

Kirkham's 157 Rock Suite.

FILE NAME : BALLANTYNE.S.B.

ELEMENT REPORT OF COMPLETED ANALYSIS

DATE : 23 JUNE 1987

ROCKS
007-87

FILE NUMBER : 00787

PAGE : 1
SET : 1 OF 1

802714
Sulphurets

note F values.

GSC
AA
Graphite Furnace
Au ppb

SAMPLE	NAME	E - M - A	E - M - A	E - M - A	E - M - A
		PPB	PPM	PPM	PPM
		1	50	100	50
		AU	F	CL	S-TOTAL
		AA-GRAPH	DIONEX1	DIONEX1	DIONEX1
		AR-MIBK	PYROHYDROL	PYROHYDROL	PYROHYDROL
104B	869001	522.4	393.	< 100.	13332.
104B	869002 KD-86-44A	541.5	992.	155.	4610.
104B	869003 " " 44B	133.4	1262.	< 100.	1467.
104B	869004 44C	1190.7	1373.	140.	10390.
104B	869005 44D	3.4	402.	207.	440.
104B	869006 45	1.7	630.	< 100.	85.
104B	869007	7.3	839.	107.	92.
104B	869008 46	< 1.	561.	112.	< 50.
104B	869009 47	2.5	591.	< 100.	< 50.
104B	869010 48	1.1	555.	173.	< 50.
104B	869011 49	< 1.	473.	< 100.	50.
104B	869012 50	< 1.	224.	< 100.	< 50.
104B	869013 51	< 1.	419.	< 100.	53.
104B	869014 52	1.9	408.	< 100.	49966.
104B	869015 53	77.9	747.	< 100.	807.
104B	869016 53"V"	89.7	106.	238.	441.
104B	869017	5.4	795.	< 100.	50.
104B	869018 54	1628.0	382.	< 100.	14650.
104B	869019 54A	5283.5	128.	105.	25830.
104B	869020 55	1.6	788.	< 100.	93.
104B	869021	116.9	1079.	< 100.	32967.
104B	869022 56	3.1	581.	< 100.	< 50.
104B	869023 57	< 1.	120.	< 100.	54.
104B	869024 58	< 1.	303.	140.	297.
104B	869025 60	< 1.	632.	< 100.	15454.
104B	869026 61	123.7	898.	< 100.	33911.
104B	869027	3.5	824.	< 100.	92.
104B	869028 62	63.4	546.	< 100.	8772.
104B	869029 63	1279.6	497.	105.	35948.
104B	869030 64	95.8	3527.	< 100.	62906.
104B	869031 64A	14.0	2840.	< 100.	41119.
104B	869032 65	89.1	912.	< 100.	18899.

SAMPLE	NAME	E - M - A	E - M - A	E - M - A	E - M - A	
		AU	F	CL	S-TOTAL	
		AA-GRAPH	DIONEX1	DIONEX1	DIONEX1	
		AR-MIBK	PYROHYDROL	PYROHYDROL	PYROHYDROL	
		PPB	PPM	PPM	PPM	
		1	50	100	50	
104B	869001	522.4	393.	< 100.	13332.	
104B	869002	541.5	992.	155.	4610.	
104B	869003	133.4	1262.	< 100.	1467.	
104B	869004	1190.7	1373.	140.	10390.	
104B	869005	3.4	402.	207.	440.	
104B	869006	1.7	630.	< 100.	85.	
104B	869007	7.3	839.	107.	92.	
104B	869008	< 1.	561.	112.	< 50.	
104B	869009	2.5	591.	< 100.	< 50.	
104B	869010	1.1	555.	173.	< 50.	
104B	869011	< 1.	473.	< 100.	50.	
104B	869012	< 1.	224.	< 100.	< 50.	
104B	869013	< 1.	419.	< 100.	53.	
104B	869014	1.9	408.	< 100.	49966.	
104B	869015	77.9	747.	< 100.	807.	
104B	869016	89.7	106.	238.	441.	
104B	869017	5.4	795.	< 100.	50.	
104B	869018	1628.0	382.	< 100.	14650.	
104B	869019	5283.5	128.	105.	25830.	
104B	869020	1.6	788.	< 100.	93.	
104B	869021	116.9	1079.	< 100.	32967.	
104B	869022	3.1	581.	< 100.	< 50.	
104B	869023	< 1.	120.	< 100.	54.	
104B	869024	< 1.	303.	140.	297.	
104B	869025	< 1.	632.	< 100.	15454.	
104B	869026	123.7	898.	< 100.	33911.	
104B	869027	3.5	824.	< 100.	92.	
104B	869028	63.4	546.	< 100.	8772.	
104B	869029	1279.6	497.	105.	35948.	
104B	869030	95.8	3527.	< 100.	62906.	
104B	869031	14.0	2840.	< 100.	41119.	
104B	869032	89.1	912.	< 100.	18899.	
104B	869033	218.0	956.	< 100.	49362.	
104B	869034	ins.				
104B	869035	67	65.9	1438.	< 100.	13628.
104B	869036	68	3956.9	448.	< 100.	17200.
104B	869037	6.3	915.	108.	77.	
104B	869038	69A	10.7	583.	< 100.	23460.
104B	869039	69B	8.5	472.	< 100.	9931.
104B	869040	69C	108.9	608.	< 100.	12432.

SAMPLE	NAME	E - M - A	E - M - A	E - M - A	E - M - A
		AU	F	CL	S-TOTAL
		AA-GRAPH	DIONEX1	DIONEX1	DIONEX1
		AR-MIBK	PYROHYDROL	PYROHYDROL	PYROHYDROL
		PPB	PPM	PPM	PPM
		1	50	100	50
104B	869041	131.0	1364.	< 100.	44581.
104B	869042 <i>KR-86-70A</i>	5.4	239.	< 100.	7470.
104B	869043 <i>70B</i>	30.5	699.	< 100.	29110.
104B	869044 <i>70C</i>	43.8	358.	< 100.	24350.
104B	869045 <i>71</i>	185.2	332.	< 100.	11762.
104B	869046 <i>72A</i>	784.5	190.	< 100.	282755.
104B	869047	5.3	887.	< 100.	55.
104B	869048 <i>72B</i>	442.2	1107.	117.	22540.
104B	869049 <i>73</i>	66.6	881.	< 100.	47007.
104B	869050 <i>74</i>	51.4	1106.	< 100.	49280.
104B	869051 <i>75</i>	379.4	756.	< 100.	31358.
104B	869052 <i>75A</i>	154.7	1334.	< 100.	54861.
104B	869053 <i>75B</i>	1063.6	701.	< 100.	84899.
104B	869054 <i>76</i>	419.2	1133.	< 100.	37603.
104B	869055 <i>76A</i>	123.0	581.	< 100.	2742.
104B	869056 <i>76B</i>	621.6	1195.	< 100.	47102.
104B	869057	6.5	916.	117.	76.
104B	869058 <i>77</i>	1642.2	2094.	< 100.	23882.
104B	869059 <i>78</i>	633.6	1733.	< 100.	28576.
104B	869060 <i>78A</i>	654.5	1674.	< 100.	29170.
104B	869061	422.5	1711.	384.	34100.
104B	869062 <i>79</i>	1626.1	1682.	< 100.	26154.
104B	869063 <i>80</i>	304.8	1650.	< 100.	32101.
104B	869064 <i>81</i>	193.1	1517.	161.	31494.
104B	869065 <i>82</i>	273.4	1491.	< 100.	19968.
104B	869066 <i>82A</i>	372.1	1459.	< 100.	49582.
104B	869067	5.3	901.	101.	67.
104B	869068 <i>82B</i>	229.1	1330.	< 100.	39683.
104B	869069 <i>83</i>	97.6	1062.	266.	41117.
104B	869070 <i>84</i>	137.4	1086.	< 100.	7228.
104B	869071 <i>85</i>	245.3	685.	< 100.	33184.
104B	869072 <i>86</i>	921.1	2408.	< 100.	3927.
104B	869073 <i>87</i>	310.0	996.	183.	90862.
104B	869074 <i>88A</i>	56.3	1341.	< 100.	12975.
104B	869075 <i>88B</i>	51.3	4484.	113.	38394.
104B	869076 <i>89</i>	39.0	70.	< 100.	2920.
104B	869077	5.1	876.	104.	60.
104B	869078 <i>89A</i>	7.6	946.	914.	618.
104B	869079 <i>89B</i>	74.3	1055.	< 100.	4120.
104B	869080 <i>89C</i>	3.5	183.	< 100.	984.

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PAGE : 3

SET : 1 OF 1

SAMPLE	NAME	E - M - A	E - M - A	E - M - A	E - M - A
		AU AA-GRAPH AR-MIBK PPB 1	F DIONEX1 PYROHYDROL PPM 50	CL DIONEX1 PYROHYDROL PPM 100	S-TOTAL DIONEX1 PYROHYDROL PPM 50
104B	869081	328.7	367.	< 100.	55315.
104B	869082 <i>KQ-86-90A</i>	34.3	150.	< 100.	7496.
104B	869083 <i>90B</i>	11.1	105.	236.	450.
104B	869084 <i>90C</i>	12.8	252.	218.	1510.
104B	869085 <i>90D</i>	6.6	197.	243.	4965.
104B	869086 <i>91</i>	124.3	180.	273.	4351.
104B	869087	5.9	885.	134.	59.
104B	869088 <i>91A</i>	297.1	379.	123.	56437.
104B	869089 <i>91B</i>	18.3	130.	272.	1655.
104B	869090 <i>92A</i>	12.7	4794.	178.	15528.
104B	869091 <i>92B</i>	5.8	179.	326.	1652.
104B	869092 <i>92C</i>	41.4	79.	297.	3378.
104B	869093 <i>92D</i>	1.9	333.	843.	174.
104B	869094 <i>92E</i>	266.2	639.	194.	16509.
104B	869095 <i>92F</i>	19.9	267.	146.	6934.
104B	869096 <i>92G</i>	23.6	546.	< 100.	4335.
104B	869097	10.3	902.	110.	76.
104B	869098 <i>92H</i>	165.1	817.	163.	15258.
104B	869099 <i>93A</i>	25.2	2343.	< 100.	26165.
104B	869100 <i>93B</i>	126.7	3634.	< 100.	55826.
104B	869101	199.2	2146.	< 100.	42152.
104B	869102 <i>93C</i>	134.5	1369.	< 100.	38697.
104B	869103 <i>93D</i>	870.3	557.	< 100.	30719.
104B	869104 <i>93E</i>	233.4	1829.	< 100.	38778.
104B	869105 <i>94</i>	275.5	2006.	< 100.	20923.
104B	869106 <i>95</i>	305.2	803.	< 100.	12650.
104B	869107	5.3	922.	112.	67.

Kirkham.

Neutron Activation May 1987

			As	Se	Ag	Mo	Sb	Ba	W	Au	Zn							
104B	869002	KQ 86-44A	8.1	11	<2	6	1.7	3000	5	622	160							
104B	869019	KQ 86-54A	172.0	<11	#5	3	90.4	>30000	<1	1810 .052	4800							
104B	869033	KQ 86-66	53.0	11	3	332	52.4	720	2	360	370							
104B	869036	KQ 86-68	33.0	17	3	62	56.7	1600	2	312	160							
104B	869046	KQ 86-72A	1280	190	319	<10	1020.0	690	<61	1630	5100							
104B	869051	KQ 86-75	42.6	29	<3	2440	4.1	1200	5	546	150							
104B	869054	KQ 86-76	57.0	11	3	1240	75.0	1240	5	449	330							
104B	869058	KQ 86-77	8.5	7	<2	113	0.9	2400	8	1990	610							
104B	869059	KQ 86-78	60.9	<5	3	26	65.7	3300	9	743	1500							
104B	869062	KQ 86-79	93.9	<5	<2	31	28.9	1900	7	2950	850							

20 Hf INAA PPM 45 1 30000 Results Reported
 21 Ta INAA PPM 45 0.5 3000.0 Results Reported
 22 W INAA PPM 45 1 30000 Results Reported
 23 Ir INAA PPB 45 50 30000 Results Reported
 24 Au INAA PPB 45 2 30000 Results Reported
 25 Th INAA PPM 45 0.2 3000.0 Results Reported
 26 U INAA PPM 45 0.2 3000.0 Results Reported
 27 HT S 45 0.01 999.99 Results Reported
 28 Te AA E17 PPM 45 0.02 100.00 Results Reported
 29 Hg CV AA E08 PPB 45 5 5000 Results Reported
 30 Bi AA E03 PPM 45 1 20000 Results Reported

SAMPLE PREPS
 40 SAMPLE TYPE=P PREPARED PULP
 41 PB6= 45 AS RECEIVED, NO SP

REMARKS
 50 < MEANS LESS THAN
 51 SAMPLE B69506 73.0 PPM AU

XXXX
 FORMAT (A8;IX;A1;A1;IX;A20;30(IX;A7;A1))

BEGIN	Sc	Cr	Fe	Co	Ni	Zn	As	Se	Rb	Mo	Ag	Cd	Sb	
00310001	869501	24.1	22	5.9	18 <	20 <	100	26.0 <	5	27	2 <	3 <	5	4.3
00310002	869502	9.5	62	2.7	9 <	20 <	100	126.0 <	6	160	5	18 <	5	19.4
00310003	869503	10.0 <	28	0.6 <	5 <	20 <	100	79.2 <	6	170	2	20 <	5	28.1
00310004	869504	6.5	31	2.0	7 <	20 <	100	122.0 <	6	120	4	20 <	5	31.6
00310005	869505	4.7	45	1.5	5 <	20 <	100	23.0 <	5	110	3	3 <	5	5.3
00310006	869506	0.7 <	110	1.1 <	5 <	21	3400	300.0 <	31	26	14	203 <	14	132.0
00310007	869507	13.0	23	4.3	11 <	20 <	100	24.0 <	5	57	2 <	2 <	5	8.6
00310008	869508	20.6 <	20	5.3	19 <	20 <	100	20.0 <	5	110	1 <	2 <	5	6.7
00310009	869509	20.0	27	4.3	14 <	20 <	100	215.0 <	6	150	5	15 <	5	33.3
00310013	869510	17.0	410	4.8	37	360	180	18.0 <	5	110	2 <	2 <	5	1.1
00310014	869511	16.0 <	20	5.9	14 <	20	150	5.8 <	5	81 <	1 <	2 <	5	4.6
00310015	869512	14.0 <	20	3.9	10 <	20 <	100	4.2 <	5	97 <	1 <	2 <	5	2.7
00310016	869513	18.0 <	20	5.7	15 <	20	100	7.6 <	5	110 <	1 <	2 <	5	3.8
00310017	869514	29.3 <	20	7.1	23 <	20 <	100	29.0 <	5	45 <	1 <	3 <	5	4.6
00310018	869515	20.0	21	3.2	12 <	20 <	100	66.5 <	6	220	3 <	2 <	5	11.6
00310019	869516	15.0 <	20	4.7	11 <	20 <	100	76.0 <	5	220	2 <	2 <	5	8.1
00310020	869517	14.0	21	1.4	5 <	20 <	100	92.1 <	5	120	3 <	2 <	5	5.1
00310027	869518	14.0 <	21	5.0	15 <	20 <	100	104.0	10	180	4	6 <	5	10.3
00310028	869519	22.4 <	20	5.0	14	29 <	100	131.0 <	7	220	2	16 <	5	62.3
00310030	869520	17.0	560	5.7	40	360	120	39.0 <	5	170	5 <	3 <	5	1.8
00310031	869521	14.0 <	21	1.6	6 <	20	300	206.0 <	5	330	5	4	6	12.1
00310032	869522	8.4 <	20	3.6	9 <	20 <	100	37.0 <	5	130	3 <	2 <	5	6.3
00310033	869523	17.0 <	21	5.3	16	29	140	56.6 <	5	200	4 <	3 <	5	7.2
00310034	869524	6.3 <	20	2.8	5 <	20 <	100	47.0 <	5	130	3 <	2 <	5	7.1
00310035	869525	20.1 <	20	4.5	13 <	20 <	100	39.0 <	5	240	6 <	2 <	5	5.6
00310036	869526	11.0 <	24	3.4	7 <	20	150	275.0 <	6	160	2	13	6	22.6
00310040	869527	18.0 <	23	1.6	9 <	20	360	228.0 <	5	390	5	6 <	5	13.3
00310041	869528	13.0 <	20	4.3	8 <	20 <	100	60.7 <	5	130	3 <	2 <	5	1.4
00310042	869530	18.0	420	4.7	34	350	100	19.0 <	5	110	3 <	2 <	5	1.2
00310043	869531	9.2 <	20	3.3	9 <	20 <	100	135.0 <	5	170	4	3 <	5	5.3
00310044	869532	11.0 <	20	2.8	7 <	20 <	100	62.0 <	5	230	2 <	2 <	5	3.0
00310045	869533	1.1 <	20	0.7 <	5 <	20	650	46.0 <	5	18	2	4	5	4.8
00310046	869534	11.0	160	3.3	10	40	2700	225.0 <	6	140	1	7	18	12.5
00310047	869535	19.0 <	20	7.9	16	23 <	100	60.9	9	250	5	4 <	5	15.1
00310054	869536	15.0 <	20	4.8	12 <	20 <	100	44.0 <	5	220	4	13 <	5	11.8
00310055	869537	13.0 <	20	3.7	13 <	20	150	108.0 <	6	240	6	21 <	5	13.6
00310056	869538	20.7 <	20	4.5	14 <	20 <	100	87.7	8	390	2 <	2 <	5	7.8
00310057	869539	20.0	26	4.5	17 <	20	120	168.0 <	5	330	3 <	2 <	5	5.8
00310059	869540	15.0	510	5.5	33	350	140	36.0 <	5	160	5 <	3 <	5	1.7
00310060	869541	11.0	27	3.6	7 <	20 <	100	286.0 <	5	280	11	7 <	5	6.4
00310061	869542	14.0	29	4.2	10 <	20	250	292.0 <	7	300	19	12 <	5	22.0
00310062	869543	4.4 <	20	1.2 <	5 <	20 <	100	114.0 <	5	110	4	4 <	5	7.8
00310063	869544	11.0 <	22	3.9	9 <	20	150	315.0 <	5	310	12	5 <	5	7.1
00310067	869545	12.0	42	3.7	11 <	20	130	65.3 <	5	230	6 <	2 <	6	5.3
00310068	869546	16.0	360	4.6	34	360	100	19.0 <	5	110	3 <	2 <	5	1.2

XXXX
 FORMAT (A8;IX;A1;A1;IX;A20;30(IX;A7;A1))

Cs	Ba	La	Eu	Tb	Yb	Hf	Ta	W	Ir	Au	Th	U	HT	Te
1.1	1100	22 <	1	1.0	4	2	0.9	1 <	50 <	3	4.7	2.5	8.30 <	0.02
8.8	5360	15 <	1	0.6	2	2 <	0.5	3 <	50	363	3.1	1.2	5.38	0.02
7.1	6690	14 <	1 <	0.5 <	2 <	1 <	0.5	5 <	50	679	3.3	2.1	4.50	0.06
7.1	3600	9	1 <	0.5 <	2 <	1 <	0.5	2 <	50	2830	2.5	1.3	5.91	0.06
4.4	1700	9 <	1 <	0.5 <	2	2 <	0.5	3 <	50	65	1.8	0.9	6.47	0.04
< 0.9	430	3 <	2 <	0.5 <	6 <	3 <	0.5	11 <	99 >	30000 <	1.7 <	1.5	6.72	0.70
2.8	2300	13 <	1	0.6	3	3	0.5 <	1 <	50	10	3.3	2.2	7.76 <	0.02
12.0	3400	8 <	1 <	0.5 <	2 <	1 <	0.5	8 <	50	11	2.2	1.2	8.26	0.06
27.0	3200	8 <	1 <	0.5	3 <	1 <	0.5	6 <	50	342	2.0	1.7	5.95 <	0.02
9.4	1100	31 <	1	1.0	5	3	1.3	5 <	50	17	11.0 ²	4.6	11.22	0.04
6.7	1600	21	2	0.9 <	2	3	1.0	1 <	50 <	2	5.7	2.6	6.30 <	0.02
7.1	1800	15 <	1 <	0.5	2	2	0.6 <	1 <	50 <	2	5.1	2.1	7.32 <	0.02
9.1	2200	21 <	1	0.8	3	2	0.6	3 <	50 <	3	5.6	1.9	5.36 <	0.02
1.3	1300	26	1	1.0	3	3 <	0.5 <	1 <	50 <	3	5.0	2.6	7.92 <	0.02
12.0	1900	15 <	1	0.8	3	2	0.5	3 <	50	13	4.4	2.1	4.70	0.04
12.0	2200	19 <	1	0.7	3	3	0.5	3 <	50	37	5.3	1.5	6.69	0.15
4.6	1200	24 <	1 <	0.5	3	8	1.3	9 <	50	35	8.1	8.6	6.34	0.04
10.0	2700	20 <	1	0.6 <	2	2	0.7	4 <	50	21	8.0	3.8	6.83	0.20
8.6	2700	25 <	1	0.9 <	2 <	2	0.5	6	57	65	5.5	2.8	7.12	0.20
7.3	980	36	2	1.7	6	8	3.0	22 <	50	10	16.0	18.0	11.50	0.03
16.0	3700	21 <	1 <	0.5 <	2	2 <	0.5	17 <	50	253	6.1	5.4	7.80 <	0.02
12.0	2100	16 <	1 <	0.5 <	2	2	0.5	2 <	50	19	4.3	2.3	6.72	0.20
13.0	1900	20 <	1	0.6 <	2	2	0.6	4 <	50	60	7.5	3.2	4.81	1.50
10.0	1400	9 <	1	0.5 <	2	2 <	0.5	3 <	50	9	2.2	1.7	5.45	0.55
13.0	2100	16 <	1	0.6	3	3	0.5	3 <	50	7	5.5	2.6	5.90	0.04
5.4	1100	13 <	1	0.5	2	2 <	0.5	4 <	50	358	4.5	2.0	6.80	0.04
19.0	4100	24 <	1 <	0.5	4	2 <	0.5	20 <	50	329	7.1	6.2	7.06 <	0.02
6.9	1700	14 <	1	0.7 <	2	3 <	0.5 <	1 <	50	72	3.0	1.9	7.03 <	0.02
10.0	1100	32	1	1.5	5	3	1.3	5 <	50	21	12.0	4.6	11.37	0.02
6.4	2600	10 <	1 <	0.5 <	2	3 <	0.5	3 <	50	326	2.9	1.8	5.94	0.02
10.0	4200	11 <	1 <	0.5	2	3 <	0.5	4 <	50	84	3.5	2.0	6.48 <	0.02
0.8	440	3 <	1 <	0.5 <	2 <	1 <	0.5 <	1 <	50	231	0.5 <	0.2	7.35	0.02
5.4	2300	9 <	1 <	0.5 <	2	3 <	0.5	2 <	50	2300	1.8	1.1	5.75	0.04
10.0	1700	28 <	1	0.7	2	3	0.6	4 <	50	46	6.1	2.7	5.05	0.60
8.6	1300	19 <	1	0.9	3	2	0.6	2 <	50	68	6.0	2.5	5.96	0.08
3.3	3600	11 <	1 <	0.5 <	2	2 <	0.5	12 <	50	675	3.6	1.3	7.11	0.20
10.0	2400	25	2	0.7 <	2	3 <	0.5	5 <	50	329	6.0	2.6	7.54 <	0.02
7.7	4500	22	1	0.7	2	2	0.5	8 <	50	382	5.5	2.7	9.40 <	0.02
6.9	900	35	2	1.7	6	7	2.2	23 <	50	14	16.0	17.0	9.47	0.04
15.0	2800	16 <	1 <	0.5 <	2	2	0.7	4 <	50	474	4.6	2.8	6.41 <	0.02
10.0	2600	15	1	0.6 <	2	3	0.6	5 <	50	1100	4.6	1.9	7.98	0.02
1.8	1500	9 <	1 <	0.5 <	2 <	1 <	0.5	2 <	50	536	1.8	1.2	5.84 <	0.02
16.0	2900	19 <	1 <	0.5 <	2 <	1 <	0.5	4 <	50	568	5.3	2.8	7.53	0.02