



CRCLEME

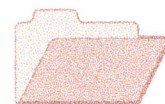
Cooperative Research Centre for
Landscape Evolution & Mineral Exploration



CSIRO
EXPLORATION
AND MINING



Australian Mineral Industries Research Association Limited ACN 004 448 266



**OPEN FILE
REPORT
SERIES**

SPECTRAL PROPERTIES OF SOIL AND LAG OVERLYING THE SITE OF THE BEASLEY CREEK GOLD MINE, LAVERTON REGION, WESTERN AUSTRALIA

Volume 2 - Appendices

T.J. Cudahy, I.D.M. Robertson and A.R. Gabell

CRC LEME OPEN FILE REPORT 69

February 1999

(CSIRO Division of Exploration Geoscience Report I60R, 1992.
Second impression 1999)

CRC LEME is an unincorporated joint venture between The Australian National University, University of Canberra, Australian Geological Survey Organisation and CSIRO Exploration and Mining, established and supported under the Australian Government's Cooperative Research Centres Program.



SPECTRAL PROPERTIES OF SOIL AND LAG OVERLYING THE SITE OF THE BEASLEY CREEK GOLD MINE, LAVERTON REGION, WESTERN AUSTRALIA

Volume 2 - Appendices

T.J. Cudahy, I.D.M. Robertson and A.R. Gabell

CRC LEME OPEN FILE REPORT 69

February 1999

(CSIRO Division of Exploration Geoscience Report 160R, 1992.
Second impression 1999)

© CSIRO 1992

RESEARCH ARISING FROM CSIRO/AMIRA REGOLITH GEOCHEMISTRY PROJECTS 1987-1993

In 1987, CSIRO commenced a series of multi-client research projects in regolith geology and geochemistry which were sponsored by companies in the Australian mining industry, through the Australian Mineral Industries Research Association Limited (AMIRA). The initial research program, "Exploration for concealed gold deposits, Yilgarn Block, Western Australia" (1987-1993) had the aim of developing improved geological, geochemical and geophysical methods for mineral exploration that would facilitate the location of blind, buried or deeply weathered gold deposits. The program included the following projects:

P240: Laterite geochemistry for detecting concealed mineral deposits (1987-1991). Leader: Dr R.E. Smith.

Its scope was development of methods for sampling and interpretation of multi-element laterite geochemistry data and application of multi-element techniques to gold and polymetallic mineral exploration in weathered terrain. The project emphasised viewing laterite geochemical dispersion patterns in their regolith-landform context at local and district scales. It was supported by 30 companies.

P241: Gold and associated elements in the regolith - dispersion processes and implications for exploration (1987-1991). Leader: Dr C.R.M. Butt.

The project investigated the distribution of ore and indicator elements in the regolith. It included studies of the mineralogical and geochemical characteristics of weathered ore deposits and wall rocks, and the chemical controls on element dispersion and concentration during regolith evolution. This was to increase the effectiveness of geochemical exploration in weathered terrain through improved understanding of weathering processes. It was supported by 26 companies.

These projects represented "an opportunity for the mineral industry to participate in a multi-disciplinary program of geoscience research aimed at developing new geological, geochemical and geophysical methods for exploration in deeply weathered Archaean terrains". This initiative recognised the unique opportunities, created by exploration and open-cut mining, to conduct detailed studies of the weathered zone, with particular emphasis on the near-surface expression of gold mineralisation. The skills of existing and specially recruited research staff from the Floreat Park and North Ryde laboratories (of the then Divisions of Minerals and Geochemistry, and Mineral Physics and Mineralogy, subsequently Exploration Geoscience and later Exploration and Mining) were integrated to form a task force with expertise in geology, mineralogy, geochemistry and geophysics. Several staff participated in more than one project. Following completion of the original projects, two continuation projects were developed.

P240A: Geochemical exploration in complex lateritic environments of the Yilgarn Craton, Western Australia (1991-1993). Leaders: Drs R.E. Smith and R.R. Anand.

The approach of viewing geochemical dispersion within a well-controlled and well-understood regolith-landform and bedrock framework at detailed and district scales continued. In this extension, focus was particularly on areas of transported cover and on more complex lateritic environments typified by the Kalgoorlie regional study. This was supported by 17 companies.

P241A: Gold and associated elements in the regolith - dispersion processes and implications for exploration. Leader: Dr C.R.M. Butt.

The significance of gold mobilisation under present-day conditions, particularly the important relationship with pedogenic carbonate, was investigated further. In addition, attention was focussed on the recognition of primary lithologies from their weathered equivalents. This project was supported by 14 companies.

Although the confidentiality periods of the research reports have expired, the last in December 1994, they have not been made public until now. Publishing the reports through the CRC LEME Report Series is seen as an appropriate means of doing this. By making available the results of the research and the authors' interpretations, it is hoped that the reports will provide source data for future research and be useful for teaching. CRC LEME acknowledges the Australian Mineral Industries Research Association and CSIRO Division of Exploration and Mining for authorisation to publish these reports. It is intended that publication of the reports will be a substantial additional factor in transferring technology to aid the Australian Mineral Industry.

This report (CRC LEME Open File Report 69) is a Second impression (second printing) of CSIRO, Division of Exploration Geoscience Restricted Report 160R, first issued in 1992, which formed part of the CSIRO/AMIRA Projects P243, P240A and P241A.

Copies of this publication can be obtained from:

The Publication Officer, c/- CRC LEME, CSIRO Exploration and Mining, PMB, Wembley, WA 6014, Australia. Information on other publications in this series may be obtained from the above or from <http://leme.anu.edu.au/>

Cataloguing-in-Publication:

Cudahy, T.J.

Spectral properties of soil and lag overlying the site of the Beasley Creek Gold Mine, Laverton Region, Western Australia

ISBN v1: 0 642 28245 5 v2: 0 642 28246 3 set: 0 642 28247 1

1. Laterite 2. Geochemistry 3. Remote sensing 4. Gold - Western Australia.

I. Robertson, I.D.M. II. Gabell, A.R. III. Title

CRC LEME Open File Report 69.

ISSN 1329-4768

CONTENTS

Appendix 1	Spectral Mnemonics
Appendix 2.1	Coarse lag spectral data
Appendix 2.2	Fine lag spectral data
Appendix 2.3	Soil spectral data
Appendix 2.4	Other spectral data
Appendix 2.5	Standards
Appendix 3	Associated mineralogical and geochemical data from Robertson (1989, 1990)
Appendix 4	Experiments to determine the origin of the 1.9 μm water absorption in some of the soil spectra

APPENDICES

Appendix 1
Spectral Mnemonics
Abbreviations and
Glossary

Abbreviations and Glossary

nm nanometre (10^{-9} m)

μm micrometre (10^{-6} m)

HQ hull quotient

EAST eastings

WEST westings

1.9-D 1.9 μm water absorption hull quotient depth

1.9-W 1.9 μm water absorption hull quotient width

2.2-D 2.2 μm Al-OH absorption hull quotient depth

2.2-W 2.2 μm Al-OH absorption hull quotient width

ligand-metal charge transfer : iron-related absorption near 0.5 μm .

crystal field : iron-related absorptions in the 0.5 to 1.2 μm wavelength region. Ferric iron has absorptions at 0.66 and 0.9 whereas ferrous iron has absorption near 1.1 μm .

Spectra Mnemonics

Each spectral measurement is assigned a unique 9 letter mnemonic which describes the relevant attributes for that measurement. The format is:

$X_1 X_2 X_3 X_4 X_5 X_6 . X_7 X_8 X_9$

where X_1 - X_6 are *alphabetic* characters and X_7 - X_9 are *alpha-numeric* characters, and where:

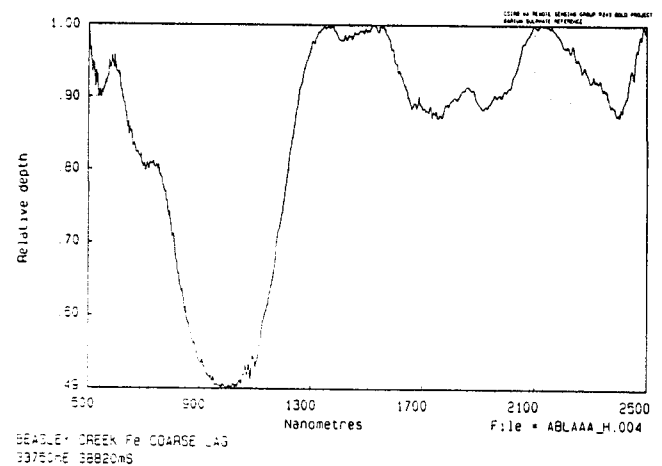
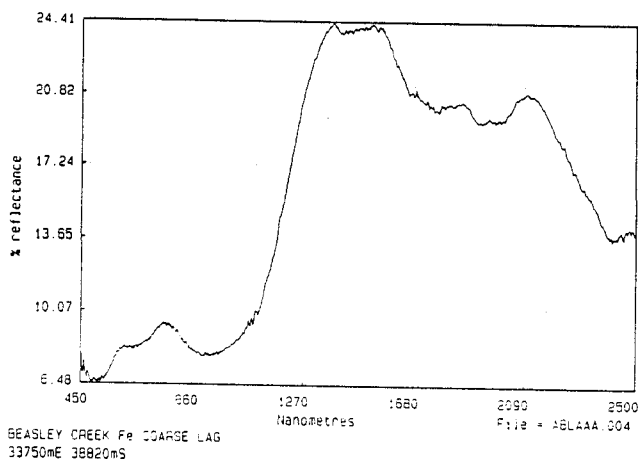
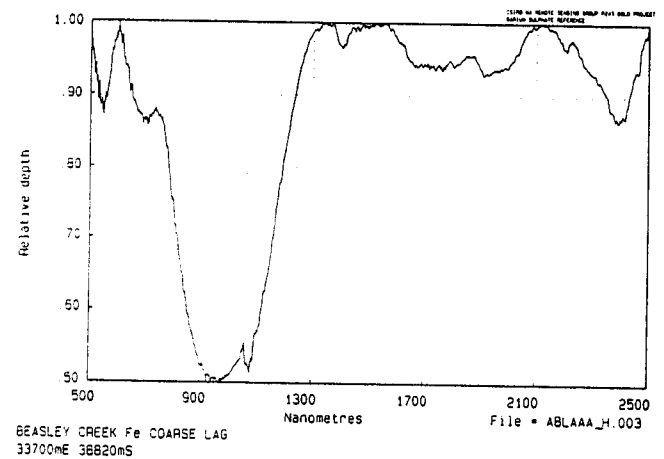
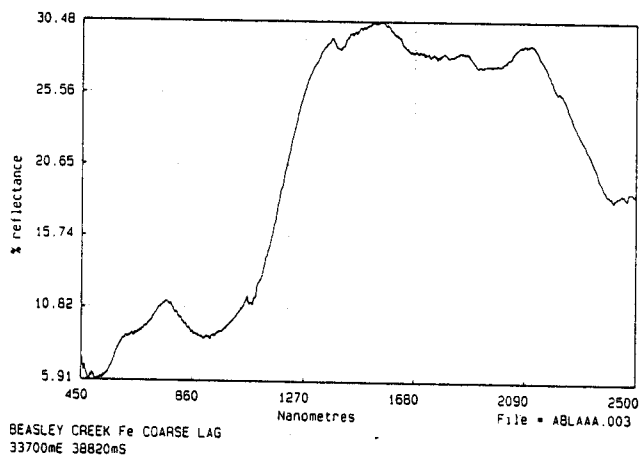
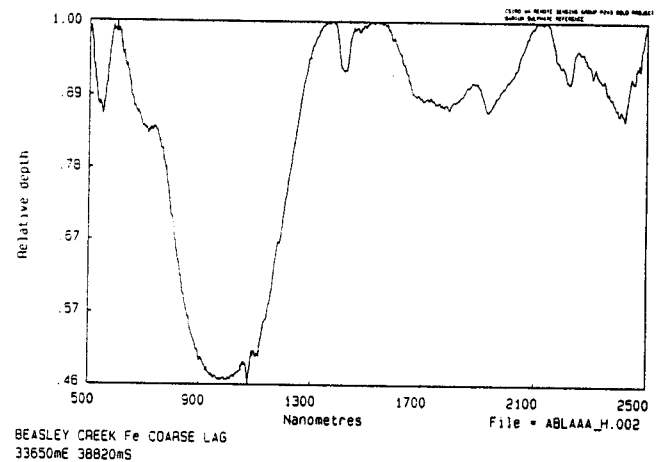
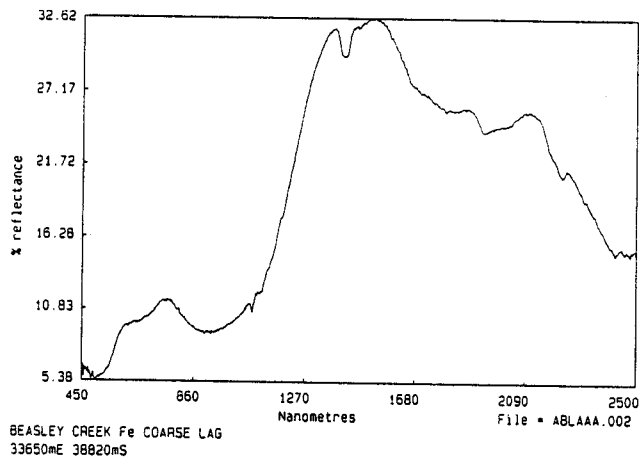
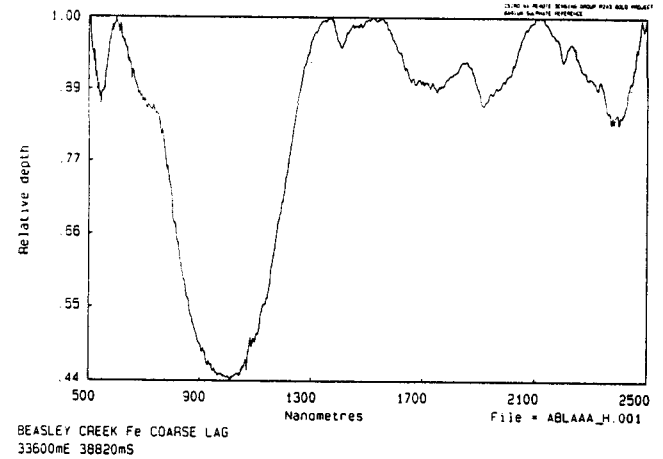
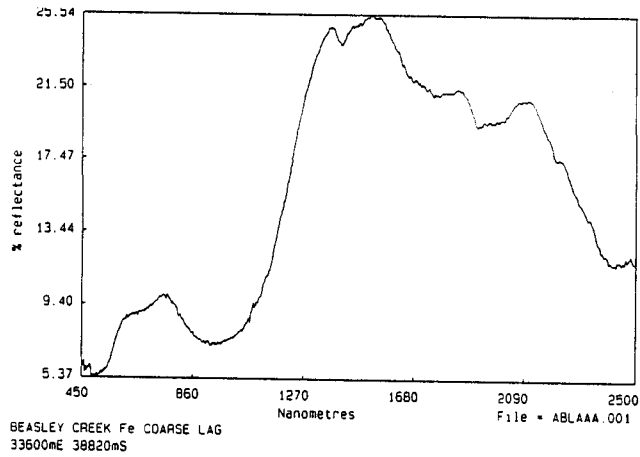
- X_1 is the *project* where "A" represents the P243 Gold Project;
 - X_2 is the *location* where "B" represents the Beasley Creek gold deposit;
 - X_3 is the *type of measurement* where "L" represents laboratory in contrast to "F" for field;
 - X_4 is the *type of sample* where "A" is coarse lag, "O" is fine lag and "S" is soil;
 - X_5 is a *repeat measurement* where "B" is the first repeat;
 - X_6 is a *multiple sample* from the same locality or an additional *treatment* where "A" is the first treatment (e.g. soil plus acid or $<4 \mu\text{m}$ soil fraction);
- X_7 - X_9 are the locality identity numbers.

Appendix 2.1

Coarse Lag Spectral Data and Ancillary Information

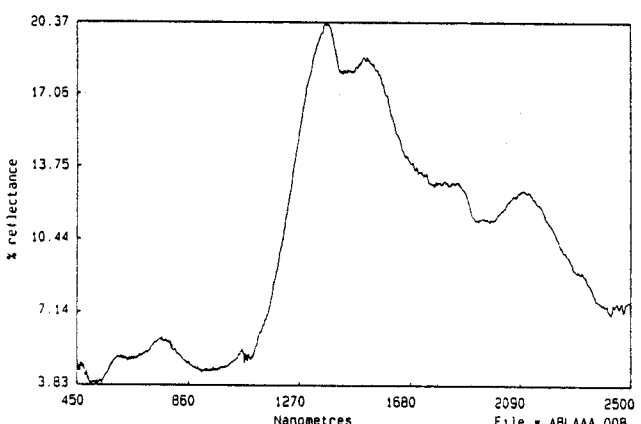
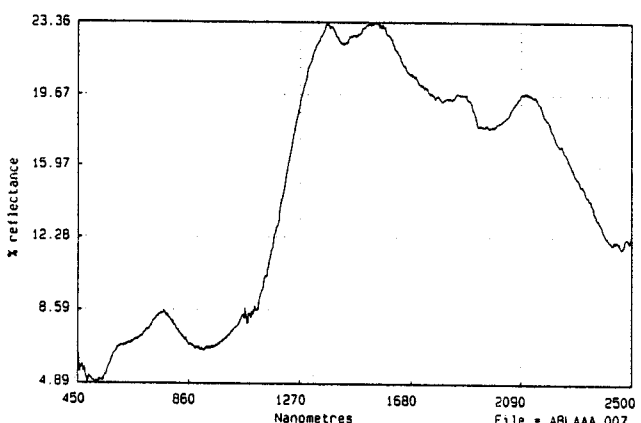
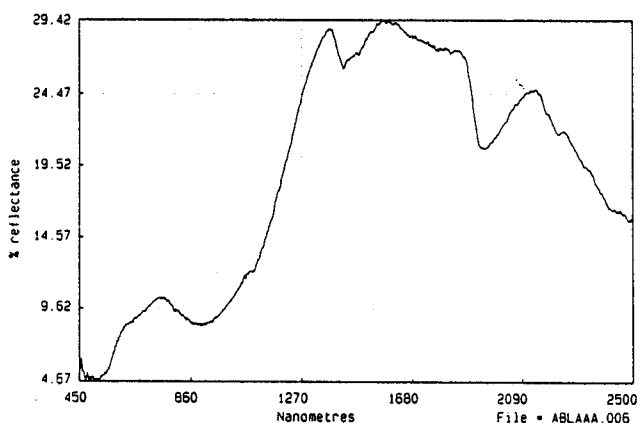
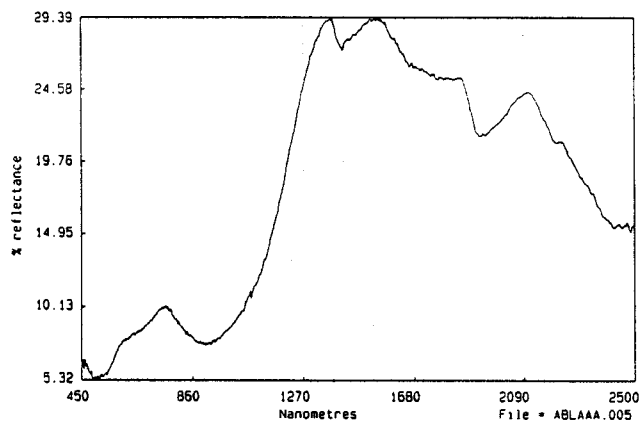
REFLECTANCE

HULL QUOTIENTS

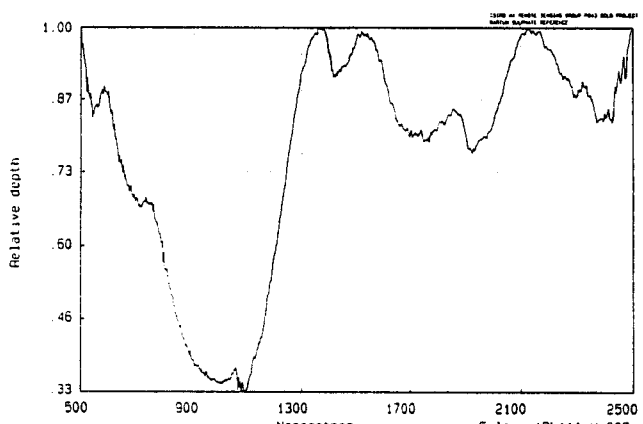
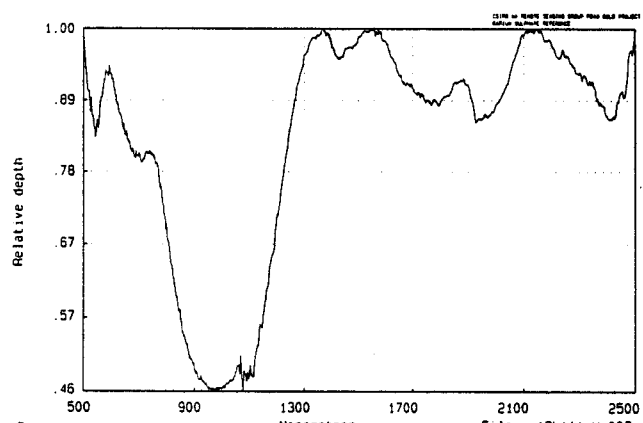
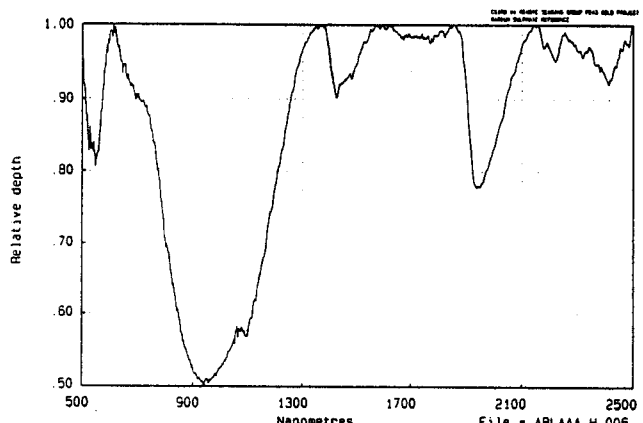
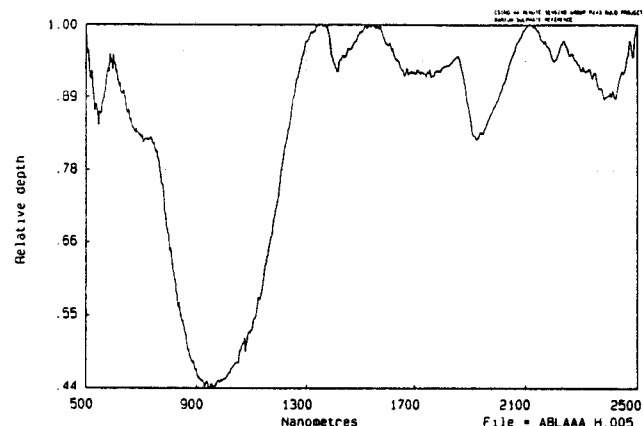


COARSE LAG Line 38820mN

REFLECTANCE

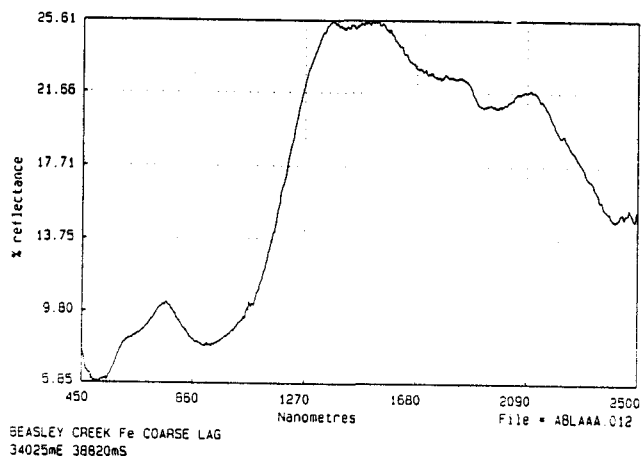
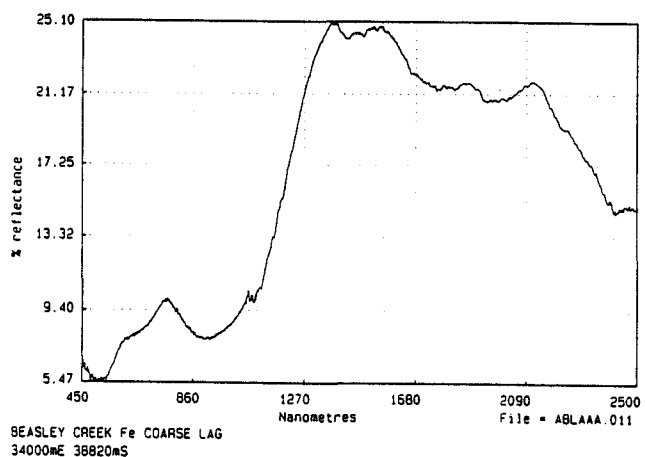
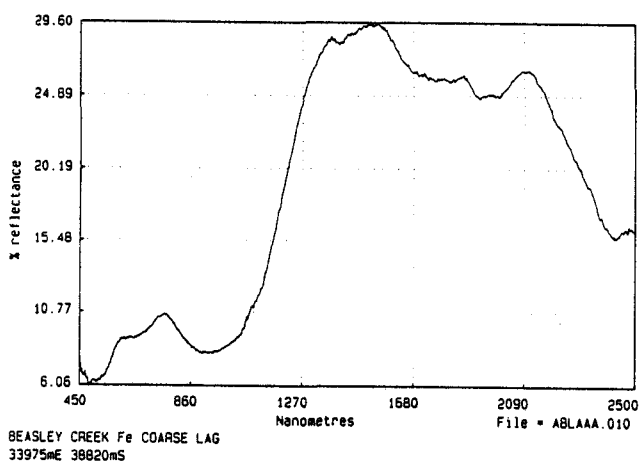
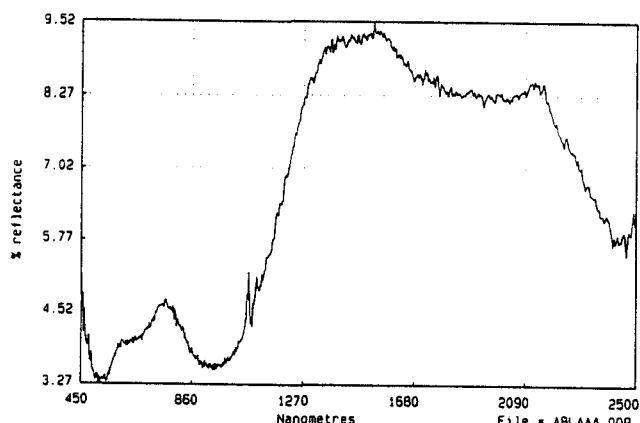


HULL QUOTIENTS

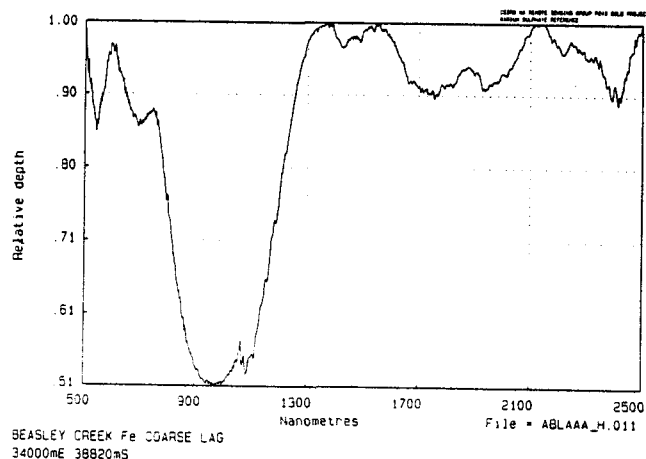
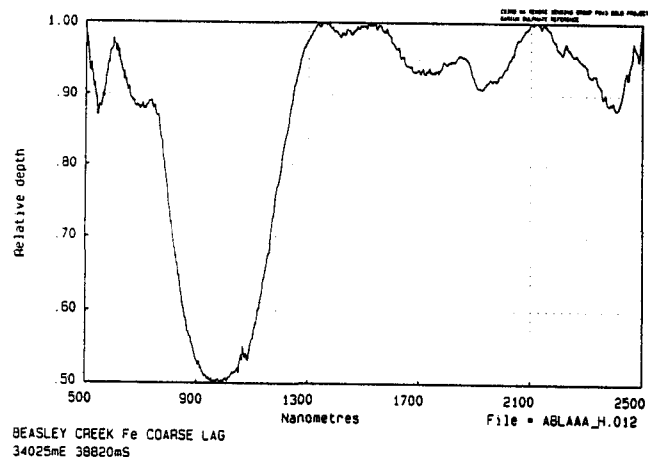
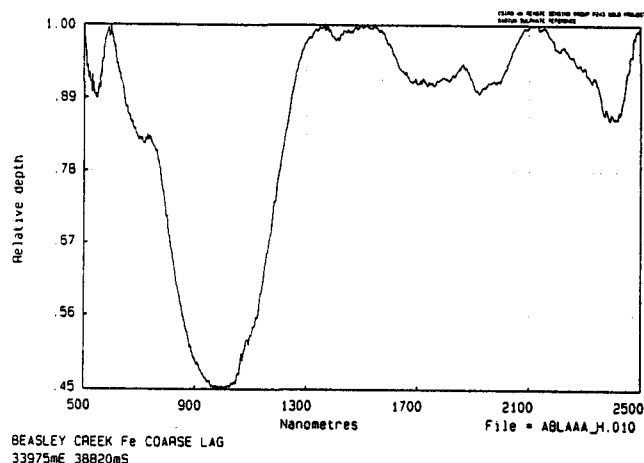
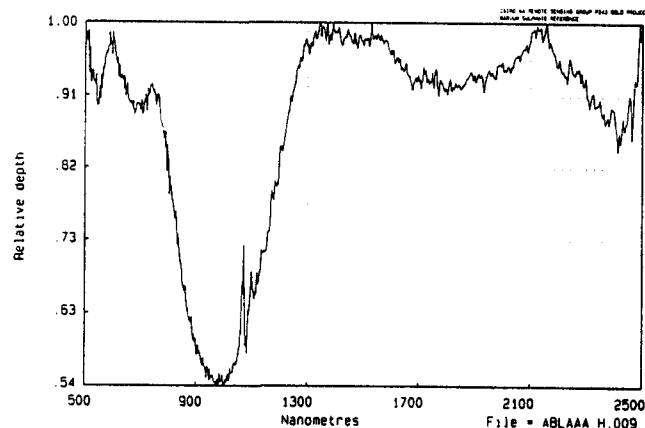


COARSE LAG Line 38820mN

REFLECTANCE

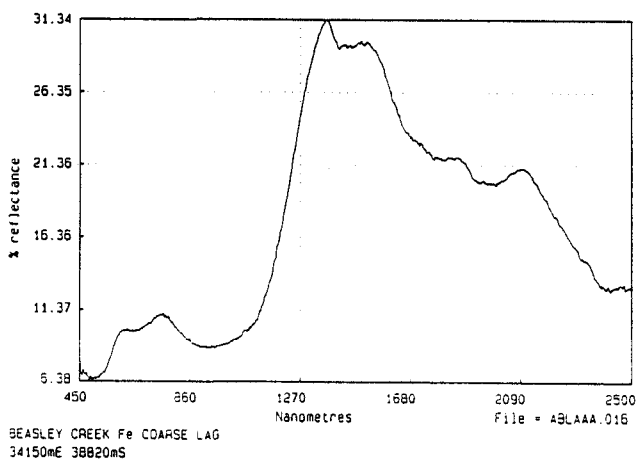
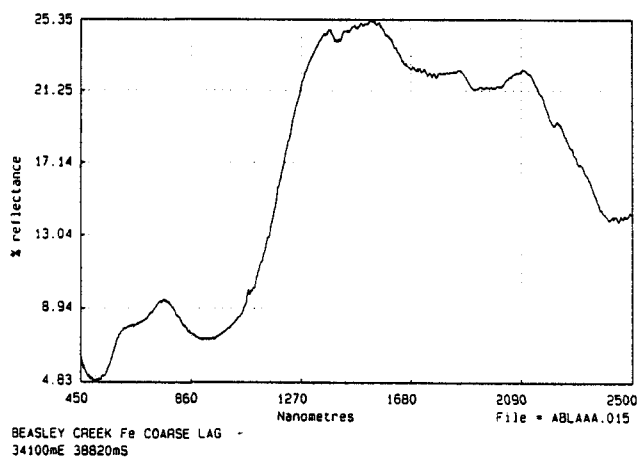
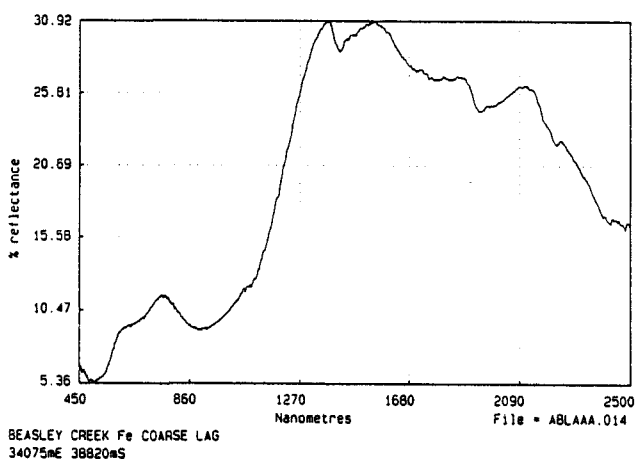
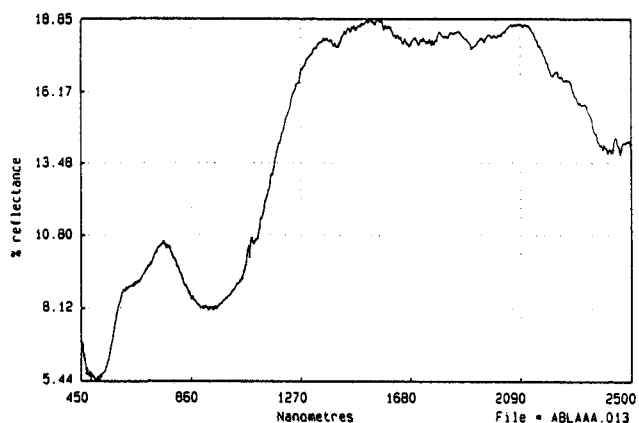


HULL QUOTIENTS

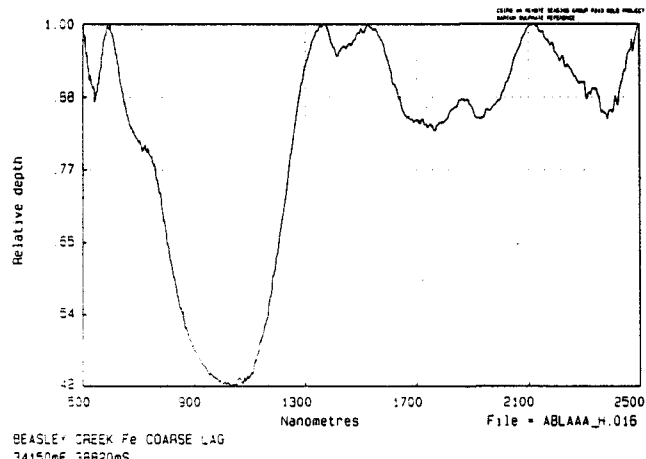
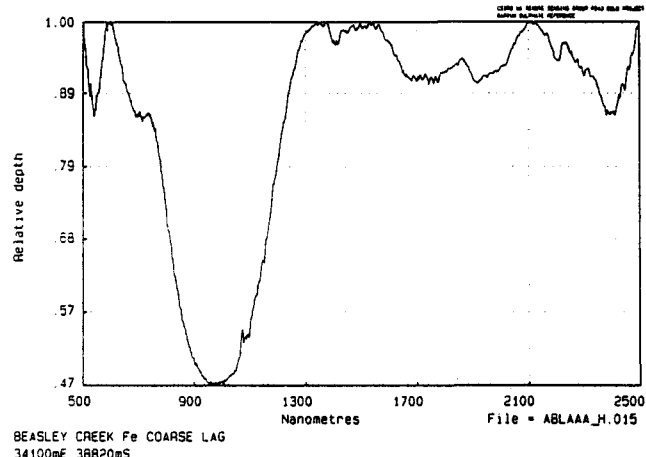
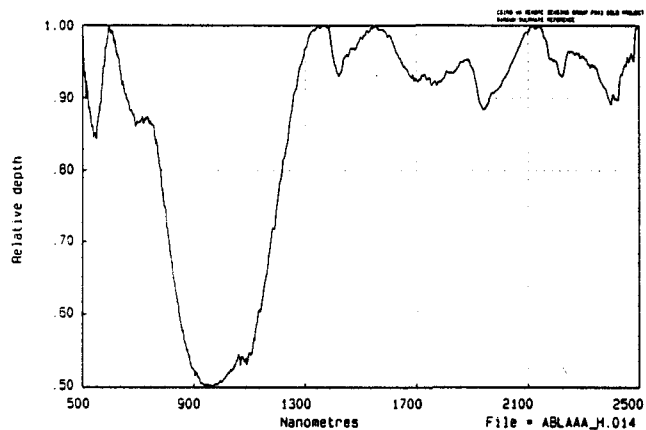
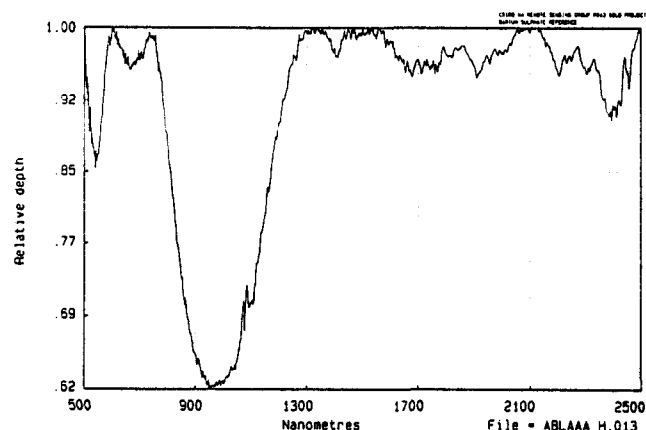


COARSE LAG Line 38820mN

REFLECTANCE

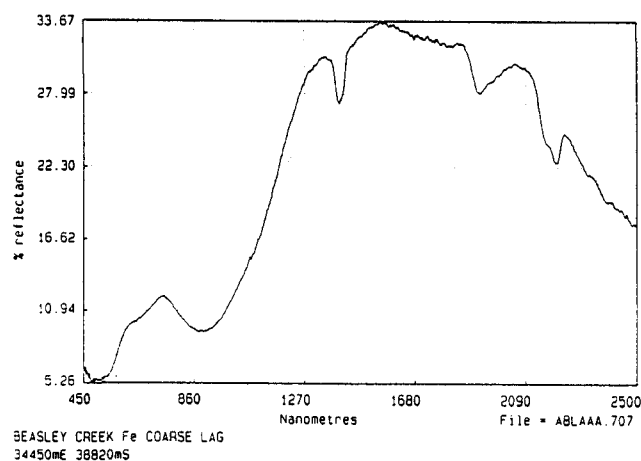
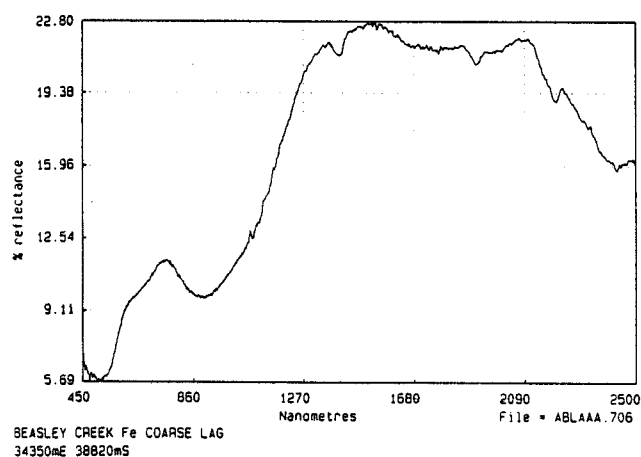
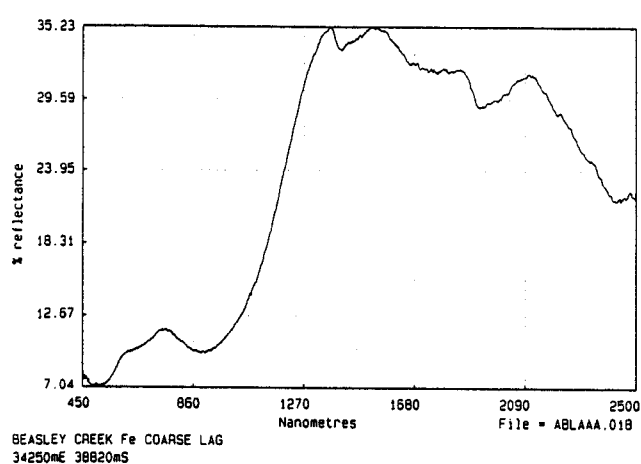
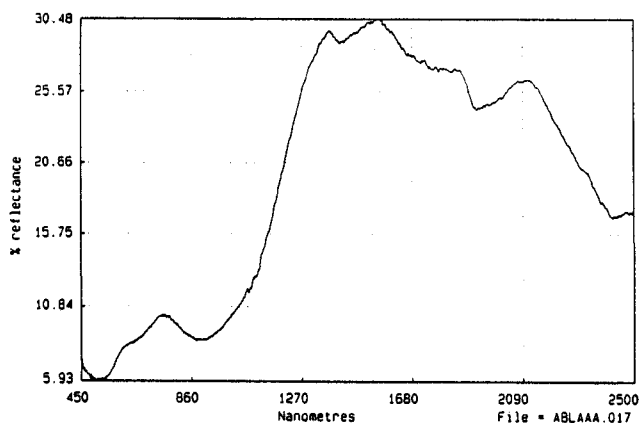


HULL QUOTIENTS

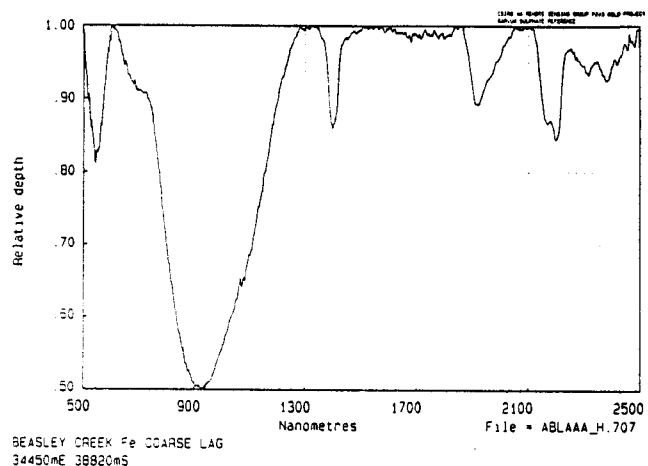
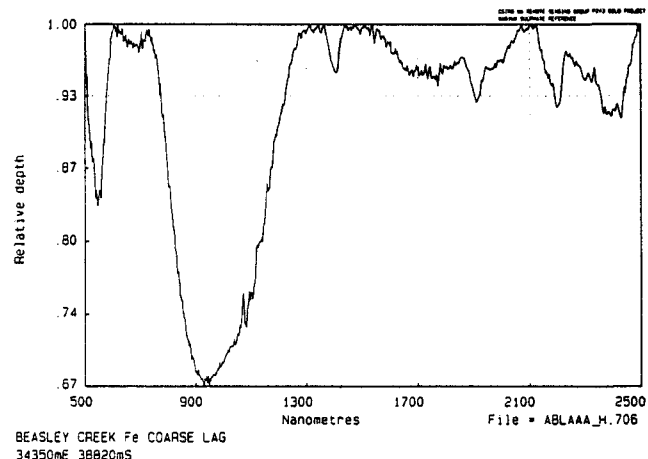
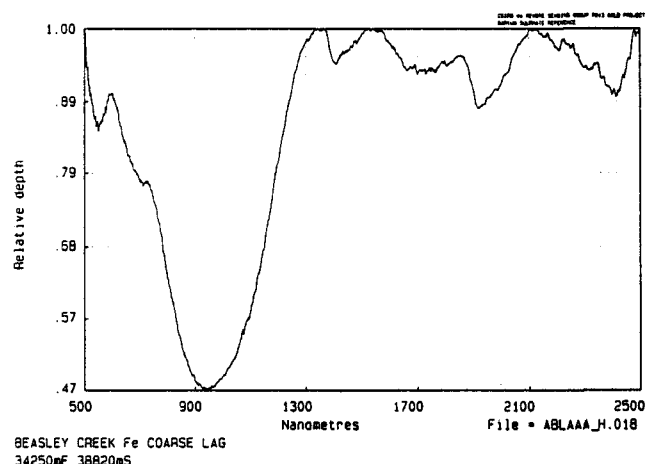
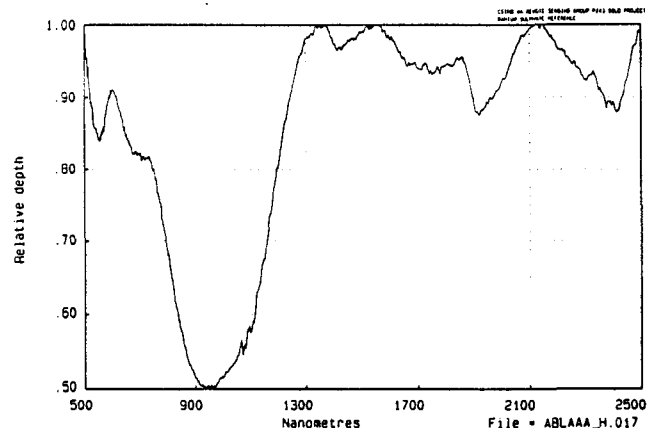


COARSE LAG Line 38820mN

REFLECTANCE

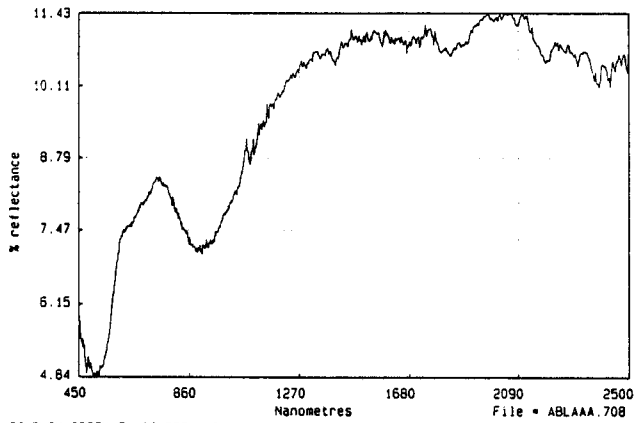


HULL QUOTIENTS

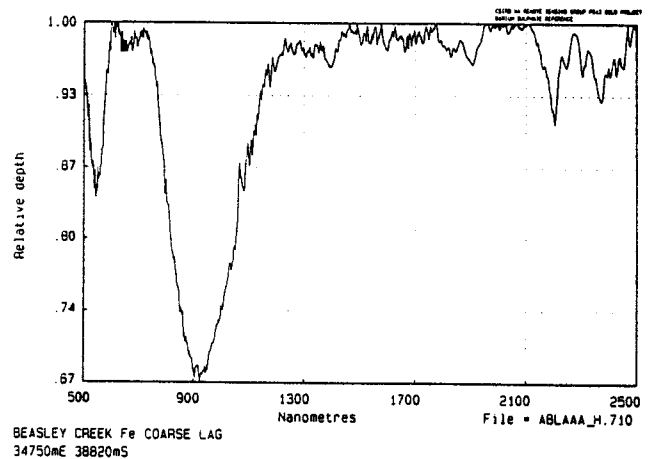
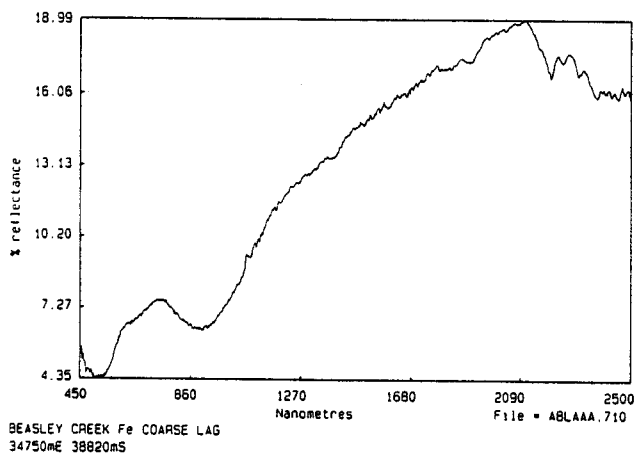
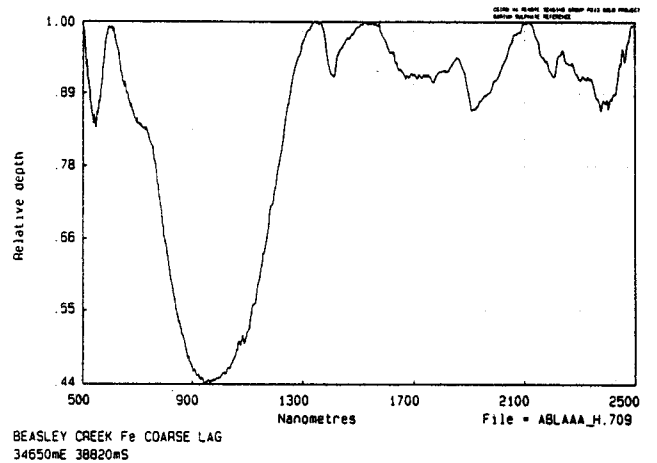
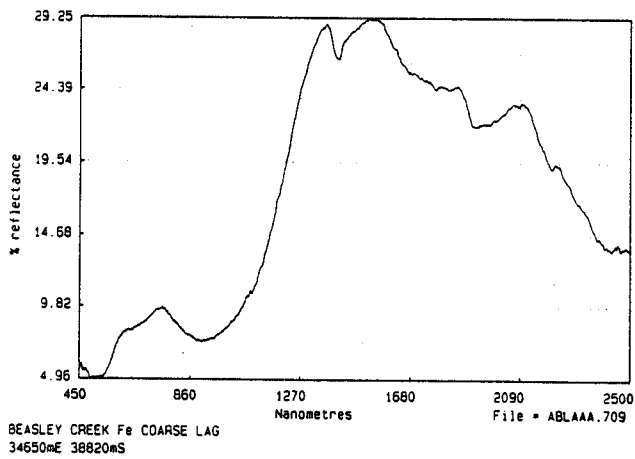
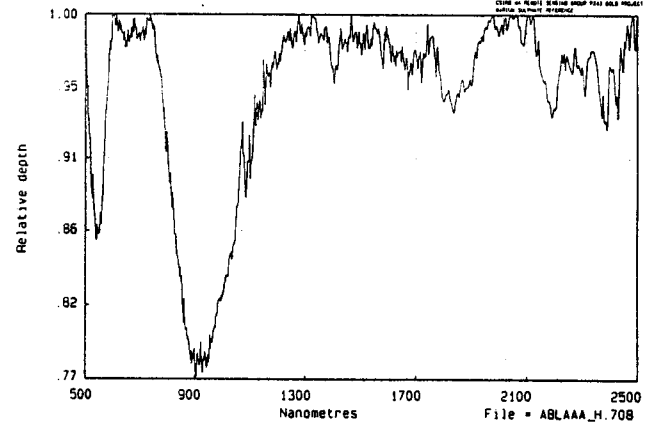


COARSE LAG Line 38820mN

REFLECTANCE



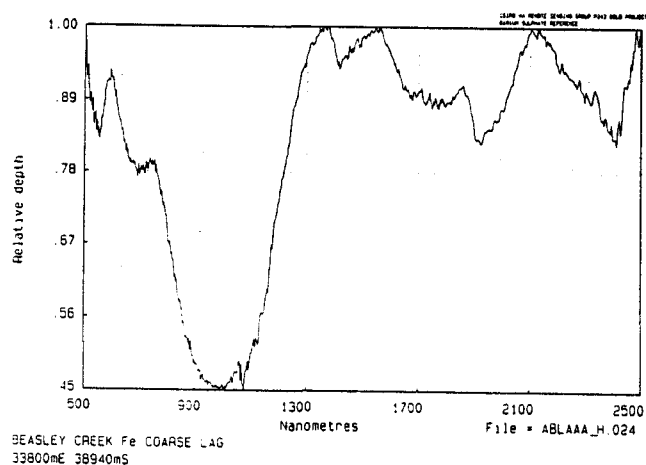
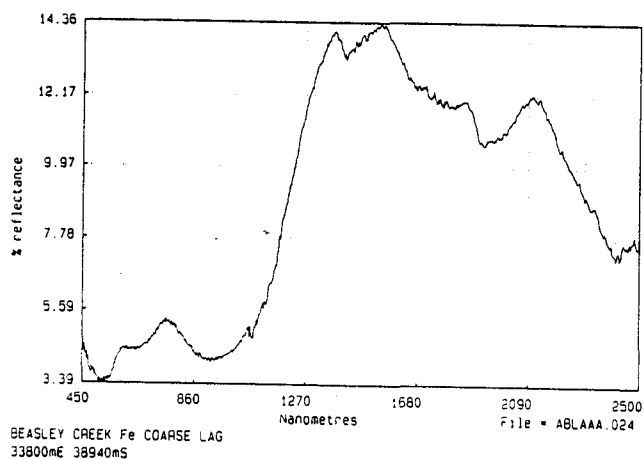
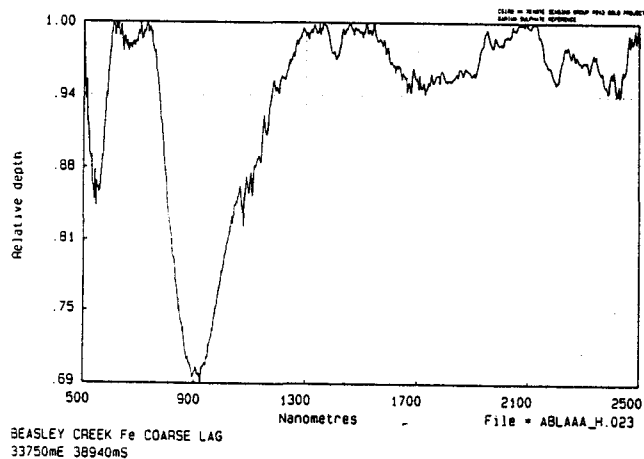
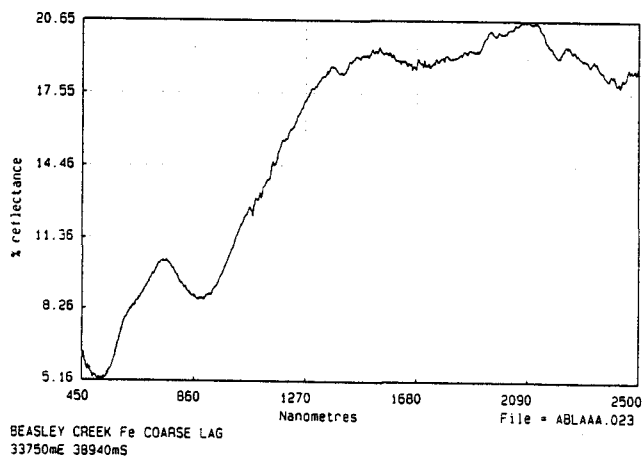
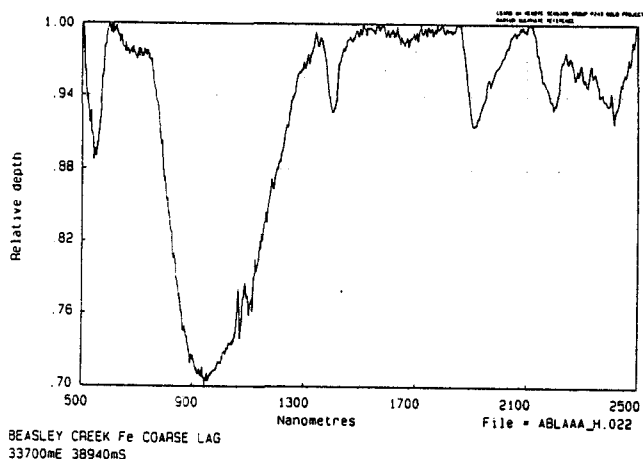
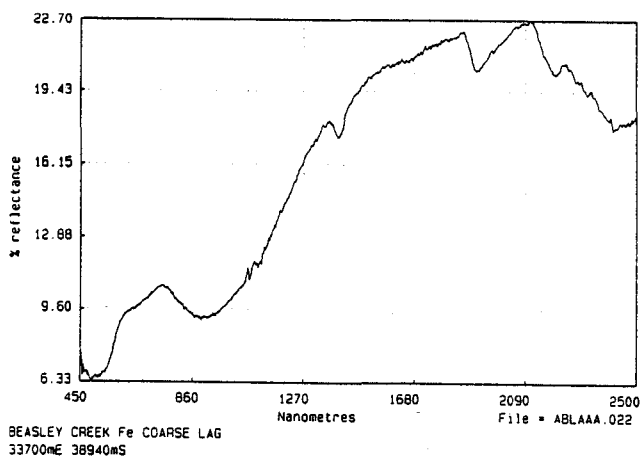
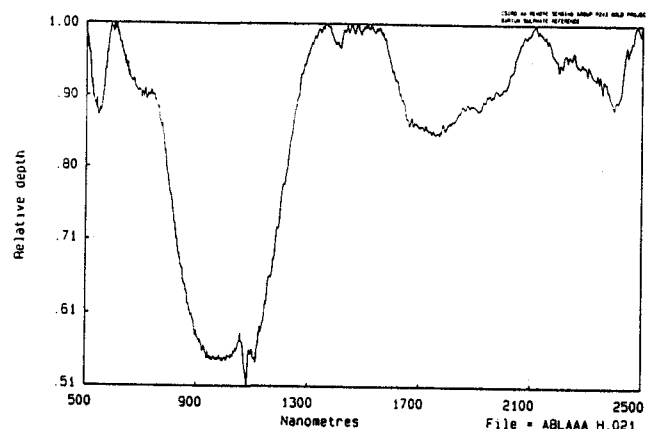
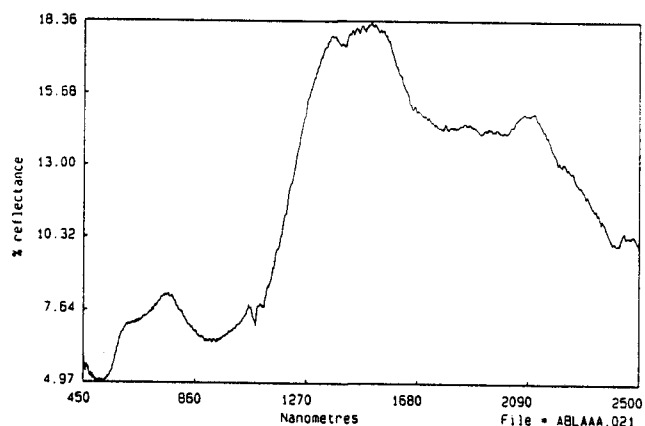
HULL QUOTIENTS



COARSE LAG Line 38940mN

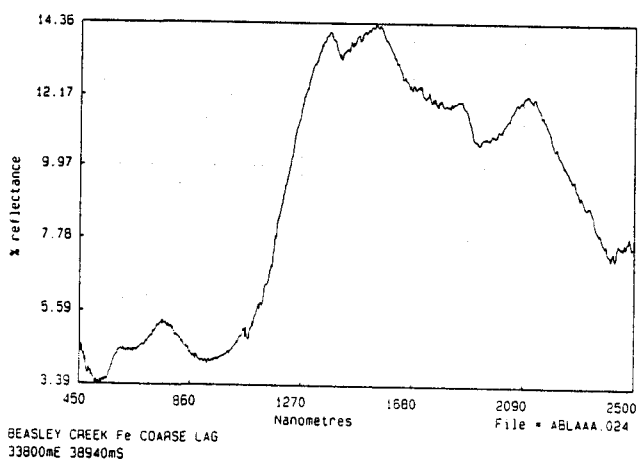
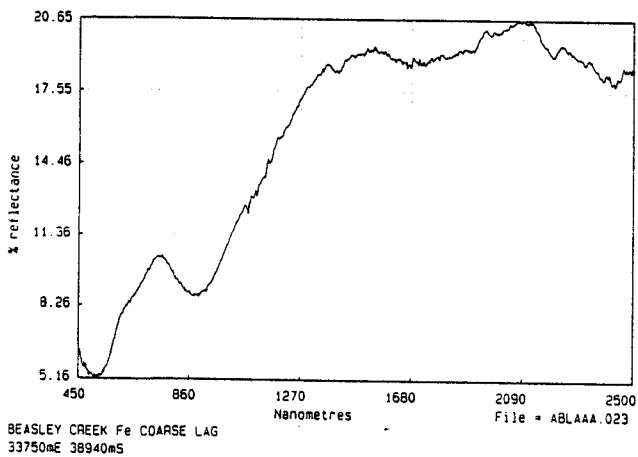
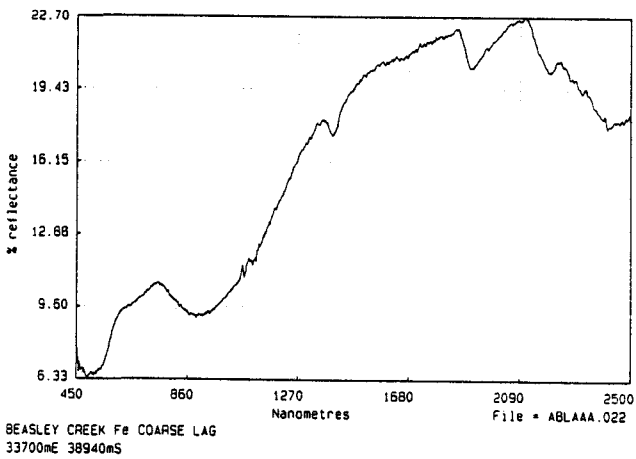
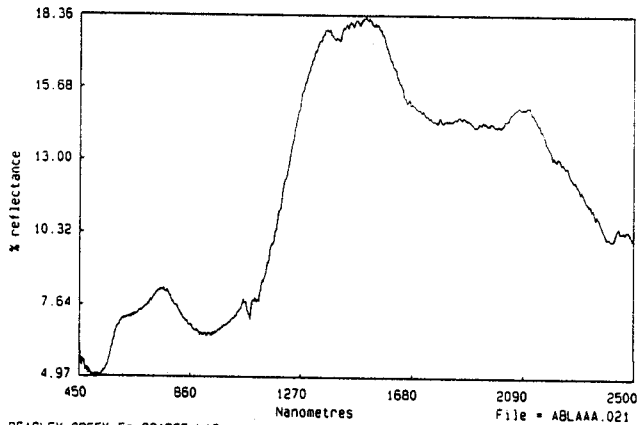
REFLECTANCE

HULL QUOTIENTS

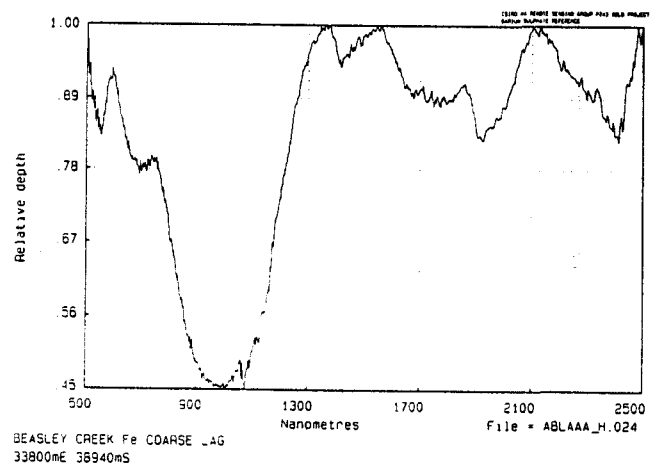
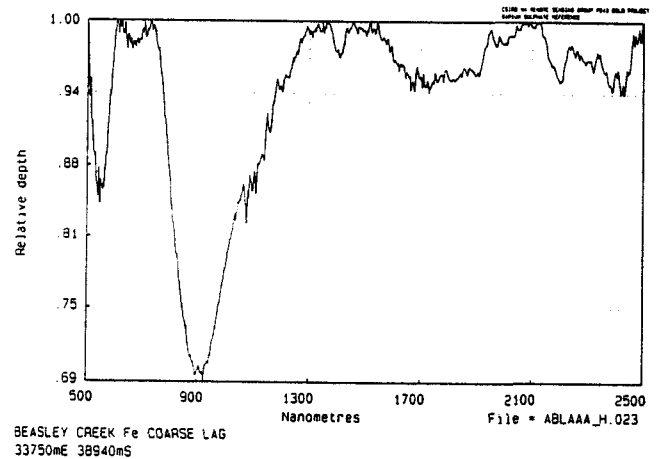
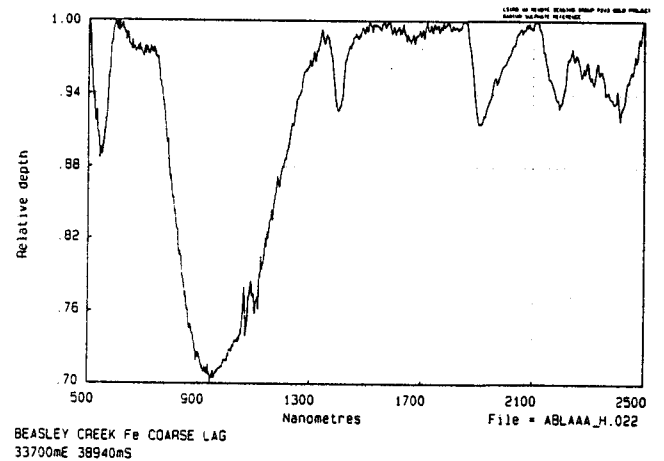
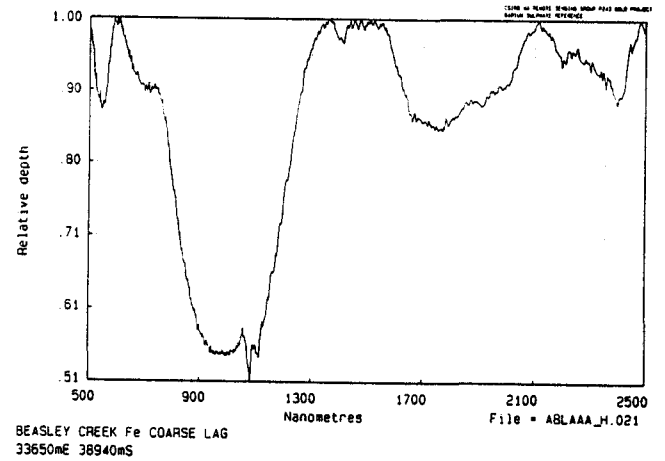


COARSE LAG Line 38940mN

REFLECTANCE

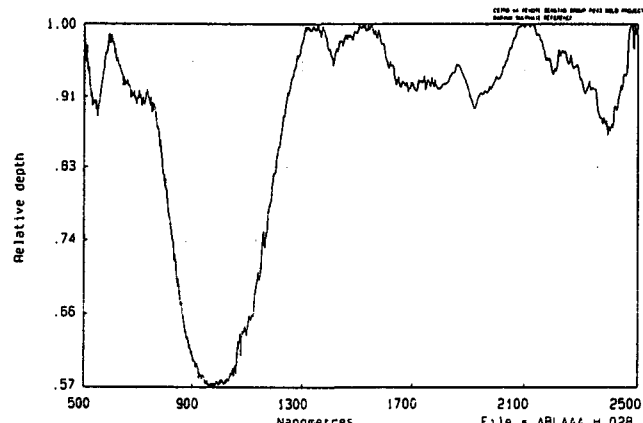
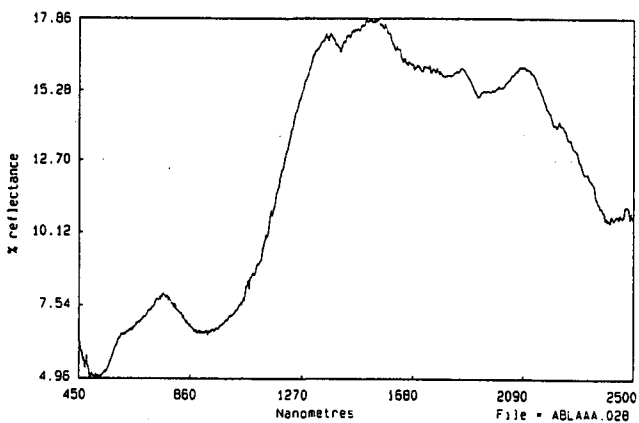
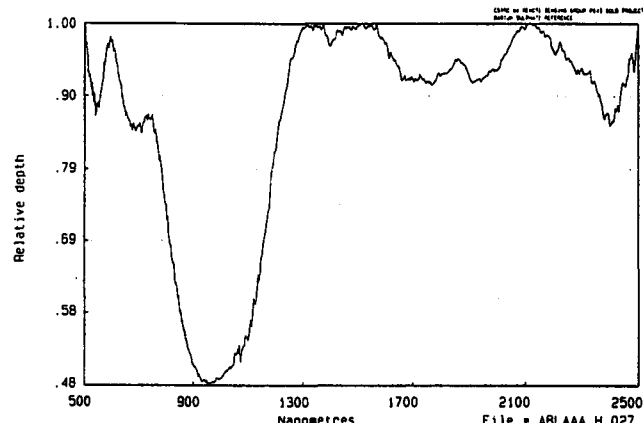
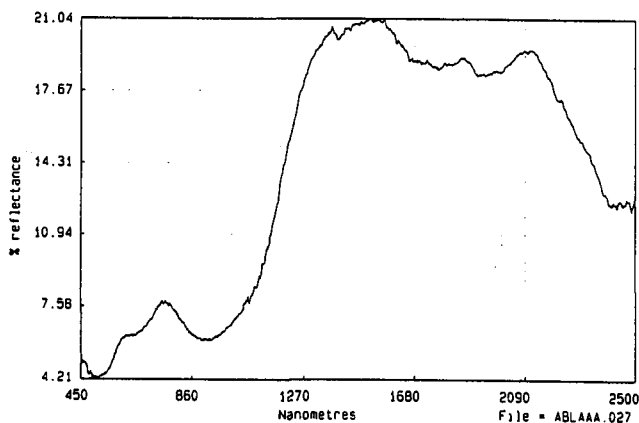
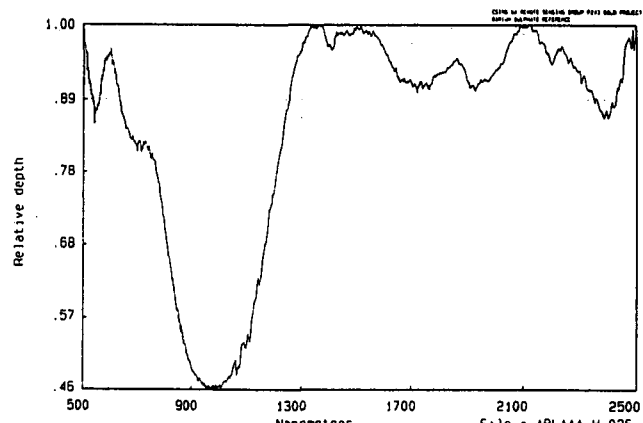
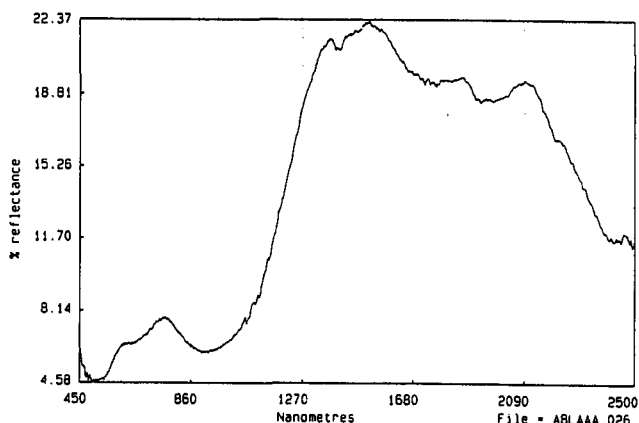
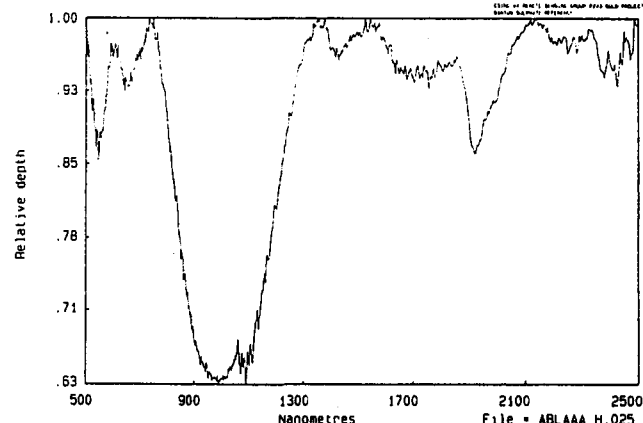
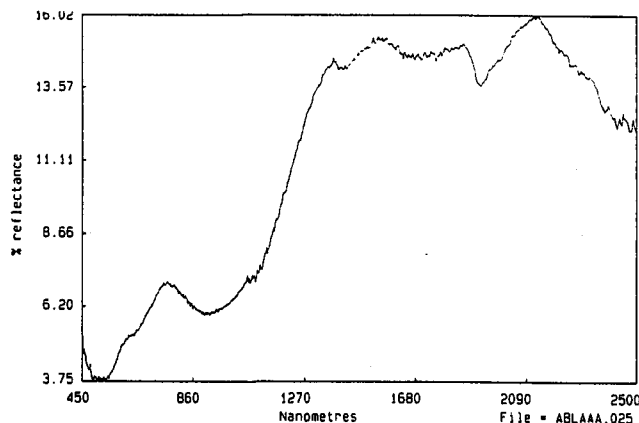


HULL QUOTIENTS



REFLECTANCE

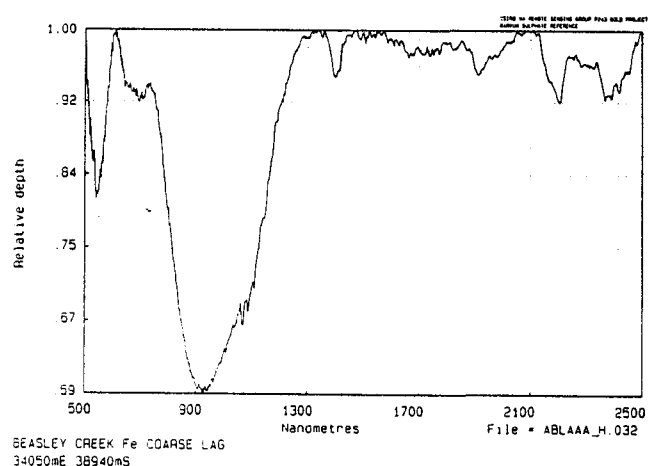
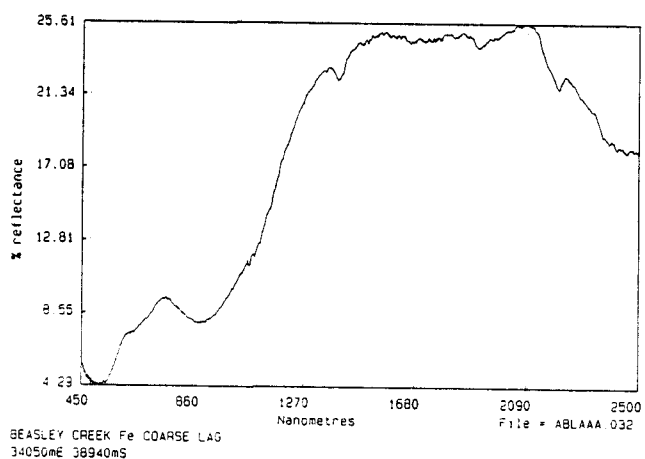
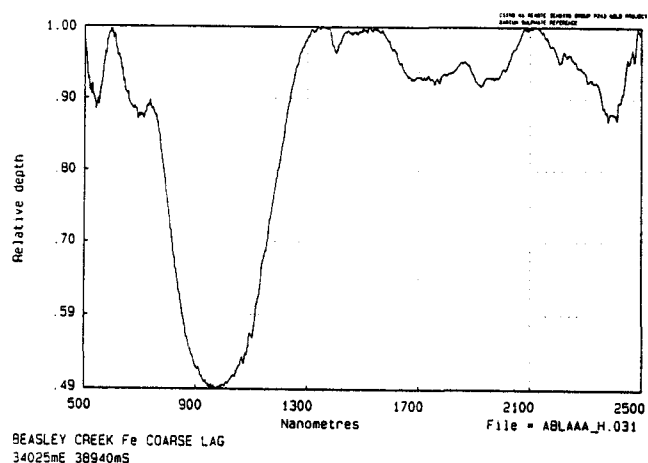
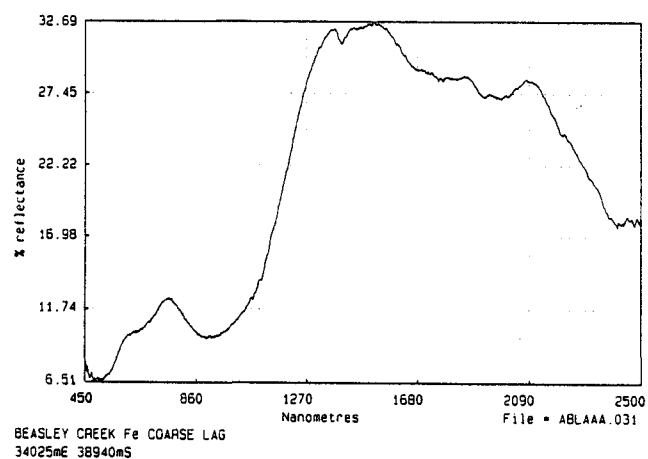
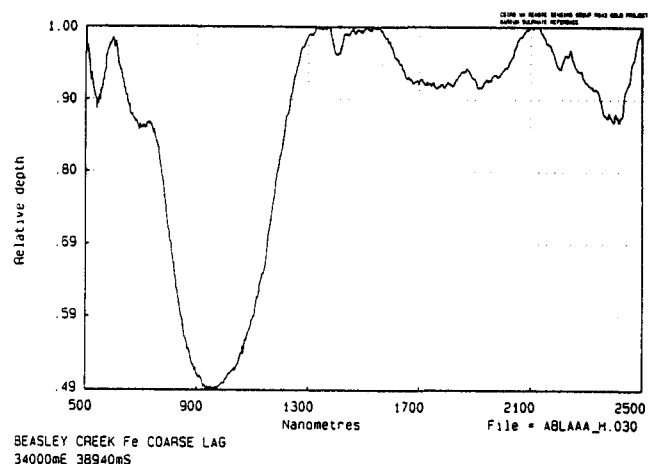
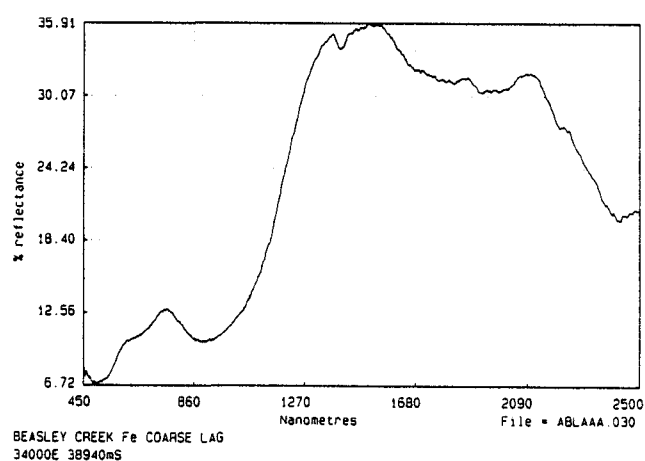
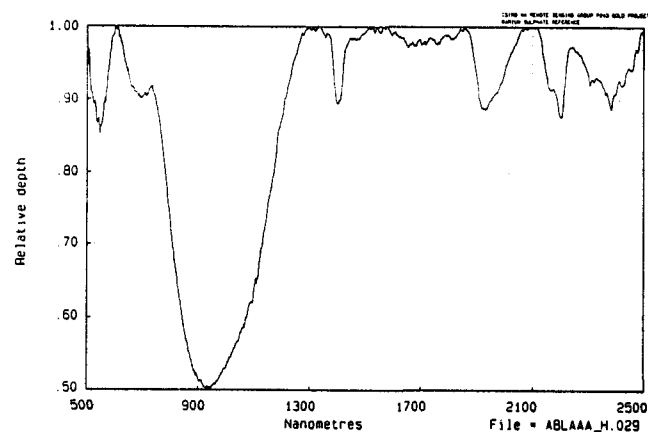
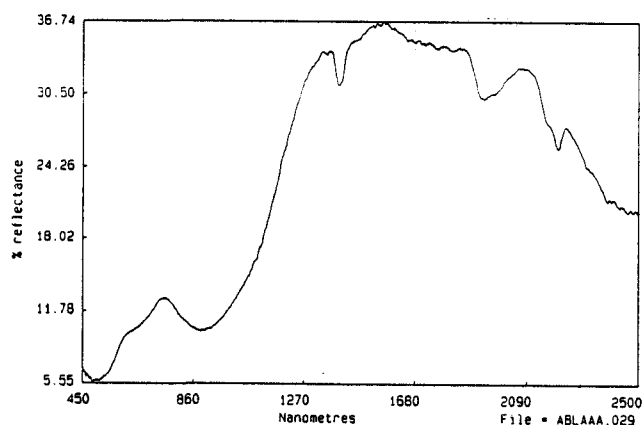
HULL QUOTIENTS



COARSE LAG Line 38940mN

REFLECTANCE

HULL QUOTIENTS



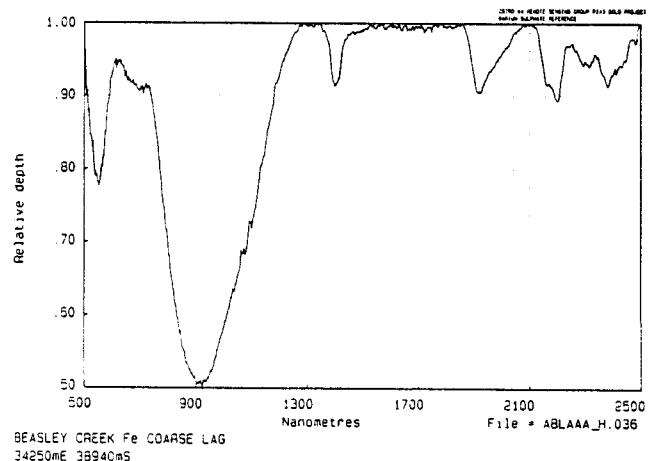
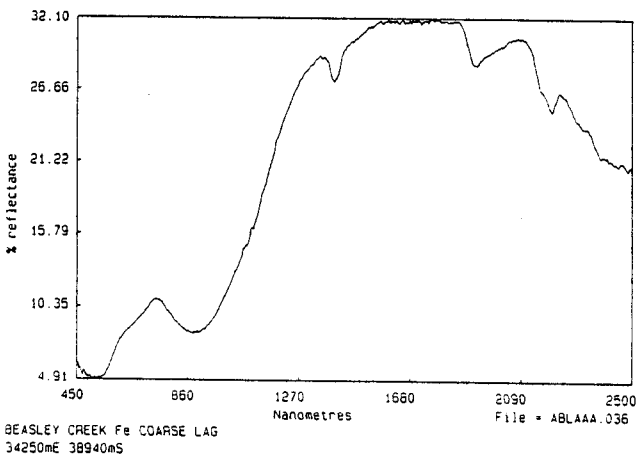
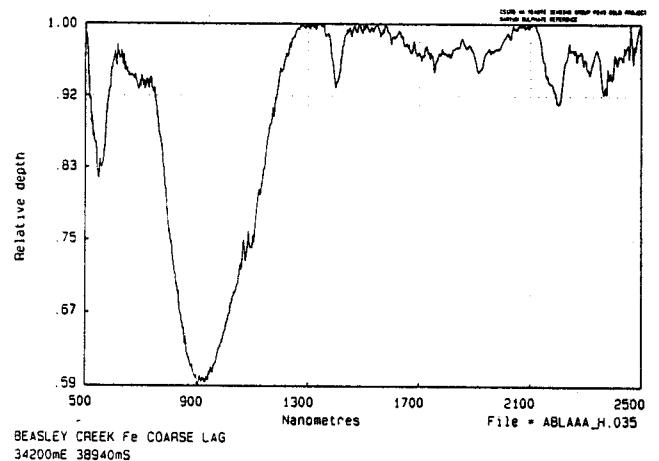
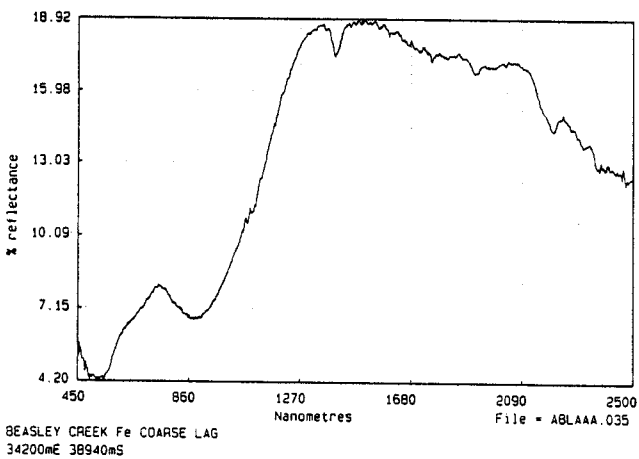
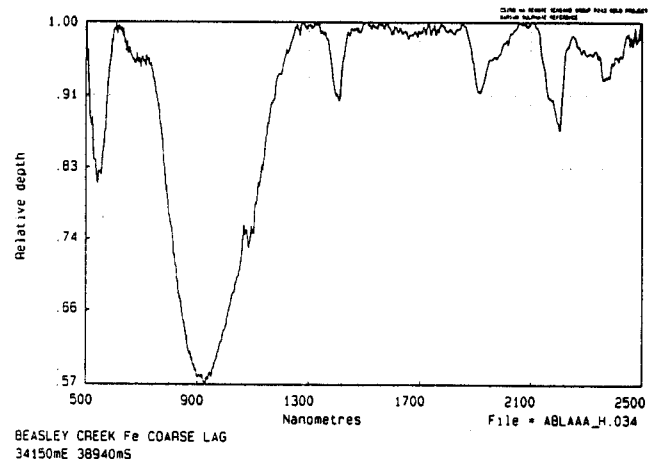
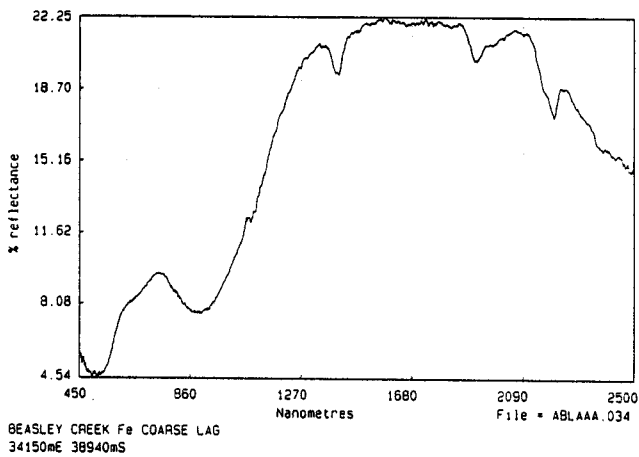
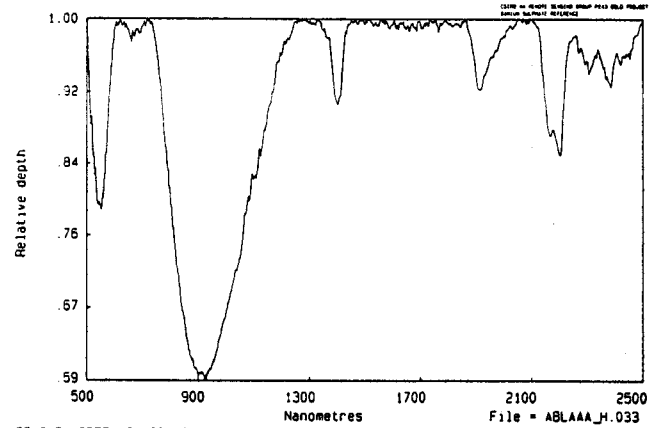
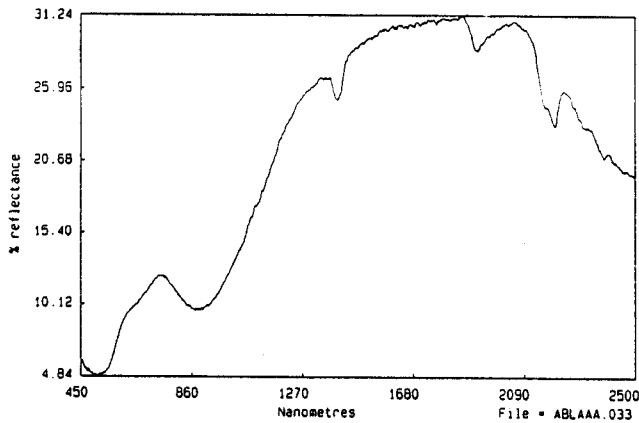
EG160R

Appendix 2.1

COARSE LAG Line 38940mN

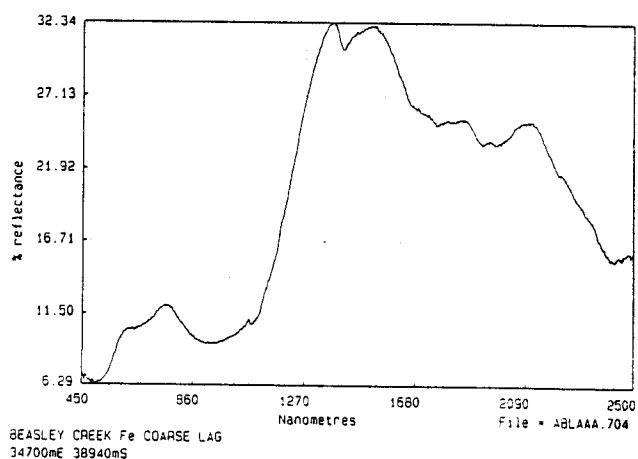
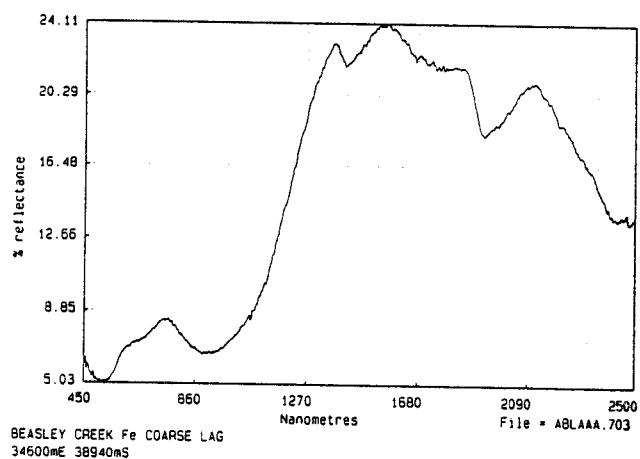
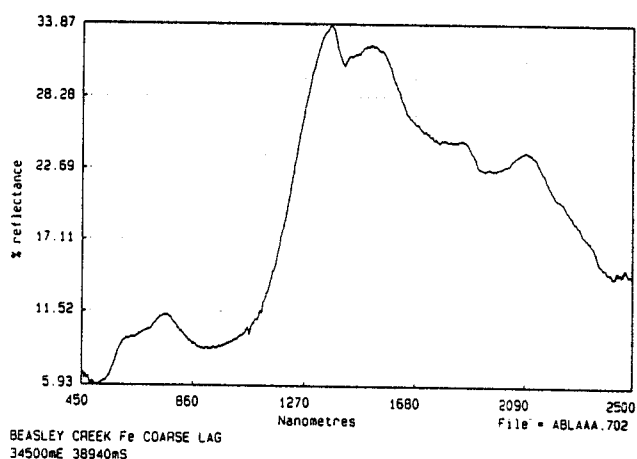
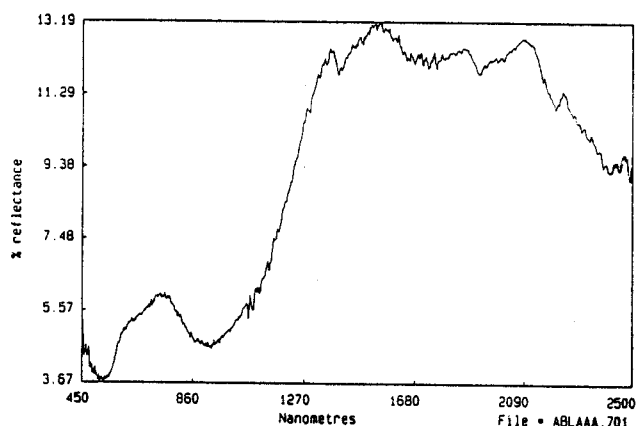
REFLECTANCE

HULL QUOTIENTS

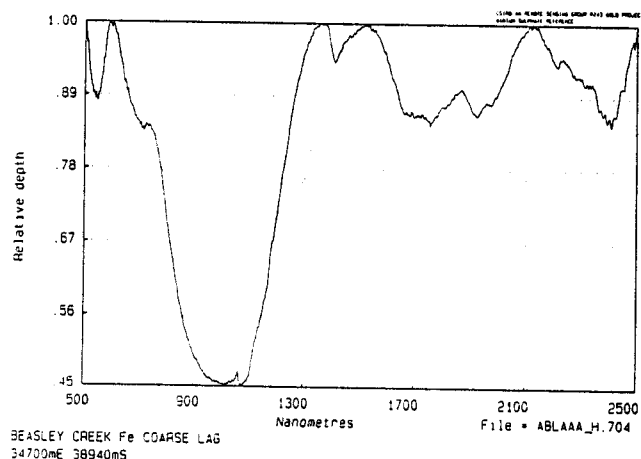
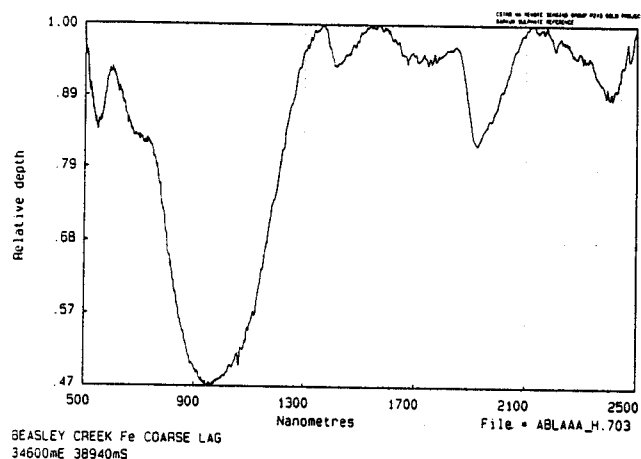
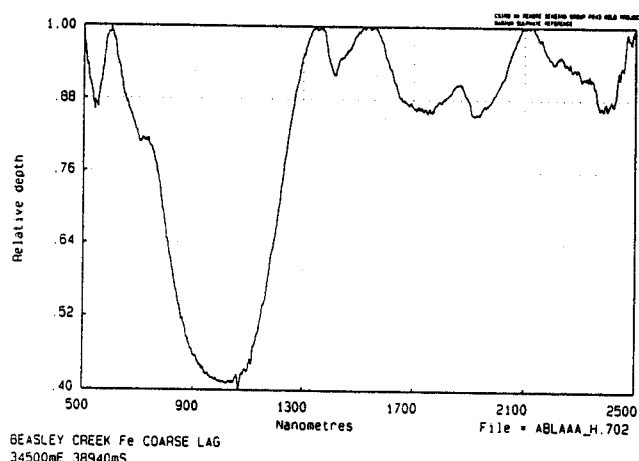
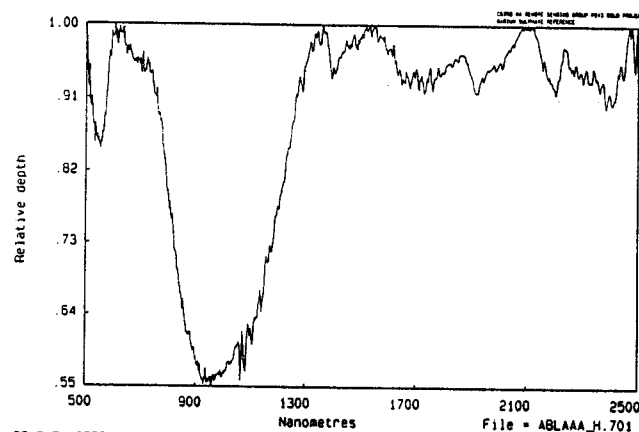


COARSE LAG Line 38940mN

REFLECTANCE

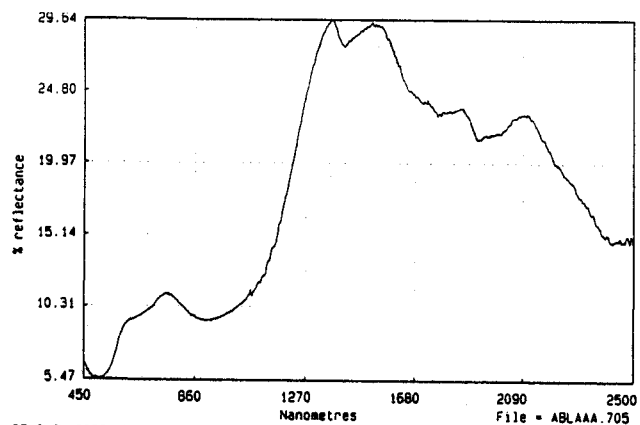


HULL QUOTIENTS

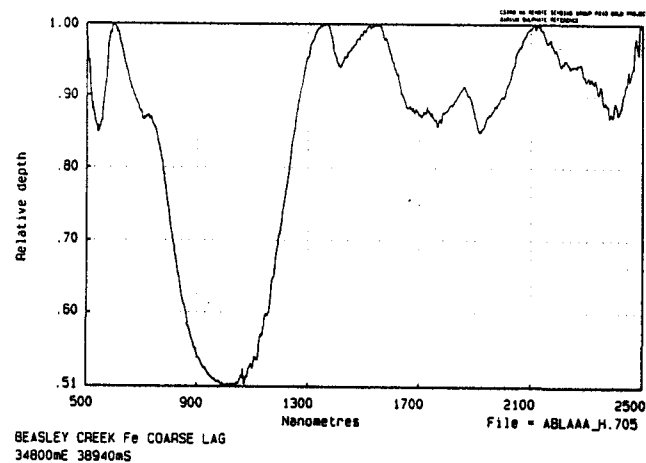


COARSE LAG
Line 38940mN

REFLECTANCE



HULL QUOTIENTS



COARSE LAG 38820

Beasley Creek Coarse Lag Absorption Wavelengths, Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLAAA.001	33600	38820	598.	996.	0.563	218.475	0.048	23.2	0.139	85.743	0.069	18.471	--0--	--0--
ABLAAA.002	33650	38820	588.	994.	0.543	215.150	0.073	23.848	0.132	99.269	0.089	37.842	--0--	--0--
ABLAAA.003	33700	38820	598.	980.	0.504	202.299	0.034	24.084	0.072	87.672	0.000	--0--	--0--	--0--
ABLAAA.004	33750	38820	588.	994.	0.506	236.478	--0--	--0--	0.118	28.397	0.000	--0--	--0--	--0--
ABLAAA.005	33800	38820	590.	952.	0.559	216.826	0.073	31.315	0.176	87.903	0.057	23.856	--0--	--0--
ABLAAA.006	33850	38820	594.	944.	0.496	209.825	0.098	47.867	0.21	13.560	0.048	32.974	--0--	--0--
ABLAAA.007	33900	38820	586.	974.	0.543	226.051	0.046	36.425	0.141	80.369	0.000	--0--	--0--	--0--
ABLAAA.008	33925	38820	578.	998.	0.669	266.515	0.094	40.252	0.231	118.86	--0--	--0--	--0--	--0--
ABLAAA.009	33950	38820	590.	980.	0.457	168.975	--0--	--0--	--0--	000.00	--0--	--0--	--0--	--0--
ABLAAA.010	33975	38820	588.	980.	0.553	221.016	0.024	21.723	0.104	94.295	--0--	--0--	--0--	--0--
ABLAAA.011	34000	38820	594.	972.	0.491	208.822	0.034	31.818	0.088	66.605	--0--	--0--	--0--	--0--
ABLAAA.012	34025	38820	594.	978.	0.503	205.172	--0--	--0--	0.093	95.024	--0--	--0--	--0--	--0--
ABLAAA.013	34050	38820	592.	976.	0.383	172.771	0.031	18.946	0.052	40.419	0.05	25.494	--0--	--0--
ABLAAA.014	34075	38820	594.	958.	0.503	211.995	0.07	29.021	0.117	77.187	0.071	30.378	--0--	--0--
ABLAAA.015	34100	38820	586.	976.	0.532	204.243	0.033	19.206	0.092	70.211	0.056	23.729	--0--	--0--
ABLAAA.016	34150	38820	586.	1036.	0.578	241.600	0.051	36.642	0.119	30.984	--0--	--0--	--0--	--0--
ABLAAA.017	34200	38820	586.	940.	0.502	227.840	0.034	42.579	0.124	84.968	--0--	--0--	--0--	--0--
ABLAAA.018	34250	38820	586.	940.	0.532	238.317	0.051	32.867	0.116	84.656	--0--	--0--	--0--	--0--
ABLAAA.706	34350	38820	600.	948.	0.33	173.361	0.045	23.124	0.072	45.725	0.076	28.41	--0--	--0--
ABLAAA.707	34450	38820	600.	926.	0.498	188.622	0.139	26.351	0.107	51.593	0.155	45.796	--0--	--0--
ABLAAA.708	34550	38820	600.	906.	0.226	118.116	0.043	15.586	0.061	54.218	0.064	36.538	--0--	--0--
ABLAAA.709	34650	38820	594.	970.	0.561	218.216	0.086	25.018	0.139	79.412	0.086	35.522	--0--	--0--
ABLAAA.710	34750	38820	600.	924.	0.325	135.200	0.04	28.05	0.038	34.046	0.09	27.312	--0--	--0--

COARSE LAG 38820

Beasley Creek Coarse Lag Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLAAA.001	33600	38820	5.370	8.063	8.573	9.027	9.950	7.379	7.236	24.853	--0--	--0--	--0--	--0--	--0--
ABLAAA.002	33650	38820	5.394	8.884	9.623	9.838	11.495	8.946	9.111	31.556	--0--	--0--	--0--	--0--	--0--
ABLAAA.003	33700	38820	6.050	8.318	8.819	9.203	11.146	8.743	8.966	29.061	--0--	--0--	--0--	--0--	--0--
ABLAAA.004	33750	38820	6.690	8.043	8.366	8.281	9.398	7.903	7.932	24.079	--0--	--0--	--0--	--0--	--0--
ABLAAA.005	33800	38820	5.484	7.511	7.994	8.549	9.999	7.781	7.765	29.183	--0--	--0--	--0--	--0--	--0--
ABLAAA.006	33850	38820	4.959	7.354	8.181	8.921	10.372	8.486	8.642	28.569	--0--	--0--	--0--	--0--	--0--
ABLAAA.007	33900	38820	5.138	6.521	6.805	7.130	8.385	6.575	6.671	22.989	--0--	--0--	--0--	--0--	--0--
ABLAAA.008	33925	38820	3.917	4.982	5.122	5.062	5.861	4.488	4.486	20.182	--0--	--0--	--0--	--0--	--0--
ABLAAA.009	33950	38820	3.388	3.888	3.961	4.053	4.642	3.547	3.628	9.048	--0--	--0--	--0--	--0--	--0--
ABLAAA.010	33975	38820	6.342	8.760	9.005	9.167	10.542	8.134	8.151	28.384	--0--	--0--	--0--	--0--	--0--
ABLAAA.011	34000	38820	5.667	7.326	7.837	8.177	9.885	7.859	7.977	24.885	--0--	--0--	--0--	--0--	--0--
ABLAAA.012	34025	38820	5.948	7.718	8.203	8.604	10.233	7.945	7.974	25.478	--0--	--0--	--0--	--0--	--0--
ABLAAA.013	34050	38820	5.571	8.329	8.799	9.097	10.466	8.164	8.129	18.075	--0--	--0--	--0--	--0--	--0--
ABLAAA.014	34075	38820	5.583	8.525	9.154	9.602	11.448	9.117	9.253	30.680	--0--	--0--	--0--	--0--	--0--
ABLAAA.015	34100	38820	4.898	7.477	7.819	8.108	9.349	7.173	7.273	24.531	--0--	--0--	--0--	--0--	--0--
ABLAAA.016	34150	38820	6.482	9.535	9.939	9.924	11.019	8.771	8.784	31.140	--0--	--0--	--0--	--0--	--0--
ABLAAA.017	34200	38820	6.075	7.652	8.217	8.779	10.348	8.704	8.937	29.324	--0--	--0--	--0--	--0--	--0--
ABLAAA.018	34250	38820	7.235	9.207	9.696	10.160	11.509	9.756	10.041	35.055	--0--	--0--	--0--	--0--	--0--
ABLAAA.706	34350	38820	5.843	8.373	9.248	10.045	11.412	9.751	9.922	21.763	--0--	--0--	--0--	--0--	--0--
ABLAAA.707	34450	38820	5.531	8.494	9.548	10.331	12.052	9.340	9.646	30.671	--0--	--0--	--0--	--0--	--0--
ABLAAA.708	34550	38820	4.951	6.881	7.363	7.708	8.440	7.195	7.162	10.680	--0--	--0--	--0--	--0--	--0--
ABLAAA.709	34650	38820	5.008	7.382	7.977	8.446	9.667	7.478	7.575	28.697	--0--	--0--	--0--	--0--	--0--
ABLAAA.710	34750	38820	4.546	5.799	6.443	6.810	7.569	6.334	6.553	13.395	--0--	--0--	--0--	--0--	--0--

COARSE LAG 38820

Beasley Creek Coarse Lag Selected ICP & INAA Analyses

FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLAAA.001	33600	38820	8.06	4.84	74.00	0.12	0.11	--0--	0.40	1.869
ABLAAA.002	33850	38820	7.84	4.70	75.00	0.11	0.10	--0--	0.29	1.596
ABLAAA.003	33700	38820	7.46	3.92	80.00	0.11	0.11	--0--	0.25	0.907
ABLAAA.004	33750	38820	7.68	3.76	75.40	0.12	0.13	--0--	0.39	3.200
ABLAAA.005	33800	38820	7.38	4.58	71.80	0.14	0.17	--0--	0.32	0.789
ABLAAA.006	33850	38820	7.26	4.06	77.80	0.16	0.27	--0--	0.27	1.011
ABLAAA.007	33900	38820	7.94	3.74	70.60	0.16	0.27	--0--	0.31	1.430
ABLAAA.008	33925	38820	8.48	3.00	70.40	0.15	0.27	--0--	0.23	2.788
ABLAAA.009	33950	38820	6.22	3.22	75.80	0.14	0.26	--0--	0.25	1.273
ABLAAA.010	33975	38820	7.54	3.87	68.80	0.14	0.20	--0--	0.34	2.666
ABLAAA.011	34000	38820	5.18	3.62	74.40	0.14	0.20	--0--	0.34	0.456
ABLAAA.012	34025	38820	6.48	4.14	76.80	0.14	0.23	--0--	0.27	12.450
ABLAAA.013	34050	38820	6.90	5.34	66.60	0.15	0.12	--0--	0.38	0.713
ABLAAA.014	34075	38820	6.26	6.68	72.40	0.09	0.08	--0--	0.34	0.467
ABLAAA.015	34100	38820	6.30	5.20	71.60	0.12	0.08	--0--	0.35	0.891
ABLAAA.016	34150	38820	7.54	6.00	79.80	0.11	0.08	--0--	0.32	1.840
ABLAAA.017	34200	38820	6.02	4.24	73.00	0.12	0.10	--0--	0.23	1.062
ABLAAA.018	34250	38820	5.90	3.66	72.00	0.12	0.11	--0--	0.25	1.057
ABLAAA.706	34350	38820	11.60	8.13	70.80	0.08	0.08	--0--	0.60	0.345
ABLAAA.707	34450	38820	9.92	8.31	68.30	0.08	0.07	--0--	0.53	0.183
ABLAAA.708	34550	38820	12.30	8.87	77.90	0.06	0.08	--0--	0.71	0.104
ABLAAA.709	34650	38820	14.30	7.82	71.10	0.09	0.08	--0--	0.67	0.007
ABLAAA.710	34750	38820	13.04	5.51	68.11	0.08	0.07	--0--	0.48	0.035

COARSE LAG 38940

Beasley Creek Coarse Lag Selected Reflectances

FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLAAA.021	33650	38940	5.054	6.840	7.137	7.308	8.253	6.611	6.581	17.815	--0--	--0--	--0--	--0--	--0--
ABLAAA.022	33700	38940	6.499	8.803	9.284	9.716	10.670	9.265	9.339	18.045	--0--	--0--	--0--	--0--	--0--
ABLAAA.023	33750	38940	5.353	7.160	7.903	8.728	10.348	8.780	9.139	18.755	--0--	--0--	--0--	--0--	--0--
ABLAAA.024	33800	38940	3.615	4.330	4.484	4.460	5.259	4.112	4.146	13.972	--0--	--0--	--0--	--0--	--0--
ABLAAA.025	33850	38940	3.838	4.757	5.135	5.466	7.018	5.932	5.978	14.218	--0--	--0--	--0--	--0--	--0--
ABLAAA.026	33900	38940	4.643	6.159	6.469	6.633	7.692	6.069	6.160	21.272	--0--	--0--	--0--	--0--	--0--
ABLAAA.027	33925	38940	4.283	5.786	6.167	6.339	7.803	6.062	6.016	20.408	--0--	--0--	--0--	--0--	--0--
ABLAAA.028	33950	38940	5.102	6.231	6.568	6.946	7.834	6.600	6.621	17.166	--0--	--0--	--0--	--0--	--0--
ABLAAA.029	33975	38940	5.827	8.902	9.735	10.490	12.867	10.119	10.403	34.150	--0--	--0--	--0--	--0--	--0--
ABLAAA.030	34000	38940	6.921	9.618	10.283	10.687	12.754	10.190	10.377	34.848	--0--	--0--	--0--	--0--	--0--
ABLAAA.031	34025	38940	6.767	9.392	9.911	10.325	12.454	9.756	9.753	32.062	--0--	--0--	--0--	--0--	--0--
ABLAAA.032	34050	38940	4.285	6.426	7.200	7.808	9.458	8.036	8.358	22.960	--0--	--0--	--0--	--0--	--0--
ABLAAA.033	34100	38940	4.893	7.887	9.079	10.180	12.220	9.746	10.171	26.593	--0--	--0--	--0--	--0--	--0--
ABLAAA.034	34150	38940	4.650	6.963	7.774	8.429	9.557	7.669	7.911	20.821	--0--	--0--	--0--	--0--	--0--
ABLAAA.035	34200	38940	4.336	5.546	6.086	6.802	8.038	6.809	7.077	18.501	--0--	--0--	--0--	--0--	--0--
ABLAAA.036	34250	38940	5.205	7.035	8.017	9.079	10.857	8.474	8.930	29.087	--0--	--0--	--0--	--0--	--0--
ABLAAA.701	34400	38940	3.939	4.755	5.106	5.430	5.940	4.699	4.625	12.437	--0--	--0--	--0--	--0--	--0--
ABLAAA.702	34500	38940	5.989	8.879	9.449	9.854	11.220	8.723	8.742	33.645	--0--	--0--	--0--	--0--	--0--
ABLAAA.703	34600	38940	5.234	6.635	6.962	7.299	8.337	6.655	6.655	22.892	--0--	--0--	--0--	--0--	--0--
ABLAAA.704	34700	38940	6.328	9.741	10.259	10.556	12.062	9.378	9.365	32.206	--0--	--0--	--0--	--0--	--0--
ABLAAA.705	34800	38940	5.552	8.533	9.233	9.691	11.188	9.381	9.512	29.440	--0--	--0--	--0--	--0--	--0--

COARSE LAG 38940

Beasley Creek Coarse Lag Selected ICP & INAA Analyses

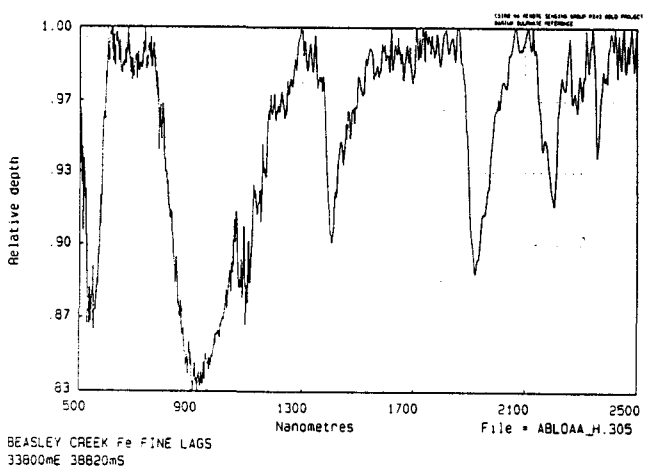
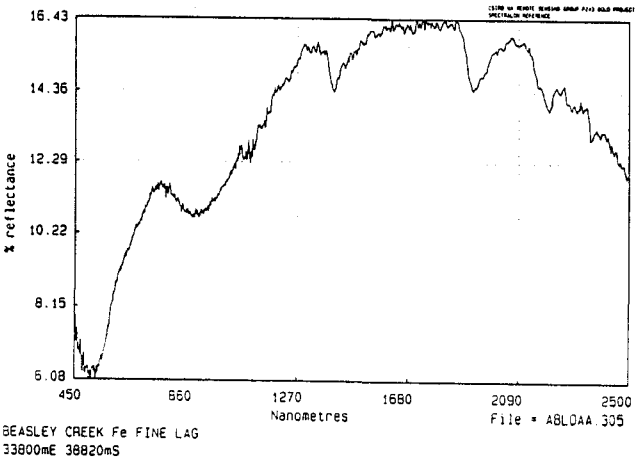
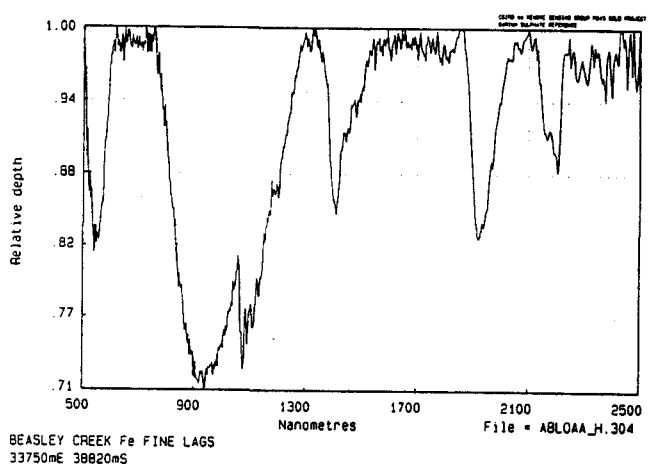
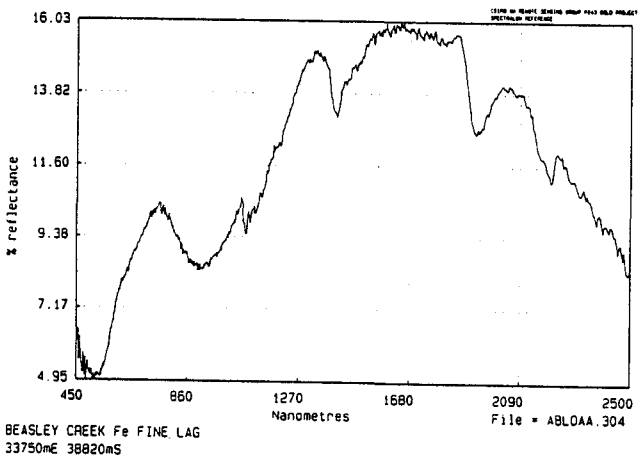
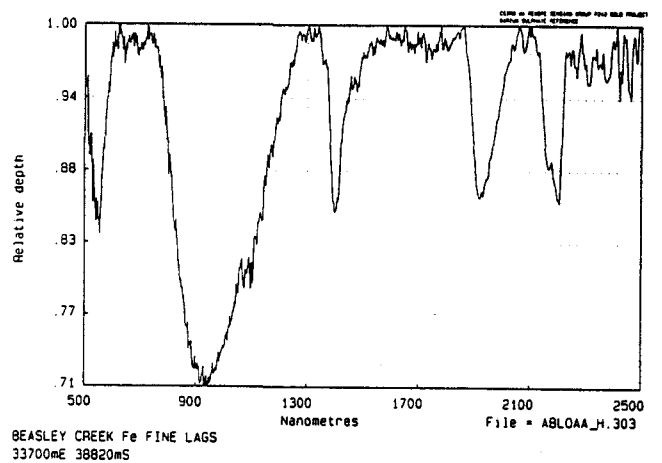
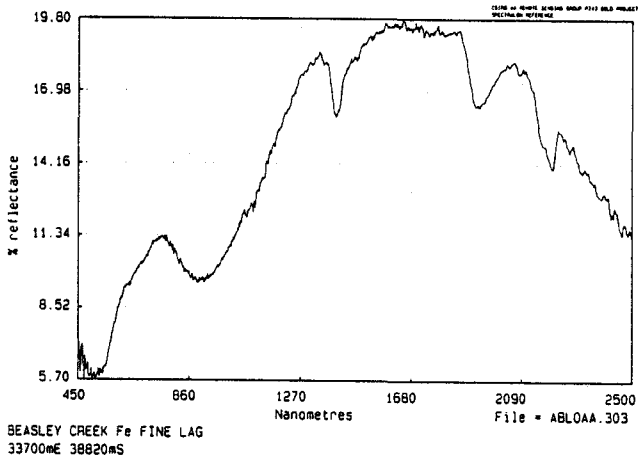
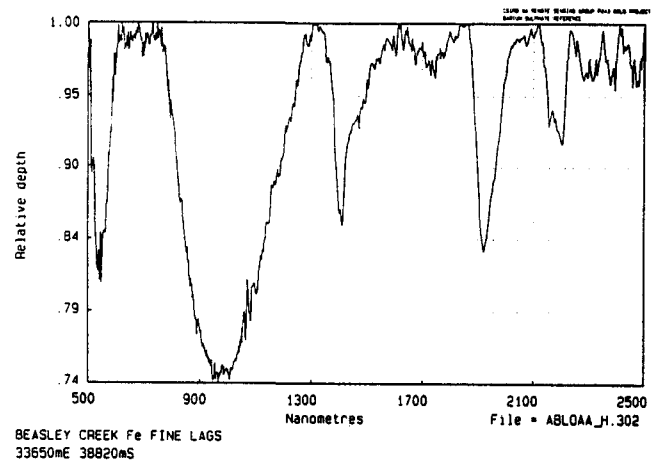
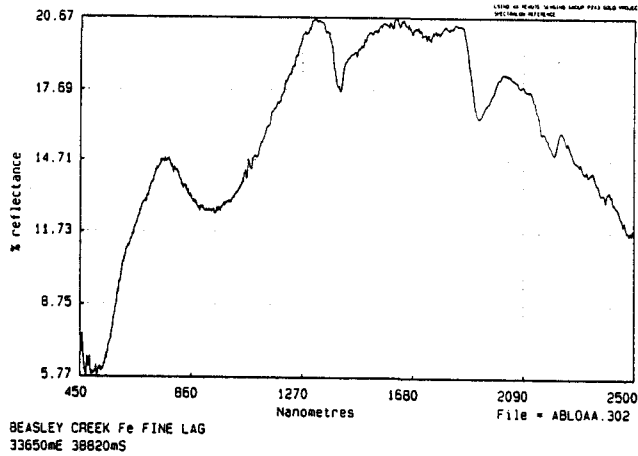
FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLAAA.021	33650	38940	14.20	5.16	69.90	0.12	0.15	--0--	0.36	0.395
ABLAAA.022	33700	38940	8.00	5.96	72.80	0.13	0.16	--0--	0.32	1.359
ABLAAA.023	33750	38940	7.82	5.28	75.40	0.12	0.18	--0--	0.45	0.085
ABLAAA.024	33800	38940	8.96	3.54	69.40	0.21	0.35	--0--	0.24	0.633
ABLAAA.025	33850	38940	7.84	3.96	74.40	0.19	0.30	--0--	0.30	0.288
ABLAAA.026	33900	38940	7.62	3.16	74.00	0.15	0.21	--0--	0.23	6.196
ABLAAA.027	33925	38940	6.70	3.80	72.80	0.15	0.25	--0--	0.24	2.741
ABLAAA.028	33950	38940	9.58	5.66	74.80	0.20	0.41	--0--	0.54	12.04
ABLAAA.029	33975	38940	9.24	5.06	72.80	0.35	1.35	--0--	0.46	8.826
ABLAAA.030	34000	38940	9.88	4.26	74.00	0.18	0.32	--0--	0.33	2.295
ABLAAA.031	34025	38940	6.88	4.34	77.20	0.13	0.21	--0--	0.33	5.188
ABLAAA.032	34050	38940	10.10	8.26	77.40	0.12	0.16	--0--	0.47	1.322
ABLAAA.033	34100	38940	8.46	8.04	66.80	0.08	0.08	--0--	0.53	0.520
ABLAAA.034	34150	38940	8.64	7.96	68.80	0.10	0.08	--0--	0.50	0.231
ABLAAA.035	34200	38940	11.70	9.68	69.80	0.09	0.11	--0--	0.53	0.077
ABLAAA.036	34250	38940	10.10	8.80	74.40	0.10	0.13	--0--	0.49	0.300
ABLAAA.701	34400	38940	11.10	8.44	74.40	0.10	0.14	--0--	0.65	0.180
ABLAAA.702	34500	38940	13.70	5.96	71.40	0.12	0.10	--0--	0.65	0.006
ABLAAA.703	34600	38940	21.60	5.35	66.10	0.11	0.13	--0--	0.47	0.006
ABLAAA.704	34700	38940	20.80	4.02	67.60	0.12	0.12	--0--	0.28	0.066
ABLAAA.705	34800	38940	18.30	4.37	60.80	0.11	0.10	--0--	0.76	0.006

Appendix 2.2

Fine Lag Spectral Data and Ancillary Information

REFLECTANCE

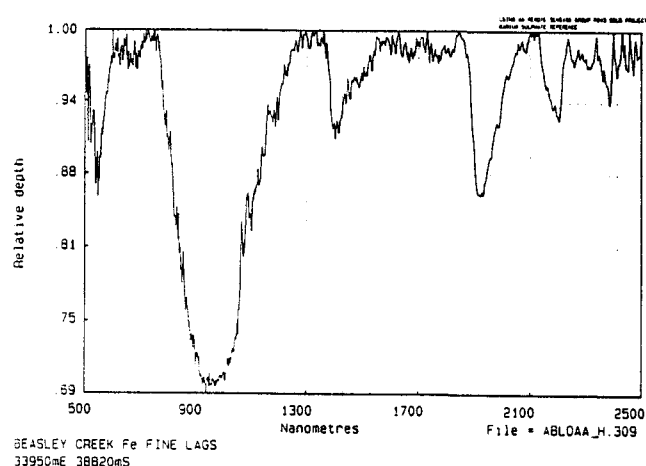
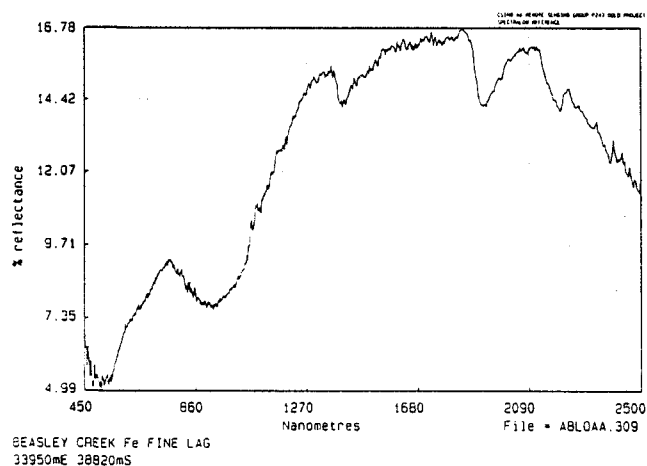
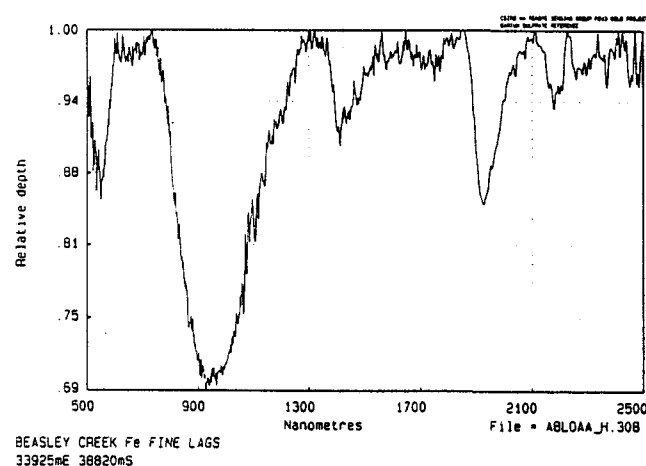
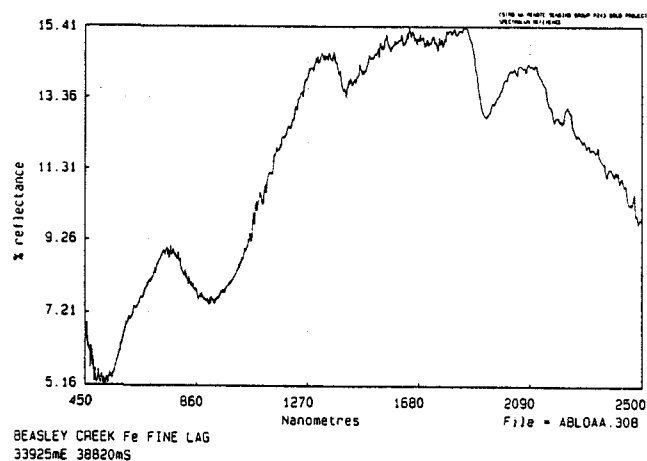
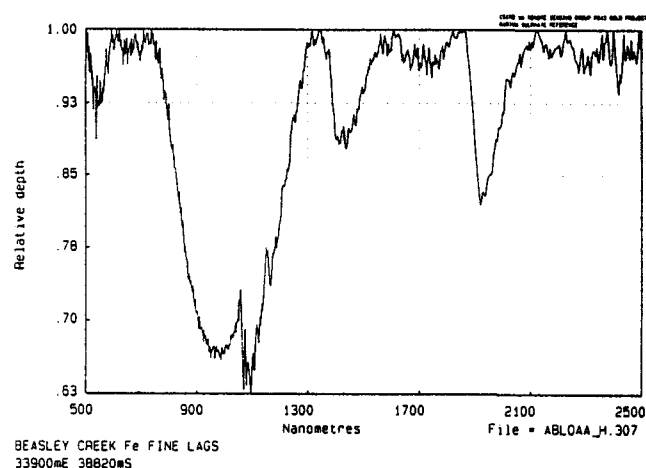
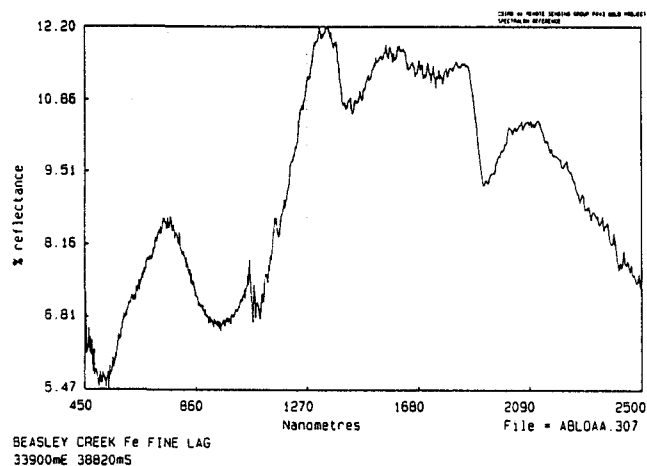
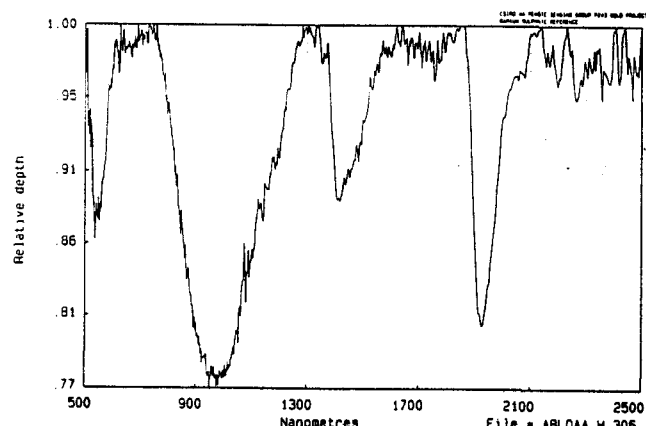
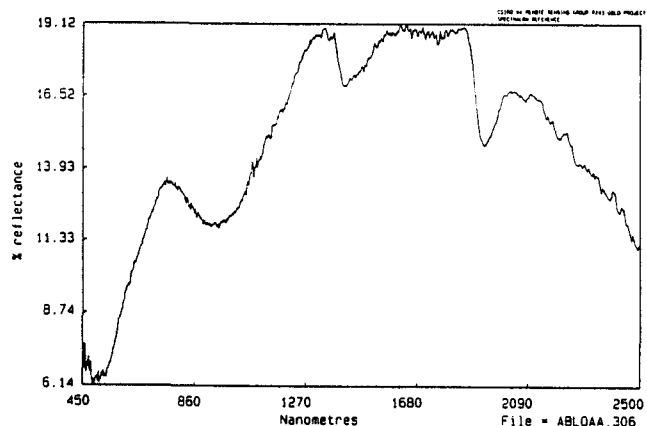
HULL QUOTIENTS



FINE LAG Line 38820mN

REFLECTANCE

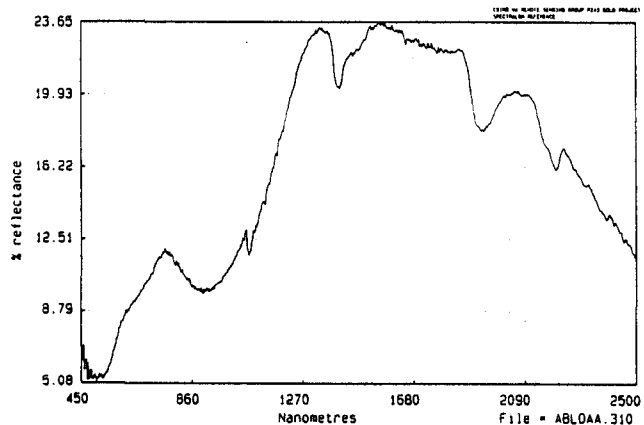
HULL QUOTIENTS



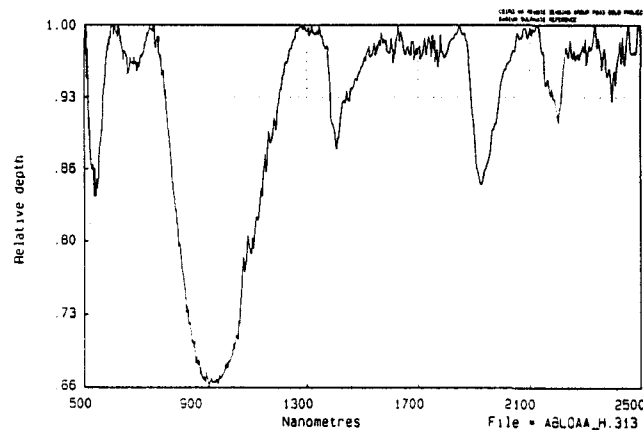
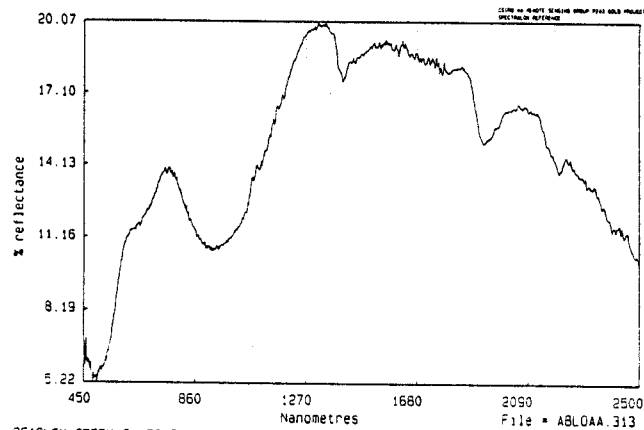
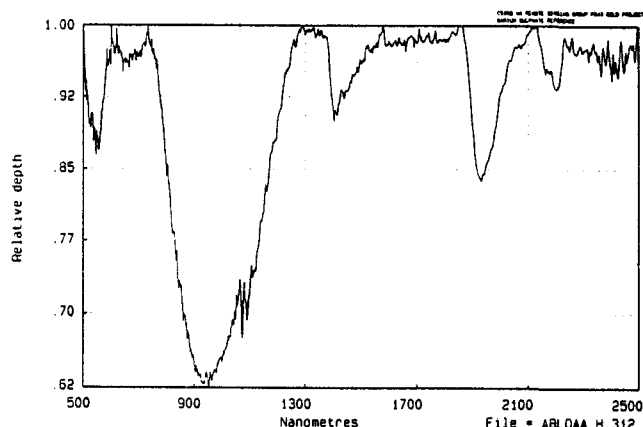
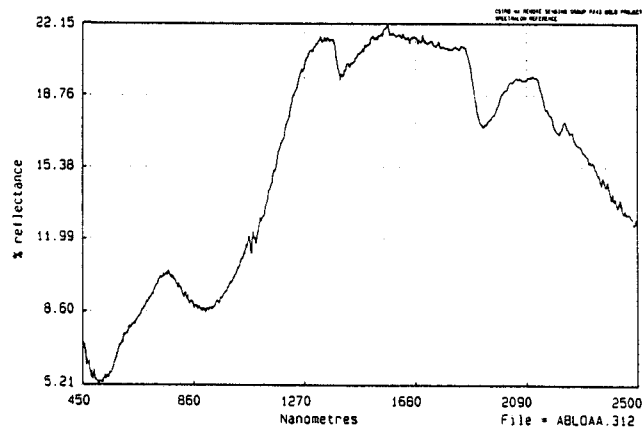
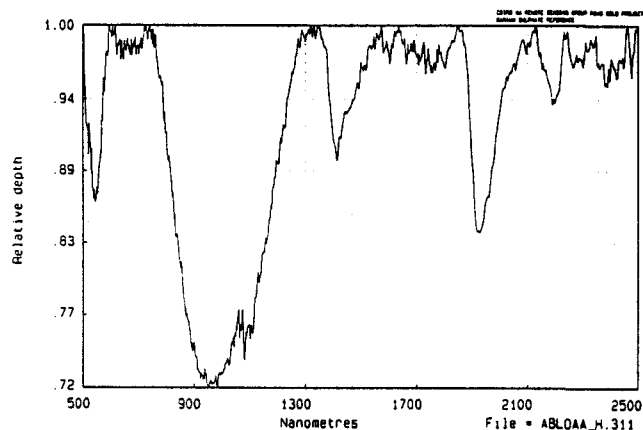
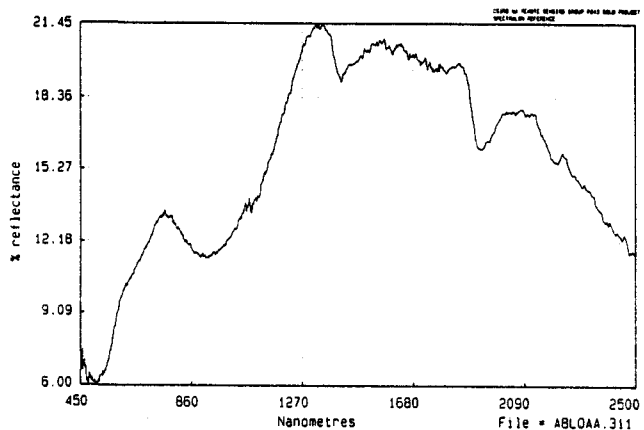
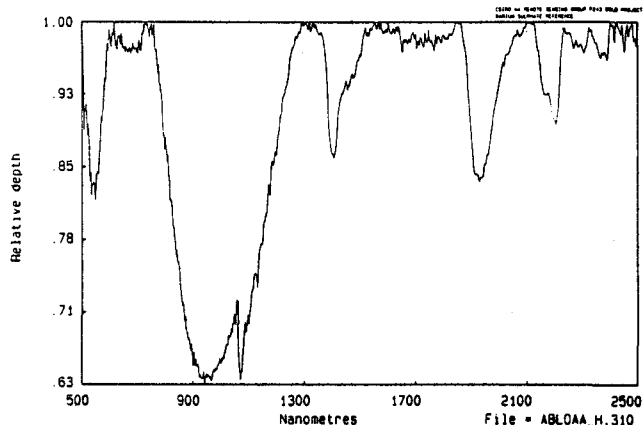
EG160R

FINE LAG Line 38820mN

REFLECTANCE



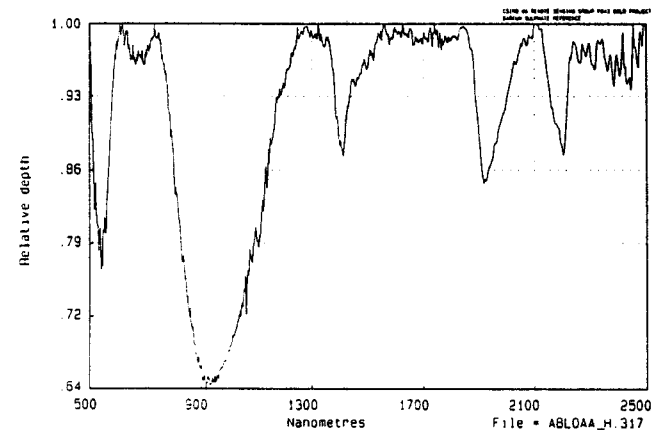
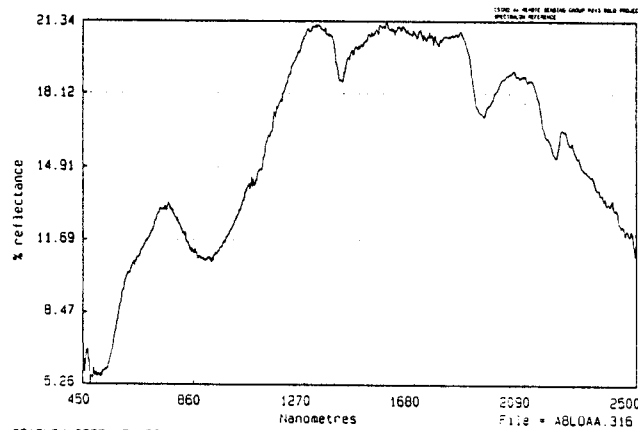
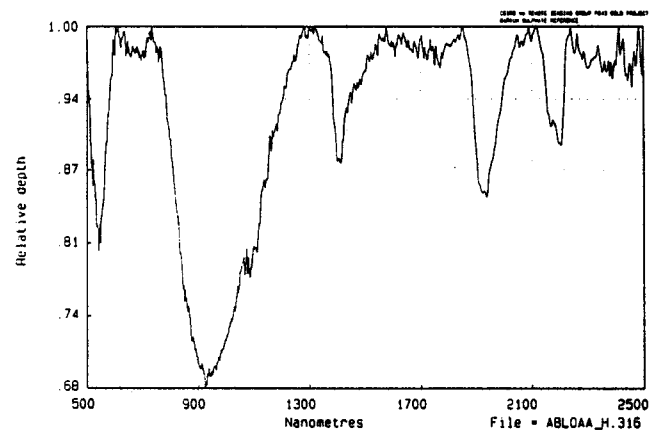
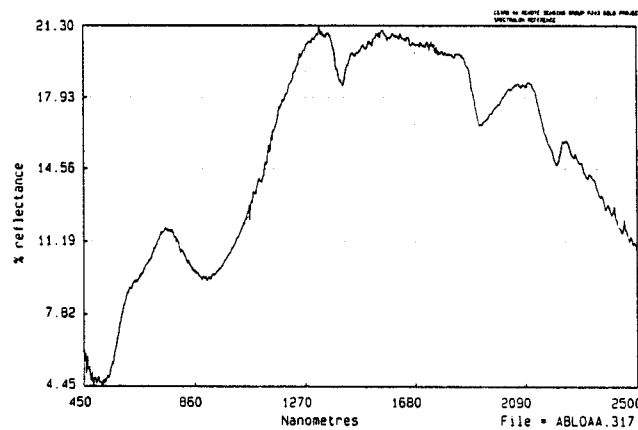
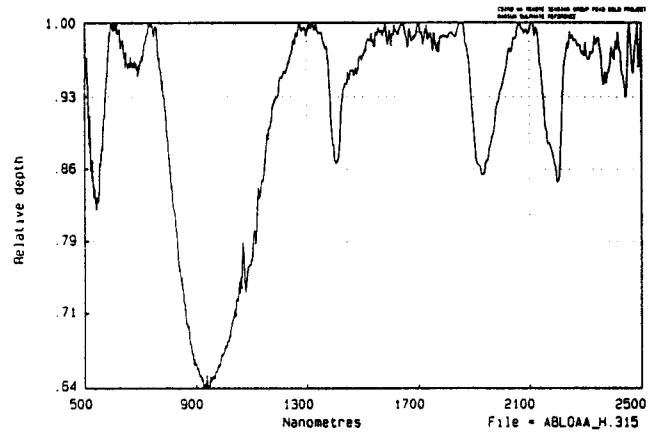
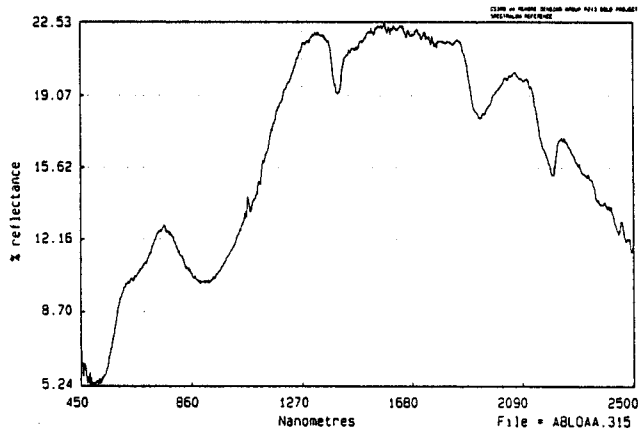
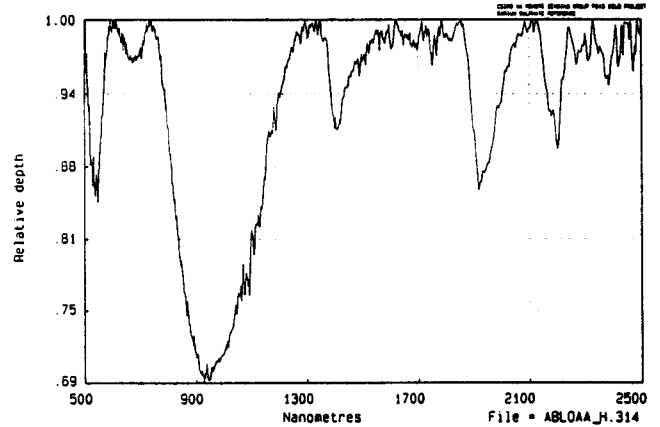
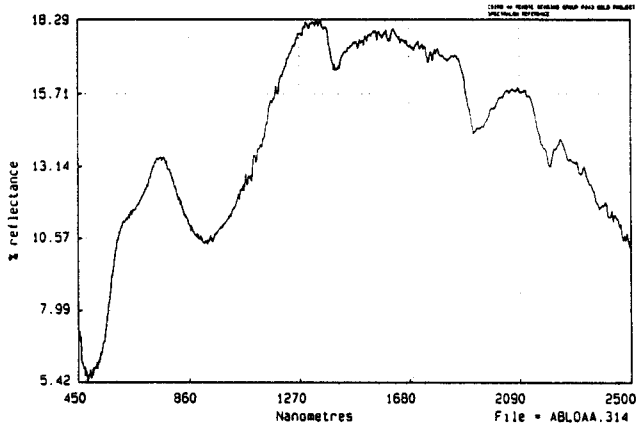
HULL QUOTIENTS



FINE LAG
Line 38820mN

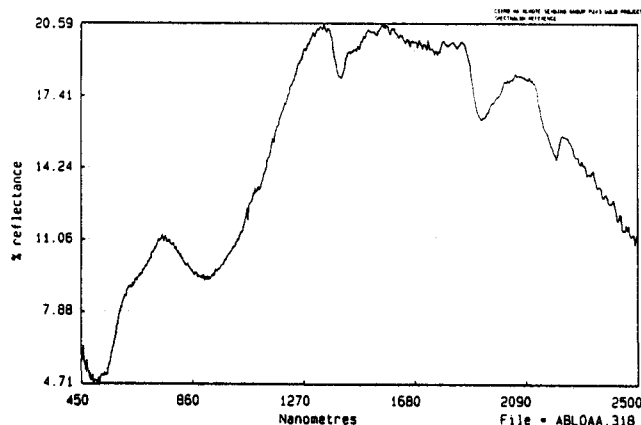
REFLECTANCE

HULL QUOTIENTS

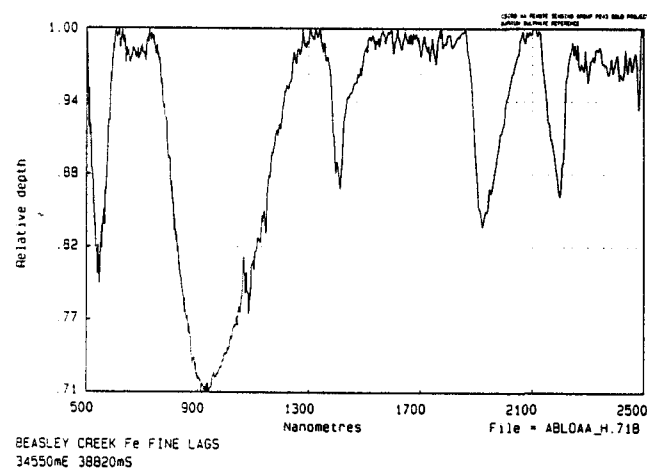
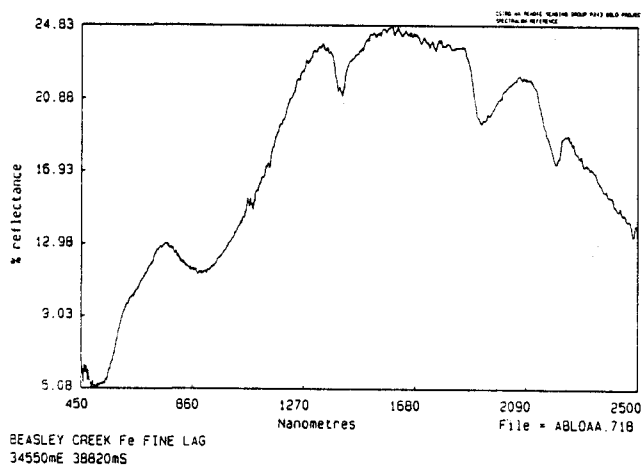
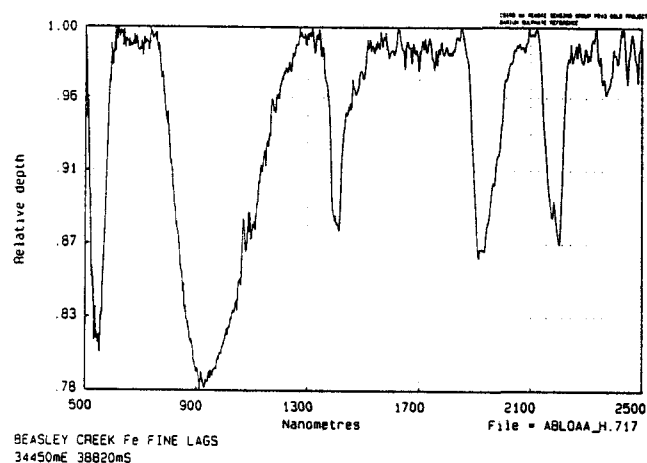
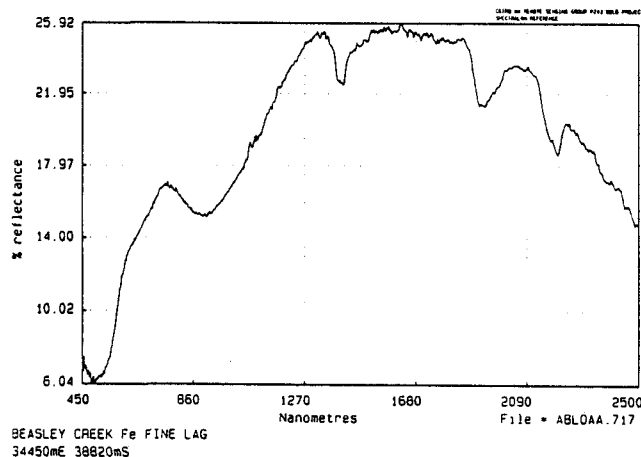
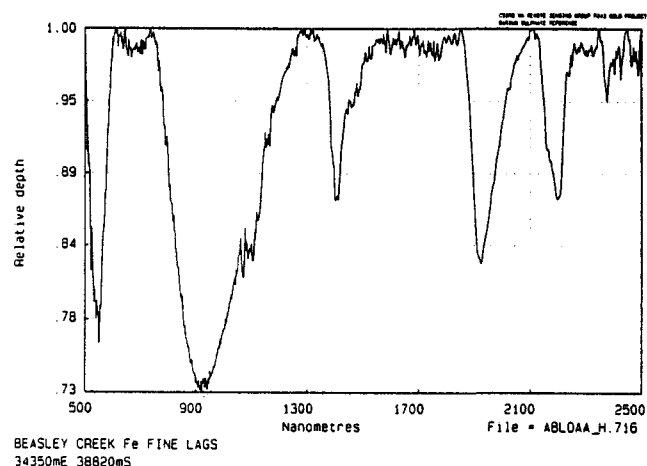
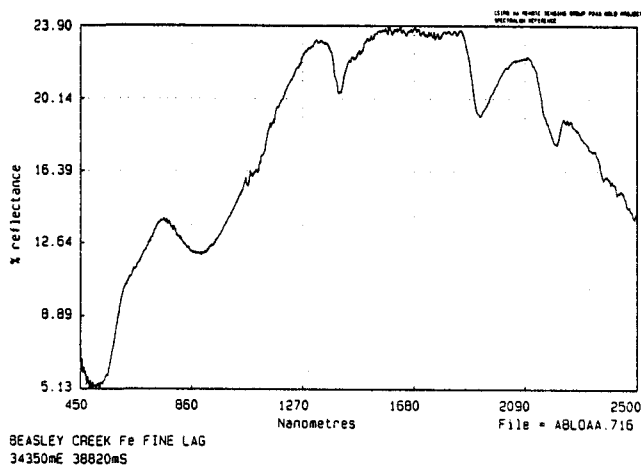
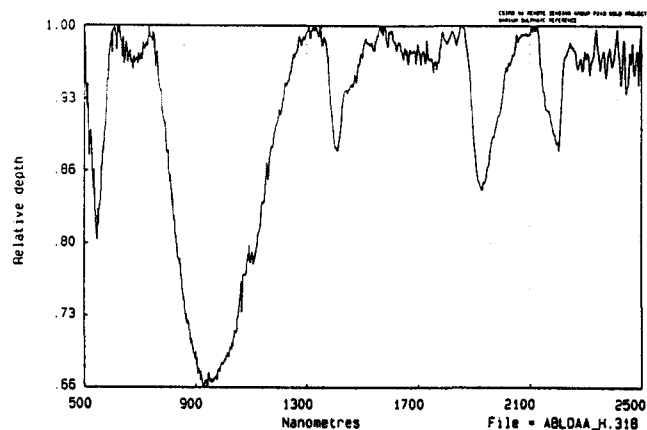


FINE LAG Line 38820mN

REFLECTANCE

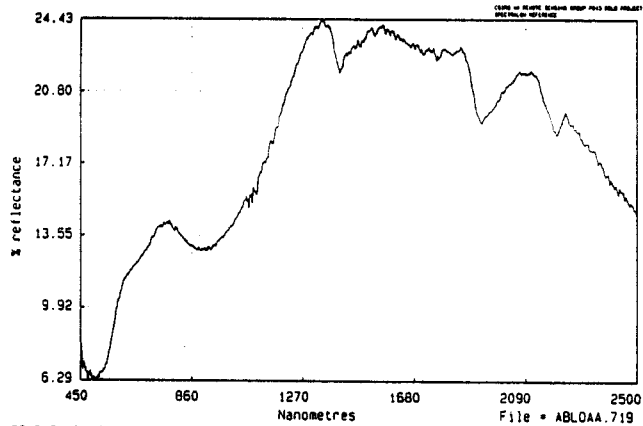


HULL QUOTIENTS

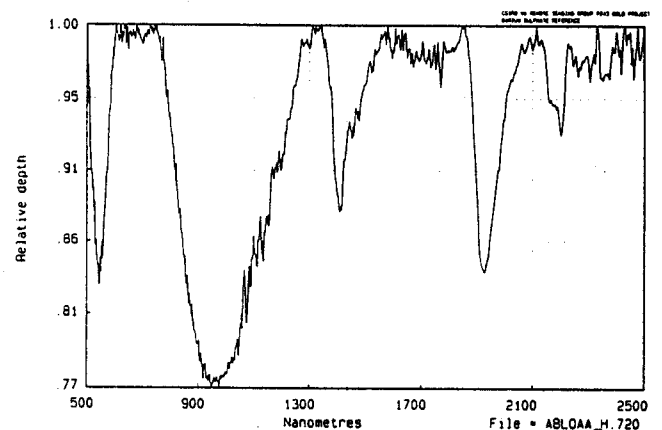
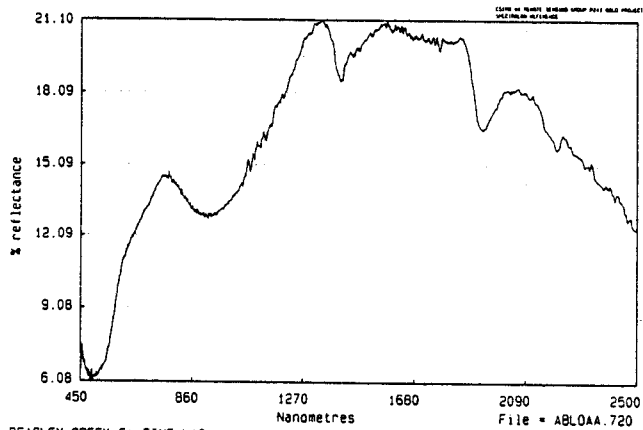
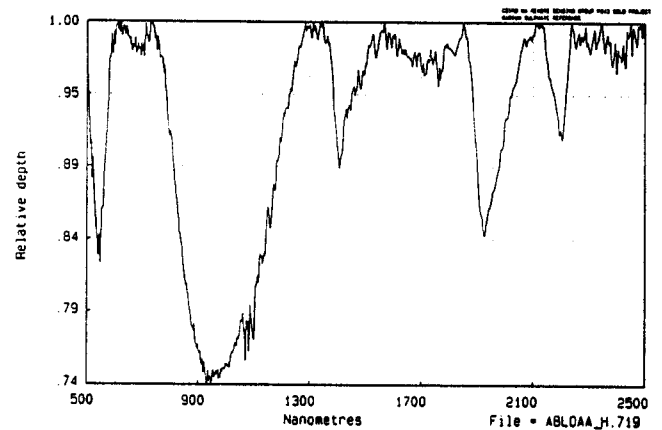


FINE LAG Line 38820mN

REFLECTANCE

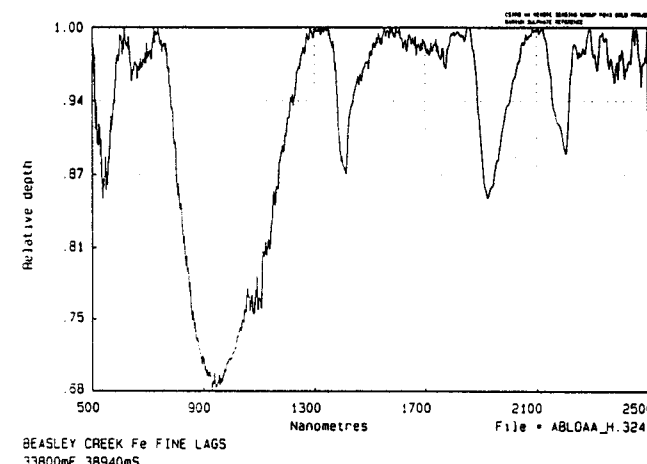
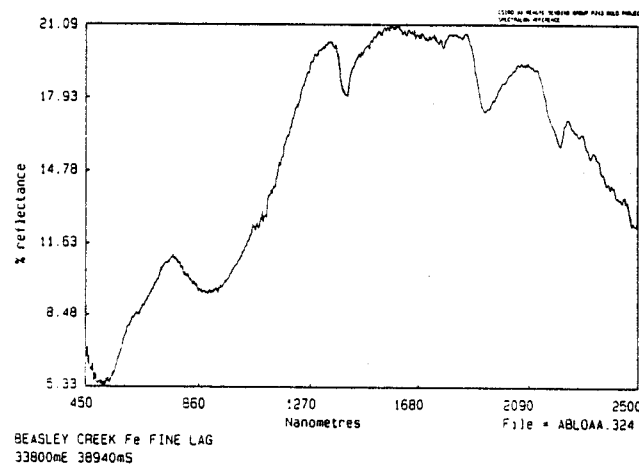
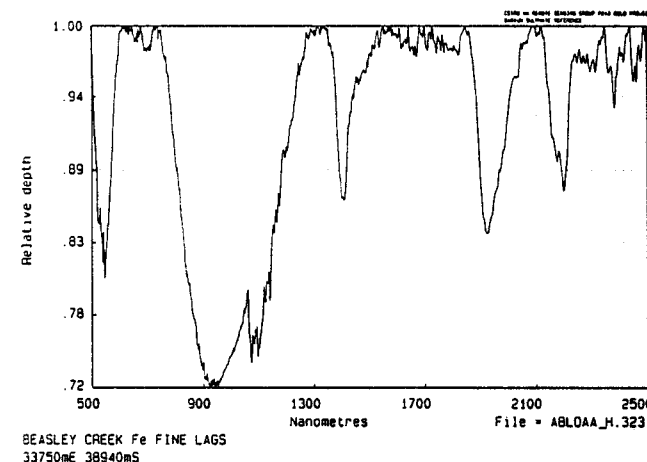
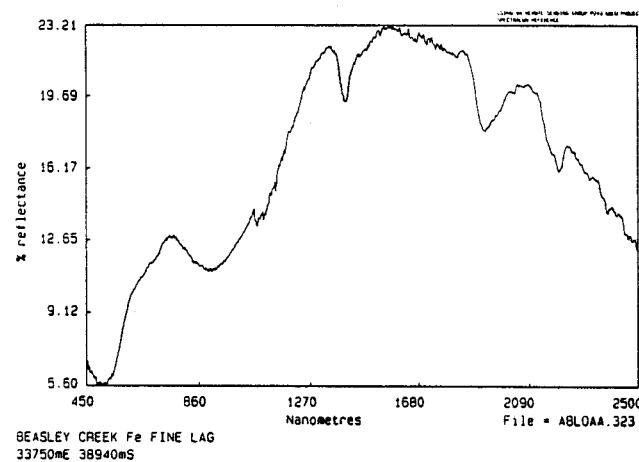
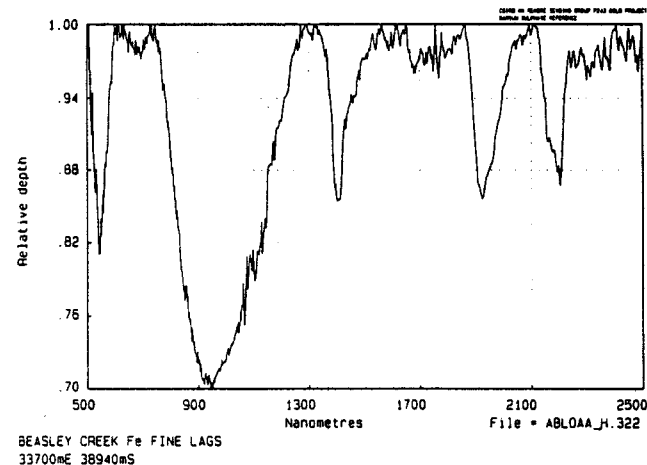
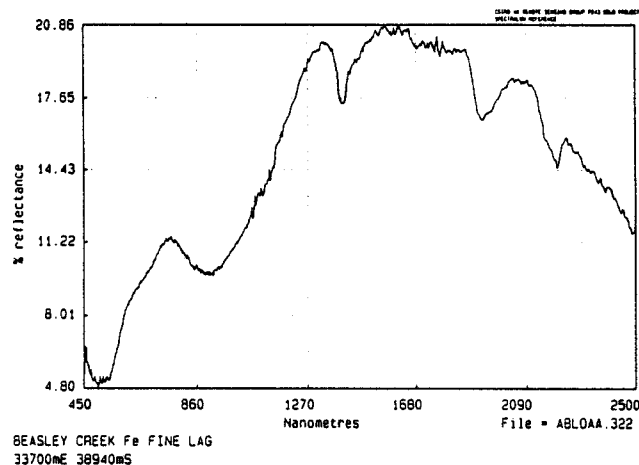
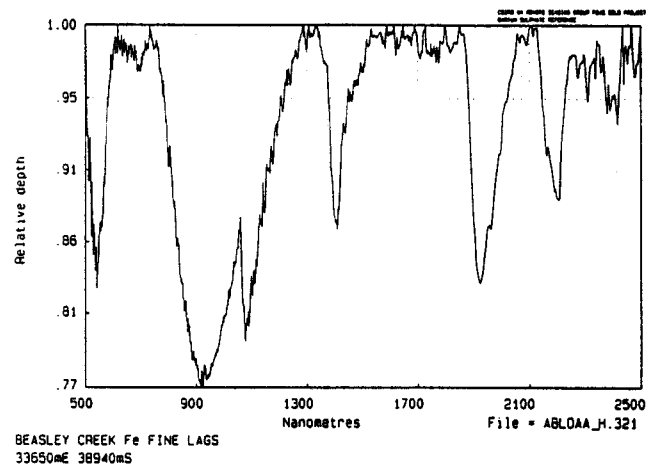
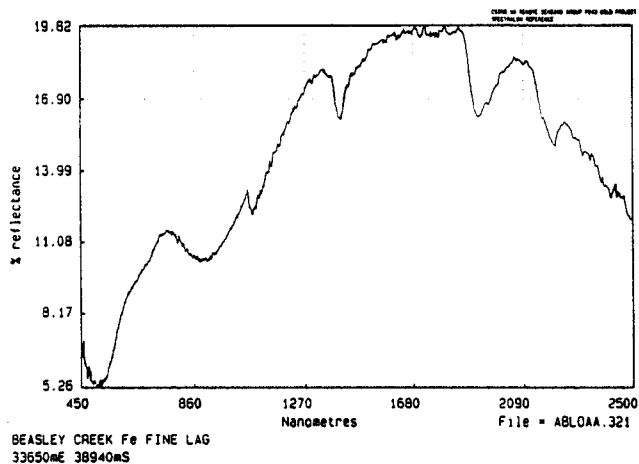


HULL QUOTIENTS



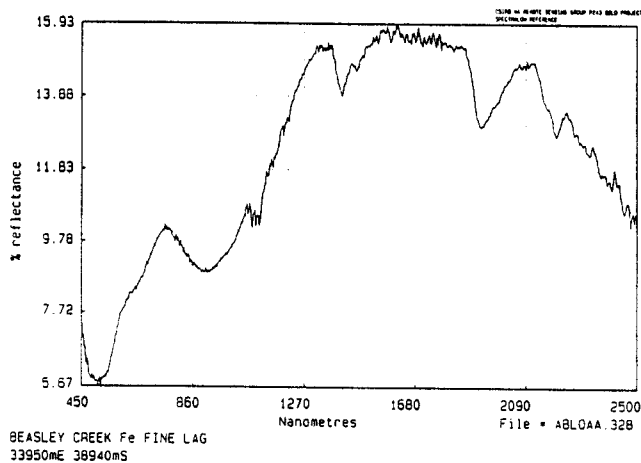
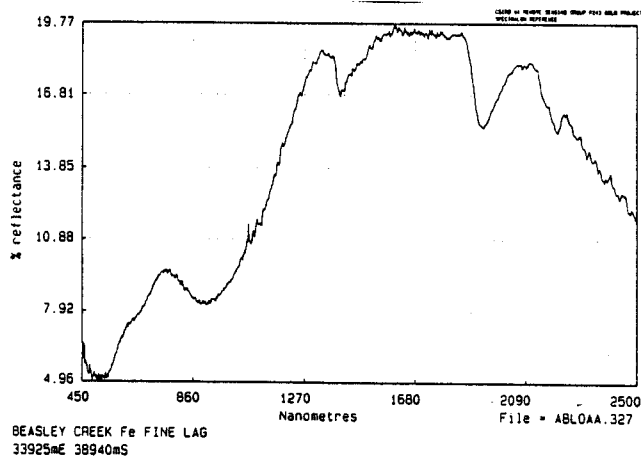
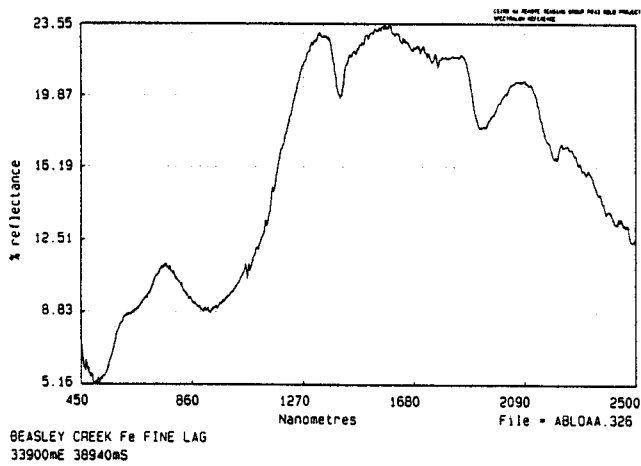
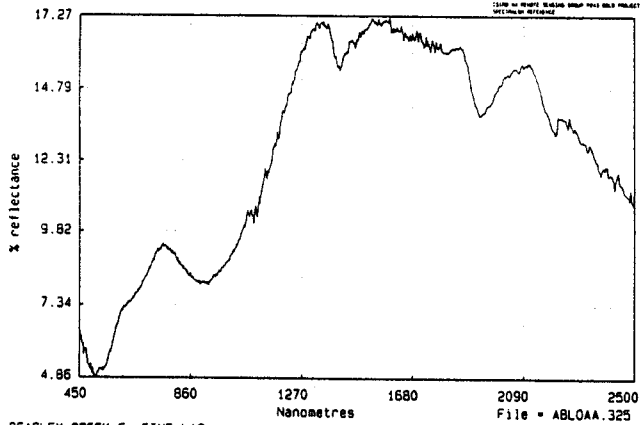
REFLECTANCE

HULL QUOTIENTS

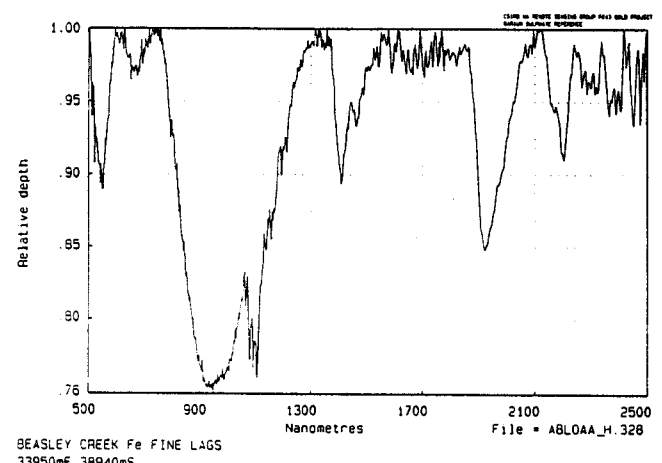
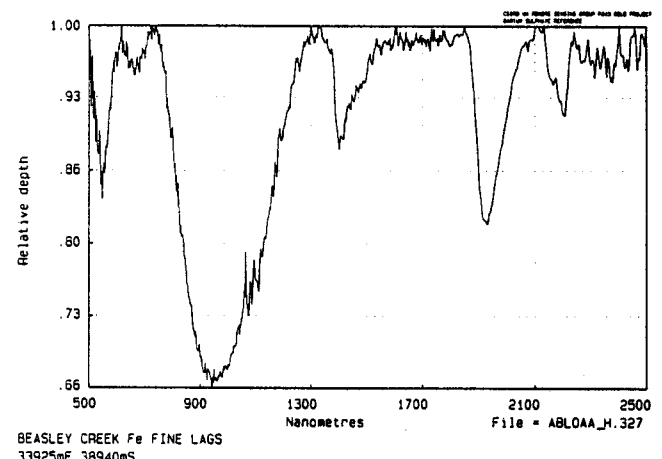
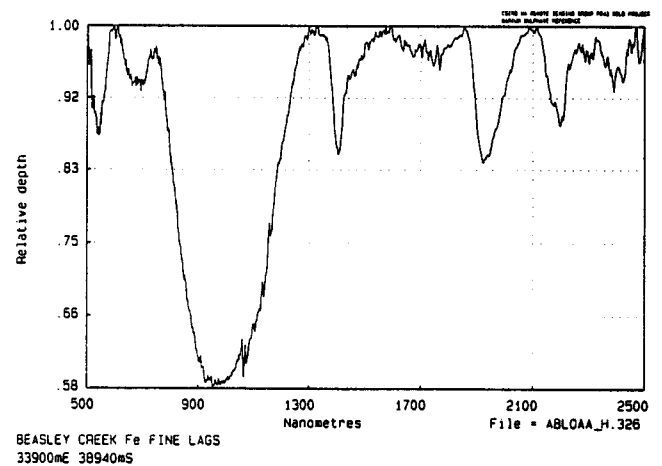
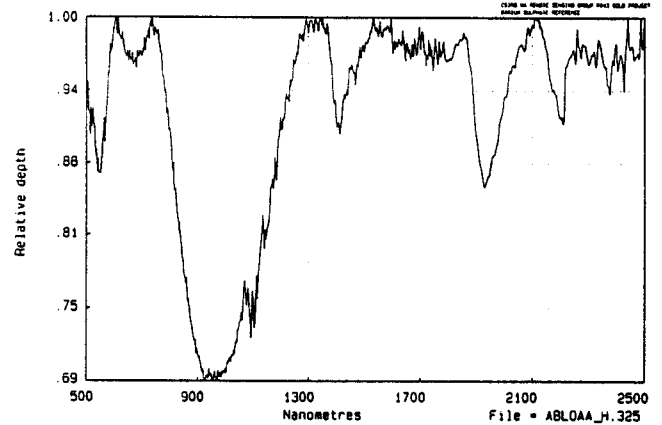


FINE LAG Line 38940mN

REFLECTANCE

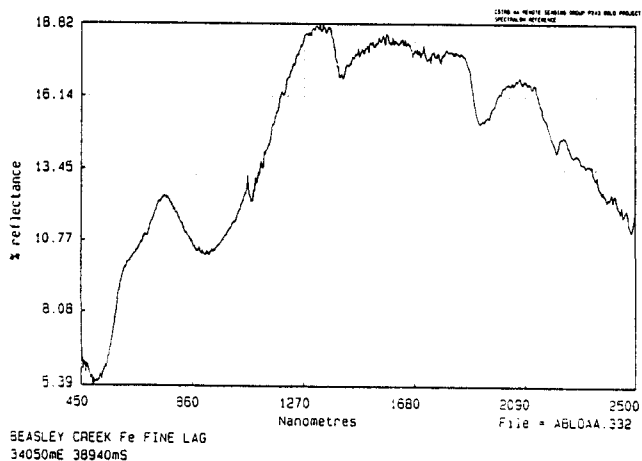
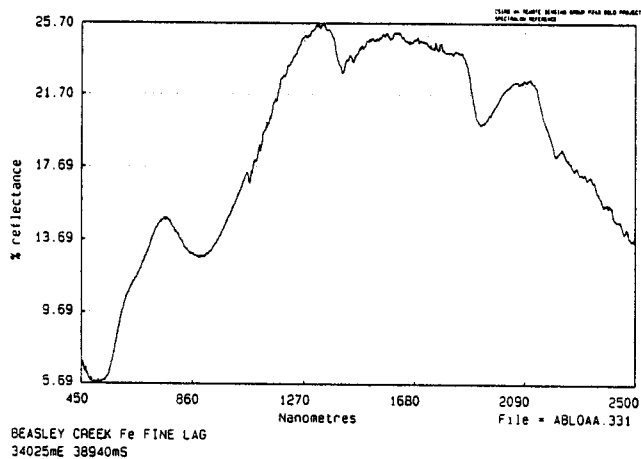
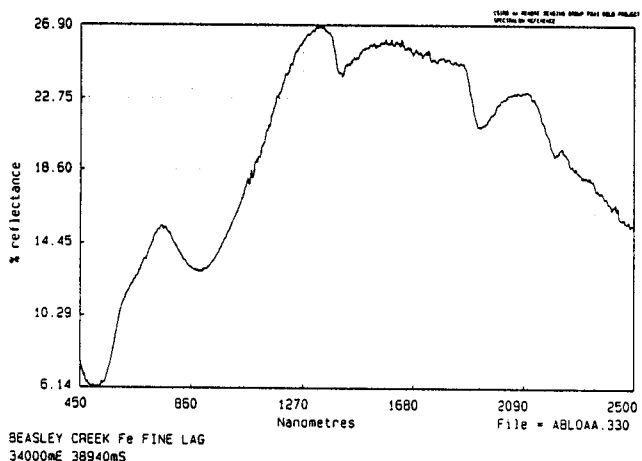
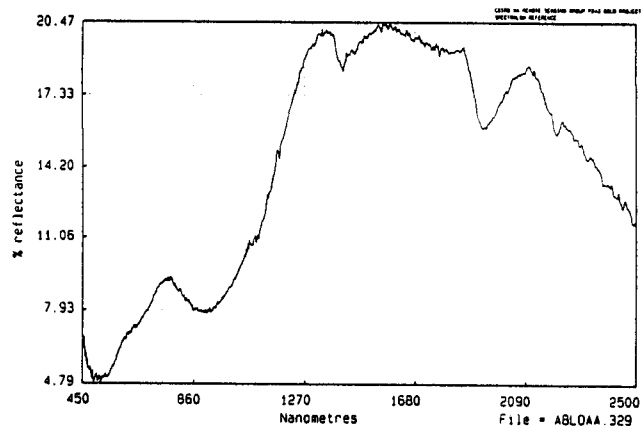


HULL QUOTIENTS

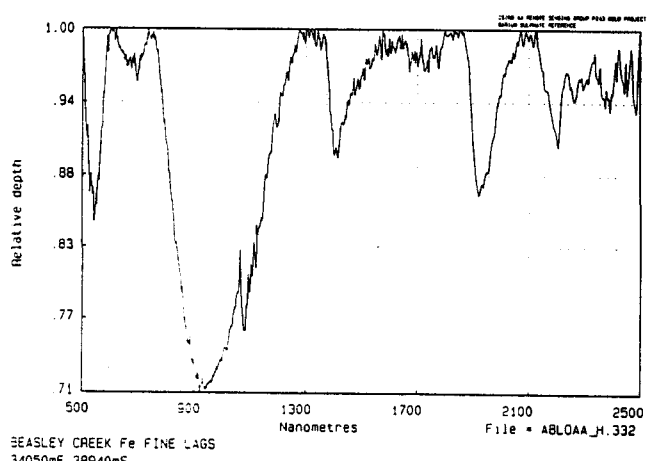
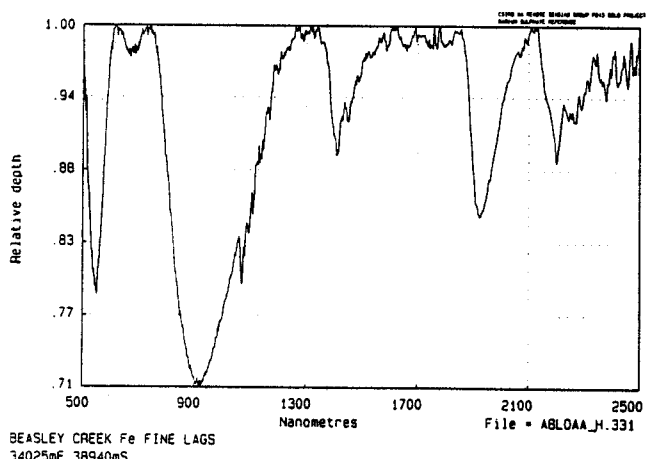
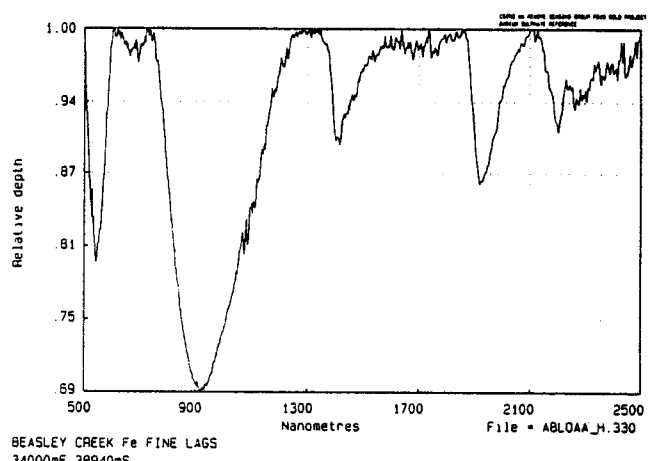
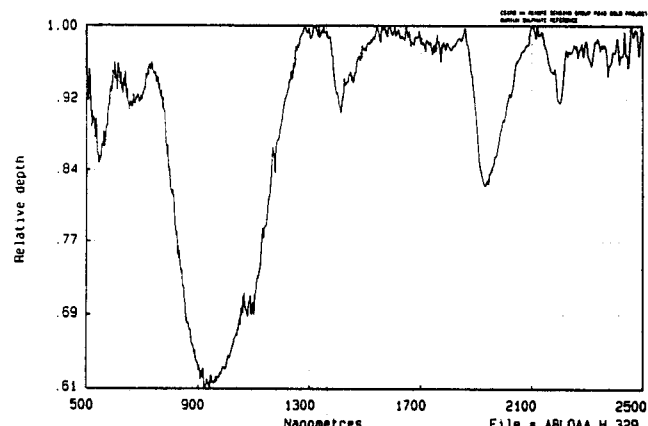


FINE LAG Line 38940mN

REFLECTANCE

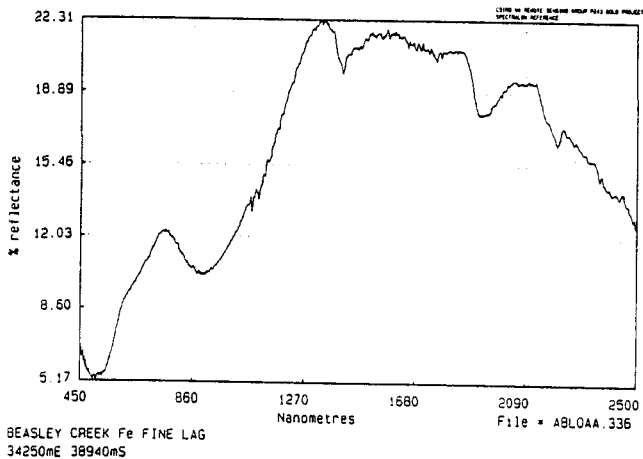
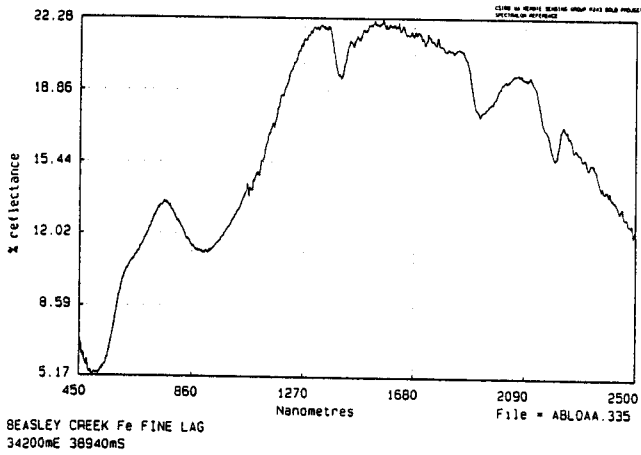
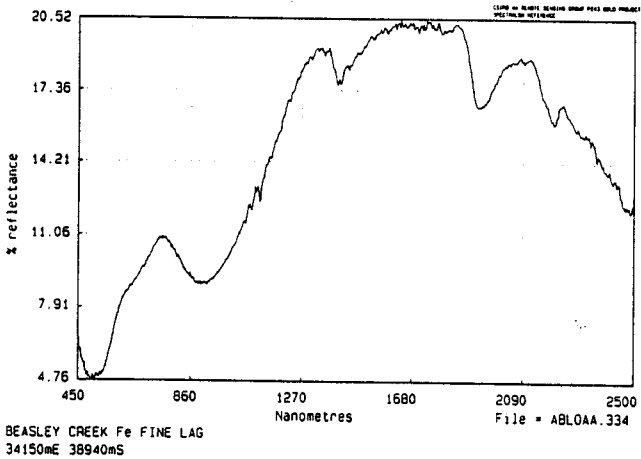
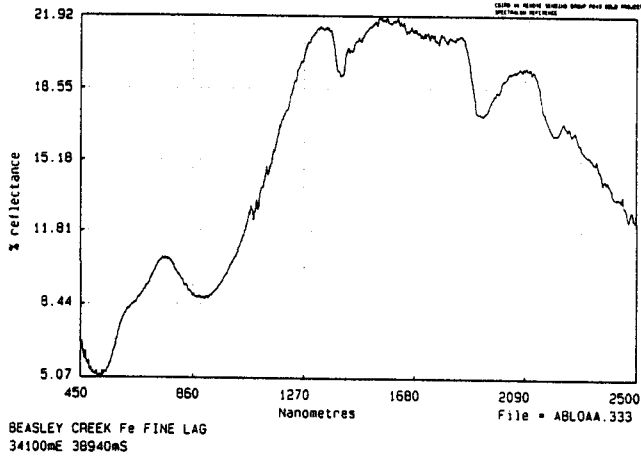


HULL QUOTIENTS

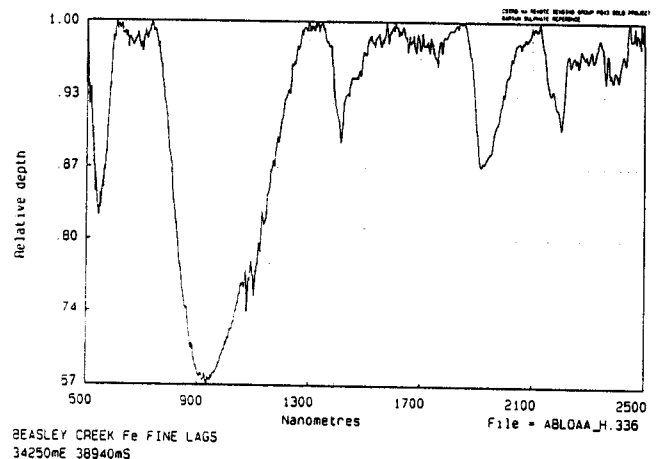
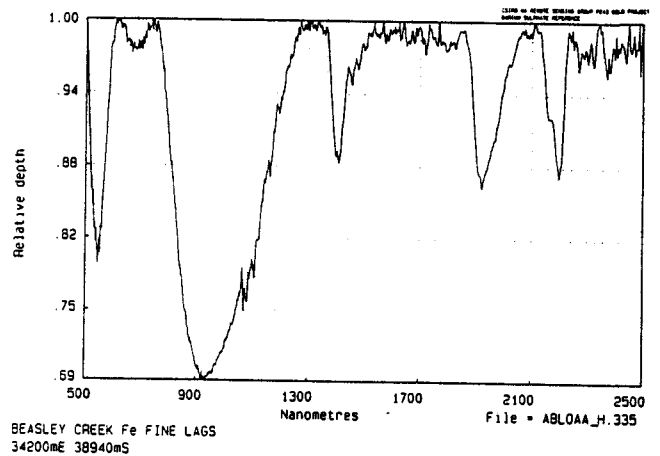
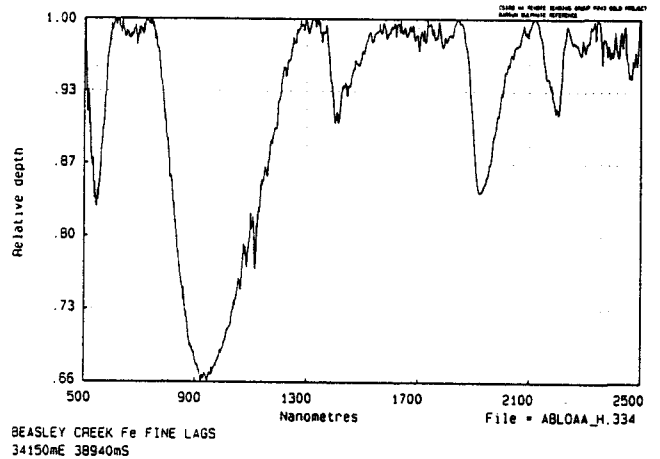
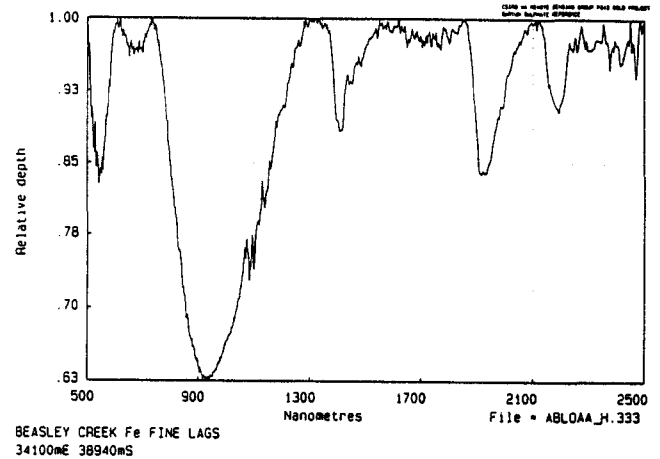


FINE LAG Line 38940mN

REFLECTANCE

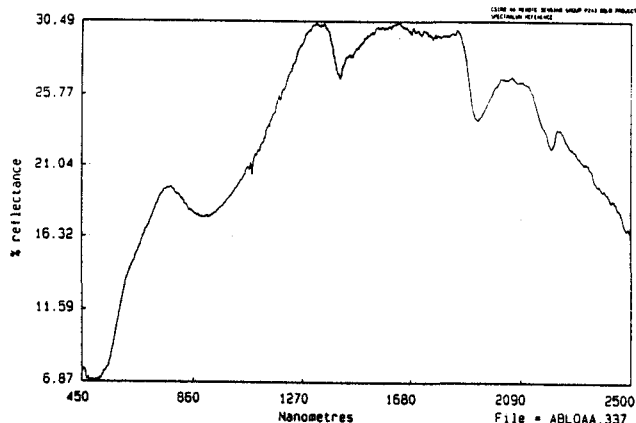


HULL QUOTIENTS

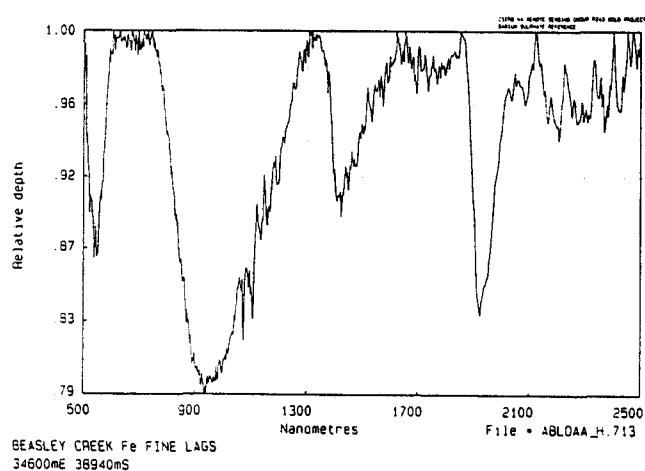
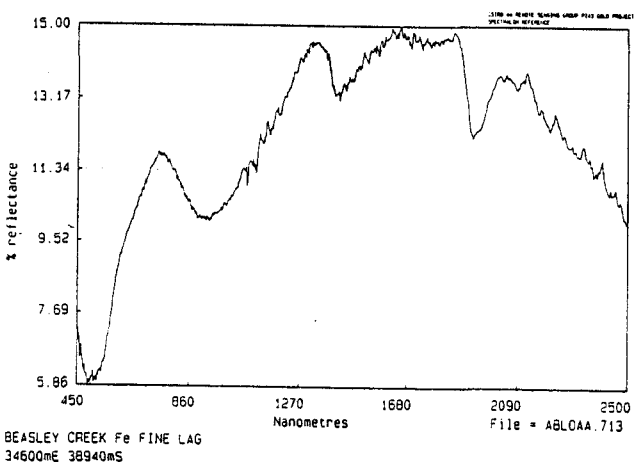
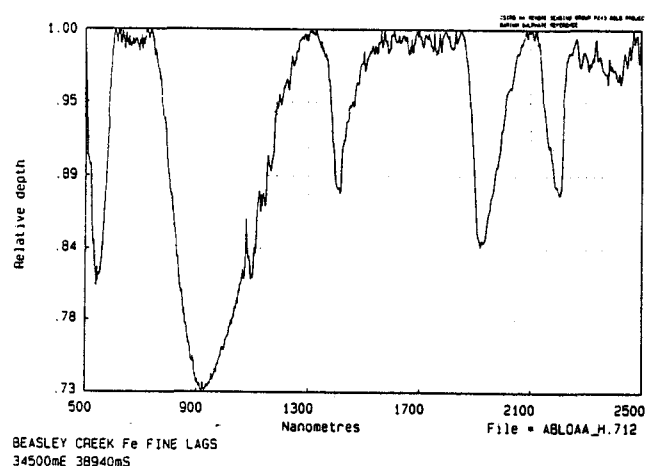
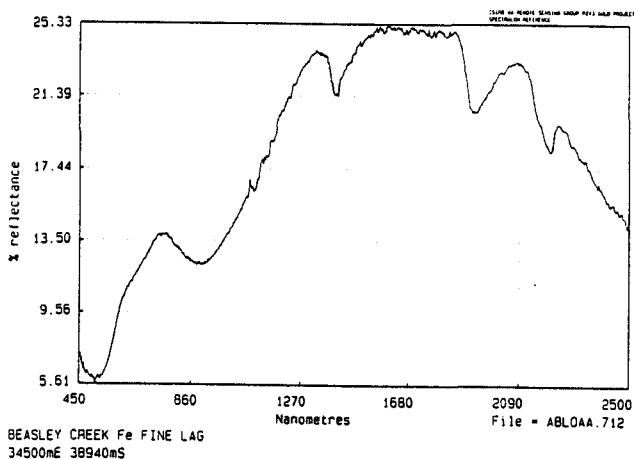
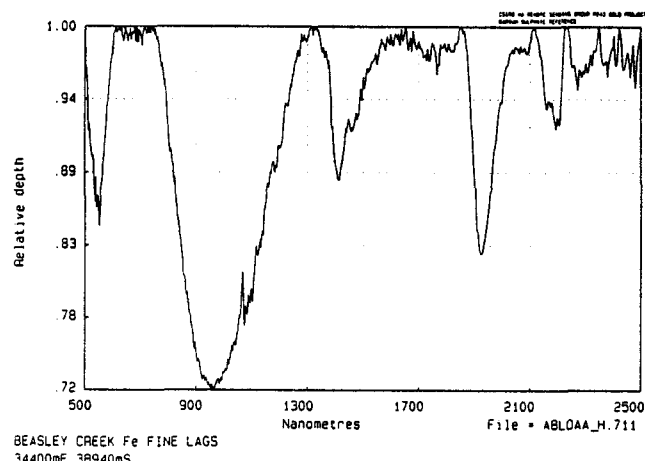
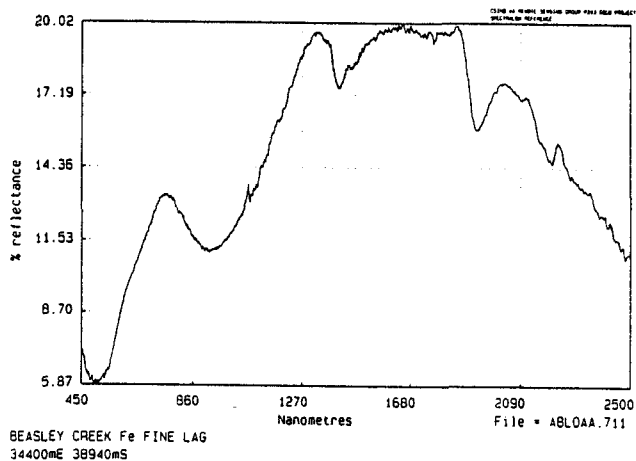
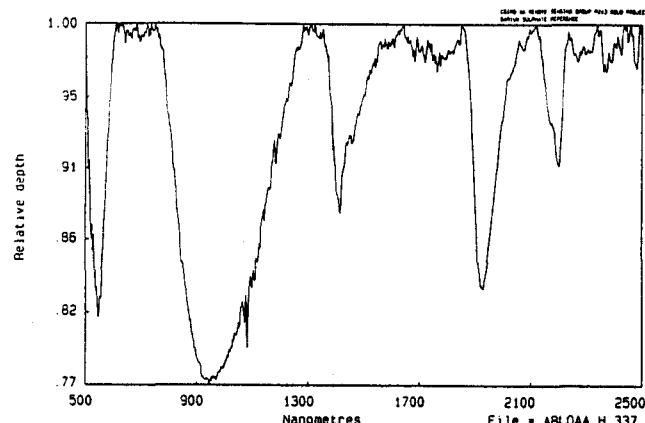


FINE LAG Line 38940mN

REFLECTANCE



HULL QUOTIENTS



FINE LAG 38820

Beasley Creek Fine Lag Absorption Wavelengths, Depths and Widths

FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLOAA.301	33600	38820	594.	922.	0.276	166.268	0.145	27.825	0.141	58.34	0.141	37.469	--0--	--0--
ABLOAA.302	33650	38820	606.	966.	0.259	165.697	0.146	30.615	0.164	53.886	0.087	39.693	--0--	--0--
ABLOAA.303	33700	38820	606.	944.	0.289	166.142	0.149	31.798	0.137	62.961	0.141	37.007	--0--	--0--
ABLOAA.304	33750	38820	608.	938.	0.292	162.753	0.149	31.128	0.168	57.015	0.114	34.061	--0--	--0--
ABLOAA.305	33800	38820	600.	924.	0.168	137.971	0.1	32.654	0.114	52.875	0.083	35.449	--0--	--0--
ABLOAA.306	33850	38820	604.	976.	0.234	157.499	0.113	63.028	0.194	60.219	0.039	20.57	--0--	--0--
ABLOAA.307	33900	38820	597.	988.	0.34	99.927	0.122	49.016	0.181	60.584	--0--	--0--	--0--	--0--
ABLOAA.308	33925	38820	600.	928.	0.311	156.314	0.1	27.35	0.151	64.003	0.068	25.044	--0--	--0--
ABLOAA.309	33950	38820	600.	938.	0.312	141.818	0.094	31.315	0.143	56.925	0.078	34.525	--0--	--0--
ABLOAA.310	33975	38820	598.	942.	0.367	166.761	0.137	30.189	0.162	58.435	0.104	36.593	--0--	--0--
ABLOAA.311	34000	38820	594.	964.	0.282	173.616	0.105	37.994	0.161	60.568	0.06	29.641	--0--	--0--
ABLOAA.312	34025	38820	600.	952.	0.379	166.808	0.101	34.69	0.164	63.589	0.067	37.702	--0--	--0--
ABLOAA.313	34050	38820	594.	946.	0.339	160.746	0.116	33.024	0.15	59.209	0.092	31.927	--0--	--0--
ABLOAA.314	34075	38820	594.	946.	0.312	159.908	0.094	39.002	0.145	58.068	0.109	27.379	--0--	--0--
ABLOAA.315	34100	38820	594.	944.	0.357	159.469	0.137	28.959	0.148	60.212	0.155	35.87	--0--	--0--
ABLOAA.316	34150	38820	594.	924.	0.322	160.17	0.123	31.868	0.153	53.511	0.107	37.216	--0--	--0--
ABLOAA.317	34200	38820	596.	936.	0.355	155.954	0.128	32.029	0.155	65.323	0.128	38.536	--0--	--0--
ABLOAA.318	34250	38820	598.	942.	0.34	167.861	0.117	31.414	0.154	59.178	0.116	34.481	--0--	--0--
ABLOAA.716	34150	38820	600.	942.	0.269	153.913	0.128	33.197	0.175	61.8	0.126	45.296	--0--	--0--
ABLOAA.717	34200	38820	608.	930.	0.219	150.246	0.124	29.799	0.14	56.445	0.131	39.859	--0--	--0--
ABLOAA.718	34250	38820	604.	934.	0.293	165.843	0.129	27.014	0.16	61.567	0.135	37.355	--0--	--0--
ABLOAA.719	34650	38820	606.	948.	0.263	167.545	0.106	30.269	0.155	65.602	0.085	34.406	--0--	--0--
ABLOAA.720	34750	38820	604.	976.	0.231	161.369	0.12	35.641	0.158	65.335	0.069	31.616	--0--	--0--

FINE LAG 38820

Beasley Creek Fine Lag Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLOAA.301	33600	38820	5.566	8.927	10.128	11.654	14.156	12.702	7.589	25.213	--0--	--0--	--0--	--0--	--0--
ABLOAA.302	33650	38820	5.981	9.220	10.565	12.193	14.587	12.750	12.995	20.118	--0--	--0--	--0--	--0--	--0--
ABLOAA.303	33700	38820	5.908	8.094	8.933	9.868	11.265	9.586	12.619	18.053	--0--	--0--	--0--	--0--	--0--
ABLOAA.304	33750	38820	5.124	6.988	7.719	8.851	10.300	8.537	9.652	14.917	--0--	--0--	--0--	--0--	--0--
ABLOAA.305	33800	38820	6.437	8.284	9.082	10.083	11.455	10.875	8.573	15.498	--0--	--0--	--0--	--0--	--0--
ABLOAA.306	33850	38820	6.391	8.767	9.663	11.060	13.444	11.872	10.914	18.658	--0--	--0--	--0--	--0--	--0--
ABLOAA.307	33900	38820	5.663	6.741	7.081	7.639	8.445	6.848	11.889	11.961	--0--	--0--	--0--	--0--	--0--
ABLOAA.308	33925	38820	5.527	6.529	7.090	7.642	9.061	7.588	6.711	14.410	--0--	--0--	--0--	--0--	--0--
ABLOAA.309	33950	38820	5.300	6.712	7.179	7.780	9.140	7.702	7.811	15.523	--0--	--0--	--0--	--0--	--0--
ABLOAA.310	33975	38820	5.550	7.917	8.544	9.575	11.879	9.705	9.888	23.195	--0--	--0--	--0--	--0--	--0--
ABLOAA.311	34000	38820	6.102	9.247	10.122	11.222	13.184	11.676	11.557	21.160	--0--	--0--	--0--	--0--	--0--
ABLOAA.312	34025	38820	5.493	7.124	7.644	8.474	10.244	8.654	8.772	21.382	--0--	--0--	--0--	--0--	--0--
ABLOAA.313	34050	38820	5.319	10.208	11.149	11.747	13.932	10.653	10.671	19.620	--0--	--0--	--0--	--0--	--0--
ABLOAA.314	34075	38820	5.738	10.189	10.976	11.586	13.478	10.522	10.477	17.953	--0--	--0--	--0--	--0--	--0--
ABLOAA.315	34100	38820	5.394	8.930	9.884	10.580	12.601	10.158	10.173	21.743	--0--	--0--	--0--	--0--	--0--
ABLOAA.316	34150	38820	5.785	8.950	10.119	11.084	12.976	10.827	10.886	20.667	--0--	--0--	--0--	--0--	--0--
ABLOAA.317	34200	38820	4.715	7.812	8.865	9.622	11.801	9.611	9.738	20.872	--0--	--0--	--0--	--0--	--0--
ABLOAA.318	34250	38820	4.866	7.748	8.575	9.431	11.115	9.359	9.432	20.363	--0--	--0--	--0--	--0--	--0--
ABLOAA.716	34150	38820	5.319	8.999	10.329	11.595	13.800	12.188	12.467	22.948	--0--	--0--	--0--	--0--	--0--
ABLOAA.717	34200	38820	6.198	11.338	12.870	14.446	16.849	15.289	15.462	24.804	--0--	--0--	--0--	--0--	--0--
ABLOAA.718	34250	38820	5.225	8.292	9.497	10.646	12.867	11.417	11.701	23.310	--0--	--0--	--0--	--0--	--0--
ABLOAA.719	34650	38820	6.479	10.325	11.285	12.183	13.946	12.825	12.859	24.075	--0--	--0--	--0--	--0--	--0--
ABLOAA.720	34750	38820	6.243	10.061	11.192	12.524	14.565	13.029	12.945	20.758	--0--	--0--	--0--	--0--	--0--

FINE LAG 38820

Beasley Creek Fine Lag Selected ICP & INAA Analyses

-FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLOAA.301	33600	38820	29.50	10.30	51.40	0.08	0.05	--0--	0.75	0.005
ABLOAA.302	33650	38820	23.60	10.20	56.90	0.07	0.05	--0--	0.79	0.009
ABLOAA.303	33700	38820	28.60	10.20	55.50	0.08	0.05	--0--	0.81	0.013
ABLOAA.304	33750	38820	18.30	9.17	57.80	0.07	0.06	--0--	0.78	0.067
ABLOAA.305	33800	38820	16.20	8.90	59.10	0.08	0.08	--0--	0.76	0.006
ABLOAA.306	33850	38820	13.70	8.38	66.10	0.12	0.21	--0--	0.83	0.081
ABLOAA.307	33900	38820	10.10	7.89	70.40	0.13	0.18	--0--	0.83	0.094
ABLOAA.308	33925	38820	10.60	7.99	66.70	0.09	0.09	--0--	0.81	0.002
ABLOAA.309	33950	38820	13.10	8.99	71.30	0.13	0.13	--0--	0.88	0.012
ABLOAA.310	33975	38820	12.90	8.92	70.70	0.11	0.12	--0--	0.79	0.066
ABLOAA.311	34000	38820	11.40	8.93	68.90	0.12	0.17	--0--	0.78	0.077
ABLOAA.312	34025	38820	13.10	9.81	63.20	0.13	0.13	--0--	0.79	0.053
ABLOAA.313	34050	38820	9.12	9.26	64.00	0.09	0.07	--0--	1.07	0.146
ABLOAA.314	34075	38820	8.39	8.56	67.90	0.08	0.09	--0--	1.07	0.150
ABLOAA.315	34100	38820	9.83	9.07	62.00	0.07	0.05	--0--	1.08	0.342
ABLOAA.316	34150	38820	12.60	11.10	69.60	0.09	0.05	--0--	1.21	0.161
ABLOAA.317	34200	38820	11.10	10.10	67.50	0.08	0.05	--0--	1.07	0.619
ABLOAA.318	34250	38820	11.70	9.67	59.50	0.08	0.06	--0--	0.99	0.244
ABLOAA.716	34150	38820	20.20	10.80	64.50	0.09	0.09	--0--	1.03	0.129
ABLOAA.717	34200	38820	29.80	9.24	56.80	0.08	0.08	--0--	0.83	0.012
ABLOAA.718	34250	38820	26.90	9.06	56.40	0.08	0.08	--0--	0.83	0.035
ABLOAA.719	34650	38820	31.30	8.28	58.30	0.09	0.08	--0--	0.76	0.005
ABLOAA.720	34750	38820	28.22	7.56	55.17	0.04	0.07	--0--	0.68	0.005

FINE LAG 38940

Beasley Creek Fine Lag Absorption Wavelengths, Depths and Widths

FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLOAA.321	33650	38940	594.	922.	0.232	147.112	0.13	27.44	0.166	64.663	0.111	40.638	--0--	--0--
ABLOAA.322	33700	38940	600.	950.	0.3	167.776	0.146	33.431	0.144	59.575	0.133	34.493	--0--	--0--
ABLOAA.323	33750	38940	602.	942.	0.281	173.626	0.136	27.956	0.161	65.278	0.129	35.514	--0--	--0--
ABLOAA.324	33800	38940	600.	944.	0.318	165.052	0.126	26.24	0.148	61.651	0.109	38.881	--0--	--0--
ABLOAA.325	33850	38940	602.	958.	0.312	174.658	0.1	29.938	0.146	67.083	0.091	33.553	--0--	--0--
ABLOAA.326	33900	38940	582.	970.	0.421	175.689	0.151	28.892	0.159	64.987	0.116	39.538	--0--	--0--
ABLOAA.327	33925	38940	594.	942.	0.34	166.505	0.116	38.46	0.185	66.49	0.084	33.704	--0--	--0--
ABLOAA.328	33950	38940	594.	948.	0.244	166.849	0.104	32.164	0.149	69.793	0.088	32.605	--0--	--0--
ABLOAA.329	33975	38940	596.	942.	0.389	171.054	0.093	23.886	0.172	74.254	0.082	27.408	--0--	--0--
ABLOAA.330	34000	38940	602.	918.	0.314	157.712	0.1	40.89	0.134	60.57	0.088	36.731	--0--	--0--
ABLOAA.331	34025	38940	608.	918.	0.291	150.003	0.104	35.092	0.153	69.565	0.11	38.676	--0--	--0--
ABLOAA.332	34050	38940	596.	944.	0.291	164.786	0.102	36.787	0.132	59.99	0.093	35.586	--0--	--0--
ABLOAA.333	34100	38940	594.	938.	0.37	174.806	0.115	32.187	--0--	--0--	--0--	--0--	--0--	--0--
ABLOAA.334	34150	38940	598.	944.	0.337	165.533	0.097	28.939	0.162	70.825	0.09	34.806	--0--	--0--
ABLOAA.335	34200	38940	606.	934.	0.307	166.555	0.119	30.824	0.14	58.815	0.131	32.112	--0--	--0--
ABLOAA.336	34250	38940	606.	936.	0.33	172.158	0.109	24.263	0.131	65.307	0.097	33.157	--0--	--0--
ABLOAA.337	34300	38940	606.	946.	0.23	168.285	0.121	35.335	0.169	56.188	0.09	35.369	--0--	--0--
ABLOAA.711	34400	38940	606.	962.	0.28	170.372	0.118	39.323	0.174	57.562	0.079	30.903	--0--	--0--
ABLOAA.712	34500	38940	606.	928.	0.27	162.868	0.121	31.256	0.161	63.603	0.122	39.212	--0--	--0--
ABLOAA.713	34600	38940	596.	940.	0.211	170.301	0.108	40.638	0.165	56.666	0.063	31.26	--0--	--0--
ABLOAA.715	34800	38940	600.	1002.	0.254	137.314	0.123	49.172	0.203	60.508	0.047	32.277	--0--	--0--

FINE LAG 38940

Beasley Creek Fine Lag Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLOAA.321	33650	38940	5.475	7.915	8.720	9.777	11.419	10.389	10.623	17.761	--0--	--0--	--0--	--0--	--0--
ABLOAA.322	33700	38940	4.799	7.563	8.454	9.570	11.246	9.952	10.020	19.708	--0--	--0--	--0--	--0--	--0--
ABLOAA.323	33750	38940	5.837	8.881	10.004	11.031	12.894	11.286	11.369	21.984	--0--	--0--	--0--	--0--	--0--
ABLOAA.324	33800	38940	5.547	7.544	8.149	8.895	10.834	9.608	9.616	20.131	--0--	--0--	--0--	--0--	--0--
ABLOAA.325	33850	38940	5.127	6.693	7.188	7.723	9.190	8.092	8.115	16.858	--0--	--0--	--0--	--0--	--0--
ABLOAA.326	33900	38940	5.204	8.020	8.646	8.988	11.048	8.865	8.908	22.765	--0--	--0--	--0--	--0--	--0--
ABLOAA.327	33925	38940	5.211	6.570	7.143	7.736	9.547	8.238	8.440	18.412	--0--	--0--	--0--	--0--	--0--
ABLOAA.328	33950	38940	5.785	7.535	7.910	8.552	10.064	8.907	8.959	15.193	--0--	--0--	--0--	--0--	--0--
ABLOAA.329	33975	38940	5.099	6.341	6.747	7.418	9.138	7.819	8.018	20.052	--0--	--0--	--0--	--0--	--0--
ABLOAA.330	34000	38940	6.266	9.903	11.180	12.587	15.396	12.888	13.239	26.519	--0--	--0--	--0--	--0--	--0--
ABLOAA.331	34025	38940	5.839	9.059	10.369	11.896	14.760	12.781	13.140	25.315	--0--	--0--	--0--	--0--	--0--
ABLOAA.332	34050	38940	5.488	8.859	9.724	10.558	12.403	10.285	10.383	18.722	--0--	--0--	--0--	--0--	--0--
ABLOAA.333	34100	38940	5.319	7.412	8.024	8.756	10.495	8.736	8.936	21.396	--0--	--0--	--0--	--0--	--0--
ABLOAA.334	34150	38940	4.825	7.463	8.289	9.144	10.939	8.992	9.065	19.084	--0--	--0--	--0--	--0--	--0--
ABLOAA.335	34200	38940	5.300	9.008	10.065	11.197	13.416	11.142	11.284	21.920	--0--	--0--	--0--	--0--	--0--
ABLOAA.336	34250	38940	5.373	8.020	9.001	10.127	12.236	10.262	10.432	21.898	--0--	--0--	--0--	--0--	--0--
ABLOAA.337	34300	38940	7.059	11.764	13.484	15.652	19.390	17.586	17.770	30.094	--0--	--0--	--0--	--0--	--0--
ABLOAA.711	34400	38940	5.867	8.480	9.484	10.934	13.212	11.193	11.184	19.216	--0--	--0--	--0--	--0--	--0--
ABLOAA.712	34500	38940	5.940	9.189	10.418	11.770	13.820	12.239	12.521	23.597	--0--	--0--	--0--	--0--	--0--
ABLOAA.713	34600	38940	5.987	8.470	9.153	10.307	11.733	10.111	10.113	14.448	--0--	--0--	--0--	--0--	--0--
ABLOAA.715	34800	38940	6.954	11.920	13.243	14.914	17.541	15.754	15.723	26.346	--0--	--0--	--0--	--0--	--0--

FINE LAG 38940

Beasley Creek Fine Lag Selected ICP & INAA Analyses

FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLOAA.321	33650	38940	21.30	10.00	62.20	0.10	0.09	--0--	0.89	0.008
ABLOAA.322	33700	38940	27.50	10.00	54.20	0.09	0.07	--0--	0.79	0.007
ABLOAA.323	33750	38940	23.00	9.13	51.70	0.08	0.07	--0--	0.77	0.014
ABLOAA.324	33800	38940	17.80	9.13	58.50	0.11	0.12	--0--	0.81	0.006
ABLOAA.325	33850	38940	18.40	9.41	68.80	0.14	0.17	--0--	0.87	0.032
ABLOAA.326	33900	38940	20.60	8.75	60.40	0.14	0.21	--0--	0.80	0.007
ABLOAA.327	33925	38940	17.40	8.63	63.20	0.15	0.15	--0--	0.75	0.016
ABLOAA.328	33950	38940	14.30	8.02	62.40	0.23	0.55	--0--	0.78	0.887
ABLOAA.329	33975	38940	11.80	7.03	60.70	0.28	0.74	--0--	0.68	0.086
ABLOAA.330	34000	38940	17.50	8.71	58.00	0.42	1.08	--0--	0.87	0.288
ABLOAA.331	34025	38940	13.10	11.10	56.20	0.24	0.31	--0--	1.13	0.117
ABLOAA.332	34050	38940	13.30	10.60	54.50	0.11	0.06	--0--	1.03	0.217
ABLOAA.333	34100	38940	10.20	8.31	71.00	0.09	0.06	--0--	1.07	0.314
ABLOAA.334	34150	38940	12.60	9.74	72.70	0.09	0.07	--0--	1.09	0.372
ABLOAA.335	34200	38940	12.30	9.13	63.90	0.08	0.06	--0--	0.98	0.260
ABLOAA.336	34250	38940	14.50	9.27	65.10	0.08	0.06	--0--	0.92	0.045
ABLOAA.337	34300	38940	29.60	9.18	51.60	0.08	0.07	--0--	0.76	0.044
ABLOAA.711	34400	38940	22.40	9.99	62.50	0.09	0.11	--0--	0.79	0.015
ABLOAA.712	34500	38940	33.00	9.96	48.60	0.12	0.10	--0--	0.72	0.006
ABLOAA.713	34600	38940	19.30	9.25	67.30	0.09	0.13	--0--	0.77	0.008
ABLOAA.715	34800	38940	35.10	6.16	54.10	0.09	0.09	--0--	0.56	0.006

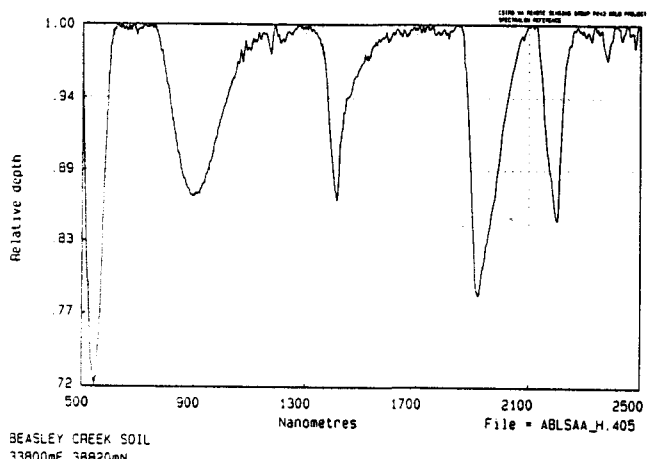
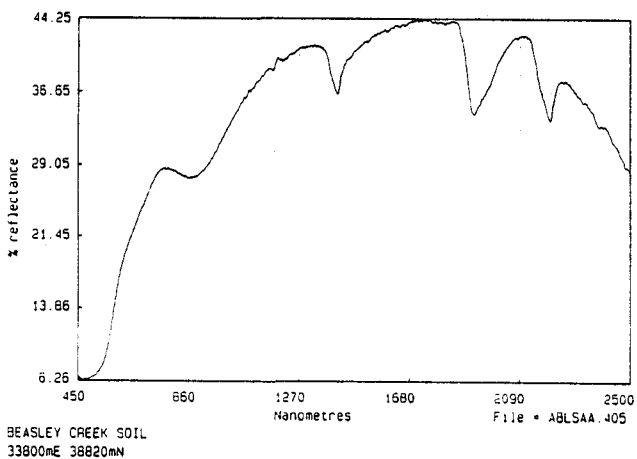
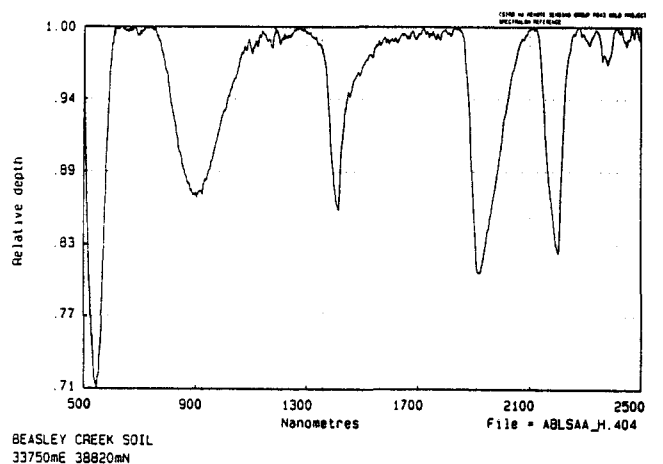
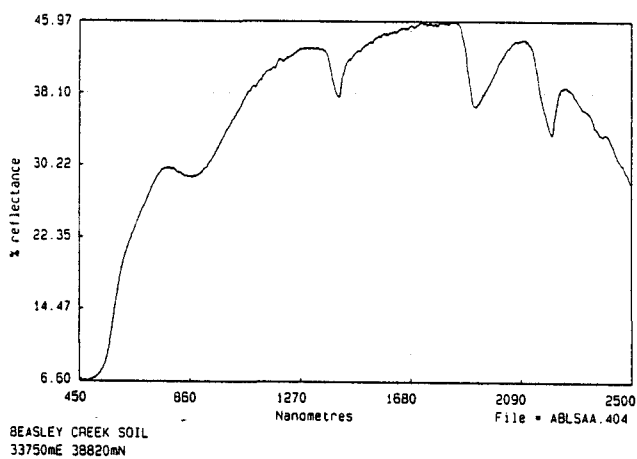
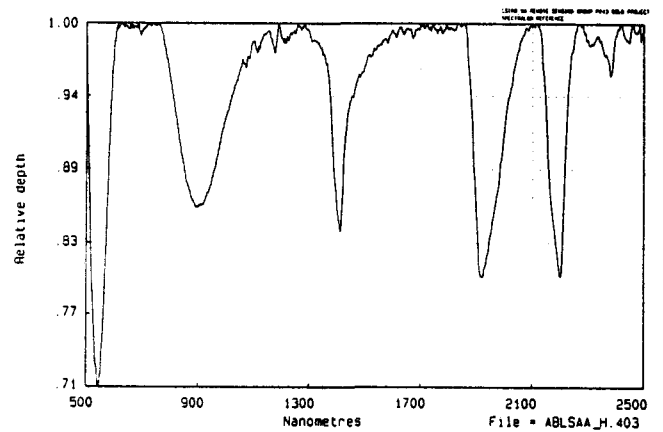
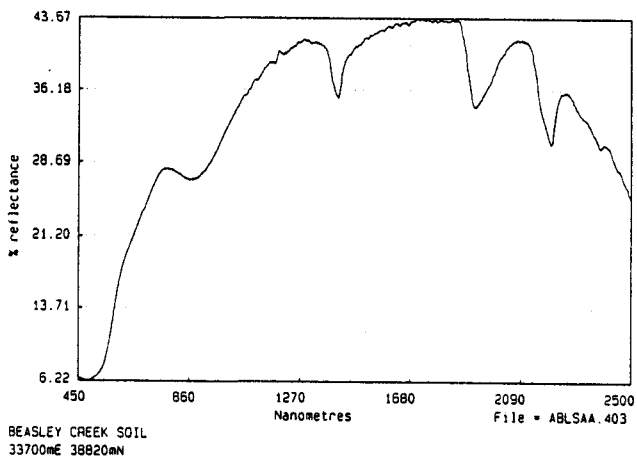
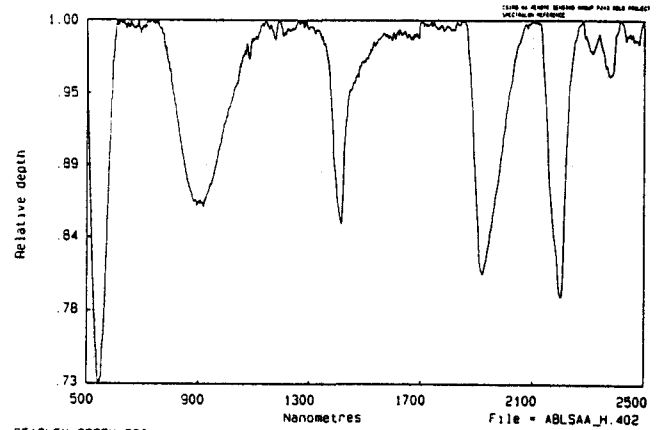
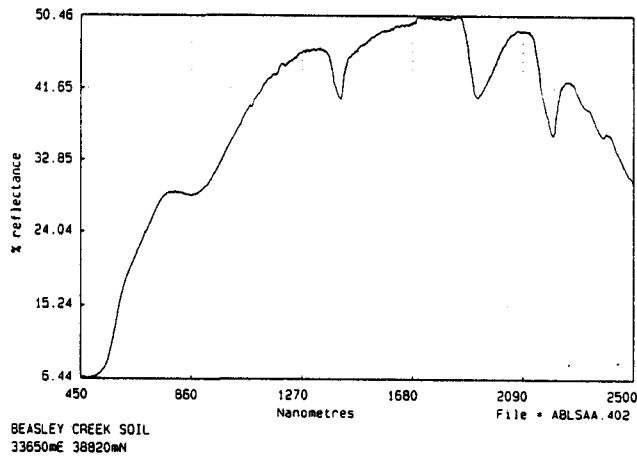
Appendix 2.3

Soil Spectral Data and Ancillary Information

SOIL Line 38820mN

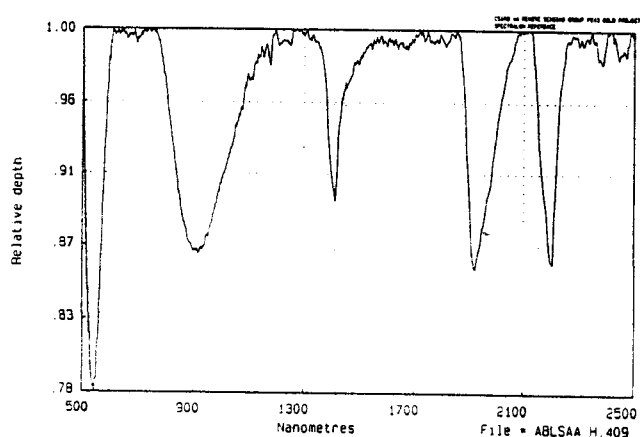
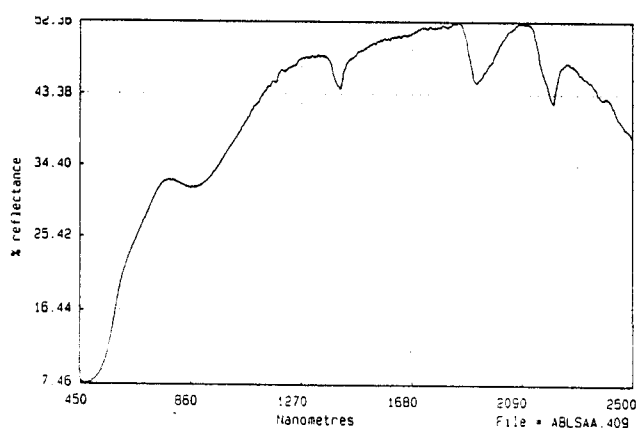
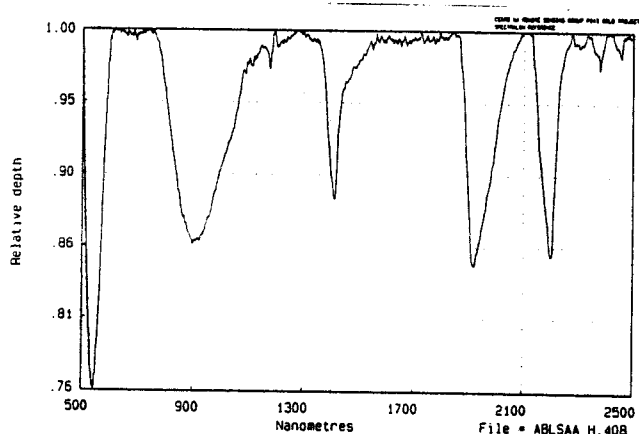
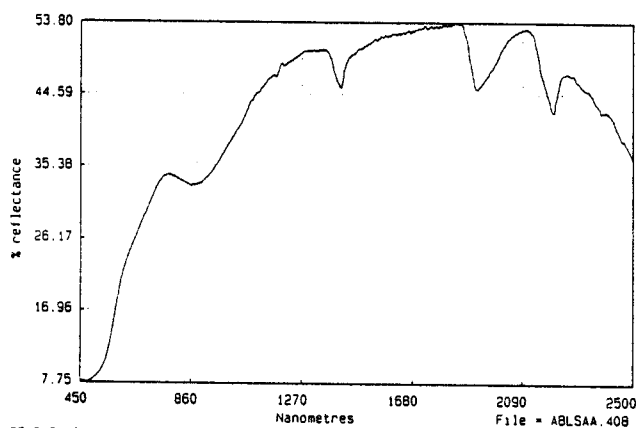
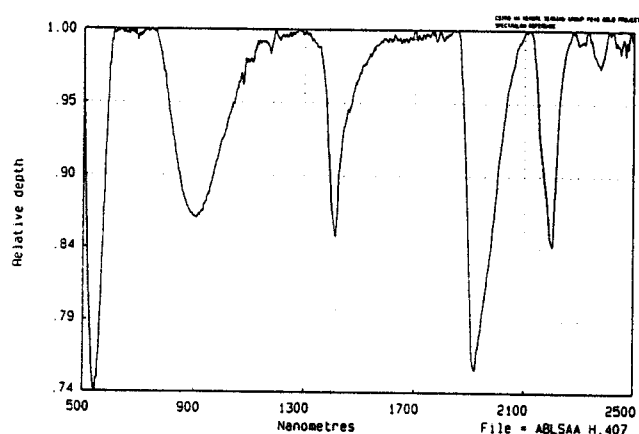
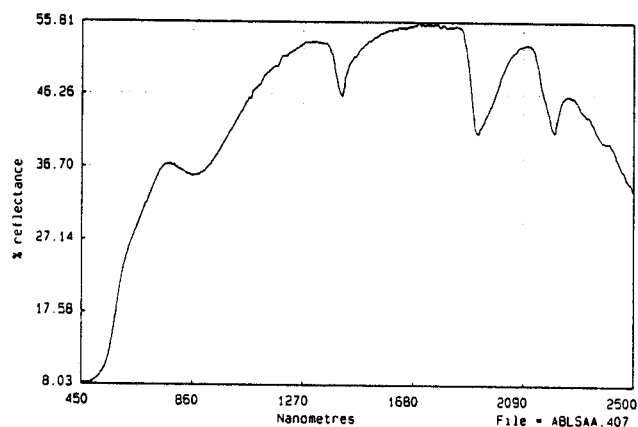
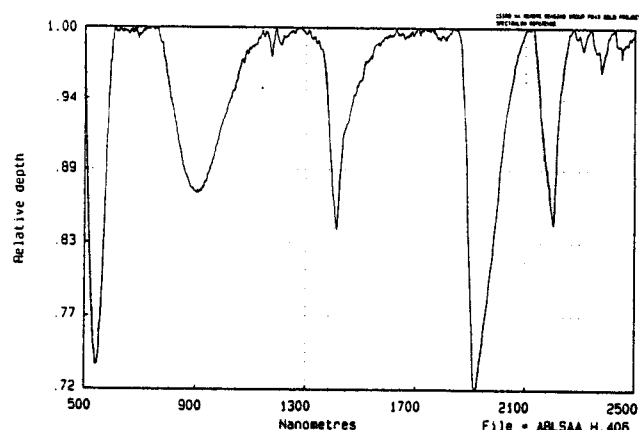
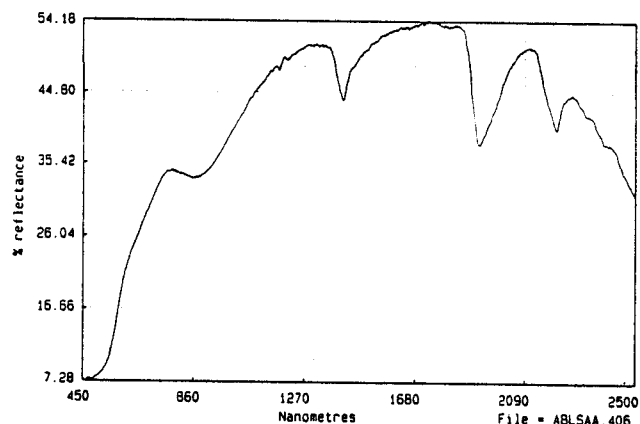
REFLECTANCE

HULL QUOTIENTS



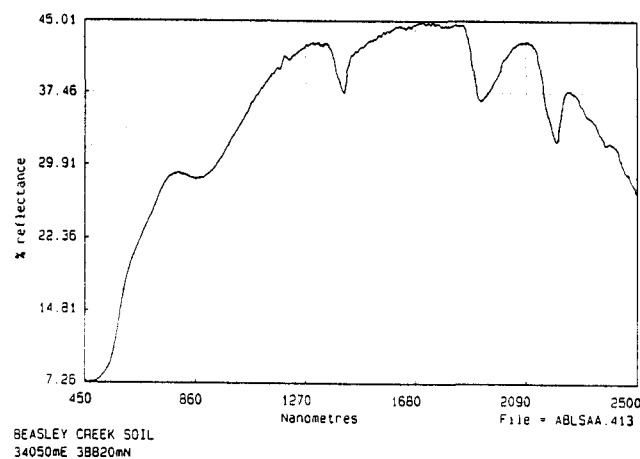
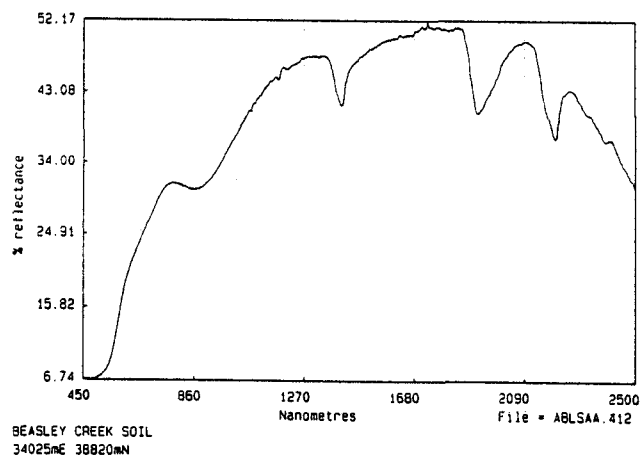
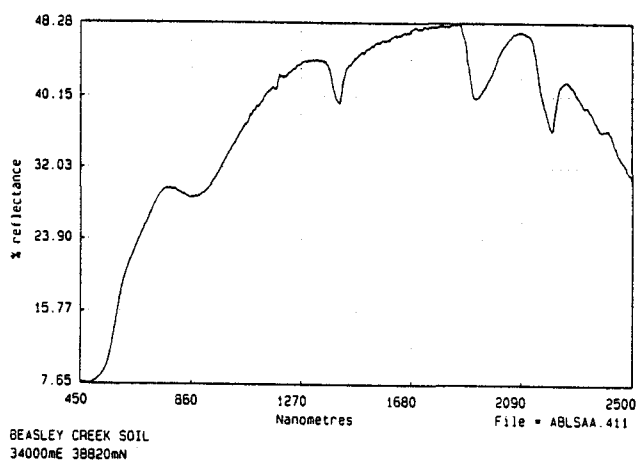
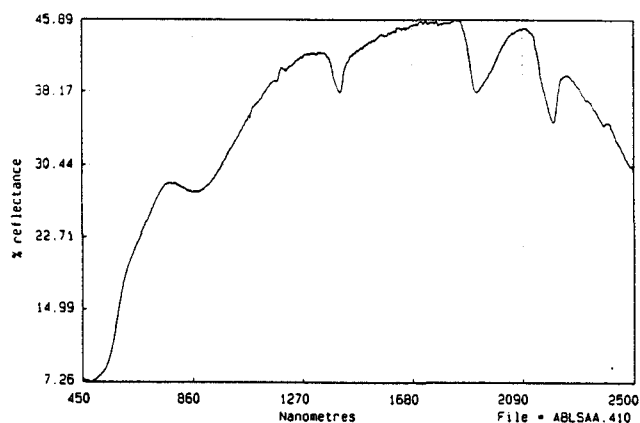
REFLECTANCE

HULL QUOTIENTS

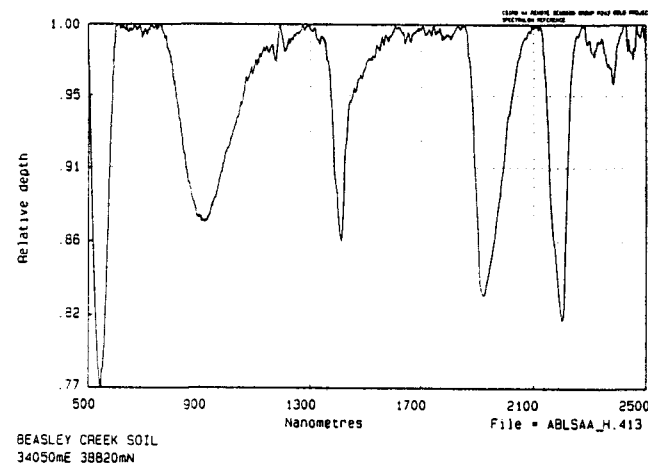
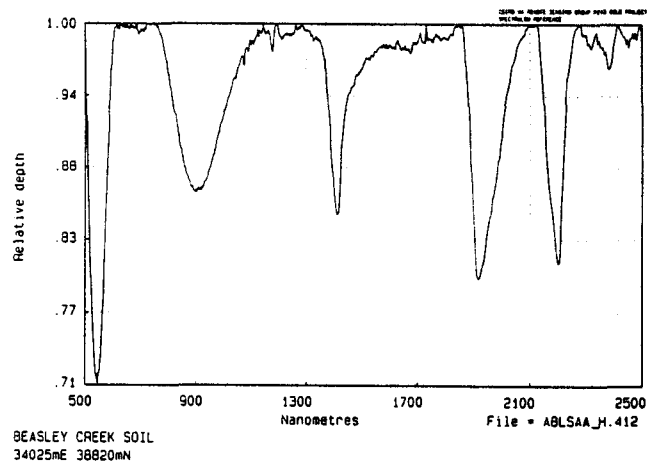
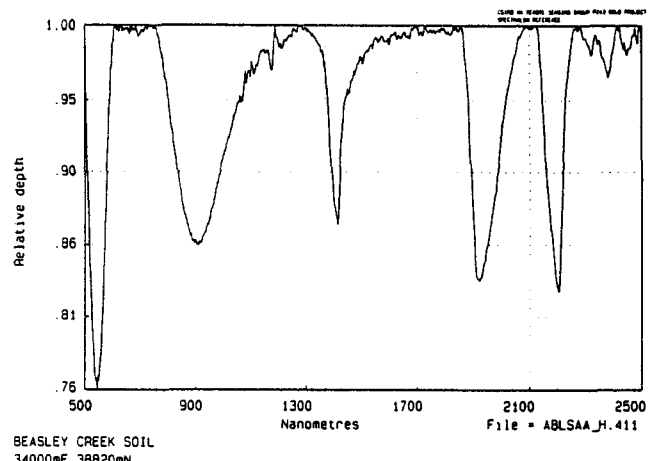
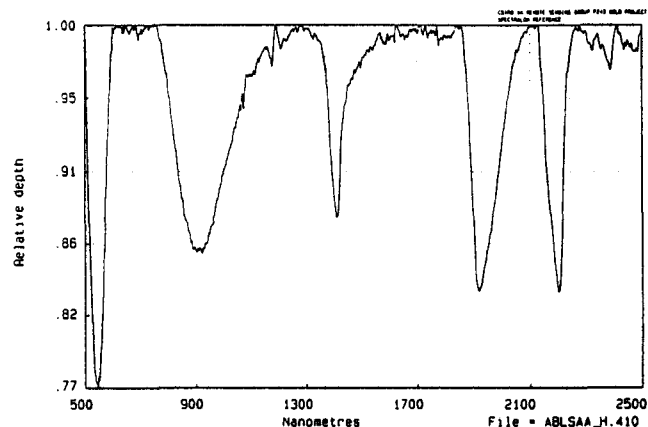


SOIL Line 38820mN

REFLECTANCE

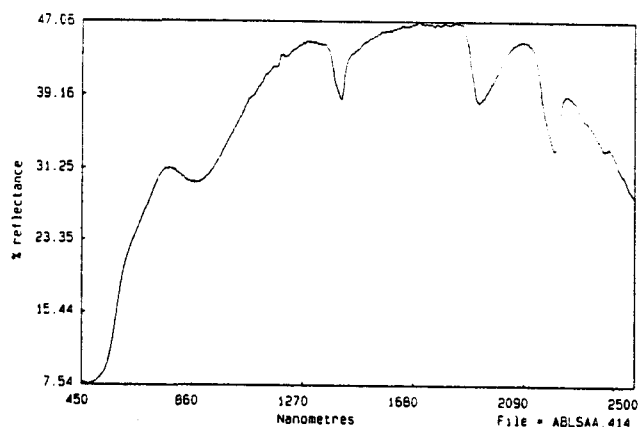


HULL QUOTIENTS

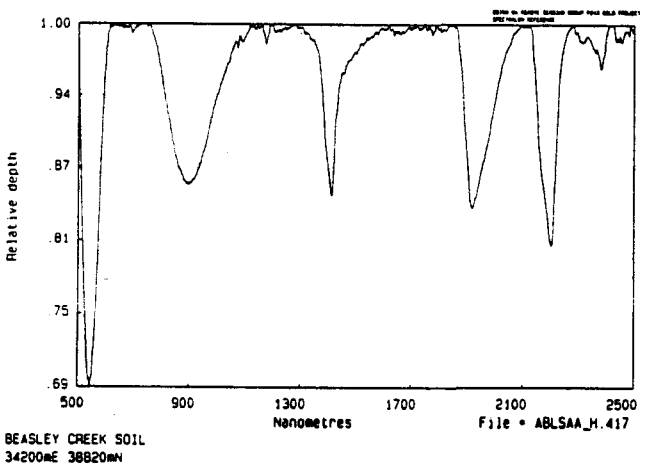
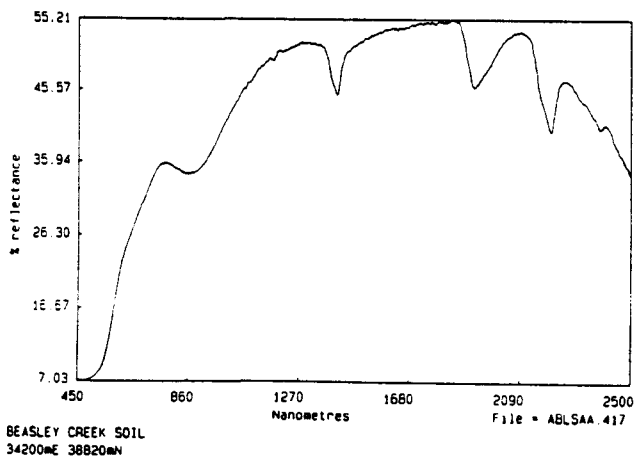
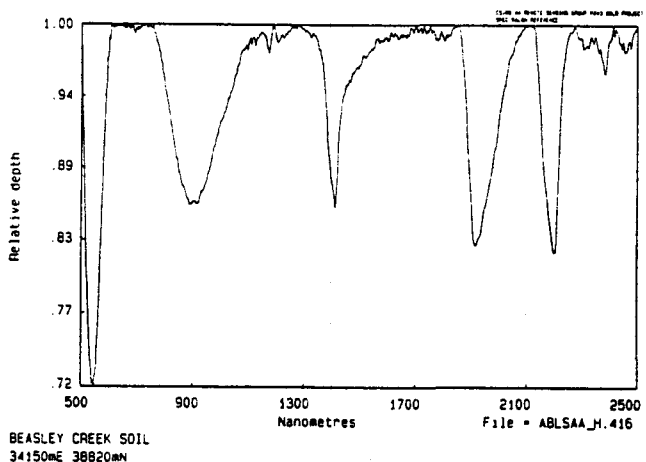
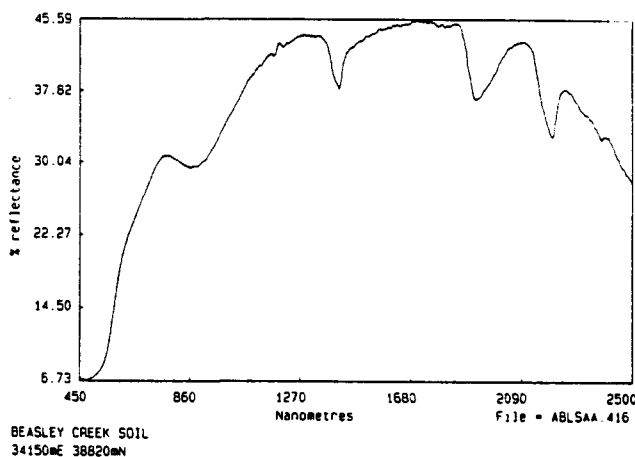
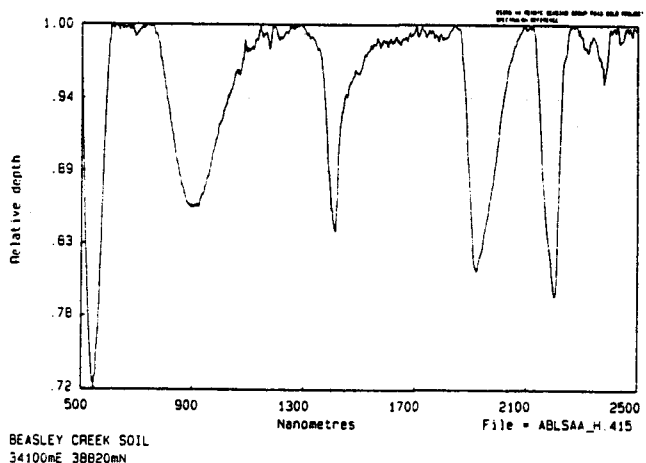
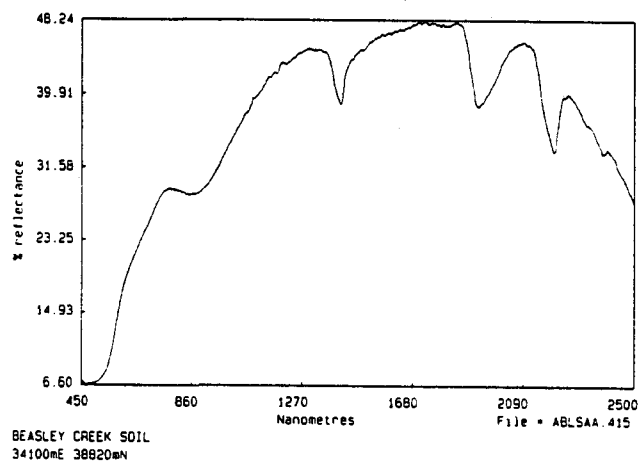
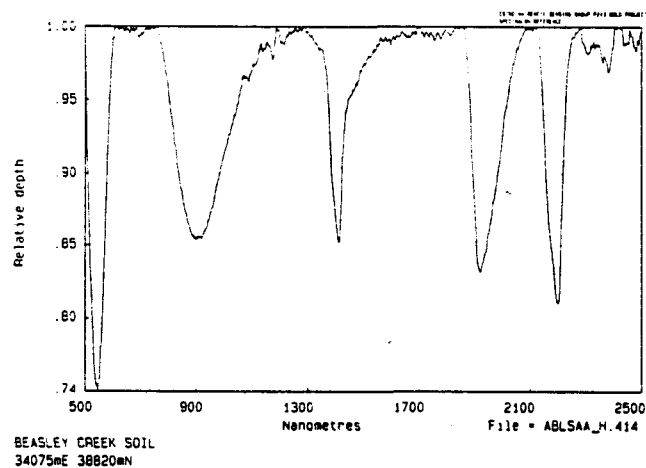


SOIL Line 38820mN

REFLECTANCE



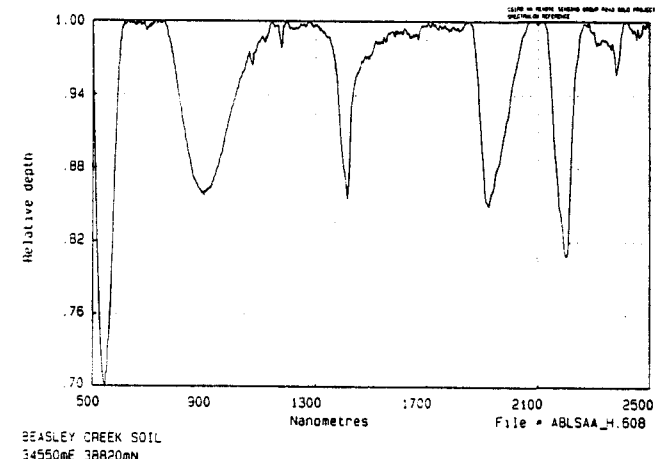
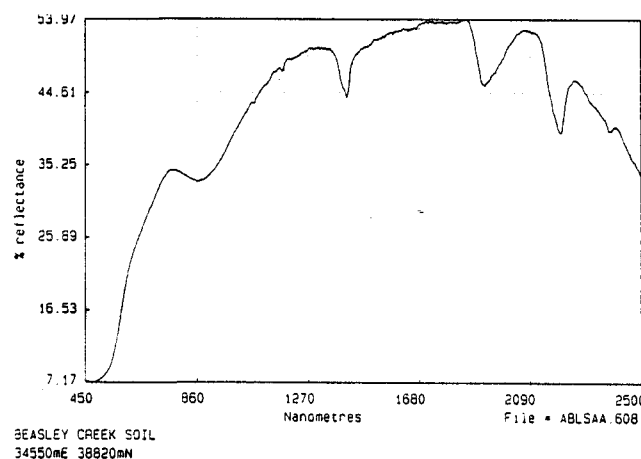
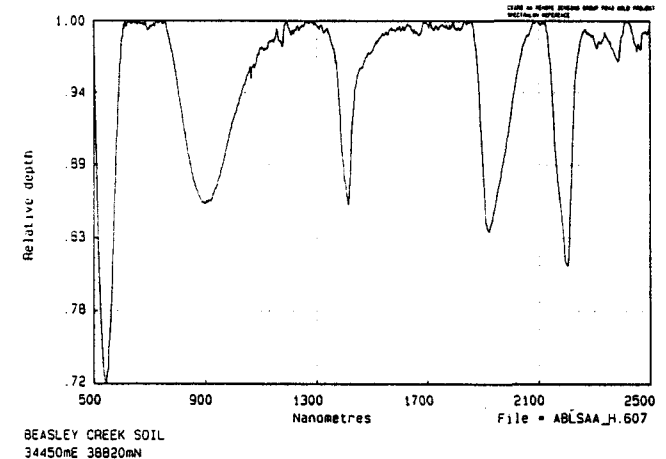
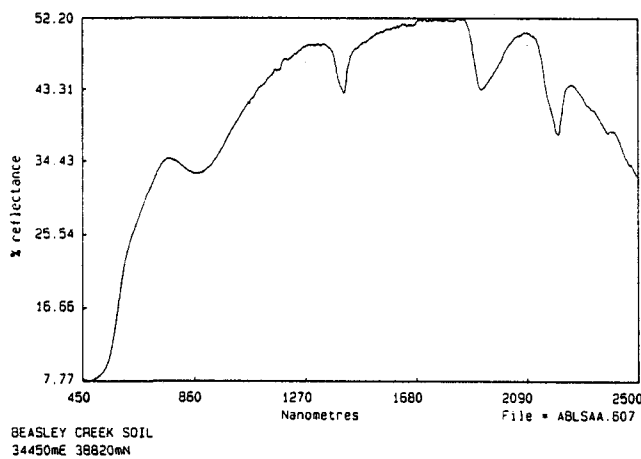
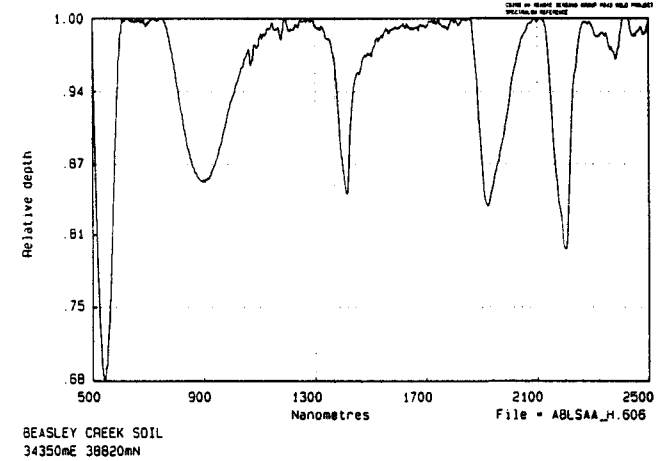
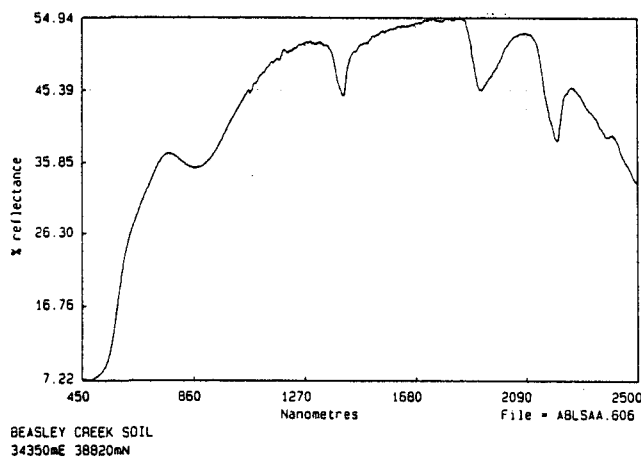
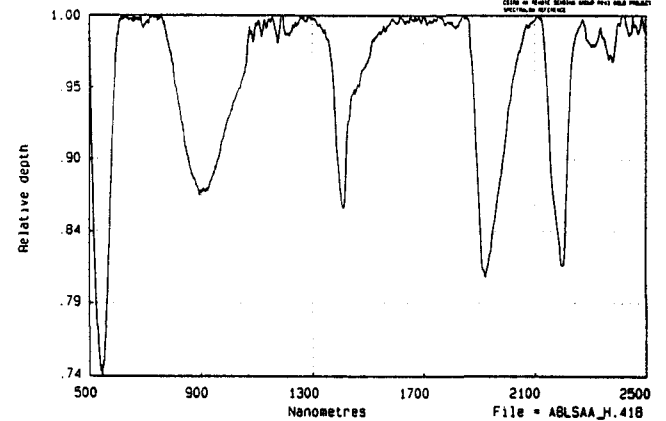
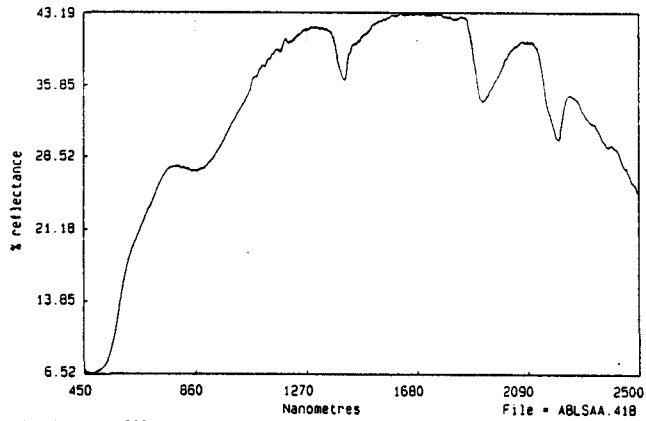
HULL QUOTIENTS



SOIL Line 38820mN

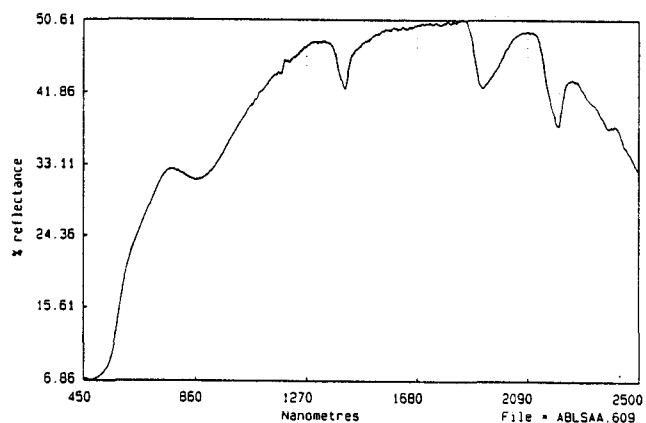
REFLECTANCE

HULL QUOTIENTS

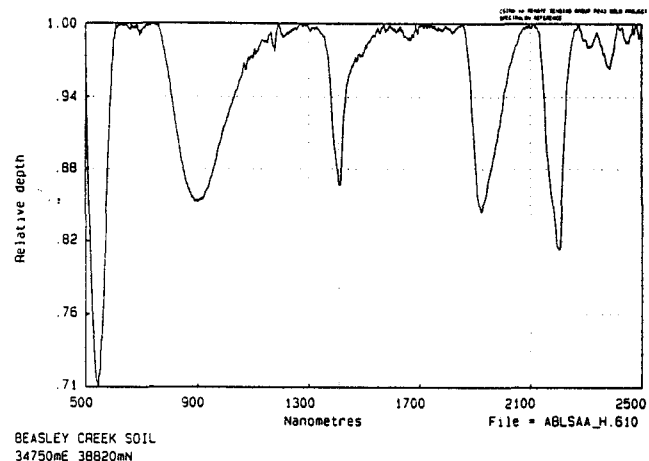
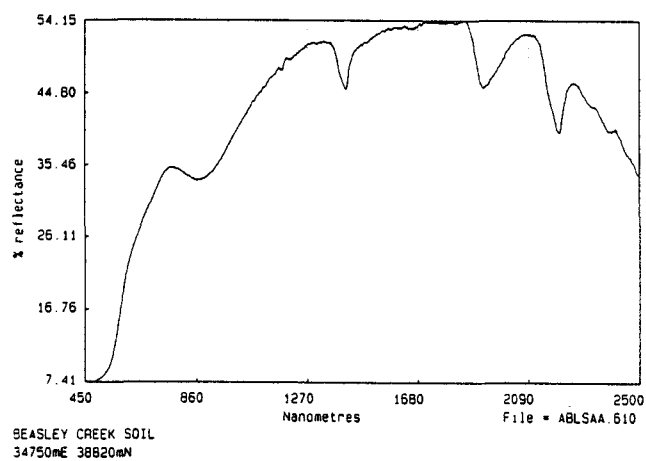
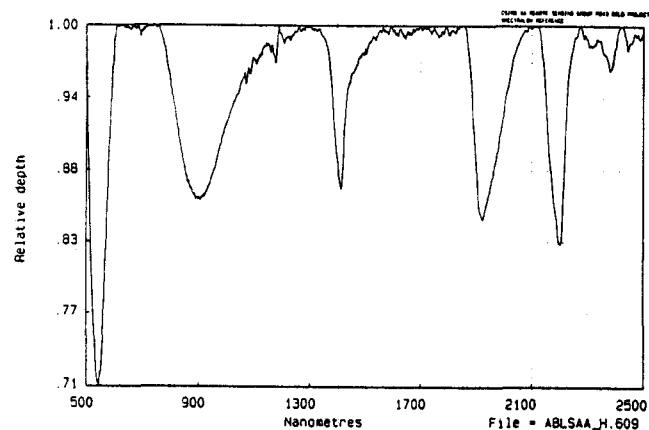


SOIL
Line 38820mN

REFLECTANCE



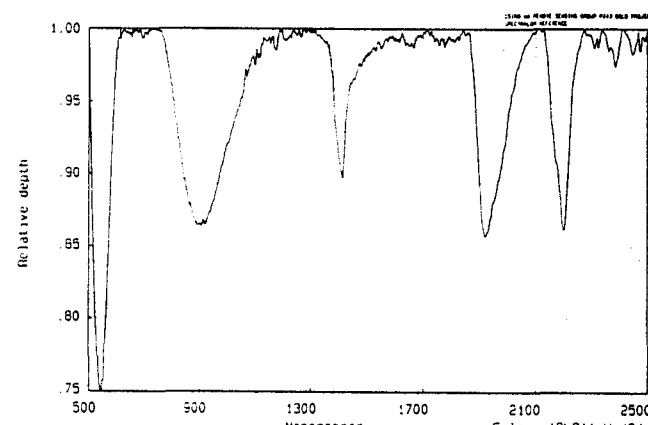
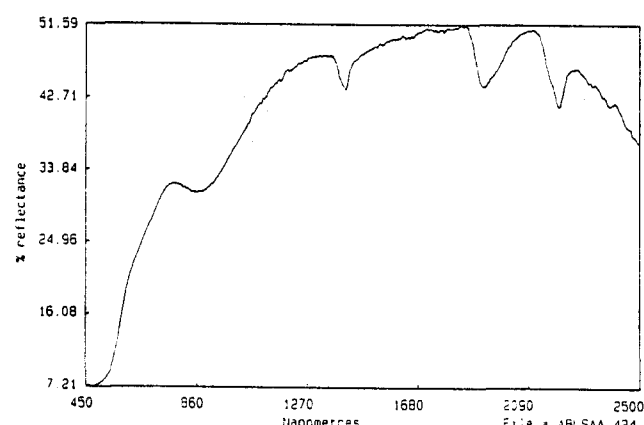
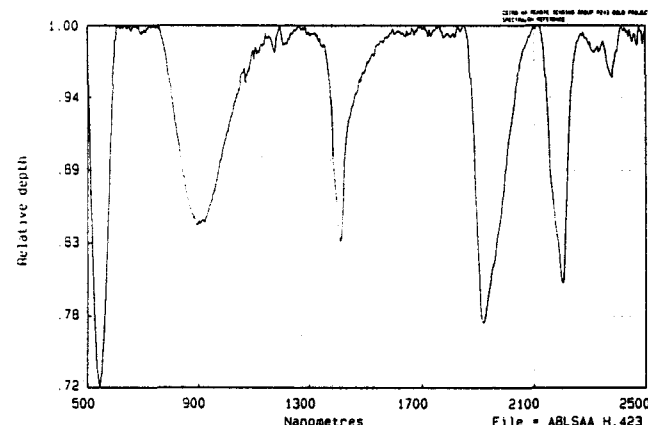
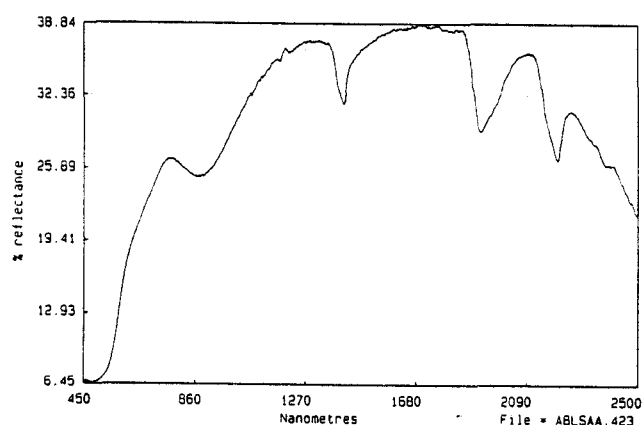
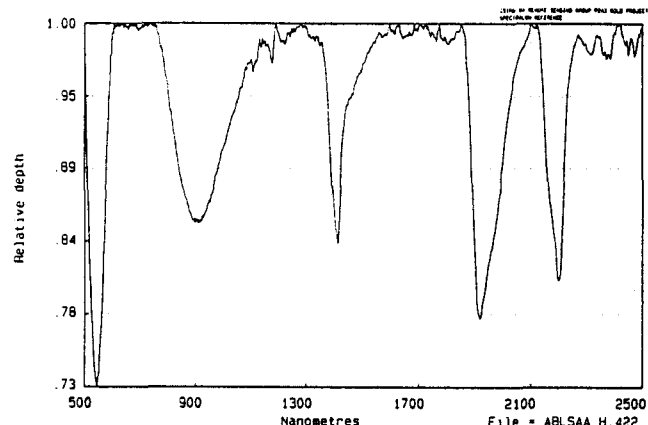
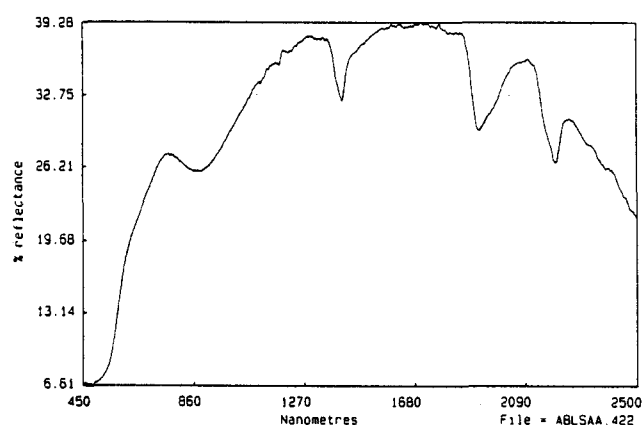
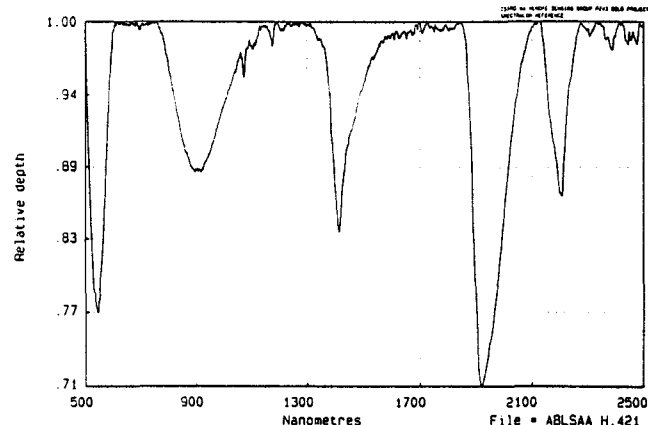
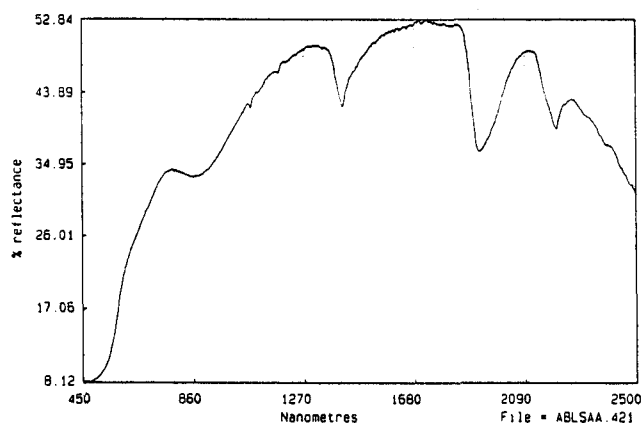
HULL QUOTIENTS



SOIL Line 38940mN

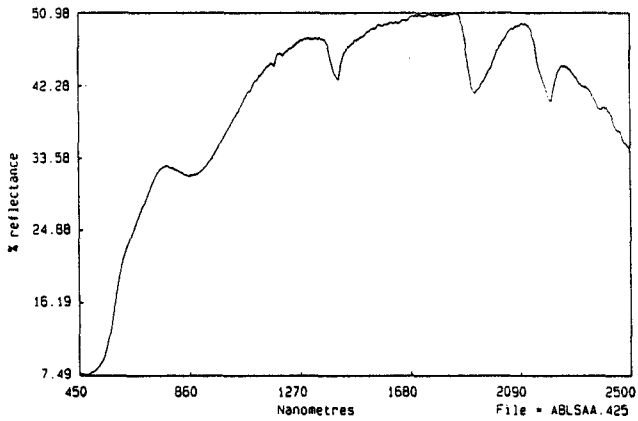
REFLECTANCE

HULL QUOTIENTS

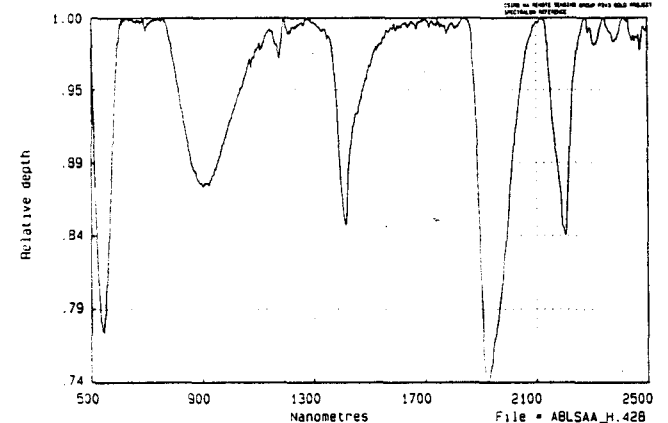
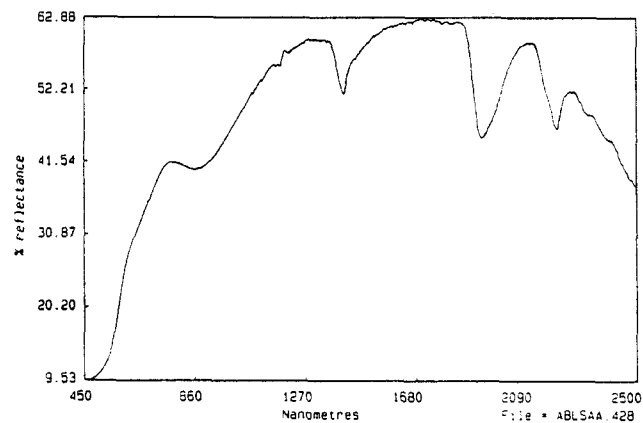
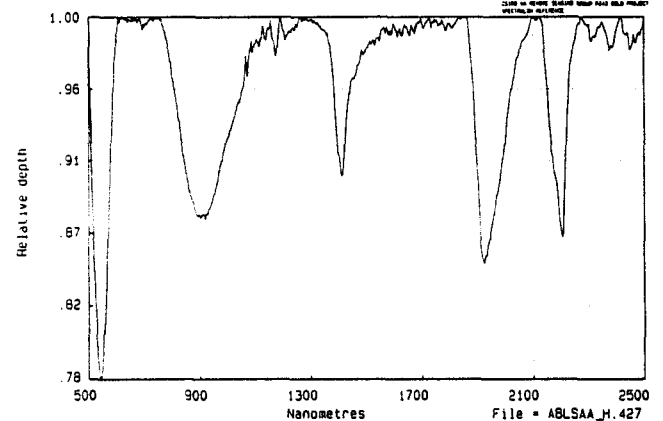
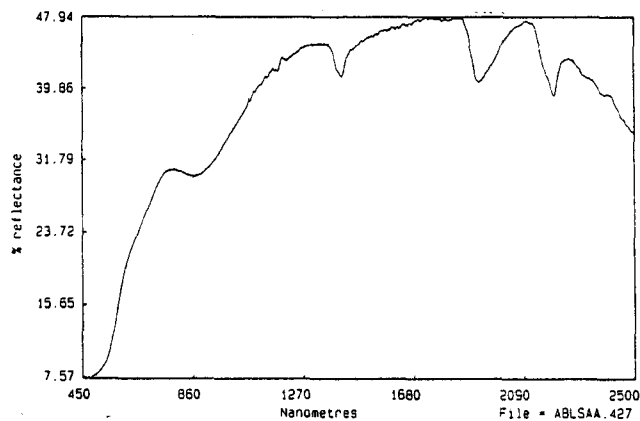
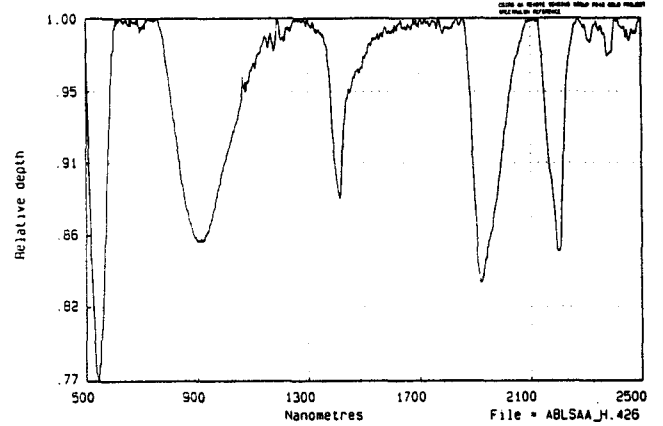
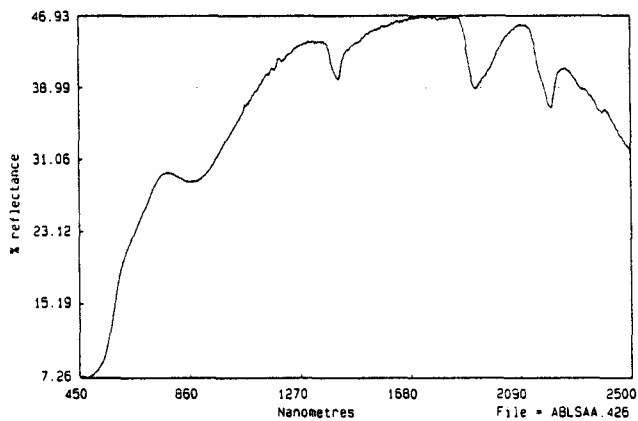
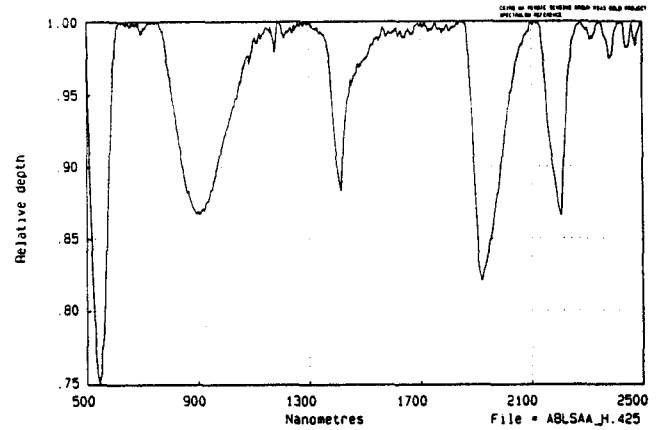


SOIL
Line 38940mN

REFLECTANCE

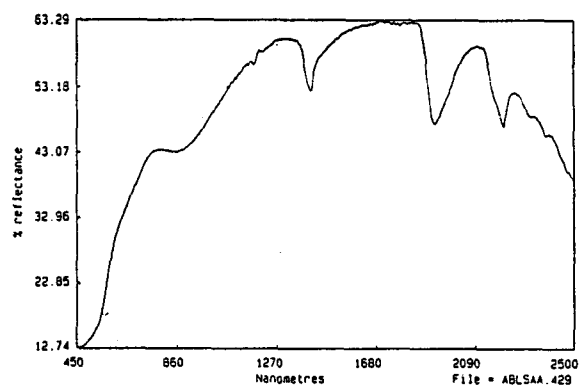


HULL QUOTIENTS

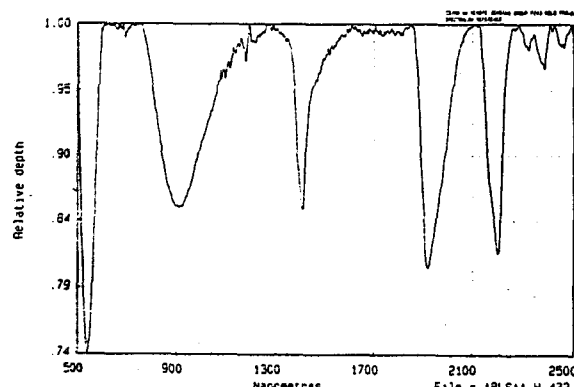
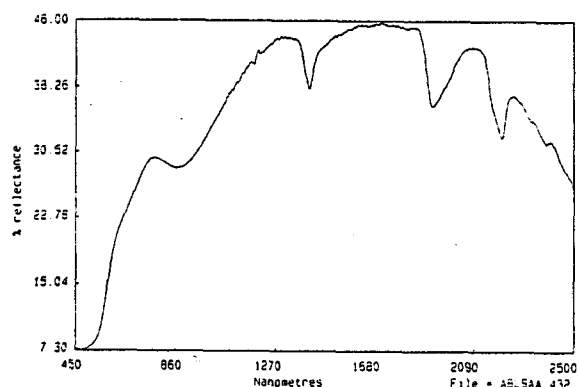
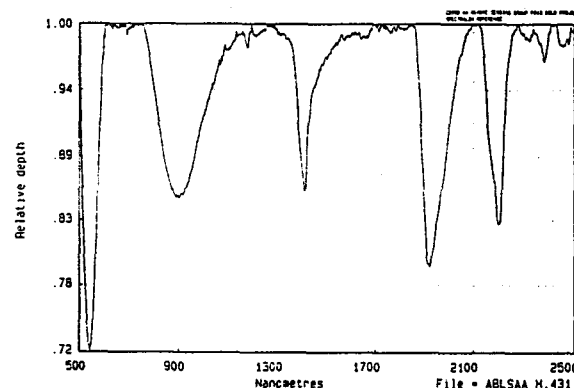
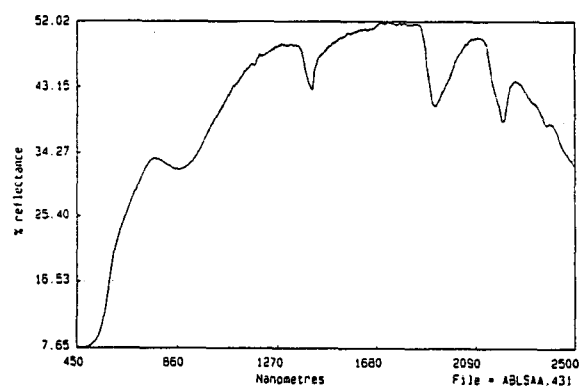
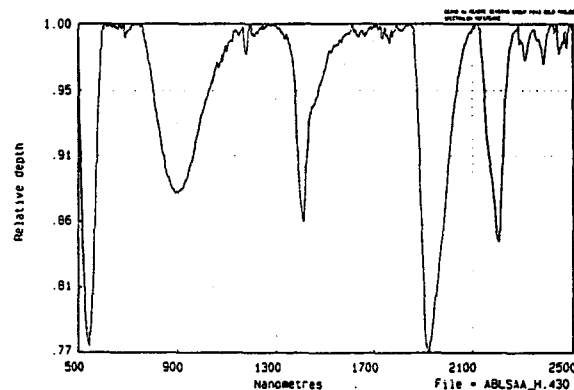
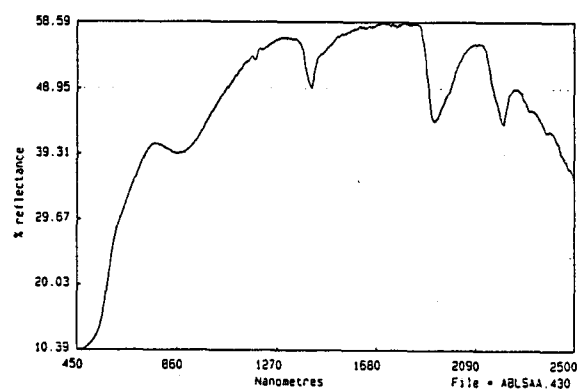
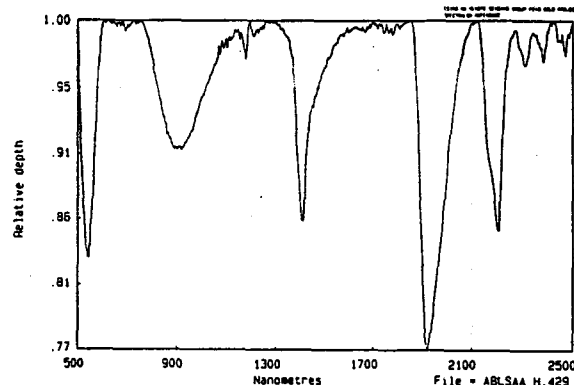


SOIL
Line 38940mN

REFLECTANCE



HULL QUOTIENTS

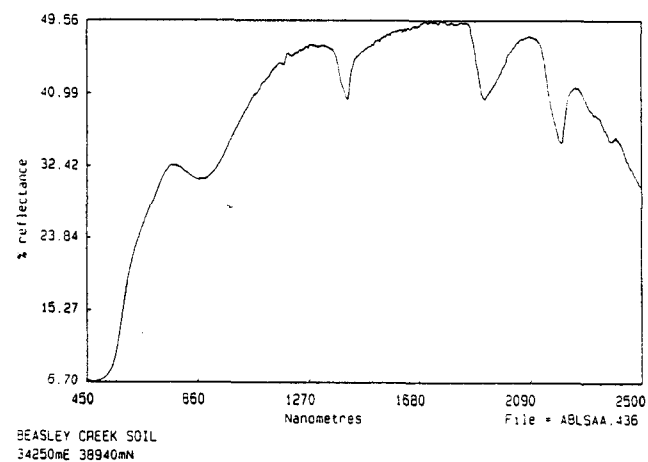
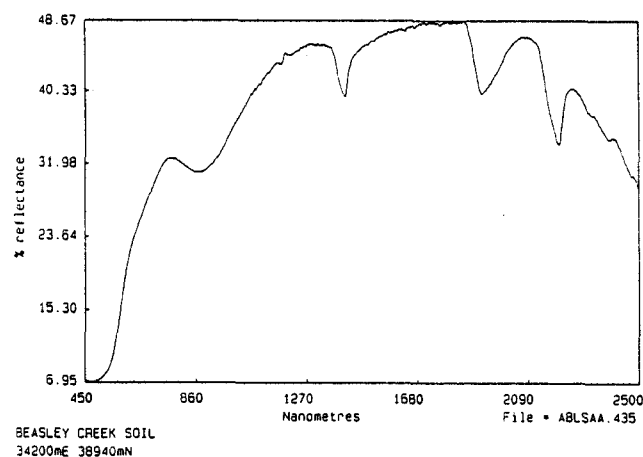
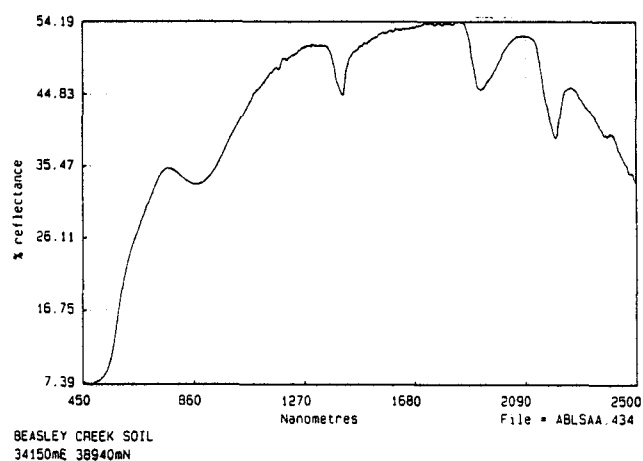
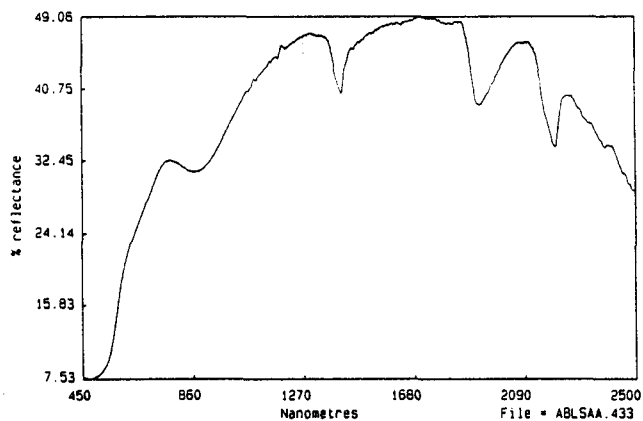


EG160R

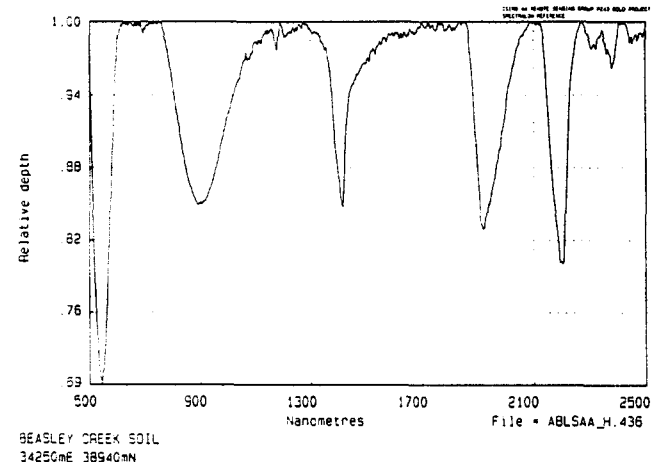
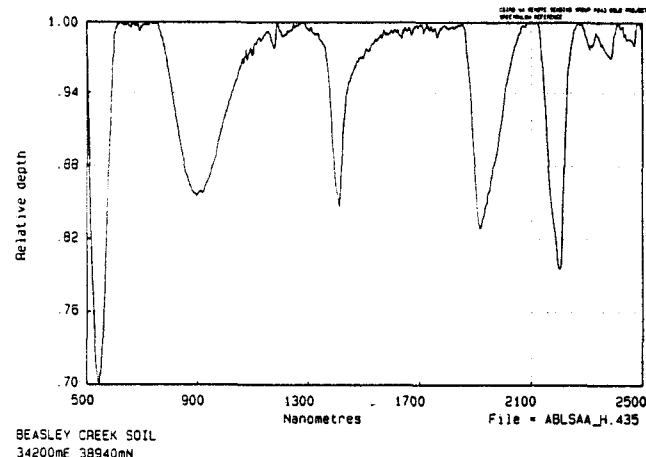
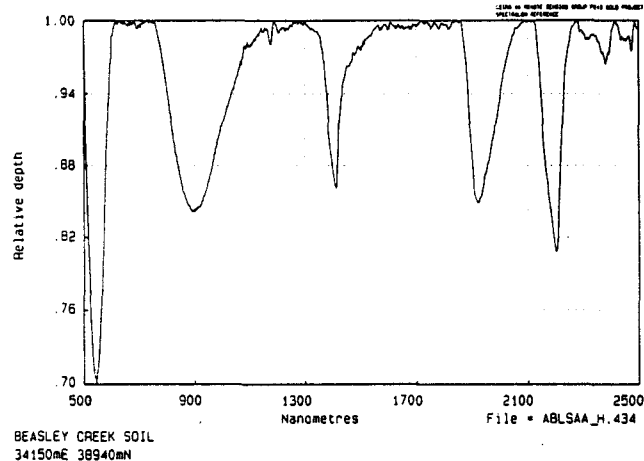
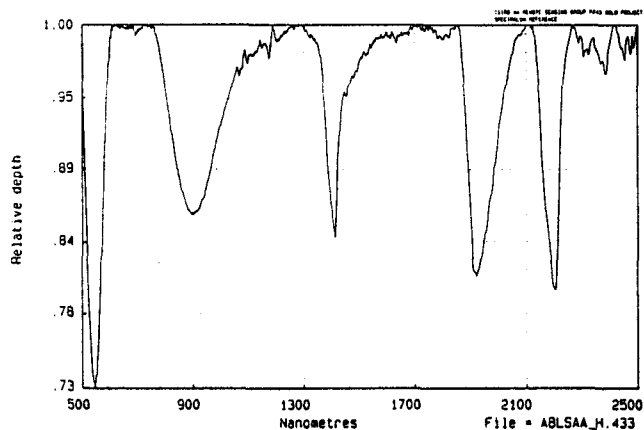
Appendix 2.3

SOIL Line 38940mN

REFLECTANCE



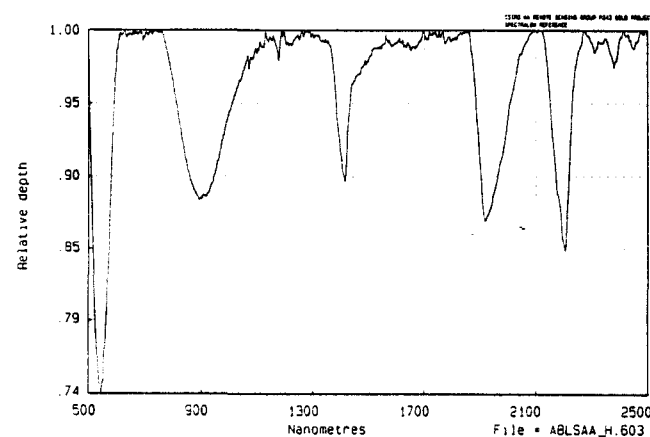
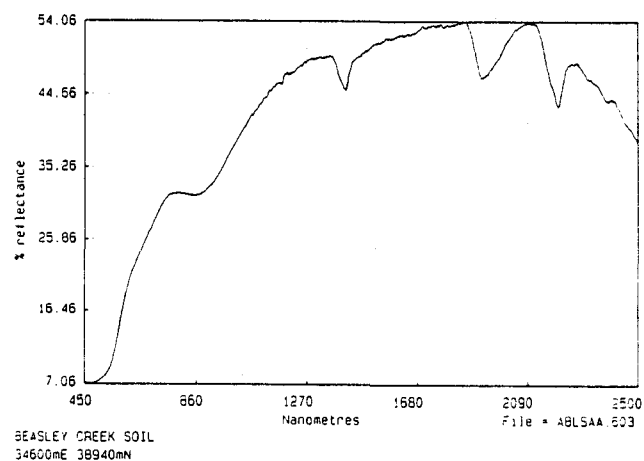
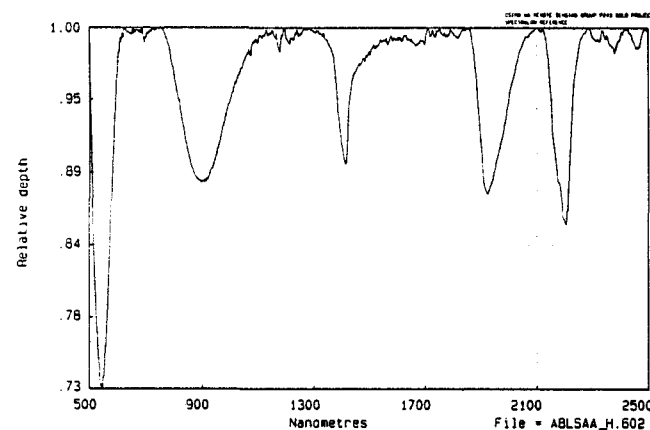
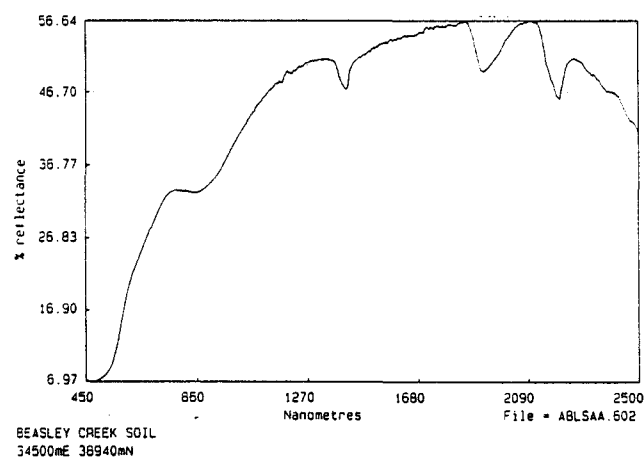
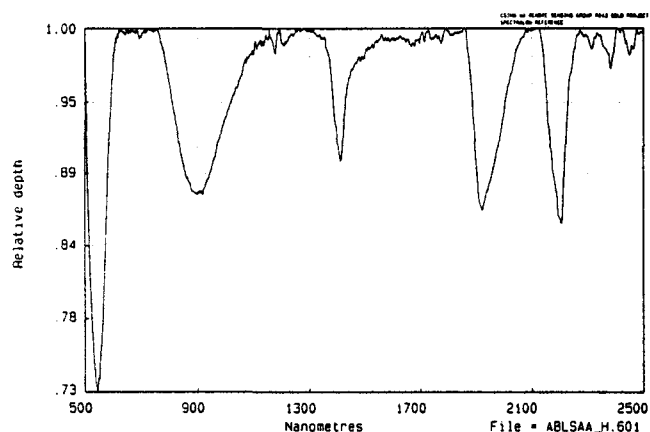
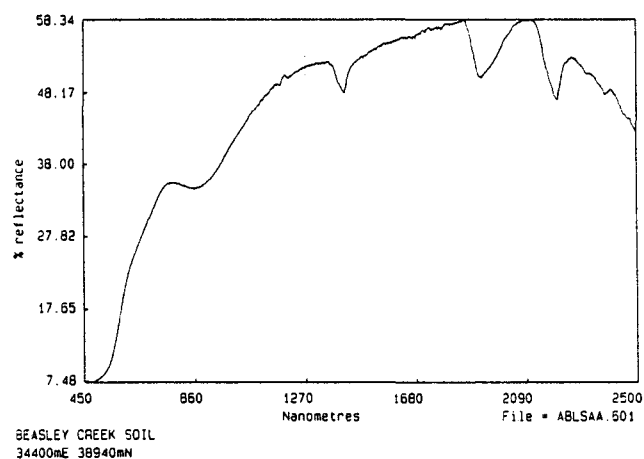
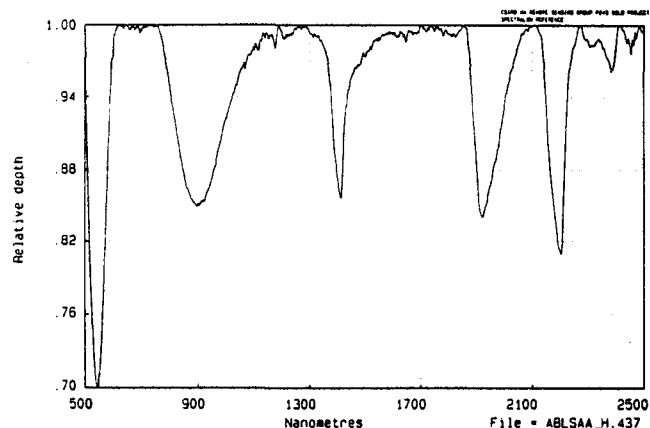
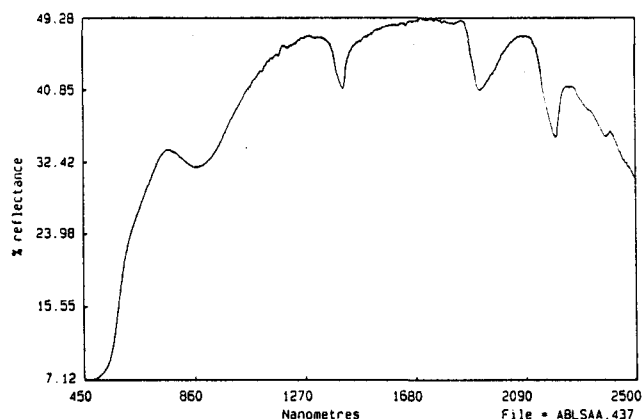
HULL QUOTIENTS



SOIL Line 38940mN

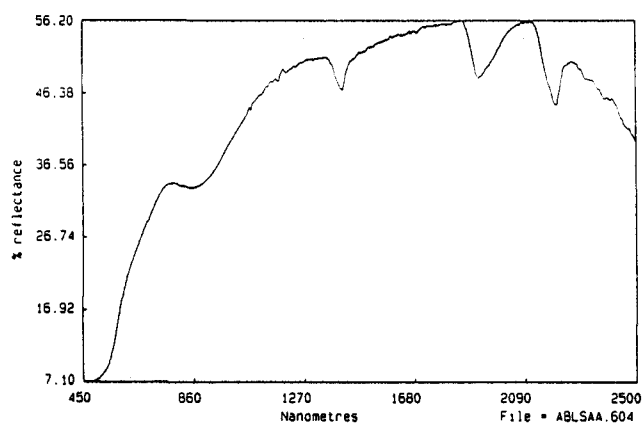
REFLECTANCE

HULL QUOTIENTS

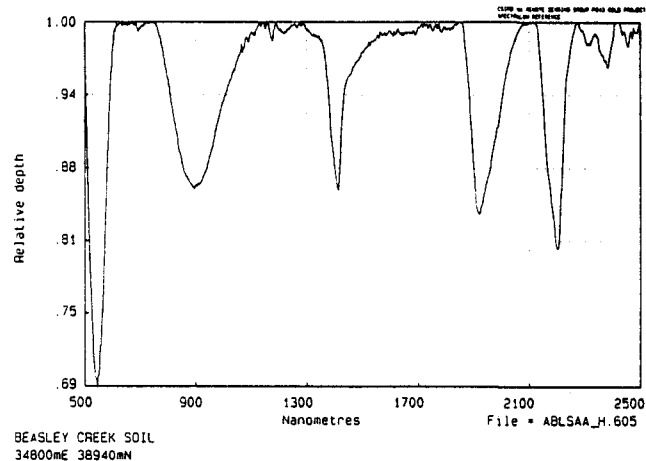
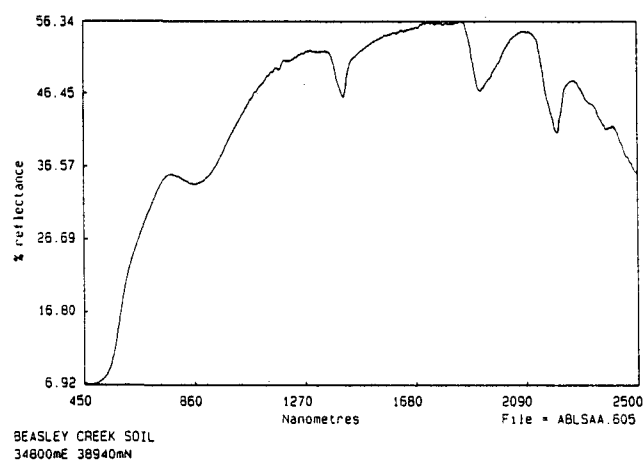
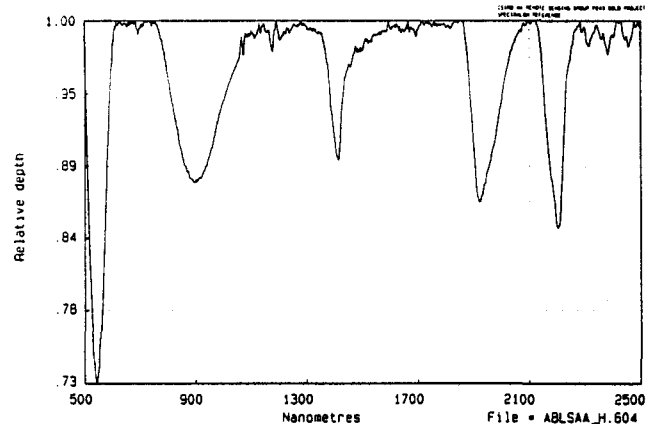


SOIL Line 38940mN

REFLECTANCE



HULL QUOTIENTS



SOIL 38820

Beasley Creek Soil Absorption Wavelengths, Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLSAA.402	33650	38820	606.	904.	0.139	104.306	0.152	33.83	0.188	67.091	0.205	41.182	0.041	27.400
ABLSAA.403	33700	38820	608.	904.	0.144	110.257	0.163	33.637	0.199	68.511	0.198	40.438	0.041	19.578
ABLSAA.404	33750	38820	606.	906.	0.135	106.146	0.144	29.259	0.193	70.661	0.198	40.438	0.029	20.918
ABLSAA.405	33800	38820	610.	906.	0.134	108.889	0.137	29.917	0.211	67.954	0.152	39.349	0.027	16.468
ABLSAA.406	33850	38820	604.	904.	0.131	111.291	0.159	34.413	0.282	71.834	0.156	37.293	0.035	15.108
ABLSAA.407	33900	38820	604.	904.	0.135	117.898	0.148	34.09	0.245	68.848	0.155	41.677	0.027	25.416
ABLSAA.408	33925	38820	604.	908.	0.143	115.392	0.112	28.956	0.156	68.708	0.15	40.024	0.025	8.844
ABLSAA.409	33950	38820	604.	912.	0.136	123.345	0.103	27.528	0.145	65.542	0.141	36.585	0.02	18.526
ABLSAA.410	33975	38820	600.	908.	0.118	38.342	0.119	30.506	0.166	64.877	0.166	39.772	0.028	21.971
ABLSAA.411	34000	38820	606.	906.	0.144	122.18	0.13	29.805	0.168	70.757	0.176	40.429	0.033	23.63
ABLSAA.412	34025	38820	606.	906.	0.136	109.582	0.153	32.545	0.204	67.758	0.191	41.028	0.036	23.1
ABLSAA.413	34050	38820	598.	912.	0.124	115.792	0.135	32.272	0.169	69.538	0.184	39.901	0.038	19.082
ABLSAA.414	34075	38820	606.	906.	0.15	117.295	0.151	32.161	0.172	67.613	0.194	41.501	0.032	21.547
ABLSAA.415	34100	38820	606.	906.	0.139	112.434	0.158	31.859	0.188	69.295	0.207	41.408	0.044	14.749
ABLSAA.416	34150	38820	606.	906.	0.142	113.499	0.144	29.795	0.173	70.056	0.178	41.374	0.038	17.436
ABLSAA.417	34200	38820	608.	902.	0.14	105.796	0.149	30.563	0.161	66.304	0.193	41.639	0.039	19.724
ABLSAA.418	34250	38820	606.	906.	0.13	103.71	0.139	32.904	0.189	61.993	0.181	42.775	0.033	24.843
ABLSAA.606	34350	38820	606.	902.	0.143	109.041	0.153	29.11	0.164	67.548	0.202	42.5	0.035	23.859
ABLSAA.607	34450	38820	606.	906.	0.142	116.836	0.142	29.595	0.163	65.089	0.189	40.924	0.032	25.136
ABLSAA.608	34550	38820	606.	902.	0.141	108.443	0.144	28.76	0.15	61.387	0.19	42.036	0.042	17.474
ABLSAA.609	34650	38820	604.	904.	0.14	117.633	0.131	29.83	0.155	63.688	0.175	41.186	0.036	24.839
ABLSAA.610	34750	38820	606.	906.	0.145	115.452	0.131	27.618	0.153	63.45	0.183	41.653	0.036	27.525

SOIL 38820

Beasley Creek Soil Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAA.402	33650	38820	6.660	14.869	17.811	21.933	28.146	29.253	30.358	45.902	48.097	40.892	35.857	41.792	42.130
ABLSAA.403	33700	38820	6.420	14.872	17.873	21.892	27.575	27.400	28.419	40.563	40.837	34.683	30.557	35.203	35.315
ABLSAA.404	33750	38820	6.921	16.139	19.447	23.753	29.460	29.415	30.426	42.753	43.471	37.994	33.527	38.191	38.213
ABLSAA.405	33800	38820	6.629	15.079	18.272	22.524	28.306	28.099	29.073	41.011	42.343	37.734	33.749	37.532	37.351
ABLSAA.406	33850	38820	7.855	18.431	21.950	26.848	33.942	34.145	35.327	50.752	50.620	45.232	40.017	43.671	44.142
ABLSAA.407	33900	38820	8.687	20.309	24.139	29.398	36.691	36.106	37.275	52.677	52.472	46.682	41.409	45.241	45.786
ABLSAA.408	33925	38820	8.321	18.830	22.293	26.917	33.774	33.342	34.458	50.174	52.477	46.993	42.302	46.622	47.058
ABLSAA.409	33950	38820	8.007	18.091	21.152	25.415	31.894	31.964	32.824	48.020	51.887	46.760	42.448	46.410	46.895
ABLSAA.410	33975	38820	7.579	16.133	18.908	22.565	28.082	27.903	28.727	41.993	44.442	39.245	34.889	39.606	39.350
ABLSAA.411	34000	38820	8.000	16.595	19.612	23.586	29.371	29.085	30.012	43.998	46.761	40.721	36.193	41.137	41.213
ABLSAA.412	34025	38820	6.977	16.226	19.266	24.188	30.777	31.249	32.392	47.187	49.077	42.214	37.170	42.590	42.941
ABLSAA.413	34050	38820	7.639	16.520	19.167	22.823	28.253	28.881	29.647	42.147	42.256	36.286	32.339	37.137	37.601
ABLSAA.414	34075	38820	7.930	17.627	20.811	24.839	30.914	29.949	30.939	44.196	44.073	37.648	33.228	38.493	38.377
ABLSAA.415	34100	38820	6.859	15.472	18.470	22.511	28.573	28.996	30.124	44.478	45.164	38.286	33.377	39.391	39.150
ABLSAA.416	34150	38820	7.023	16.875	10.210	24.424	30.322	29.927	30.881	43.249	42.618	36.832	32.857	37.472	37.355
ABLSAA.417	34200	38820	7.318	18.364	22.501	27.935	35.320	34.998	36.380	51.335	52.766	45.392	39.968	45.966	46.422
ABLSAA.418	34250	38820	6.826	15.051	17.855	21.586	26.917	27.608	28.584	41.183	39.696	33.829	30.210	34.375	33.995
ABLSAA.606	34350	38820	7.594	19.824	24.276	29.903	36.747	35.727	36.879	50.875	51.985	44.504	38.760	44.737	45.084
ABLSAA.607	34450	38820	8.150	19.261	23.148	28.223	34.515	33.320	34.434	48.402	49.720	43.020	37.699	43.266	43.096
ABLSAA.608	34550	38820	7.502	18.396	22.262	27.357	34.158	33.818	35.002	49.739	51.803	44.877	39.456	45.246	45.530
ABLSAA.609	34650	38820	7.215	17.328	21.024	25.744	32.179	31.852	32.867	47.562	48.768	42.670	37.793	42.777	42.911
ABLSAA.610	34750	38820	7.767	18.921	22.903	27.999	34.770	34.034	35.254	50.944	51.695	45.039	39.743	45.169	45.467

SOIL 38820

Beasley Creek Soil Selected ICP & INAA Analyses

FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLSAA.402	33650	38820	62.20	11.42	24.42	0.13	0.07	0.47	0.69	0.008
ABLSAA.403	33700	38820	61.71	12.56	24.65	0.15	0.10	0.46	0.74	0.018
ABLSAA.404	33750	38820	54.92	10.97	26.73	0.15	0.12	0.47	0.66	0.025
ABLSAA.405	33800	38820	58.27	10.28	33.43	0.22	0.21	0.47	0.75	0.017
ABLSAA.406	33850	38820	60.15	11.70	23.63	0.58	0.47	0.71	0.71	0.024
ABLSAA.407	33900	38820	53.65	10.76	29.52	0.41	0.30	0.20	0.85	0.018
ABLSAA.408	33925	38820	50.20	9.08	32.75	0.16	0.14	0.32	0.79	0.013
ABLSAA.409	33950	38820	58.30	11.71	33.49	0.21	0.18	0.46	0.93	0.034
ABLSAA.410	33975	38820	48.62	10.74	34.83	0.15	0.14	0.47	0.75	0.098
ABLSAA.411	34000	38820	56.82	10.39	29.08	0.20	0.20	0.59	0.73	0.015
ABLSAA.412	34025	38820	59.87	12.86	22.35	0.21	0.19	0.58	0.82	0.059
ABLSAA.413	34050	38820	59.95	12.50	28.87	0.11	0.08	0.09	0.89	0.064
ABLSAA.414	34075	38820	58.04	10.72	29.05	0.08	0.04	0.20	0.87	0.028
ABLSAA.415	34100	38820	49.75	13.08	30.96	0.11	0.07	0.46	0.95	0.034
ABLSAA.416	34150	38820	52.30	12.62	32.25	0.11	0.07	0.20	0.93	0.103
ABLSAA.417	34200	38820	59.31	12.90	19.78	0.14	0.07	0.20	0.79	0.021
ABLSAA.418	34250	38820	61.41	13.66	26.76	0.16	0.10	0.34	0.86	0.014
ABLSAA.606	34350	38820	57.49	15.16	18.60	0.19	0.06	0.00	0.77	0.016
ABLSAA.607	34450	38820	60.77	9.88	23.87	0.11	0.07	0.00	0.63	0.010
ABLSAA.608	34550	38820	62.11	11.63	21.70	0.13	0.07	0.00	0.69	0.019
ABLSAA.609	34650	38820	64.72	11.35	17.26	0.15	0.10	0.11	0.66	0.004
ABLSAA.610	34750	38820	60.57	10.43	19.12	0.12	0.06	0.11	0.59	0.010

→

SOIL 38940

Beasley Creek Soil Absorption Wavelengths, Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLSAA.421	33650	38940	602.0	904.0	0.119	107.437	0.167	38.576	0.287	78.416	0.138	36.738	0.022	16.303
ABLSAA.422	33700	38940	602.0	908.0	0.149	119.804	0.163	29.144	0.218	67.344	0.19	42.568	0.025	20.875
ABLSAA.423	33750	38940	606.0	906.0	0.152	114.515	0.165	31.261	0.226	72.047	0.195	41.543	0.040	24.239
ABLSAA.424	33800	38940	606.0	908.0	0.138	113.056	0.104	29.129	0.145	65.712	0.14	39.81	0.026	15.921
ABLSAA.425	33850	38940	606.0	906.0	0.135	116.366	0.119	30.144	0.182	69.26	0.136	40.968	0.026	15.456
ABLSAA.426	33900	38940	600.0	906.0	0.14	116.907	0.113	30.129	0.166	68.483	0.145	40.977	0.023	16.821
ABLSAA.427	33925	38940	606.0	908.0	0.123	109.578	0.097	31.7	0.15	68.166	0.134	37.189	0.021	18.766
ABLSAA.428	33950	38940	602.0	906.0	0.122	121.22	0.15	35.363	0.264	76.057	0.158	39.29	0.018	19.394
ABLSAA.429	33975	38940	600.0	910.0	0.09	109.05	0.141	29.594	0.233	67.249	0.148	39.557	0.029	13.564
ABLSAA.430	34000	38940	600.0	902.0	0.12	115.725	0.14	34.629	0.233	70.497	0.154	40.751	0.028	13.485
ABLSAA.431	34025	38940	606.0	906.0	0.149	113.551	0.142	30.834	0.208	64.069	0.171	40.338	0.032	18.307
ABLSAA.432	34050	38940	600.0	906.0	0.146	122.502	0.148	31.461	0.194	68.659	0.182	40.58	0.035	21.877
ABLSAA.433	34100	38940	608.0	906.0	0.141	113.755	0.158	28.957	0.187	65.344	0.197	40.808	0.036	21.564
ABLSAA.434	34150	38940	608.0	902.0	0.16	115.263	0.14	27.7	0.153	66.194	0.193	40.883	0.036	23.885
ABLSAA.435	34200	38940	606.0	906.0	0.145	112.695	0.152	29.153	0.17	66.063	0.202	40.867	0.03	32.72
ABLSAA.436	34250	38940	608.0	904.0	0.154	113.173	0.155	31.171	0.174	65.268	0.202	38.187	0.039	20.932
ABLSAA.437	34300	38940	606.0	906.0	0.15	113.733	0.143	31.49	0.159	66.687	0.202	38.187	0.038	25.652
ABLSAA.601	34400	38940	608.0	904.0	0.126	113.921	0.1	29.382	0.137	67.691	0.19	36.96	0.03	13.381
ABLSAA.602	34500	38940	612.0	900.0	0.116	105.183	0.102	30.944	0.125	63.915	0.147	39.581	0.019	16.796
ABLSAA.603	34600	38940	606.0	904.0	0.12	109.289	0.106	27.857	0.135	65.355	0.156	39.466	0.026	17.776
ABLSAA.604	34700	38940	606.0	904.0	0.122	106.075	0.105	31.865	0.137	66.327	0.156	42.59	0.039	20.932
ABLSAA.605	34800	38940	608.0	898.0	0.142	108.151	0.143	30.938	0.164	68.02	0.192	41.876	0.038	24.878

SOIL 38940

Beasley Creek Soil Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAA.421	33650	38940	8.662	19.112	22.455	27.122	33.696	33.990	35.056	49.230	48.979	44.071	39.548	42.349	42.938
ABLSAA.422	33700	38940	6.193	15.613	18.586	22.253	27.117	25.993	26.701	37.581	35.460	30.149	26.610	30.211	30.144
ABLSAA.423	33750	38940	6.683	14.908	17.861	21/507	26.422	25.444	26.179	36.782	35.684	30.314	26.619	30.541	30.545
ABLSAA.424	33800	38940	7.569	17.318	20.645	25.272	31.691	31.611	32.622	47.603	50.560	46.081	41.547	45.443	46.154
ABLSAA.425	33850	38940	7.953	17.602	20.986	25.591	32.206	32.016	33.094	47.784	49.404	44.441	40.385	43.851	44.305
ABLSAA.426	33900	38940	7.625	16.713	19.591	23.423	29.187	29.033	29.897	43.868	45.550	40.836	36.812	40.607	40.830
ABLSAA.427	33925	38940	7.966	17.007	19.997	24.154	30.173	30.482	31.407	44.865	47.228	42.878	38.988	42.731	43.082
ABLSAA.428	33950	38940	10.353	23.598	27.647	33.018	40.829	40.963	42.219	59.204	58.927	52.600	46.476	51.003	51.755
ABLSAA.429	33975	38940	13.948	26.722	30.366	35.397	42.792	43.926	44.998	59.832	59.164	52.637	47.294	51.623	51.805
ABLSAA.430	34000	38940	11.166	23.818	27.867	33.168	40.396	39.969	41.158	55.706	55.261	49.105	43.847	48.040	48.532
ABLSAA.431	34025	38940	7.888	17.928	21.720	26.514	33.261	32.490	33.696	48.539	49.401	43.413	38.487	43.176	43.555
ABLSAA.432	34050	38940	7.574	16.590	19.733	23.757	29.430	29.011	29.920	43.676	42.333	36.536	32.281	36.863	36.745
ABLSAA.433	34100	38940	7.810	17.732	21.179	25.644	32.057	31.661	32.808	46.362	45.514	38.989	34.025	39.554	39.577
ABLSAA.434	34150	38940	7.709	18.551	22.579	27.879	34.882	33.630	34.772	50.522	51.722	44.479	39.091	44.915	45.409
ABLSAA.435	34200	38940	7.289	17.747	21.447	26.207	32.308	31.393	32.483	45.444	45.958	39.304	34.242	40.014	40.142
ABLSAA.436	34250	38940	6.956	16.973	20.705	25.689	32.282	31.273	32.456	45.950	47.082	40.402	35.209	40.801	41.416
ABLSAA.437	34300	38940	7.429	18.364	22.242	27.210	33.625	32.350	33.339	46.360	42.234	40.315	35.317	40.728	41.069
ABLSAA.601	34400	38940	7.894	18.545	22.335	27.721	34.879	35.197	36.520	52.181	58.057	52.469	47.257	52.007	52.987
ABLSAA.602	34500	38940	7.300	17.022	20.491	25.547	32.634	33.939	35.346	51.142	56.471	50.337	45.867	50.221	51.182
ABLSAA.603	34600	38940	7.455	16.752	20.017	24.751	31.281	32.424	33.736	49.483	53.618	48.280	43.096	47.873	48.753
ABLSAA.604	34700	38940	7.454	17.598	21.209	26.353	33.384	34.231	35.597	51.024	55.947	50.165	44.887	49.770	50.504
ABLSAA.605	34800	38940	7.195	18.599	22.109	27.708	35.025	34.932	36.251	50.623	54.236	46.876	41.153	47.046	48.013

SOIL 38940

Beasley Creek Soil Selected ICP & INAA Analyses

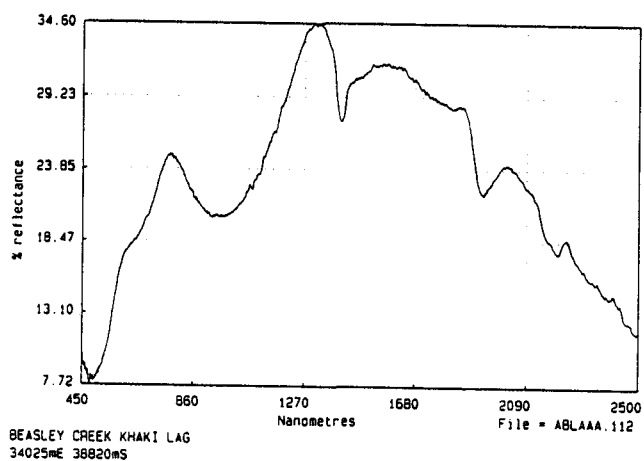
FILENAME-	EAST	NORTH	SiO ₂	Al ₂ O ₃	Fe ₂ O ₃	MgO	CaO	Na ₂ O	TiO ₂	Au
ABLSAA.421	33650	38940	64.75	12.05	19.24	0.77	0.50	0.83	0.72	0.015
ABLSAA.422	33700	38940	59.24	12.54	27.43	0.19	0.12	0.20	0.73	0.016
ABLSAA.423	33750	38940	56.44	11.74	25.82	0.19	0.13	0.09	0.71	0.017
ABLSAA.424	33800	38940	60.79	9.11	28.48	0.18	0.17	0.59	0.77	0.037
ABLSAA.425	33850	38940	60.35	9.35	25.34	0.23	0.21	0.21	0.71	0.010
ABLSAA.426	33900	38940	61.00	8.88	26.12	0.17	0.15	0.12	0.72	0.013
ABLSAA.427	33925	38940	57.85	9.04	30.39	0.18	0.16	0.10	0.71	0.017
ABLSAA.428	33950	38940	49.90	11.28	32.71	1.22	1.28	0.83	0.71	0.079
ABLSAA.429	33975	38940	60.37	12.11	20.58	1.47	3.47	0.22	0.75	0.052
ABLSAA.430	34000	38940	53.67	11.53	21.11	1.27	1.95	0.47	0.74	0.033
ABLSAA.431	34025	38940	59.20	11.89	25.02	0.33	0.24	0.46	0.79	0.034
ABLSAA.432	34050	38940	58.70	13.16	27.75	0.17	0.18	0.00	0.88	0.074
ABLSAA.433	34100	38940	54.91	11.34	29.90	0.10	0.07	0.20	0.85	0.034
ABLSAA.434	34150	38940	63.60	10.99	23.77	0.09	0.06	0.47	0.74	0.021
ABLSAA.435	34200	38940	58.19	14.42	21.37	0.17	0.08	0.34	0.81	0.403
ABLSAA.436	34250	38940	60.89	13.59	25.50	0.15	0.08	0.34	0.83	0.022
ABLSAA.437	34300	38940	60.48	12.22	27.69	0.10	0.05	0.09	0.76	0.133
ABLSAA.601	34400	38940	65.20	9.34	18.91	0.17	0.07	0.24	0.67	0.003
ABLSAA.602	34500	38940	68.74	9.17	17.04	0.15	0.11	0.11	0.68	0.004
ABLSAA.603	34600	38940	63.67	9.28	21.82	0.16	0.13	0.24	0.67	0.004
ABLSAA.604	34700	38940	67.12	9.01	13.43	0.17	0.13	0.24	0.63	0.008
ABLSAA.605	34800	38940	64.52	13.01	14.33	0.20	0.12	0.11	0.68	0.004

Appendix 2.4

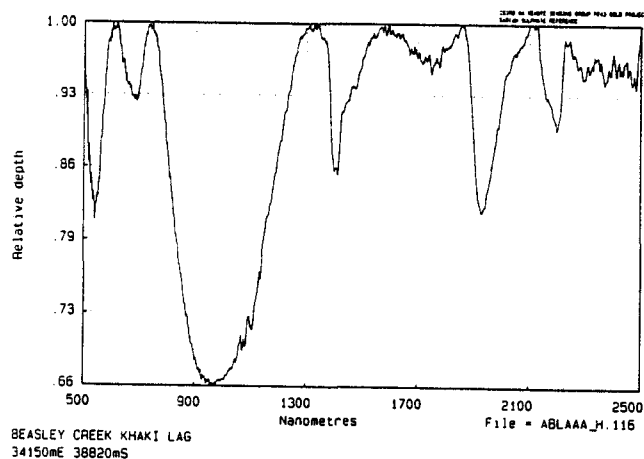
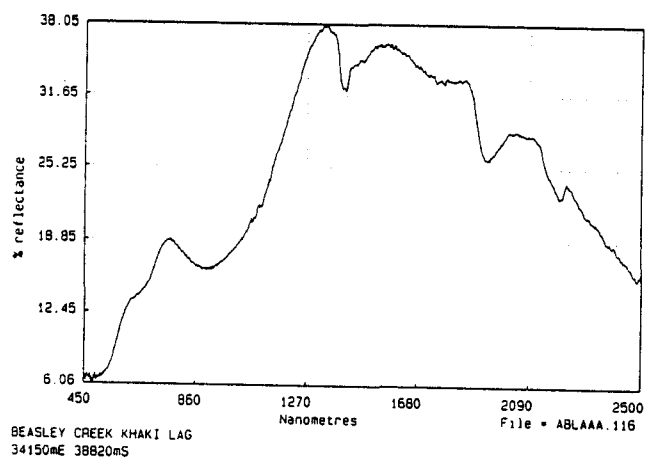
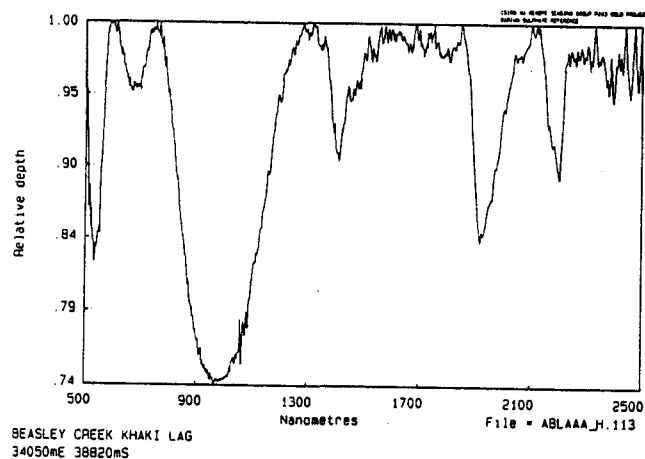
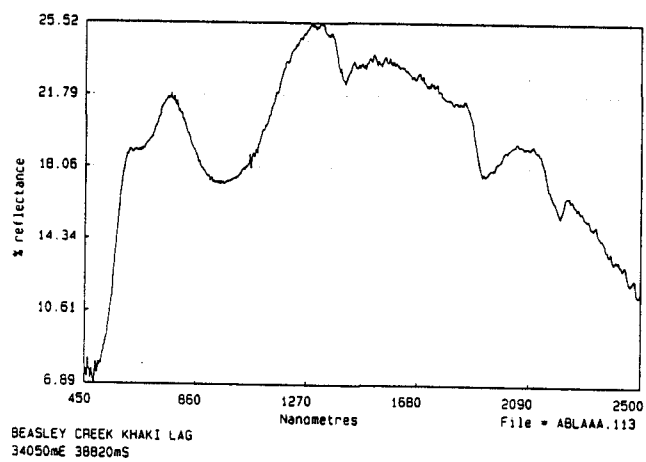
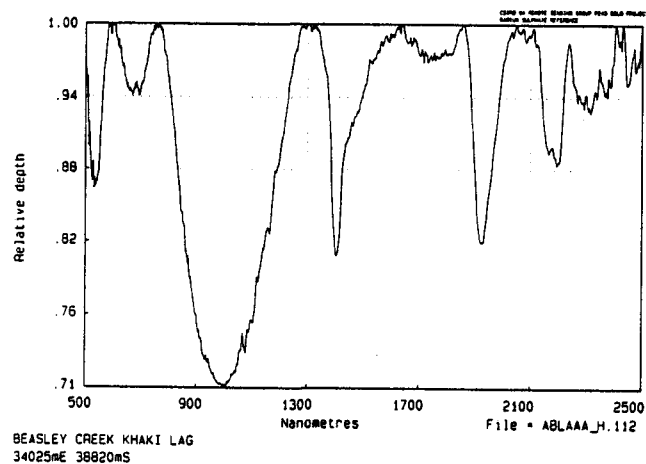
Additional Spectral Data and Ancillary Information

KHAKI LAG Line 38820mN

REFLECTANCE



HULL QUOTIENTS



KHAKI LAG 38820

Beasley Creek Khaki Lag Absorption Wavelengths, Depths and Widths

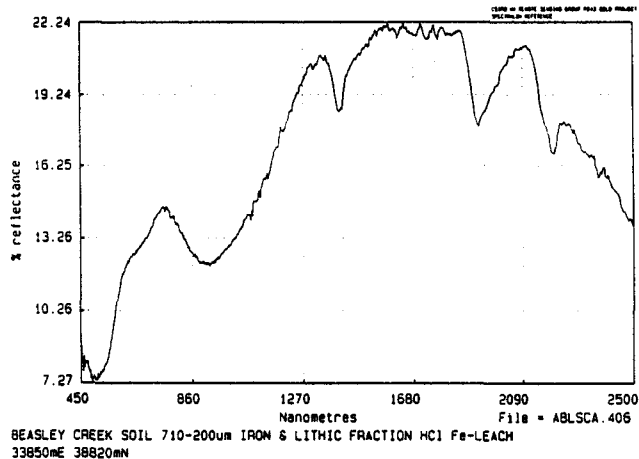
-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W	2.38-D	2.38-W
ABLAAA.112	34025	38820	582.	996.	0.295	166.676	0.188	34.527	0.177	56.821	0.114	41.438	--0--	--0--
ABLAAA.113	34050	38820	586.	964.	0.261	157.605	0.1	35.137	0.159	60.745	0.112	34.420	--0--	--0--
ABLAAA.116	34150	38820	586.	958.	0.344	177.201	0.145	26.374	0.18	59.068	0.102	33.259	--0--	--0--

→

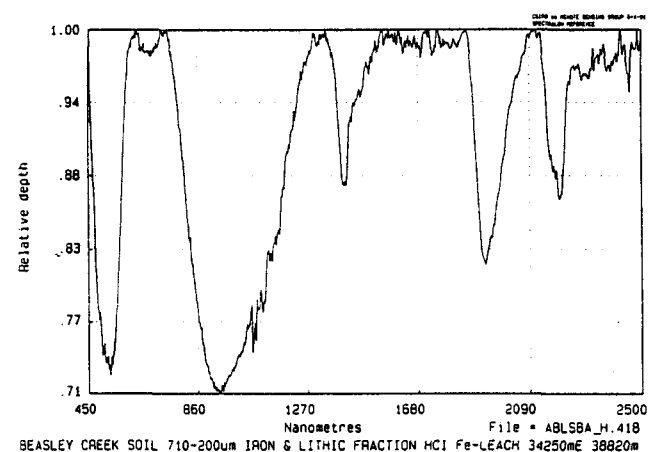
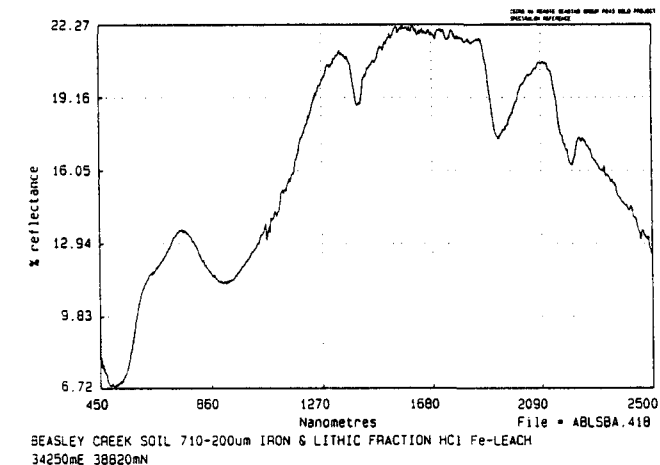
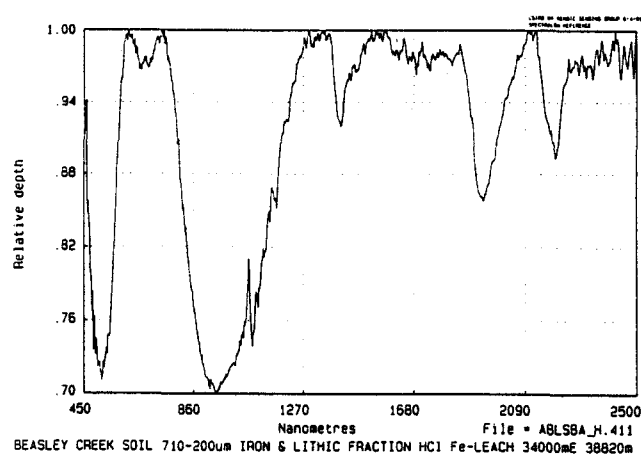
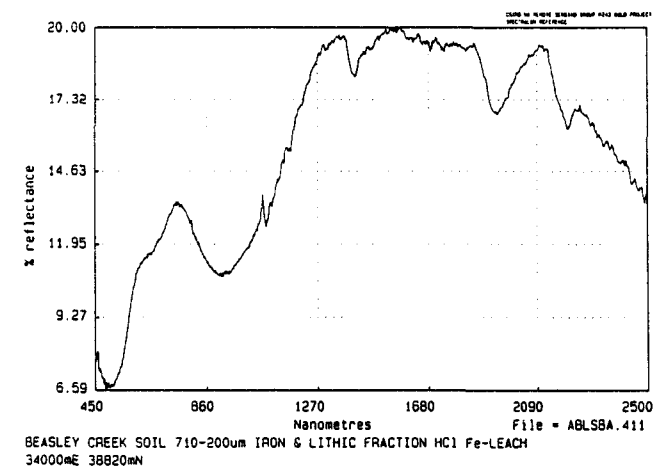
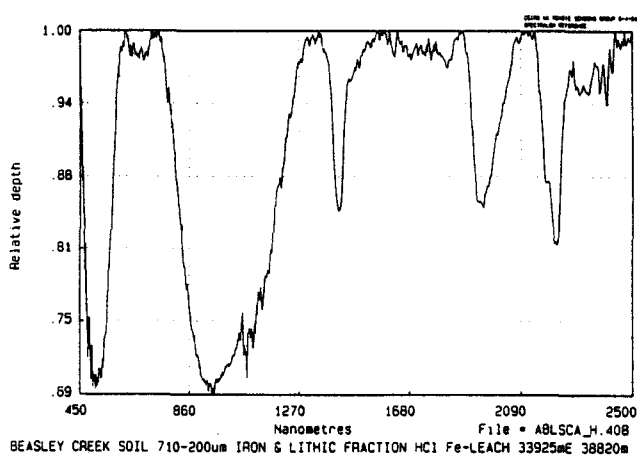
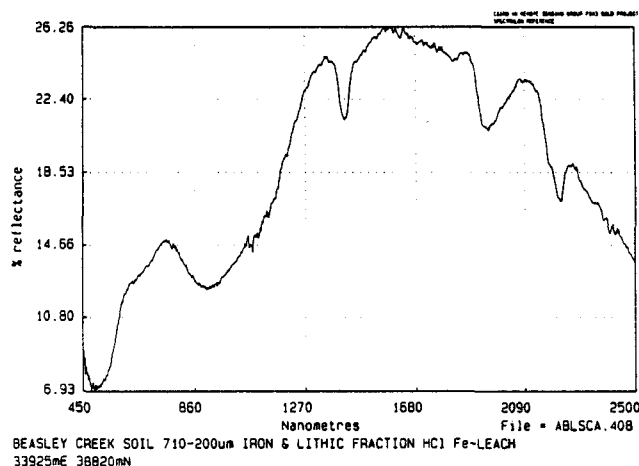
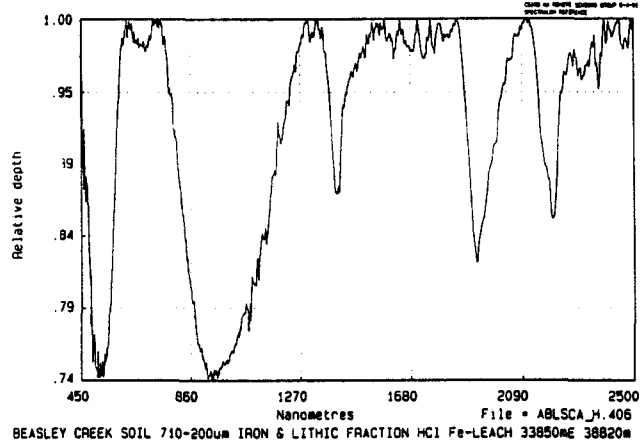
FERRUGINOUS AND LITHIC SOIL FRACTIONS

Line 38820mN

REFLECTANCE

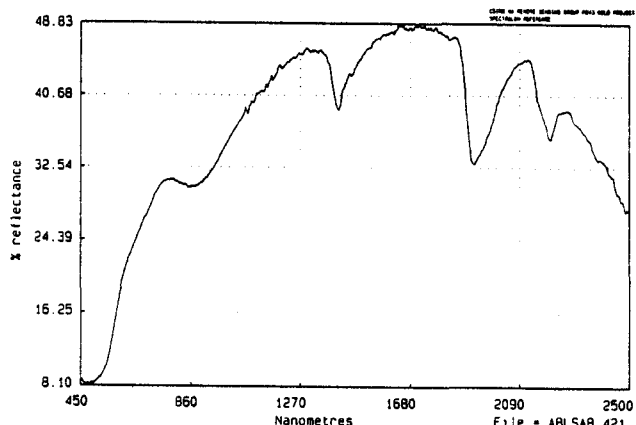


HULL QUOTIENTS

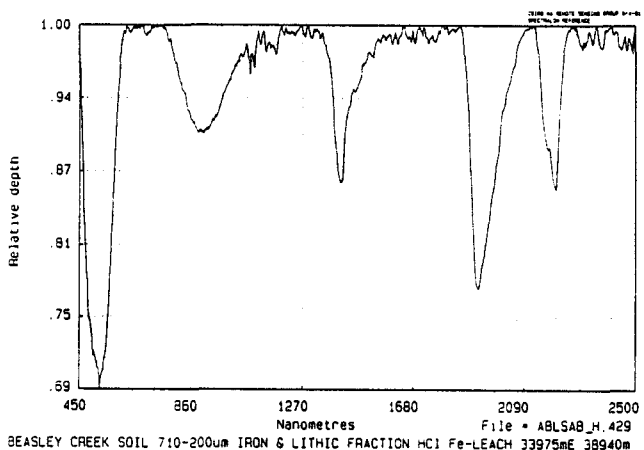
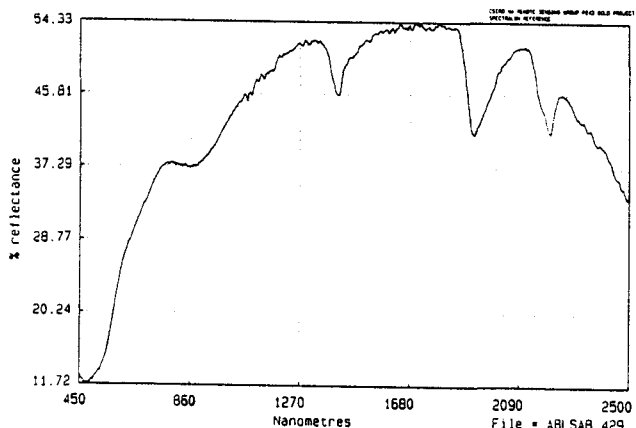
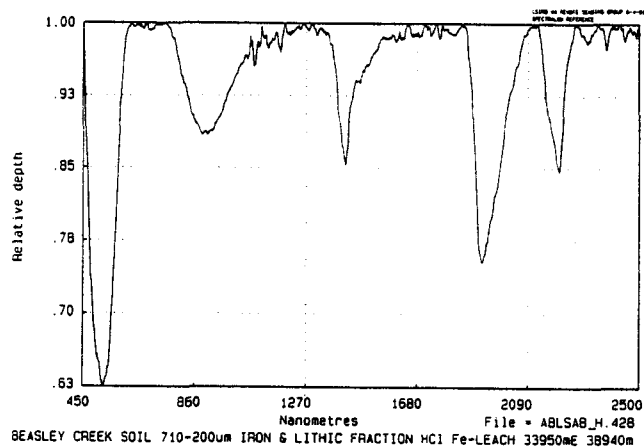
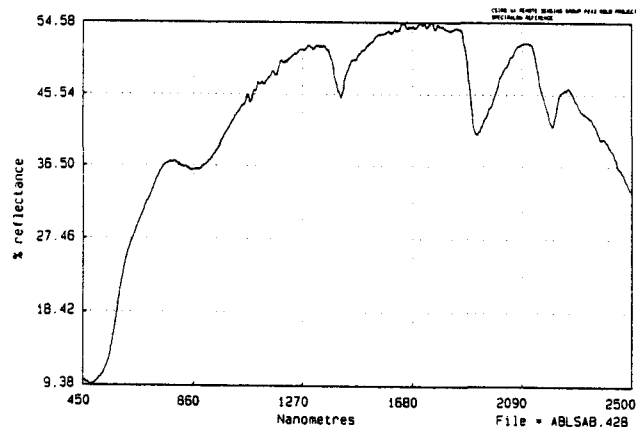
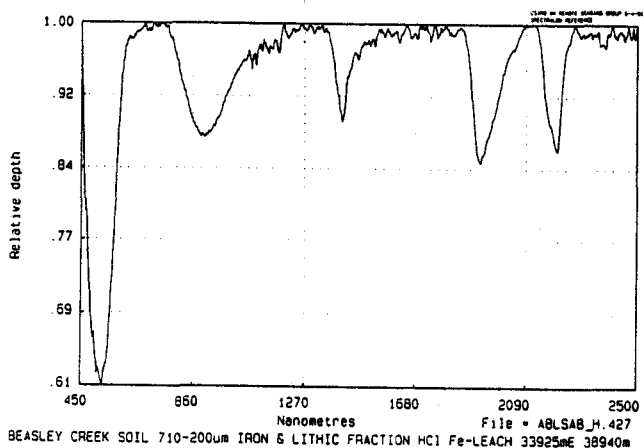
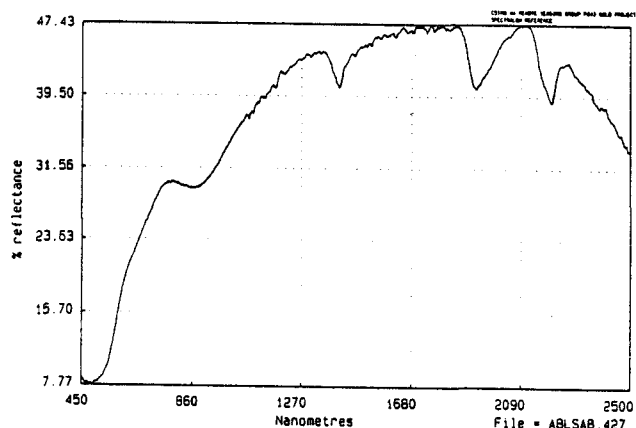
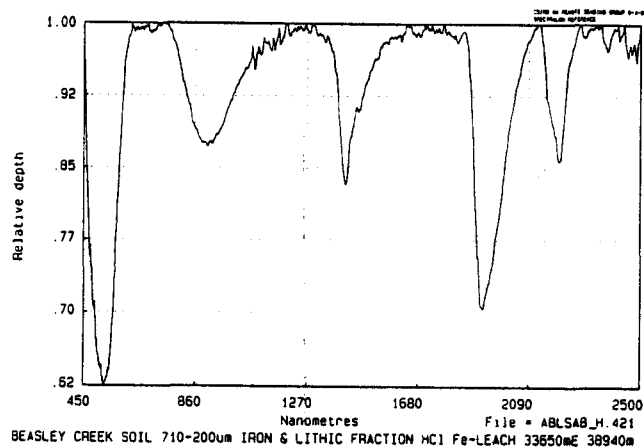


FERRUGINOUS AND LITHIC SOIL FRACTIONS Line 38940mN

REFLECTANCE

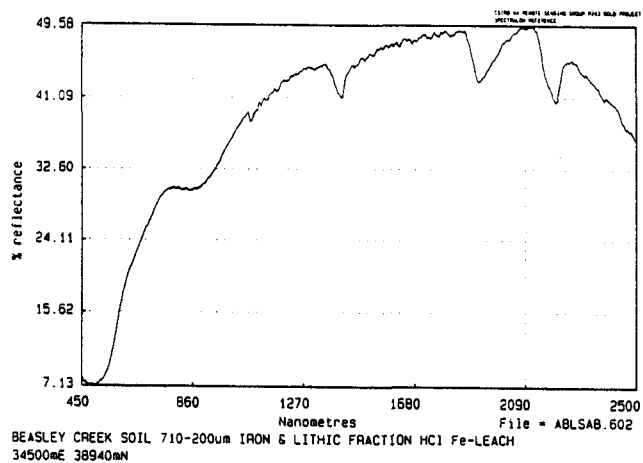


HULL QUOTIENTS

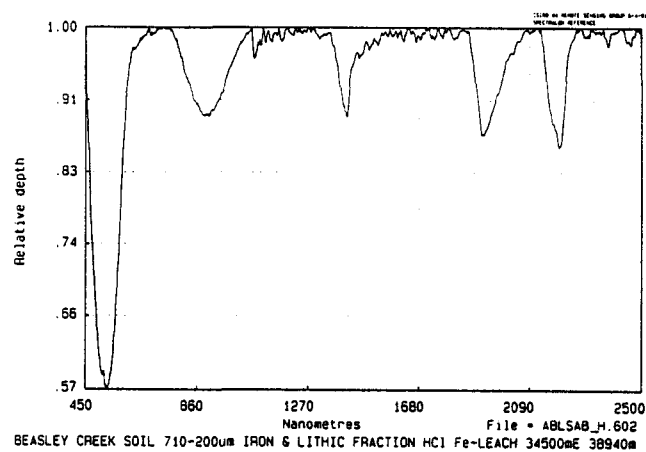


FERRUGINOUS AND LITHIC SOIL FRACTIONS Line 38940mN

REFLECTANCE



HULL QUOTIENTS



FERRUGINOUS AND LITHIC SOIL FRACTIONS 38820

Absorption Depths and Widths

FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSCA.406	33850	38820	608	946	0.263	169.109	0.127	31.841	0.177	61.642	0.145	39.126
ABLSCA.408	33925	38820	604	946	0.310	175.087	0.154	29.934	0.150	61.545	0.182	40.503
ABLSBA.411	34000	38820	602	946	0.302	172.523	0.081	25.871	0.143	71.709	0.107	40.387
ABLSBA.418	34250	38820	610	938	0.289	176.615	0.123	28.051	0.185	65.929	0.134	38.437

Selected Reflectances

FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSCA.406	33850	38820	7.520	11.002	11.903	12.857	14.559	12.326	12.230	20.540	--0--	--0--	--0--	--0--	--0--
ABLSCA.408	33925	38820	7.028	11.385	12.179	13.020	14.895	12.449	12.426	24.375	--0--	--0--	--0--	--0--	--0--
ABLSBA.411	34000	38820	6.751	10.397	11.097	11.671	13.458	10.879	10.878	19.569	--0--	--0--	--0--	--0--	--0--
ABLSBA.418	34250	38820	6.850	10.187	11.110	11.904	13.471	11.331	11.397	20.800	--0--	--0--	--0--	--0--	--0--

FERRUGINOUS AND LITHIC SOIL FRACTIONS 38940

Absorption Depths and Widths

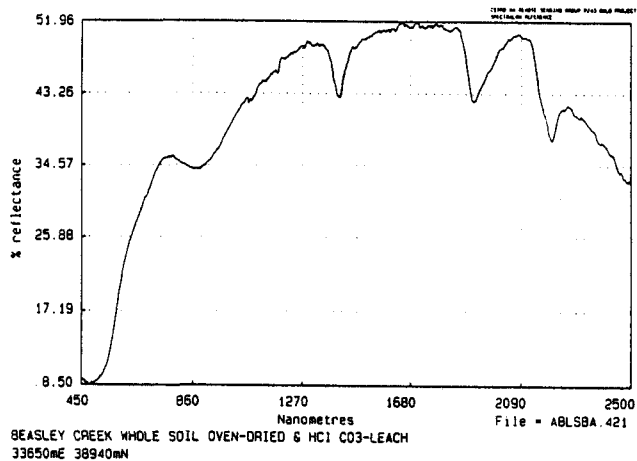
-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAB.421	33650	38940	620	906	0.129	110.886	0.169	39.266	0.298	72.797	0.144	40.354
ABLSAB.427	33925	38940	612	900	0.122	111.433	0.105	29.995	0.149	66.809	0.136	39.620
ABLSAB.428	33950	38940	610	902	0.114	104.819	0.144	31.735	0.242	66.935	0.150	39.482
ABLSAB.429	33975	38940	610	902	0.093	102.849	0.135	33.919	0.225	66.772	0.141	35.357
ABLSAB.602	34500	38940	624	894	0.213	33.797	0.105	29.258	0.126	58.363	0.141	38.504

Selected Reflectances

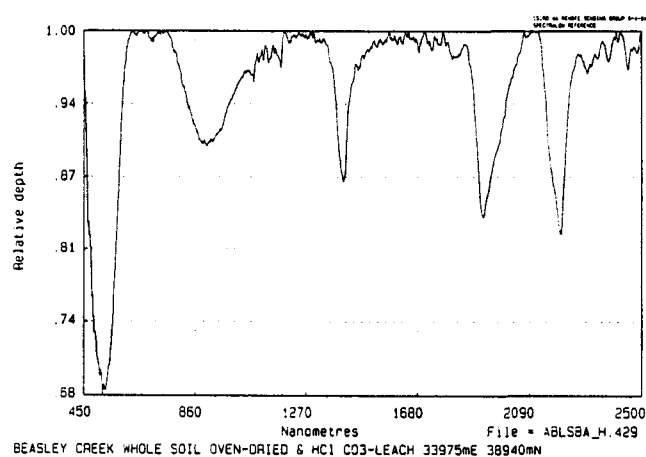
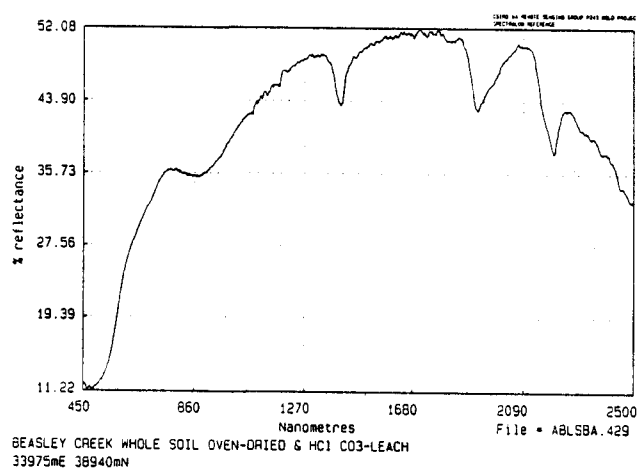
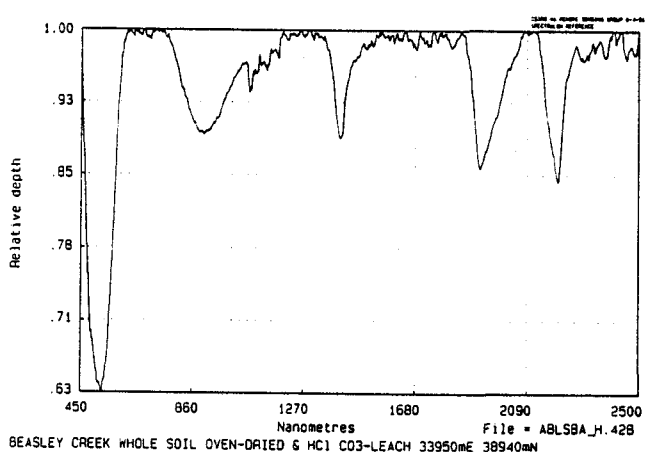
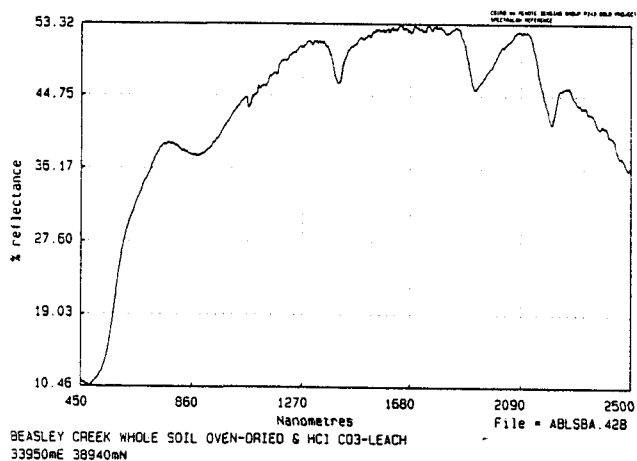
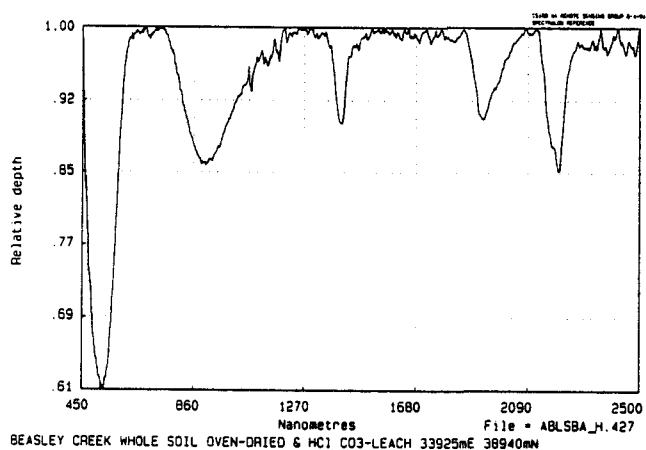
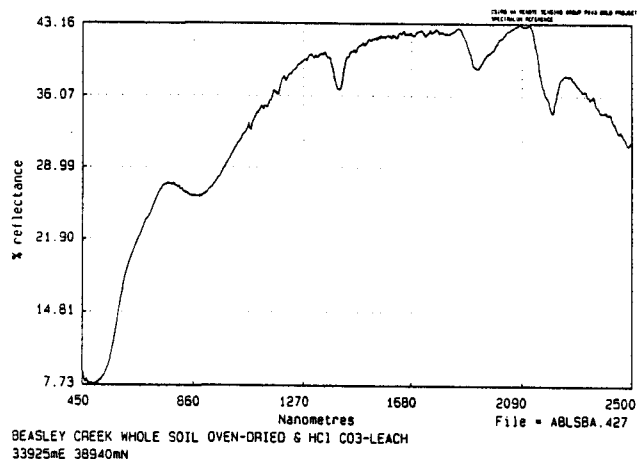
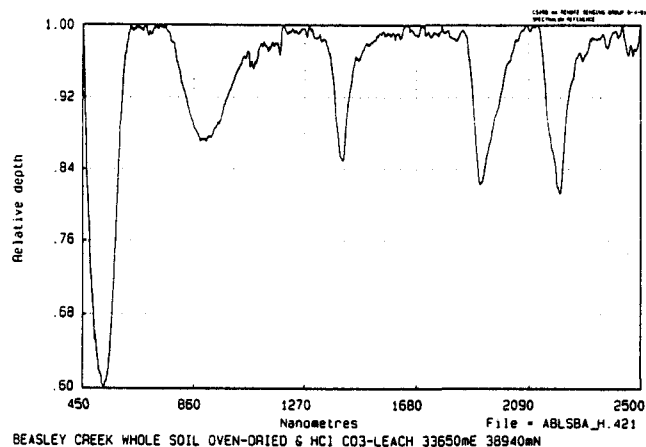
-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAB.421	33650	38940	8.418	17.850	20.838	24.986	30.754	30.838	31.819	45.245	--0--	--0--	--0--	--0--	--0--
ABLSAB.427	33925	38940	8.201	16.724	19.675	23.622	29.541	29.768	30.778	44.144	--0--	--0--	--0--	--0--	--0--
ABLSAB.428	33950	38940	9.888	21.709	25.264	29.887	36.571	36.561	37.577	51.204	--0--	--0--	--0--	--0--	--0--
ABLSAB.429	33975	38940	12.231	23.323	26.591	30.908	37.208	37.810	38.922	51.307	--0--	--0--	--0--	--0--	--0--
ABLSAB.602	34500	38940	7.237	15.947	19.052	23.481	29.622	30.836	32.174	44.408	--0--	--0--	--0--	--0--	--0--

SOILS MIXED WITH 0.1 M HCL ACID
Line 38940mN

REFLECTANCE



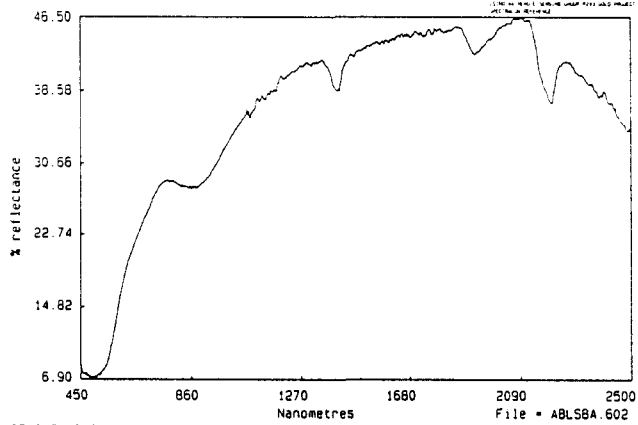
HULL QUOTIENTS



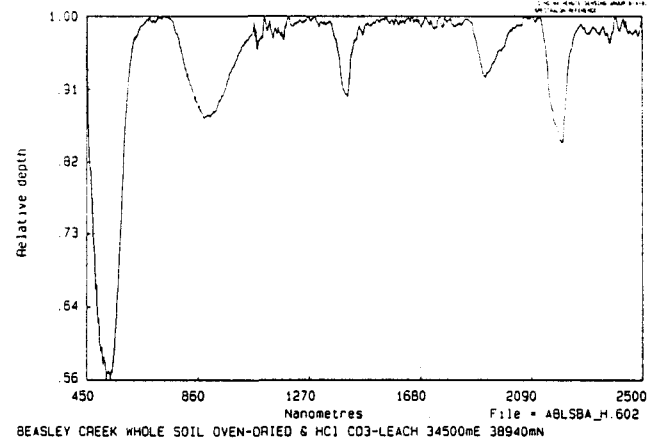
SOILS MIXED WITH 0.1 M HCL ACID
Line 38940mN

66

REFLECTANCE



HULL QUOTIENTS



SOIL MIXED WITH 0.1 M HCL

Absorption Depths and Widths

FILENAME	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSBA.421	33650	38940	620	898	0.129	107.273	0.150	35.180	0.175	58.524	0.186	44.183
ABLSBA.427	33925	38940	622	906	0.148	119.582	0.103	29.094	0.097	59.498	0.153	42.486
ABLSBA.428	33950	38940	610	902	0.106	110.926	0.110	32.976	0.140	64.244	0.154	41.483
ABLSBA.429	33975	38940	612	904	0.102	114.296	0.133	30.547	0.164	62.246	0.180	41.862
ABLSBA.602	34500	38940	628	898	0.124	102.487	0.098	28.293	0.073	58.550	0.154	40.071

Selected Reflectances

FILENAME	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSBA.421	33650	38940	8.892	19.672	23.317	28.450	35.322	34.551	35.579	48.436	--0--	--0--	--0--	--0--	--0--
ABLSBA.427	33925	38940	7.833	15.980	18.696	22.268	27.306	26.475	27.240	39.784	--0--	--0--	--0--	--0--	--0--
ABLSBA.428	33950	38940	11.033	24.333	28.027	32.786	38.890	37.914	38.813	50.625	--0--	--0--	--0--	--0--	--0--
ABLSBA.429	33975	38940	11.770	22.611	25.837	30.213	35.857	35.762	36.707	48.281	--0--	--0--	--0--	--0--	--0--
ABLSBA.602	34500	38940	7.069	15.196	18.258	22.670	28.315	28.487	29.541	41.317	--0--	--0--	--0--	--0--	--0--

COMPLETE SOIL 100°C OVEN-DRIED 38820

Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSEA.404	33750	38820	626	900	0.124	112.662	0.117	29.955	0.086	57.572	0.198	43.349
ABLSEA.406	33850	38820	614	900	0.132	122.328	0.125	31.607	0.141	53.833	0.187	43.410
ABLSEA.407	33900	38820	612	902	0.126	117.914	0.115	31.951	0.130	58.710	0.183	44.433
ABLSEA.408	33925	38820	614	898	0.124	121.406	0.091	27.347	0.067	59.147	0.157	40.373
ABLSEA.607	34450	38820	608	900	0.132	113.186	0.116	30.740	0.075	54.801	0.201	44.472

Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSEA.404	33750	38820	7.467	16.366	19.935	25.054	31.064	31.101	32.243	45.764	--0--	--0--	--0--	--0--	--0--
ABLSEA.406	33850	38820	8.718	19.101	23.184	28.808	35.647	35.363	36.697	53.740	--0--	--0--	--0--	--0--	--0--
ABLSEA.407	33900	38820	9.331	20.320	24.207	29.754	36.308	35.493	36.622	50.924	--0--	--0--	--0--	--0--	--0--
ABLSEA.408	33925	38820	8.767	18.125	21.449	26.273	32.217	31.692	32.664	45.873	--0--	--0--	--0--	--0--	--0--
ABLSEA.607	34450	38820	8.573	19.060	23.096	28.905	35.068	34.036	35.302	49.052	--0--	--0--	--0--	--0--	--0--

COMPLETE SOIL 100°C OVEN-DRIED 38940

Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSEA.424	33800	38940	612	902	0.126	118.686	0.088	26.722	0.080	58.738	0.144	41.320
ABLSEA.427	33925	38940	608	898	0.115	109.867	0.087	27.437	0.084	61.860	0.147	41.560
ABLSEA.428	33950	38940	606	886	0.107	115.341	0.107	30.964	0.131	65.715	0.163	42.033
ABLSEA.430	34000	38940	608	884	0.116	111.165	0.117	27.801	0.132	59.917	0.177	42.772
ABLSEA.601	34400	38940	616	896	0.117	107.177	0.085	27.253	0.066	57.445	0.156	43.132

Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSEA.424	33800	38940	8.716	19.199	22.651	27.356	33.293	32.368	33.407	46.669	--0--	--0--	--0--	--0--	--0--
ABLSEA.427	33925	38940	8.887	18.415	21.770	26.349	32.606	32.951	33.926	47.715	--0--	--0--	--0--	--0--	--0--
ABLSEA.428	33950	38940	12.068	26.427	30.874	36.894	44.357	44.008	45.362	60.332	--0--	--0--	--0--	--0--	--0--
ABLSEA.430	34000	38940	11.702	24.651	29.240	35.400	42.636	42.168	43.491	57.952	--0--	--0--	--0--	--0--	--0--
ABLSEA.601	34400	38940	8.307	18.337	22.199	27.780	34.239	34.226	35.419	48.915	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

142-75um Fraction Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAC.001	33600	38820	620	896	0.151	108.452	0.127	30.112	0.120	56.946	0.191	38.755
ABLSAC.006	33850	38820	620	906	0.133	107.938	0.143	29.840	0.211	60.748	0.169	40.284
ABLSAC.008	33925	38820	620	904	0.146	122.909	0.096	26.503	0.090	60.028	0.156	37.798
ABLSAC.011	34000	38820	622	900	0.151	118.219	0.113	27.373	0.120	64.156	0.169	43.278
ABLSAC.018	34250	38820	620	906	0.148	111.888	0.113	27.330	0.101	64.404	0.172	43.148

142-75um Fraction Absorption Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAC.001	33600	38820	6.730	16.729	20.830	26.919	34.657	34.361	35.925	53.811	--0--	--0--	--0--	--0--	--0--
ABLSAC.006	33850	38820	6.185	15.299	19.234	25.129	32.835	33.226	34.534	51.420	--0--	--0--	--0--	--0--	--0--
ABLSAC.008	33925	38820	8.477	20.156	24.976	32.133	40.153	39.113	40.448	60.789	--0--	--0--	--0--	--0--	--0--
ABLSAC.011	34000	38820	8.441	21.348	26.507	34.133	43.366	42.644	44.320	67.696	--0--	--0--	--0--	--0--	--0--
ABLSAC.018	34250	38820	8.508	20.829	25.982	33.791	42.879	42.374	43.969	66.285	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

< 75um Fraction Absorption Depths and Widths

FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAB.001	33600	38820	598	916	0.148	113.988	0.260	34.117	0.269	61.048	0.417	47.743
ABLSAB.006	33850	38820	600	912	0.117	99.035	0.115	29.873	0.181	63.825	0.190	58.227
ABLSAB.008	33925	38820	600	920	0.150	116.425	0.241	33.282	0.350	66.711	0.381	46.531
ABLSAB.011	34000	38820	600	908	0.133	122.234	0.217	28.254	0.279	67.305	0.382	45.639
ABLSAB.018	34250	38820	600	910	0.156	113.563	0.302	35.581	0.335	67.194	0.487	48.667

< 75um Fraction Absorption Selected Reflectances

FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAB.001	33600	38820	11.454	21.707	24.817	28.432	32.439	30.481	31.139	40.929	--0--	--0--	--0--	--0--	--0--
ABLSAB.006	33850	38820	6.611	17.606	21.326	26.535	33.822	34.528	35.767	50.892	--0--	--0--	--0--	--0--	--0--
ABLSAB.008	33925	38820	8.653	19.438	22.522	26.128	30.306	27.533	27.934	36.013	--0--	--0--	--0--	--0--	--0--
ABLSAB.011	34000	38820	10.961	25.479	29.928	35.148	40.639	37.999	38.716	50.534	--0--	--0--	--0--	--0--	--0--
ABLSAB.018	34250	38820	11.299	24.362	28.596	33.598	38.962	35.734	36.524	47.258	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

250-142um Fraction Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAD.001	33600	38820	614	902	0.152	104.976	0.157	31.338	0.170	63.312	0.226	42.782
ABLSAD.006	33850	38820	620	904	0.142	112.044	0.133	31.057	0.177	56.057	0.168	44.270
ABLSAD.008	33925	38820	620	910	0.155	119.503	0.106	28.604	0.097	66.387	0.162	44.295
ABLSAD.011	34000	38820	620	900	0.156	118.490	0.112	27.019	0.118	66.577	0.171	40.155
ABLSAD.011	34250	38820	620	896	0.167	114.937	0.125	28.537	0.117	65.220	0.180	45.554

250-142um Fraction Absorption Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAC.001	33600	38820	6.357	14.799	17.703	22.012	27.912	28.181	29.428	45.043	--0--	--0--	--0--	--0--	--0--
ABLSAC.006	33850	38820	6.312	14.208	17.822	23.296	30.242	30.254	31.443	47.554	--0--	--0--	--0--	--0--	--0--
ABLSAC.008	33925	38820	8.153	18.187	22.497	29.394	37.225	36.052	37.474	57.428	--0--	--0--	--0--	--0--	--0--
ABLSAC.011	34000	38820	8.142	18.888	23.273	30.082	38.051	37.002	38.502	58.992	--0--	--0--	--0--	--0--	--0--
ABLSAC.018	34250	38820	6.991	16.821	21.135	28.002	36.218	35.243	36.853	57.827	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

500-250um Fraction Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAE.001	33600	38820	620	900	0.185	113.298	0.146	31.318	0.151	60.081	0.202	42.136
ABLSAE.006	33850	38820	620	898	0.169	128.388	0.128	27.694	0.182	63.063	0.156	43.473
ABLSAE.008	33925	38820	620	910	0.189	148.011	0.103	25.161	0.111	60.531	0.154	43.735
ABLSAE.011	34000	38820	620	906	0.173	129.056	0.117	26.373	0.139	66.355	0.170	42.529
ABLSAE.018	34250	38820	620	900	0.191	119.116	0.129	27.307	0.140	61.828	0.188	39.774

500-250um Fraction Absorption Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAC.001	33600	38820	5.968	13.088	16.224	21.088	27.349	26.403	27.672	44.733	--0--	--0--	--0--	--0--	--0--
ABLSAC.006	33850	38820	6.112	13.036	16.046	20.443	25.777	24.736	25.594	40.008	--0--	--0--	--0--	--0--	--0--
ABLSAC.008	33925	38820	7.233	14.246	17.033	21.325	26.221	24.506	25.230	41.263	--0--	--0--	--0--	--0--	--0--
ABLSAC.011	34000	38820	7.875	17.913	21.988	28.384	35.899	34.530	35.930	57.199	--0--	--0--	--0--	--0--	--0--
ABLSAC.018	34250	38820	6.829	15.226	18.888	24.530	31.523	30.100	31.507	52.156	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

710-500um Fraction Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAF.001	33600	38820	614	906	0.219	138.711	0.152	29.007	0.143	65.224	0.200	42.561
ABLSAF.006	33850	38820	612	912	0.173	136.191	0.134	28.592	0.197	62.364	0.156	43.809
ABLSAF.008	33925	38820	600	928	0.232	172.236	0.117	26.793	0.150	69.865	0.150	39.895
ABLSAF.011	34000	38820	608	924	0.243	169.603	0.114	25.830	0.151	67.393	0.157	41.092
ABLSAF.018	34250	38820	606	922	0.231	144.958	0.149	29.584	0.202	67.022	0.198	40.079

710-500um Fraction Absorption Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAC.001	33600	38820	5.831	11.845	14.249	17.729	22.359	20.808	21.652	37.463	--0--	--0--	--0--	--0--	--0--
ABLSAC.006	33850	38820	6.614	13.204	15.791	19.309	23.932	23.151	23.853	38.028	--0--	--0--	--0--	--0--	--0--
ABLSAC.008	33925	38820	6.932	12.582	14.453	16.985	20.479	18.258	18.614	32.352	--0--	--0--	--0--	--0--	--0--
ABLSAC.011	34000	38820	7.974	15.708	18.111	21.332	25.920	23.284	23.870	43.335	--0--	--0--	--0--	--0--	--0--
ABLSAC.018	34250	38820	7.366	15.640	18.504	22.282	27.371	24.802	25.606	44.526	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

2000-710um Fraction Absorption Depths and Widths

-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAG.001	33600	38820	594	946	0.322	172.874	0.153	32.198	0.157	65.587	0.174	44.780
ABLSAG.006	33850	38820	600	958	0.239	173.503	0.121	32.658	0.212	74.951	0.124	42.247
ABLSAG.008	33925	38820	600	948	0.316	180.586	0.110	24.460	0.149	77.165	0.129	37.067
ABLSAG.011	34000	38820	588	964	0.294	174.800	0.069	32.096	0.120	72.021	0.083	41.412
ABLSAG.018	34250	38820	606	926	0.304	167.954	0.124	28.342	0.154	77.337	0.163	40.140

2000-710um Fraction Absorption Selected Reflectances

-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAC.001	33600	38820	5.490	9.512	10.596	11.812	13.884	11.507	11.619	23.783	--0--	--0--	--0--	--0--	--0--
ABLSAC.006	33850	38820	6.250	10.834	12.114	13.628	16.491	15.471	15.808	29.399	--0--	--0--	--0--	--0--	--0--
ABLSAC.008	33925	38820	7.011	10.980	12.048	13.152	15.385	13.021	13.182	27.628	--0--	--0--	--0--	--0--	--0--
ABLSAC.011	34000	38820	6.911	9.741	10.313	10.900	12.536	10.418	10.420	19.355	--0--	--0--	--0--	--0--	--0--
ABLSAC.018	34250	38820	6.728	12.598	14.416	16.470	19.763	16.524	16.859	33.261	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

Various Soil Fractions for Sample ABL_001

Absorption Depths and Widths

SIZE(μ m)	-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
75	ABLSAB.001	33600	38820	598	916	0.148	113.988	0.260	34.117	0.269	61.048	0.417	47.743
142	ABLSAC.001	33600	38820	620	896	0.151	108.452	0.127	30.112	0.120	56.946	0.191	38.755
250	ABLSAD.001	33600	38820	614	902	0.152	104.976	0.157	31.338	0.170	63.312	0.226	42.782
500	ABLSAE.001	33600	38820	620	900	0.185	113.298	0.146	31.318	0.151	60.081	0.202	42.136
710	ABLSAF.001	33600	38820	614	906	0.219	138.711	0.152	29.007	0.143	65.224	0.200	42.561
2000	ABLSAG.001	33600	38820	594	946	0.322	172.874	0.153	32.198	0.157	65.587	0.174	44.780

Selected Reflectances

SIZE(μ m)	-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
75	ABLSAB.001	33600	38820	11.454	21.707	24.817	28.432	32.439	30.481	31.139	40.929	--0--	--0--	--0--	--0--	--0--
142	ABLSAC.001	33600	38820	6.730	16.729	20.830	26.919	34.657	34.361	35.925	53.811	--0--	--0--	--0--	--0--	--0--
250	ABLSAD.001	33600	38820	6.357	14.799	17.703	22.012	27.912	28.181	29.428	45.043	--0--	--0--	--0--	--0--	--0--
500	ABLSAE.001	33600	38820	5.968	13.088	16.224	21.088	27.349	26.403	27.672	44.733	--0--	--0--	--0--	--0--	--0--
710	ABLSAF.001	33600	38820	5.831	11.845	14.249	17.729	22.359	20.808	21.652	37.463	--0--	--0--	--0--	--0--	--0--
2000	ABLSAG.001	33600	38820	5.490	9.512	10.596	11.812	13.884	11.507	11.619	23.783	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

Various Soil Fractions for Sample ABLS__006

Absorption Depths and Widths

SIZE(μ m)	-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
75	ABLSAB.006	33850	38820	600	912	0.117	99.035	0.115	29.873	0.181	63.825	0.190	58.227
142	ABLSAC.006	33850	38820	620	906	0.133	107.938	0.143	29.840	0.211	60.748	0.169	40.284
250	ABLSAD.006	33850	38820	620	904	0.142	112.044	0.133	31.057	0.177	56.057	0.168	44.270
500	ABLSAE.006	33850	38820	620	898	0.169	128.388	0.128	27.694	0.182	63.063	0.156	43.473
710	ABLSAF.006	33850	38820	612	912	0.173	136.191	0.134	28.592	0.197	62.364	0.156	43.809
2000	ABLSAG.006	33850	38820	594	946	0.322	172.874	0.153	32.198	0.157	65.587	0.174	44.780

Selected Reflectances

SIZE(μ m)	-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
75	ABLSAB.006	33850	38820	6.611	17.606	21.326	26.535	33.822	34.528	35.767	50.892	--0--	--0--	--0--	--0--	--0--
142	ABLSAC.006	33850	38820	6.185	15.299	19.234	25.129	32.835	33.226	34.534	51.420	--0--	--0--	--0--	--0--	--0--
250	ABLSAD.006	33850	38820	6.312	14.208	17.822	23.296	30.242	30.254	31.443	47.554	--0--	--0--	--0--	--0--	--0--
500	ABLSAE.006	33850	38820	6.112	13.036	16.046	20.443	25.777	24.736	25.594	40.008	--0--	--0--	--0--	--0--	--0--
710	ABLSAF.006	33850	38820	6.614	13.204	15.791	19.309	23.932	23.151	23.853	38.028	--0--	--0--	--0--	--0--	--0--
2000	ABLSAG.006	33850	38820	5.490	9.512	10.596	11.812	13.884	11.507	11.619	23.783	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

Various Soil Fractions for Sample ABLS__008

Absorption Depths and Widths

SIZE(μ m)	-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
75	ABLSAB.008	33925	38820	600	920	0.150	116.425	0.241	33.282	0.350	66.711	0.381	46.531
142	ABLSAC.008	33925	38820	620	904	0.146	122.909	0.096	26.503	0.090	60.028	0.156	37.798
250	ABLSAD.008	33925	38820	620	910	0.155	119.503	0.106	28.604	0.097	66.387	0.162	44.295
500	ABLSAE.008	33925	38820	620	910	0.189	148.011	0.103	25.161	0.111	60.531	0.154	43.735
710	ABLSAF.008	33925	38820	600	928	0.232	172.236	0.117	26.793	0.150	69.865	0.150	39.895
2000	ABLSAG.008	33925	38820	600	948	0.316	180.586	0.110	24.460	0.149	77.165	0.129	37.067

Selected Reflectances

SIZE(μ m)	-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
75	ABLSAB.008	33925	38820	8.653	19.438	22.522	26.128	30.306	27.533	27.934	36.013	--0--	--0--	--0--	--0--	--0--
142	ABLSAC.008	33925	38820	8.477	20.156	24.976	32.133	40.153	39.113	40.448	60.789	--0--	--0--	--0--	--0--	--0--
250	ABLSAD.008	33925	38820	8.153	18.187	22.497	29.394	37.225	36.052	37.474	57.428	--0--	--0--	--0--	--0--	--0--
500	ABLSAE.008	33925	38820	7.233	14.246	17.033	21.325	26.221	24.506	25.230	41.263	--0--	--0--	--0--	--0--	--0--
710	ABLSAF.008	33925	38820	6.932	12.582	14.453	16.985	20.479	18.258	18.614	32.352	--0--	--0--	--0--	--0--	--0--
2000	ABLSAG.008	33925	38820	7.011	10.980	12.048	13.152	15.385	13.021	13.182	27.628	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

Various Soil Fractions for Sample ABL_011

Absorption Depths and Widths

SIZE(μ m)	-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
75	ABLSAB.011	34000	38820	600	908	0.133	122.234	0.217	28.254	0.279	67.305	0.382	45.639
142	ABLSAC.011	34000	38820	622	900	0.151	118.219	0.113	27.373	0.120	64.156	0.169	43.278
250	ABLSAD.011	34000	38820	620	900	0.156	118.490	0.112	27.019	0.118	66.577	0.171	40.155
500	ABLSAE.011	34000	38820	620	906	0.173	129.056	0.117	26.373	0.139	66.355	0.170	42.529
710	ABLSAF.011	34000	38820	608	924	0.243	169.603	0.114	25.830	0.151	67.393	0.157	41.092
2000	ABLSAG.011	34000	38820	588	964	0.294	174.800	0.069	32.096	0.120	72.021	0.083	41.412

Selected Reflectances

SIZE(μ m)	-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
75	ABLSAB.011	34000	38820	10.961	25.479	29.928	35.148	40.639	37.999	38.716	50.534	--0--	--0--	--0--	--0--	--0--
142	ABLSAC.011	34000	38820	8.441	21.348	26.507	34.133	43.366	42.644	44.320	67.696	--0--	--0--	--0--	--0--	--0--
250	ABLSAD.011	34000	38820	8.142	18.888	23.273	30.082	38.051	37.002	38.502	58.992	--0--	--0--	--0--	--0--	--0--
500	ABLSAE.011	34000	38820	7.875	17.913	21.988	28.384	35.899	34.530	35.930	57.199	--0--	--0--	--0--	--0--	--0--
710	ABLSAF.011	34000	38820	7.974	15.708	18.111	21.332	25.920	23.284	23.870	43.335	--0--	--0--	--0--	--0--	--0--
2000	ABLSAG.011	34000	38820	6.911	9.741	10.313	10.900	12.536	10.418	10.420	19.355	--0--	--0--	--0--	--0--	--0--

SOIL FRACTION 38820

Various Soil Fractions for Sample ABL_018

Absorption Depths and Widths

SIZE(μ m)	-FILENAME-	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
75	ABLSAB.018	34250	38820	600	910	0.156	113.563	0.302	35.581	0.335	67.194	0.487	48.667
142	ABLSAC.018	34250	38820	620	906	0.148	111.888	0.113	27.330	0.101	64.404	0.172	43.148
250	ABLSAD.018	34250	38820	620	896	0.167	114.937	0.125	28.537	0.117	65.220	0.180	45.554
500	ABLSAE.018	34250	38820	620	900	0.191	119.116	0.129	27.307	0.140	61.828	0.188	39.774
710	ABLSAF.018	34250	38820	606	922	0.231	144.958	0.149	29.584	0.202	67.022	0.198	40.079
2000	ABLSAG.018	34250	38820	606	926	0.304	167.954	0.124	28.342	0.154	77.337	0.163	40.140

Selected Reflectances

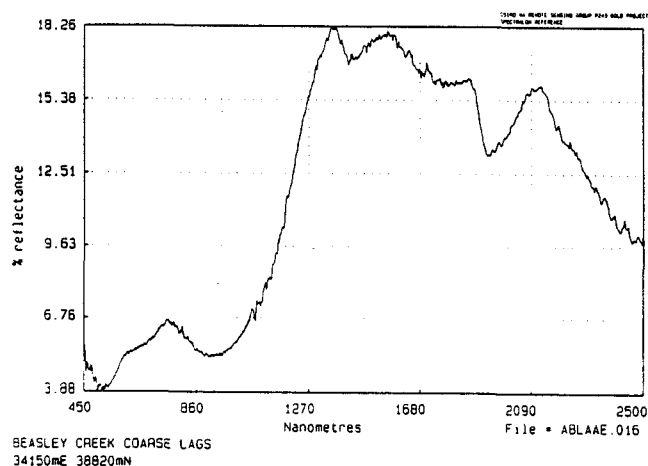
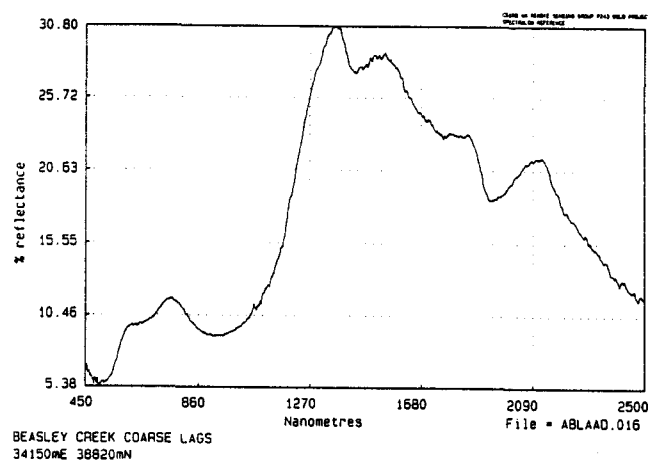
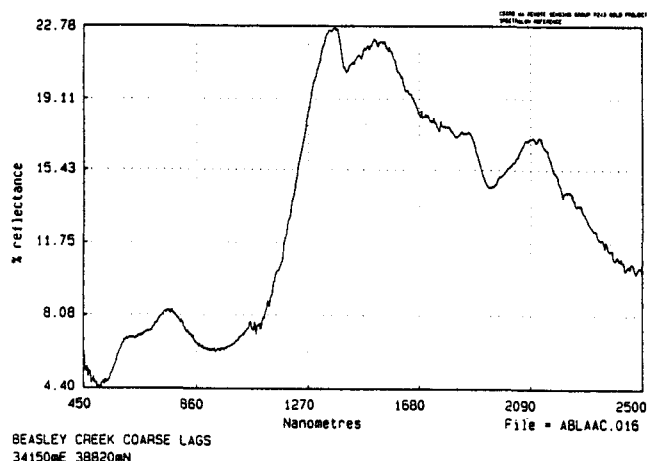
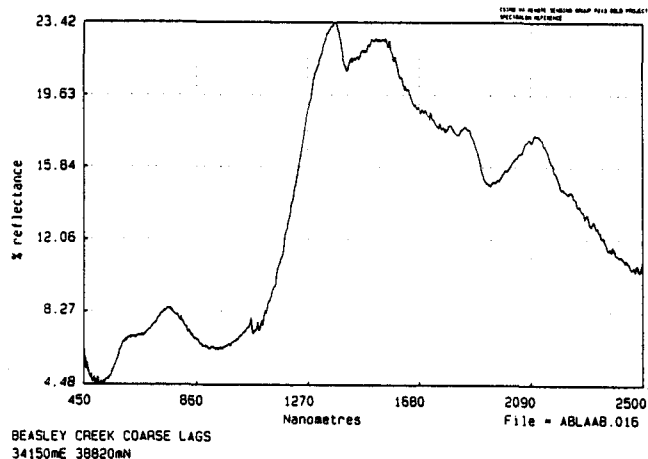
SIZE(μ m)	-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
75	ABLSAB.018	34250	38820	11.299	24.362	28.596	33.598	38.962	35.734	36.524	47.258	--0--	--0--	--0--	--0--	--0--
142	ABLSAC.018	34250	38820	8.508	20.829	25.982	33.791	42.879	42.374	43.969	66.285	--0--	--0--	--0--	--0--	--0--
250	ABLSAD.018	34250	38820	6.991	16.821	21.135	28.002	36.218	35.243	36.853	57.827	--0--	--0--	--0--	--0--	--0--
500	ABLSAE.018	34250	38820	6.829	15.226	18.888	24.530	31.523	30.100	31.507	52.156	--0--	--0--	--0--	--0--	--0--
710	ABLSAF.018	34250	38820	7.366	15.640	18.504	22.282	27.371	24.802	25.606	44.526	--0--	--0--	--0--	--0--	--0--
2000	ABLSAG.018	34250	38820	6.728	12.598	14.416	16.470	19.763	16.524	16.859	33.261	--0--	--0--	--0--	--0--	--0--

Appendix 2.5

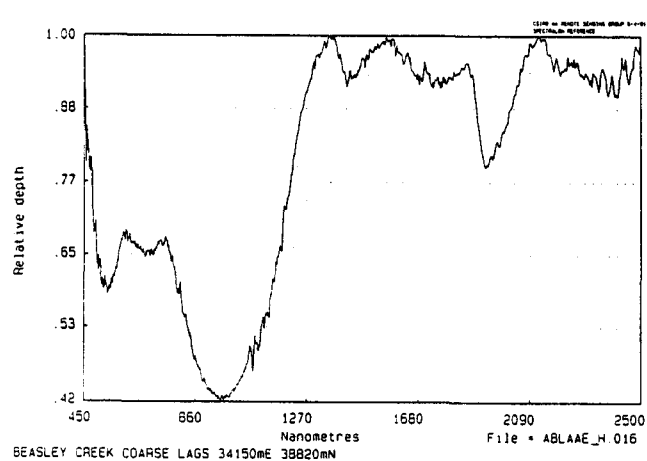
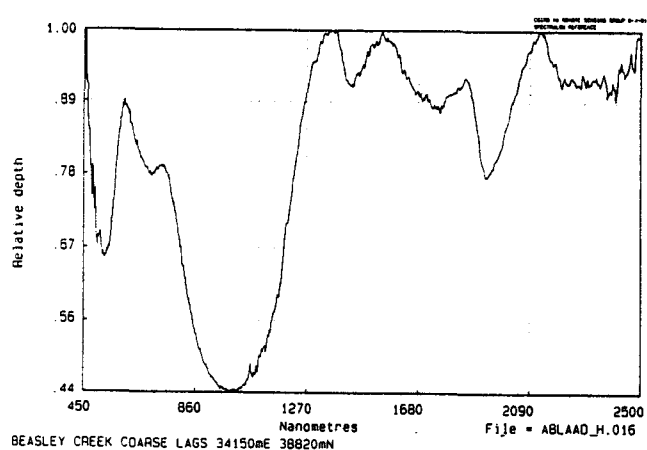
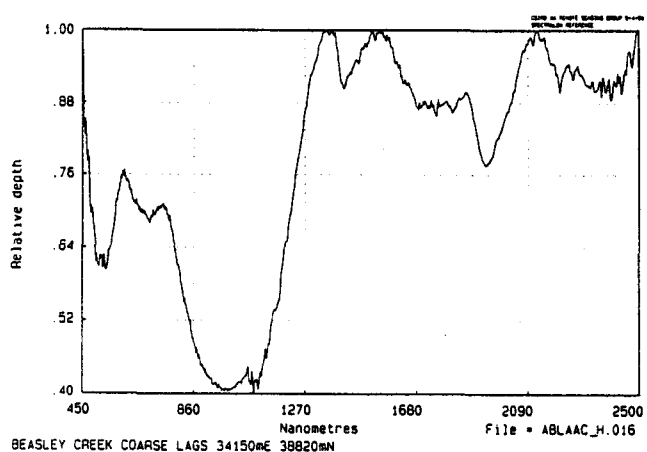
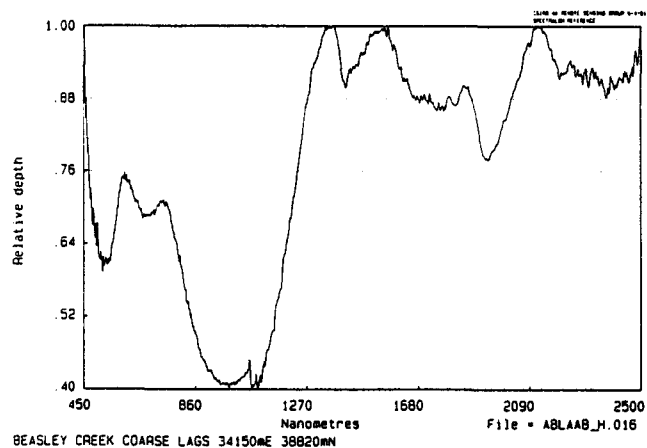
Standards

COARSE LAG STANDARDS

REFLECTANCE

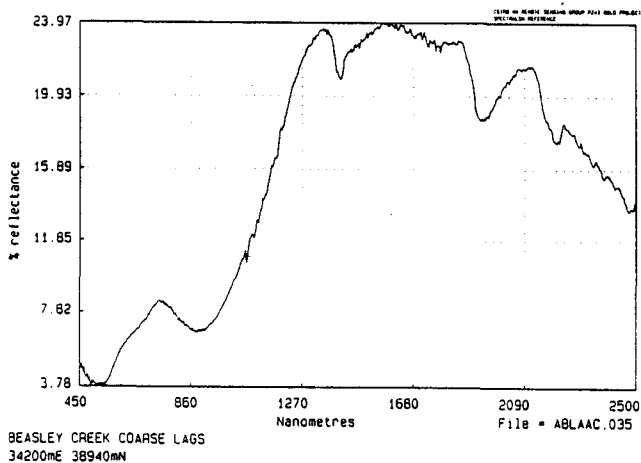
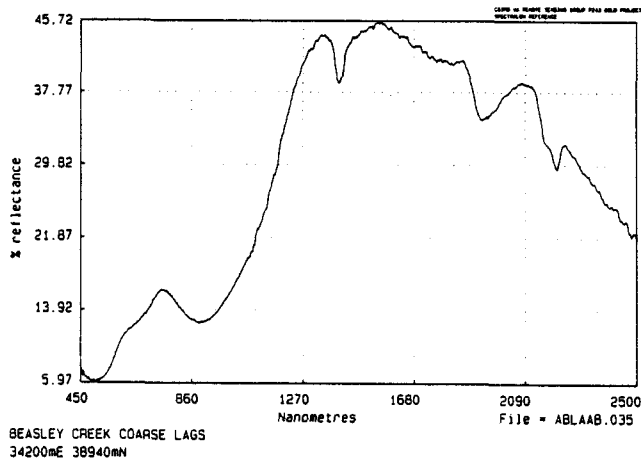
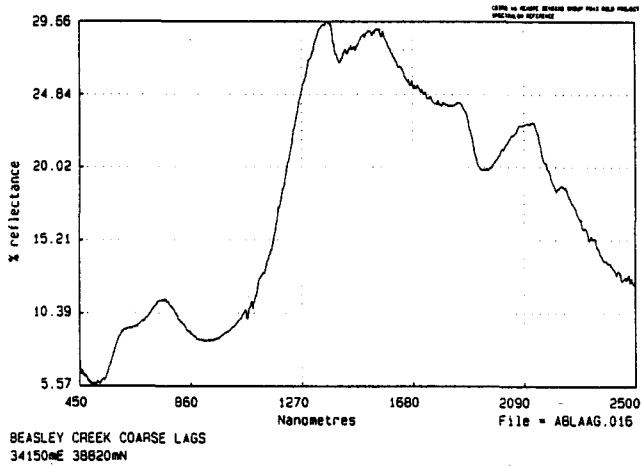
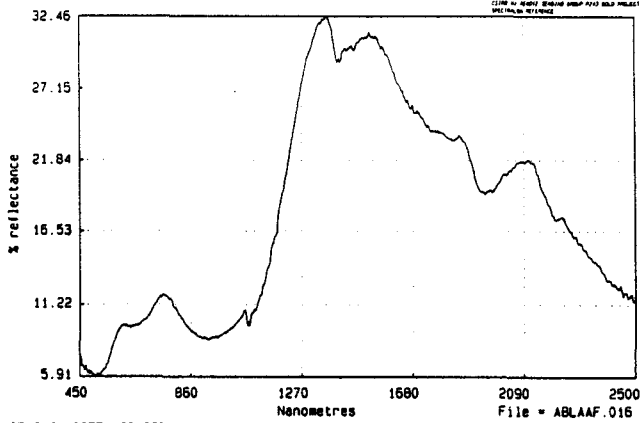


HULL QUOTIENTS

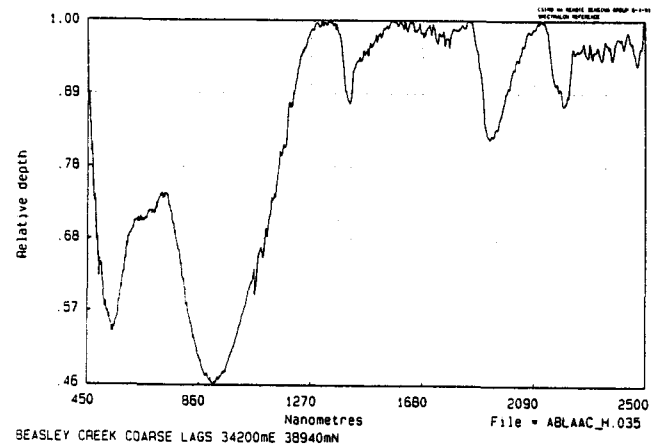
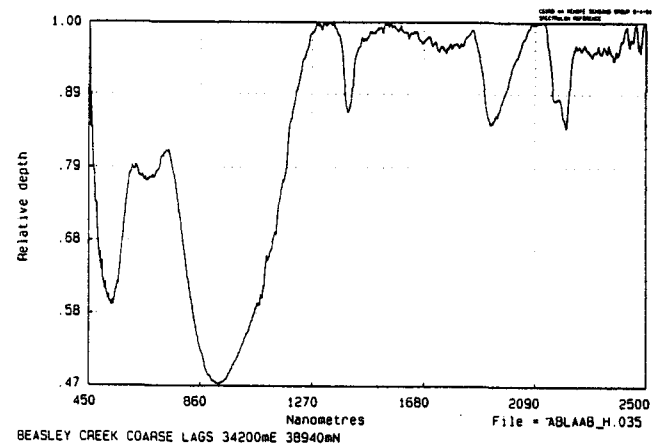
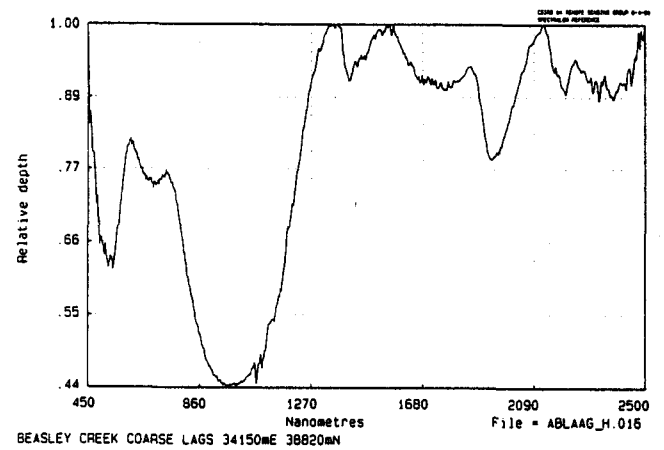
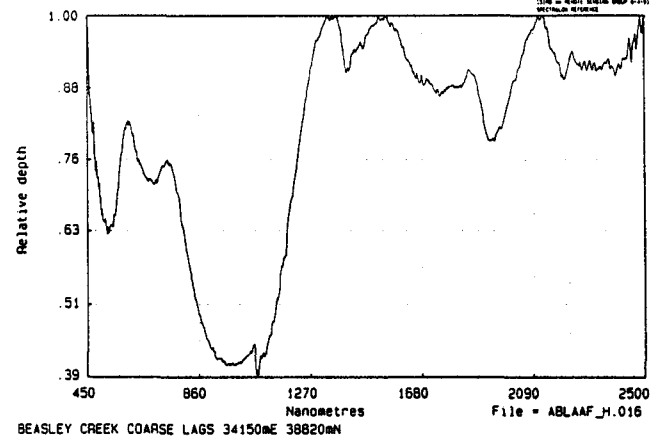


COARSE LAG STANDARDS

REFLECTANCE

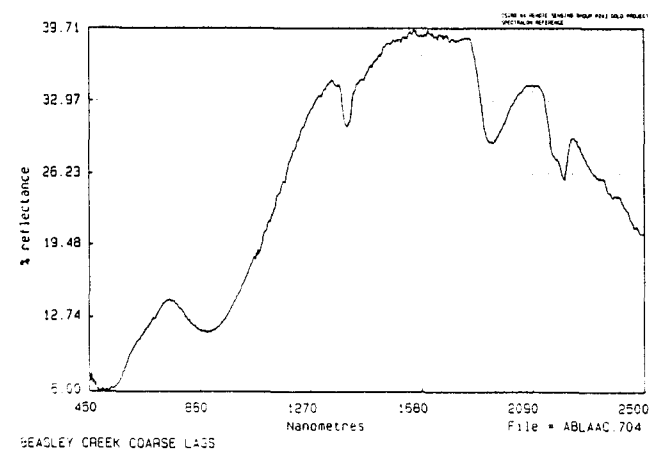
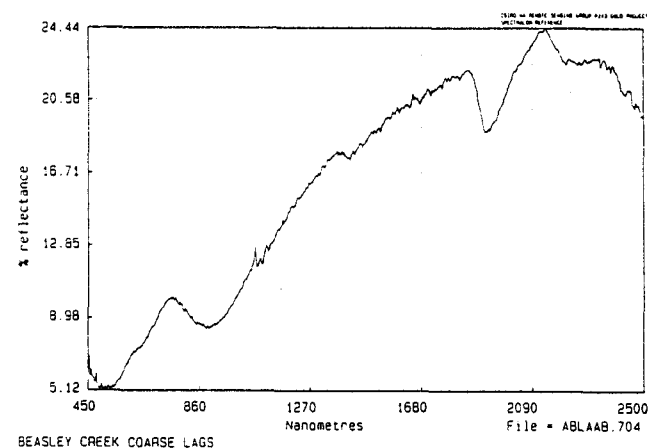
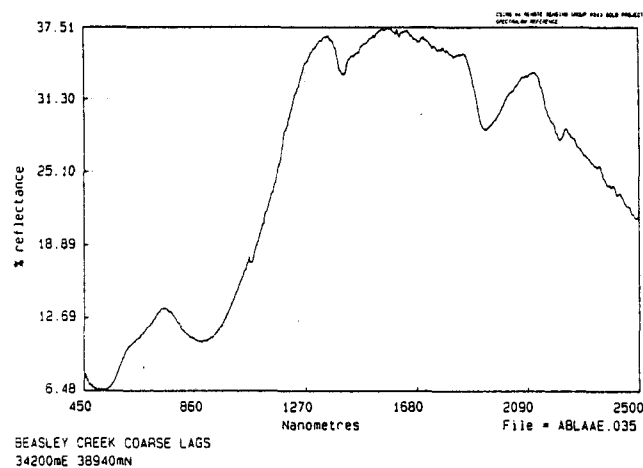
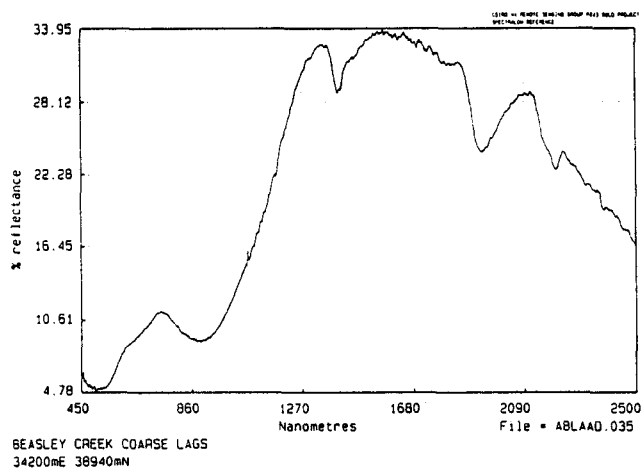


HULL QUOTIENTS

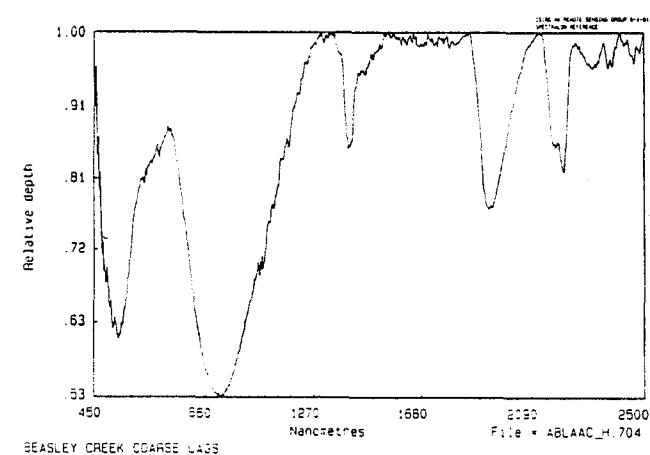
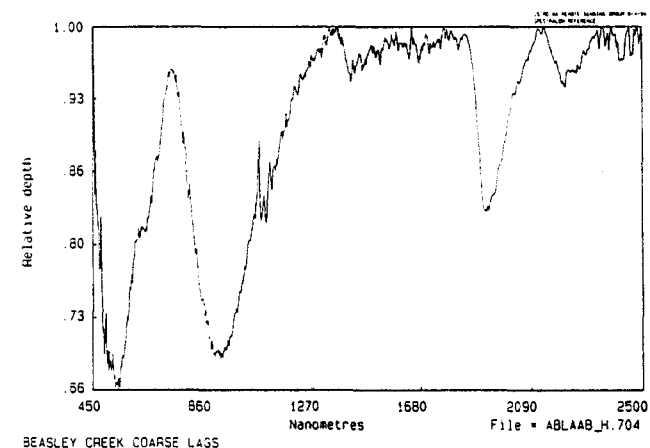
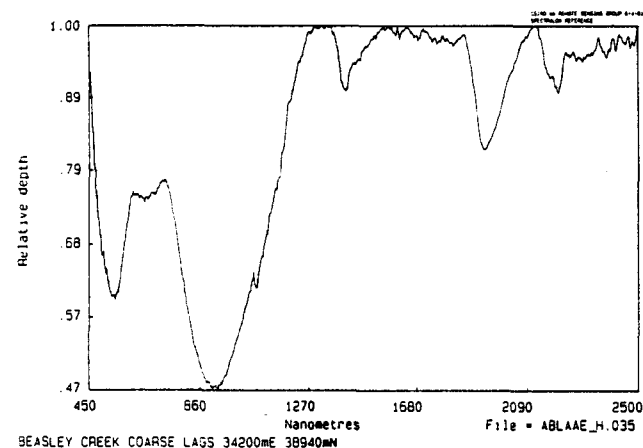
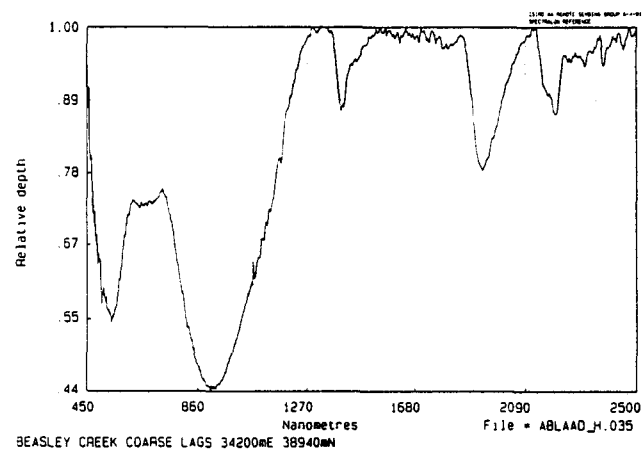


COARSE LAG STANDARDS

REFLECTANCE

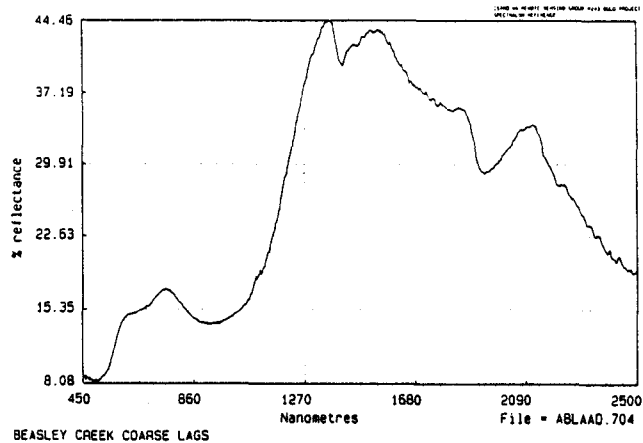


HULL QUOTIENTS

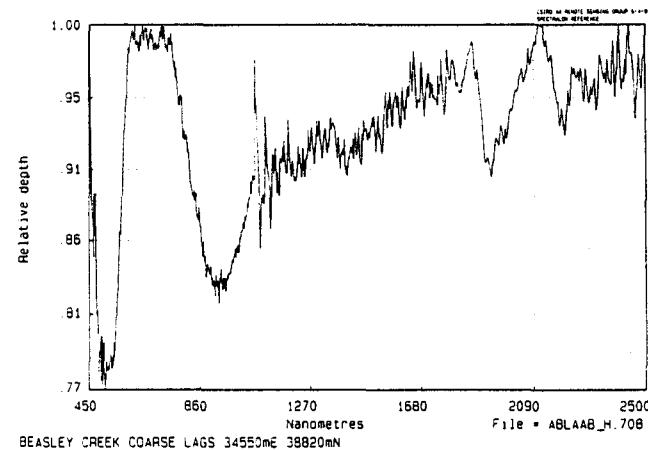
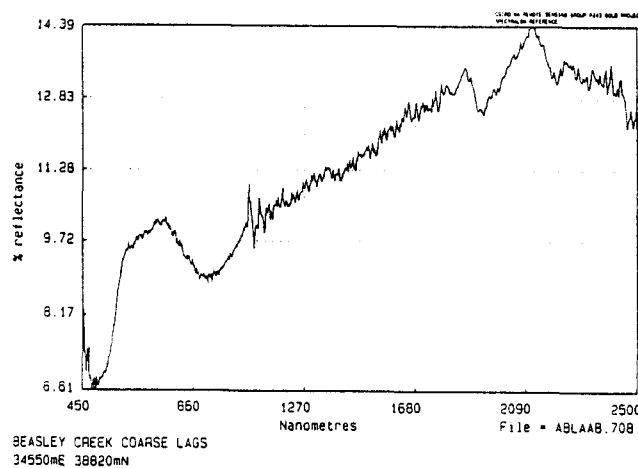
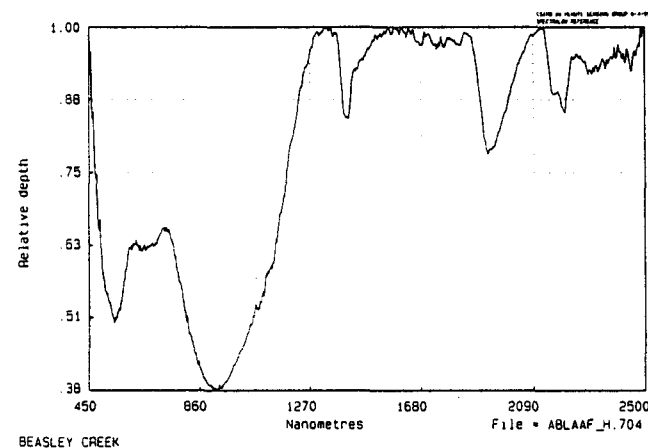
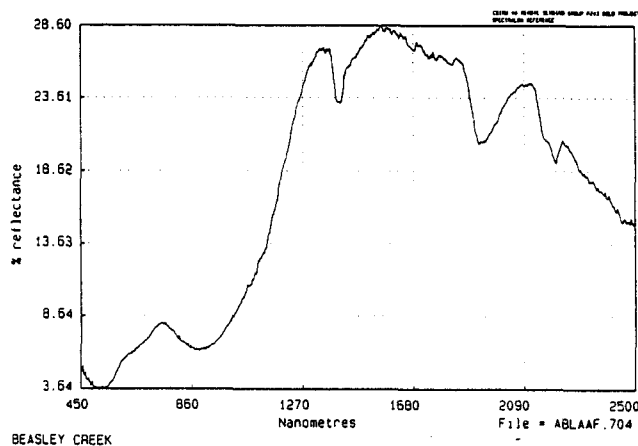
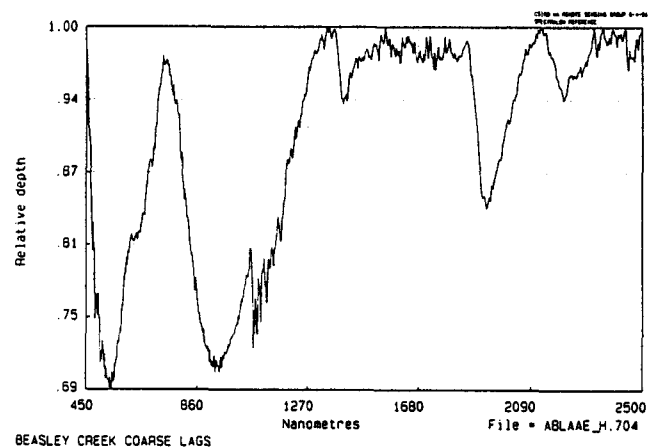
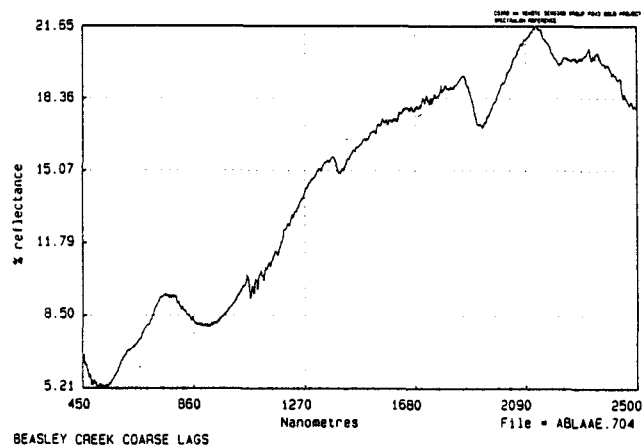
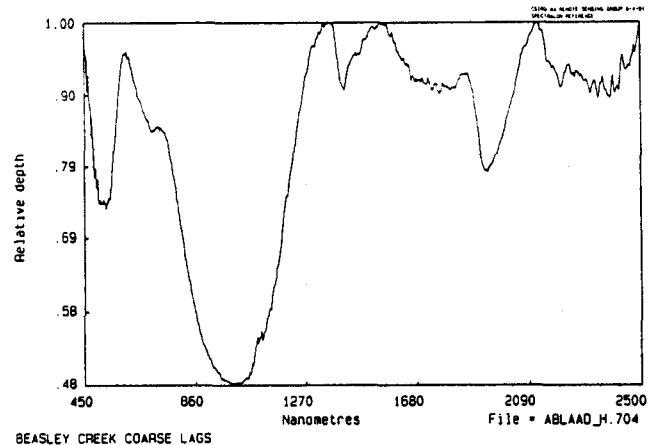


COARSE LAG STANDARDS

REFLECTANCE

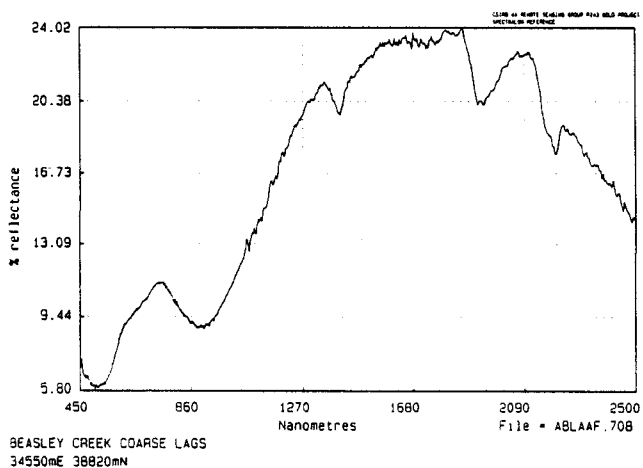
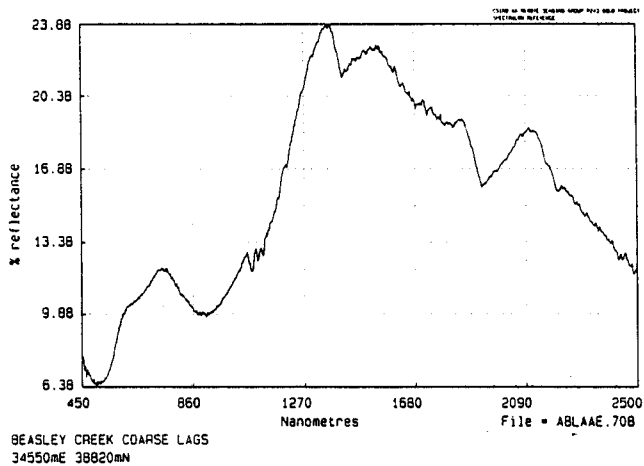
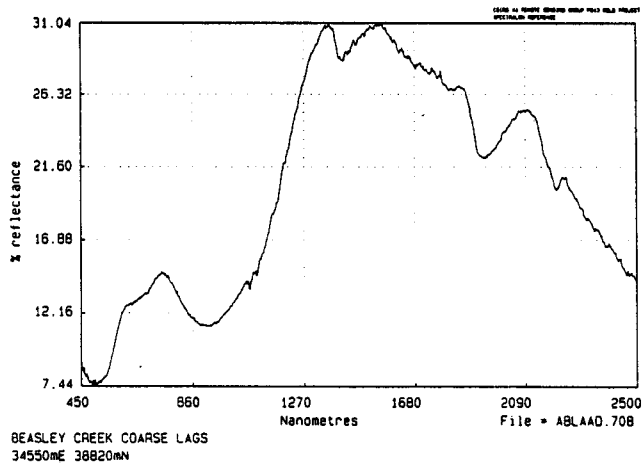
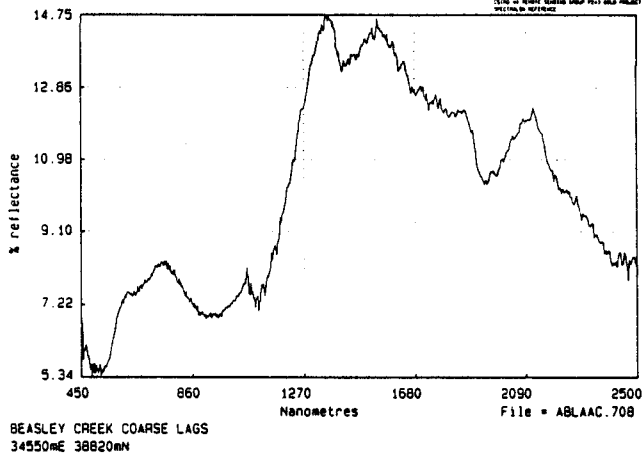


HULL QUOTIENTS

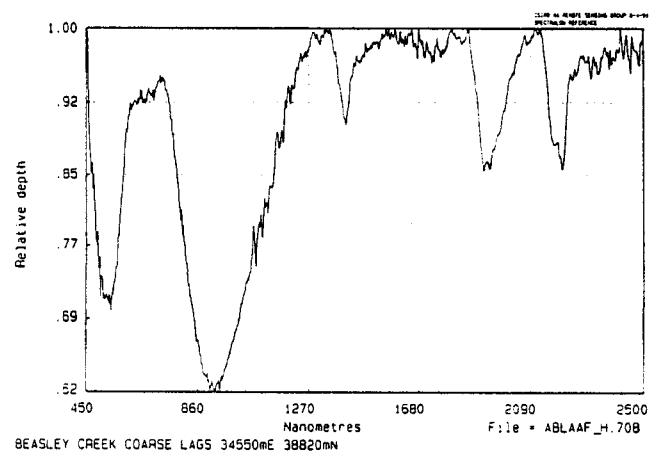
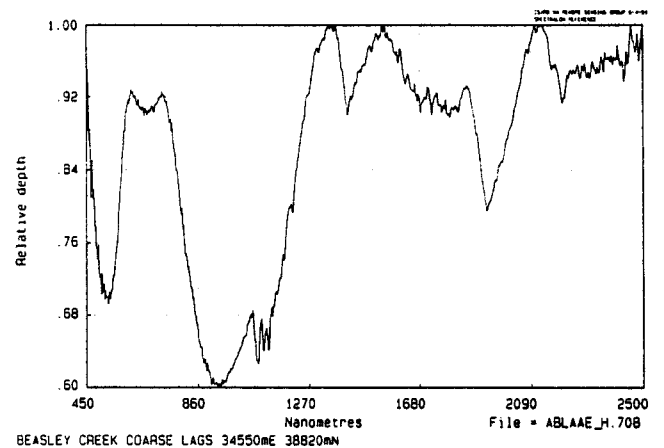
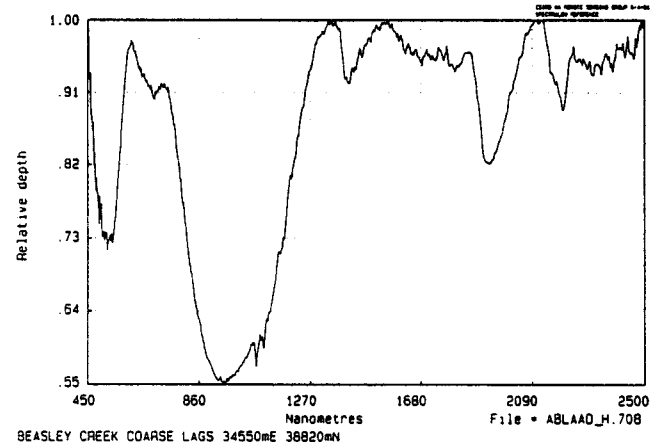
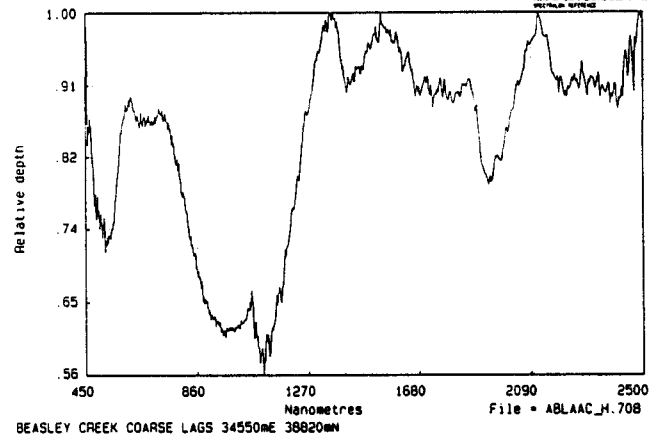


COARSE LAG STANDARDS

REFLECTANCE

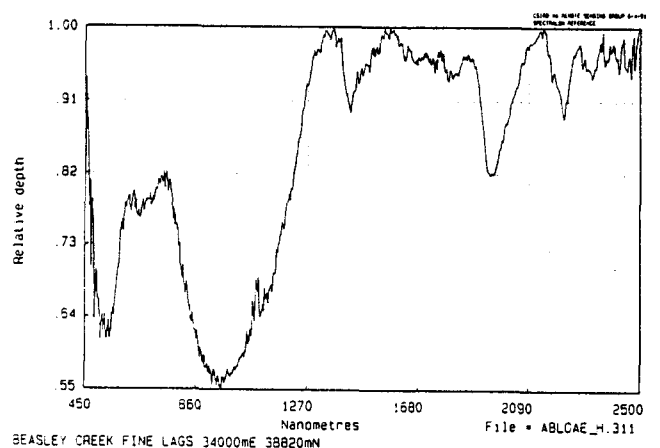
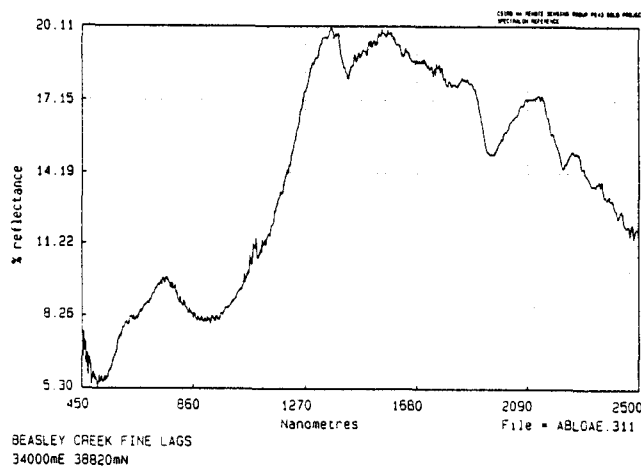
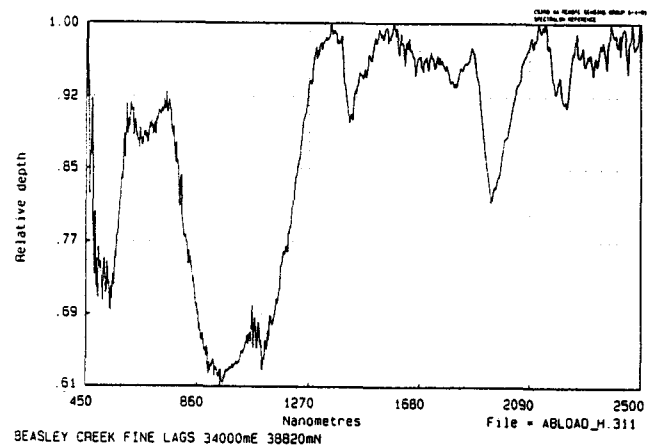
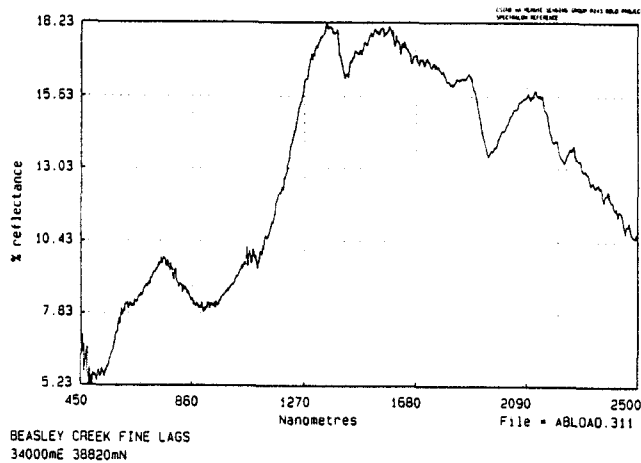
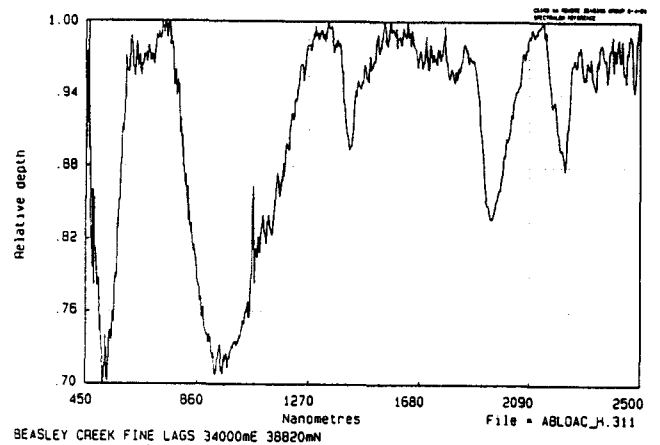
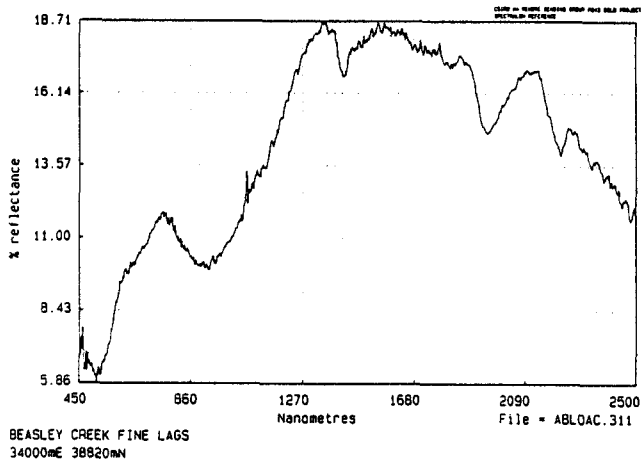
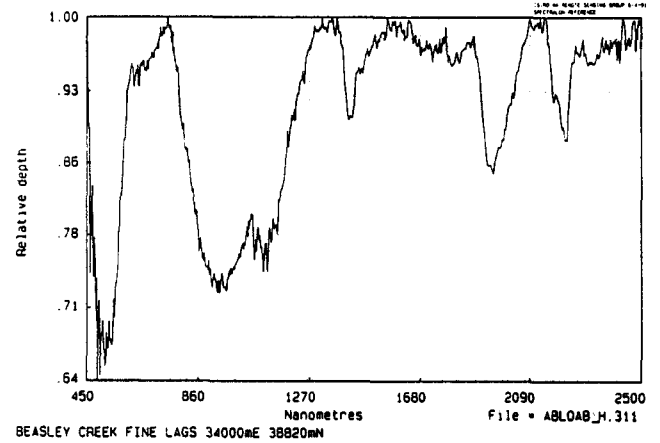
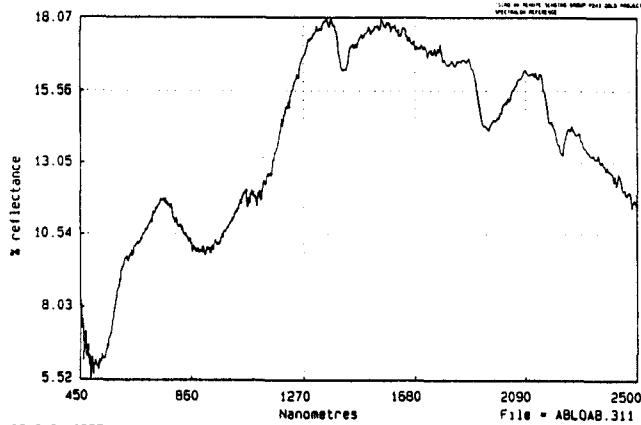


HULL QUOTIENTS



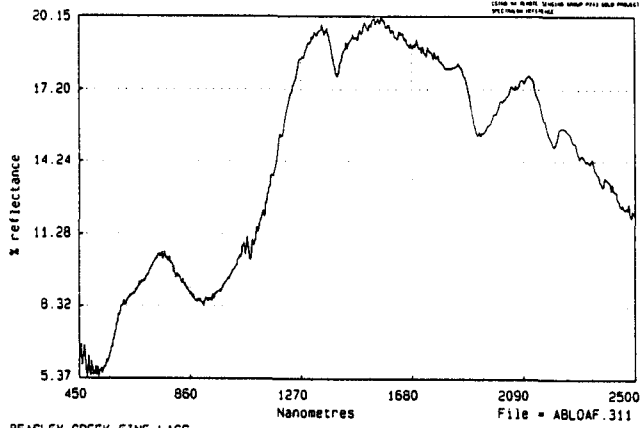
REFLECTANCE

HULL QUOTIENTS

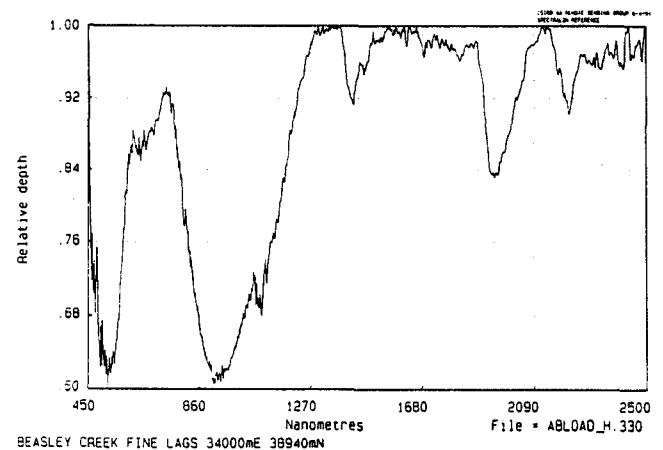
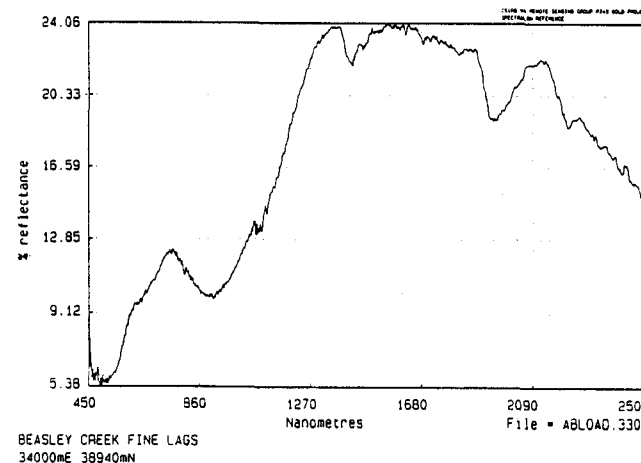
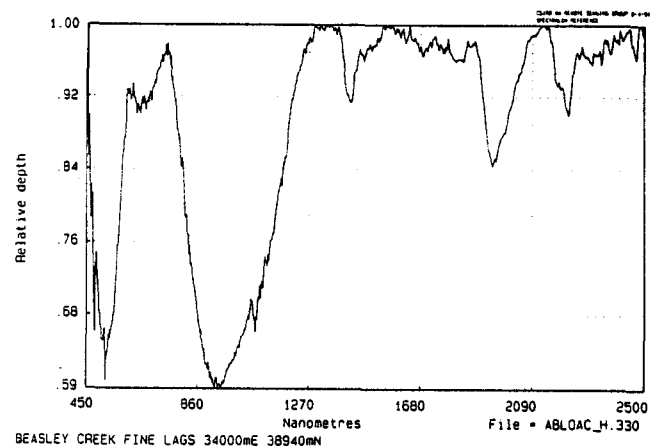
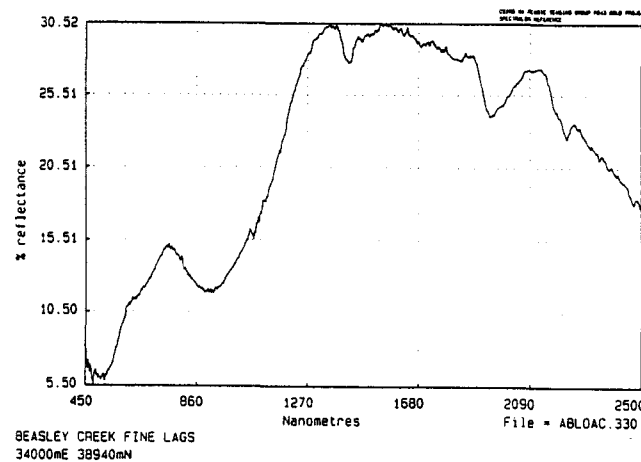
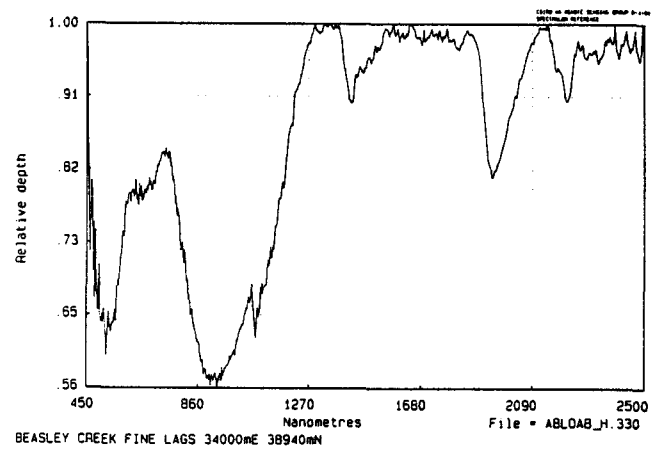
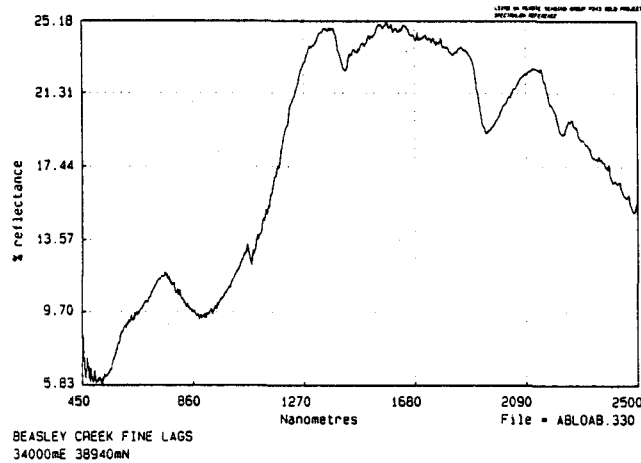
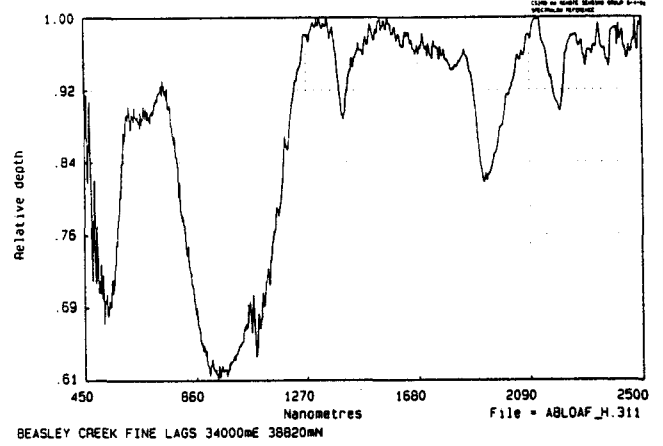


FINE LAG STANDARDS

REFLECTANCE

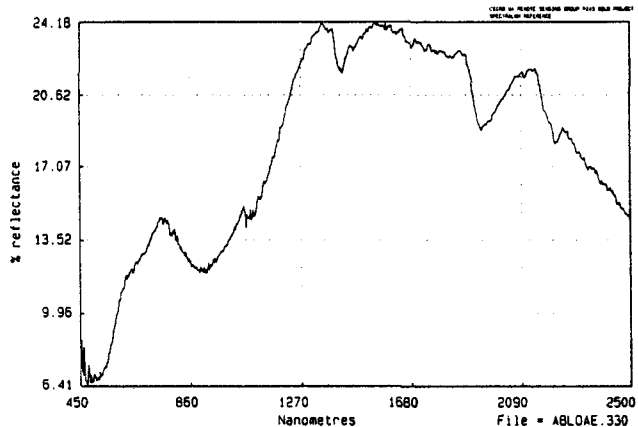


HULL QUOTIENTS

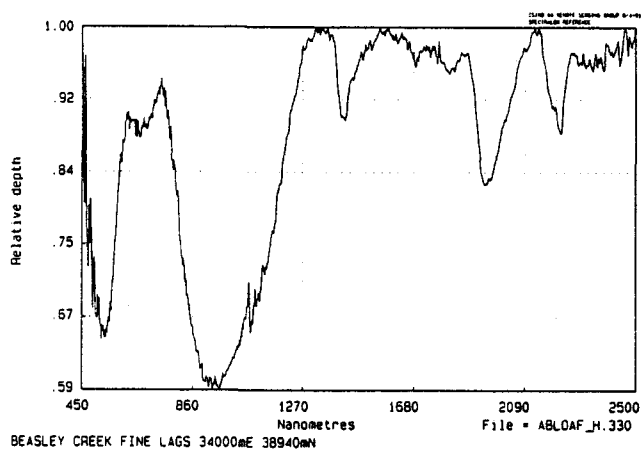
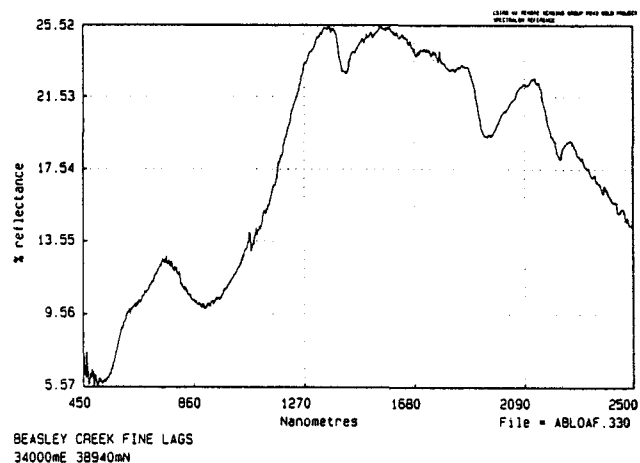
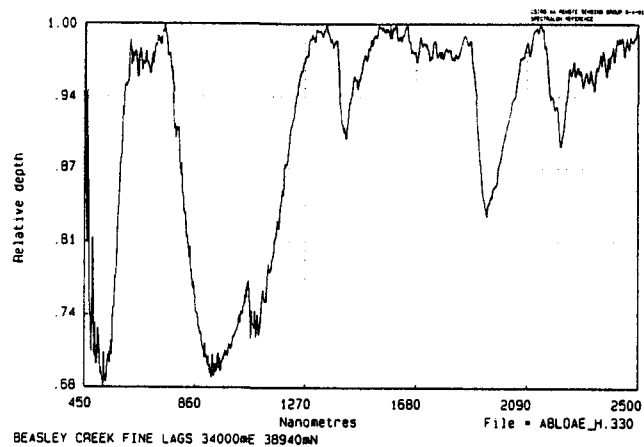


FINE LAG STANDARDS

REFLECTANCE

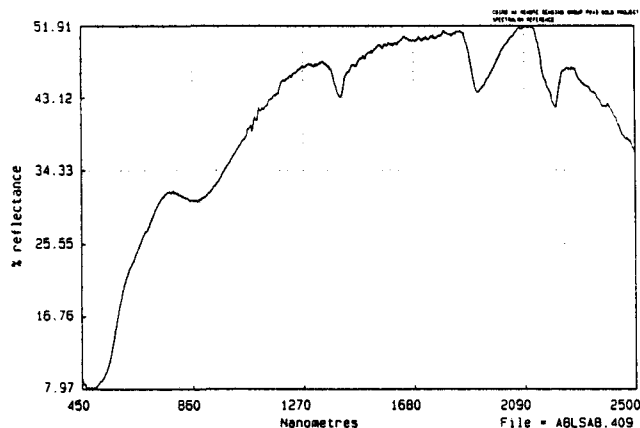


HULL QUOTIENTS

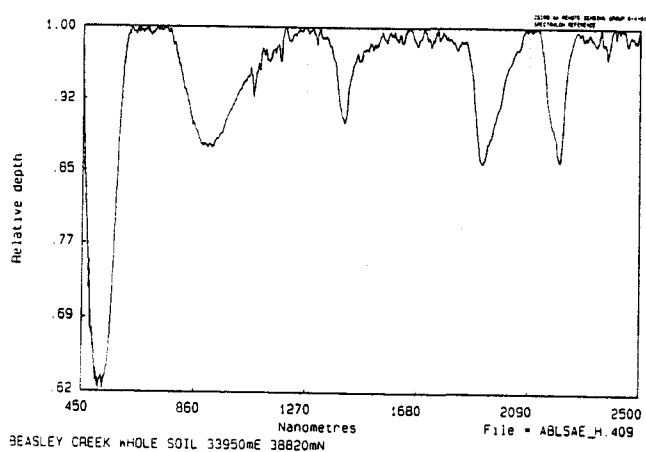
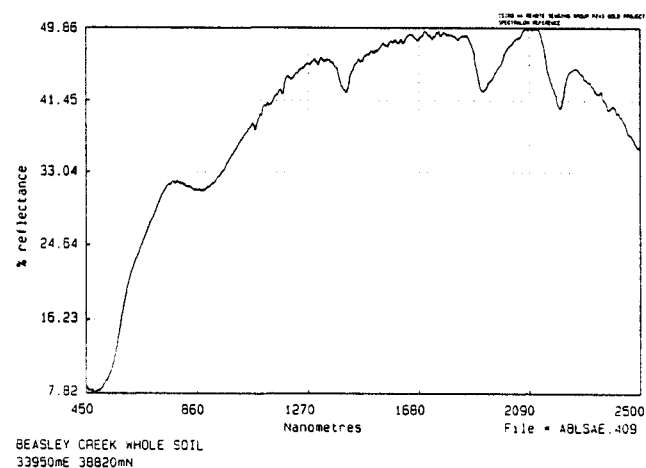
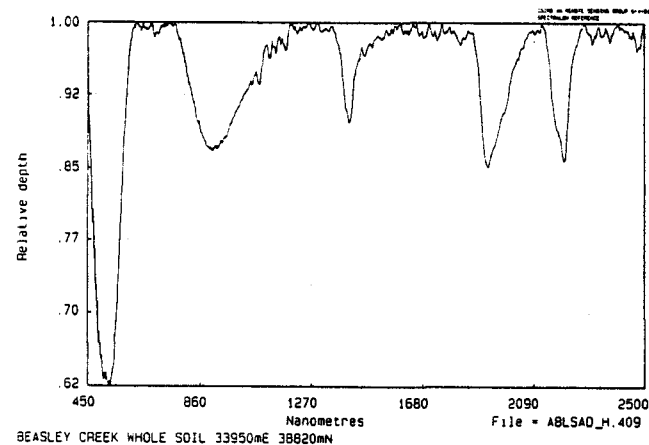
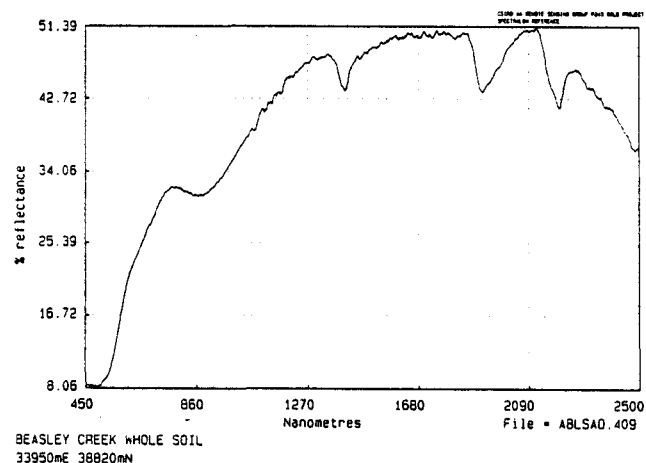
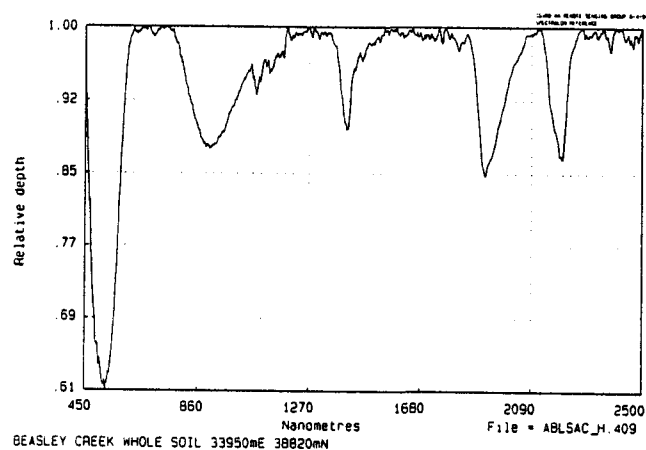
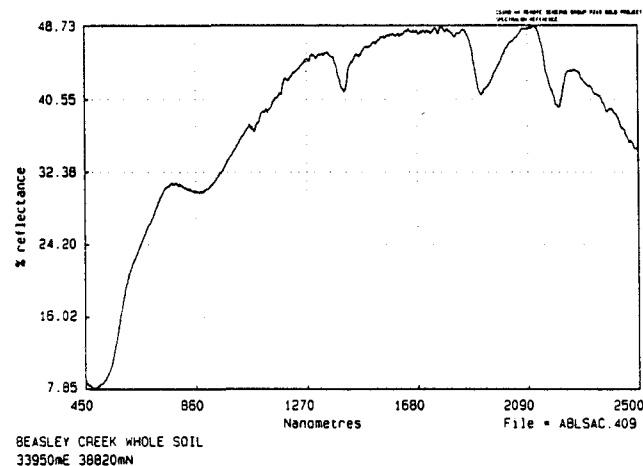
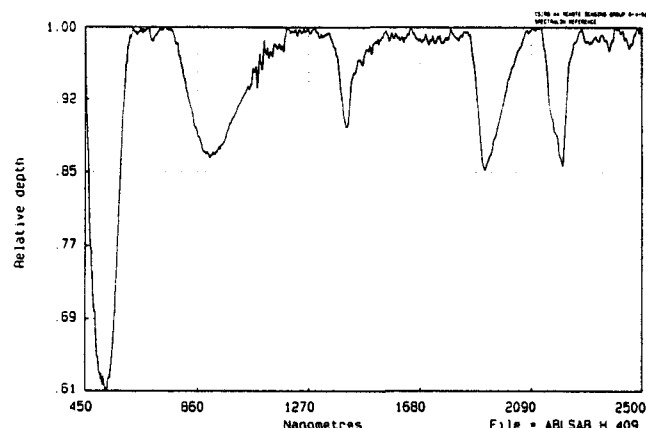


WHOLE SOIL STANDARDS

REFLECTANCE

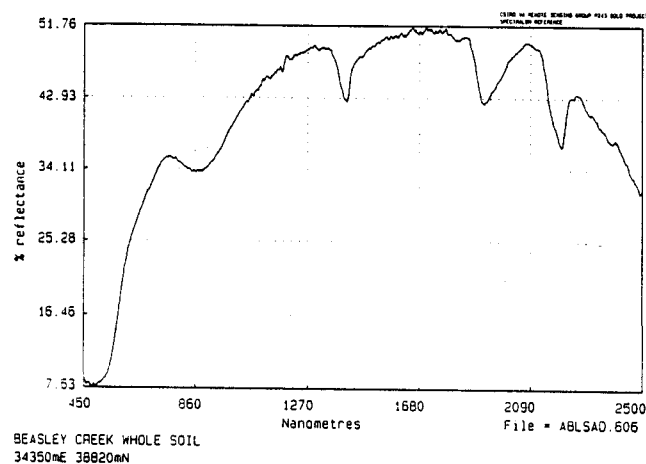
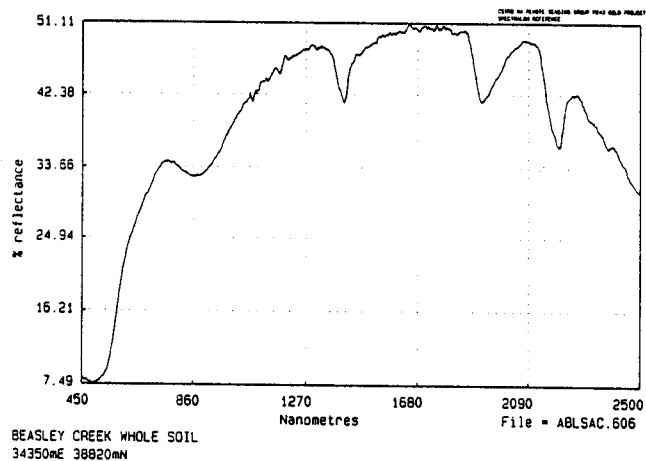
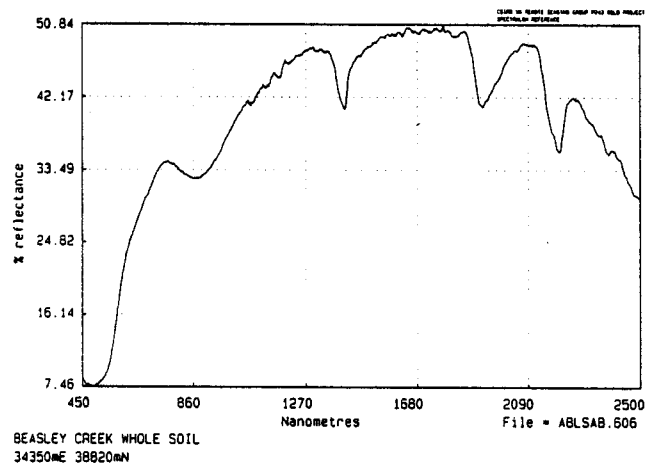
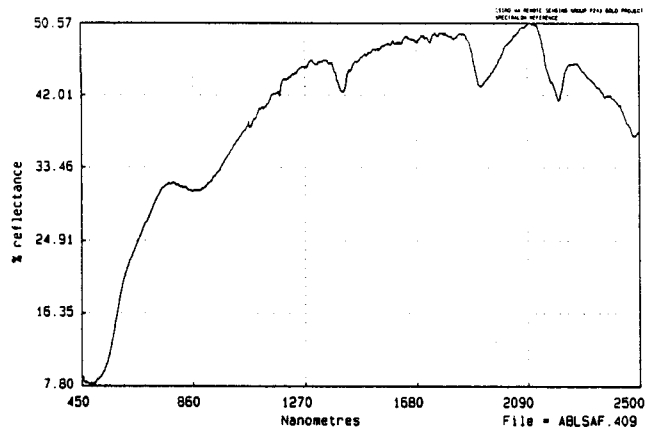


HULL QUOTIENTS

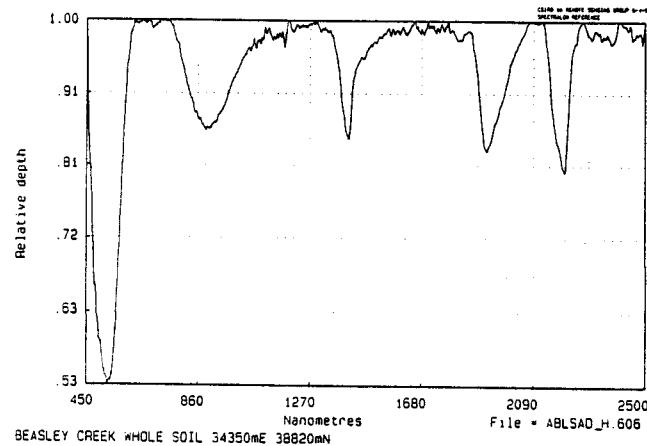
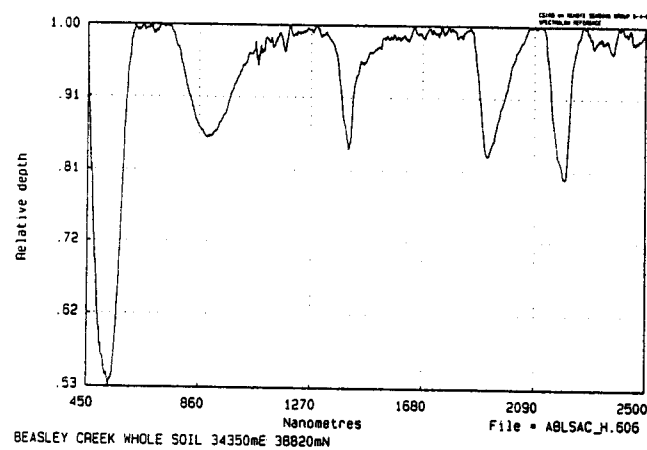
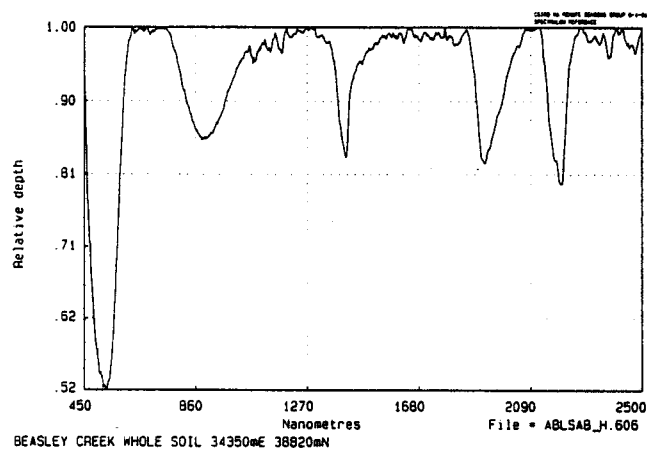
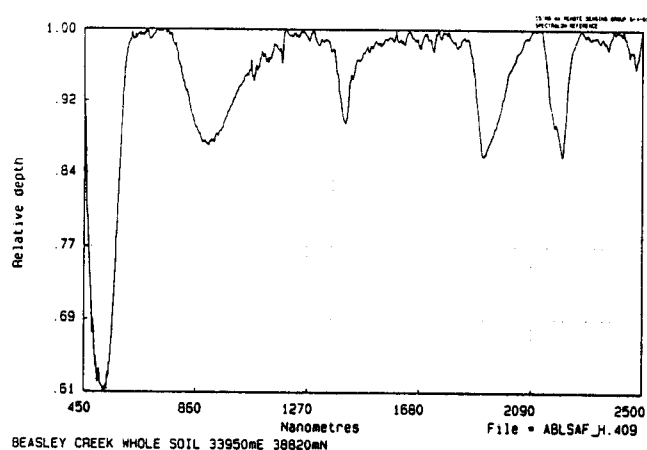


WHOLE SOIL STANDARDS

REFLECTANCE



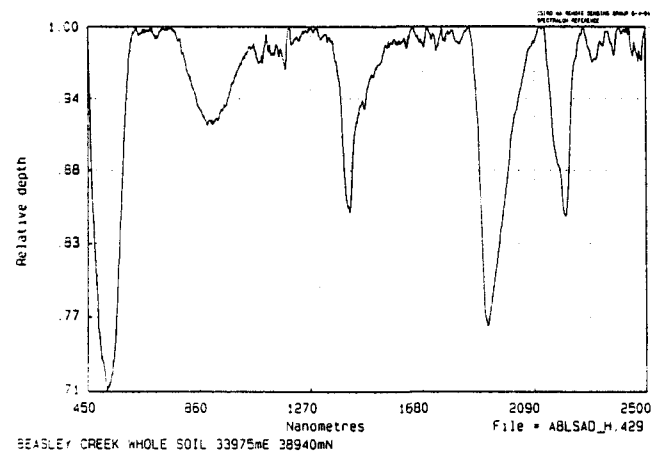
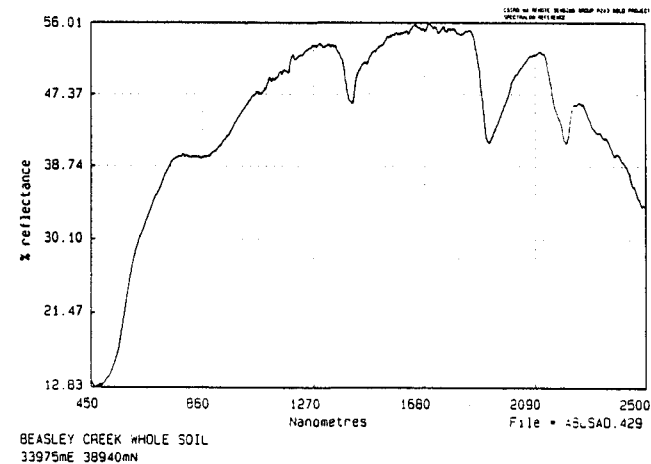
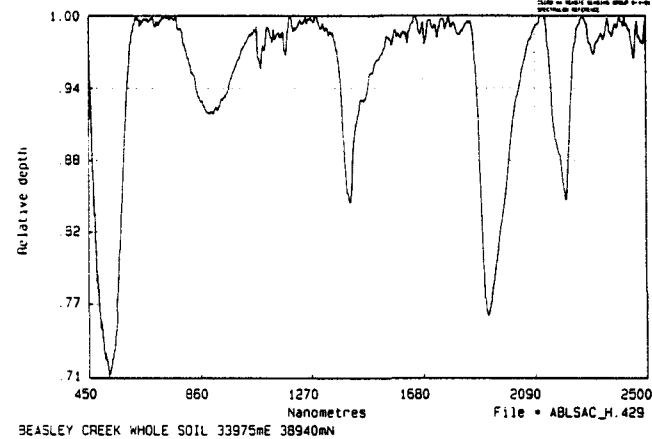
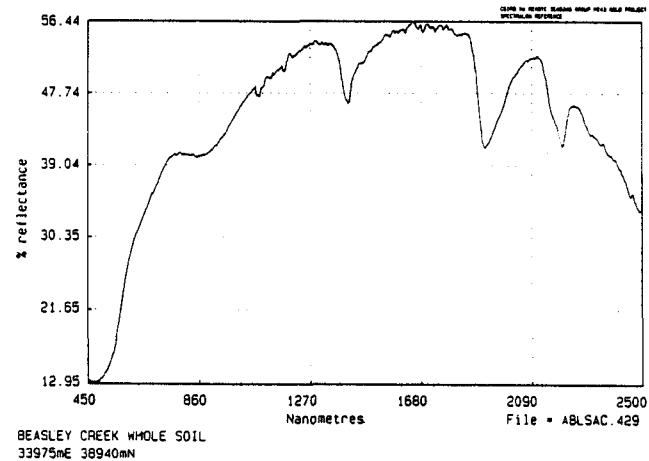
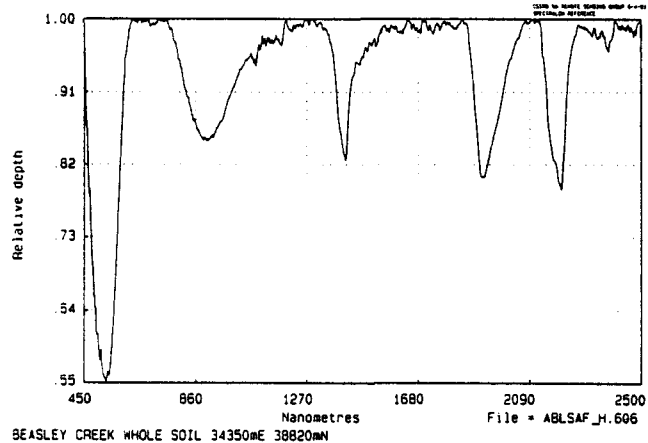
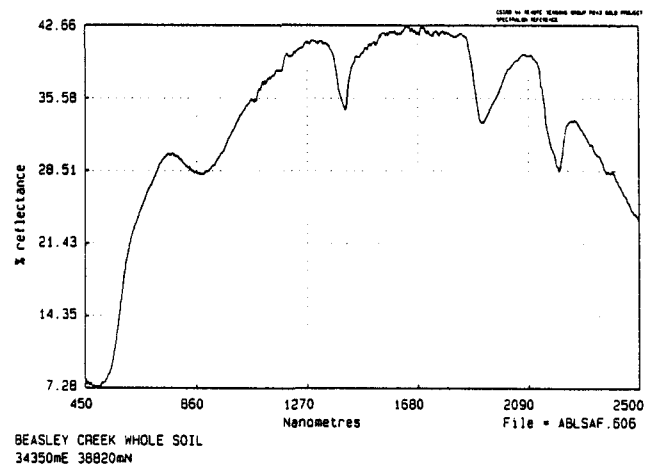
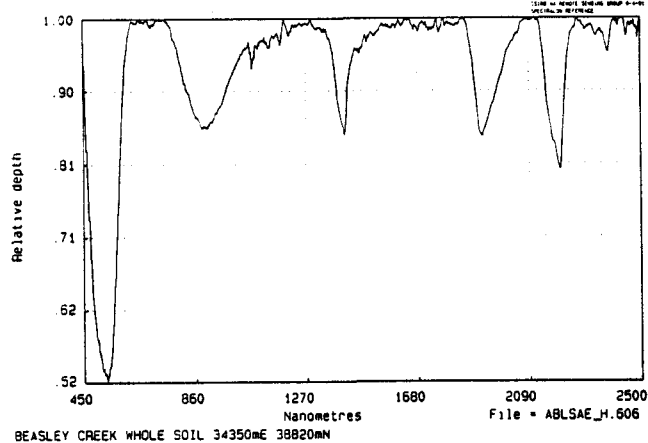
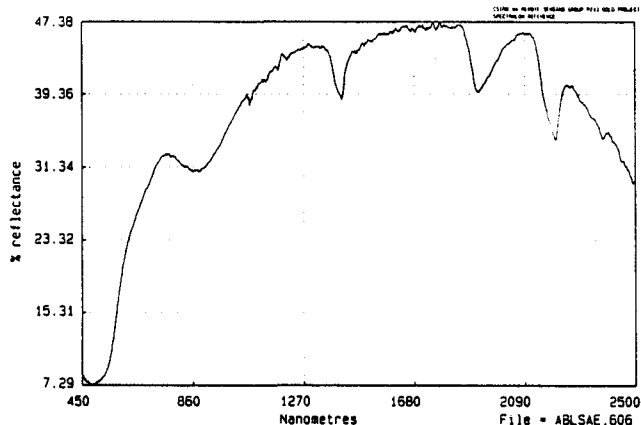
HULL QUOTIENTS



WHOLE SOIL STANDARDS

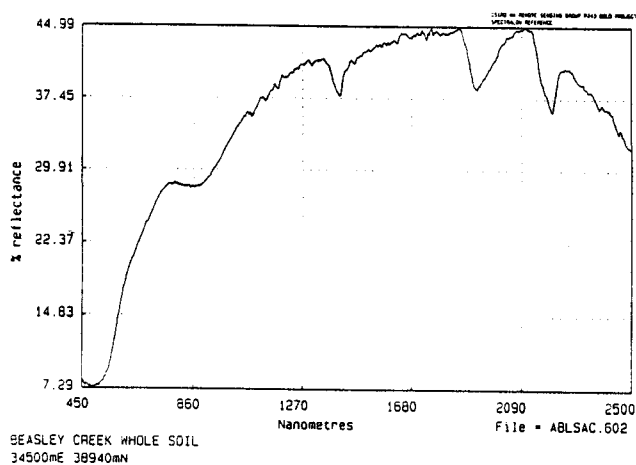
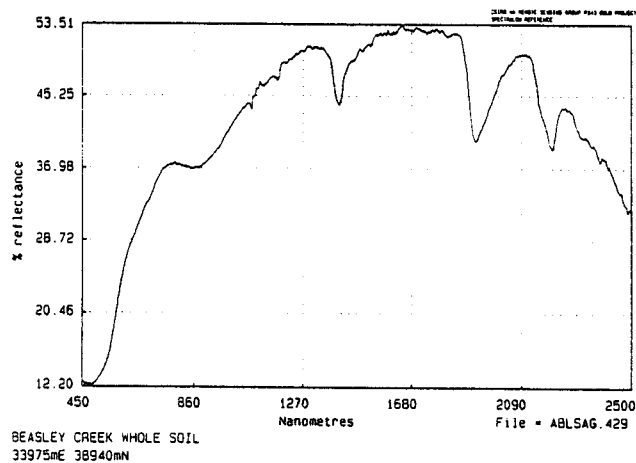
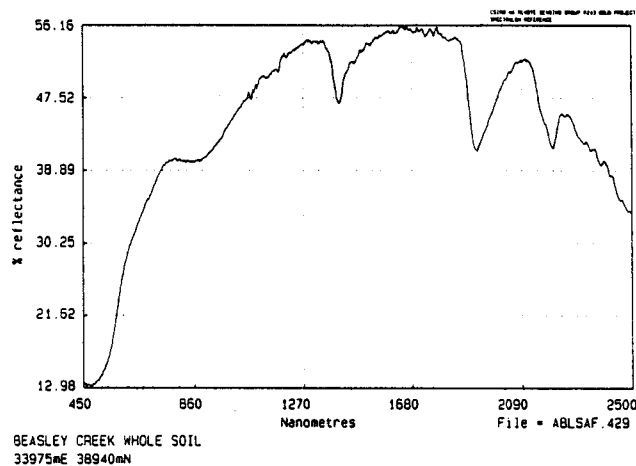
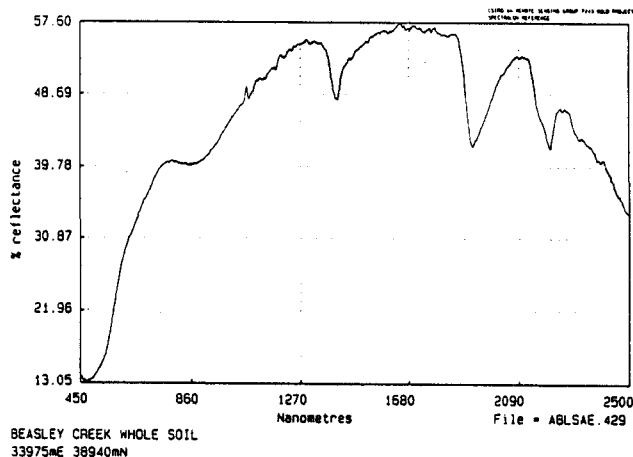
REFLECTANCE

HULL QUOTIENTS

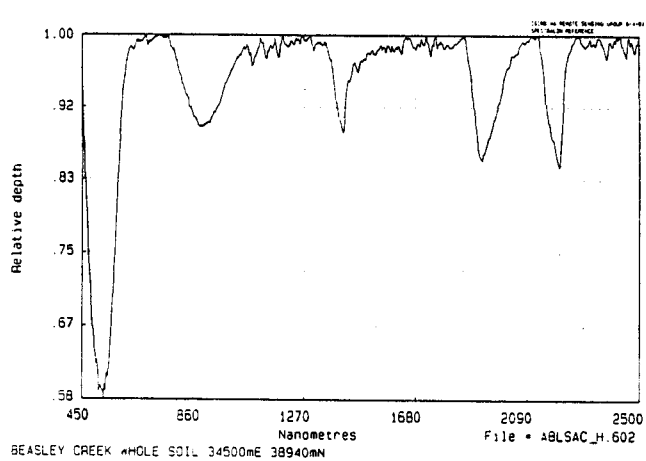
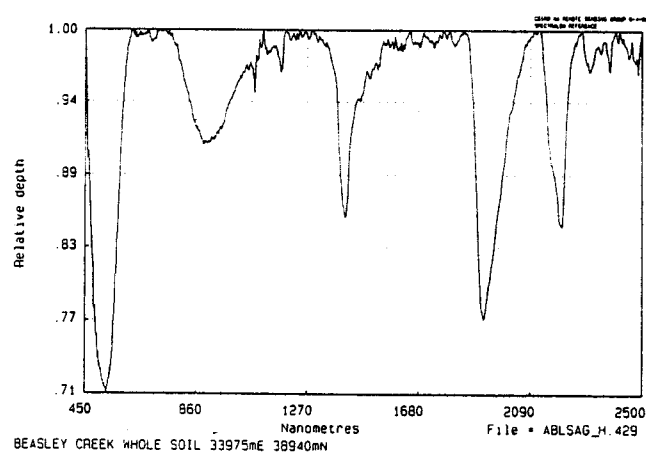
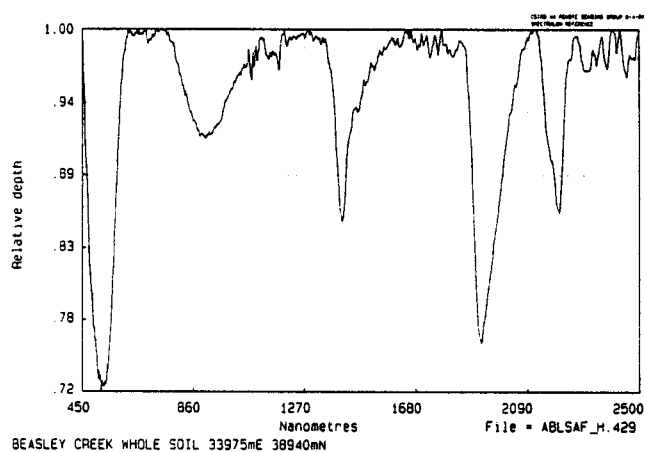
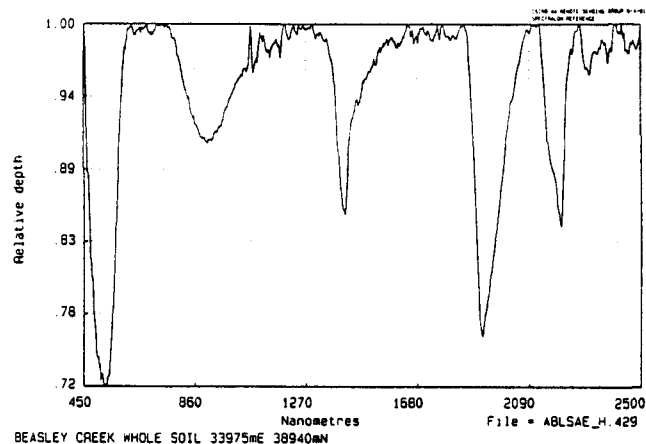


WHOLE SOIL STANDARDS

REFLECTANCE

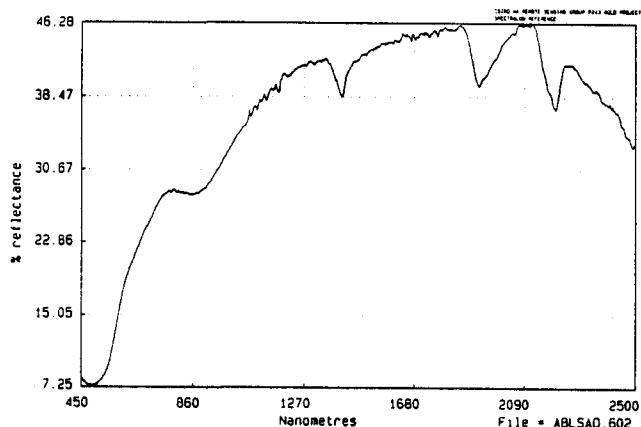


HULL QUOTIENTS



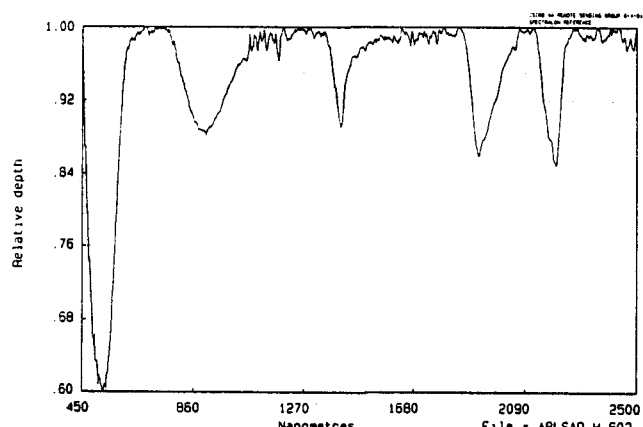
WHOLE SOIL STANDARDS

REFLECTANCE

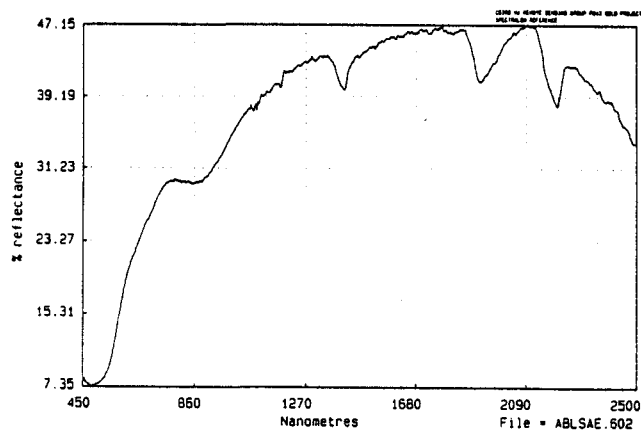


BEASLEY CREEK WHOLE SOIL
34500mE 38940mN

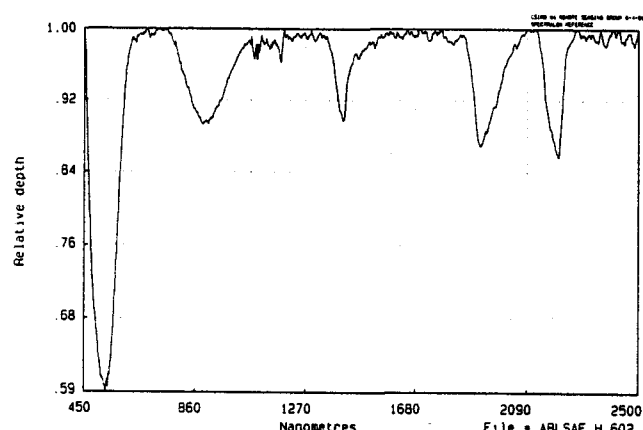
HULL QUOTIENTS



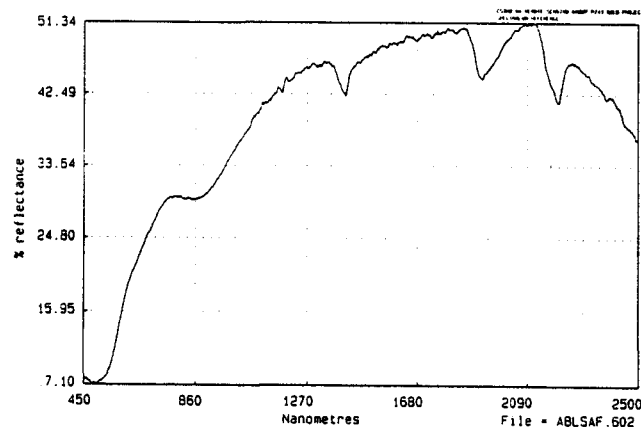
BEASLEY CREEK WHOLE SOIL 34500mE 38940mN



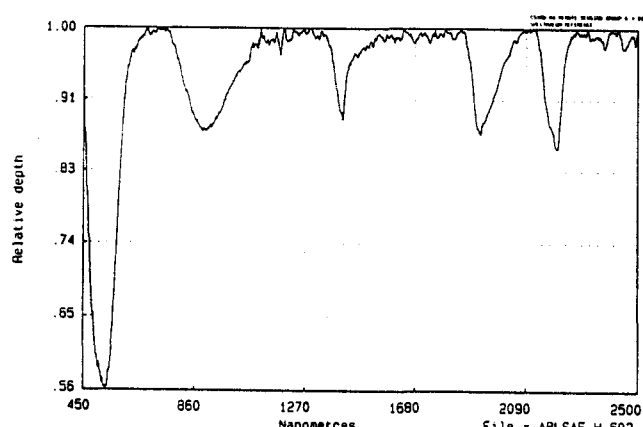
BEASLEY CREEK WHOLE SOIL
34500mE 38940mN



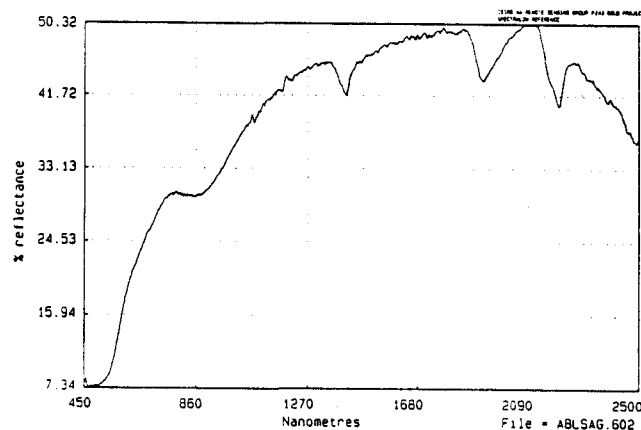
BEASLEY CREEK WHOLE SOIL 34500mE 38940mN



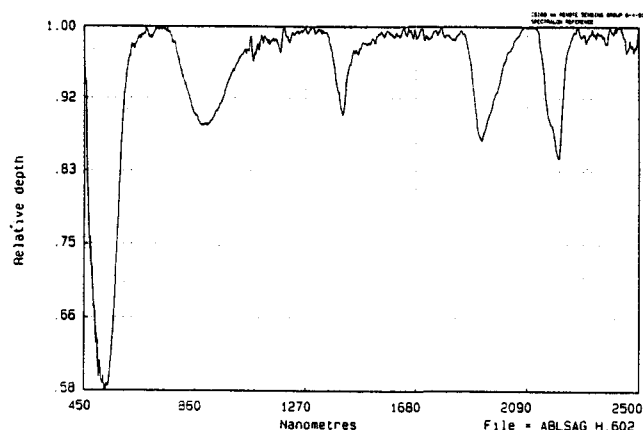
BEASLEY CREEK WHOLE SOIL
34500mE 38940mN



BEASLEY CREEK WHOLE SOIL 34500mE 38940mN



BEASLEY CREEK WHOLE SOIL
34500mE 38940mN



BEASLEY CREEK WHOLE SOIL 34500mE 38940mN

STANDARDS

Selected Absorption Wavelengths, Depths and Widths

FILENAME	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLAAB.016	34150	38820	590	978	0.563	205.188	0.101	31.798	0.221	99.056	0.087	26.743
ABLAAC.016	34150	38820	596	978	0.560	198.274	0.095	40.116	0.222	96.797	0.101	17.169
ABLAAD.016	34150	38820	598	994	0.531	212.359	0.087	43.018	0.226	92.398	0.088	33.980
ABLAAE.016	34150	38820	594	956	0.500	197.283	0.081	25.578	0.208	80.329	0.063	18.168
ABLAAF.016	34150	38820	596	982	0.585	187.774	0.096	30.968	0.207	21.621	0.107	45.587
ABLAAG.016	34150	38820	598	972	0.528	190.905	0.087	30.835	0.198	17.150	0.109	33.311
ABLAAB.035	34200	38940	600	928	0.470	173.925	0.131	28.815	0.150	68.489	0.154	37.628
ABLAAC.035	34200	38940	602	916	0.447	167.889	0.122	25.399	0.177	67.426	0.127	37.349
ABLAAD.035	34200	38940	610	914	0.479	174.680	0.127	30.811	0.218	74.012	0.133	41.596
ABLAAE.035	34200	38940	608	916	0.462	171.607	0.095	32.570	0.182	76.120	0.098	40.668
ABLAAB.704	34700	38940	602	928	0.292	121.902	0.052	18.320	0.173	76.545	0.057	41.379
ABLAAC.704	34700	38940	618	916	0.420	168.154	0.147	31.111	0.225	76.929	0.178	38.185
ABLAAD.704	34700	38940	596	1006	0.514	214.997	0.097	29.048	0.218	85.439	0.092	32.301
ABLAAE.704	34700	38940	618	936	0.286	159.954	0.066	27.698	0.156	74.716	0.062	40.735
ABLAAF.704	34700	38940	600	920	0.521	186.626	0.155	24.493	0.215	72.107	0.145	39.215
ABLAAB.708	34550	38820	602	930	0.180	94.241	0.097	22.829	0.098	52.718	0.071	28.051
ABLAAC.708	34550	38820	600	974	0.419	135.925	0.097	37.523	0.209	85.197	0.098	21.469
ABLAAD.708	34550	38820	602	952	0.446	199.088	0.078	35.774	0.180	79.748	0.113	37.709
ABLAAE.708	34550	38820	608	936	0.371	190.767	0.098	35.292	0.203	82.284	0.086	29.370
ABLAAF.708	34550	38820	612	924	0.364	159.435	0.100	28.911	0.149	61.775	0.148	38.765
ABLOAB.311	34000	38820	602	938	0.274	167.358	0.101	32.110	0.155	68.042	0.122	33.935
ABLOAC.311	34000	38820	598	950	0.288	134.479	0.105	29.153	0.161	73.175	0.122	37.639
ABLOAD.311	34000	38820	592	956	0.357	170.774	0.106	31.969	0.190	69.029	0.089	34.401
ABLOAE.311	34000	38820	594	948	0.379	176.750	0.103	30.181	0.180	74.531	0.110	34.461
ABLOAF.311	34000	38820	604	944	0.364	163.253	0.110	27.968	0.179	73.614	0.101	40.602
ABLOAB.330	34000	38940	594	918	0.381	165.954	0.097	28.552	0.187	72.687	0.094	35.111
ABLOAC.330	34000	38940	600	938	0.398	168.631	0.087	25.071	0.157	70.327	0.101	34.532
ABLOAD.330	34000	38940	600	932	0.361	165.379	0.086	28.580	0.167	68.984	0.096	35.788
ABLOAE.330	34000	38940	614	934	0.311	166.308	0.102	28.470	0.170	67.693	0.109	28.033
ABLOAF.330	34000	38940	610	938	0.388	175.650	0.105	30.717	0.178	78.506	0.119	37.095
ABLSAB.409	33950	38820	614	908	0.140	115.681	0.107	31.375	0.152	66.497	0.148	37.992
ABLSAC.409	33950	38820	616	906	0.129	118.384	0.108	28.078	0.157	63.179	0.139	40.503

Selected Absorption Wavelengths, Depths and Widths (continued)

FILENAME	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSAD.409	33950	38820	614	904	0.133	121.715	0.104	29.388	0.149	68.277	0.142	40.835
ABLSAE.409	33950	38820	614	906	0.129	121.935	0.102	31.590	0.144	63.481	0.143	41.626
ABLSAF.409	33950	38820	616	910	0.127	112.140	0.102	31.060	0.138	68.466	0.138	38.649
ABLSAB.606	34350	38820	620	894	0.146	104.315	0.168	30.468	0.176	60.456	0.203	40.391
ABLSAC.606	34350	38820	624	894	0.147	110.210	0.161	31.887	0.170	65.569	0.199	39.127
ABLSAD.606	34350	38820	618	894	0.142	107.537	0.152	32.531	0.168	62.387	0.195	42.246
ABLSAE.606	34350	38820	624	898	0.144	110.284	0.153	30.139	0.155	60.691	0.198	40.673
ABLSAF.606	34350	38820	620	898	0.151	114.132	0.175	30.963	0.196	63.695	0.211	39.654
ABLSAC.429	33975	38940	614	898	0.080	94.923	0.152	33.707	0.244	69.727	0.150	37.836
ABLSAD.429	33975	38940	612	900	0.079	98.145	0.148	30.499	0.237	64.633	0.151	40.640
ABLSAE.429	33975	38940	612	908	0.091	97.269	0.145	30.916	0.237	63.377	0.154	37.684
ABLSAF.429	33975	38940	614	906	0.084	103.455	0.148	33.443	0.242	70.481	0.141	37.610
ABLSAG.429	33975	38940	610	900	0.090	106.575	0.148	31.714	0.227	63.788	0.155	36.941
ABLSAC.602	34500	38940	620	894	0.107	94.755	0.112	30.486	0.144	64.633	0.152	39.364
ABLSAD.602	34500	38940	616	900	0.118	98.300	0.110	28.218	0.142	60.066	0.152	40.155
ABLSAE.602	34500	38940	622	898	0.109	96.793	0.104	31.435	0.133	64.177	0.152	40.155
ABLSAF.602	34500	38940	620	900	0.126	110.020	0.111	27.671	0.128	57.942	0.146	41.445
ABLSAG.602	34500	38940	620	894	0.116	100.293	0.103	31.146	0.133	60.513	0.153	40.115

STANDARDS

Selected Reflectance Measurements

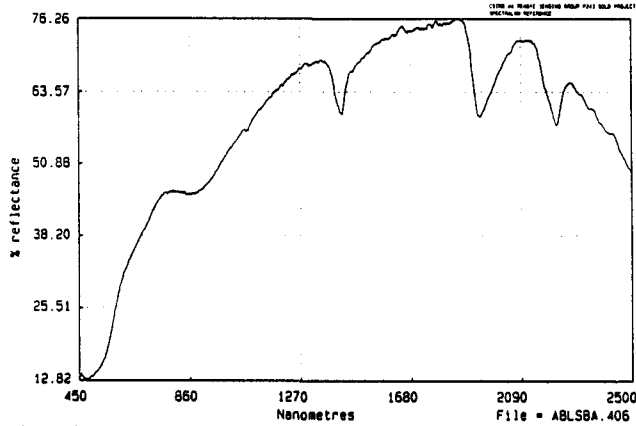
FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLAAB.016	34150	38820	4.887	6.692	6.873	7.129	8.375	6.382	6.395	23.211	--0--	--0--	--0--	--0--	--0--
ABLAAC.016	34150	38820	4.401	6.523	6.918	7.123	8.201	6.327	6.227	22.559	--0--	--0--	--0--	--0--	--0--
ABLAAD.016	34150	38820	5.531	9.014	9.696	9.928	11.562	9.094	9.056	30.764	--0--	--0--	--0--	--0--	--0--
ABLAAE.016	34150	38820	4.042	5.103	5.282	5.665	6.663	5.276	5.319	18.113	--0--	--0--	--0--	--0--	--0--
ABLAAF.016	34150	38820	5.954	9.218	9.770	9.743	11.784	8.739	8.756	32.459	--0--	--0--	--0--	--0--	--0--
ABLAAG.016	34150	38820	5.777	8.642	9.199	9.554	11.196	8.644	8.568	29.622	--0--	--0--	--0--	--0--	--0--
ABLAAB.035	34200	38940	6.313	9.994	11.282	12.592	16.075	12.649	13.067	43.822	--0--	--0--	--0--	--0--	--0--
ABLAAC.035	34200	38940	4.041	5.342	5.906	6.841	8.398	6.776	7.171	23.308	--0--	--0--	--0--	--0--	--0--
ABLAAD.035	34200	38940	5.177	7.394	8.326	9.391	11.244	8.959	9.433	32.482	--0--	--0--	--0--	--0--	--0--
ABLAAE.035	34200	38940	6.595	9.023	10.099	11.259	13.423	10.773	11.312	36.568	--0--	--0--	--0--	--0--	--0--
ABLAAB.704	34700	38940	5.456	6.452	7.040	7.771	10.084	8.484	8.708	17.644	--0--	--0--	--0--	--0--	--0--
ABLAAC.704	34700	38940	6.254	8.702	9.901	11.699	14.331	11.524	11.956	34.456	--0--	--0--	--0--	--0--	--0--
ABLAAD.704	34700	38940	8.474	13.712	14.573	15.310	17.310	14.060	14.003	44.438	--0--	--0--	--0--	--0--	--0--
ABLAAE.704	34700	38940	5.432	6.412	6.811	7.431	9.432	8.050	8.166	15.467	--0--	--0--	--0--	--0--	--0--
ABLAAF.704	34700	38940	3.651	5.075	5.667	6.451	8.121	6.338	6.622	26.984	--0--	--0--	--0--	--0--	--0--
ABLAAB.708	34550	38820	6.627	8.963	9.536	9.846	10.184	8.962	8.978	11.319	--0--	--0--	--0--	--0--	--0--
ABLAAC.708	34550	38820	5.470	7.117	7.498	7.589	8.236	6.964	6.951	14.746	--0--	--0--	--0--	--0--	--0--
ABLAAD.708	34550	38820	7.867	11.550	12.580	13.052	14.741	11.402	11.411	30.829	--0--	--0--	--0--	--0--	--0--
ABLAAE.708	34550	38820	6.568	9.349	10.004	10.645	12.132	9.886	10.019	23.658	--0--	--0--	--0--	--0--	--0--
ABLAAF.708	34550	38820	6.130	8.101	9.034	9.773	11.135	8.949	9.258	21.063	--0--	--0--	--0--	--0--	--0--
ABLOAB.311	34000	38820	5.505	8.692	9.553	10.304	11.681	9.913	10.006	17.759	--0--	--0--	--0--	--0--	--0--
ABLOAC.311	34000	38820	6.412	8.730	9.614	10.231	11.666	10.024	9.890	18.361	--0--	--0--	--0--	--0--	--0--
ABLOAD.311	34000	38820	5.551	7.658	7.918	8.374	9.643	7.898	8.163	18.013	--0--	--0--	--0--	--0--	--0--
ABLOAE.311	34000	38820	5.734	7.523	8.014	8.402	9.811	8.141	8.237	19.978	--0--	--0--	--0--	--0--	--0--
ABLOAF.311	34000	38820	5.769	7.658	8.372	8.956	10.513	8.456	8.617	19.579	--0--	--0--	--0--	--0--	--0--
ABLOAB.330	34000	38940	5.946	8.192	9.034	9.633	11.640	9.427	9.657	24.635	--0--	--0--	--0--	--0--	--0--
ABLOAC.330	34000	38940	6.064	9.965	11.153	12.162	14.954	12.0.96	12.192	30.297	--0--	--0--	--0--	--0--	--0--
ABLOAD.330	34000	38940	5.472	8.460	9.278	10.181	12.331	10.057	10.244	23.912	--0--	--0--	--0--	--0--	--0--
ABLOAE.330	34000	38940	6.997	10.100	11.221	12.417	14.531	12.011	12.114	23.962	--0--	--0--	--0--	--0--	--0--
ABLOAF.330	34000	38940	5.667	8.672	9.497	10.237	12.425	9.855	10.238	25.409	--0--	--0--	--0--	--0--	--0--
ABLSAB.409	33950	38820	8.145	18.108	21.047	25.101	31.174	31.139	32.099	47.042	--0--	--0--	--0--	--0--	--0--
ABLSAC.409	33950	38820	8.042	17.604	20.618	24.607	30.674	30.484	31.343	45.228	--0--	--0--	--0--	--0--	--0--

Selected Reflectance Measurements (continued)

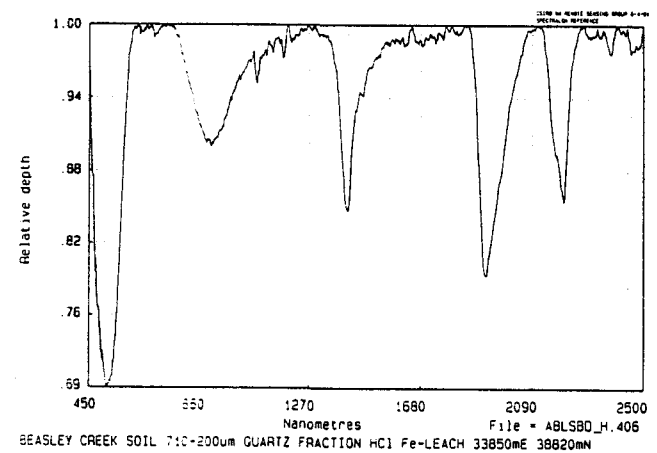
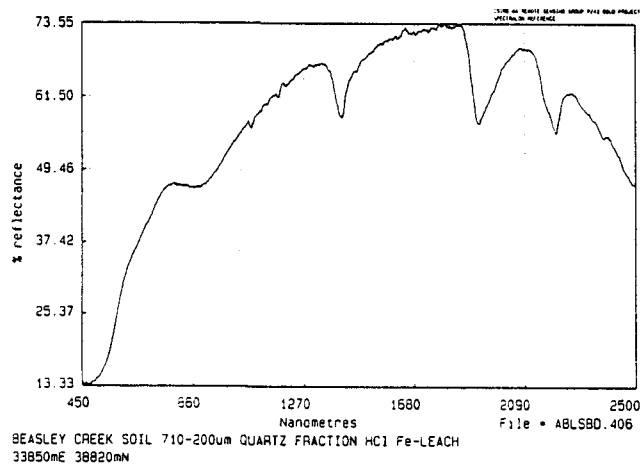
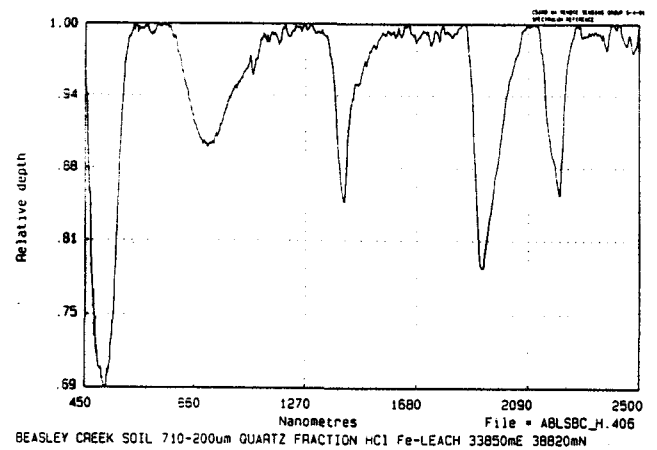
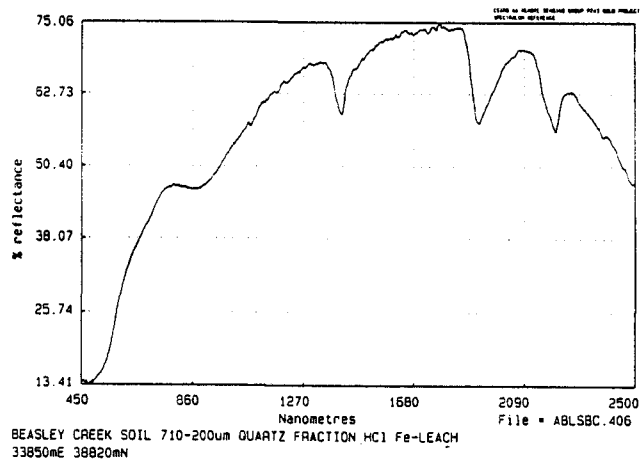
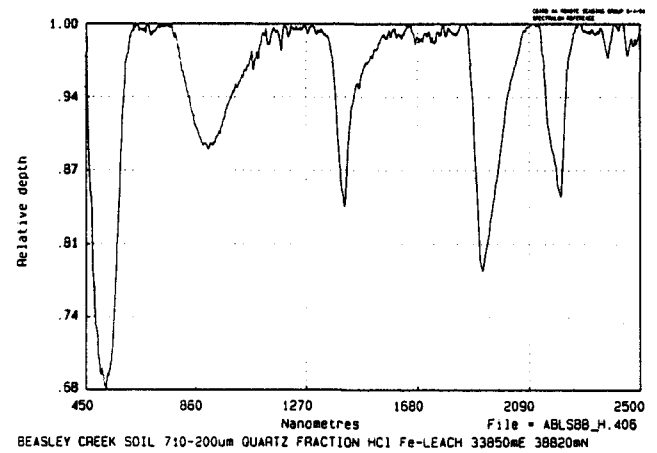
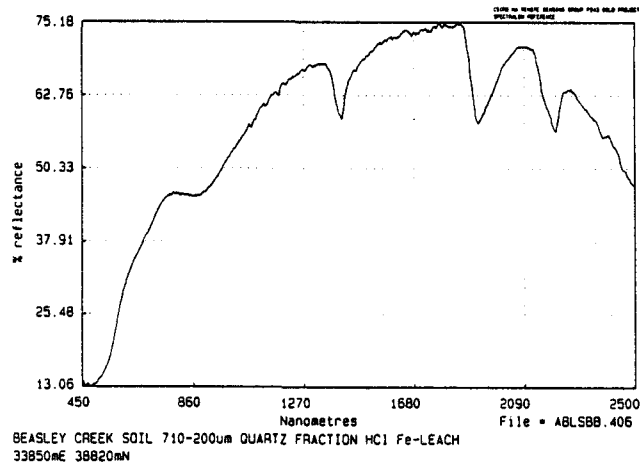
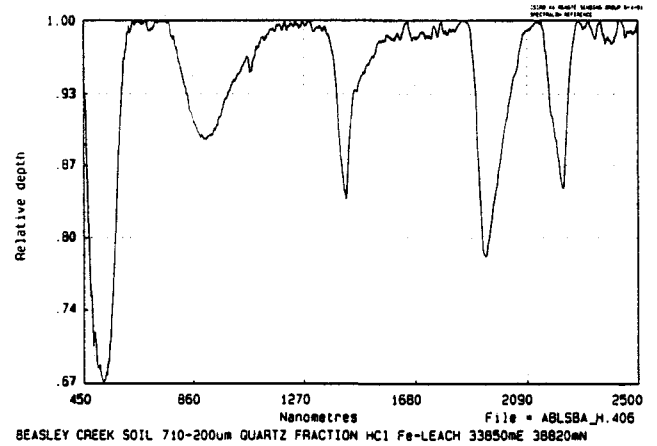
-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSAD.409	33950	38820	8.436	18.390	21.432	25.420	31.585	31.493	32.401	47.543	--0--	--0--	--0--	--0--	--0--
ABLSAE.409	33950	38820	8.086	18.234	21.139	25.310	31.485	31.359	32.190	45.894	--0--	--0--	--0--	--0--	--0--
ABLSAF.409	33950	38820	8.289	18.048	21.042	25.103	31.127	31.057	32.035	45.863	--0--	--0--	--0--	--0--	--0--
ABLSAB.606	34350	38820	7.800	18.808	22.905	28.081	34.244	32.933	34.224	47.185	--0--	--0--	--0--	--0--	--0--
ABLSAC.606	34350	38820	7.597	18.802	22.877	27.889	34.194	32.989	34.281	47.309	--0--	--0--	--0--	--0--	--0--
ABLSAD.606	34350	38820	7.890	19.565	23.857	29.179	35.430	34.225	35.425	48.115	--0--	--0--	--0--	--0--	--0--
ABLSAE.606	34350	38820	7.450	18.160	22.005	26.801	32.528	31.278	32.386	44.162	--0--	--0--	--0--	--0--	--0--
ABLSAF.606	34350	38820	7.527	17.391	20.865	25.098	30.120	28.391	29.277	40.183	--0--	--0--	--0--	--0--	--0--
ABLSAC.429	33975	38940	13.584	25.610	28.841	33.373	39.918	40.777	41.828	53.056	51.923	45.848	41.386	45.900	45.603
ABLSAD.429	33975	38940	13.393	25.266	28.521	33.039	39.512	40.482	41.471	52.406	52.294	46.055	41.548	45.923	45.909
ABLSAE.429	33975	38940	13.793	25.764	29.086	33.447	39.792	40.540	41.569	54.367	53.209	46.709	42.245	46.537	46.662
ABLSAF.429	33975	38940	13.783	25.493	28.747	33.302	39.631	40.398	42.404	53.524	51.789	46.041	41.600	45.373	45.136
ABLSAG.429	33975	38940	12.871	23.683	26.764	31.001	36.931	37.501	38.408	50.152	49.830	43.737	39.330	43.272	43.409
ABLSAC.602	34500	38940	7.563	15.835	18.711	22.657	27.916	28.674	29.743	41.151	--0--	--0--	--0--	--0--	--0--
ABLSAD.602	34500	38940	7.344	15.816	18.768	22.561	27.919	28.647	29.745	41.883	--0--	--0--	--0--	--0--	--0--
ABLSAE.602	34500	38940	7.627	16.221	19.327	23.640	29.324	30.238	31.349	43.198	--0--	--0--	--0--	--0--	--0--
ABLSAF.602	34500	38940	7.254	15.742	18.887	23.221	29.237	30.271	31.424	45.898	--0--	--0--	--0--	--0--	--0--
ABLSAG.602	34500	38940	7.728	16.443	19.390	23.832	29.692	30.627	31.823	45.143	--0--	--0--	--0--	--0--	--0--

SOIL QUARTZ FRACTION STANDARDS

REFLECTANCE

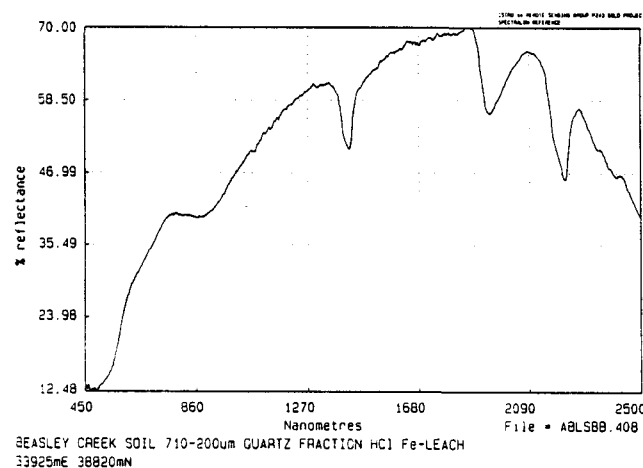
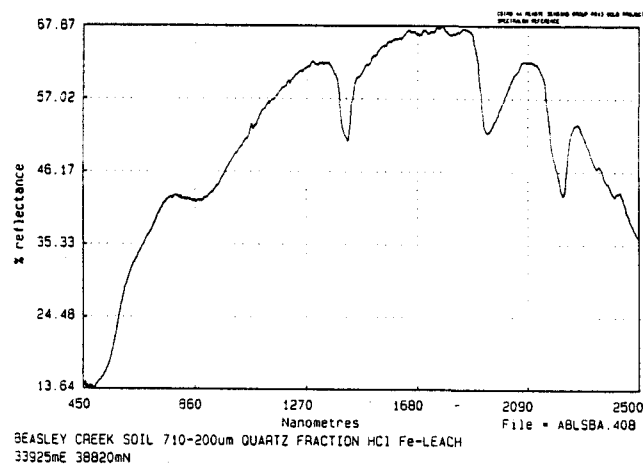
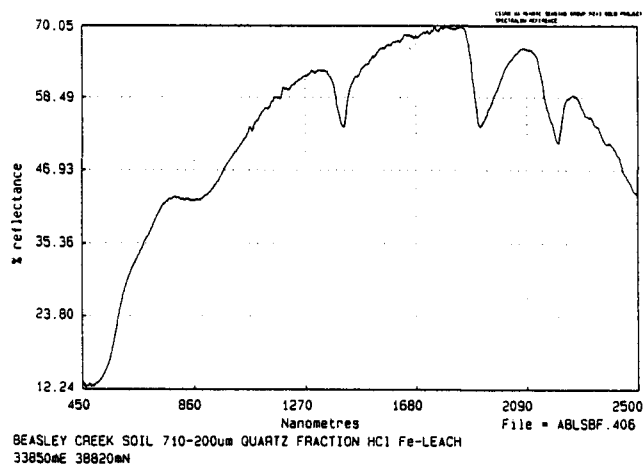
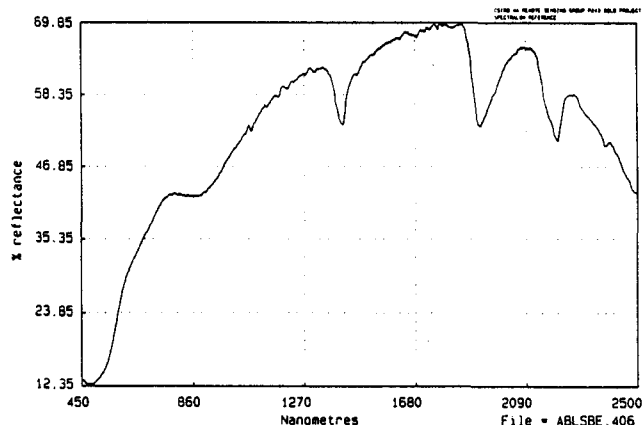


HULL QUOTIENTS

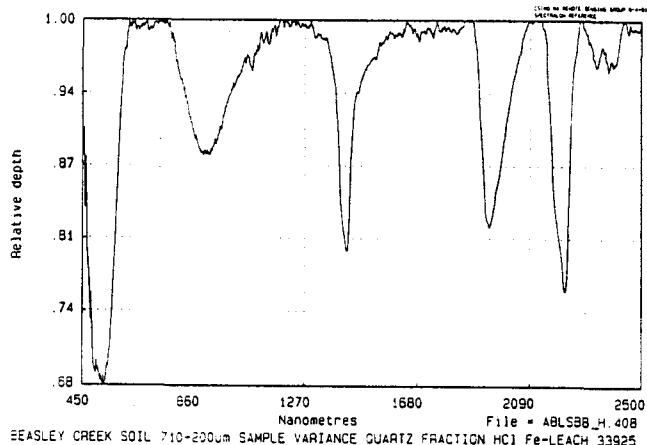
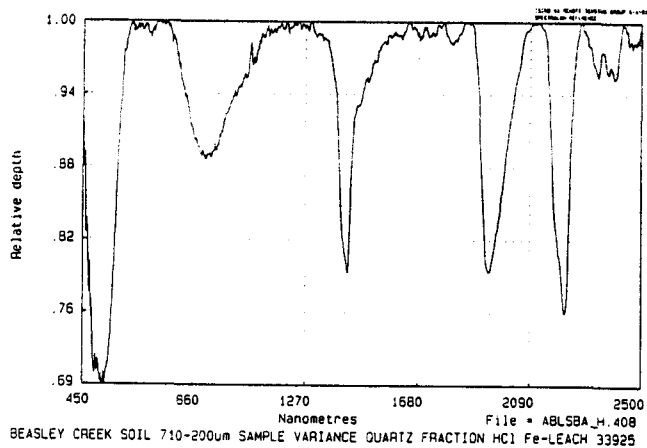
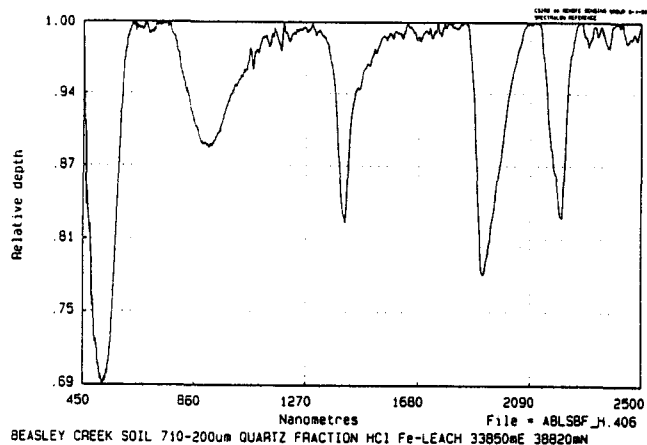
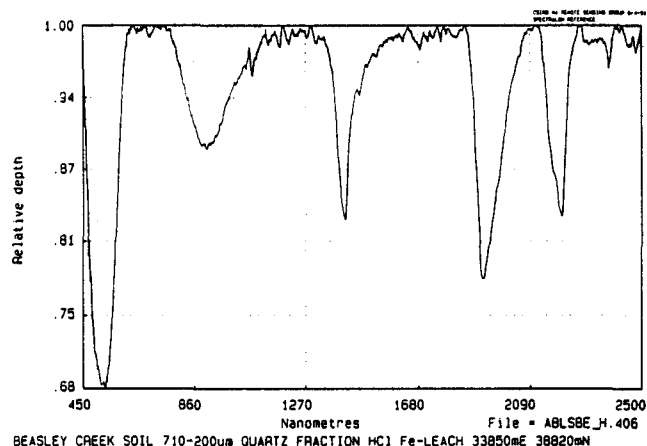


SOIL QUARTZ FRACTION STANDARDS

REFLECTANCE

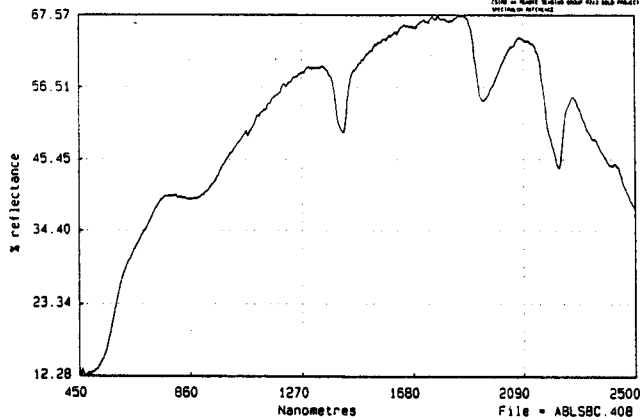


HULL QUOTIENTS

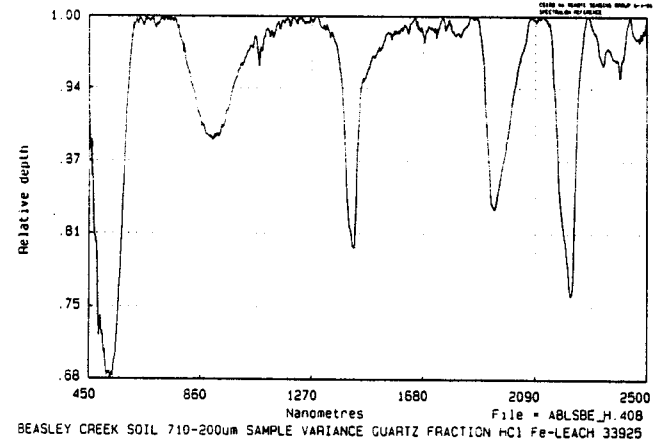
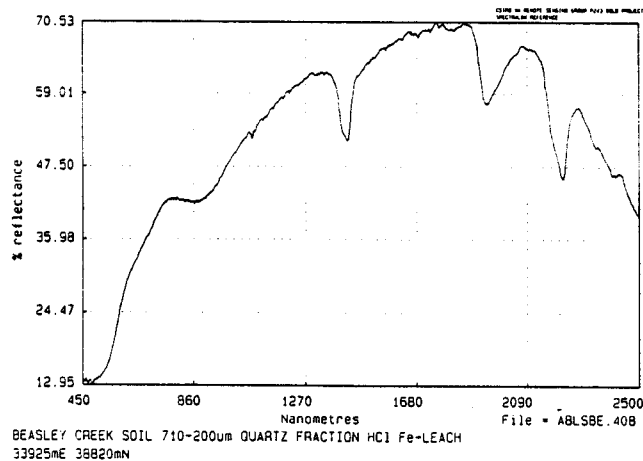
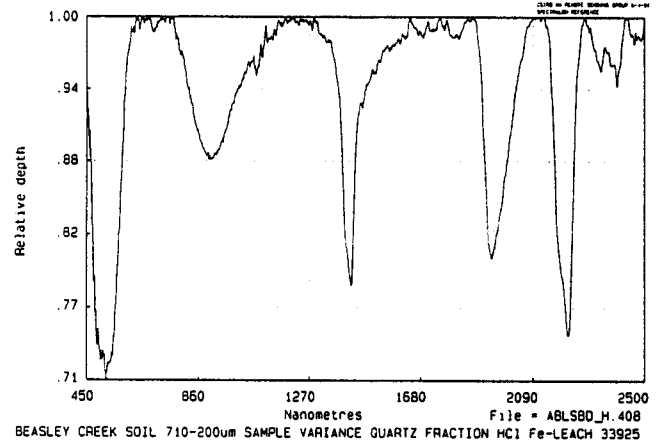
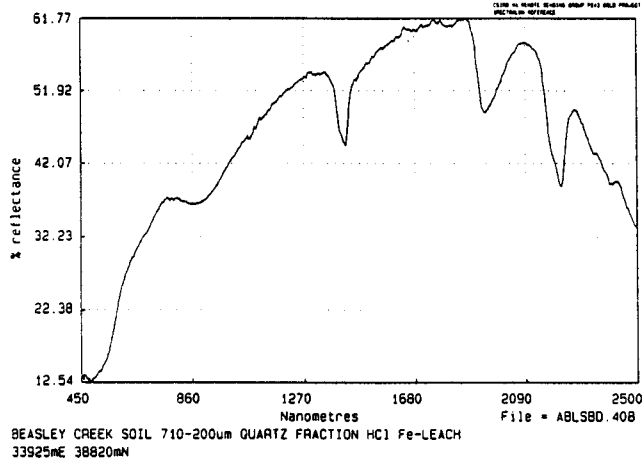
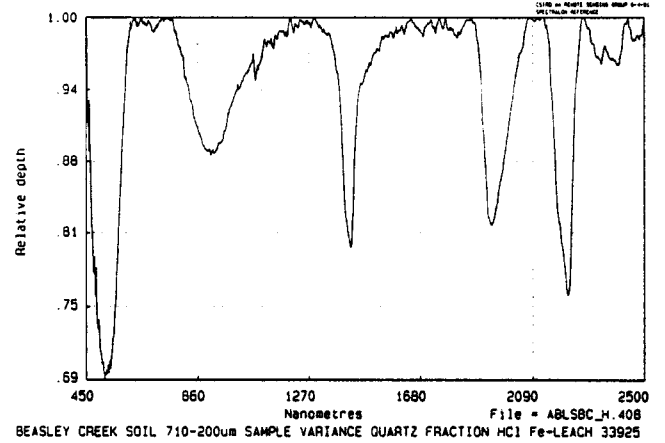


SOIL QUARTZ FRACTION STANDARDS

REFLECTANCE



HULL QUOTIENTS



STANDARDS

Soil Quartz Fraction Absorption Depths and Widths

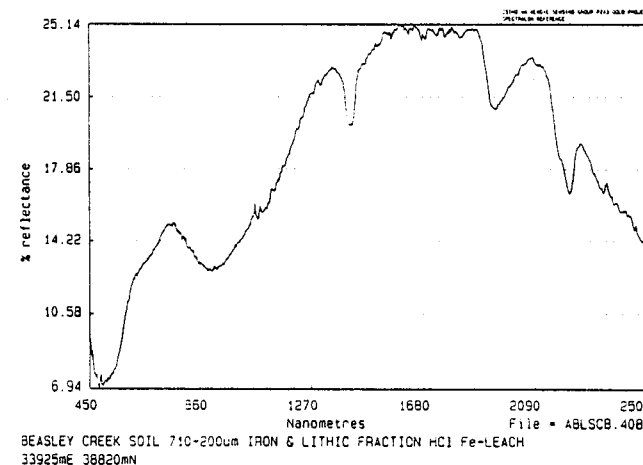
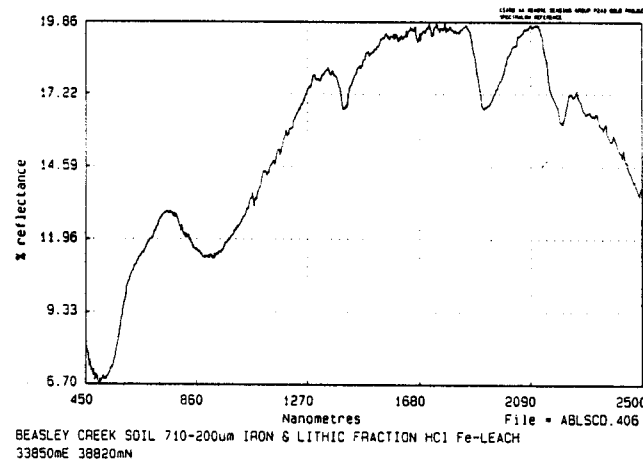
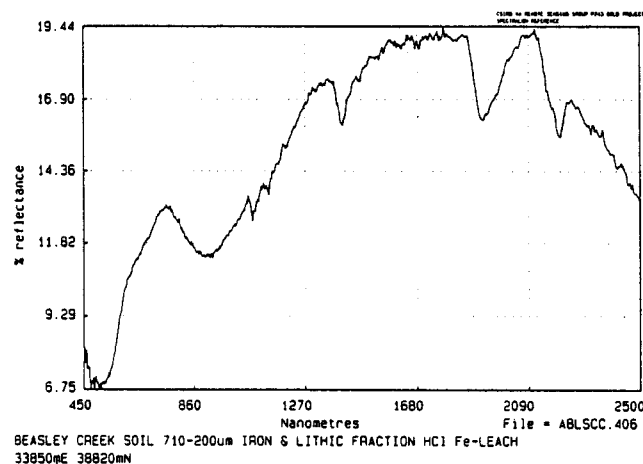
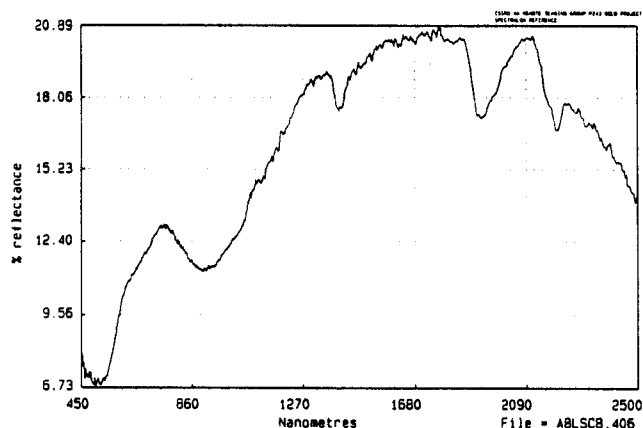
FILENAME	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSBA.406	33850	38820	618	906	0.107	111.637	0.161	30.704	0.213	61.646	0.152	39.929
ABLSBB.406	33850	38820	624	908	0.109	109.685	0.160	31.314	0.214	61.396	0.150	38.473
ABLSBC.406	33850	38820	624	910	0.106	108.974	0.153	32.371	0.209	59.206	0.147	38.590
ABLSBD.406	33850	38820	616	904	0.102	99.589	0.156	36.079	0.210	62.931	0.148	38.936
ABLSBE.406	33850	38820	618	908	0.109	107.148	0.172	33.865	0.223	65.053	0.169	39.387
ABLSBF.406	33850	38820	624	910	0.111	108.330	0.174	31.793	0.219	64.518	0.170	37.741
ABLSBA.408	33925	38820	622	910	0.116	104.862	0.210	32.066	0.210	68.436	0.245	41.620
ABLSBB.408	33925	38820	620	906	0.119	107.213	0.202	33.836	0.181	59.847	0.237	40.932
ABLSBC.408	33925	38820	614	910	0.119	106.966	0.200	33.413	0.181	62.877	0.240	42.007
ABLSBD.408	33925	38820	614	910	0.116	106.758	0.217	31.065	0.195	60.215	0.257	42.391
ABLSBE.408	33925	38820	614	906	0.108	98.540	0.202	33.066	0.169	62.102	0.244	42.115

Quartz Fraction Selected Reflectances

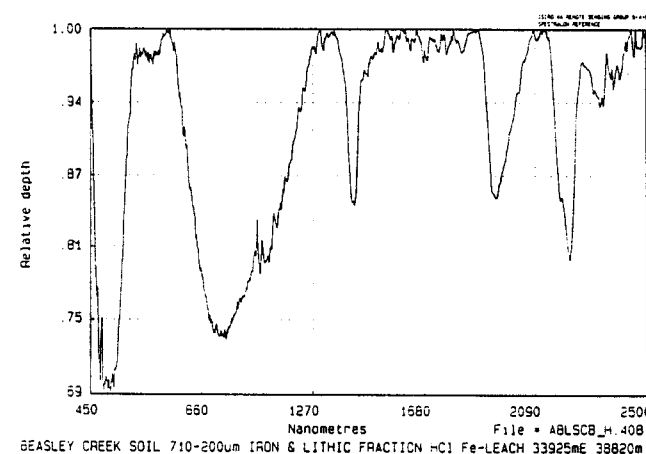
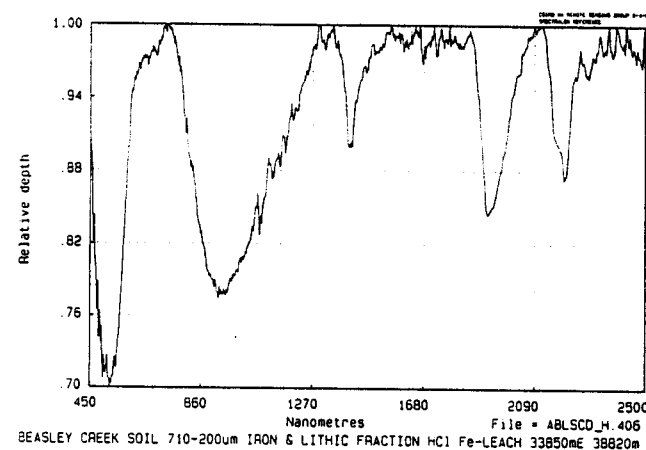
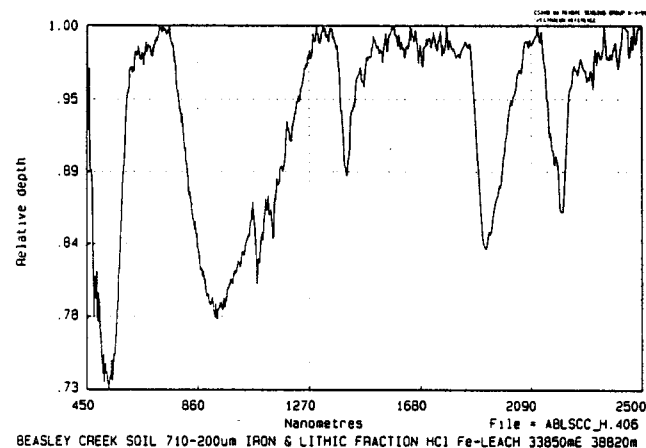
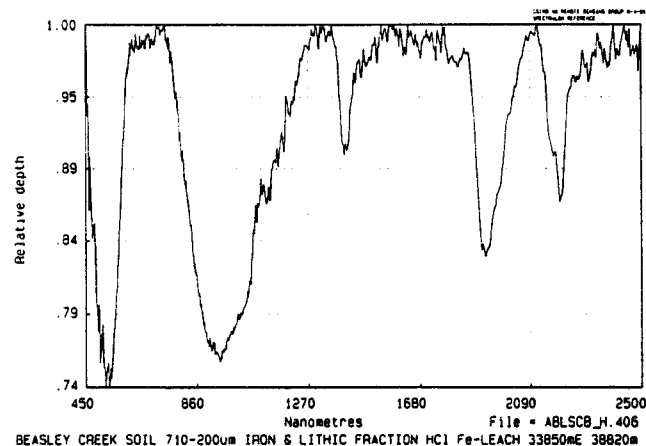
-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSBA.406	33850	38820	13.641	26.917	30.910	36.585	44.872	46.100	47.470	68.968	--0--	--0--	--0--	--0--	--0--
ABLSBB.406	33850	38820	13.709	27.163	30.885	36.608	44.962	46.339	47.658	67.409	--0--	--0--	--0--	--0--	--0--
ABLSBC.406	33850	38820	14.183	28.204	32.146	37.797	46.071	47.139	48.389	67.257	--0--	--0--	--0--	--0--	--0--
ABLSBD.406	33850	38820	14.244	28.152	32.199	37.737	46.105	47.182	48.434	65.891	--0--	--0--	--0--	--0--	--0--
ABLSBE.406	33850	38820	13.013	25.164	28.896	33.915	41.674	42.862	44.032	61.682	--0--	--0--	--0--	--0--	--0--
ABLSBF.406	33850	38820	13.166	25.237	28.843	33.988	41.661	42.871	44.127	61.786	--0--	--0--	--0--	--0--	--0--
ABLSBA.408	33925	38820	14.351	26.759	30.171	34.733	41.759	42.275	43.638	61.731	--0--	--0--	--0--	--0--	--0--
ABLSBB.408	33925	38820	13.004	24.572	27.849	32.542	39.671	40.599	41.743	60.728	--0--	--0--	--0--	--0--	--0--
ABLSBC.408	33925	38820	12.835	24.153	27.665	32.132	39.223	39.898	40.989	59.095	--0--	--0--	--0--	--0--	--0--
ABLSBD.408	33925	38820	13.094	23.909	26.769	30.883	36.852	37.176	38.218	53.922	--0--	--0--	--0--	--0--	--0--
ABLSBE.408	33925	38820	13.956	25.422	29.607	33.967	41.609	42.404	43.749	62.082	--0--	--0--	--0--	--0--	--0--

SOIL FERRUGINOUS AND LITHIC FRACTION STANDARDS

REFLECTANCE

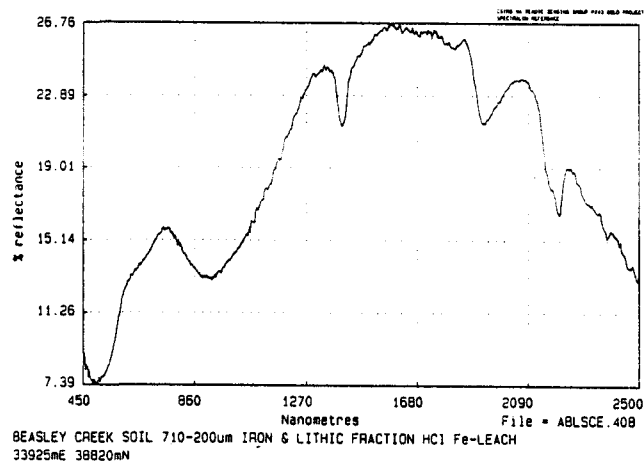
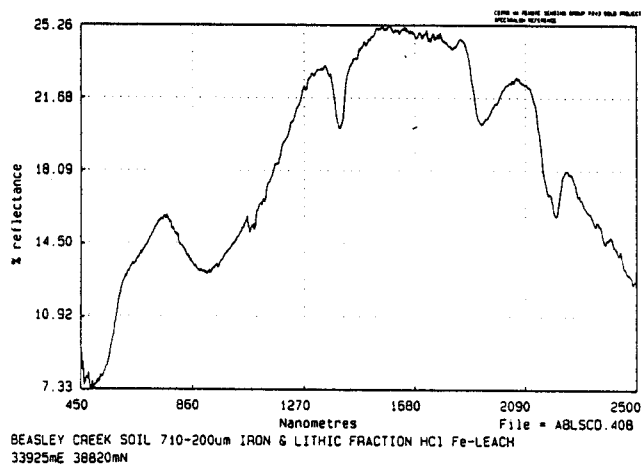
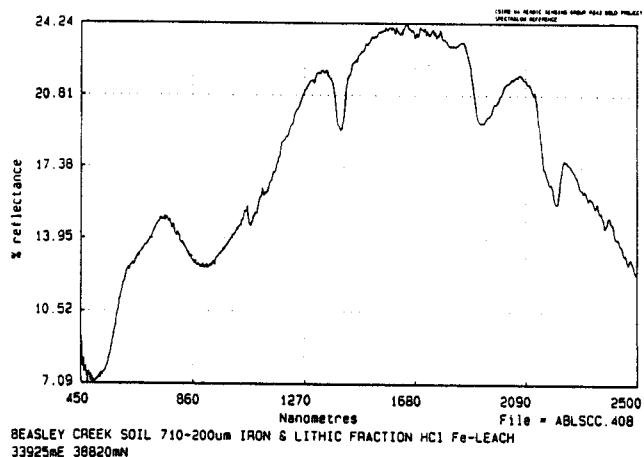


HULL QUOTIENTS

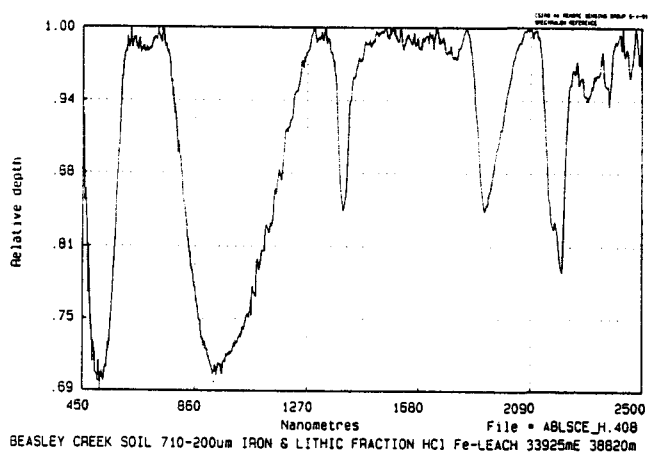
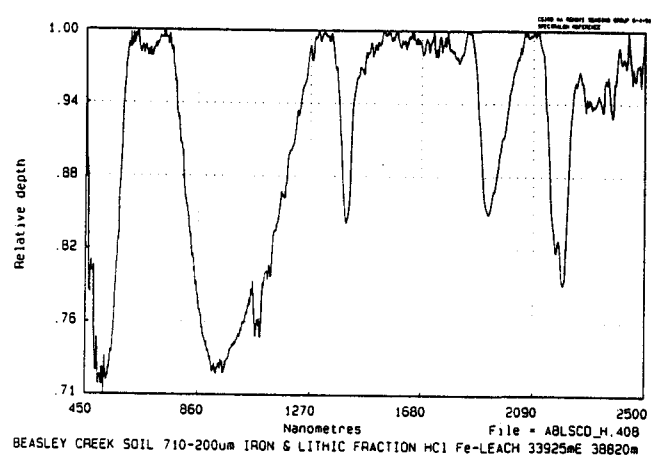
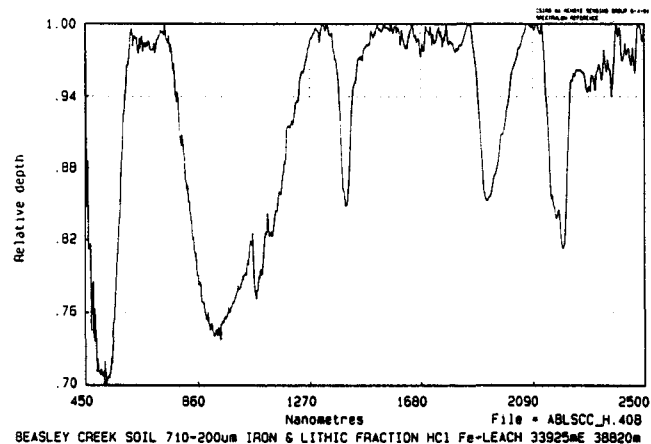


SOIL FERRUGINOUS AND LITHIC FRACTION STANDARDS

REFLECTANCE



HULL QUOTIENTS



STANDARDS

Soil Ferruginous and Lithic Fraction Absorption Depths and Widths

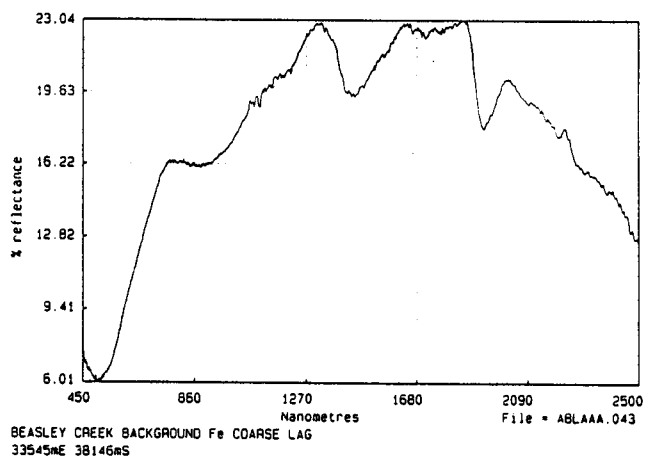
FILENAME	EAST	NORTH	Fe-S	Fe-A	0.9-D	0.9-W	1.4-D	1.4-W	1.9-D	1.9-W	2.2-D	2.2-W
ABLSCA.406	33850	38820	608	946	0.263	169.109	0.127	31.841	0.177	61.642	0.145	39.126
ABLSCB.406	33850	38820	612	944	0.244	156.339	0.095	28.458	0.169	69.270	0.129	36.636
ABLSCC.406	33850	38820	612	932	0.217	159.322	0.111	26.637	0.165	71.817	0.137	38.722
ABLSCD.406	33850	38820	608	938	0.227	166.613	0.102	29.879	0.157	68.549	0.129	38.966
ABLSCA.408	33925	38820	604	946	0.310	175.087	0.154	29.934	0.150	61.545	0.182	40.503
ABLSCB.408	33925	38820	612	938	0.268	162.101	0.152	26.895	0.138	10.325	0.200	43.389
ABLSCC.408	33925	38820	618	934	0.266	167.049	0.154	27.365	0.149	64.518	0.190	41.304
ABLSCD.408	33925	38820	610	938	0.278	170.159	0.155	30.748	0.148	65.985	0.205	43.977
ABLSC.408	33925	38820	610	940	0.296	169.291	0.155	28.842	0.156	62.880	0.207	40.685

Soil Ferruginous and Lithic Fraction Selected Reflectances

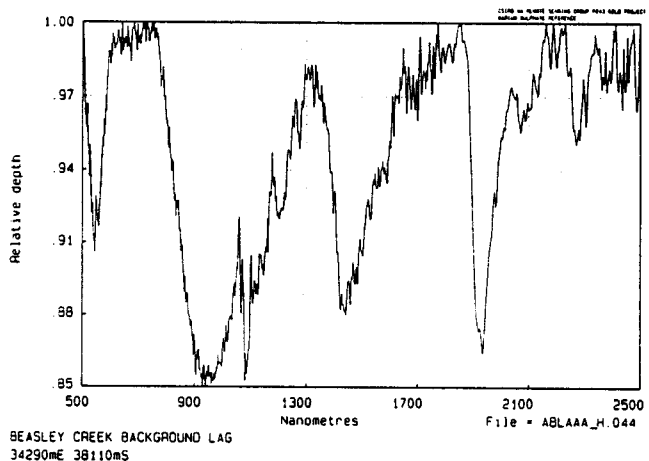
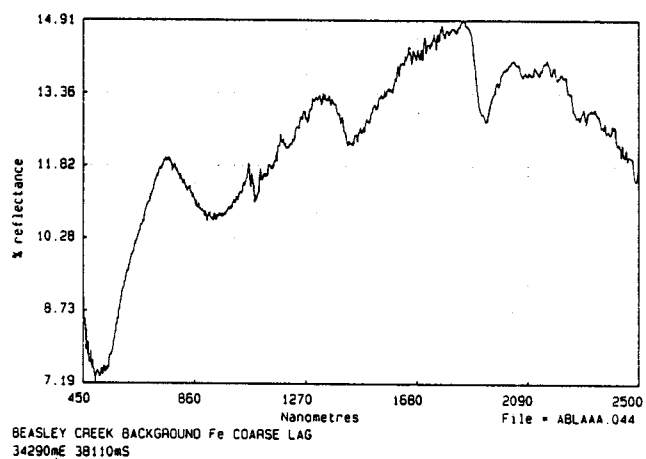
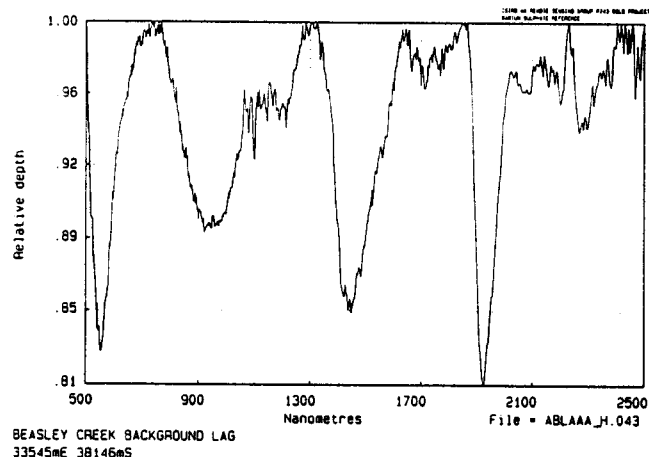
-FILENAME-	EAST	NORTH	500nm	590nm	610nm	660nm	780nm	900nm	930nm	1360nm	2124nm	2160nm	2206nm	2232nm	2276nm
ABLSCA.406	33850	38820	7.520	11.002	11.903	12.857	14.559	12.326	12.230	20.540	--0--	--0--	--0--	--0--	--0--
ABLSCB.406	33850	38820	6.993	9.525	10.521	11.499	12.917	11.303	11.385	19.010	--0--	--0--	--0--	--0--	--0--
ABLSCC.406	33850	38820	6.915	9.529	10.574	11.405	13.071	11.331	11.418	17.562	--0--	--0--	--0--	--0--	--0--
ABLSCD.406	33850	38820	6.713	9.629	10.532	11.531	12.940	11.341	11.417	18.107	--0--	--0--	--0--	--0--	--0--
ABLSCA.408	33925	38820	7.028	11.385	12.179	13.020	14.895	12.449	12.426	24.375	--0--	--0--	--0--	--0--	--0--
ABLSCB.408	33925	38820	7.090	11.144	12.243	13.149	15.007	12.677	12.957	22.930	--0--	--0--	--0--	--0--	--0--
ABLSCC.408	33925	38820	7.211	11.058	12.056	13.085	14.704	12.626	12.755	21.729	--0--	--0--	--0--	--0--	--0--
ABLSCD.408	33925	38820	7.547	11.785	12.805	13.797	15.744	13.161	13.207	22.756	--0--	--0--	--0--	--0--	--0--
ABLSC.408	33925	38820	7.499	11.724	12.798	13.786	15.745	13.205	13.192	24.263	--0--	--0--	--0--	--0--	--0--

COARSE LAG BACKGROUND

REFLECTANCE

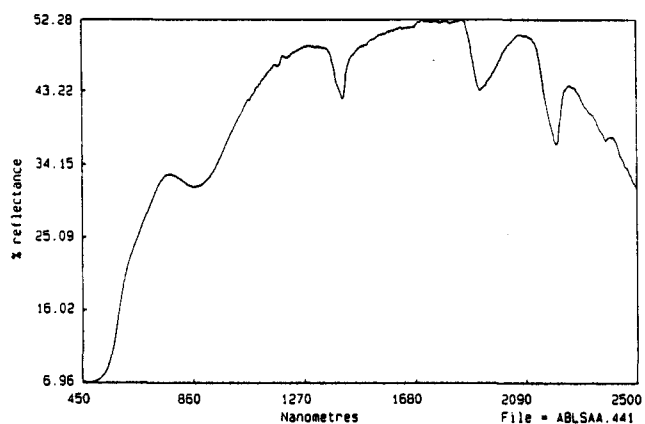


HULL QUOTIENTS

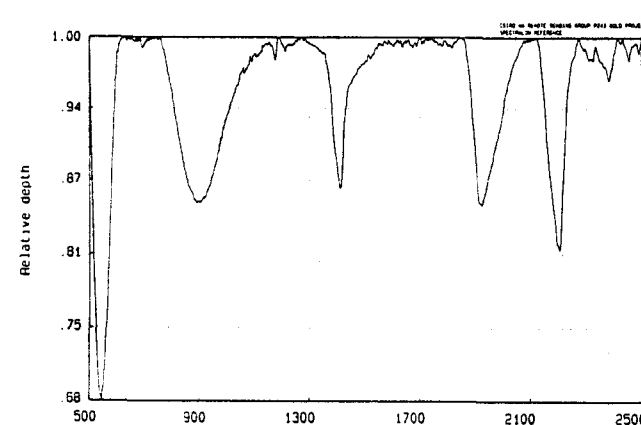
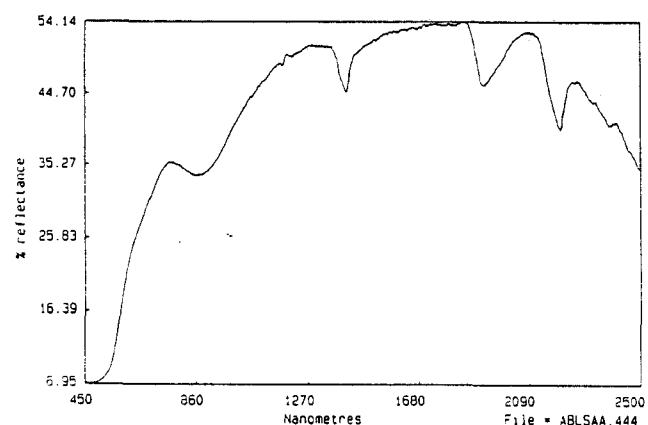
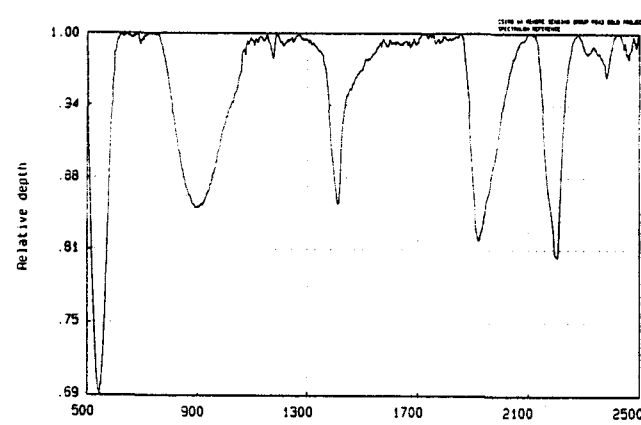
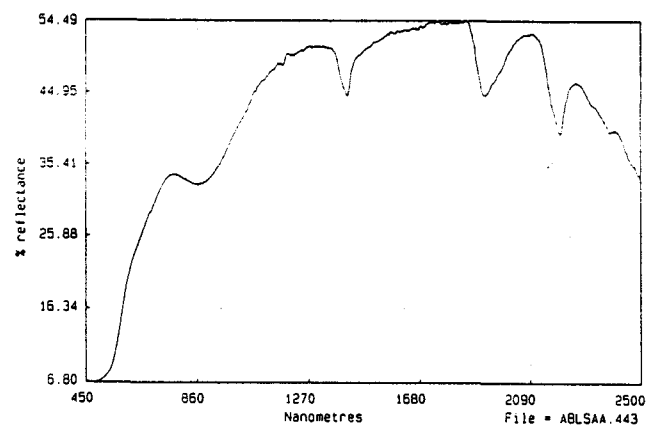
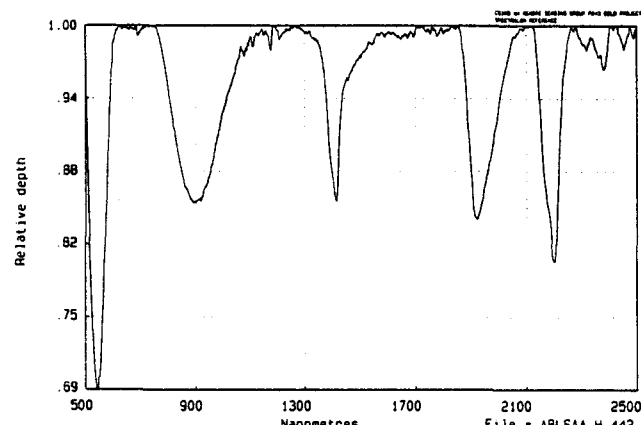
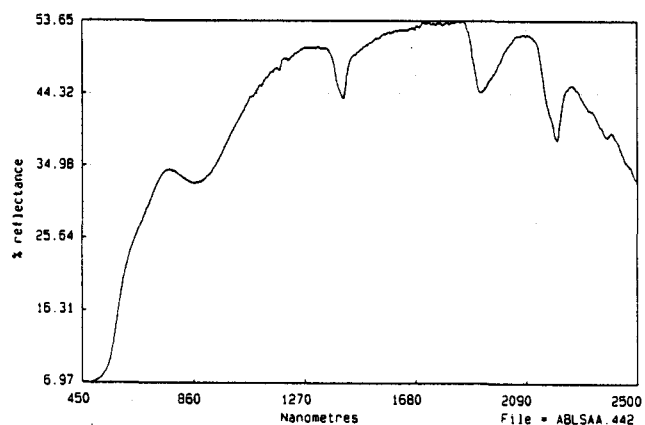
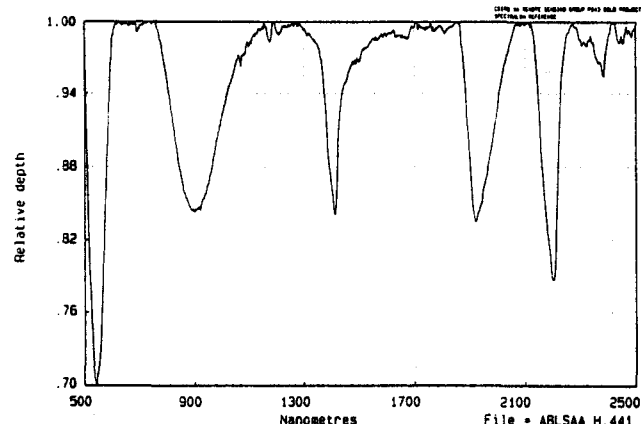


SOIL BACKGROUND

REFLECTANCE

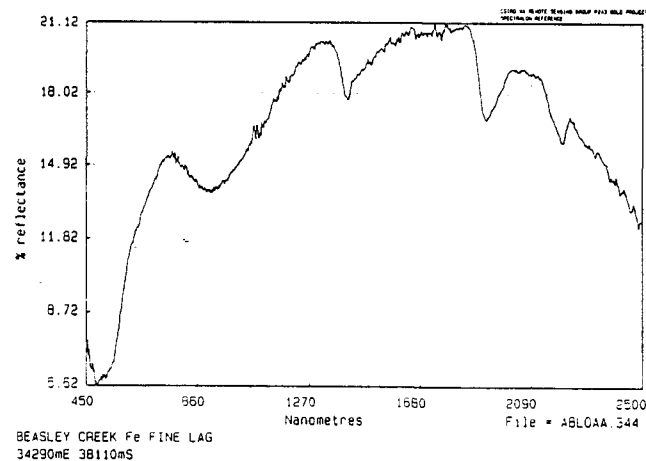
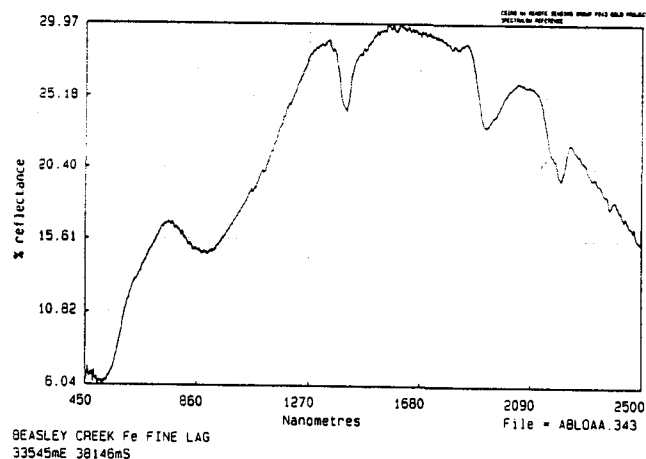
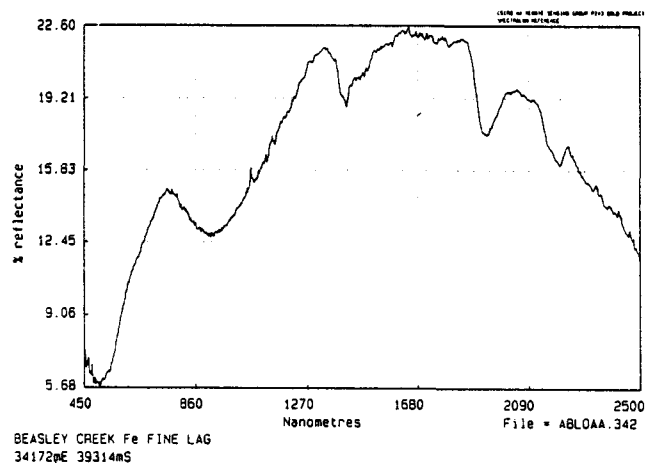
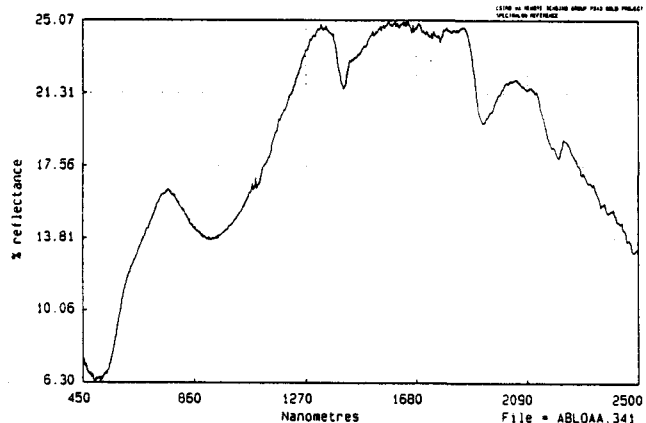


HULL QUOTIENTS

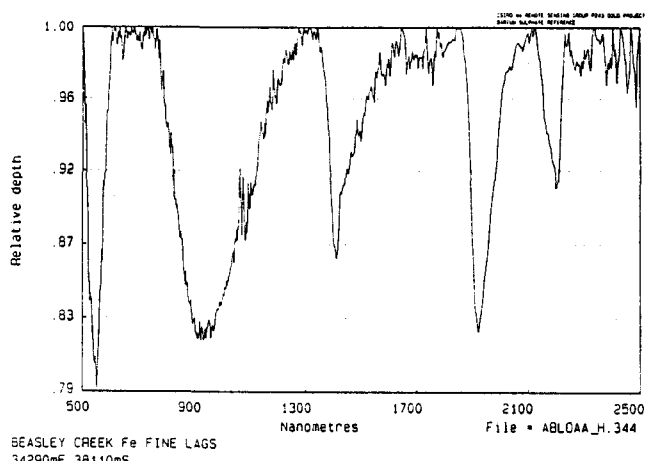
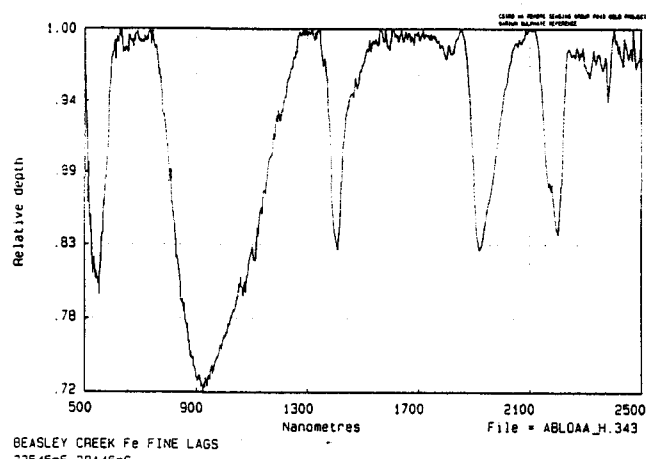
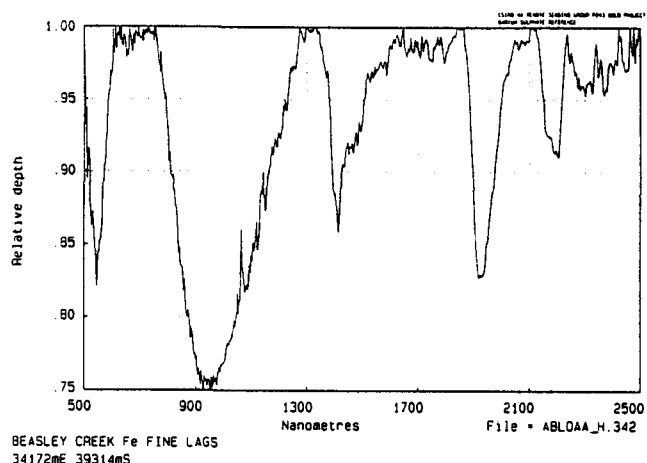
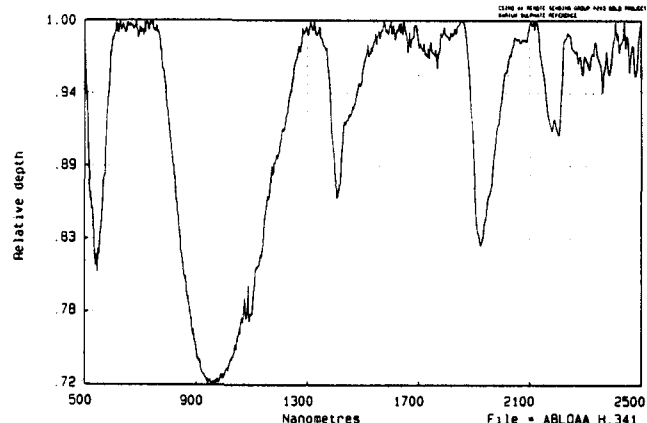


FINE LAG BACKGROUND

REFLECTANCE



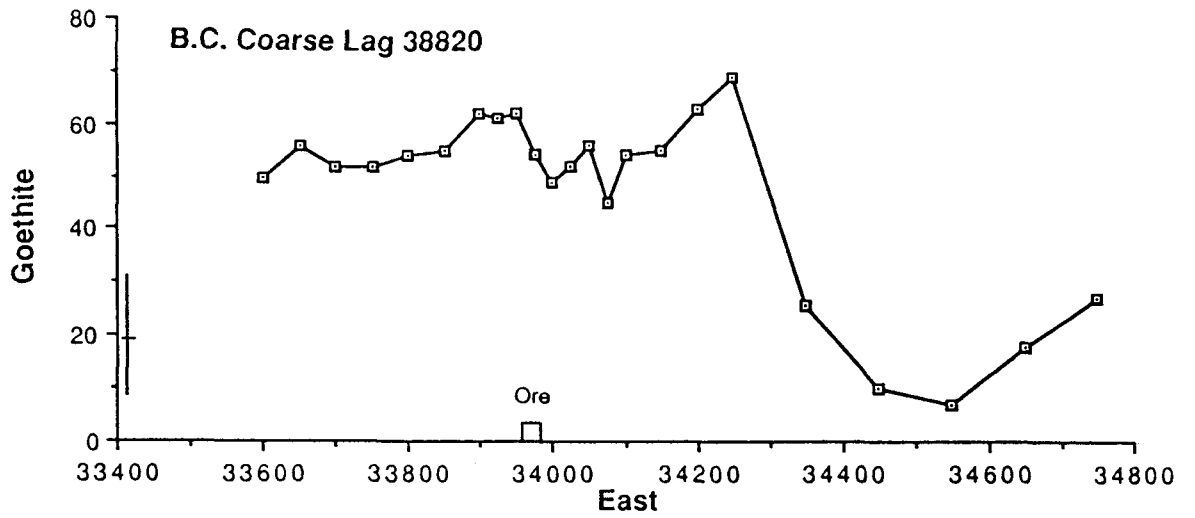
HULL QUOTIENTS



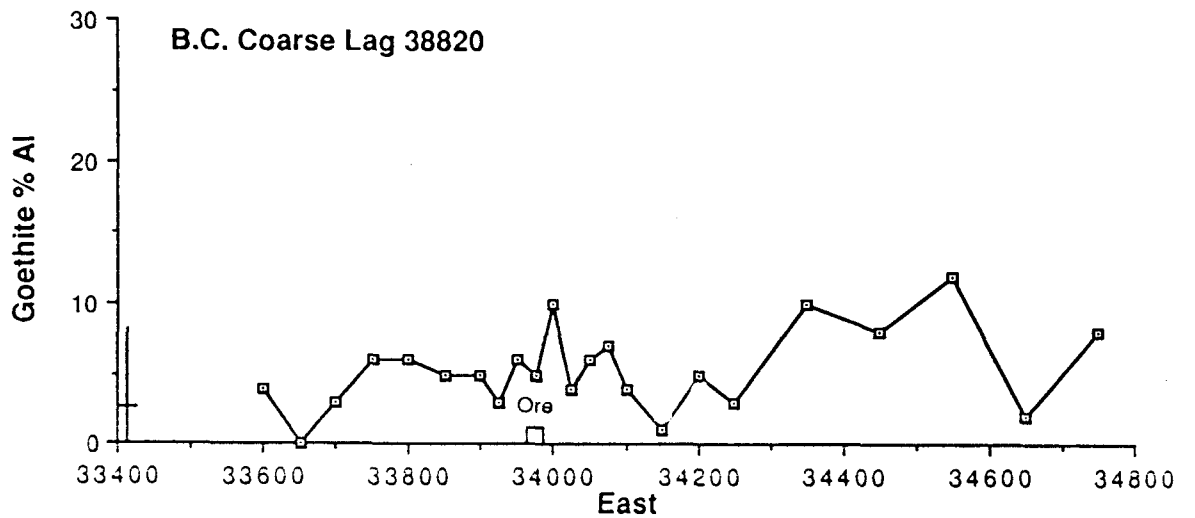
Appendix 3.0

Associated Mineralogical and Geochemical Data (from Robertson, 1989 and 1990)

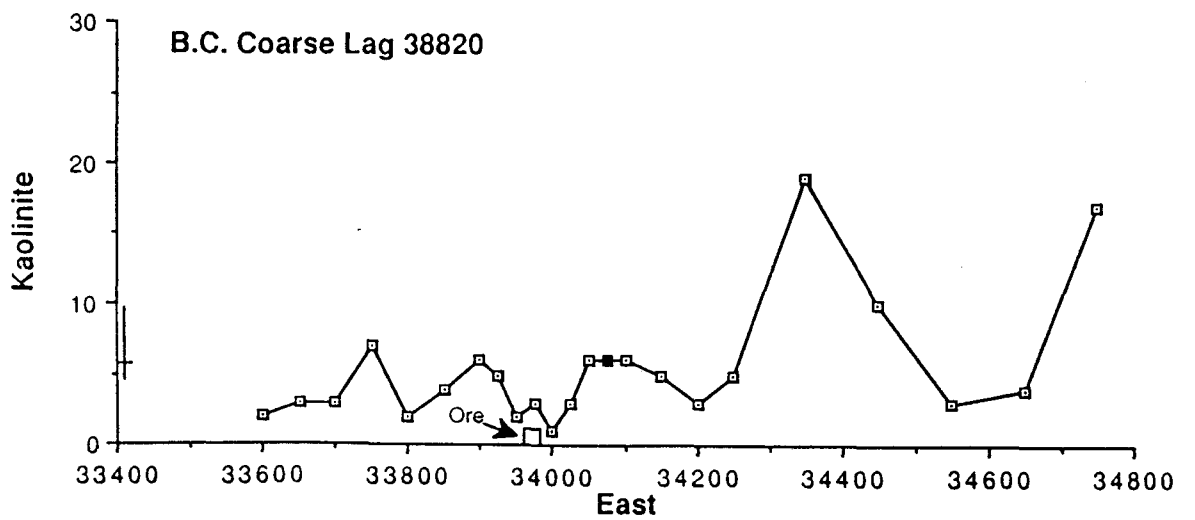
App 3.1



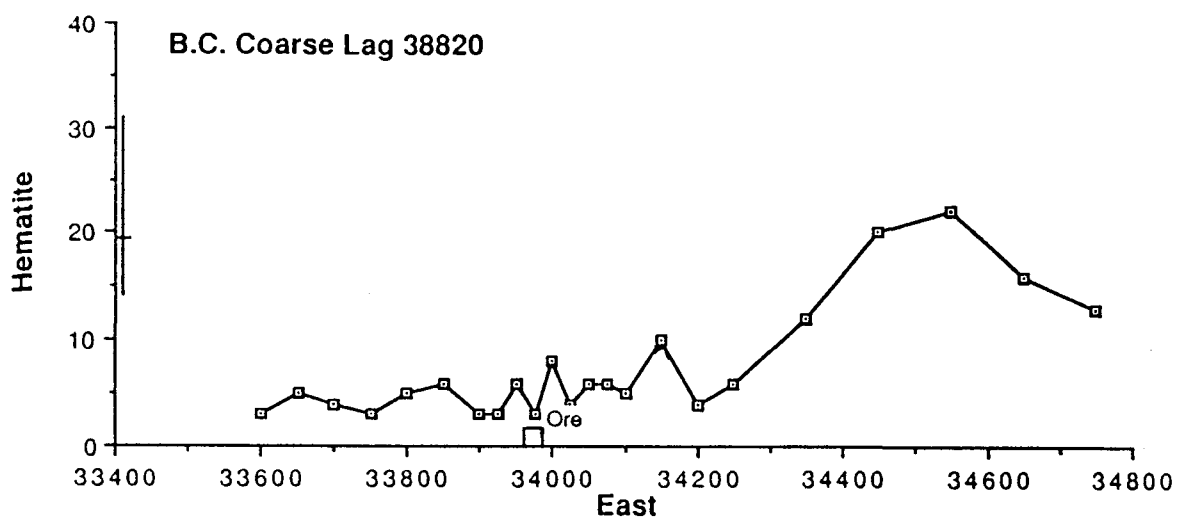
App 3.2



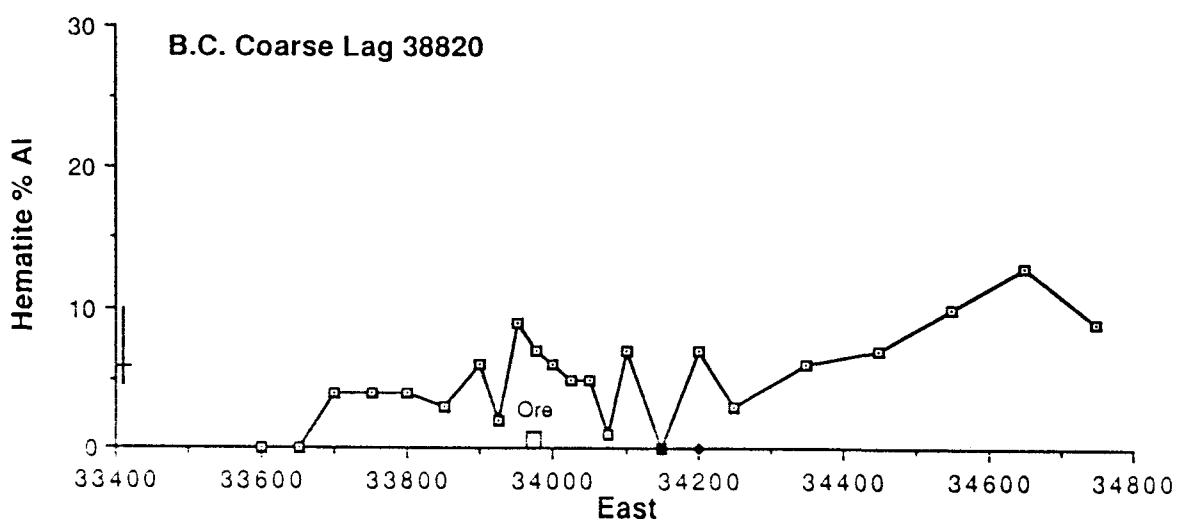
App 3.3



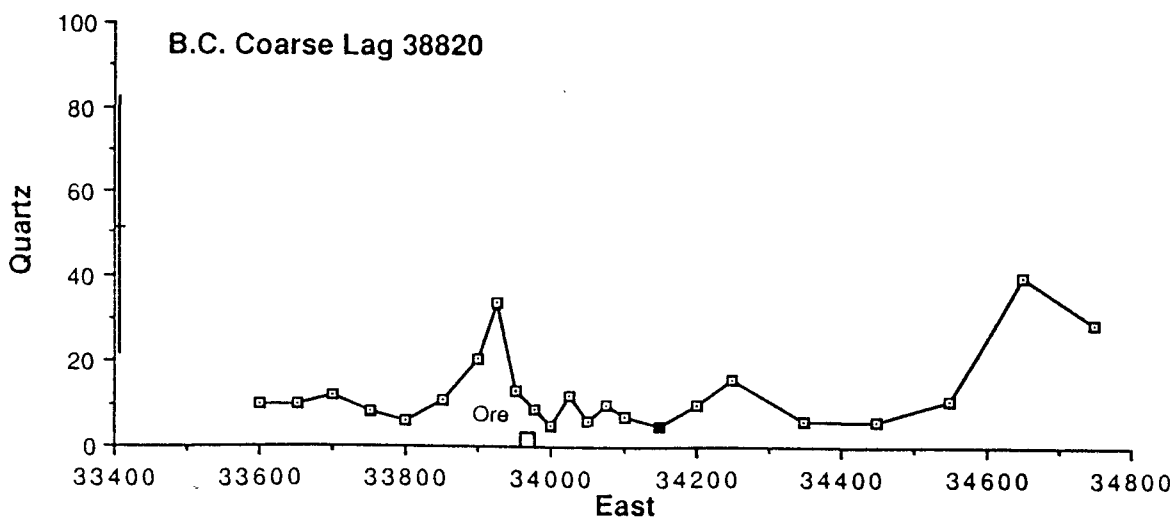
App 3.4



App 3.5



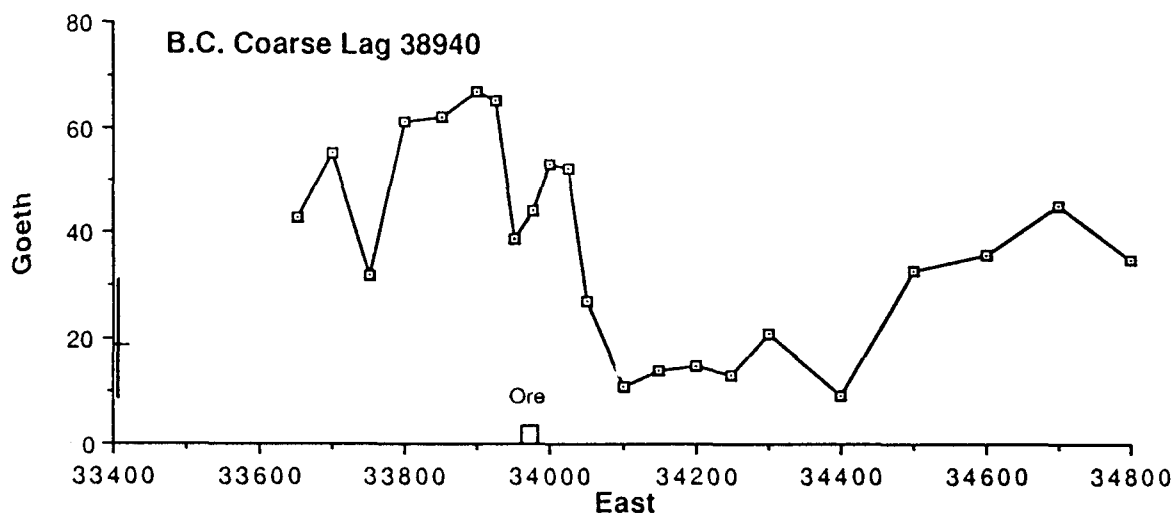
App 3.6



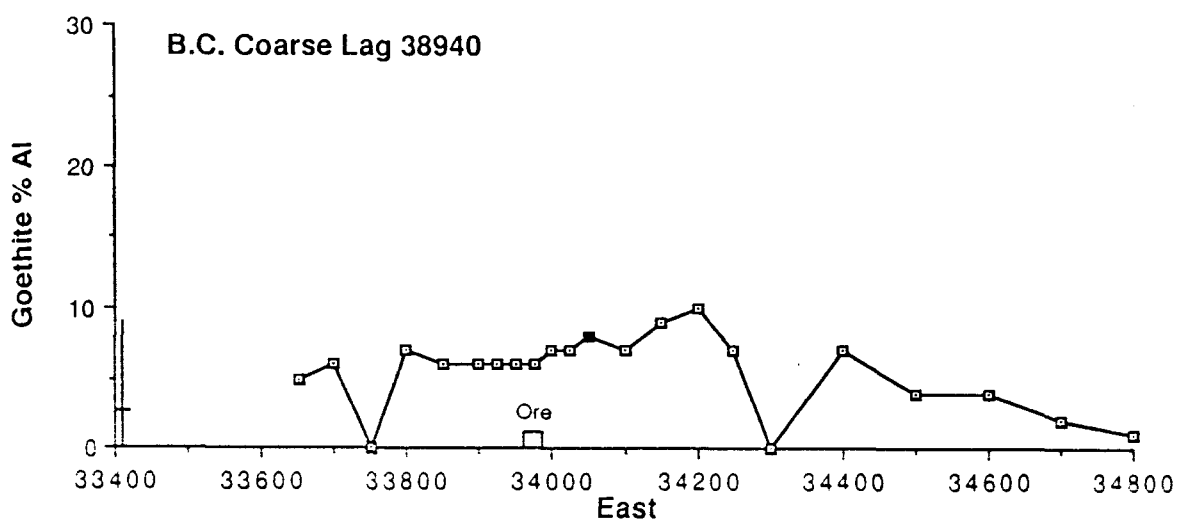
EG160R

Appendix 3

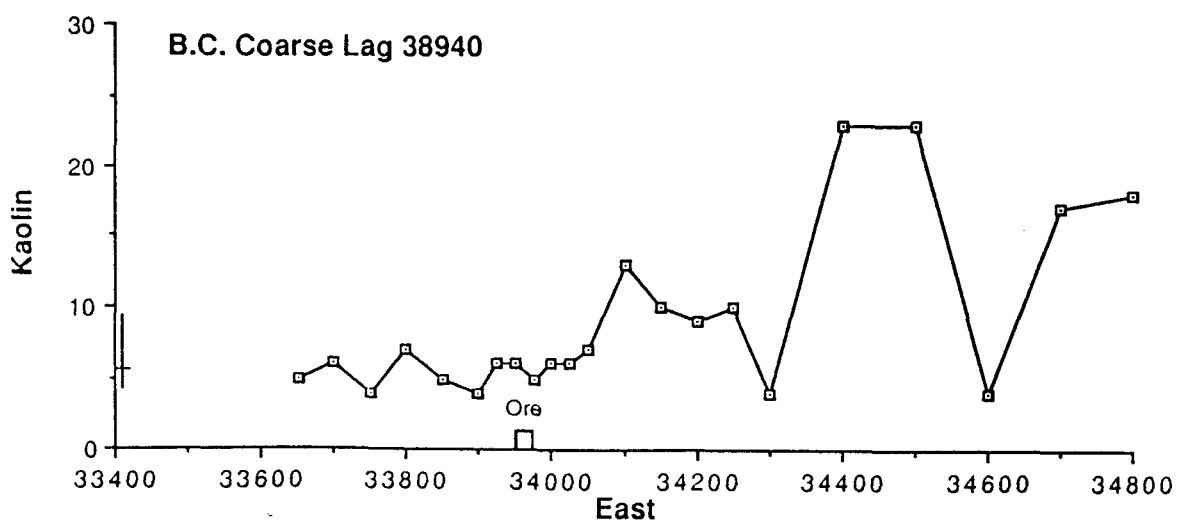
App 3.7



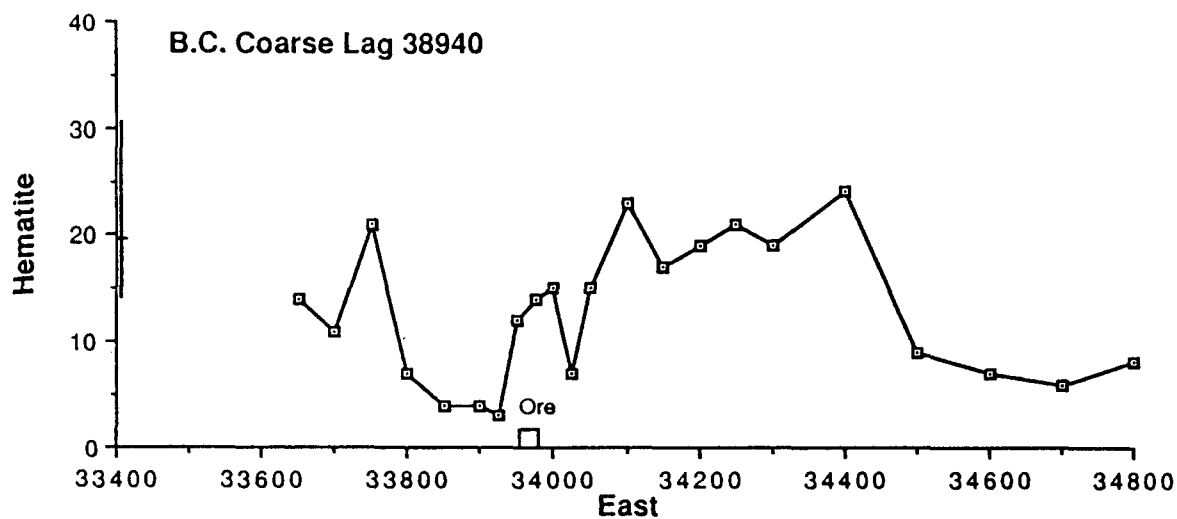
App 3.8



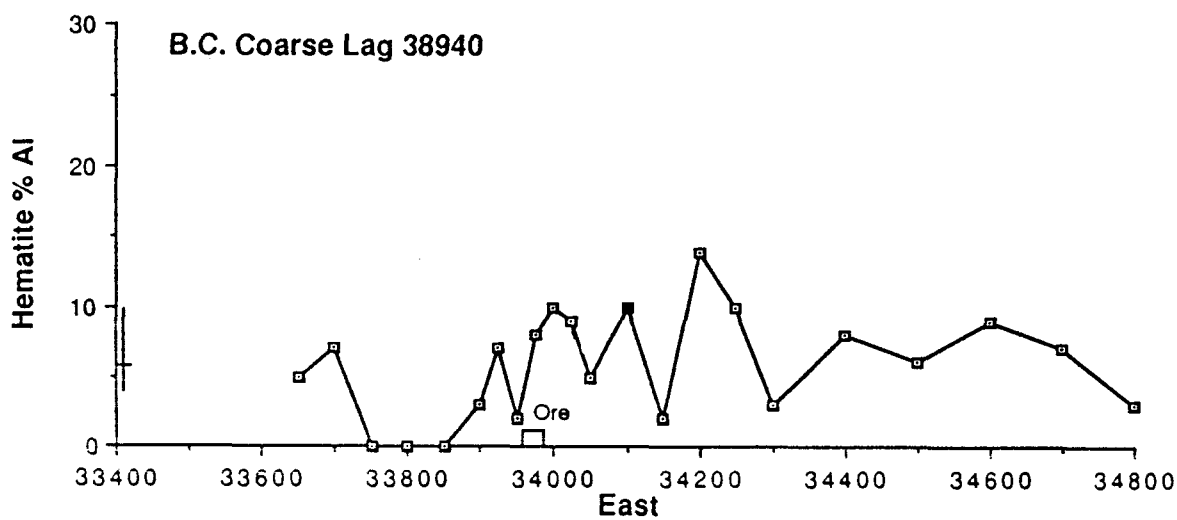
App 3.9



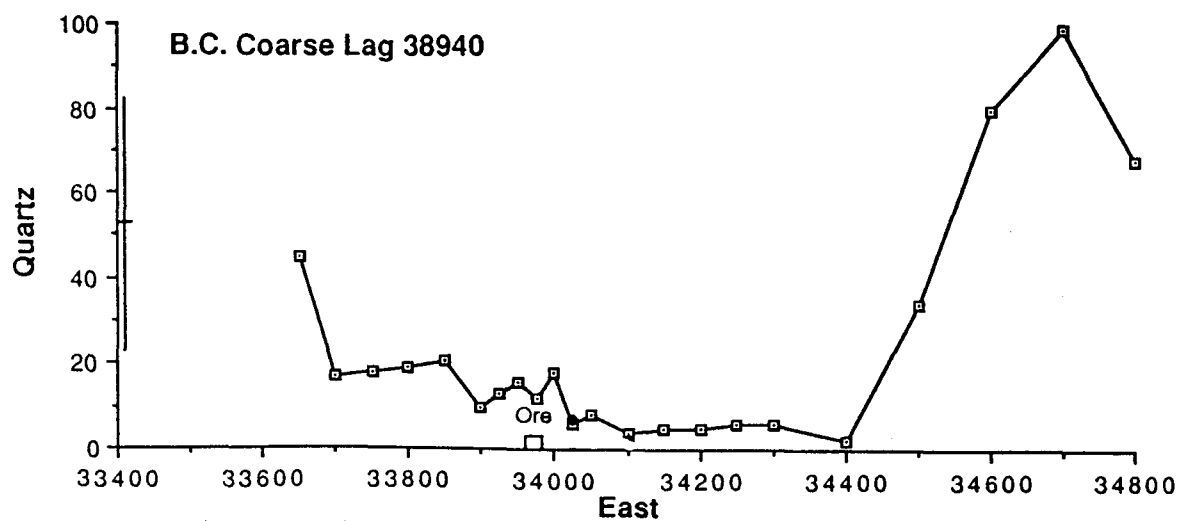
App 3.10



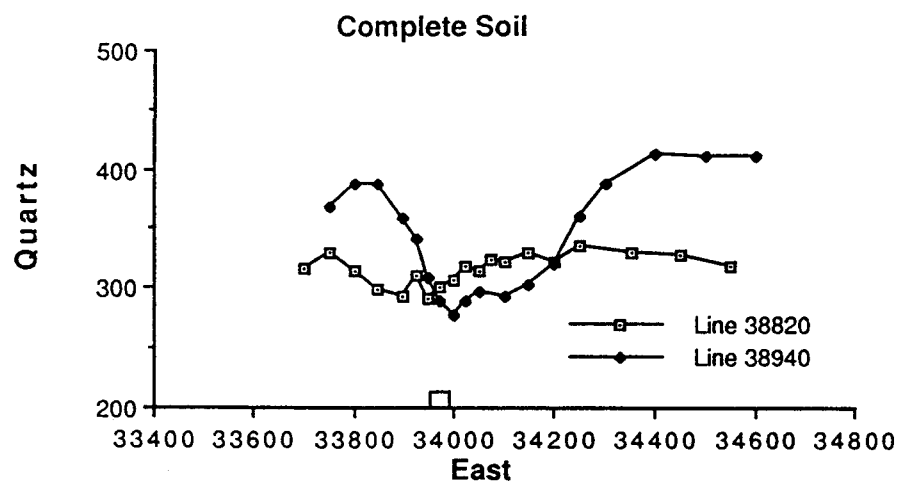
App 3.11



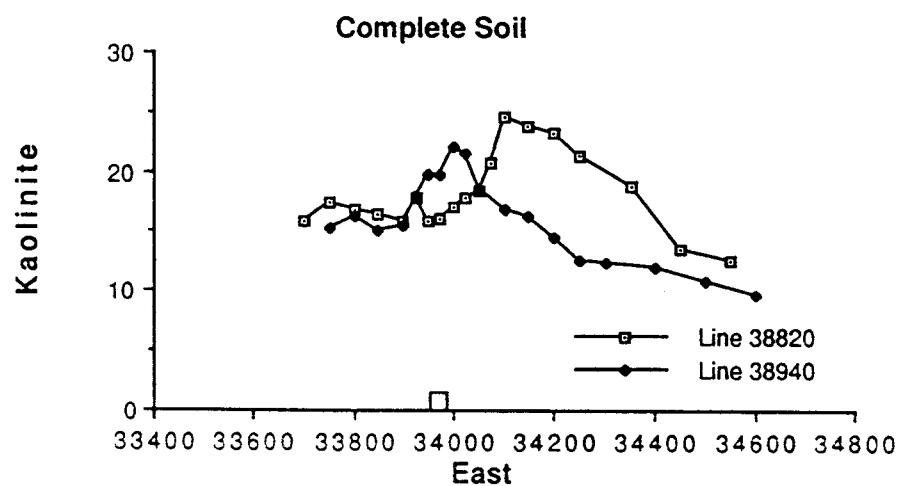
App 3.12



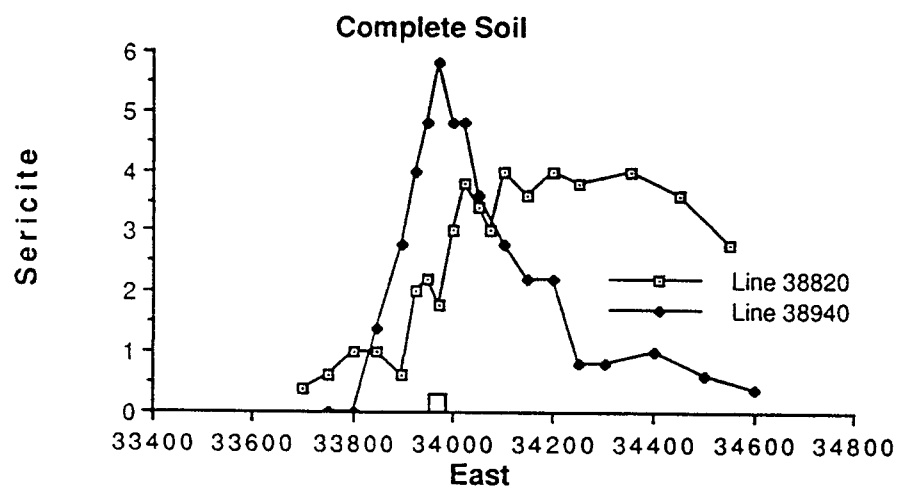
App 3.13



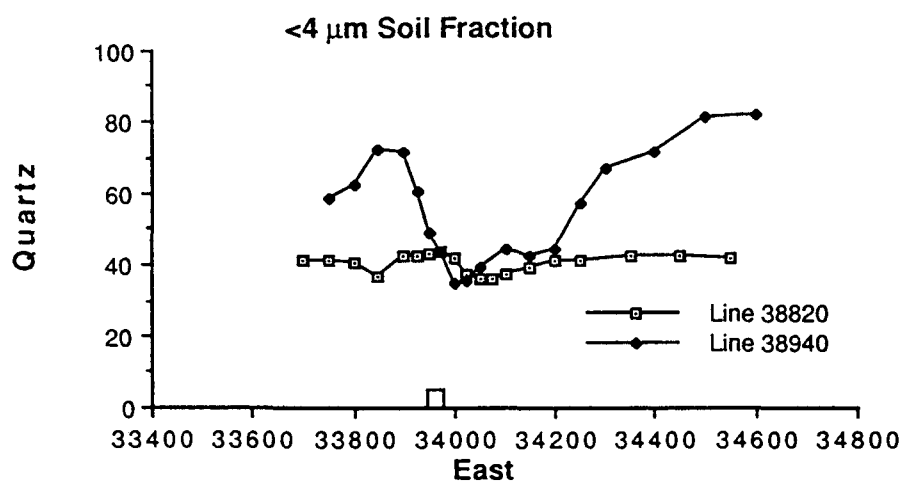
App 3.14



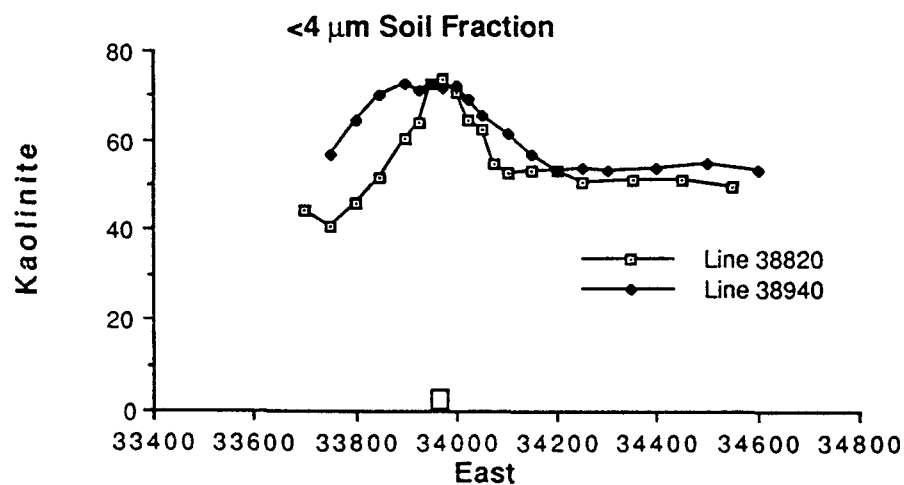
App 3.15



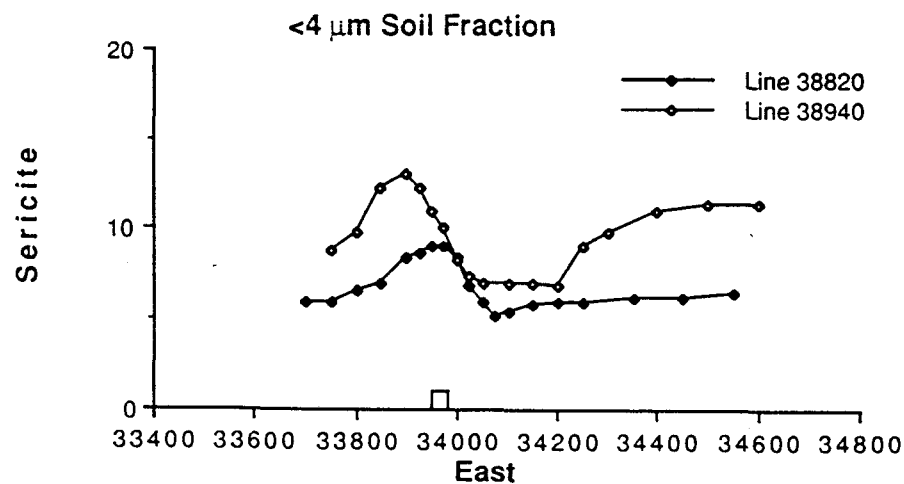
App 3.16



App 3.17

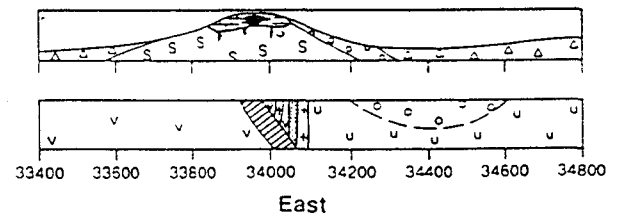
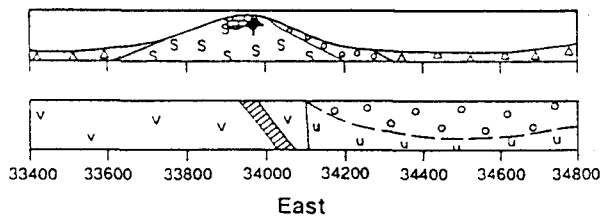
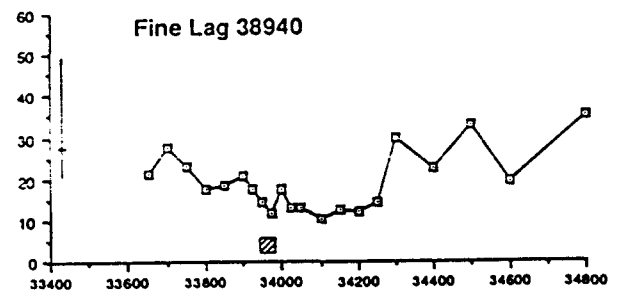
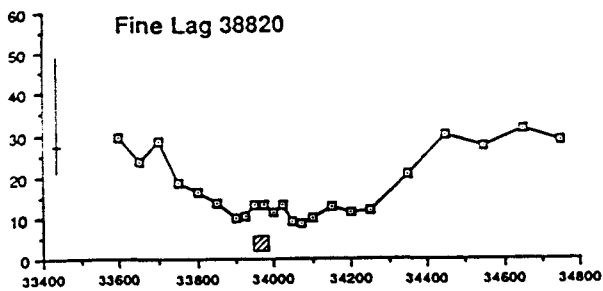
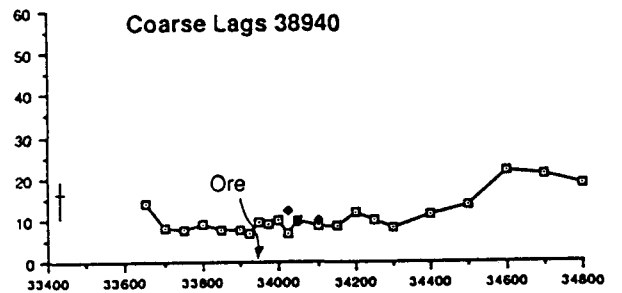
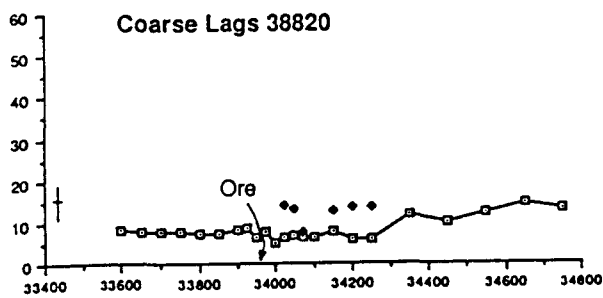


App 3.18



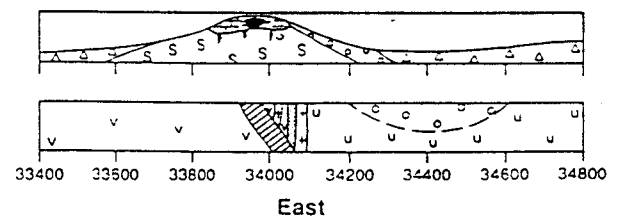
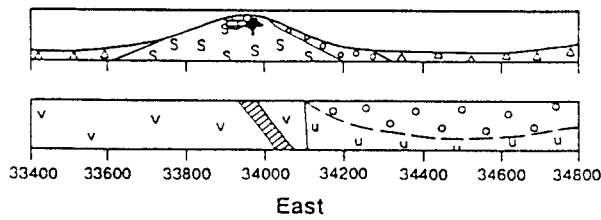
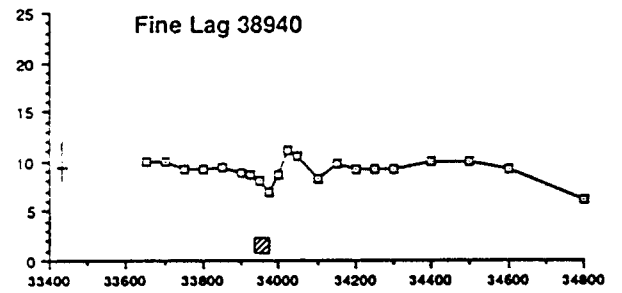
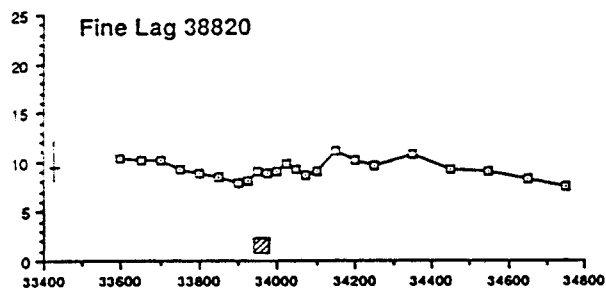
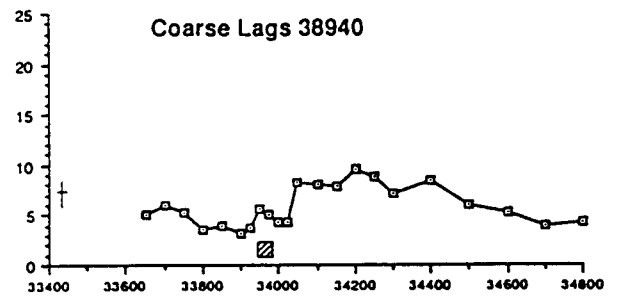
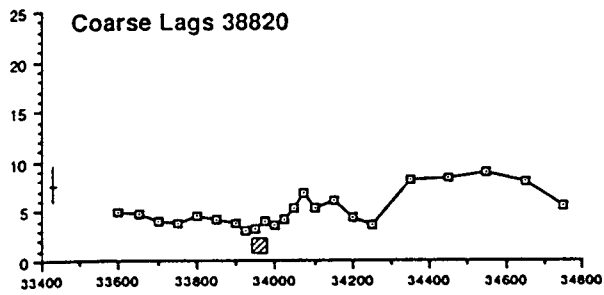
App 3.19

SiO₂ (%)

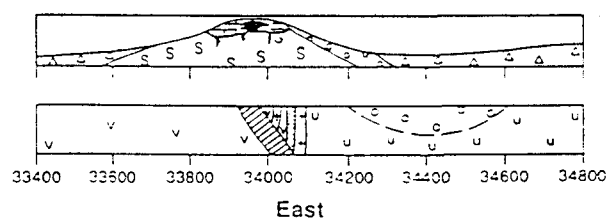
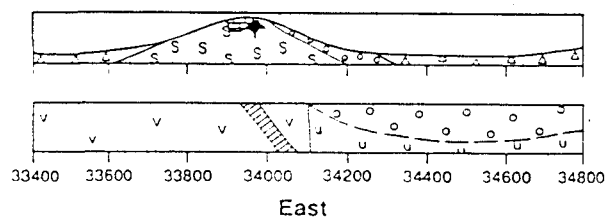
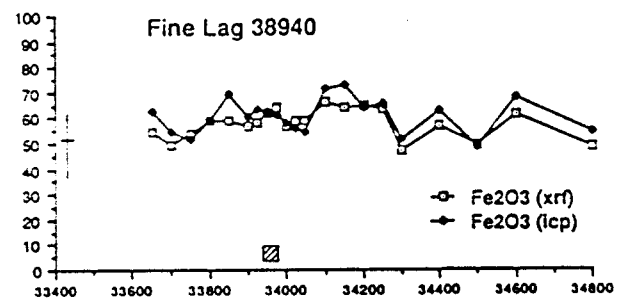
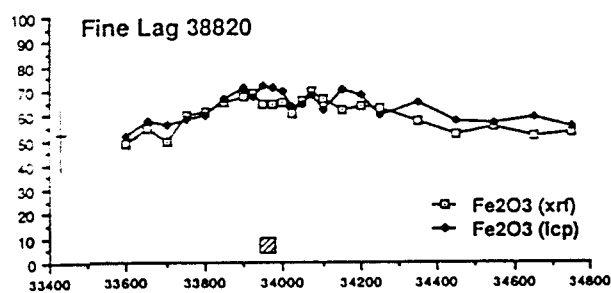
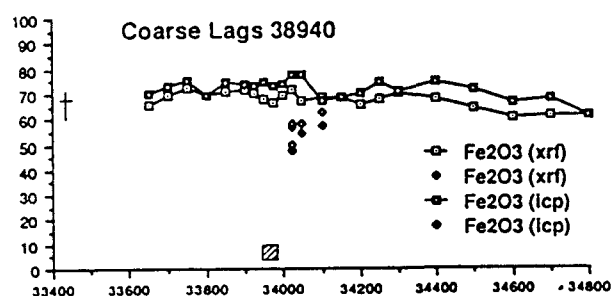
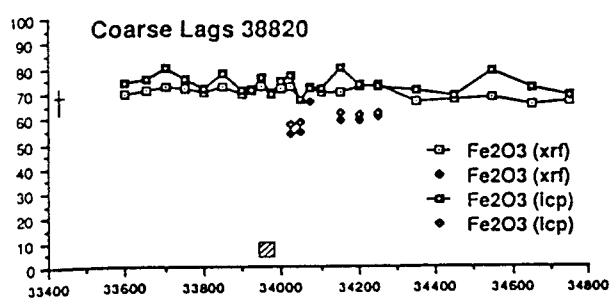


App 3.20

Al_2O_3 (%)

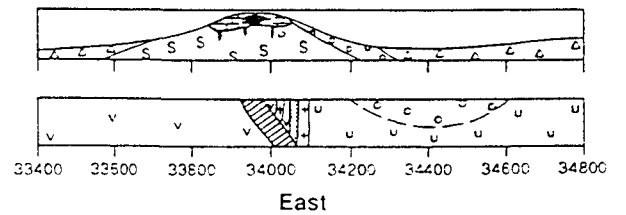
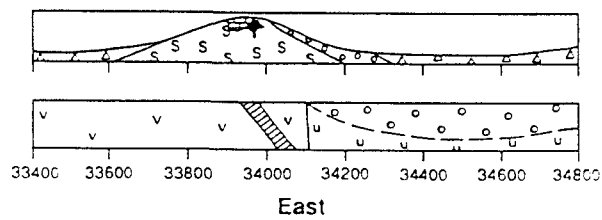
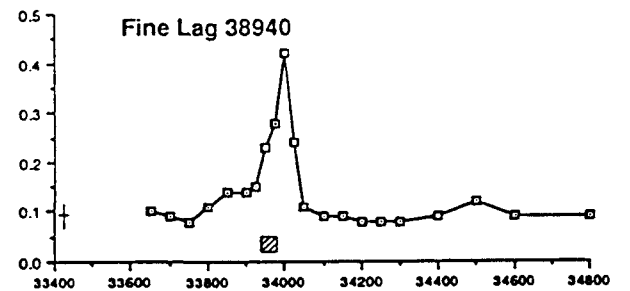
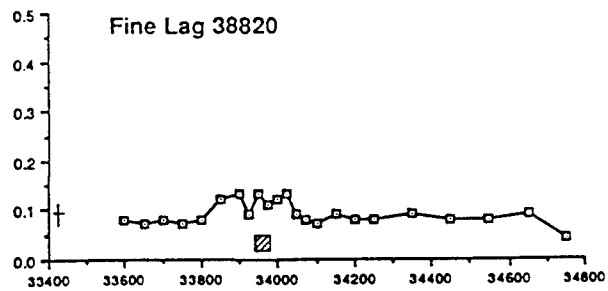
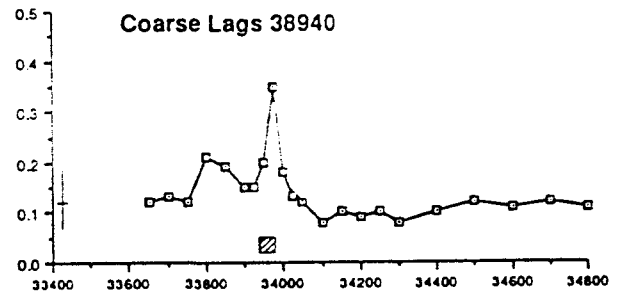
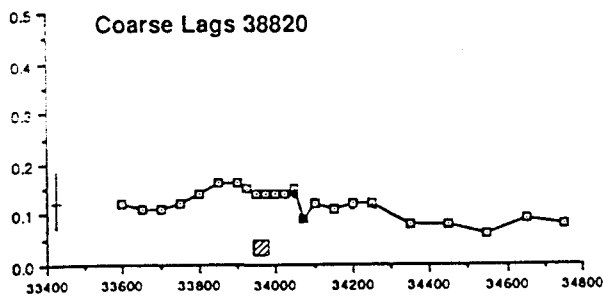


App 3.21

 Fe_2O_3 (%)

App 3.22

MgO (%)

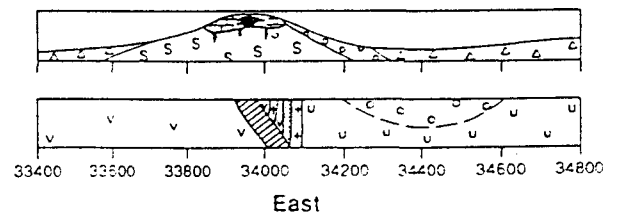
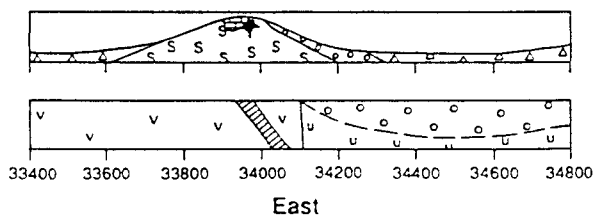
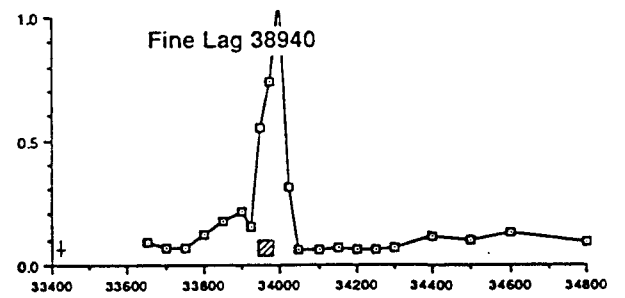
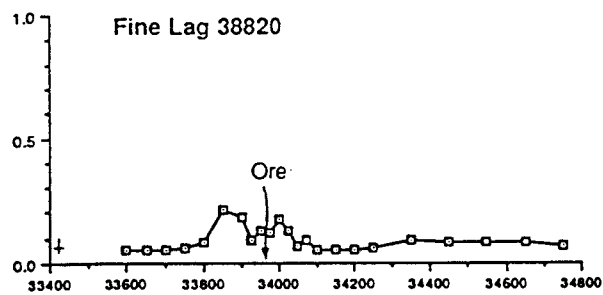
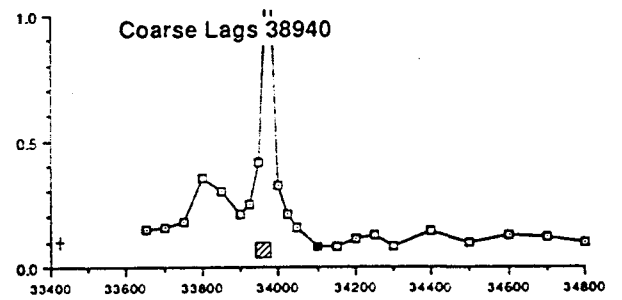
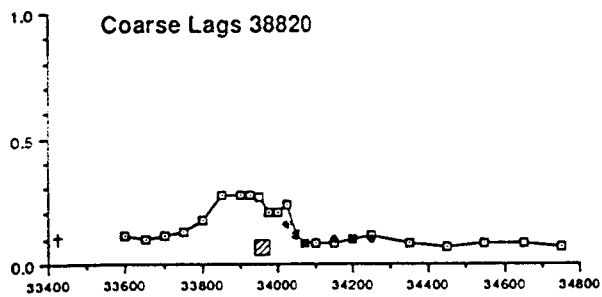


EG160R

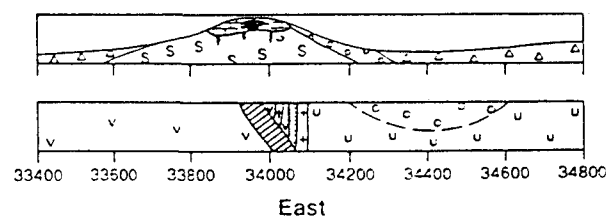
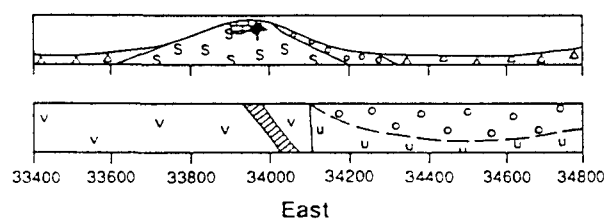
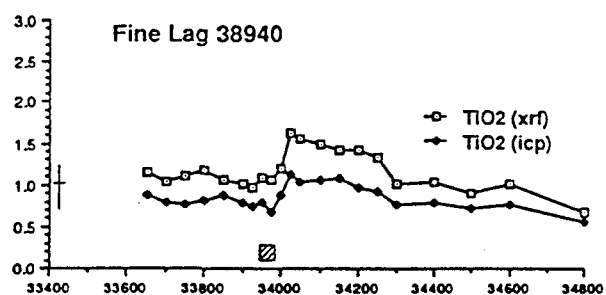
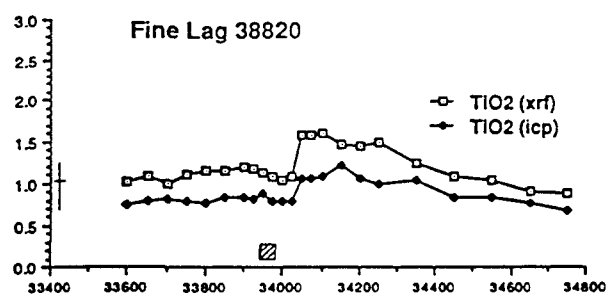
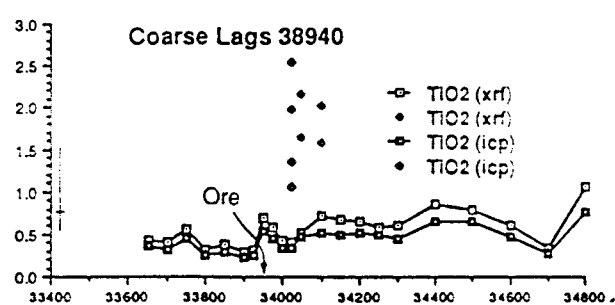
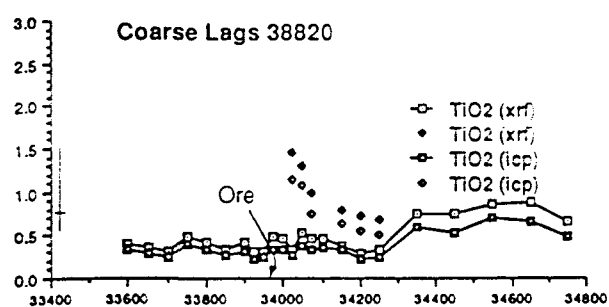
Appendix 3

App 3.23

CaO (%)

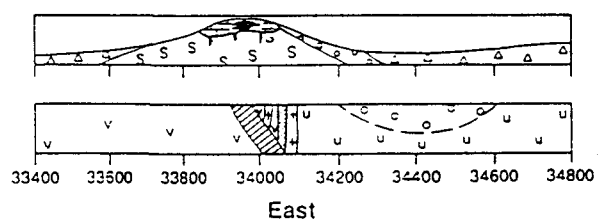
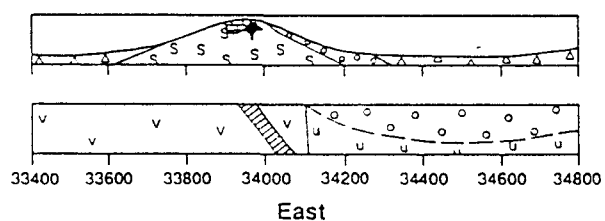
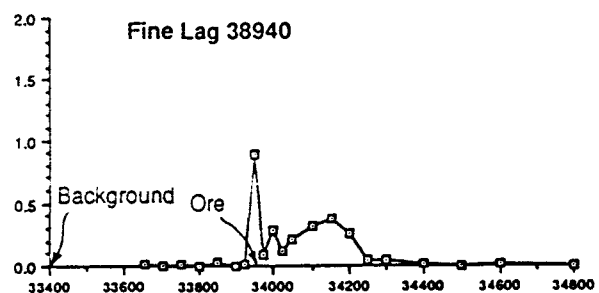
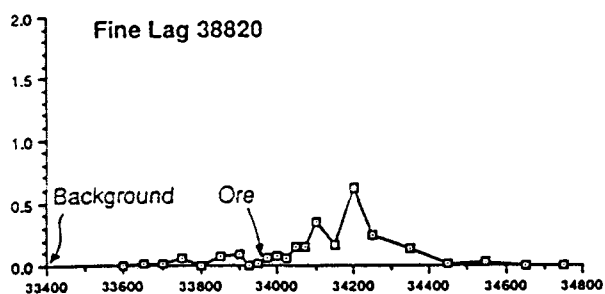
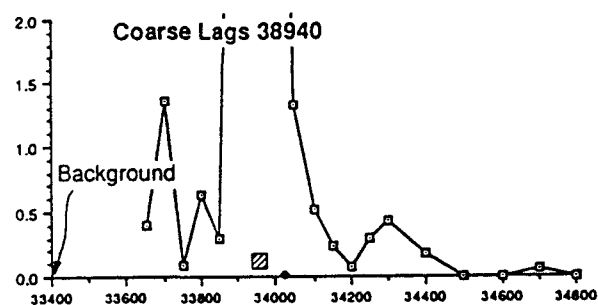
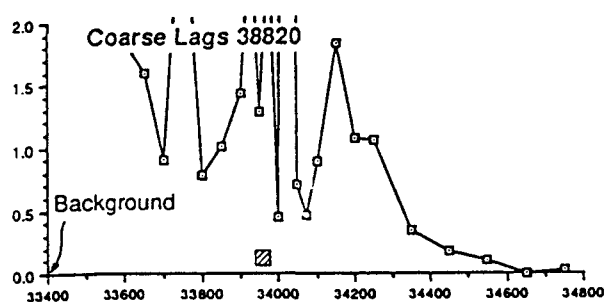


App 3.24

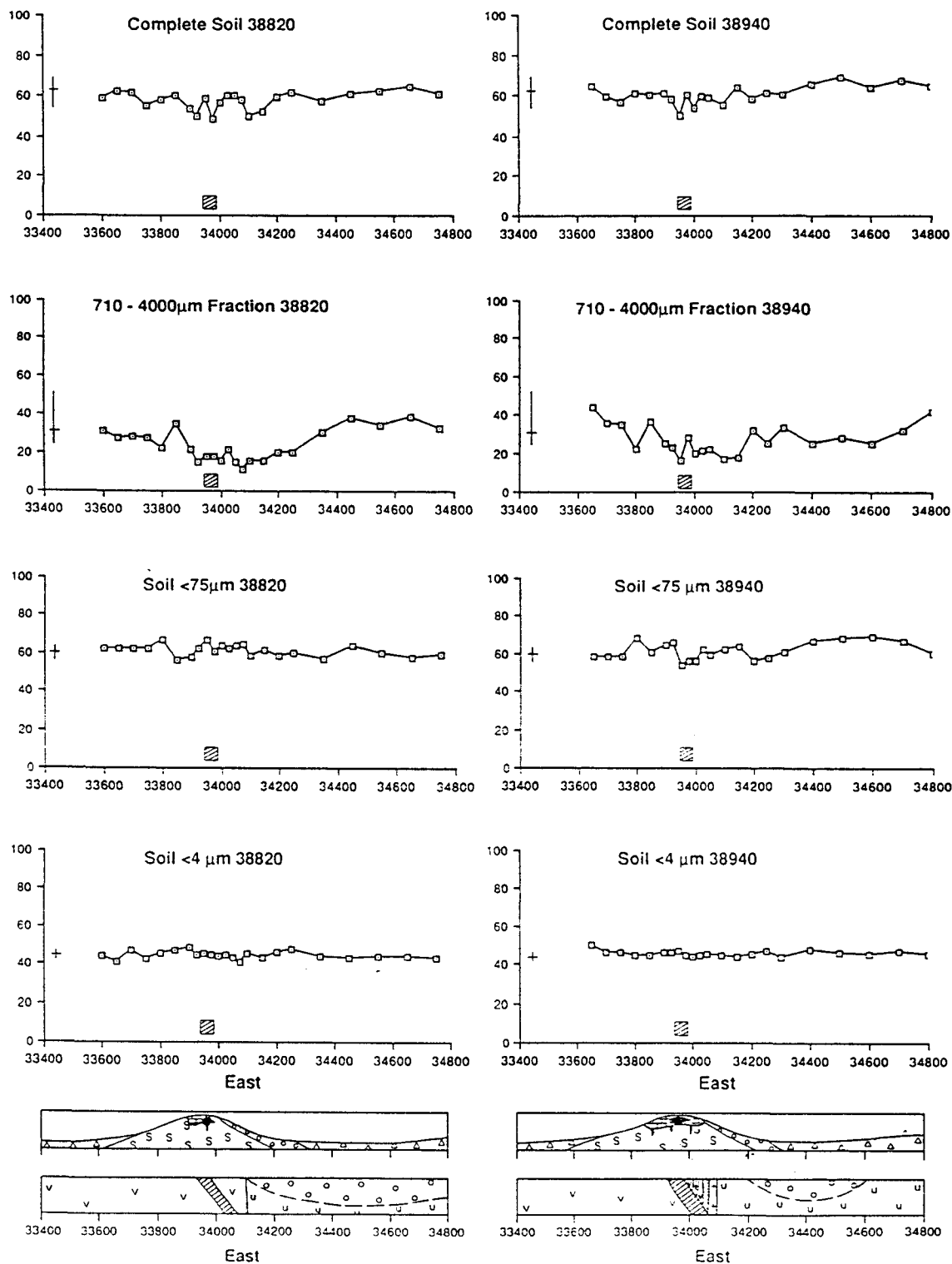
 TiO_2 (%)

App 3.25

Au (ppm)
(0-2)

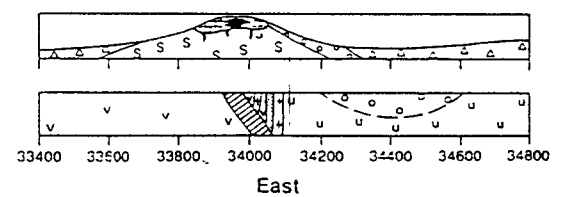
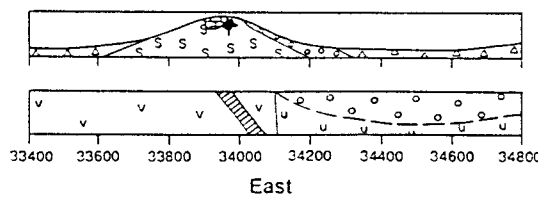
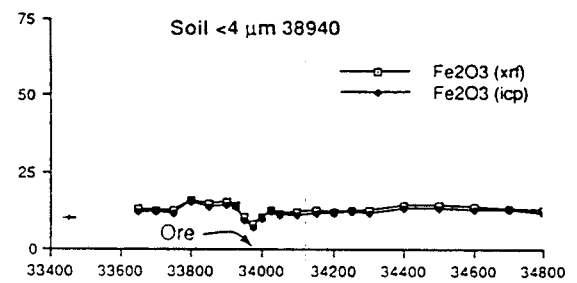
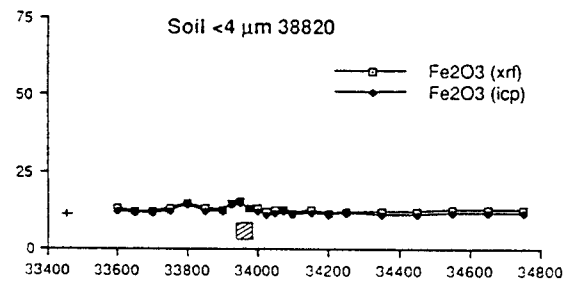
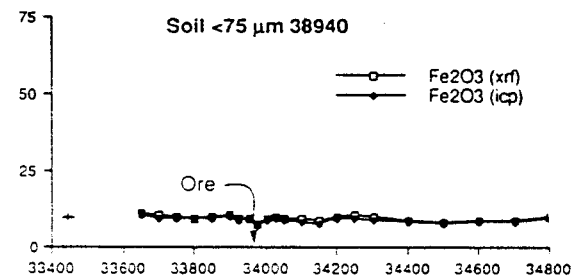
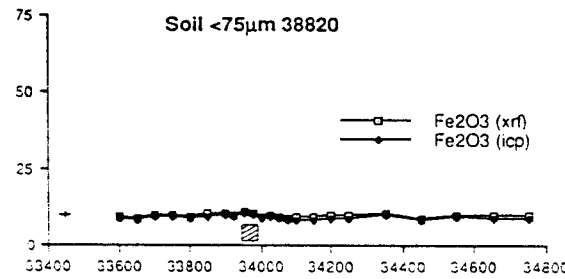
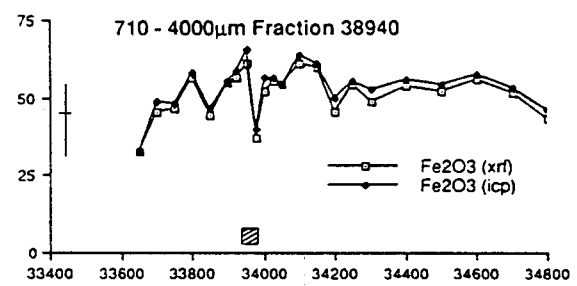
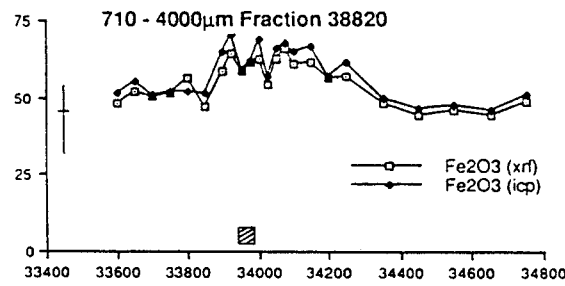
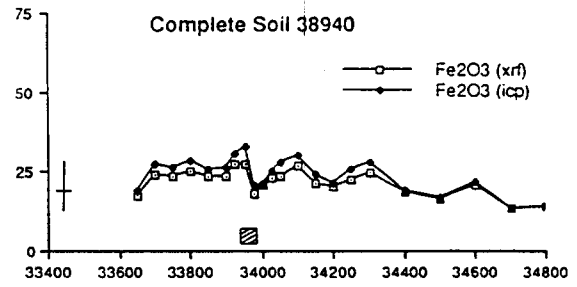
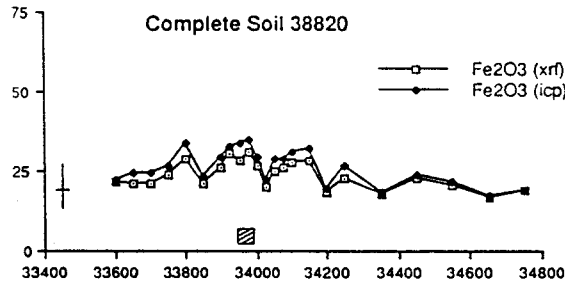


App. 3.26

 SiO_2 (%)

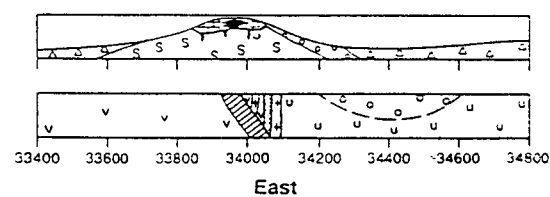
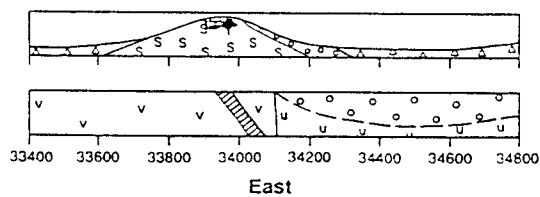
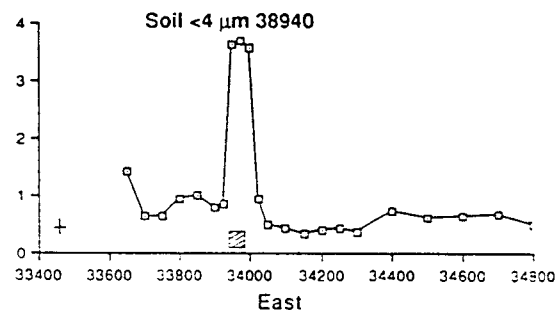
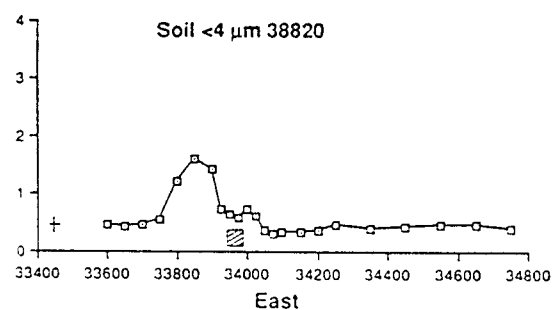
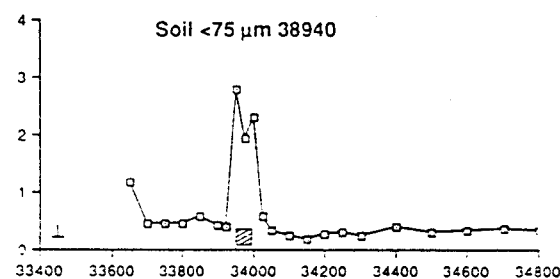
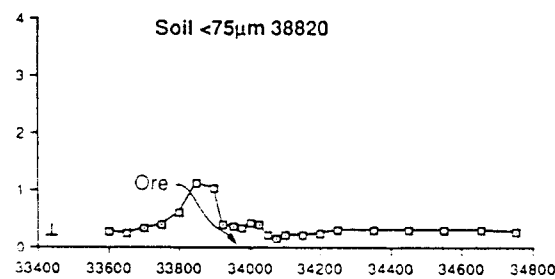
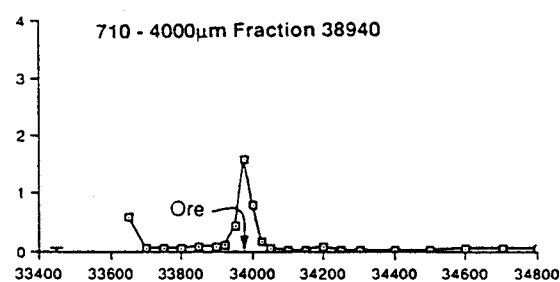
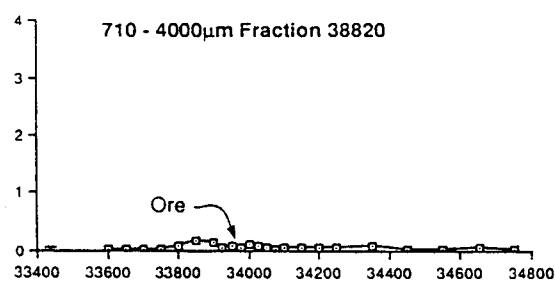
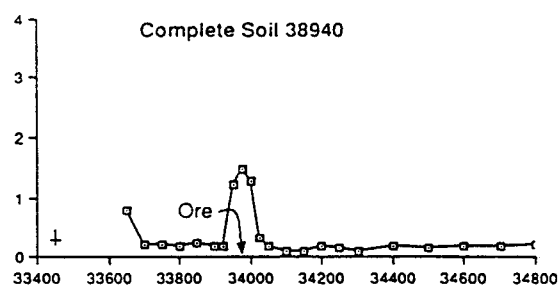
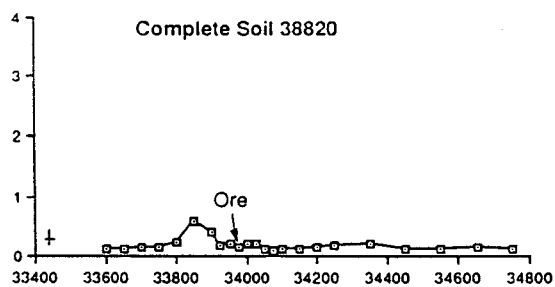
App. 3.28

Fe_2O_3 (%)



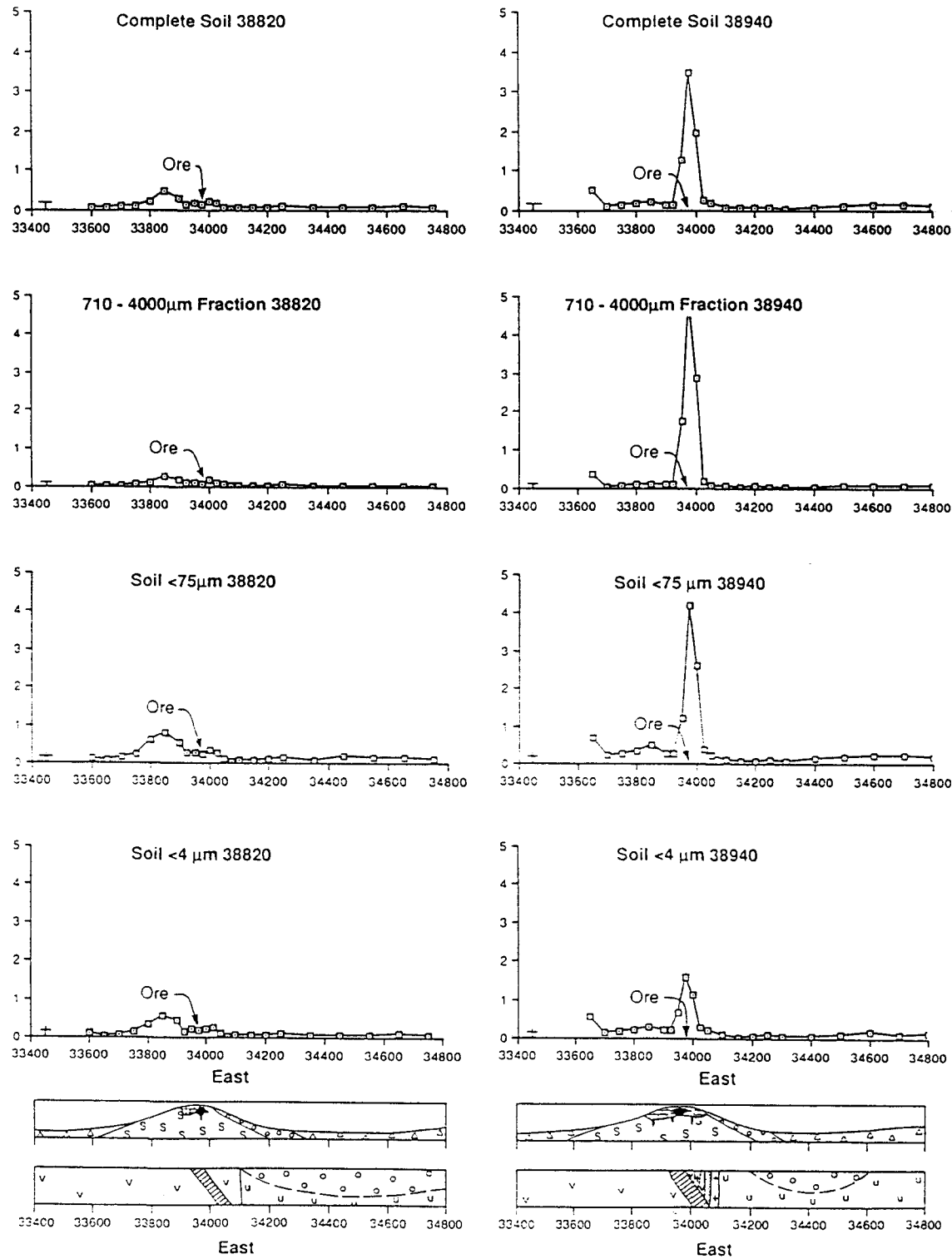
App. 3.29

MgO (%)



App. 3.30

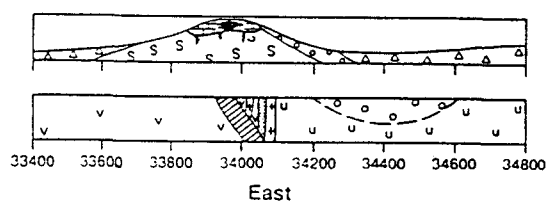
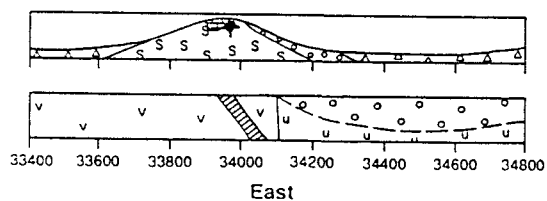
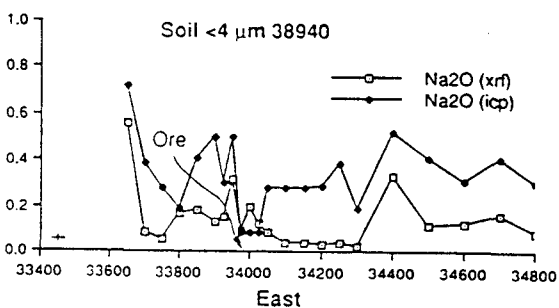
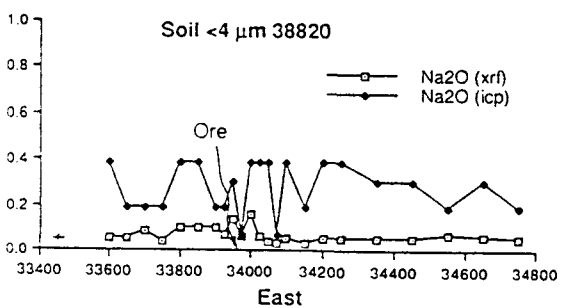
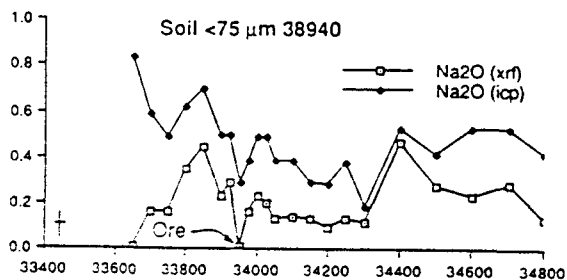
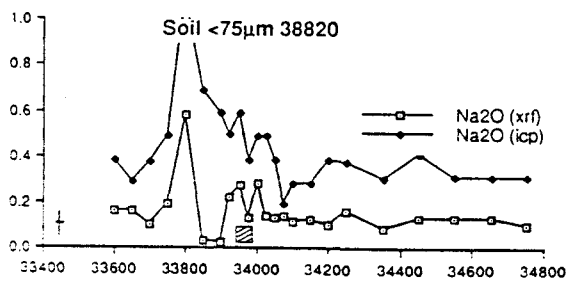
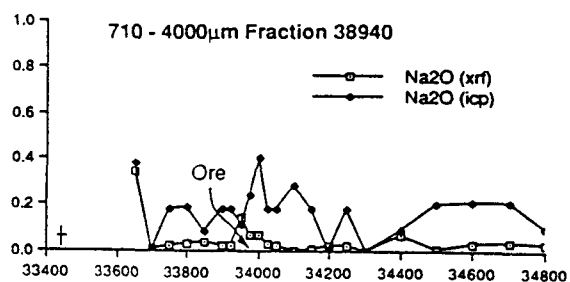
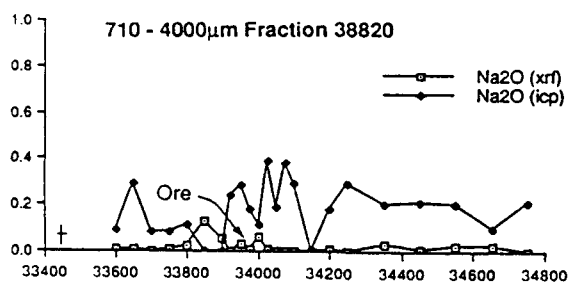
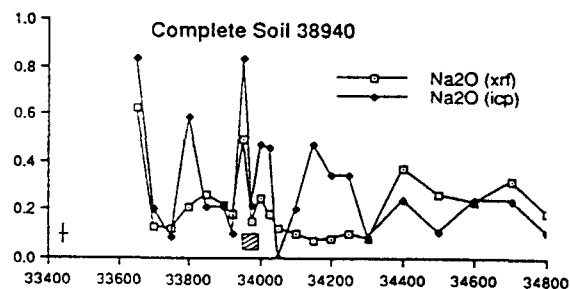
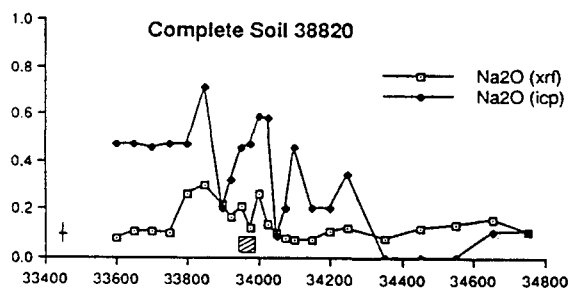
CaO (%)



EG160R

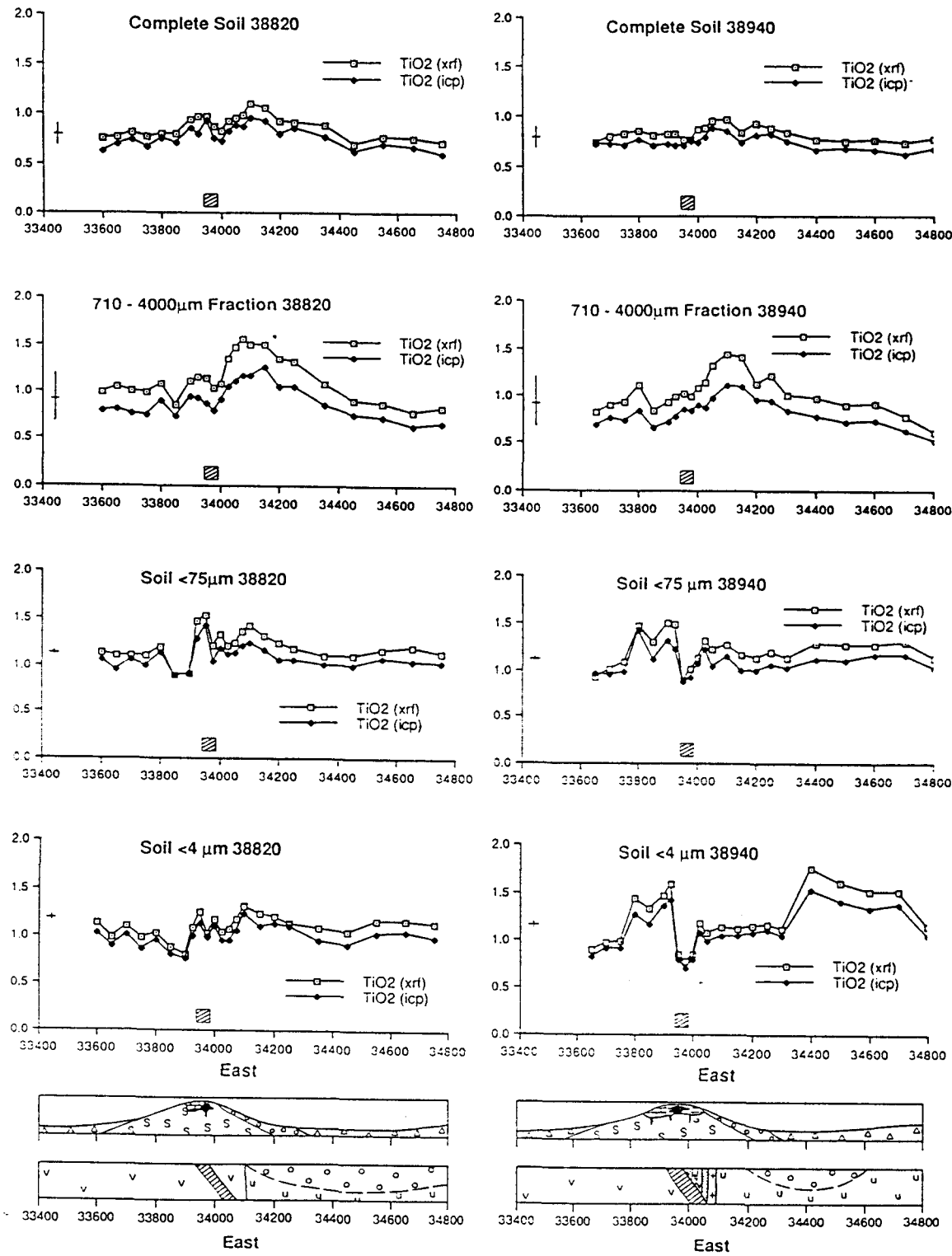
Appendix 3

App. 3.31

 Na_2O (%)

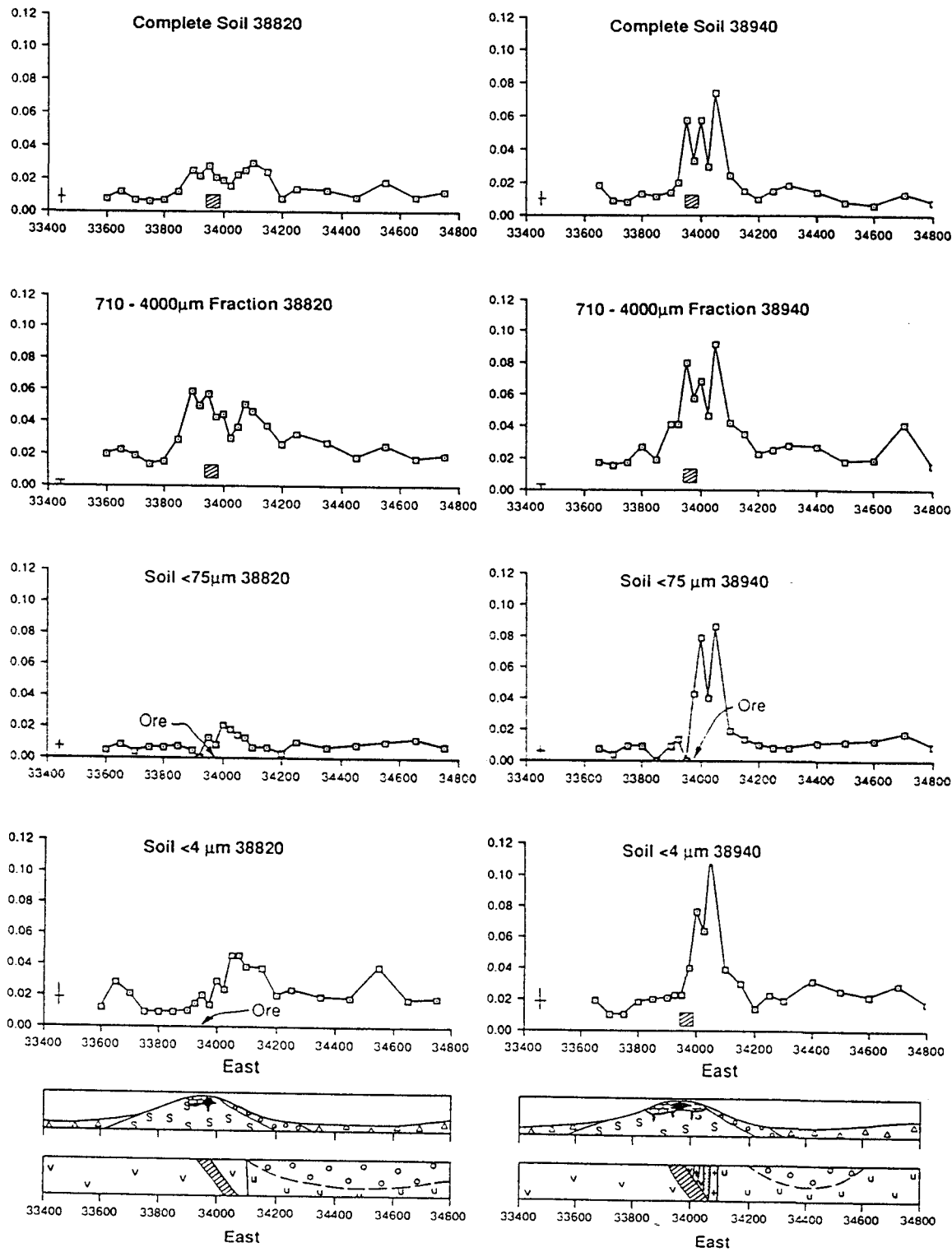
App. 3.32

TiO₂ (%)



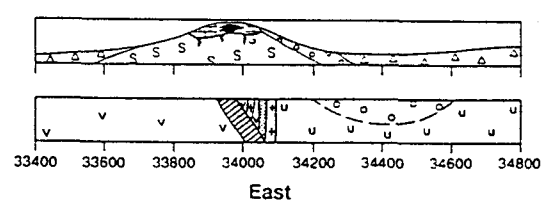
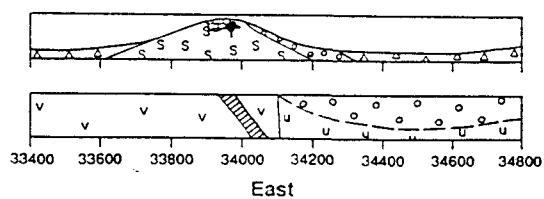
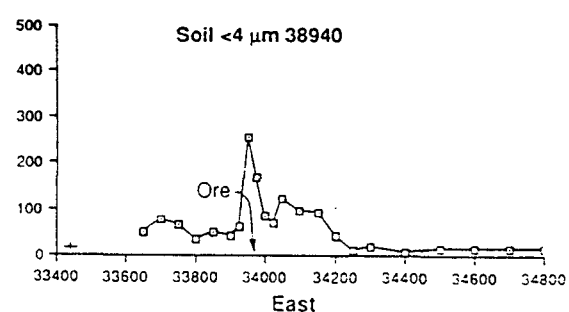
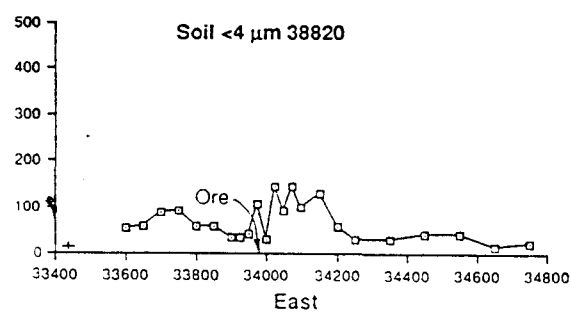
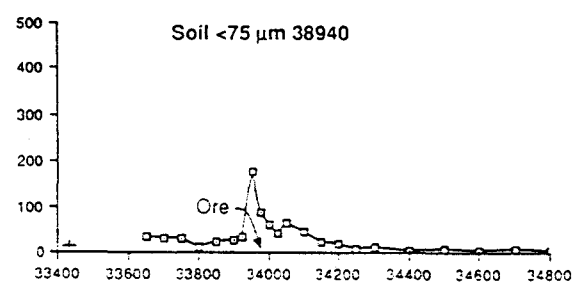
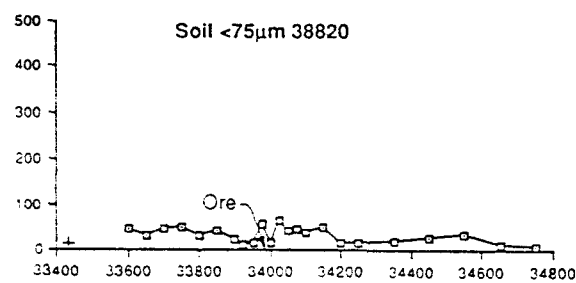
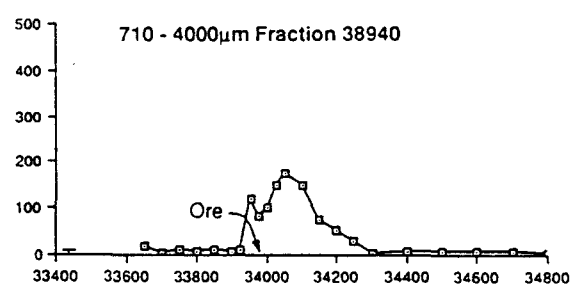
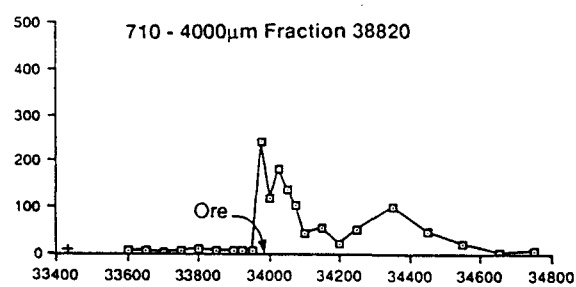
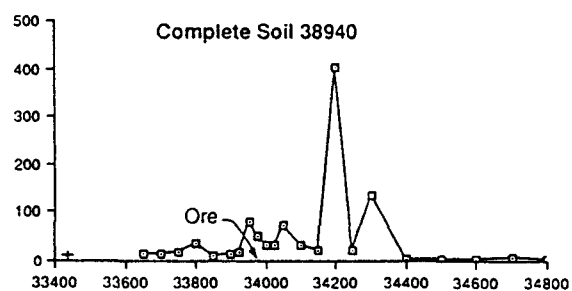
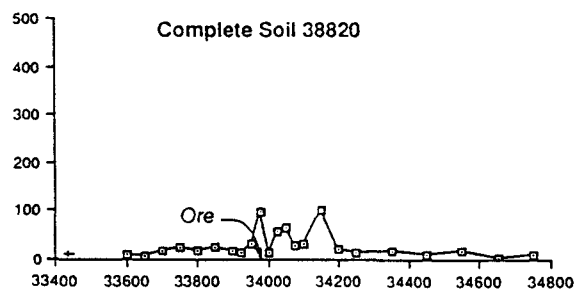
App. 3.33

S (%)



App. 3.34

Au (ppb)



Appendix 4

Experiments Regarding the 1.9 μm Absorption

Experiments to determine the origin of the 1.9 μm water-related absorptions in the soils.

A series of experiments were carried out to determine the reasons for the deeper 1.9 μm absorptions for some samples (Volume 1, Figure 24).

The first experiment involved spectral measurement of five air dried samples followed by spectral measurement of the same soils after drying at 100°C for 4 hours. Figure 4.1 shows the zone of increased 1.9-D persisted after drying but that the 1.9-D for all samples were reduced by nearly 50%. This offset represents the removal of most of the free water which was approximately 50% of the total water content.

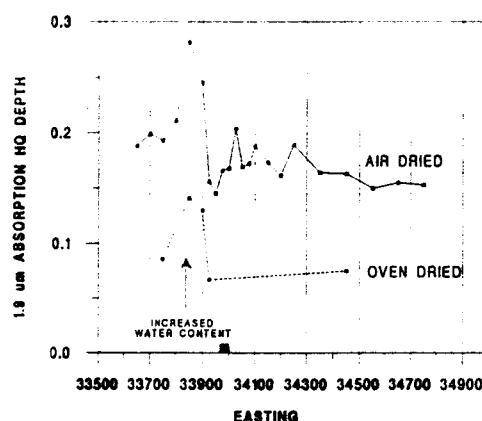


Figure 4.1: The hull quotient depth of the 1.9 μm absorption for soils before and after oven drying at 100°C for 2 days to drive off the "free" water.

The second experiment examined 1.9-D for the various soil fractions. Figure 4.2 shows that the zone of increased 1.9-D is best developed in the coarser, quartz and iron-rich fractions, suggesting the majority of the water molecules are not contained in the clay minerals.

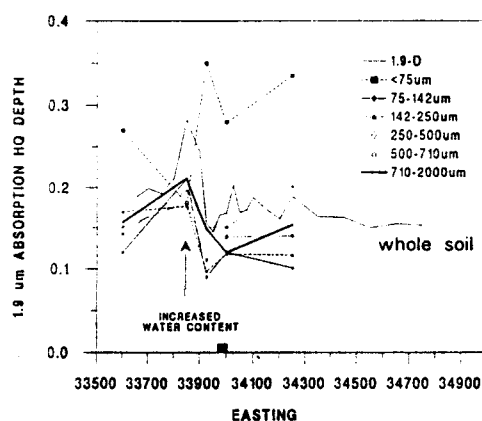


Figure 4.2: The hull quotient depth of the 1.9 μm absorption for the different soil fractions.

The final experiment examined the HQ depth of the 1.9 μm for quartz separated from the ferruginous and lithic fragments from two samples of the 710-2000 μm size fraction. One sample contained large water absorption depths and the other small water absorption depths. The quartz grains were washed in HCl to remove most of the iron oxide and clay coatings. Figure 4.3 shows the quartz grains (triangles) from the "water-rich" sample possess deeper 1.9-D compared to quartz grains from the "water-poor" sample as well as the ferruginous/lithic grains (diamonds) (Note that not all the quartz was removed from the ferruginous and lithic grains). Therefore, the zones of anomalous 1.9-D are related to water within the quartz grains (that is as fluid inclusions).

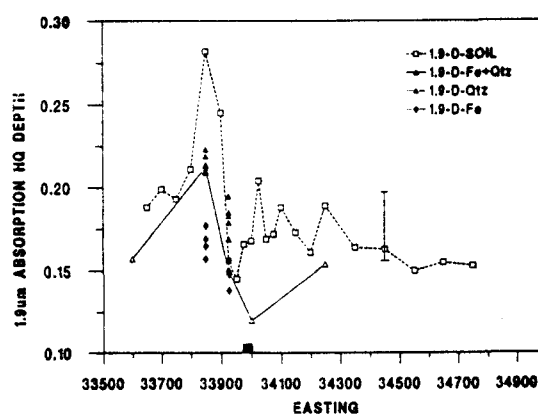


Figure 4.3: The hull quotient depth of the 1.9 μm absorption for the iron-rich 200-710 μm fraction (diamonds) and the quartz-rich 200-710 μm fraction (triangles).