AMICS ANALYSIS

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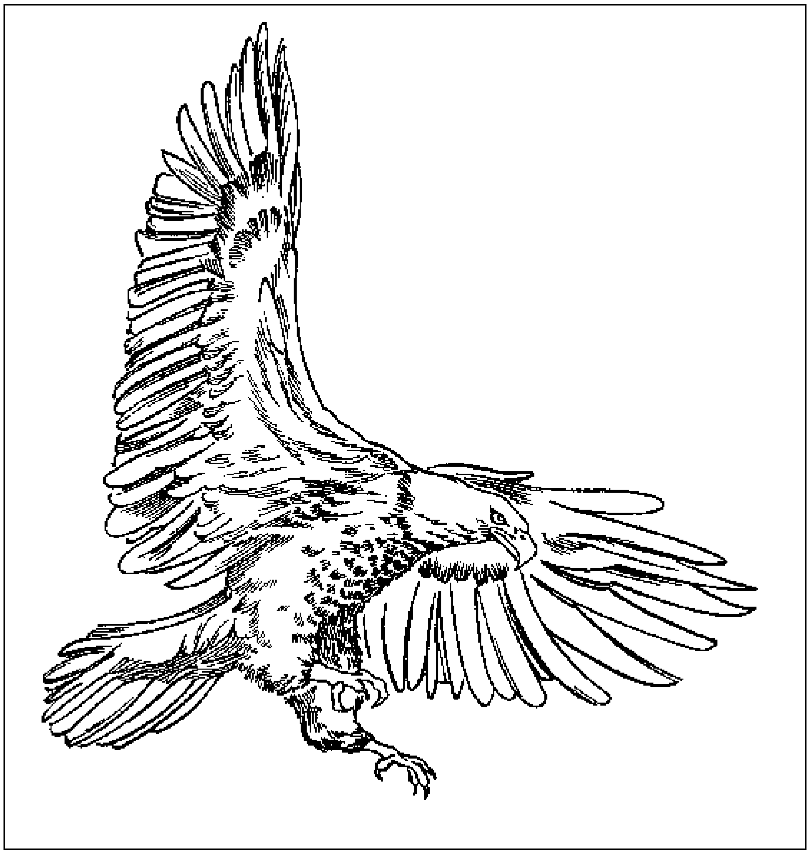

Eagle Engineering

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AMICS ANALYSIS

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Project: EPA Uranium Samples

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EXECUTIVE SUMMARY

Twenty seven (27) samples were received for AMICS analysis. The scope of work was determine overall mineralogy for all samples. Secondly, a rare element search was conducted on samples which did not identify any uranium containing particles. After identification, backscatter images of uranium containing carnotite particles were placed into report along with mineral association and estimated size.

Modal mineralogy was performed on samples CTS-L-0-SL-01, CTS-M-0-SL-01, and CTS-H-0-SL-01. According to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Minor phases include Hornblende, calcite, and dolomite. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples CR-L-0-SL-01, CR-L-4-SY -25/+270, CR-L-8-SY -25/+270, and CR-L-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples CR-M-0-SL-01, CR-M-4-SY -25/+270, CR-M-8-SY -25/+270, and CR-M-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples CR-H-0-SL-01, CR-H-4-SY -25/+270, CR-H-8-SY -25/+270, and CR-H-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples QV-L-0-SL-01, QV-L-4-SY -25/+270, QV-L-8-SY -25/+270, and QV-L-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples QV-M-0-SL-01, QV-M-4-SY -25/+270, QV-M-8-SY -25/+270, and QV-M-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

Modal mineralogy was performed on samples QV-H-0-SL-01, QV-H-4-SY -25/+270, QV-H-8-SY -25/+270, and QV-H-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified.

For sample CTS-L-0-SL-01, one carnotite particle was observed with orthoclase association. This particle is leachable, but not flotable.

For CTS-M-SL-01 sample, three carnotite particles were identified. According to the data, one free carnotite particle was identified at approximately 20 microns in size while the other carnotite particles are encapsulated by orthoclase at approximately 5 microns in size. The free particle is both flotable and leachable. For the other two encapsulated carnotite particles, they are not leachable nor flotable.

For CTS-H-SL-01 sample, one carnotite particle was identified. According to the data, the carnotite particle is approximately 5 microns with orthoclase encapsulation. This particle is not leachable or flotable.

For CR-L-SL-01 sample, several carnotite particles were identified. According to the data, one free particle was identified at approximately 40 microns in size. This particle is both flotable and leachable. Other carnotite particles appear to be 5 microns in size with quartz and albite association. Since the particles are near the edge, they are leachable, however, not flotable.

For CR-L-4-SY -25/+270 sample, two carnotite particles were identified. According to the data, the carnotite particles appear to be approximately 5 microns in size with quartz and illite encapsulation. One particle is leachable, however, the other particle is not leachable.

For CR-L-8-SY -25/+270 sample, one carnotite particle was observed with albite association. According to the image, this particle is leachable but not flotable.

For CR-L-30-SY -25/+270 sample, two carnotite particles were identified. According to the data, the carnotite particles appear to be approximately 10 microns in size with quartz association. These particles are not flotable but leachable.

For CR-M-SL-01 sample, several carnotite particles were identified. According to the data, the particles are approximately 10 microns in size with albite encapsulation and quartz association. Because of the encapsulation, these particles are not flotable nor leachable, except in figure 22. This particle is leachable only.

For CR-M-4-SY -25/+270 sample, one carnotite particles were identified. According to the data, the particle is leachable but not flotable with albite association.

For CR-M-8-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 10 microns in size with quartz encapsulation. This particle is not flotable or leachable.

For CR-M-30-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz association. This particle is not flotable but is leachable.

For CR-H-SL-01 sample, several carnotite particles were identified. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite and orthoclase association. These particles are not flotable, however, figures two particles are leachable.

For CR-H-4-SY -25/+270 sample, three carnotite particles were identified. According to the data, the carnotite particle appear to be approximately 5 microns in size with orthoclase association. These particles are all leachable but not flotable.

For CR-H-8-SY -25/+270 sample, three carnotite particles were identified. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase, quartz, and albite encapsulation. Observation of the carnotite particles indicates two particles are leachable while one particle is not leachable. All observed particles for this sample is not flotable.

For CR-H-30-SY -25/+270 sample, two carnotite particles were identified. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase and calcite association. These particles are leachable but not flotable.

For QV-L-SL-01 sample, two carnotite particles were identified. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite and orthoclase association. Since these particles are encapsulated, they are not flotable nor leachable.

For QV-L-4-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 10 microns in size with quartz association. This particle is leachable but not flotable.

For QV-L-8-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 5 microns in size with albite encapsulation. This particle is not leachable or flotable.

For QV-L-30-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 20 microns in size with quartz encapsulation. This particle is not leachable or flotable.

For QV-M-SL-01 sample, several carnotite particles were identified. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite, quartz, and orthoclase association. Three of these particles are not flotable or leachable, however, one particle is leachable.

For QV-M-4-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz encapsulation. This particle is not leachable or flotable.

For QV-M-8-SY -25/+270 sample, two carnotite particles were identified. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz and orthoclase encapsulation. These particles are not leachable or flotable.

For QV-M-30-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particle appear to be approximately 20 microns in size with quartz encapsulation. This particle is not leachable or flotable.

For QV-H-SL-01 sample, several carnotite particles were identified. According to the data, the carnotite particles are approximately 5 microns in size with albite and orthoclase association. All of the particles are not flotable, however, two of the four particles are leachable.

For QV-H-4-SY -25/+270 sample, several carnotite particles were identified. According to the data, the carnotite particles appear to be approximately 5 microns in size with albite, quartz and clinochlore encapsulation. One carnotite particle was identified at 40 microns with quartz association. Most particles are not leachable or flotable while one particle was leachable only.

For sample QV-H-8-SY -25/+270, one carnotite particles was identified. According to the image, this particle is associated with quartz. This particle is leachable but not flotable.

For QV-H-30-SY -25/+270 sample, one carnotite particle was identified. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase encapsulation. This particle is not flotable but is leachable.

Paul Miranda, Ph. D
February 5, 2023

Qualifying Statement

This confidential report was prepared for DisaUSA and is based on information available at the time of the report preparation. It is believed the information, estimates, conclusions and recommendations contained herein are reliable under the conditions and subject to the qualifications set forth herein. The information, estimates, conclusions and recommendations herein are based on our experience and data supplied by others, but the actual result of the work is dependent, in part, on factors over which we have no control. This report is intended to be used exclusively by DisaUSA. We disclaim any assumption of responsibility for any reliance on this report by any person other than DisaUSA, or for any purpose other than that for which it was prepared. We disclaim all liability to any other party for all costs, losses, damages, and liabilities that the other party might suffer or incur arising from or relating to the contents of this report, the provision of this report to the other party, or the reliance on this report by the other party.

Scope of Work

Twenty seven (27) samples were received for AMICS analysis. The scope of work was determine overall mineralogy for all samples. Secondly, a rare element search was conducted on samples which did not identify any uranium containing particles. After identification, backscatter images of uranium containing carnotite particles were placed into report along with mineral association and estimated size.

Experimental Work and Results

From received samples, approximately 2 grams were split out using small splitters to produce the sample. The sample was placed into an epoxy cup, labeled, and epoxy was placed onto the ore sample. Next, the sample was placed into a vacuum chamber and vacuumed for approximately 2 minutes in order to remove any residual bubbles entrained within the sample.

The samples were allowed to dry overnight for epoxy curing. Samples were then polished on an automated polisher and allowed to dry. Lastly, the samples were carbon coated for backscatter imaging and AMICS analysis.

During AMICS analysis, a library was produced using energy dispersive x-ray (EDX) of minerals of the sample. From the library, only one uranium containing mineral, carnotite, was identified.

Modal Mineralogy

Modal mineralogy was performed on samples CTS-L-0-SL-01, CTS-M-0-SL-01, and CTS-H-0-SL-01. According to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Minor phases include Hornblende, calcite, and dolomite. Uranium containing carnotite was also identified. Results are shown in table 1.

Table 1. Modal Mineralogy.

Mineral	Chemistry	CTS-L-0-SL-01	CTS-M-0-SL-01	CTS-H-0-SL-01
Albite	$NaAlSi_3O_8$	12.96	12.04	14.23
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.10	0.04	0.03
Barite	$BaSO_4$	0.02	0.05	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.21	0.19	0.24
Calcite	$CaCO_3$	1.93	2.73	2.51
Carnotite	$K_2(UO_2)_2(VO_4)_2$	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.24	0.17	0.19
Diopside	$MgCaSi_2O_6$	0.13	0.43	0.15
Dolomite	$Ca,Mg(CO_3)_2$	0.72	1.77	1.36
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	4.52	4.86	5.55
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.10	0.13	0.16
Oligoclase	$(Na.Ca)AlSi_3O_8$	0.87	0.68	0.82
Orthoclase	$KAlSi_3O_8$	20.33	18.65	19.35
Quartz	SiO_2	57.82	58.20	55.40
Zircon	$ZrSiO_6$	0.05	0.06	0.01

Modal mineralogy was performed on samples CR-L-0-SL-01, CR-L-4-SY -25/+270, CR-L-8-SY -25/+270, and CR-L-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 2.

Table 2. Modal Mineralogy.

Mineral	**Chemistry**	**CR-L-0-SL-01**	**CR-L-4-SY -25/+270**	**CR-L-8-SY -25/+270**	**CR-L-30-SY -25/+270**
Albite	$NaAlSi_3O_8$	12.72	9.39	8.08	7.64
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.00	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.09	0.04	0.03	0.04
Barite	$BaSO_4$	0.10	0.00	0.01	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.52	0.18	0.15	0.09
Calcite	$CaCO_3$	0.60	0.36	0.39	0.29
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.01	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.28	0.18	0.19	0.12
Diopside	$MgCaSi_2O_6$	0.01	0.01	0.00	0.00
Dolomite	$Ca,Mg(CO_3)_2$	0.51	0.48	0.38	0.37
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	4.33	0.50	0.32	0.22
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.02	0.01	0.01	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	0.50	0.28	0.37	0.30
Orthoclase	$KAlSi_3O_8$	20.60	17.16	14.63	14.47
Quartz	SiO_2	59.53	71.32	75.45	76.46
Zircon	$ZrSiO_6$	0.18	0.10	0.00	0.01

Modal mineralogy was performed on samples CR-M-0-SL-01, CR-M-4-SY -25/+270, CR-M-8-SY -25/+270, and CR-M-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 3.

Table 3. Modal Mineralogy.

Mineral	**Chemistry**	**CR-M-0-SL-01**	**CR-M-4-SY-25/+270**	**CR-M-8-SY-25/+270**	**CR-M-30-SY-25/+270**
Albite	NaAlSi3O8	13.85	12.58	12.52	16.63
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.00	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.01	0.01	0.01	0.07
Barite	$BaSO_4$	0.06	0.00	0.00	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.57	0.06	0.05	0.05
Calcite	$CaCO_3$	1.13	0.56	0.37	0.43
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.05	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.16	0.05	0.07	0.03
Diopside	$MgCaSi_2O_6$	0.08	0.03	0.01	0.01
Dolomite	$Ca,Mg(CO_3)_2$	0.26	0.01	0.01	0.06
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	4.30	0.32	0.30	0.16
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.03	0.00	0.00	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	0.58	1.54	0.68	0.86
Orthoclase	$KAlSi_3O_8$	21.80	19.20	19.69	21.12
Quartz	SiO_2	57.10	65.53	66.29	60.41
Zircon	$ZrSiO_6$	0.03	0.11	0.00	0.18

Modal mineralogy was performed on samples CR-H-0-SL-01, CR-H-4-SY -25/+270, CR-H-8-SY -25/+270, and CR-H-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 4.

Table 4. Modal Mineralogy.

Mineral	Chemistry	CR-H-0-SL-01	CR-H-4-SY-25/+270	CR-H-8-SY -25/+270	CR-H-30-SY -25/+270
Albite	$NaAlSi_3O_8$	22.61	12.59	11.49	18.61
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.00	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.01	0.05	0.00	0.04
Barite	$BaSO_4$	0.09	0.00	0.05	0.02
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.95	0.04	0.04	0.05
Calcite	$CaCO_3$	0.29	0.17	0.56	0.83
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.18	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.16	0.01	0.01	0.02
Diopside	$MgCaSi_2O_6$	0.10	0.00	0.00	0.07
Dolomite	$Ca,Mg(CO_3)_2$	0.01	0.00	0.00	0.03
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	6.36	0.24	0.19	0.19
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.03	0.00	0.00	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	1.22	0.44	0.58	1.13
Orthoclase	$KAlSi_3O_8$	25.65	19.86	17.41	22.41
Quartz	SiO_2	42.32	66.57	69.67	56.34
Zircon	$ZrSiO_6$	0.02	0.04	0.00	0.26

Modal mineralogy was performed on samples QV-L-0-SL-01, QV-L-4-SY -25/+270, QV-L-8-SY -25/+270, and QV-L-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 5.

Table 5. Modal Mineralogy.

Mineral	Chemistry	QV-L-0-SL-01	QV-L-4-SY-25/+270	QV-L-8-SY -25/+270	QV-L-30-SY -25/+270
Albite	$NaAlSi_3O_8$	17.24	13.51	12.25	8.51
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.01	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.07	0.02	0.18	0.00
Barite	$BaSO_4$	0.00	0.00	0.00	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.71	0.12	0.10	0.03
Calcite	$CaCO_3$	0.39	0.74	0.53	0.28
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.02	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.22	0.13	0.10	0.02
Diopside	$MgCaSi_2O_6$	0.11	0.03	0.08	0.05
Dolomite	$Ca,Mg(CO_3)_2$	0.20	0.18	0.19	0.05
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	8.10	0.50	0.33	0.13
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.03	0.01	0.00	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	1.18	0.62	0.86	0.52
Orthoclase	$KAlSi_3O_8$	26.30	19.36	19.33	15.38
Quartz	SiO_2	45.32	64.72	65.94	74.99
Zircon	$ZrSiO_6$	0.10	0.07	0.12	0.04

Modal mineralogy was performed on samples QV-M-0-SL-01, QV-M-4-SY -25/+270, QV-M-8-SY -25/+270, and QV-M-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 6.

Table 6. Modal Mineralogy.

Mineral	Chemistry	QV-M-0-SL-01	QV-M-4-SY -5/+270	QV-M-8-SY -25/+270	QV-M-30-SY -25/+270
Albite	$NaAlSi_3O_8$	13.89	9.72	10.49	9.32
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.00	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.05	0.02	0.06	0.01
Barite	$BaSO_4$	0.00	0.01	0.05	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.42	0.10	0.11	0.03
Calcite	$CaCO_3$	0.17	0.82	0.85	0.32
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.04	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.12	0.08	0.08	0.01
Diopside	$MgCaSi_2O_6$	0.02	0.00	0.03	0.01
Dolomite	$Ca,Mg(CO_3)_2$	0.07	0.08	0.16	0.01
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	6.79	0.31	0.28	0.14
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.02	0.00	0.01	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	0.81	0.52	0.48	0.73
Orthoclase	$KAlSi_3O_8$	24.04	15.55	15.90	16.10
Quartz	SiO_2	53.57	72.79	71.46	73.32
Zircon	$ZrSiO_6$	0.00	0.00	0.05	0.00

Modal mineralogy was performed on samples QV-H-0-SL-01, QV-H-4-SY -25/+270, QV-H-8-SY -25/+270, and QV-H-30-SY -25/+270 and according to the data three minerals, albite, orthoclase, and quartz, were identified as the main contributors. Uranium containing carnotite was also identified. Results are shown in table 7.

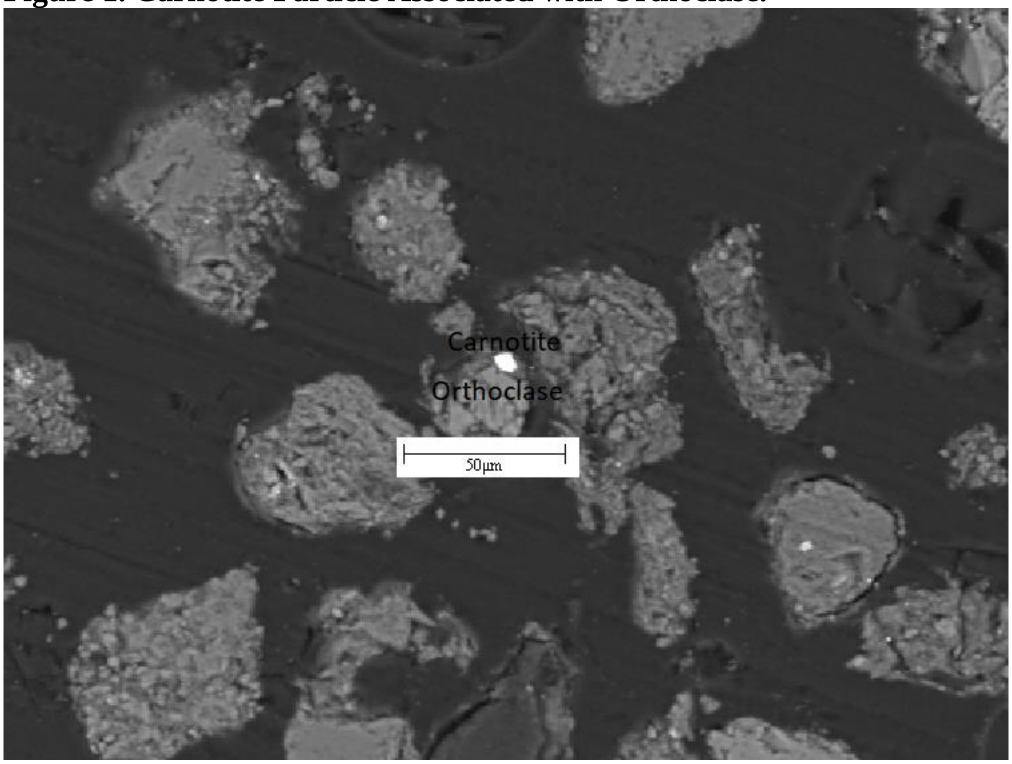
Table 7. Modal Mineralogy.

Mineral	**Chemistry**	**QV-H-0-SL-01**	**QV-H-4-SY -5/+270**	**QV-H-8-SY -25/+270**	**QV-H-30-SY -25/+270**
Albite	$NaAlSi_3O_8$	13.34	17.91	15.59	13.74
Alunite	$KAl_3(SO_4)_2(OH)_6$	0.02	0.00	0.00	0.00
Apatite	$Ca_5(PO_4)_3(OH)$	0.02	0.05	0.07	0.02
Barite	$BaSO_4$	0.03	0.02	0.00	0.00
Biotite	$K(Mg,Fe)AlSi_3O_{10}(OH)_2$	0.46	0.06	0.05	0.03
Calcite	$CaCO_3$	0.15	0.56	0.66	0.51
Carnotite	$K_2(UO_2)_2(VO_4)_2$	0.08	< 0.01	< 0.01	< 0.01
Chlorite	$(Mg,Fe)_5AlSi_3O_{10}(OH)_8$	0.08	0.07	0.09	0.05
Diopside	$MgCaSi_2O_6$	0.02	0.11	0.08	0.06
Dolomite	$Ca,Mg(CO_3)_2$	0.00	0.06	0.07	0.09
Hornblende	$Ca(Mg,Fe,Al)Si_8O_{22}OH$	5.93	0.33	0.23	0.18
Illite	$K(Mg,Fe,Al)_2Si_4O_{10}(OH)_2$	0.01	0.01	0.00	0.00
Oligoclase	$(Na.Ca)AlSi_3O_8$	0.43	1.15	1.01	1.19
Orthoclase	$KAlSi_3O_8$	21.30	22.53	19.47	20.34
Quartz	SiO_2	58.12	57.04	62.53	63.60
Zircon	$ZrSiO_6$	0.01	0.11	0.15	0.19

Backscatter Images
CTS-L-0-SL-01

For sample CTS-L-0-SL-01, one carnotite particle was observed with orthoclase association. This particle is leachable, but not flotable. Results are shown in figure 1.

Figure 1. Carnotite Particle Associated with Orthoclase.



CTS-M-0-SL-01

For CTS-M-SL-01 sample, three carnotite particles were identified. Results are shown in figures 2 through 4. According to the data, one free carnotite particle was identified at approximately 20 microns in size while the other carnotite particles are encapsulated by orthoclase at approximately 5 microns in size. The free particle is both flotable and leachable. For the other two encapsulated carnotite particles, they are not leachable nor flotable.

Figure 2. CTS-M-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.

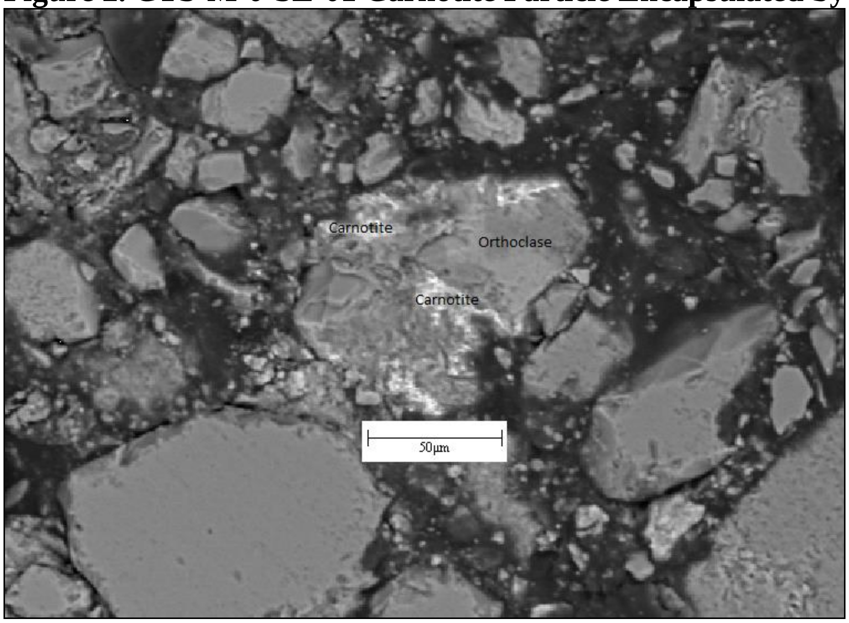


Figure 3. CTS-M-0-SL-01 Liberated Carnotite Particle.

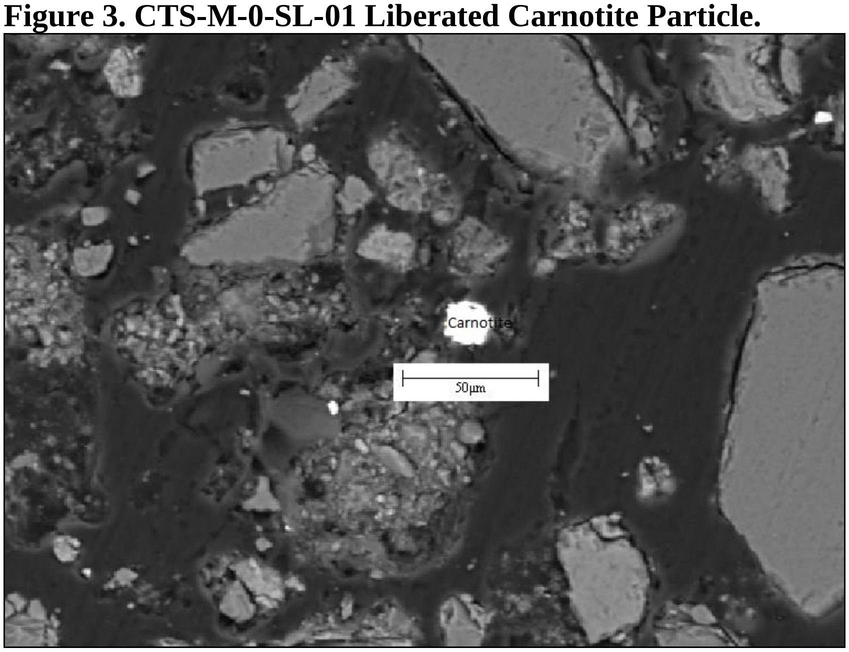
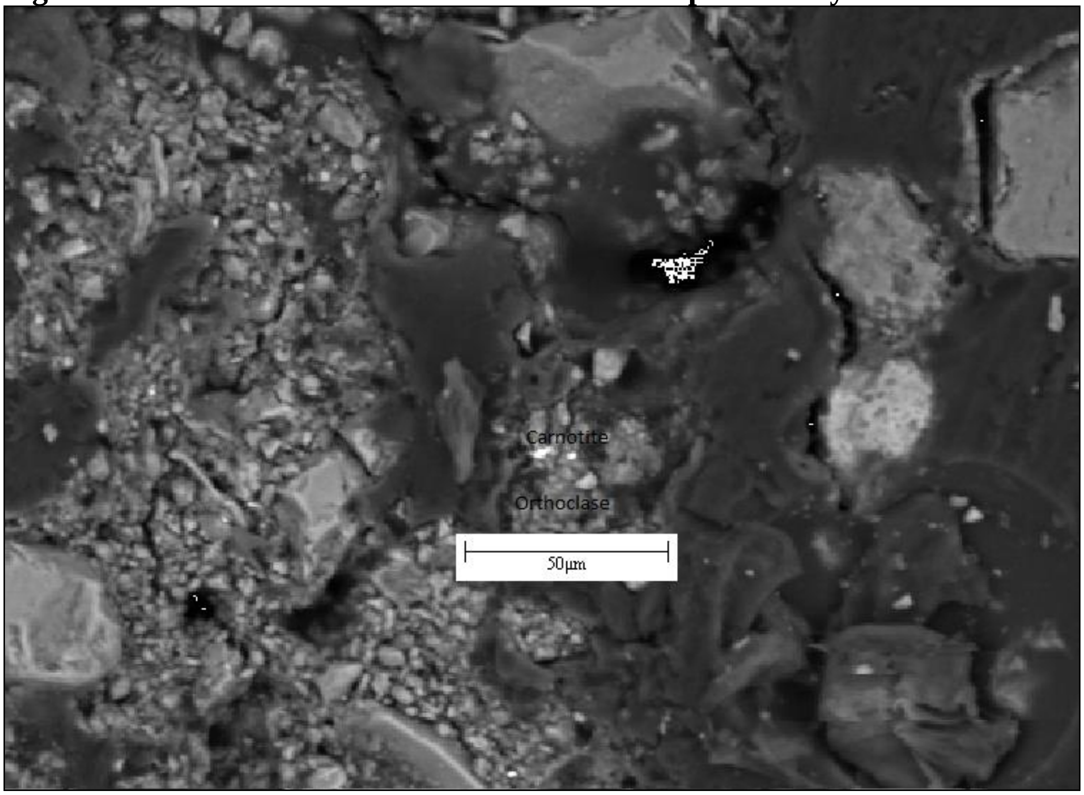


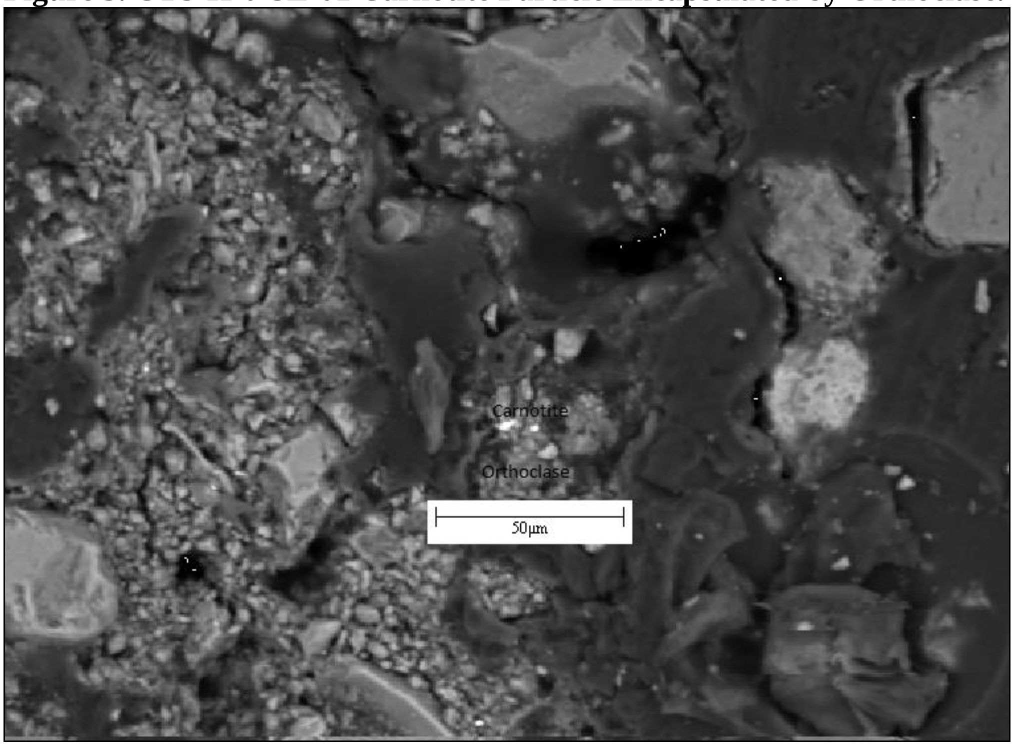
Figure 4. CTS-M-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.



CTS-H-0-SL-01

For CTS-H-SL-01 sample, one carnotite particle was identified. Results are shown in figure 5. According to the data, the carnotite particle is approximately 5 microns with orthoclase encapsulation. This particle is not leachable or flotable.

Figure 5. CTS-H-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.



CR-L-0-SL-01

For CR-L-SL-01 sample, several carnotite particles were identified. Results are shown in figures 6 through 15. According to the data, one free particle was identified at approximately 40 microns in size. This particle is both flotable and leachable. Other carnotite particles appear to be 5 microns in size with quartz, albite, and orthoclase association. Since the particles are near the edge, they are leachable, however, not flotable.

Figure 6. CR-L-0-SL-01 Free Carnotite Particle.

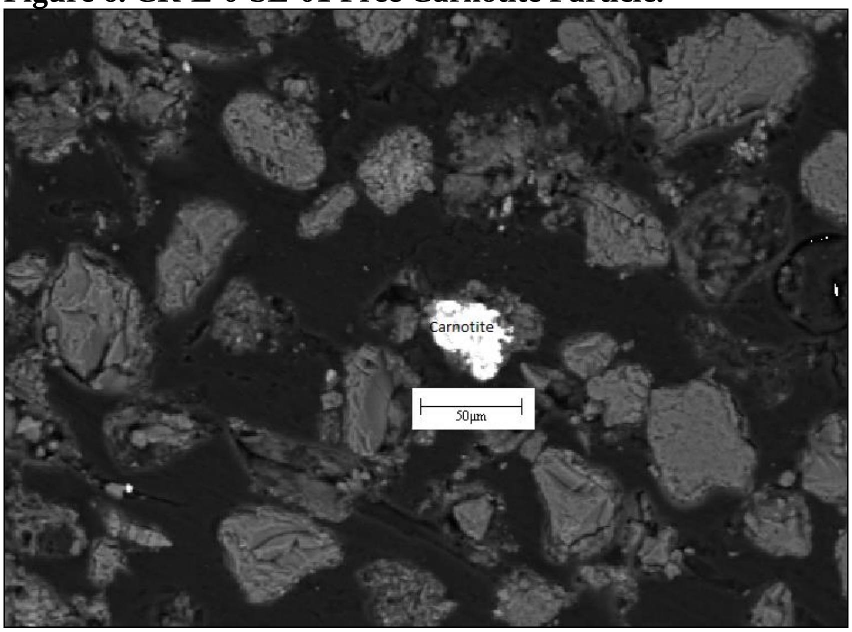


Figure 7. CR-L-0-SL-01 Carnotite Particle Encapsulated by Albite.

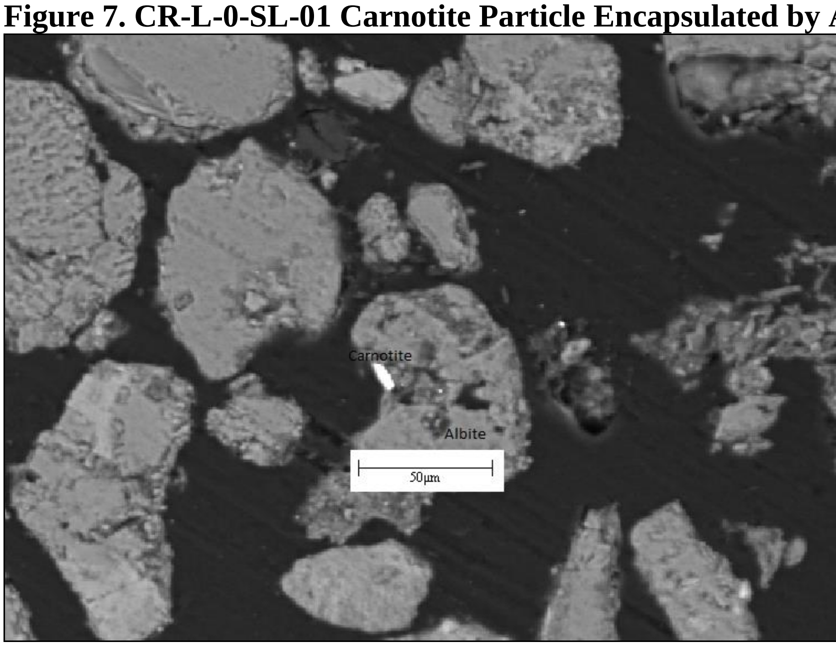


Figure 8. CR-L-0-SL-01 Carnotite Particle Encapsulated by Albite.

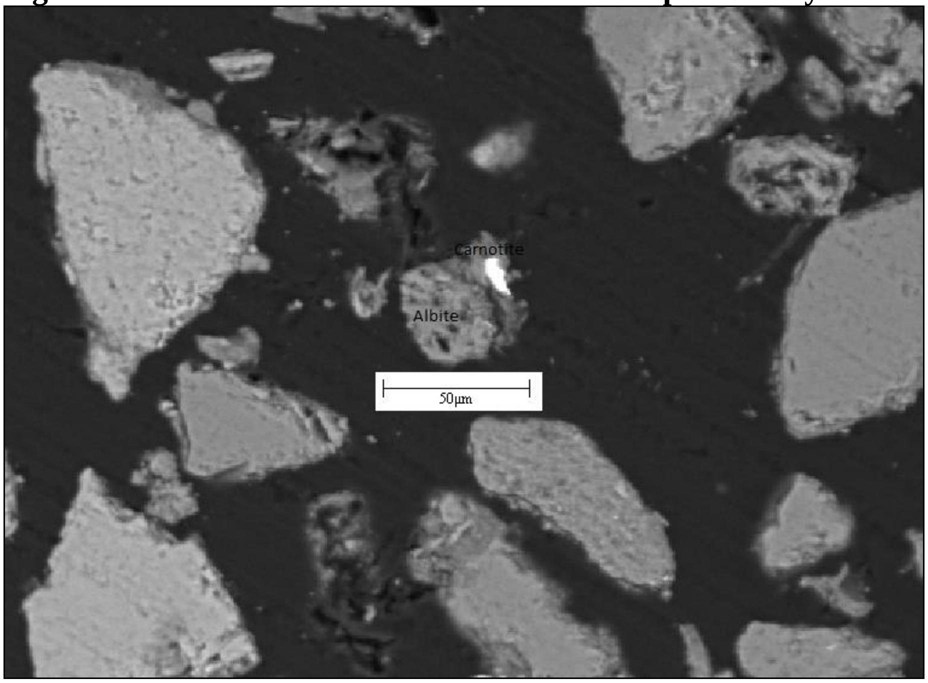


Figure 9. CR-L-0-SL-01 Carnotite Associated with Quartz.

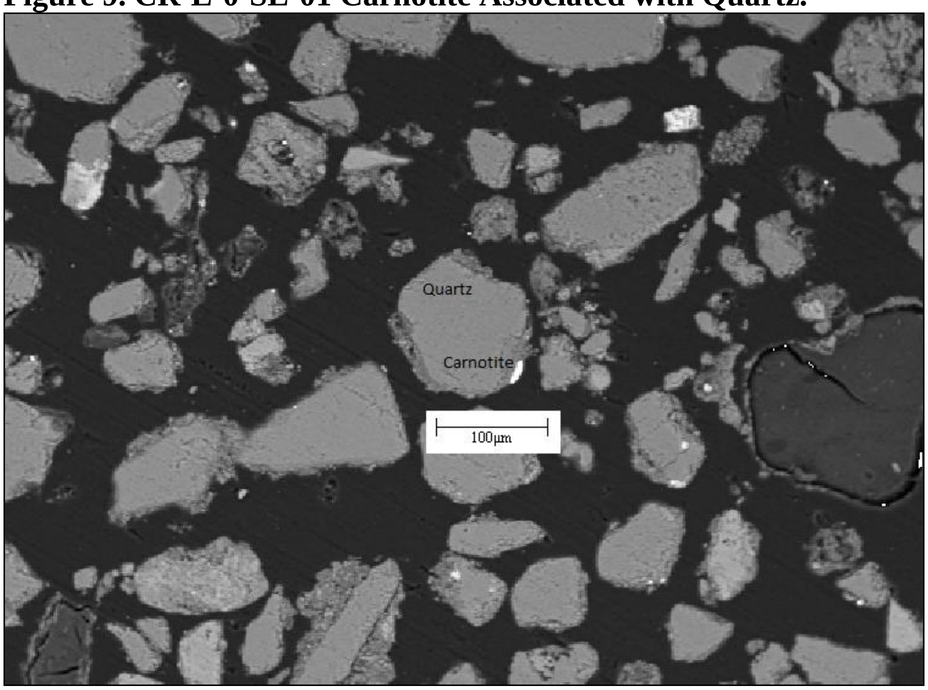


Figure 10. CR-L-0-SL-01 Carnotite Associated with Quartz.

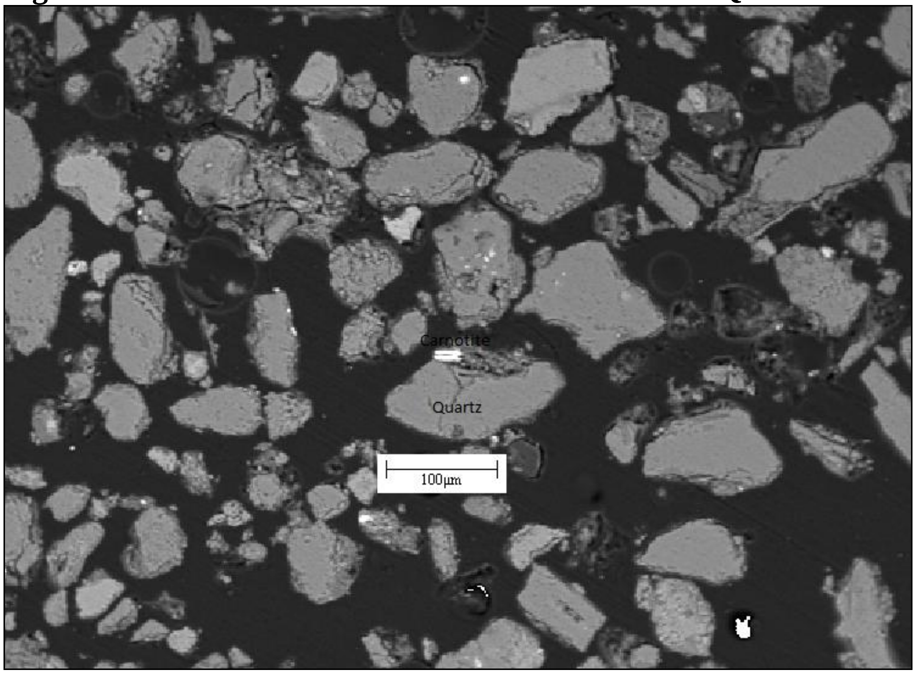


Figure 11. CR-L-0-SL-01 Carnotite Associated with Quartz.

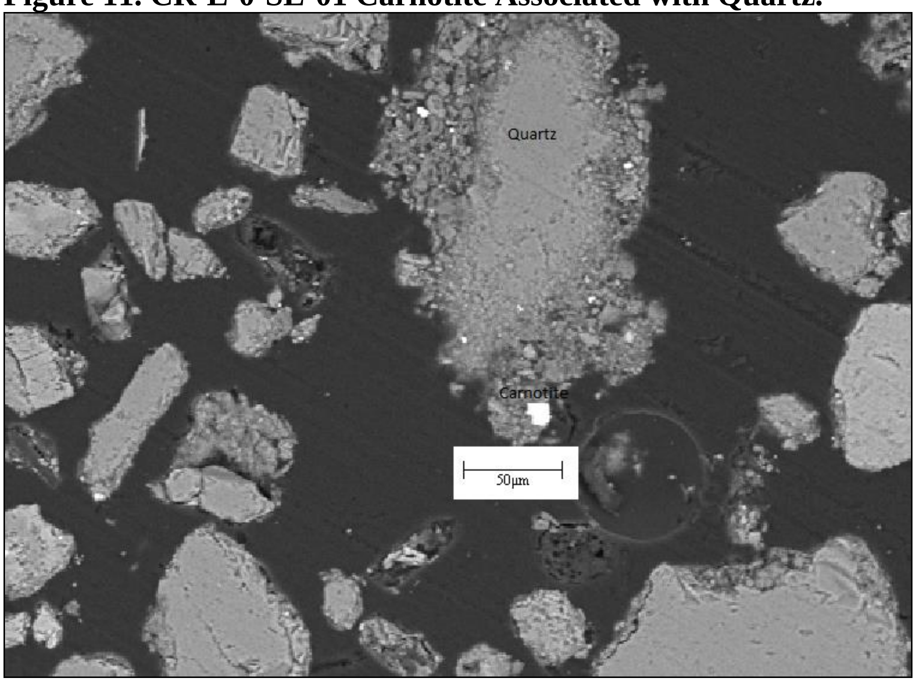


Figure 12. CR-L-0-SL-01 Carnotite Associated with Quartz.

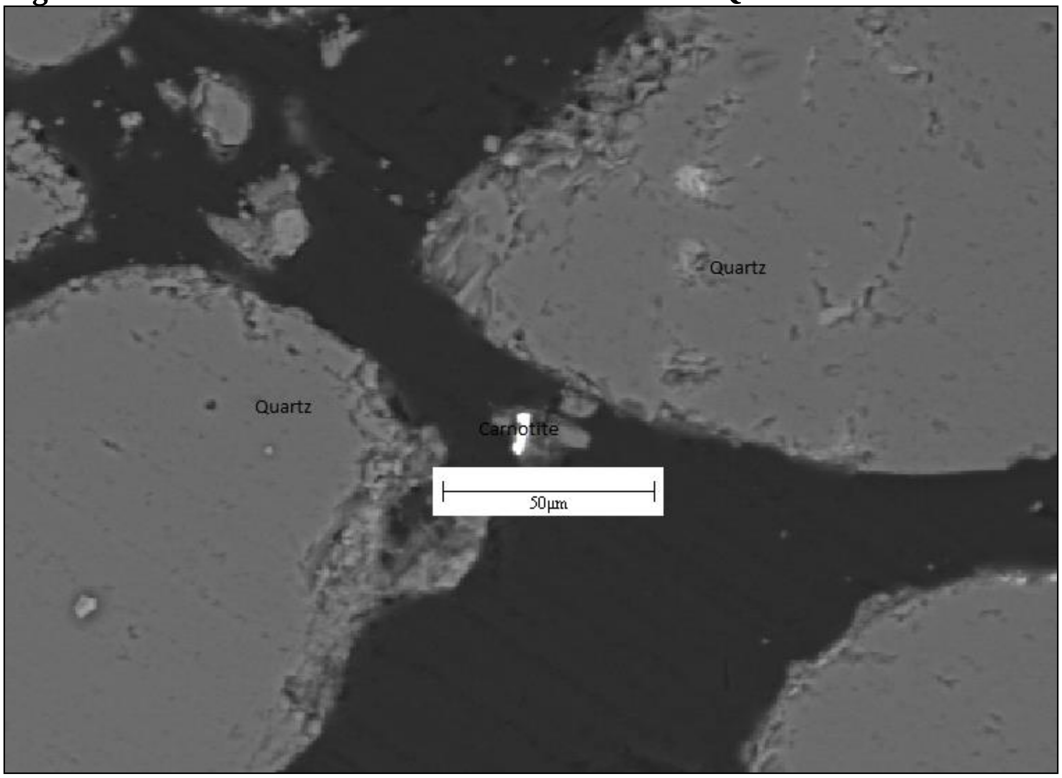


Figure 13. Free Carnotite Particle.

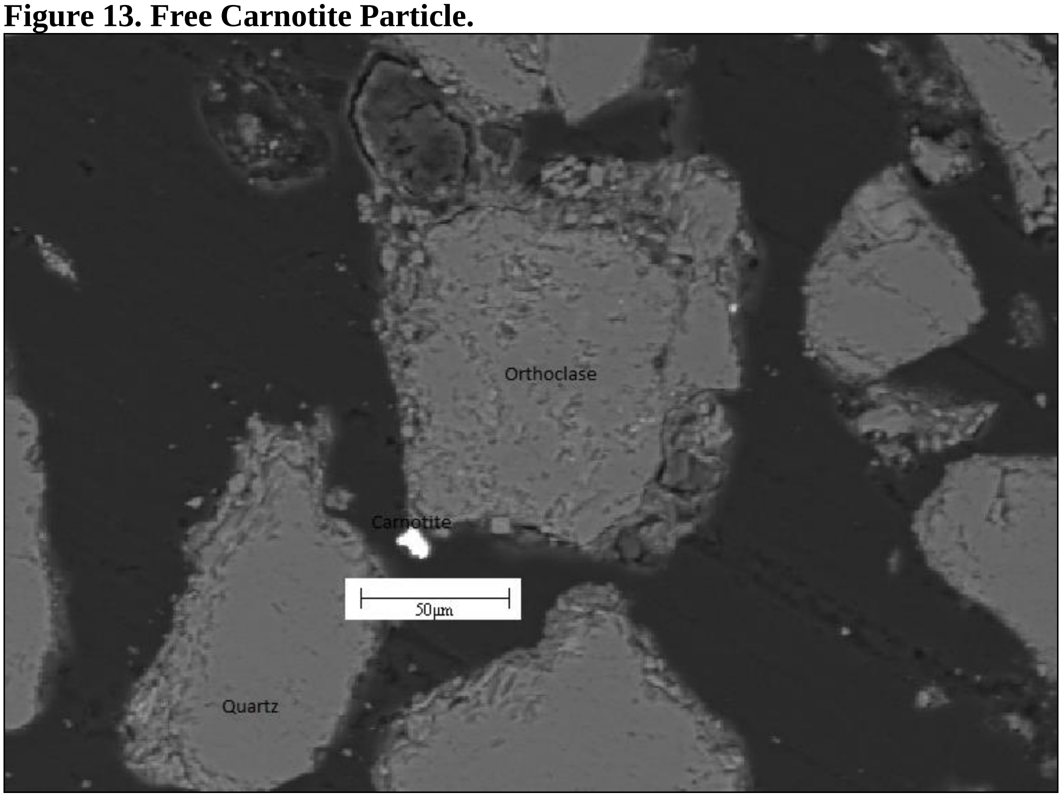


Figure 14. Carnotite Particle with Orthoclase Encapsulation.

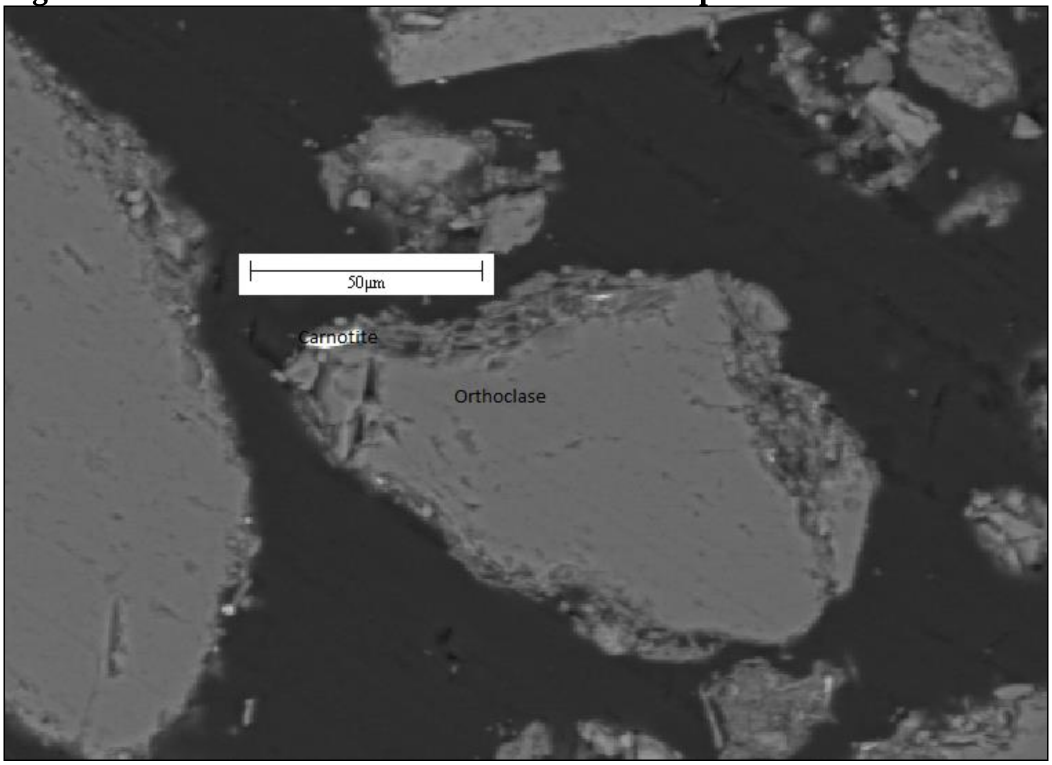
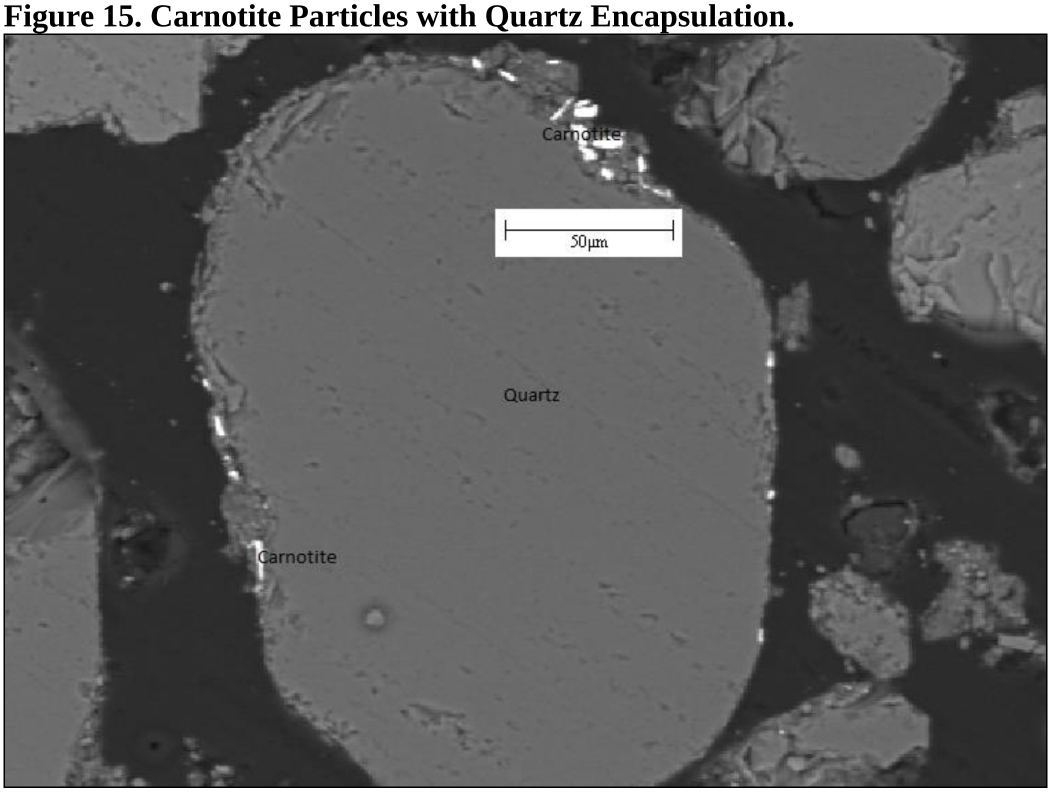


Figure 15. Carnotite Particles with Quartz Encapsulation.



CR-L-4-SY -25/+270

For CR-L-4-SY -25/+270 sample, two carnotite particles were identified. Results are shown in figures 16 and 17. According to the data, the carnotite particles appear to be approximately 5 microns in size with quartz and illite encapsulation. One particle is leachable (Figure 16), however, the other particle is not leachable.

Figure 16. CR-L-4-SY -25/+270 Carnotite Particle Encapsulated by Quartz and Illite

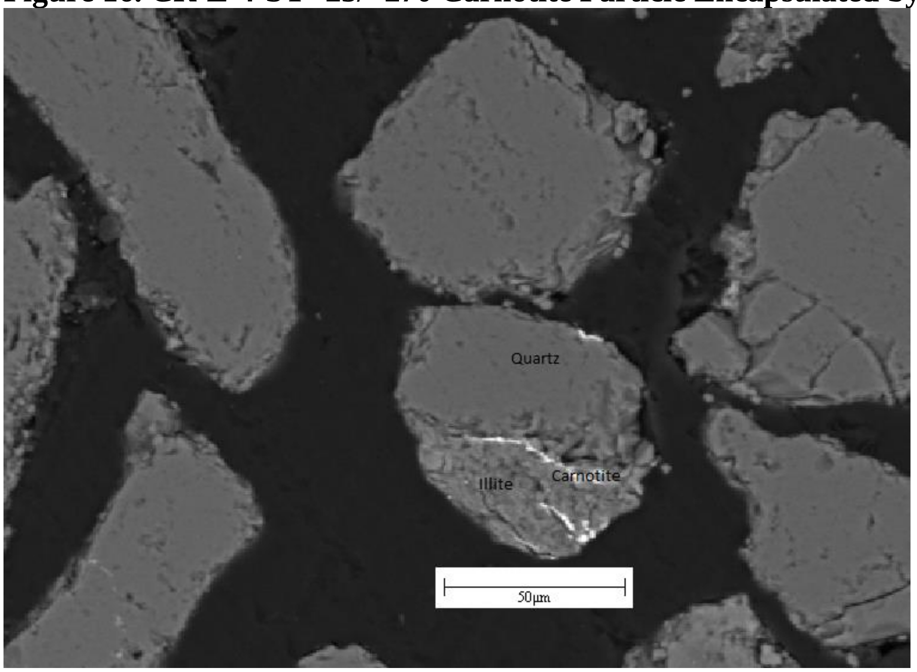
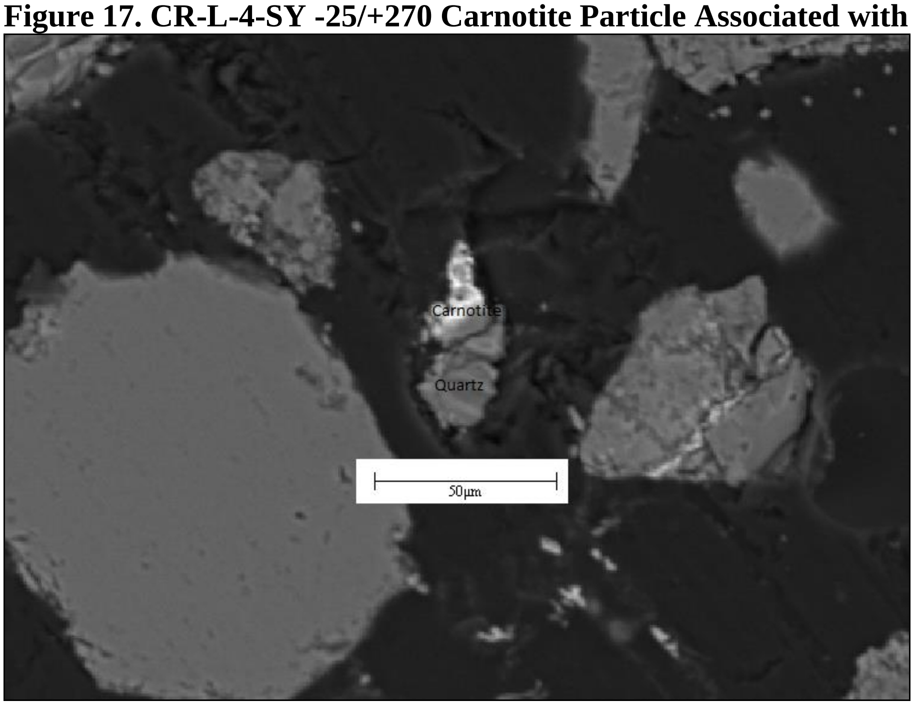


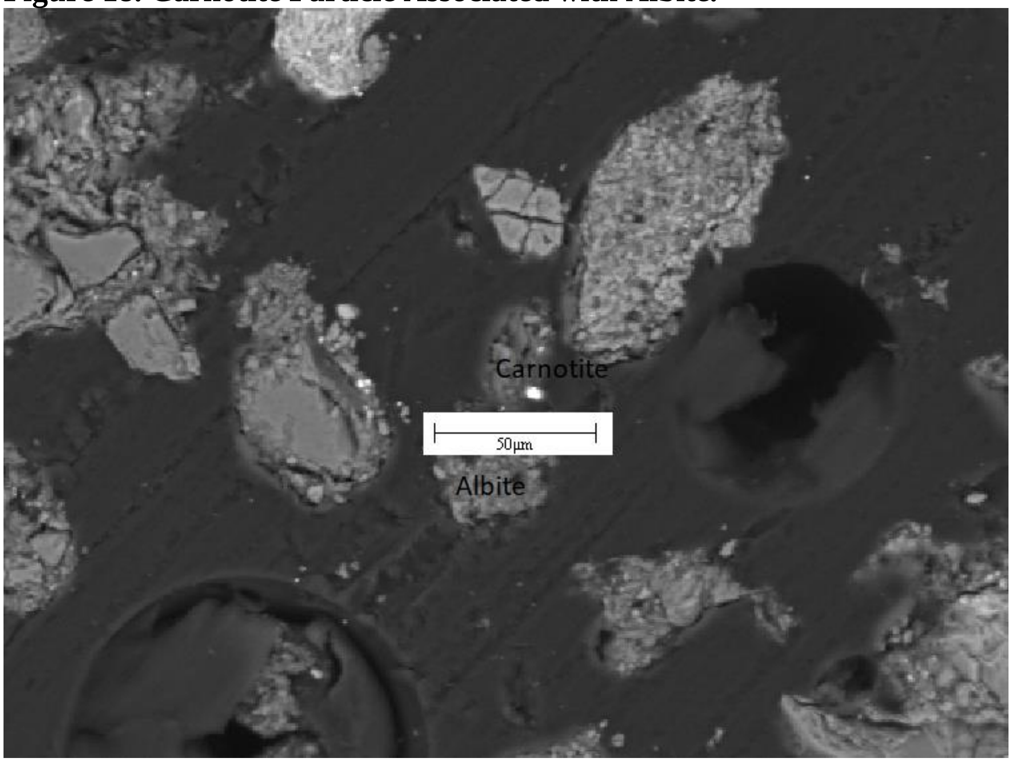
Figure 17. CR-L-4-SY -25/+270 Carnotite Particle Associated with Quartz.



CR-L-8-SY -25/+270

For CR-L-8-SY -25/+270 sample, one carnotite particle was observed with albite association. Results are shown in figure 18. According to the image, this particle is leachable but not flotable.

Figure 18. Carnotite Particle Associated with Albite.



CR-L-30-SY -25/+270

For CR-L-30-SY -25/+270 sample, two carnotite particles were identified. Results are shown in figures 19 and 20. According to the data, the carnotite particles appear to be approximately 10 microns in size with quartz association. These particles are not flotable but leachable.

Figure 19. CR-L-30-SY -25/+270 Carnotite Particle Associated with Quartz.

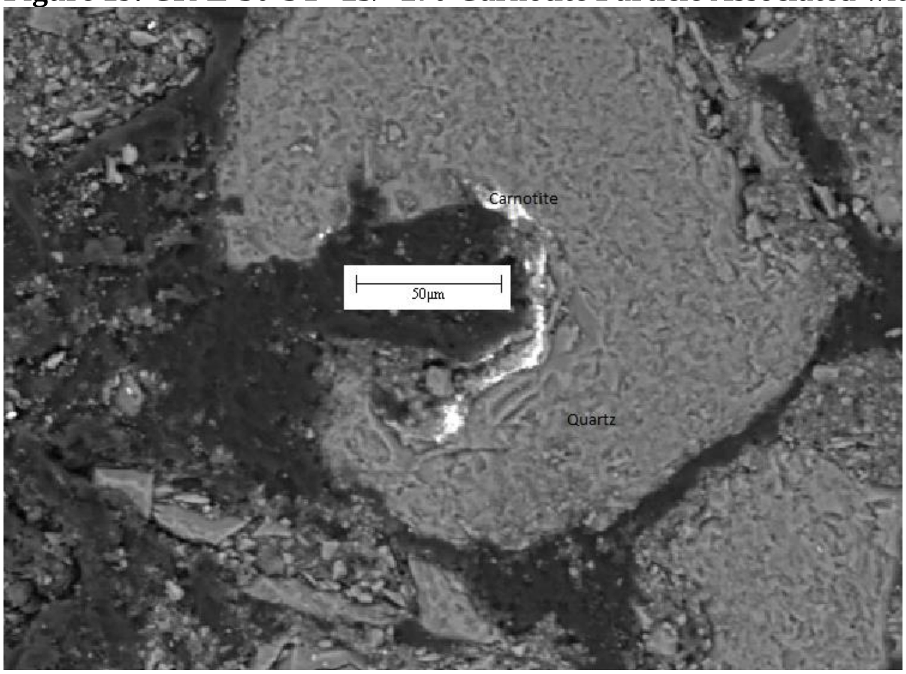
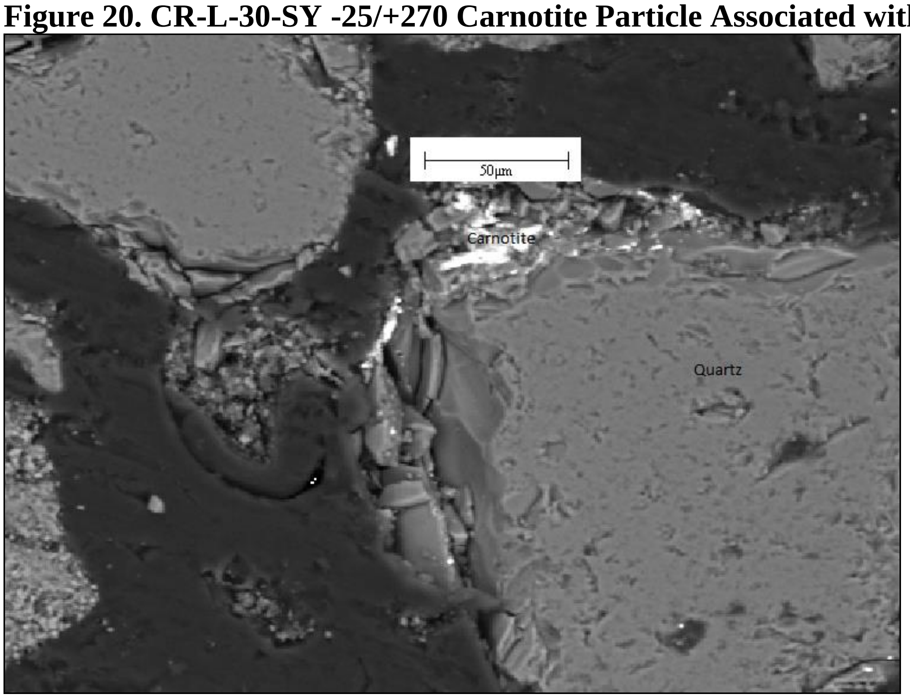


Figure 20. CR-L-30-SY -25/+270 Carnotite Particle Associated with Quartz.



CR-M-0-SL-01

For CR-M-SL-01 sample, several carnotite particles were identified. Results are shown in figures 21 through 32. According to the data, the particles are approximately 10 microns in size with albite and orthoclase encapsulation with quartz association. Because of the encapsulation, these particles are not flotable nor leachable, except in figure 22. This particle is leachable only.

Figure 21. CR-M-0-SL-01 Carnotite Particle Encapsulated by Albite.

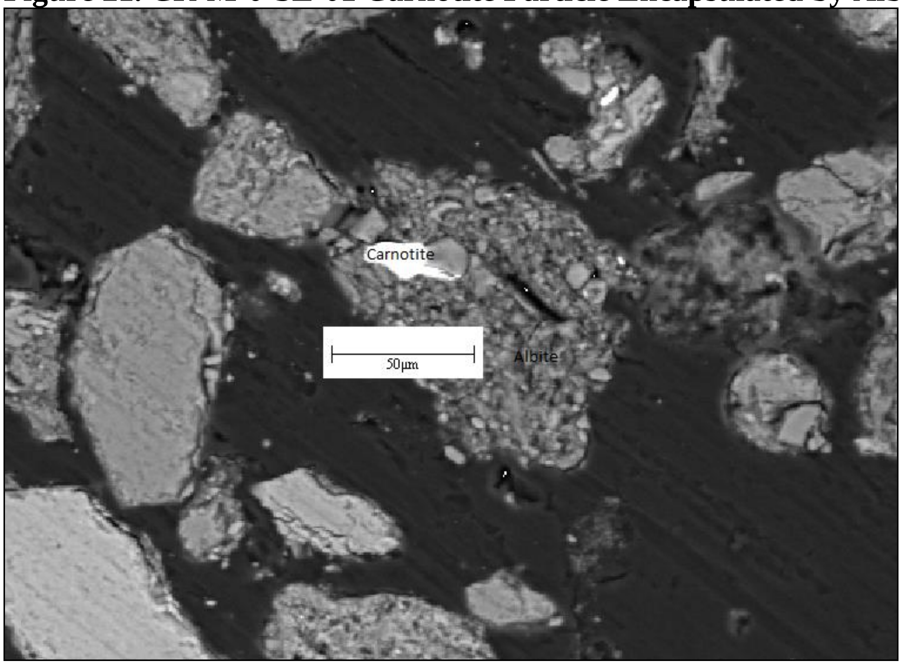


Figure 22. CR-M-0-SL-01 Carnotite Particle Encapsulated by Albite.

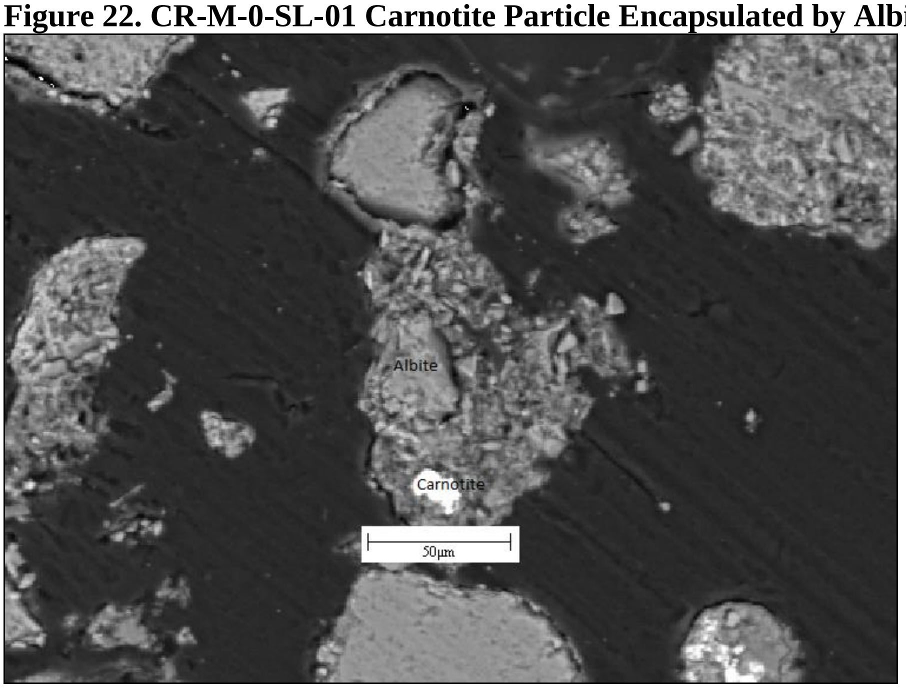


Figure 23. CR-M-0-SL-01 Carnotite Particle Encapsulated by Albite.

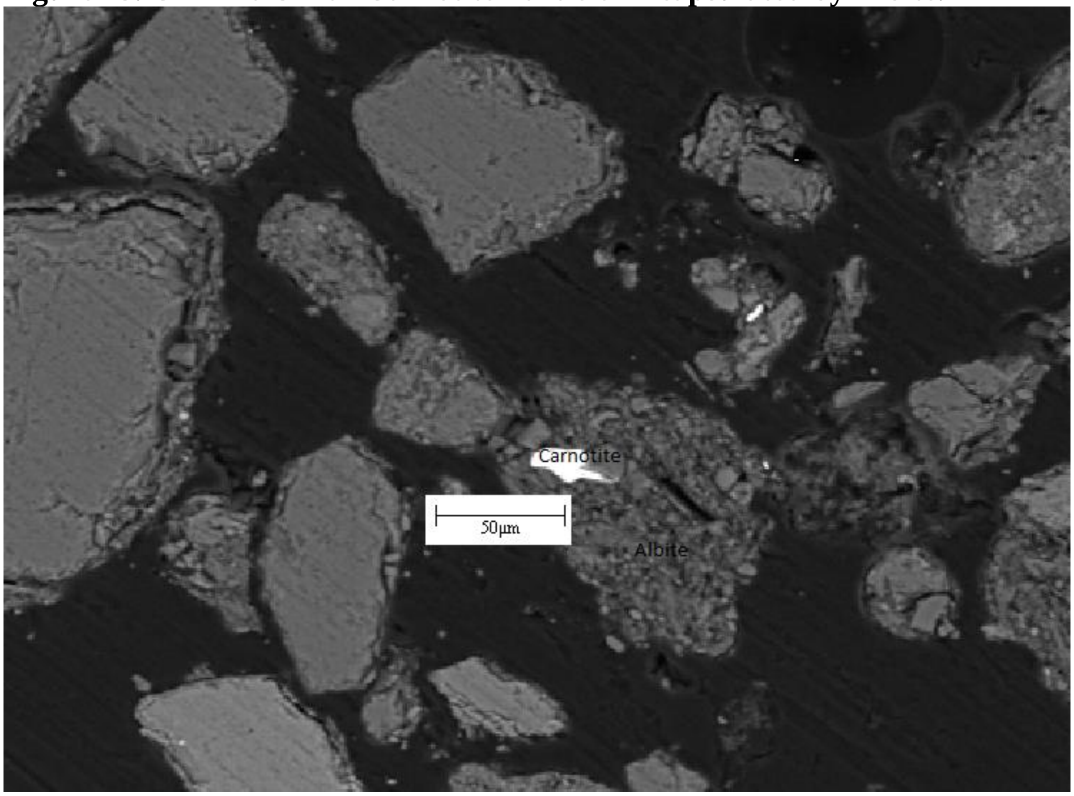


Figure 24. CR-M-0-SL-01 Carnotite Particle Encapsulated by Quartz.

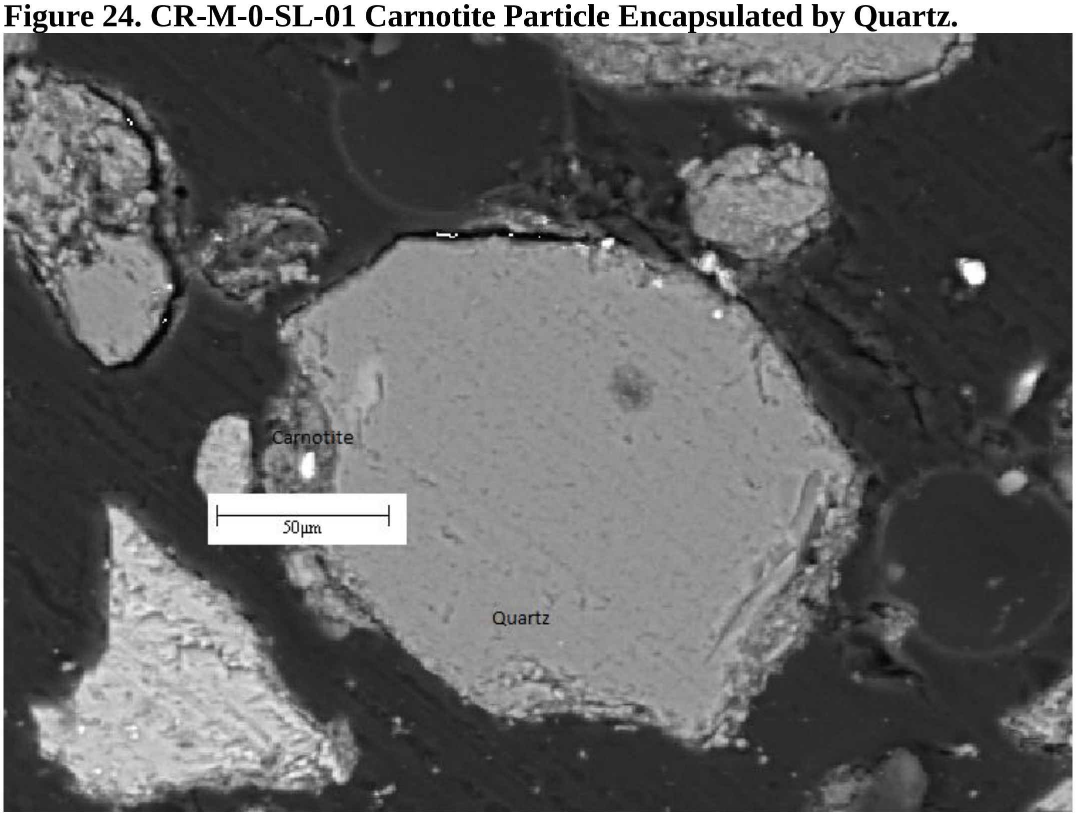


Figure 25. CR-M-0-SL-01 Carnotite Particle Encapsulated by Quartz.

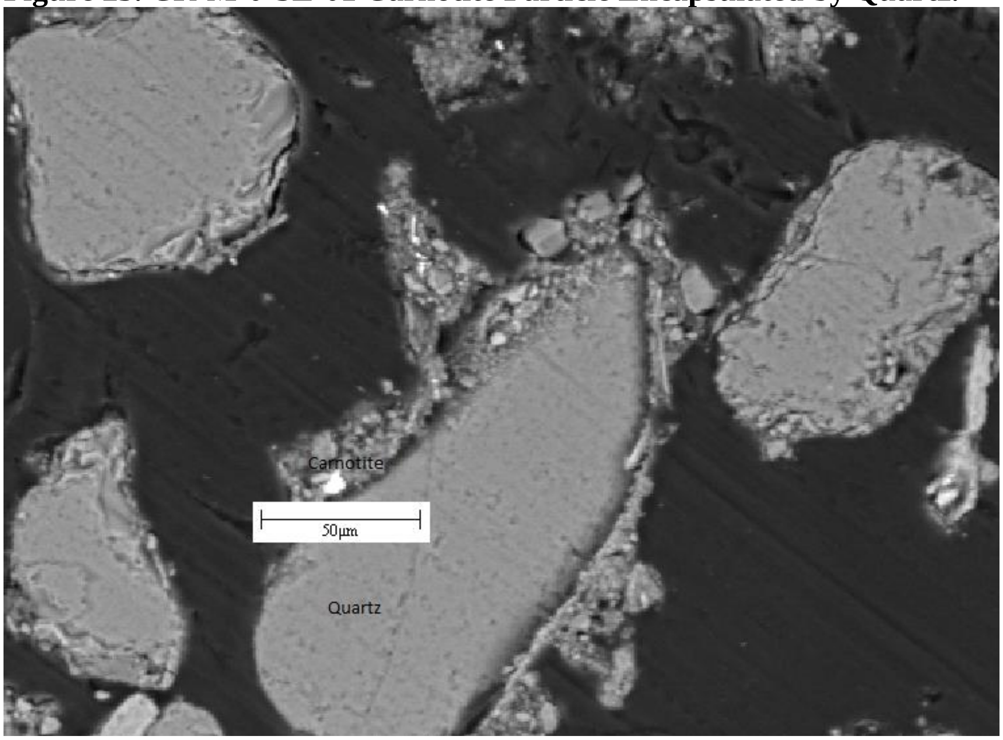


Figure 26. CR-M-0-SL-01 Carnotite Particle Associated with Quartz.

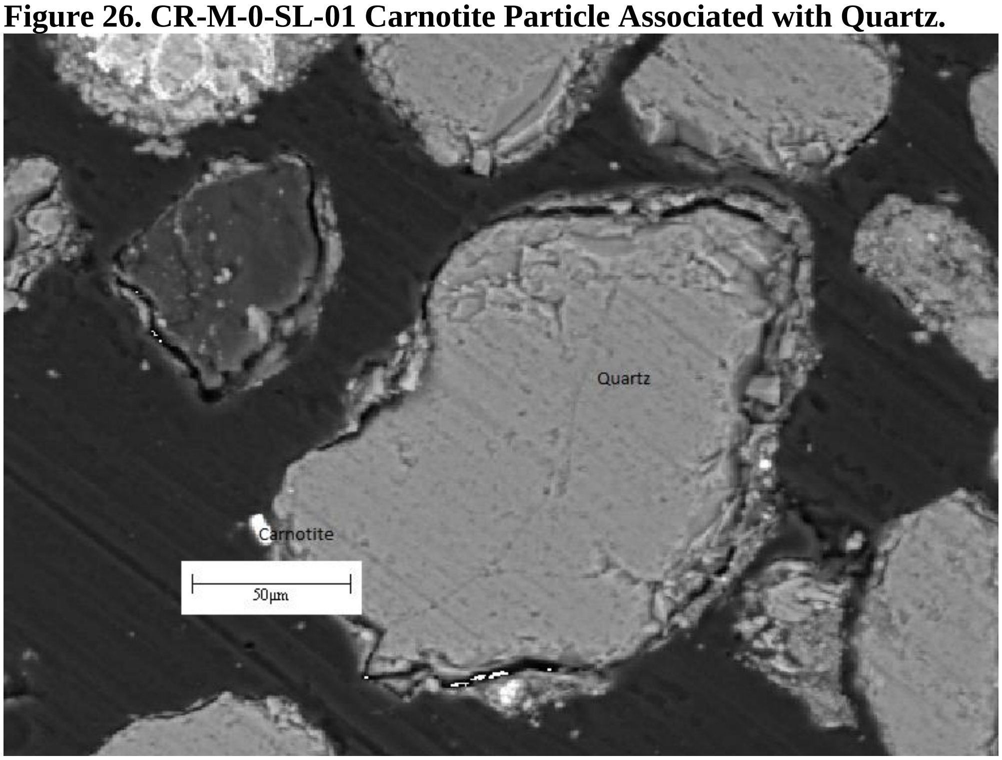


Figure 27. Carnotite Particle Encapsulated by Orthoclase.

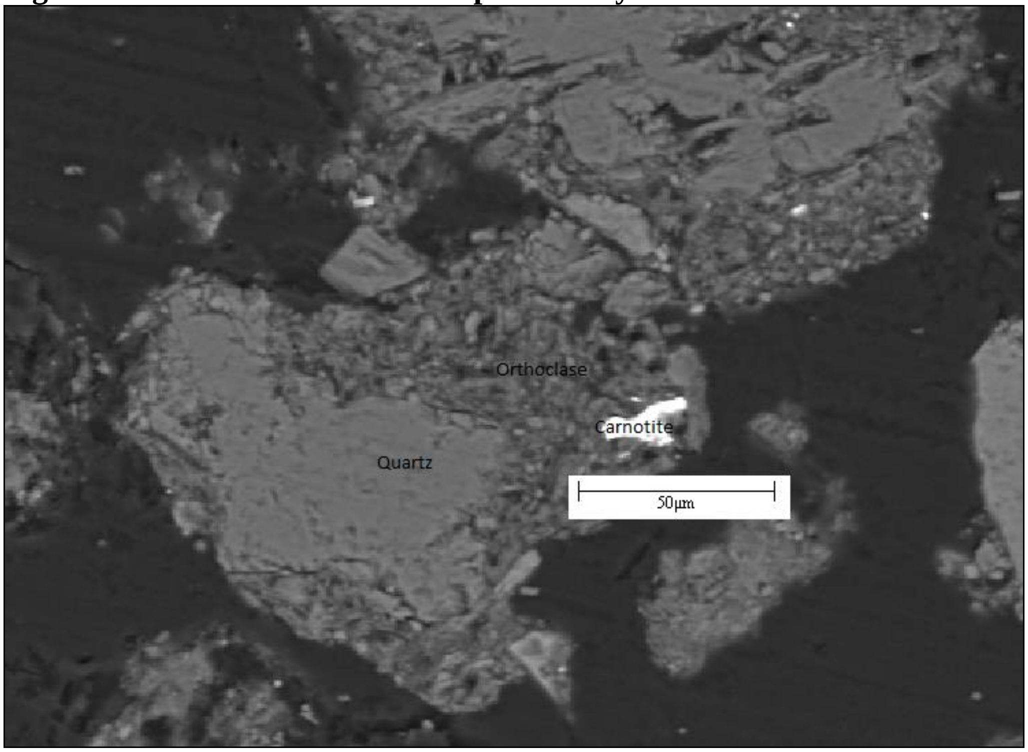


Figure 28. Carnotite Particle Associated with Orthoclase

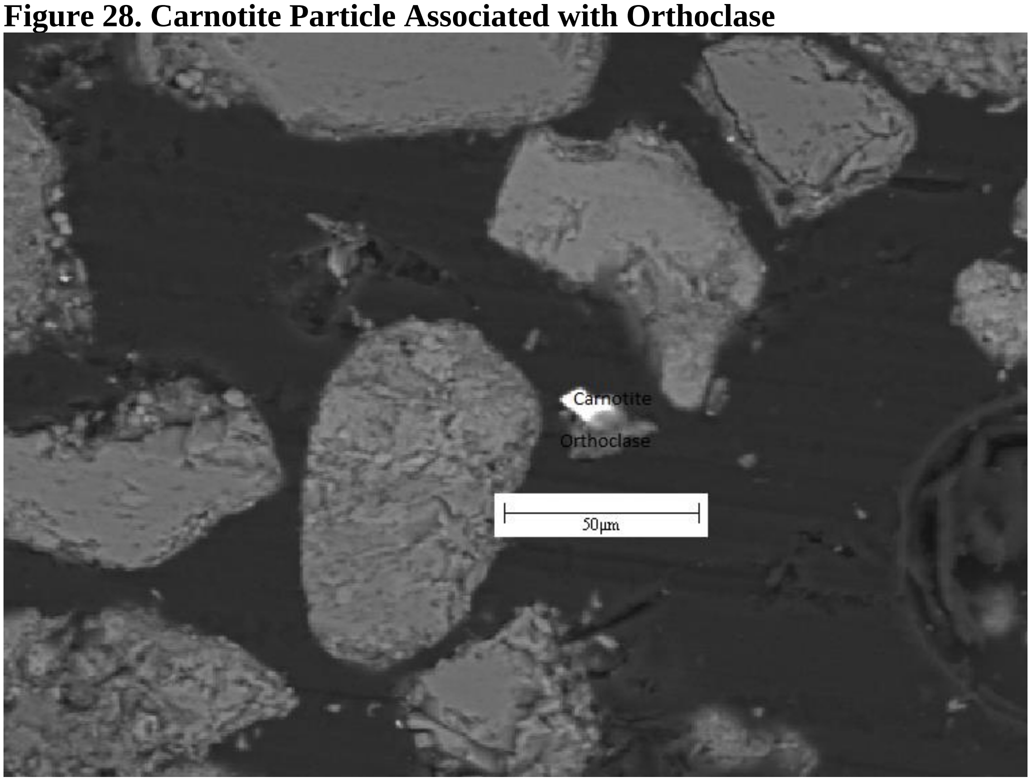


Figure 29. Carnotite Particle Encapsulated by Orthoclase.

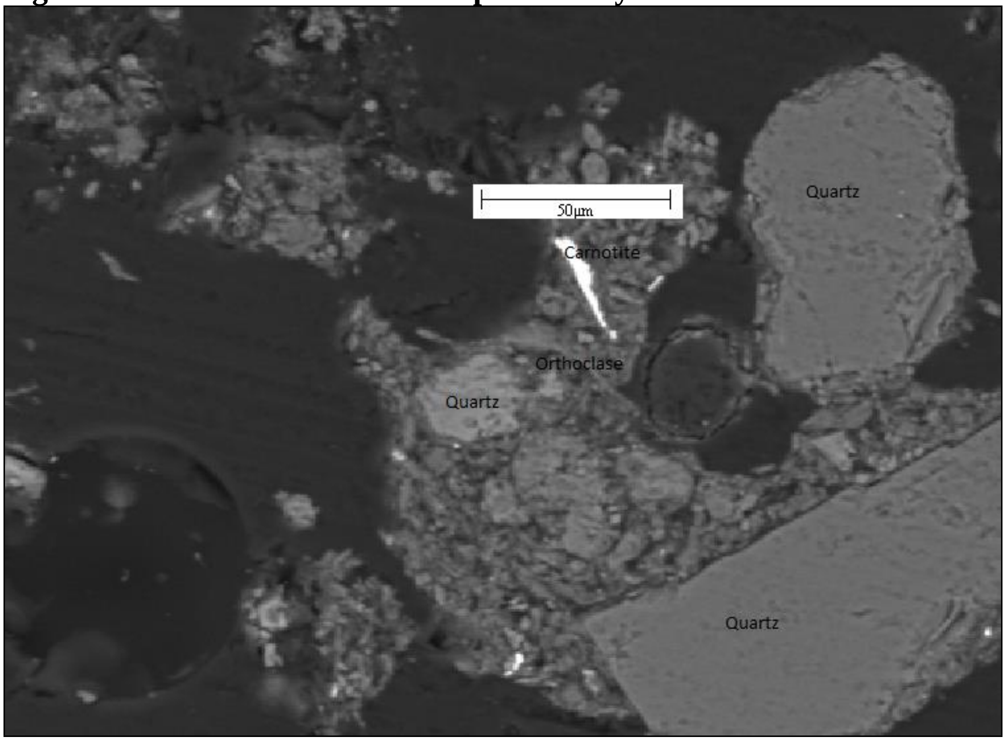


Figure 30. Carnotite Particle Encapsulated by Orthoclase.

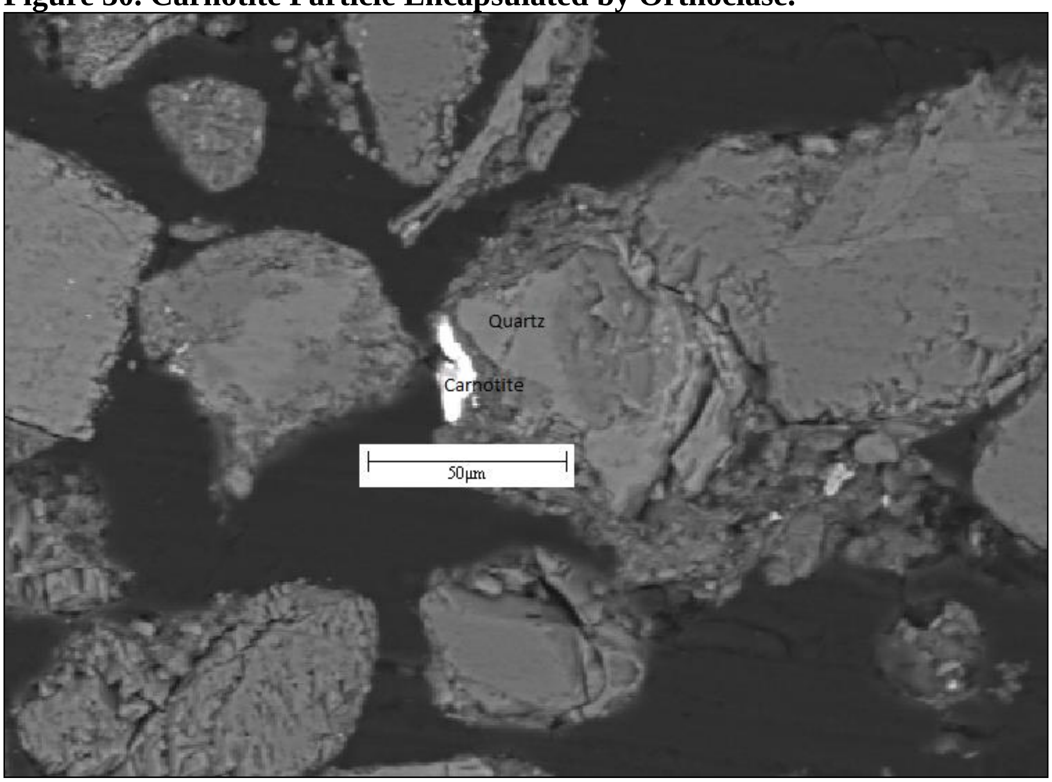


Figure 31. Carnotite Particle Encapsulated by Quartz.

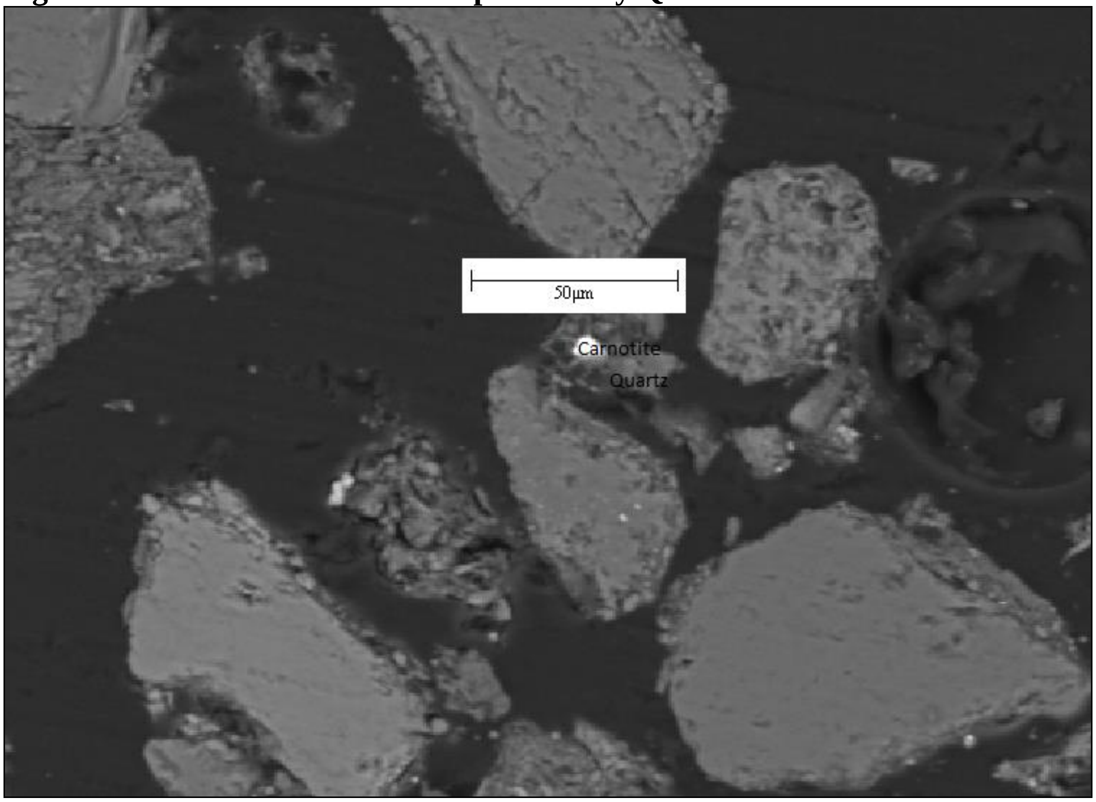
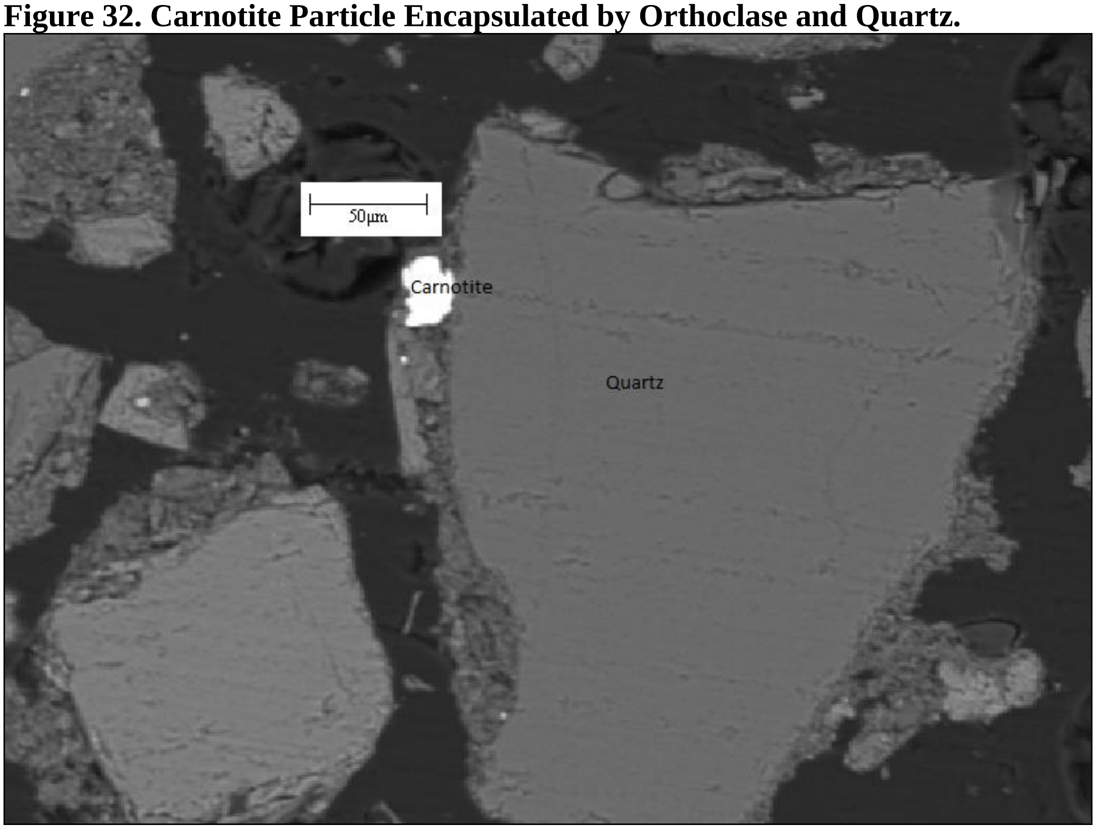


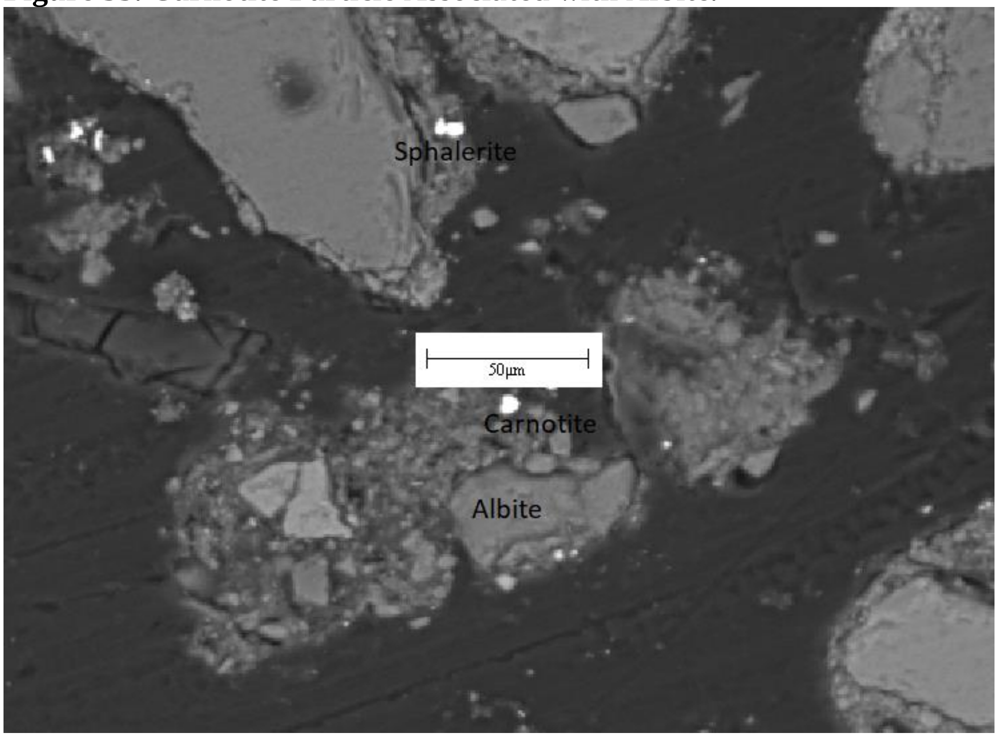
Figure 32. Carnotite Particle Encapsulated by Orthoclase and Quartz.



CR-M-4-SY -25/+270

For CR-M-4-SY -25/+270 sample, one carnotite particles were identified. Results are shown in figure 33. According to the data, the particle is leachable but not flotable with albite association.

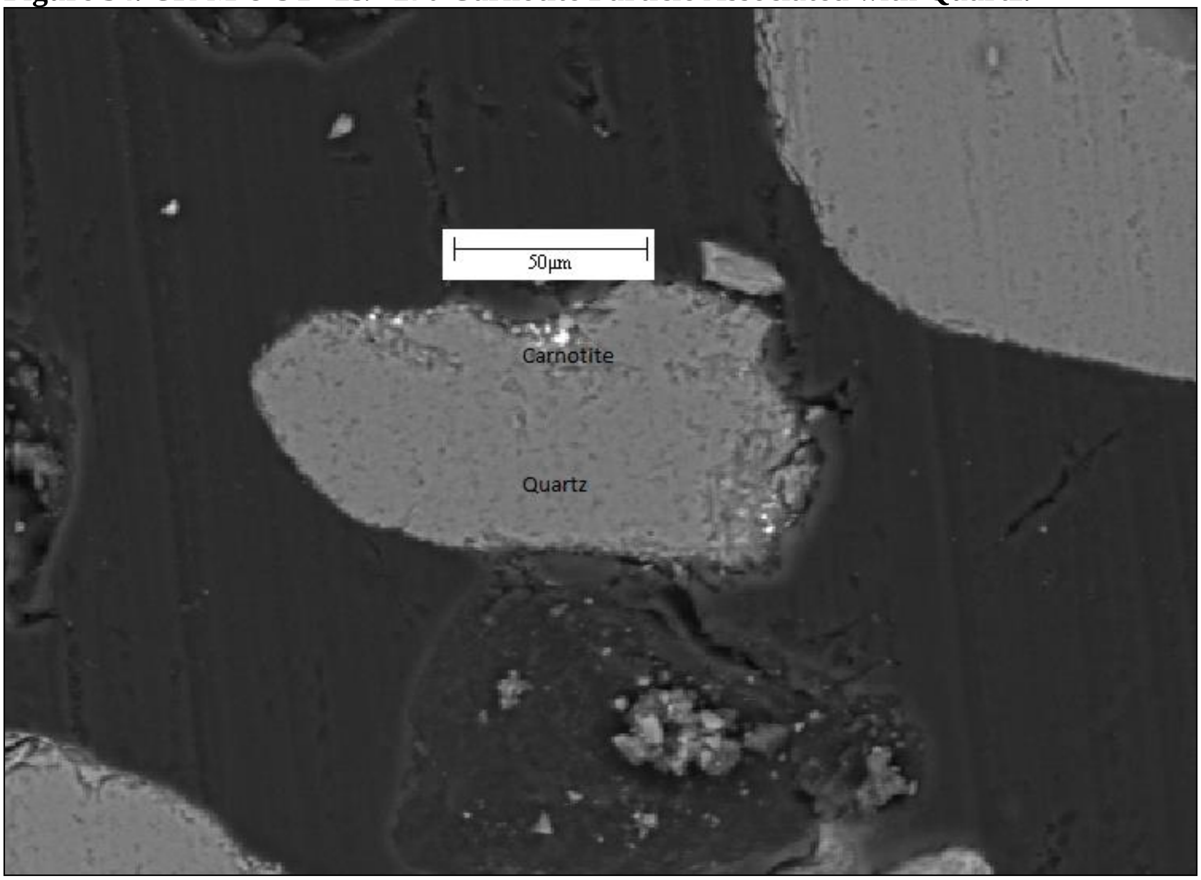
Figure 33. Carnotite Particle Associated with Albite.



CR-M-8-SY -25/+270

For CR-M-8-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 34. According to the data, the carnotite particle appear to be approximately 10 microns in size with quartz encapsulation. This particle is not flotable or leachable.

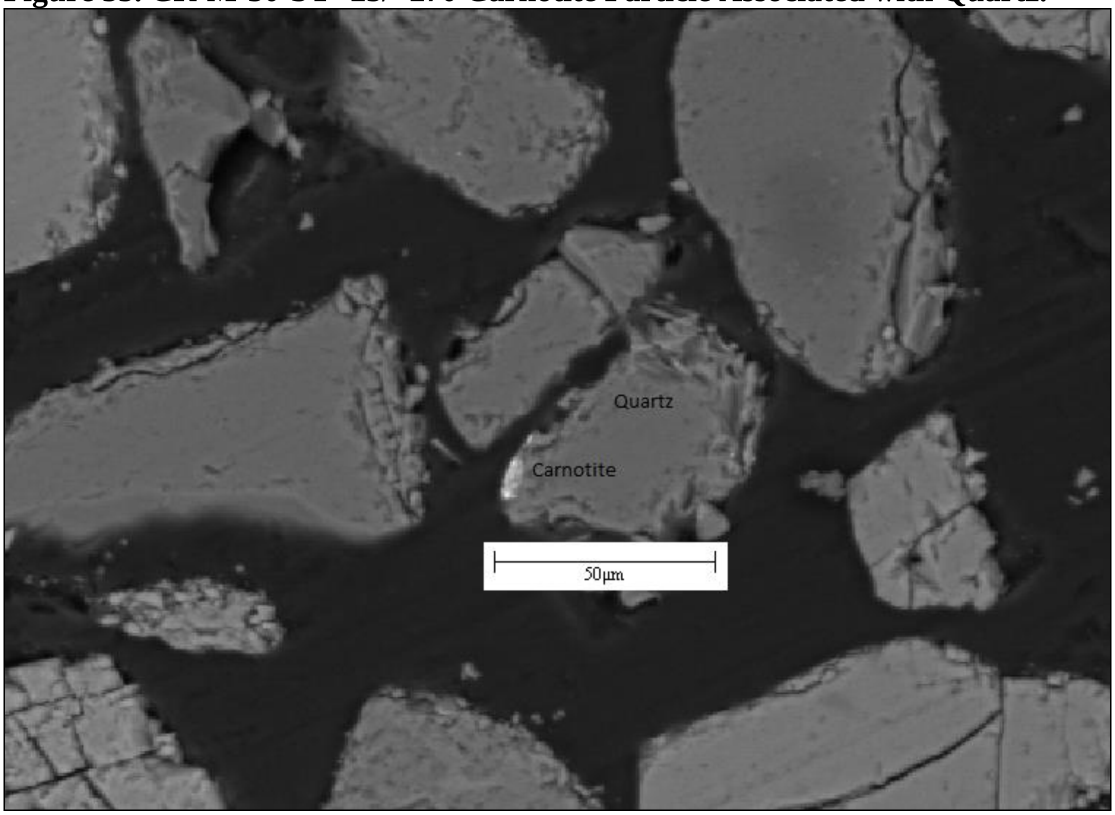
Figure 34. CR-M-8-SY -25/+270 Carnotite Particle Associated with Quartz.



CR-M-30-SY -25/+270

For CR-M-30-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 35. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz association. This particle is not flotable but is leachable.

Figure 35. CR-M-30-SY -25/+270 Carnotite Particle Associated with Quartz.



CR-H-0-SL-01

For CR-H-SL-01 sample, several carnotite particles were identified. Results are shown in figures 36 through 45. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite and orthoclase association. These particles are not flotable, however, figures two particles are leachable (Figures 37 and 39).

Figure 36. CR-H-0-SL-01 Carnotite Particle Encapsulated by Albite.

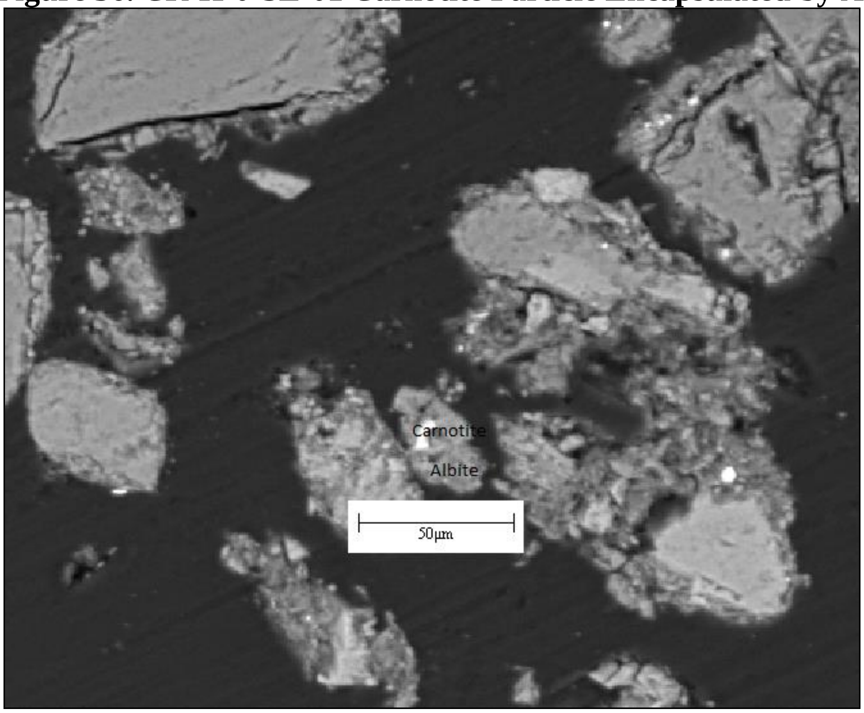


Figure 37. CR-H-0-SL-01 Carnotite Particles Encapsulated by Albite.

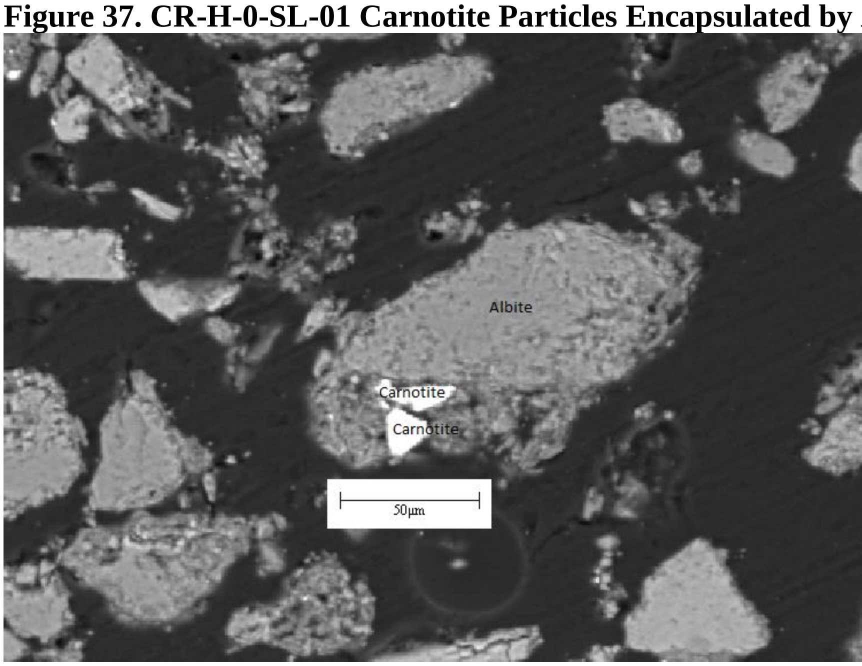


Figure 38. CR-H-0-SL-01 Carnotite Particles Encapsulated by Albite and Orthoclase.

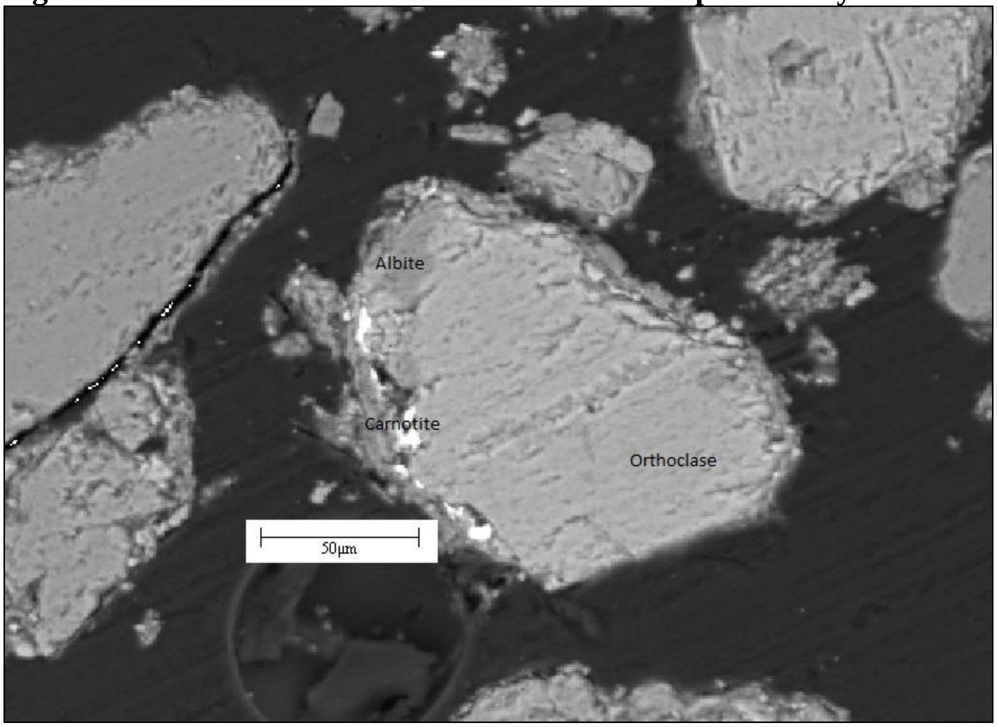


Figure 39. CR-H-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.

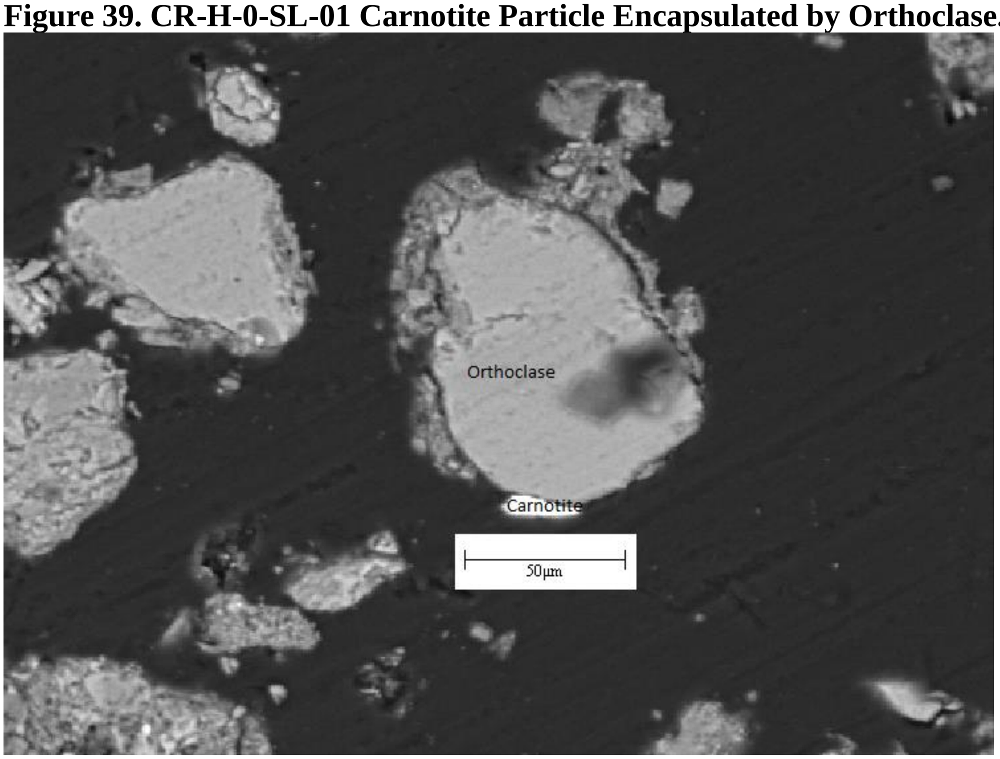


Figure 40. CR-H-0-SL-01 Carnotite Particle Encapsulated by Albite.

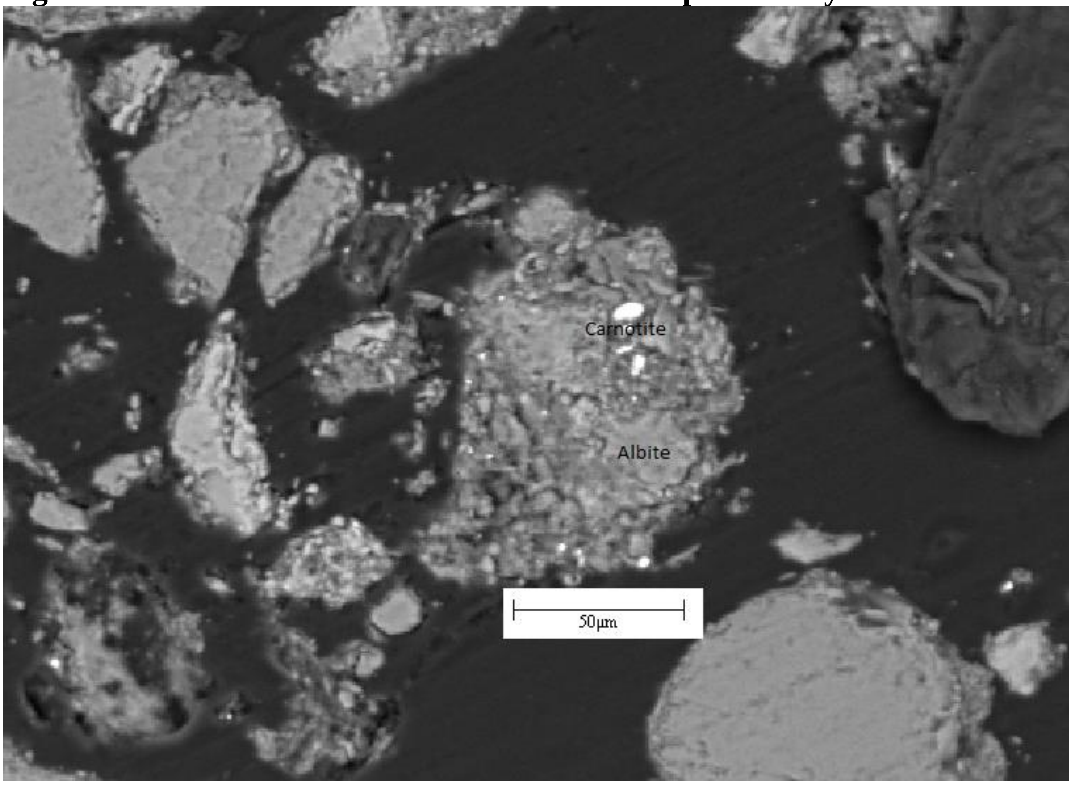


Figure 41. Free Carnotite Particle.

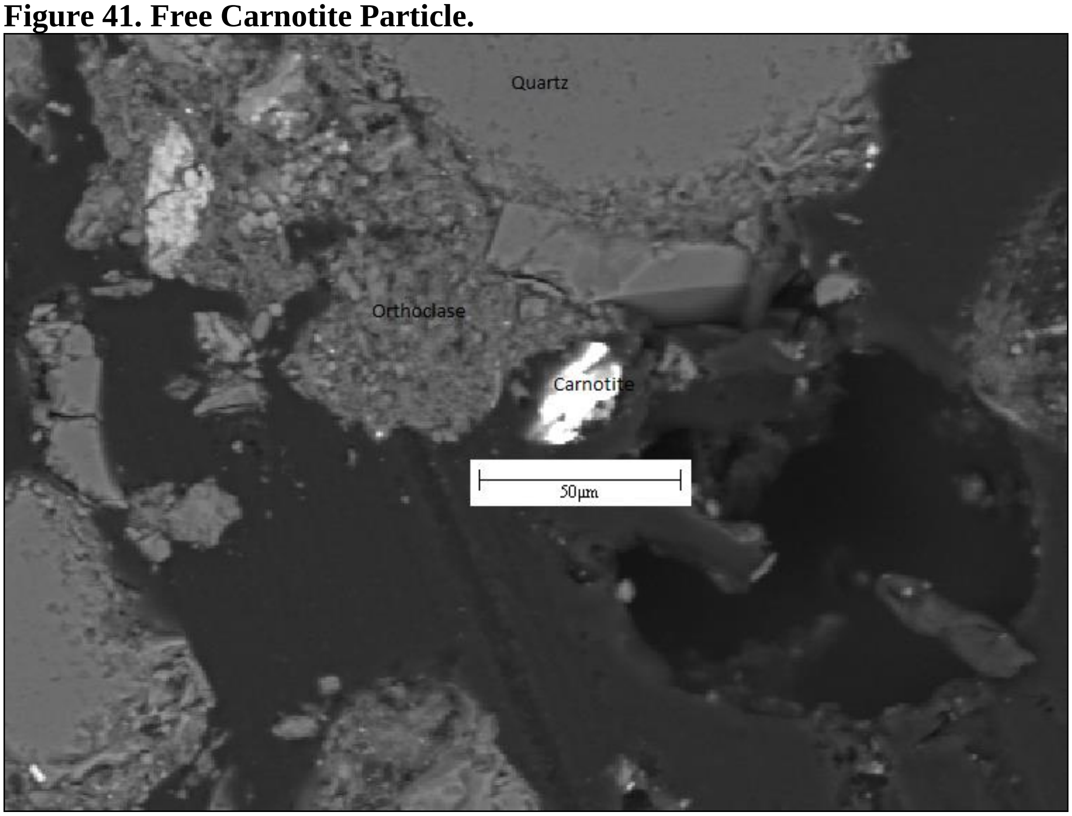


Figure 42. Carnotite Particle Associated with Orthoclase.

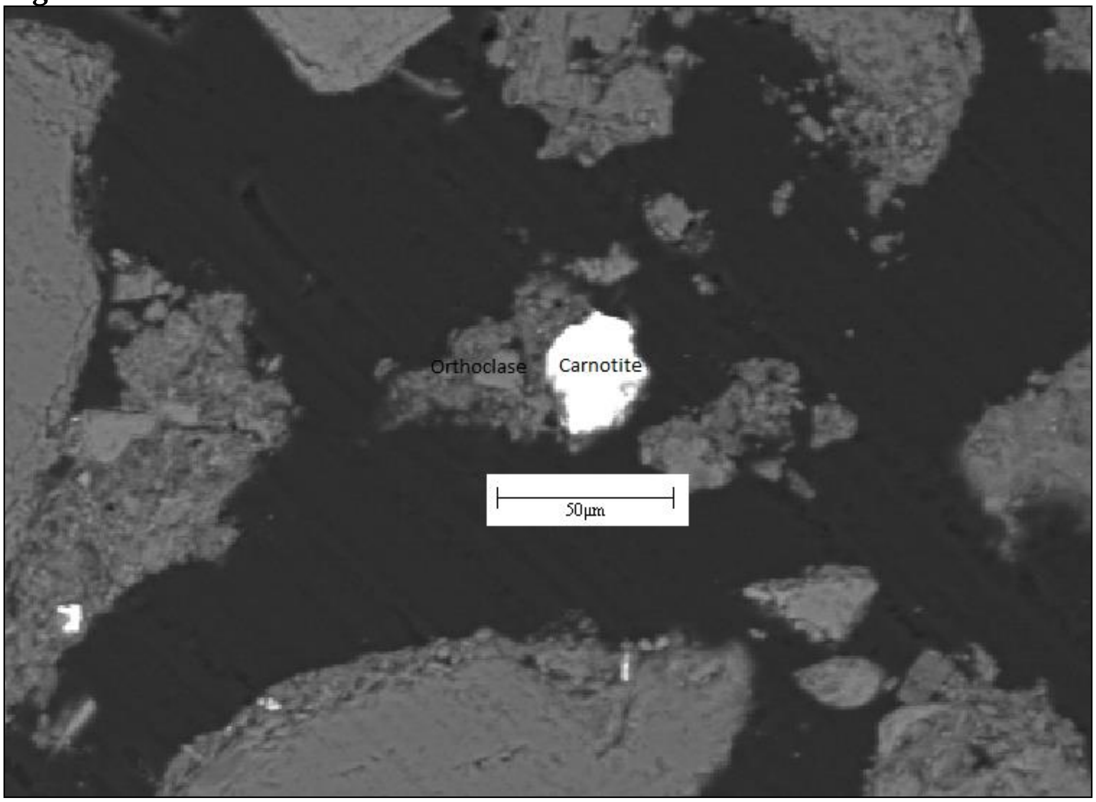


Figure 43. Carnotite Particle Encapsulated by Orthoclase.

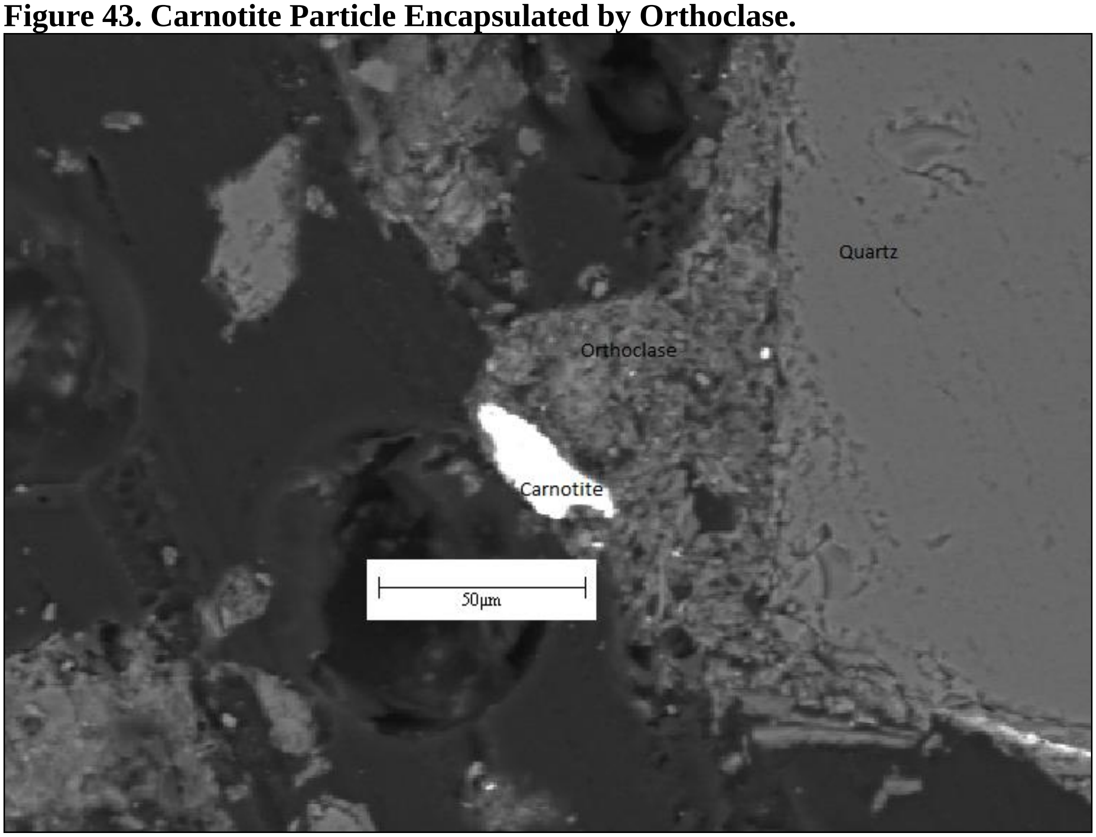


Figure 44. Carnotite Particle Associated with Orthoclase.

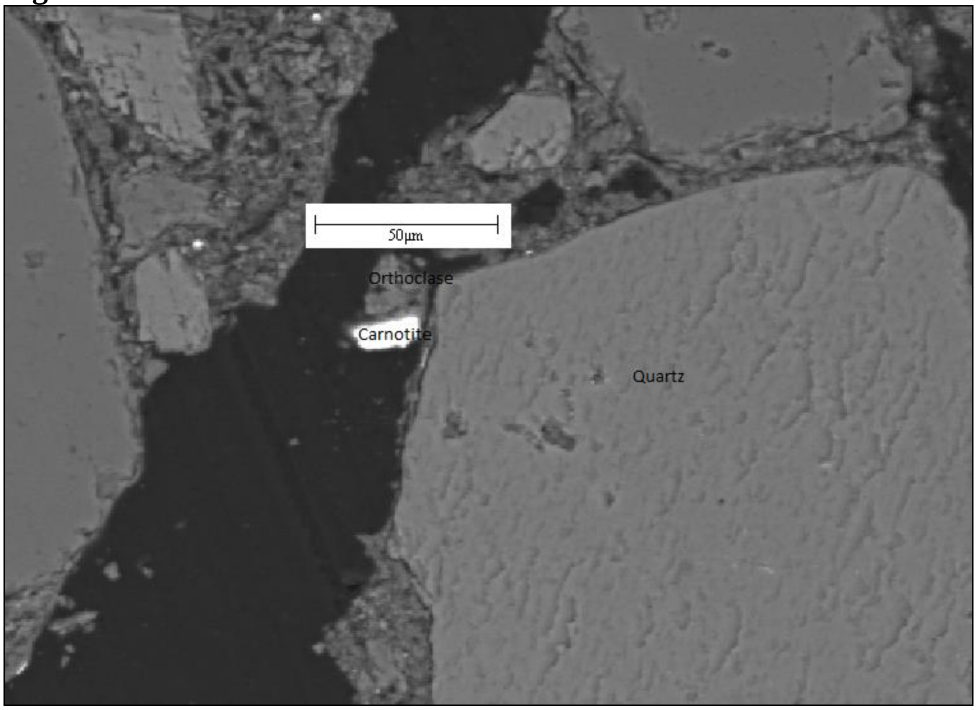
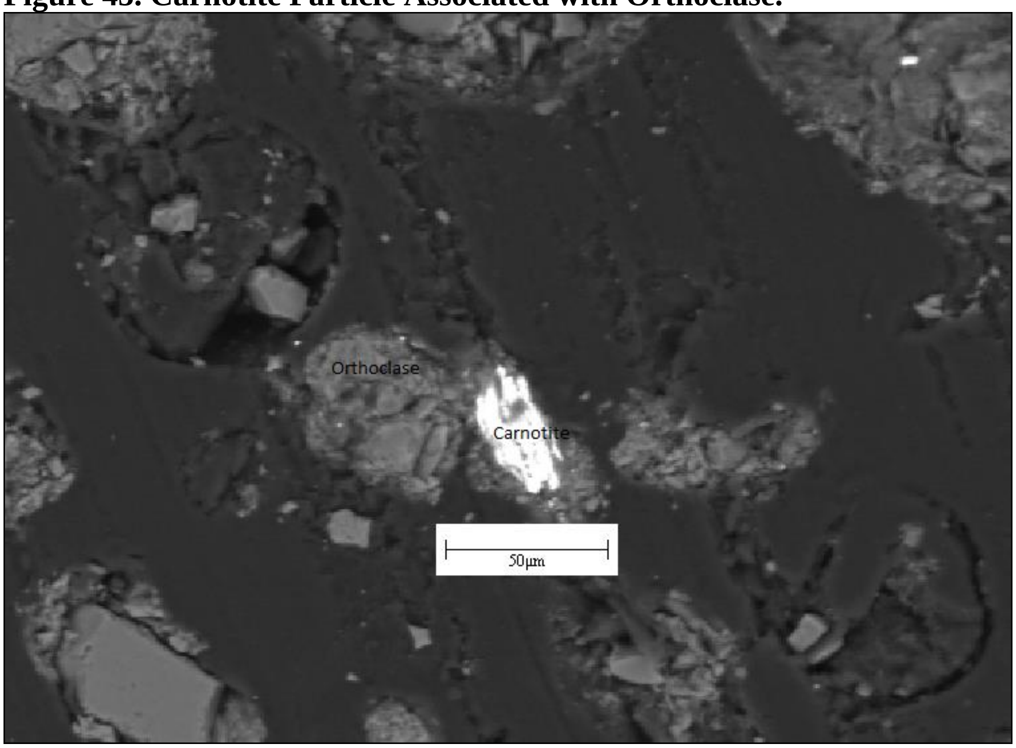


Figure 45. Carnotite Particle Associated with Orthoclase.



CR-H-4-SY -25/+270

For CR-H-4-SY -25/+270 sample, three carnotite particles were identified. Results are shown in figures 46 through 48. According to the data, the carnotite particle appear to be approximately 5 microns in size with orthoclase association. These particles are all leachable but not flotable.

Figure 46. CR-H-4-SY -25/+270 Carnotite Particle Associated with Orthoclase.

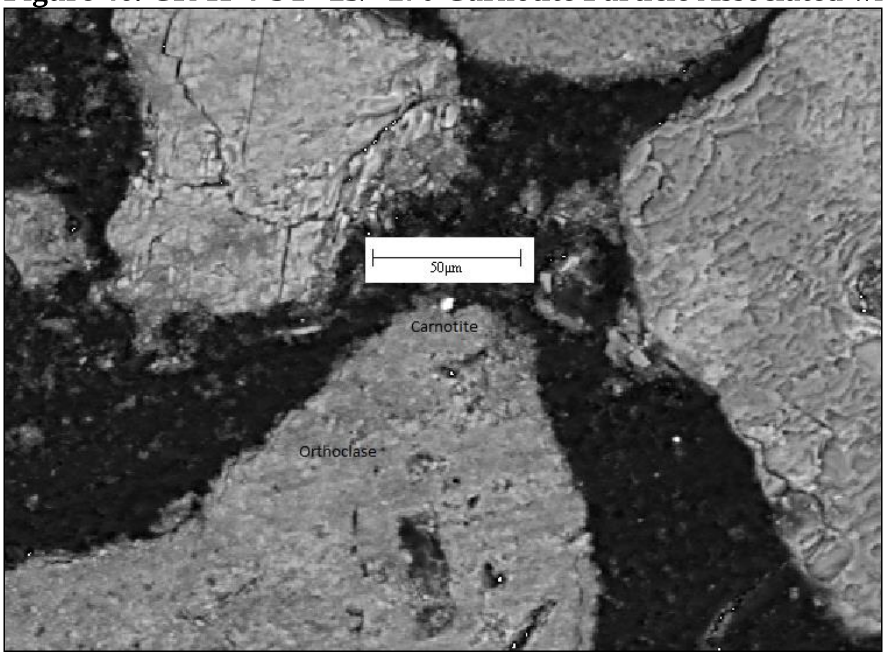


Figure 47. CR-H-4-SY -25/+270 Carnotite Particle Associated with Orthoclase.

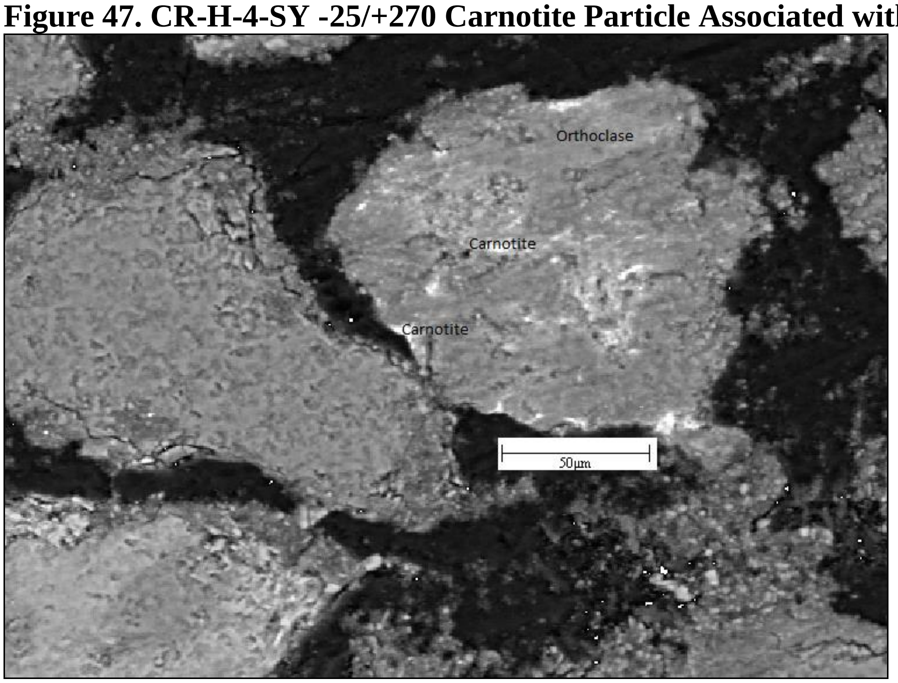
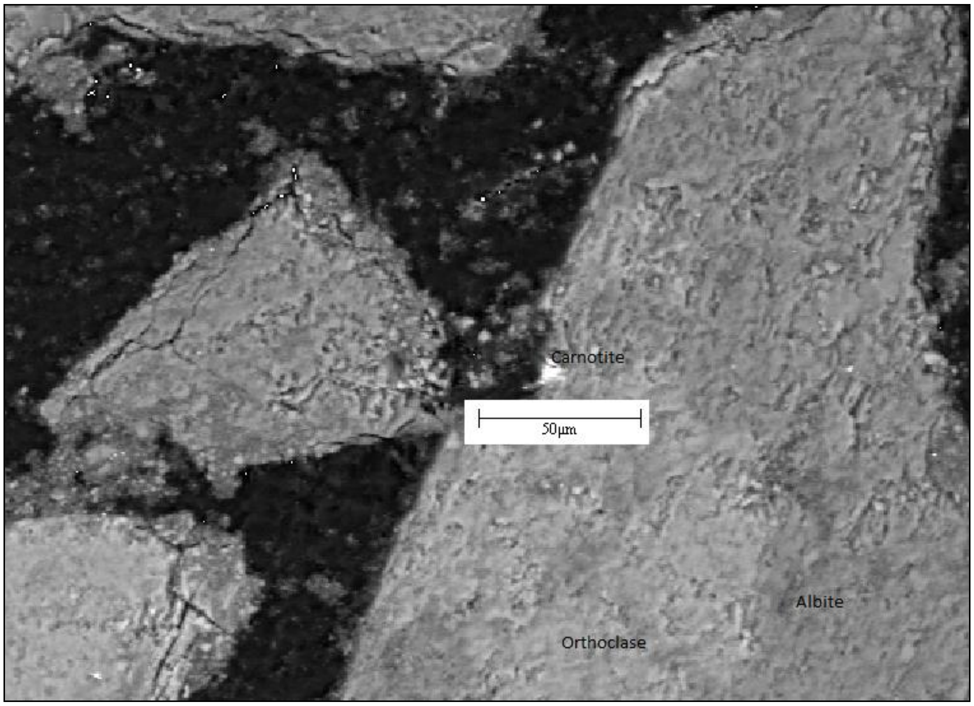


Figure 48. CR-H-4-SY -25/+270 Carnotite Particle Associated with Orthoclase and Albite.



CR-H-8-SY -25/+270

For CR-H-8-SY -25/+270 sample, three carnotite particles were identified. Results are shown in figures 49 through 51. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase, quartz, and albite encapsulation. Observation of the carnotite particles indicates two particles (Figures 49 and 50) are leachable while one particle (Figure 51) is not leachable. All observed particles for this sample is not flotable.

Figure 49. CR-H-8-SY -25/+270 Carnotite Particle Associated with Quartz.

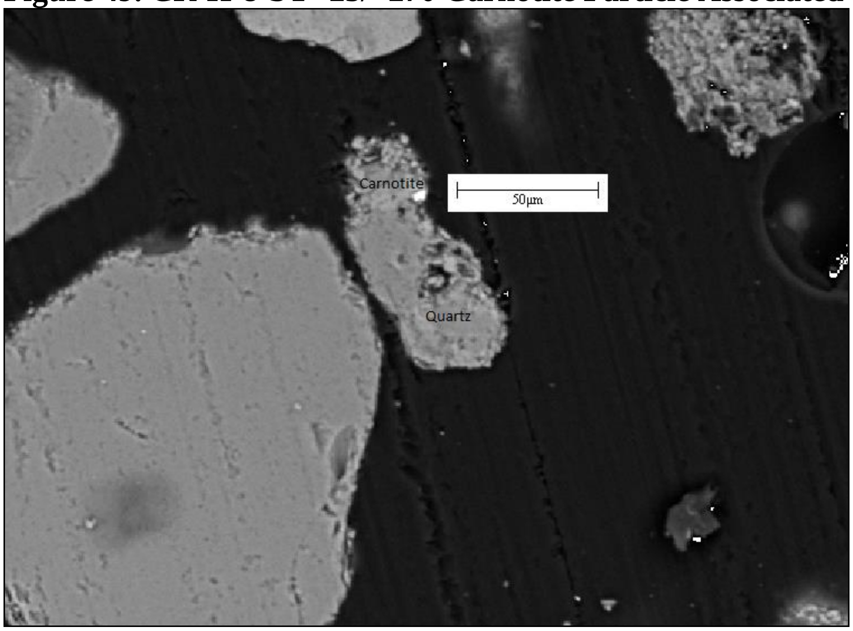


Figure 50. CR-H-8-SY -25/+270 Carnotite Particle Associated with Albite.

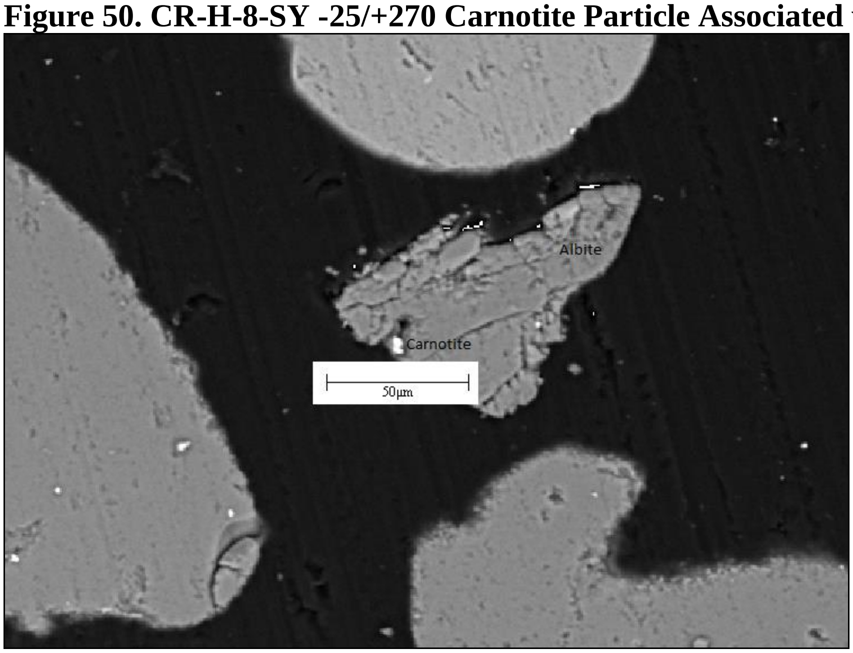
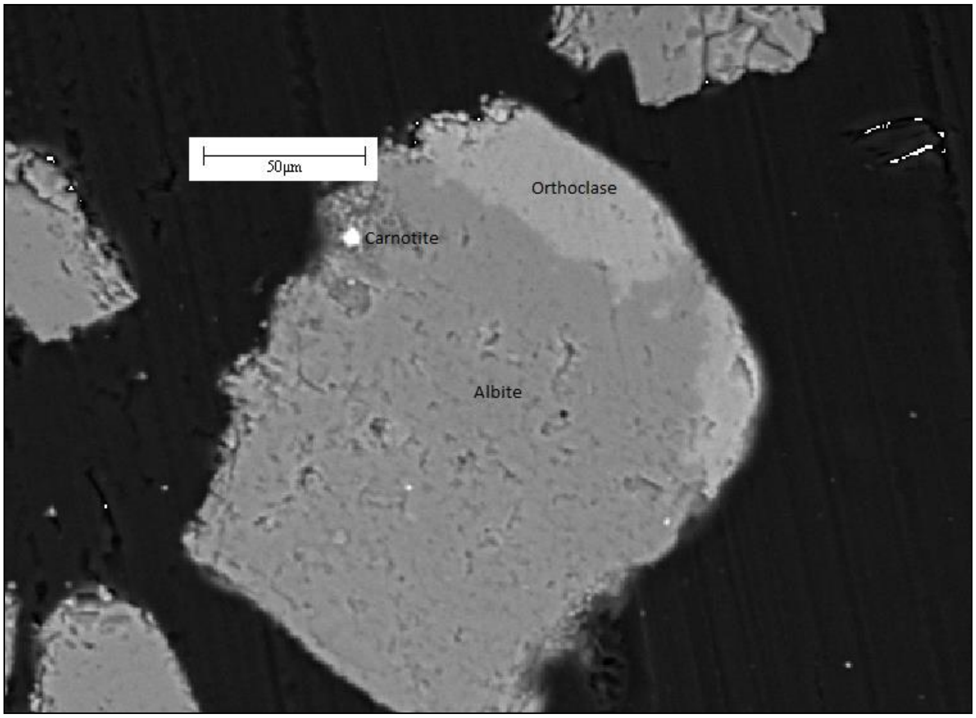


Figure 51. CR-H-8-SY -25/+270 Carnotite Particle Encapsulated with Orthoclase and Albite.



CR-H-30-SY -25/+270

For CR-H-30-SY -25/+270 sample, two carnotite particles were identified. Results are shown in figures 52 and 53. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase and calcite association. These particles are leachable but not flotable.

Figure 52. CR-H-30-SY -25/+270 Carnotite Particle Associated with Orthoclase.

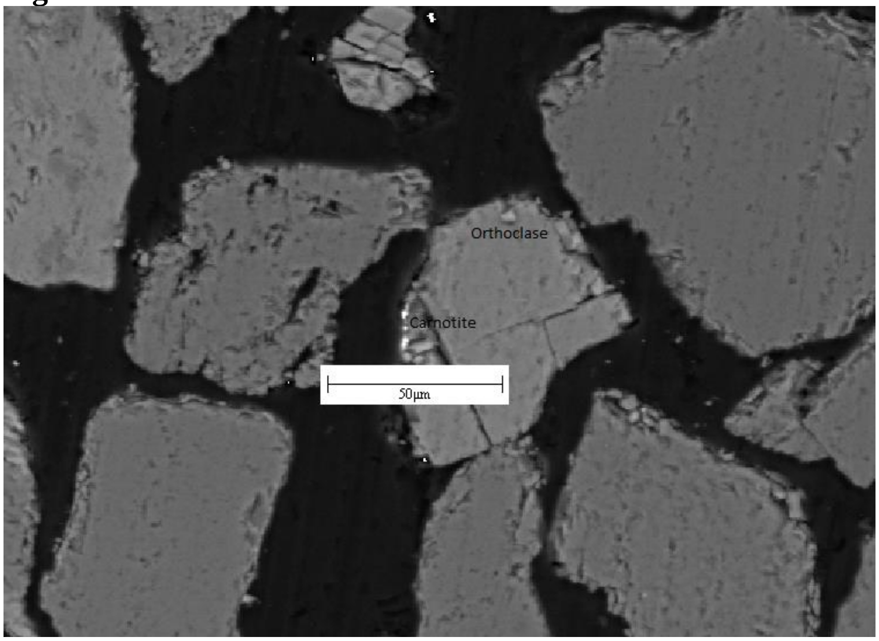
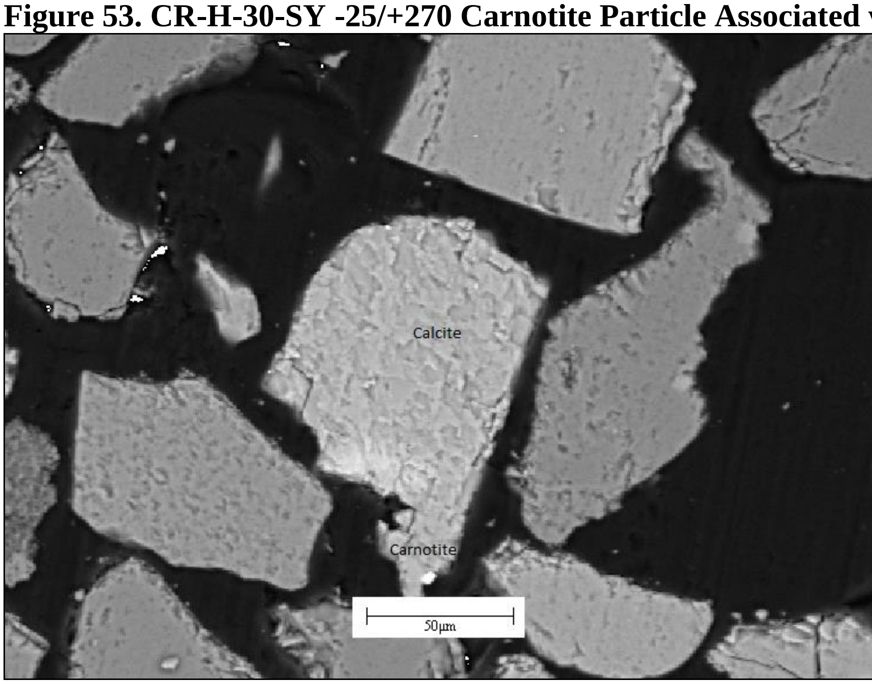


Figure 53. CR-H-30-SY -25/+270 Carnotite Particle Associated with Calcite.



QV-L-0-SL-01

For QV-L-SL-01 sample, two carnotite particles were identified. Results are shown in figures 54 and 58. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite and orthoclase association. Since these particles are encapsulated, they are not flotable nor leachable. One free carnotite particle was identified.

Figure 54. QV-L-0-SL-01 Carnotite Particle Encapsulated by Albite and Orthoclase.

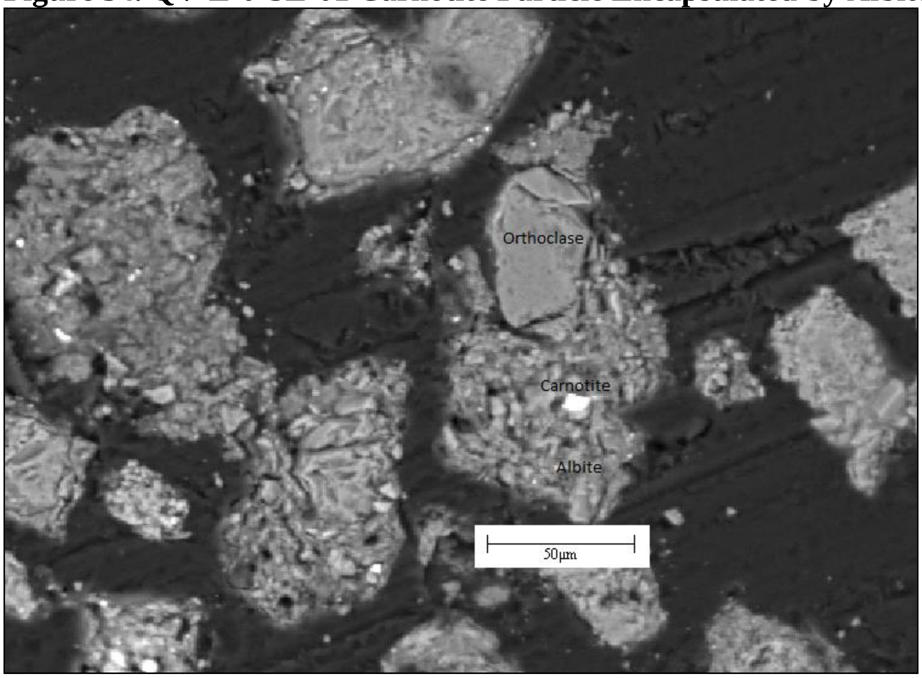


Figure 55. QV-L-0-SL-01 Carnotite Particle Encapsulated by Albite.

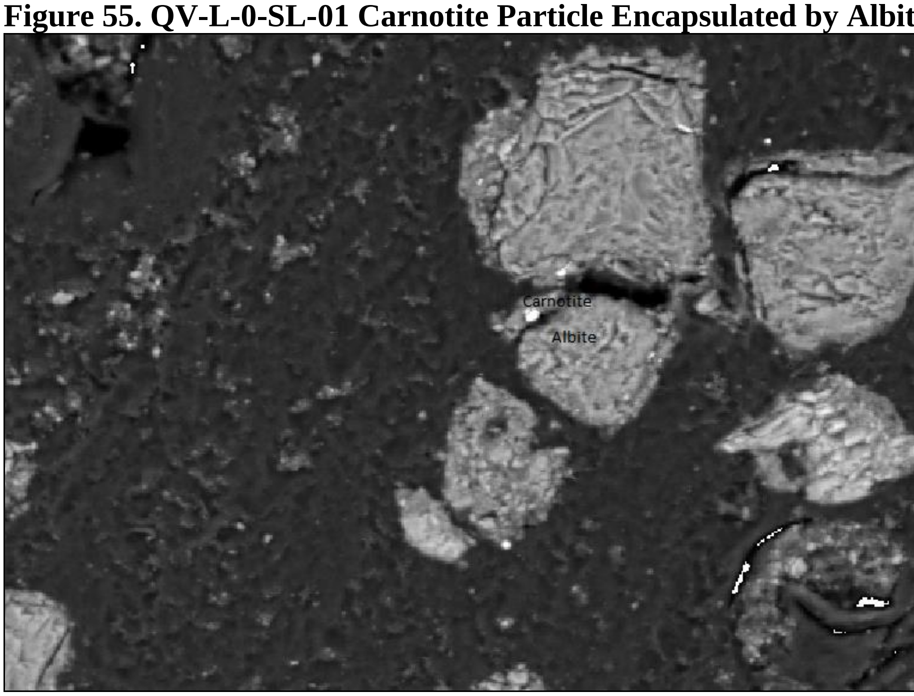


Figure 56. Free Carnotite Particle.

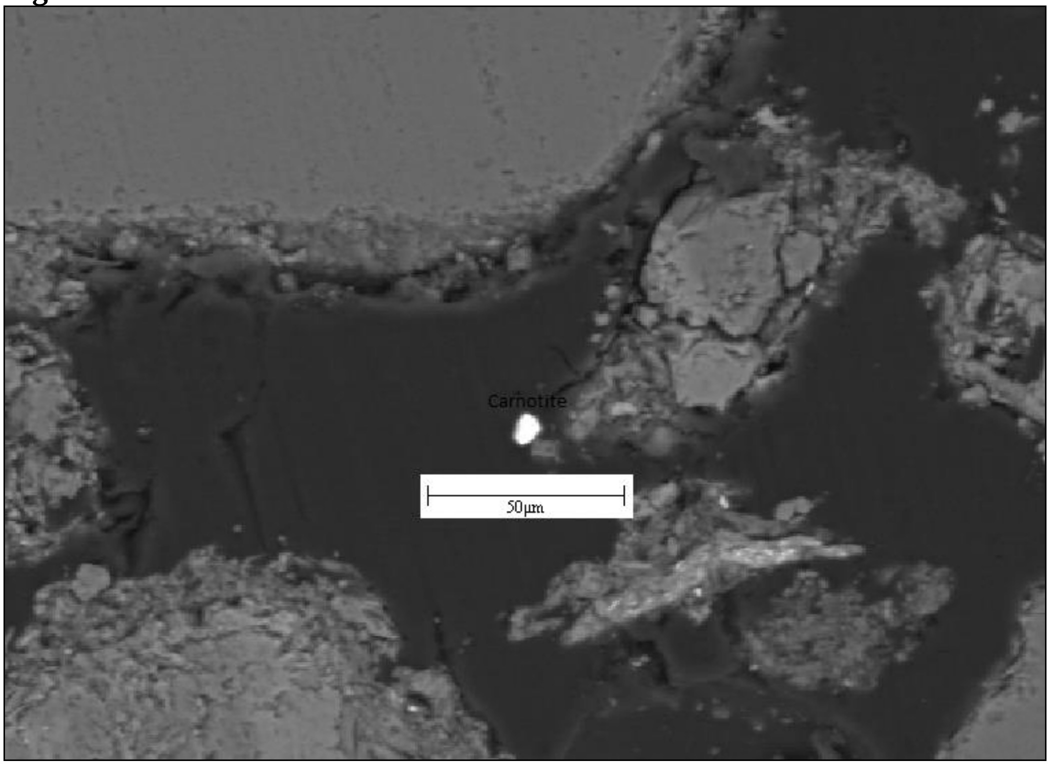


Figure 57. Carnotite Particle Encapsulated by Orthoclase.

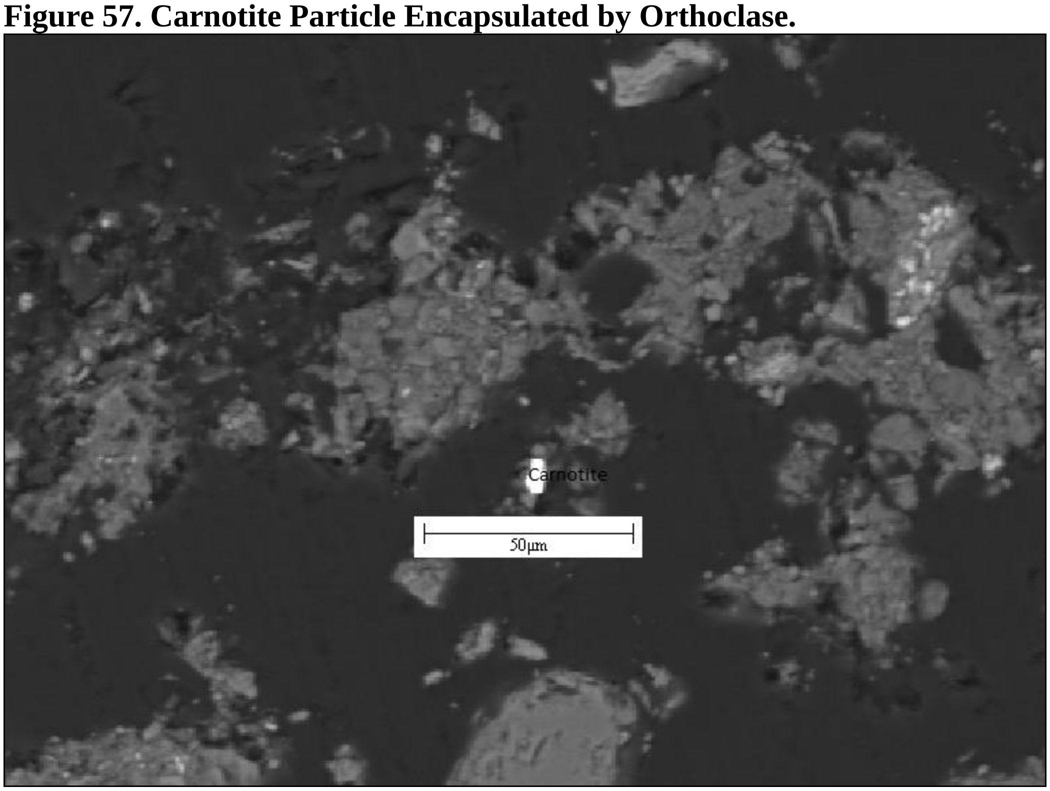
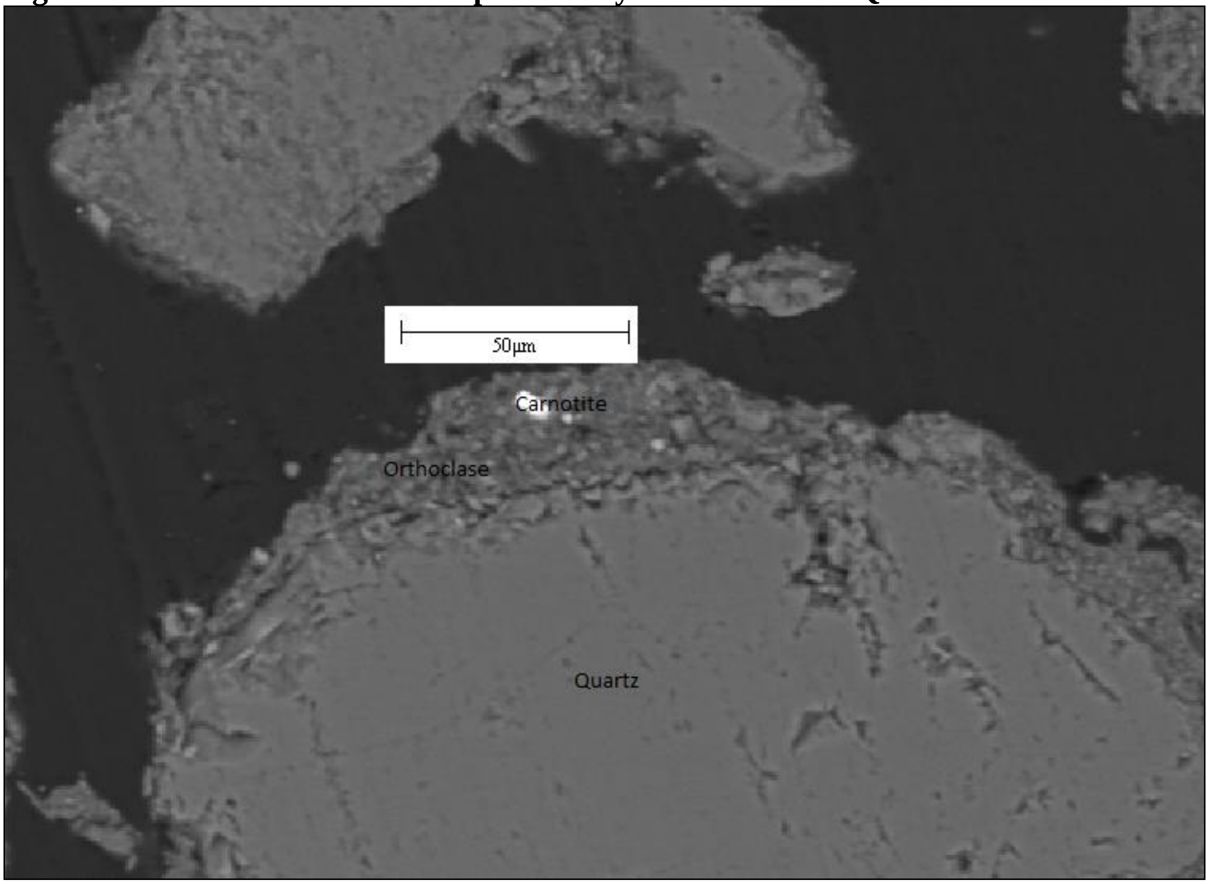


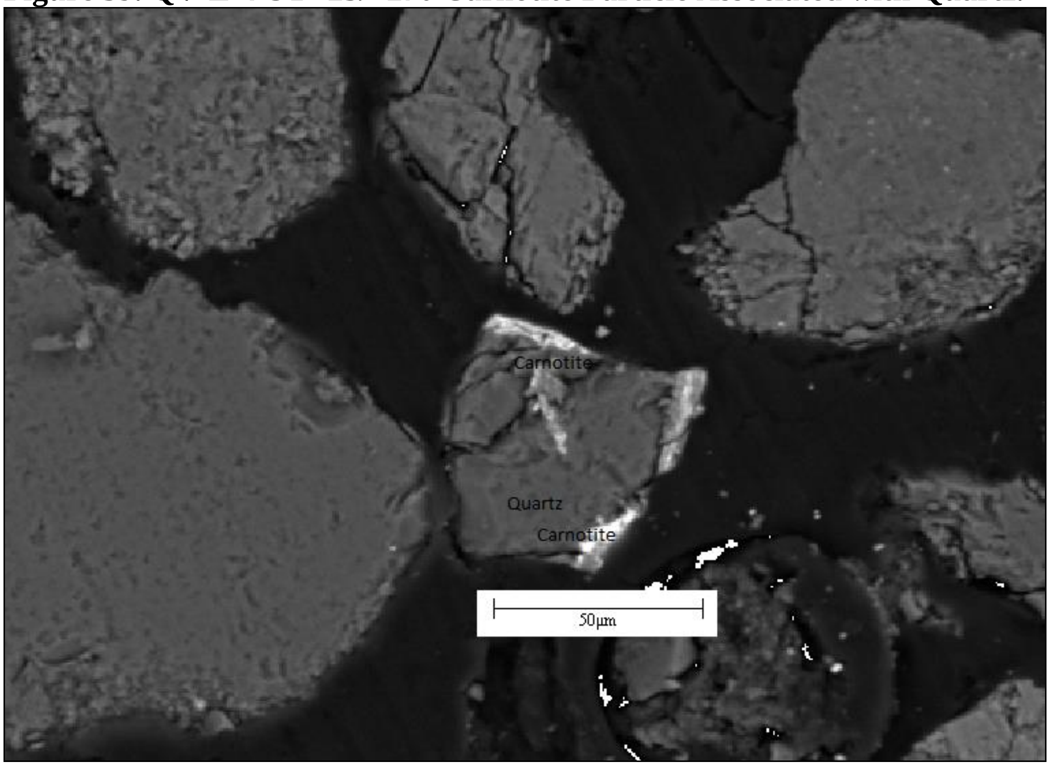
Figure 58. Carnotite Particle Encapsulated by Orthoclase and Quartz.



QV-L-4-SY -25/+270

For QV-L-4-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 59. According to the data, the carnotite particle appear to be approximately 10 microns in size with quartz association. This particle is leachable but not flotable.

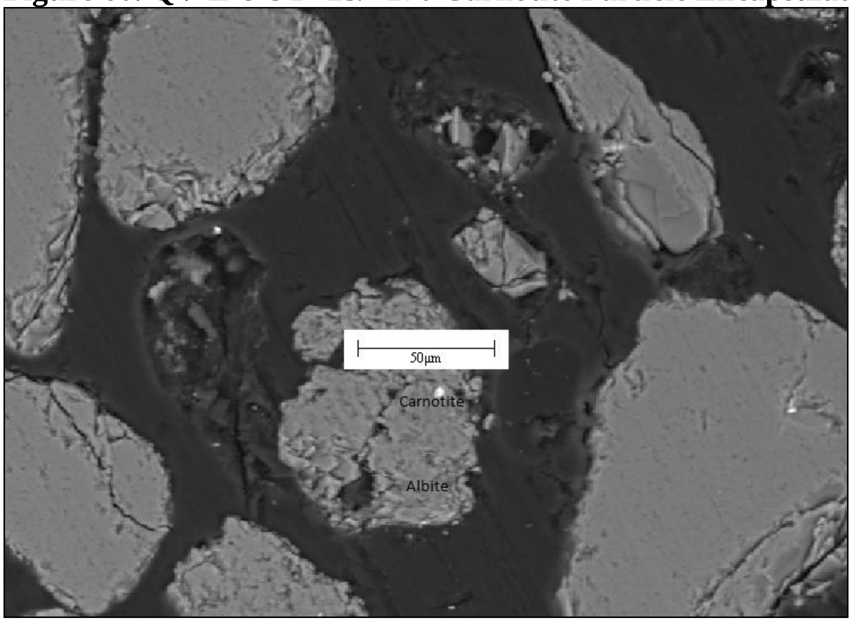
Figure 59. QV-L-4-SY -25/+270 Carnotite Particle Associated with Quartz.



QV-L-8-SY -25/+270

For QV-L-8-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 60. According to the data, the carnotite particle appear to be approximately 5 microns in size with albite encapsulation. This particle is not leachable or flotable.

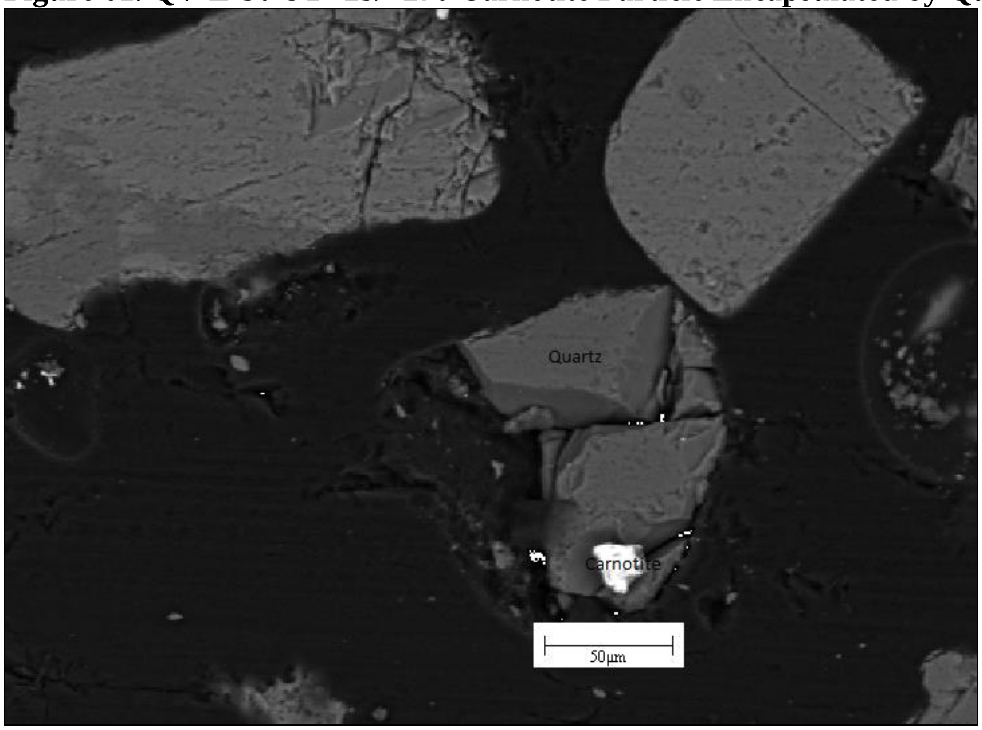
Figure 60. QV-L-8-SY -25/+270 Carnotite Particle Encapsulated by Albite.



QV-L-30-SY -25/+270

For QV-L-30-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 61. According to the data, the carnotite particle appear to be approximately 20 microns in size with quartz encapsulation. This particle is not leachable or flotable.

Figure 61. QV-L-30-SY -25/+270 Carnotite Particle Encapsulated by Quartz.



QV-M-0-SL-01

For QV-M-SL-01 sample, several carnotite particles were identified. Results are shown in figures 62 through 68. According to the data, the carnotite particles are approximately 5 to 20 microns in size with albite, quartz, and orthoclase association. Three of these particles are not flotable or leachable, however, one particle is leachable (Figure 66).

Figure 62. QV-M-0-SL-01 Carnotite Particle Associated with Orthoclase.

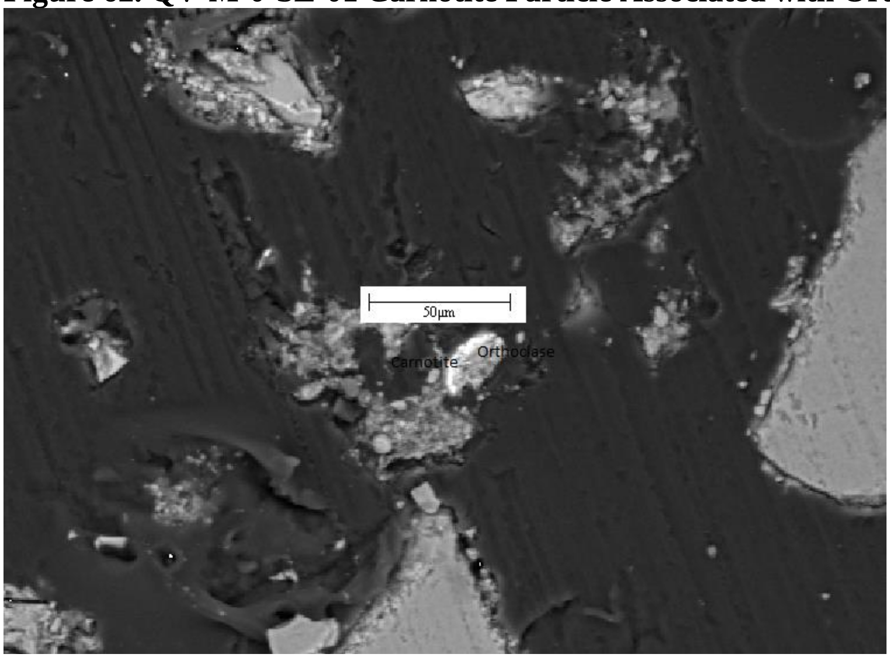


Figure 63. QV-M-0-SL-01 Carnotite Particle Encapsulated by Albite.

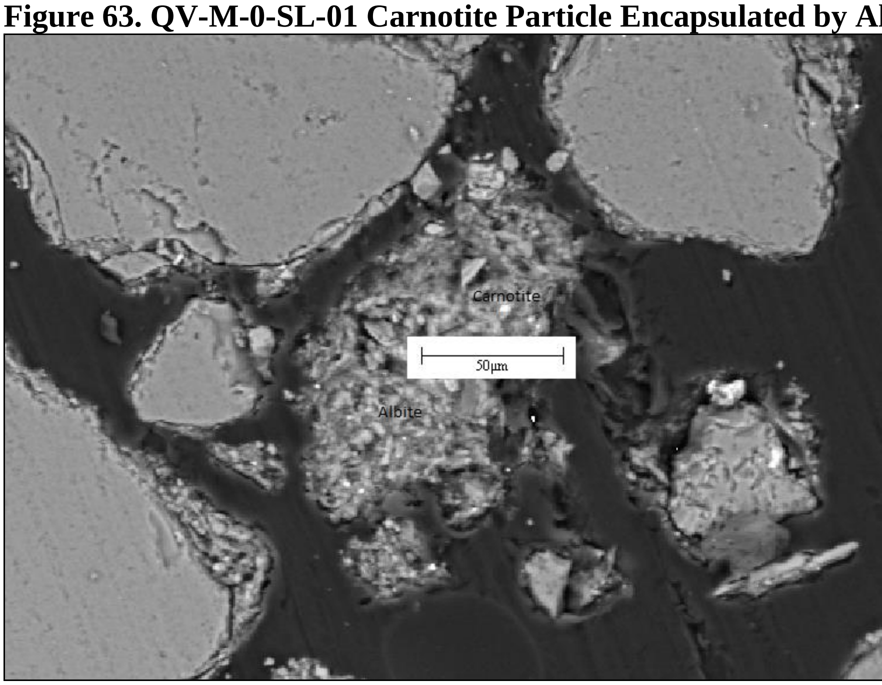


Figure 64. QV-M-0-SL-01 Carnotite Particle Encapsulated by Orthoclase and Quartz.

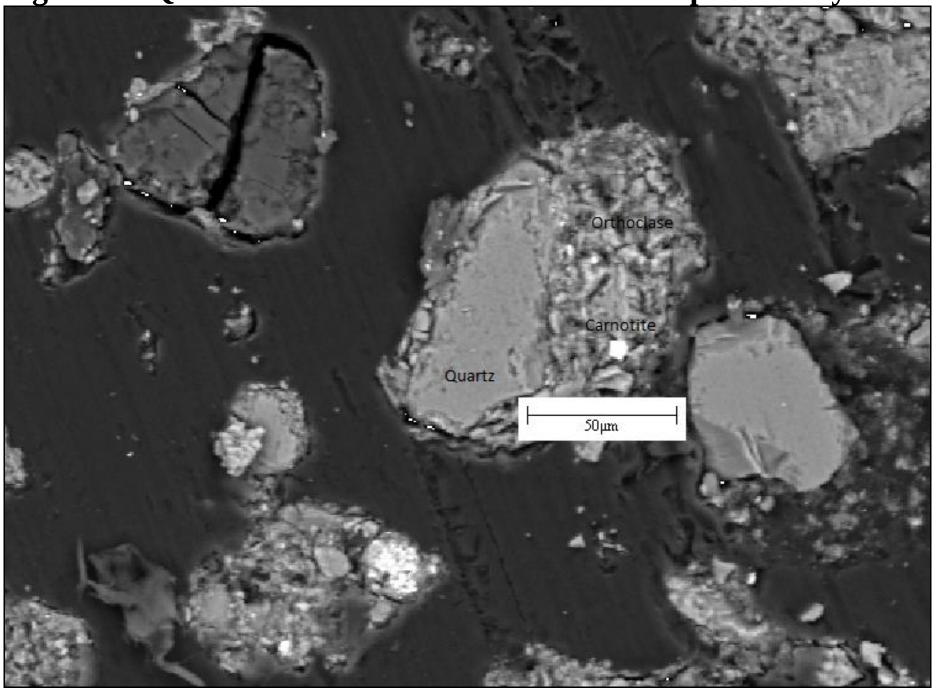


Figure 65. QV-M-0-SL-01 Carnotite Particle Encapsulated by Orthoclase and Quartz.

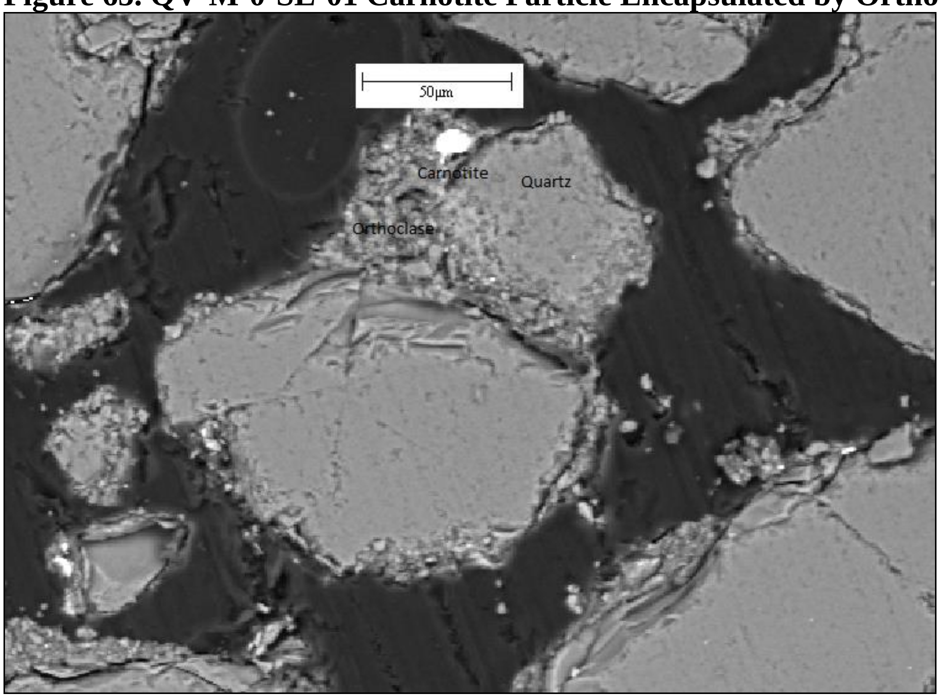


Figure 66. Carnotite Particle Encapsulated by Orthoclase and Quartz.

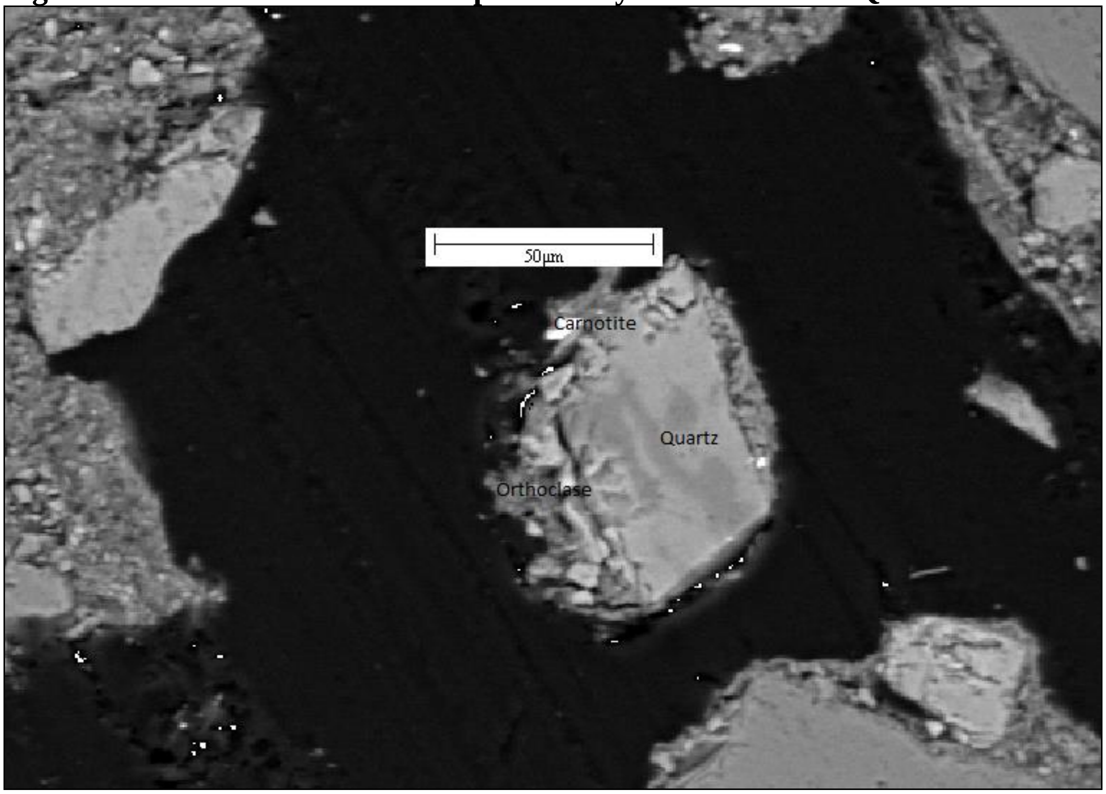


Figure 67. Carnotite Particle Encapsulated by Orthoclase and Quartz.

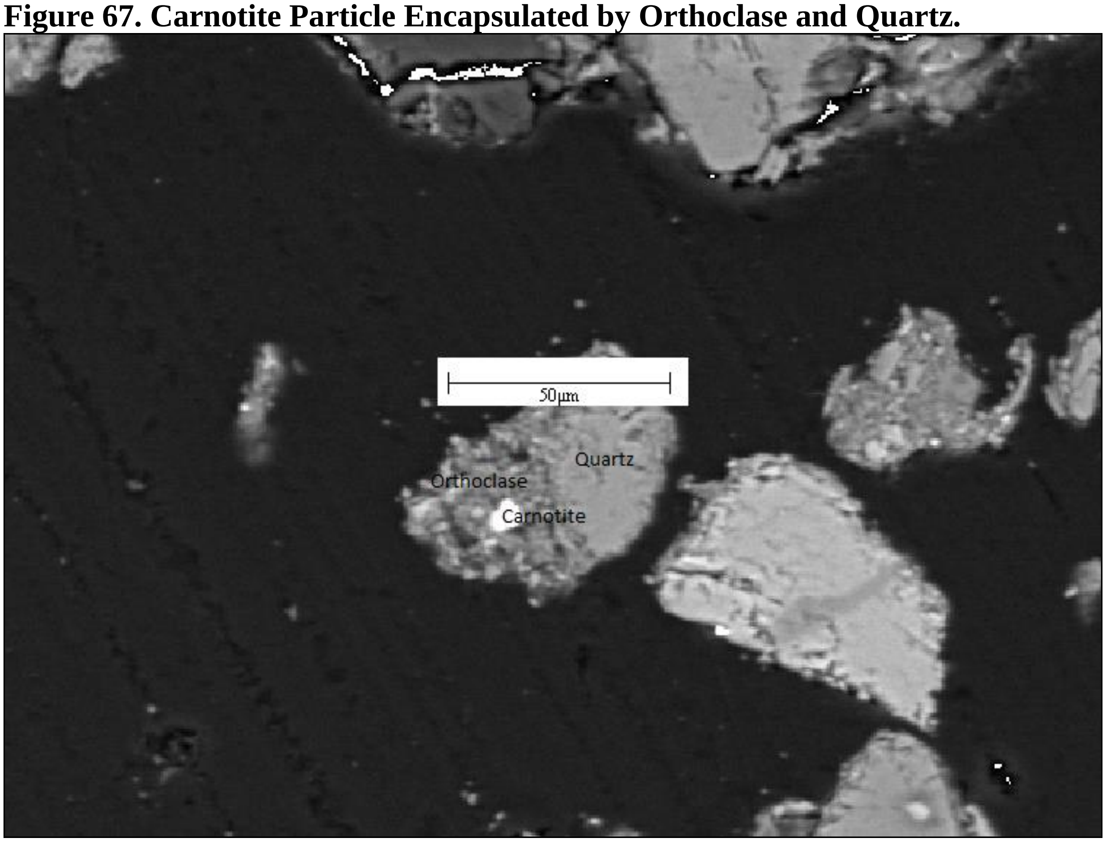
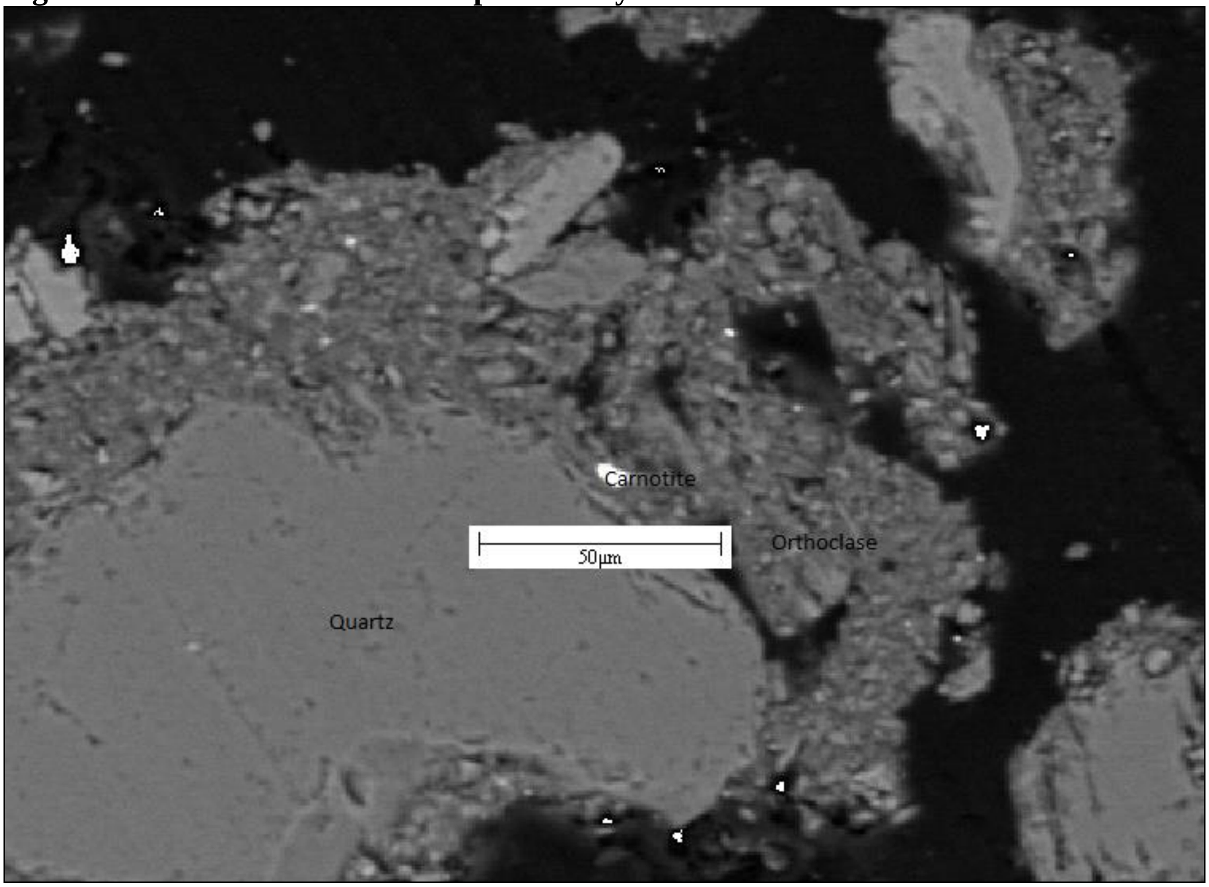


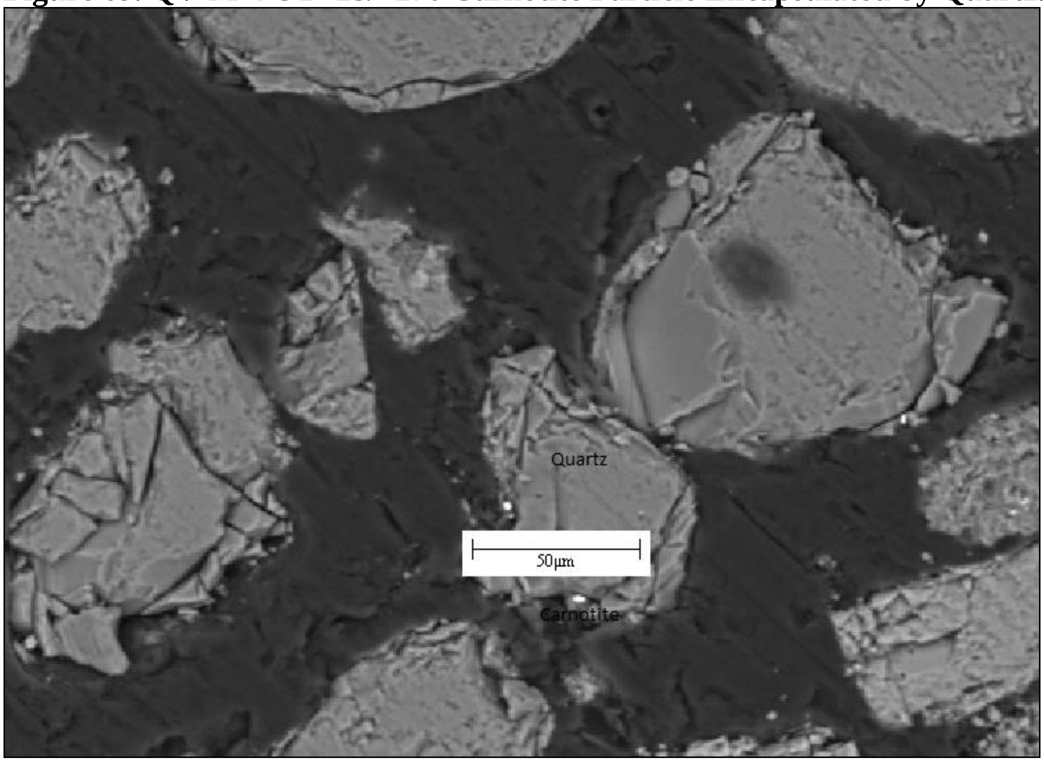
Figure 68. Carnotite Particle Encapsulated by Orthoclase.



QV-M-4-SY -25/+270

For QV-M-4-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 69. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz encapsulation. This particle is not leachable or flotable.

Figure 69. QV-M-4-SY -25/+270 Carnotite Particle Encapsulated by Quartz.



QV-M-8-SY -25/+270

For QV-M-8-SY -25/+270 sample, two carnotite particles were identified. Results are shown in figures 70 and 71. According to the data, the carnotite particle appear to be approximately 5 microns in size with quartz and orthoclase encapsulation. These particles are not leachable or flotable.

Figure 70. QV-M-8-SY -25/+270 Carnotite Particle Encapsulated by Orthoclase.

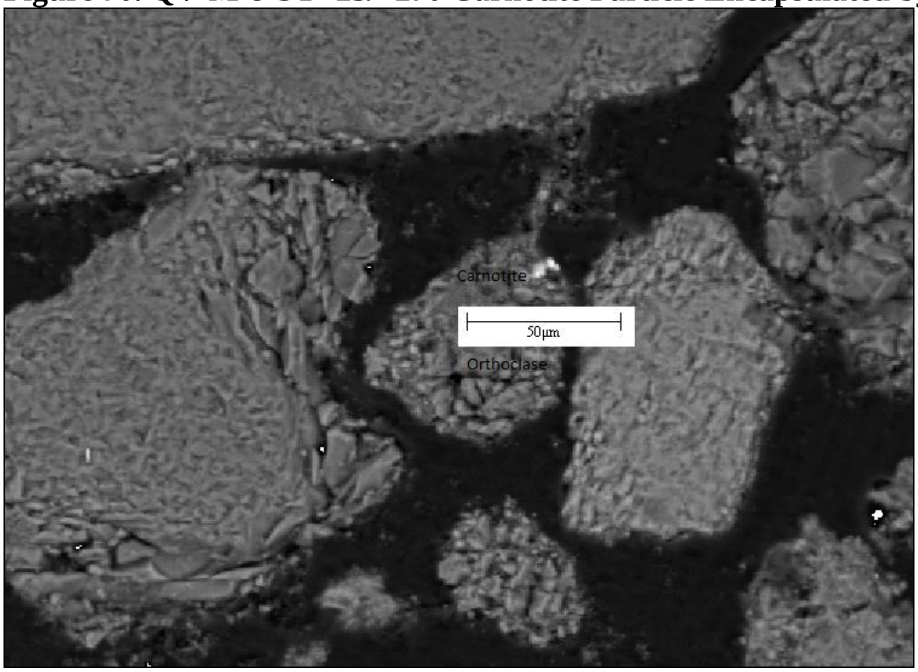
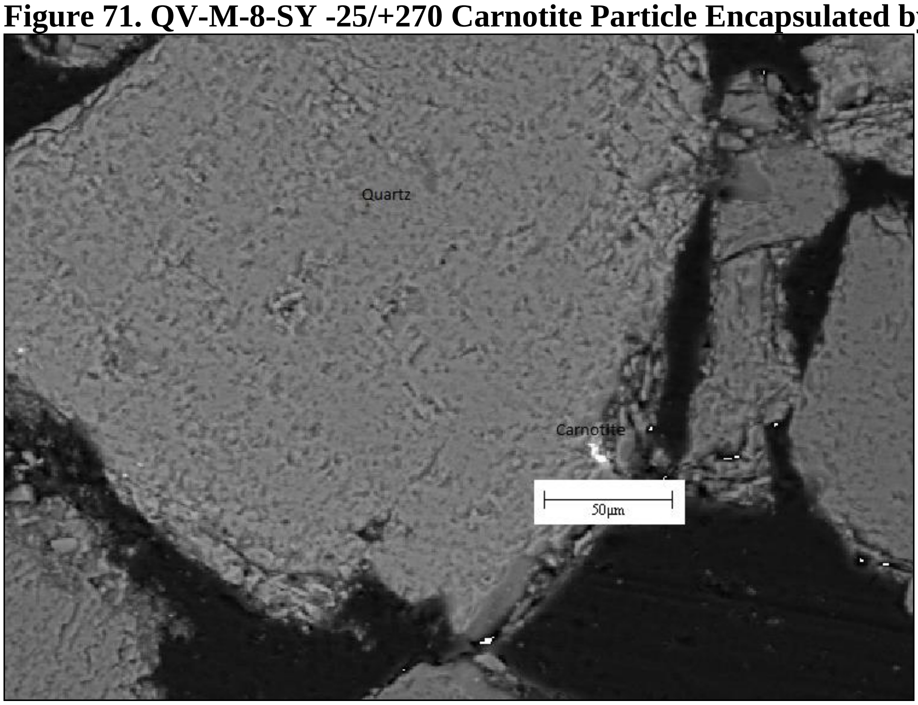


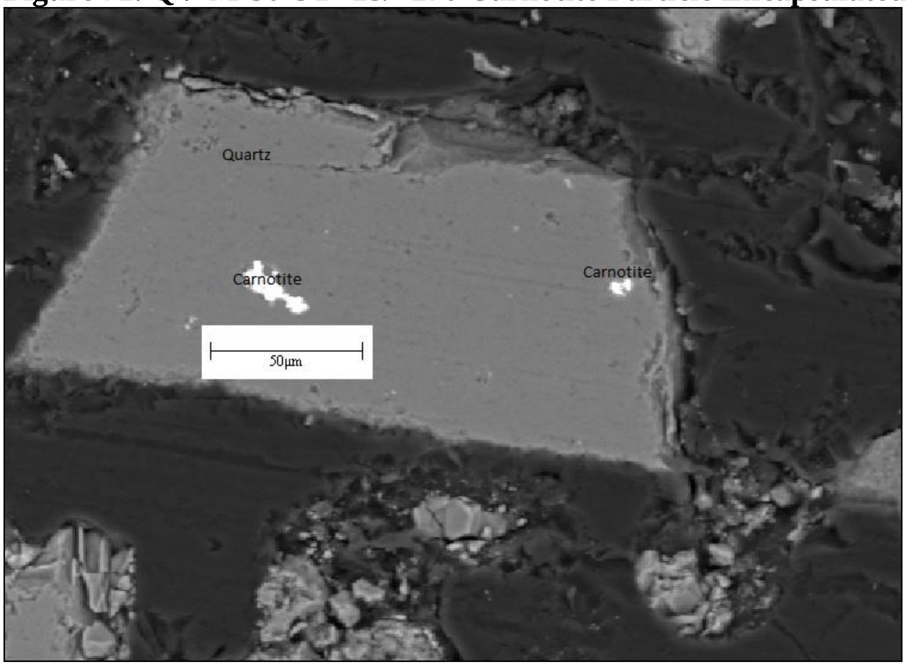
Figure 71. QV-M-8-SY -25/+270 Carnotite Particle Encapsulated by Quartz.



QV-M-30-SY -25/+270

For QV-M-30-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 72. According to the data, the carnotite particle appear to be approximately 20 microns in size with quartz encapsulation. This particle is not leachable or flotable.

Figure 72. QV-M-30-SY -25/+270 Carnotite Particle Encapsulated by Quartz.



QV-H-0-SL-01

For QV-H-SL-01 sample, several carnotite particles were identified. Results are shown in figures 73 through 78. According to the data, the carnotite particles are approximately 5 microns in size with albite and orthoclase association. All of the particles are not flotable, however, two of the four particles are leachable (Figures 53 and 54).

Figure 73. QV-H-0-SL-01 Carnotite Particle Encapsulated by Albite.

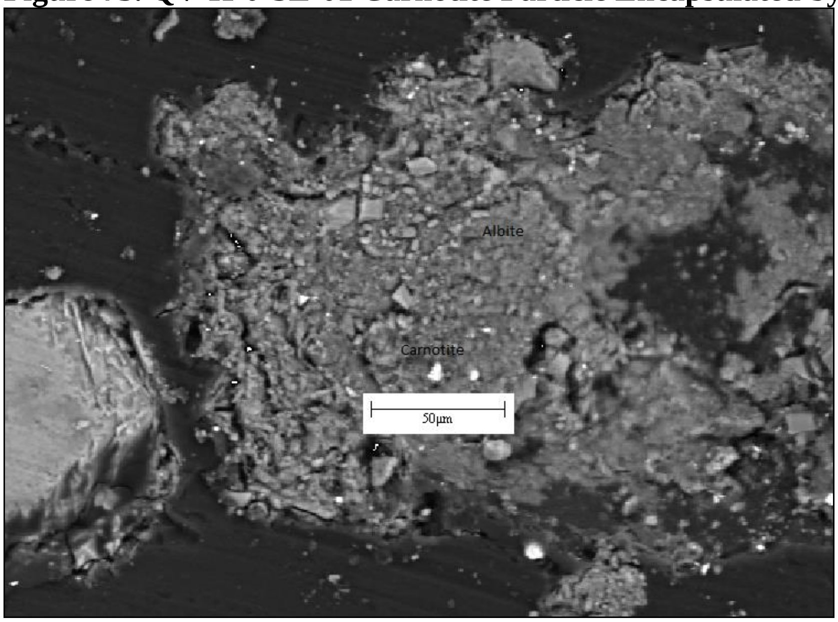


Figure 74. QV-H-0-SL-01 Carnotite Particle Encapsulated by Orthoclase

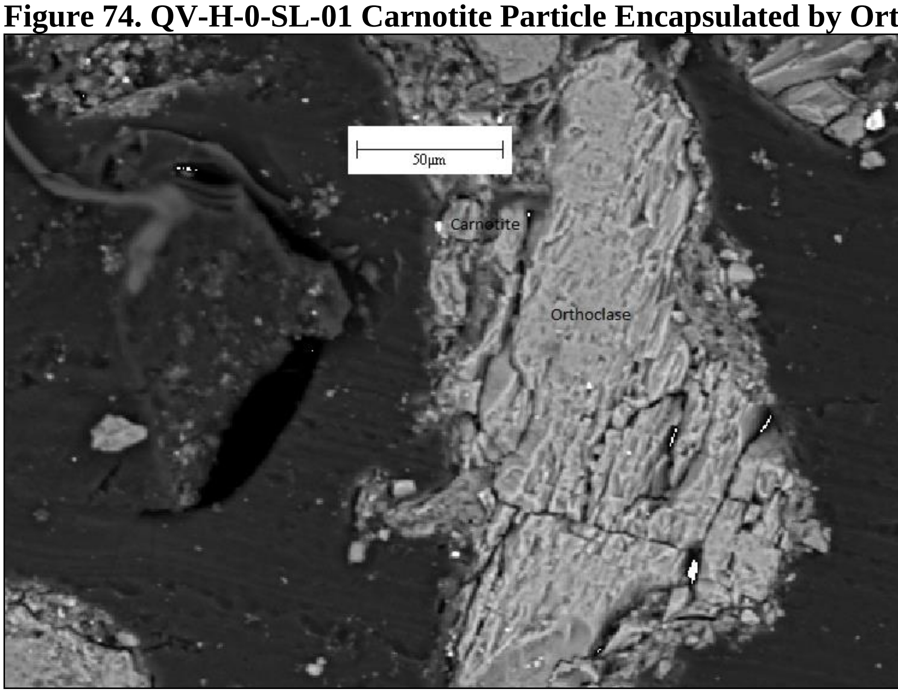


Figure 75. QV-H-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.

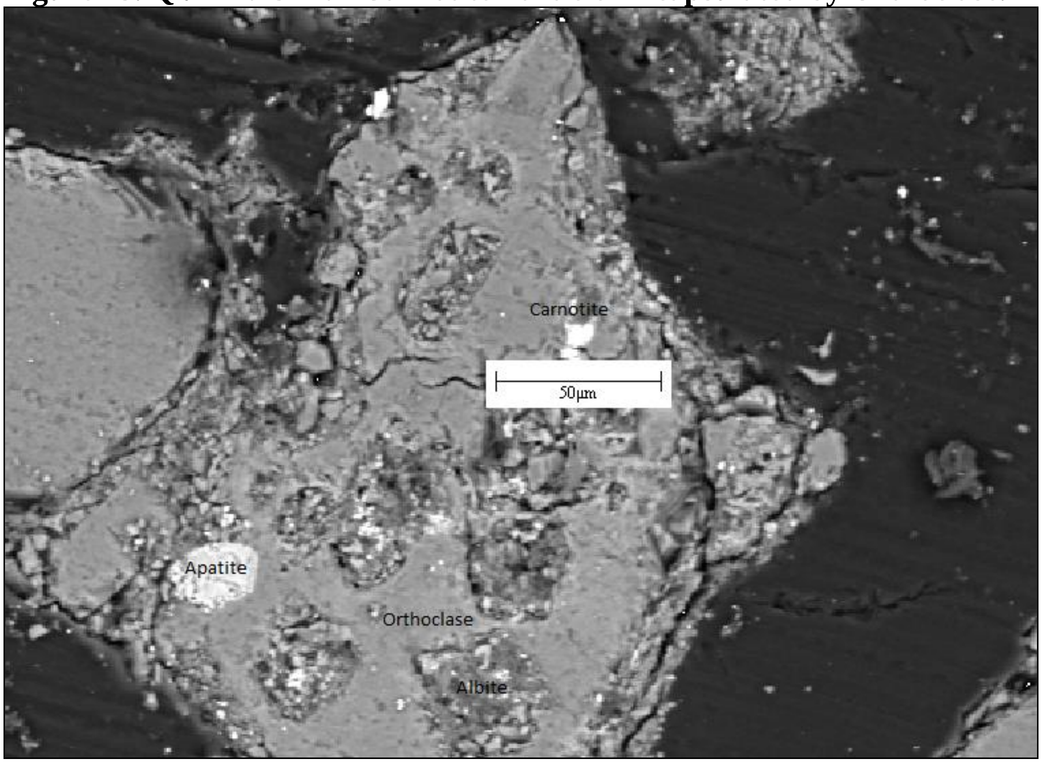


Figure 76. QV-H-0-SL-01 Carnotite Particle Encapsulated by Orthoclase.

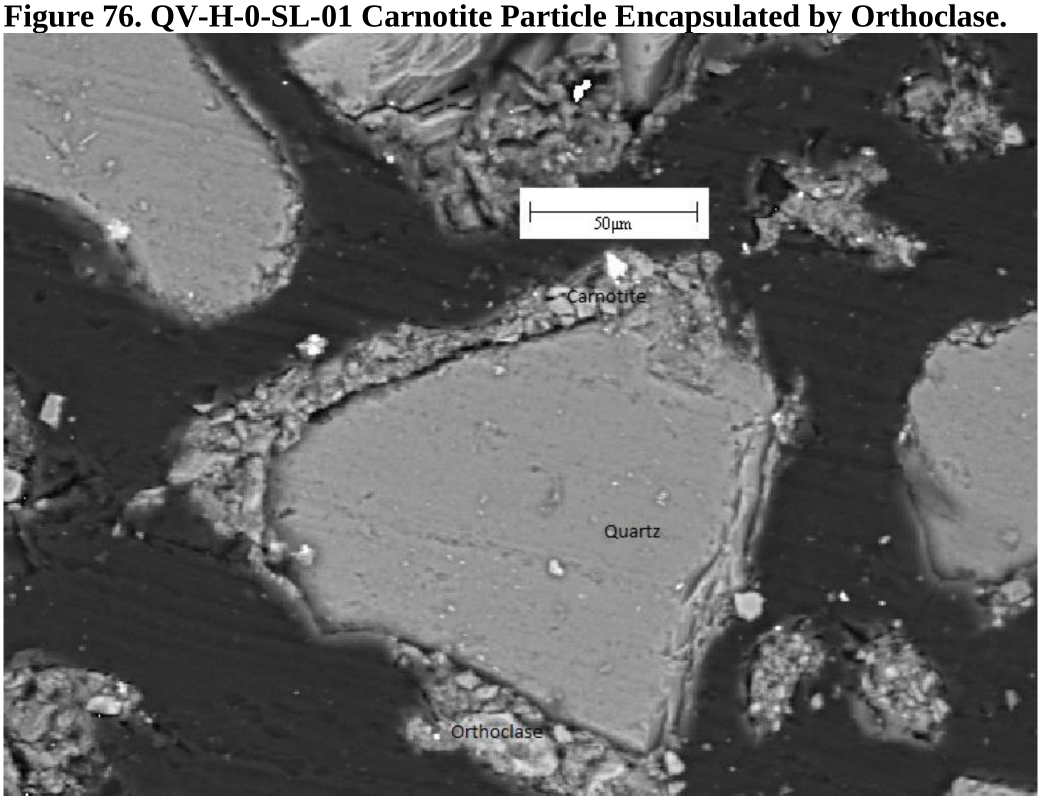


Figure 77. Carnotite Particle Encapsulated by Orthoclase.

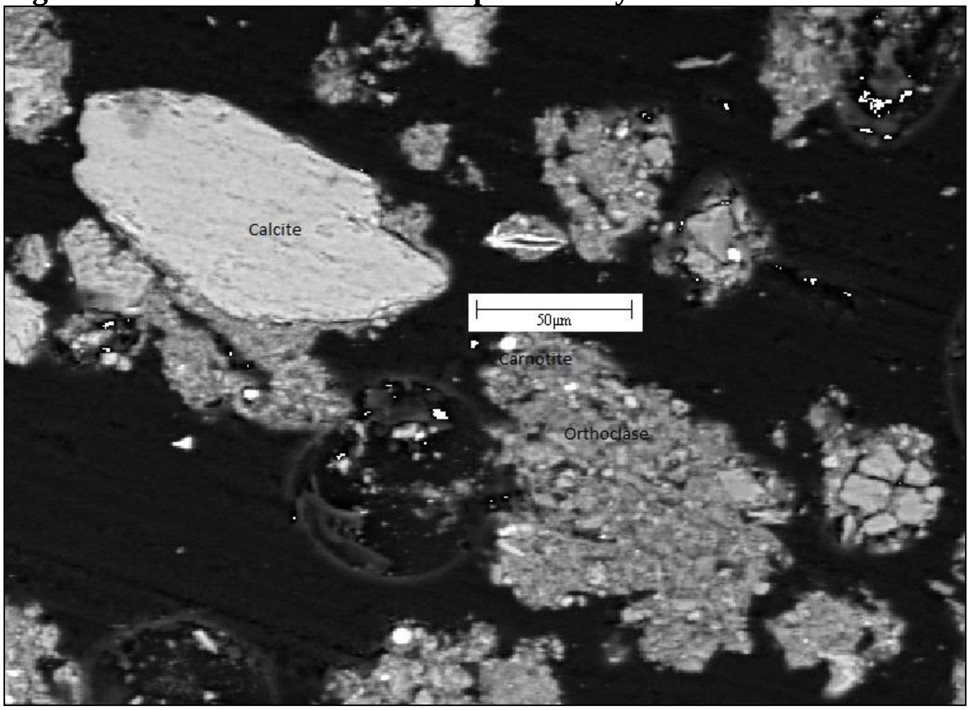
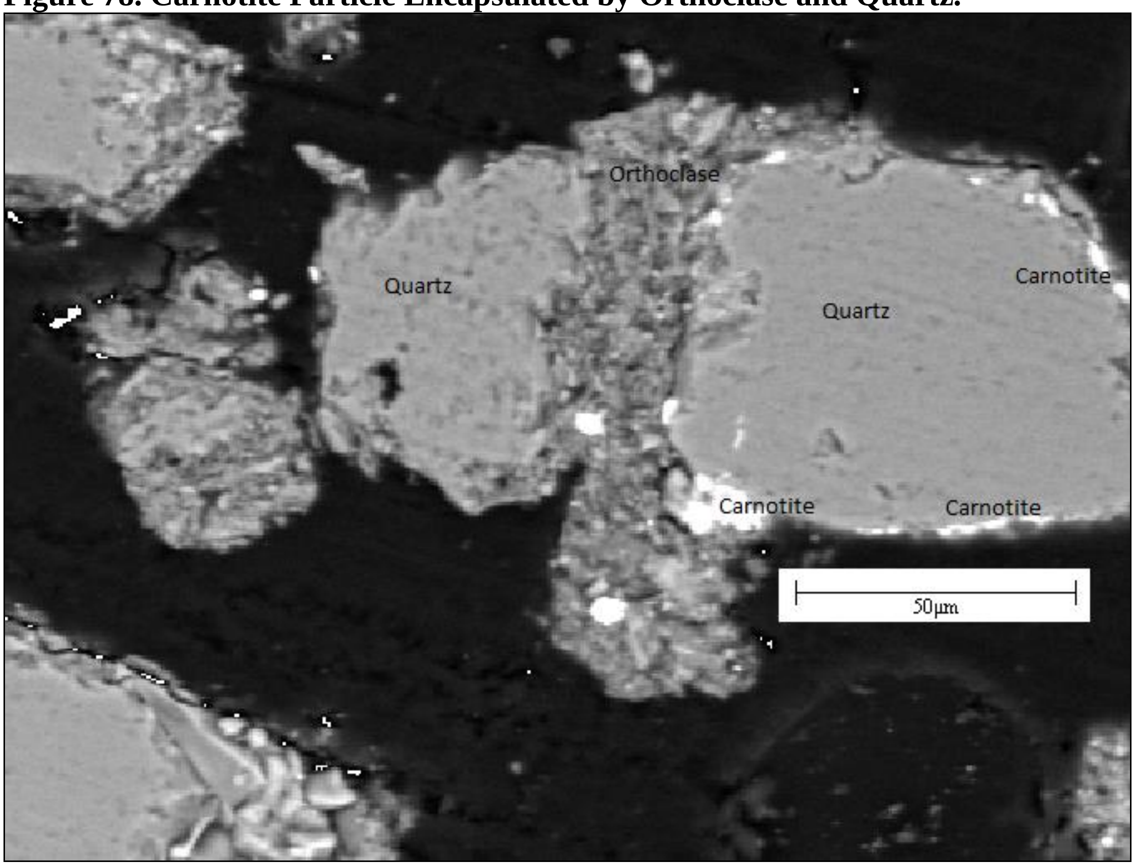


Figure 78. Carnotite Particle Encapsulated by Orthoclase and Quartz.



QV-H-4-SY -25/+270

For QV-H-4-SY -25/+270 sample, several carnotite particles were identified. Results are shown in figures 79 through 83. According to the data, the carnotite particles appear to be approximately 5 microns in size with albite, quartz and clinochlore encapsulation. One carnotite particle was identified at 40 microns with quartz association. Most particles are not leachable or flotable (Figures 79 through 82) while one particle was leachable only (Figure 83).

Figure 79. QV-H-4-SY -25/+270 Carnotite Particle Encapsulated by Albite.

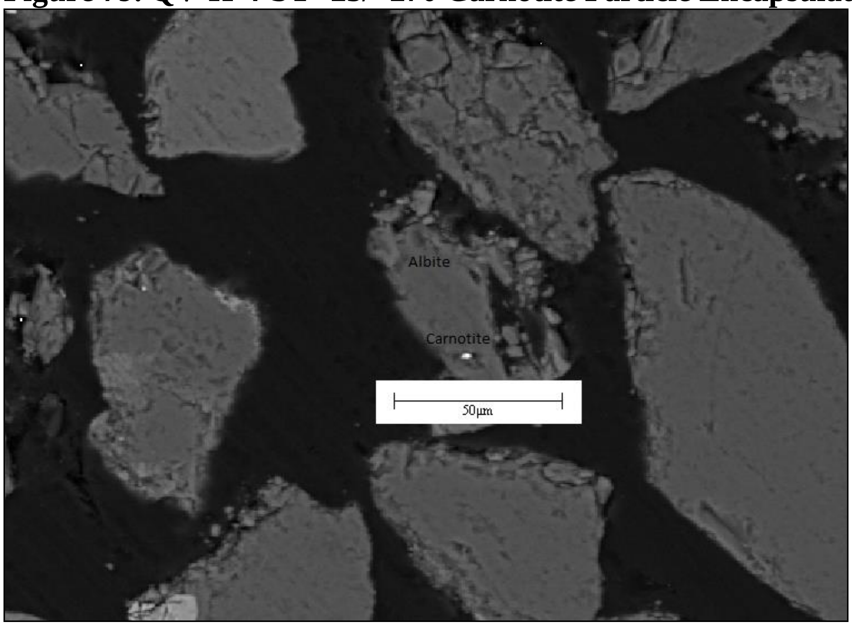


Figure 80. QV-H-4-SY -25/+270 Carnotite Particle Encapsulated by Albite.

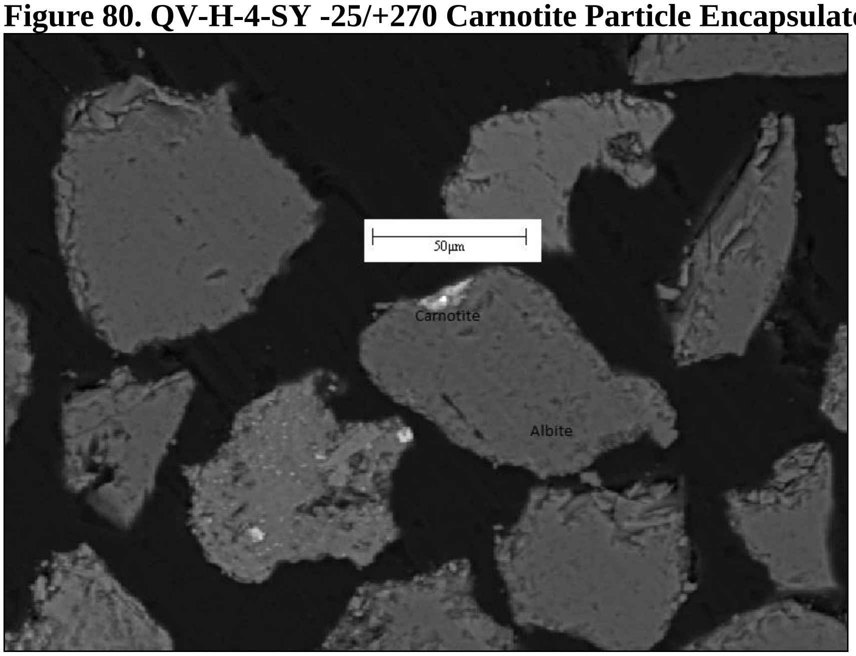


Figure 81. QV-H-4-SY -25/+270 Carnotite Particle Encapsulated by Clinochlore.

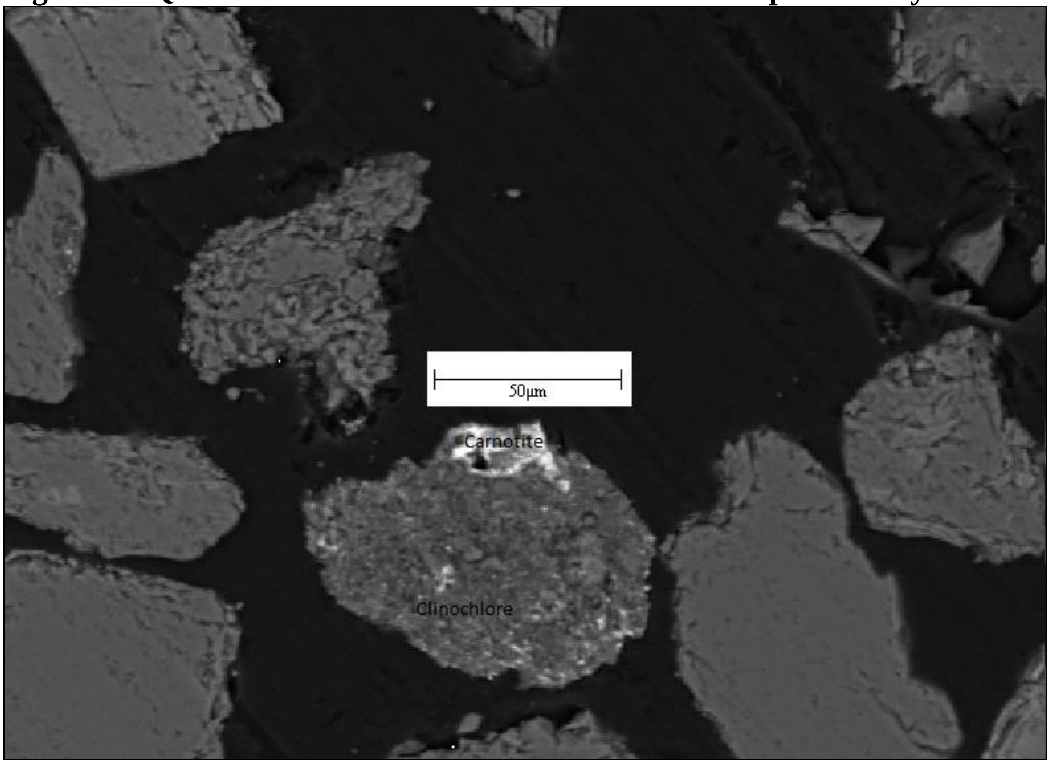


Figure 82. QV-H-4-SY -25/+270 Carnotite Particle Encapsulated by Orthoclase.

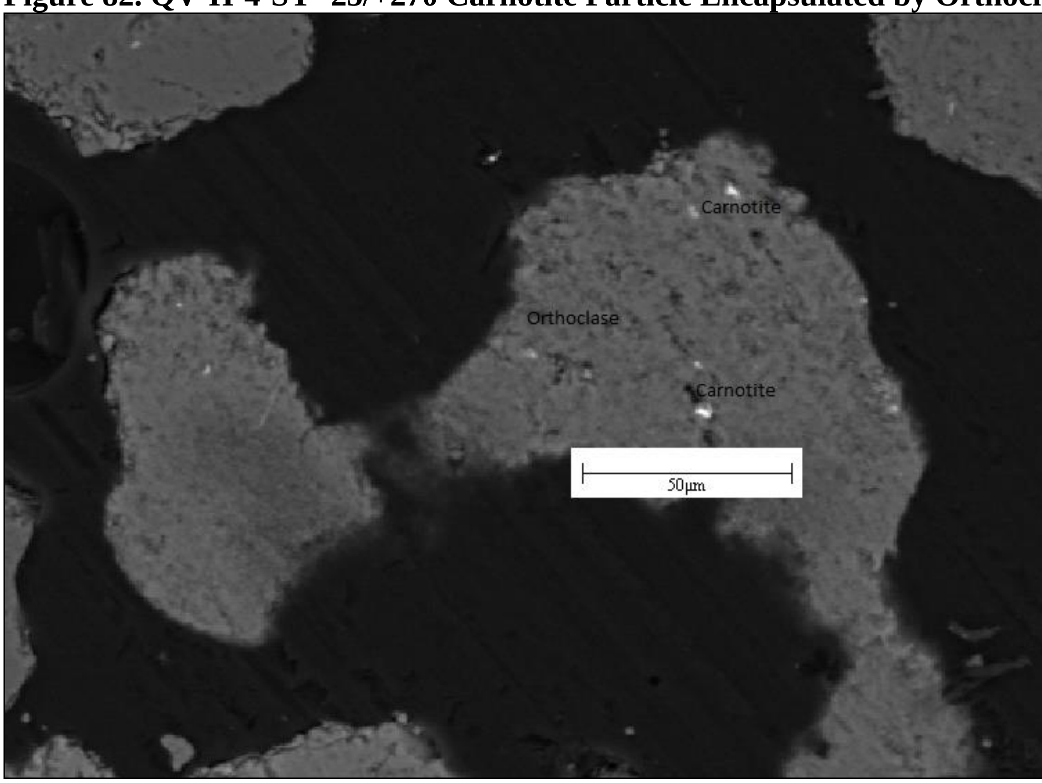
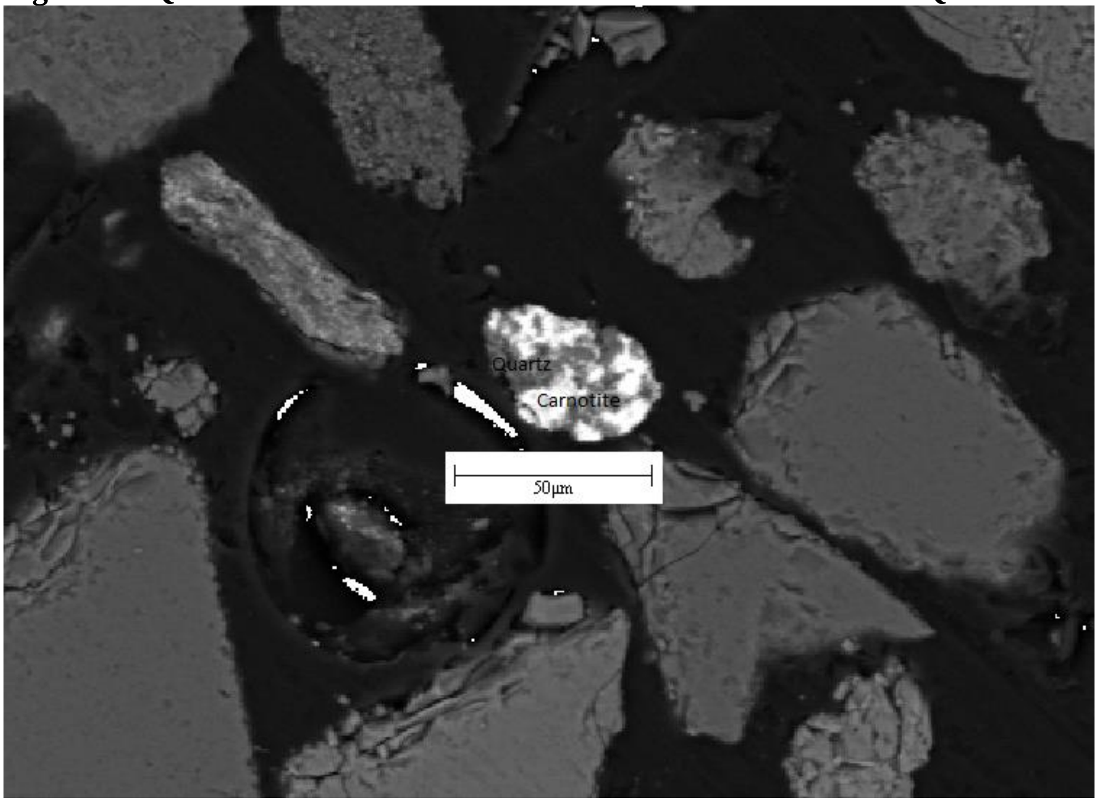


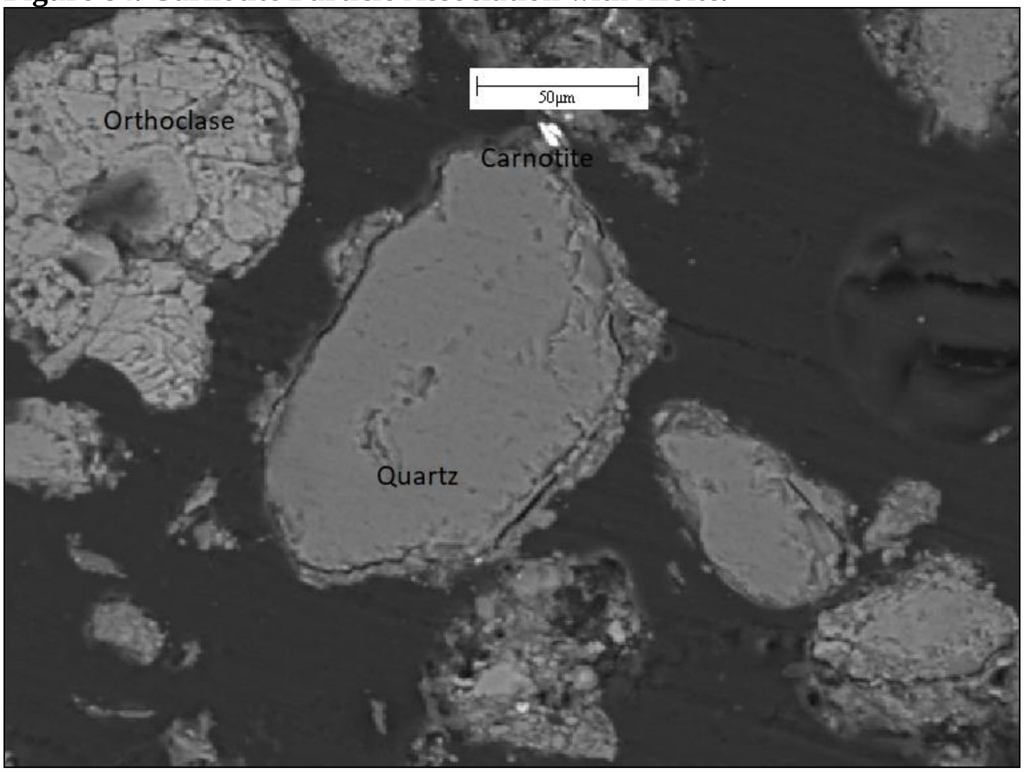
Figure 83. QV-H-4-SY -25/+270 Carnotite Particle Associated with Quartz.



QV-H-8-SY -25/+270

For sample QV-H-8-SY -25/+270, one carnotite particles was identified. Results are shown in figure 84. According to the image, this particle is associated with quartz. This particle is leachable but not flotable.

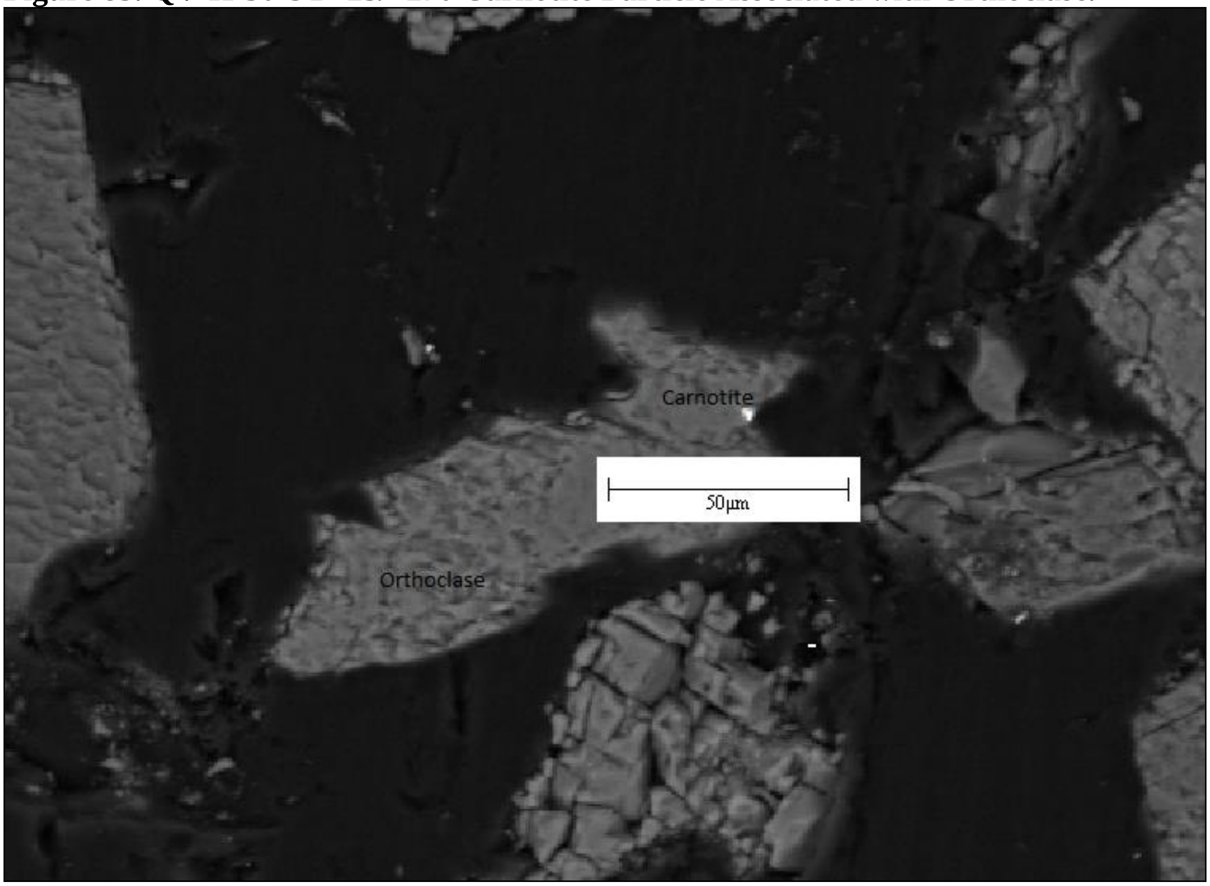
Figure 84. Carnotite Particle Association with Albite.



QV-H-30-SY -25/+270

For QV-H-30-SY -25/+270 sample, one carnotite particle was identified. Results are shown in figure 85. According to the data, the carnotite particles appear to be approximately 5 microns in size with orthoclase encapsulation. This particle is not flotable but is leachable.

Figure 85. QV-H-30-SY -25/+270 Carnotite Particle Associated with Orthoclase.



Tetra Tech Non Conformances Sample Requirements

Some of the items requested for Tetra Tech sample requirement are listed below with explanation based on AMICS software capabilities and include the following:

- **Sample Preparation Logs –** As discussed on Page 8, samples are placed into epoxy, labeled, cured, polished, carbon coated and analyzed on the Scanning Electron Microscope (SEM) with AMICS software. No log is required for each sample. No extraction or leaching took place.

- **Instrument and Analysis Log** – The process for AMICS analysis is shown on Page 8, however the AMICS technology does not record amount of time for each analysis, therefore, no analysis log is available. Secondly, SEM beam time is not recorded during manual search for each sample.

- **Raw Data** – Raw data for modal mineralogy was placed into the tables for all samples. For AMICS data, the sample itself is used to build the library for modal mineralogy. Internal calibration checks are done on copper to verify EDX lines are correct for the analysis. This is done approximately every month with a QC check done on pure copper to verify proper lines as shown on Page 75. For uranium containing minerals, carnotite figure was placed into the report on Page 74. This mineral pattern was used to identify all carnotite minerals.

Field and Laboratory Design Cross Reference Table

CR-L-0-SL-01	BS	380.16 g	Bulk XRD, MLA, Mineral Lineup
CR-M-0-SL-01	BS	333.71 g	Bulk XRD, MLA, Mineral Lineup
CR-H-0-SL-01	BS	448.77 g	Bulk XRD, MLA, Mineral Lineup
QV-L-0-SL-01	BS	321.64 g	Bulk XRD, MLA, Mineral Lineup
QV-M-0-SL-01	BS	367.59 g	Bulk XRD, MLA, Mineral Lineup
QV-H-0-SL-01	BS	380.54 g	Bulk XRD, MLA, Mineral Lineup
CTS-L-0-SL-01	BS	311.80 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-0-SL-01	BS	331.80 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-0-SL-01	BS	362.39 g	Bulk XRD, MLA, Mineral Lineup

* DC: Drill Core, BS: Bulk Solids, S: Slurry

CR-L-4-SY +25/+270	BS	207.65 g	Bulk XRD, MLA, Mineral Lineup
CR-L-8-SY +25/+270	BS	220.75 g	Bulk XRD, MLA, Mineral Lineup
CR-L-30-SY +25/+270	BS	213.73 g	Bulk XRD, MLA, Mineral Lineup
CR-M-[illegible]-SY +25/+270 4	BS	255.64 g	Bulk XRD, MLA, Mineral Lineup
CR-M-[illegible]-SY +25/+270 8	BS	326.94 g	Bulk XRD, MLA, Mineral Lineup
CR-M-30-SY +25/+270	BS	270.24 g	Bulk XRD, MLA, Mineral Lineup
CR-H-4-SY +25/+270	BS	391.55 g	Bulk XRD, MLA, Mineral Lineup
CR-H-8-SY +25/+270	BS	387.45 g	Bulk XRD, MLA, Mineral Lineup
CR-H-30-SY +25/+270	BS	295.77 g	Bulk XRD, MLA, Mineral Lineup
QV-L-4-SY +25/+270	BS	243.92 g	Bulk XRD, MLA, Mineral Lineup
QV-L-8-SY +25/+270	BS	332.96 g	Bulk XRD, MLA, Mineral Lineup
QV-L-30-SY +25/+270	BS	311.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-4-SY +25/+270	BS	377.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-8-SY +25/+270	BS	381.69 g	Bulk XRD, MLA, Mineral Lineup
QV-M-30-SY +25/+270	BS	328.81 g	Bulk XRD, MLA, Mineral Lineup
QV-H-4-SY +25/+270	BS	525.48 g	Bulk XRD, MLA, Mineral Lineup
QV-H-8-SY +25/+270	BS	507.44 g	Bulk XRD, MLA, Mineral Lineup
QV-H-30-SY +25/+270	BS	415.85 g	Bulk XRD, MLA, Mineral Lineup

*: DC: Drill Core, BS: Bulk Solids, S: Slurry

Acronyms

AMICS – Automated Mineralogy Identification and Characterization System

EDX – Energy Dispersive X-Ray Analysis

SEM – Scanning Electron Microscope

QC- Quality Control

Chain of Custody Form

DISA

SAMPLE SUBMISSION

Client-Project #:	2 2013-001
Quote #:	N/A

Company:	Disa Technologies, Inc.	ATTN:	Andrew Halverson
Submitted by:	Andrew Halverson		
Address:	1653 English Ave		
City:	Casper	State:	WY
Zip:	82601		
Phone:	307-871-7291	Email:	a.halverson@disausa.com
Report to:	1. Andrew Halverson	Email:	a.halverson@disausa.com
	2. John Lee		john@disausa.com
Bill to:		or	☒ Same as above
Address:			
City:		State:	
Zip:			
Phone:		Email:	

Testing Priority:	☒ Standard	☐ Rush			
Sample Characteristics:	☒Radioactive	☐High Org. Carbon	☒High Silica	☐Hydrocarbons	☐Other specify:
Storage:	☒ Return	☐ Dispose	☐ Store		
	Return after final reporting				

CHAIN OF CUSTODY

Relinquished by: Print:	Sign:	Date/Time:	Received by: Print:	Sign:	Date/Time:
Andrew Halverson	[signature]	10/10/22, 16:50	Paul Miranda	[signature]	12-15-22
Paul Miranda	[signature]	1-30-23 14:00			

SAMPLE INFORMATION

	Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
1	CR-L-0-SL-01	BS	380.16 g	Bulk XRD, MLA, Mineral Lineup
2	CR-M-0-SL-01	BS	333.71 g	Bulk XRD, MLA, Mineral Lineup
3	CR-H-0-SL-01	BS	448.77 g	Bulk XRD, MLA, Mineral Lineup
4	QV-L-0-SL-01	BS	321.64 g	Bulk XRD, MLA, Mineral Lineup
5	QV-M-0-SL-01	BS	367.59 g	Bulk XRD, MLA, Mineral Lineup
6	QV-H-0-SL-01	BS	380.54 g	Bulk XRD, MLA, Mineral Lineup
7	CTS-L-0-SL-01	BS	311.80 g	Bulk XRD, MLA, Mineral Lineup
8	CTS-M-0-SL-01	BS	331.80 g	Bulk XRD, MLA, Mineral Lineup
9	CTS-H-0-SL-01	BS	362.39 g	Bulk XRD, MLA, Mineral Lineup

*: **DC:** Drill Core, **BS:** Bulk Solids, **S:** Slurry

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
CR-L-4-SY +25/+270	BS	207.65 g	Bulk XRD, MLA, Mineral Lineup
CR-L-8-SY +25/+270	BS	220.75 g	Bulk XRD, MLA, Mineral Lineup
CR-L-30-SY +25/+270	BS	213.73 g	Bulk XRD, MLA, Mineral Lineup
CR-M-~~[illegible]~~-SY +25/+270 4	BS	255.64 g	Bulk XRD, MLA, Mineral Lineup
CR-M-~~[illegible]~~-SY +25/+270 8	BS	326.94 g	Bulk XRD, MLA, Mineral Lineup
CR-M-30-SY +25/+270	BS	270.24 g	Bulk XRD, MLA, Mineral Lineup
CR-H-4-SY +25/+270	BS	391.55 g	Bulk XRD, MLA, Mineral Lineup
CR-H-8-SY +25/+270	BS	387.45 g	Bulk XRD, MLA, Mineral Lineup
CR-H-30-SY +25/+270	BS	295.77 g	Bulk XRD, MLA, Mineral Lineup
QV-L-4-SY +25/+270	BS	243.92 g	Bulk XRD, MLA, Mineral Lineup
QV-L-8-SY +25/+270	BS	332.96 g	Bulk XRD, MLA, Mineral Lineup
QV-L-30-SY +25/+270	BS	311.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-4-SY +25/+270	BS	377.81 g	Bulk XRD, MLA, Mineral Lineup
QV-M-8-SY +25/+270	BS	381.69 g	Bulk XRD, MLA, Mineral Lineup
QV-M-30-SY +25/+270	BS	326.81 g	Bulk XRD, MLA, Mineral Lineup
QV-H-4-SY +25/+270	BS	525.48 g	Bulk XRD, MLA, Mineral Lineup
QV-H-8-SY +25/+270	BS	507.44 g	Bulk XRD, MLA, Mineral Lineup
QV-H-30-SY +25/+270	BS	415.85 g	Bulk XRD, MLA, Mineral Lineup

*: **DC:** Drill Core. **BS:** Bulk Solids, **S:** Slurry

Instument and Analysis Logs

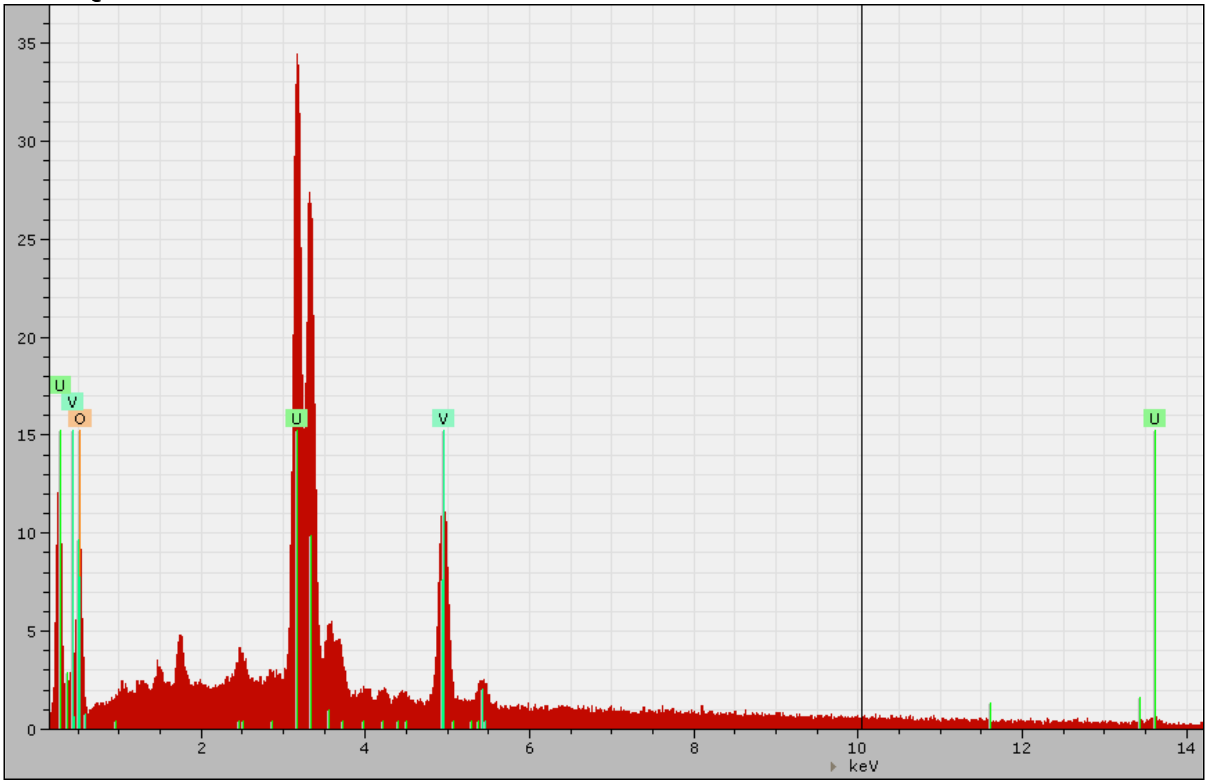
For each sample analyzed, three types of analyis was performed. Initialy, for modal mineralogy, AMICS analysis was performed after builing mineral library from a sample itself. Each modal analysis took approximately 90 minutes to determine overall mineralogy. Once initial modal mineralogy was completed. Further unknowns were added to the library until all unknown minerals are identified. The sample is reprocessed to determine final overall mineralogy.

Further analysis was completed to determine uranium containing minerals. This included performing a brightness search for higher Z (average atomic number) containing minerals. Silicate and some sulfide minerals were ignored for EDX analysis based on lower gray scale or Z number from backscatter imaging. Brightness search were conducted for 3 hours to determine any potential uranium bearing minerals. If uranium was identified, AMICS software allows scanning electron microscope stage to be driven back to the mineral of interest (carnotite) for further images placed into the report.

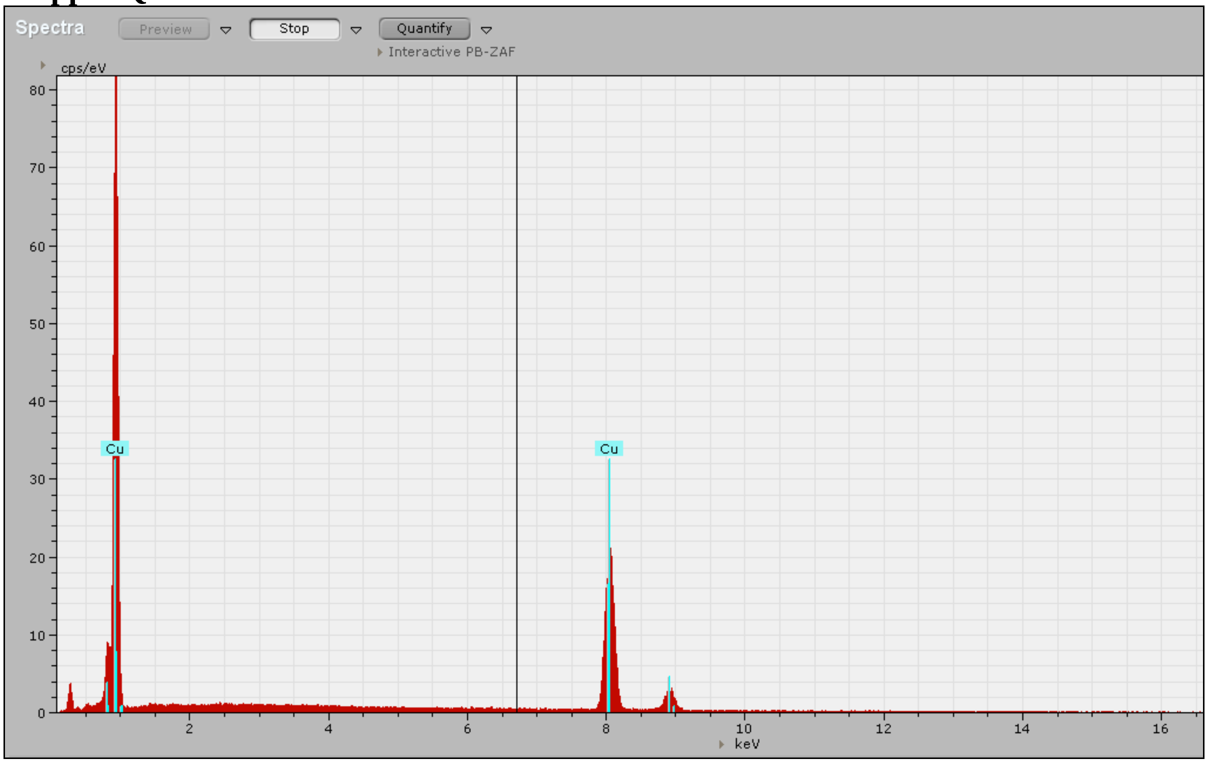
Lastly, a manual search was conducted near the edges of each epoxy mount to determine if any uranium containing minerals were identifed. If any were found, EDX was performed to identify uranium bearing minerals and backscatter images were taken and placed into the report. The manual search took approximately 45 minutes per mounted sample.

Overall, over 4 hours of scanning electron beam time was used to process each sample.

Data Qualifier-Carnotite EDX Pattern.

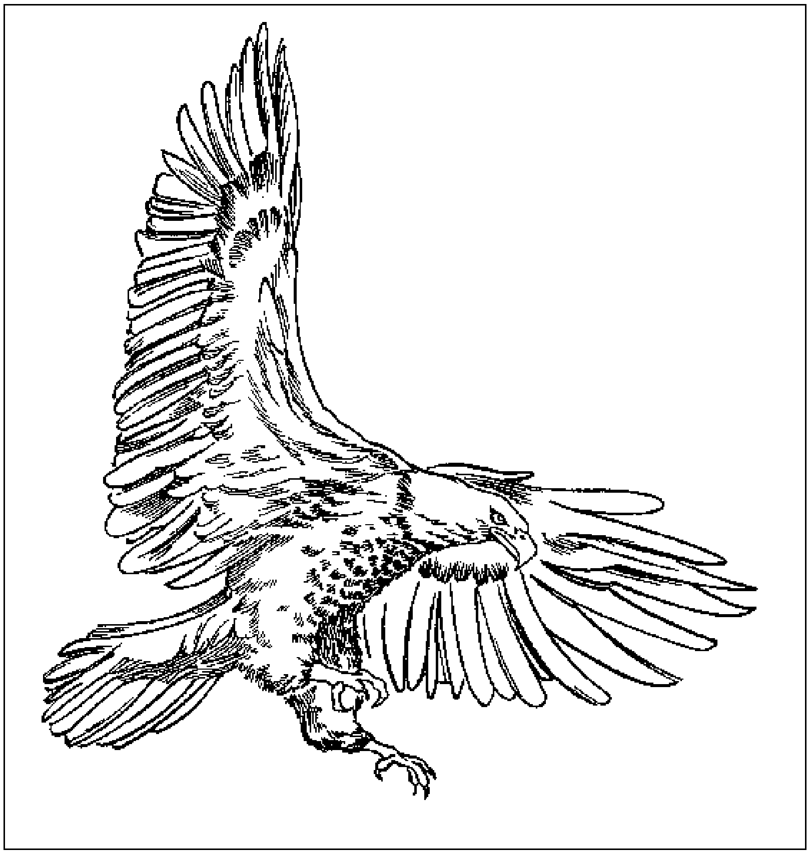


Copper QC EDX Pattern



AMICS ANALYSIS

DISAUSA



Eagle Engineering

February 5, 2023

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AMICS ANALYSIS

Prepared for: Andrew Halverson, Process Engineer, DISAUSA

Project: EPA 2 Samples

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By

Paul Miranda, PhD
Chief Metallurgist/Mineralogist
E-mail: eaglemt711@gmail.com

February 5, 2023

EXECUTIVE SUMMARY

Nine (9) samples, CTS-L, CTS-M, and CTS-H, were received for AMICS analysis. The scope of work was to determine overall mineralogy for received samples. A brightness search was also conducted to determine uranium containing minerals. Backscatter images of uranium minerals were observed for size and mineral association.

Modal mineralogy was performed and according to the data, two major silicate phases, orthoclase and quartz, were identified. Minor phases include albite, calcite, clinochlore, dolomite, and oligoclase.

A brightness search was used to identify uranium containing minerals. Carnotite was identified in several samples.

For samples CTS-L, multiple pucks were analyzed with no identification of carnotite or other uranium containing minerals.

For CTS-M samples, carnotite was leachable in the CTS-M-4 samples with quartz association. Two particles indicated carnotite encapsulated by quartz. Uranium particles are approximately 5 to 10 microns in size.

For CTS-H samples, all identified carnotite particles were liberated at approximately 20 to 50 microns in size. These particles are both leachable and flotable.

Paul Miranda, Ph. D
February 5, 2023

Qualifying Statement

This confidential report was prepared for DisaUSA and is based on information available at the time of the report preparation. It is believed the information, estimates, conclusions and recommendations contained herein are reliable under the conditions and subject to the qualifications set forth herein. The information, estimates, conclusions and recommendations herein are based on our experience and data supplied by others, but the actual result of the work is dependent, in part, on factors over which we have no control. This report is intended to be used exclusively by DisaUSA. We disclaim any assumption of responsibility for any reliance on this report by any person other than DisaUSA, or for any purpose other than that for which it was prepared. We disclaim all liability to any other party for all costs, losses, damages, and liabilities that the other party might suffer or incur arising from or relating to the contents of this report, the provision of this report to the other party, or the reliance on this report by the other party.

Scope of Work

Nine (9) samples, CTS-L, CTS-M, and CTS-H, were received for AMICS analysis. The scope of work was to determine overall mineralogy for received samples. A brightness search was also conducted to determine uranium containing minerals. Backscatter images of uranium minerals were observed for size and mineral association.

Experimental Work and Results

From received samples, approximately 2 grams were split out using small splitters to produce the sample. The sample was placed into an epoxy cup, labeled, and epoxy was placed onto the ore sample. Next, the sample was placed into a vacuum chamber and vacuumed for approximately 2 minutes in order to remove any residual bubbles entrained within the sample.

The samples were allowed to dry overnight for epoxy curing. Samples were then polished on an automated polisher and allowed to dry. Lastly, the samples were carbon coated for backscatter imaging and AMICS analysis.

During AMICS analysis, a library was produced using energy dispersive x-ray (EDX) of minerals of the sample. From the library, only one uranium containing mineral, carnotite, was identified.

Secondly, a brightness search was used to determine uranium containing minerals.

Modal Mineralogy

Modal mineralogy was performed and according to the data, two major silicate phases, orthoclase and quartz, were identified. Minor phases include albite, calcite, clinochlore, dolomite, and oligoclase. Results are shown in tables 1 through 3.

Table 1. Modal Mineralogy for CTS-L Samples.

Mineral	Chemistry	CTS-L-4-SY	CTS-L-8-SY	CTS-L-30-SY
Albite	$NaAlSi_3O_8$	7.74	8.07	7.69
Apatite	$Ca_5(PO_4)_3(OH)$	0.05	0.01	0.01
Barite	$BaSO_4$	0.00	0.01	0.00
Biotite	$K(Mg,Fe,Al)_3Si_3O_{10}(OH)_2$	0.04	0.08	0.04
Calcite	$CaCO_3$	1.39	1.21	1.68
Carnotite	$K(UO_2)_2(VO_4)_2$	< 0.01	< 0.01	< 0.01
Clinochlore	$(Mg,Fe,Al)_5Si_3O_{10}(OH)_8$	1.53	1.43	0.88
Diopside	$CaMgSi_2O_6$	0.16	0.25	0.01
Dolomite	$Ca,Mg(CO_3)_2$	1.33	0.72	0.83
Ilmenite	$FeTiO_3$	0.12	0.27	0.36
Iron Oxides	Fe_xO_y	0.18	0.17	0.32
Oligoclase	$(Na,Ca)AlSi_3O_8$	0.70	1.45	1.13
Orthoclase	$KAlSi_3O_8$	22.34	23.99	23.60
Quartz	SiO_2	63.59	61.70	63.02
Wollastonite	$CaSiO_3$	0.83	0.52	0.43
Zircon	$ZrSiO_4$	0.00	0.12	0.00

Table 2. Modal Mineralogy for CTS-M Samples.

Mineral	Chemistry	CTS-M-4-SY	CTS-M-8-SY	CTS-M-30-SY
Albite	$NaAlSi_3O_8$	8.89	8.11	7.18
Apatite	$Ca_5(PO_4)_3(OH)$	0.00	0.03	0.05
Barite	$BaSO_4$	0.00	0.00	0.00
Biotite	$K(Mg,Fe,Al)_3Si_3O_{10}(OH)_2$	0.09	0.08	0.04
Calcite	$CaCO_3$	2.47	2.28	1.99
Carnotite	$K(UO_2)_2(VO_4)_2$	< 0.01	< 0.01	< 0.01
Clinochlore	$(Mg,Fe,Al)_5Si_3O_{10}(OH)_8$	2.08	1.51	1.13
Diopside	$CaMgSi_2O_6$	0.17	0.26	0.06
Dolomite	$Ca,Mg(CO_3)_2$	1.76	1.35	1.00
Ilmenite	$FeTiO_3$	0.00	0.03	0.08
Iron Oxides	Fe_xO_y	0.87	1.42	0.07
Oligoclase	$(Na,Ca)AlSi_3O_8$	1.50	1.97	0.79
Orthoclase	$KAlSi_3O_8$	21.26	24.44	18.36
Quartz	SiO_2	60.34	57.99	69.05
Wollastonite	$CaSiO_3$	0.57	0.53	0.15
Zircon	$ZrSiO_4$	0.00	0.00	0.05

Table 3. Modal Mineralogy for CTS-H Samples.

Mineral	Chemistry	CTS-H-4-SY	CTS-H-8-SY	CTS-H-30-SY
Albite	$NaAlSi_3O_8$	7.46	10.66	10.92
Apatite	$Ca_5(PO_4)_3(OH)$	0.02	0.02	0.02
Barite	$BaSO_4$	0.00	0.00	0.00
Biotite	$K(Mg,Fe,Al)_3Si_3O_{10}(OH)_2$	0.04	0.09	0.07
Calcite	$CaCO_3$	1.17	2.12	2.01
Carnotite	$K(UO_2)_2(VO_4)_2$	< 0.01	< 0.01	< 0.01
Clinochlore	$(Mg,Fe,Al)_5Si_3O_{10}(OH)_8$	1.52	2.42	1.55
Diopside	$CaMgSi_2O_6$	0.57	0.01	0.06
Dolomite	$Ca,Mg(CO_3)_2$	0.57	1.13	0.89
Ilmenite	$FeTiO_3$	0.01	0.14	0.06
Iron Oxides	Fe_xO_y	0.33	0.23	0.30
Oligoclase	$(Na,Ca)AlSi_3O_8$	1.19	2.16	1.56
Orthoclase	$KAlSi_3O_8$	20.16	19.54	14.45
Quartz	SiO_2	66.48	60.95	67.44
Wollastonite	$CaSiO_3$	0.47	0.34	0.42
Zircon	$ZrSiO_4$	0.01	0.19	0.25

Backscatter Images

A brightness search was used to identify uranium containing minerals. Carnotite was identified in several samples.

For samples CTS-L, multiple pucks were analyzed with no identification of carnotite or other uranium containing minerals.

For CTS-M samples (figures 1 through 3), carnotite was leachable in the CTS-M-4 samples with quartz association. Two particles (figures 4 and 5) indicated carnotite encapsulated by quartz. Uranium particles are approximately 5 to 10 microns in size.

For CTS-H samples (figures 6 through 8), all identified carnotite particles were liberated at approximately 20 to 50 microns in size. These particles are both leachable and flotable.

Figure 1. CTS M-4-SY Carnotite Particle Associated with Quartz.

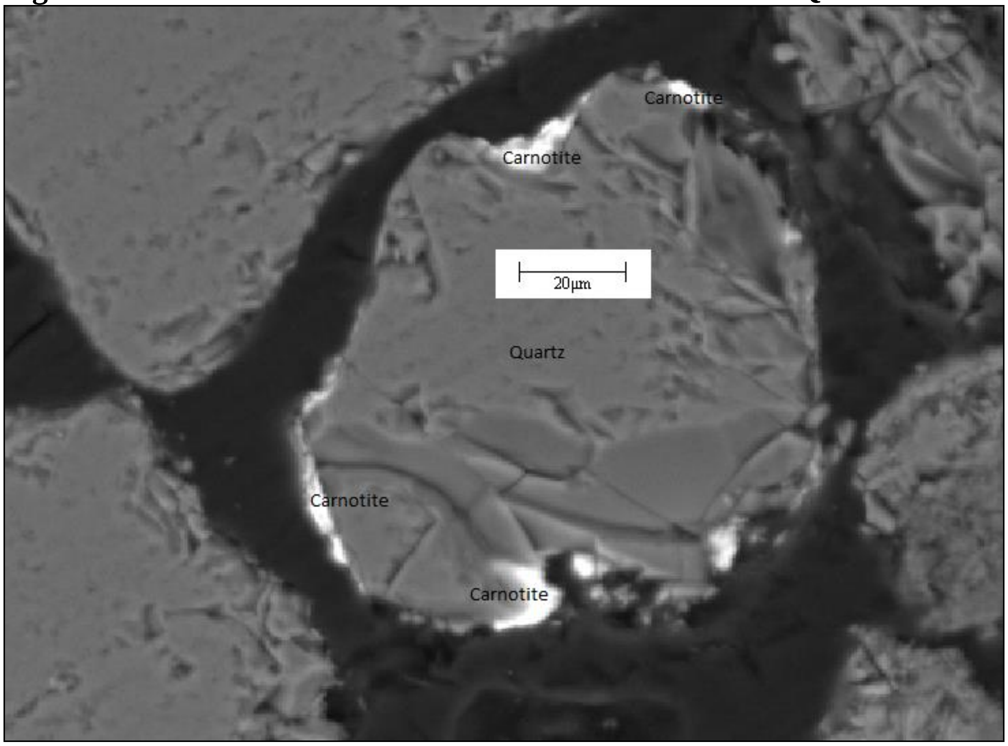

Figure 2. CTS M-4-SY Carnotite Particle Associated with Quartz.

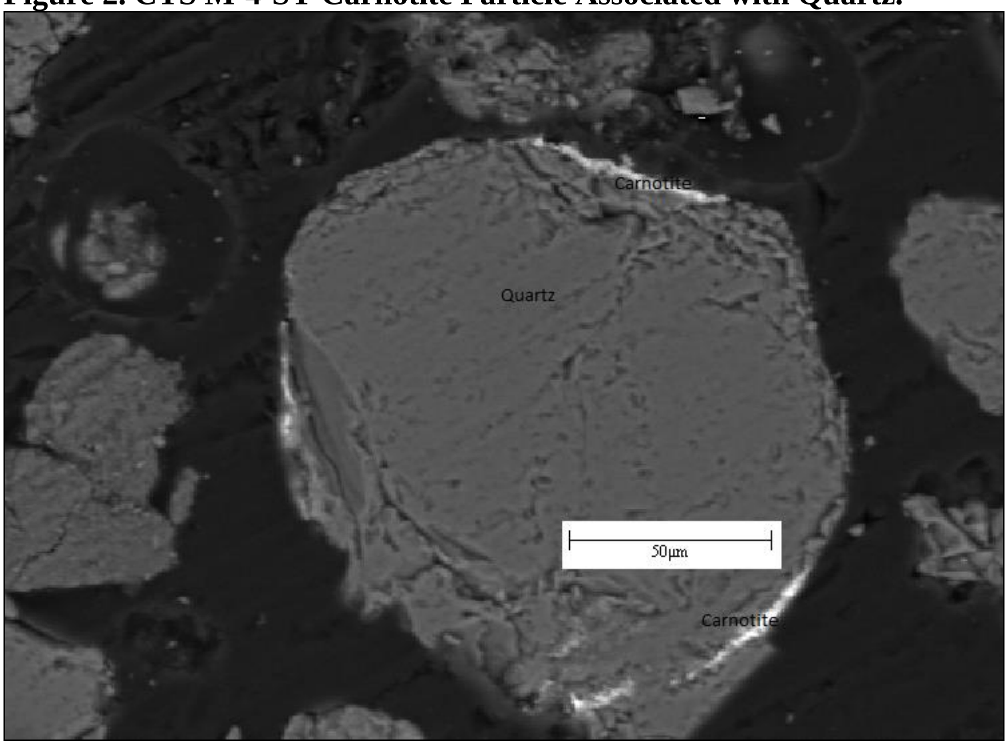

Figure 3. CTS M-4-SY Carnotite Particle Associated with Quartz.

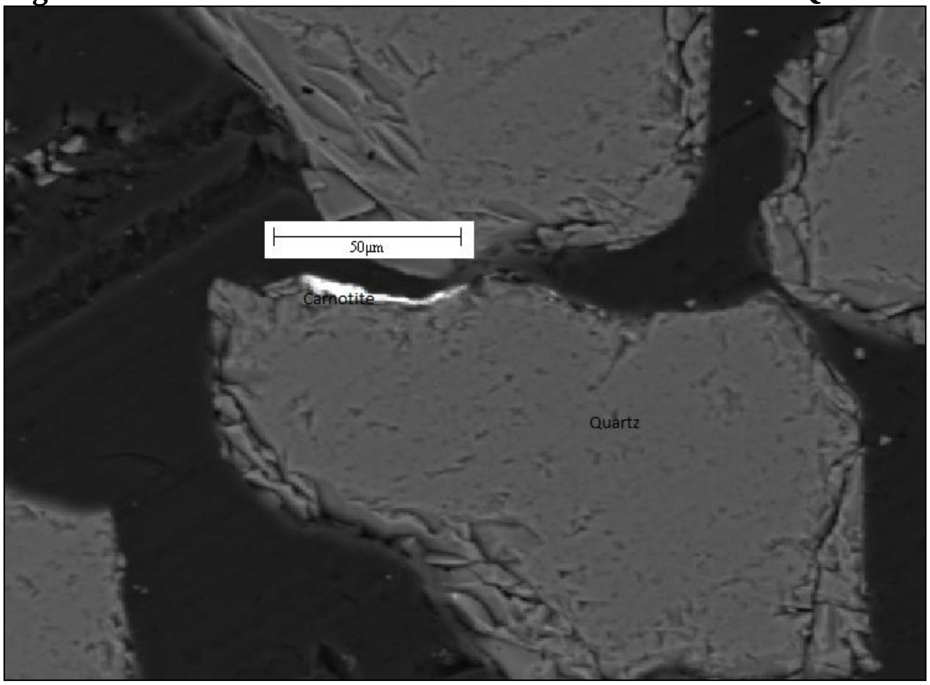

Figure 4. CTS M-8-SY Carnotite Encapsulated with Quartz.

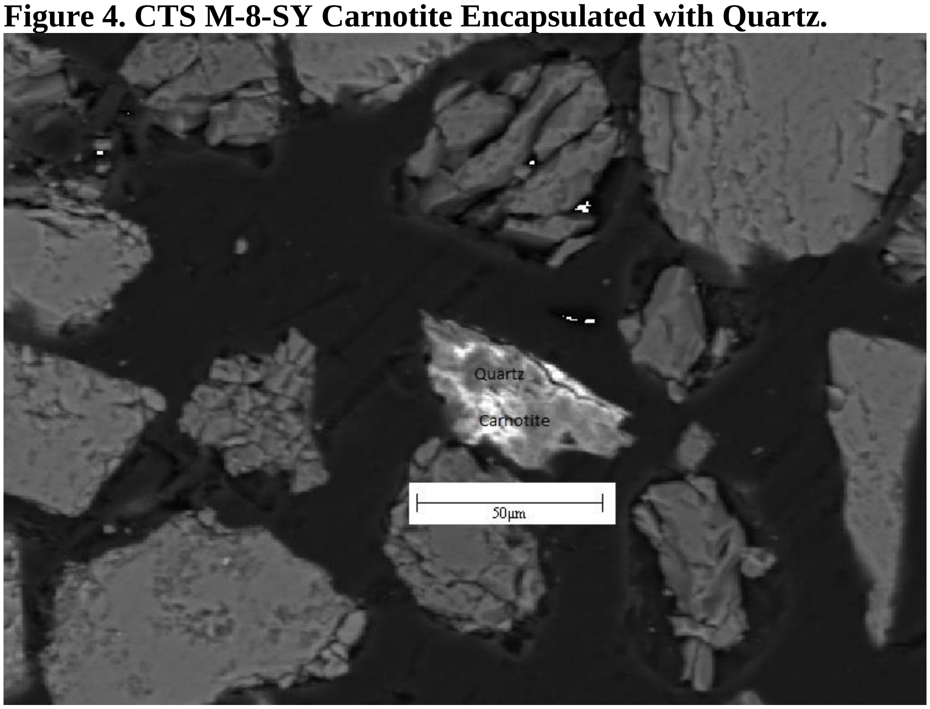

Figure 5. CTS M-30-SY Carnotite Encapsulated with Quartz.

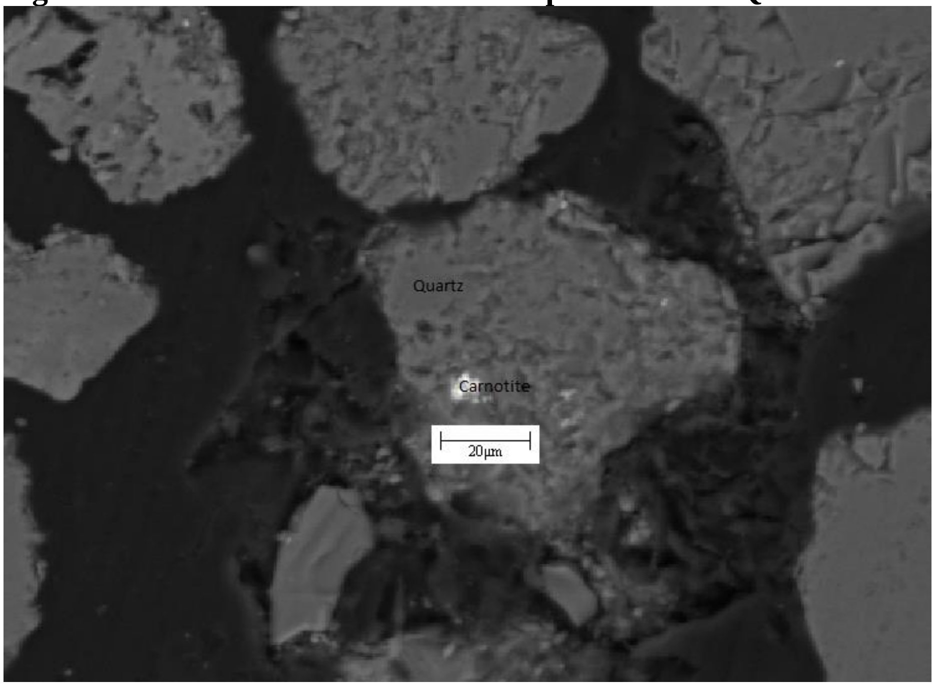

Figure 6. CTS H-4-SY Free Carnotite Particle.

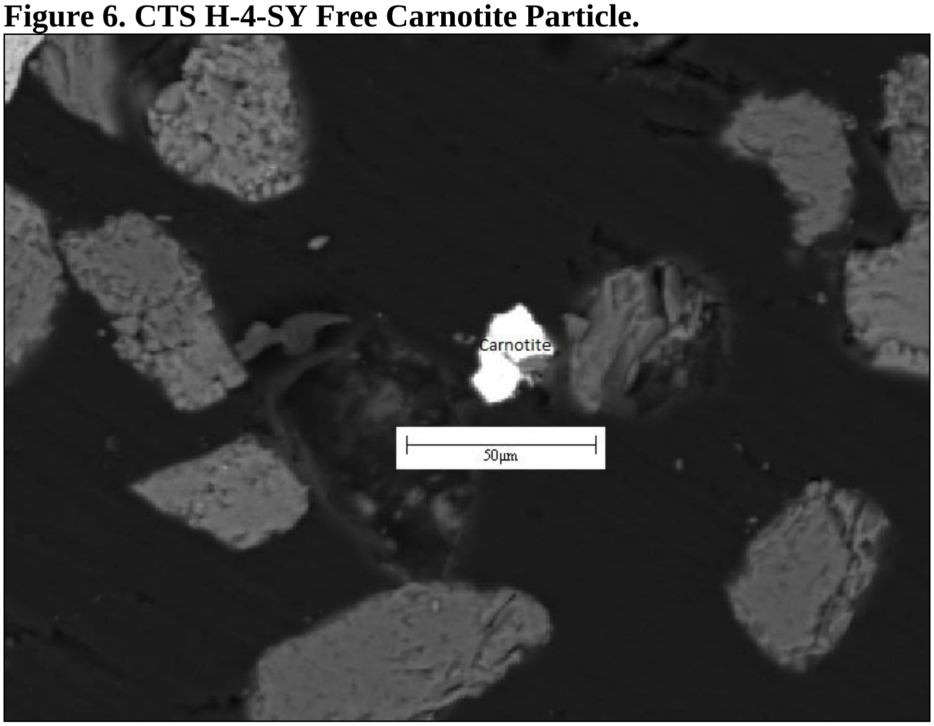

Figure 7. CTS H-8-SY Free Carnotite Particle.

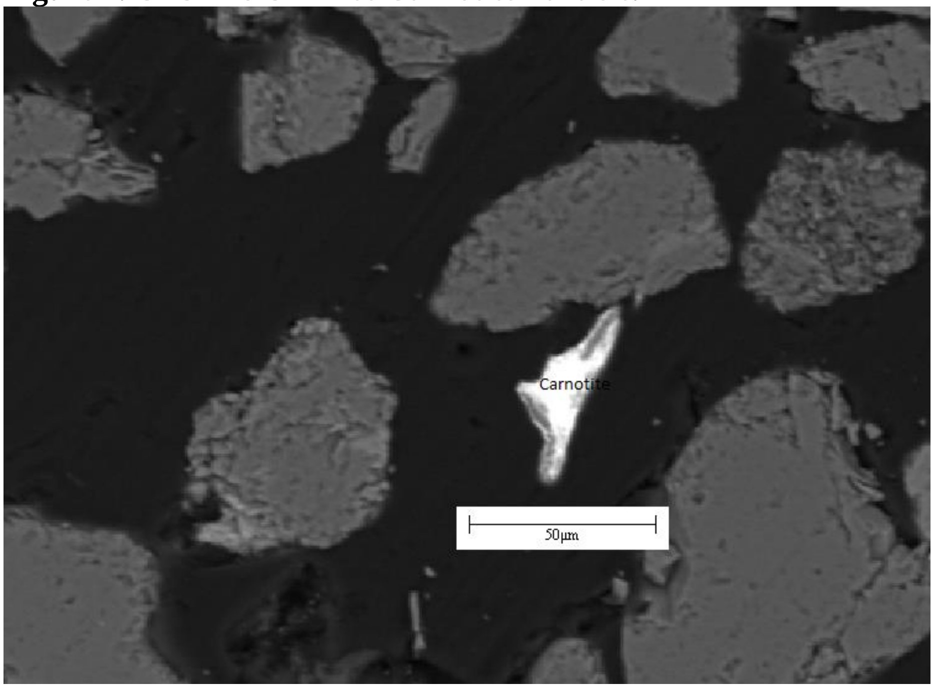

Figure 8. CTS M-30-SY Free Carnotite Particle.

Tetra Tech Non Conformances Sample Requirements

Some of the items requested for Tetra Tech sample requirement are listed below with explanation based on AMICS software capabilities and include the following:

- **Sample Preparation Logs –** As discussed on Page 8, samples are placed into epoxy, labeled, cured, polished, carbon coated and analyzed on the Scanning Electron Microscope (SEM) with AMICS software. No log is required for each sample. No extraction or leaching took place.

- **Instrument and Analysis Log** – The process for AMICS analysis is shown on Page 8, however the AMICS technology does not record amount of time for each analysis, therefore, no analysis log is available. Secondly, SEM beam time is not recorded during manual search for each sample.

- **Raw Data** – Raw data for modal mineralogy was placed into the tables for all samples. For AMICS data, the sample itself is used to build the library for modal mineralogy. Internal calibration checks are done on copper to verify EDX lines are correct for the analysis. This is done approximately every month with a QC check done on pure copper to verify proper lines as shown on Page 75. For uranium containing minerals, carnotite figure was placed into the report on Page 74. This mineral pattern was used to identify all carnotite minerals.

Field and Laboratory Design Cross Reference Table

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
CTS-L-4-SY +25/+270	BS	182.99 g	Bulk XRD, MLA, Mineral Lineup
CTS-L-8-SY +25/+270	BS	149.44 g	Bulk XRD, MLA, Mineral Lineup
CTS-L-30-SY +25/+270	BS	127.40 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-4-SY +25/+270	BS	155.40 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-8-SY +25/+270	BS	148.14 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-30-SY +25/+270	BS	141.75 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-4-SY +25/+270	BS	157.17 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-8-SY +25/+270	BS	171.38 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-30-SY +25/+270	BS	181.74 g	Bulk XRD, MLA, Mineral Lineup

*: DC: Drill Core, BS: Bulk Solids, S: Slurry

Acronyms

AMICS – Automated Mineralogy Identification and Characterization System

EDX – Energy Dispersive X-Ray Analysis

SEM – Scanning Electron Microscope

QC- Quality Control

Chain of Custody Form

DISA

SAMPLE SUBMISSION

Client-Project #:	22012-001
Quote #:	N/A

ATTN: Andrew Halverson

Company: Disa Technologies, Inc.
Submitted by: Andrew Halverson
Address: 1653 English Ave
City: Casper
State: WY
Zip: 82601
Phone: 307-671-7291
Email: a.halverson@disausa.com

Report to:
1. Andrew Halverson — Email: a.halverson@disausa.com
2. John Lee — john@disausa.com

Bill to: or ☒ Same as above
Address:
City:
State:
Zip:
Phone:
Email:

Testing Priority	☒ Standard	☐ Rush			
Sample Characteristics	☒Radioactive	☐High Org. Carbon	☒High Silica	☐Hydrocarbons	☐Other specify:
Storage	☒ Return	☐ Dispose	☐ Store		

CHAIN OF CUSTODY

Relinquished by: Print:	Sign:	Date/Time:	Received by: Print:	Sign:	Date/Time:
Andrew Halverson	[signature]	10/24/23 16:40	Pal Mirandi	[signature]	10-29-23
Pal Mirmand	[signature]	2-9-23 15:00			

SAMPLE INFORMATION

Sample ID:	Sample Type*:	Weight/Core Length:	Testing/Analyses Requested:
CTS-L-4-SY +25/+270	BS	182.99 g	Bulk XRD, MLA, Mineral Lineup
CTS-L-8-SY +25/+270	BS	149.44 g	Bulk XRD, MLA, Mineral Lineup
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CTS-M-4-SY +25/+270	BS	155.40 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-8-SY +25/+270	BS	148.14 g	Bulk XRD, MLA, Mineral Lineup
CTS-M-30-SY +25/+270	BS	141.75 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-4-SY +25/+270	BS	157.17 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-8-SY +25/+270	BS	171.38 g	Bulk XRD, MLA, Mineral Lineup
CTS-H-30-SY +25/+270	BS	161.74 g	Bulk XRD, MLA, Mineral Lineup

*: DC: Drill Core, BS: Bulk Solids, S: Slurry

Instument and Analysis Logs

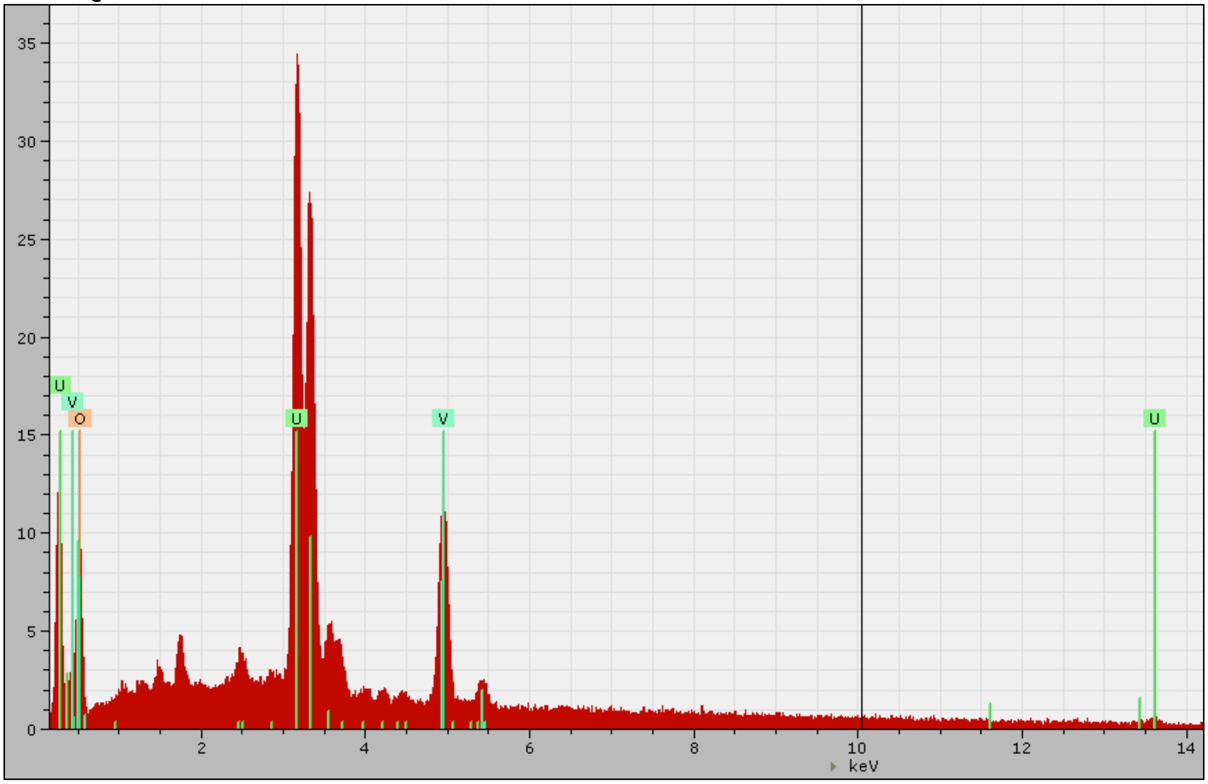
For each sample analyzed, three types of analyis was performed. Initialy, for modal mineralogy, AMICS analysis was performed after builing mineral library from a sample itself. Each modal analysis took approximately 90 minutes to determine overall mineralogy. Once initial modal mineralogy was completed. Further unknowns were added to the library until all unknown minerals are identified. The sample is reprocessed to determine final overall mineralogy.

Further analysis was completed to determine uranium containing minerals. This included performing a brightness search for higher Z (average atomic number) containing minerals. Silicate and some sulfide minerals were ignored for EDX analysis based on lower gray scale or Z number from backscatter imaging. Brightness search were conducted for 3 hours to determine any potential uranium bearing minerals. If uranium was identified, AMICS software allows scanning electron microscope stage to be driven back to the mineral of interest (carnotite) for further images placed into the report.

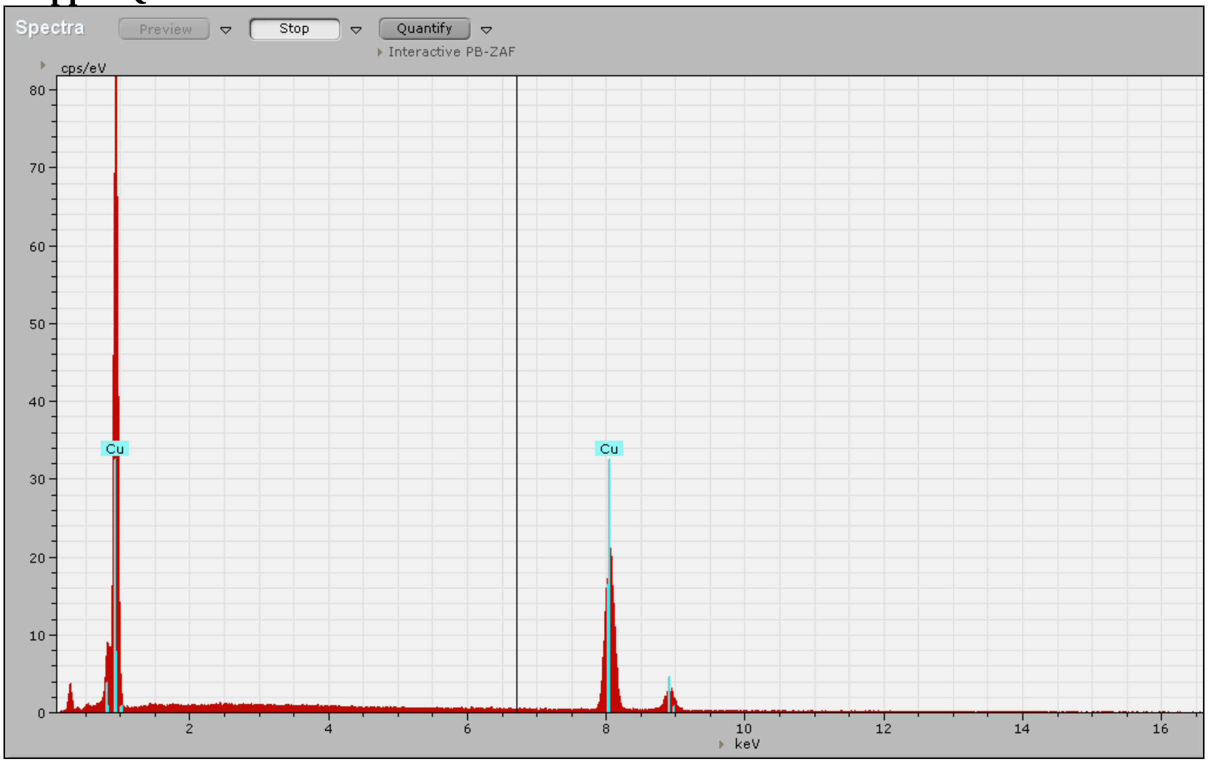
Lastly, a manaul search was conducted near the edges of each epoxy mount to determine if any uranium containing minerals were identifed. If any were found, EDX was performed to identify uranium bearing minerals and backscatter images were taken and placed into the report. The manual search took approximately 45 minutes per mounted sample.

Overall, over 4 hours of scanning electron beam time was used to process each sample.

Data Qualifier-Carnotite EDX Pattern.



Copper QC EDX Pattern



ADDENDUM
Explanation of AMICS Analysis

Automated mineralogy identification and characterization systems (AMICS) utilizes Scanning Electron Microscopy (SEM) backscatter images along with Energy Dispersive X-Rays (EDAX or EDX) to determine overall mineralogy for various samples. There are several techniques for AMICS to identify minerals, however, only two of the method types are generally used for most samples, overall modal determination and brightness searches.

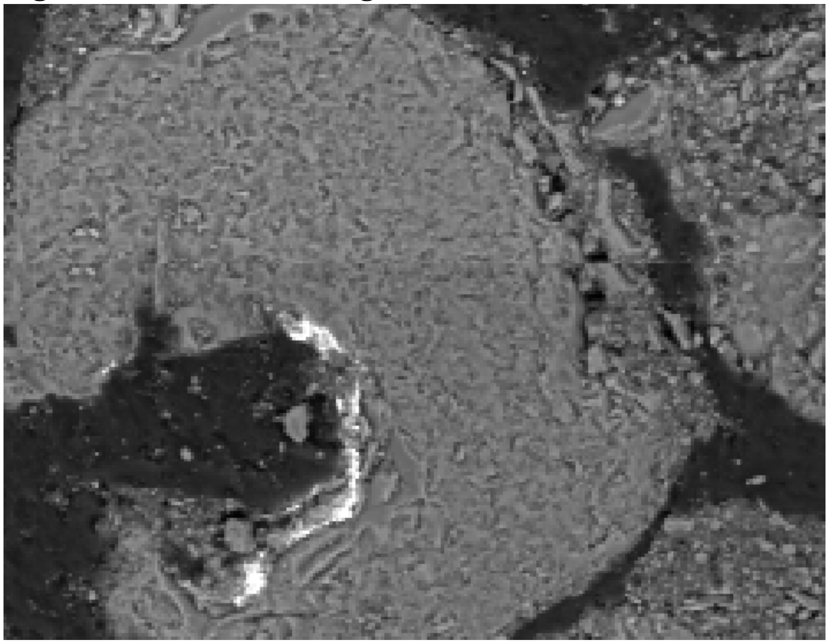
Overall modal determination is used to identify all minerals with an atomic number (Z) of the unknown minerals greater than carbon which is used to prepare mounted particles required for backscatter imaging. The technique takes an initial backscatter image of the sample. The background is removed from the image. Multiple x-rays (EDX) are collected and compared to a known library within the software for identification. This procedure is done over multiple images for at least an hour of SEM beam time. Usually, 25 frames or more used based on the particle size within the samples.

For brightness searches, the same technique utilizes backscatter images, however, the background brightness is increased to a point above common minerals such as quartz and pyrite which helps identify higher Z numbers by using less time on these common minerals. Secondly, using brightness searches, a higher magnification is also used to determine higher Z minerals which helps identify minerals that are approximately 1 microns and larger. An example of AMICS brightness search is listed below. This technique allows for large amounts of frames to be analyzed (up to 400 frames). This analytical technique takes approximately 3.5 to 4 hours of SEM beam time.

X-Ray Diffraction (XRD) is a different technique used to identify minerals compared to AMICS analytical techniques. XRD uses an x-ray source to determine minerals by focusing a movable sample from 15 to 80 degrees 2 theta which generates peaks and compares them to a known library. This technique is used for bulk mineralogy and has a limit of detection of 1% to 5%. For AMICS analysis, the limit of detection is 0.01% for all samples.

Initially, a backscatter image is taken. (Figure 1)

Figure 1. Backscatter Image.



Secondly, since the background was set at a higher brightness, these particles are removed for X-Ray analysis (Figure 2). These particles are then identified using a known library to determine final analysis (Figure 3). In this case, carnotite particles were identified.

Figure 2. Backscatter Background Removal.

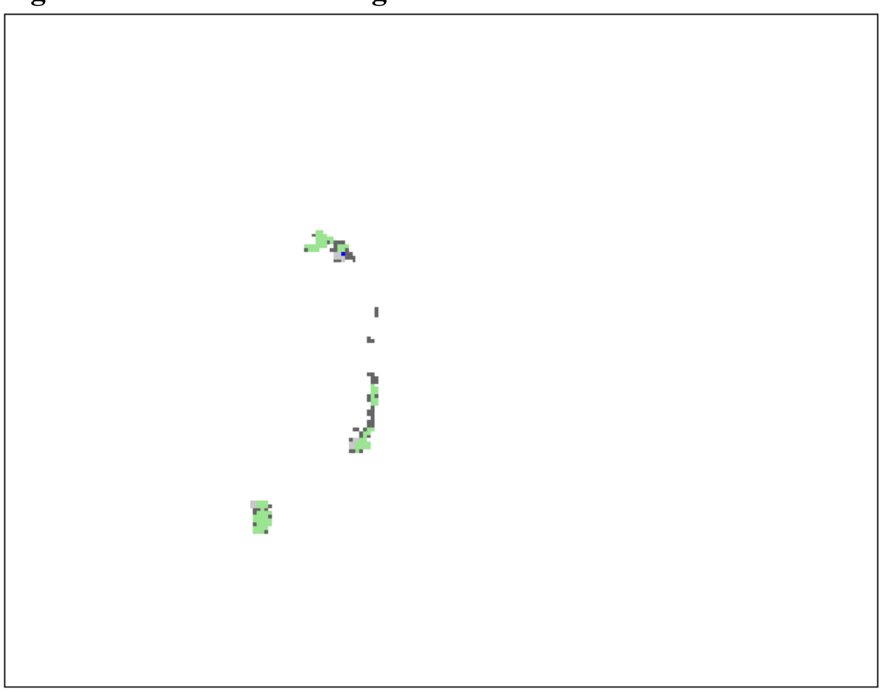
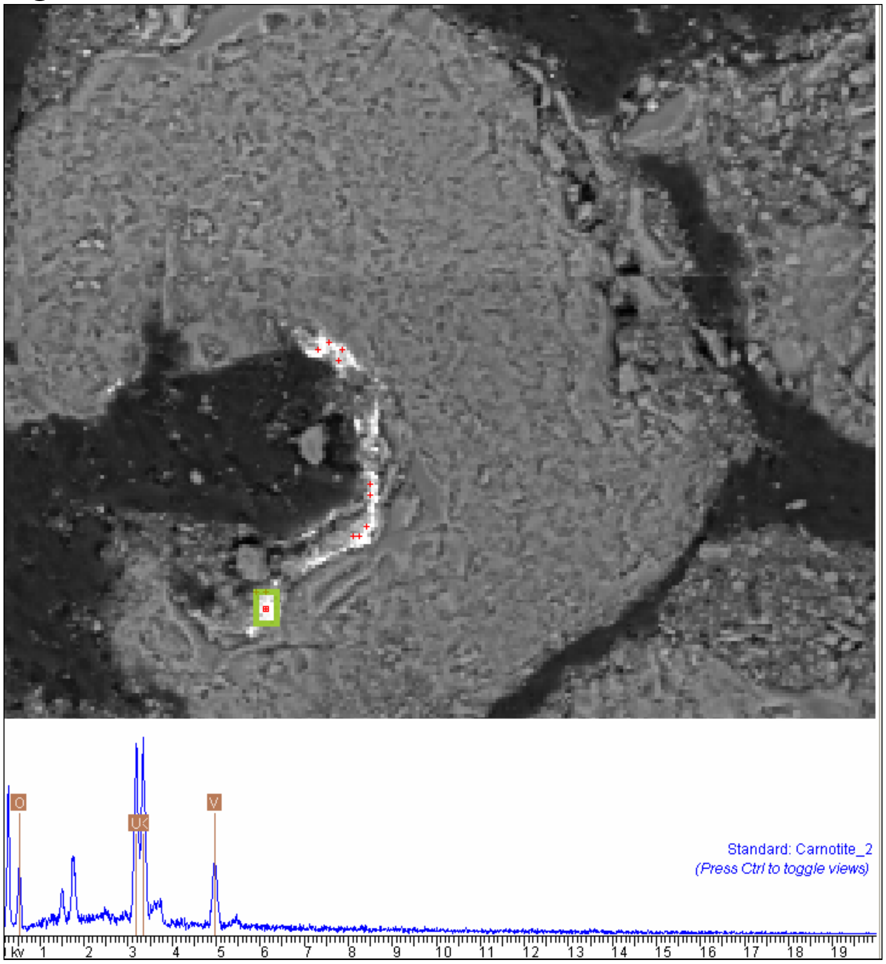


Figure 3. Carnotite Identified Particles.



Carnotite Verification

For mineral identification, AMICS uses the sample itself compared to other mineralogical software packages such as QEMSCAN or TEMA. These technologies solely rely on the library to determine minerals. For pure phases, the library is adequate for mineral identification, however, if mixed mineral phases or spectrums are collected, the software can struggle to identify the minerals.

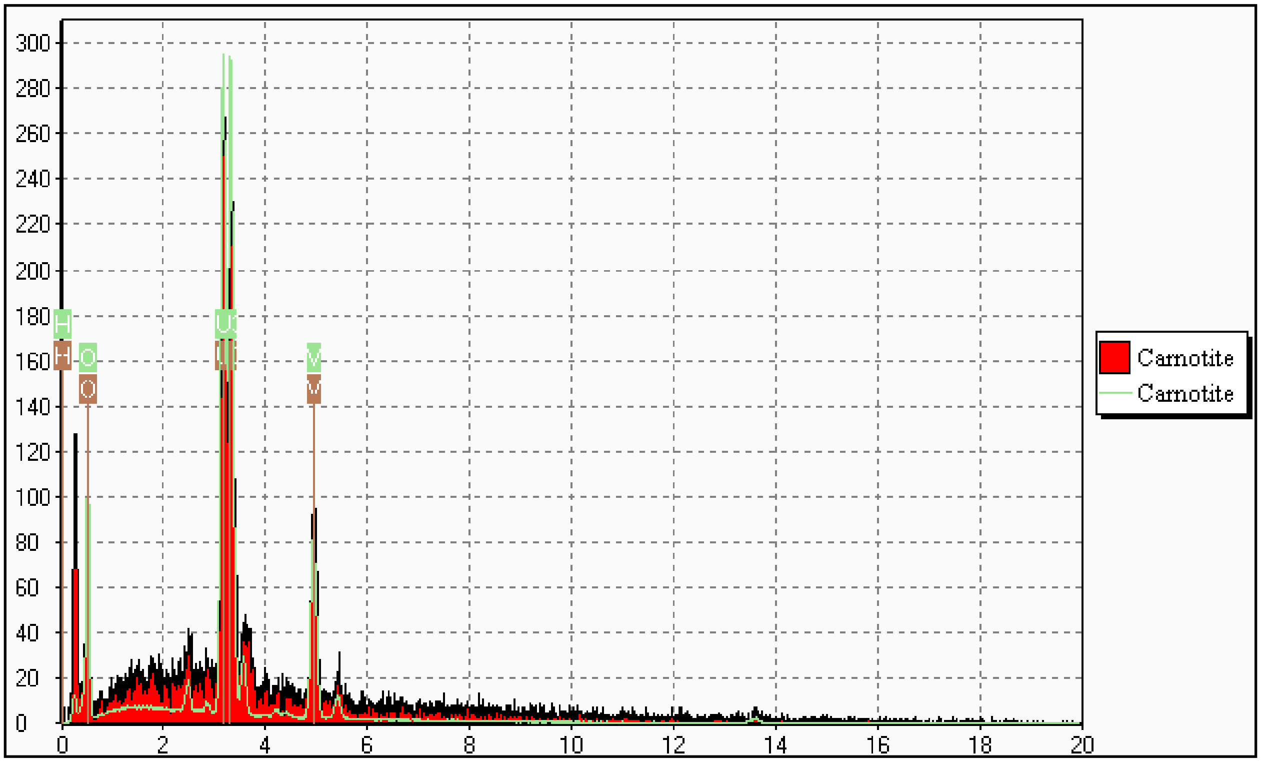
AMICS similar to the older software package called |Minerals Liberations Analysis (MLA). As previously stated, it uses the sample itself to collect x-rays for mineral identification, however, AMICS does contain for a known library for comparison and verification of the minerals. This technique is done several times until all minerals are identified within the sample.

For carnotite verification, figure 4 indicates the AMICS carnotite library x-ray.

Figure 4. AMICS Carnotite Library Image.

From collected carnotite x-rays, comparison to library AMICS carnotite indicates excellent correlation and verification of the vanadium uranium mineral. In this case, the red x-rays are the collected x-rays of the sample as compared to the green pattern of the AMICS library. Results are shown in figure 5.

Figure 5. Identified Carnotite Particles.



This technique is also used for other minerals which have a high z number and are very bright using backscatter techniques. Minerals such as galena and gold are easily identified based on this technique. Since both galena and gold are very bright, it impossible to identify based on brightness alone. However, the bright particles x-rays collected and compared to the known library for easy identification of both minerals. An example of both galena and gold particles along with identified x-rays are shown in figures 6 and 7.

Figure 6. Identified Galena Particle.

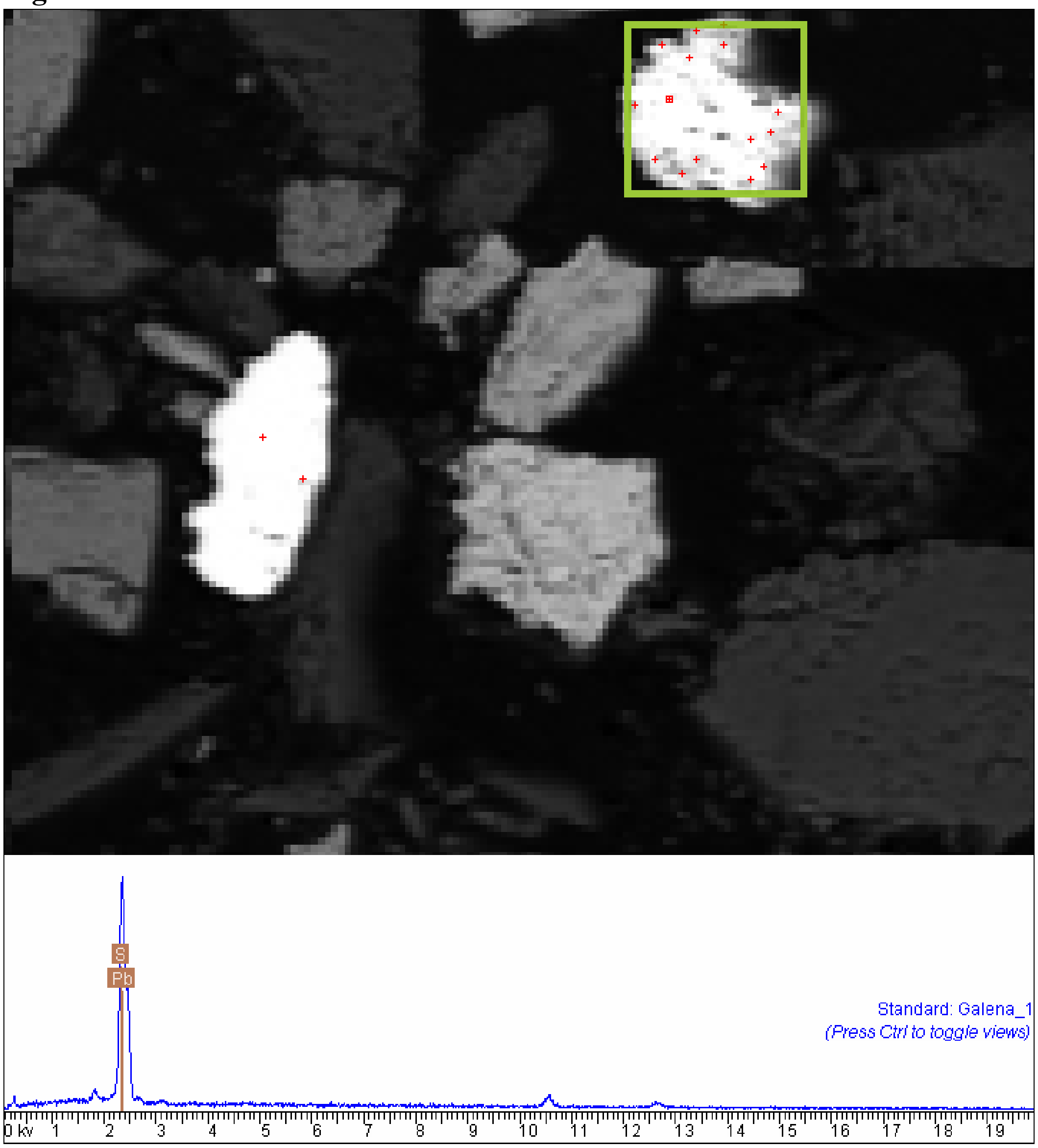


Figure 7. Identified Gold Particle.