° >

C 200,000 - 2 million

Dip M80 < \_\_\_\_\_ 90° >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile Belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 &lt; \_\_\_\_\_ &gt;

Host-FM. Name U1 < Foliated granite & schist Member U2 < \_\_\_\_\_ >Host Rock K1 < P, R, E, C, A, M, B > At anomaly #1, ore is a tabular magnetite-  
(Age) (Rock type, texture, composition, color,brown garnet skarn in a pink altered zone in leucocratic foliated granite. The alteration, attitude, geometry, structure, etc.)granite appears to be an apophysis of the large, foliated, leucocratic, coarse-grained granite exposed between here and Dennis Cove (to west), and along \*Host-Rock Environment U3 < \_\_\_\_\_ >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

## Comments on

Associated Rocks U4 < Hornfels of graywacke is exposed to the west on thisroad, but granite predominates in the exposures. Nineteenth-century iron mines or prospects occur along stream valleys just to the northeast.Ore Minerals C30 < none observed >Gangue Minerals K4 < Magnetite, brown garnet; quartz, biotite >

URANIUM-OCCUPRENCE

Quad Name Johnson City

REPORT

Deposit No. 1

Alteration N75 < Pink argillic alteration products in feldspar in granite at anomaly #1. None observed at anomalies 2 & 3. >

Reductants U5 < \_\_\_\_\_ >

Analytical Data (General) C43 < MHM 703: 856 ppm U308; 200 ppm La; greater than 2000 ppm Nb, 2000 ppm Y, and 1000 ppm Zr. >

Radiometric Data (General) U6 < Up to 5000 cps in pits dug by hand in blocky, (No. times background and dimensions) weathered skarn and granite at anomaly #1. BG is 60-70 cps along road, but increases to 100-200 near anomalies. At anomaly #2, two spot anomalies lie \* >

Ore Controls K5 < Metasomatic alteration of slab-like inclusion in granite, and emplacement of uranium rich material in fractures in granite; enrichment of schistose unit adjacent to granite in uranium. All of these phenomena could have resulted from late-magmatic processes. >

Deposit Class C40 < Vein type in metamorphic rocks > Class No. U7 < 720 >

Comments on Geology N85 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 1

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 703	Magnetite-garnet skarn, 2000-4000 cps in hole	856 ppm U308
MHM 704	Barren pink granite adjacent to skarn	6 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < Bailey, W.S., 1925, The magnetic iron ores of East Tennessee and Western North Carolina: Tennessee Div. of Geology, Bull. 29, 252 p. >

F2 < Keith, Arthur, 1907, Roan Mountain Folia: U.S. Geol. Survey, Folia 151. >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 1

Continuation from p. 1-5:

Label

A83 < cover at point where BG exceeds 200 cps (3 to 4 times regional BG). Anomaly #2 is about 80 m south of anomaly 1, in bedrock in roadbed and small block of bedrock in bank. Anomaly #3 is about 45 m south of #2, in bedrock in roadbed.>

K1 < highway 19E west of the Doe River bridge. At anomaly #2, host is schistose biotite quartzite, within 4-5 m of nearest outcrop of granite. At anomaly #3, host is the granite again. This granite has affinities with the Crossmore plutonic-volcanic group (Brown Mountain Granite typifies plutons of this group), and the relation between anomalies and the granite margin are reminiscent of what we have observed along the southeastern border of the Brown Mountain Granite.

The granite at Rich Gap extends westward at least as far as Black Mountain (between Dennis Cove and Hampton), and at least as far south as highway 19E near White Rock and Crabtree. It was mapped by Arthur Keith as Beech Granite. >

U6 < along strike from each other about 1.5 m apart, one at edge of road bed; and one at base of outcrop in roadbank. Both have maximum surface radioactivities of 1200 cps. At anomaly #3, veins in granite bedrock in road are filled with unidentified dark gray material, strike  $45^{\circ}$ , and are vertical. Spot anomalies of up to 750 cps occur along veins, and in granite adjacent to veins. >

## URANIUM-OCCURRENCE

Quad Name A90 < Johnson City >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 2 >Deposit Name A10 < Doe River anomaly >

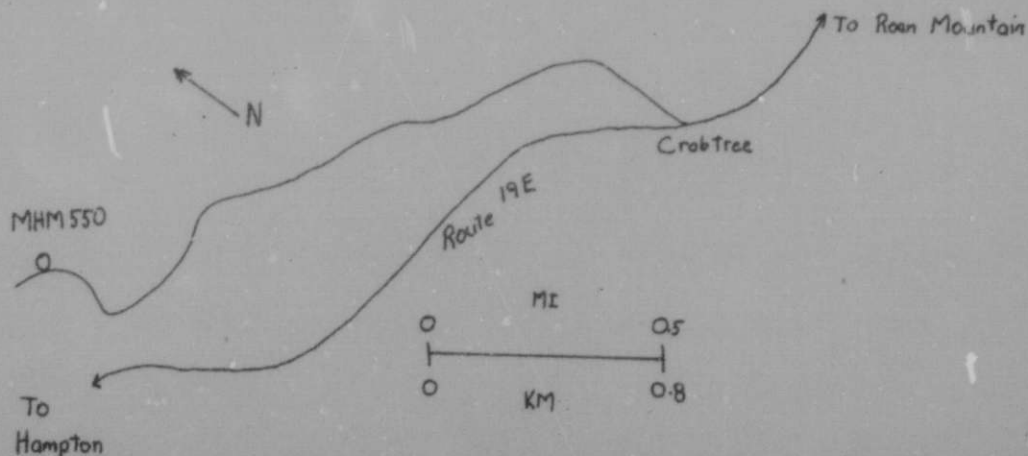
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State TennesseeState Code A50 < 4, 7 > 4, 7  
(Enter code twice from List D)County A60 < Carter >Position from Prominent Locality A82 < About 7 miles (11.3 km) north of Roan Mountain summit. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 1, 3 | 0, 0, N > Longitude A80 < 0, 8, 2 | 0, 7 | 2, 6, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2480 ft (756 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < White Rocks Mountain >Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < About 2.5 miles (4 km) west of Roan Mountain intersection with Rte. 143, turn north off Rte. 19E onto old RR grade road at Crabtree \* >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Johnson City

REPORT

Deposit No. 2

Commodities Present:

C10  U \_\_\_\_\_ >

Commodities Produced:

MAJOR  \_\_\_\_\_ > COPROD  \_\_\_\_\_ >

MINOR  \_\_\_\_\_ > BYPROD  \_\_\_\_\_ >

Potential Commodities:

POTEN  \_\_\_\_\_ > OCCUR  \_\_\_\_\_ >

Commodity Comments C50 < Apparently Th-rich \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. \_\_\_\_\_ years \_\_\_\_\_ grade \_\_\_\_\_  
G7  U \_\_\_\_\_ > G7A  \_\_\_\_\_ > G7B <LB> G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. \_\_\_\_\_ year of est. \_\_\_\_\_ grade \_\_\_\_\_  
E1  U \_\_\_\_\_ > E1A  \_\_\_\_\_ > E1B <LB> E1C  \_\_\_\_\_ > E1D < \_\_\_\_\_ > % U308

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 2Deposit Form/Shape M10 < Plutonic >

FT/M

Length M40 < over 16000 > M41 < m >

Size M15 (circle letter):

Width M50 < 3-6000 > M51 < m >1b U308Thickness M60 < over 1000 > M61 < m >

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < n.a. >

C 200,000 - 2 million

Dip M80 < n.a. >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < N-E to E-W thrust faults >Local Structures N70 < Faint foliation is about N5W, 22E >Host-FM. Name U1 < Beech Mountain granite > Member U2 < \_\_\_\_\_ >Host Rock K1 < P,R,E,C | | | | | | | | | | | > Pink, medium to coarse grained, slightly  
(Age) (Rock type, texture, composition, color,foliated quartz microcline granite. Somewhat recrystallized (metasomatic?) in alteration, attitude, geometry, structure, etc.)places.Host-Rock Environment U3 < Plutonic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Roc's U4 &lt; \_\_\_\_\_ &gt;

Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, microcline, plagioclase, biotite. >

## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 2Alteration N75 < Somewhat metasomatized (recrystallized)Reductants U5 < Minor pyriteAnalytical Data (General) C43 < 7 ppm U308; 7% Al (?); 0.1% Ca; 3% Na; 70 ppm Nb; 50 ppm Pb; 300 ppm Sn; 150 ppm Zr.Radiometric Data (General) U6 < 150-250 cps along cuts and cliff exposures;  
(No. times background and dimensions)background (away from rock) is about 60 cps.

Ore Controls K5 &lt; \_\_\_\_\_

Deposit Class C40 < Orthomagmatic > Class No. U7 < 310 >Comments on Geology N85 < Apparently has a low U/Th ratio.



## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 2

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 550	Chips of granite in cut.	7 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Johnson City

REPORT

Deposit No. 2

Continuation from p. 1-5:

Label

A83 < (Bowling Chapel), continue northwest about 2 miles (3.2 km) to narrow  
RR cuts in granite. >

## URANIUM-OCCURRENCE

Quad Name A90 &lt; Johnson City &gt;

## REPORT

Quad Scale A100 &lt; 1, 2, 5, 0, 0, 0, 0 &gt;

Deposit No. B40 &lt; 3 &gt;

Deposit Name A10 &lt; Shell Creek anomaly &gt;

Synonym Name(s) All &lt; &gt;

District or Area A30 &lt; Grandfather Mountain Region &gt;

Country A40 &lt; U, S &gt; [U, S]

State Tennessee

State Code A50 < 4, 7 > [4, 7]  
(Enter code twice from List D)

County A60 &lt; Carter &gt;

Position from Prominent Locality A82 &lt; About 7 miles (11.3 km) NNE of Roan

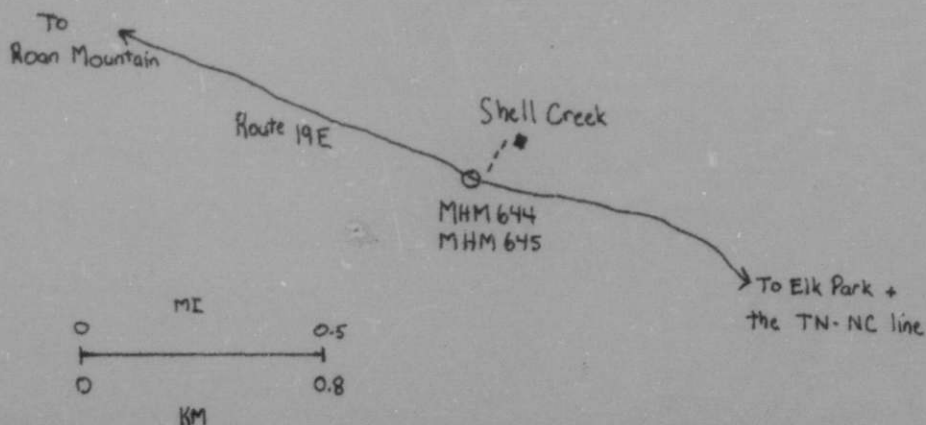
Mountain summit &gt;

Field Checked G1 < 8, 0 | 10, 7 > By G2 < McHone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 1, 1 | 1, 9, N > Longitude A80 < 0, 8, 2 | 10, 2 | 2, 9, W >  
Deg Min Sec Deg Min SecTownship A77 < | | | > Range A78 < | | | > Section A79 < | | >  
N/S E/W FT/M

Meridian A81 &lt; &gt; Altitude A107 &lt; 2680 ft (817 m) &gt;

Quad Scale A91 < | | 2, 4, 0, 0, | > Quad Name A92 < White Rocks >  
(7½' or 15' quad)Physiographic Province A63 < 02 | Appalachian Highlands >  
(List K)Location Comments A83 < South side of Rte. 19E about 3 miles (4.8 km) west of  
the TN-NC line, about 8 m from mailboxes on eastern end. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 3Alteration N75 < Completely weatheredReductants U5 < None observedAnalytical Data (General) C43 < MHM 644: 7 ppm U308, 1000 ppm La,  
500 ppm Zr. MHM 645: 1 ppm U308, 150 ppm Zr.Radiometric Data (General) U6 < 300-550 cps over 1 x 3 m of road bank; barren  
(No. times background and dimensions)  
saprolite is 70 cps, background 60 cps.Ore Controls K5 < Could not be determined, but some vein-type mechanism seems  
likely.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 720 >Comments on Geology N85 < The so-called "Cranberry Gneiss" has been remapped and  
subdivided in this region by J. Bartholomew for the N.C. Geology Survey. New  
Rb-Sr ages are all 1100-1300 m.y.

## URANIUM-OCCURRENCE

Quad Name Johnson City

## REPORT

Deposit No. 3

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 644	Anomalous saprolite from small hole	7 ppm U308
MHM 645	Barren saprolite to west	1 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt;

F2 &lt;

F3 &lt;

F4 &lt;

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 2,5,0,0,0,0 >Deposit No. B40 < 1 >Deposit Name A10 < Buffalo Cove anomaly >

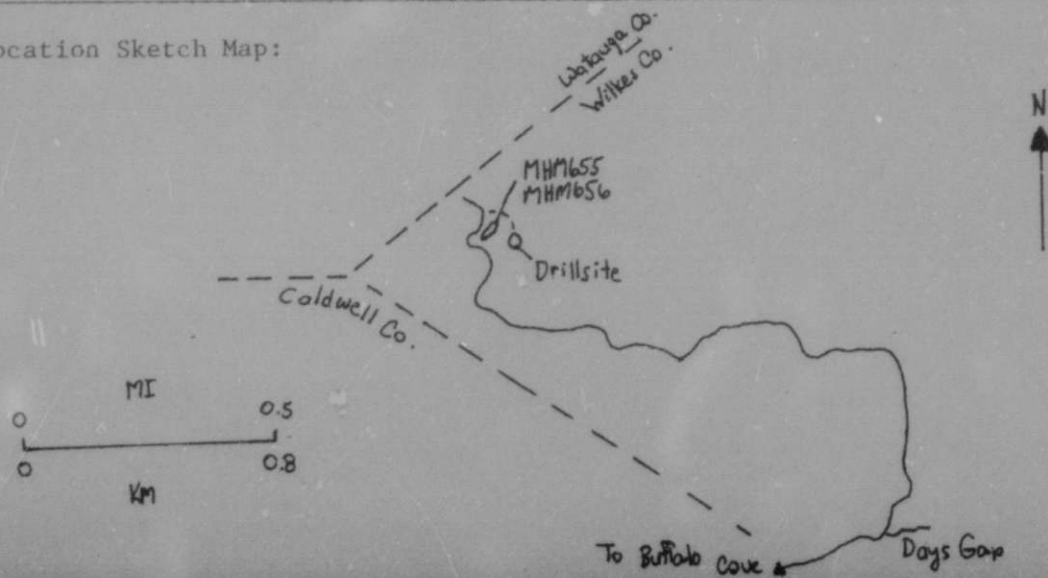
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3,7 > [3,7]  
(Enter code twice from List D)County A60 < Wilkes >Position from Prominent Locality A82 < About 3 miles (4.8 km) SSE of Dugger Mountain, or 8 miles east of Blowing Rock. >Field Checked G1 < 8,0 | 10,7 > By G2 < McHone , J. Grégory >  
Yr Mo Last name First InitialLatitude A70 < 3,6 | 10,7 | 10,5 > Longitude A80 < 0,8 | 1,3 | 2,8 >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2300 ft(701 m) >Quad Scale A91 <     | 2,4 | 0,0 | 0,0 >  
(7½' or 15' quad)Quad Name A92 < Buffalo Cove >Physiographic Province A63 < 0,2 | Appalachian Highlands >  
(List K)Location Comments A83 < From Rte. 321 north of Lenoir, proceed NE on Road 268 about 4 miles (6.4 km) and then north about 7 miles (11.2 km) to the Buffalo \* >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 1Deposit Form/Shape M10 < Tabular >

FT/M

Length M40 < over 30 > M41 < m >

Size M15 (circle letter):

Width M50 < 3-4 > M51 < m >1b U308Thickness M60 < over 3 > M61 < m >

A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N40E (?) >

C 200,000 - 2 million

Dip M80 < 65SE (?) >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >Major Regional Structures N5 < NE - trending anticlines and faults. >

Local Structures N70 < Apparently two cleavages are developed, one N40E and another N80E, both dipping 26 to 72 SE. The N40E cleavage is coarsely gneissic, and the N80E has isoclinal folds. >

Host-FM. Name U1 < Wilson Creek Complex > Member U2 < Gneissic schist >Host Rock K1 < Gneissoid, coarse-grained, rusty quartz-  
(Age) (Rock type, texture, composition, color,

biotite schist. The quartz occurs in lenses and tightly folded bands, and makes alteration, attitude, geometry, structure, etc.)

up over 50% of the schist at the anomaly. Elsewhere, the schist is less quartzose.

Host-Rock Environment U3 < Greenschist-facies metamorphic. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The schist is interrupted by layers of light green, sapro-  
litic meta-arkose (?) and a medium-grained orthogneiss or recrystallized peg-  
matite. >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, biotite, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 1Alteration N75 < None observedReductants U5 < Minor sulfidesAnalytical Data (General) C43 < MHM 655: 80 ppm U308Radiometric Data (General) U6 < 250 to 500 cps over schist layers running at  
(No. times background and dimensions)

a low angle to the roadbank (about 3 m by 25 m). Arkosic-gneissic rocks are 160-  
180 cps. BG = 70 cps.

Ore Controls K5 < It seems likely that uranium has been introduced by migrating  
solutions and precipitated in the sulfidic parts of the biotite schist.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >

Comments on Geology N85 < This occurrence is not too striking by itself, but  
the apparent development of a drillsite nearby (see sketch) adds to its importance.  
I was unable to find a good reason for drilling in this area, but could have  
missed some nearby occurrence.

URANIUM-OCCURRENCE

Quad Name Winsotn-Salem

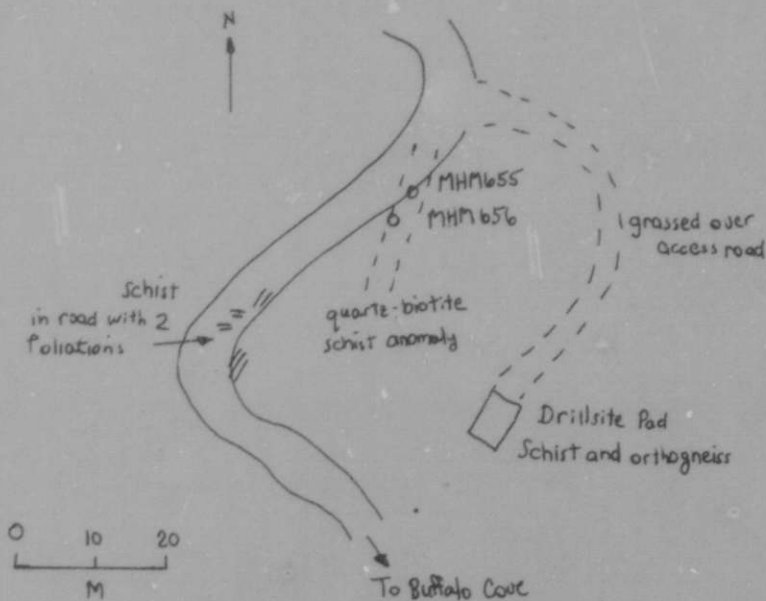
REPORT

Deposit No. 1

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 655	Chips of quartz-biotite schist at anomaly	80 ppm U308
MHM 656	Saprolitic meta-arkose (?), adjacent	12 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 1

Continuation from p. 1-5:

Label

A83 < Cove Church. Continue NNW on the Dugger Mountain Road (dirt) for 3.4 miles (5.5 km) to the anomaly, due east of the summit of White Rock Mountain. Anomaly is in the southeastern roadbank; road to drillsite (?) starts northeast of the roadbank. >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 2 >Deposit Name A10 < Camp Sky Ranch >

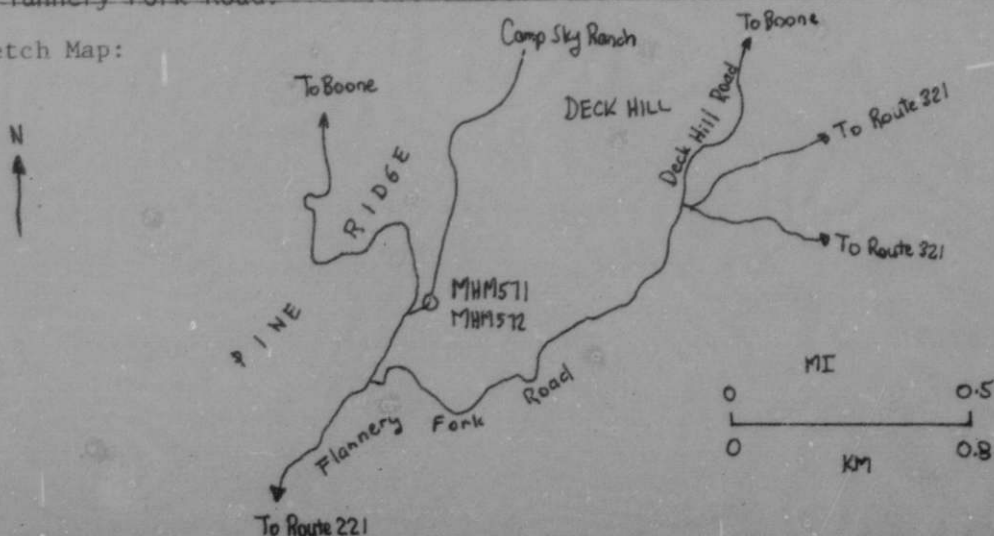
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, SState North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < About 3 miles (4.8 km) south of Boone,  
east of Pine Ridge >Field Checked G1 < 8, 0 | 10, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 1, 0 | 2, 2 , N > Longitude A80 < 0, 8, 1 | 4, 0 | 5, 8 , W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3600 ft (1098 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Boone >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Small cuts on west side of Camp Sky Ranch Road, about  
50 m from Flannery Fork Road. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 2Deposit Form/Shape M10 < Tabular >

FT/M

Length M40 < over 2.5 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.15 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N27E >

C 200,000 - 2 million

Dip M80 < 62SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Multiple folding on a small scale; foliation looks continuous in one orientation for at least a few hundred meters. >Host-FM. Name U1 < Grandfather Mountain > Member U2 < Graywacke >Host Rock KI < L P R E C > | W < Rusty gray-green fluorite-rich schistose >  
(Age) (Rock type, texture, composition, color,biotite siltstone or graywacke. Fluorite makes up 10-15% of the rock, as 1 mm-alteration, attitude, geometry, structure, etc.)sized purple crystals scattered through the rock, and small lenses and pods a few cm long.Host-Rock Environment U3 < Biotite-grade arenaceous sediment >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Phyllitic siltstones, graywackes, and quartz-calcite veins >  
are abundant in the area.Ore Minerals C39 < Uraninite (?) >Gangue Minerals K4 < Fluorite, quartz, biotite, feldspar. >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 2

Alteration N75 < Greenish cast due to chloritization of biotite; manganese-oxide coatings along fractures; introduction of fluorite and small pods of pyrite via replacement of host rock. >

Reductants U5 < \_\_\_\_\_ >

Analytical Data (General) C43 < MHM 571: 28 ppm U308; 500 ppm Zn. >

Radiometric Data (General) U6 < Anomaly is 300-500 cps along two horizons  
(No. times background and dimensions)  
15 cm x 3 m x 2 m (extent of outcrop). BG = 70 cps. Country-rock = 80 cps. >

Ore Controls K5 < The presence of abundant fluorite as euhedral crystals is linked to an epigenetic source of uranium. The actual controls probably were local chemical differences, which promoted replacement of the host rock by reaction with hydrothermal solutions, followed by precipitation of fluorite and U minerals. >

Deposit Class C40 < \_\_\_\_\_ > Class No. U7 < 111 >

Comments on Geology N85 < This occurrence appears unique, yet may well be linked with the volcanogenic occurrences in the Moses Cone Park area nearby (occurrences no. 5, 6 and 7). >

URANIUM-OCCURRENCE

Quad Name Winsotn-Salme

REPORT

Deposit No. 2

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 571	A = Chips along 1 m of the northern horizon	28 ppm U308
MHM 572	B = Chips of barren graywacke to the west	less than 1 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 3 >Deposit Name A10 < Appalachian Ski #1 >

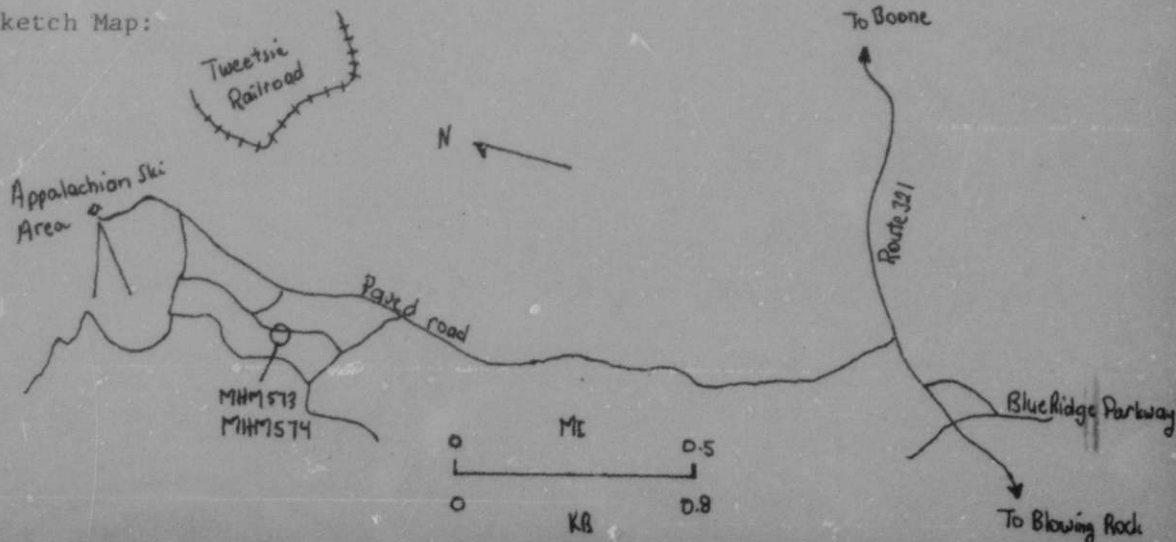
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, SState North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < About 2.5 miles (4.0 km) north-northeast of downtown Blowing Rock. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 1, 0 | 0, 1, N > Longitude A80 < 0, 8, 1 | 3, 9 | 5, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <    |    |    > Range A78 <    |    |    > Section A79 <    >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3810 ft (1162 m) >Quad Scale A91 <    |    |    |    |    |    >  
(7½' or 15' quad)Quad Name A92 < Boone >Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < See sketch >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 3Deposit Form/Shape M10 < Lensoidal? >

FT/M

Length M40 < 8 > M41 < m >

Size M15 (circle letter):

Width M50 < 5 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

Strike M70 < E-W >

C 200,000 - 2 million

Dip M80 &lt; \_\_\_\_\_ &gt;

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Moblie belt >Major Regional Structures N5 < Within 300 m of mapped "unconformity" with  
Blowing Rock gneiss to the east. >Local Structures N70 < Phyllitic foliation is roughly N10E, 30°E. >Widely-spaced joints at N85W, 84°S.Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Siltstone >Host Rock K1 < LIPREIC > Phyllitic, rusty gray-green siltstone;  
(Age) (Rock type, texture, composition, color,  
weathered; surface is littered with phyllite chips. Less rusty away from  
alteration, attitude, geometry, structure, etc.)  
anomaly.Host-Rock Environment U3 < Low-grade metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Cleaner arkoses (less phyllitic) are present to the  
north and south. >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, feldspar, pyrite, sericite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 3Alteration N75 < None observedReductants U5 < Pyrite, minor graphiteAnalytical Data (General) C43 < 363 ppm U308; 100 ppm Mo; 7000 ppm Ti.

Radiometric Data (General) U6 < Background = 80 cps; anomaly is 400-600 cps  
 (No. times background and dimensions)  
 over 5 x 8 m of hillside surface; adjacent arkose is 120 cps.

Ore Controls K5 < Uranium has been concentrated, probably by precipitation  
from low-temperature hydrothermal solutions migrating along the foliation, in  
a sulfidic horizon or lens in ordinary gray-green siltstone.

Deposit Class C40 < Vein-type dissemination in metamorphic\* Class No. U7 720

Comments on Geology N85 < There seems to be a zone of anomalies to the south,  
east, and north of Flat-top Mountain in the Grandfather Mountain Formation.  
In the northern portion of the Wilson Creek gneiss, concentrations of U along  
the foliation in fine-grained schistose rocks (mostly phyllites) have been  
investigated by two exploration companies. Chiasma was unable to pinpoint any

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 3

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 573	Chips in small trench in phyllitic siltstone	363 ppm U308
MHM 574	Chips from exposure of barren arkose to the south	63 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 3

Continuation from p. 1-5:

LabelU1 < Formation.>

N85 < of several anomalous horizons in phyllites reported to occur in  
that region. However, extensive low-grade U deposits are believed to occur  
in the general region that includes the Buffalo Cove anomaly (Occurrence  
No. 1).>



## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1 2 5 0 0 0 0 0 >Deposit No. B40 < 4 >Deposit Name A10 < Appalachian Ski No. 2 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

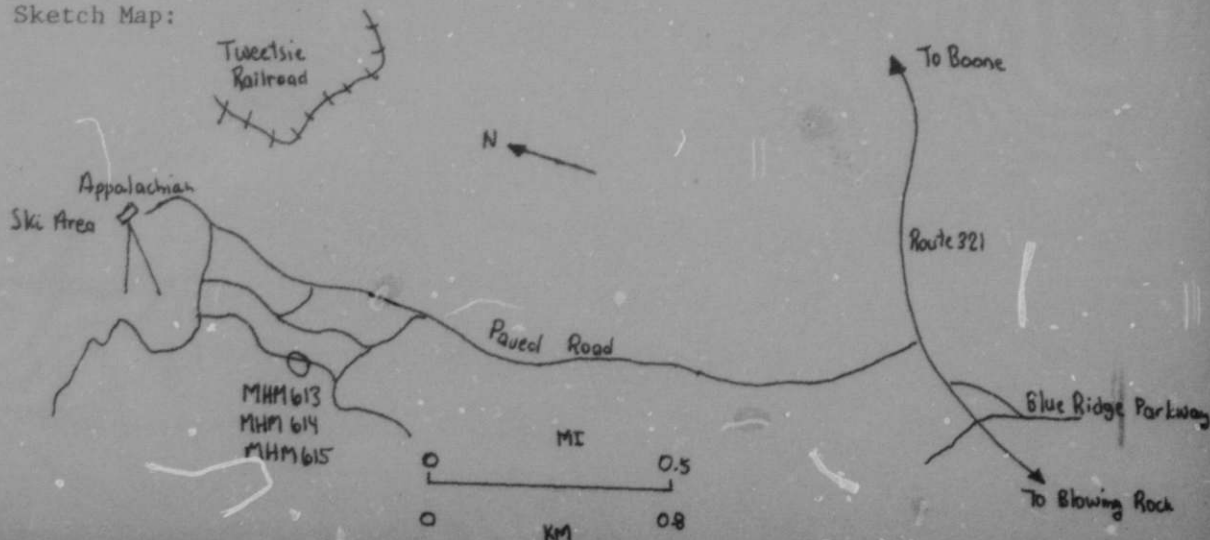
District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3,7 >  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < About 2.5 miles (4.0 km) north-northeast of downtown Blowing Rock. >Field Checked G1 < 8,0 | 0,5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 36 | 1,0 | 0,2 > Longitude A80 < 0,8 | 1,3 | 9,5 >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3920 ft (1195 m) >Quad Scale A91 <     |     |     |     |     |     >  
(7½' or 15' quad)Quad Name A92 < Boone >Physiographic Province A63 < 0,2 | Appalachian Highlands >  
(List K)

Location Comments A83 &lt; \_\_\_\_\_ &gt;

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Winston- Salem

## REPORT

Deposit No. 4

## Commodities Present:

C10  U

## Commodities Produced:

MAJOR  COPROD MINOR  BYPROD 

## Potential Commodities:

POTEN  OCCUR 

Commodity Comments C50 &lt;

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 &lt;

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt;

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade

G7  U  G7A  G7B <LB> G7C < > G7D < % U308 >

Source of Information D9 &lt;

Production Comments D10 &lt;

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade

E1  U  E1A  E1B <LB> E1C  E1D < % U308 >

Source of Information E7 &lt;

Comments E8 &lt;

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 4Deposit Form/Shape M10 < Unknown >Length M40 < 4 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 3 > M51 < m >1b U308Thickness M60 < over 1 > M61 < m >(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < about N70W >

C 200,000 - 2 million

Dip M80 &lt; \_\_\_\_\_ &gt;

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Within 100 m of mapped contact with BlowingRock gneissLocal Structures N70 < Not observable >Host-FM. Name U1 < Grandfather Mountain > Member U2 < Arkose >Host Rock K1 < P, R, E, C > Medium to coarse-grained, dirty white

(Age)

(Rock type, texture, composition, color,

to buff quartz microcline arkose, both rock and saprolite.alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Low-grade metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < A coarse-grained foliated, intermediate metavolcanicrock is present within 10 m to the west - not clear as to stratigraphic re-lationship with the arkose.Ore Minerals C30 < Not observable >Gangue Minerals K4 < Quartz, microcline, minor sulfides. >

## URANIUM-OCCURRENCE

Quad Name Winston- Salem

## REPORT

Deposit No. 4Alteration N75 < None observed.Reductants U5 < Minor sulfides.Analytical Data (General) C43 < MHM 613: 265 ppm U308 MHM 614: 441 ppm  
U308Radiometric Data (General) U6 < Background = 80 cps; anomaly is 150-300 cps  
(No. times background and dimensions)  
on surface of bank over 3 x 4 m; small ditch in saprolite produces 1200 cps;  
boulders to 600 cps.Ore Controls K5 < Probably vein-type; unconfirmed.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 720Comments on Geology N85 < The site may be on strike with Appalachian Ski No. 1  
(Occurrence No. 3), perhaps an anomaly parallel with and adjacent to the contact  
with the Blowing Rock gneiss.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

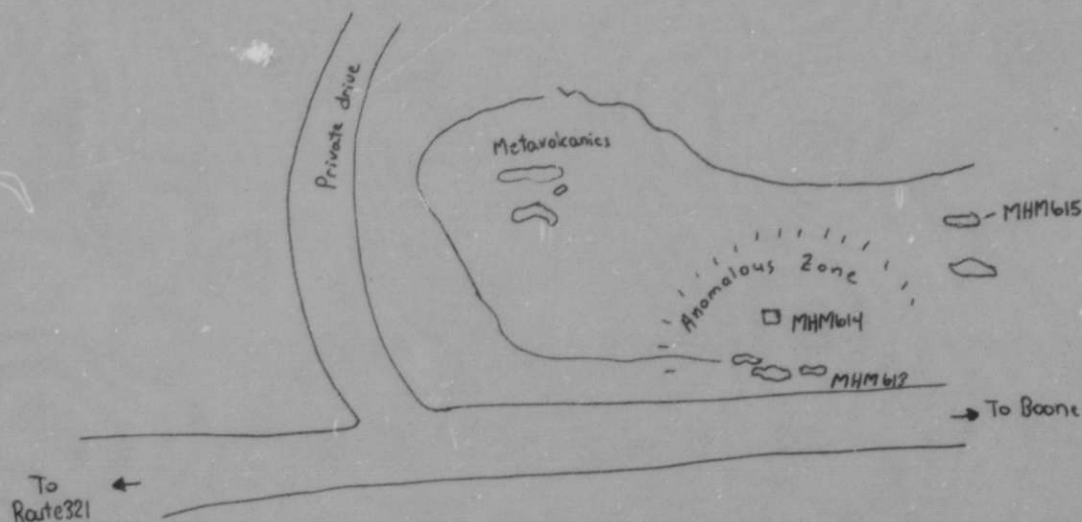
## REPORT

Deposit No. 4

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 613	"A" anomaly, boulders in ditch	265 ppm U308
MHM 614	"B" anomaly, saprolite in 8" x 10" x 10" hole	441 ppm U308
MHM 615	Barren arkose from a nearby boulder	7 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 2,5,0,0,0,0 >Deposit No. B40 < 5 >Deposit Name A10 < Flat Top Mountain >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3,7 > 3,7  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < About 1.8 miles (2.9 km) due north of  
the village of Blowing Rock >Field Checked G1 < 8,0 | 0,6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3,6 | 0,9 | 4,0 > Longitude A80 < 0,8,1 | 4,0 | 4,5 >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 4360 ft(1329 m) >Quad Scale A91 <     | 2,4 | 0,0 >  
(7½' or 15' quad)Quad Name A92 < Boone >Physiographic Province A63 < 0,2 | Appalachian Highlands >  
(List K)Location Comments A83 < Anomaly in jeep road about 0.9 of the distance  
(about 2 miles (3.2 km)) toward the observation tower on Flat Top Mountain in \* >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 5

Deposit Form/Shape M10 < Lenticular (?) >

Length M40 < over 3 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 1 > M51 < m >

1b U308

Thickness M60 < over 1 > M61 < m >

(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < about E-W >

C 200,000 - 2 million

Dip M80 < near 90<sup>0</sup> (?) >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 < \_\_\_\_\_ >

Local Structures N70 < E-W fractures, near 90<sup>0</sup>, spaced 30-50 cm apart. >

Sub-horizontal cleavage (poor). >

Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Arkose >

Host Rock K1 < L,P,R,E,C, | | | | | | | | | | | > Medium-grained, light green quartz-  
(Age) (Rock type, texture, composition, color,

sericite arkose. Many felsic and micaceous layers, giving a psuedo-gneissic alteration, attitude, geometry, structure, etc.)

texture, with other mica lamellae cross-cutting the foliation (shears). >

Host-Rock Environment U3 < Low- to medium-grade metasedimentary >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Shaley to phyllitic siltstones and arkoses are pre-  
dominant in the area. >

Ore Minerals C30 < Torbernite, autunite and other secondaries; pitchblende(?) >

Gangue Minerals K4 < Quartz, albite (?), sericite. >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 5Alteration N75 < Hematite stains along mineralized fractures.Reductants U5 < Minor sulfidesAnalytical Data (General) C43 < MHM 638: 2510 ppm U308

Radiometric Data (General) U6 < 300-2000 cps over 1 x 3 m zone on road  
 (No. times background and dimensions)  
 surface; to 4000 cps in 20 cm deep hole; background is 50-70 cps.

Ore Controls K5 < If in place (probable but not certain), the anomaly re-  
fects an E-W elongated vein of pitchblende(?) which follows a shear plane  
(crosscuts the foliation). The vein is black but quite rusty ( and in places  
vuggy) on cleavage surfaces. The yellow secondaries fill vugs and are sheared  
out along the shear planes. This is clearly an epigenetic fracture filling.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7 2 0 >

Comments on Geology N85 < It is puzzling that more veins are not present in  
the area. Probably more searching (not legal in this National Park) would en-  
large the occurrence. The volcanogenic Moses Cone anomalies may be a source,  
apparently underlying this occurrence, and exposed nearby to the south. The  
lithologies extend well beyond the limits of the small park.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 5

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 638	Chips of cobbles from 30 x 50 cm hole	2510 ppm U308
MHM 639	Barren arkose in same area.	17 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 5

Continuation from p. 1-5:

Label

A83 < Moses Cone Memorial Park. The access road starts at the Craft Center, but is not open to public vehicles.>

U1 <Formation >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 6 >Deposit Name A10 < Moses Cone Park Occurrence No. 1 >

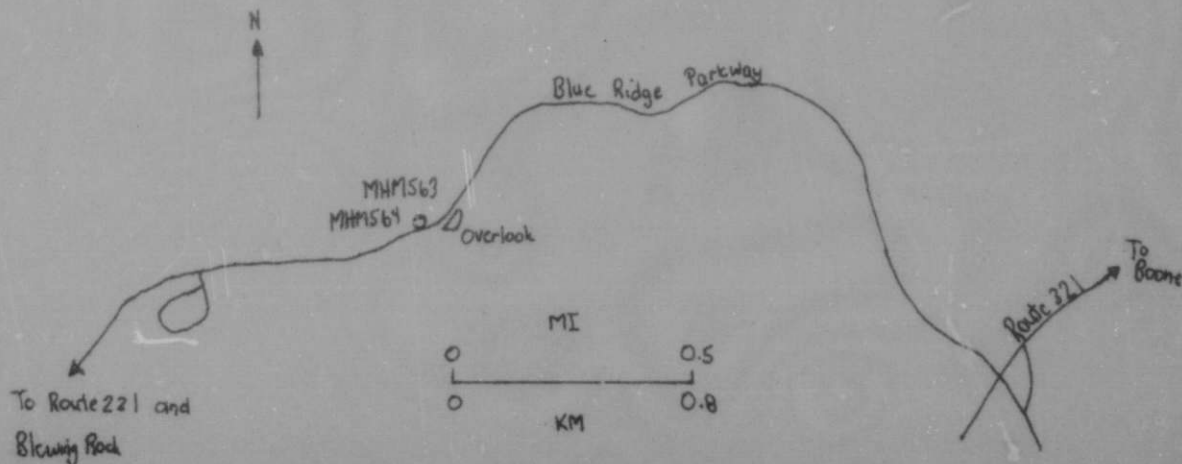
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State < North Carolina >State Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < 1.6 miles (2.6 km) west of inter-  
section with Rte. 321, north side of Blue Ridge Parkway >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 9 | 0, 9 > Longitude A80 < 0, 8, 1 | 4, 1 | 0, 4 >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3900 ft (1198 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Boone >Physiographic Province A63 < 0, 2 | Appalachian Highland >  
(List K)Location Comments A83 < Roadcut on N side of Blue Ridge Parkway 85 m west  
of overlook, about 0.5 miles (0.8 km) east of Moses Cone Craft Center entrance. >

## Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 6

Commodities Present:

C10  U

Commodities Produced:

MAJOR  COPROD

MINOR  BYPROD

Potential Commodities:

POTEN  \*OCCUR

Commodity Comments C50

Status of Exploration and Development A20 1 (1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 Restricted small National Park

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
 G7  U  G7A  G7B LB G7C  G7D  % U308

Source of Information D9

Production Comments D10

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U  E1A  E1B LB E1C  E1D  % U308

Source of Information E7

Comments E8

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 6Deposit Form/Shape M10 < Tabular >  
FT/MLength M40 < 10 > M41 < m >

Size M15 (circle letter):

Width M50 < 5 > M51 < m >1b U308Thickness M60 < 0.5 > M61 < m >(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 &lt; \_\_\_\_\_ &gt;

C 200,000 - 2 million

D 2 million - 20 million

Dip M80 &lt; \_\_\_\_\_ &gt;

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Grandfather Mountain antiforms; anomaly is about  
500 m NW of contact with Blowing Rock Gneiss >Local Structures N70 < Anomalous weathered fracture sets: N65W, 69°SW;N72E, 90; N30E, 21SE; N10E, 56E; N84E, 80N. >Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Felsic volcanics >Host Rock K1 < L, P, R, E, C, | W > Buff-weathering rhyolite or orthoclase-rich  
(Age) (Rock type, texture, composition, color,volcaniclastic rock with feldspar and quartz crystals in a dark blue-gray  
alteration, attitude, geometry, structure, etc.)siliceous matrix. Rock has scattered quartz-chalcedony veins, and small, darkshear bands. >Host-Rock Environment U3 < Chlorite-facies metamorphism of volcaniclastic sed. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The adjacent hill contains various Grandfather Mountain  
Formation arkoses, siltstones, mafic volcanics, and felsic volcanics. >Ore Minerals C30 < Pitchblende(?) >Gangue Minerals K4 < Quartz, orthoclase, pyrite, and chalcedony (?) along  
fracture. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 6Alteration N75 < None other than siliceous veins.Reductants U5 < Minor pyrite

Analytical Data (General) C43 < 27-320 ppm U308; 6% Al; 1-1.5% Fe; 100-150 ppm La; 0.7-1% Na; 50 ppm Nb; 100-150 ppm Pb; 10-20 ppm Sn; 0.1-0.15% Ti; 100-200 ppm Y; 500 ppm Zr.

Radiometric Data (General) U6 < The more radioactive weathered fracture zones (No. times background and dimensions) are 1000-3000 cps (BG = 80); others are 200-800 cps. The fresh rock (rhyolite?) is 100-200 cps.

Ore Controls K5 < Clearly related to weathering and/or metasomatism along fracture sets. Perhaps some bleaching is chemically related to the mineralization.

Deposit Class C40 < Hydroallogenic > Class No. U7 < 5,4,0

Comments on Geology N85 < One of few occurrences in low-grade Grandfather Mountain rocks, seems to fit characteristics fairly well for Class 540. Has potential for large size. Lithologies are continuous well beyond the small park area.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 6

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 563	Loose chips from anomalous weathered zones	320 ppm U308
MHM 564	Loose chips from fresh rhyolite	27 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 6

Continuation from p. 1-5:

Label

U1 < Formation >

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## URANIUM-OCCURRENCE

Quad Name A90 &lt; Winston-Salem &gt;

## REPORT

Quad Scale A100 &lt; 2, 5, 0, 0, 0, 0 &gt;

Deposit No. B40 &lt; 7 &gt;

Deposit Name A10 &lt; Moses Cone Park #2 &gt;

Synonym Name(s) A11 &lt; &gt;

District or Area A30 &lt; Grandfather Mountain Region &gt;

Country A40 &lt; U, S &gt;

State &lt; North Carolina &gt;

State Code A50 < 3, 7 > [3, 7]  
(Enter code twice from List D)

County A60 &lt; Watauga &gt;

Position from Prominent Locality A82 < About 4 miles (6.4 km) south of Boone,  
or 1.3 miles (2 km) north of Blowing Rock. >Field Checked G1 < 8 0 | 10 5 P > By G2 < McHone J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3 6 | 0 9 | 0 7 | N > Longitude A80 < 0 8 | 1 4 | 1 0 5 | W >  
Deg Min Sec Deg Min SecTownship A77 < | | | > Range A78 < | | | > Section A79 < | | >  
N/S E/W

FT/M

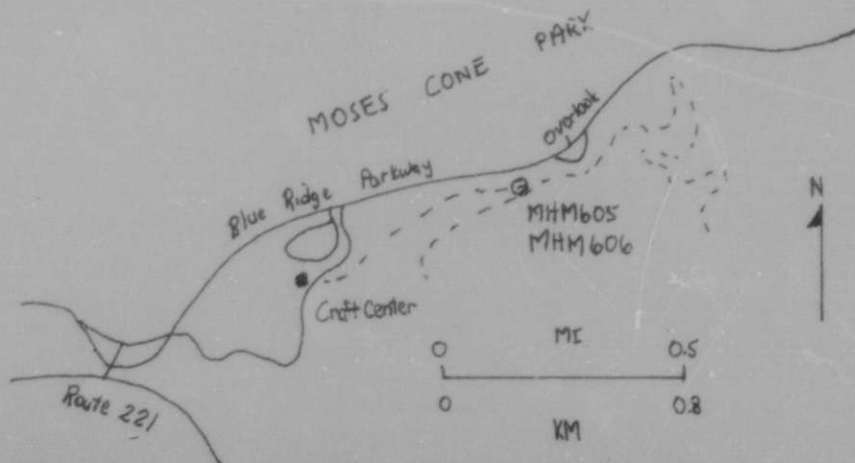
Meridian A81 &lt; &gt; Altitude A107 &lt; 3820 ft(1165m) &gt;

Quad Scale A91 < | | | 2, 4, 0, 0, 0, 0 >  
(7½' or 15' quad)

Quad Name A92 &lt; Boone &gt;

Physiographic Province A63 < 0, 2 > Appalachian Highlands  
(List K)Location Comments A83 < Along riding trail, north fork of Y in trail about  
200 m south-southwest of the overlook on the Parkway east of the Craft Center \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 7Deposit Form/Shape M10 < Tabular >Length M40 < 0.4 > M41 < <sup>FT/M</sup>m >

Size M15 (circle letter):

Width M50 < 0.3 > M51 < m >1b U308Thickness M60 < 0.1 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N65W >

B 20,000 - 200,000

Dip M80 < 15SW >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < About 300 m northwest of mapped contact with underlying Blowing Rock gneiss. >Local Structures N70 < Shaley cleavage foliation is N12E, 28E >Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Felsic volcanoclastics >Host Rock K1 < L, P, R, E, C > Light gray, fine-grained shaley felsic  
(Age) (Rock type, texture, composition, color,metavolcanic (volcanoclastic) rocks with small clasts of quartz and euhedral alteration, attitude, geometry, structure, etc.)alkali feldspar in a silicic matrix. Anomalous along silicified, rusty, bleached fractures (joints). >Host-Rock Environment U3 < Low-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Various felsic to intermediate meta-volcanoclastic rocks, cut by narrow quartz veins. >Ore Minerals C30 < Not apparent >Gangue Minerals K4 < Feldspar, quartz. >

## URANIUM-OCCURRENCE

Quad Name Winston- Salem

## REPORT

Deposit No. 7Alteration N75 < None observedReductants U5 < Minor pyriteAnalytical Data (General) C43 < MHM 605: 84 ppm U308; 70 ppm Nb

Radiometric Data (General) U6 < 300-420 cps over bleached silicified zone of  
(No. times background and dimensions)  
0.1 x 0.4 x 0.3 m; Background = 50 cps (away from anomalous area).

Ore Controls K5 < Solutions moving along fractures in volcanic rock have  
bleached the rock, and apparently concentrated U as well (a replacement process?)

Deposit Class C40 < Hydroallogenic > Class No. U7 < 5,4,0 >Comments on Geology N85 < Similar to Moses Cone Park #1 (Occurrence No. 6)

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

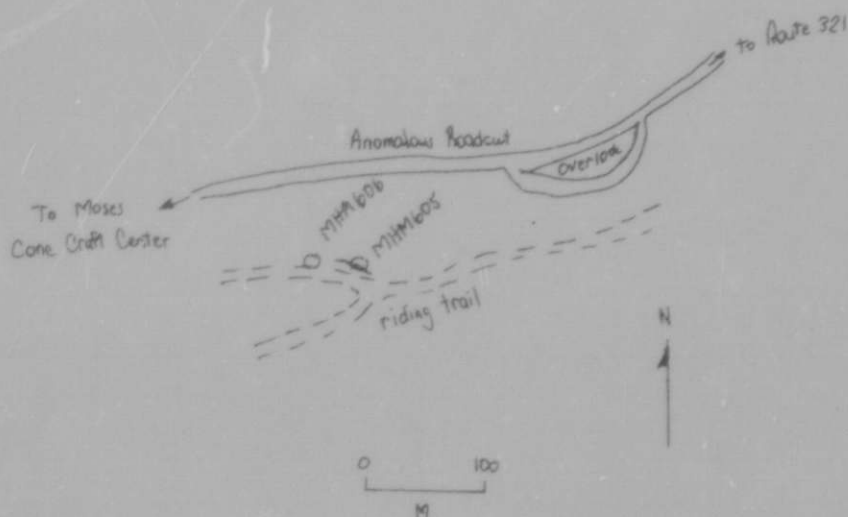
## REPORT

Deposit No. 7

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 605	Chips along anomalous fracture face	84 ppm U308
MHM 606	Chips of barren metavolcanic 50 m to west	8 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 7

Continuation from p. 1-5:

Label

A83 < in the Moses Cone Park.>

U1 < Formation >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 8 >Deposit Name A10 < Mayview Park >

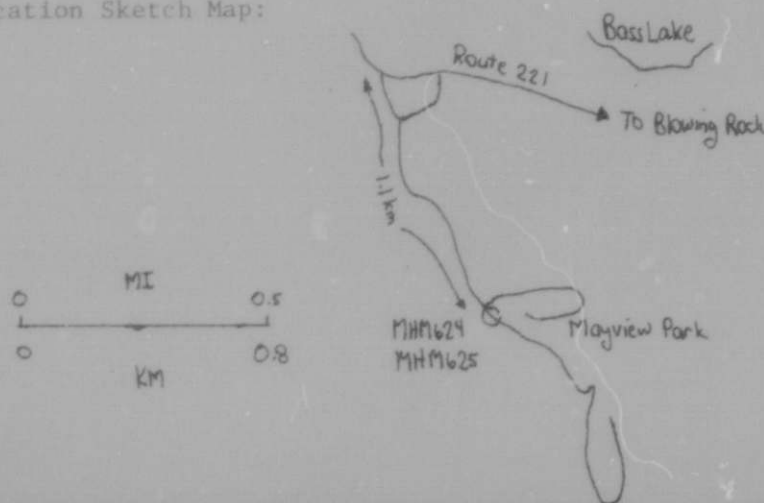
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Watauga >Position from Prominent Locality A82 < In Blowing Rock (southwest side). >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 7 | 5, 4 > Longitude A80 < 0, 8, 1 | 4, 1 | 5, 1 >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3720 ft(1134 m) >Quad Scale A91 < 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Boone >Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Across from 3102 Laurel Lane, north side, 0.7 miles  
(1.1 km) south of Rte 221, in bedrock cut. >

Location Sketch Map:







URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 8

Deposit Form/Shape M10 < Tabular >

Length M40 < over 0.5 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.4 > M51 < m >

1b U308

Thickness M60 < over 2 > M61 < m >

(A) 0 - 20,000

Strike M70 < N3E >

B 20,000 - 200,000

Dip M80 < 52E >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 < \_\_\_\_\_ >

Local Structures N70 < Shear zones striking N-S; isoclinal folds in gneiss are subhorizontal, hinges trend NE >

Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite gneiss >

Host Rock K1 < P, R, E, C, | | | | | | | | | | | | | | | | | | | | > Rusty gray, fine-grained, granular biotite-quartz-microcline gneiss, marked by scattered, narrow pegmatite lenses and/or alteration, attitude, geometry, structure, etc.) (Age) (Rock type, texture, composition, color, veins, and shear zones defining a cleavage which cuts the gneiss bands.)

Host-Rock Environment U3 < Low-grade metamorphic > (Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < White, medium-grained pegmatite or pegmatitic gneiss is exposed both east and west of the anomaly. >

Ore Minerals C30 < Pitchblende(?) >

Gangue Minerals K4 < Quartz, microcline, biotite, hematite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 8Alteration N75 < Hematitic stainingReductants U5 < Minor sulfidesAnalytical Data (General) C43 < MHM 624: 1380 ppm U308; 150 ppm Cr; 200 ppm La;  
70 ppm Ni; 300 ppm Pb; 200 ppm V; 200 ppm Y.Radiometric Data (General) U6 < 400-2200 cps over vein area of 0.4 x 2 m on  
(No. times background and dimensions)  
cut face. Background is 50 cps away from anomaly, normal gneiss is 80-120 cps.Ore Controls K5 < Precipitation along a shear-generated cleavage of black  
minerals (pitchblende?) and rusty iron minerals.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >Comments on Geology N85 < An unweathered equivalent of certain saprolitic  
occurrences elsewhere in the Wilson Creek complex.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 8

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 624	Anomalous gneiss over 10 x 40 cm of vein	1380 ppm U308
MHM 625	Barren gneiss 30 m to west	11 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 9 >Deposit Name A10 < Upper Globe Road anomaly >

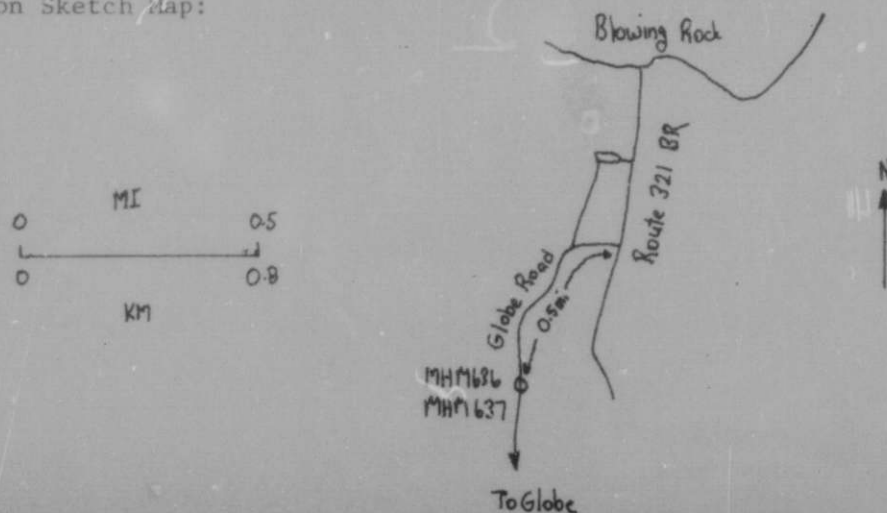
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain >Country A40 < U, S > U, S State North CarolinaState Code A50 < 37 > 37 County A60 < Watauga >  
(Enter code twice from List D)Position from Prominent Locality A82 < About .75 mile south of the village of  
Blowing Rock >Field Checked G1 < 8, 0, 10, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 36, 10, 7, 3, 2, N > Longitude A80 < 80, 14, 0, 5, 6, W >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3350 ft(1021 m) >Quad Scale A91 < 2, 4, 0, 0, 0, 0 > Quad Name A92 < Boone >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < Roadcut on east side of Globe Road, 0.50 miles (.8 km)  
south of Rte. 321BR, schistose zone near northern end of cut >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. gDeposit Form/Shape M10 < Tabular >Length M40 < over 1 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.5 > M51 < m > 1b U308Thickness M60 < over 3 > M61 < m > (A) 0 - 20,000Strike M70 < N27E > B 20,000 - 200,000Dip M80 < 48SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < The contact with interlayered (?) Blowing Rock gneiss is mapped about 0.2 miles (.32 km) to the east. >Local Structures N70 < Foliation and contacts between foliated pegmatite and biotite schist units are parallel with the anomaly. >Host-PM. Name U1 < Wilson Creek complex > Member U2 < Schist >Host Rock K1 < P, R, E, C >  Granular to phyllitic black to gray biotite schist, sheared and slickensided at anomaly, more granular elsewhere. Minor alteration, attitude, geometry, structure, etc.) sulfide rust stains are present, and possibly some graphite.  
(Age) (Rock type, texture, composition, color,)Host-Rock Environment U3 < Low- to medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on Associated Rocks U4 < The anomaly lies adjacent to a recrystallized (metamorphosed) pegmatite that is quartz-rich and bears muscovite and biotite. >Ore Minerals C30 < None observed >Gangue Minerals K4 < Quartz, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 9Alteration N75 < None observedReductants U5 < Minor sulfides, graphite

Analytical Data (General) C43 < MHM 636: 531 ppm U308, 700 ppm Zr, 1500 ppm Ba, 70 ppm Cr, 200 ppm La, 150 ppm Pb, 7000 ppm Ti, 100 ppm V, 200 ppm Y.

Radiometric Data (General) U6 < 200-400 cps along 0.5 x 3 m schistose zone;  
 (No. times background and dimensions)  
other schist is 50 cps, and at background. Pegmatite is 90-120 cps.

Ore Controls K5 < Migrating solutions have localized uranium along this zone, controlled by reductants like graphite (and biotite?). The association of pegmatite suggests a source, as elsewhere in the Wilson Creek complex.

Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 1720

Comments on Geology N85 < A relatively unweathered example of anomalies more common in saprolite.



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

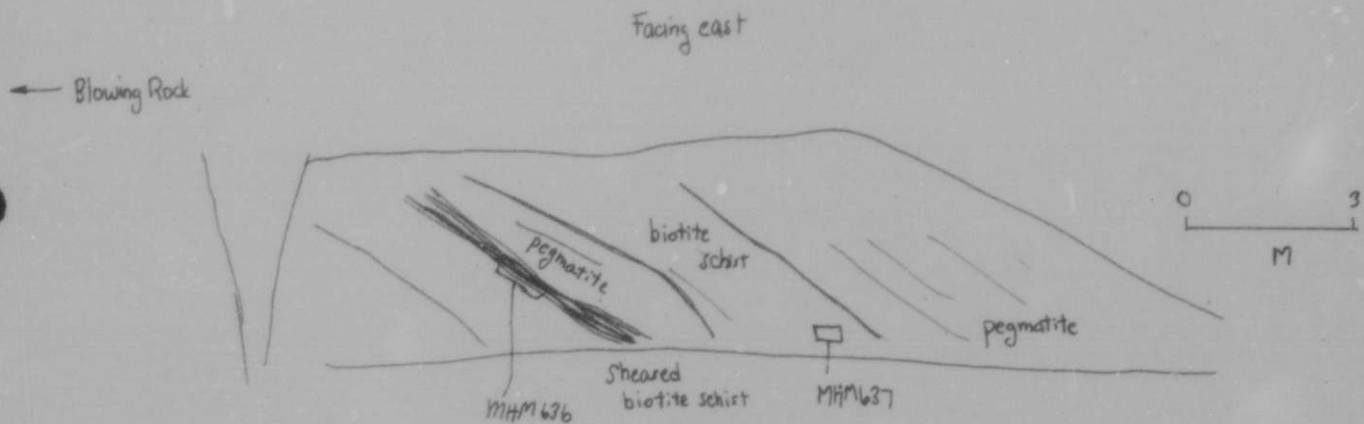
## REPORT

Deposit No. 9

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 636	Channel chips along zone	531 ppm U308
MHM 637	Chips of barren schist	2 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 10 >Deposit Name A10 < Salt Box occurrence >

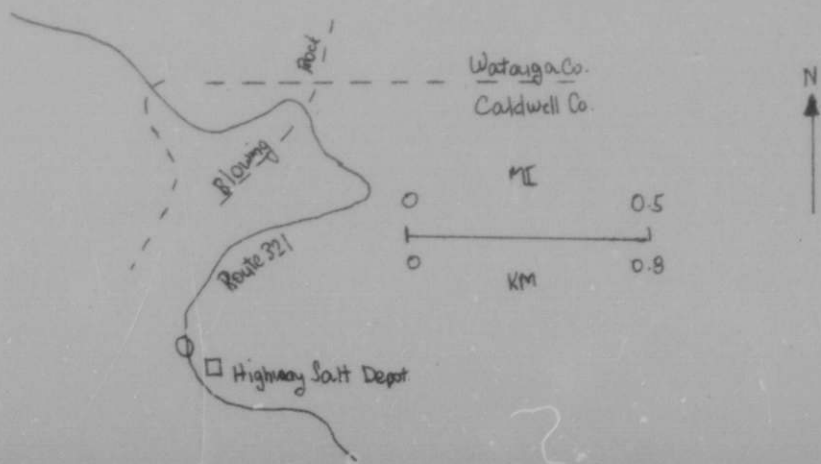
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > [3, 7] County A60 < Caldwell >

(Enter code twice from List D)

Position from Prominent Locality A82 < On Rte. 321, 1.75 miles (2.8 km) south of intersection of Rte. 321 and 321BR south of Blowing Rock. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 6 | 3, 8, N > Longitude A80 < 0, 8, 1 | 3, 9 | 3, 6, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3330 ft (1015 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Globe >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In lower part of large cliff on the west side of Rte. 321, about 160 feet (49 m) south of the telephone pole on the northern end of \* >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 10

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD. \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD. \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 10Deposit Form/Shape M10 < Tabular to lenticular >

FT/M

Length M40 < 2-3 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.1-0.3 > M51 < m >1b U308Thickness M60 < 1-3 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < N52E >

C 200,000 - 2 million

Dip M80 < 79NW >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Large shear zones with mylonite are developed in this area. >Local Structures N70 < Gneissic foliation at southern end of zone is N25E, 60NE. >Several anomalous veins at the north end of the zone are N25E, 49NE. >Host-PM. Name U1 < Blowing Rock gneiss > Member U2 < >Host Rock K1 < P R E Q > M Massive to foliated, light-green to gray-  
(Age) (Rock type, texture, composition, color,green quartz monzonite or monzonitic gneiss, pyrite bearing, highly sheared in alteration, attitude, geometry, structure, etc.)places with chloritized biotite in variable amounts; pegmatitic in places. >Host-Rock Environment U3 < Low- to medium-grade metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 &lt; &gt;

Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, microcline, pyrite, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 10Alteration N75 < None observedReductants U5 < Pyrite

Analytical Data (General) C43 < MHM 616: 274 ppm U308 MHM 617: 163 ppm U308;  
1500 ppm Ba; 200 ppm La; 200 ppm Y.

Radiometric Data (General) U6 < At least three separate anomalous veins over a  
(No. times background and dimensions)  
2 m x 3 m area along cut, 600-1500 cps near anomalies, 300 cps away. Background =  
100 cps, barren rock 150 cps.

Ore Controls K5 < Veins in a green, quartz-rich tectonic lens or slice are anoma-  
lous. Some are associated with vein-quartz, others are a dark green pyrite-rich  
mylonitic material (aphanitic). The vein-quartz type are at high angles to the  
adjacent gneissic foliation, while the dark aphanitic veins are parallel.  
Shearing is an obvious cause for the vein formation.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 7 2 0

Comments on Geology N85 < The anomalous lens is clearly fault-bounded and  
sheared, and looks remarkably like a green sericitic quartzite or arkose of the  
Grandfather Mountain Formation in the field. Hand specimens look more like a  
foliated monzonite, however.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 10

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 616	Chips along phyllitic southern anomaly	274 ppm U308
MHM 617	Chips along quartzitic northern anomaly	163 ppm U308
MHM 628	Chips of Blowing Rock gneiss to the north	2 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_  
 \_\_\_\_\_ >
- F2 < \_\_\_\_\_  
 \_\_\_\_\_ >
- F3 < \_\_\_\_\_  
 \_\_\_\_\_ >
- F4 < \_\_\_\_\_  
 \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 10

Continuation from p. 1-5:

Label

A83 < the cut. >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

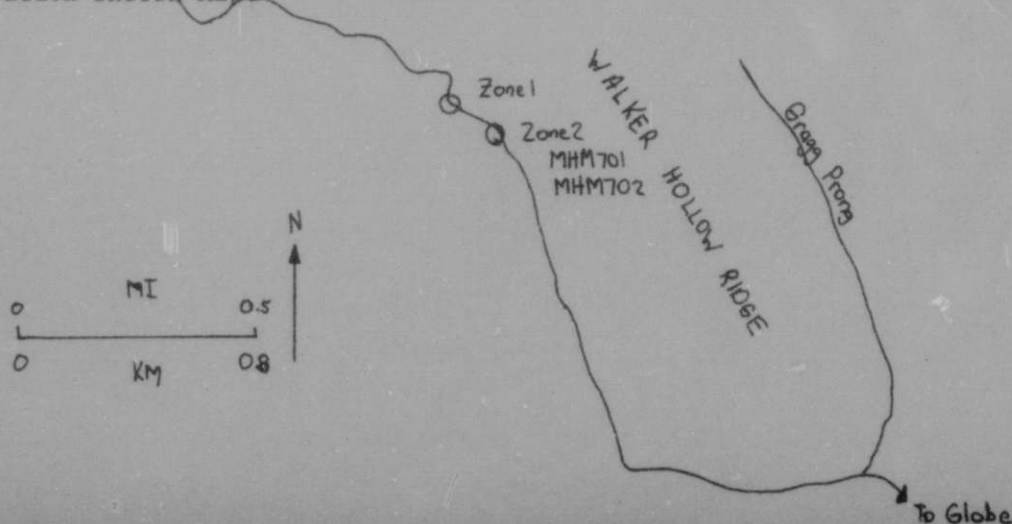
Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 11 >Deposit Name A10 < Walker Hollow Ridge >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 &lt; \_\_\_\_\_ &gt;

Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Caldwell >  
(Enter code twice from List D)Position from Prominent Locality A82 < 2.5 miles (4.0 km) NW of Globe just west  
of Walker Hollow Ridge >Field Checked G1 < 8, 0 | 0, 7 > By G2 < Wagener , H. D. >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 4 | 0, 9, N > Longitude A80 < 0, 8, 1 | 4, 4 | 1, 2, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1760 ft(537 m) >Quad Scale A91 <     |     |     |     |     |     >  
(7½' or 15' quad) Quad Name A92 < Globe >Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < For precise locations of zone 1 and zone 2, see map  
below. Zone 1 is on curve as plotted. Zone 2 is about 15 m west of culvert. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPGRT

Deposit No. 11Deposit Form/Shape M10 < Thin anomalous zones following foliation. >Length M40 < \_\_\_\_\_ > M41 < \_\_\_\_\_ >  
FT/M

Size M15 (circle letter):

Width M50 &lt; \_\_\_\_\_ &gt; M51 &lt; \_\_\_\_\_ &gt;

1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

(A) 0 - 20,000

Strike M70 &lt; \_\_\_\_\_ &gt;

B 20,000 - 200,000

Dip M80 &lt; \_\_\_\_\_ &gt;

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 &lt; \_\_\_\_\_ &gt;

Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Schistose facies >Host Rock K1 < \_\_\_\_\_ | b \_\_\_\_\_ > Zone 1: feldspathic biotite schist; weathers  
(Age) (Rock type, texture, composition, color,tan to brown; concordant quartz pods; foliation strikes 60<sup>0</sup>, dips 50<sup>0</sup> SE.  
alteration, attitude, geometry, structure, etc.)

Zone 2: anomalous zone 0.6 m thick follows foliation of black feldspathic

biotite schist. A pod of nonanomalous pegmatite 0.1 m thick underlies the \* &gt;

Host-Rock Environment U3 < \_\_\_\_\_ >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < In bedrock overhang in sharp curve just N of zone 1,  
graphite schist (mildly anomalous) is exposed. >Ore Minerals C30 < None observed >Gangue Minerals K4 < Feldspar, quartz, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 11Alteration N75 < None observedReductants U5 < BiotiteAnalytical Data (General) C43 < 531 ppm U308; 1000 ppm Ba; 100 ppm Cr; 100 ppm Cu; 300 ppm Pb; 150 ppm V.

Radiometric Data (General) U6 < Zone 1: 150-600 cps in zone about 3 m thick,  
 (No. times background and dimensions)  
measured normal to dip; anomalous zones follow foliation over length of exposure,  
about 6 m. Zone 2: up to 900 cps in similar zone 0.6 m thick.

Ore Controls K5 < Probably leaching of uranium from migrating solutions by  
biotite.

Deposit Class C40 < Vein-type metamorphic rocks > Class No. U7 < 720 >

Comments on Geology N85 < \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 11

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
	ZONE 1 - could not sample	
MHM 701	ZONE 2 - grab sample of rock, about 700 cps	531 ppm U308
MHM 702	ZONE 2 - grab sample of feldspathic quartzite	
	adjacent to anomalous zone	15 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 11

Continuation from p. 1-5:

Label

K1 < anomalous zone.>

## URANIUM-OCCURRENCE

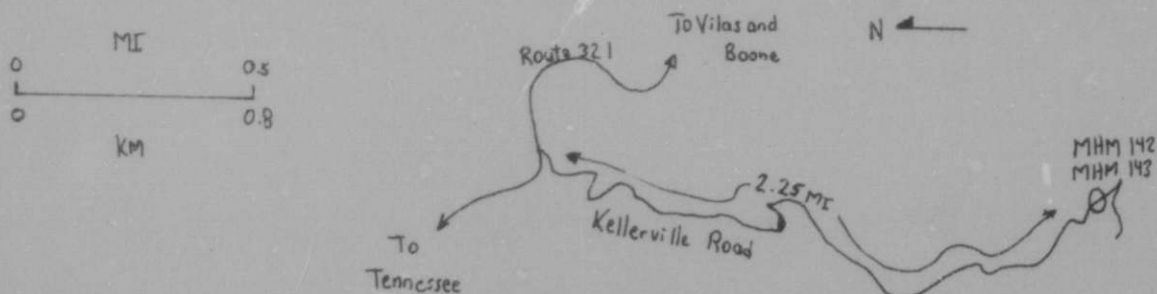
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1 2 5 0 0 0 0 >Deposit No. E40 < 12 >Deposit Name A10 < Kellerville anomaly >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Watauga >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 7 miles (11.3 km) southeast of  
Watauga Lake, north of Beech Mountain. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 5 | 1, 4 | 2, 7, N > Longitude A80 < 0, 8, 1 | 15, 2 | 2, 0, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3360 ft (1024 m) >Quad Scale A91 <     | 2, 4 | 0, 0, 0, 0 > Quad Name A92 < Valle Crucis >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Off Rte. 321 about 5 miles (8 km) east of the Tennes-  
see border, turn south onto Kellerville Road, uphill about 1.5 miles (2.4 km), \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 12Deposit Form/Shape M10 < Lenticular >Length M40 < 0.5 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.2 > M51 < m >1b U308Thickness M60 < over 0.5 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < NE >

C 200,000 - 2 million

Dip M80 < shallow >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 &lt; \_\_\_\_\_ &gt;

Host-FM. Name U1 < Beech Mountain granite > Member U2 < Pegmatite >Host Rock K1 < P, R, E, G, | W > Coarse, pink, partly foliated (metamor-  
(Age) (Rock type, texture, composition, color,  
phosed) quartz-orthoclase-plagioclase-biotite pegmatite lens in granitic gneiss.  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < High-grade metamorphic (migmatitic) >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Granitic gneiss and dioritic gneiss, enclosing lenses and  
veins of pegmatite. >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, orthoclase, plagioclase. >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 12Alteration N75 < Some recrystallizationReductants U5 < None observedAnalytical Data (General) C43 < Small spot anomaly of little significance: not analyzed.Radiometric Data (General) U6 < Anomaly is 400-600 cps over "spot" anomaly area;  
(No. times background and dimensions)  
normal rock is 150-200 cps. Background is 70-80 cps.Ore Controls K5 < Probably primary (anatectic) pegmatite minerals.Deposit Class C40 < Anatectic > Class No. U7 31810Comments on Geology N85 < Similar to others in the Cranberry gneiss near Beech Mountain.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. \_\_\_\_\_

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
	No sample taken	

Geologic Sketch Map and/or Section, with Sample Locations:

References:

F1 < \_\_\_\_\_ >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 12

Continuation from p. 1-5:

Label

A83 < bear left at fork, continue about .75 mile (1.2 km), anomalies in  
wooded area in rock cuts on right (west). >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 13 >Deposit Name A10 < Road 451 No. 3 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > | U, S | State North CarolinaState Code A50 < 3, 7 > | 3, 7 | County A60 < Avery >

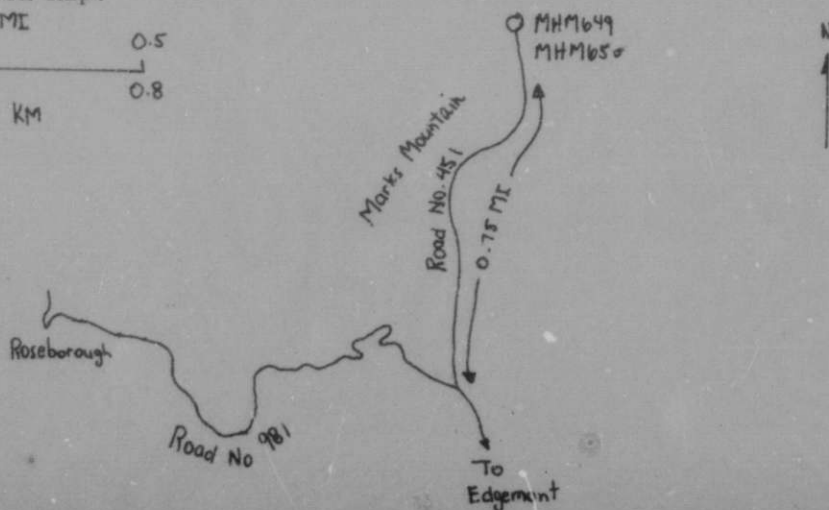
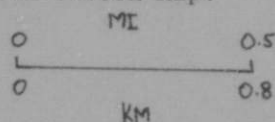
(Enter code twice from List D)

Position from Prominent Locality A82 < About 4 miles (6.4 km) SE of the summit of Grandfather Mountain (summit visible from anomaly at 45° west of north). >Field Checked G1 < 8, 0 | 0, 7 > | Yr Mo | By G2 < McHone , J. Gregory > | Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 3, 4, N > | Deg Min Sec | Longitude A80 < 0, 8, 1 | 4, 7 | 3, 0, W > | Deg Min Sec

Township A77 &lt; \_\_\_\_\_ &gt; | N/S | Range A78 &lt; \_\_\_\_\_ &gt; | E/W | Section A79 &lt; \_\_\_\_\_ &gt; | FT/M

Meridian A81 < \_\_\_\_\_ > | Altitude A107 < 2410 ft(735 m) >Quad Scale A91 < 2, 4, 0, 0, 0 > | (7½' or 15' quad) | Quad Name A92 < Grandfather Mountain >Physiographic Province A63 < 0, 2 | Appalachian Highlands > | (List K)Location Comments A83 < West side of Road 451, 0.75 miles (1.2 km) north of >Road 981 (between Edgemont and Roseborough). >

## Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 13Deposit Form/Shape M10 < Lenticular, concordant >Length M40 < over 30 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < about 20 > M51 < m >1b U308Thickness M60 < over 3 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N10E >

B 20,000 - 200,000

Dip M80 < 27SE >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

\_\_\_\_\_ &gt;

Local Structures N70 < Schistosity has same attitude as anomaly, but may strike more NE in other parts of the occurrence. Barren gneiss has foliation N40E, 31SE. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Graphite schist >Host Rock K1 < P, R, E, C, | | | | | | | | | | | | > Gray to rusty buff, fine to medium-grained  
(Age) (Rock type, texture, composition, color, sheared and folded biotite-feldspar-quartz-graphite schist. In places, the rock alteration, attitude, geometry, structure, etc.)has an appearance of highly-sheared gneiss - compare with the gneiss to the north.Host-Rock Environment U3 < Medium-grade (?) metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Barren, rusty schistose biotite gneiss outcrops to the north. >Ore Minerals C30 < Not apparent. >Gangue Minerals K4 < Quartz, hematite, graphite, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 13Alteration N75 < Rusty (hematitic)Reductants U5 < Graphite

Analytical Data (General) C43 < MHM 649: 711 ppm U308; 1000 ppm Zn; 300 ppm Cr;  
100 ppm Cu; 70 ppm Ni; 150 ppm Pb; 200 ppm V; 100 ppm Y.

Radiometric Data (General) U6 < Anomaly along ditch (and in trenches) is 300-1500  
(No. times background and dimensions)  
cps for about 20 m, and high background (150-250 cps) extends up and down banks  
across road over 30 m. Other BG = 70 cps.

Ore Controls K5 < This extensive exposure of graphite schist demonstrates a  
strong relation between graphite and radioactivity (also seen at Roseborough  
occurrence nearby). An excellent reducing environment for uranium introduced  
along veins. Shearing is also apparent.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 7 2 0

Comments on Geology N85 < Pegmatite and/or orthogneiss is not apparently related  
here, unlike most other local occurrences. The graphite schist does resemble a  
sheared, carbonaceous version of the barren biotite gneiss (paragneiss?) out-  
cropping to the north.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

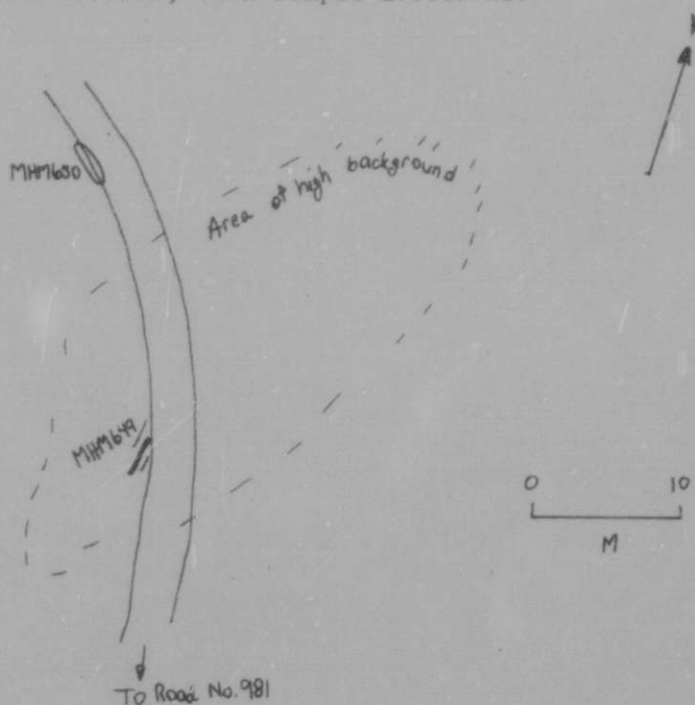
## REPORT

Deposit No. 13

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 649	Chips along 5 ft trench in anomaly	711 ppm U308
MHM 650	Chips of 120 cps gneiss to north	17 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

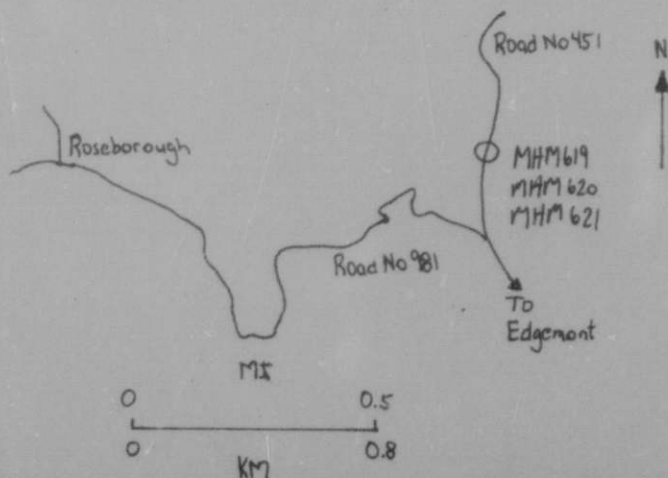
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 14 >Deposit Name A10 < Road 451 No. 1 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 4.3 miles (7 km) SSE of the summit  
of Grandfather Mountain >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 0, 7, N > Longitude A80 < 0, 8, 1 | 4, 7 | 3, 5, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2460 ft (750 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < West side of Road 451, 0.2 miles (.32 km) north of Road  
981 (between Roseborough and Edgemont). >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 14

Commodities Present:

C10  U \_\_\_\_\_ ▷

Commodities Produced:

MAJOR \_\_\_\_\_ ▷ COPROD \_\_\_\_\_ ▷

MINOR \_\_\_\_\_ ▷ BYPROD \_\_\_\_\_ ▷

Potential Commodities:

POTEN \_\_\_\_\_ ▷ OCCUR \_\_\_\_\_ ▷

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
 (1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)  
 DH2 accuracy thousands of lb. years grade  
 G7  U \_\_\_\_\_ ▷ G7A \_\_\_\_\_ ▷ G7B <LB> G7C \_\_\_\_\_ > G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U \_\_\_\_\_ ▷ E1A \_\_\_\_\_ ▷ E1B <LB> E1C \_\_\_\_\_ ▷ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 14Deposit Form/Shape M10 < Tabular >Length M40 < over 0.5 > M41 < <sup>FT/M</sup> m >

Size M15 (circle letter):

Width M50 < 0.39 > M51 < m >1b U308Thickness M60 < over 1 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N58W >

B 20,000 - 200,000

Dip M80 < 82SW >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Phyllitic foliation N30W, 85NE; joints in phyllite N60E, 44NW; quartz vein N65E, 80SE (?) >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite phyllite >Host Rock K1 < P R E G | W > Saprolitic gray-brown biotite-feldspar  
(Age) (Rock type, texture, composition, color,phyllite or very fine-grained schist, crosscut by leucocratic, sheared or alteration, attitude, geometry, structure, etc.)multiply foliated pegmatite or monzonitic gneiss.Host-Rock Environment U3 < Medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The foliated "pegmatite" may not actually crosscut thephyllite foliation - hard to see. It apparently has more than one foliation.Ore Minerals C30 < Not apparent. >Gangue Minerals K4 < Quartz, feldspar, biotite (chloritized). >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 14Alteration N75 < None observed.Reductants U5 < Biotite, minor pyrite (?)

Analytical Data (General) C43 < MHM 619: 550 ppm U308; 150 ppm Cr; 70 ppm Ni;  
G10000 ppm Ti MHM 620: 65 ppm U308; 5000 ppm Ti MHM 621: 36 ppm U308;  
1500 ppm Ba.

Radiometric Data (General) U6 < 700-800 cps across anomalous lens (Background  
(No. times background and dimensions)  
= 60 cps). Barren rock is 160 to 200 cps.

Ore Controls K5 < The "sandwiching" of this rock between pegmatite (ortho-  
gneiss?) may have led to vein-type concentration during later metamorphism.

Deposit Class C40 < Vein -type in metamorphic rocks > Class No. U7 < 7.2.0

Comments on Geology N85 < This occurrence is similar to many others in this area.  
It is disturbing that the "pegmatite" saprolite is apparently an orthogneiss in  
 fresher bedrock, although sheared in places. The phyllitic-gneissic foliation  
 appears discordant with the contact. Biotite-feldspar phyllite or schist is  
 one of the more common and distinctive lithologies in the Wilson Creek Gneiss; \*

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

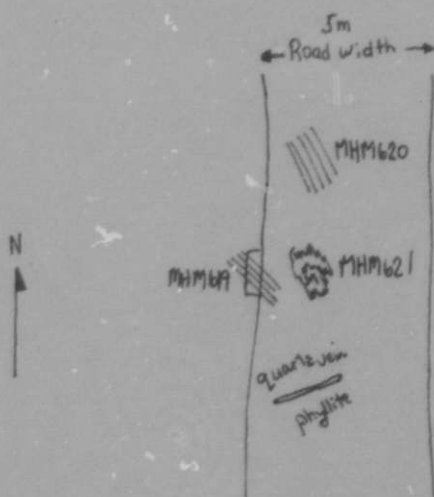
## REPORT

Deposit No. 14

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 619	Anomalous saprock, channel chips	550 ppm U308
MHM 620	Barren phyllite in road	65 ppm U308
MHM 621	Barren orthogneiss in road	36 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 14

Continuation from p. 1-5:

Label

N85 < it commonly has anomalous surface radioactivity. Some of the units have angular feldspar clasts in a biotite-rich foliated matrix, and resemble microbreccia. >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 15 >Deposit Name A10 < Roseboro No. 1 >

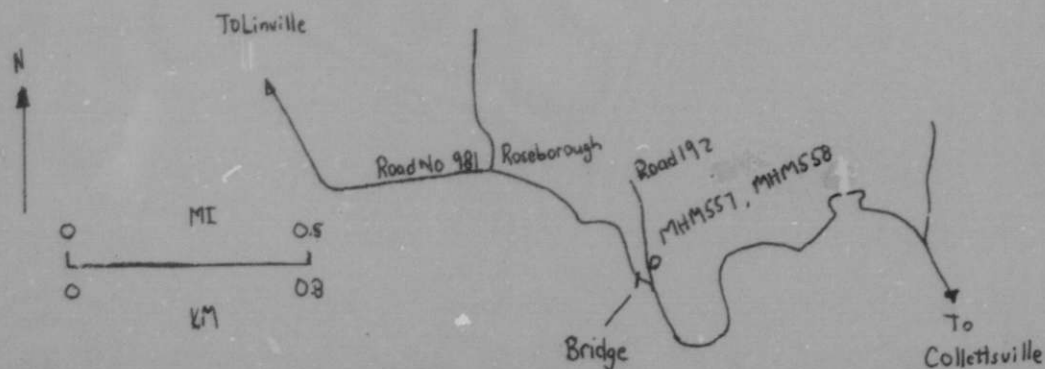
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Area >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < 6.5 miles (10.5 km) southeast of Linville intersection with Rte. 181 along Forest Service Road 981. >Field Checked G1 < 8, 0, 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6, 10, 2, 10, 0, N > Longitude A80 < 0, 8, 1, 4, 8, 1, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2200 ft (670 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Uplands >  
(List K)Location Comments A83 < In ditch on north side of Road 192 about 25 m north of its intersection with Roseboro Road #981. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 15

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)  
DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 15Deposit Form/Shape M10 < Lenticular >

FT/M

Length M40 < 0.8 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.2 > M51 < m >1b U308

Thickness M60 &lt; \_\_\_\_\_ &gt; M61 &lt; \_\_\_\_\_ &gt;

A 0 - 20,000

Strike M70 N56E >

B 20,000 - 200,000

C 200,000 - 2 million

Dip M80 < 41SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < On east limb of Grandfather Mountain structure, possibly an overturned syncline or nappe. >Local Structures N70 < Pervasive E-N-E foliation. >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Metasediment >Host Rock K1 < P, R, E, C > Pyrite-bearing microcline-quartz-biotite  
(Age) (Rock type, texture, composition, color, schist, somewhat gneissoid texture, biotite slightly greenish (retrograded?). alteration, attitude, geometry, structure, etc.) >Host-Rock Environment U3 < High-grade metamorphic, partly retrograded >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The roadcut is a complex of schists, paragneisses, micaceous quartzites, and lenticular pegmatite. >

Ore Minerals C30 &lt; \_\_\_\_\_ &gt;

Gangue Minerals K4 < Quartz, biotite, microcline >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 15Alteration N75 < Some rusty staining, biotite greenish (chloritized?)Reductants U5 < Minor pyrite, possibly also graphite.Analytical Data (General) C43 < 50 ppm U308; 4% Al; 5% Fe; 500 ppm Zn; 500 ppm  
Zr.Radiometric Data (General) U6 < BG = 60 cps; Anomaly is 200-600 cps over 0.2 x  
(No. times background and dimensions)  
0.8 m elongate with foliation. Adjacent rock is 55 cps.Ore Controls K5 < Probably epigenetic solution deposits along the foliation  
planes - some connection with abundant biotite is likely.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7 2 0 >Comments on Geology N85 < These rocks are very similar to roadcut exposures  
in Vermont (Grenville basement rocks of the Mount Holly Complex), even to the  
mode of uranium occurrences.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

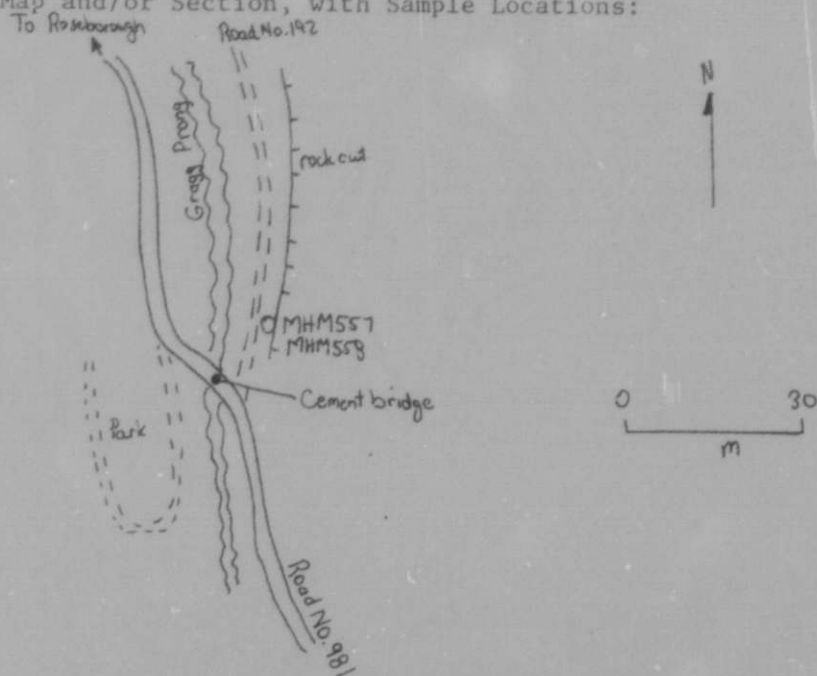
## REPORT

Deposit No. 15

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 557	Chips along entire anomaly	50 ppm U308
MHM 558	Chips of barren rock 1-2 m south of 557	3 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 < Bryant, B., and Reed, J.C., 1970, Geology of the Grandfather Mountain Window and vicinity, North Carolina and Tennessee: U.S. Geol. Survey Prof. Paper 615, \* >

F2 < Wagner, H.D., 1979, Petrology of the Wilson Creek Gneiss, Western North Carolina, and its relation to the Grandfather Mountain Formation, Cranberry \* >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 15

Continuation from p. 1-5:

Label

F1 < 190 p. >

F2 < Gneiss, and Inner Piedmont: Chiasma Consultants, Inc., South Portland,  
ME, 57 p. >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 16 >Deposit Name A10 < Roseboro No. 2 >

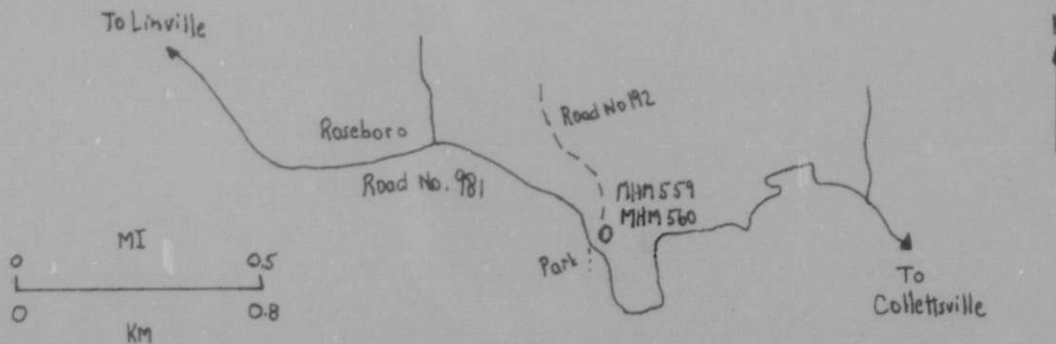
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S >State North CarolinaState Code A50 < 3, 7 > 3, 7  
(Enter code twice from List D)County A60 < Avery >Position from Prominent Locality A82 < 6.5 miles (10.5 km) southeast of  
Linville intersection with Rte. 181 along Forest Service Road 981. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 0, 0, N > Longitude A80 < 0, 8, 1 | 4, 8 | 1, 1, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2210 ft(674 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 >  
(7½' or 15' quad)Quad Name A92 < Grandfather Mountain >Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < East side of Road 192 about 30 m from intersection  
with Roseboro Road (6 m south of spring). >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 16

Commodities Present:

C10  U \_\_\_\_\_>

Commodities Produced:

MAJOR \_\_\_\_\_> COPROD \_\_\_\_\_>

MINOR \_\_\_\_\_> BYPROD \_\_\_\_\_>

Potential Commodities:

POTEN \_\_\_\_\_> OCCUR \_\_\_\_\_>

Commodity Comments C50 < \_\_\_\_\_>

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_>

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_>

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_> G7A \_\_\_\_\_> G7B  LB \_\_\_\_\_> G7C \_\_\_\_\_> G7D \_\_\_\_\_> % U308 >

Source of Information D9 < \_\_\_\_\_>

Production Comments D10 < \_\_\_\_\_>

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_> E1A \_\_\_\_\_> E1B  LB \_\_\_\_\_> E1C \_\_\_\_\_> E1D \_\_\_\_\_> % U308 >

Source of Information E7 < \_\_\_\_\_>

Comments E8 < \_\_\_\_\_>

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 16Deposit Form/Shape M10 < Lenticular >Length M40 < 0.2 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.1 > M51 < m > 1h U308Thickness M60 < over 0.1 > M61 < m > A 0 - 20,000

B 20,000 - 200,000

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Strike M70 < N80E >Dip M80 < 65SE >Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < East flank of Grandfather Mountain antiform. >Local Structures N70 < Wavy (gneissic) foliation is N60E, 50SE. >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Schist >Host Rock K1 < P<sub>1</sub>R<sub>1</sub>E<sub>1</sub>C<sub>1</sub> | | | | | | | | | | | | | | | | | | | | | > Greenish gray to rusty (pyritic)

(Age) (Rock type, texture, composition, color, quartz-graphite-biotite schist; texture approaches gneissic; black saprolitic alteration, attitude, geometry, structure, etc.)

bands and small pegmatite pods and lenses are common.Host-Rock Environment U3 < Granulite schist retrograded to biotite facies. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on Associated Rocks U4 < Roadcut is a complex of schists, para-gneiss, quartzite, and pegmatite. >Ore Minerals C30 < Pitchblende (?) >Gangue Minerals K4 < Quartz, graphite, biotite, pyrite >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 16Alteration N75 < Greenish cast probably reflects retrograde metamorphism.Reductants U5 < Graphite, pyrite.Analytical Data (General) C43 < 980 ppm U308; 1 ppm Ag; 1500 ppm Ba; 15 ppm Be;  
150 ppm Cr; 200 ppm Pb; 5% Fe; 300 ppm VRadiometric Data (General) U6 < Anomaly is 800-2800 cps over 10 x 10 x 20 cm  
(No. times background and dimensions)  
lens along foliation. BG = 60 cps. Normal rock (schist and gneiss) = 100-150  
cps.Ore Controls K5 < Apparently epigenetic fluids have migrated along foliation  
and/or shear planes, and U has precipitated in response to the graphite.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7,2,0 >Comments on Geology N85 < These roadcuts and anomalies are very similar to  
Vermont basement rocks (Mt. Holly Complex).



URANIUM-OCCURRENCE

Quad Name Winston-Salem

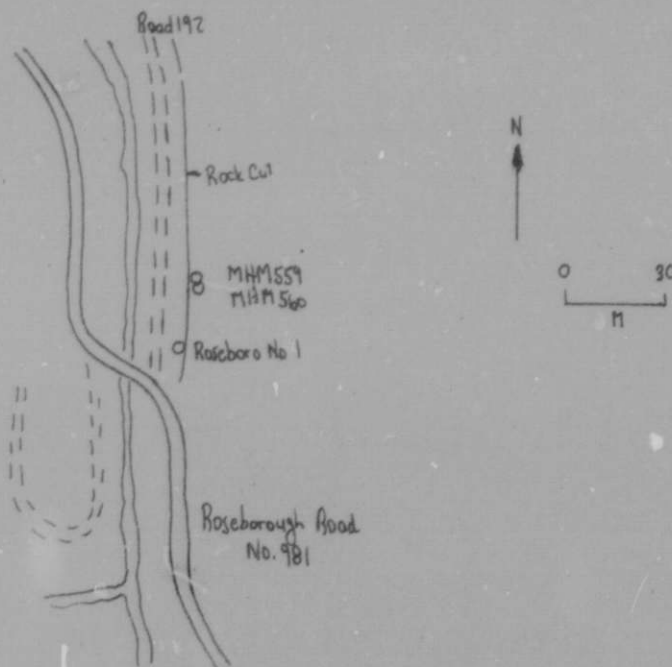
REPORT

Deposit No. 16

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 559	Chips along anomalous zone	980 ppm U308
MHM 560	Chips of adjacent barren rock	4 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 17 >Deposit Name A10 < Roseboro No. 3 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < Roadcut on National Forest Service Road192, near intersection with Roseboro Road (981) 6.5 miles (10.5km) south ofLinville. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone | J. Gregory >

Yr Mo

Last name

First

Initial

Latitude A70 < 3, 6 | 0, 2 | 0, 1, N > Longitude A80 < 0, 8, 1 | 4, 8 | 1, 1, W >

Deg Min Sec

Deg Min Sec

Township A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >

N/S

E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2220 ft (677 m) >Quad Scale A91 <     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >

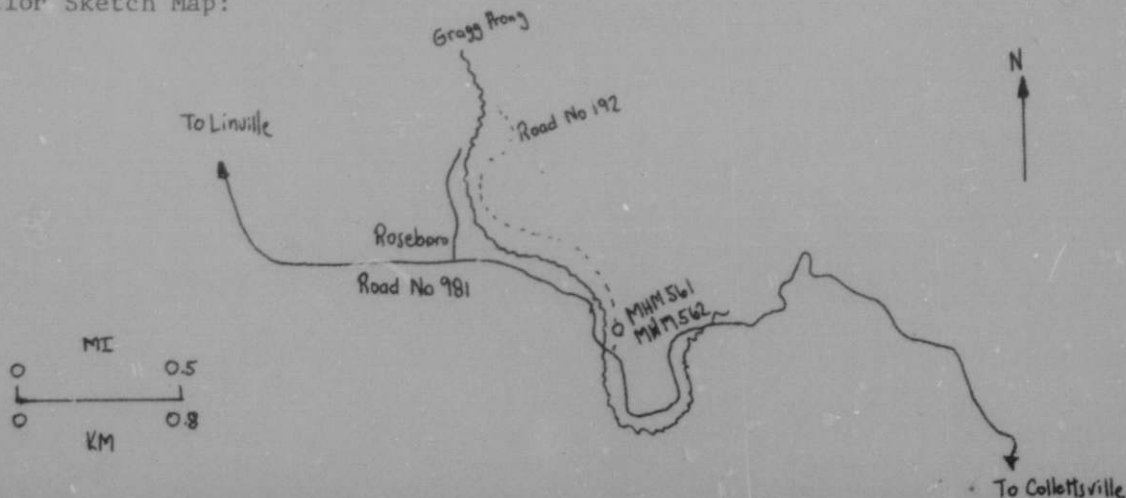
(7½' or 15' quad)

Physiographic Province A63 < 0, 2 | Appalachian Uplands >

(List K)

Location Comments A83 < About 30 m from north end of roadcut, or roughly150 m from intersection with Roseboro Road. >

Locator Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 17Deposit Form/Shape M10 < Tabular >

FT/M

Length M40 < over 0.8 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.2 > M51 < m >1b U308Thickness M60 < over 0.4 > M61 < m >A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N53E >

C 200,000 - 2 million

Dip M80 < 50SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < East flank of Grandfather Mountain antiform. >Local Structures N70 < Schistose foliation; cleavage planes are highly slicken-sided at anomaly (microfaults?). >Host-FM. Name U1 < Wilson Creek Gneiss > Member U2 < Schist >Host Rock K1 < P R E G | W > Rusty gray gneissoid, somewhat granular  
(Age) (Rock type, texture, composition, color,  
quartz-graphite-biotite schist.

alteration, attitude, geometry, structure, etc.)

Host-Rock Environment U3 < Retrograded granulite schist. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Foliated blue-quartz pegmatites are abundant 1-5 m to the south and north (but are barren). >Ore Minerals C30 < Carnotite; pitchblende(?) >Gangue Minerals K4 < Quartz, graphite, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 17Alteration N75 < Rusty, corroded zones (sulfides)Reductants U5 < Graphite, pyrite.Analytical Data (General) C43 < 2200 ppm U308; 6% Al; 1000 pm Ba; 150 ppm Cu;  
3% Fe; 1000 ppm Pb; 150 ppm V.Radiometric Data (General) U6 < 500-1300 cps over 20 cm x 80 cm of exposure  
(No. times background and dimensions)  
(BG = 55 cps). Country-rock = 55 cps.Ore Controls K5 < Primary carbonaceous material and sulfides may have caused U  
to precipitate from solutions migrating along foliation planes and fault planes.  
The U is associated with black earthy bands in the schist.Deposit Class C40 < Vein-type deposits > Class No. U7 < 7,2,0Comments on Geology N85 < Not really "veins," but other catagories fit less  
well. One of few occurrences in the region which display yellow uranium oxides.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

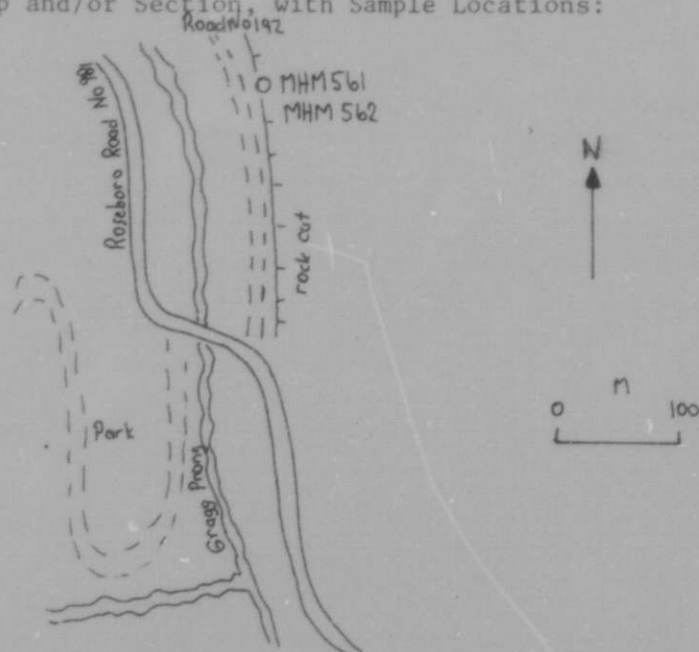
## REPORT

Deposit No. 17

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 561	Chips along entire anomaly	2200 ppm U308
MHM 562	Chips from adjacent barren rock	3 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 18 >Deposit Name A10 < Roseboro No. 4 >

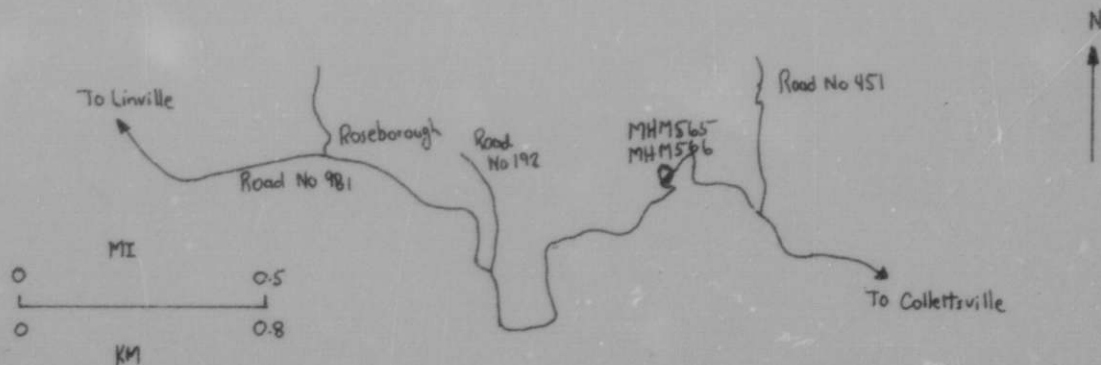
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < 7.2 miles (11.6 km) southeast of Linville intersection with Rte. 181 along National Forest Service Road 981. >Field Checked G1 < 8, 0 | 0, 4 > By G2 < McHone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 36 | 02 | 01, N > Longitude A80 < 0, 8, 1 | 4, 7 | 0, 8, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2850 ft(869 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In bank along Road 981 above sharp turn concave to the east, south of the "U" in Marks Mountain. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 18

Commodities Present:

C10  U

Commodities Produced:

MAJOR  COPROD

MINOR  BYPROD

Potential Commodities:

POTEN  OCCUR

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U G7A  G7B < LB > G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U E1A  E1B < LB > E1C  E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 18

Deposit Form/Shape M10 < Tabular >

FT/M

Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.5 > M51 < m >

1b U308

Thickness M60 < over 0.5 > M61 < m >

A 0 - 20,000

B 20,000 - 200,000

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Strike M70 < about N80W >

Dip M80 < subhorizontal >

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N2 < \_\_\_\_\_ >

Local Structures N70 < Poor exposures - foliation probably parallel to anomaly.

Slickensided, black surfaces are abundant (glassy even in the saprolite).

Host-PM. Name U1 < Wilson Creek complex > Member U2 < Biotite schist >

Host Rock K1 < PREC | | | | | | | Reddish-brown, earthy saprolite derived >

(Age)

(Rock type, texture, composition, color,

from a fine-grained biotite schist.

alteration, attitude, geometry, structure, etc.)

Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < White, coarse-grained pegmatite outcrops about 10 m to

the southeast.

Ore Minerals C30 < Not observed >

Gangue Minerals K4 < Quartz, feldspar, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 18Alteration N75 < None observed, other than weathering.Reductants U5 < Possibly minor pyrite and graphite.Analytical Data (General) C43 < 240 ppm U308; 2% Al; 7% Fe; 1000 ppm Mn; 150 ppm V.Radiometric Data (General) U6 < 250 cps on surface, climbs to 550 cps in 30 cm  
(No. times background and dimensions)  
deep trench 1 x 0.5 m; background is 80 cps.Ore Controls K5 < Radioactivity seems related to the black, slickensided veins  
or bands in the schist. Poor exposure. U may have been concentrated here along  
with Fe and Mn oxides by supergene process.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7, 2, 0Comments on Geology N85 < One of many similar occurrences along this road.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 18

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 565	Chips of saprock at anomaly	240 ppm U308
MHM 566	Chips of barren saprolite to south	5 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 19 >Deposit Name A10 < Roseboro No. 5 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < 7.2 miles (11.6 km) southeast of Linville intersection with Rte. 181 on Forest Service Road 981. >Field Checked G1 < 8 | 0 | 0 | 4 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3 | 6 | 0 | 2 | 0 | 2 | N > Longitude A80 < 0 | 8 | 1 | 4 | 7 | 0 | 7 | W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ > Range A78 < \_\_\_\_\_ | \_\_\_\_\_ | \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2860 ft (872 m) >Quad Scale A91 < 1 | 2 | 4 | 0 | 0 | 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In roadbank south of the "U" in Marks Mountain, about 15 m NE of small culvert (or 30 m NE of Roseboro #4). >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 19

Commodities Present:

C10  \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)  
DH2 accuracy thousands of lb. years grade  
G7  U  \_\_\_\_\_ G7A  \_\_\_\_\_ G7B <LB> G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U  \_\_\_\_\_ E1A  \_\_\_\_\_ E1B <LB> E1C  \_\_\_\_\_ E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 19Deposit Form/Shape M10 < Tabular, concordant >Length M40 < over 150 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < over 1 > M51 < m >1b U308Thickness M60 < over 1 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < NE >

C 200,000 - 2 million

Dip M80 < steep >

D 2 millior - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Not exposed at anomaly, but pegmatite dikes nearby strike >N22EHost-FM. Name U1 < Wilson Creek > Member U2 < Biotite schist >Host Rock K1 < P R E C | | | | | | | | | | > Red-brown, fine-grained clay rich saprolite

(Age)

(Rock type, texture, composition, color,

adjacent to felsic gneissic saprock (pegmatite).alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Medium to high-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Saprolite derived from schist, pegmatite, and orthogneiss (?) >are the common exposed materials.Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, microcline, micas. >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 19Alteration N75 < None observed, other than weatheringReductants U5 < Minor sulfides (now removed)Analytical Data (General) C43 < MHM-567: 257 ppm U308; 500 ppm Zn.

Radiometric Data (General) U6 < 400-800 cps at local anomaly (0.5 x 1.5 m  
(No. times background and dimensions)  
trench); 100-400 cps along 150 m of roadside ditch in saprolite; Background =  
90 cps.

Ore Controls K5 < The proximity of the anomalous saprolite to pegmatite is  
combined with the presence of numerous black-surfaced slickensided joints to  
indicate class 720. U apparently migrated into the former schist along frac-  
tures, possibly via supergene processes.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 720 >

Comments on Geology N85 < \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

URANIUM-OCCURRENCE

Quad Name Winston-Salem

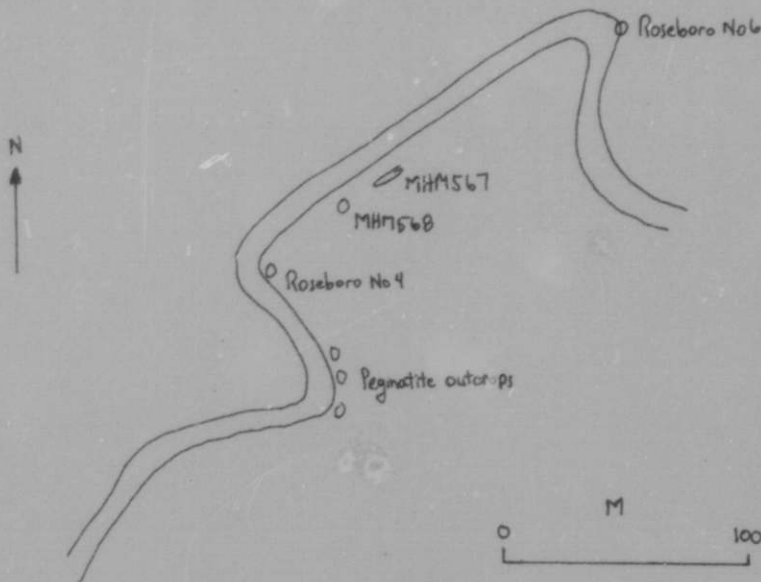
REPORT

Deposit No. 19

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 567	Channel along 1.5 m trench (saprolite) in anomaly	257 ppm U308
MHM 568	Barren saprolite to south	24 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 20 >Deposit Name A10 < Roseboro No. 6 >

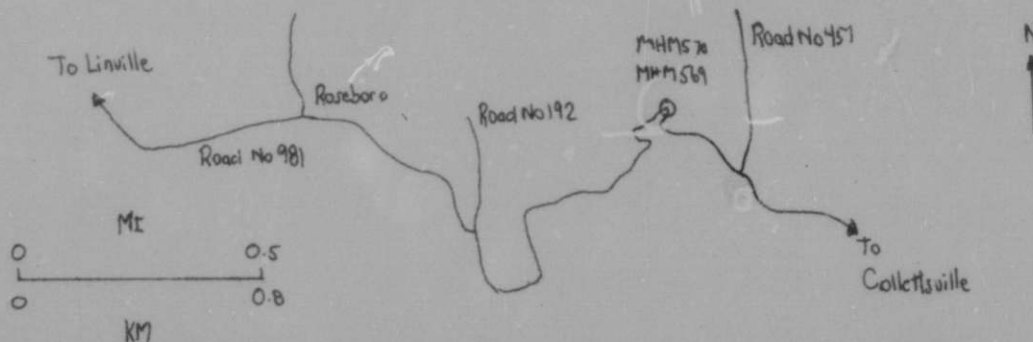
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < 7.3 miles (11.75 km) southeast of theLinville intersection of Forest Service Road 981 with Rte. 181 (on 981).Field Checked G1 < 8, 0 | 0, 4 > Ev G2 < McIlone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 0, 3, N > Longitude A80 < 0, 8, 1 | 4, 7 | 0, 6, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A51 < \_\_\_\_\_ > Altitude A107 < 2870 ft(875 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In roadbank on outside curve of hairpin turn (about150 m north of Roseboro No. 5), or about 20 m northeast of the small pull-off \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 20Deposit Form/Shape M10 < Lenticular to tabular >Length M40 < over 10 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < over 1 > M51 < m >1b U308Thickness M60 < over 1 > M61 < m >

A 0 - 20,000

Strike M70 < N22E >

B 20,000 - 200,000

Dip M80 < 76SE >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Anomaly is adjacent to a dike (orientation given above)  
about 10 cm thick here. >Host-FM. Name U1 < Wilson Creek > Member U2 < Schist >Host Rock K1 < P, R, E, C | 1/2 | Red-brown, clay-rich saprolite (was biotite  
schist?) adjacent to saprolitic pegmatite. Foliation not measurable.  
alteration, attitude, geometry, structure, etc.) >

(Age)

(Rock type, texture, composition, color,

Host-Rock Environment U3 < Medium to high-grade metamorphic. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Pegmatite, schist and orthogneiss are abundant in the  
area. >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, microcline, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 20Alteration N75 < None observed, other than weathering.Reductants U5 < Minor sulfides, graphite.Analytical Data (General) C43 < MHM 569: 203 ppm U308; 1000 ppm Mn.Radiometric Data (General) U6 < 300-750 cps over 1.5 m trench; anomaly is over  
(No. times background and dimensions)300 cps for over 10 m (lost in woods); Background is 80-90 cps.Ore Controls K5 < The abundant black-coated slickensided surfaces are the  
apparent U loci, indicating vein-type enrichment, or supergene enrichment.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 7 2 0Comments on Geology N85 < Similar to many small anomalies in this region.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

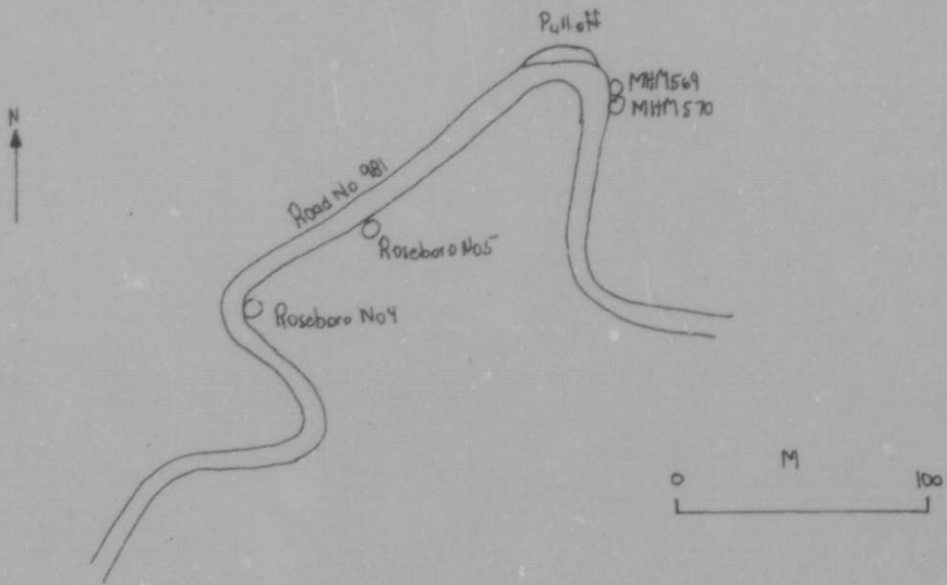
REPORT

Deposit No. 20

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 569	Chips in trench across anomaly	203 ppm U308
MHM 570	Barren saprolite to east	31 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 20

Continuation from p. 1-5:

Label

A83 < area at the curve. >

Lined area for report content.

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 21 >Deposit Name A10 < Roseboro No. 7 >

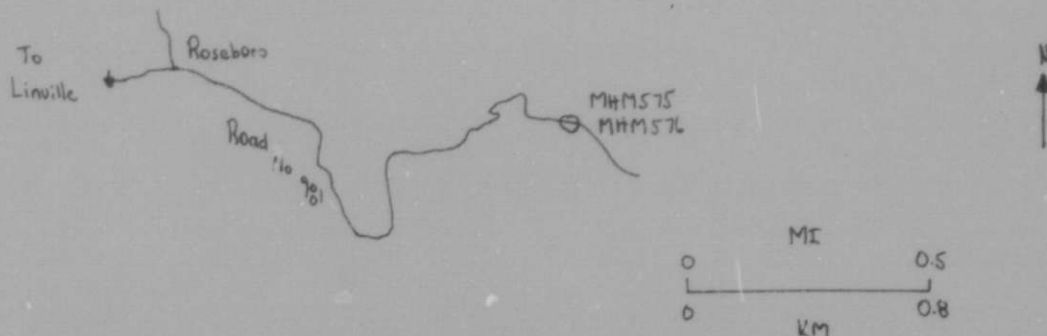
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S U, S > State North CarolinaState Code A50 < 3, 7 3, 7 > County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < On Road 981 7.4 miles (11.9 km) south-east of Linville intersection with Rte. 181, about 6 miles (9.6 km) south ofGrandfather Mountain summit. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 3, 0, N > Longitude A80 < 0, 8, 1 | 4, 7 | 4, 0, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2360 ft (720 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In bank on north side of road, 0.90 miles (1.45 km)southeast of Road 192, at tag marked 1400 >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 21Deposit Form/Shape M10 < Tabular, concordant >Length M40 < over 3 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.2 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m > (A) 0 - 20,000  
B 20,000 - 200,000  
C 200,000 - 2 million  
D 2 million - 20 million  
E More than 20 millionStrike M70 < N10W >Dip M80 < 88E >Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Pervasive cleavage of N10W cuts gneissic foliation of N42W,  
79NE. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Gneiss >Host Rock K1 < P, R, E, C > Bluish-white, coarse biotite (chlorite)  
(Age) (Rock type, texture, composition, color,quartz microcline gneiss, garnet and pyrite-bearing, weathering to anomalous  
alteration, attitude, geometry, structure, etc.)orange-buff, somewhat rusty saprock in upper 0.3-0.6 m.Host-Rock Environment U3 < Metamorphosed granite or arkose. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Small white pegmatite lenses and a red-weathering fine-  
grained rock (siltstone or basalt) are interfingering with the gneiss in some  
areas. >Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Chloritized biotite, quartz, microcline, albite(?) >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 21

Alteration N75 < Greenish-altered biotite lamellae (chloritized during retro-grade metamorphism).

Reductants U5 < Minor pyrite

Analytical Data (General) C43 < MHM 575: 285 ppm U308; 7% Al.

Radiometric Data (General) U6 < Background 90-100 cps; ditch and bank surface (No. times background and dimensions) is 150 to 500 cps for 75 m along road; sampled anomaly is 0.2 x 2.5 m zone of saprock with values of 500 to 800 cps. Adjacent saprock is 400-500 cps.

Ore Controls K5 < The bedrock gneiss is only moderately radioactive. The saprock surface of the gneiss is anomalous, but the radioactivity is maximized along certain N10W cleavages, indicating leaching and concentration of U in the weathering zones and in veins reaching downwards into the fresh orthogneiss. Partly supergene, partly metamorphic.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7,2,0 >

Comments on Geology N85 < \_\_\_\_\_

URANIUM-OCCURRENCE

Quad Name Winston-Salem

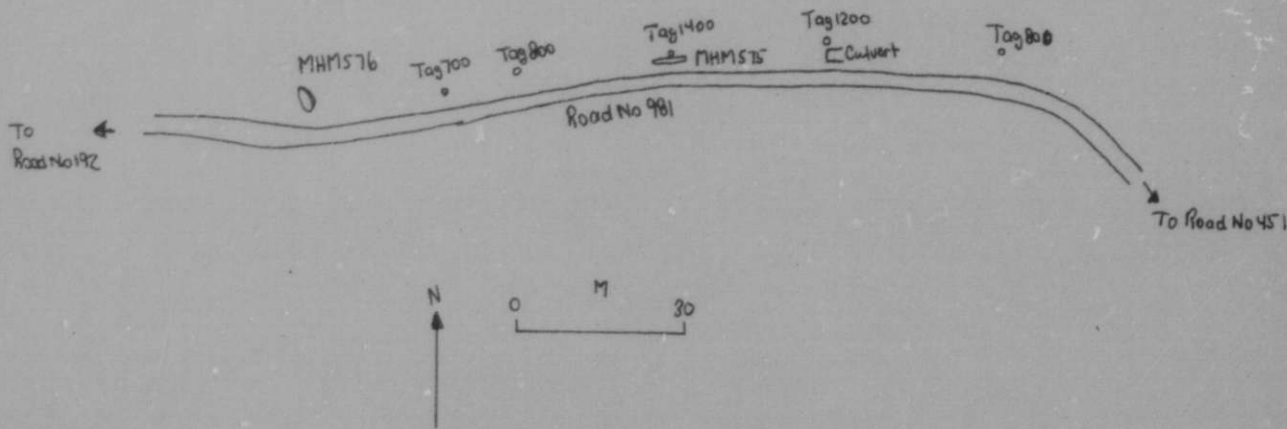
REPORT

Deposit No. 21

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 575	Saprock along 20 cm x 40 cm zone	285 ppm U308
MHM 576	Outcrop of orthogneiss (?) to west	9 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

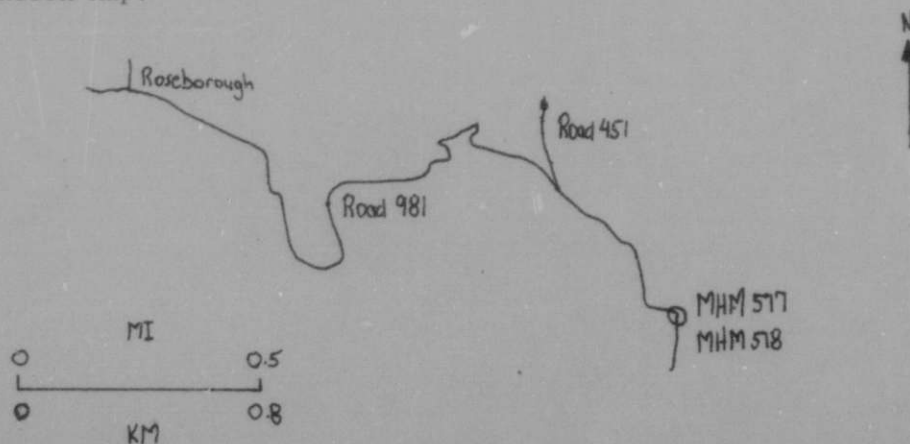
## REPORT

Quad Scale A100 < 2,500,000 >Deposit No. B40 < 22 >Deposit Name A10 < Hughes Ridge No. 1 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3,7 | 3,7 > County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 6 miles (9.7 km) SSE of summit  
of Grandfather Mountain >Field Checked G1 < 8,0 | 0,5 > By G2 < McHone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3,6 | 0,1 | 4,4, N > Longitude A80 < 0,8,1 | 4,7 | 1,8, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2330 ft(710 m) >Quad Scale A91 <     | 2,4,0,0,0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0,2 | Appalachian Highlands >  
(List K)Location Comments A83 < In ditch on Road 981, 0.40 miles (.64 km) southeast  
of Road 451, east of H in Hughes Ridge on map. >

Location Sketch Map:







## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 22Alteration N75 < None observed, other than weathering.Reductants U5 < PyriteAnalytical Data (General) C43 < MHM 577: 81 ppm U308; 150 ppm Pb; 500 ppm Zr.

Radiometric Data (General) U6 < BG = 80 (in woods); anomaly is 300-400 cps  
(No. times background and dimensions)  
along a 30 cm wide by 1.5 m long stretch of ditch exposure. Adjacent ditch is  
150-250 cps.

Ore Controls K5 < As near as can be seen, the anomaly is in a thermally-  
altered (contact with pegmatite) variation of a metasedimentary rock, possibly  
a graywacke. Some control by the foliation (apparently a fracture foliation)  
is probable, but the exposure is poor. I think that hydrothermally-introduced  
pyrite was a reductant for mobile U.

Deposit Class C40 < Vein-type in metamorphic rock Class No. U7 < 720

Comments on Geology N85 < As is typical of Wilson Creek occurrences, the anomaly  
is near a metasediment-granite intrusion interface, but is aligned by the local  
foliation.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 22

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 577	Chips across 1 m of anomaly	81 ppm U308
MHM 578	Chips from 150 cps metasediment	13 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;



## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 23 >Deposit Name A10 < Hughes Ridge No. 2 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Avery >

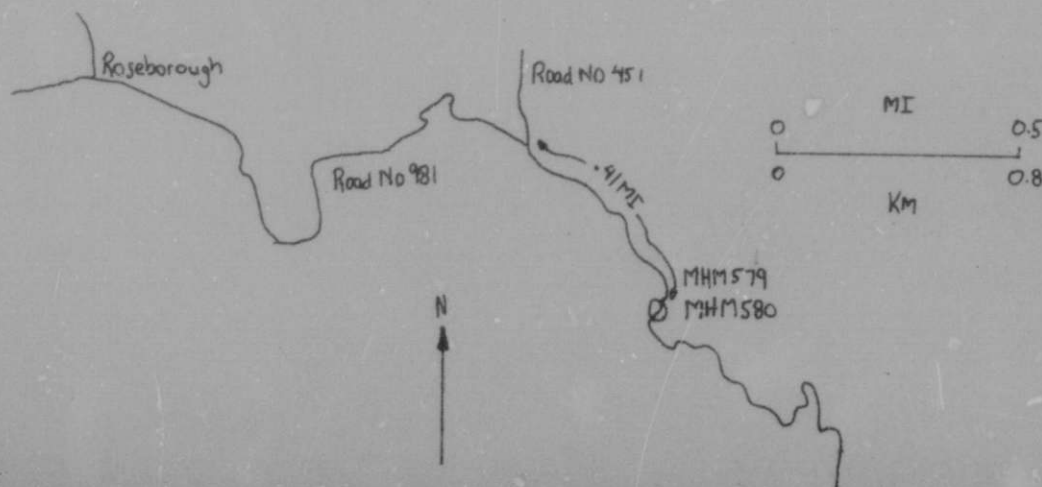
(Enter code twice from List D)

Position from Prominent Locality A82 < On Road 981, 7.95 miles (12.8 km)southeast of the intersection with Rte. 181 at Linville, about 6 miles (9.7 km)south of Grandfather Mountain summit. >Field Checked G1 < 8, 0 | 10, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 10, 1 | 4, 0, N > Longitude A80 < 0, 8, 1 | 4, 7 | 1, 8, W >  
Deg Min Sec Deg Min SecTownship A77 <      |      |      > Range A78 <      |      |      > Section A79 <      |      |      >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2310 ft (704 m) >Quad Scale A91 <      | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Uplands >  
(List K)Location Comments A83 < About 0.41 miles (.66 km) southeast of Road 451, east side of Road 981, east of U in Hughes Ridge. (on map). >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 23Deposit Form/Shape M10 < Tabular >

FT/M

Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < about 3 > M51 < m >1b U308Thickness M60 < over 1 > M61 < m >(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < N10E >

C 200,000 - 2 million

Dip M80 < 69E >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Pegmatite dike follows a fracture foliation super-imposed on another cleavage which is more NW and at a lower dip. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Pegmatite >Host Rock K1 < P R E C \_\_\_\_\_ > White biotite-quartz-microcline pegmatite,  
(Age) (Rock type, texture, composition, color,medium to coarse-grained, highly foliated (but not quite gneissic). Slightly alteration, attitude, geometry, structure, etc.)to heavily weathered in the outcrop.Host-Rock Environment U3 < Metamorphosed intrusive. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on Associated Rocks U4 < Metagraywacke, schist, and granitoid gneiss are all in the nearby area. >Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Quartz, microcline, (albite?), biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 23Alteration N75 < None observed.Reductants U5 < None observed.Analytical Data (General) C43 < MHM 579: 113 ppm U308; 200 ppm La.  
MHM 580: 66 ppm U308.Radiometric Data (General) U6 < BG = 80 cps in woods; pegmatite is 220 cps to  
(No. times background and dimensions)  
380 cps (most anomalous on east side). Over 300 cps in 40 x 50 cm exposure  
of dike.Ore Controls K5 < Probably a syngenetic uranium mineral has been partially  
mobilized by the foliation event of the pegmatite, concentrating along reducing  
margin (sulfide-bearing country rock).Deposit Class C40 < Pegmatite > Class No. U7 < 3, 2, 0

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 23

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 579	Chips of pegmatite saprock anomaly	113 ppm U308
MHM 580	Chips of pegmatite on NW margin	66 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 24 >Deposit Name A10 < Hughes Ridge No. 3 >

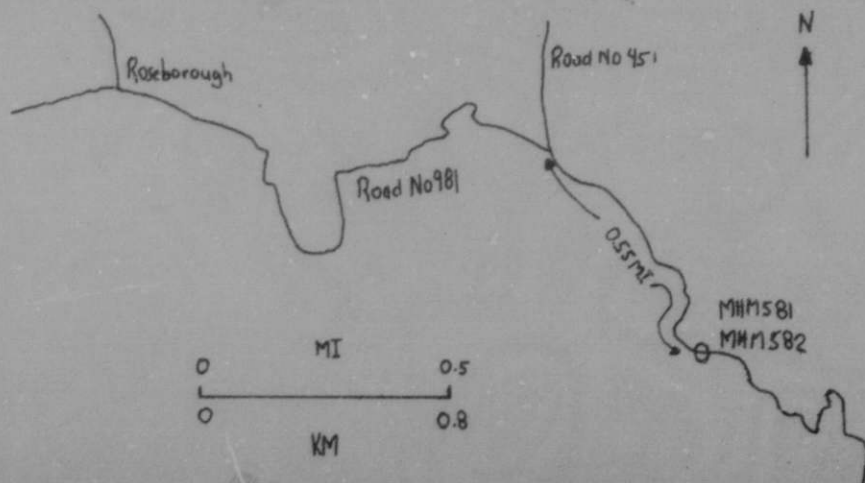
Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < On National Forest Service Road 981,8.1 miles (13 km) from intersection with Rte. 181 at Linville, about 6 miles(9.6 km) south of Grandfather Mountain summit. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < Mchone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 0, 6, N > Longitude A80 < 0, 8, 1 | 4, 7 | 1, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2210 ft(674 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < At 1300 tag about 0.1 miles southeast of trail parking  
area, or 0.55 miles (.90 km) SE of Road 451, on east side of 981. >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 24

Deposit Form/Shape M10 < Tabular, concordant >

Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.6 > M51 < m >

1b U308

Thickness M60 < over 1 > M61 < m >

- (A) 0 - 20,000
- B 20,000 - 200,000
- C 200,000 - 2 million
- D 2 million - 20 million
- E More than 20 million

Strike M70 < N80W >

Dip M80 < 85N >

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 < \_\_\_\_\_ >

Local Structures N70 < Fracture cleavage to south of anomaly is N46E, 36SE -  
may vary from local folding. >

Host-FM. Name U1 < Wilson Creek > Member U2 < Schist >

Host Rock K1 < P1R1E1C1 | W | \_\_\_\_\_ > Medium-grained reddish-brown quartz-  
(Age) (Rock type, texture, composition, color,  
biotite-muscovite-feldspar schist, highly slickensided with black-coated  
alteration, attitude, geometry, structure, etc.)  
(Mn-minerals?) fracture surfaces, in contact with a white pegmatite.

Host-Rock Environment U3 < Medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on  
Associated Rocks U4 < These exposures for many hundreds of feet are mainly  
arkosic schists and metagraywackes shot through with thin pegmatites. >

Ore Minerals C30 < No; observed >

Gangue Minerals K4 < Quartz, feldspar, muscovite. >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 24Alteration N75 < None observedReductants U5 < Minor sulfides, graphite abundant to the southAnalytical Data (General) C43 < MHM 581: 90 ppm U308; 50 ppm Cu; 100 ppm Ni;  
200 ppm Cr; 100 ppm V; 200 ppm Y.      MHM 582: 34 ppm U308Radiometric Data (General) U6 < BG = 80 cps (in woods); anomaly is 380-480  
(No. times background and dimensions)  
cps over 60 cm along ditch. "Barren" saprolite is still 200 cps.Ore Controls K5 < The presence of slickensides and schistose foliations aided  
movement of U from the adjacent pegmatites, precipitated by reductants like  
graphite and sulfides in the schist.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 720Comments on Geology N85 < Many similar anomalies are present in both the  
saprolite and bedrock exposures along the Roseboro Road.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

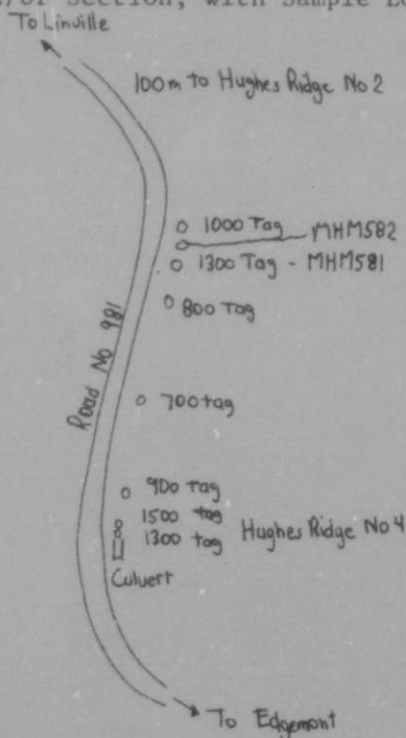
## REPORT

Deposit No. 24

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 581	Chips across 60 cm of saprolite in ditch	90 ppm U308
MHM 582	Chips from barren schist to the north	34 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 25 >Deposit Name A10 < Hughes Ridge No. 4 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >

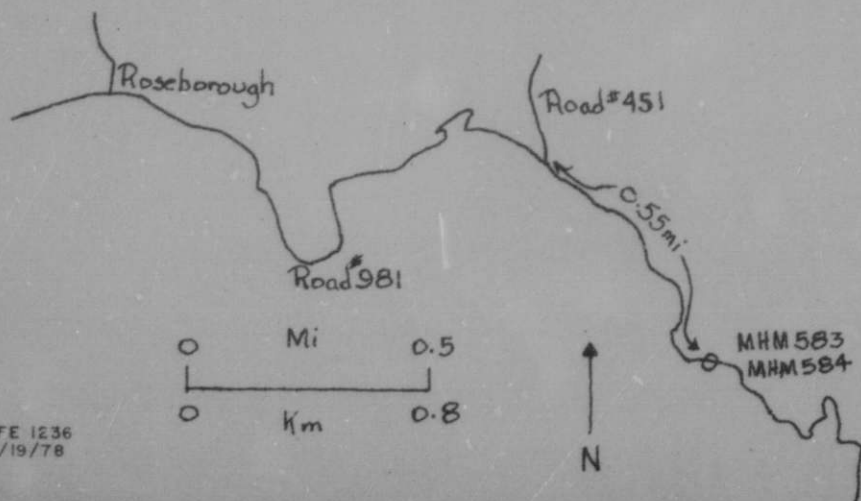
(Enter code twice from List D)

Position from Prominent Locality A82 < On National Service Road 981, 8.1 miles(13 km) southeast of intersection with Rte. 181 at Linville or about 6 miles(9.6 km) south of Grandfather Mountain summit. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 0, 5, N > Longitude A80 < 0, 8, 1 | 4, 7 | 1, 5, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 2210 ft(674 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < At culvert (1300 tag) about 150 ft (50 m) SE of No. 3;about 0.1 miles (.16 km) southeast of trail parking or 0.55 miles (.9 km) \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 25Deposit Form/Shape M10 < Tabular or lenticular, concordant >Length M40 < over 1 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.5 > M51 < m > 1b U308Thickness M60 < over 1 > M61 < m > A 0 - 20,000Strike M70 < N78E > B 20,000 - 200,000Dip M80 < 76SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Other foliations in area are N80W, 85N and N46E, 36SE. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Schist >Host Rock K1 < P R E G > Graphite-rich quartz-(biotite)-feldspar  
(Age) (Rock type, texture, composition, color,schist medium to fine-grained, buff to red-brown, rather weathered. Brown alteration, attitude, geometry, structure, etc.)and black oxides coat fracture faces.Host-Rock Environment U3 < Medium-grade metamorphic. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < The area contains numerous pegmatite sills concordant with the major foliation. >Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Quartz, graphite, iron oxides. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 25Alteration N75 < None observed, other than weathering.Reductants U5 < Abundant graphite, some pyrite.Analytical Data (General) C43 < MHM 583: 155 ppm U308; 6% Al; 1000 ppm Ba;  
100 ppm Cr; 150 ppm V.Radiometric Data (General) U6 < Background = 80 cps; anomaly is 450-600 cps  
(No. times background and dimensions)  
over 50 cm length of ditch (40 cm wide), follows foliation at right angle to  
ditch.Ore Controls K5 < Disseminated U minerals probably were precipitated by the  
effects of the graphite during mobilization of U during metamorphism, and  
recently via supergene processes.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 720Comments on Geology N85 < Similar to many other occurrences in the Wilson Creek  
basement complex, near pegmatite (granite)-schist contacts in highly-foliated,  
sheared country rocks.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

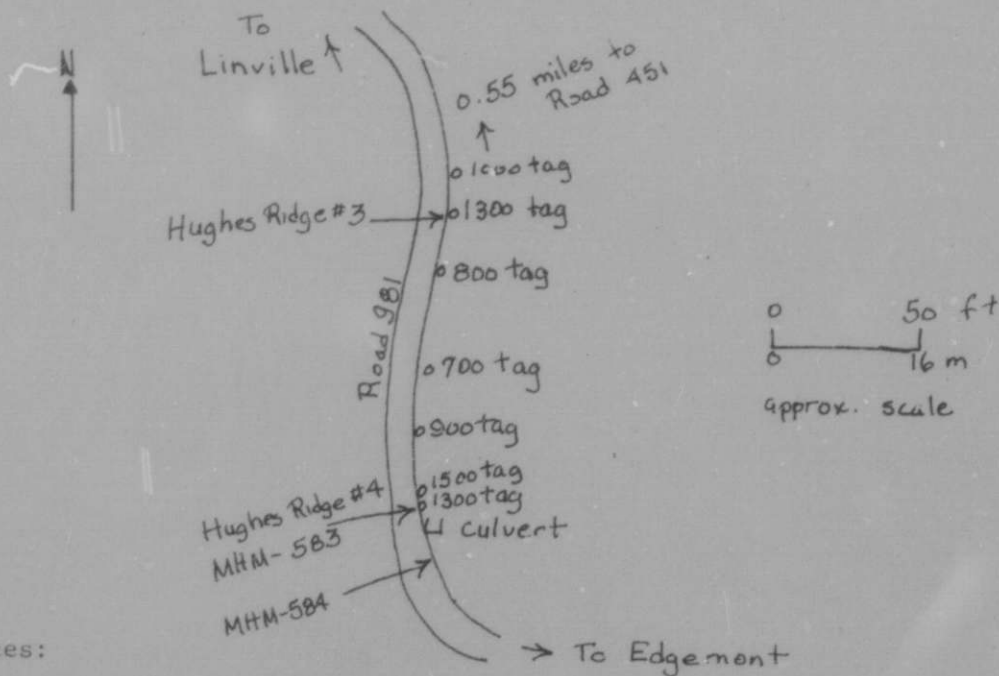
REPORT

Deposit No. 25

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 583	Chips of schist along 50 cm of exposure	155 ppm U308
MHM 584	Chips of schist 20 m south of anomaly	19 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 25

Continuation from p. 1-5:

Label

A83 < southeast of Road 451.>



## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

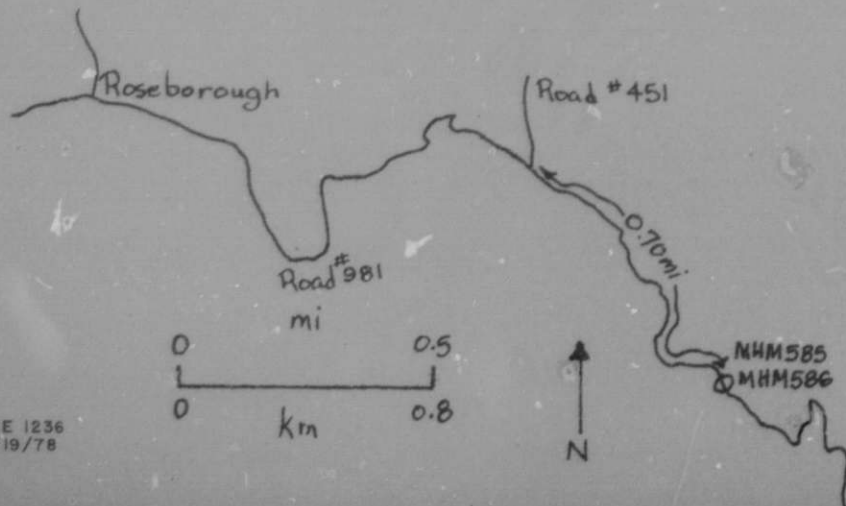
## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 26 >Deposit Name A10 < Hughes Ridge No. 5 Occurrence >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < On National Forest Service Road 981,  
8.25 miles (13.3 km) southeast of intersection with Rte. 181 at Linville, or  
about 6 miles (9.7 km) south of Grandfather Mountain. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 3, 2 > Longitude A80 < 0, 8 | 1, 4 | 7, 1, 0 >  
Deg Min Sec Deg Min SecTownship A77 <    |    > Range A78 <    |    > Section A79 <    >  
N/S E/WMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2180 ft(665 m) >Quad Scale A91 <    |    | 2, 4 | 0, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 |    > Appalachian Highlands >  
(List K)Location Comments A83 < East side of Road 981, 0.25 miles (.4 km) southeast of  
trail parking area, or 0.70 miles (1.1 km) southeast of Road 451, at double- \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name. Winston-Salem

## REPORT

Deposit No. 26Deposit Form/Shape M10 < Tabular, concordant >

FT/M

Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < 0.3 > M51 < m >1b U308Thickness M60 < over 2 > M61 < m >

Ⓐ 0 - 20,000

Strike M70 < N9E >

B 20,000 - 200,000

Dip M80 < 61E >

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Anomaly follows foliation and pegmatite contact. >Host-FM. Name U1 < Wilson Creek complex. > Member U2 < Schist >Host Rock K1 < P<sub>1</sub>R<sub>1</sub>E<sub>1</sub>C<sub>1</sub> | 1/2 > Reddish-brown weathered, quartz-biotite-  
(Age) (Rock type, texture, composition, color,feldspar schist, adjacent to a 32 cm wide white pegmatite, now saprolite  
alteration, attitude, geometry, structure, etc.)except for the quartz grains.Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The adjacent pegmatite is probably related to this anomaly. >Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Quartz, feldspar, mica. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 26

Alteration N75 < Weathered to sap-rock; iron and manganese oxides coat fracture faces.

Reductants U5 < Minor pyrite and graphite.

Analytical Data (General) C43 < MHM 585: 270 ppm U308; 150 ppm Cr; 150 ppm V; greater than 1000 ppm Zr. MHM 586: 5 ppm U308; 300 ppm Cr; 500 ppm Zn.

Radiometric Data (General) U6 < BG = 80 cps; anomaly is 400 to 800 cps over (No. times background and dimensions) zone 20-30 cm wide and traceable for 2.5 m up slope adjacent to pegmatite.

Maximum cps in small hole 4 feet above ditch is 1300.

Ore Controls K5 < The pegmatite may have been a source. The schist is highly jointed and fractured. Supergene enrichment also is likely.

Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7, 2, 0

Comments on Geology N85 < This anomaly is similar to many small anomalies in the Wilson Creek complex.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 26

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 585	Chips along 1.5 m of anomaly	270 ppm U308
MHM 586	Chips of barren schist to the south	5 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 26

Continuation from p. 1-5:

Label

A83 < tagged anomaly in center of zone with 4 or 5 tags over 100 feet.>

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 27 >Deposit Name A10 < Hughes Ridge No. 6 >

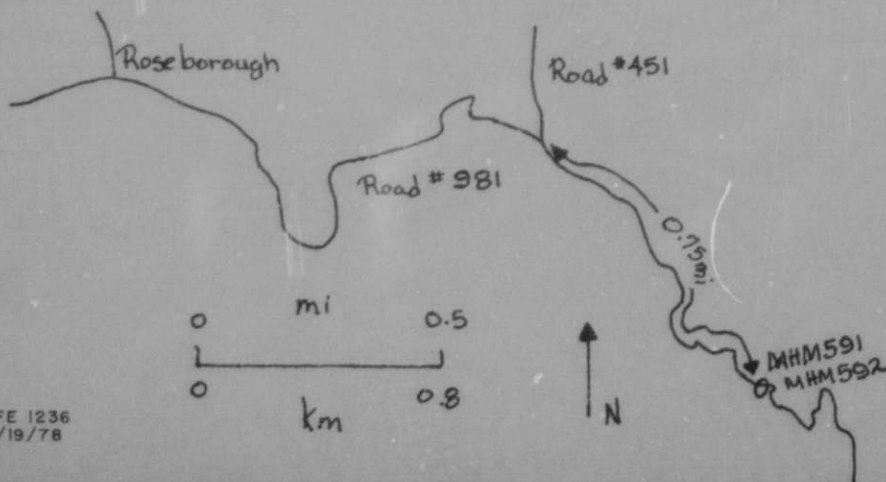
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 13, 7 > 13, 7 County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 6.25 miles (10 km) SSE of the summit of Grandfather Mountain, or 8.35 miles (13.45 km) southeast of Rte. 181, along Road 981 from Linville. >Field Checked G1 < 8, 0 | 10, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 3, 0, N > Longitude A80 < 0, 8, 1 | 4, 7 | 0, 6, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2120 ft(646 m) >Quad Scale A91 <     |     | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < East side of Road 981, 0.75 miles (1.2 km) south of intersection of Road 451 (0.15 miles (0.25 km) south of Hughes Ridge No. 5). >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 27

Commodities Present:

C10  U

Commodities Produced:

MAJOR  COPROD

MINOR  BYPROD

Potential Commodities:

POTEN  OCCUR

Commodity Comments C50

Status of Exploration and Development A20 1

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
 G7  U  G7A  G7B LB G7C  G7D  % U308 >

Source of Information D9

Production Comments D10

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
 E1  U  E1A  E1B LB E1C  E1D  % U308 >

Source of Information E7

Comments E8



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 27Deposit Form/Shape M10 < Tabular, concordant >Length M40 < over 1 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 < 0.9 > M51 < m >1b U308Thickness M60 < over 0.7 > M61 < m >(A) 0 - 20,000

B 20,000 - 200,000

Strike M70 < N44E >

C 200,000 - 2 million

Dip M80 < 66SE >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Only the foliation is apparent. Some slickensided >surfaces are present as cleavage faces in the schist. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Schist >Host Rock K1 < PRIEC | | | | | Dark brown, fine-grained biotite schist >

(Age)

(Rock type, texture, composition, color,

interlayered with reddish to yellowish schistose pegmatite lenses 5-15 cmalteration, attitude, geometry, structure, etc.)wide, probably sheared, now saprolitic. >Host-Rock Environment U3 < Medium-grade metamorphic. >

(Sed. dep. environ., metamorphic facies, ign. environ.)

## Comments on

Associated Rocks U4 < Schist and pegmatite (concordant) are interlayered along >this road. Some may have been biotite gneisses before weathering. >Ore Minerals C30 < Not recognized. >Gangue Minerals K4 < Quartz, biotite, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 27Alteration N75 < Red and black surface coatings (oxides) due to weathering.Reductants U5 < Possibly some sulfide was present before weathering.

Analytical Data (General) C43 < MHM 591: 53 ppm U308; 7% Al; 1000 ppm Ba;  
300 ppm Cr; 150 ppm Cu; 300 ppm La; 70 ppm Ni; 100 ppm Pb; 300 ppm Y.  
 MHM 592: 32 ppm U308.

Radiometric Data (General) U6 < Background = 70 cps (in woods); anomaly is  
(No. times background and dimensions)  
300-320 cps over 70 x 90 cm of road cut (vertical face); drops to 150 cps  
within 1 m away.

Ore Controls K5 &lt; \_\_\_\_\_

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 7 2 0

Comments on Geology N85 < Poor exposures - this anomaly is marginal for  
classification as a uranium occurrence in the Grandfather Mountain region.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

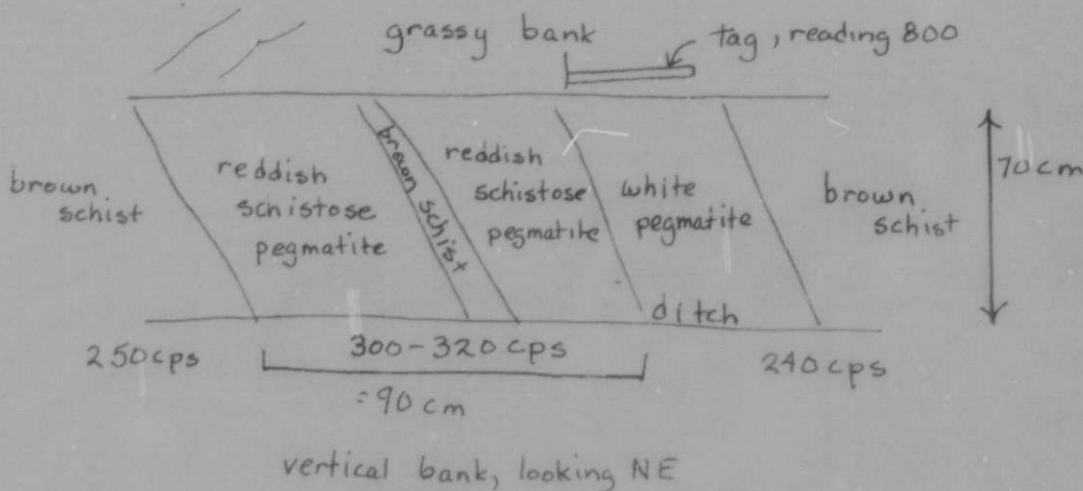
REPORT

Deposit No. 27

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 591	Chips of saprock across 90 cm anomaly	53 ppm U308
MHM 592	Barren schist 2 m to north	32 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 28 >Deposit Name A10 < Bark Camp Ridge No. 1 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Caldwell >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 6.5 miles (10.5 km) SSE of the summit of Grandfather Mountain. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 0 | 5, 5, N > Longitude A80 < 0, 8, 1 | 4, 5 | 5, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <      |      > Range A78 <      |      > Section A79 <      >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 1720 ft (525 m) >Quad Scale A91 <      | 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On Road 45 1.55 miles (2.5 km) north of intersection with Road 981 at Edgemont, west side in ditch, at 1000 tag. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 28

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ > G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 28

Alteration N75 < Only weathering is apparent, filling veins with red clay.

Reductants U5 < ?

Analytical Data (General) C43 < MHM 593: 122 ppm U308; 200 ppm La; 300 ppm Y.

Radiometric Data (General) U6 < Background is 70 cps in woods; anomaly is  
(No. times background and dimensions)  
300-420 cps over 40 cm of ditch, not traceable. Normal gneiss bedrock is 150 cps.

Ore Controls K5 < U has been concentrated in a weathered saprolite pocket or lens in granitic gneiss. The pocket may represent a more fractured part of the gneiss than normal. Control seems to be supergene.

Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 < 7,2,0 >

Comments on Geology N85 < We are in the massive orthogneiss of the Wilson Creek complex, a Grenvillian rock.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 28

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 593	Chips of saprolite across 40 cm anomaly	122 ppm U308
MHM 594	Barren gneiss in road bed	17 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 < \_\_\_\_\_  
 \_\_\_\_\_ >

F2 < \_\_\_\_\_  
 \_\_\_\_\_ >

F3 < \_\_\_\_\_  
 \_\_\_\_\_ >

F4 < \_\_\_\_\_  
 \_\_\_\_\_ >



## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1 2 5 0 0 0 0 >Deposit No. B40 < 29 >Deposit Name A10 < Bark Camp Ridge No. 2 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U S > State North CarolinaState Code A50 < 3 7 > County A60 < Caldwell >

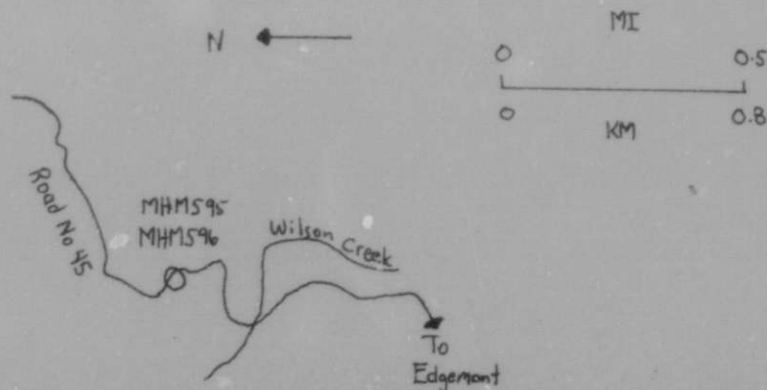
(Enter code twice from List D)

Position from Prominent Locality A82 < About 6.5 miles (10.5 km) SSE of the summit of Grandfather Mountain. >Field Checked G1 < 8 0 | 0 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3 6 | 0 0 | 5 8 | N > Longitude A80 < 0 8 | 1 4 | 5 1 | W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 1760 ft(537 m) >Quad Scale A91 < 1 2 4 0 0 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0 2 | Appalachian Highlands >  
(List K)Location Comments A83 < West side of Road 45, 1.55 miles (2.5 km) north of its intersection with Road 981 in Edgemont, in ditch. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 29Deposit Form/Shape M10 < Tabular (?), concordant >

FT/M

Length M40 < over 1 > M41 < m >

Size M15 (circle letter):

Width M50 < 1.5 > M51 < m >1b U308Thickness M60 < over 3 > M61 < m >

Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < about N70W >

C 200,000 - 2 million

Dip M80 < 59SW >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Gneissic banding parallel with anomaly. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite gneiss >Host Rock K1 < P R I E C > Banded (1-5 cm bands) coarse-grained  
(Age) (Rock type, texture, composition, color,gray biotite gneiss, with coarse (pegmatitic) white bands somewhat wider than alteration, attitude, geometry, structure, etc.)the dark biotite schistose bands. Rock converted to saprolite. Poor exposure.Host-Rock Environment U3 < High-grade metamorphic (anatectic) >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Granular white gneiss is present but poorly exposed. >Ore Minerals C30 < Not observed. >Gangue Minerals K4 < Quartz, microcline, biotite (partly chloritized). >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 29Alteration N75 < Weathering only.Reductants U5 < Minor pyrite (?)Analytical Data (General) C43 < MHM 595: 92 ppm U308; 30 ppm Co.Radiometric Data (General) U6 < 300-340 cps over 1.5 m of ditch; 200-250 cps over  
(No. times background and dimensions)3 x 4 m of bank above ditch; background = 80 cps.Ore Controls K5 < Precipitation of U along metamorphic foliation, probably  
during both metamorphism and recent supergene enrichment.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 7 2 0Comments on Geology N85 < This may be a finer-banded (less developed) version  
of pegmatite-schist interlayering, as observed throughout these roadcuts.Quite probably an anatectic process, or metamorphic segregation, followed by  
later retrograde metamorphism.

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 29

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 595	Anomalous saprock over 1.5 m of ditch	92 ppm U308
MHM 596	Barren saprock (140 cps) 5 m to north	12 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

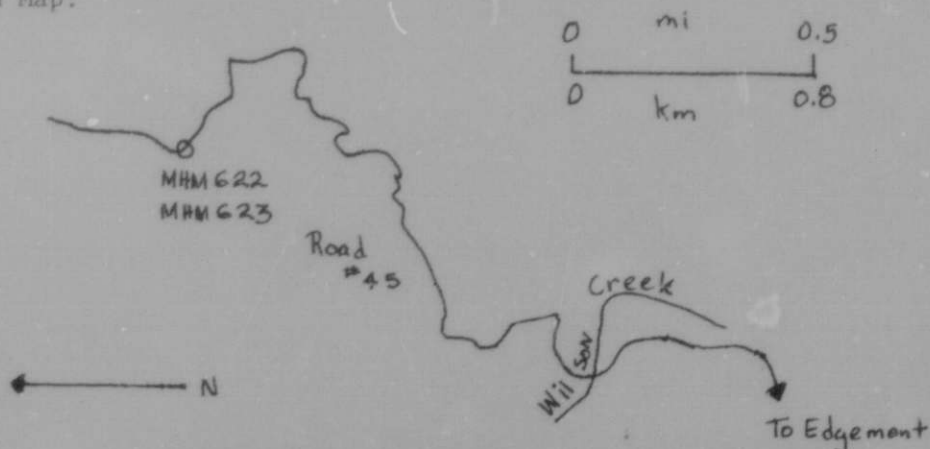
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 30 >Deposit Name A10 < Bark Camp Ridge No. 3 >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 37 > County A60 < Caldwell >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 6 miles (9.7 km) southeast of  
the top of the summit of Grandfather Mountain >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McKone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 3, 5, N > Longitude A80 < 0, 8, 1 | 4, 5 | 2, 9, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2260 ft (689 m) >Quad Scale A91 < 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < Northwest side of Road 45, 3.15 miles (5.0 km) north  
of intersection with Road 981 at Edgemont, in bank and ditch. >

Location Sketch Map:





URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 30

Deposit Form/Shape M10 < Lenticular >

Length M40 < over 1 > M41 < FT/M > Size M15 (circle letter):

Width M50 < 0.4 > M51 < ft > 1b U308

Thickness M60 < over 2 > M61 < in > (A) 0 - 20,000

Strike M70 < N22W > B 20,000 - 200,000

Dip M80 < 85SW > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 < \_\_\_\_\_ >

Local Structures N70 < Anomaly parallel with gneissosity; second cleavage (in schist) is N10E, 63SE. >

Host-PM. Name U1 < Wilson Creek complex > Member U2 < Biotite schist >

Host Rock K1 < P, R, E, C, | W > Saprolitic gray-brown fine-grained biotite schist, adjacent to foliated, partly sheared biotite microcline gneiss (granitic).  
(Age) (Rock type, texture, composition, color, alteration, attitude, geometry, structure, etc.)

Host-Rock Environment U3 < Medium or high-grade metamorphic. >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 < The gneiss and schist are injected by white pegmatite which appears as concordant layers in the gneiss, but crosscuts the schistosity. >

Ore Minerals C30 < Not observed. >

Gangue Minerals K4 < Quartz, biotite (chloritized), microcline. >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 30Alteration N75 < None, other than weathering.Reductants U5 < Minor pyrite (?)Analytical Data (General) C43 < MHM 622: 176 ppm U308 MHM 623: 37 ppm  
U308Radiometric Data (General) U6 < 300-350 cps over 40 cm lens of schist; gneiss  
(No. times background and dimensions)  
and pegmatite are 150-170 cps. BG = 70 cps.Ore Controls K5 < The pegmatite and/or gneiss clearly truncate the schistosity  
of the anomalous rock. The schist may have become enriched during a meta-  
morphic or thermal event, due to its different chemical environment (redox  
potential) than the surrounding granitic rocks.Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >Comments on Geology N85 < At this site, some of the relationships among the  
schist lenses, orthogneiss, and pegmatites can be examined. The two foliations  
are particularly clear. I am not completely sure that the U enrichment was  
not an igneous-contact phenomenon.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

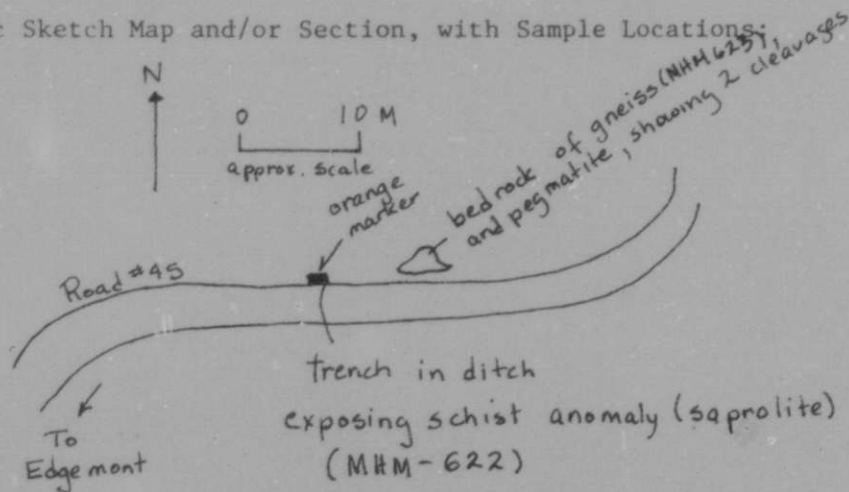
REPORT

Deposit No. 30

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 622	Chips of anomalous saprolite	176 ppm U308
MHM 623	Chips of barren orthogneiss rock	37 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

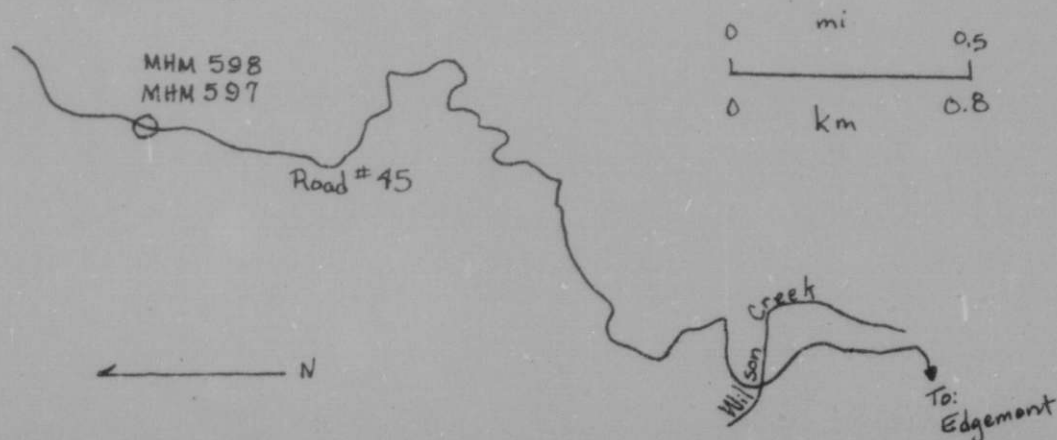
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 31 >Deposit Name A10 < Bark Camp Ridge No. 4 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Caldwell >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 6 miles (9.7 km) southeast of the  
summit of Grandfather Mountain >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone, J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 1 | 5, 2 N > Longitude A80 < 0, 8 | 1, 4 | 5, 2 W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2360 ft(720 m) >Quad Scale A91 < 1, 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < West side of Road 45, 3.55 miles (5.7 km) north of the  
intersection with Road 981 at Edgemont, in rock cut southeast of old road to \* >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 31Deposit Form/Shape M10 < Zone in massive pluton >  
FT/MLength M40 < unknown > M41 <      > Size M15 (circle letter):Width M50 < 1 to 2 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m > (A) 0 - 20,000  
B 20,000 - 200,000  
C 200,000 - 2 million  
D 2 million - 20 million  
E More than 20 millionTectonic Setting N15 < Mobile belt >Major Regional Structures N5 <      >Local Structures N70 < Joint face over anomaly is N51E, 39SE. >Host-Form Name U1 < Wilson Creek complex > Member U2 < Granite gneiss >Host Rock K1 < P R E G > (X) Massive, foliated gray-white medium-  
(Age) (Rock type, texture, composition, color,  
grained quartz-biotite-microcline granite gneiss, with biotite-rich segrega-  
alteration, attitude, geometry, structure, etc.)  
tions. (Now somewhat chloritized).Host-Rock Environment U3 < Plutonic-medium-grade metamorphic ? >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < None >Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, microcline, biotite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 31Alteration N75 < Not observed, but probably some feldspar alterationReductants U5 < None observedAnalytical Data (General) C43 < MHM 597: 25 ppm U308; 7% Al; 1500 ppm Ba;  
1% Ca; 200 ppm La; 100 ppm Pb; 200 ppm Sr; 30 ppm V; 20 ppm Y.Radiometric Data (General) U6 < 250-320 cps over 1 x 2 m area of rock face,  
(No. times background and dimensions)  
partly a mass effect - other rock is 110-150 cps. Background is 70 cps.Ore Controls K5 < Since no veins, etc., are visible, this may represent a  
primary igneous segregation of U or Th minerals.Deposit Class C40 < Orthomagmatic > Class No. U7 310Comments on Geology N85 < Somewhat unusual, but low grade and possibly a Th  
anomaly. A quarry in the same rock to the northwest is not anomalous. This  
anomaly is important as an indication that the Grenvillian igneous rocks on  
which the Grandfather Mountain Formation was deposited were uraniferous, and  
could have served as a major source of U for the deposits in the Grandfather \*

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 31

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 597	Chips of granitic gneiss at anomaly	25 ppm U308
MHM 598	Chips of granitic gneiss to the south	6 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:

## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 31

Continuation from p. 1-5:

Label

A83 < metal quarry (about 0.1 mile (.16 km)). >

N85 < Mountain-Wilson Creek metamorphic complex. >



## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 32 >Deposit Name A10 < Bark Camp Ridge No. 5 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 3, 7 | 3, 7 > County A60 < Caldwell >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 6 miles (9.7 km) southeast of the summit of Grandfather Mountain. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone | J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 2 | 1, 0, N > Longitude A80 < 0, 8, 1 | 4, 5 | 0, 9, W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2480 ft (756 m) >Quad Scale A91 < 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On east side of Road 45, 4.05 miles (6.5 km) north of intersection with Road 981 at Edgemont, in ditch. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 32Deposit Form/Shape M10 < Lenticular (?), concordant >Length M40 < over 5 > M41 < <sup>FT/M</sup>m > Size M15 (circle letter):Width M50 < over 5 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m > (A) 0 - 20,000Strike M70 < N45E > B 20,000 - 200,000Dip M80 < 85SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Black bands (veins) N20E, 48NW; schistose foliation  
assumed to be same as anomaly. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Biotite schist >Host Rock K1 < P, R, E, C \_\_\_\_\_ > Highly weathered, fine-grained, gray-  
(Age) (Rock type, texture, composition, color,brown biotite schist. Mineralogy obscured by weathering (to saprolite).  
alteration, attitude, geometry, structure, etc.)Radioactivity highest where black veins are most abundant.Host-Rock Environment U3 < Medium-grade metamorphic (?) >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Light-colored gneiss (foliated granite?) is present to  
north and south of the anomalous schist. Maximum thickness of schist is about  
10 m. >Ore Minerals C30 < Not observed. >Gangue Minerals K4 < Quartz, feldspar, biotite, iron oxides. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 32Alteration N75 < Highly weatheredReductants U5 < Minor pyrite (?)Analytical Data (General) C3 < MHM 603: 137 ppm U308; 200 ppm V; 500 ppm Zn.

Radiometric Data (General) U6 < 300 to 1000 cps over 6 m of ditch; background  
 (No. times background and dimensions)  
is 60 cps; area of adjacent road over 200 cps is about 5 m x 5 m; gneiss =  
160 cps.

Ore Controls K5 < There appears to be both veins of U-bearing minerals and dis-  
seminated U in the schist. The surrounding leucogneiss may have been a source,  
or contributed to circulating solutions containing U. Perhaps this was a  
thermal-contact (igneous) effect, but the veins may more likely be later  
metamorphic structures.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7, 2, 0

Comments on Geology N85 < This site is reminiscent of the torbernite-rich  
schist surrounded by gneiss at the Rishin Ridge drillsite.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

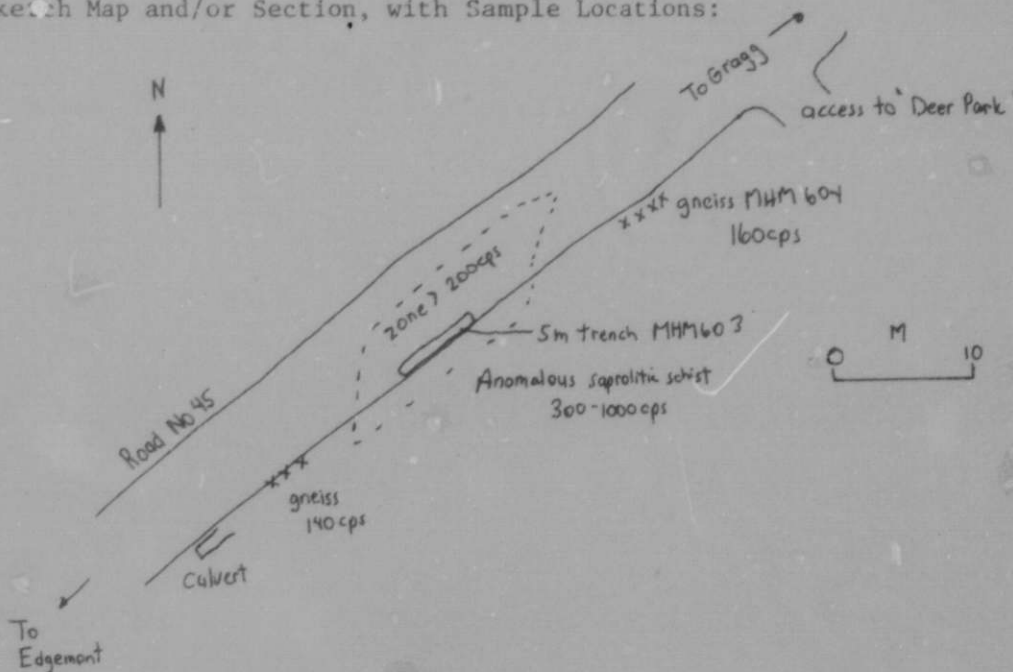
REPORT

Deposit No. 32

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 603	Channel along 5 m of ditch saprolite	137 ppm U308
MHM 604	Saprolite (gneiss) from north of anomaly	17 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

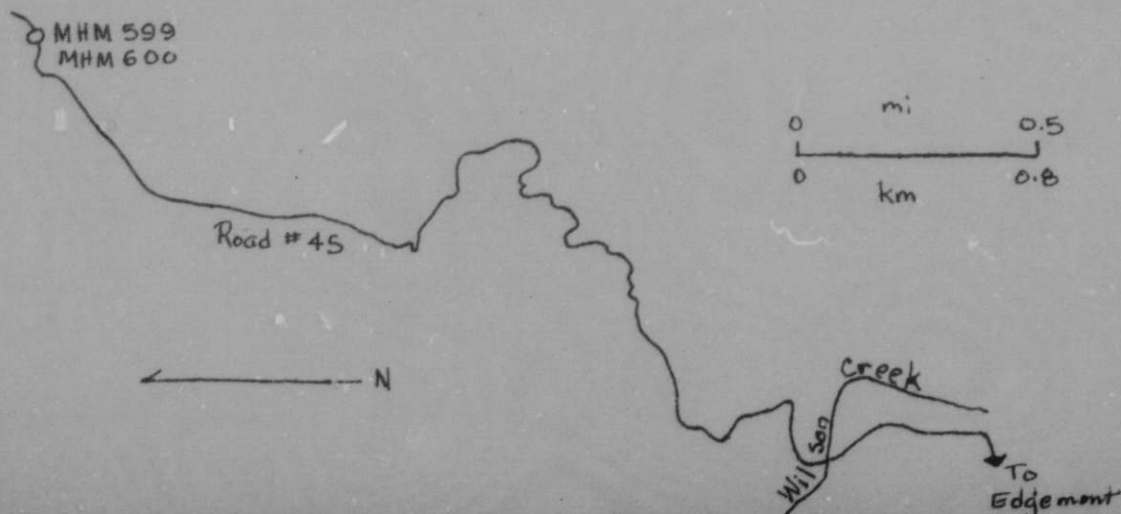
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 33 >Deposit Name A10 < Bark Camp Ridge No. 6 >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Caldwell >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 6 miles (9.7 km) southeast of the  
summit of Grandfather Mountain. >Field Checked G1 < 8, 0 > 0, 5 By G2 < McHone > J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 > 0, 2 > 1, 4 > N Longitude A80 < 0, 8, 1 > 4, 5 > 0, 4 > W  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2560 ft (780 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < Northwest side of Road 45, 4.20 miles (6.8 km) northeast  
of the intersection with Road 981 in Edgemont. >

Location Sketch Map:









## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 33Alteration N75 < Hematitic staining >Reductants U5 < Minor sulfides >

Analytical Data (General) C43 < MHM 599: 100 ppm U308, 1000 ppm Mn, 7% Al,  
150 ppm Cr, 150 ppm Cu, 70 ppm Ni, 150 ppm Pb, 200 ppm V, 300 ppm Y, 300 ppm Zn.  
MHM 600: 34 ppm U308. >

Radiometric Data (General) U6 < 250-320 cps over 30 cm x 3 m contact zone of  
(No. times background and dimensions)  
schist (BG = 70 cps). Adjacent rocks are 120-180 cps. >

Ore Controls K5 < Shearing along the contact appears to be directly related to  
the radioactivity. >

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 720 >

Comments on Geology N85 < This anomaly is marginal as an occurrence in the  
Grandfather Mountain Region. It is nicely characteristic of anomalies in biotite  
schist adjacent to a contact with orthogneiss, and the trace element distribution  
is interesting. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

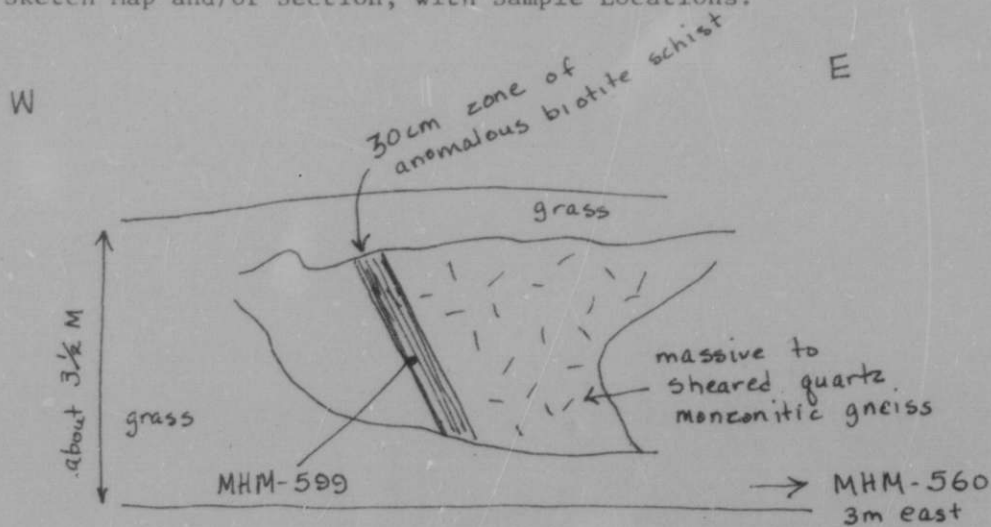
## REPORT

Deposit No. 33

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 599	Chips of biotite schist from 0.3 x 1 m zone	100 ppm U308
MHM 600	Barren quartz schist, 3 m east of anomaly	24 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 34Deposit Form/Shape M10 < Lenticular to tabular, concordant >Length M40 < 2-5 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 1-3 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m >  A 0 - 20,000

B 20,000 - 200,000

C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Strike M70 < N22E-N60E >Dip M80 < 60-66SE >Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < N-E trending foliation. >Host-FM. Name U1 < Wilson Creek > Member U2 < Schist >Host Rock K1 < P, R, E, C > 1/8 Rusty medium-grained quartz-biotite-  
(Age) (Rock type, texture, composition, color,  
muscovite schist, moderately to highly sheared, with granular, pinkish feldspar  
alteration, attitude, geometry, structure, etc.)  
lamellae and scattered graphite grains.Host-Rock Environment U3 < Low to medium-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Blue-quartz veins and quartz-microcline pegmatite sills  
are abundant in the area and are closely associated with many anomalies.Ore Minerals C30 < Pitchblende, tobernite, autunite >Gangue Minerals K4 < Quartz, feldspar, biotite, muscovite, graphite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 34Alteration N75 < None observedReductants U5 < Graphite, pyriteAnalytical Data (General) C43 < 1400 to 6300 ppm U308, 5-7% Al, 1500 ppm Ba, 100 ppm Cr, 500 ppm Cu, 70 ppm Ni, 300 ppm Pb, 300 ppm V.Radiometric Data (General) U6 < 300-10000 cps over anomalous zones 0.5 x 3 m  
(No. times background and dimensions)  
to 1 x 5 m. Background is 80-150 cps in prospect, 50 cps elsewhere.Ore Controls K5 < In the saprolitic trenches west of MHM 664, the anomalous schist is adjacent to sheared pegmatite; in the eastern trenches, it is adjacent to blue quartz veins. Neither the quartz nor the pegmatite are anomalous, but other pegmatites in the region are anomalous. Uranium has been disseminated along the foliation by a metamorphic event that may have been contemporaneous with introduction of pegmatite.Deposit Class C40 < Vein-type in metamorphic rocks. > Class No. U7 < 7,2,0 >Comments on Geology N85 < This occurrence probably has more vertical continuity than Bryant and Reed (1966) attributed to it. It is more like the saprolitic occurrences along Road 981 than like the nearby North Harper Creek occurrence.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

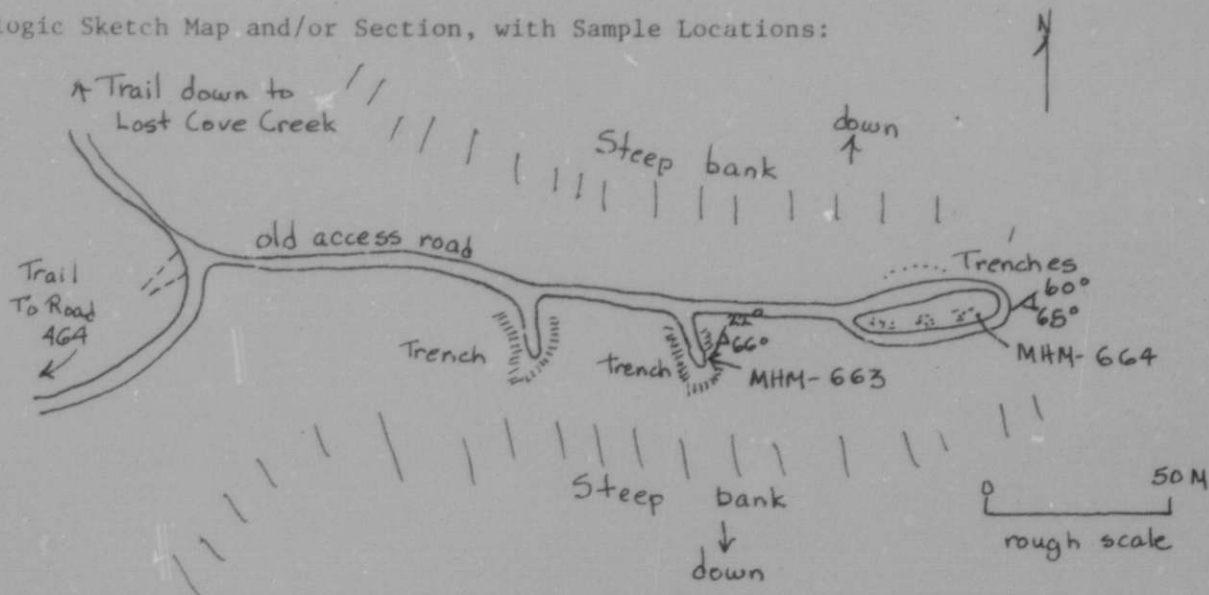
REPORT

Deposit No. 34

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 663	Anomalous biotite schist from central trench	1437 ppm U308
MHM 664	Anomalous schist from eastern trench	6310 ppm U308
MHM 665	Barren schist	14 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

F1 < Bryant, B., and Reed, J.C., 1966, Mineral resources of the Grandfather Mountain window and vicinity, North Carolina: U.S. Geol. Survey, Circular 521, 12 p. >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 35 >Deposit Name A10 < North Harper Creek Prospect >

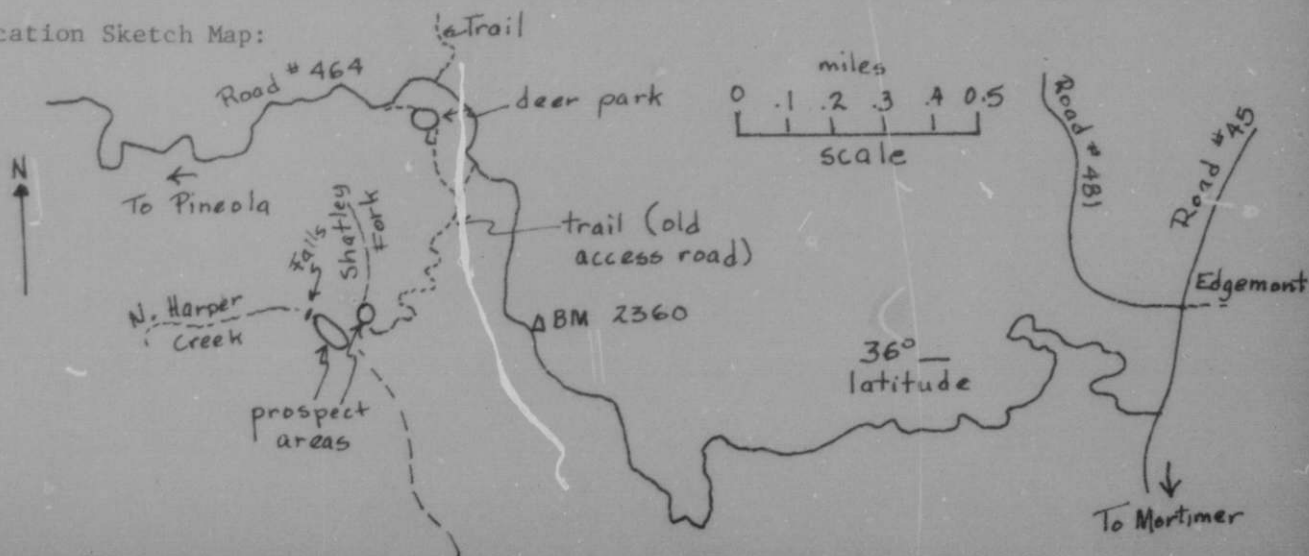
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 13, 7 > 13, 7 County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 1.6 miles (2.6 km) west ofEdgemont. >Field Checked G1 < 8, 0 | 0, 7 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 0 | 0, 2, N > Longitude A80 < 0, 8, 1 | 4, 8 | 1, 8, W >  
Deg Min Sec Deg Min SecTownship A77 <      |      |      > Range A78 <      |      |      > Section A79 <      |      >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 1970 ft(601 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Off Road 464 between Edgemont and Pineola, trail starts at 9.1 miles (14.6 km) east of Rte. 181, south down trail about 0.7 miles (1.1 km),

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 35Deposit Form/Shape M10 < Lenticular to tabular, discordant. >Length M40 < over 10 > M41 < m >

FT/M

Size M15 (circle letter):

Width M50 &lt; \_\_\_\_\_ &gt; M51 &lt; \_\_\_\_\_ &gt;

1b U308Thickness M60 < 0.2 to 2 > M61 < m >

A 0 - 20,000

Strike M70 < N82W; N42E; N50W > B 20,000 - 200,000

C 200,000 - 2 million

Dip M80 < 81NE; 55SE; ≈ 90° >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Gneissic foliation is N38E, 58SE to N22E, 63SE. Sparse joints about E-W. >Host-FM. Name U1 < Wilson Creek complex > Member U2 < Schist, gneiss, \* >Host Rock K1 < Pitchblende and biotite veins in layered >

(Age)

(Rock type, texture, composition, color,

gneiss (biotite schist and quartz-microcline pegmatite lenses) and quartzite alteration, attitude, geometry, structure, etc.)near Bard Falls; veins and disseminated U in pyrite-rich pegmatitic quartz veins to southeast; knife-edged veins in sheared leucogneiss in Shatley Fork. >Host-Rock Environment U3 < Medium-grade metamorphic and igneous >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on Associated Rocks U4 &lt; \_\_\_\_\_ &gt;

Ore Minerals C30 < Pitchblende, torbernite, autunite, gummite. >Gangue Minerals K4 < Quartz, biotite, microcline, pyrite. >



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 35

Alteration N75 < No significant alteration of rock adjacent to veins could be discerned.

Reductants U5 < Pyrite.

Analytical Data (General) C43 < 32766 ppm U308, 1500 ppm As, 1500 ppm Ba, 100 ppm Cr, 70 ppm Ni, 2000 ppm Pb, 150 ppm V.

Radiometric Data (General) U6 < Background = 50 cps rising to 75-250 cps along  
(No. times background and dimensions)

trail within 0.3 miles of anomaly; 1000 to greater than 10000 cps over veins on exposed surface of 0.5 m x 3 m; barren rocks are 80-150 cps.

Ore Controls K5 < Veins of pitchblende plus biotite (with secondary U minerals) are exposed, crossing foliations and lithic boundaries. Some U is disseminated in rusty horizons along quartz veins and quartz-rich pegmatite, and U extends along foliation planes for short distances from discordant veins. Fracturing and cataclasis are apparent along the veins. Several vein orientations exist. The thin (less than 0.5 cm thick) pitchblende veins are clearly later than the principal events of metamorphism and shearing. When first observed in 1975, \*

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7 2 0 >

Comments on Geology N85 < A good source is not exposed, but probably is a granite pluton or pegmatite at depth. Since ground anomalies exist at the top of the trail, the veins probably extend vertically over 400 feet.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

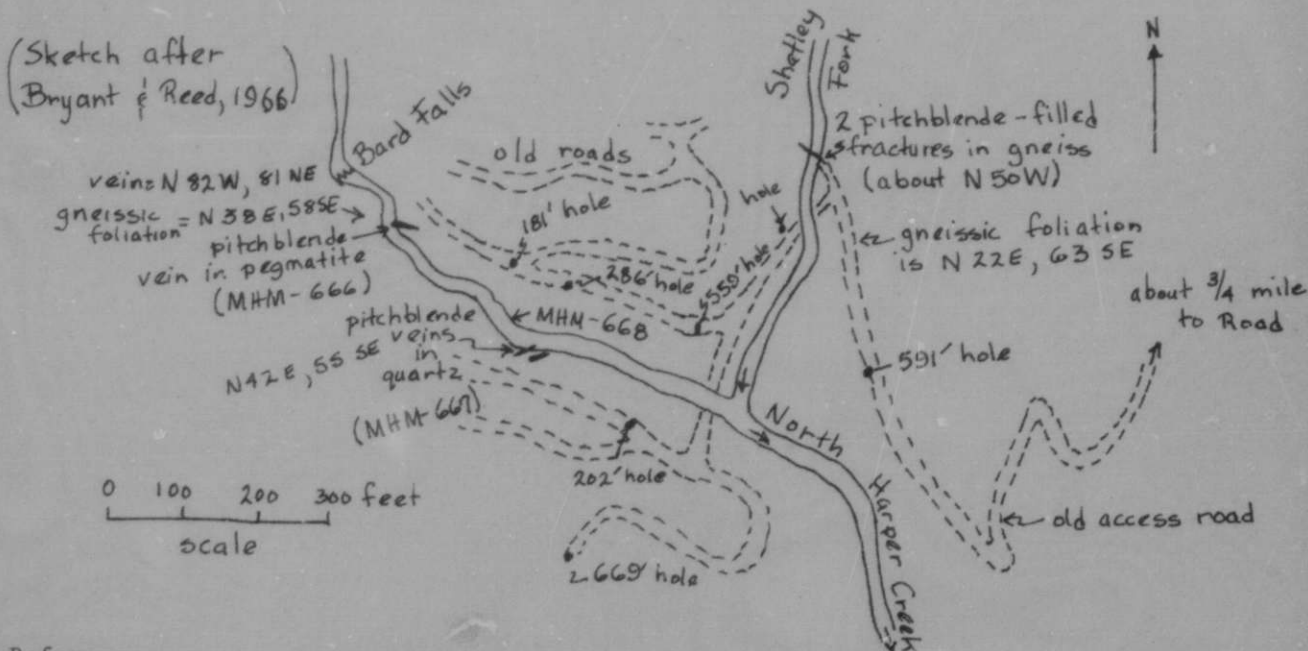
REPORT

Deposit No. 35

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 666	Chips across vein and adjacent rock near falls	3.28% U308
MHM 667	Chips of quartz across quartz-pitchblende vein	189 ppm U308
MHM 668	Chips of barren gneiss (sheared)	60 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

F1 < Byrant, R., and Reed, J.C., 1966, Mineral resources of the Grandfather Mountain window and vicinity, North Carolina: U.S. Geological Survey, Circular 521 \* >

F2 < \_\_\_\_\_ >

F3 < \_\_\_\_\_ >

F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 35

Continuation from p. 1-5:

Label

U2 &lt; quartzite.&gt;

N85 < the principal vein (at MHM 666) had a widened segment (now removed) of breccia, which consisted of angular fragments of quartz-rich rock in a matrix of pitchblende. The breccia segment was about 5 x 20 cm, and produced an anomaly of nearly 40000 cps. The unusually high content of As and Pb indicate a hydrothermal mineralizing event, possibly related to unexposed posttectonic plutonic activity. The veins here are similar to those along Ripshin Ridge (Roadcuts in Highway 181). These "knife-edged" pitchblende veins have been observed only in the vicinity of schists having U disseminated along the foliation. The large extent of the disseminations and their ubiquity in schists throughout the Grandfather Mountain region, as opposed to the thinness and rarity of the veins, indicate that U in the veins was derived from the disseminations in schist during a hydrothermal event. Additional contribution of U from the hypothetical plutonic source is a possibility. The fact that even the gneiss selected for sampling as barren contains 60 ppm U308 indicates a widespread effect of the hydrothermal event. >

F1 &lt; 12 p.&gt;

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

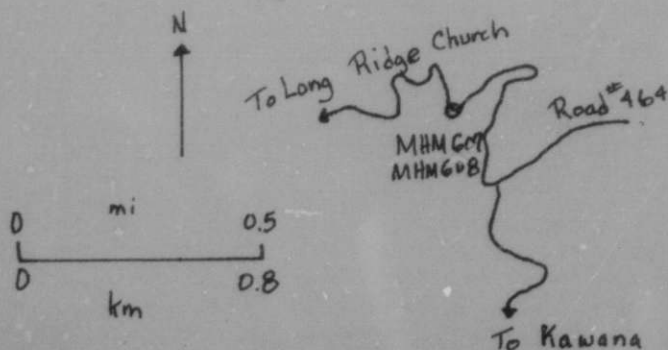
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 36 >Deposit Name A10 < Cove Ridge Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 3.75 miles (6.0 km) south of  
Linville. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 0 | 4, 4, N > Longitude A80 < 0, 8, 1 | 5, 1 | 1, 7, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     >  
N/S E/WMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3340 ft (1018 m) > FT/MQuad Scale A91 <     |     |     |     |     > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On Forest Service Road 464, 2.0 miles (3.2 km) east of  
Long Ridge Church, in roadbed and bank at curve. >

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 36

## Commodities Present:

C1C U

## Commodities Produced:

MAJOR  COPROD MINOR  BYPROD 

## Potential Commodities:

POTEN  GCCUR 

Commodity Comments C50 &lt; \_\_\_\_\_ &gt;

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L10 &lt; \_\_\_\_\_ &gt;

Property is A21 (Active) A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt; \_\_\_\_\_ &gt;

Cumulative Uranium Production PROD YES NO SML MED LGE (circle)DH2 accuracy thousands of lb. years grade  
G7 < U > G7A < \_\_\_\_\_ > G7B < LB > G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 &lt; \_\_\_\_\_ &gt;

Production Comments D10 &lt; \_\_\_\_\_ &gt;

Reserves and Potential ResourcesEH accuracy thousands of lb. year of est. grade  
E1 < U > E1A < \_\_\_\_\_ > E1B < LB > E1C < \_\_\_\_\_ > E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 &lt; \_\_\_\_\_ &gt;

Comments E8 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 36Deposit Form/Shape M10 < Lensoidal to tabular, discordant >Length M40 < 1-4 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.2 > M51 < m > 1b U308Thickness M60 < over 2 > M61 < m > (A) 0 - 20,000Strike M70 < N70E > B 20,000 - 200,000Dip M80 < 30SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt. >Major Regional Structures N5 < Within 20 m of the contact with coarse-grained,  
partly pegmatoid orthogneiss of the Brown Mountain Granite type, >Local Structures N70 < Sericitic schistosity is N24E, 56SE in arkose; gneissic  
cleavage about N65E, 24SE in orthogneiss. >Host-FM. Name U1 < Grandfather Mountain \* > Member U2 < Meta-arkose >Host Rock K1 < LIPRiEiC > <sup>(Age)</sup> Veins in light green, medium grained <sup>(Rock type, texture, composition, color,</sup>  
sericite -microcline-quartz meta-arkose, with lenses of pebble conglomerate.  
alteration, attitude, geometry, structure, etc.) >Host-Rock Environment U3 < Low-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < Coarse-grained, partly sheared pink to green (chloritic)  
granitic orthogneiss is well exposed in roadcuts starting 20 m east of the  
anomalies. >Ore Minerals C30 < Thorianite (?) >Gangue Minerals K4 < Quartz, sericite, chlorite, microcline, pyrite. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 36Alteration N75 < None observedReductants U5 < Minor pyrite

Analytical Data (General) C43 < MHM 607: 53 ppm U308, 300 ppm Sr, 7% Al,  
1500 ppm Ba, 1.5% Ca, 5% Fe, greater than 1000 ppm La, 500 ppm Y.

Radiometric Data (General) U6 < Radioactive lenses are 350-1500 cps over 0.2 x  
(No. times background and dimensions)

3 m on the surface (roughly). Normal arkose is about 70 cps; background =  
50 cps.

Ore Controls K5 < The anomalies are definitely in veins crosscutting the  
schistosity. I do note some correspondence with pebble conglomerate and brown,  
earthy lenses, both apparently concordant with the schistosity. The veins may  
expand as they crosscut such horizons.

Deposit Class C40 < Vein-type in metamorphic rocks > Class No. U7 < 7,2,0 >

Comments on Geology N85 < Veins have roughly the same orientation as surface  
cleavage or shear surfaces in orthogneiss immediately to the east.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

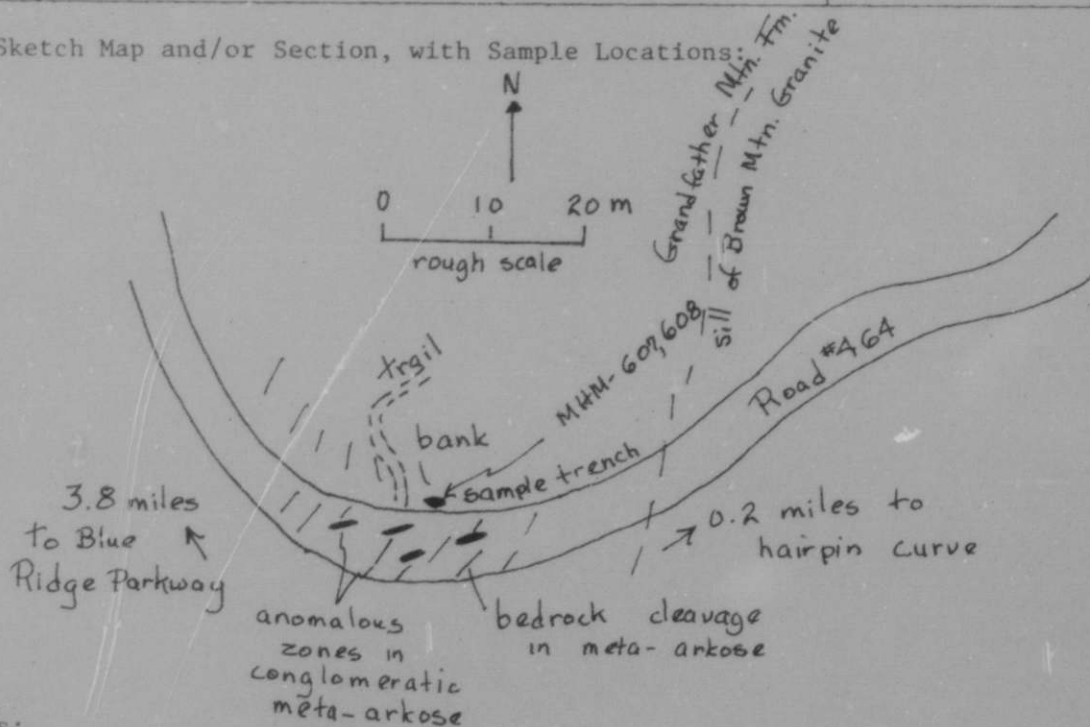
REPORT

Deposit No. 36

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 607	Chips, about 20% vein, 80% arkose	53 ppm U308
MHM 608	Chips of 100% arkose at same site	7 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >





## URANIUM-OCCURRENCE

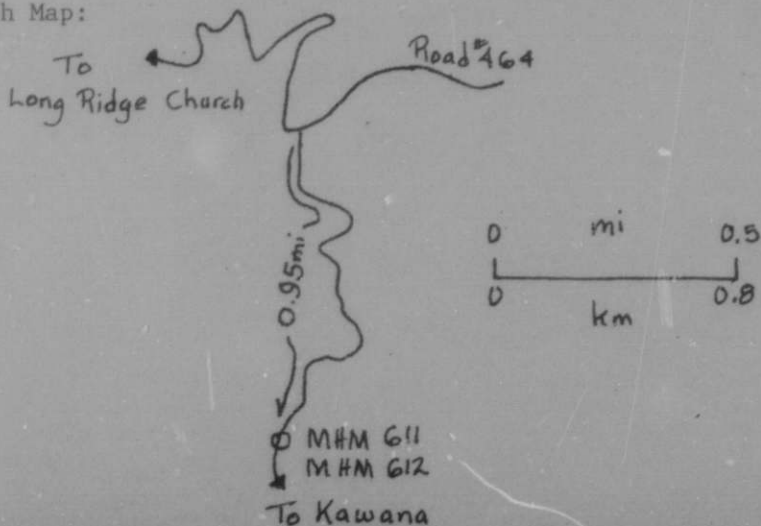
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 37 >Deposit Name A10 < Chestnut Cove Branch Occurrence >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 3.75 miles (6 km) south of  
Linville. >Field Checked G1 < 8, 0 | 0, 5 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 0 | 0, 2 | N > Longitude A80 < 0, 8 | 1, 5 | 1, 3 | W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/WMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3160 ft(963 m) >  
FT/MQuad Scale A91 < 1, 2, 4, 0, 0, 0 > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < On the road to Kawana, 0.95 miles (1.5 km) south of  
Road 464 (6.45 miles (10.4 km) southeast of Rte. 181), in bank on west side. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 37

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_ COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_ BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_ OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B < LB > G7C < \_\_\_\_\_ > G7D < \_\_\_\_\_ > % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B < LB > E1C \_\_\_\_\_ E1D < \_\_\_\_\_ > % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 37Deposit Form/Shape M10 < Tabular, discordant >Length M40 < over 1 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 0.6 > M51 < m > 1b U308Thickness M60 < over 4 > M61 < m > Ⓐ 0 - 20,000

B 20,000 - 200,000

Strike M70 < N70W > C 200,000 - 2 million

D 2 million - 20 million

Dip M80 < 90 > E More than 20 millionTectonic Setting N15 < Mobile belt >Major Regional Structures N5 < Within 30 m of mapped contact with Grandfather Mountain arkose. >Local Structures N70 < Phyllitic cleavage is N24E, 47SE. >Host-IM. Name U1 < Wilson Creek complex > Member U2 < Phyllite >Host Rock K1 < P1 R1 E1 C1 > Blue-gray, aphanitic phyllite, with small  
(Age) (Rock type, texture, composition, color,  
white flecks (cataclastic feldspar or quartz) scattered along cleavage surfaces.  
alteration, attitude, geometry, structure, etc.)Host-Rock Environment U3 < Medium-grade dynamic-metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)Comments on  
Associated Rocks U4 < 2 m to the north, blue-gray granular quartz-microcline-  
biotite (chlorite) gneiss occurs. The phyllite could be a mylonite or phyllonite  
derived from the gneiss. >Ore Minerals C30 < None observed. >Gangue Minerals K4 < Quartz, micas, feldspar. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 37

Alteration N75 < Orange and purple coatings along cleavage may be hydro-thermal.

Reductants U5 < Minor pyrite.

Analytical Data (General) C43 < MHM 611: 18 ppm U308, 7% Al, 3000 ppm Ba, 1500 ppm Y, greater than 1000 ppm Zr.

Radiometric Data (General) U6 < 600-900 cps over 0.6 x 0.5 x 4 m as exposed  
(No. times background and dimensions)  
(probably larger); background = 70 cps; normal rock = 150 cps.

Ore Controls K5 < Probably detrital zircon in metamorphosed and sheared feldspathic sedimentary rock.

Deposit Class C40 < Not certain. > Class No. U7 < 1111 >

Comments on Geology N85 < \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

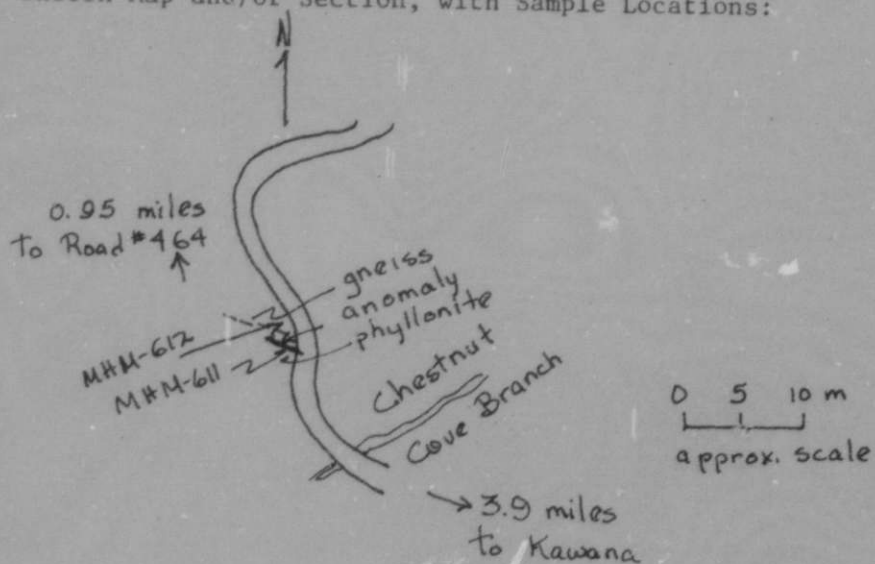
## REPORT

Deposit No. 37

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 611	Channel chips, 50 cm across anomaly	18 ppm U308
MHM 612	Chips of parental gneiss 2 m to north	4 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

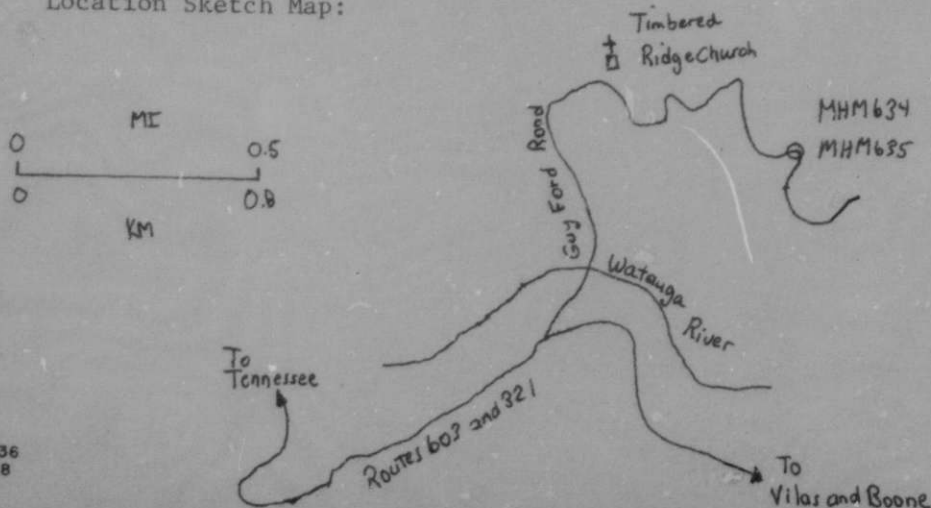
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 38 >Deposit Name A10 < Peoria Road anomaly >

Synonym Name(s) A11 &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Watauga >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 2.5 miles (4.0 km) southeast of  
Stone Mountain, or 2.5 miles (4.0 km) east of the Tennessee border. >Field Checked G1 < 8, 0 > 0, 6 > By G2 < McHone > J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 > 1, 6 > 5, 2 > N > Longitude A80 < 0, 3, 1 > 5, 2 > 3, 7 > W >  
Deg Min Sec Deg Min SecTownship A77 <     > Range A78 <     > Section A79 <     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2760 ft (842 m) >Quad Scale A91 <     > 2, 4, 0, 0, 0 > Quad Name A92 < Elk Mills >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < About 3 miles (4.8 km) east of Tennessee line, take the  
Guy Ford Road north from Rte. 321 for 0.55 miles (.9 km), turn right (east) \* >

Location Sketch Map:









## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 38Alteration N75 < None observed.Reductants U5 < None observed.Analytical Data (General) C43 < MHM 634: 22 ppm U308, 7% Al, 2000 ppm Ba,  
500 ppm Zr.Radiometric Data (General) U6 < 300-600 cps over 2 x 2.5 m face of outcrop;  
(No. times background and dimensions)identical gneiss in next cuts are 90 cps. Background is 60 cps.Ore Controls K5 < The radioactivity is apparently concentrated in a shear or  
fracture zone, now saprolitic, parallel to the face of the exposure. It is  
probably secondary (epigenetic), related to a remobilization event (Paleozoic?),  
or to supergene enrichment. Nearby granite and pegmatite are likely sources.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 < 7, 2, 0 >Comments on Geology N85 < The area's rocks are dominated by Beech Mountain  
magmatism.

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 38

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 634	Chips across anomaly	22 ppm U308
MHM 635	Chips of barren orthogneiss	10 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 38

Continuation from p. 1-5:

Label

A83 < onto Peoria Road, continue past Timbered Ridge Church at 0.20 miles  
(.32 km) to anomaly in roadcut, north side, 0.65 miles (1.04 km) past the Church  
and 1.0 miles (1.6 km) west of Bethel Road.>

## URANIUM-OCCURRENCE

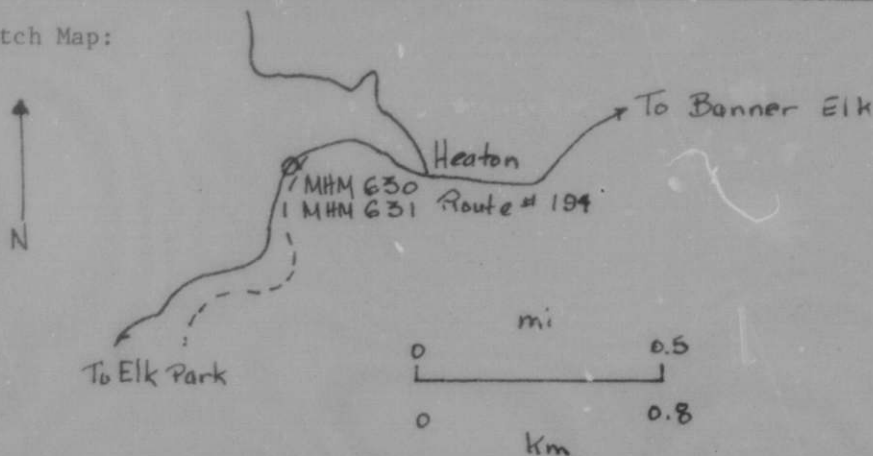
## REPORT

Quad Name A90 < Winston-Salem >Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 39 >Deposit Name A10 < Heaton No. 1 anomaly >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 2.0 miles (3.2 km) northeast of  
Elk Park and about 4.5 miles (7.2 km) west of Banner Elk on Route 194. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 1, 0 | 2, 0, N > Longitude A80 < 0, 8, 1 | 5, 6 | 5, 1, W >  
Deg Min Sec Deg Min SecTownship A77 <      |      |      > Range A78 <      |      |      > Section A79 <      >  
N/S E/WMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3030 ft(924 m) > FT/MQuad Scale A91 <      | 2, 4, 0, 0, 0 > Quad Name A92 < Elk Park >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < In roadcut on southeast side of Rte. 194, about 11 m from  
the north end of the roadcut, or about 75 m from Heaton Bridge. >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 39

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR  \_\_\_\_\_  COPROD  \_\_\_\_\_

MINOR  \_\_\_\_\_  BYPROD  \_\_\_\_\_

Potential Commodities:

POTEN  \_\_\_\_\_  OCCUR  \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < \_\_\_\_\_ >

Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_  G7A \_\_\_\_\_  G7B <LB> G7C \_\_\_\_\_ > G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_  E1A \_\_\_\_\_  E1B <LB> E1C \_\_\_\_\_  E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 39Deposit Form/Shape M10 < Tabular (?) >Length M40 < over 10 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 1.5 > M51 < m > 1b U308Thickness M60 < over 6 > M61 < m >  A 0 - 20,000

B 20,000 - 200,000

Strike M70 < N45W > C 200,000 - 2 million

D 2 million - 20 million

Dip M80 < 35SW > E More than 20 millionTectonic Setting N15 < Mobile belt. >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Various joints and fractures. >Host-FM. Name U1 < Beech Mountain granite > Member U2 < \_\_\_\_\_ >Host Rock K1 < P.R.E.C. 111 | 1/1 > Light gray, fine-grained quartzite or  
(Age) (Rock type, texture, composition, color,  
siltstone, very hard and brittle, with numerous thin black lamellae and frac-  
alteration, attitude, geometry, structure, etc.)  
tures filled with hematite.Host-Rock Environment U3 < Medium- to high-grade metamorphic >  
(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Medium to coarse-grained gray biotite-granite or diorite  
encloses the anomalous rock - it is a xenolith. >Ore Minerals C30 < Not observed. >Gangue Minerals K4 < Quartz, minor feldspar, hematite. >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 39Alteration N75 < Hematite in fractures altered to limonite.Reductants U5 < Minor sulfides (?)Analytical Data (General) C43 < 36 ppm U308; 7% Al, 2000 ppm Nb, 500 ppm Pb,  
150 ppm Sn, 500 ppm Y, 700 ppm Zn, greater than 1000 ppm Zr.Radiometric Data (General) U6 < 400 to 700 cps over 1.5 m x 9 m x 10 m of  
(No. times background and dimensions)  
exposed anomaly; country rock is 70-80 cps; background = 50 cps.Ore Controls K5 < The uranium is concentrated in the metasedimentary rock,  
probably along fracture planes. The content of Pb, Sn and Zn indicates meta-  
somatic enrichment of a zircon-rich metasedimentary rock.Deposit Class C40 < Vein-type in metamorphic rock > Class No. U7 < 7,2,0 >Comments on Geology N85 < The Cranberry "gneiss" is obviously a complex of  
metasedimentary and igneous rocks, like the Wilson Creek.



URANIUM-OCCURRENCE

Quad Name Winston-Salem

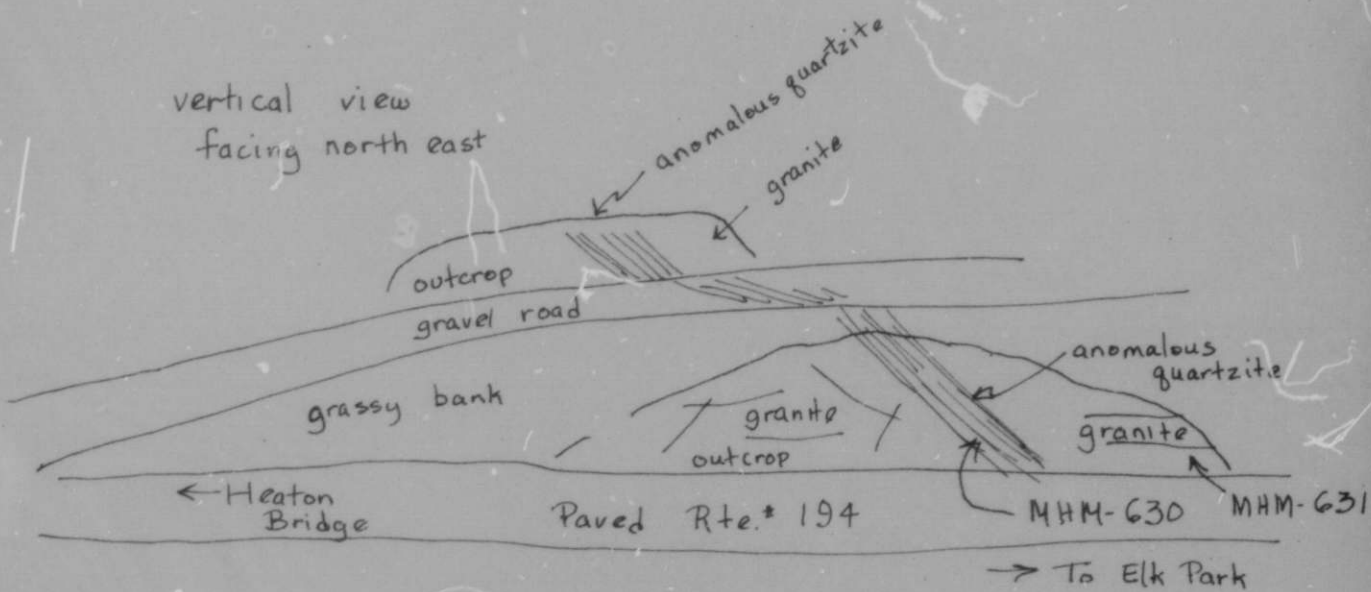
REPORT

Deposit No. 39

Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 630	Chips across the anomaly along Rte. 194	36 ppm U308
MHM 631	Chips of surrounding barren monzonite	2 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:



References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 40 >Deposit Name A10 < Heaton No. 2 anomaly >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > State North CarolinaState Code A50 < 3, 7 > County A60 < Avery >

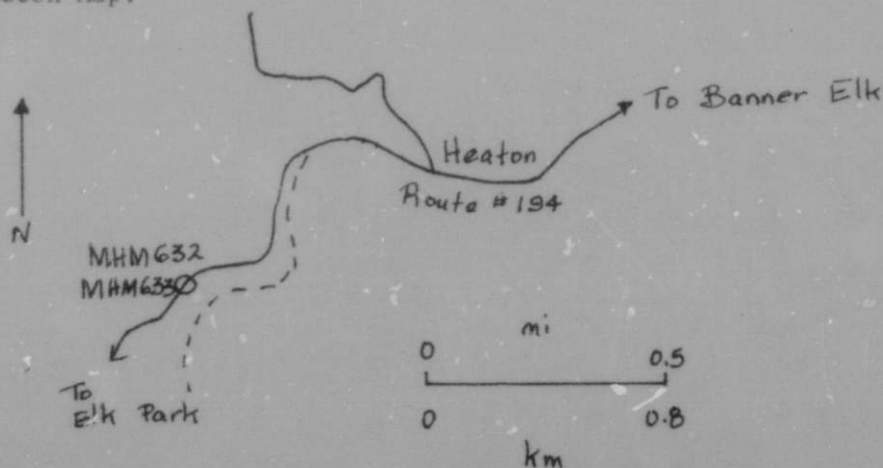
(Enter code twice from List D)

Position from Prominent Locality A82 < About 2.0 miles (3.2 km) northeast of  
Elk Park and about 4.5 miles (7.2 km) west of Banner Elk on Route 194. >Field Checked G1 < 8, 0 | 0, 6 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 36 | 10 | 06 | N > Longitude A80 < 08 | 15 | 05 | W >  
Deg Min Sec Deg Min SecTownship A77 < \_\_\_\_\_ > Range A78 < \_\_\_\_\_ > Section A79 < \_\_\_\_\_ >  
N/S E/W

FT/M

Meridian A81 < \_\_\_\_\_ > Altitude A107 < 3000 ft(915 m) >Quad Scale A91 < 1, 2, 4, 0, 0, 0, 0 > Quad Name A92 < Elk Park >  
(7½' or 15' quad)Physiographic Province A63 < 10, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < Roadcut on south side of Rte. 194, 0.50 miles (0.8 km)  
west of Heaton Bridge, about 30 m from eastern end of rock face. >

Location Sketch Map:





## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 40Deposit Form/Shape M10 < Lenticular (?) >Length M40 < over 3 > M41 < m >

Size M15 (circle letter):

Width M50 < over 1 > M51 < m >1b U308Thickness M60 < over 1.5 > M61 < m >A 0 - 20,000

B 20,000 - 200,000

Strike M70 < roughly NS >

C 200,000 - 2 million

Dip M80 < shallow, E >

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >

Major Regional Structures N5 &lt; \_\_\_\_\_ &gt;

Local Structures N70 < Fracture zones (faults?) are common, have the same orientation as the anomaly, but are not anomalous. >

Host-FM. Name U1 < Beech granite > Member U2 < Pegmatite >

Host Rock K1 < P R E C > Gray-white, coarse, partly foliated (re-  
(Age) (Rock type, texture, composition, color,  
crystallized) blue quartz-microcline-plagioclase-amphibole(?) - pegmatite, probably  
alteration, attitude, geometry, structure, etc.)  
a sub-horizontal lens in orthogneiss.

Host-Rock Environment U3 < Metamorphic-igneous >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < The roadcut has abundant, sheared gneisses - some definitely  
of sedimentary origin (graywacke or siltstone) - others look granitic. >

Ore Minerals C30 < Not observed >Gangue Minerals K4 < Quartz, microcline, plagioclase, mafics. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 40Alteration N75 < Some recrystallizationReductants U5 < Minor sulfides (pyrite)Analytical Data (General) C43 < MHM 633: 52 ppm U308, 1500 ppm Ba.Radiometric Data (General) U6 < 400-800 cps over 1.5 x 3 m of readable exposure;  
(No. times background and dimensions)country rock = 110 cps. Background = 60 cps.Ore Controls K5 < Since this is coarse pegmatite (still igneous-looking), the  
U is probably primary igneous.Deposit Class C40 < Pegmatitic > Class No. U7 < 3 2 0

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 40

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 633	Anomalous pegmatite chips along 1 m	52 ppm U308
MHM 634	Barren pegmatite-gneiss chips	11 ppm U308

Geologic Sketch Map and/or Section, with Sample Locations:

## References:

F1 &lt; \_\_\_\_\_ &gt;

F2 &lt; \_\_\_\_\_ &gt;

F3 &lt; \_\_\_\_\_ &gt;

F4 &lt; \_\_\_\_\_ &gt;

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

## REPORT

Quad Scale A100 < 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 41 >Deposit Name A10 < Elk Ridge occurrence >

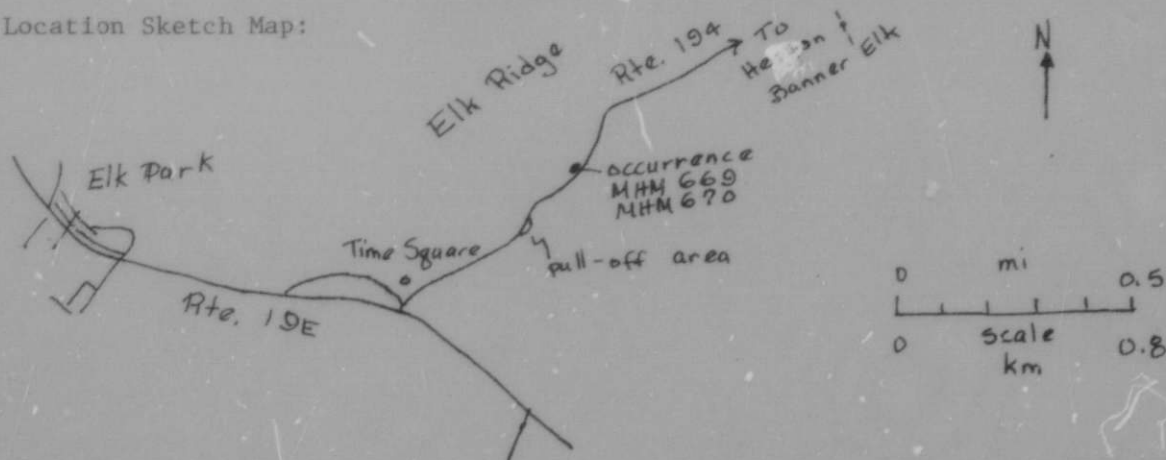
Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S > U, S State North CarolinaState Code A50 < 3, 7 > 3, 7 County A60 < Avery >

(Enter code twice from List D)

Position from Prominent Locality A82 < About 1.1 miles (1.8 km) east of the center of Elk Park. >Field Checked G1 < 8, 0, 0, 7 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6, 10, 9, 3, 4, 1, 7 > Longitude A80 < 0, 8, 1, 15, 7, 4, 3, 1, 1, 7 >  
Deg Min Sec Deg Min SecTownship A77 <      > Range A78 <      > Section A79 <      >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 3080 ft. (939 m) >Quad Scale A91 <     2, 4, 0, 0, 0 > Quad Name A92 < Elk Park >  
(7½' or 15' quad)Physiographic Province A63 < 0, 2 > Appalachian Highlands >  
(List K)Location Comments A83 < On Rte. 194, 1.55 miles (2.5 km) west of Heaton Bridge or 0.5 miles (0.8 km) east of Rte. 19E, rock face on north side, 5 feet (1.5 m) \* >

Location Sketch Map:



URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 41

Commodities Present:

C10  U \_\_\_\_\_

Commodities Produced:

MAJOR \_\_\_\_\_ COPROD \_\_\_\_\_

MINOR \_\_\_\_\_ BYPROD \_\_\_\_\_

Potential Commodities:

POTEN \_\_\_\_\_ OCCUR \_\_\_\_\_

Commodity Comments C50 < \_\_\_\_\_ >

Status of Exploration and Development A20 < 1 >  
(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < Roadcut. Hearsay reports of selective U ore removal near this site in 1950's. >

Property is  A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 < \_\_\_\_\_ >

Cumulative Uranium Production PROD YES  NO ? SML MED LGE (circle)

DH2 accuracy thousands of lb. years grade  
G7  U \_\_\_\_\_ G7A \_\_\_\_\_ G7B <LB> G7C \_\_\_\_\_ G7D \_\_\_\_\_ % U308 >

Source of Information D9 < \_\_\_\_\_ >

Production Comments D10 < \_\_\_\_\_ >

Reserves and Potential Resources

EH accuracy thousands of lb. year of est. grade  
E1  U \_\_\_\_\_ E1A \_\_\_\_\_ E1B <LB> E1C \_\_\_\_\_ E1D \_\_\_\_\_ % U308 >

Source of Information E7 < \_\_\_\_\_ >

Comments E8 < \_\_\_\_\_ >



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 41Deposit Form/Shape M10 < Lenticular, concordant >Length M40 < 2.9 > M41 < m > <sup>FT/M</sup> Size M15 (circle letter):Width M50 < 4 > M51 < m > 1b U308Thickness M60 < 0-0.2 > M61 < m > (A) 0 - 20,000Strike M70 < N20E > B 20,000 - 200,000Dip M80 < 29SE > C 200,000 - 2 million

D 2 million - 20 million

E More than 20 million

Tectonic Setting N15 < Mobile belt >Major Regional Structures N5 < NE-trending thrusts >Local Structures N70 < Shear foliation >Host-FM. Name U1 < Cranberry gneiss > Member U2 < Pegmatite >Host Rock K1 < P R E C > Biotite-rich quartz pegmatite, dark from  
(Age) (Rock type, texture, composition, color,  
smoky quartz, relatively poor in feldspar (10-20%). A discontinuous lens in  
alteration, attitude, geometry, structure, etc.)sheared granitic gneiss (concordant).Host-Rock Environment U3 < High-grade metamorphic >

(Sed. dep. environ., metamorphic facies, ign. environ.)

Comments on

Associated Rocks U4 < Host is a quartz-rich leucocratic gneiss, biotite-bearing,  
highly sheared (cataclastic) near pegmatite. >Ore Minerals C30 < Autunite, torbernite, uraninite >Gangue Minerals K4 < Quartz, biotite, microcline. >

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 41Alteration N75 < Dark, rusty haloes around uraninite.Reductants U5 < Minor pyriteAnalytical Data (General) C43 < 327 to 1499 ppm U308Radiometric Data (General) U6 < 400-2100 cps along 0.2 x 2 m surface of  
(No. times background and dimensions)  
pegmatite; 120-140 cps along surrounding gneiss; Background is 60-80 cps.Ore Controls K5 < Differentiation of pegmatite magma.Deposit Class C40 < Pegmatitic > Class No. U7 < 3, 2, 0

Comments on Geology N85 &lt; \_\_\_\_\_

## URANIUM-OCCURRENCE

Quad Name Winston-Salem

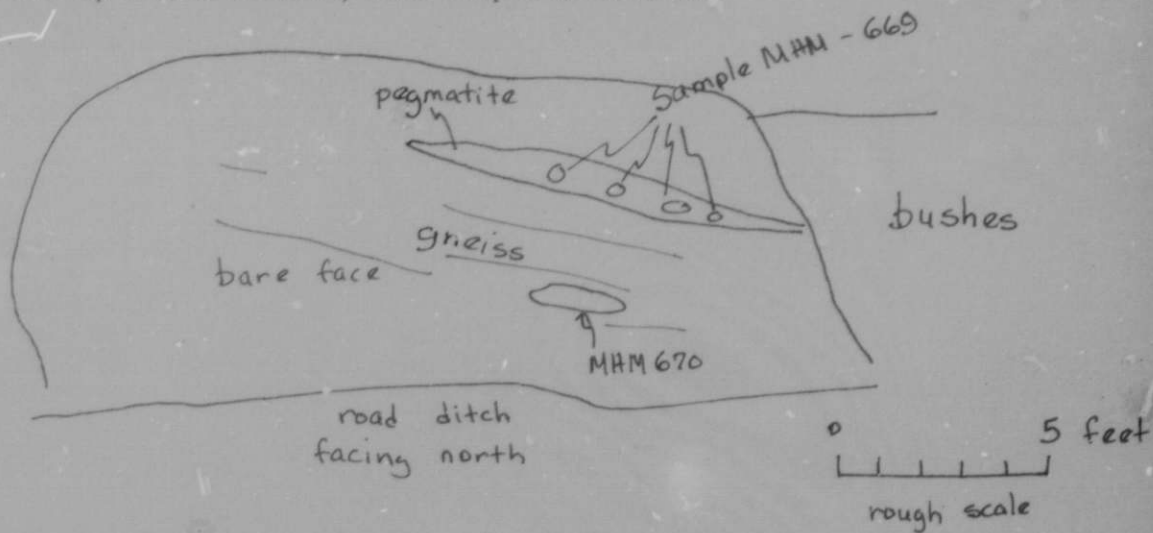
## REPORT

Deposit No. 41

## Uranium Analyses:

Sample No.	Sample Description	Uranium Analysis
MHM 669	Chips along surface of pegmatite lens	1499 ppm U308
MHM 670	Chips of gneiss below pegmatite	327 ppm U308

## Geologic Sketch Map and/or Section, with Sample Locations:



## References:

- F1 < \_\_\_\_\_ >
- F2 < \_\_\_\_\_ >
- F3 < \_\_\_\_\_ >
- F4 < \_\_\_\_\_ >

URANIUM-OCCURRENCE

Quad Name Winston-Salem

REPORT

Deposit No. 41

Continuation from p. 1-5:

Label

A83 < up. >

## URANIUM-OCCURRENCE

Quad Name A90 < Winston-Salem >

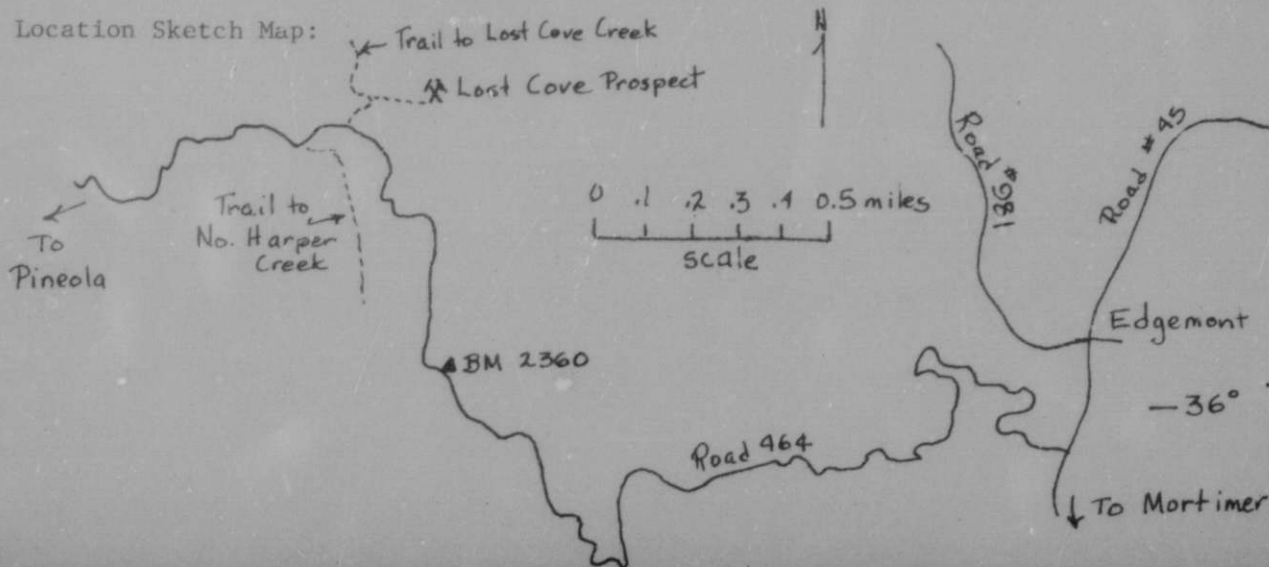
## REPORT

Quad Scale A100 < 1, 2, 5, 0, 0, 0, 0 >Deposit No. B40 < 34 >Deposit Name A10 < Lost Cove Prospect >

Synonym Name(s) All &lt; \_\_\_\_\_ &gt;

District or Area A30 < Grandfather Mountain Region >Country A40 < U, S | U, S > State North CarolinaState Code A50 < 37 | 37 > County A60 < Avery >  
(Enter code twice from List D)Position from Prominent Locality A82 < About 1.4 miles (2.25 km) WNW of Edgemont. >Field Checked G1 < 8, 0 | 10, 7 > By G2 < McHone , J. Gregory >  
Yr Mo Last name First InitialLatitude A70 < 3, 6 | 0, 0 | 2, 9, N > Longitude A80 < 0, 8, 1 | 4, 7 | 5, 3, W >  
Deg Min Sec Deg Min SecTownship A77 <     |     |     > Range A78 <     |     |     > Section A79 <     |     >  
N/S E/W FT/MMeridian A81 < \_\_\_\_\_ > Altitude A107 < 2200 ft(671 m) >Quad Scale A91 <     |     |     |     |     |     > Quad Name A92 < Grandfather Mountain >  
(7½' or 15' quad)Physiographic Province A63 < 10, 2 | Appalachian Highlands >  
(List K)Location Comments A83 < Off Road 464 between Edgemont and Pineola, trail starts at 9.3 miles (15 km) east of Rte. 181, north down trail, then east down road. >

Location Sketch Map:



## URANIUM-OCCURRENCE

Quad Name Winston-Salem

## REPORT

Deposit No. 34

## Commodities Present:

C10  U

## Commodities Produced:

MAJOR  COPROD MINOR  BYPROD 

## Potential Commodities:

POTEN  OCCUR 

Commodity Comments C50 &lt;

Status of Exploration and Development A20 < 1 >

(1 = occurrence, 2 = raw prospect, 3 = developed prospect, 4 = producer)

Comments on Exploration and Development L110 < Trenched in the mid-1950's (?),probably as part of the U.S.G.S. exploration. >Property is A21 (Active)  A22 (Inactive) (Circle appropriate labels)

Workings are M120 (Surface) M130 (Underground) M140 (Both)

Description of Workings M220 &lt;

Cumulative Uranium Production PROD YES  NO SML MED LGE (circle)DH2 accuracy thousands of lb. years grade  
G7  U  G7A  G7B < LB > G7C < > G7D < % U308 >

Source of Information D9 &lt;

Production Comments D10 &lt;

Reserves and Potential ResourcesEH accuracy thousands of lb. year of est. grade  
E1  U  E1A  E1B < LB > E1C  E1D < % U308 >

Source of Information E7 &lt;

Comments E8 &lt;