

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 21

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>Sample No.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	Drill Pad		7002	-0.2								2/6/72
			"		700							13/6/72
			7002*	0.3	365	150	-10	50	2	120	390	18/2/75
			7002*G	T	0.31%	25	-10	125	-2	160	0.14%	2/4/75
			7002X*G	T	0.12%	280	50	90	-2	225	925	2/4/75
<u>Split Core</u>	7 - 8	34075		0.1	340	-5	25	170	1	25	70	25/11/77
	9	76		0.1	140	20	20	45	-1	15	55	"
	10	77		T	170	15	20	40	1	15	70	"
	11	78		T	140	5	20	30	1	10	60	"
	12	79		T	110	60	15	15	-1	10	70	"
	13	80		T	370	10	15	100	1	20	90	"
	14	81		T	240	10	14	40	-1	10	150	"
	15	82		T	160	5	10	20	-1	5	90	"
	16	83		T	220	10	10	15	-1	5	170	"
	17	84		0.1	160	-5	20	15	1	5	85	"
	18	85		T	130	-5	20	17	-1	10	120	"
	19	86		0.1	190	5	25	15	-1	15	140	"
	20	87		T	100	5	35	25	1	10	250	"
	21	88		T	160	-5	30	20	-1	10	220	"
	22	89		0.1	150	-5	20	10	-1	10	330	"
	23	90		0.1	110	-5	20	25	-1	15	270	"
	24	91		0.1	190	10	15	20	1	10	240	"
	24 - 25	34092		T	160	-5	25	20	1	10	240	"

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DOH 21 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	Sample Nos. <u>A.D.L.</u> <u>A.C.M.</u>	Au <u>D/T:</u>	Cu <u>ppm:</u>	Bi <u>ppm:</u>	Pb <u>ppm:</u>	Zn <u>ppm:</u>	Ag <u>ppm:</u>	Co <u>ppm:</u>	Mn <u>ppm:</u>	Date <u>Assayed:</u>
	25 - 26	34093	0.1	160	-5	15	55	-1	10	140	25/11/77
	27	94	T	210	-5	20	60	1	15	240	"
	28	95	T	285	-5	17	70	-1	125	0.23%	"
	29	96	T	370	5	25	40	-1	75	0.49%	"
	30	97	T	200	-5	25	25	-1	40	900	"
	31	98	0.1	350	5	20	35	-1	170	0.17%	"
	32	99	T	910	-5	25	50	-1	460	0.41%	"
	33	34100	T	0.11%	-5	25	40	-1	510	0.62%	"
	34	01	T	740	-5	20	35	1	110	0.30%	"
	35	02	T	430	-5	20	30	-1	65	0.11%	"
	36	03	T	410	-5	30	20	-1	55	0.10%	"
	37	04	0.1	700	-5	20	30	-1	200	0.25%	"
	38	05	0.1	685	-5	25	90	-1	90	0.11%	"
	39	06	0.1	620	10	20	100	-1	70	700	"
	40	07	0.1	480	-5	20	75	1	35	530	"
	41	08	T	540	-5	15	35	-1	45	600	"
	42	09	T	430	-5	20	35	-1	30	270	"
	43	10	T	670	-5	20	40	-1	50	570	"
	44	11	T	600	-5	15	35	-1	50	0.11%	"
	45	12	T	610	-5	20	45	-1	55	0.12%	"
	46	13	T	650	-5	15	60	-1	60	750	"
46 -	47	34114	T	690	-5	15	110	1	75	0.10%	"

NORTHERN STAR - ASSAY DATA - DDH 21 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	47 - 48	34115	T	890	-5	12	37	2	72	965	10.12.77
	49	16	0.1	800	-5	15	120	4	55	790	"
	50	17	0.1	820	-5	15	200	1	40	820	"
	51	18	0.1	650	-5	10	190	3	35	780	"
	52	19	0.1	680	-5	10	210	1	40	830	"
	53	20	T	0.13%	-5	15	180	1	45	0.11%	"
	54	21	0.1	830	5	15	180	-1	35	780	"
	55	22	T	800	-5	10	230	-1	40	860	"
	56	23	T	960	-5	10	310	1	35	830	"
	57	24	0.1	380	-5	10	270	2	40	880	"
	58	25	T	330	-5	17	225	1	32	685	"
	59	26	0.1	550	-5	15	210	-1	35	720	"
	60	27	T	170	-5	5	230	1	35	740	"
	61	28	0.1	20	-5	10	210	1	30	720	"
	62	29	0.1	10	-5	15	170	1	25	590	"
	63	30	0.1	10	-5	10	160	1	30	620	"
	64	31	0.1	5	5	10	180	-1	35	740	"
	65	32	T	90	5	10	180	-1	35	680	"
	66	33	0.1	5	5	15	170	1	35	800	"
	67	34	0.1	20	-5	15	190	1	35	770	"
	68	35	0.1	150	-1	12	205	2	30	670	"
	68 - 69	34136	T	370	-5	10	230	1	35	700	"

NORTHERN STAR - ASSAY DATA - DDH 21 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	69 - 70	34137		T	520	5	15	230	-1	35	710	10.12.77
	71	38		0.1	830	5	15	240	1	35	790	"
	72	39		0.1	720	10	15	230	1	35	670	"
	73	40		T	740	5	5	210	-1	35	680	"
	74	41		0.1	360	-5	10	190	2	30	600	"
	75	42		T	120	-5	10	220	1	40	890	"
	76	43		T	5	-5	15	190	-1	40	880	"
	77	44		T	-5	-5	15	190	1	35	810	"
	78	45		T	5	-5	15	155	-1	27	635	"
	79	46		T	220	-5	10	210	1	35	810	"
	80	47		T	790	5	15	230	1	40	850	"
	81	48		T	880	-5	10	250	1	45	810	"
	82	49		T	250	5	15	200	-1	35	730	"
	83	50		T	25	5	15	180	1	35	740	"
	84	51		T	70	10	15	170	-1	25	730	"
	85	52		T	35	5	15	180	-1	40	880	"
	86	53		T	15	-5	15	140	-1	35	680	"
	87	54		0.1	20	-5	15	160	1	35	800	"
	88	55		T	12	-5	12	160	1	35	765	"
	89	56		T	15	-5	15	150	-1	35	740	"
	90	57		T	15	-5	10	140	-1	35	690	"
	91	58		T	20	-5	15	150	-1	30	600	"
	91 - 92.35	34159		T	180	-5	15	170	1	35	690	"

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 22.

<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u> <u>Assayed:</u>
	<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	
33.0 - 34.0	34161		0.1	190	-5	15	30	1	95	700	14/12/77
34.0 - 35.0	62		0.1	160	-5	25	25	1	50	400	"
35.0 - 36.0	63		0.1	200	-5	25	35	1	40	410	"
36.0 - 37.0	64		T	140	-5	20	35	1	10	55	"
37.0 - 38.0	65		T	245	-5	17	42	1	50	450	"
38.0 - 39.0	66		T	250	5	15	70	1	30	380	"
39.0 - 40.0	67		T	300	-5	20	100	-1	25	390	"
40.0 - 41.0	68		T	370	-5	20	85	1	50	400	"
41.0 - 42.0	69		T	420	-5	10	60	2	15	130	"
42.0 - 43.0	70		T	290	-5	10	45	1	40	410	"
43.0 - 44.0	71		0.1	520	5	20	60	-1	110	0.10%	"
44.0 - 45.0	72		0.1	0.10%	-5	20	170	-1	40	600	"
45.0 - 46.0	73		T	0.14%	-5	25	290	-1	50	700	"
46.0 - 47.0	74		T	0.17%	-5	20	500	1	50	850	"
47.0 - 48.0	75		T	0.11%	-5	22	125	1	42	600	"
48.0 - 49.0	76		T	580	-5	20	50	2	70	600	"
49.0 - 50.0	77		T	430	-5	20	40	1	45	380	"
50.0 - 51.0	78		T	710	-5	25	75	1	110	950	"
51.0 - 52.0	79		0.1	0.15%	-5	30	280	1	190	0.17%	"
52.0 - 53.0	80		T	550	-5	20	170	1	60	750	"
53.0 - 54.0	81		0.1	420	-5	15	180	1	30	600	"
54.0 - 55.0	34182		T	420	-5	20	150	1	35	550	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	54.0 - 55.0	34183		T	440	-5	15	150	1	35	600	14.12.77
	56.0	84		0.1	430	-5	15	95	1	30	390	"
	57.0	85		T	465	-5	12	92	1	30	360	"
	58.0	86		0.1	440	-5	15	140	1	30	550	"
	59.0	87		0.1	320	-5	20	140	1	35	600	"
	60.0	88		0.1	380	-5	20	140	1	45	500	"
	61.0	89		0.1	450	-5	25	150	-1	45	550	"
	62.0	90		0.1	430	100	20	120	2	40	500	"
	63.0	91		0.1	350	10	15	120	-1	35	550	"
	64.0	92		0.1	420	-5	25	110	1	40	450	"
	65.0	93		0.1	450	15	20	90	1	50	320	"
	66.0	94		0.1	540	-5	10	130	-1	35	390	"
	67.0	95		0.1	555	-5	20	140	1	55	500	"
	68.0	96		T	760	5	15	170	1	60	650	"
	69.0	97		T	880	-5	20	160	1	95	650	"
	70.0	98		0.1	630	-5	25	170	-1	60	650	"
	71.0	99		T	450	-5	25	150	1	60	600	"
	72.0	34200		0.1	420	5	35	180	1	50	720	"
	73.0	01		T	290	-5	20	180	1	50	630	"
	74.0	02		0.1	20	-5	25	150	1	40	660	"
	75.0	03		T	240	5	20	170	1	45	600	"
	75.0 - 76.0	34204		T	230	-5	15	180	1	30	580	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Samples Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>DATE</u> <u>Assayed:</u>
	76.0 - 77.0	34205		Tr	200	-5	22	175	1	35	650	14/12/77
	78.0	06		Tr	230	-5	15	160	1	35	580	"
	79.0	07		Tr	190	15	15	180	1	40	720	"
	80.0	08		Tr	310	-5	15	150	1	35	610	"
	81.0	09		Tr	340	-5	20	160	1	35	660	"
	82.0	10		Tr	360	-5	35	160	1	45	650	7/1/78
	83.0	11		Tr	320	-5	25	140	1	40	590	"
	84.0	12		0.1	390	-5	25	150	1	50	660	"
	85.0	13		0.1	630	-5	25	130	1	35	520	"
	86.0	14		T	550	-5	15	140	1	35	590	"
	87.0	15		T	325	-5	25	140	1	42	535	"
	88.0	16		T	370	-5	25	140	1	40	500	"
	89.0	17		0.2	530	10	30	140	1	45	590	"
	90.0	18		0.1	210	10	30	130	1	40	610	"
	91.0	19		T	20	5	25	120	1	40	520	"
	92.0	20		T	30	-5	25	100	1	50	520	"
	93.0	21		T	90	-5	25	110	1	45	530	"
	94.0	22		T	10	-5	15	120	-1	50	520	"
	95.0	23		0.4	220	5	30	140	1	85	570	"
	96.0	24		T	230	40	25	130	2	85	660	"
	97.0	25		0.65	600	30	25	130	1	75	630	"
	97.0 - 98.0	26		0.1	220	-5	25	110	1	70	570	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	98.0 - 99.0	34227		T	80	-5	20	100	1	75	610	7/1/78
	100.0	28		0.1	300	-5	25	85	1	50	430	"
	101.0	29		T	260	-5	20	75	1	45	410	"
	102.0	30		0.1	350	-5	20	75	1	45	470	9/1/78
	103.0	31		T	230	-5	20	80	1	35	470	"
	104.0	32		0.5	390	-5	20	80	1	35	480	"
	105.0	33		0.1	390	-5	15	75	1	35	430	"
	106.0	34		0.3	350	-5	20	80	1	35	460	"
	107.0	35		T	275	-5	22	80	1	30	480	"
	108.0	36		0.1	590	5	25	90	-1	35	490	"
	109.0	37		0.1	100	-5	25	90	1	45	520	"
	110.0	38		0.1	100	-5	25	90	1	45	520	"
	111.0	39		0.1	40	-5	20	75	1	45	480	"
	112.0	40		0.2	180	-5	20	70	1	40	520	"
	113.0	41		0.1	150	-5	30	70	-1	30	430	"
	114.0	42		0.1	180	-5	20	70	-1	35	470	13/1/78
	115.0	43		0.1	170	-5	20	70	-1	30	440	"
	116.0	44		T	200	-5	20	65	1	30	420	"
	117.0	45		0.1	40	-5	22	75	1	42	505	"
	118.0	46		0.1	15	-5	20	85	1	40	490	"
	119.0	47		0.1	15	-5	30	85	1	45	450	"
	120.0	48		0.1	5	-5	30	95	1	50	540	"
	120.0 - 121.0	49		0.1	330	-5	20	85	1	50	540	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	121.0 - 122.0	34250		0.1	20	-5	20	80	1	45	490	13/1/78
	123.0	51		0.1	10	-5	30	90	1	55	580	"
	124.0	52		0.1	10	-5	30	100	1	55	650	"
	125.0	53		0.1	10	-5	20	90	-1	55	570	"
	126.0	54		0.1	240	140	25	25	1	40	540	"
	127.0	55		0.2	17	-5	22	85	1	47	560	"
	128.0	56		0.1	10	10	55	75	2	50	470	"
	129.0	57		0.1	5	-5	20	75	1	45	470	"
	130.0	58		0.1	5	10	20	85	1	55	550	"
	131.0	59		0.2	-5	-5	20	85	1	45	510	"
	132.0	60		T	120	170	20	80	1	35	460	"
	133.0	61		0.1	5	10	20	95	1	50	580	"
	134.0	62		0.1	5	-5	15	80	1	45	480	"
	135.0	63		0.1	-5	-5	20	120	1	50	490	"
	136.0	64		T	5	-5	25	100	3	60	580	"
	137.0	65		0.1	5	-5	25	80	2	40	525	
	138.0	66		0.2	5	-5	25	90	2	35	500	"
	139.0	67		0.2	-5	-5	25	90	2	35	470	"
	140.0	68		0.2	5	-5	25	90	1	35	510	"
	141.0	69		0.1	5	5	25	90	1	40	480	"
	142.0	70		0.1	-5	-5	15	75	2	25	430	"
	143.0	71		0.1	-5	-5	20	75	4	30	450	"
	143.0 - 144.0	34272		0.2	15	5	25	110	2	40	570	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	144.0 - 145.0	34273		0.1	5	5	20	110	3	45	620	13/1/78
	146.0	74		0.2	15	10	25	120	2	45	660	"
	147.0	75		0.1	5	-5	27	100	1	40	615	"
	148.0	76		0.1	-5	-5	25	95	1	35	490	"
	149.0	77		0.1	55	10	20	80	2	30	430	"
	150.0	78		0.1	15	10	20	110	1	40	550	"
	151.0	79		0.2	5	-5	15	110	2	35	620	"
	152.0	80		0.1	5	5	20	120	3	30	630	"
	153.0	81		0.1	5	5	25	130	3	35	680	"
	154.0	82		0.2	5	10	25	140	3	35	620	"
	155.0	83		0.1	20	10	25	110	3	25	500	"
	156.0	84		0.1	20	10	20	130	3	30	530	"
	157.0	85		0.3	10	-5	22	140	2	35	630	"
	158.0	86		0.4	5	5	25	170	3	40	580	"
	159.0	87		0.3	5	5	25	140	2	35	480	"
	160.0	88		0.2	20	-5	20	120	2	40	510	"
	161.0	89		0.2	35	10	20	120	1	50	560	"
	162.0	90		0.4	110	5	15	90	2	50	420	"
	163.0	91		0.2	50	5	15	110	2	45	510	"
	164.0	92		0.3	15	10	20	100	2	40	450	"
	165.0	93		0.5	5	5	15	100	2	45	440	"
	165.0 - 166.0	342 94		0.3	5	-5	20	80	2	45	390	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	166.0 - 167.0	34295	0.4	30	-5	15	87	2	50	415	13/1/78
	168.0	96	0.6	100	-5	15	85	3	50	450	"
	169.0	97	0.4	55	-5	30	90	2	35	480	27/1/78
	170.0	98	0.1	10	5	25	120	1	50	470	"
	171.0	99	0.6	50	-5	30	85	3	60	550	"
	172.0	34300	0.3	100	-5	25	85	1	60	460	"
	172.82	34301	0.5	140	-5	20	70	2	55	420	"
567 - 572	174.35	7094	-0.2					-3			21/7/72
		"		0.75%	0.23%						4/8/72
572 - 575	175.26	7096	-0.2					6			21/7/72
		"		0.24%	0.13%						4/8/72
	176.0	34302	0.3	0.13%	-5	60	360	3	350	0.15%	27/1/78
	177.0	03	0.4	440	-5	35	250	3	210	0.10%	"
	178.0	04	0.3	270	5	40	280	3	170	0.11%	"
	179.0	05	0.3	190	-5	35	305	3	185	0.11%	"
	180.0	06	0.3	210	10	25	220	2	65	670	"
	181.0	07	0.4	60	-5	25	260	2	55	800	"
	182.0	08	0.3	60	-5	30	390	3	75	0.11%	"
	183.0	09	0.1	50	-5	35	450	3	95	0.12%	"
	184.0	10	0.3	120	-5	30	270	2	75	660	"
	185.0	11	0.3	140	-5	35	410	4	110	0.11%	"
185.0 - 186.0		34312	0.3	60	10	30	420	3	120	0.11%	"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	186.0 - 187.0	34313		0.3	40	10	25	420	3	120	0.11%	27/1/78
	188.0	14		0.3	20	-5	35	450	3	110	0.13%	"
	189.0	15		0.25	25	-5	35	430	3	125	0.11%	"
	190.0	16		0.1	75	-5	35	460	3	130	0.13%	"
	191.0	17		0.1	0.12%	5	40	490	3	170	0.13%	"
	192.0	18		0.8	0.12%	560	40	220	3	110	400	"
	193.0	19		0.2	500	110	35	140	2	80	250	"
	194.0	20		0.2	350	65	30	130	2	60	260	"
	195.0	21		0.4	220	490	35	230	3	100	590	"
	196.0	22		0.1	55	110	20	100	2	50	300	"
	197.0	23		0.1	75	5	35	190	2	75	510	"
	198.0	24		0.1	45	15	35	180	3	65	460	"
	199.0	25		T	22	-5	35	260	2	77	640	"
	200.0	26		0.1	40	-5	25	200	3	65	570	"
	201.0	27		0.1	60	-5	25	170	2	60	420	"
	202.0	28		0.3	130	15	20	190	2	60	460	"
	203.0	29		0.1	75	5	20	290	2	95	800	"
	204.0	30		T	50	30	20	150	2	50	570	"
	205.0	31		0.1	50	5	25	350	3	65	0.11%	"
	206.0	32		T	15	-5	25	340	2	55	0.13%	"
	207.0	33		T	5	-5	30	360	2	50	0.16%	"
	207.0 - 208.0	34334		0.1	-5	-5	30	420	3	65	0.19%	"

NORTHERN STAR - ASSAT DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.D.L.</u> <u>Sample Nos.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	208.0 - 209.2	34335		0.1	-5	-5	30	360	2	55	0.16%	27/1/78
	212.1 - 213.0	36		T	-5	-5	25	330	2	60	0.16%	"
	214.0	37		0.1	5	10	30	290	2	50	0.14%	"
	215.0	38		0.1	5	-5	35	270	2	50	0.13%	"
	216.0	39		0.1	5	10	30	190	2	40	0.10%	2/2/78
	217.0	40		T	5	10	30	160	2	40	890	"
	218.0	41		T	5	5	30	140	2	35	770	"
	219.0	42		T	-5	10	35	130	1	35	750	"
	220.0	43		T	10	-5	30	150	2	35	860	"
	221.0	44		T	25	-5	35	160	2	40	880	"
	222.0	45		0.15	47	-5	25	220	2	60	0.11%	"
	223.0	46		0.2	50	-5	35	140	2	50	620	"
	224.0	47		0.1	65	-5	25	130	2	45	550	"
	225.0	34348		0.1	280	-5	30	210	2	70	0.10%	"
	226.0	26261		T	125	10	40	210	-2	70	0.10%	13/1/75
P. 743 - 744 $\frac{1}{2}$	226.47 - 226.92		7098	-0.2								21/7/72
P.	226.0 - 227.0	26262		T	830	10	40	180	-2	60	900	13/1/75
	228.0	63		T	170	-10	30	120	-2	50	750	"
	229.0	64		T	105	-10	30	100	-2	40	500	"
	230.0	65		T	110	-10	30	85	-2	40	400	"
	231.0	66		T	185	-10	30	80	-2	40	550	"
	231.0 - 232.0	26267		T	370	-10	30	80	-2	40	700	"

P. Assay only on part of interval

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample</u> <u>A.D.L.</u>	<u>Nos.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	232.0 - 233.0	26268		T	420	10	40	100	-2	70	900	13/1/75
	234.0	69		T	620	80	50	160	2	140	0.25%	"
	235.0	26270		T	0.16%	160	60	210	2	300	0.14%	"
		26867		T	0.25%	220	50	265	5	330		21/4/75
	236.0	26271		T	0.15%	220	70	270	2	330	0.11%	13/1/75
		26868		T	0.21%	260	50	320	4	335		21/4/75
	237.0	26272		T	540	50	40	95	-2	120	600	13/1/75
	238.0	73		T	140	-10	40	100	-2	90	750	"
	239.0	74		T	25	-10	40	140	-2	90	700	"
	240.0	75		T	20	-10	30	140	-2	70	700	"
	241.0	76		T	-10	-10	30	140	-2	60	700	"
	242.0	77		T	20	-10	30	165	-2	60	750	"
	243.0	78		T	10	-10	30	175	-2	50	800	"
	244.0	79		T	15	-10	30	170	-2	50	600	"
	245.0	80		T	75	-10	30	130	-2	60	600	"
	246.0	81		T	150	20	50	130	2	80	800	"
P.	247.0	26282		T	150	30	60	120	2	100	0.13%	"
P. 807 - 812	245.97 - 247.50		7004	-0.2								2/6/72
			7004*	0.6	465	20	-10	80	2	80	0.22%	18/2/75
817	249.02		7006	-0.2								2/6/72
			7006*	1.0	270	10	-10	30	1	45	0.54%	18/2/75
822	250.55		7008	-0.2								2/6/72
			7008*	0.9	250	-10	-10	20	1	40	0.56%	18/2/75
822 - 824 $\frac{1}{2}$	250.55 251.31		7010	-0.2								2/6/72

P. Assay only on part of interval.

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample</u> <u>A.D.L.</u>	<u>Nos.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
824 $\frac{1}{2}$ - 830	251.31 - 252.98		7012	-0.2								2/6/72
			7012*	0.2	90	-10	-10	185	2	150	860	18/2/75
835	254.51		7014	-0.2								2/6/72
840	256.03		7016	-0.2								"
845 $\frac{1}{2}$	257.71		7018	-0.2								"
			7018*	1.0	240	140	-10	25	2	235	0.18%	18/2/75
850	259.08		7020	-0.2								2/6/72
855	260.60		7022	2.6		0.65%			-3			"
			"		0.15%							13/6/72
			7088	2.2		0.75%			3			2/6/72
			"		0.15%							13/6/72
			7022*	1.6	0.6%	0.37%	150	40	6	0.20%	0.18%	18/2/75
			7022*G	0.5	885	100	50	35	-2	350	0.27%	2/4/75
			7088*	0.14%	0.38%	160	50	-2	0.22%			9/4/75
855 - 860	260.60 - 262.13		7024	-0.2								2/6/72
			7024*	1.3	100	20	-10	400	2	65	0.12%	18/2/75
865	263.65		7026	-0.2								2/6/72
870	265.18		7028	-0.2								2/6/72
			7028*	2.2	95	60	-10	20	4	90	0.26%	18/2/75
875	266.70		7030	-0.2								2/6/72
			"		900							13/6/72
			7030*	1.3	765	10	-10	25	3	350	0.48%	18/2/75
			7030* G	T	790	-10	25	45	-2	150	0.32%	2/4/75
880	268.22		7032	-0.2								2/6/72
			"		800							13/6/72
			7032*	0.2	660	-10	10	25	2	140	0.44%	18/2/75
			7032* G		0.27%	30	40	75	-2	210	0.17%	2/4/75
885	269.75		7034	-0.2								2/6/72
			7034*	0.4	30	20	-10	35	2	56	0.12%	18/2/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/I:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
885 - 890	269.75 - 271.27		7036	-0.2								2/6/75
			7036*	0.2	15	-10	-10	75	2	90	0.28%	18/2/75
895	272.80		7038	0.4								2/6/72
			7038*	0.6	125	760	-10	100	3	130	0.30%	18/2/75
900	274.32		7040	0.2								2/6/72
			7040*	0.7	35	160	-10	120	3	115	0.36%	18/2/75
905	275.84		7042	-0.2								2/6/72
			7042*	0.3	25	10	-10	215	3	110	0.10%	18/2/75
910	277.37		7044	-0.2								2/6/75
915	278.89		7046	-0.2								2/6/72
			7046*	0.3	55	60	-10	25	2	65	650	18/2/75
920	280.42		7048	-0.2								2/6/72
925	281.94	26504	7050	-0.2								2/6/72
				T	65	20	50	105	3	70	0.15%	6/2/75
930	283.46		7052	-0.2								2/6/72
935	284.99	26505	7054	-0.2								2/6/72
				0.2	30	20	50	165	3	90	0.15%	6/2/75
940	286.51		7056	-0.2								2/6/72
945	288.04	26506	7058	-0.2								2/6/72
				0.6	25	20	50	80	3	50	0.15%	6/2/75
950	289.56		7060	-0.2								2/6/72
			7060*	T	20	-10	-10	110	3	65	0.12%	18.2.75
955	291.08	26507	7062	-0.2								2/6/72
				T	30	20	60	105	2	70	500	6/2/75
955 - 960	291.08 - 291.61		7064	-0.2								2/6/72

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
960 - 965	292.61 - 294.13	7066	-0.2								2/6/72
		26508	0.3	20	20	60	700	3	100	450	6/2/75
965 - 970	295.66	7068	-0.2								2/6/72
	296.0	26283	T	15	-10	40	180	-2	50	0.12%	13/1/75
	297.0	26284	T	15	-10	30	200	-2	50	550	"
	298.0	85	T	75	-10	30	100	-2	40	550	" "
	299.0	86	T	45	-10	30	110	-2	40	500	"
	300.0	87	T	240	-10	30	90	-2	40	500	"
	301.0	88	T	130	-10	30	100	-2	30	600	"
	302.0	26289	T	0.12%	60	40	120	-2	40	550	"
		26869	T	0.15%	80	-10	150	5	130		6/2/75
	303.0	26290	T	0.11%	-10	30	95	-2	50	400	13/1/75
		26870	0.3	0.13%	10	-10	125	-2	70		6/2/75
	304.0	26291	T	0.10%	-10	30	105	-2	100	350	13/1/75
		26871	T	0.12%	-10	-10	105	7	65		6/2/75
	304.5	26292	T	880	-10	30	100	-2	90	300	13/1/75
999 - 1005	- 306.32	7070	-0.2								2/6/72
		"		0.25%							13/6/72
		26509	0.3	0.14%	20	50	65	3	150	0.14%	6/2/75
		7070* G	T	0.41%	55	65	60	-2	750	0.18%	2/4/75
1005 - 1010	306.32 - 307.85	7072	-0.2								2/6/72
		"		0.50%							13/6/72
		7072*	0.7	0.24%	50	40	50	3	725	0.18%	18/2/75
		7072* G	0.7	0.53%	110	100	60	-2	510	0.25%	2/4/75

* Reassayed by A.D.L.

G. A.CM pulps in small geochem bags

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>INTERVAL:</u> <u>(m)</u>	<u>A.D.L.</u> <u>Samples</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1010 - 1015	307.85 - 309.37		7074	-0.2		50			-3			2/6/72
			"		1.2%							13/6/72
			7074*	0.7	0.30%	60	60	45	5	505	0.20%	18/2/75
			7074* G	0.5	0.57%	80	100	110	-2	620	0.19%	2/4/75
1020	310.90		7076	-0.2		50			-3			2/6/72
			7076		3.6%							13/6/72
			7086	-0.2								2/6/72
			"		3.5%							13/6/72
			7076*	0.8	0.35%	50	70	100	5	635	0.14%	18/2/75
			7086*	0.5	0.31%	10	10	130	3	185	970	18/2/75
			7076* G	0.4	550	0.37%	380	75	-2	100	360	2/4/75
1025	312.42		7086* G	0.5	0.60%	40	70	100	-2	540		9/4/75
			7078	-0.2								2/6/72
1030	313.94		"		2.0%							13/6/72
			7080	-0.2		-50			-3			2/6/72
			"		1.4%							13/6/72
1035	315.47		7080* G	1.1	0.54%	20	25	160	-2	295		9/4/75
			7082	-0.2								2/6/72
			"		0.65%							13/6/72
			7082*	0.8	0.28%	20	20	185	5	290	710	18/2/75
			7082* G	T	0.45%	20	20	180	-2	270		9/4/75
1035 - 1040	315.47 - 316.99		7084	-0.2								2/6/72
			7084		0.48%							13/6/72
			7084*	0.6	0.24%	10	20	150	3	260	365	18/2/75
			7084* G	0.8	0.37%	-10	40	160	-2	420		9/4/75
1046 ¹ / ₂ - 1056 ¹ / ₂	318.97 - 322.02		7128	-0.2								21/7/72
	323.0	26293		T	355	-10	30	90	-2	70	350	13/1/75
	323.0 - 323.7	26294		T	470	-10	30	80	-2	60	450	"

* Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH 22.

Note: Additional assay data from samples produced by combining smaller intervals.

Split Core

Interval: (ft)	Interval: (m)	Sample Nos. A.D.L. A.C.M.	Combined Sample Numbers Interval length (ft)	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date:
567-575	172.82-175.26	7294	7094(5) + 7096(3)		(0.50%)	(0.15%)			(-0.1)	(200)		17/10/72
743-744 $\frac{1}{2}$	226.47-226.92	7296	7098(1 $\frac{1}{2}$)		(500)	(30)			(0.1)	(10)		17/10/72
807-817	245.97-249.02	7298	7004(5) + 7006(5)		(500)	(10)			(-0.1)	(30)		17/10/72
824 $\frac{1}{2}$	251.31	7300	7008(5) + 7010(2 $\frac{1}{2}$)		(500)	(10)			(-0.1)	(5)		"
835	254.51	7302	7012(5 $\frac{1}{2}$) + 7014 (5)		(500)	(5)			(-0.1)	(100)		"
840	256.03	7304	7016(5)		(200)	(5)			(-0.1)	(30)		"
845 $\frac{1}{2}$	257.71	7306	7018(5 $\frac{1}{2}$)		(400)	(15)			(-0.1)	(50)		"
850	259.10	7308	7020(4 $\frac{1}{2}$)		(100)	(30)			(-0.1)	(50)		"
855	260.60	7310	7022(5)		(0.10%)	(0.50%)			(3)	(0.80%)		"
865	263.65	7312	7024(5) + 7026(5)		(400)	(300)			(-0.1)	(100)		"
875	266.70	7314	7028(5) + 7030(5)		(800)	(150)			(0.1)	(400)		"
885	269.75	7316	7032(5) + 7034(5)		(500)	(20)			(0.1)	(150)		"
895	272.80	7318	7036(5) + 7038(5)		(50)	(250)			(-0.1)	(100)		"
905	275.85	7320	7040(5) + 7042(5)		(50)	(80)			(-0.1)	(150)		"
910	277.37	7322	7044(5)		(200)	(800)			(0.1)	(200)		"
920	280.42	7324	7046(5) + 7048(5)		(100)	(300)			(-0.1)	(500)		"
930	283.46	7326	7050(5) + 7052(5)		(50)	(20)			(-0.1)	(50)		"
930-935	283.46-284.99	7328	7054(5)		(80)	(10)			(-0.1)	(100)		"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Combined Sample Numbers</u> <u>Interval length (ft)</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date:</u>
935-945	284.99-288.04	7330	7056(5) + 7058(5)		(30)	(10)			(-0.1)	(30)		17/10/72
955	291.08	7332	7060(5) + 7062(5)		(30)	(10)			(-0.1)	(50)		"
955-970	291.08-295.66	7334	7064(5) + 7066(5) & 7068(5)		(50)	(5)			(-0.1)	(80)		"
999-1010	304.50-307.85	7288	7070(6) + 7072(5)		(0.30%)	(150)		(50)	(0.3)	(0.10%)		15/9/72
1010-1030	307.85-313.94	7290	7074(5) + 7076(5)		(1.0%)	(30)		(60)	(0.3)	(500)		"
			7078(5) + 7080(5)									
1030-1040	313.94-316.99	7292	7082(5) + 7084(5)		(0.30%)	(25)		(200)	(0.3)	(500)		"

Note:

Assays in brackets () are semi-quantitative spectrographic analyses.

AUSTRALIAN DEVELOPMENT LIMITED

Note: Additional assays for elements not routinely assayed for by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 22

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No.</u>	<u>U³⁸</u> <u>% :</u>	<u>Ni</u> <u>ppm:</u>	<u>Cr</u> <u>ppm:</u>	<u>V</u> <u>ppm:</u>	<u>Mb</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Cd</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>Sb</u> <u>ppm:</u>	<u>Te</u> <u>ppm:</u>	<u>Ti</u> <u>ppm:</u>	<u>Hg</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
830-835	252.98-254.51	7014	0.02%													17/10/72
850-855	259.08-260.60	7022	0.03%													17/10/72
		7088	0.02%													17/10/72
960-965	292.61-294.13	7066	0.01%													17/10/72
567-575	172.82-175.26	7294		50			10	-10		3	-50					17/10/72
743-744 $\frac{1}{2}$	226.47-226.92	7296		30			5	-10		3	-50					17/10/72
807-817	245.97-249.02	7298		30			3	-10		-1	-50					17/10/72
824 $\frac{1}{2}$	251.31	7300		50			-3	-10		-1	-50					"
835	254.51	7302		30			-3	-10		5	-50					"
840	256.03	7304		10			3	-10		10	-50					"
845 $\frac{1}{2}$	257.71	7306		20			10	-10		10	-50					"
850	259.10	7308		10			5	-10		5	-50					"
855	260.60	7310		150			10	-10		15	0.20%					"
865	263.65	7312		10			5	-10		10	-50					"
875	266.70	7314		20			10	-10		10	50					"
885	269.75	7316		20			10	-10		15	-50					"
895	272.80	7318		30			5	-10		15	-50					"
905	275.85	7320		30			5	-10		5	-50					"
910	277.37	7322		10			50	-10		10	50					"
910-920	280.42	7324		10			5	-10		10	100					"

NORTHERN STAR - ASSAY DATA - DDH 22 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No.</u>	<u>U₃O₈</u> <u>%</u>	<u>Ni</u> <u>ppm:</u>	<u>Cr</u> <u>ppm:</u>	<u>V</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Cd</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>Sb</u> <u>ppm:</u>	<u>Te</u> <u>ppm:</u>	<u>Ti</u> <u>ppm:</u>	<u>Hg</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
920-930	280.42-283.46	7326		30			5	-10		5	-50					17/10/72
935	284.99	7328		50			10	-10		10	-50					"
945	288.04	7330		30			20	-10		5	-50					"
955	291.08	7332		10			10	-10		10	-50					"
955-970	291.08-295.66	7334		20			10	-10		5	-50					"
999-1010	304.50-307.85	7288		100	80	10	50	-10	-3	20	200	-30	-20	500	-0.15	15/9/72
1030	313.94	7290		50	30	10	20	-10	-3	10	100	-30	-20	500	-0.15	"
1030-1040	313.94-316.99	7292		200	20	20	20	-10	-3	20	100	-30	-20	0.15%	0.15	"
999-1040	304.50-316.99	7404								13						17/10/72

Note: U₃O₈ analysis by β γ activity.

Ge analysis on sample No. 7404 by accurate method.

All other elements determined by semi-quantitative spectrographic analysis.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 22A

Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	176.8 - 178.0	34349		T	480	-5	25	200	2	160	750	2/2/78
	179.0	50		0.3	410	-5	25	280	3	200	0.11%	"
	180.0	51		0.2	290	-5	25	240	2	110	860	"
	181.0	52		0.3	440	-5	25	230	2	80	750	"
	182.0	53		T	160	-5	25	300	3	65	850	"
	183.0	54		0.1	140	-5	30	390	7	85	0.11%	"
	184.0	55		0.15	130	-5	25	355	3	90	765	"
	184.71	34356		T	130	-5	20	200	2	65	380	"
	185.0	26227		T	600	20	40	370	-2	150	750	13/1/75
	186.0	28		T	155	-10	30	175	-2	60	350	"
	187.0	29		T	300	30	30	290	-2	100	800	"
	188.0	30		0.2	330	60	30	510	-2	200	900	"
	189.0	31		T	180	90	30	210	-2	90	400	"
	189.89	26232		0.2	450	120	40	190	-2	80	400	"
623 - 626	190.80		7102	2.6					6			21/7/72
			"			100						4/8/72
625 - 634	190.80 - 193.24		7100	0.6					3			21/7/72
			"		0.12%	700						4/8/72
P. 643 - 645	195.99 - 196.60		7104	5.2					3			21/7/72
			"			0.18%						4/8/72
P.	196.0 - 197.97	26233		0.3	0.13%	180	50	330	-2	90	600	13/1/75
		26866		0.4	0.19%	250	20	380	2	195		21/4/75

p. Assay only on part of interval.

NORTHERN STAR - ASSAY DATA - DDH 22A

	<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
			<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
P.	645 - 650	196.60 - 198.12		7106	0.2								21/7/72
	654	199.34		7108	-0.2								"
	661	201.47		7110	-0.2								"
	668	203.61		7112	-0.2								" "
	670	204.22		7114	2.4								" "
				"			-100			-3			"
		205.0	26234		0.3	630	30	40	200	-2	80	400	4/8/72
		206.0	35		T	200	20	30	180	-2	70	500	13/1/75
		207.0	36		T	125	80	30	150	-2	80	650	"
		208.0	37		0.2	400	-10	40	180	-2	50	400	"
		209.0	38		T	90	-10	30	140	-2	40	350	"
		210.0	39		0.2	135	-10	30	115	-2	50	400	"
		211.0	40		T	135	-10	30	165	-2	60	500	"
		212.0	41		T	125	-10	30	160	-2	50	550	"
		213.0	42		T	60	-10	30	150	-2	50	400	"
		214.0	43		T	300	20	40	240	-2	60	350	13/1/75
		215.0	44		T	375	280	70	240	2	60	350	"
		215.80	26245		0.2	390	620	70	240	2	60	350	"
708 - 714		217.63		7116	-0.2								21/7/72
714 - 719		219.15		7126	1.4								"
				"			100			-3			"
		220.0	26246		0.2	175	-10	30	205	2	30	300	4/8/72
		221.0	47		0.2	620	40	70	210	2	80	350	13/1/75
	221.0 - 222.0		26248		T	190	10	50	190	2	90	450	"

P Assay only on part of interval

NORTHERN STAR - ASSAY DATA - DDH 22A

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	222.0 - 223.0	26249		T	175	40	50	210	2	90	450	13/1/75
	224.0	50		T	180	10	50	180	-2	90	450	"
	225.0	51		0.2	300	20	50	125	-2	70	500	"
	226.0	52		0.2	190	-10	40	200	-2	60	450	"
	227.0	53		0.2	400	30	50	170	2	100	450	"
	228.0	54		T	245	-10	30	130	-2	90	400	"
	229.82	56		0.2	270	10	40	125	-2	120	550	"
754 - 758	231.04		7118	-0.2								21/7/72
762	232.26		7120	-0.2								"
767	233.78		7122	-0.2								"
772	235.31		7124	-0.2								"
	236.0	26257		0.2	265	-10	40	125	-2	100	550	13/1/75
	237.0	58		T	390	-10	40	80	-2	50	500	"
	238.0	59		0.2	95	10	40	105	-2	80	500	"
238.0 - 239.0	239.0	26260		0.2	100	20	40	130	-2	90	450	"

NORTHERN STAR - ASSAY DATA - DDH 22A

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	222.0 - 223.0	26249		T	175	40	50	210	2	90	450	13/1/75
	224.0	50		T	180	10	50	180	-2	90	450	"
	225.0	51		0.2	300	20	50	125	-2	70	500	"
	226.0	52		0.2	190	-10	40	200	-2	60	450	"
	227.0	53		0.2	400	30	50	170	2	100	450	"
	228.0	54		T	245	-10	30	130	-2	90	400	"
	229.82	56		0.2	270	10	40	125	-2	120	550	"
754 - 758	231.04		7118	-0.2								21/7/72
762	232.26		7120	-0.2								"
767	233.78		7122	-0.2								"
772	235.31		7124	-0.2								"
	236.0	26257		0.2	265	-10	40	125	-2	100	550	13/1/75
	237.0	58		T	390	-10	40	80	-2	50	500	"
	238.0	59		0.2	95	10	40	105	-2	80	500	"
238.0 - 239.0	239.0	26260		0.2	100	20	40	130	-2	90	450	"

NORTHERN STAR - ASSAY DATA - DDH 22A

Note: Additional assay data from samples produced by combining small intervals.

Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.D.L.</u>	<u>A.C.M.</u>	<u>Combined Sample Numbers</u> <u>Interval length (ft)</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u>
623-626	189.89-190.80												
+643-645	+195.99-196.60		7336	7102(3)+7104(2)		(800)	(500)			(0.1)	(50)		17/10/7
654	196.60-199.34		7338	7106(5)+7108(4)		(500)	(100)			(0.1)	(50)		"
670	204.22		7340	7110(5)+7112(7)+7114(2)		(500)	(100)			(0.1)	(50)		"
708-719	215.8-219.15		7342	7116(6)+7126(5)		(300)	(150)			(0.5)	(10)		"
754-762	229.82-232.26		7344	7118(4)+7120(4)		(400)	(150)			(3)	(200)		"
762-772	232.26-235.30		7346	7122(5)+7124(5)		(0.50%)	(250)			(0.1)	(80)		"

Note:

Assays in brackets () are semi-quantitative spectrographic analyses.

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH 22A

Note: Additional assays for elements not routinely assayed for by A.D.L.

Split Core

<u>Interval:</u> <u>Feet</u>	<u>Interval:</u> <u>Metres</u>	<u>A.C.M.</u> <u>Sample No:</u>	<u>Ni</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
623 - 626	189.89 - 190.80							
+643 - 645	+195.99 - 196.60	7336	50	5	-10	3	-50	17/10/72
645 - 654	196.60 - 199.34	7338	50	5	-10	3	-50	"
654 - 670	199.34 - 204.22	7340	50	20	-10	5	-50	"
708 - 719	215.80 - 219.15	7342	10	30	-10	3	50	"
754 - 762	229.82 - 232.26	7344	30	30	-10	3	-50	"
762 - 772	232.26 - 235.30	7346	20	10	-10	1	-50	"

Note: All assays determined by semi-quantitative spectrographic analysis.

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH23

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	5.00 - 6.00	34357		T	35	-5	20	20	1	10	140	2/2/78
	7.0	58		T	60	5	20	25	-1	5	130	"
	8.0	59		0.1	50	-5	15	20	-1	10	0.12%	"
	9.0	60		T	50	-5	20	25	1	10	0.21%	"
	10.0	61		T	100	-5	20	30	1	25	0.64%	"
	11.0	62		T	100	-5	20	20	1	15	0.28%	"
	12.0	63		T	100	-5	20	20	1	10	860	"
	13.0	64		T	65	-5	15	15	1	10	970	"
	14.0	65		T	30	-5	17	10	1	10	455	"
	15.0	66		T	55	-5	20	10	1	10	670	"
	16.0	67		T	55	-5	20	10	1	10	620	"
	17.0	68		0.1	220	5	20	15	9	75	0.27%	"
	18.0	69		T	80	-5	20	15	1	20	730	"
	19.0	70		T	80	5	25	15	1	15	760	"
	20.0	71		T	80	5	20	15	1	15	800	"
	21.0	72		T	85	-5	20	15	1	15	940	"
	22.0	73		T	140	-5	20	15	1	45	0.10%	3/2/78
	23.0	74		T	230	-5	20	15	1	170	0.20%	"
	24.0	75		0.1	375	-5	20	20	1	145	0.39%	"
	25.0	76		0.1	0.10%	80	25	40	1	390	1.2%	"
	26.0	77		T	470	-5	25	25	1	140	0.33%	"
	27.0	78		T	410	-5	20	20	1	110	0.24%	"

NORTHERN STAR - ASSAY DATA - DDH 23 (cont.)

Interval: <u>(ft)</u>	Interval: <u>(m)</u>	Sample Nos.		Au <u>D/T:</u>	Cu <u>ppm:</u>	Bi <u>ppm:</u>	Pb <u>ppm:</u>	Zn <u>ppm:</u>	Ag <u>ppm:</u>	Co <u>ppm:</u>	Mn <u>ppm:</u>	Date <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	27.0 - 28.0	34379		0.1	370	-5	20	30	1	80	0.25%	3/2/78
	29.0	80		T	270	-5	20	20	1	50	0.11%	"
	30.0	81		T	210	20	20	15	1	45	580	"
	31.0	82		0.1	390	-5	15	20	1	130	0.21%	"
	32.0	83		T	210	-5	20	30	-1	60	0.24%	"
	33.0	84		T	180	-5	20	30	1	55	0.17%	"
	34.0	85		0.1	485	-5	20	37	1	130	0.26%	"
	35.0	86		0.1	400	-5	20	50	1	60	880	"
	36.0	87		0.1	350	5	20	95	1	40	720	"
	37.0	88		T	400	-5	20	55	1	30	480	"
	38.0	89		0.2	500	-5	15	55	1	30	540	"
	39.0	90		0.1	540	-5	20	130	1	30	630	"
	40.0	91		T	520	-5	20	160	1	35	910	"
	41.0	92		T	520	-5	15	180	1	25	880	"
	42.0	93		0.2	510	-5	15	140	1	25	820	"
	43.0	94		0.1	590	-5	20	180	1	35	0.11%	"
	44.0	95		T	655	-5	15	210	-1	25	845	"
	45.0	96		T	390	10	20	160	1	30	860	"
	46.0	97		0.1	390	-5	20	150	1	30	880	"
	47.0	98		T	780	-5	20	350	1	55	0.18%	"
	48.0	99		T	630	-5	20	210	1	45	0.11%	"
	49.0	34400		T	500	-5	15	170	-1	30	820	"
	50.0	01		T	550	-5	20	190	1	35	880	"
50.0 - 51.0		02		T	360	-5	20	120	-1	25	550	"

NORTHERN STAR - ASSAY DATA - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	51.0 - 52.0	34403	0.1	610	-5	20	140	1	20	330	3/2/78
	53.0	04	0.1	440	-5	20	80	-1	20	410	"
	54.0	05	T	480	-5	22	95	-1	25	560	"
	55.0	06	T	470	-5	15	110	1	20	560	"
	56.0	07	0.1	520	-5	15	70	1	20	520	"
	57.0	08	T	0.12%	-5	15	110	1	45	670	"
	58.0	09	T	0.12%	-5	20	110	1	35	480	"
	59.0	10	0.1	0.11%	-5	20	130	1	25	450	"
	60.0	11	0.1	410	-5	20	65	1	20	390	"
	61.0	12	0.1	490	-5	20	120	1	20	560	"
	62.0	13	0.1	300	-5	20	95	-1	20	510	"
	63.0	14	0.1	380	-5	20	70	-1	20	490	"
	64.0	15	T	410	-5	20	115	-1	22	505	"
	65.0	16	T	80	-5	15	80	1	15	320	"
	66.0	17	T	260	-5	20	130	1	20	690	"
	67.0	18	0.1	230	-5	25	90	1	20	480	"
	68.0	19	T	450	-5	20	110	-1	25	500	"
	69.0	20	T	490	-5	20	100	1	25	630	"
	70.0	21	0.1	670	-5	20	95	1	30	560	"
	71.0	22	0.1	720	-5	20	95	1	30	650	"
	72.0	23	T	650	-5	20	95	1	25	560	"
	73.0	24	0.1	540	-5	70	65	1	30	700	7/2/78
	73.0 - 74.0	25	0.1	470	-5	42	120	1	35	785	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Dte</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	74.0 - 75.0	34426		T	410	-5	35	100	1	35	490	7/2/78
	76.0	27		T	260	-5	30	130	1	25	450	"
	77.0	28		T	-5	-5	25	80	1	20	380	"
	78.0	29		T	-5	-5	20	110	1	25	620	"
	79.0	30		T	-5	-5	20	65	1	25	550	"
	80.0	31		T	-5	-5	20	100	1	25	740	"
	81.0	32		T	5	-5	15	75	-1	30	550	"
	82.0	33		T	30	-5	70	160	1	40	0.10%	"
	83.0	34		T	240	5	45	95	1	30	600	"
	84.0	35		0.1	630	-5	27	120	1	40	975	"
	85.0	36		0.1	490	-5	25	140	1	35	0.11%	"
	86.0	37		T	210	-5	20	130	1	25	710	"
	87.0	38		T	35	-5	25	120	1	25	600	"
	88.0	39		T	30	-5	25	130	1	35	940	"
	89.0	40		T	-5	-5	25	95	1	25	760	"
	90.0	41		T	5	-5	20	140	1	35	0.11%	"
	91.0	42		T	-5	-5	60	140	-1	30	0.12%	"
	92.0	43		0.1	5	-5	35	100	1	25	860	"
	93.0	44		T	5	5	30	110	1	30	910	"
	94.0	45		0.1	120	-5	20	160	1	35	0.12%	"
	95.0	46		0.1	15	-5	20	130	1	35	0.12%	"
	96.0	47		0.1	210	-5	20	130	1	30	740	"
	97.0	48		0.1	320	5	20	140	-1	40	940	"
	97.0 - 98.0	34449		0.1	10	-5	15	120	-1	35	0.11%	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	98.0 - 99.0	34450	0.1	10	5	20	150	1	35	0.11%	7/2/78
	100.0	51	T	5	5	35	130	1	30	0.10%	"
	101.0	52	0.1	5	-5	25	120	2	30	850	"
	102.0	53	0.1	-5	-5	60	110	1	30	840	22/2/78
	103.0	54	0.1	5	5	25	140	2	25	0.11%	"
	104.0	55	0.1	-5	10	25	110	1	22	810	"
	105.0	56	T	10	20	25	120	1	25	920	"
	106.0	57	T	-5	5	30	95	1	25	720	"
	107.0	58	T	-5	-5	45	95	1	25	720	"
	108.0	59	0.1	-5	15	35	120	1	35	920	"
	109.0	60	0.1	-5	10	45	120	1	35	900	"
	110.0	61	0.1	5	-5	55	90	-1	30	720	"
	111.0	62	0.1	-5	-5	60	80	1	25	620	"
	112.0	63	0.1	10	5	30	75	1	30	600	"
	113.0	64	0.2	-5	-5	40	95	-1	20	740	"
	114.0	65	T	-5	-5	27	105	-1	25	810	"
	115.0	66	0.1	5	20	30	85	1	25	620	"
	116.0	67	0.1	-5	15	20	80	-1	20	620	"
	117.0	68	0.2	-5	5	25	120	1	35	880	2/3/78
	118.0	69	0.2	-5	5	25	100	-1	40	760	"
	119.0	70	0.1	-5	5	25	110	-1	35	740	"
	120.0	71	0.1	-5	-5	25	110	-1	35	740	"
	121.0	72	0.1	-5	5	20	120	-1	35	640	"
	121.0 - 122.0	34473	0.1	-5	5	30	140	-1	40	880	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	Sample Nos. <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu:</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	122.0 - 123.0	34474	0.1	-5	-5	20	110	1	30	820	2/3/78
	124.0	75	T	-5	-5	22	120	1	35	810	"
	125.0	76	0.1	-5	-5	20	110	1	30	740	"
	126.0	77	0.1	-5	-5	20	110	2	35	770	"
	127.0	78	0.1	-5	-5	20	120	1	35	830	"
	128.0	79	0.1	-5	-5	25	120	-1	40	820	"
	129.0	80	T	-5	-5	25	95	1	35	700	"
	130.0	81	T	10	-5	25	95	2	25	700	14/3/78
	131.0	82	0.1	5	-5	20	100	2	25	700	"
	132.0	83	0.1	-5	-5	25	110	1	25	820	"
	133.0	84	T	-5	5	25	100	1	25	720	"
	134.0	85	0.1	-5	-5	25	100	1	25	700	"
	135.0	86	T	-5	10	25	100	1	25	720	"
	136.0	87	0.1	-5	10	20	100	-1	25	740	"
	137.0	88	0.1	-5	10	30	110	2	25	700	"
	138.0	89	0.1	5	10	20	110	-1	25	750	"
	139.0	90	T	5	10	25	120	1	30	820	"
	140.0	91	0.1	5	-5	15	110	1	25	760	"
	141.0	92	T	5	-5	20	120	1	25	700	"
	142.0	93	T	5	-5	20	110	1	20	640	"
	143.0	94	T	5	-5	25	100	1	25	640	"
	144.0	95	T	5	-5	22	110	-1	20	620	"
	145.0	96	0.1	10	20	15	95	-1	20	580	"
145.0 - 146.0		34497	T	5	-5	20	90	-1	20	580	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	146.0 - 147.0	34498	<u>A.D.L.</u> <u>A.C.M.</u>	0.1	-5	5	20	95	-1	25	600	14/3/78
	148.0	99		0.1	5	5	20	90	1	20	580	"
	149.0	34500		T	5	-5	20	95	1	20	580	"
	150.0	01		0.1	5	-5	20	110	1	25	700	"
	151.0	02		T	-5	15	15	100	-1	20	620	"
	152.0	03		T	-5	-5	20	110	1	25	680	"
	153.0	04		T	15	10	25	160	1	35	0.10%	"
	154.0	05		T	5	-5	20	120	1	25	700	"
	155.0	06		T	5	-5	20	95	-1	20	600	"
	156.0	07		T	5	-5	15	110	1	20	640	"
	157.0	08		T	5	-5	25	110	-1	30	640	"
	158.0	09		T	5	-5	15	100	1	25	580	"
	158.5	10		T	5	10	20	95	1	25	560	"
	161.0	11		T	5	15	15	110	1	25	640	"
	162.0	12		0.1	5	-5	20	100	1	25	640	"
	163.0	13		0.1	5	-5	15	100	1	20	500	"
	164.0	14		0.1	-5	-5	20	120	2	25	660	"
	165.0	15		T	12	-5	20	105	-1	25	550	"
	166.0	16		T	5	-5	15	120	2	25	520	"
	167.0	17		T	5	-5	15	130	3	25	640	"
	168.0	18		T	5	-5	15	110	-1	20	520	"
	169.0	19		T	5	-5	20	110	1	20	500	"
169.0 - 170.0		34520		T	5	-5	20	150	1	20	500	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	Sample Nos. <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	170.0 - 171.0	34521	T	-5	-5	20	140	2	25	680	14/3/78
	172.0	22	T	5	-5	15	120	2	20	500	"
	173.0	23	T	5	15	25	85	1	20	460	22/3/78
	174.0	24	T	180	15	20	85	1	20	460	"
	175.0	25	0.1	7	32	22	67	1	22	350	"
	176.0	26	0.1	10	40	30	90	1	20	440	"
	177.0	27	0.1	5	10	20	70	-1	20	400	"
	178.0	28	T	5	5	20	60	-1	15	340	"
	179.0	29	T	5	15	20	60	1	20	340	"
	180.0	30	T	5	15	15	60	1	20	280	"
	181.0	31	T	5	5	20	110	-1	20	380	"
	182.0	32	T	5	10	25	140	-1	20	360	"
	183.0	33	0.1	5	20	20	130	1	35	380	"
	184.0	34	0.1	5	30	20	50	1	20	240	"
	185.0	35	T	5	15	25	65	1	20	300	"
	186.0	36	T	5	30	20	60	1	20	300	"
	187.0	37	T	5	30	15	75	1	20	300	"
	188.0	38	T	5	15	50	55	1	20	220	"
	189.0	39	0.1	10	30	35	55	1	20	260	"
	190.0	40	0.1	10	25	20	45	1	25	240	"
	191.0	41	0.1	5	25	20	40	1	30	220	"
	191.0 - 192.0	34542	T	10	50	30	90	1	100	440	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	192.0 - 193.0	34543		0.1	5	20	20	30	1	25	160	22/3/78
	194.0	44		T	5	5	25	25	1	15	90	"
	195.0	45		0.1	5	12	17	17	-1	15	82	"
	196.0	46		T	5	15	15	20	1	10	85	"
	197.0	47		T	5	15	20	20	1	10	140	"
	198.0	48		0.1	5	5	20	25	1	10	140	"
	199.0	49		0.1	5	15	20	25	-1	10	140	"
	200.0	50		0.1	5	5	50	15	1	10	80	"
	201.0	51		T	5	5	20	25	1	10	140	"
	201.0 - 201.5	52		T	5	15	20	25	1	15	160	"
	203.0 - 204.0	53		0.1	-5	-5	20	25	1	15	150	3/4/78
	205.0	54		0.1	-5	-5	20	15	1	10	95	"
	206.0	55		0.1	-5	-5	15	30	1	20	230	"
	207.0	56		0.1	-5	-5	15	20	-1	10	130	"
	208.0	57		0.1	-5	-5	20	20	-1	15	140	"
	209.0	58		T	-5	-5	20	20	-1	15	160	"
	210.0	59		0.1	5	-5	20	20	-1	15	140	"
	210.0 - 210.6	60		0.1	5	-5	20	15	-1	10	110	"
	212.8 - 214.0	61		0.1	5	-5	20	15	-1	10	110	"
	215.0	62		0.1	5	-5	20	10	-1	10	60	"
	216.0	63		0.1	-5	-5	25	10	-1	15	50	"
	216.0 - 217.0	34564		0.1	5	-5	20	20	-1	15	140	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	217.0 - 218.2	34565		0.1	5	-5	25	25	-1	17	185	3/4/78
	219.8 - 221.0	66		0.1	5	5	20	35	-1	20	260	"
	222.0	67		0.1	5	5	25	50	-1	30	330	"
	222.0 - 222.5	68		0.1	-5	5	20	75	1	35	550	"
	224.0 - 225.0	69		0.1	-5	5	20	70	1	30	480	"
	226.0	70		0.1	-5	-5	25	140	2	50	0.10%	"
	227.0	71		0.1	5	5	25	140	2	55	0.11%	"
	228.0	72		0.1	5	-5	20	90	1	35	700	"
	229.0	73		T	5	-5	20	55	-1	20	390	"
	230.0	74		0.1	10	-5	25	50	1	25	390	"
	231.0	75		0.1	10	-5	20	45	-1	20	340	"
	232.0	76		0.1	5	-5	20	40	-1	20	330	"
	233.0	77		T	10	-5	20	45	1	25	310	"
	234.0	78		T	10	-5	20	45	-1	20	290	"
	235.0	79		0.1	10	-5	20	40	-1	25	300	"
	236.0	80		0.1	-5	5	15	40	-1	20	270	"
	237.0	81		0.1	-5	5	20	35	-1	15	220	"
	238.0	82		T	30	-5	20	30	-1	15	200	"
	239.0	83		T	20	5	20	45	1	20	280	"
	240.0	84		0.1	25	5	20	45	1	20	280	"
	241.0	85		0.1	525	7	25	35	1	20	235	"
	242.0	86		0.1	820	-5	20	30	-1	15	200	"
	243.0	87		0.1	360	-5	25	45	-1	20	230	"
	243.0 - 244.0	34588		0.1	0.35%	-5	25	40	1	20	260	"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	244.0 - 245.0	A.D.L.	A.C.M.									
		34589		T	0.21%	-5	20	40	-1	20	270	3/4/78
	246.0	90		0.2	0.12%	5	30	40	-1	25	260	"
	247.0	91		0.3	0.20%	-5	25	35	1	25	240	"
	248.0	92		0.4	0.10%	-5	20	40	1	25	260	"
	249.0	93		T	750	5	20	35	-1	25	230	"
	250.0	94		0.1	0.18%	10	20	45	1	50	320	"
	251.0	95		0.2	0.69%	15	20	40	1	55	245	"
	252.0	96		0.2	0.15%	-5	20	35	-1	35	220	"
	255.0	97		0.1	0.36%	5	20	45	1	65	330	"
	254.0	98		0.1	0.23%	-5	20	45	1	20	220	"
	255.0	99		0.1	0.34%	-5	20	30	1	35	240	"
	256.0	34600		0.1	0.36%	10	15	35	1	30	210	"
	257.0	01		0.1	0.23%	15	20	55	1	30	320	"
	258.0	02		0.1	0.34%	25	20	65	1	45	380	"
	259.0	03		T	0.19%	10	20	60	1	60	430	"
	260.0	04		0.1	0.74%	5	20	40	1	65	280	"
	261.0	05		T	0.33%	160	27	62	3	95	505	"
	262.0	06		0.1	190	30	25	75	3	95	600	"
	263.0	07		0.1	80	80	30	55	6	75	440	"
	264.0	08		T	90	50	20	35	3	50	270	"
	265.0	09		T	440	40	30	50	2	60	320	"
	266.0	10		0.1	770	15	30	70	1	60	320	"
	266.0 - 267.0	11		T	780	20	30	85	2	80	520	"

ASSAY DATA - NORTHERN STAR - DDH 23(cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co.</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	267.0 - 268.0	34612		T	300	10	25	80	2	80	600	3/4/78
	269.0	13		T	150	30	40	110	3	90	900	"
	270.0	14		T	150	15	30	95	2	85	840	"
	271.0	15		T	755	27	25	75	2	75	570	"
	272.0	16		T	0.11%	15	25	55	2	65	440	"
	273.0	17		0.1	870	30	25	60	2	65	440	"
	274.0	18		0.1	0.15%	95	25	50	2	50	350	"
	275.0	19		T	0.10%	5	20	55	3	85	440	"
	276.45	34620		T	640	40	20	60	2	70	380	"
907 - 911	277.67		7152	-0.2								21/7/72
916	279.20		54	-0.2								"
920	280.42		56	-0.2								"
940	286.51		60	-0.2								"
946	288.34		62	-0.2								"
951	289.86		64	-0.2								"
957	291.69		66	-0.2								"
962	293.22		68	-0.2								"
966 ¹ / ₂	294.59		7170	-0.2								"
971	295.96		72	-0.2								"
976	297.48		74	-0.2								"
981	299.01		76	-0.2								"
986	300.53		78	-0.2								"
986 - 991	300.53 - 302.06		7180	-0.2								"

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

[illegible]

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.B.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1071 - 1075	326.44 - 327.66	7212	-0.2								21/7/72
		"	-0.2								22/12/73
		"	0.6								24/2/73
1077½	328.42	7214	30.4					6			21/7/72
		"			1.6%						4/8/72
		"		(0.20%)	(+1.0%)		(30)	(3)	(80)		15/9/72
		"	27.3								22/12/72
		"	29.2								24/2/73
1080	329.18	7216	11.2					-3			21/7/72
		"			1.5%						4/8/72
		"		(800)	(+1.0%)		(30)	(0.3)	(80)		15/9/72
		"	12.8								22/12/72
		"	12.5								24/2/76
1082½	329.95	7218	6.8					-3			21/7/72
		"			0.31%						4/8/72
		"		(30)	(0.25%)		(30)	(0.3)	(80)		15/9/72
		"	6.5								22/12/72
		"	6.3								24/2/73
1085	330.71	7220	13.0					-3			21/7/72
		"			0.39%						4/8/72
		"		(30)	(0.30%)		(50)	(0.5)	(80)		15/9/72
		"	11.5								22/12/72
		"	12.5								24/2/73
1087½	331.47	7222	1.4					-3			21/7/72
		"			400						4/8/72
		"		(30)	(500)		(20)	(0.1)	(50)		15/9/72
		"	1.7								22/12/72
		"	1.7								24/2/73
1090	332.23	7224	26.2					-3			21/7/72
		"			0.33%						4/8/72
		"		(50)	(0.30%)		(20)	(1.0)	(80)		15/9/72
		"	26.5								22/12/72
		"	28.0								24/2/73

() Semi-quantitative spectrographic analysis

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1090-1093	332.23- 333.15	7226	11.0					-3			21/7/72
		"			0.16%						4/8/72
		"		(20)	(0.15%)		(20)	(0.5)	(80)		15/9/72
		"	8.6								22/12/72
		"	10.3								24/2/73
1097	334.37	7228	28.6					-3			21/7/72
		"			1.6%						4/8/72
		"		(30)	(+1.0%)		(30)	(5)	(100)		15/9/72
		"	27.6								22/12/72
		"	28.0								24/2/73
1101	335.58	7230	9.2					-3			21/7/72
		"			1.0%						4/8/72
		"		(100)	(+1.0)		(30)	(0.5)	(120)		15/9/72
		"	9.0								22/12/72
		"	9.0								24/2/72
1107	337.41	7232	-0.2								21/7/72
		"	-0.2								22/12/72
		"	0.1								24/2/73
1110	338.33	7234	-0.2								21/7/72
		"	-0.2								22/12/72
		"	-0.1								24/2/73
1115	339.85	7236	-0.2								21/7/72
1120	341.38	7238	-0.2								21/7/72
		"		0.16%							15/9/72
1125	342.90	7240	-0.2								21/7/72
		"		0.28%							15/9/72
1130	344.42	7242	-0.2								21/7/72
		"		0.35%							15/9/72
1135	345.95	7244	-0.2								21/7/72
		"		0.24%							15/9/72

() Semi-quantitative spectrographic analysis

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
1135 - 1140	345.95-347.47		7246	-0.2					-3			21/7/72
			"		0.27%	100						4/8/72
			"		0.28%							15/9/72
1145	349.00		7248	-0.2								21/7/72
1150	350.52		7250	-0.2								21/7/72
1152 $\frac{1}{2}$	351.28		7252	-0.2								21/7/72
			"		0.21%					900		15/9/72
1155	352.04		7254	11.4					-3			21/7/72
			"		0.31%	0.19%				4.6%		4/8/72
			"		(0.15%)	(0.10%)		(-20)	(1)	(+1.0%)		15/9/72
			"		0.32%					4.6%		15/9/72
1157 $\frac{1}{2}$	352.81		7256	-0.2								21/7/72
			"		0.16%					400		15/9/72
1160	353.67		7258	-0.2								21/7/72
1165	355.09		7260	-0.2								21/7/72
1170	356.62		7262	-0.2								"
1175	358.14		7264	-0.2								"
			"		0.10%							15/9/72
1180	359.66		7266	-0.2					-3			21/7/72
			"		0.70%	-100						4/8/72
			"		0.75%							15/9/72
1183	360.58		7268	-0.2					3			21/7/72
			"		0.12%	-100						4/8/72
			"		0.13%							15/9/72
1188	362.10		7270	-0.2					6			21/7/72
					0.85%	-100						4/8/72
					0.95%							15/9/72
1193	363.63		7272	-0.2					-3			21/7/72
			"		0.14%	600						4/8/72
			"		0.15%							15/9/72

ASSAY DATA - NORTHERN STAR - DDH 23 (cont.)

[illegible]

NORTHERN STAR - ASSAY DATA - DDH 23

Note: Additional assay data from samples produced by combining smaller intervals.

(Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L. A.C.M.</u>	<u>Combined Sample Numbers</u> <u>Interval length (ft)</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date:</u>
907-916	276.45-279.20	7348	7152(4) + 7154(5)		(300)	(30)			(0.1)	(30)		17/10/72
940	286.51	7350	7156(4) + 7160(20)		(400)	(20)			(-0.1)	(30)		"
957	291.69	7352	7162(6)+7164(5)+7166(6)		(500)	(50)			(-0.1)	(100)		"
966 $\frac{1}{2}$	294.59	7354	7168(5) + 7170(4 $\frac{1}{2}$)		(300)	(10)			(0.3)	(50)		"
976	297.48	7356	7172(4 $\frac{1}{2}$) + 7174(5)		(300)	(5)			(0.1)	(200)		"
986	300.53	7358	7176(5) + 7178(5)		(200)	(1)			(-0.1)	(30)		"
996	303.58	7360	7180(5) + 7182(5)		(200)	(10)			(-0.1)	(100)		"
1006	306.63	7362	7184(5) + 7186(5)		(80)	(30)			(-0.1)	(20)		"
1016	309.68	7364	7188(5) + 7190(5)		(100)	(5)			(-0.1)	(20)		"
1026	312.72	7366	7192(5) + 7194(5)		(150)	(3)			(-0.1)	(50)		"
1038	316.38	7368	7196(5) + 7198(7)		(300)	(10)			(-0.1)	(20)		"
1050	320.04	7370	7200(8) + 7202(4)		(150)	(30)			(0.3)	(200)		"
1061	323.39	7372	7204(6) + 7206(5)		(150)	(50)			(-0.1)	(100)		"
1075	327.66	7374	7208(5) + 7210(5)+7212(4)		(100)	(100)			(-0.1)	(50)		"
1101-1110	335.58- 338.33	7376	7232(6) + 7234(3)		(200)	(200)			(-0.1)	(100)		"
1120	341.38	7378	7236(5) + 7238(5)		(0.10%)	(150)			(0.1)	(80)		"
1130	344.42	7380	7240(5) + 7242(5)		(0.30%)	(30)			(-0.1)	(150)		"
1140	347.47	7382	7244(5) + 7246(5)		(0.20%)	(20)			(0.1)	(150)		"
1140-1150	347.47-350.52	7384	7248(5)+7250(5)		(0.50%)	(30)			(-0.1)	(200)		"

NORTHERN STAR - ASSAY DATA - DDH 23

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>I (m)</u>	<u>Sample Nos.</u>		<u>Combined Sample Numbers</u> <u>Interval length (ft)</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>										
1150-1152 $\frac{1}{2}$	350.52-351.28												
1155-1157 $\frac{1}{2}$	+352.04-352.81		7386	7252(2 $\frac{1}{2}$)+7256(2 $\frac{1}{2}$)		(0.20%)	(300)			(0.2)	(500)		17/10/7
1165	355.09		7388	7258(2 $\frac{1}{2}$)+7260(5)		(800)	(80)			(-0.1)	(200)		"
1175	358.14		7390	7262(5)+7264(5)		(800)	(30)			(0.1)	(100)		"
1183	360.59		7392	7266(5)+7268(3)		(0.50%)	(20)			(-0.1)	(300)		"
1193	363.63		7394	7270(5)+7272(5)		(0.40%)	(200)			(0.1)	(800)		"
1203	366.67		7396	7274(5)+7276(5)		(0.15%)	(30)			(0.1)	(500)		"
1212	369.42		7398	7278(4)+7280(5)		(500)	(80)			(0.2)	(0.10%)		"
1212-1224	369.42-373.08		7400	7282(7)+7284(5)		(800)	(100)			(0.3)	(800)		"

Note:

Assays in brackets () are semi-quantitative spectrographic analyses.

NORTHERN STAR - ASSAY DATA - DDH 23

Note: Additional assays for elements not routinely assayed for by A.D.L.

Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample</u> <u>No.</u>	<u>U</u> <u>ppm:</u>	<u>U₃O₈</u> <u>ppm:</u>	<u>Ni</u> <u>ppm:</u>	<u>Cr</u> <u>ppm:</u>	<u>V</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Cd</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>Sb</u> <u>ppm:</u>	<u>Te</u> <u>ppm:</u>	<u>Ti</u> <u>ppm:</u>	<u>Hg</u> <u>ppm:</u>	<u>Se</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1038-1046	316.38-318.82	7200	3100															4/12/72 26/2/73
1050	320.04	7202	600	2670														4/12/72 26/2/73
1056	321.87	7204	400	520														4/12/72 26/2/73
1061	323.39	7206	1400	400														4/12/72 26/2/73
1066	324.92	7208	350	1240														4/12/72 26/2/73
1071	326.44	7210	350	400														4/12/72 26/2/73
1075	327.66	7212	170	350														4/12/72 26/2/73
1077½	328.42	7214	900	200														22/12/72 26/2/73
1080	329.18	7216	(1000)	(0.09%) 1330	(50)	(30)	(150)	(30)	(-10)	(-3)	(10)	(50)	(-30)	(-20)	(100)	(0.2)	80	15/9/72 17/10/72 26/2/73
1082½	329.95	7218	(600)	1370	(80)	(20)	(300)	(30)	(-10)	(-3)	(20)	(-50)	(-30)	(-20)	(100)	(0.15)		15/9/72 17/10/72 26/2/73
				770	(50)	(20)	(300)	(30)	(-10)	(-3)	(15)	(-50)	(-30)	(-20)	(100)	(-0.15)		15/9/72 17/10/72 26/2/73

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NORTHERN STAR - ASSAY DATA - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample</u> <u>No:</u>	<u>U</u> <u>ppm:</u>	<u>U₃O₈</u> <u>ppm:</u>	<u>Ni</u> <u>ppm:</u>	<u>Cr</u> <u>ppm:</u>	<u>V</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Cd</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>Sb</u> <u>ppm:</u>	<u>Te</u> <u>ppm:</u>	<u>Ti</u> <u>ppm:</u>	<u>Hg</u> <u>ppm:</u>	<u>Se</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1082 ¹ / ₂ -1085	329.95-330.71	7220	(900)	1400	(80)	(20)	(500)	(30)	(-10)	(-3)	(20)	(-50)	(-30)	(-20)	(120)	(-0.15)		15/9/72 17/10/72 26/2/73
1085-1087 ¹ / ₂	331.47	7222	(100)	90	(50)	(20)	(300)	(10)	(-10)	(-3)	(15)	(-50)	(-30)	(-20)	(150)	(-0.15)		15/9/72 17/10/72 26/2/73
1090	332.23	7224	2700	(0.26%) 3780	(30)	(30)	(300)	(20)	(-10)	(-3)	(15)	(50)	(-30)	(-20)	(120)	(0.15)	120	15/9/72 17/10/72 26/2/73
1093	333.15	7226	(900)	1250	(100)	(30)	(300)	(50)	(-10)	(-3)	(10)	(-50)	(-30)	(-20)	(-100)	(-0.15)		15/9/72 17/10/72 26/2/73
1097	334.37	7228	850	(0.08%) 1230	(80)	(20)	(300)	(50)	(-10)	(-3)	(20)	(50)	(-30)	(-20)	(-100)	(-0.15)	90	15/9/72 17/10/72 26/2/73
1101	335.58	7230	(1200)	1520	(80)	(20)	(300)	(50)	(-10)	(-3)	(20)	(50)	(-30)	(-20)	(-100)	(0.15)		25/9/72 17/10/72 26/2/73
1107	337.41	7232	1900	2120														4/12/72 26/2/73
1107-1110	337.41-338.33	7234	1800	1900														4/12/72 26/2/73
1152 ¹ / ₂ -1155	351.28-352.04	7254	-10		(200)	(20)	(10)	(100)	(-10)	(-3)	(5)	(1.0%)	(-30)	(-20)	(100)	(2)	130	19/9/72

Note: U assays in brackets approximate only. U₃O₈ assays in brackets determined by $\beta\gamma$ activity.
 All other assays in brackets determined by semi-quantitative spectrographic analysis.

NORTHERN STAR - ASSAY DATA - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample</u> <u>No:</u>	<u>Ni</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>U₃O₈</u> <u>ppm:</u>	<u>Y</u> <u>ppm:</u>	<u>La</u> <u>ppm:</u>	<u>Ce</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
907 - 916	276.45 - 279.20	7348	(5)	(3)	(-10)	(-1)	(-50)					17/10/72
940	286.51	7350	(5)	(30)	(-10)	(-1)	(-50)					"
957	291.69	7352	(30)	(30)	(-10)	(-1)	(-50)					"
966 ¹ / ₂	294.59	7354	(10)	(-3)	(-10)	(-1)	(50)					"
976	297.48	7356	(10)	(100)	(-10)	(1)	(-50)					"
986	300.53	7358	(10)	(3)	(-10)	(-1)	(-50)					"
996	303.58	7360	(10)	(3)	(-10)	(-1)	(-50)					"
1006	306.63	7362	(10)	(3)	(-10)	(-1)	(-50)					"
1016	309.68	7364	(5)	(3)	(-10)	(-1)	(-50)					"
1026	312.72	7366	(5)	(3)	(-10)	(-1)	(-50)					"
1038	316.38	7368	(10)	(3)	(-10)	(-1)	(-50)					"
1050	320.04	7370	(100)	(5)	(-10)	(10)	(-50)					"
1061	323.39	7372	(150)	(20)	(-10)	(10)	(-50)					"
1061 - 1075	323.39 - 327.66	7374	(10)	(20)	(-10)	(15)	(-50)					"
1101 - 1110	335.58 - 338.33	7376	(50)	(10)	(-10)	(10)	(-50)					"
1120	341.38	7378	(20)	(10)	(-10)	(15)	(-50)					"
1130	344.42	7380	(20)	(30)	(-10)	(10)	(-50)					"
1140	347.47	7382	(20)	(30)	(-10)	(10)	(-50)					"
1140 - 1150	350.52	7384	(20)	(30)	(-10)	(15)	(-30)					"
1150 - 1152 ¹ / ₂	350.52 - 351.28											
1155 - 1157 ¹ / ₂	352.04 - 352.81	7386	(20)	(50)	(-10)	(10)	(100)					"
1157 ¹ / ₂ - 1165	352.81 - 355.09	7388	(50)	(40)	(-10)	(5)	(-50)					"

NORTHERN STAR - ASSAY DATA - DDH 23 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample</u> <u>No.:</u>	<u>Ni</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>In</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	<u>U₃O₈</u> <u>ppm:</u>	<u>Y</u> <u>ppm:</u>	<u>La</u> <u>ppm:</u>	<u>Ce</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1165 - 1175	355.09 - 358.14	7390	(-5)	(5)	(-10)	(3)	(-50)					17/10/72
1183	360.59	7392	(30)	(20)	(-10)	(10)	(-50)					"
1193	363.63	7394	(10)	(80)	(-10)	(10)	(100)					"
1203	366.67	7396	(5)	(50)	(-10)	(5)	(50)					"
1212	369.42	7398	(20)	(100)	(-10)	(10)	(300)					"
1212 - 1224	369.42 - 373.08	7400	(20)	(50)	(-10)	(5)	(500)					"
1075 - 1101	327.66 - 335.58	7402				16		0.11%				17/10/72
									15	-20	-20	2/2/73

Note: Assays in brackets were determined by semi-quantitative spectrographic analysis.

AUSTRALIAN DEVELOPMENT LIMITED

ASSAY DATA - NORTHERN STAR - DDH 24

a) Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:*</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
0 - 10	0 - 2.97	33127	0.1	95	-5	20	60	1	10	970	26/9/77
20	5.94	28	0.1	80	-5	20	35	1	20	0.27%	"
30	8.90	29	T	100	5	20	35	1	25	0.30%	"
40	11.87	30	0.1	250	5	20	35	1	120	0.44%	"
50	14.84	31	0.1	120	-5	15	20	1	40	0.25%	"
60	17.81	32	0.1	390	-5	25	35	1	240	0.31%	"
70	20.78	33	0.1	270	5	20	45	1	80	0.19%	"
80	23.74	34	0.1	750	-5	20	110	1	110	0.23%	"
90	26.71	35	0.1	910	-5	20	120	1	370	0.47%	"
100	29.68	36	0.1	0.12%	20	15	160	1	180	0.31%	"
110	32.65	37	0.1	710	15	15	120	1	100	0.14%	"
120	35.62	38	0.1	520	20	15	50	-1	70	0.12%	"
130	38.58	39	0.1	470	25	15	100	1	60	0.11%	"
140	41.55	40	0.1	460	55	20	100	1	50	0.13%	"
150	44.52	41	0.1	480	-5	20	75	1	50	820	"
160	47.49	42	0.1	550	-5	20	150	1	45	690	"
170	50.46	43	0.1	710	5	15	200	1	40	920	"
180	53.42	44	0.1	550	-5	20	140	1	25	730	"
190	56.39	45	0.1	760	-5	20	170	1	20	610	"
200	59.36	46	0.1	330	-5	20	160	1	25	900	"
200 - 210	59.3 6 - 62.33	33147	0.1	60	-5	15	130	1	20	780	"

ASSAY DATA - NORTHERN STAR - DDH 24

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
210 - 220	62.33 - 65.30	33148		0.1	810	-5	15	140	-1	40	760	26/9/77
230	68.25	49		0.1	50	-5	15	110	1	20	670	27/9/77
240	71.23	50		0.1	150	-5	15	150	-1	20	860	"
260	77.17	51		0.1	850	-5	15	240	1	35	0.13%	"
280	83.10	52		0.1	240	5	20	160	1	55	0.10%	"
300	89.04	53		0.1	280	20	25	190	1	200	0.12%	"
320	94.98	54		0.1	560	150	30	530	3	900	0.41%	"
340	100.91	55		0.2	0.10%	790	35	450	4	0.17%	0.34%	"
360	106.85	56		0.1	25	-5	20	130	1	35	990	"
380	112.78	57		0.1	35	-5	10	130	1	40	910	"
400	118.72	58		0.1	10	-5	15	110	-1	15	760	"
420	124.66	59		0.1	20	-5	20	100	-1	10	630	"
440	130.59	60		0.1	20	-5	15	100	1	25	670	"
460	136.53	61		0.1	5	-5	15	95	1	15	560	"
480	142.46	62		T	10	-5	15	90	1	15	480	"
500	148.40	63		T	5	-5	15	90	1	15	480	"
520	154.36	64		T	5	-5	15	100	1	25	550	"
540	160.27	65		T	15	-5	20	75	-1	25	550	"
560	166.21	66		T	10	-5	5	85	-1	20	570	"
580	172.14	67		0.1	5	-5	10	80	-1	20	470	"
600	178.08	68		0.1	15	-5	15	80	1	20	430	"
620	184.02	69		T	15	-5	15	65	-1	20	380	"
620 - 640	184.02 - 189.95	33170		T	5	5	10	75	1	20	400	"

ASSAY DATA - NORTHERN STAR - DDH 24 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:*</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
640 - 660	189.95 - 195.89	33171	T	5	5	15	70	1	20	390	27/9/77
680	201.82	72	T	5	-5	10	70	-1	15	360	"
700	207.76	73	T	5	15	15	75	-1	20	360	"
720	213.70	74	0.1	10	5	15	65	1	20	320	"
740	219.63	75	T	5	-5	15	65	1	15	350	"
775	230.02	76	0.1	10	-5	10	60	1	20	380	"
775 - 800	230.02 - 237.44	33177	T	35	5	15	50	1	20	0.16%	"

*It was noted in the A.C.M. diamond drill log that the true depth of the hammer hole was 779' and not 800'. The sample intervals have therefore been reduced proportionally and then converted to metric intervals, i.e. 237.44 m = 779 feet.

b) Split Core

779 - 785	237.44 - 239.27	7702	-0.2	600							14/2/73
790	240.79	7704	-0.2	400							"
795	242.32	7706	-0.2	300							" "
800	243.84	7708	-0.2	300							"
805	245.36	7710	-0.2	600							"
810	246.89	7712	-0.2	500							"
815	248.41	7714	-0.2	900							"
820	249.94	7716	-0.2	600							"
825	251.46	7718	-0.2	600							"
830	252.98	7720	-0.2	0.14%							"
830 - 835	252.98 - 254.51	7722	-0.2	0.42%							"

ASSAY DATA - NORTHERN STAR - DDH 24 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	Sample No. <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
835 - 840	254.51 - 256.03	7724	-0.2	900							14/2/73
845	257.56	7726	-0.2	300							T
851	259.38	7728	-0.2	100							"
855	260.60	7428	-0.2								9/1/73
		7428*	T	240	30	50	20	3	60	0.77%	16/1/75
858	261.52	7430	-0.2								9/1/73
		7430*	0.4	320	20	40	25	3	70	0.64%	16/1/75
863	263.04	7432	-0.2								9/1/73
		7432*	0.2	205	-10	40	25	2	80	0.19%	16/1/75
868	264.57	7434	0.4								9/1/73
		7434*	0.8	420	260	50	25	2	80	0.11%	16/1/75
873	266.09	7436	-0.2								9/1/73
		7436*	0.4	140	80	40	25	2	90	0.18%	16/1/75
878	267.61	7438	-0.2								9/1/73
		7438*	0.2	170	40	40	20	2	80	0.52%	16/1/75
883	269.14	7440	-0.2								9/1/73
		7440*	0.2	0.10%	10	50	20	2	50	0.44%	16/1/75
		26863	T	0.12%	40	20	15	3	65		21/4/75
888	270.66	7442	-0.2								9/1/73
		7442*	0.2	610	30	60	25	3	50	0.85%	16/1/75
893	272.19	7444	-0.2								9/1/73
		7444*	0.2	685	30	50	35	3	50	0.83%	16/1/75
898	273.71	7446	-0.2								9/1/73
		7446*	T	510	30	50	30	3	50	0.92%	16/1/75
898 - 903	273.71 - 275.23	7448	-0.2								9/1/73
		7448*	T	0.12%	20	50	55	3	60	0.93%	16/1/75
		26864	T	0.16%	70	40	70	3	70		21/4/75

* Reassayed by A.D.L.

ASSAY DATA - NORTHERN STAR - DDH 24 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T;</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
903 - 908	275.23 - 276.76		7450	-0.2								9/1/73
			7450*	T	0.13%	30	60	70	3	60	0.73%	16/1/75
		26865		T	0.17%	80	40	80	4	75		21/4/75
913	278.28		7452	-0.2								9/1/73
			7452*	0.2	205	20	50	135	3	60	0.93%	16/1/75
918	279.81		7454	-0.2								9/1/73
			7454*	0.2	145	30	50	100	2	60	1.2%	16/1/75
925	281.94		7730	-0.2	300							14/2/73
930	283.46		7732	-0.2	100							"
935	284.99		7739	-0.2	50							"
940	286.51		7736	-0.2	50							"
945	288.04		7738	-0.2	-50							"
950	289.56		7740	-0.2	100							"
950 - 956	289.56 - 291.39		7742	-0.2	300							"

* Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED

ASSAY DATA - NORTHERN STAR - DDH 25.

a) Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
0 - 20	0 - 6.10	33178		T	160	5	35	40	1	80	0.26%	28/9/77
40	12.19	79		T	50	-5	20	15	-1	5	140	"
60	18.29	80		T	160	-5	15	10	-1	65	0.12%	" "
80	24.38	81		0.1	180	-5	10	10	1	110	0.13%	"
100	30.48	82		T	490	-5	15	45	-1	270	0.46%	"
120	36.58	83		T	220	-5	15	25	-1	15	310	"
140	42.67	84		0.1	270	-5	15	55	-1	10	320	"
160	48.77	85		T	250	-5	20	65	-1	15	290	"
180	54.86	86		T	610	-5	15	190	-1	20	560	"
200	60.96	87		T	340	5	10	70	-1	5	210	"
220	67.06	88		0.1	370	-5	10	65	-1	5	140	"
240	73.15	89		0.1	180	-5	10	50	-1	5	220	"
260	79.25	90		0.1	10	-5	10	30	-1	5	170	"
280	85.34	91		0.1	230	-5	10	85	1	15	470	"
300	91.44	92		0.1	80	10	15	85	1	25	860	"
320	97.54	93		0.1	25	15	15	85	1	20	630	"
340	103.63	94		0.1	10	15	15	100	1	20	800	"
360	109.73	95		0.2	30	5	15	85	-1	30	0.10%	"
380	115.82	96		0.1	10	-5	10	60	1	20	500	"
400	121.92	97		0.1	5	-5	15	55	1	15	390	"
400 - 420	121.82 - 128.02	33198		0.1	5	5	15	70	-1	15	510	"

ASSAY DATA - NORTHERN STAR - DDH 25 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
420 - 440	128.02 - 134.11	33199	0.1	15	-5	15	70	-1	20	510	28/9/77
460	140.21	33200	0.1	15	-5	15	55	-1	15	430	"
480	146.30	01	0.1	10	5	10	70	-1	15	460	"
500	152.40	02	0.1	20	5	10	75	-1	20	600	"
520	158.50	03	0.1	5	-5	10	80	1	15	410	"
540	164.59	04	0.1	5	5	10	65	1	20	380	"
570	173.74	05	0.1	10	-5	10	30	-1	15	170	"
600	182.88	06	0.1	20	5	15	95	1	35	710	"
610	185.93	07	0.1	15	-5	15	60	1	20	340	"
620	188.98	08	0.1	5	-5	20	100	2	20	680	"
640	195.07	09	T	10	5	20	140	2	30	960	"
640 - 660	195.07 - 201.17	10	0.1	20	5	20	150	2	30	0.13%	"
680 - 700	207.26 - 213.36	11	0.1	10	-5	20	140	2	35	0.10%	"
720	219.46	12	0.1	15	5	20	200	2	40	0.15%	"
740	225.55	13	T	20	10	20	180	2	35	0.14%	"
760	231.65	14	0.1	120	15	15	220	2	45	0.19%	"
780	237.74	15	0.1	810	20	20	120	3	60	0.56%	"
780 - 800	237.74 - 243.84	33216	T	650	15	20	140	3	55	0.42%	"

ASSAY DATA - NORTHERN STAR - DDH 25 (cont.)

b) Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppmY</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
254.00 - 255.00		26115		T	135	-10	30	100	-2	80	600	8/1/75
	256	16		0.2	800	-10	30	105	-2	105	800	"
	257	17		T	630	-10	30	70	-2	90	0.41%	"
	258	26118		0.3	0.18%	-10	30	45	-2	85	0.76%	"
		26850		0.5	0.23%	60	60	80	3	100		21/9/75
	259	26119		T	0.14%	-10	20	30	-2	65	1.0%	8/1/75
		26851		T	0.16%	30	-10	55	-2	80		21/4/75
	260	26120		T	0.19%	-10	20	20	2	60	0.71%	8/1/72
		26852		1.3	0.23%	30	-10	40	-2	70		21/4/75
	261	26121		T	0.21%	-10	20	20	-2	60	0.72%	8/1/75
		26853		0.6	0.39%	20	-10	40	2	65		21/4/75
	262	26122		T	250	-10	20	20	2	60	1.3%	8/1/75
	263	26123		T	155	-10	20	15	-2	50	1.3%	"
	264	26124		T	460	-10	20	15	-2	45	1.2%	"
	265	26125		0.2	0.21%	-10	20	15	-2	100	0.80%	"
		26854		T	0.35%	40	-10	30	-2	120		21/4/75
	266	26126		0.4	0.32%	-10	20	15	-2	450	0.60%	8/1/75
		26855		T	0.58%	40	10	95	2	450		21/4/75
	267	26127		T	0.21%	-10	30	15	-2	185	0.60%	8/1/75
		26856		0.5	0.32%	30	-10	25	2	170		21/4/75
	268	26128		T	750	-10	40	20	-2	60	1.1%	8/1/75
		26857		T	755	30	10	30	-2	65		21/4/75
268.00 - 269.00		26129		T	0.17%	-10	30	30	-2	120	0.84%	8/1/75
		26858		0.3	0.22%	50	20	35	2	70		21/4/75

ASSAY DATA - NORTHERN STAR - DDH 25 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	269.00 - 270.00	26130		T	900	-10	20	35	-2	105	1.0%	8/1/75
		26859		0.3	0.10%	40	10	50	-2	120		21/4/75
	271.00	26131		T	0.12%	-10	20	20	-2	70	0.96%	8/1/75
		26860		0.4	0.14%	40	-10	60	-2	110		21/4/75
P.	271.00 - 272.00	26132		T	150	-10	20	20	-2	65	0.75%	8/1/75
P. 891 - 896	271.58 - 273.10		7744		45	-10	10	18	-1	32		15/3/73
			7744*	0.4	70	40	30	10	-2	40	0.53%	31/1/75
P.	272.00 - 273.00	26133		T	30	-10	20	20	-2	50	0.86%	8/1/75
P.	274	26134		T	200	80	20	20	-2	50	0.90%	8/1/75
	275	26135		T	345	-10	20	20	-2	50	0.64%	8/1/75
	276	26136		T	0.17%	20	30	20	2	230	0.53%	8/1/75
		26861		0.3	0.20%	50	20	30	4	250		21/4/75
	277	26137		T	850	-10	30	20	-2	130	0.54%	8/1/75
	278	26138		T	220	-10	20	20	-2	35	0.48%	"
	279	26139		T	40	-10	20	15	-2	30	0.54%	"
	280	26140		T	115	-10	20	15	-2	30	0.59%	"
	281	26141		0.6	190	-10	20	15	-2	30	0.60%	"
	282	26142		T	50	-10	20	15	-2	30	0.77%	"
P.	283	26143		T	210	-10	20	15	-2	30	0.62%	"
P. 927 ¹ / ₂ - 931 ¹ / ₂	282.70 - 283.92		7746		45	-10	10	22	-1	22		15/3/73
			7746*	0.3	60	-10	30	15	-2	30	0.52%	31/1/75
	284	26144		T	255	-10	20	15	-2	25	0.52%	8/1/75
	285	26145		T	55	-10	20	15	-2	25	0.52%	"
	286	26146		T	30	-10	20	20	-2	30	0.50%	"

P. Assay only on part of interval.

* Reassayed by A.D.L.

ASSAY DATA - NORTHERN STAR - DDH 25 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	286.0 - 287.0	26147		T	50	-10	20	20	-2	30	0.48%	8/1/75
	288.0	26148		I	25	-10	20	30	-2	35	0.43%	"
	289	26149		T	40	-10	20	30	-2	35	0.50%	" "
	290	26150		T	15	-10	20	30	-2	35	0.57%	"
	291	26151		T	80	-10	30	40	-2	55	0.65%	"
	294	26152		T	170	-10	30	90	-2	110	0.83%	"
	295	26153		T	460	-10	20	60	-2	85	0.85%	"
	296	26159		T	420	-10	20	60	-2	75	0.92%	"
	297	26155		T	480	-10	30	55	-2	140	0.92%	"
	298	26156		T	560	10	30	105	2	170	0.44%	"
	299	26157		0.2	0.22%	40	30	105	2	150	0.40%	"
		26862		T	0.28%	30	-10	140	3	165		21/4/75
	300	26158		T	80	-10	30	70	-2	100	700	8/1/75
300.00 -	300.5	26159		T	10	-10	20	30	-2	30	600	8/1/75

AUSTRALIAN DEVELOPMENT LIMITED

ASSAY DATA - NORTHERN STAR - DDH 26

a) Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
0 - 20	0.00 - 6.00	33217		0.1	200	-5	15	65	1	30	0.27%	30/9/77
40	12.01	18		0.1	50	-5	10	20	1	10	0.12%	"
60	18.02	19		0.1	130	-5	15	25	1	20	0.13%	"
80	24.03	20		0.1	330	-5	15	20	1	85	0.26%	"
100	30.04	21		0.1	540	-5	15	30	-1	65	0.16%	"
120	36.04	22		0.1	630	-5	15	110	-1	20	830	"
140	42.05	23		0.1	0.11%	-5	10	85	-1	85	0.13%	"
160	48.06	24		0.1	730	-5	15	140	1	20	750	"
180	54.06	25		T	0.13%	-5	10	150	-1	20	810	"
200	60.07	26		T	630	50	10	160	1	20	0.10%	"
220	66.08	27		T	510	60	10	140	1	25	870	"
240	72.08	28		0.1	15	5	10	130	1	20	720	"
260	78.09	29		T	15	-5	10	140	1	20	660	"
280	84.10	30		T	15	-5	10	120	1	20	590	"
300	90.11	31		0.1	45	5	10	120	1	20	600	"
320	96.11	32		T	210	-5	10	130	-1	20	560	"
340	102.12	33		T	10	-5	10	110	-1	25	560	"
360	108.13	34		0.1	15	5	10	100	1	30	510	"
380	114.13	35		T	-5	-5	10	75	-1	25	370	"
400	120.14	36		T	5	-5	10	75	1	25	360	"
420	126.15	37		T	5	-5	10	75	1	20	360	"
440	132.15	33238		0.1	-5	-5	10	70	1	15	340	"

ASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>No.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppM:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
440 - 460	132.15 - 138.16	33239		0.1	5	-5	10	65	1	20	340	30/9/77
480	144.17	40		T	5	-5	10	60	1	20	340	"
500	150.18	41		0.1	10	-5	10	60	1	15	300	"
520	156.18	42		0.1	10	-5	20	60	1	20	330	"
540	162.19	43		0.1	5	-5	15	75	1	20	360	"
560	168.20	44		T	5	-5	15	65	1	20	310	"
580	174.20	45		T	-5	-5	15	55	1	15	260	"
600	180.21	46		T	-5	-5	10	50	1	15	270	"
620	186.22	47		T	-5	-5	10	50	1	20	220	"
640	192.22	48		0.1	-5	-5	15	45	-1	20	250	"
660	198.23	49		T	5	-5	15	45	-1	20	270	"
680	204.24	50		T	5	-5	15	45	1	20	240	"
700	210.25	51		T	-5	-5	15	45	1	15	240	"
720	216.25	52		T	5	-5	15	55	-1	20	290	"
740	222.26	53		T	10	-5	15	45	-1	20	270	"
760	228.27	54		0.1	10	5	15	40	-1	15	190	"
780	234.27	55		0.1	10	10	15	35	1	15	190	"
800	240.28	56		0.1	15	-5	15	35	1	20	210	"
820	246.29		7456	0.3	800							5/1/73
			7456* G	1.0	710	100	20	35	-2	0.14%		9/4/75
		33257		0.1	0.12%	320	25	45	2	0.19%	830	30/9/77
820 - 822	246.89	33258		0.1	730	95	20	25	2	880	0.70%	"

Note: The actual depth of the hammer hole is 810 feet (246.89 m). When converting the sample intervals to metric measurements the intervals have been reduced proportionately, i.e. 822 feet becomes 246.89 m.

* Reassayed by A.D.L. G. A.C.M. pulps in small geochem bags

b) Split CoreASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No:</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
810 - 815	246.89 - 248.41		7562	-0.2	0.12%							14/2/73
820	249.94		7564	-0.2	300							"
825	251.46		7566	-0.2	200							"
830	252.98		7568	-0.2	600							"
835	254.51		7570	-0.2	0.24%							"
840	256.03		7572	-0.2	0.20%							"
845	257.56		7574	-0.2	900							"
850	259.08		7576	-0.2	0.11%							"
855	260.60		7578	-0.2	0.36%							"
860	262.13		7580	-0.2	0.19%							"
865	263.65		7582	-0.2	0.16%							"
870	265.18		7584	-0.2	0.10%							"
875	266.70		7586	-0.2	0.14%							"
880	268.22		7588	-0.2	0.20%							"
885	269.75		7590	-0.2	0.16%							"
890	271.27		7592	-0.2	700							"
895	272.80		7594	-0.2	300							"
900	274.32		7596	-0.2	200							"
905	275.84		7598	-0.2	600							"
910	277.37		7600	-0.2	0.11%							"
915	278.89		7602	-0.2	500							"
920	280.42		7604	-0.2	700							"
925	281.94		7606	-0.2	0.26%							"

ASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
925 - 930	281.94 - 283.46		7608	-0.2	0.28%							14/2/73
935	284.99		7610	-0.2	0.12%							"
940	286.51		7612	-0.2	0.11%							"
945	288.04		7614	-0.2	0.90%							"
950	289.56		7616	-0.2	0.23%							"
955	291.08		7618	-0.2	0.22%							"
960	292.61		7620	-0.2	0.38%							"
965	294.13		7622	-0.2	0.16%							"
970	295.66		7624	-0.2	0.65%							"
975	297.18		7626	-0.2	0.26%							"
980	298.70		7628	-0.2	0.25%							"
985	300.23		7630	-0.2	700							"
990	301.75		7632	-0.2	0.17%							"
995	303.28		7634	-0.2								"
			"		0.22%	-10	18	8	-1	40		7/3/73
			7634* G	T	0.23%	-10	-10	20	-2	60	0.75%	12/3/73
1000	304.80		7636	-0.2								2/4/75
			"		0.39%	65	5	8	-1	95		7/3/73
			7636* G	T	0.35%	110	-10	20	-2	125	0.55%	12/3/73
1005	306.32		7638	-0.2								2/4/75
			"		0.17%	-10	8	2	-1	32		7/3/73
			7638* G	0.2	0.19%	-10	-10	15	-2	65	0.18%	12/3/73
1010	307.85		7640	-0.2								2/4/75
			"		0.55%	85	18	8	-1	140		7/3/73
			7640* G	T	0.41%	75	25	20	-2	185	0.34%	12/3/73
												2/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1010 - 1015	307.85 - 309.37											
		7642		-0.2								7/3/73
		"			0.30%	15	-5	10	-1	85		12/3/73
		7642* G		T	0.28%	40	-10	20	-2	105	0.27%	2/4/75
1020	310.90	7644		-0.2								7/3/73
		"			0.20%	15	10	12	-1	110		12/3/73
		7644* G		0.4	0.21%	-10	20	25	-2	160	0.18%	2/4/75
1023	311.81	7646		-0.2								21/3/73
		"			0.45%	10	-5	12	-1	340		12/3/73
		7646* G		0.3	0.38%	-10	-10	20	-2	360	0.40%	2/4/75
1029	313.64	7648		-0.2	1.5%					300		14/2/73
1034	315.16	7650		-0.2	4.1%					0.21%		14/2/73
1039	316.69	7652		-0.2	1.7%					500		14/2/73
1044	318.21	7654		-0.2	1.55%					0.13%		14/2/73
1050	320.04	7656		-0.2	0.40%					0.14%		14/2/73
1056	321.87	7658		-0.2	0.44%					0.33%		14/2/73
1060	323.09	7660		-0.2								7/3/73
		"			0.13%	25	25	75	-1	220		12/3/73
		7660* G		0.2	0.15%	-10	-10	80	-2	435	565	2/4/75
1065	324.61	7662		-0.2								7/3/73
		"			0.13%	160	25	75	-1	220		12/3/73
		7662* G		T	0.14%	110	15	80		240	610	2/4/75
1070	326.14	7664		-0.2								7/3/73
		"			0.44%	25	10	90	-1	0.11%		12/3/73
		7664* G		0.3	0.37%	-10	-10	100	-2	0.14%	800	2/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1070 - 1075	326.14 - 327.66		7666	-0.2								7/3/73
			"		0.20%	20	10	120	-1	110		12/3/73
			7666* G	T	0.21%	-10	-10	130	-2	130	0.11%	2/4/75
1080	329.18		7668	-0.2								7/3/73
			"		0.19%	10	10	120	-1	120		12/3/73
			7668* G	0.5	0.22%	-10	-10	140	-2	152	0.12%	2/4/75
1085	330.71		7670	-0.2								7/3/73
			"		0.13%	20	- 5	130	-1	100		12/3/73
			7670* G	0.2	0.15%	-10	-10	135	-2	115	910	2/4/75
1092	332.84		7672	-0.2								7/3/73
			"		0.33%	50	-5	120	-1	130		12/3/73
			7672* G	0.5	0.15%	0.62%	150	50	-2	0.77%	0.14%	2/4/75
1099	334.98		7674	-0.2								7/3/73
			"		0.60%	0.13%	45	60	3	0.25%		12/3/73
			7674* G	0.9	0.43%	0.11%	45	65	-2	0.17%		9/4/75
1105	336.80		7676	-0.2								7/3/73
			"		0.55%	85	8	80	-1	350		12/3/73
			7676* G	T	0.41%	50	-10	75	-2	340		9/4/75
1109	338.02		7678	-0.2								7/3/73
			"		0.55%	270	18	100	-1	310		12/3/73
			7678* G	0.3	0.40%	240	10	100	-2	310		9/4/75
1112 ¹ ₂	339.09		7680	-0.2	0.13%	110		190	-1	400		7/3/73
1120	341.38		7682	-0.2	0.40%	580		130	3	0.11%		7/3/73
1120 - 1126	343.20		7684	-0.2	550	110		180	1	350		7/3/73
1155 - 1160	352.04 - 353.57		7686	-0.2								"
			"		0.40%	570	90	110	-1	650		12/3/73
			7686* G	T	0.38%	570	130	130	-2	715	970	2/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 26 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/I:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1160 - 1165	353.57 - 355.09	7688	-0.2								7/3/73
		"		0.40%	1.8%	0.25%	100	1	0.48%		12/3/73
1171	356.92	7690	-0.2								7/3/73
		"		90	60	10	95	-1	70		12/3/73
		7690* G	0.3	70	-10	-10	85	-2	75		9/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

AUSTRALIAN DEVELOPMENT LIMITED

ASSAY DATA - NORTHERN STAR - DDH 27

a) Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
0 - 20	0.0 - 6.10	33259		I.S.	280	10	20	65	1	25	350	30/9/77
40	12.19	60		T	100	-5	10	15	1	5	240	"
60	18.29	61		T	80	-5	15	10	1	5	160	"
80	24.38	62		T	180	-5	15	15	1	5	400	"
100	30.48	63		T	280	-5	10	20	-1	100	0.14%	"
120	36.58	64		T	570	-5	20	45	1	140	0.35%	"
140	42.67	65		T	610	-5	10	95	1	55	0.12%	"
160	48.77	66		T	460	-5	10	80	1	20	340	"
180	54.86	67		0.1	480	-5	10	180	1	25	460	"
200	60.96	68		0.1	250	-5	15	190	1	20	470	"
220	67.06	69		0.1	75	-5	25	160	1	25	530	"
240	73.15	70		0.1	170	-5	20	180	1	20	560	"
260	79.25	71		0.1	30	5	15	130	1	25	610	"
280	85.34	72		T	20	-5	20	130	1	25	600	"
300	91.44	73		0.1	40	10	15	120	1	25	530	"
320	97.54	74		T	15	10	20	110	1	20	550	"
340	103.63	75		0.1	20	-5	10	110	1	20	570	"
360	109.73	76		0.1	10	-5	10	110	1	25	580	"
380	115.82	77		T	15	5	15	100	1	15	500	"
400	121.92	78		T	15	-5	20	95	1	15	500	"
420	128.02	79		0.1	90	5	20	110	1	35	960	"
420 - 440	134.11	33280		0.1	15	5	15	90	1	15	440	"

ASSAY DATA - NORTHERN STAR - DDH 27 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
440 - 460	134.11 - 140.21	33281		T	5	-5	15	85	1	15	460	30/9/77
480	146.30	82		0.1	70	-5	20	85	1	15	460	"
500	152.40	83		0.1	45	-5	15	90	1	30	510	"
520	158.50	84		T	10	5	20	90	1	30	460	"
540	164.59	85		T	15	-5	20	80	1	30	450	"
560	170.69	86		T	45	10	20	95	1	35	520	"
580	176.78	33287		0.1	500	20	20	85	1	40	460	"
580 - 600	182.88		7458	0.2	0.12%							5/1/73
			7458* G	0.2	0.10%	80	-10	200	-2	165		9/4/75
		33288		0.2	0.16%	180	30	280	3	250	770	30/9/77

b) Split Core

604 - 608	184.10 - 185.32		7692	-0.2	750	540		50	-1	65		15/3/73
			7692*	0.9	640	550	30	50	2	80	220	31/1/75
612 - 616	186.54 - 187.76		7694	-0.2	310	530		150	-1	85		15/2/73
			7694*	0.3	330	500	30	50	2	100	350	21/1/75
624	190.20		7696	15.6	1.35%	0.14%		70	-1	38		15/3/73
			7696*	14.9	0.21%	0.14%	50	75	2	50	100	31/1/75
		26847		17.1	1.40%	0.16%	40	90	3	70		21/4/75
629	191.72		7698		1.10%	0.36%		75	-1	42		15/3/73
			"	22.6								19/3/73
			7698*	25.7	0.23%	0.30%	120	75	2	60	100	31/1/75
		26848		25.8	1.34%	0.47%	120	110	3	70		21/4/75

* Reassayed by A.D.L.

G. A.C.M. rules in small reactor base

ASSAY DATA - NORTHERN STAR - DDH 27 (cont.)

Interval: (ft)	Interval: (m)	Sample No.		Au	Cu	Bi	Pb	Zn	Ag	Co	Mn	Date Assayed:
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	
P. 629 - 634	191.72 - 193.24		7700	3.6	500	0.16%		65	-1	75		15/3/73
			7700*	6.5	450	0.15%	60	60	2	90	300	31/1/75
		26849		3.9	620	0.20%	40	85	-2	100		21/4/75
		"		3.9	660	0.21%	50	90	3	100		21/4/75
P.	191.7 - 192.0	26217		0.9	210	0.60%	100	60	2	65	180	3/1/75
		26844		38.1	265	0.87%	110	100	2	80		21/4/75
P.	193.0	26218		0.2	560	0.17%	50	65	2	100	300	3/1/75
		26845		1.1	600	0.18%	50	90	3	120		21/4/75
P.	194.0	26219		0.2	0.12%	400	30	240	2	145	500	3/1/75
		26846		0.5	0.17%	420	-10	320	2	150		21/4/75
	195.0	26220		T	150	40	20	200	2	65	0.11%	3/1/75
	196.0	26221		T	10	-10	30	285	2	45	650	"
	197.0	26222		T	62	-10	25	210	2	60	610	"
	198.0	26224		T	85	-10	20	160	2	50	500	"
	198.73	26225		T	50	-10	20	155	2	50	480	"

P. Assay only on part of interval.

* Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED

a) Hammer cuttings

ASSAY DATA - NORTHERN STAR - DDH 28

<u>INTERVAL:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>ZN</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
0 - 20	0.0 - 6.10	33289		0.1	450	-5	25	50	1	15	340	7/10/77
40	12.19	90		T	180	-5	25	25	2	15	250	"
60	18.29	91		T	550	-5	30	90	2	35	0.19%	"
100	30.48	92		T	370	-5	25	45	1	40	500	"
120	36.58	93		T	0.11%	-5	35	95	1	70	760	"
140	42.67	94		T	0.22%	-5	20	550	1	85	0.13%	"
160	48.77	95		T	425	-5	25	52	1	87	0.14%	"
180	54.86	96		T	420	-5	20	35	1	80	0.38%	"
200	60.96	97		T	640	-5	20	45	1	90	0.45%	"
220	67.06	98		0.1	0.14%	-5	25	220	1	160	0.36%	"
240	73.15	99		0.1	0.19%	-5	35	180	1	270	0.55%	"
260	79.25	33300		T	510	-5	15	20	-1	40	0.10%	*
280	85.34	01		T	0.19%	5	50	630	1	55	760	"
300	91.44	02		T	920	-5	25	310	1	45	740	"
320	97.54	03		0.1	0.14%	-5	20	250	1	50	720	"
340	103.63	04		0.1	280	-5	20	250	-1	40	0.13%	"
360	109.73	05		T	77	-5	17	205	-1	35	755	"
380	115.82	06		T	80	-5	20	160	-1	30	430	"
400	121.92	07		T	100	-5	15	160	-1	35	600	"
420	128.02	08		T	160	-5	10	120	1	25	0.13%	"
440	134.11	09		T	630	5	10	140	1	25	0.11%	10/10/77
460	140.21	10		T	720	-5	10	130	1	20	0.11%	"
480	146.30	33311		T	0.11%	-5	10	130	1	30	0.12%	*

ASSAY DATA - NORTHERN STAR - DDH 28 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
480 - 500	146.30 - 152.40	33312		T	0.43%	10	15	140	1	40	0.12%	10/10/77
560 - 580	170.68 - 176.78	13		0.1	95	-5	15	96	1	30	0.15%	"
600	182.88	14		T	70	-5	10	85	-1	20	740	"
620	188.98	15		T	120	-5	15	90	-1	25	860	"
640	195.07	16		T	140	-5	10	85	-1	30	940	"
660	201.17		7460	-0.2	600							5/1/73
			7460* G	0.4	550	-10	-10	50	-2	35		9/4/75
		33317		T	920	-5	10	45	-1	40	0.11%	10/10/77
680	207.26		7462	-0.2	400							5/1/73
			7462* G	T	350	-10	-10	35	-2	55		9/4/75
		33318		T	620	5	10	30	1	55	0.72%	10/10/77
700	213.36		7464	-0.2	100							5/1/73
			7464* G	T	105	-10	-10	20	-2	30		9/4/75
		33319		0.1	90	10	15	10	-1	30	0.63%	10/10/77
720	219.46		7466	-0.2	50							5/1/73
			7466* G	0.3	20	-10	-10	20	-2	15		9/4/75
		33320		T	20	20	10	10	-1	20	0.53%	10/10/77
740	225.55		7468	-0.2	50							5/1/73
			7468* G	0.4	50	-10	-10	15	-2	-10		9/4/75
		33321		T	60	5	5	10	-1	10	0.21%	10/10/77
760	231.65		7470	-0.2	50							5/1/73
			7470* G	0.4	20	-10	15	15	-2	30		9/4/75
		33322		0.1	20	25	15	10	1	20	0.62%	10/10/77
780	237.74		7472	-0.2	50							5/1/73
			7472* G	0.9	30	-10	-10	60	-2	45		9/4/75
		33323		T	55	10	15	35	1	35	0.63%	10/10/77

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 28 (cont.)

Interval: (ft)	Interval: (m)	Sample No. A.D.L.	A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
780 - 800	237.74 - 243.84		7474	-0.2	50							5/1/73
			7474* G	0.3	20	-10	-10	45	-2	45		9/4/75
		33324		0.1	40	25	15	35	1	30	0.60%	10/10/77
820	249.94		7476	-0.2	50							5/1/73
			7476* G	T	65	-10	-10	40	-2	30		9/4/75
		33325		T	30	-5	15	25	-1	25	565	10/10/75
840	256.03		7478	-0.2	50							5/1/73
			7478* G	0.2	45	-10	-10	60	-2	40		9/4/75
		33326		0.1	20	-5	15	70	2	45	0.26%	10/10/77
860	262.13		7480	-0.2	200							5/1/73
			7480* G	T	245	10	10	50	-2	55		9/4/75
		33327		T	250	20	15	35	2	45	0.60%	10/10/77
875	266.70		7482	-0.2	50							5/1/73
		33328		T	50	25	15	30	2	35	0.57%	10/10/77

b) Split Core

	266.70- 268.0	26161		T	-10	-10	20	120	-2	70	700	3/1/75
	269	26162		T	10	-10	20	90	-2	50	0.16%	3/1/75
	270	26163		T	-10	-10	20	10	-2	25	0.35%	"
	271	26164		T	-10	-10	20	15	-2	30	0.29%	"
	272	26165		T	15	10	20	20	-2	30	0.36%	"
	272.49	26166		T	-10	-10	20	15	-2	25	0.35%	"
894 - 899	272.49 - 274.02		7748		10	-10	5	20	-1	22		15/3/73
			7748*	T	10	-10	30	15	-2	30	0.53%	31/1/75
	274.02 - 275.0	26167		T	-10	-10	20	20	-2	30	0.39%	3/1/75
	276.0	26168		T	10	-10	20	15	-2	30	0.33%	"

* Reassayed by A.D.L.

ASSAY DATA - NORTHERN STAR - DDH 28 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	Sample No. <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	276.0 - 277.0	26169	T	30	-10	30	15	-2	30	0.33%	3/1/75
	278.0	70	T	10	-10	30	15	-2	25	0.36%	"
	279.0	71	T	10	-10	30	15	-2	25	0.30%	"
	280.0	72	T	15	-10	30	15	-2	30	0.23%	"
	281.0	73	T	30	-10	20	15	-2	25	0.23%	"
	282.0	74	T	30	-10	30	15	-2	25	0.28%	"
	283.0	75	T	40	-10	30	20	-2	25	0.30%	"
	284.0	76	T	45	-10	30	15	-2	25	0.33%	"
	285.0	77	T	30	-10	30	15	-2	25	0.30%	"
	285.60	78	T	10	-10	30	15	-2	25	0.30%	"
937 - 942	285.60 - 287.12	7750 7750*	T	18 20	-10 -10	5 30	15 20	-1 -2	20 30		15/3/73 3/1/75
	287.12 - 288.0	79	T	10	-10	30	15	-2	25	0.32%	3/1/75
	289.0	80	T	-10	-10	30	10	-2	25	0.33%	"
	290.0	81	T	-10	-10	30	10	-2	25	0.35%	"
	291.0	82	T	-10	-10	30	10	-2	25	0.30%	"
	292.0	83	T	10	-10	20	10	-2	25	0.29%	"
	293.0	84	T	10	-10	20	10	-2	25	0.30%	"
	294.0	85	T	10	-10	30	10	-2	25	0.29%	"
	295.0	86	T	10	-10	20	10	-2	25	0.25%	"
	296.0	87	T	10	-10	20	15	-2	15	0.20%	"
	297.0	88	T	10	10	20	20	-2	30	0.30%	"
	298.0	26189	0.8	15	100	30	55	-2	40	0.30%	"

* Reassayed by A.D.L.

ASSAY DATA - NORTHERN STAR - DDH 28 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	298.0 - 299.0	26190		T	-10	-10	20	15	-2	30	0.39%	3/1/75
	300.0	91		T	-10	-10	20	80	-2	60	0.37%	"
	301.0	92		T	-10	-10	20	55	-2	40	0.34%	"
	302.0	93		T	-10	-10	20	55	-2	50	0.30%	"
	303.0	94		T	-10	-10	20	35	-2	25	0.25%	"
	304.0	95		T	-10	-10	20	40	-2	30	0.30%	"
	304.0 - 305.0	29196		T	-10	-10	40	50	-2	30	0.37%	"

AUSTRALIAN DEVELOPMENT LIMITED

ASSAY DATA - NORTHERN STAR - DDH 29

a) Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
0 - 20	0.0 - 6.10	33329		T	75	-5	20	15	1	30	0.19%	10/10/77
40	12.18	30		T	170	5	20	20	1	100	0.34%	"
60	18.29	31		T	230	-5	15	15	-1	170	0.40%	"
80	24.38	32		T	320	-5	20	30	-2	160	0.33%	"
100	30.48	33		T	390	-5	15	45	-1	85	0.27%	"
120	36.58	34		T	720	-5	15	130	-1	70	0.17%	"
140	42.67	35		T	475	-5	22	175	1	32	0.15%	"
160	48.77	36		0.1	0.12%	5	15	160	1	60	0.41%	"
180	54.86	37		T	0.18%	15	25	190	-1	30	0.13%	"
200	60.96	38		T	0.16%	35	20	150	1	100	0.16%	"
220	67.06	39		T	900	35	15	200	1	50	0.15%	"
240	73.15	40		0.1	750	-5	10	170	-1	50	0.15%	"
260	79.25	41		T	750	10	20	190	-1	40	0.14%	"
280	85.34	42		T	320	5	10	150	-1	35	0.10%	"
300	91.44	43		T	330	5	10	150	-1	35	0.12%	"
320	97.54	44		0.1	240	5	15	150	1	30	0.11%	"
340	103.63	45		0.1	17	-5	10	130	1	27	0.10%	"
365	111.25	46		T	25	-5	10	90	-1	25	740	"
385	117.34	47		T	15	5	10	85	-1	20	660	"
400	121.92	48		T	15	-5	10	130	-1	25	0.10%	"
420	128.02	49		T	30	-5	10	140	-1	30	0.12%	12/10/77
440	134.11	50		0.1	20	-5	10	130	1	30	980	"
460	140.21	51		T	15	5	10	140	1	35	0.11%	"

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.D.L.</u> <u>Sample No.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
460 - 480	140.21 - 146.30	33352		T	30	10	20	260	2	55	0.20%	12/10/77
500	152.40	53		0.1	35	-5	15	130	1	35	0.11%	"
520	158.50	54		0.1	20	-5	20	100	1	25	.770	"
540	164.59	55		T	12	-5	20	92	-1	20	635	"
560	170.69	56		T	20	-5	55	75	-1	20	470	"
580	176.68	57		0.1	10	-5	15	70	-1	20	460	"
600	182.88	58		0.1	10	-5	40	70	-1	15	410	"
620	188.98	59		T	10	-5	10	70	-1	15	460	"
640	195.07	660		0.1	10	-5	20	75	1	25	440	"
660	201.17	61		T	10	-5	30	70	-1	20	500	"
680	207.26	62		0.1	5	-5	10	65	-1	20	380	"
700	213.36	63		0.1	15	-5	50	75	-1	25	630	"
720	219.46	64		0.1	10	10	35	55	1	20	380	12/10.77
735	224.03	65		0.2	555	610	35	42	2	35	0.42%	"
740	225.55	33366		0.1	80	45	25	25	2	30	0.44%	"

b) Split Core

740 - 745	225.55 - 227.08	7484		-0.2								23.1.73
		7484*		0.2	15	-10	40	30	2	30	0.52%	16/1/75
		7484* G			-10	-10	-10	20	-2	30		9/4/75
750	228.60	7486		-0.2								23.1.73
		7486*		0.2	35	10	40	30	2	30	0.64%	16/1/75
		7486* G		0.2	20	-10	-10	15	-2	30		9/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
750 - 755	228.60 - 230.12	7488	-0.2								
		7488*	0.2	45	20	50	30	2	40	0.68%	23/1/73
		7488* G		15	-10	-10	15	-2	30		16/1/75
759 ¹ / ₂	231.50	7490	-0.2								9/4/75
		7490*	T	270	90	50	25	2	80	0.60%	23/1/73
765	233.17	7490* G	0.5	120	-10	-10	15	-2	40		16/1/75
		7492	-0.2								9/4/75
		7492*	0.8	0.20%	850	40	25	3	80	350	23/1/73
		7492* G	0.6	0.30%	750	-10	10	-2	445		16/1/75
770	234.70	26833	T	0.31%	700	-10	15	2	380		9/4/75
		7494	-0.2								11/4/75
		7494*	0.2	0.24%	30	40	25	2	90	100	23/1/73
		7494* G	T	0.43%	25	40	20	-2	110	135	16/1/75
775	236.22	26834	0.4	0.42%	20	-10	10	2	80		2/4/74
		7496	-0.2								11/4/75
		7496*	0.4	0.20%	-10	30	25	2	80	150	23/1/73
		7496* G	0.2	0.33%	-10	-10	20	-2	75	175	16/1/75
780	237.74	26835	0.6	0.30%	-10	-19	10	2	60		2/4/75
		7498	-0.2								11/4/75
		7498*	0.5	0.10%	-10	30	25	2	50	100	23/1/73
		7498* G	0.4	0.14%	-10	-10	15	-2	50	105	16/1/75
785	239.27	26836	0.3	0.14%	50	20	240	63	45		2/4/75
		7500	-0.2								21/4/75
		7500*	T	0.10%	100	40	25	2	110	300	23/1/73
		7500* G	0.3	0.13%	80	-10	15	-2	115	295	16/1/75
		26837	T	0.13%	130	30	35	2	120		2/4/75
											21/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
785 - 790	239.27 - 240.79	7502	-0.2								23/1/73
		7502*	T	0.11%	90	30	20	2	110	250	16/1/75
		7502* G	0.7	0.33%	180	-10	10	-2	100		9/4/75
		36838	T	0.44%	250	50	30	4	100		2/4/75
795	242.32	7550	-0.2								23/1/73
		7550*	0.9	620	0.19%	90	60	6	320	200	16/1/75
		26574	T	880	50	-10	20	4	90	120	18/2/75
		7550* G	T	530	60	10	20	-2	80	40	2/4/75
800	243.84	7504	-0.2								18/1/73
		"	-0.1								24/2/73
805	245.36	7506	-0.2								18/1/75
		"	0.2								24/2/73
		7506*	T	175	-10	30	10	-2	15	50	16/1/75
810	246.89	7508	-0.2								18/1/73
		"	0.6								24/2/73
		7508*	T	155	550	350	40	2	160	250	16/1/75
815	248.41	7510	-0.2								18/1/73
		"	0.6								24/2/73
		7510*	1.7	140	370	0.11%	60	3	60	350	16/1/75
820	248.94	7512	-0.2								18/1/73
		"	0.4								24/12/73
		7512*	1.0	90	170	0.13%	60	2	75	400	16/1/75
825	251.46	7514	1.0								18/1/73
		"	0.8								24/2/73
		7514*	2.3	60	130	620	55	3	60	250	16/1/75
830	252.98	7516	-0.2								18/1/73
		"	0.1								24/2/73
		7516*	T	95	80	300	45	2	55	250	16/1/75
835	254.51	7518	-0.2								18/1/73
		"	0.1								24/2/73
		7518*	1.0	70	110	280	60	2	70	350	16/1/75

* Reassayed by A.D.L.

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
835 - 841	254.51 - 256.34		7520	0.8								18/1/73
			"	0.6								24/2/73
			7520*	1.0	60	190	140	25	2	40	300	16/1/75
845	257.56		7522	-0.2								23/1/73
			7522*	0.5	15	-10	20	10	-2	30	-50	16/1/75
			7522* G	0.2	-10	-10	-10	10	-2	25	50	2/4/75
850	259.08		7524	-0.2								23/1/73
			7524*	0.2	35	50	40	20	-1	40	50	16/1/75
			7524* G	T	35	50	10	15	-2	60	90	2/4/75
855	260.60		7526	-0.2								23/1/73
			7526*	0.2	55	80	50	15	2	30	100	16/1/73
			7526* G	T	40	30	15	15	-2	40	100	2/4/75
860	262.13		7528	-0.2								23/1/73
			7528*	0.5	380	0.15%	60	20	2	50	100	16/1/75
			7528* G	0.8	450	0.12%	40	25	-2	60	300	2/4/75
865	263.65		7530	-0.2								23/1/73
			7530*	T	90	10	40	15	-2	50	100	16/1/75
			7530* G	0.3	20	-10	-10	20	-2	45	140	2/4/75
869	264.87		7532	1.0								23/1/73
			7532*	1.2	0.12%	250	50	25	2	350	500	16/1/75
			7532* G	0.8	0.19%	210	35	40	-2	455	150	2/4/75
		26839		0.8	0.18%	280	30	40	3	400		21/4/75
	265.3 - 266.0	26197		T	720	20	30	45	2	100	1.4%	27/12/74
	267.0	98		T	360	-10	20	15	2	60	0.45%	"
	268.0	99		T	760	-10	20	35	3	95	1.3%	"
	269.0	26200		0.2	0.13%	-10	20	35	3	85	1.3%	"
		26829		0.4	0.19%	-10	-10	40	3	90		11/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	269.0 - 270.0	26201		T	440	-10	20	40	3	110	1.6%	27/12/74
	271.0	02		0.2	380	-10	20	50	3	85	1.2%	"
	272.0	03		T	580	-10	20	45	4	65	1.2%	"
	273.0	04		T	420	180	20	45	3	50	1.0%	"
	274.0	05		T	560	-10	30	30	2	60	1.1%	"
	275.0	06		T	780	20	30	25	3	60	0.85%	"
	276.0	07		T	0.11%	-10	30	30	3	60	0.75%	"
		26830		0.3	0.15%	15	-10	15	4	115		11/4/75
	276.0 - 277.0	26208		T	690	-10	30	30	3	65	0.90%	27/12/74
	278.0 - 279.0	26209		T	0.13%	-10	30	25	3	200	1.2%	27/12/74
		26831		T	0.19%	20	-10	40	2	195		11/4/75
	279.5	26210		T	0.19%	10	30	40	3	165	1.0%	27/12/74
		26832		T	0.27%	30	-10	45	3	150		11/4/75
917 - 921	279.50 - 280.72		7534	-0.2								23/1/73
			7534*	0.4	0.16%	70	50	75	3	630	600	16/1/75
			7534* G	0.2	0.25%	50	15	85	-2	650	650	2/4/75
		26840		0.5	0.41%	140	30	95	5	790		21/4/75
925	281.94		7536	-0.2								23/1/73
			7536*	T	0.15%	370	50	35	2	0.16%	300	16/1/75
			7536*G	T	0.22%	260	10	40	-2	0.31%	360	2/4/75
		26841		0.4	0.22%	400	20	45	4	0.17%		21/4/75
930	283.46		7538	-0.2								23/1/73
			7538*	T	0.15%	60	50	20	3	0.10%	100	16/1/75
			7538* G	0.4	0.24%	55	20	25	-2	0.13%	100	2/4/75
		26842		0.6	0.23%	110	50	30	4	0.10%		21/4/75

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags.

ASSAY DATA - NORTHERN STAR - DDH 29 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample</u> <u>A.D.L.</u>	<u>No.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
930 - 935	283.46- 284.99		7540	-0.2								23/1/73
			7540*	2.2	0.20%	50	40	50	2	0.13%	500	16/1/75
		26843	7540* G	T	0.35%	30	20	50	-2	0.19%	510	2/4/75
				T	0.54%	110	10	60	3	0.14%		21/4/75
940	286.51		7542	-0.2								23/1/73
			7542*	0.8	500	150	40	20	2	200	50	16/1/75
			7542*G	0.4	550	290	-10	20	-2	210	65	2/4/75
946	288.34		7544	0.4								23/1/73
			7544*	1.8	370	60	30	10	2	70	-50	16/1/75
			7544* G	0.8	690	0.16%	55	50	-2	350	225	2/4/75
	289.0	26211		T	700	220	30	115	3	115	700	27/12/74
	290.0	26212		T	120	-10	20	135	2	105	600	"
	291.0	26213		T	20	-10	20	120	2	80	600	"
	292.0	26214		I	50	-10	20	90	2	45	0.18%	"
	293.0	26215		T	460	-10	20	40	2	30	0.18%	"
	293.5	26216		0.2	650	-10	20	50	2	40	0.18%	"

* Reassayed by A.D.L.

G. A.C.M. pulps in small geochem. bags

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 29

Note: Additional assay data from samples produced by combining smaller intervals.

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>Sample Nos.</u> <u>A.C.M.</u>	<u>Combined Sample Nos.</u> <u>Interval length (ft)</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm</u>	<u>Bi</u> <u>ppm</u>	<u>Pb</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>	<u>Ag</u> <u>ppm</u>	<u>Co</u> <u>ppm</u>	<u>Mn</u> <u>ppm</u>	<u>Date</u> <u>Assayed:</u>
796-841	242.62-256.34		9400	7504(5)+7506(5)+7508(5) +7510(5)+7512(5)+7514(5) +7516(5)+7518(5)+7520(6)	(-2)	(80)	(100)	(150)	(40)	(0.1)	(50)	(30)	8/2/73

Note:

Assays in brackets () on semi-quantitative spectrographic analyses.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 29

Note: Additional assays for elements not routinely assayed for by A.D.L.

Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No:</u>	<u>U</u> <u>ppm:</u>	<u>U₃O₈</u> <u>ppm:</u>	<u>Th</u> <u>ppm:</u>	<u>Y</u> <u>ppm:</u>	<u>La</u> <u>ppm:</u>	<u>Ce</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
795 - 800	242.32 - 243.84	7504	25						18/1/73
					-10				2/2/73
				-20					26/2/73
800 - 805	243.84 - 245.36	7506	590						18/1/73
					-10				2/2/73
				660					26/2/73
805 - 810	245.36 - 246.89	7508	1340						18/1/73
					-10				2/ 2/73
				1600					26/2/73
810 - 815	246.89 - 248.41	7510	5600						18/1/73
					-10				2/2/73
				5630					26/2/73
815 - 820	248.41 - 248.94	7512	6900						18/1/73
					-10	120	20	100	2/2/73
				6990					26/2/73
820 - 825	248.94 - 251.46	7514	3050						18/1/73
					-10				2/2/73
				3190					26/2/73
825 - 830	251.48 - 252.98	7516	2000						18/1/73
					-10				2/2/73
				2320					26/2/73
830 - 835	252.98 - 254.51	7518	2050						18/2/73
					-10				2/2/73
				2280					26/2/73
835 - 841	254.51 - 256.34	7520	690						18/1/73
					-10				2/2/73
				800					26/2/73

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 29

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No.:</u>	<u>Ni</u> <u>ppm:</u>	<u>Cr</u> <u>ppm:</u>	<u>V</u> <u>ppm:</u>	<u>W</u> <u>ppm:</u>	<u>Mo</u> <u>ppm:</u>	<u>Ta</u> <u>ppm:</u>	<u>Nb</u> <u>ppm:</u>	<u>Be</u> <u>ppm:</u>	<u>Th</u> <u>ppm:</u>	<u>Pt</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
795 - 841	242.32 - 256.32	9400	30	30	300	100	5	-100	-20	1	-100	-10	8/2/73
			<u>Pd</u> <u>ppm:</u>	<u>Os</u> <u>ppm:</u>	<u>Ir</u> <u>ppm:</u>	<u>Rh</u> <u>ppm:</u>	<u>Ru</u> <u>ppm:</u>	<u>Sn</u> <u>ppm:</u>	<u>Cd</u> <u>ppm:</u>	<u>Ga</u> <u>ppm:</u>	<u>Ge</u> <u>ppm:</u>	<u>As</u> <u>ppm:</u>	
			-10	-10	-2	-2	-2	5	-3	30	20	50	
			<u>Sb</u> <u>ppm:</u>	<u>Te</u> <u>ppm:</u>	<u>Tl</u> <u>ppm:</u>	<u>P</u> <u>ppm:</u>	<u>Na</u> <u>ppm:</u>	<u>Li</u> <u>ppm:</u>	<u>K</u> <u>ppm:</u>	<u>Rb</u> <u>ppm:</u>	<u>Cs</u> <u>ppm:</u>	<u>Ba</u> <u>ppm:</u>	
			-30	-20	-1	100	300	50	100	-10	-30	-50	
			<u>Sr</u> <u>ppm:</u>	<u>Y</u> <u>ppm:</u>	<u>La</u> <u>ppm:</u>	<u>Ce</u> <u>ppm:</u>	<u>Nd</u> <u>ppm:</u>	<u>Pr</u> <u>ppm:</u>	<u>Ti</u> <u>ppm:</u>	<u>Er</u> <u>ppm:</u>	<u>Sc</u> <u>ppm:</u>	<u>Eu</u> <u>ppm:</u>	
			-10	30	-100	-300	-300	-100	200	-100	-50	-50	

Note: Sample No. 9400 assayed by semi-quantitative spectrographic analysis.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 30

a) Hammer Cuttings

Interval: (ft)	Interval: (m)	Sample No.		Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
		A.D.L.	A.C.M.									
0 - 20	0.0 - 6.10	33367		0.1	190	5	140	30	1	40	0.17%	12.10.77
40	12.19	68		0.1	170	-5	90	30	1	15	0.10%	"
60	18.29	69		T	270	-5	30	25	1	40	0.65%	"
80	24.38	70		0.1	460	-5	45	20	1	190	0.79%	"
100	30.48	71		0.1	0.13%	5	45	80	2	430	1.8%	"
120	36.58	72		0.1	480	-5	25	90	-1	110	0.22%	"
140	42.67	73		0.1	410	-5	35	200	1	40	0.16%	"
160	48.77	74		0.1	55	-5	25	180	1	30	0.15%	"
180	54.86	75		0.1	755	-5	45	160	1	60	0.15%	"
200	60.96	76		0.1	690	-5	100	200	1	40	0.13%	"
220	67.06	77		0.1	910	-5	15	250	1	30	0.14%	"
240	73.15	78		0.1	880	-5	20	190	-1	30	0.12%	"
260	79.25	79		0.1	920	-5	20	200	-1	30	0.12%	"
280	85.34	80		0.1	0.12%	-5	60	220	1	40	0.26%	"
300	91.44	81		0.1	600	-5	40	230	1	30	0.19%	"
320	97.54	82		0.1	440	-5	35	180	1	30	0.18%	"
340	103.63	83		0.1	420	10	45	160	1	30	0.15%	"
360	109.73	84		0.1	60	-5	25	110	1	25	0.11%	"
380	115.82	85		0.1	50	-5	27	140	1	37	0.12%	"
400	121.92	86		0.1	15	-5	20	140	-1	25	0.12%	"
420	128.02	87		0.1	35	-5	15	130	-1	25	0.12%	"
420 - 440	128.02-134.11	33388		0.1	35	-5	20	140	-1	25	0.19%	"

NORTHERN STAR - ASSAY DATA - DDH 30 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
440 - 460	134.11-140.21	33389	0.1	680	5	25	150	-1	35	0.13%	12.10.77
480	146.30	90	0.1	720	-5	20	140	1	35	0.13%	"
500	152.40	91	0.1	170	10	15	100	-1	45	0.14%	"
520	158.50	92	0.1	60	-5	20	100	-1	30	900	"
540	164.59	93	0.1	210	-5	15	100	1	30	740	"
560	170.69	94	0.1	110	-5	20	100	1	35	780	"
580	176.78	95	0.1	405	-5	15	87	1	35	770	"
600	182.88	96	T	250	5	15	75	1	35	780	"
620	188.98	97	0.1	540	-5	15	70	1	50	0.15%	"
620 - 634	188.98-193.24	33398	0.1	240	15	30	60	2	80	0.68%	"

b) Split Core

193.24-194.0	26635	T	120	-10	-10	430	2	45	0.13%	18.2.75
195.0	36	T	105	-10	10	10	1	25	0.24%	"
196.0	37	T	45	-10	-10	-10	1	15	480	"
197.0	38	T	110	-10	-10	10	1	35	0.52%	"
198.0	26639	0.2	355	-10	-10	-10	1	20	0.40%	"
199.0	26099	0.3	900	-10	10	10	3	15	0.24%	24/12/74
200.0	26100	T	500	-10	10	35	2	35	0.50%	"
200.0 - 201.17	26101	T	80	-10	10	75	2	45	600	"
271.2 - 272.0	26102	T	15	-10	10	30	3	30	250	24/12/74
273.0	03	T	10	-10	10	30	2	25	230	"
274.0	04	T	25	-10	10	35	2	30	250	"
275.0	05	T	10	-10	10	30	2	30	230	"

NORTHERN STAR - ASSAY DATA - BDH 30 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u> <u>A.D.L.</u>	<u>Sample No.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
	275.0 - 276.0	26106		T	230	-10	10	100	3	70	520	24.12.74
	276.76	26107		T	170	-10	20	140	3	80	730	"
908 - 916	279.20		7552	-0.2	400							14.2.73
922	281.03		7554	-0.2	600							"
929	283.16		7556	-0.2	0.16%							"
934	284.68		7558	-0.2	1.85%							"
934 - 940	286.51		7560	-0.2	0.22%							"
	287.0	26108		T	170	-10	20	105	4	130	650	24/2/74
	288.0	26109		T	145	-10	20	100	4	100	540	"
	289.0	26110		T	60	-10	20	100	3	65	700	"
	290.0	26111		0.3	20	-10	20	150	4	90	760	"
	291.0	26112		T	10	1-0	20	150	4	100	800	"
	292.0	26113		T	10	-10	20	145	4	70	820	"
	292.0 - 292.76	26114		0.3	-10	-10	20	125	4	65	760	"

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 31

a) Hammer Cuttings

Interval: (ft)	Interval: (m)	Sample Nos.		Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
		A.D.L.	A.C.M.									
0 - 20	0.00 - 6.10	33399		0.1	450	640	25	35	1	110	0.81%	14.10.77
40	12.19	400		0.1	230	45	45	25	-1	50	0.38%	"
40 - 60	12.19 - 18.29	01		0.1	380	35	75	25	-1	45	0.18%	"
80 - 100	24.38 - 30.48	02		I.S.	210	-5	15	25	1	10	0.12%	"
120	36.58	03		0.1	160	-5	10	15	-1	20	0.14%	"
140	42.67	04		0.1	900	-5	10	40	-1	180	1.1%	"
160	48.77	05		0.1	935	-5	17	87	-1	150	0.15%	"
180	54.86	06		0.1	0.11%	30	10	220	1	60	0.23%	"
200	60.96	07		0.1	940	30	25	220	2	60	0.14%	"
220	67.06	08		0.2	940	30	15	220	2	55	0.10%	"
240	73.15	09		0.1	0.20%	140	15	370	2	190	0.13%	"
260	79.25	10		I.S.	670	-5	25	220	1	55	0.10%	"
280	85.34	11		0.1	860	-5	25	210	1	55	0.15%	"
300	91.44	12		0.1	850	20	30	170	1	50	0.15%	"
320	97.54	13		0.1	0.10%	-5	20	230	1	40	0.12%	"
340	103.63	14		0.1	0.17%	10	15	160	1	35	0.12%	"
360	109.73	15		0.1	0.11%	57	15	110	1	35	0.15%	"
380	115.82	16		0.1	940	-5	15	90	1	40	950	"
400	121.92	17		0.1	160	-5	15	45	1	35	0.14%	"
420A	128.02	33418		0.1	150	35	25	280	2	100	0.45%	"
420B		33419		0.1	180	75	20	220	2	100	0.33%	"

NORTHERN STAR - ASSAY DATA - DDH 31 (cont.)

Interval: <u>(ft)</u>	Interval: <u>(m)</u>	Sample Nos.		Au <u>D/T:</u>	Cu <u>ppm:</u>	Bi <u>ppm:</u>	Pb <u>ppm:</u>	Zn <u>ppm:</u>	Ag <u>ppm:</u>	Co <u>ppm:</u>	Mn <u>ppm:</u>	Date <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
420 - 440	128.02 - 134.11	33320		0.1	200	30	25	200	2	80	0.31%	14/10/77
460	140.21	21		0.1	110	20	20	450	2	120	0.35%	"
480	146.30	22		0.1	75	-5	15	310	2	85	0.34%	"
500	152.40	23		0.1	80	-5	15	230	2	65	0.28%	"
520	158.20	24		0.1	90	20	20	200	1	65	0.33%	"
520 - 540	158.20 - 164.59	33325		0.1	145	7	22	145	1	52	0.41%	"
560 - 575	170.69 - 175.26	33326		0.1	170	-5	20	85	2	55	0.69%	"

The hammer cuttings were scanned with the GRS-101A scintillometer.
 All the samples registered 65 - 80 c.p.s., i.e. background.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 32

a) Hammer Cuttings

Interval: (ft)	Interval: (m)	Sample No. A.D.L. A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
0 - 10	0.00 - 3.05	33427	T	130	-5	10	25	-1	5	160	24.10.77
20	6.10	28	0.1	170	15	10	30	-1	5	280	"
30	9.14	29	T	160	-5	5	20	-1	15	0.34%	"
40	12.19	30	T	140	-5	10	20	1	20	0.28%	"
50	15.24	31	T	140	-5	10	15	-1	20	0.35%	"
60	18.29	32	T	140	-5	50	190	-1	20	0.27%	"
70	21.34	33	0.1	200	-5	15	25	-1	15	0.12%	"
80	24.38	34	T	360	-5	15	20	-1	85	0.16%	"
90	27.43	35	T	600	5	17	25	-1	170	0.17%	"
100	30.48	36	0.1	740	-5	15	20	-1	120	0.15%	"
120	36.58	37	T	600	55	15	160	1	30	670	"
140	42.67	38	T	0.17%	25	20	130	1	30	630	"
160	48.77	39	T	670	5	25	140	1	35	660	"
180	54.86	40	0.1	0.27%	25	10	180	-1	25	600	"
200	60.96	41	0.1	0.11%	-5	40	160	-1	30	600	"
220	67.06	42	0.1	750	10	40	140	-1	20	460	"
240	73.15	43	T	290	55	10	140	1	30	370	"
260	79.25	44	T	65	5	20	140	1	30	530	"
280	85.34	45	0.1	32	-5	15	140	1	30	625	"
300	91.44	46	T	45	-5	15	150	1	45	610	"
300 - 320	91.44 - 97.54	33447	T	10	-5	10	120	1	20	580	26/10/77

NORTHERN STAR - ASSAY DATA - DDH 32 (cont.)

Interval: (ft)	Interval: (m)	Sample No. A.D.L.	A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
320 - 340	97.54 - 103.63	33448		T	15	-5	15	130	1	35	560	26/10/77
360	109.73	49		T	20	-5	15	100	-1	35	490	"
380	115.82	50		T	5	-5	10	85	-1	20	460	"
400	121.92	51		0.1	5	-5	15	80	-1	20	430	"
420	128.02	52		T	20	-5	10	80	-1	25	470	"
440	134.11	53		T	10	-5	15	80	1	20	440	"
460	140.21	54		T	15	-5	20	75	1	40	460	"
480	146.30	55		T	15	-5	12	75	-1	27	505	"
500	152.40	56		T	10	-5	20	85	-1	20	600	"
520	158.50	57		T	10	5	15	85	1	20	680	"
540	164.59	58		T	10	-5	15	80	-1	20	650	"
560A	170.69	59		T	5	-5	15	65	-1	20	440	"
560B		60		T	10	-5	20	60	-1	20	440	"
580A	176.78	61		T	-5	5	15	50	1	20	400	"
580B		62		0.1	5	-5	10	55	-1	20	370	"
600A	182.88	63		T	10	-5	15	60	-1	20	470	"
600B		64		T	10	-5	15	55	1	20	420	"
620A	188.98	65		T	5	-5	15	60	-1	20	440	"
620B		66		T	15	-5	15	55	-1	20	410	"
640A	195.07	67		T	10	-5	15	55	-1	20	410	"
640B		68		T	10	-5	15	55	1	20	400	"
660A	201.17	69		T	20	-5	15	50	-1	20	410	"
660B		70		T	20	-5	15	50	1	25	450	"
660 - 680	201.17 - 207.26	33471	7752	-0.2	20	15			-1	20		7/3/73
				T	75	10	10	35	1	25	480	26/10/77

NORTHERN STAR - ASSAY DATA - DDH 32 (cont.)

Interval: (ft)	Interval: (m)	Sample No.		Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
		A.D.L.	A.C.M.									
680 - 700	207.26 - 213.36		7754	0.4	360	300			1	0.11%		7/3/73
		33472		0.1	320	290	25	85	3	940	0.16%	26/10/77
720	219.46		7756	-0.2	200	230			3	480		7/3/73
		33473		T	480	400	30	70	3	600	0.18%	26/10/77
730	222.50		7758	-0.2	48	30			1	120		7/3/73
		33474		T	240	100	25	140	2	150	0.16%	26/10/77
735	224.03		7760	-0.2	1.25%	0.16%			-1	120		7/3/73
		33475		1.6	2.8%	0.50%	265	125	3	135	0.10%	26/10/77
740	225.55		7762	-0.2	4.5%	0.10%			-1	75		7/3/73
		33476		2.2	4.7%	0.14%	540	65	2	70	620	26/10/77
745	227.08		7764	-0.2	0.14%	360			-1	75		7/3/73
		33477		0.9	0.25%	740	70	100	2	90	0.19%	26/10/77
750	228.60		7766	0.8	0.80%	920			-1	75		7/3/73
		33478		0.6	0.81%	0.13%	40	100	2	80	0.14%	26/10/77
755	230.12		7768	1.0	4.7%	0.28%			1	80		7/3/73
		33479		1.9	4.7%	0.35%	65	100	3	80	0.16%	26/10/77
760	231.65		7770	0.8	0.95%	980			-1	80		7/3/73
		33480		1.7	1.2%	0.13%	80	55	2	70	0.42%	26/10/77
765	233.17		7772	-0.2	700	180			-1	75		7/3/73
		33481		0.7	660	260	20	10	1	70	0.45%	26/10/77
770	234.70		7774	0.8	500	300			1	55		7/3/73
		33482		0.8	430	310	55	25	1	60	0.41%	26/10/77
775	236.22		7776	-0.2	160	30			-1	70		7/3/73
		33483		0.4	170	60	25	20	2	110	0.15%	26/10/77
775 - 780	236.22-237.74		7778	0.2	160	45			-1	75		7/3/73
		33484		0.1	130	100	120	120	3	75	0.17%	26/10/77

NORTHERN STAR - ASSAY DATA - DDH 32 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
780 - 785	236.22- 239.27		7780	0.2	500	110			-1	70		7/3/73
		33485		0.7	295	120	160	110	3	65	0.16%	26/10/77
790	240.79		7782	-0.2	100	90			1	55		7/3/73
		33486		0.1	100	130	150	85	2	50	0.14%	26/10/77
795	242.32		7784	-0.2	290	90			-1	50		7/3/73
		33487		0.1	260	75	320	70	2	75	690	26/10/77
800	243.84		7786	-0.2	300	80			-1	50		7/3/73
		33488		0.1	370	100	420	65	2	40	840	26/10/77
805	245.36		7788	-0.2	90	60			-1	15		7/3/73
		33489		T	120	90	100	40	1	20	790	26/10/77
810	246.89		7790	-0.2	95	35			-1	25		7/3/73
		33490		T	110	70	75	100	2	35	630	26/10/77
815	248.41		7792	-0.2	55	10			-1	32		7/3/73
		33491		T	70	30	25	120	3	40	710	26/10/77
820	249.94		7794	-0.2	70	10			-1	30		7/3/73
		33492		T	60	30	25	130	2	40	920	26/10/77
825	251.46		7796	-0.2	80	10			-1	32		7/3/73
		33493		0.1	100	30	25	160	2	40	0.12%	26/10/77
830	252.98		7798	-0.2	28	10			-1	18		7/3/73
		33494		0.1	20	10	15	110	1	25	730	26/10/77
835	254.51		7800	-0.2	20	-10			-1	15		7/3/73
		33495		T	42	7	20	120	2	25	830	26/10/77

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH 32

Note: Additional assays for elements not routinely assayed for by A.D.L.

Hammer Cuttings

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No:</u>	<u>U</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
660 - 680	201.17 - 207.26	7752	25	7/3/73
700	213.36	7754	45	"
720	219.46	7756	65	"
730	222.50	7758	50	"
735	224.03	7760	1700	"
740	225.55	7762	3500	"
745	227.08	7764	220	"
750	228.60	7766	160	"
755	230.12	7768	260	"
760	231.65	7770	370	"
765	233.17	7772	25	"
770	234.70	7774	160	"
775	236.22	7776	40	"
780	237.74	7778	1200	"
785	239.27	7780	1450	"
790	240.79	7782	1500	"
795	242.32	7784	4900	"
795 - 800	242.32 - 243.84	7786	4200	"

NORTHERN STAR - ASSAY DATA - DDH 32

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No:</u>	<u>U</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
800 - 805	243.84 - 245.36	7788	900	7/3/73
810	246.89	7790	400	"
815	248.41	7792	90	"
820	249.94	7794	100	"
825	251.46	7796	100	"
830	252.98	7798	40	"
830 - 835	252.98 - 254.51	7800	45	"

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH 32A

a) Split Core

Interval: (ft)	Interval: (m)	Sample Nos. A.D.L.	A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
	205.0 - 206.0	26077		T	-10	-10	-10	45	-2	20	190	19/12/74
	207.0	78		T	-10	-10	-10	45	-2	20	180	"
	208.0	79		T	-10	-10	-10	45	-2	20	180	"
	209.0	80		T	-10	-10	-10	40	-2	20	160	"
	210.0	81		T	15	-10	-10	45	-2	25	200	"
	211.0	82		T	115	-10	20	60	2	45	290	"
	211.0 - 213.0	83		T	430	160	50	220	5	330	0.14%	"
	214.0	84		T	600	20	40	250	5	410	800	"
	215.0	26085		T	0.15%	30	40	85	5	240	0.10%	"
		26827		0.5	0.19%	30	10	70	5	225		11/4/75
	216.0	26086		T	440	160	40	70	4	400	0.37%	19/12/74
	217.0	26087		T	450	310	40	80	4	135	0.40%	"
	218.0	26088		T	80	40	30	90	2	145	0.35%	"
	219.0	26089		T	25	10	30	90	2	85	0.44%	" "
	220.0	26090		T	45	30	30	100	2	95	0.34%	"
	221.0	26091		T	60	10	30	165	3	115	800	"
	222.0	26092		T	80	10	20	170	3	120	650	"
	222.0 - 222.5	26093		T	10	-10	20	115	4	85	400	"
764 - 768	232.87 - 234.09	26302	26302*	7.8	340							6/4/73
				7.1	290	500	200	290	7	90	800	31/1/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 32A (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
768 - 773	234.09 - 235.61		26304	0.4	210							6/4/73
			26304*	1.7	190	50	150	290	3	115	0.10%	21/1/75
778	237.13		26306	-0.2	200							6/4/73
			26306*	T	230	50	110	280	3	120	0.12%	21/1/75
783	238.66		26308	-0.2	150							6/4/73
			26008*	1.1	180	80	210	330	3	140	0.11%	31/1/75
788	240.18		26310	-0.2	120							6/4/73
			26310*	T	120	50	200	270	2	115	0.15%	21/1/75
793	211.71		26312	-0.2	70							6/4/73
			26312*	0.2	70	40	130	255	2	100	0.19%	21/1/75
798	243.23		26314	-0.2	90							6/4/73
			26314*	T	95	10	80	305	3	130	0.10%	31/1/75
801	244.14		26316	-0.2	550							6/4/73
			26316*	T	300	80	110	315	3	150	0.17%	21/1/75
801 - 802	244.14 - 244.45		26318	-0.2	19.0%							6/9/73
			26318*	0.7	0.38%	30	30	135	3	50	550	31/1/75
		26573			0.38%	70	-10	115	3	65	500	18/2/75
		26828		0.5	25%	180	50	215	5	65		21/4/75
	244.75 - 246.0	26094		T	25	30	30	200	4	95	0.31%	19/12/74
	247.0	26095		T	25	-10	30	250	4	95	0.13%	"
	248.0	26096		T	125	20	40	230	5	90	900	"
	249.0	26097		T	55	18	30	270	4	80	0.10%	"
	249.33	26098		T	60	10	30	320	4	80	0.13%	"

* Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - ASSAY DATA - DDH 32A

Note: Additional assays for elements not routinely assayed for by A.D.L.

Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>A.C.M.</u> <u>Sample No:</u>	<u>U</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
764 - 768	232.87 - 234.09	26302	1500	10/5/73
773	235.61	26304	1500	"
778	237.13	26306	1000	"
783	238.66	26308	1200	"
788	240.18	26310	1400	"
793	241.71	26312	650	"
798	243.23	26314	320	"
801	244.14	26316	500	"
801 - 802	244.14 - 244.45	26318	200	"

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 33

a) Hammer Cuttings

		Sample Nos.		Au	Cu	Bi	Pb	Zn	Ag	Co	Mn	Date
<u>Interval:(ft)</u>	<u>Interval:(m)</u>	<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
0 - 20	0.00 - 6.10	33496		T	100	-5	20	15	-1	5	640	27/10/77
40	12.19	97		0.1	310	-5	20	55	1	300	0.97%	"
60	18.29	98		0.1	120	-5	15	20	1	75	0.20%	"
80	24.38	99		T	220	-5	15	30	1	130	0.27%	"
100	30.48	33500		T	0.10%	-5	15	120	1	460	0.91%	"
120	36.58	01		T	0.12%	-5	15	440	1	75	0.25%	"
140	42.67	02		T	780	-5	25	170	1	75	0.13%	"
160	48.77	03		T	500	-5	25	200	1	40	0.13%	"
180	54.86	04		0.1	860	-5	20	220	1	80	0.20%	"
200	60.96	05		0.1	255	-5	15	215	-1	32	0.11%	"
220	67.06	06		0.1	0.17%	-5	10	320	1	45	0.14%	"
240	73.15	07		T	350	-5	20	350	2	130	0.17%	"
260	79.25	08		0.1	0.12%	-5	20	310	2	290	0.22%	"
280	85.34	09		T	300	-5	25	360	2	80	0.16%	"
300	91.44	10		0.1	370	-5	25	240	1	85	0.17%	"
320	97.54	11		T	730	5	25	180	1	70	0.14%	"
340	103.63	12		T	450	10	25	260	1	80	0.25%	"
360	109.73	13		0.1	350	20	20	220	1	65	0.16%	"
380	115.82	14		0.1	35	15	20	170	1	65	0.15%	"
380 - 400	115.82 - 121.92	33515		0.1	37	-5	15	160	-1	40	0.12%	"

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
400 - 420	121.92 - 128.02	33516		T	40	-5	20	160	1	55	0.12%	27/10/77
440	134.11	17		T	120	10	15	140	-1	55	0.10%	"
460	140.21	18		T	0.13%	-5	15	120	-1	35	730	"
480	146.30	19		T	240	-5	15	120	2	35	710	"
500	152.40	20		T	180	-5	15	110	1	25	660	"
520	158.50	21		0.1	95	-5	15	95	1	50	720	"
540	164.59	22		T	500	-5	10	80	-1	25	550	"
560	170.69	23		T	50	-5	15	70	1	20	440	"
580	176.78	24		T	20	-5	10	70	-1	30	750	"
600	182.88	25		T	12	-5	12	65	-1	20	490	"
620	188.98	26		T	15	-5	10	55	-1	20	480	"
640	195.07	27		T	20	-5	15	60	1	20	480	"
660	201.17	28		T	10	-5	20	55	1	20	420	"
680	207.26	29		T	15	-5	20	55	1	20	410	"
700	213.36	30		T	45	-5	15	60	1	25	610	"
720	219.45	31		T	5	-5	10	55	1	15	420	"
740	225.55	32		0.1	5	-5	15	55	-1	20	410	"
760	231.65	33		T	5	-5	15	50	-1	15	390	"
780	237.74	34		T	15	-5	15	50	-1	20	360	"
800	243.84	35		0.1	10	-5	15	55	-1	22	400	"
810	246.39	36		0.1	15	-5	15	50	-1	25	340	29.10.77
820	249.94	37		T	15	-5	15	50	-1	25	340	"
820 - 830	252.98	33538		T	15	-5	15	50	1	25	380	"

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No:</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
830 - 840	252.98 - 256.03	33539	T	15	-5	10	55	-1	20	450	29/10/77
850	259.09	7802	-0.2	290	-10	10	55	-1	18		22/3/73
855	260.60	7804	-0.2	0.11%	15	-5	22	-1	20		"
		33540	T	860	5	15	15	2	25	0.62%	29/10/77
860	262.13	7806	-0.2	330	-10	18	110	-1	22		22/3/73
		33541	T	330	5	30	120	2	25	0.91%	29/10/77
865	263.65	7808	-0.2	700	20	-5	40	-1	32		22/3/73
		33542	T	0.12%	5	25	45	2	30	0.82%	29/10/77
870	265.18	7810	-0.2	390	10	10	28	-1	50		22/3/73
		33543	0.1	370	20	30	25	2	65	0.87%	29/10/77
875	266.70	7812	-0.2	230	-10	-5	30	-1	40		22/3/73
		33544	T	160	-5	25	20	2	40	0.82%	29/10/77
880	268.22	7814	-0.2	160	-10	-5	40	1	140		22/3/73
		33545	T	90	-5	25	20	1	27	0.84%	29/10/77
885	269.75	7816	-0.2	110	-10	5	30	-1	25		22/3/73
		33546	0.1	90	-5	25	30	2	25	0.86%	29/10/77
890	271.27	7818	-0.2	390	-10	22	30	-1	25		22/3/73
		33547	T	330	10	20	20	3	20	0.58%	29/10/77
895	272.80	7820	-0.2	270	-10	10	28	-1	35		22/3/73
		33548	T	280	10	25	20	2	45	0.56%	29/10/77
900	274.32	7822	-0.2	500	35	15	12	-1	42		22/3/73
		33549	T	630	50	25	15	2	50	0.62%	29/10/77
905	275.84	7824	-0.2	950	570	35	18	-1	220		22/3/73
		33550	0.1	0.13%	0.11%	65	15	2	140	0.77%	29/10/77
910	277.37	7826	-0.2	330	150	18	20	-1	75		22/3/73
		33551	T	150	70	25	20	2	25	0.46%	29/10/77
915	278.89	7828	-0.2	310	120	22	28	-1	60		22/3/73
		33552	T	300	120	25	35	2	70	0.73%	29/10/77

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
915 - 920	278.89 - 280.42	7830	-0.2	70	-10	35	42	-1	28		22/3/73
		33553	T	100	25	25	45	3	40	1.1%	29/10/77
925	281.94	7832	-0.2	95	25	22	32	-1	30		22/3/73
		33554	T	110	15	25	35	-2	40	0.70%	29/10/77
930	283.46	7834	-0.2	40	15	20	42	-1	30		22/3/73
		33555	T	60	-5	27	45	1	37	0.53%	29/10/77
940	286.51	7836	-0.2	22	10	22	30	-1	50		22/3/73
		33556	T	30	10	25	30	1	140	0.48%	29/10/77
945	288.04	7838	-0.2	18	10	28	38	-1	40		26/3/73
		33557	T	15	-5	20	35	2	20	0.84%	29/10/77
950	289.56	7840	-0.2	12	-10	20	85	-1	22		26/3/73
		33558	T	15	-5	25	80	2	25	1.1%	29/10/77
955	291.08	7842	-0.2	15	-10	22	150	-1	25		26/3/77
		33559	T	20	-5	40	220	2	25	0.88%	29/10/77
960	292.61	7844	-0.2	12	-10	35	150	-1	22		26/3/77
		33560	T	25	-5	25	140	3	30	0.77%	29/10/77
965	294.13	7846	-0.2	48	-10	30	150	-1	28		26/3/73
		33561	T	50	-5	35	140	2	40	0.79%	29/10/77
970	295.66	7848	-0.2	42	-10	28	180	-1	25		26/3/73
		33562	0.1	60	-5	40	180	3	30	0.83%	29/10/77
975	297.18	7850	-0.2	120	-10	28	150	-1	35		26/3/73
		33563	T	200	-5	30	140	2	65	0.83%	29/10/77
980	298.70	7852	-0.2	470	-10	28	170	-1	32		26/3/73
		33564	T	380	-5	35	160	2	40	0.85%	29/10/77
980 - 985	298.70 - 300.23	7854	-0.2	600	-10	20	85	-1	28		26/3/73
		33565	T	655	-5	20	87	2	30	0.71%	29/10/77

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample</u> <u>A.D.L.</u>	<u>Nos.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
985 - 990	300.23 - 301.75		7856	-0.2	0.46%	-10	20	95	-1	20		26/3/73
		33566		T	0.52%	5	35	80	2	30	0.66%	29/10/77
995	303.28		7858	-0.2	0.33%	-10	20	170	-1	20		26/3/73
		33567		0.1	0.46%	-5	40	140	1	45	0.81%	29/10/77
1000	304.80		7860	-0.2	0.48%	-10	22	130	-1	25		26/3/73
		33568		T	0.58%	10	35	120	2	300	0.83%	29/10/77
1005	306.32		7862	-0.2	1.0%	-10	12	85	-1	28		26/3/73
		33569		T	1.3%	-5	25	75	2	30	0.81%	29/10/77
1010	307.85		7864	-0.2	0.70%	-10	5	42	-1	25		26/3/73
A		33570		T	0.92%	-5	15	40	2	30	0.51%	29/10/77
B		33571		T	0.98%	-5	20	45	2	25	0.49%	29/10/77
1015	309.37		7866	-0.2								19/3/73
			7866*	T	0.21%	10	40	25	2	30	0.18%	31/1/75
		26799		0.6	0.14%	25	15	45	3	40		11/4/75
A		33572		T	0.49%	5	15	25	2	25	0.60%	29/10/77
B		33573		T	0.46%	-5	15	20	2	25	0.59%	29/10/77
1020	310.90		7868	-0.2								19/3/73
			7868*	T	0.11%	-10	50	30	2	40	0.18%	31/1/75
		26800		T	0.12%	-10	15	35	2	50		11/4/75
A		33574		T	0.17%	15	15	30	2	30	0.84%	29/10/77
B		33575		T	0.17%	-5	20	25	2	25	0.83%	29/10/77
1020-1023	310.90 - 311.81		7870	-0.2								19/3/73
			7870*	T	650	-10	60	95	3	50	0.66%	31/1/75
A		33576		T	720	-5	20	90	3	35	0.83%	29/10/77
B		33577		T	0.11%	-5	25	90	2	35	0.81%	29/10/77

* Reassayed by ADL

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

b) Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1023 - 1028	311.81 - 313.33	7872 7872*	-0.2 T	540	-10	70	140	3	50	0.78%	31/1/75
1033	314.86	7874 7874*	-0.2 T	480	-10	90	145	3	50	0.50%	19/3/73 31/1/75
1038	316.38	7876 7876*	-0.2 T	390	10	70	205	3	40	0.42%	19/3/73 31/1/75
1043	317.91	7878 7878*	-0.2 0.6	580	10	40	30	3	40	0.28%	19/3/73 31/1/75
1048	319.43	7880 7880*	-0.2 T	0.11%	-10	70	20	2	40	850	19/3/73 31/1/75
1053	320.95	7882 7882*	-0.2 T	750	-10	50	20	2	50	100	19/3/73 31/1/75
1058	322.48	7884 7884*	-0.2 T	750	-10	50	20	2	50	100	19/3/73 31/1/75
1063	324.00	7886 7886*	-0.2 T	350	-10	50	20	2	60	200	19/3/73 31/1/75
1068	325.53	7888 7888*	-0.2 T	0.16%	60	70	20	2	60	350	19/3/73 31/1/75
		26801	T	0.25%	125	60	25	2	75		11/4/75
1073	327.05	7890 7890*	-0.2 T	0.24%	60	70	20	2	60	150	19/3/73 31/1/75
		26802		0.43%	80	35	25	2	65		11/4/75
1078	328.57	7892 7892*	-0.2 0.5	550	-10	50	25	2	70	100	19/3/73 31/1/75
1083	330.10	7894 7894*	-0.2 0.2	300	20	40	25	2	140	100	19/3/73 31/1/75
1088	331.62	7896 7896*	-0.2 0.2	0.21%	300	60	20	2	120	50	23/3/73 29/1/75
		26803	0.3	0.31%	400	50	20	2	145		11/4/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
1088 - 1093	331.62 - 333.15		7898	-0.2								23/3/73
			7898*	T	0.11%	20	40	20	2	600	50	29/1/75
		26804		T	0.16%	75	30	15	2	655		11/4/75
1098	334.67		7900	-0.2		80						23/3/73
			7900*	0.2	0.21%	80	60	20	2	420	100	29/1/75
		26824		0.5	0.31%	110	10	20	4	350		11/4/75
1103	336.19		7902	23.2		460						23/3/73
			7902*	1.0	300	400	130	20	2	60	100	29/1/75
		26572		0.4	345	420	110	25	3	60	105	18/2/75
1108	337.72		7904	-0.2		15						23/3/73
			7904*	1.3	225	20	50	20	2	50	100	29/1/75
1113	339.24		7906	-0.2								23/3/73
			7906*	1.3	250	20	50	20	2	50	150	29/1/75
1118	340.77		7908	-0.2								23/3/73
			7908*	T	0.10%	-10	70	15	2	50	100	29/1/75
1123	342.29		7910	-0.2								23/3/73
			7910*	0.6	640	-10	40	15	2	60	150	29/1/75
1128	343.81		7912	-0.2								26/3/73
			7912*	T	165	-10	40	20	2	60	150	29/1/75
1133	345.34		7914	-0.2								26/3/73
			7914*	T	0.24%	-10	40	25	2	70	150	29/1/75
		26825		0.4	0.38%	30	10	20	3	65		11/4/75
1133 - 1138	346.86		7916	-0.2								26/3/73
			7916*	T	0.15%	900	180	35	2	80	250	29/1/75
		26826		0.3	0.22%	0.10%	150	35	3	75		11/4/75
	348.0	26055		T	280	100	50	65	4	100	330	19/12/74
	348.0 - 349.0	26056		T	15	10	30	90	3	95	430	"

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T=</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
-	349.0 - 350.0	26057	T	25	10	30	90	3	95	400	19/12/74
	351.0	26058	T	35	10	40	85	3	85	370	"
	352.0	26059	T	20	-10	40	85	3	70	250	"
	353.0	26060	T	20	10	40	85	3	85	240	"
	354.0	26061	T	35	20	50	115	3	110	400	"
	355.0	26062	0.3	80	30	60	105	3	105	500	"
	356.0	26063	0.3	70	20	70	100	4	90	550	"
	357.0	26064	T	35	30	60	90	4	75	500	"
	357.53	26065	0.3	130	160	90	100	4	85	650	"
1173 - 1178	359.05	7918	-0.2								26/3/73
		7918*	0.5	130	50	80	60	2	40	250	29/1/75
1183	360.58	7920	-0.2								26/3/73
		7920*	0.2	25	-10	50	25	2	40	400	29/1/75
1188	362.10	7922	-0.2								26/3/73
		7922*	T	15	-10	40	25	2	40	250	29/1/75
1193	363.63	7924	-0.2								26/3/73
		7924*	0.4	20	-10	30	25	-2	40	250	29/1/75
1198	365.15	7926	-0.2								26/3/73
		7926*	T	45	-10	30	30	-2	50	250	29/1/75
1203	366.67	7928	-0.2								26/3/73
		7928*	0.4	15	-10	40	40	2	40	350	29/1/75
1208	368.20	7930	0.4								26/3/73
		7930*	0.3	20	-10	30	35	2	40	350	29/1/75
1213	369.72	7932	0.2								26/3/73
		7932*	0.4	10	-10	30	35	2	40	600	29/1/75
1213 - 1220	371.86	7934	-0.2								26/3/73
		7934*	0.2	65	-10	40	35	2	60	400	29/1/75

NORTHERN STAR - ASSAY DATA - DDH 3 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	371.85 - 373.0	26066		T	20	10	30	90	4	80	650	19/12/74
	374.0	26067		T	10	10	30	90	4	45	700	"
	375.0	26068		T	-10	10	30	100	4	80	700	"
	376.0	26069		T	25	20	30	125	4	80	750	"
	377.0	26070		T	10	10	30	130	4	85	700	"
	378.0	26071		T	10	20	30	130	4	90	700	"
	379.0	26072		T	10	20	30	130	3	80	700	"
	380.0	26073		T	10	20	30	115	3	80	650	"
	381.0	26074		T	10	10	30	110	3	70	640	"
	382.0	26075		T	10	-10	20	105	3	45	620	"
	382.83	26076		T	35	10	20	100	3	55	560	"
1256 - 1261	384.35		7936	-0.2								26/3/73
			7936*	T	20	10	60	40	2	60	200	29/1/75
1266	395.88		7938	-0.2								26/3/73
			"	0.1		120				70		6/4/73
			7938*	T	35	130	60	45	2	80	400	29/1/75
1271	387.40		7940	-0.2								26/3/73
			7940*	T	35	30	60	70	2	70	400	29/1/75
1276	388.92		7942	-0.2								26/3/73
			7942*	0.6	40	10	60	40	2	70	400	29/1/75
1281	390.45		7944	-0.2								26/3/73
			7944*	0.7	25	40	60	30	3	60	300	29/1/75
1285	391.67		7946	-0.2								27/3/73
			7946*	0.5	30	150	70	90	3	60	450	29/1/75
1291	393.50		7948	0.6								27/3/73
			7948*	0.3	55	200	80	100	2	40	500	29/1/75
1291 - 1296	393.50 - 395.02		7950	-0.2								27/3/73
			7950*	T	30	10	80	40	2	30	0.18%	29/1/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 33 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample</u> <u>A.D.L.</u>	<u>Nos.</u> <u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1296 - 1301	395.02 - 396.54		7962	-0.2								27/3/73
			7962*	T	30	80	70	40	3	40	500	29/1/75
1306	398.07		7964	-0.2								27/3/73
			7964*	T	25	60	90	50	3	40	750	29/1/75
1311	399.59		7966	-0.2								27/3/73
			7966*	0.3	25	10	90	55	2	40	600	29/1/75
1316	401.12		7968	-0.2								28/3/73
			7968*	0.2	50	10	50	40	2	40	650	29/1/75
1321	402.64		7970	-0.2								28/3/73
			7970*	0.3	90	-10	40	40	3	30	800	29/1/75
1326	404.16		7972	-0.2								28/3/73
			7972*	0.4	50	-10	40	35	3	30	0.11%	29/1/75
1331	405.69		7974	-0.2								28/3/73
			7974*	0.5	90	30	60	35	3	40	800	29/1/75
1336	407.21		7976	-0.2								28/3/73
			7976*	0.4	90	-10	40	85	3	50	700	29/1/75
1343	409.35		7978	-0.2								28/3/73
			7978*	0.4	40	-10	40	130	2	60	800	29/1/75
1348	410.87		7980	-0.2								28/3/73
			7980*	T	80	-10	40	20	2	30	0.28%	29/1/75
1348 - 1354	410.87 - 412.70		7982	-0.2								28/3/73
			7982*	0.3	105	10	60	15	2	30	0.20%	29/1/75

* Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 34

a) Hammer Cuttings

Interval: (ft)	Interval: (m)	Sample Nos. A.D.L.	A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
0 - 30	0.00 - 9.14	33578		T	250	-5	5	35	-1	65	1.1%	2/11/77
50	15.24	79		T	440	30	10	20	-1	140	0.52%	"
70	21.34	80		T	700	-5	10	30	1	75	0.23%	"
90	27.43	81		T	0.10%	-5	5	55	1	160	0.41%	"
110	33.53	82		T	600	10	10	150	1	55	0.17%	"
130	39.62	83		T	670	-5	10	150	-1	20	920	"
130 - 150	39.62 - 45.72	84		0.1	520	20	10	130	1	40	0.16%	"
170 - 190	51.82 - 57.91	85		0.1	550	10	7	125	-1	25	0.13%	"
210 - 230	64.01 - 70.10	86		0.1	410	-5	10	110	1	25	0.12%	"
250	76.20	87		T	880	40	10	140	-1	35	0.13%	"
270	82.30	88		T	0.11%	-5	10	130	-1	35	0.11%	"
290	88.39	89		T	260	-5	10	130	-1	20	0.11%	"
310	94.49	90		0.1	65	-5	10	95	-1	35	0.13%	"
330	100.58	91		T	20	-5	10	80	1	25	0.10%	"
350	106.68	92		T	20	5	10	80	-1	25	910	"
380	115.82	93		T	20	-5	10	85	1	35	0.13%	"
400	121.92	94		T	15	-5	10	70	1	25	750	"
420	128.02	95		T	7	-5	10	92	-1	30	810	"
440	134.11	96		T	15	-5	15	65	-1	30	680	"
440 - 460	134.11 - 140.21	33597		T	290	-5	10	55	-1	25	560	"

NORTHERN STAR + ASSAY DATA - DDH 34

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
460 - 480	140.21 - 146.30	33598		T	-5	-5	10	160	-1	25	670	2/11/77
500	152.40	99		T	5	-5	5	55	-1	20	460	"
520	158.50	33600		T	5	-5	5	60	1	30	520	"
540	164.59	01		T	-5	-5	10	55	1	25	400	"
560	170.69	02		T	-5	-5	5	50	1	20	400	"
580	176.78	03		T	5	-5	20	50	1	25	380	"
600	182.88	04		T	5	-5	15	55	2	15	460	"
620	188.98	05		0.1	17	-5	10	65	1	35	645	"
640	195.07	06		T	15	-5	15	50	2	30	360	"
660	201.17	07		T	120	-5	10	55	1	95	1.1%	"
680	207.26	08		T	5	-5	15	45	2	25	360	"
700	213.36	09		T	5	5	15	45	1	25	320	"
720	219.46		7952	-0.2								26/3/73
			7952*	0.3	35	30	90	25	2	30	0.25%	29/1/75
		33610		0.1	95	200	480	25	12	30	0.61%	2/11/77
725	220.98		7954	-0.2								26/3/73
			7954*	0.3	130	10	80	20	3	40	0.30%	29/1/75
		33611		T	80	30	10	10	3	35	0.92%	2/11/77
730	222.50		7956	-0.2								26/3/73
			7956*	T	135	10	80	25	3	40	0.37%	29/1/75
		33612		T	150	40	10	120	3	45	0.78%	2/11/77
735	224.03		7958	-0.2								26/3/73
			7958*	T	85	-10	50	35	2	30	0.10%	29/1/75
755	230.12		7960	-0.2								26/3/73
			7960*	0.3	15	-10	30	35	2	30	400	29/1/75
765	233.17	33613		T	10	-5	5	40	1	30	470	29/1/75
765 - 775	233.17 - 236.22	33614		T	10	-5	10	120	-1	20	420	29/1/75

NORTHERN STAR - ASSAY DATA - DDH 34 (cont)

a) Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	265.00 - 266.0	26014		0.2	0.13%	20	20	30	2	35	200	13/12/74
		26805		0.7	0.17%	15	-10	40	4	40		11/4/75
	267.0	26015		0.2	0.15%	20	20	40	2	40	240	13/12/74
		26806		0.3	0.17%	-10	-10	40	3	40		11/4/75
	268.0	26016		0.3	0.12%	-10	100	40	2	35	260	13/12/74
		26807		T	0.11%	-10	65	50	-2	40		11/4/75
	269.0	26017		0.2	0.10%	60	20	65	2	45	370	13/12/74
		26808		T	0.11%	50	-10	85	-2	50		11/4/75
	270.0	26018		T	0.12%	120	20	170	2	120	740	13/12/74
		26809		T	0.11%	110	-10	160	-2	120		11/4/75
	271.0	26019		0.2	0.44%	200	30	120	2	230	0.28%	13/12/74
		26810			0.37%	190	40	120	-2	175		11/4/75
	272.0	26020		T	0.53%	20	30	85	2	180	800	13/12/74
		26811		T	0.47%	10	10	100	2	220		11/4/75
	273.0	26021		0.4	850	20	30	75	2	130	0.55%	13/12/74
	274.0	26022		0.2	210	20	30	60	2	70	0.80%	"
	275.0	26023		0.3	0.11%	-10	30	35	2	45	0.70%	"
	276.0	26024		0.3	190	-10	30	25	2	40	0.70%	"
	277.0	26025		0.4	360	-10	30	30	2	50	0.80%	13/12/74
	278.0	26026		T	130	-10	30	45	2	55	0.80%	"
	279.0	26027		0.3	70	-10	30	60	2	65	0.95%	"
279.0 -	279.6	26028		T	50	-10	30	40	2	55	0.90%	"
281.0 -	281.33	26029		T	90	-10	30	45	2	60	0.90%	"

NORTHERN STAR - ASSAY DATA - DDH 34

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample No.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
923 - 928	281.33 - 282.85		7984	-0.2								6/4/73
			7984*	T	620	300	110	130	2	110	0.12%	31/1/75
933	284.38		7986	-0.2								6/4/73
			7986*	T	570	20	90	120	2	110	900	31/1/75
938	285.90		7988	-0.2								6/4/73
			7988*	0.8	0.13%	10	90	85	3	140	550	31/1/75
		26780		0.2	0.13%	30	30	95	-2	160		9/4/75
943	287.43		7990	-0.2								6/4/73
			7990*	T	480	10	80	60	2	100	450	31/1/75
948	281.95		7992	-0.2								6/4/73
			7992*	0.2	800	-10	80	60	2	90	400	31/1/75
948 - 953	290.47		7994	-0.2								6/4/75
			7994*	T	0.16%	-10	100	100	2	70	0.30%	31/1/75
		26781		0.3	0.23%	30	110	50	-2	85		9/4/75
	291.0	26030		0.2	0.11%	20	30	55	2	80	0.38%	13/12/74
	292.0	26031		T	110	10	30	30	2	45	0.60%	"
	293.0	26032		0.3	160	10	30	35	2	50	0.55%	"
	294.0	26033		T	310	-10	30	40	2	70	0.70%	"
	295.0	26034		T	170	-10	20	40	2	60	0.20%	"
	296.0	26035		0.2	0.11%	-10	30	50	2	70	0.16%	"
	296.27	26036		0.2	360	10	30	95	2	90	0.14%	"
972 - 977	- 297.79		7996	-0.2	0.47%							6/4/73
			7996*	0.3	0.22%	10	110	130	2	0.10%	0.33%	31/1/75
		26782		T	0.37%	30	65	140	-2	0.10%		9/4/75
982	299.31		7998	-0.2	0.70%							6/4/73
			7998*	0.3	0.24%	10	90	110	2	220	0.24%	31/1/75
		26783		0.4	0.40%	20	-10	75	-2	260		9/4/75

* Processed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
982 - 987	299.31 - 300.84		8000	-0.2	0.52%							6/4/73
			8000*	0.3	0.22%	10	90	65	2	150	0.10%	31/1/75
		26784		T	0.35%	30	50	80	-2	200		9/4/75
992	302.36		26320	-0.2	0.27%							6/4/73
			26320*	0.5	0.15%	120	70	45	2	125	0.58%	21/1/75
		26785		1.0	0.23%	110	30	50	-2	130		9/4/75
997	303.89		26322	-0.2								6/4/73
			26322*	T	270	20	50	50	2	70	0.44%	21/1/75
1002	305.41		26324	-0.2								6/4/73
			26324*	0.4	210	70	50	50	2	60	0.35%	21/1/75
1007	306.93		26326	-0.2								6/4/73
			26326*	T	40	20	50	25	2	75	0.39%	21/1/75
1012	308.46		26328	-0.2								6/4/73
			26328*	0.3	25	10	50	30	2	75	0.38%	21/1/75
1017	309.98		26330	-0.2								6/4/73
			26330*	T	35	10	50	35	2	70	0.38%	21/1/75
1022	311.51		26332	-0.2								6/4/73
			26332*	T	75	10	50	25	2	50	0.39%	21/1/75
1027	313.03		26334	-0.2								11/4/73
			26334*	T	825	10	60	15	2	70	0.36%	21/1/75
1032	314.55		26336	-0.2								11/4/73
			26336*	T	0.20%	30	60	35	2	400	0.11%	21/1/75
		26786		0.7	0.30%	20	20	40	3	420		9/4/75
1037	316.08		26338	-0.2								11/4/73
			26338*	T	55	30	60	20	2	45	500	21/1/75
1042	317.60		26340	-0.2								11/4/73
			26340*	T	400	10	40	15	2	60	400	21/1/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34 (cont.)

Interval: (ft)	Interval: (m)	Sample Nos. A.D.L. A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
1042 - 1047	317.60 - 319.13	26342	-0.2								11/4/73
		26342*	1.4	770	0.10%	80	20	3	60	500	21/1/75
		26344	0.8								11/4/73
1052	320.65	26344*	0.9	280	0.40%	520	30	11	130	0.17%	21/1/75
		26787	1.4	270	0.42%	450	40	9	135		9/4/75
											11/4/73
1057	322.17	26346	0.4								21/1/75
		26346*	0.4	0.13%	0.35%	300	20	4	100	0.24%	21/1/75
		26788	0.4	0.14%	0.37%	250	30	3	100		9/4/75
											11/4/73
1062	323.70	26348	-0.2	1.8%	260				500		21/1/75
		26348*	0.5	0.24%	0.25%	200	15	3	250	0.19%	21/1/75
		26789	0.7	0.52%	920	70	20	2	430		9/4/75
											11/4/73
1067	325.22	26350	8.6	0.65%	310				245		21/1/75
		26350*	9.2	0.23%	0.38%	0.16%	25	5	235	0.24%	21/1/75
		26790	12.2	0.43%	0.50%	0.15%	35	4	250		9/4/75
											11/4/73
1072	326.75	26352	-0.2		960				70		21/1/75
		26352*	1.3	410	0.12%	220	20	2	85	0.28%	21/1/75
		26791	0.5	440	0.12%	205	30	2	95		9/4/75
											11/4/73
1077	328.27	26354	-0.2		0.13%				80		21/1/75
		26354*	1.8	350	0.26%	550	20	3	125	0.33%	21/1/75
		26792	1.8	350	0.25%	470	30	2	130		9/4/75
											11/4/73
1082	329.79	26356	-0.2		110				80		31/1/75
		26356*	0.2	130	70	90	35	3	70	600	31/1/75
											11/4/73
1087	331.32	26358	-0.2		880				105		31/1/75
		26358*	T	710	900	350	30	3	100	0.19%	31/1/75
											11/4/73
1092	332.84	26360	-0.2		890				120		31/1/75
		26360*	0.5	240	900	240	30	3	110	0.22%	31/1/75
											11/4/73
1097	334.37	26362	-0.2		0.12%				700		21/1/75
		26362*	1.3	460	0.22%	480	25	3	460	0.30%	21/1/75
											11/4/73
1097 - 1102	334.37 - 335.89	26364	-0.2		260				360		21/1/75
		26364*	0.2	470	300	110	30	3	340	0.15%	21/1/75

NORTHERN STAR - ASSAY DATA - DDH 34 (cont.)

Interval: <u>(ft)</u>	Interval: <u>(m)</u>	Sample Nos.		Au <u>D/T:</u>	Cu <u>ppm:</u>	Bi <u>ppm:</u>	Pb <u>ppm:</u>	Zn <u>ppm:</u>	Ag <u>ppm:</u>	Co <u>ppm:</u>	Mn <u>ppm:</u>	Date <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
1102 - 1107	335.89 - 337.41		26366	-0.2		250				650		11/4/73
			26366*	0.8	80	280	60	25	3	520	0.15%	21/1/75
1112	338.94		26368	-0.2		210				750		11/4/73
			26368*	0.6	100	180	70	25	2	610	0.16%	21/1/75
1117	340.46		26370	-0.2		100				260		11/4/73
			26370*	T	130	90	50	25	2	250	0.20%	21/1/75
1122	341.99		26372	-0.2		200				550		11/4/73
			26372*	0.5	340	250	60	25	2	520	0.32%	21/1/75
1127	343.51		26374	-0.2		600				40		11/4/73
			26374*	T	210	140	60	35	2	570	0.32%	21/1/75
1132	345.03		26376	-0.2		550				0.19%		11/4/73
			26376*	3.6	280	0.17%	270	35	4	0.13%	0.21%	21/1/75
		26793		1.6	250	0.15%	210	45	2	0.14%		9/4/75
1137	346.56		26378	-0.2		230				0.14%		11/4/73
			26378*	T	460	320	100	40	4	0.11%	0.14%	21/1/75
		26794		0.4	420	290	50	35	2	0.11%		9/4/75
1142	348.08		26380	-0.2		0.17%				0.25%		11/4/73
			26380*	1.9	0.21%	0.16%	80	140	4	0.15%	0.10%	21/1/75
		26795		0.9	0.35%	0.17%	50	150	2	0.17%		9/4/75
1147	349.61		26382	-0.2	8.5%	0.19%				0.24%		11/4/73
			26382*	1.6	0.18%	0.27%	310	40	6	0.16%	800	21/1/75
		26796		0.3	0.27%	0.27%	170	40	2	0.18%		9/4/75
1152	351.13		26384	0.4	0.26%	0.14%				0.26%		11/4/73
			26384*	2.8	0.25%	0.17%	170	40	5	0.14%	800	21/1/75
		26797		T	0.48%	0.18%	120	50	2	0.17%		9/4/75
1159	353.26		26386	-0.2	275	300				0.24%		11/4/73
			26386*	2.9	360	590	110	40	5	0.15%	0.12%	21/1/75
		26798		0.4	310	530	80	55	2	0.16%		11/4/75

*Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34 (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	353.26 - 354.0	26037		0.5	190	80	30	205	3	185	590	13/12/74
	355.0	26038		2.1	270	180	40	180	3	170	530	"
	356.0	26039		0.5	230	40	20	80	3	80	440	"
	357.0	26040		0.8	0.21%	800	20	95	3	150	600	13/12/74
		26812		0.8	0.24%	750	-10	105	2	170		11/4/75
	358.0	26041		0.5	0.54%	230	20	100	3	105	530	13/12/74
		26813		1.2	0.46%	210	-10	110	3	100		11/4/75
	359.0	26042		0.2	0.45%	140	20	95	3	70	430	13/12/74
		26814		0.7	0.48%	150	-10	110	4	90		11/4/75
	360.0	26043		0.2	0.38%	40	20	100	3	70	450	13/12/74
		26815		0.5	0.38%	50	-10	110	3	80		11/4/75
	361.0	26044		0.3	0.30%	60	20	90	3	65	490	13/12/74
		26816		1.2	0.28%	50	-10	100	3	70		11/4/75
	362.0	26045		T	0.30%	-10	20	60	3	40	370	13/12/74
		26817		T	0.32%	10	-10	70	2	50		11/4/75
	363.0	26046		0.2	0.10%	-10	20	55	3	40	380	13/12/74
		26818			0.11%	-10	-10	60	2	40		11/4/75
	364.0	26047		T	350	-10	20	65	3	50	440	13/12/74
		26819		T	450	-10	-10	70	-2	50		11/4/75
	365.0	26048		T	0.14%	40	20	90	3	70	560	13/12/74
		26820		0.4	0.11%	25	-10	90	2	60		11/4/75
	366.0	26049		T	0.18%	160	30	75	3	55	470	13/12/74
		26821		T	0.22%	150	-10	85	4	60		11/4/75
	366.0 - 367.0	26050		0.3	0.27%	400	50	105	3	80	490	13/12/74
		26822		0.3	0.25%	345	15	105	2	85		11/4/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34 (cont.)

Interval: <u>(ft)</u>	Interval: <u>(m)</u>	Sample Nos.		Au	Cu	Bi	Pb	Zn	Ag	Co	Mn	Date
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	367.0 - 368.0	26051		T	500	50	20	115	3	105	400	13/12/74
	369.0	26052		T	420	10	20	150	3	110	450	"
	370.0	26053		T	640	20	20	120	3	110	470	"
	370.0 - 370.?	26054		T	0.47%	80	20	140	4	200	770	"
		26823		0.6	0.44%	65	-10	145	2	195		11/4/75

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - ASSAY DATA - DDH 34A

a) Split Core

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>									
	220.0 - 221.0	25974		T	35	-10	20	30	2	50	0.25%	18/12/74
	222.0	75		T	10	10	30	10	3	45	0.49%	"
	223.0	76		0.3	10	-10	30	10	3	40	0.54%	"
	224.0	77		0.4	45	30	30	40	3	40	0.31%	"
	225.0	78		0.2	15	-10	10	35	2	35	260	"
	226.0	79		0.2	-10	-10	10	35	2	35	220	"
	227.0	80		T	-10	-10	10	40	2	30	310	"
	227.0 - 228.0	25981		0.3	110	-10	10	40	2	50	320	"
	257.0 - 258.0	25989		T	570	-10	30	95	3	70	700	18/12/74
	259.0	25990		T	0.22%	80	30	120	3	100	800	18/12/74
		26736		0.5	0.20%	50	-10	115	-2	180		9/4/75
	260.0	25991		T	0.20%	20	30	120	3	225	820	13/12/74
		26737		0.2	0.19%	-10	-10	130	-2	210		9/4/75
	261.0	25992		0.5	2.6%	60	50	130	5	0.10%	820	18/12/74
		26738		0.4	0.59%	50	20	145	-2	880		9/4/75
	262.0	25993		0.3	2.7%	70	60	125	4	770	800	18/12/74
		26739		T	0.60%	50	20	130	-2	710		9/4/75
	263.0	25994		0.2	0.20%	60	70	150	4	620	0.11%	18/12/74
		26740		T	0.19%	-10	15	160	-2	590		9/4/75
	264.0	25995		T	360	20	70	140	4	360	0.10%	18/12/74
		26872		T	350	70	50	195	6	395		21/4/75
	265.0	25996		T	0.10%	30	90	145	4	290	0.10%	18/12/74
		26741		0.4	765	-10	45	150	-2	255		9/4/75

NORTHERN STAR - ASSAY DATA - DDH 34A Cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u>		<u>Au</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Date</u>
		<u>A.D.L.</u>	<u>A.C.M.</u>	<u>D/T:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>Assayed:</u>
	265.0 - 266.0	25997		0.2	0.13%	-10	30	90	3	115	730	18/12/74
		26742		0.3	850	-10	-10	95	-2	100		9/4/75
	267.0	25998		T	0.32%	-10	30	60	3	100	0.17%	18/12/74
		26743		0.3	0.30%	-10	-10	95	-2	100		9/4/75
	268.0	25999		0.2	0.23%	-10	30	35	3	75	0.62%	18/12/74
		26744		T	0.23%	-10	-10	40	-2	80		9/4/75
	269.0	26013		T	750	-10	20	25	3	35	0.49%	18/12/74
	270.0	26000		T	0.15%	20	30	30	3	75	0.95%	18/12/74
		26745		0.6	0.13%	30	-10	30	-2	80		9/4/75
	271.0	26001		T	0.25%	20	30	30	3	65	0.90%	18/12/74
		26746		0.3	0.25%	30	-10	40	-2	80		9/4/75
	272.0	26002		T	500	20	30	30	3	60	1.0%	18/12/74
		26747		0.6	530	-10	-10	40	-2	65		9/4/75
	273.0	26003		0.3	0.27%	-10	30	30	3	60	1.1%	18/12/74
		26748		T	0.25%	-10	-10	30	-2	60		9/4/75
	274.0	26004		T	800	-10	20	30	3	70	1.2%	18/12/74
		26749		0.4	440	-10	-10	30	-2	70		9/4/75
	275.0	26005		T	400	-10	20	30	3	70	1.3%	18/12/79
		26750		T	320	-10	-10	35	-2	60		9/4/75
	276.0	26006		T	0.15%	-10	30	50	3	75	1.1%	18/12/74
		26751		T	0.11%	-10	-10	55	-2	75		9/4/75
	277.0	26007		T	230	-10	30	25	3	75	1.1%	18/12/74
	278.0	26008		T	230	-10	30	20	3	65	1.2%	"
	279.0	26009		T	95	10	30	30	3	60	1.2%	"
	280.0	26010		T	300	20	30	40	3	60	0.8%	"
280.0 - 281.0		26011		0.3	205	-10	30	30	3	60	1.0%	" "

NORTHER STAR - ASSAY DATA - DDH 34A (cont.)

Interval: (ft)	Interval: (m)	Sample No. A.D.L. A.C.M.	Au D/T:	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Date Assayed:
	281.0 - 282.24	26012	T	950	10	20	20	4	60	0.75%	18/12/74
926 - 931	283.77	26388	-0.2								18/4/73
		26575	0.3	790	10	-10	55	3	195	0.14%	18/2/75
936	285.29	26390	-0.2								18/4/73
		26390*	1.2	950	100	60	40	2	430	0.19%	21/1/75
941	286.82	26392	-0.2								18/4/73
		26392*	T	820	30	50	40	2	490	0.21%	21/1/75
946	288.34	26394	-0.2								18/4/73
		26394*	T	0.17%	30	40	50	3	420	0.13%	21/1/75
		26752	0.5	0.23%	-10	-10	50	-2	410		9/4/75
953	290.47	26396	-0.2								18/4/73
		26396*	T	0.10%	30	40	50	3	175	0.14%	21/1/75
		26753	0.3	980	20	-10	35	-2	165		9/4/75
959	292.30	26398	-0.2								18/4/73
		26398*	1.6	0.20%	40	60	50	3	340	0.23%	24/1/75
		26754	0.5	0.30%	40	-10	50	-2	310		9/4/75
966	294.44	26400	-0.2								18/4/73
		26400*	1.6	0.13%	80	50	40	3	160	0.69%	24/1/75
		26755	0.3	0.18%	60	-10	40	-2	155		9/4/75
971	295.96	26252	-0.2								18/4/73
		26252*	0.9	0.16%	210	50	90	3	160	0.55%	16/1/75
		26756	0.4	0.20%	160	10	70	2	55		9/4/75
976	296.48	26254	0.8								18/4/73
		26254*	0.7	0.22%	500	70	50	3	0.12%	0.32%	24/1/75
		26757	1.1	0.38%	520	30	50	2	0.13%		9/4/75
981	299.01	26256	-0.2								18/4/73
		26256*	T	0.12%	40	60	10	3	150	0.62%	24/1/75
		26758	0.7	0.17%	40	-10	10	-2	145		9/4/75

* Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34A (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample NO.</u> <u>A.D.L.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
981 - 986	299.01 - 300.53		26258	-0.2							18/4/73
			26258*	T	0.12%	200	60	10	3	310	24/1/75
		26759		0.6	0.13%	240	15	15	3	320	9/4/75
982	302.36		26260	-0.2							18/4/73
			26260*	1.0	0.14%	50	80	15	3	190	24/1/75
		26760		1.0	0.17%	70	50	20	-2	205	9/4/75
997	303.89		26262	1.0							18/4/73
			26262*	1.6	0.21%	900	150	115	3	290	24/1/75
		26761		1.6	0.32%	0.10%	115	115	-2	295	9/4/75
1003	305.71		26264	-0.2							18/4/73
1008	307.24		26266	-0.2							18/4/73
			26266*	0.5	800	370	100	90	3	220	24/1/75
1013	308.76		26268	-0.2							18/4/73
			26268*	0.8	230	180	90	40	3	240	24/1/75
1020	310.90		26270	0.4							18/4/73
			26270*	0.3	265	160	80	35	3	290	24/1/75
1025	312.42		26272	0.8							18/4/73
			26272*	1.3	140	110	60	35	3	540	16/1/75
1030	313.94		26274	-0.2							18/4/73
			26274*	0.6	360	10	70	35	3	90	24/1/75
1036	315.77		26276	2.0							18/4/73
			26276*	2.5	530	160	60	40	3	900	16/1/75
1043	317.91		26278	-0.2							18/4/73
			26278*	0.3	285	10	70	35	3	70	24/1/75
1048	319.43		26280	-0.2							18/4/73
			26280*	T	170	30	50	30	3	50	24/1/75
1048 - 1053	320.95		26282	-0.2							18/4/73
			26282*	0.4	60	10	40	25	11	70	24/1/75

*Reassayed by A.D.L.

NORTHER STAR - ASSAY DATA - DDH 34A (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L. A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1053 - 1058	320.95 - 322.48	26284	-0.2								18/4/78
		26284*	1.0	140	60	50	30	2	250	0.18%	16/1/75
1063	324.00	26286	-0.2								18/4/73
		26286*	T	600	200	60	25	3	70	0.28%	24/1/75
1068	325.53	26288	-0.2								18/4/73
		26288*	0.7	890	30	50	70	3	210	0.21%	16/1/75
		26288*	T	350	0.16%	300	25	4	90	0.36%	24/1/75
1073	327.05	26290	-0.2								18/4/73
1078	328.57	26292	-0.2								18/4/73
		26292*	T	0.10%	60	50	20	4	110	0.30%	24/1/75
1083	330.10	26294	-0.2								18/4/73
		26294*	T	340	0.19%	400	25	4	100	0.59%	24/1/75
1088	331.62	26296	-0.2								18/4/73
		26296*	0.4	470	70	70	30	4	110	0.63%	16/1/75
1093	333.15	26298	-0.2								18/4/73
		26298*	T	0.10%	100	70	20	4	120	0.40%	24/1/75
1098	334.67	26300	-0.2								18/4/73
		26300*	0.2	690	50	70	20	4	120	0.38%	24/1/75
1103	336.19	5002	-0.2								18/4/73
		5002*	0.3	530	60	70	20	4	120	0.50%	24/1/75
1108	337.72	5004	-0.2								18/4/73
		5004*	0.3	340	70	70	20	4	150	0.44%	24/1/75
1113	339.24	5006	-0.2								18/4/73
		5006*	T	0.21%	70	60	10	4	0.11%	0.40%	24/1/75
		26762	0.6	0.51%	100	40	20	-2	0.12%		9/4/75
1117	340.46	5008	-0.2								18/4/73
		5008*	T	0.19%	30	60	10	3	130	0.40%	24/1/75
		26763	0.6	0.29%	50	25	15	-2	125		9/4/75

*Reassayed by A.D.L.

NORTHERN STAR - ASSAY DATA - DDH 34A (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppM:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1117 - 1123	340.46 - 342.29		5010	-0.2								18/4/73
			5010*	T	0.24%	120	70	20	3	400	0.35%	24/1/75
		26764		0.4	0.46%	180	40	25	-2	450		9/1/75
1127	343.51		5012	-0.2								18/4/73
			5012*	T	900	20	60	20	3	190	0.12%	24/1/75
		26765		0.7	0.10%	60	25	25	-2	215		9/4/75
1134	345.64		5014	-0.2								18/4/75
			5014*	T	0.22%	30	60	20	3	400	0.25%	24/1/75
		26766		T	0.46%	50	20	20	3	380		11/4/75
1139	347.17		5016	-0.2								18/4/73
			5016*	T	0.11%	10	60	15	3	350	0.28%	24/1/75
		26767		3.2	0.12%	30	25	20	-2	360		9/4/75
1144	348.69		5018	-0.2								18/4/73
			5018*	0.4	0.17%	10	50	20	3	410	0.35%	24/1/75
		26768		0.5	0.16%	40	20	30	-2	430		9/4/75
1149	350.22		5020	-0.2								18/4/73
			5020*	T	0.24%	10	50	25	3	300	0.41%	24/1/75
		26769		0.4	0.47%	50	20	35	-2	330		9/4/75
1154	351.74		5022	-0.2								18/4/73
			5022*	0.7	0.24%	20	50	70	3	820	0.39%	24/1/75
		26770		0.3	0.46%	30	15	60	-2	830		9/4/75
1159	353.26		5024	-0.2								18/4/73
			5024*	0.2	0.23%	40	70	75	3	0.14%	0.32%	24/1/75
		26771		0.7	0.45%	50	10	80	-2	0.15%		9/4/75
1164	354.79		5026	-0.2								18/4/73
			5026*	0.7	0.25%	50	70	65	3	880	0.28%	24/1/75
		26772		0.6	0.43%	70	20	40	-2	905		9/4/75
1169	356.31		5028	-0.2								18/4/75
			5028*	0.3	0.26%	0.22%	130	65	5	0.10%	0.15%	24/1/75
		26773		0.3	0.50%	0.24%	80	75	-2	0.11%		9/4/75
1174	357.84		5030	-0.2								18/4/73
			5030*	T	0.24%	730	140	60	4	0.11%	0.11%	24/1/75

NORTHERN STAR - ASSAY DATA - DDH 34A (cont.)

<u>Interval:</u> <u>(ft)</u>	<u>Interval:</u> <u>(m)</u>	<u>Sample Nos.</u> <u>A.D.L.</u>	<u>A.C.M.</u>	<u>Au</u> <u>D/T:</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>Date</u> <u>Assayed:</u>
1174 - 1179	357.84 - 359.36		5032	-0.2								18/4/73
			5032*	0.5	600	720	140	50	5	0.17%	500	24/1/75
		26775		T	575	700	110	65	3	0.20%		9/4/75
1184	360.88		5034	-0.2								18/4/73
			5034*	0.4	0.14%	600	150	60	4	0.13%	400	24/1/75
		26776		0.4	0.19%	600	80	35	2	0.12%		9/4/75
1189	362.41		5036	-0.2								18/4/73
			5036*	0.4	0.17%	520	140	60	4	740	600	24/1/75
		26777		0.5	0.25%	650	90	70	-2	750		9/4/75
1194	363.93		5038	-0.2								18/4/73
1194 - 1201	363.93 - 366.06		5040	-0.2								18/4/73
			5040*	0.2	0.21%	210	140	60	3	330	700	24/1/75
		26778		0.3	0.31%	300	40	100	-2	350		9/4/75

*Reassayed by A.D.L.

AUSTRALIAN DEVELOPMENT LIMITED

DRILLING AT NORTHERN STAR

The drilling of the capping at the Northern Star requires the use of different drilling techniques. The ODEX 115 system has been tested and it would appear to work with some modifications to the gear and with some extra air supply it will be O.K..

The following changes and modifications to the gear and equipment have come out of discussion with the various personnel involved in the test.

I Improved the air supply, more cfm and a slightly higher pressure to clear the hole to overcome this. The following points have been proposed:-

- a) Enlarged water swivals below the Gemco Head.
- b) Hollow Shaft through the head and extra Swival.
- c) The use of Bleeder subs in the String Line.
- d) The use of more than one compressor into and extra air receiver tank.
- e) Enlarged Sample Collector to reduce back pressure in the hole.

II Modified Drilling Techniques

- a) The use of a various sized hammer and casing (4½" casing) after the ODEX hole.
- b) The use of subs in 1 and 1.5 metre lengths make up the difference in Mast Travel.
- c) A good solid collar block with a 6" to 7" collar to get improved sample collection and better working space.

III The use of welded steel casing as opposed to threaded would be an improvement from both drilling and cost points of view.

Glindeman and Kitching Enterprises will be required to purchase the necessary expendable items i.e. bits, reamers and guide device and guide sleeve. Total cost will be \$3,460.35. The casing tube was left down the hole with casing which does not seem to be recoverable at this point in time. Australian Development Limited will pay for the casing tube and casing. The pilot bit is worn but can be sharpened while the reamer bit will have to be replaced as 2 tungstens have fallen out - the use of an insert reamer as against button be necessary. The driving cap will be returned to Atlas Copco as it is not necessary in our application.

The only problems is getting the extra air and how it is paid for. Glindeman and Kitching Enterprises may have to consider a newer COP 42 hammer with more punch to drive the casing and bit down in some of the harder ground. This may be a slight problem as Atlas Copco have withdrawn the hammer pending modifications to the hammer pistons. We may be able to borrow a COP 42 hammer from Brandrill which could solve the problem.

It would seem the limiting factors of the ODEX system are the ground conditions which stop the casing and may be a heavier hitting hammer would overcome this to some degree.

P.C. DREVERMAN
Senior Geologist

n/s

AUSTRALIAN DEVELOPMENT LIMITED

MEMO TO: Assistant Manager/Chief Geologist *PS*
FROM: P. van der Helder
SUBJECT: NORTHERN STAR - STRATIGRAPHIC CORRELATION OF
SEDIMENTS IN DIAMOND DRILL HOLES
DATE: 23rd May, 1979

All the core from diamond drill holes DDH 478 to DDH 551, drilled by A.D.L. at the Northern Star has been relogged with the aim of establishing a stratigraphic sequence and correlating sedimentary units in adjacent drill holes. This programme was undertaken because there is a possibility that the disseminated chalcopryrite mineralization around the "breccia pipes" is controlled by certain stratigraphic units.

A stratigraphic sequence was proposed by A. Munro on 23/1/76 in which the coarse laminated siltstone (C.L.S.) unit was proposed as a marker unit. Careful relogging indicates that this unit varies considerably in the intensity of quartzitic laminations and in colour from hole to hole. It is now suggested that the C.L.S. is only one of the facies of the 'Grey-Green Formation', being lenticular and discontinuous in nature and probably ranging through a significant stratigraphic thickness.

The C.L.S. units are interbedded with other more uniformly and weakly laminated siltstones varying in colour from green to grey to bluish purple which form the "Grey-Green Formation". The wedge of sediments between the Higgins and Granger Faults is predominantly 'Grey-green Formation' with the 'Hematite Shale' (not logged in any of the core) occurring near the top of the sequence. The Jasper unit which forms cappings on the three Northern Star hills, is discontinuous and occurs only at the crest of the major antiforms. As suggested before, it probably has been formed by the silicification of a particular unit during or after the folding.

The 'Purple Formation', a finely, well laminated siltstone, purple in colour with common pale green 'bleach' spots occurs stratigraphically between the 'Grey-Green Formation' and the underlying 'Pink Formation'. The 'Purple Formation' has been intersected in DDH 550, 312 - 351.8 m; DDH 542, 456 - 498 m and 531 - 548.8 m; DDH 535 82 - 128 m and DDH 489 209 - 292.35 m and in several earlier holes.

The 'Pink Formation', characterised by narrow hematite red laminations, forms the lowest stratigraphic unit at the Northern Star and has been intersected in several drill holes, e.g. DDH 480, DDH 536, DDH 535, DDH 488, DDH 542 and DDH 485.

A complete stratigraphic sequence has not yet been intersected in any one drill hole due to the strong folding and faulting. Estimates of true stratigraphic thickness have also not been made.

It has been noted that the disseminated chalcopryrite and the chalcocite 'breccia pipe' mineralization has to date only been intersected in the 'Grey-green Formation'.


P. VAN DER HELDER,
Geologist.

PvdH:JES

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 551

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 72.0 m	Hammer cuttings.
72.0 - 228.0 m	"Grey-green Formation". 72 - 92 m Oxidised reddish purple siltstone, moderate fine laminations. 92 - 109 m Grey-green siltstone, fine laminations. 109 - 127 m Purple siltstone, well laminated, small cream coloured 'bleach spots'. 127 - 188 m Coarse laminated siltstone (C.L.S.) 188 - 194 m Coarse laminated siltstone - partial hydrothermal alteration. 194 - 197 m Complete hydrothermal alteration. 197 - 204 m Green siltstone, fine laminations, (C.L.S?). 204 - 206 m Purple siltstone (similar to 109 - 127). 206 - 223 m Green siltstone, weak laminations (similar to 92 - 109). 223 - 228 m Complete hydrothermal alteration.
228.0 - 229.0 m	Fault zone - 'Higgins Fault'.
229.0 - 250.6 m	Complete hydrothermal alteration.



P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 551

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 72.0 m Hammer cuttings.

72.0 - 228.0 m "Grey-green Formation".

72 - 92 m Oxidised reddish purple siltstone, moderate fine laminations.

92 - 109 m Grey-green siltstone, fine laminations.

109 - 127 m Purple siltstone, well laminated, small cream coloured 'bleach spots'.

127 - 133 m Coarse laminated siltstone (C.L.S.)

133 - 194 m Coarse laminated siltstone - partial hydrothermal alteration.

194 - 197 m Complete hydrothermal alteration.

197 - 204 m Green siltstone, fine laminations, (C.L.S?).

204 - 206 m Purple siltstone (similar to 109 - 127).

206 - 223 m Green siltstone, weak laminations (similar to 92 - 109).

223 - 228 m Complete hydrothermal alteration.

228.0 - 229.0 m Fault zone - 'Higgins Fault'.

229.0 - 230.0 m Complete hydrothermal alteration.


P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 550

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 81 m	Hammer cuttings.
81 - 273 m	"Grey-green Formation". 81 - 119 m Grey-green siltstone, faintly laminated in part. 119 - 273 m Coarse laminated siltstone, strong lamination after 140 m, dark purple colour between 152 - 158 and 217 - 218.
273 - 274 m	Fault Zone - 'Higgins Fault'.
274 - 311 m	"Grey-green Formation". 274 - 276 m Green siltstone (similar to 81 - 119). 276 - 311 m Dark greenish mauve siltstone with C.L.S. like laminations.
311 - 312 m	Fault Zone - 'Granger Fault'.
312 - 351.8 m	'Purple Formation.' 312 - 351.8 m Dark purple siltstone, some laminations, pale green 'bleach spots' in parts.



P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 550

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

- 0 - 81 m Hammer cuttings.
- 81 - 273 m "Grey-green Formation".
81 - 119 m Grey-green siltstone, faintly laminated in part.
119 - 273 m Coarse laminated siltstone, strong laminations after 140 m, dark purple colour between 152 - 158 and 217 - 218.
- 273 - 274 m Fault Zone - 'Higgins Fault'.
- 274 - 311 m "Grey-green Formation".
274 - 276 m Green siltstone (similar to 81 - 119).
276 - 311 m Dark greenish mauve siltstone with C.L.S. like laminations.
- 311 - 312 m Fault Zone - 'Granger Fault'.
- 312 - 351.0 m 'Purple Formation.'
312 - 351.0 m Dark purple siltstone, some laminations, pale green 'bleach spots' in parts.



P. VAN DER HELDER,
Geologist

22/5/70

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 547

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 55.75 m Hammer Cuttings.

55.75 - 97.0 m Complete alteration.

97.0 - 227.0 m "Grey-green Formation".

97 - 101 m Green siltstone, strong chloritization.

101 - 105 m Green siltstone, fine laminations.

105 - 112 m Green siltstone, strong chloritization.

112 - 134 m Green siltstone, strong laminations
after 123.

134 - 174 m Coarse laminated siltstone.

174 - 184 m Green siltstone, moderate laminations.

184 - 192 m Coarse laminated siltstone, laminations
weekly developed.

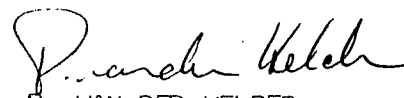
192 - 227 m Dark greenish mauve siltstone, some C.L.S.
like laminations.

227 - 245 m 'Purple Formation'.

227 - 245 m Dark purple siltstone, some laminations
(similar to DDH 550 312 - 351.8).

245 - 252 m Fault zone - 'Higgins Fault'.

252 - 256 m Complete hydrothermal alteration.



P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 547

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

- 0 - 55.75 m Hammer Cuttings.
- 55.75 - 97.0 m Complete alteration.
- 97.0 - 227.0 m "Grey-green Formation".
- 97 - 101 m Green siltstone, strong chloritization.
 - 101 - 105 m Green siltstone, fine laminations.
 - 105 - 112 m Green siltstone, strong chloritization.
 - 112 - 134 m Green siltstone, strong laminations after 123.
 - 134 - 174 m Coarse laminated siltstone.
 - 174 - 192 m Green siltstone, moderate laminations.
 - 192 - 227 m Dark greenish mauve siltstone, some C.L.S. like laminations.
- 227 - 245 m 'Purple Formation'.
- 227 - 245 m Dark purple siltstone, some laminations (similar to DDH 540 312 - 351.8).
- 245 - 252 m Fault zone - 'Higgins Fault'.
- 252 - 256 m Complete hydrothermal alteration.

P. van der Helder

P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 544

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 46 m	Hammer Cuttings.
46 - 109 m	Complete hydrothermal alteration.



P. VAN DER HELDER,
Geologist

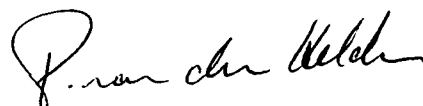
22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 544

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 46 m	Hammer Cuttings.
46 - 109 m	Complete hydrothermal alteration.



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AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 543

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 60 m	Hammer cuttings.
60 - 99 m	Complete hydrothermal alteration.
99 - 160 m	'Grey-green Formation'.
99 - 160 m	Green siltstone with greywacke from 146 - 156 m.


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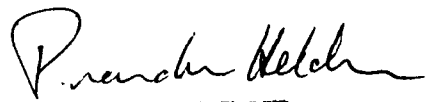
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AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN ST/1 - DDH 543

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 60 m	Hammer cuttings.
60 - 99 m	Complete hydrothermal alteration.
99 - 160 m	'Grey-green Formation'.
99 - 160 m	Green siltstone with greywacke from 146 - 156 m.


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Geologist.

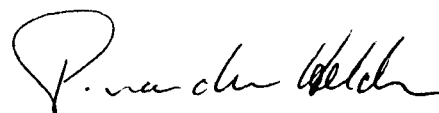
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AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 542

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 99 m	Hammer cuttings.
99 - 268 m	'Pink Formation'.
268 - 289 m	Fault Zone - 'McFarland Fault'.
289 - 311 m	'Pink Formation'.
311 - 319 m	Fault Zone - "McFarland Fault II".
319 - 335 m	'Pink Formation'.
335 - 427 m	"Grey-green Formation".
335 - 356 m	Partially chloritized purple-blue siltstone.
356 - 358 m	Complete hydrothermal alteration.
358 - 395 m	Coarse laminated siltstone, green colour.
395 - 421 m	Green siltstone, fine to moderate laminations.
421 - 427 m	Purplish green siltstone, some C.L.S. like laminations.
427 - 431 m	Fault Zone - 'Granger Fault'.
431 - 456 m	'Grey-green Formation'.
431 - 438 m	Purplish green siltstone, some C.L.S. like laminations.
438 - 456 m	Green siltstone, some C.L.S. like laminations.
456 - 498 m	'Purple Formation'.
456 - 498 m	Dark purple siltstone, pale green 'bleach spots'.
498 - 507 m	Fault Zone - 'Nilsen Fault'.
507 - 531 m	'Grey-green Formation.'
507 - 531 m	Green siltstone, minor laminations.
531 - 548.8 m	'Purple Formation'.
531 - 548.8 m	Dark purple siltstone (similar to 456 - 498).



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AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 542

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 99 m	Hammer cuttings.
99 - 268 m	'Pink Formation'.
268 - 289 m	Fault Zone - 'McFarland Fault'.
289 - 311 m	'Pink Formation'.
311 - 319 m	Fault Zone - "McFarland Fault II".
319 - 335 m	'Pink Formation'.
335 - 427 m	'Grey-green Formation'. 335 - 356 m Partially chloritized purple-blue siltstone. 356 - 366 m Complete hydrothermal alteration. 366 - 395 m Coarse laminated siltstone, green colour. 395 - 421 m Green siltstone, fine to moderate laminations 421 - 427 m Purplish green siltstone, some C.L.S. like laminations.
427 - 431 m	Fault Zone - 'Granger Fault'.
431 - 456 m	'Grey-green Formation'. 431 - 439 m Purplish green siltstone, some C.L.S. like laminations. 439 - 456 m Green siltstone, some C.L.S. like laminations
456 - 498 m	'Purple Formation'. 456 - 498 m Dark purple siltstone, pale green 'bleach spots'.
498 - 507 m	Fault Zone - 'Nilsen Fault'.
507 - 531 m	'Grey-green Formation'. 507 - 531 m Green siltstone, minor laminations.
531 - 548.8 m	'Purple Formation'. 531 - 548.8 m Dark purple siltstone (similar to 456 - 498).



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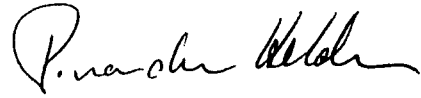
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NORTHERN STAR - DDH 540

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 40.0 m Hammer cuttings.
40 - 113.81 m Complete hydrothermal alteration.



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NORTHLON STAR - DDH 540

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 40.0 m Hammer cuttings.

40 - 113.1 m Complete hydrothermal alteration.



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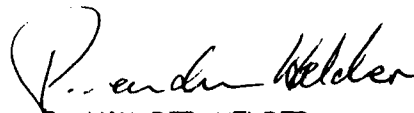
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AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 536

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 78 m	Hammer cuttings.
78 - 175 m	'Pink Formation'.
175.- 179 m	Fault Zone.
179 - 206 m	Complete hydrothermal alteration.
206 - 209 m	'Pink Formation'.
	206 - 209 m Dark maroon siltstone with typical pink formation type laminations.
209 - 212 m	Complete hydrothermal alteration.
212 - 213 m	'Grey-green Formation'.
	212 - 213 m Green Siltstone.
213 - 222 m	Complete hydrothermal alteration.
222 - 223 m	Fault Zone - "McFarland Fault II".
223 - 298 m	Grey-green Formation.
	223 - 250 m Green siltstone, some C.L.S. like laminations.
	250 - 290 m Coarse laminated siltstone.
	290 - 298 m Greenish mauve siltstone, some C.L.S. like laminations.
298 - 300 m	Fault Zone - 'Granger Fault'.


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NORTHERN STAR - DDH 536

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 7 m	Hammer cuttings.
78 - 175 m	'Pink Formation'.
175.- 179 m	Fault Zone.
179 - 206 m	Complete hydrothermal alteration.
206 - 209 m	'Pink Formation'.
	206 - 209 m Dark maroon siltstone with typical pink formation type laminations.
209 - 212 m	Complete hydrothermal alteration.
212 - 213 m	'Gray-green Formation'.
	212 - 213 m Green Siltstone.
213 - 222 m	Complete hydrothermal alteration.
222 - 223 m	Fault Zone - "McFarland Fault II".
223 - 229 m	Gray-green Formation.
	223 - 250 m Green siltstone, some C.L.S. like laminations.
	250 - 290 m Coarse laminated siltstone.
	290 - 298 m Greenish mauve siltstone, some C.L.S. like laminations.
298 - 300 m	Fault Zone - 'Granger Fault'.



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NORTHERN STAR - DDH 535

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

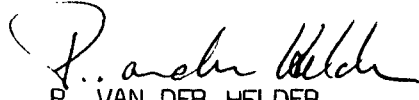
0 - 61 m Hammer cuttings.

61 - 82 m 'Pink Formation'.

82 - 128 m 'Purple Formation'.
82 - 96 m Reddish mauve laminated siltstone.
96 - 128 m Bluish purple siltstone, finely laminated.

128 - 129 m Fault Zone - 'McFarland Fault II'.

129 - 288.25 m 'Grey-green Formation'.
129 - 169 m Green siltstone, finely laminated, purple
purple colour 150 - 155 m minor C.L.S.
like laminations after 160 m.
169 - 218 m Purplish green siltstone, some C.L.S. like
laminations.
218 - 288.25 m Coarse laminated siltstone (C.L.S.),
partial alteration 252 - 260 m.


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NORTHERN STAR - DDH 035

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m Hammer cuttings.

61 - 82 m 'Pink Formation'.

82 - 128 m 'Purple Formation'.

82 - 96 m Reddish mauve laminated siltstone.

96 - 128 m Bluish purple siltstone, finely laminated.

128 - 129 m Fault Zone - 'McFarland Fault II'.

129 - 200.25 m 'Gray-green Formation'.

129 - 169 m Green siltstone, finely laminated, purple
purple colour 150 - 155 m minor C.L.S.
like laminations after 160 m.

169 - 210 m Purplish green siltstone, some C.L.S. like
laminations.

210 - 200.25 m Coarse laminated siltstone (C.L.S.),
partial alteration 202 - 260 m.

P. van der Helder

P. VAN DER HELDER,
Geologist.

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NORTHERN STAR - DDH 534

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 511.

199 - 200 m	"Grey-green Formation".
	199 - 200 m Green siltstone.
200 - 213.5 m	"Pink Formation".



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NORTHERN STAR - DDH 534

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 511.

199 - 200 m	"Gray-green Formation".
	199 - 200 m Green siltstone.
200 - 213.5 m	"Pink Formation".



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NORTHERN STAR - DDH 523

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 314 m	'Grey-green Formation'. 61 - 68 m Siltstone, oxidised, poorly bedded. 68 - 96 m Siltstone, oxidised, some C.L.S. like laminations. 96 - 110 m Grey-green siltstone, purple-mauve colour in part, parts oxidised, thinly laminated. 110 - 199 m Green siltstone, finely laminated, colour grades to purple 175 - 184 m. 199 - 256 m Purple - green siltstone, some C.L.S. like laminations. 256 - 314 m Green siltstone, some fine laminations.
314 - 315 m	Fault Zone - 'Granger Fault'.
315 - 318.5 m	'Purple Formation!'



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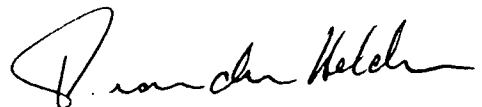
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NORTHERN STAR - DDH 523

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 314 m	'Grey-green Formation'. 61 - 68 m Siltstone, oxidised, poorly bedded. 68 - 96 m Siltstone, oxidised, some C.L.S. like laminations. 96 - 110 m Grey-green siltstone, purple-mauve colour in part, parts oxidised, thinly laminated. 110 - 199 m Green siltstone, finely laminated, colour grades to purple 175 - 184 m. 199 - 256 m Purple - green siltstone, some C.L.S. like laminations. 256 - 314 m Green siltstone, some fine laminations.
314 - 315 m	Fault Zone - 'Granger Fault'.
315 - 315.5 m	'Purple Formation!'



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Geologist.

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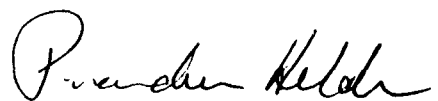
NORTHERN STAR - DDH 517

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge Off DDH 513.

97 - 133 m 'Grey-green Formation'.

97 - 133 m Purple green siltstone, well laminated in
part, green towards end.


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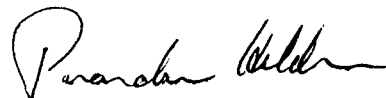
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AUSTRALIAN DEVELOPMENT LIMITED
NORTHERN STAR - DDH 517
SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge Off DDH 513.

97 - 133 m 'Grey-green Formation'.

97 - 133 m Purple green siltstone, well laminated in
part, green towards end.



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NORTHERN STAR - DDH 513

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 85.5 m	Hammer cuttings.
85.5 - 198.0 m	"Grey-green Formation". 85.5 - 198 m Purple-green siltstone, well laminated to 120 m, oxidised to 115 m, grey-green colour 138 - 145 m, green colour with some C.L.S. like laminations after 184 m.
198.0 - 201.5 m	Fault Zone - 'Higgins Fault'.



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NORTHERN STAR - DDH 513

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 85.5 m	Hammer cuttings.
85.5 - 198.0 m	"Grey-green Formation". 85.5 - 198 m Purple-green siltstone, well laminated to 120 m, oxidised to 115 m, grey-green colour 130 - 145 m, green colour with some C.L.S. like laminations after 184 m.
198.0 - 201.5 m	Fault Zone - 'Higgins Fault'.



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NORTHERN STAR - DDH 511

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 76.8 m	Hammer cuttings.
76.8 - 184 m	'Grey-green Formation'. 76.8 - 184 m Grey purple siltstone, some sections green.
184.0 - 200.0 m	Fault Zone - 'Nilsen Fault'.
200.0 - 335.0 m	'Pink Formation'.



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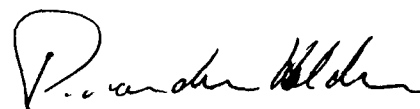
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NORTHERN STAR - DDH 511

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 76.8 m	Hammer cuttings.
76.8 - 184 m	'Grey-green Formation'. 76.8 - 184 m Grey purple siltstone, some sections green.
184.0 - 200.0 m	Fault Zone -- 'Nilsen Fault'.
200.0 - 335.0 m	'Pink Formation'.


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Geologist

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NORTHERN STAR - DDH 508

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 89 m	Hammer cuttings.
89 - 128 m	'Grey-green Formation'. 89 - 128 m Grey green siltstone, some C.L.S. like laminations.
128 - 131 m	Fault Zone - 'Higgins Fault'.
131 - 145 m	Complete hydrothermal alteration.



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Geologist

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NORTHERN STAR - DDH 508

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 89 m	Hammer cuttings.
89 - 128 m	'Grey-green Formation'. 89 - 128 m Grey green siltstone, some C.L.S. like laminations.
128 - 131 m	Fault Zone - 'Higgins Fault'.
131 - 145 m	Complete hydrothermal alteration.



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NORTHERN STAR - DDH 506

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 485.

223 - 277.3 m

'Pink Formation.'



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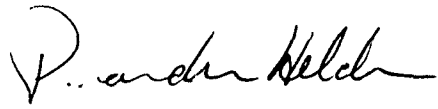
NORTHERN STAR - DDH 506

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 435.

223 - 277.3 m

'Pink Formation.'



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NORTHERN STAR - DDH 498

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 485.

380 - 446 m

'Grey-green Formation'.

380 - 424 m Green siltstone, some C.L.S. like laminations.

424 - 446 m Mauve purple siltstone, well laminated.

446 - 468 m

Complete hydrothermal alteration.

468 - 491 m

'Grey-green Formation'.

468 - 491 m Green siltstone, some parts purple green colour.



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NORTHERN STAR - DDH 490

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 405.

380 - 446 m

'Grey-green Formation'.

380 - 424 m Green siltstone, some C.L.S. like laminations.

424 - 446 m Mauve purple siltstone, well laminated.

446 - 468 m

Complete hydrothermal alteration.

468 - 491 m

'Grey-green Formation'.

468 - 491 m Green siltstone, some parts purple green colour.



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NORTHERN STAR - DDH 491

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH. 405.

513 - 705 m

'Pink Formation'.

513 - 705 m Pink purple siltstone ith red
laminations, some ash beds.



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NORTHERN STAR - DDH 491
SUMMARY SEDIMENTARY LITHOLOGICAL LOG

Wedge off DDH 485.

513 - 705 m

'Pink Formation'.

513 - 705 m Pink purple siltstone with red
laminations, some ash beds.



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NORTHERN STAR - DDH 490

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 76.2 m Hammer cuttings.

76.2 - 123 m Complete hydrothermal alteration.

123 - 270 m "Grey-green Formation".

123 - 157 m Green siltstone, some weak C.L.S. like laminations.

157 - 164 m Purple siltstone, well laminated.

164 - 176 m Green siltstone, purple green in parts. some C.L.S. like laminations.

176 - 255 m Coarse laminated siltstone, purple colour in parts.

255 - 270 m Green siltstone, some C.L.S. like laminations.

270 - 275 m Fault Zone - 'McFarland Fault II'.

275 - 284 m 'Purple Formation'.

275 - 284 m Purple siltstone, well laminated.


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Geologist

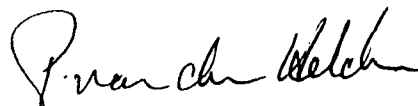
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NORTHERN STAR - DDH 490

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 76.2 m	Hammer cuttings.
76.2 - 123 m	Complete hydrothermal alteration.
123 - 270 m	"Grey-green Formation". 123 - 157 m Green siltstone, some weak C.L.S. like laminations. 157 - 164 m Purple siltstone, well laminated. 164 - 176 m Green siltstone, purple green in parts. some C.L.S. like laminations. 176 - 255 m Coarse laminated siltstone, purple colour in parts. 255 - 270 m Green siltstone, some C.L.S. like laminations.
270 - 275 m	Fault Zone - 'McFarland' Fault II'.
275 - 284 m	'Purple Formation'. 275 - 284 m Purple siltstone, well laminated.


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NORTHERN STAR - DDH 489

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 67 m	Hammer cuttings.
67 - 81 m	Complete hydrothermal alteration.
81 - 172 m	"Grey-green Formation". 81 - 93 m Siltstone, oxidised. 93 - 110 m Green siltstone, some laminations, chloritized 93 - 100 m. 110 - 141 m Green-purple siltstone, some laminations, small light green alteration patches. 141 - 156 m Coarse laminated siltstone grading to purple green siltstone at 154 m. 156 - 172 m Green purple siltstone.
172 - 183 m	'Purple Formation'. 172 - 183 m Purple siltstone.
183 - 186 m	Fault Zone - 'Higgins Fault'.
186 - 199 m	Complete hydrothermal alteration.
199 - 209 m	'Grey-green Formation'. 199 - 209 m Green purple siltstone.
209 - 292.35 m	'Purple Formation'. 209 - 292.35 m Purple siltstone, partial alteration 230 - 241 m.



P. VAN DER HELDER,
Geologist

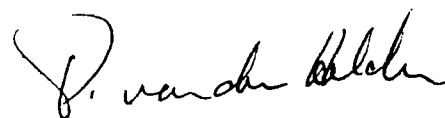
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NORTHERN STAR - DDH 489

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 67 m	Hammer cuttings.
67 - 81 m	Complete hydrothermal alteration.
81 - 172 m	"Grey-green Formation". 81 - 93 m Siltstone, oxidised. 93 - 110 m Green siltstone, some laminations, chloritized 93 - 100 m. 110 - 141 m Green-purple siltstone, some laminations, small light green alteration patches. 141 - 156 m Coarse laminated siltstone grading to purple green siltstone at 154 m. 156 - 172 m Green purple siltstone.
172 - 183 m	'Purple Formation'. 172 - 183 m Purple siltstone.
183 - 186 m	Fault Zone - 'Higgins Fault'.
186 - 199 m	Complete hydrothermal alteration.
199 - 209 m	'Grey-green Formation'. 199 - 209 m Green purple siltstone.
209 - 292.35 m	'Purple Formation'. 209 - 292.35 m Purple siltstone, partial alteration 230 - 241 m.



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Geologist

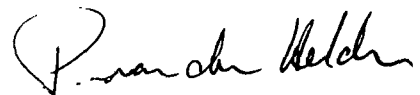
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NORTHERN STAR - DDH 488

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 80 m	'Grey-green Formation'. 61 - 80 m Purple green siltstone.
80 - 130 m	Complete hydrothermal alteration.
130 - 297 m	Grey-green Formation. 130 - 208 m Coarse laminated siltstone, laminations weaker 175 - 185 m. 208 - 225 m Purple siltstone, well laminated. 225 - 250 m Coarse laminated siltstone. 250 - 283 m Grey green siltstone, purple colour in sections. 283 - 297 m Green siltstone, partial alteration.
297 - 314 m	Complete hydrothermal alteration.
314 - 330 m	'Grey-green Formation'. 314 - 330 m Grey-green siltstone, well laminated.
330 - 339 m	Fault Zone - 'McFarland Fault II'.
339 - 345 m	'Grey-green Formation'. 339 - 345 m Grey green siltstone, well laminated.
345 - 374 m	Complete hydrothermal alteration.
374 - 398 m	'Pink Formation'.



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Geologist

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NORTHERN STAR - DDH 488

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 80 m	'Grey-green Formation'. 61 - 80 m Purple green siltstone.
80 - 130 m	Complete hydrothermal alteration.
130 - 297 m	Grey-green Formation. 130 - 208 m Coarse laminated siltstone, laminations weaker 175 - 185 m. 208 - 225 m Purple siltstone, well laminated. 225 - 250 m Coarse laminated siltstone. 250 - 283 m Grey green siltstone, purple colour in sections. 283 - 297 m Green siltstone, partial alteration.
297 - 314 m	Complete hydrothermal alteration.
314 - 330 m	'Grey-green Formation'. 314 - 330 m Grey-green siltstone, well laminated.
330 - 339 m	Fault Zone - 'McFarland Fault II'.
339 - 345 m	'Grey-green Formation'. 339 - 345 m Grey green siltstone, well laminated.
345 - 374 m	Complete hydrothermal alteration.
374 - 398 m	'Pink Formation'.



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Geologist

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NORTHERN STAR - DDH 487

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 62 m	Complete hydrothermal alteration.



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NORTHERN STAR - DDH 427

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 61 m	Hammer cuttings.
61 - 62 m	Complete hydrothermal alteration.

P. van der Helder

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Geologist

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NORTHERN STAR - DDH 486

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 88.7 m	Hammer cuttings.
88.7 - 106 m	'Grey-green formation'. 88.7 - 106 m Grey siltstone, poorly laminated.
106 - 111 m	Complete hydrothermal alteration.
111 - 264.4 m	'Grey-green Formation'. 111 - 264.4 m Grey-green siltstone, poorly laminated, sections of C.L.S. like laminations after 150 m.



P. VAN DER HELDER,
Geologist.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 486

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 88.7 m	Hammer cuttings.
88.7 - 106 m	'Grey-green formation'. 88.7 - 106 m Grey siltstone, poorly laminated.
106 - 111 m	Complete hydrothermal alteration.
111 - 264.4 m	'Grey-green Formation'. 111 - 264.4 m Grey-green siltstone, poorly laminated, sections of C.L.S. like laminations after 150 m.



P. VAN DER HELDER,
Geologist.

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 485

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 78 m	Hammer cuttings.
78 - 156 m	'Grey green Formation'. 76 - 156 m Grey siltstone, some laminations.
156 - 159 m	Fault Zone - 'Nilsen Fault'.
159 - 283 m	'Pink Formation'.
283 - 286 m	Fault Zone.
286 - 289 m	'Pink Formation'.
289 - 290 m	'Grey green Formation'. 289 - 290 m Grey green siltstone, chloritic.
290 - 302 m	Complete hydrothermal alteration.
302 - 314 m	'Purple Formation'. 302 - 314 m Purple siltstone, well laminated.
314 - 331 m	'Grey-green Formation'. 314 - 331 m Grey green siltstone.
331 - 334 m	Fault Zone.
334 - 340 m	'Grey green Formation'. 334 - 340 m Grey green siltstone sheared, chloritic alteration.
340 - 351 m	Complete hydrothermal alteration.
351 - 444 m	'Grey green alteration'. 351 - 356 m Grey green siltstone. 356 - 390 m Coarse laminated siltstone. 390 - 424 m Grey green siltstone, some C.L.S. laminations, sections purple green colour after 400 m. 424 - 444 m Mauve purple siltstone.
444 - 475 m	Complete hydrothermal alteration.
475 - 497 m	'Grey green Formation'. 475 - 497 m Grey green siltstone, some C.L.S. laminations.
497 - 513 m	Fault Zone - 'Granger Fault'.
513 - 645 m	Pink Formation. 513 - 614 m Purple pink laminated siltstone. 614 - 645 m Pink laminated siltstone.



P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 485

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 78 m	Hammar cuttings.
78 - 156 m	'Grey green Formation'. 76 - 156 m Grey siltstone, some laminations.
156 - 159 m	Fault Zone - 'Nilsen Fault'.
159 - 283 m	'Pink Formation'.
283 - 286 m	Fault Zone.
286 - 289 m	'Pink Formation'.
289 - 290 m	'Grey green Formation'. 289 - 290 m Grey green siltstone, chloritic.
290 - 302 m	Complete hydrothermal alteration.
302 - 314 m	'Purple Formation'. 302 - 314 m Purple siltstone, well laminated.
314 - 331 m	'Grey-green Formation'. 314 - 331 m Grey green siltstone.
331 - 334 m	Fault Zone.
334 - 340 m	'Grey green Formation'. 334 - 340 m Grey green siltstone sheared, chloritic alteration.
340 - 351 m	Complete hydrothermal alteration.
351 - 444 m	'Grey green alteration'. 351 - 356 m Grey green siltstone. 356 - 390 m Coarse laminated siltstone. 390 - 424 m Grey green siltstone, some C.L.S. laminations, sections purple green colour after 400 m. 424 - 444 m Mauve purple siltstone.
444 - 475 m	Complete hydrothermal alteration.
475 - 497 m	'Grey green Formation'. 475 - 497 m Grey green siltstone, some C.L.S. laminations.
497 - 513 m	Fault Zone - 'Granger Fault'.
513 - 645 m	Pink Formation. 513 - 614 m Purple pink laminated siltstone. 614 - 645 m Pink laminated siltstone.


P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 483

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 88 m	Hammer cuttings.
88 - 177 m	Purple Formation.
	88 - 177 m Purple siltstone, well laminated, oxidised to 117 m.



P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 453

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 88 m	Hammer cuttings.
88 - 177 m	Purple Formation.
	88 - 177 m Purple siltstone, well laminated, oxidised to 117 m.



P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 480

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 78 m	Hammer cuttings.
78 - 118 m	Pink Formation.



P. VAN DER HELDER,
Geologist

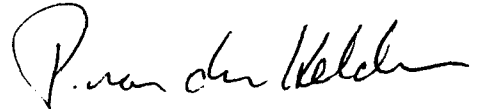
22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 400

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 78 m	Hammer cuttings.
78 - 118 m	Pink Formation.



P. VAN DER HELDER,
Geologist

22/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 478

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 75 m	Hammer cuttings.
75 - 79 m	Complete alteration.



P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR - DDH 428

SUMMARY SEDIMENTARY LITHOLOGICAL LOG

0 - 75 m	Hammer cuttings.
75 - 79 m	Complete alteration.



P. VAN DER HELDER,
Geologist

24/5/79

AUSTRALIAN DEVELOPMENT LIMITED

NORTHERN STAR LEASE RENEWAL

ASSORTED REPORTS

CR 73 / 16 4G

AUSTRALIAN DEVELOPMENT LIMITED

SURFACE HAMMER DRILL HOLE LOG - SHDH 192

LOCATION: Northern Star No. 3 Hill
CO-ORDINATES: ~~1722~~ 15E 1757.68N
R.L.: 344.30
DIP: 90° Vertical
BEARING: N.A.
TOTAL DEPTH: 13 m
EQUIPMENT: Gemco Fox No. 1 Top Drive
0 - 13m 4½ hole Hammer
DRILLED BY: Glindermann & Kitching Enterprises
DATE: 11/3/81
LOGGED: P.C. Dreverman
SURVEY DATA: No Survey Data
ASSAY DATA: Appendix I

SUMMARY RESULTS

SHDH 192 was collared as DDH 577 but the hole was lost when the down hole hammer broke off at 13m, and could not be recovered.



P.C. Dreverman
SENIOR GEOLOGIST

01 10 1981 4G

DRILL LOG - SHDH 192

Hammer cuttings

0 - 1.0

Not sampled.

1.0 - 13.0

Hematite/jasper. Minor quartz and specularite
veins throughout. Between 6.0 - 8.0m boxworks
with clays.

APPENDIX I

ASSAY DATA - SHDH 192

a] dust Sample

Sample No:	Interval (m)	Au dwt/t	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	G.O.
37601	1 - 2	0.1	165	<5	85	90	1	35	425	15
02	2 - 3	T	125	<5	75	90	1	30	320	10
03	3 - 4	0.2	75	<5	60	40	<1	15	185	10
04	4 - 5	0.1	100	<5	65	50	1	25	165	15
05	5 - 6	0.1	130	<5	55	55	<1	22	205	17
06	6 - 7	0.1	80	<5	60	40	<1	20	165	10
07	7 - 8	T	45	<5	40	20	<1	15	110	10
08	8 - 9	0.1	250	<5	45	160	1	25	200	10
09	9 - 10	0.2	265	<5	70	95	1	30	885	15
37610	10 - 11	0.2	600	<5	70	95	1	30	875	15
11	11 - 12	0.3	300	<5	90	130	1	35	610	20
12	12 - 13	0.1	600	<5	95	130	3	35	160	35

AUSTRALIAN DEVELOPMENT LIMITED

SHDH 200

LOCATION:	Northern Star No. 3 Hill
CO-ORDINATES:	1749.17E 1750.55N
R.L.:	344.98 RL
DIP:	90° (Vertical)
BEARING:	N.A.
TOTAL DEPTH:	14m
DRILLED BY:	Glindemann & Kitching Enterprises
EQUIPMENT:	Gamco Fox No. 1 Top Drive IR 110m Hammer
LOGGED:	P.C. Dreverman
DATE:	26 - 27/8/81
SURVEY DATA:	Not Surveyed
ASSAY DATA:	Appendix I

SUMMARY RESULTS

SHDH 200 hole lost due to caving and loss of air.



P.C. Dreverman
SENIOR GEOLOGIST

DRILL LOG SHDH 200

HAMMER CUTTINGS

0 - 14.0m
(no sample from
12.5m)

Jasper Haematite. A quartz Jasper rock dominates the whole interval a little more goethite and leached boxworks in upper part of the hole. Specularite and quartz veins between 2.0 - 8.0m. Massive Haematite 8.0 - 9.0m.

Appendix I Assay Data - SHDH 200

<u>Sample No:</u>	<u>Interval</u>	<u>Au dwt/T</u>	<u>Cu ppm</u>	<u>Bi ppm</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Ag ppm</u>	<u>Co ppm</u>	<u>Mn ppm</u>	<u>Ca</u>
38765	0 - 4.5	T,T	95	13	67	47	3	32	220	4
66	4.5 - 6	T,T	330	<5	70	200	3	50	315	3
67	6 - 9	0.1,T	1280	<5	65	405	6	70	360	
64	9 - 12.5	T,T	1660	<5	85	1250	6	85	1265	4

AUSTRALIAN DEVELOPMENT LIMITED

DRILL LOG SHDH 201

LOCATION: Northern Star No. 3 Hill
CO-ORDINATES: 1743.23E 1753.55N
R.L. 344.81RL
DIP: 90° Vertical
BEARING: N.A.
DRILLED BY: Glindemann & Kitching Enterprises
EQUIPMENT: Gemco Fox No. 1 Top Drive
IR Hammer 110mm Bit
DATE: 27/8/81
LOGGED: P.C. Dreverman
SURVEY DATA: No Survey Data
ASSAY DATA: Appendix I

SUMMARY RESULTS

SHDH 201 hole abandoned due to lost circulation



P.C. Dreverman
SENIOR GEOLOGIST

DRILL LOG SHDH 201

0 - 6.5m

Jasper Haematite, with massive Haematite and
minor specularite and minor quartz.

(no sample

5.5 - 6.5m)

Appendix I

Assay Data - SHDH 201

<u>Sample</u> <u>No:</u>	<u>Interval</u>	<u>Au</u> <u>dwt/T</u>	<u>Cu</u> <u>ppm</u>	<u>Bi</u> <u>ppm</u>	<u>Pb</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>	<u>Ag</u> <u>ppm</u>	<u>Co</u> <u>ppm</u>	<u>Mn</u> <u>ppm</u>	<u>Ca</u>
38762	0 - 5	T, 0.1	180	<5	65	60	2	40	880 ³	1
63	5 - 6.5	T, T	375	<5	40	160	1	35	1055	2

AUSTRALIAN DEVELOPMENT LIMITED

SHALLOW HAMMER DRILL HOLE - SHDH 202

LOCATION	NORTHERN STAR No. 3 hill
CO-ORDINATES	1731.16E 1752.85N
R.L.	344.48
DIP	90° Vertical
BEARING	n.a.
TOTAL DEPTH	66m
DRILLED BY	Glindemann & Kitching Enterprises Rock Drill Pty Ltd
EQUIPMENT	Gemco Fox No. 1 Top Drive Heavy duty Foxmobile - 600 CFM ODEX 115T 0 - 54 I.R. HAMMER 110m bit 54 - 66m
LOGGED BY	P.C. Dreverman
DATE	28/8/81 - 4/9/81 and 7/9/81 - 9/9/81 and 12/10/81 - 21/10
SURVEY DATA	No surveys taken
ASSAY DATA	Appendix I

SUMMARY RESULTS

This was the first ODEX hole which was started by Glindemann & Kitching Enterprises to 14 metres and completed by Rock Drill Pty ltd to 54 metres after many modifications to the head collection gear and guide. The hole was extended to 66 metres by Glindemann & Kitching Enterprises and the hole was lost due to bad caving.

P.C. DREVERMAN
Senior Geologist

DRILL LOG SHDH 202

0 - 19.0m	<u>Haematite Jasper</u> . Jasper dominates the first 9.5m with, minor leached box works 2 - 9.5m and 15.0 - 18.0m with goethite and minor quartz. Massive Haematite increases down hole.
19.0 - 19.5m	<u>Sediments</u> altered by chlorite Haematite veining.
19.5 - 20.0m	No sample return
20.0 - 20.5m	<u>Quartz Haematite</u> - leached and oxidized completely.
20.5 - 21.5m	<u>Sediments</u> altered to red/orange by chlorite alteration.
21.5 - 22.5m	<u>Jasper Haematite</u> with minor quartz.
22.5 - 23.5m	<u>Siltstones</u> weathered and altered with minor jasper.
23.5 - 30.0m	<u>Jasper Haematite</u> with minor quartz at start of interval with massive Haematite dominantly the central part of the interval. Minor sediments in last part of interval.
30.0 - 39.5m	<u>Sediment</u> Block altered and weathered to red/purple colour, in later part greenish/grey in first part. Views of Haematite, quartz present in last part of interval.
39.5 - 54.0m	<u>Ironstone</u> with Jasper Haematite dominant between 42.5 - 44.5m and other intervals at a lesser extent. Haematite massive at start and end of interval. Minor boxwork 42.0 - 43.0m.
54.0 - 60.8m	Minor sediment at 43.0 - 43.5m and 47.0 - 48.5m all are altered by chlorite with veining of Haematite. <u>Sediments</u> altered silts and shales. Oxidised throughout with increased quartz veining toward end of interval.
60.8 - 66.0m	<u>Massive Haematite</u> with minor quartz. Boxworks with goethite between 62.5 - 64.0m. Fairly manganese rich throughout.

APPENDIX I ASSAY REPORT - SHDH 202

NR

Sample No:	Interval (m)	Au dwt/t	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	Cu ppm:
38789	25.5-26	0.1, 0.1	235	70	95	50	<1	70	830	6
38790	26 -26.5	T, T	175	<5	70	20	2	35	830	5
91	26.5-27	T, T	260	70	50	25	2	40	0.15%	6
92	27 -27.5	T, T	230	70	80	35	1	55	0.11%	7
93	27.5-28	T, T	270	70	70	45	2	60	970	7
94	28 -28.5	T, 0.1	265	85	65	40	2	60	0.14%	8
95	28.5-29	T, T	335	30	55	40	3	45	0.11%	9
96	29 -29.5	T, T	595	<5	100	45	1	45	0.15%	13
97	29.5-30	T, T	950	60	50	45	2	55	0.29%	16
98	30 -30.5	T, T	1710	<5	65	65	1	85	0.62%	19
99	30.5-31	T, T	1250	<5	35	65	2	50	0.28%	11
38800	31 -31.5	0.1, T	1020	<5	40	45	2	50	0.23%	12
01	31.5-32	T, 0.1	500	<5	30	35	2	40	0.19%	9
02	32 -32.5	T, T	400	50	70	40	1	20	0.18%	5
03	32.5-33	0.1, 0.1	535	<5	55	45	1	25	420	50
04	33 -33.5	T, T	550	<5	80	35	1	25	0.11%	4
05	33.5-34	T, 0.1	1375	<5	55	52	2	35	0.14%	4
06	34 -34.5	T, 0.1	1080	<5	75	45	4	25	500	50
07	34.5-35	T, T	1090	<5	55	60	3	35	0.13%	4
08	35 -35.5	T, T	1190	<5	95	60	3	25	240	40
09	35.5-36	T, T	480	20	80	35	2	40	0.35%	50
38810	36 -36.5	T, T	550	<5	90	105	2	95	1.0 %	90
11	36.5-37	0.1, T	460	15	40	35	<1	90	0.60%	80
12	37 -37.5	T, 0.1	465	<5	30	30	<1	145	0.62%	90
13	37.5-38	0.1, 0.1	2690	<5	70	95	<1	680	2.45%	225
14	38 -38.5	T, 0.1	1560	<5	130	60	<1	420	2.74%	140
15	38.5-39	T, T	1125	15	75	137	<1	135	1.17%	90
16	39 -39.5	T, T	620	<5	60	85	2	60	0.35%	85
17	39.5-40	T, T	520	<5	80	70	2	30	0.22%	90
18	40 -40.5	0.1, 0.1	580	<5	80	55	2	25	0.13%	75
19	40.5-41	0.1, T	1160	20	50	50	2	35	6.25%	70
38820	41 -41.5	0.1, T	385	30	30	315	2	40	0.20%	70
21	41.5-42	T, 0.1	315	<5	80	70	2	30	0.11%	55
22	42 -42.5	T, T	235	30	50	40	2	25	0.10%	60
23	42.5-43	T, T	220	20	50	30	2	25	0.11%	70
24	43 -43.5	T, T	200	<5	90	50	1	20	0.10%	95
25	43.5-44	T, 0.1	165	<5	80	43	2	23	0.10%	57
26	44 -44.5	T, 0.1	310	<5	50	40	2	50	0.44%	55
27	44.5-45	T, 0.1	1650	20	50	205	3	180	11.26%	130
28	45 -45.5	0.1, 0.1	880	<5	30	135	2	90	7.10%	85
29	45.5-46	T, T	250	<5	60	35	1	35	0.29%	45
38830	46 -46.5	T, 0.1	260	<5	50	40	2	50	0.34 %	55
31	46.5-47	T, T	195	<5	55	30	1	35	0.12 %	40
32	47 -47.5	T, T	235	<5	80	35	2	35	0.21 %	55
33	47.5-48	0.1, T	225	<5	60	35	3	40	0.21 %	50
34	48 -48.5	0.1, 0.1	290	<5	85	45	3	40	0.24 %	40
35	48.5-49	T, T	263	45	55	45	2	50	0.40 %	32

APPENDIX I : ASSAY REPORT - SHDH 202

Sample No:	Interval (m)	Au dwt/t	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	CuO ppm:
38733	0 - 1	0.1, T	250	<5	35	55	<1	50	180	10
34	1 - 1.5	T, T	290	<5	50	45	<1	45	190	10
35	1.5- 2	T, T	235	<5	72	42	<1	45	145	17.5
36	2 - 2.5	T, T	170	<5	55	45	<1	30	110	10
37	2.5- 3	T, T	125	<5	45	40	<1	25	90	10
38	3 - 3.5	T, T	230	<5	50	60	<1	50	120	20
39	3.5- 4	T, T	260	<5	55	60	<1	45	170	10
38740	4 - 4.5	T, 0.1	260	<5	60	55	<1	45	205	15
41	4.5- 5	T, T	300	<5	60	120	<1	45	205	20
42	5 - 5.5	T, T	430	<5	50	160	<1	65	215	20
43	5.5- 6	0.1, T	220	<5	45	65	<1	35	115	15
44	6 - 6.5	T, 0.1	200	<5	55	60	<1	55	130	15
45	6.5- 7	T, T	20	<5	42	65	<1	20	25	5
46	7 - 7.5	0.1, T	30	<5	30	10	2	30	25	5
47	7.5- 8	T, 0.1	345	<5	50	50	<1	20	285	20
48	8 - 8.5	0.1, T	1380	<5	50	130	<1	130	3.88%	50
49	8.5- 9	T, T	850	<5	50	130	<1	80	1.72%	45
38750	9 - 9.5	0.1, 0.1	1560	<5	55	245	2	75	.23%	45
51	9.5-10	T, T	1230	<5	65	285	<1	65	.25%	45
52	10 -10.5	0.1, T	1600	<5	55	235	<1	55	1.12%	55
53	10.5-11	T, T	940	<5	55	220	<1	75	.99%	45
54	11 -11.5	T, T	1140	<5	55	250	<1	95	1.29%	60
55	11.5-12	T, T	377	<5	47	112	<1	62	.42%	50
56	12 -12.5	T, T	305	<5	45	90	<1	50	.30%	65
57	12.5-13	0.2, T	310	<5	80	100	<1	75	.51%	85
58	13 -13.5	T, T	240	<5	50	50	<1	60	.45%	105
59	13.5-14	T, T	210	<5	50	45	<1	45	.32%	75
38768	14 -14.5	T, 0.1	790	<5	75	295	3	60	0.56%	11
69	14.5-15	0.1, T	270	<5	50	65	2	40	0.38%	12
38770	15 -16	0.1, 0.1	1680	20	55	370	6	90	1.54%	8
71	16 -17	0.2, T	4210	<5	145	1150	11	275	16.60%	18
72	17 -17.5	T, T	6850	<5	95	440	12	686	22.80%	22
73	17.5-18	T, T	5150	<5	30	355	8	446	14.30%	14
74	18 -18.5	T, 0.1	3700	<5	90	240	10	450	13.30%	17
75	18.5-19	T, T	2115	<5	82	142	5	240	5.30%	19
76	19 -19.5	T, No Sample	900	<5	100	135	3	95	0.82%	21
78	20 -20.5	0.1, T	360	<5	70	230	1	25	0.15%	120
79	20.5-21	T, 0.1	295	<5	85	35	2	30	.580%	70
38780	21 -21.5	T, T	390	<5	70	35	<1	25	0.13%	65
81	21.5-22	T, T	195	<5	50	30	3	40	470%	55
82	22 -22.5	T, T	75	<5	60	20	3	45	130%	30
83	22.5-23	0.3, 0.2	280	<5	40	40	4	40	280	45
84	23 -23.5	T, T	390	<5	45	80	1	50	490	50
85	23.5-24	T, 0.1	252	<5	67	70	2	90	0.22%	67
86	24 -24.5	T, T	370	<5	70	85	3	80	0.35%	85
87	24.5-25	T, T	620	<5	50	120	3	110	0.67%	175
88	25 -25.5	T, T	320	5	80	120	3	85	0.13%	100

APPENDIX IASSAY REPORT SHDH 202

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au dwt/t</u>	<u>Cu ppm:</u>	<u>Bi ppm:</u>	<u>Pb ppm:</u>	<u>Zn ppm:</u>	<u>Ag ppm:</u>	<u>Co ppm:</u>	<u>Mn ppm:</u>	<u>CuO ppm:</u>
38836	49 -49.5	0.1,T	125	<5	30	35	2	30	752	35
37	49.5-50	0.1,T	70	<5	25	25	1	40	522	25
38	50 -50.5	T,0.1	85	<5	70	20	2	30	740	40
39	50.5-51	T,0.1	60	<5	110	25	1	30	435	25
40	51 -51.5	T,T	155	<5	100	60	2	30	815	45
41	51.5-52	T,T	160	<5	130	40	2	35	0.10	45
42	52 -52.5	0.1,T	295	<5	100	110	2	40	0.11	60
43	52.5-53	T,0.1	155	<5	90	35	1	25	820	40
44	53 -53.5	0.2,0.2	150	<5	100	35	2	40	810	55
45	53.5-54	0.1,0.1	155	<5	80	30	2	30	870	80
40304	54.8-55.8	0.3,0.3	940	75	85	155	3	245	1.09	120
05	55.8-56.8	0.1,0.2	335	<5	102	95	2	105	0.35	62
06	56.8-57.8	0.2,0.1	1070	<5	60	150	1	380	1.29	75
07	57.8-58.8	0.1,0.1	940	<5	60	110	2	310	1.14	95
08	58.8-59.8	0.1,0.1	930	<5	55	95	2	220	1.03	80
09	60.8-60.8	T,0.1	370	<5	45	50	3	150	0.38	70
40310	60.8-61.8	0.2,0.1	2850	<5	55	215	2	130	2.34	95
11	61.8-62	0.1,0.1	350	<5	100	70	4	115	0.17	55
12	62 -62.5	0.1,T	3810	<5	70	290	2	145	2.88	145
13	62.5-63	0.1,0.1	290	<5	90	60	4	95	1.19	40
14	63 -64	0.2,0.3	840	<5	100	95	3	100	0.25	65
15	64 -65	0.1,0.1	1005	<5	72	150	2	110	0.30	65
16	65 -66	0.1,0.1	970	10	90	145	4	100	0.45	65

AUSTRALIAN DEVELOPMENT LIMITED

SHDH 203

LOCATION:	Northern Star No. 1 Hill
CO-ORDINATES:	1656.69E 2025.50N
R.L.:	338.90 RL
DIP:	Vertical
BEARING:	N.A.
TOTAL DEPTH:	13m
DRILLED BY:	Glindeman & Kitching Enterprises
EQUIPMENT:	Gemco Fox No. 1 110m I.R. Hammer
DATE:	22/10/81
LOGGED:	P.C. Dreverman
SURVEY DATA:	None
ASSAY DATA:	Appendix I

SUMMARY RESULTS

SHDH 203 was drilled as a test hole north of the Open cut at the Northern Star to check the ground conditions prior to starting an ODEX Hole. Lost circulation and return at 13.0m, hole abandoned at 13.5m.



P.C. Dreverman
SENIOR GEOLOGIST

DRILL LOG SHDH 203

0 - 8.0m

Ironstone. Massive iron and manganese rich.
There would appear to be a fair bit of contamination throughout the hole.

8.0 - 10.0m

Sediments mostly silts and shales red and white in colour minor contamination of iron throughout.

10.0 - 13.0m

Ironstone. Fair amount of contamination in the lower part of the interval. Iron probably very manganese rich, some of the larger cuttings in the iron show remnant boxworks, 12.0 - 13.0m limenite rich.
Ironstone, the hole was abandoned at this depth due to complete loss of air and sample circulation.
A little more specularite in the last $\frac{1}{2}$ metre.

APPENDIX 1

ASSAY DATA SHDH 203

Sample No:	Interval (m)	Au dwt/t	Cu ppm:	Bi ppm:	Pb ppm:	Zn ppm:	Ag ppm:	Co ppm:	Mn ppm:	CuO ppm:
40462	00- 6	0.8,0.8	415	25	75	95	2	1180	0.44%	30
63	6.5	0.2,0.3	1390	195	80	110	2	1590	13.80%	135
64	7	11.5,10.8	1080	215	80	100	2	780	8.40%	100
65	7.5	T,T	690	145	85	120	2	490	5.40%	50
66	8	0.1,0.1	820	230	90	175	3	580	5.10%	70
67	8.5	T,0.1	660	600	85	85	1	270	2.35%	30
68	9	0.1,0.1	670	670	90	85	2	235	1.87%	35
69	9.5	T,0.1	670	170	90	60	1	290	2.65%	35
40470	10	0.1,0.1	700	235	75	60	2	275	2.75%	30
71	10.5	T,T	245	< 5	80	40	2	330	0.87%	30
72	11	T,0.1	200	< 5	95	40	2	340	0.84%	25
73	11.5	0.1,0.1	285	170	75	60	1	180	0.19%	25
74	12	0.1,0.2	275	175	60	55	1	180	0.15%	25
75	12.5	0.1,0.1	227	< 5	52	95	2	215	0.35%	12
40476	13	0.1,T	320	< 5	50	150	2	280	0.28%	20

AUSTRALIAN DEVELOPMENT LIMITED

SHDH 204

LOCATION: Northern Star No. 1 Hill
CO-ORDINATES: 1856.69E 2017.06N
R.L.: 339.50 RL.
DIP: Vertical
BEARING: N.A.
TOTAL DEPTH: 15.5m
DRILLED BY: Glindemann & Kitching Enterprises
EQUIPMENT: Gemco Fox No. 1
110 m I.R. Hammer
DATE: 23/10/81
LOGGED: P.C. Dreverman
SURVEY DATA: No Surveys
ASSAY DATA: Appendix I

SUMMARY RESULTS

SHDH 204 was drilled as test hole prior to drilling an ODEX 115 hole.
SHDH 204 was abandoned at 15.50m due to excessive caving.



P.C. Dreverman
SENIOR GEOLOGIST

DRILL LOG SHDH 204

0 - 15.50m

Ironstone, massive haematite specularite with manganese oxide goethite? and gurtite with minor boxworks throughout. Haematite is massive between 10.0 - 11.0 metres. Possible boulder or raft of sediment between 6.0 - 7.0 metres. From 6.0 metres to the end of the hole, high manganese throughout. The manganese would be as pyrolusite - the soft dirty mineral.

Appendix IASSAY DATA - SHDH 204

q] Dust Samples

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au dwt/t</u>	<u>Cu ppm:</u>	<u>Bi ppm:</u>	<u>Pb ppm:</u>	<u>Zn ppm:</u>	<u>Ag ppm:</u>	<u>Co ppm:</u>	<u>Mn ppm:</u>	<u>CuO ppm:</u>
40317	0 - 2	392.7, 403.8	220	5	75	70	29	125	0.14%	25
18	2 - 3	2.5, 2.2	185	75	110	70	4	130	0.13%	20
19	3 - 4	76.1, 77.3	195	80	130	95	11	145	0.11%	20
20	4 - 5	0.5, 0.4	255	85	180	135	2	155	0.10%	25
21	5 - 5.5	0.2, 0.1	200	45	80	80	2	130	950	20
22	5.5 - 6	8.8, 7.2	360	55	150	195	2	180	6.11%	20
23	6 - 6.5	0.3, 0.2	395	5	145	190	1	145	850	20
24	6.5 - 7	0.2, 0.2	410	5	90	195	1	130	860	20
25	7 - 7.5	1.4, 1.4	290	20	127	160	1	150	720	12
26	7.5 - 8	0.1, T	325	5	110	150	2	160	870	20
27	8 - 8.5	2.0, 2.3	400	5	110	205	2	180	0.10%	20
28	8.5 - 9	0.1, 0.1	350	5	105	170	1	160	810	20
29	9 - 9.5	1.1, 1.0	325	5	75	160	5	155	950	15
40330	9.5 - 10	0.1, 0.1	270	5	70	115	1	115	660	15
31	10 - 10.5	0.7, 0.8	355	5	85	150	1	130	680	15
32	10.5 - 11	0.3, 0.2	300	5	110	140	2	150	660	15
33	11 - 11.5	0.6, 0.6	270	5	105	110	1	115	620	15
34	11.5 - 12	0.2, 0.1	350	5	120	110	1	120	620	15
35	12 - 12.5	0.3, 0.3	305	5	70	85	1	100	610	10
36	12.5 - 13	0.2, 0.1	400	5	105	140	1	140	0.10%	15
37	13 - 13.5	0.2, 0.2	395	5	120	180	2	205	0.12%	25
38	13.5 - 14	0.7, 0.7	410	5	130	235	2	200	0.12%	35
39	14 - 14.5	0.1, 0.2	490	5	120	290	3	230	0.10%	50
40340	14.5 - 15	0.3, 0.3	420	5	100	230	2	175	910%	45
41	15 - 15.5	T, 0.1	405	5	70	205	1	165	0.13%	30

AUSTRALIAN DEVELOPMENT LIMITED

DRILL LOG SHDH 205

LOCATION: NORTHERN STAR No. 1 HILL
CO-ORDINATES: 1657.54 E . 2017.09 N
R.L.: 339.60 R.L.
DIP: 90° Vertical
BEARING: N.A.
TOTAL DEPTH: 55m
DRILLED BY: Glindemann and Kitching Enterprises
EQUIPMENT: Gemco Fox No. 1 Top Drive
ODEX 115T 0-54m
IR HAMMER 110mm 54-55m
DATE: 23-29/10/81
SURVEY DATA: NOT SURVEYED
ASSAY DATA: Appendix I

SUMMARY RESULTS

SHDH 205 was the second hole drilled using the ODEX 115T equipment to 54m. The hole was then extended by 1 m by conventional pre-collar and DDH 593.



P.C. Dreverman
GEOLOGIST

Drill Log SHDH 205

0 - 2

No Sample

2 - 55

Ironstone, consisting of haematite and minor specularite and manganese minerals.

Haematite generally massive throughout. Between 5.5 - 7.0 metres it could be mixed with massive psilomelane. Significant amounts of limonite/goethite at 3.0 - 3.5, 7.5 - 8.5, 19.0 - 20.5, 26.5 - 27.0, 32.5 - 34.5, 41.0 - 42.5.

The interval around 19 metres is just about entirely limonite with no haematite. This seems to be a completely separate kind of unit atypical of the rest of the hole.

36.5 - 38.0

There is a blood red iron(?) mineral which is peculiar to this interval.

This hole was again manganese rich and the higher manganese zones from the assays were 37.0 - 41.0, 42.5 - 55.0.

The boxworks in the gossan seem to predominate in the upper part of the hole. However, the grain size of the cuttings decreases with depth down the hole. It could be that the upper section was dolomite rich, grading into more chloritic/haematitic alteration down the hole. Specularite varies in concentration throughout the hole. Sediment blocks are notably absent from the cuttings, suggesting complete alteration.

APPENDIX IV ASSAY DATA SHDH 205

<u>Sample</u> <u>No:</u>	<u>Interval (m)</u>	<u>Au</u> <u>dwt/t</u>	<u>Cu</u> <u>ppm</u>	<u>Bi</u> <u>ppm</u>	<u>Pb</u> <u>ppm</u>	<u>Zn</u> <u>ppm</u>	<u>Ag</u> <u>ppm</u>	<u>Co</u> <u>ppm</u>	<u>Mn</u> <u>ppm</u>	<u>CuO</u> <u>%</u>
40390	26 -26.5	0.1,0.1	130	20	90	40	2	135	0.56	45
91	26.5-27	T,0.1	130	<5	90	65	3	145	0.53	50
92	27 -27.5	0.1,T	95	35	90	50	3	105	0.62	35
93	27.5-28	T,T	245	<5	95	65	2	215	1.75	60
94	28 -28.5	T,0.1	240	<5	85	115	2	200	1.37	50
95	28.5-29	0.1,0.1	205	<5	80	90	3	155	0.67	45
96	29 -29.5	T,T	115	<5	65	40	4	120	0.23	35
97	29.5-30	0.2,0.1	115	<5	75	40	4	125	0.25	30
98	30 -30.5	T,0.1	285	<5	90	95	5	180	1.49	65
99	30.5-31	0.2,0.1	305	<5	100	100	4	180	1.62	65
40400	31 -31.5	0.1,0.1	445	<5	75	155	3	230	3.80	115
01	31.5-32	0.1,T	450	<5	80	175	2	250	4.80	110
02	32 -32.5	0.3,0.5	425	30	100	280	4	260	2.26	100
03	32.5-33	0.2,0.1	440	20	105	390	3	265	1.40	85
04	33 -33.5	T,T	420	20	85	265	3	210	1.40	65
05	33.5-34	0.1,0.1	450	15	80	225	3	300	3.30	57
06	34 -34.5	0.2,0.2	430	25	85	205	2	240	3.32	60
07	34.5-35	0.1,0.1	410	15	95	240	2	230	2.51	45
08	35 -35.5	0.2,0.2	425	40	80	215	3	295	2.79	75
09	35.5-36	0.1,0.1	435	<5	95	125	2	255	3.08	55
40410	36 -36.5	0.1,T	490	<5	110	105	4	370	3.49	115
11	36.5-37	0.1,0.1	610	<5	80	110	3	430	4.80	125
12	37 -37.5	0.7,0.7	1050	<5	105	145	3	440	8.80	210
13	37.5-38	0.6,0.5	720	<5	80	120	4	330	5.40	150
14	38 -38.5	0.9,0.9	780	<5	75	150	4	385	5.50	165
15	38.5-39	0.3,0.3	1055	<5	95	210	3	460	15.30	270
16	39 -39.5	0.2,0.1	860	<5	90	185	2	420	12.80	170
17	39.5-40	0.2,0.2	850	<5	95	205	4	470	11.40	190
18	40 -40.5	0.4,0.5	870	<5	80	195	3	420	11.40	230
19	40.5-41	0.2,0.1	490	<5	90	170	3	240	6.10	145
40420	41 -41.5	0.2,0.2	430	5	85	210	2	235	2.46	125
21	41.5-42	2.7,2.7	470	<5	75	230	2	210	2.48	145
22	42 -42.5	1.3,1.2	480	5	80	260	2	220	2.84	170
23	42.5-43	0.9,0.9	2010	15	90	310	2	1250	18.00	580
24	43 -43.5	0.9,0.8	1930	25	95	315	3	1150	18.20	710
25	43.5-44	0.9,1.0	2010	80	1900	335	2	1290	15.60	830
26	44 -44.5	0.6,0.6	1670	45	65	350	3	860	10.70	830
27	44.5-45	0.2,0.2	1200	90	70	310	2	660	7.50	520
28	45 -45.5	0.1,0.2	1200	30	55	315	2	680	7.70	520
29	45.5-46	0.1,0.1	1510	40	70	350	2	580	11.10	490
40430	46 -46.5	0.2,0.3	1560	40	80	355	2	540	11.90	450
31	46.5-47	0.2,0.3	1430	30	80	355	4	620	9.50	510
32	47 -47.5	T,0.1	1050	40	85	280	2	480	7.10	360
33	47.5-48	0.1,0.2	1170	<5	65	315	2	440	7.20	330
34	48 -48.5	0.2,0.2	1380	70	60	345	2	560	8.00	420
35	48.5-49	0.2,0.1	1125	50	65	310	2	470	6.05	350

APPENDIX IV ASSAY DATA SHDH 205

Sample No:	Interval (m)			Au dwt/t	Cu ppm	Bi ppm	Pb ppm	Zn ppm	Ag ppm	Co ppm	Mn %	CuO ppm
40342	2	-	2.5	0.2,0.1	160	<5	140	780	1	140	0.12	0.17
43	2.5	-	3	0.3,0.2	260	<5	140	205	2	160	-	0.23
44	3	-	3.5	0.1,0.1	470	<5	165	820	1	170	0.17	0.20
45	3.5	-	4	0.1,0.1	95	5	85	80	<1	85	495	6.55
46	4	-	4.5	T,0.1	175	<5	95	125	<1	125	950	0.11
47	4.5	-	5	T,T	175	<5	90	115	<1	125	830	0.11
48	5	-	5.5	0.1,0.1	240	<5	100	90	3	170	870	0.10
49	5.5	-	6	T,T	140	<5	110	40	5	90	430	560
40350	6	-	6.5	T,0.1	240	40	110	150	3	220	125	0.13
51	6.5	-	7	0.1,0.1	130	20	90	60	4	100	480	630
52	7	-	7.5	0.1,0.1	225	80	95	150	5	205	0.11	0.16
53	7.5	-	8	0.1,0.1	410	35	90	75	4	130	780	0.15
54	8	-	8.5	0.1,T	210	10	90	50	2	95	480	600
55	8.5	-	9	0.1,T	290	5	85	50	1	70	405	515
56	9	-	9.5	0.2,0.1	360	125	100	90	3	250	0.94	80
57	9.5	-	10	0.1,T	400	70	115	150	2	125	0.11	30
58	10	-	10.5	0.1,0.1	305	70	100	115	2	165	0.16	30
59	10.5	-	11	T,0.1	210	<5	100	80	1	115	0.08	20
40360	11	-	11.5	0.1,T	180	<5	115	90	3	120	0.08	15
61	11.5	-	12	0.2,0.2	210	<5	110	105	2	150	0.12	20
62	12	-	12.5	T,0.1	185	<5	95	100	4	130	0.09	15
63	12.5	-	13	0.1,T	285	10	110	135	4	180	0.13	20
64	13	-	13.5	0.1,0.1	250	<5	100	170	3	190	0.20	20
65	13.5	-	14	0.1,T	280	10	90	155	4	225	3.37	20
66	14	-	14.5	0.1,0.1	375	70	105	175	2	310	2.29	55
67	14.5	-	15	0.1,0.1	345	10	120	175	2	310	2.06	65
68	15	-	15.5	0.2,0.2	205	15	105	95	4	200	0.76	85
69	15.5	-	16	0.2,0.3	150	<5	105	75	4	170	0.31	25
40370	16	-	16.5	0.1,T	430	<5	135	175	4	350	1.43	70
71	16.5	-	17	0.1,0.1	440	<5	140	175	4	340	1.36	70
72	17	-	17.5	T,T	450	<5	130	160	3	430	4.10	100
73	17.5	-	18	T,T	400	<5	120	135	4	345	3.80	100
74	18	-	18.5	T,0.1	395	30	110	140	4	340	3.08	95
75	18.5	-	19	T,T	425	25	125	215	4	415	2.26	65
76	19	-	19.5	T,0.1	335	<5	120	135	2	330	1.85	70
77	19.5	-	20	T,0.1	410	20	105	170	3	305	1.16	90
78	20	-	20.5	0.1,T	380	<5	130	110	3	295	1.40	75
79	20.5	-	21	0.1,T	225	30	90	65	2	170	0.81	40
40380	21	-	21.5	T,0.1	450	140	130	80	3	305	2.08	70
81	21.5	-	22	T,T	310	10	105	70	2	180	0.62	55
82	22	-	22.5	0.1,T	385	120	125	85	4	260	1.71	70
83	22.5	-	23	0.1,0.1	305	50	115	65	3	190	0.71	45
84	23	-	23.5	T,T	375	190	110	90	4	270	1.03	90
85	23.5	-	24	0.1,0.1	625	155	125	130	3	485	2.83	70
86	24	-	24.5	0.1,0.2	460	160	115	100	4	315	1.55	80
87	24.5	-	25	T,T	245	70	95	55	4	165	0.59	45
88	25	-	25.5	0.1,0.2	245	35	90	55	4	185	1.10	45
89	25.5	-	26	0.1,T	165	20	100	50	4	165	0.84	40

APPENDIX IV ASSAY DATA SHDH 205

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au dwt/t</u>	<u>Cu ppm</u>	<u>Bi ppm</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Ag ppm</u>	<u>Co ppm</u>	<u>Mn% ppm</u>	<u>CuO ppm</u>
40436	49 -49.5	T,0.1	940	5	80	265	2	380	5.50	300
37	49.5-50	0.1,0.1	720	55	60	230	2	250	3.70	220
38	50 -50.5	0.2,0.1	720	70	75	270	2	270	3.60	200
39	50.5-51	0.1,0.1	780	90	75	275	2	300	5.00	200
40440	51 -51.5	0.1,0.1	750	50	85	285	2	275	4.90	175
41	51.5-52	T,0.1	800	50	70	280	2	265	5.90	165
42	52 -52.5	T,T	850	20	60	275	1	255	5.60	155
43	52.5-53	0.3,0.2	840	40	70	335	2	250	6.40	180
44	53 -53.5	0.2,0.2	1170	<5	55	320	2	335	6.70	215
45	53.5-54	0.3,0.4	770	15	60	290	1	235	4.15	167
46	54 -54.5	1.4,1.2	1210	25	65	475	2	760	5.80	190
47	54.5-55	0.4,0.4	680	<5	65	295	2	360	3.60	125

AUSTRALIAN DEVELOPMENT LIMITED

DIAMOND DRILL LOG DDH - 576

LOCATION: Northern Star No. 3 Hill
CO-ORDINATES: 1733.31 E 1746.79 N
R.L.: 344.27m
DIP: 90° Vertical
BEARING: N.A.
TOTAL DEPTH: 42.5m
EQUIPMENT: Gemco Fox No. 1 Top Drive
0 - 24.0m Halco Hammer 4"
24.0 - 28.0m Roller
28.0 - 30.0m Halco Hammer 4"
30.0 - 42.5m NQ
DRILLED BY: Glindemann & Kitching Enterprises
DATE: 4 - 10/3/81
LOGGED: P.C. Dreverman
CORE RECOVERY: No Core Recovery recorded.
SURVEY DATA: No Survey Data
ASSAY DATA: Appendix I

SUMMARY RESULTS

DDH - 576 was the first hole attempted into No. 3 Hill in this programme.
DDH 576 was abandoned at when excessive carving, jammed the core barrel
and halted drilling operations.

P.C. Dreverman
SENIOR GEOLOGIST

DRILL LOG DDH 576

a) Pre-collar

0 - 20.0m	<u>Haematite Jasper</u> Speculite and massive Haematite in areas down hole. Minor quartz in upper part of hole.
20.0 - 30.0m	No sample recovered

b) Drill Core

30.0 - 40.2m	<u>Ironstone</u> , Boxworks and leached cavities. Haematite and goethite with silicious bands. Jasper quartz bands at 34.0 - 40.0m.
40.2 - 41.5m	<u>Sediments</u> reddish and oxidized altered and not veined by Haematite and minor quartz.
41.5 - 42.5m	<u>Ironstone</u> - Boxworks and leached cavities containing goethite in silicious Haematite.

Note: Bad Core recovery - mainly gravel, only 3 sticks of core more than 5cm long. No water return and much caving.

APPENDIX I ASSAY DATA - DDH 576

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au dwt/t</u>	<u>Cu ppm</u>	<u>Bi ppm</u>	<u>Pb ppm</u>	<u>Zn ppm</u>	<u>Ag ppm</u>	<u>Co ppm</u>	<u>Mn ppm</u>	<u>Gr</u>
37574	0 - 1	0.2	125	<5	70	135	1	30	250	10
75	1 - 2	0.2	120	<5	55	120	<1	35	200	75
76	2 - 3	1.3	135	<5	60	100	<1	30	330	10
77	3 - 4	0.1	140	<5	85	55	2	45	0.11%	10
78	4 - 5	0.3	150	<5	70	80	1	35	345	10
79	5 - 6	0.3	60	<5	60	30	<1	25	370	10
37580	6 - 7	0.2	210	<5	75	65	<1	30	0.21%	15
81	7 - 8	0.2	225	5	75	65	1	30	0.21%	15
82	8 - 9	0.2	220	<5	70	75	<1	30	0.21%	15
83	9 - 10	0.3	290	<5	85	85	<1	30	0.18%	30
84	10 - 11	0.2	280	5	75	90	1	35	0.16%	25
85	11 - 12	T	550	<5	62	65	1	42	0.22%	20
86	12 - 13	0.2	510	<5	80	70	1	45	0.22%	20
87	13 - 14	0.1	0.12%	<5	80	50	1	40	0.22%	170
88	14 - 15	0.3	315	<5	85	35	1	40	0.34%	25
89	15 - 16	0.1	320	<5	80	30	1	40	0.36%	40
37590	16 - 17	0.3	285	<5	80	30	2	40	0.37%	50
91	17 - 18	0.1	760	<5	80	40	1	50	0.56%	50
92	18 - 19	0.1	920	<5	60	55	<1	30	0.28%	305
93	19 - 20	0.3	250	<5	65	55	1	40	0.36%	50
94	21 - 21	T	115	<5	55	30	1	30	0.11%	35

AUSTRALIAN DEVELOPMENT LIMITED

DIAMOND DRILL HOLE - DDH 577

LOCATION: Northern Star No. 3 Hill
CO-ORDINATES: 1728.79 E 1756.32 N
R.L. 344.32
DIP: N.A.
BEARING: Vertical
TOTAL DEPTH: 107.5m
EQUIPMENT: Gemco Fox No. 1 Top Drive
Hammer 0 - 61.5 4½ I.R.
NQ 61.5 - 107.60m
DRILLED BY: Glindermann & Kitching Enterprises
DATED: 12 - 30/3/81
LOGGED: P.C. Dreverman
SURVEY DATA: No Survey Data Taken
ASSAY DATA: Appendix II

SUMMARY RESULTS

DDH 577 was completed to 107.5m in very bad ground conditions. Some 54 bags of cement was placed down the hole between 60.0 and 107.5m in an attempt to keep the hole open. The depth of Total weathering appears to be a lot deeper under the No. 3 Hill than else where in the Northern Star area.



P.C. Dreverman
SENIOR GEOLOGIST

DETAILED LOG - DDH 577

a) Pre Collar

- 1.0 - 24.0m Ironstone. Haematite and specularite with minor manganese through out - jasper and quartz veining. Boxworks and leached zones filled with goethite and clays.
- 24.0 - 28.0m Sediment - weathered and altered by silicification and chlorite alteration.
- 28.0 - 61.0m Ironstone with goethite and jasper quartz chips and manganiferous in places. Size and type of chip variable throughout indicative of a poor sample return situation is cavernous ground.

Note:- This hole was drilled into very bad cavernous ground with variable sample and air return and contamination would be present throughout.

b) Drill Core

- 61.5 - 69.55m Ironstone boxworks in Massive and specularite . Very poor core recovery only 2 pieces longer than 10cm. Occasional quartz veining and vughs of possible secondary origin. Many boxworks and leached cavities and boxworks with goethite and secondary iron.
- 69.55 - 72.90m Sediment - oxidized to red earthy colour, scattered quartz veining and vughs to 70.05 - 72.0, 72.5 - 72.73m. Altered block of sediment.
- 72.9 - 95m Ironstone, - very poor recovery throughout mainly gravel chips and blocks.
Specularite and some massive haematite showing leaching and other boxworks. Secondary quartz in filling of vughs and veins between 73.55 - 76.50, 82.40 - 86.80. Silification of iron - tending to in areas to the bottom of the interval.
- 95.0 - 100.60m Sediment - altered to red colour from a siltstone - ex chlorite and specularite veins and red iron oxides, sediments becoming very iron rich at 98.75 - close to a contact.

100.60 - 107.5m

Ironstone - boxworks and leached, very broken
throughout - mainly specularite and chlorite
haematite silified in places - increase in manganese
content over the last few metres.

Note: This hole was drilled with no water return in cavanous ground.

APPENDIX I

CORE RECOVERY - DDH 577

<u>INTERVAL</u>	<u>CORE RECOVERED</u>	<u>% RECOVERY</u>
61.50 - 64.00	0.15	6
64.00 - 66.20	2.20	100
66.20 - 67.30	1.10	100
67.30 - 68.00	0.20	29
68.00 - 72.00	4.00	100
72.00 - 76.10	1.60	39
76.10 - 76.50	0.10	25
76.50 - 78.60	0.80	38
78.60 - 81.60	0.50	17
81.60 - 83.60	1.35	68
83.60 - 86.70	2.35	76
86.70 - 88.10	1.30	93
88.10 - 89.60	0.40	27
89.60 - 92.60	0.40	13
92.60 - 95.00	0.65	27
95.00 - 97.30	2.30	100
97.30 - 98.40	0.80	73
98.40 - 100.60	2.20	100
100.60 - 101.60	0.90	90
101.60 - 103.60	0.95	48
103.60 - 104.40	0.65	81
104.40 - 105.50	0.70	64
105.50 - 107.50	0.07	3

APPENDIX II ASSAY DATA - DDH 577

Sample No:	Interval (m)	Au dwt/t	Cu ppm	Bi ppm	Pb ppm	Zn ppm	Ag ppm	Co ppm	Mn ppm	Cal
37614	1 - 2	0.1	205	<5	60	130	1	25	175	15
15	2 - 3	T	245	<5	65	110	1	40	0.10%	
16	3 - 4	0.1	480	<5	95	235	2	45	0.11%	15
17	4 - 5	0.1	0.12%	<5	105	325	1	45	425	30
18	5 - 6	0.2	305	<5	75	190	<1	30	370	20
19	6 - 7	0.1	145	<5	70	140	1	30	225	15
37620	7 - 8	0.1	240	<5	45	55	<1	15	90	15
21	8 - 9	0.2	0.16%	<5	80	220	1	30	320	70
22	9 - 10	0.1	0.16%	<5	70	225	1	30	250	45
23	10 - 11	0.1	930	<5	80	245	1	40	860	50
24	11 - 12	0.1	0.17%	<5	90	270	1	45	960	100
25	12 - 13	T	610	<5	67	227	1	40	550	40
26	13 - 14	T	180	<5	70	35	1	35	335	30
27	14 - 15	T	205	<5	45	75	<1	30	335	30
28	15 - 16	0.1	980	<5	100	125	1	60	0.31%	5
29	16 - 17	0.1	770	<5	270	55	2	105	1.51%	5
37630	17 - 18	0.1	0.10%	<5	50	115	1	65	0.75%	7
31	18 - 19	0.1	390	<5	45	50	<1	30	320	60
32	19 - 20	0.2	660	<5	45	70	1	35	500	70
33	20 - 21	0.2	210	<5	40	20	<1	35	160	10
34	21 - 22	0.4	120	<5	40	10	<1	25	75	20
35	22 - 23	0.1	162	<5	62	15	1	37	72	45
36	23 - 24	T	145	<5	70	10	1	40	70	30
37	24 - 25	0.2	150	<5	70	10	1	45	70	40
38	25 - 26	0.1	300	<5	60	10	1	40	75	55
39	26 - 27	0.2	170	<5	45	10	1	35	85	25
37640	27 - 28	T	105	<5	30	15	1	25	160	15
41	28 - 29	T	480	<5	55	35	1	40	0.13%	5
42	29 - 30	T	400	<5	40	20	1	45	0.18%	5
43	30 - 31	T	330	<5	25	15	<1	50	0.28%	5
44	31 - 32	T	255	<5	20	10	<1	35	0.21%	5
45	32 - 33	T	375	<5	27	32	1	30	0.17%	5
46	33 - 34	T	325	10	25	20	<1	30	0.18%	5
47	34 - 35	T	205	<5	25	10	<1	20	910	40
48	35 - 36	T	335	5	30	15	<1	30	0.16%	5
49	36 - 37	0.1	490	<5	30	25	<1	45	0.39%	5
37650	37 - 38	T	430	<5	30	20	<1	35	0.22%	5
51	38 - 39	T	630	<5	50	40	1	65	0.46%	5
52	39 - 40	T	840	<5	55	75	1	95	0.73%	5
53	40 - 41	T	500	<5	55	50	<1	75	0.34%	5
54	41 - 42	0.1	400	<5	45	40	<1	60	0.18%	5
55	42 - 43	T	205	<5	70	25	1	45	400	5
56	43 - 44	T	135	<5	85	15	1	50	275	5
57	44 - 45	T	195	<5	70	15	1	40	335	5
58	45 - 46	T	295	<5	45	30	<1	40	0.21%	5
59	46 - 47	T	510	<5	55	40	1	50	0.39%	5
37660	47 - 48	T	540	5	60	35	1	50	0.40%	15

APPENDIX II ASSAY DATA - DDH 577

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au dwt/t</u>	<u>Cu ppm:</u>	<u>Bi ppm:</u>	<u>Pb ppm:</u>	<u>Zn ppm:</u>	<u>Ag ppm:</u>	<u>Co ppm:</u>	<u>Mn</u> <i>(%)</i> <u>ppm:</u>
37661	48 -49	0.1	500	<5	45	45	<1	80	0.56% <i>66</i>
62	49 -50	0.2	740	20	40	45	<1	180	0.78% <i>66</i>
63	50 -51	T	840	<5	60	55	<1	95	0.54% <i>66</i>
64	51 -52	T	400	10	40	50	<1	85	0.41% <i>85</i>
65	52 -53	0.1	297	<5	45	40	<1	97	0.29%
66	53 -54	0.3	220	<5	55	15	<1	40	0.13% <i>45</i>
67	54 -55	0.2	310	5	45	30	<1	110	0.23% <i>74</i>
68	55 -56	0.1	285	<5	45	25	<1	155	0.38% <i>74</i>
69	56 -57	0.1	0.13%	<5	70	135	1	105	1.50% <i>74</i>
37670	57 -58	0.1	580	<5	55	75	<1	70	1.25% <i>74</i>
71	58 -59	0.1	0.11%	5	75	160	1	85	1.46% <i>74</i>
72	59 -60	T	520	<5	70	85	1	60	0.35% <i>74</i>



JACRO DRILL LOGS

NORTHERN STAR PROGRAMME

JDH 563 - JDH

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 563

LOCATION: Northern Star
CO-ORDINATES: 1850E 1850N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37543	7.5 - 15.0m	100	<5	30	45	<1	20	235

GEOLOGICAL DATA

7.5 - 9.0m	Purple-red siltstone with some flattened clay fragments.
9.0 - 10.5m	Dark red to purplish siltstone with many magnetite fragments.
10.5 - 12.0m	As above but with siliceous vein material.
12.0 - 13.5m	As above, still siliceous vein material.
13.5 - 15.0 m	Purplish siltstone with quartz vein fragments.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACKO DRILL HOLE

JDH 564

LOCATION: Northern Star
CO-ORDINATES: 1850E 1875N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37544	7.5 - 15.0m	200	5	40	90	<1	60	0.25%

GEOLOGICAL DATA

7.5 - 9.0m	Limonitic siltstone with some lumps of free white quartz, some tabular.
9.0 - 10.5m	As above.
10.5 - 12.0m	Red limonitic siltstone with large pieces of vein quartz.
12.0 - 13.5m	As above, with large lumps with a few fragments of hematite.
13.5 - 15.0m	As above but with some large pieces of tabular vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 565

LOCATION: Northern Star
CO-ORDINATES: 1850E 1900N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37545	7.5 - 15.0m	185	<5	35	37	<1	27	420

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone with odd grains of hematite and quartz.
9.0 - 10.5m	As above, with some fracture surfaces coated with clay.
10.5 - 12.0m	Red limonite with many grains tabular.
12.0 - 13.5m	Ferruginous siltstone, some tabular in form. Dark red siltstone with odd grains of hematite.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 566

LOCATION: Northern Star
CO-ORDINATES: 1900E 1950N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37546	7.5 - 15.0m ,	140	<5	30	45	<1	45	950

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone grains with grains of hematite and quartz mostly tabular.
9.0 - 10.5m	Dusty grains of siltstone and quartz largely tabular.
10.5 - 12.0m	As above with grains often lamellar and sereticised, little hematite.
12.0 - 13.5m	Purple ferruginised grains of siltstone also grains of hematite.
13.5 - 15.0m	Dusty grains of shale and siltstone and lumps of clay.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 567

LOCATION: Northern Star
CO-ORDINATES: 1900E 1900N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37547	7.5 - 15.0m	25	<5	25	30	<1	15	500

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone and shale with odd grains of milky quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Ferruginous siltstone and some quartz grains striated slickensided.
12.0 - 13.5m	Ferruginous grains of siltstone and quartz, some tabular as from veining.
13.5 - 15.0m	Limmitic siltstone some tabular and a little vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 568

LOCATION: Northern Star
CO-ORDINATES: 1950E 1900N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37548	7.5 - 15.0m	85	35	35	50	3	35	850

GEOLOGICAL DATA

7.5 - 9.0m	Dark ferruginous siltstone with grains of vein quartz and odd grains of hematite.
9.0 - 10.5m	As above with several fragments coated with clay.
10.5 - 12.0m	Ferruginous siltstone with some tabular vein quartz and an occasional grains of hematite.
12.0 - 13.5m	Ferruginous siltstone somewhat tabular and clay coated, some vein quartz.
13.5 - 15.0m	Ferruginous siltstone with a little quartz and very occasional hematite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 569

LOCATION: Northern Star
CO-ORDINATES: 1900E 1850N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37549	7.5 - 15.0m	10	<5	30	20	<1	15	115

GEOLOGICAL DATA

7.5 - 9.0m	Red and purple sand and siltstone fragments.
9.0 - 10.5m	As above with a little tabular quartz.
10.5 - 12.0m	Purple siltstone grains, an occasional quartz grain.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone grains as above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 570

LOCATION: Northern Star
CO-ORDINATES: 1900E 1800N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37550	7.5 - 15.0m	20	<5	30	30	<1	20	0.12%

GEOLOGICAL DATA

7.5 - 9.0m	Dark purplish siltstone with quartz fine grained, partly magnetic.
9.0 - 10.5m	Grains of siltstone and quartz, some tabular and occasional scoriaceous.
10.5 - 12.0m	Grains often tabular of purple siltstone quartzite and quartz.
12.0 - 13.5m	Grains of siltstone and quartzite stained purple-red-brown.
13.5 - 15.0m	Dark purple grains of siltstone with some vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 571

LOCATION: Northern Star
CO-ORDINATES: 1900E 1750N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	
37551	7.5 - 15.0m	5	<5	45	15	<1	15	265

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone quartzite and quartz some tabular grains possibly slickensided.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone somewhat scoriaceous.
12.0 - 13.5m	Purple siltstone with a few grains of quartz.
13.5 - 15.0m	Purple siltstone, a little quartz and hematite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 572

LOCATION: Northern Star
CO-ORDINATES: 1900E 1700N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37562	7.5 - 15.0m	200	<5	40	45	<1	80	0.31%

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone and shale with many magnetic grains.
9.0 - 10.5m	As above, not so many magnetic pieces.
10.5 - 12.0m	Limonite grains, some magnetic.
12.0 - 13.5m	As above with some grains clay coated, still some magnetic grains.
13.5 - 15.0m	As above with some magnetic fragments some tabular grains coated with mineral possibly pneumatolytic.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

TACON DRILL CORE

JDH 573

LOCATION: Northern Star
CO-ORDINATES: 1800E 1950N
TOTAL DEPTH: 15.0m
DATE:
DRILLER: T. Meehan

ASSAY DATA

Sample No.	Interval (m)	Cu	Pb	Fe	Zn	Ag	Co	Sn
		PPM	PPM	PPM	PPM	PPM	PPM	PPM
37563	7.5-15.0m	105	<5	45	55	<1	75	0.76%

GEOLOGICAL DATA

7.5-9.0m	Many tabular fragments of dark red purple laterite.
9.0-10.5m	As above.
10.5-12.0m	As above but with some vesicular and scoriaceous fragments.
12.0-13.5m	Dark purplish siltstone. Very few scoriaceous fragments.

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 574

LOCATION: Northern Star
CO-ORDINATES: 1850E 2050N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37564	7.5 - 15.0m	145	< 5	35	20	< 1	40	0.30%

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, limonite and occasional grains of clay.
9.0 - 10.5m	Grains of limonite with an occasional grain of siltstone, white.
10.5 - 12.0m	Purple siltstone with an occasional grain of magnetite.
12.0 - 13.5m	Purple siltstone and limonite.
13.5 - 15.0m	Purple siltstone, occasional large flattened quartz grain.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 575

LOCATION: Northern Star
CO-ORDINATES: 1850E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37565	7.5 - 15.0m	120	<5	30	25	<1	13	180

GEOLOGICAL DATA

7.5 - 9.0m	Red limonite, some tabular grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	Red limonite with some 1mm fragments of tabular quartz vein.
12.0 - 13.5m	As above.
13.5 - 15.0m	Limonite - some fragments clay coated.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 576

LOCATION: Northern Star
CO-ORDINATES: 1800E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37566	7.5 - 15.0m	170	30	25	25	<1	10	70

GEOLOGICAL DATA

7.5 - 9.0m	Limonite.
9.0 - 10.5m	Limonite with some clay grains.
10.5 - 12.0m	Limonite with a little clay coating.
12.0 - 13.5m	Limonite, some flattened grains.
13.5 - 15.0m	Limonite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 577

LOCATION: Northern Star
CO-ORDINATES: 2750E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37567	7.5 - 15.0m	330	<5	30	25	<1	15	225

GEOLOGICAL DATA

7.5 - 9.0m	Limonite fragments, some clay coated, many tabular.
9.0 - 10.5m	As above.
10.5 - 12.0m	Limonite, some tabular fragments.
12.0 - 13.5m	As above.
13.5 - 15.0m	Limonite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 578

LOCATION: Northern Star
CO-ORDINATES: 1750E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37568	7.5 - 15.0m	170	< 5	30	40	<1	10	35

GEOLOGICAL DATA

7.5 - 9.0m	Limonite siltstone with occasional dark grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Dark siltstone and limonite with an occasional grain of flattened quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 579

LOCATION: Northern Star
CO-ORDINATES: 1800E 2050N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37569	7.5 - 15.0m	245	<5	25	25	<1	10	310

GEOLOGICAL DATA

7.5 - 9.0m	Limonite gravel.
9.0 - 10.5m	Limonite gravel with a few grains of white quartz.
10.5 - 12.0m	Limonite gravel with some fragments flattened and some showing slickensides, some scoriaceous.
12.0 - 13.5m	As above, some grains scoriaceous and vesicular.
13.5 - 15.0m	Limonite gravel with hematite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 580

LOCATION: Northern Star
CO-ORDINATES: 1900E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>	<u>A</u>
37600	7.5 - 15.0m	160	5	50	40	1	15	220	0

GEOLOGICAL DATA

7.5 - 9.0m	Limonite, some light coloured siltstone and some purple siltstone.
9.0 - 10.5m	Limonite.
10.5 - 12.0m	Limonite and purple siltstone.
12.0 - 13.5m	As above bur more light coloured grains.
13.5 - 15.0m	Dark limonite grains, many flattened, an occasional sub- schistose grain.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 581

LOCATION: Northern Star
CO-ORDINATES: 1950E 2100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>	<u>Au</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	
37613	7.5 - 15.0m	110	5	30	20	1	10	950	1.5

GEOLOGICAL DATA

7.5 - 9.0m	Limonite and purple siltstone grains occasionally clay coated.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above with occasional shale.
13.5 - 15.0m	Limonite with some angular flat pieces.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 582

LOCATION: Northern Star
CO-ORDINATES: 1550E 2100N
TOTAL DEPTH: 15.0 m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37673	7.5 - 15.0m	5	<5	25	20	<1	10	30

GEOLOGICAL DATA

7.5 - 9.0m	Red siltstone, quartzite and siltstone with quartz after tabular.
9.0 - 10.5m	Quartzite siltstone and quartz grains, the quartz after from veins.
10.5 - 12.0m	Siltstone and quartzite some of it slickensides (fault?)
12.0 - 13.5m	Greyish purple siltstone and quartzite with a few clay grains.
13.5 - 15.0m	Quartzite often tabular and siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 583

LOCATION: Northern Star
CO-ORDINATES: 1550E 2150N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T.Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37674	7.5 -15.0m	10	<5	20	20	<1	10	60

GEOLOGICAL DATA

7.5 - 9.0m	Large lumps of jasperite with smaller pieces of jasper and grey vein quartz.
9.0 - 10.5m	Fragments of jasper and vein quartz, some slickensiding.
10.5 - 12.0m	Tabular pieces of jasper and vein quartz. Some scoria and slickensiding also.
12.0 - 13.5m	Tabular fragments of quartzite, siltstone and jasper.
13.5 - 15.0m	Tabular fragments of siltstone, siltstone and jasper.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 584

LOCATION: Northern Star
CO-ORDINATES: 1500E 2150N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37675	7.5 - 15.0m	15	5	30	17	1	10	27

GEOLOGICAL DATA

7.5 - 9.0m	Grey to brown clay fragments and limonite.
9.0 - 10.5m	Clay coated fragments of purplish siltstone.
10.5 - 12.0m	Clay coated siltstone and a large percentage of tabular vein quartz.
12.0 - 13.5m	Lumps of clay and vein quartz with pieces of siltstone.
13.5 - 15.0m	Tabular siltstone and tabular quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 585

LOCATION: Northern Star
CO-ORDINATES: 1500E 21⁰50N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37676	7.5 - 15.0m	5	<5	20	25	<1	10	30

GEOLOGICAL DATA

7.5 - 9.0m	Tabular and rounded blunt angled quartz and siltstone fragments.
9.0 - 10.5m	As above.
10.5 - 12.0m	Veins quartz and tabular and rounded siltstone.
12.0 - 13.5m	Ironstained siltstone and vein quartz.
13.5 - 15.0m	Siltstone and vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 586

LOCATION: Northern Star
CO-ORDINATES: 1500E 2050N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37677	7.5- 15.0m	5	<5	25	20	<1	10	45

GEOLOGICAL DATA

7.5 - 9.0m	White clay pug with grains of quartz not rounded by alluvial action.
9.0 - 10.5m	Purple siltstone, many pieces sharp angled possibly from drill fracturing. Grains of quartz rounded by weathering and clay coated siltstone.
10.5 - 12.0m	Purple siltstone, a few white clay grains and quartz grains, some rounded but others rectangular and blocky.
12.0 - 13.5m	Grains of purple siltstone mostly sharp angled but mainly with corners rounded. A few clay grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 587

LOCATION: Northern Star
CO-ORDINATES: 1500E 2000N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37678	7.5 - 15.0m	5	<5	25	20	<1	10	45

GEOLOGICAL DATA

7.5 - 9.0m	Many tabular pieces of vein rock all very dusty.
9.0 - 10.5m	Tabular fragments of vein quartz, siltstone and some hematite.
10.5 - 12.0m	Greyish fragments of vein quartz.
12.0 - 13.5m	Greyish vein quartz and siltstone.
13.5 - 15.0m	Less vein material, some grains coated with clay.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 588

LOCATION: Northern Star
CO-ORDINATES: 1500E 1950N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37679	7.5 - 15.0m	10	<5	30	15	<1	10	55

GEOLOGICAL DATA

7.5 - 9.0m	Lateritic purplish red fragments of tabula some clay coated. Siltstone.
9.0 - 10.5m	Fragments, often tabular and clay coated red limonite.
10.5 - 12.0m	As above.
12.0 - 13.5m	Ditto, but with fragments of quartz veining.
13.5 - 15.0m	Limonite, dark red with vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 589

LOCATION: Northern Star
CO-ORDINATES: 1500E 1850N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37679	7.5 - 15.0m	10	< 5	25	15	< 1	10	55

GEOLOGICAL DATA

7.5 - 9.0m	Ironstained siltstone and greywacke, purplish.
9.0 - 10.5m	Ironstained siltstone, quartzite and quartz much of the quartz from veins.
10.5 - 12.0m	As above.
12.0 - 13.5m	Siltstone and quartz often tabular as if from veins, purple.
13.5 - 15.0m	Quartzite, siltstone and quartz often tabular.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 590

LOCATION: Northern Star
CO-ORDINATES: 1500E 1800N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37725	7.5 - 15.0m	10	<5	35	10	<1	15	80

GEOLOGICAL DATA

7.5 - 9.0m	Grains of limonite with an occasional grain of white siltstone.
9.0 - 10.5m	Big fragments of limonite siltstone. Red jasper and hematite.
10.5 - 12.0m	Fragments of light coloured siltstone and quartz. Many grains tabular.
12.0 - 13.5m	Purple and limonite siltstone and greywackes. Some tabular in form.
13.5 - 15.0m	Purple siltstone and vein quartz.

T. Meehan
GEOLOGIST

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JACKO DRILL HOLE

JDH 591

LOCATION: Northern Star
CO-ORDINATES: 1500E 1750N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37726	7.5 - 15.0m	10	<5	40	25	<1	20	970

GEOLOGICAL DATA

7.5 - 9.0m	Pink siltstone with quartz. Many grains flattened and lamellar.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone and quartz, many tabular grains.
12.0 - 13.5m	Purple siltstone and quartz, some seritization.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 592

LOCATION: Northern Star
CO-ORDINATES: 1500E 1700N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37727	7.5 - 15.0m	15	<5	45	30	<1	25	0.20%

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, partly tabular in form and much tabular vein quartz. A little quartzite.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple siltstone and quartz largely tabular as from veins. Some quartzite.
13.5 - 15.0m	Purple siltstone and quartz, quartzite, many tabular grains.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 593

LOCATION: Northern Star
CO-ORDINATES: 1500E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T.Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37728	7.5 - 15.0m	80	< 5	45	110	< 1	25	135

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with grains of quartz, some tabular in form.
9.0 - 10.5m	As above with some fine conglomerate grains.
10.5 - 12.0m	Purple siltstone and quartz, some grains flattened.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T.Meehan
GEOLOGIST

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JACTO DRILL HOLE

JDH 594

LOCATION: Northern Star
CO-ORDINATES: 1550E 1650N
TOTAL DEPTH: 15.0m
DATE: 30-3-1981
LOGGED BY: T.Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37729	7.5 -15.0m	5	<5	40	10	<1	80	110

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone and a little quartz. Many tabular grains.
9.0 - 10.5m	Purple siltstone and some quartz grains, often tabular.
10.5 - 12.0m	Purple siltstone with some quartz grains. Many tabular grains.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone and a little quartz, some grains tabular.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 595

LOCATION: Northern Star
CO-ORDINATES: 1600E 1650N
TOTAL DEPTH: 15.0m
DATE: 30-3-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Au</u> <u>dwt</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38777	7.5-15m	T, T	25	<5	35	20	<1	15	

GEOLOGICAL DATA

7.5 - 9.0m	Coarse silicified greywacke.
9.0 - 10.5m	Greywacke and clear vein quartz, purple.
10.5 - 12.0m	Greywacke and vein quartz, purple.
12.0 - 13.5m	Sub-angular fragments of greywacke, purple in colour.
13.5 - 15.0m	Purple sub-angular fragments of siltstone and greywacke with a little vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 596

LOCATION: Northern Star
CO-ORDINATES: 1650E 1650N
TOTAL DEPTH: 15.0m
DATE: 9-4-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37954	7.5 - 15.0m	5	< 5	55	10	1	15	

GEOLOGICAL DATA

7.5 - 9.0m	Limmonite purple siltstone.
9.0 - 10.5m	Purple siltstone with a little clear vein quartz.
10.5 - 12.0m	Purple siltstone, somewhat flattened, a little clear vein quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 597

LOCATION: Northern Star
CO-ORDINATES: 1700E 1650N
TOTAL DEPTH: 15.0m
DATE: 11-4-1981
LOGGED BY: T.Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37955	7.5 - 15.0m	<5	<5	38	23	<1	18	

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with some particles of quartzite and vein quartz and ferruginized
9.0 - 10.5m	Ferruginous siltstone and quartzite with some vein quartz.
10.5 - 12.0m	Particles of ferruginous siltstone and quartz.
12.0 - 13.5m	Particles of purple siltstone and clear vein quartz.
13.5 - 15.0m	Purple particles of siltstone, quartzite and somewhat vuggy vein quartz ferruginized.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 598

LOCATION: Northern Star
CO-ORDINATES: 1750E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37982	7.5 - 15.0m	5	<5	45	15	<1	15	110

GEOLOGICAL DATA

7.5 - 9.0m	Purple and sandy siltstone with a little specularite. Some tabular and lamellar grains.
9.0 - 10.5m	As above with a little vein quartz.
10.5 - 12.0m	Ditto with some sericite.
12.0 - 13.5m	Purple siltstone with flat and lamellar grains and small flakes of sericite. Vein quartz.
13.5 - 15.0m	Purple siltstone with some vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 599

LOCATION: Northern Star
CO-ORDINATES: 1800E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
37983	7.5 - 15.0m	5	<5	60	30	<1	20	400

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with many tabular and lamellar grains.
9.0 - 10.5m	Purple siltstone as above with some sandy grains and a little sericite.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple siltstone with many tabular and lamellar grains.
13.5 - 15.0m	Purple siltstone with a little vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 600

LOCATION: Northern Star
CO-ORDINATES: 1850E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
37984	7.5 - 15.0m	5	45	10	20	1	10	65

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with fair amount of clear vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone with large percent of vein quartz.
12.0 - 13.5m	Purple siltstone with 50% vein quartz.
13.5 - 15.0m	Even more vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 601

LOCATION: Northern Star
CO-ORDINATES: 1900E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38048	7.5 - 15.0m	5	< 5	55	10	<1	10	500

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone.
9.0 - 10.5m	Purple siltstone with flakes of sericite.
10.5 - 12.0m	Purple siltstone.
12.0 - 13.5m	Purple siltstone with rare sericite flakes.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 602

LOCATION: Northern Star
CO-ORDINATES: 1950E 1650N
TOTAL DEPTH: 15.0m
DATE: 16-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38049	7.5 - 15.0m	5	<5	70	15	<1	15	215

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with some tabular and lamellar grains.
9.0 - 10.5m	Purple siltstone as above. Free gold or gold paint (no gold in assay)
10.5 - 12.0m	Purple siltstone with rare sericite flakes.
12.0 - 13.5m	As above.
13.5 - 15.0m	Flattened grain of possible free gold. (no gold in assay)

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 603

LOCATION: Northern Star
CO-ORDINATES: 2000E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38050	7.5 - 15.0m	5	<5	60	60	<1	20	0.12%

GEOLOGICAL DATA

7.5 - 9.0m	Greyish purple siltstone - a few sericite flakes free vein quartz and a little sericite.
9.0 - 10.5m	Siltstone as above with some tabular and lamellar grains and a little sericite.
10.5 - 12.0m	Greyish purple siltstone with some flattened and lamellar grains and very rare sericite.
12.0 - 13.5m	Grey purple siltstone as above with very rare sericite flakes.
13.5 - 15.0	As above with some tabular and lamellar grains

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 604

LOCATION: Northern Star
CO-ORDINATES: 2050E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38051	7.5 - 15.0m	5	<5	70	190	<1	25	0.12%

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with many flat grains and a little clear vein quartz.
9.0 - 10.5m	Purple siltstone, many flat grains and a little clear vein quartz.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple siltstone with many flattened, some lamellar grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 605

LOCATION: Northern Star
CO-ORDINATES: 2100E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38052	7.5 - 15.0m	<5	<5	40	15	<1	10	270

GEOLOGICAL DATA

7.5 - 9.0m	Purple and light pink siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple siltstone, many flat grains, a little vein quartz.
13.5 - 15.0m	Purple siltstone grains, some tabular.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 606

LOCATION: Northern Star
CO-ORDINATES: 2150E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38053	7.5 - 15.0m	< 5	< 5	40	10	< 1	10	55

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with some tabular and lamellar grains and some vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone, many flat lamellar grains and some vein quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone with vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 607

LOCATION: Northern Star
CO-ORDINATES: 2200E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38054	7.5 - 15.0m	5	<5	45	5	<1	10	65

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, partly tabular and laminar.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone many tabular grains.
12.0 - 13.5m	As above.
13.5 - 15.0m	Greyish purple siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 608

LOCATION: Northern Star
CO-ORDINATES: 2250E 1650N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38055	7.5 - 15.0m	5	<5	42	5	<1	10	52

GEOLOGICAL DATA

7.5 - 9.0m	Many flat and lamellar grains, some vein quartz. Purple siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone and some fine greywacke with some clear vein quartz.
12.0 - 13.5m	Fine purple greywacke with some vein quartz.
13.5 - 15.0m	Fine purple siltstone with minor greywacke and some vein quartz.

T. Meehan
GEOLOGIST

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JACTO DRILL HOLE

JDH 609

LOCATION: Northern Star
CO-ORDINATES: 2250E 1700N
TOTAL DEPTH: 15.0m
DATE: 22-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38057	7.5 - 15.0m	5	<5	50	10	<1	10	45

GEOLOGICAL DATA

7.5 - 9.0m	Purple red sediment - mostly flattened grains.
9.0 - 10.5m	As above with some vuggy quartz grains.
10.5 - 12.0m	Purple red sediment with some fine vein quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple red and grey sediment with clear vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 610

LOCATION: Northern Star
CO-ORDINATES: 2250E 1750N
TOTAL DEPTH: 15.0m
DATE: 21-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38059	7.5 - 15.0m	5	<5	50	35	<1	10	450

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone. Purplish lateritic fragments, some vein quartz.
9.0 - 10.5m	Siltstone fragments, purple and light pink.
10.5 - 12.0m	Purple siltstone pieces with a little vein quartz and some lateritic pebbles, possibly fallin.
12.0 - 13.5m	Purple fragments of siltstone, some grains tabular and lamellar.
13.5 - 15.0m	Purple siltstone fragments.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 611

LOCATION: Northern Star
CO-ORDINATES: 2250E 1800N
TOTAL DEPTH: 15.0m
DATE: 23-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38060	7.5 - 15.0m	<5	<5	60	35	<1	20	0.12%

GEOLOGICAL DATA

7.5 - 9.0m	Reddish siltstone with pink clay. Possible greywacke.
9.0 - 10.5m	Tareable grains of siltstone, clay and quartz. Reddish clayey siltstone.
10.5 - 12.0m	Reddish siltstone with some clear quartz.
12.0 - 13.5m	Reddish siltstone with a little clear vein quartz.
13.5 -15.0m	As above.

T Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 612

LOCATION: Northern Star
CO-ORDINATES: 2250E 1850N
TOTAL DEPTH: 15.0m
DATE: 13-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38061	7.5 - 15.0m	<5	<5	40	5	<1	5	35

GEOLOGICAL DATA

7.5 - 9.0m	Pink red purple and rusty siltstone grains, many tabular.
9.0 - 10.5m	Red and pink rusty fragments of sediment, slight traces of very few sericite mica.
10.5 - 12.0m	Grains of grey pink fine siltstone.
12.0 - 13.5m	Grains of muddy pink siltstone with some sand and vein quartz.
13.5 - 15.0m	As above, many tabular and lamellar grain

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 613

LOCATION: Northern Star
CO-ORDINATES: 2250E 1900N
TOTAL DEPTH: 15.0m
DATE: 25-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38062	7.5 - 15.0m	< 5	< 5	55	15	< 1	10	85

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with many flakes and lamellar grains and a little vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone with minor greywacke. Many tabular and some lamellar grains.
12.0 - 13.5m	Purple siltstone with some greywacke. Tabular and lamellar grains.
13.5 - 15.0m	Siltstone and fine greywacke, some tabular and lamellar grains.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 614

LOCATION: Northern Star
CO-ORDINATES: 2250E 1950N
TOTAL DEPTH: 15.0m
DATE: 26-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38063	7.5 - 15.0m	10	< 5	70	20	< 1	15	800

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone and fine greywacke.
9.0 - 10.5m	Siltstone - purple and fine greywacke.
10.5 - 12.0	Purple siltstone and fine greywacke with tabular and lamellar grains.
12.0 - 13.5m	Fine purple greywacke.
13.5 - 15.0m	Purple siltstone with minor specularite.

T. Meehan
GEOLOGIST

JDH 615

Cave-in Hole Abandoned at 15.3 metres.

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 616

LOCATION: Northern Star
CO-ORDINATES: 2250E 2050N
TOTAL DEPTH: 15.0m
DATE: 27-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38064	7.5 - 15.0m	140	5	30	60	<1	45	0.17%

GEOLOGICAL DATA

7.5 - 9.0m	Reddish sediment with many flattened and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Ironstained sediment with many flat and lamellar grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 617

LOCATION: Northern Star
CO-ORDINATES: 2200E 2100N
TOTAL DEPTH: 15.0m
DATE: 28-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38159	7.5 - 15.0m	205	<5	25	40	<1	15	255

GEOLOGICAL DATA

7.5 - 9.0m	Lateritic siltstone showing some tabular and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Ferruginous grains of siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 616

LOCATION: Northern Star
CO-ORDINATES: 2250E 2050N
TOTAL DEPTH: 15.0m
DATE: 27-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38064	7.5 - 15.0m	140	5	30	60	<1	45	0.17%

GEOLOGICAL DATA

7.5 - 9.0m	Reddish sediment with many flattened and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Ironstained sediment with many flat and lamellar grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 617

LOCATION: Northern Star
CO-ORDINATES: 2200E 2100N
TOTAL DEPTH: 15.0m
DATE: 28-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38159	7.5 - 15.0m	205	<5	25	40	<1	15	255

GEOLOGICAL DATA

7.5 - 9.0m	Lateritic siltstone showing some tabular and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Ferruginous grains of siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 616

LOCATION: Northern Star
CO-ORDINATES: 2250E 2050N
TOTAL DEPTH: 15.0m
DATE: 27-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38064	7.5 - 15.0m	140	5	30	60	<1	45	0.17%

GEOLOGICAL DATA

7.5 - 9.0m	Reddish sediment with many flattened and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Ironstained sediment with many flat and lamellar grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 617

LOCATION: Northern Star
CO-ORDINATES: 2200E 2100N
TOTAL DEPTH: 15.0m
DATE: 28-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38159	7.5 - 15.0m	205	<5	25	40	<1	15	255

GEOLOGICAL DATA

7.5 - 9.0m	Lateritic siltstone showing some tabular and lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Ferruginous grains of siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 618

LOCATION: Northern Star
CO-ORDINATES: 2150E 2700N
TOTAL DEPTH: 15.0m
DATE: 29-5-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38160	7.5 - 15.0m	120	< 5	35	20	< 1	10	165

GEOLOGICAL DATA

7.5 - 9.0m	Some large lumps of laterite and quartz in ferruginous grains of sediment.
9.0 - 10.5m	Lateritic siltstone grains.
10.5 - 12.0m	As above with larger lumps of laterite and vein quartz.
12.0 - 13.5m	As above, but finer.
13.5 - 15.0m	As above with many flattened grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 619

LOCATION: Northern Star
CO-ORDINATES: 2100E 2100N
TOTAL DEPTH: 15.0m
DATE: 1-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38161	7.5 - 15.0m	55	<5	35	20	<1	10	200

GEOLOGICAL DATA

7.5 - 9.0m	Mostly angular fragments of red silt flattened and often lamellar.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Angular and sometimes tabular fragments of red siltstone.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST.

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 620

LOCATION: Northern Star
CO-ORDINATES: 2050E 2100N
TOTAL DEPTH: 15.0m
DATE: 2-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38162	7.5 - 15.0	80	<5	35	10	<1	15	240

GEOLOGICAL DATA

7.5 - 9.0m	Angular and blocky fragments of siltstone ferruginous.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 621

LOCATION: Northern Star
CO-ORDINATES: 2000E 2100N
TOTAL DEPTH: 15.0m
DATE: 3-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38162	7.5 - 15.0m	75	< 5	30	15	< 1	20	830

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of ferruginous siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 622

LOCATION: Northern Star
CO-ORDINATES: 1500E 1600N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38164	7.5 - 15.0m	25	<5	80	70	<1	25	930

GEOLOGICAL DATA

7.5 - 9.0m	Mostly silty particles with some larger particles of quartzite, mostly tabular, grey purplish.
9.0 - 10.5m	Silt particles sometimes cemented with white clay and some flat vein quartz, grey, purplish.
10.5 - 12.0m	Particles of siltstone and quartz, grey purple.
12.0 - 13.5m	Grey purple siltstone with particles of flattened vein quartz. Rather ferruginous.
13.5 - 15.0m	Purple siltstone with quartzite and some clear vein quartz.

T. Meehan
GEOLOGIST

PACR DRILL HOLE

LOCATION: Northern Star
CO-ORDINATES: 1450E 1600N
TOTAL DEPTH: 15.0m
DATE: 10-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38188	7.5 - 15.0m	10	<5	60	15	<1	20	80

GEOLOGICAL DATA

7.5 - 9.0m	Sub-angular to sub-rounded particles of siltstone, quartzite and quartz.
9.0 - 10.5m	Sub-angular fragments of siltstone and quartzite and a little quartz.
10.5 - 12.0m	Sub-angular fragments of siltstone and quartzite.
12.0 - 13.5m	Sub-angular fragments and quartzite and quartz, purple.
13.5 - 15.0m	Purple siltstone and vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 624

LOCATION: Northern Star
CO-ORDINATES: 1450E 1650N
TOTAL DEPTH: 15.0m
DATE: 11-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38189	7.5 - 15.0m	5	<5	40	10	<1	15	75

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with clear flattened vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone, many lamellar grains.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone as above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 625

LOCATION: Northern Star
CO-ORDINATES: 1450E 1700N
TOTAL DEPTH: 15.0m
DATE: 12-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38190	7.5 - 15.0m	10	<5	55	15	<1	20	60

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone and vein quartz after slickensided.
9.0 - 10.5m	Dark red ferruginised siltstone - rounded particles after cemented with white clay.
10.5 - 12.0m	Particles of siltstone and quartzite, mostly rounded and sometimes cemented with white clay.
12.0 - 13.5m	Angular and sub-angular particles of purple siltstone and quartzite.
13.5 - 15.0m	Sub-angular particles of quartz, quartzite and siltstone, ferruginised.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACKO DRILL HOLE

JDH 628

LOCATION: Northern Star
CO-ORDINATES: 1500E 1500N
TOTAL DEPTH: 15.0m
DATE: 16-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38194	7.5 - 15.0m	5	<5	150	50	<1	20	95

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, many aggregate grains, also flattened grains.
9.0 - 10.5m	Purple siltstone, many flattened and sericitic grains.
10.5 - 12.0m	Purple siltstone.
12.0 - 13.5m	Purple siltstone with clear vein quartz.
13.5 - 15.0m	Purple siltstone. Many tabular and lamellar grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 627

LOCATION: Northern Star
CO-ORDINATES: 1500E 1550N
TOTAL DEPTH: 15.0m
DATE: 15-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38193	7.5 - 15.0	5	20	80	35	<1	30	125

GEOLOGICAL DATA

7.5 - 9.0	Fine redded siltstone with some grains of vein quartz.
9.0 - 10.5m	Reddish purple ferruginous siltstone.
10.5 - 12.0m	Ferruginous siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	Dark red ferruginous siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 628

LOCATION: Northern Star
CO-ORDINATES: 1500E 1500N
TOTAL DEPTH: 15.0m
DATE: 16-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38194	7.5 - 15.0m	5	<5	150	50	<1	20	95

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, many aggregate grains, also flattened grains.
9.0 - 10.5m	Purple siltstone, many flattened and sericitic grains.
10.5 - 12.0m	Purple siltstone.
12.0 - 13.5m	Purple siltstone with clear vein quartz.
13.5 - 15.0m	Purple siltstone. Many tabular and lamellar grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 629

LOCATION: Northern Star
CO-ORDINATES: 1500E 1450N
TOTAL DEPTH: 15.0m
DATE: 17-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38195	7.5 - 15.0m	5	< 5	77	30	< 1	10	22

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of greyish siltstone.
9.0 - 10.5m	Angular fragments as above. Some grains cellular and scoriaceous(?).
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Light coloured angular pieces of siltstone and quartzite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 630

LOCATION: Northern Star
CO-ORDINATES: 1500E 1400N
TOTAL DEPTH: 15.0m
DATE: 17-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38196	7.5 - 15.0m	5	<5	90	30	<1	10	35

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of siltstone, greyish.
9.0 - 10.5m	Angular fragments of siltstone and colourless vein quartz.
10.5 - 12.0m	Angular fragments of grey siltstone.
12.0 - 13.5m	Angular fragments of grey siltstone and quartzite.
13.5 - 15.0m	As above, some fragments slickensided.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 631

LOCATION: Northern Star
CO-ORDINATES: 1500E 1350N
TOTAL DEPTH: 15.0m
DATE: 17-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38197	7.5 - 15.0m	5	<5	100	30	<1	20	60

GEOLOGICAL DATA

7.5 - 9.0m	Purple particles of siltstone with occasional flakes of sericite and a little vein quartz.
9.0 - 10.5m	Purple siltstone and quartzite and a little vein quartz.
10.5 - 12.0m	Quartz fragments possibly from a greywacke.
12.0 - 13.5m	Fragments of siltstone and quartz.
13.5 - 15.0m	Fragments of siltstone, quartzite and of quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 632

LOCATION: Northern Star
CO-ORDINATES: 1500E 1300N
TOTAL DEPTH: 15.0m
DATE: 18-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38199	7.5 - 15.0m	5	<5	130	50	<1	20	25

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of grey siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Grey siltstone, somewhat cellular angular fragments.
13.5 - 15.0m	Fragments of siltstone and quartzite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 633

LOCATION: Northern Star
CO-ORDINATES: 1500E 1250N
TOTAL DEPTH: 15.0m
DATE: 18-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38199	7.5 - 15.0	5	<5	120	25	<1	15	25

GEOLOGICAL DATA

7.5 - 9.0m	Sub-angular fragments of quartz and quartzite, possibly from a greywacke.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple fragments of siltstone with a little vein quartz.
13.5 - 15.0m	Purple fragments of siltstone and quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 634

LOCATION: Northern Star
CO-ORDINATES: 1500E 1200N
TOTAL DEPTH: 15.0m
DATE: 19-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38200	7.5 - 15.0m	5	<5	100	25	<1	15	20

GEOLOGICAL DATA

7.5 - 9.0m	Irregular fragments of brown greywacke, many agglomerates of rounded grains, some tabular vein quartz.
9.0 - 10.5m	Rounded grains of quartz and siltstone particles.
10.5 - 12.0m	Grey greywacke, mostly angular fragments of quartz and fine conglomerate.
12.0 - 13.5m	Rounded grains of quartz and fine conglomerate, some structured grains, probably from greywacke.
13.5 - 15.0m	Sample missing.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 635

LOCATION: Northern Star
CO-ORDINATES: 1500E 1150N
TOTAL DEPTH: 15.0m
DATE: 20-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38201	7.5 - 15.0m	5	<5	80	15	<1	15	20

GEOLOGICAL DATA

7.5 - 9.0m	Fragments of purplish siltstone with a little vein quartz and some quartzite.
9.0 - 10.5m	Mainly quartz and quartzite.
10.5 - 12.0m	Fragments of siltstone with a little quartzite and occasional sericite abundant clear vein quartz.
12.0 - 13.5m	Pieces of siltstone and a little vein quartz.
13.5 - 15.0m	Fragments of siltstone and a little quartzite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 636

LOCATION: Northern Star
CO-ORDINATES: 1500E 1100N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38202	7.5 - 15.0m	5	<5	85	10	<1	20	20

GEOLOGICAL DATA

7.5 - 9.0m	Fragments of siltstone and some quartzite and a little vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Rounded grains probably form siltstone.
12.0 - 13.5m	Fragments of siltstone and vein quartz.
13.5 - 15.0m	Fragments of siltstone and quartzite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 637

LOCATION: Northern Star
CO-ORDINATES: 1500E 1050N
TOTAL DEPTH: 15.0m
DATE: 20-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38203	7.5 - 15.0m	5	<5	55	<1	<1	15	25

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 638

LOCATION: Northern Star
CO-ORDINATES: 1500E 1000N
TOTAL DEPTH: 15.0m
DATE: 21-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38204	7.5 - 15.0m	5	<5	65	20	<1	10	5

GEOLOGICAL DATA

7.5 - 9.0m	Angular fragments of quartz and siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	Angular fragments of siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	Fragments of grey siltstone - mainly angular.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 639

LOCATION: Northern Star
CO-ORDINATES: 1500E 2200N
TOTAL DEPTH: 15.0m
DATE: 21-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38232	7.5 - 15.0m	5	< 5	70	140	< 1	10	25

GEOLOGICAL DATA

7.5 - 9.0m	Fragments of quartz, mostly angular, some clay coated, possibly leucosene.
9.0 - 10.5m	Blocky fragments.
10.5 - 12.0m	Blocky fragments of quartz and siltstone, some showing movement structures
12.0 - 13.5m	Blocky fragments of siltstone, quartz and fine conglomerates.
13.5 - 15.0m	Blocky fragments of siltstone cemented partly with white clay.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 640

LOCATION: Northern Star
CO-ORDINATES: 1500E 2250N
TOTAL DEPTH: 15.0m
DATE: 22-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38233	7.5 - 15.0m	10	<5	70	35	<1	10	5

GEOLOGICAL DATA

7.5 - 9.0m	Rounded and sub-rounded silt grains, sometimes cemented into conglomerate grains.
9.0 - 10.5m	As above with occasional flakes of laterite.
10.5 - 12.0m	Grains of silt, fine conglomerate and laterite.
12.0 - 13.5m	Sub-angular sand grains, probably from a greywacke.
13.5 - 15.0m	Silt grains often cemented to large grain of quartzite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 641

LOCATION: Northern Star
CO-ORDINATES: 1500E 2400N
TOTAL DEPTH: 15.0m
DATE: 29-6-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38346	7.5 - 15.0m	20	<5	65	15	<1	10	15

GEOLOGICAL DATA

7.5 - 9.0m	Rounded grains of silt often cemented into fine conglomerate, some platy clear vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Rounded silt grains. Platy vein quartz, often slickensided.
12.0 - 13.5m	As above.
13.5 - 15.0m	Rounded and sub-rounded silt grains with plates of laterite.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 642

LOCATION: Northern Star
CO-ORDINATES: 1500E 2450N
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38347	7.5 - 15.0m	30	<5	40	<5	<1	5	15

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone, ferruginised, lateritised and cemented in parts by white clay.
9.0 - 10.5m	Ferruginous siltstone as above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Very rounded particles of ferruginous silt.
13.5 - 15.0m	Rounded particles of silt with occasional vein quartz slickensided.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 643

LOCATION: Northern Star
CO-ORDINATES: 1500E 2500N
TOTAL DEPTH: 15.0m
DATE: 1-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38344	7.5 - 15.0m	20	<5	25	10	<1	15	5

GEOLOGICAL DATA

7.5 - 9.0m	Rounded grains of quartz and siltstone with flattened laterite and piece of tabular vein quartz.
9.0 - 10.5m	Rounded silt grains sometimes cemented into conglomerate. Some lateritic plates.
10.5 - 12.0m	Similar but more ferruginised.
12.0 - 13.5m	Rounded and sub-rounded silt grains.
13.5 - 15.0m	Grains of rounded silt and some platy quartz vein material and some laterite plates.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 644

LOCATION: Northern Star
CO-ORDINATES: 1450E 2000N
TOTAL DEPTH: 15.0m
DATE: 1-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38343	7.5 - 15.0m	10	<5	40	10	<1	10	30

GEOLOGICAL DATA

7.5 - 9.0m	Angular and waterworn quartz, often in cellular agglomerations, some clear vein quartz and some fractured surfaces, purplish siltstone.
9.0 - 10.5m	Angular and waterworn fragments brown purple siltstone, occasionally flattened and slickensided.
10.5 - 12.0m	Agglomerated and cellular agglomerations of quartz and siltstone, mostly waterworn.
12.0 - 13.5m	Cellular fragments of purple siltstone, sometimes flattened and slickensided.
13.5 - 15.0m	Flattened fragments of purple siltstone, sometimes lamellar. Some grains of colourless quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 645

LOCATION: Northern Star
CO-ORDINATES: 1400E 2000N
TOTAL DEPTH: 15.0m
DATE: 1-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38345	7.5 - 15.0m	10	<5	32	15	<5	12	25

GEOLOGICAL DATA

7.5 - 9.0m	Grey yellow siliceous, siltstone greywacke
9.0 - 10.5m	Red grey siltstone chert? White siliceous material, minor magnetite.
10.5 - 12.0m	Grey red siltstone as above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 646

LOCATION: Northern Star
CO-ORDINATES: 1350E 2000N
TOTAL DEPTH: 15.0m
DATE: 6-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38342	7.5 - 15.0m	10	< 5	45	5	<1	15	15

GEOLOGICAL DATA

7.5 - 9.0m	Grey siltstone, siliceous, angular fragments.
9.0 - 10.5m	Red grey siltstone, siliceous fragments, hematite and magnetite present.
10.5 - 12.0m	Grey siltstone, dominant quartz, blocky fragments, sericite?
12.0 - 13.5m	Grey red siltstone/hematite shale?
13.5 - 15.0m	Dominant grey siltstone-fissile, weakly sericitic.

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 647

LOCATION: Northern Star
CO-ORDINATES: 1300E 2000N
TOTAL DEPTH: 15.0m
DATE: 6-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38341	7.5 - 15.0m	10	< 5	60	10	< 1	15	30

GEOLOGICAL DATA

7.5 - 9.0m	Dominant red siltstone, quartz and hematite pebbles, minor magnetite.
9.0 - 10.5m	Red siltstone shale, quartz fragments, weathered clay, iron oxides, minor magnetite content.
10.5 - 12.0m	As above.
12.0 - 13.5m	Red grey siltstone dominant, minor magnetite.
13.5 - 15.0m	Grey siltstone.

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 648

LOCATION: Northern Star
CO-ORDINATES: 1250E 2000N
TOTAL DEPTH: 15.0m
DATE: 6-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Hu</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38340	7.5 - 15.0m	10	<5	40	20	<1	10	10

GEOLOGICAL DATA

7.5 - 9.0m	Fine sandy siltstone/greywacke. Red grey quartz and ironstone present.
9.0 - 10.5m	Grey greywacke dominant, angular quartz fragments, iron pebbles and magnetite. (minor)
10.5 - 12.0m	Red grey siltstone greywacke, weakly chlorite, hematite pebbles, magnetite.
12.0 - 13.5m	Red grey siltstone greywacke, ironstone pebbles, quartz, sericite?
13.5 - 15.0m	Red grey siltstone greywacke, ironstone pebbles, quartz sericite?

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 649

LOCATION: Northern Star
CO-ORDINATES: 1200E 2000N
TOTAL DEPTH: 15.0m
DATE: 7-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38348	7.5 - 15.0m	10	<5	45	45	<1	10	15

GEOLOGICAL DATA

7.5 - 9.0m	Weathered sericite? Siltstone greywacke hematite, massive siltstone with specular hematite, quartz abundant.
9.0 - 10.5m	Fine red grey siltstone greywacke, quartz hematite, specular hematite, sericite?
10.5 - 12.0m	As above, also angular fine siltstone shale fragments (red) and striated quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 650

LOCATION: Northern Star
CO-ORDINATES: 1150E 2000N
TOTAL DEPTH: 15.0m
DATE: 7-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38349	7.5 - 15.0m	10	5	30	15	<1	10	10

GEOLOGICAL DATA

7.5 - 9.0m	Red siltstone greywacke, minor hematite shale magnetite? Specular hamatite abundant.
9.0 - 10.5m	Grey red siltstone greywacke, quartz abundant, hamatite siltstone, magnetic content, orange weathered quartz.
10.5 - 12.0m	Red grey greywacke siltstone, orange quartz fragments and fine quartz, large striated quartz fragments, hematite and magnetite.
12.0 - 13.5m	Red grey greywacke, orange fragments of specular hematite magnetite content possibly sericitic siltstone.
13.5 - 15.0m	Red grey greywacke, hematite siltstone fragments, magnetic content.

S. Barber GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 651

LOCATION: Northern Star
CO-ORDINATES: 1100E 2000N
TOTAL DEPTH: 15.0m
DATE: 8-7-1981
LOGGED BY: S. Barber

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38350	7.5 - 15.0m	15	<5	40	15	<1	10

GEOLOGICAL DATA

7.5 - 9.0m	Pebbles, hematite shale siltstone and magnetite fragments, green striated quartz and white quartz.
9.0 - 10.5m	As above, red hematite, siltstone magnetic.
10.5 - 12.0m	Red siltstone shale, striated quartz fragments, magnetic content.
12.0 - 13.5m	Red hematite siltstone, orange quartz fragments, striated and white clay, specular hematite and magnetite.
13.5 - 15.0m	Red hematite siltstone, grey red greywacke. Magnetic content, minor grey quartz, striated.

S. Barber
GEOLOGIST

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JACRO DRILL HOLE

JDH 652

LOCATION: Northern Star
CO-ORDINATES: 1050E 2000N
TOTAL DEPTH: 15.0m
DATE: 8-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Pi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38351	7.5 - 15.0m	10	5	30	35	<1	15	15

GEOLOGICAL DATA

7.5 - 9.0m	Many flattened and lamellar grains, some cellular quartz and a little white clay encrustation of purple siltstone fragments.
9.0 - 10.5m	As above.
10.5 - 12.0m	Fragments of brown grey cellular material with slickensides, suggesting a fracture zone in red grey siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 653

LOCATION: Northern Star
CO-ORDINATES: 1000E 2000N
TOTAL DEPTH: 15.0m
DATE: 9-7-1981
LOGGED BY: S.Barber

ASSAY DATA

Sample No:	Interval (m)	Cu ppm:	Bi ppm:	Pb ppm:	Fe ppm:	Ag ppm:	Co ppm:	Mn ppm:
38352	7.5 - 15.0m	10	<5	30	20	<1	10	15

GEOLOGICAL DATA

7.5 --9.0m	Grey red greywacke, striated quartz, iron rich magnetic fragments, laminated quartz siliceous siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	Grey, yellow red coated quartz siltstone, quartz crystals, red fragments medium grained greywacke.
12.0 - 13.5m	Numerous fine red grey iron rich fragments of greywacke.
13.5 - 15.0m	Fine red grey greywacke, iron rich minor quartz.

S. Barber
GEOLOGIST

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LOG DETAIL PAGE 1

JDH 653

LOCATION: Northern Star
COORDINATES: 1000E 2000N
DEPTH: 15.0m
DATE: 9-7-1981
LOGGED BY: S.Barber

ANALYSIS

Sample No.	Interval (m)	Ca	Fe	Al	Si	Ag	Co	Mo
		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
38352	7.5 - 15.0m	10	5	30	20	<1	10	15

LITHOLOGICAL DATA

7.5 - 9.0m	Grey red greywacke, striated quartz, iron rich magnetic fragments, laminated quartz siliceous siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	Grey, yellow red coated quartz siltstone, quartz crystals, red fragments medium grained greywacke.
12.0 - 13.5m	Numerous fine red grey iron rich fragments of greywacke.
13.5 - 15.0m	Fine red grey greywacke, iron rich minor quartz.

S. Barber
GEOLOGIST

INSTRUMENT REPORT

ADH 654

LOCATION: Northern Star
 COORDINATES: 950 E 2000N
 TOTAL DEPTH: 15.0m
 DATE: 9-7-1981
 LOGGED BY: T. Meehan

ANAL DATA

Sample No.	Interval (m)	Ca (%)	Fe (%)	Al (%)	Si (%)	Co (%)	Li (%)
38353	7.5 - 15.0m	5	<5	30	30	<1	10

GEOLOGICAL DATA

- 7.5 - 9.0m Cellular and slickensided agglomerated fragments of reddish greywacke with some clear vein quartz, probably from fault zone.
- 9.0 - 10.5m Agglomerations of rounded quartz grains, grey brown siltstone.
- 10.5 - 12.0m Red brown grains and agglomerations of quartz with some flattened and lamellar siltstone.
- 12.0 - 13.5m As above with some slickensides.
- 13.5 - 15.0m Fragments of purplish greywacke with many slickensides.

T. Meehan
 GEOV 31

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JACKO DRILL HOLE

JDIL 655

LOCALITY: Northern Star
COORDINATES: 900E 2000N
TOTAL DEPTH: 15.0m
DATE: 10-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

Sample No.	Interval (m)	Cu	Pb	Fe	Zn	Ag	Co	Mn
		ppm	ppm	ppm	ppm	ppm	ppm	ppm
38354	7.5 - 15.0m	10	<5	30	20	<1	15	10

GEOLOGICAL DATA

7.5 - 9.0	Ferruginous and clay encrusted siltstone many blocky fragments, some slickensides.
9.0 - 10.5m	As above.
10.5 - 12.0m	Many angular and cellular fragments of grey siltstone.
12.0 - 13.5m	Some blocky grains, but mostly waterworn fragments of purple siltstone.
13.5 - 15.0m	Cellular arrangement of qua-rtz with some lamellar fragments of purple siltstone.

T. Meehan
GEOLOGIST

JDH 656

LOCATION: Northern Star
COORDINATES: 850 E 2000N
TOTAL DEPTH: 15.0m
DATE: 10-7-1981
LOGGED BY: S. Barber

ANALYSIS

Sample No.	Depth (m)	Ca	Be	Fe	Si	Al	Na	K
		ppm	ppm	ppm	ppm	ppm	ppm	ppm
38355	7.5 - 15.0m	7	<5	40	15	<1	10	12

SEDIMENTARY DATA

7.5 - 9.0m	Dominant quartz fragments, blocky striated minor rounded iron fragments.
9.0 - 10.5m	Red grey fine siltstone greywacke.
10.5 - 12.0m	Grey red siltstone, minor quartz, fine.
12.0 - 13.5m	Grey red clay, minor quartz fragments.
13.5 - 15.0m	Angular quartz fragments, grey shale, fissile.

S. Barber
GEOLOGIST

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PACRO DRILL HOLE

JDH 657

LOCATION: Northern Star
CO-ORDINATES: 800E 2000N
TOTAL DEPTH: 15.0m
DATE: 14-7-1981
LOGGED BY: S. Barber

ASSAY DATA

Sample No:	Interval (m)	Cu	B*	Pb	Zn	Ag	Co	Mn
		ppm	ppm	ppm	ppm	ppm	ppm	ppm
38357	7.5 - 15.0m	5	< 5	30	20	<1	10	15

GEOLOGICAL DATA

7.5 - 9.0m Dominant angular quartz fragments and red grey sericitic siliceous siltstone, weathered to white clay (mature)

9.0 - 10.5m Dominant angular quartz, quartzite? Minor sericitic siltstone.

10.5 - 12.0m 60% quartz fragments, red sericitic siltstone, straited quartz, fault material. (vein)

12.0 - 13.5m Quartz, red siltstone and greywacke, minormagnetite content.

13.5 - 15.0m Yellow white quartz, sericitic siltstone? Greywacke, minor magnetite and hematite.

S Barber
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

MACRO DRILL HOLE

JDH 658

LOCATION: Northern Star
COORDINATES: 750 E 2000N
TOTAL DEPTH: 15.0m
DATE: 15-7-1981
LOGGED BY: S. Barber

ASSAY DATA

Sample No:	Interval (m)	Cu	Bi	Pb	Zn	Ag	Co	Mn
		ppm:	ppm:	ppm:	ppm:	ppm:	ppm:	ppm:
38356	7.5 - 15.0m	5	<5	40	20	<1	10	15

GEOLOGICAL DATA

7.5 - 9.0m	Numerous angular quartz, fault material, greywacke fragments.
9.0 - 10.5m	Quartz grains in cellular arrangement slickensides, angular and waterworn quartz.
10.5 - 12.0m	As above, but not so much angular quartz and no slickensides. Quartz as above.
12.0 - 13.5m	As above, but more cellular quartz, suggesting leaching.
13.5 - 15.0m	Cellular quartz grains, mostly waterworn.

S. Barber
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 658

LOCATION: Northern Star
CO-ORDINATES: 750E 1000E 2000N
TOTAL DEPTH: 15.0m
DATE: 15-7-1981
LOGGED BY: S. Barber

PSD 2/3/82

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38356	7.5 - 15.0m	5	<5	40	20	<1	10	15

GEOLOGICAL DATA

7.5 - 9.0m	Numerous angular quartz, fault material, greywacke fragments.
9.0 - 10.5m	Quartz grains in cellular arrangement slickensides, angular and waterworn quartz.
10.5 - 12.0m	As above, but not so much angular quartz and no slickensides. Quartz as above.
12.0 - 13.5m	As above, but more cellular quartz, suggesting leaching.
13.5 - 15.0m	Cellular quartz grains, mostly waterworn.

S. Barber
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 659

LOCATION: Northern Star
CO-ORDINATES: 1550E 1600N
TOTAL DEPTH: 15.0m
DATE: 15-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38358	7.5 - 15.0m	5	<5	40	10	<1	15	35

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with a few leached gr
9.0 - 10.5m	Purple siltstone with many flattened grains.
10.5 - 12.0m	Purple siltstone, flattened fragments.
12.0 - 13.5m	Purple siltstone.
13.5 - 15.0m	Purple siltstone with some leached gra

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 660

LOCATION: Northern Star
CO-ORDINATES: 1950E 1750N
TOTAL DEPTH: 15.0m
DATE: 18-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38361	7.5 - 15.0m	5	<5	65	15	<1	20	230

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with pressure flattened clear vein quartz.
9.0 - 10.5m	Purple siltstone with a little vein quartz, not so pressure flattened.
10.5 - 12.0m	Purple siltstone, many flattened grains and vein quartz pressure flattened.
12.0 - 13.5m	Purple siltstone with a little vein quartz and occasional cellular leached particles.
13.5 - 15.0m	Purple siltstone with mant flat fragments and occasional plates of sericite mica.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 661

LOCATION: Northern Star
CO-ORDINATES: 2000E 1750N
TOTAL DEPTH: 15.0m
DATE: 20-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38362	7.5 - 15.0m	5	<5	60	10	<1	20	200

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone many light coloured and tabular grains. Clear vein quartz.
9.0 - 10.5m	Purple siltstone. Many flattened grains, some cellular leached grains.
10.5 - 12.0m	Purple siltstone with a little clear vein quartz.
12.0 - 13.5m	Light purple siltstone.
13.5 - 15.0m	Purple siltstone with cellular leached grains and a little vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 662

LOCATION: Northern Star
CO-ORDINATES: 1050E 1750N
TOTAL DEPTH: 15.0m
DATE: 21-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38364	7.5 - 15.0m	<5	<5	60	10	<1	20	120

GEOLOGICAL DATA

7.5 - 9.0m	Reddish purple siltstone slightly tabular with occasional sericitic mica flakes.
9.0 - 10.5m	As above with a little vein quartz.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 663

LOCATION: Northern Star
CO-ORDINATES: 2100E 1750N
TOTAL DEPTH: 15.0m
DATE: 21-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38365	7.5 - 15.0m	5	<5	70	15	<1	20	325

GEOLOGICAL DATA

7.5 - 9.0m	Very ferruginous dark red and flattened grains of siltstone and occasional fragments of vein quartz.
9.0 - 10.5m	Ferruginous siltstone, dark red and slightly quartzitic.
10.5 - 12.0m	Greyish purple siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	Grey purple siltstone with a little clear vein quartz.

T. Meehan

GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACO DRILL HOLE

JDH 664

LOCATION: Northern Star
CO-ORDINATES: 2150E 1750N
TOTAL DEPTH: 15.0m
DATE: 21-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38366	7.5 - 15.0m	5	<5	50	60	<1	20	710

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple siltstone.
9.0 - 10.5m	Purple siltstone slightly quartzitic.
10.5 - 12.0m	As above with a little clear vein quartz.
12.0 - 13.5m	Purple siltstone with a little clear vein quartz and some cellular leached grains.
13.5 - 15.0m	Grains of purple siltstone with a little clear vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 665

LOCATION: Northern Star
CO-ORDINATES: 2200E 1750N
TOTAL DEPTH: 15.0m
DATE: 21-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38367	7.5 - 15.0m	<5	<5	50	10	<1	15	55

GEOLOGICAL DATA

7.5 - 9.0m	Fragments of purple siltstone with white clay.
9.0 - 10.5m	Fragments of purple siltstone and light clay.
10.5 - 12.0m	Grains of purple siltstone and white clay, many tabular grains.
12.0 - 13.5m	Fragments of purple siltstone, many flattened grains.
13.5 - 15.0m	Purple siltstone, many tabular grains and some clear vein quartz.

T. Meehan
GEOLOGIST

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JACO DRILL HOLE

JDH 666

LOCATION: Northern Star
CO-ORDINATES: 2200E 1700N
TOTAL DEPTH: 15.0m
DATE: 22-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38368	7.5 - 15.0m	<5	<5	50	10	<1	20	120

GEOLOGICAL DATA

7.5 - 9.0m	Fragments of purple siltstone, somewhat quartzitic.
9.0 - 10.5m	Purple siltstone with some cellular grains suggesting leaching.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone with many cellular grains and some vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 667

LOCATION: Northern Star
CO-ORDINATES: 2150E 1700N
TOTAL DEPTH: 15.0m
DATE: 22-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38369	7.5 - 15.0m	<5	<5	60	10	<1	20	310

GEOLOGICAL DATA

7.5 - 9.0m	Purple fragments of quartzitic siltstone with some vein quartz.
9.0 - 10.5m	Purple siltstone.
10.5 - 12.0m	Purple siltstone with some free clay.
12.0 - 13.5m	Purple siltstone with some tabular fragments.
13.5 - 15.0m	Purple siltstone somewhat quartzitic.

T. Meehan
GEOLOGIST

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JACKO DRILL HOLE

JDH 668

LOCATION: Northern Star
CO-ORDINATES: 2100E 1700N
TOTAL DEPTH: 15.0m
DATE: 22-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38370	7.5 - 15.0m	<5	<5	65	10	<1	20	700

GEOLOGICAL DATA

7.5 - 9.0m	Angular and blocky fragments of siltstone and quartzite, greyish purple.
9.0 - 10.5m	Angular fragments of reddish purple siltstone and quartzite, more ferruginous quartzitic.
10.5 - 12.0m	Fragments of recrystallised siltstone reddish purple.
12.0 - 13.5m	Fragments of reddish purple quartzitic siltstone.
13.5 - 15.0m	Quartzitic siltstone with some vein quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 669

LOCATION: Northern Star
CO-ORDINATES: 2050E 1700N
TOTAL DEPTH: 15.0m
DATE: 22-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38371	7.5 - 15.0m	<5	<5	55	40	<1	30	3100

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone.
9.0 - 10.5m	Clay covered and ferruginous siltstone.
10.5 - 12.0m	Clayey siltstone.
12.0 - 13.5m	Ferruginous and clayey siltstone and some quartzite grains.
13.5 - 15.0m	Angular fragments of ferruginous siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 670

LOCATION: Northern Star
CO-ORDINATES: 2000E 1700N
TOTAL DEPTH: 15.0m
DATE: 23-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38372	7.5 - 15.0m	<5	<5	60	15	<1	5	85

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone, jagged quartz grains, some vein quartz, very fine conglomeratio: some leaching.
9.0 - 10.5m	As above.
10.5 - 12.0m	Jagged quartz grains and siltstone pieces some vein quartz.
12.0 - 13.5m	Grains of salt, many conglomerate and also evidence of leaching, purplish siltstone.
13.5 - 15.0m	Purplish siltstone as above.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 671

LOCATION: Northern Star
CO-ORDINATES:
TOTAL DEPTH: 15.0m
DATE:
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38373	7.5 - 15.0m	5	<5	90	25	<1	10	1020

GEOLOGICAL DATA

7.5 - 9.0m	Particles of purple siltstone, some evidence of leaching.
9.0 - 10.5m	Particles of purple siltstone with some clear vein quartz, rather ferruginous.
10.5 - 12.0m	Purple siltstone, a little sericite.
12.0 - 13.5m	Purple siltstone as above.
13.5 - 15.0m	Purple siltstone with a few sericite flakes.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 672

LOCATION: Northern Star
CO-ORDINATES: 1900E 1700N
TOTAL DEPTH: 15.0m
DATE: 24-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38374	7.5 - 15.0m	< 5	< 5	60	15	< 1	10	100

GEOLOGICAL DATA

7.5 - 9.0m	Light coloured sandy siltstone.
9.0 - 10.5m	Siltstone as above with many flat grains, more ferruginous.
10.5 - 12.0m	Purplish siltstone as above.
12.0 - 13.5m	Purple siltstone, many flattened grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 673

LOCATION: Northern Star
CO-ORDINATES: 1850E 1700N
TOTAL DEPTH: 15.0m
DATE: 27-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38375	7.5 - 15.0m	7	< 5	72	32	<1	17	370

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone, many tabular grains, purple red ferruginous and a little vein quartz.
9.0 - 10.5m	Siltstone as above - purple.
10.5 - 12.0m	Siltstone as above.
12.0 - 13.5m	Purple siltstone.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

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JACNO DRILL HOLE

JDH 674

LOCATION: Northern Star
CO-ORDINATES: 2150E 1800N
TOTAL DEPTH: 15.0m
DATE: 27-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38376	7.5 - 15.0m	<5	<5	120	15	<1	15	170

GEOLOGICAL DATA

7.5 - 9.0m

Purple siltstone, many tabular grains, some clear attached vein quartz.

9.0 - 10.5m

Purple siltstone with agglomerated quartz sometimes showing leaching cavities and a little vein quartz.

10.5 - 12.0m

Purple siltstone with more vein quartz.

12.0 - 13.5m

As above.

13.5 - 15.0m

Purple siltstone with vein quartz, more grains slickensided.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 675

LOCATION: Northern Star
CO-ORDINATES: 2100E 1800N
TOTAL DEPTH: 15.0m
DATE: 28-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38377	7.5 - 15.0m .	5	<5	95	65	<1	20	190

GEOLOGICAL DATA

7.5 - 9.0m	Angular grains of conglomerate fine sand and siltstone and greywacke?
9.0 - 10.5m	Fragments of siltstone and clear vein quartz from a purple siltstone.
10.5 - 12.0m	Particles of siltstone with some attached vein quartz, purple siltstone.
12.0 - 13.5m	Purplish particles of sand and siltstone.
13.5 - 15.0m	Particles of purple siltstone silt and vein quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 676

LOCATION: Northern Star
CO-ORDINATES: 2000E 1800N
TOTAL DEPTH: 15.0m
DATE: 28-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38378	7.5 - 15.0m	5	< 5	70	25	< 1	10	150

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone and a little clear vein quartz, some fine conglomeration grains showing leaching cavities.
9.0 - 10.5m	Purple siltstone as above.
10.5 - 12.0m	Purple siltstone.
12.0 - 13.5m	Purple siltstone with minor vein quartz.
13.5 - 15.0	Purple siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 677

LOCATION: Northern Star
CO-ORDINATES: 2050E 1800N
TOTAL DEPTH: 15.0m
DATE: 28-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38379	7.5 - 15.0m	5	<5	60	5	1	15	165

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with a few conglomerate grains showing leaching cavities.
9.0 - 10.5m	Purple siltstone with some free vein quartz.
10.5 - 12.0m	Purple siltstone with a little clear vein quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	Purple siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 678

LOCATION: Northern Star
CO-ORDINATES: 1950E 1800N
TOTAL DEPTH: 15.0m
DATE: 29-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38380	7.5 - 15.0m	10	<5	80	50	<1	5	165

GEOLOGICAL DATA

7.5 - 9.0m

Purple siltstone with a little vein quartz.

9.0 - 10.5m

Grains of purple siltstone and clear vein quartz.

10.5 - 12.0m

Grains of purple siltstone and a little clear vein quartz.

12.0 - 13.5m

As above.

13.5 - 15.0m

Purple siltstone with a little vein quartz.

T. Meehan
GEOLOGIST

JACRO DRILL HOLE

JDH 679

LOCATION: Northern Star
 CO-ORDINATES: 1950E 1850N
 TOTAL DEPTH: 15.0m
 DATE: 30-7-1981
 LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38381	7.5 - 15.0m	10	<5	55	20	<1	10	95

GEOLOGICAL DATA

7.5 - 9.0m	Siltstone, many tabular grains, purple.
9.0 - 10.5m	Particles of purple siltstone with occasional attached vein quartz.
10.5 - 12.0m	As above.
12.0 - 13.5m	Particles of fine purple siltstone with a little clear vein quartz.
13.5 - 15.0m	Particles of fine purple siltstone with an occasional speck of metallic specularite.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 680

LOCATION: Northern Star
CO-ORDINATES: 2000E 1850N
TOTAL DEPTH: 15.0m
DATE: 10-7-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38382	7.5 - 15.0m	15	<5	85	25	<1	15	150

GEOLOGICAL DATA

5 - 9.0m	Purplish siltstone with some vein quartz.
0 - 10.5m	Purlish siltstone with a little specularite and some vein quartz.
5 - 12.0m	As above.
0 - 13.5m	Purple siltstone with a little vein quartz.
5 - 15.0m	Purple siltstone, many tabular fragments.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 681

LOCATION: Northern Star
CO-ORDINATES: 1850E 2050N
TOTAL DEPTH: 15.0m
DATE: 5-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38383	7.5 - 15.0m	10	<5	90	15	<1	15	155

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone grains of siltstone with occasional grains of limonite and free quartz.
9.0 - 10.5m	As above with occasional sericite.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACO DRILL HOLE

JDH 682

LOCATION: Northern Star
CO-ORDINATES: 1850E 2100N
TOTAL DEPTH: 15.0m
DATE: 5-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38384	7.5 - 15.0m	10	<5	110	15	<1	10	185

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple grains of thin vein quartz.
9.0 - 10.5m	Purple siltstone as above.
10.5 - 12.0m	Grains of purple siltstone with some flattened white vein quartz.
12.0 - 13.5m	Purple siltstone with some golden grains of flattened vein quartz.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 683

LOCATION: Northern Star
CO-ORDINATES: 2150E 1850N
TOTAL DEPTH: 15.0m
DATE: 6-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38385	7.5 - 15.0m	7	<5	62	17	<1	12	205

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple siltstone with a little white vein quartz.
9.0 - 10.5m	Grains of purple siltstone with many flattened grains of vein quartz.
10.5 - 12.0m	Grains of purple siltstone as above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACKO DRILL HOLE

JDH 684

LOCATION: Northern Star
CO-ORDINATES: 2200E 1850N
TOTAL DEPTH: 15.0m
DATE: 6-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38386	7.5 - 15.0m	5	<5	50	10	<1	10	125

GEOLOGICAL DATA

7.5 - 9.0m

Purple siltstone and a little vein quartz
much of the quartz flat and tabular.

9.0 - 10.5m

As above, but with less quartz.

10.5 - 12.0m

Purple siltstone with many flattened
and sericitic grains.

12.0 - 13.5m

Purple siltstone as above, more quartz
and sericitic grains.

13.5 - 15.0m

Purple siltstone with many flattened and
lamellar grains, slightly sericitic.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 685

LOCATION: Northern Star
CO-ORDINATES: 2200E 1800N
TOTAL DEPTH: 15.0m
DATE: 11-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38569	7.5 - 15.0m	5	<5	30	5	<1	30	110

GEOLOGICAL DATA

7.5 - 9.0m	Highly ferruginous grains of siltstone.
9.0 - 10.5m	As above.
10.5 - 12.0m	Grains of purple siltstone and some free sand. (possibly contamination)
12.0 - 13.5m	Grains of purple siltstone with some flattened grains of clear vein quartz.
13.5 - 15.0m	Grains of siltstone often cemented with white clay.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 686

LOCATION: Northern Star
CO-ORDINATES: 2200E 1900N
TOTAL DEPTH: 15.0m
DATE: 11-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38570	7.5 - 15.0m	5	<5	55	5	<1	20	275

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple siltstone.
9.0 - 10.5m	Grains of purple siltstone with a large quantity of free white colourless quartz grains.
10.5 - 12.0m	As above.
12.0 - 13.5m	No sample.
13.5 - 15.0m	No sample.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 687

LOCATION: Northern Star
CO-ORDINATES: 2050E 1900N
TOTAL DEPTH: 15.0m
DATE: 12-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38571	7.5 - 15.0m	50	<5	55	40	<1	60	7870

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with some limonitic or lateritic grains and some grains of free quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Grains of purple siltstone with a few discrete grains of sand.
12.0 - 13.5m	As above.
13.5 - 15.0m	Grains of purple siltstone as above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 688

LOCATION: Northern Star
CO-ORDINATES: 2000E 1900N
TOTAL DEPTH: 15.0m
DATE: 13-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38572	7.5 - 15.0m	15	<5	45	10	<1	30	100

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone grains with grains of free quartz, some clear vein quartz.
9.0 - 10.5m	Purple grains of siltstone with some sand grains and some clear vein quartz.
10.5 - 12.0m	Grains of purple siltstone with a few sand grains as above.
12.0 - 13.5m	Ferruginous grains of purple siltstone.
13.5 - 15.0m	Grains of quartz and purple siltstone with a little jasper and clear quartz. Siltstone grains cemented by white clay.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 689

LOCATION: Northern Star
CO-ORDINATES: 2100E 1900N
TOTAL DEPTH: 15.0m
DATE: 14-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38573	7.5 - 15.0m	10	<5	90	15	<1	30	1590

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone with occasional grains of sand.
9.0 - 10.5m	Purple grains of siltstone.
10.5 - 12.0m	Grains of purple siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above with many flattened grains and occasional slickensides.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 690

LOCATION: Northern Star
CO-ORDINATES: 2150E 1900N
TOTAL DEPTH: 15.0m
DATE: 15-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38574	7.5 - 15.0m	15	80	70	15	<1	35	3450

GEOLOGICAL DATA

7.5 - 9.0m	Grains of ferruginous purple siltstone, some rather lamellar.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	Grains of purple siltstone with a few grains cemented with white clay.
13.5 - 15.0m	Ferruginous reddish purple siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 691

LOCATION: Northern Star
CO-ORDINATES: 2300E 1650N
TOTAL DEPTH: 15.0m
DATE: 24-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38725	7.5 - 15.0m	7	<5	65	7	<1	12	50

GEOLOGICAL DATA

7.5 - 9.0m	Grains of ferruginous siltstone, some cemented with white clay, some leached.
9.0 - 10.5m	Ferruginous siltstone, some flat and lamellar grains.
10.5 - 12.0m	Ferruginous siltstone, some grains quartzitic.
12.0 - 13.5m	Ferruginous siltstone, many flattened grains.
13.5 - 15.0m	Ferruginous siltstone with a little clear vein quartz.

T. Meehan
GEOLOGIST

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JACKO DRILL HOLE

JDH 692

LOCATION: Northern Star
CO-ORDINATES: 2350E 1650N
TOTAL DEPTH: 15.0m
DATE: 24-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38726	7.5 - 15.0	10	< 5	30	10	1	10	65

GEOLOGICAL DATA

7.5 - 9.0m	Grains of ferruginous siltstone, some flattened.
9.0 - 10.5m	Grains of purple siltstone, some vesicular through leaching.
10.5 - 12.0m	Reddish purple ferruginous siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	Grains of ferruginous siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 693

LOCATION: Northern Star
CO-ORDINATES: 2400E 1650N
TOTAL DEPTH: 15.0m
DATE: 24-8-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38727	7.5 - 15.0m	10	< 5	25	5	1	10	60

GEOLOGICAL DATA

7.5 - 9.0	Grains of ferruginous siltstone.
9.0 - 10.5m	Purple siltstone, a few flakes of sericite.
10.5 - 12.0m	As above with a little clear vein quartz.
12.0 - 13.5m	Sandy siltstone with some free white quartz.
13.5 - 15.0m	Ferruginous siltstone with large amounts of free clear quartz.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 694

LOCATION: Northern Star
CO-ORDINATES: 2450E 1650N
TOTAL DEPTH: 15.0m
DATE: 3-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38728	7.5 - 15.0m	10	<5	50	5	1	10	60

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone with a few tabular grains.
9.0 - 10.5m	As above with some grains cemented with white clay.
10.5 - 12.0m	Ferruginous siltstone.
12.0 - 13.5m	Ferruginous siltstone with a little free vein quartz.
13.5 - 15.0m	Purple and ferruginous siltstone grains, many tabular grains.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 695

LOCATION: Northern Star
CO-ORDINATES: 2500E 1650N
TOTAL DEPTH: 15.0m
DATE: 3-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38729	7.5 - 15.0m	5	<5	30	5	1	15	80

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone grains, some tabular.
9.0 - 10.5m	As above with some vesicular leached grains
10.5 - 12.0m	As above.
12.0 - 13.5m	Ferruginous siltstone with a little clear vein quartz.
13.5 - 15.0m	Grains of purple siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 696

LOCATION: Northern Star
CO-ORDINATES: 2550E 1650N
TOTAL DEPTH: 15.0m
DATE: 3-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38730	7.5 - 15.0m	10	<5	50	5	1	15	55

GEOLOGICAL DATA

7.5 - 9.0m	Dark red ferruginous siltstone grains, a few grains with white clay.
9.0 - 10.5m	Purple siltstone with some vesicular leached grains.
10.5 - 12.0m	Purple siltstone.
12.0 - 13.5m	Red purple ferruginous siltstone grains.
13.5 - 15.0m	Ferruginous siltstone.

T. Meehan
GEOLOGIST

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JACRO DRILL HOLE

JDH 697

LOCATION: Northern Star
CO-ORDINATES: 2600E 1650N
TOTAL DEPTH: 15.0m
DATE: 4-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38731	7.5 - 15.0m	5	< 5	60	10	1	15	80

GEOLOGICAL DATA

7.5 - 9.0m	Purple siltstone grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	Purple siltstone grains, some vesicular.
12.0 - 13.5m	Ferruginous purple siltstone grains.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 698

LOCATION: Northern Star
CO-ORDINATES: 2650E 1650N
TOTAL DEPTH: 15.0m
DATE: 4-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38732	7.5 - 15.0m	5	<5	55	5	1	15	60

GEOLOGICAL DATA

7.5 - 9.0m	Ferruginous siltstone grains, vesicular grains, free white quartz.
9.0 - 10.5m	Ferruginous siltstone with free white quartz.
10.5 - 12.0m	As above.
12.0 - 13.5m	Purple siltstone, many vesicular leached grains.
13.5 - 15.0m	Purple siltstone with free vein quartz grains.

T. Meehan
GEOLOGIST

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JACNO DRILL HOLE

JDH 699

LOCATION: Northern Star
CO-ORDINATES: 2700E 1650N
TOTAL DEPTH: 15.0m
DATE: 5-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38760	7.5 - 15.0m	10	<5	40	15	<1	<5	

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple siltstone with some white quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Grains of purple siltstone, some grains cemented with white clay.
12.0 - 13.5m	Grains of purple siltstone.
13.5 - 15.0m	As above with a little free white quartz.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 700

LOCATION: Northern Star
CO-ORDINATES: 2750E 1650N
TOTAL DEPTH: 15.0m
DATE: 5-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38761	7.5 - 15.0m	10	<5	85	25	<1	<5	

GEOLOGICAL DATA

7.5 - 9.0m	Grains of purple siltstone, many vesicular grains, much white clay.
9.0 - 10.5m	Coarse grains, some ferruginous, probably greywacke.
10.5 - 12.0m	Grains of purple siltstone, many vesiculars.
12.0 - 13.5m	Grains of purple siltstone.
13.5 - 15.0m	Purple siltstone, many grains flattened.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 701

LOCATION: Northern Star
CO-ORDINATES: 1450E 2200N
TOTAL DEPTH: 15.0m
DATE: 9-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38850	7.5 - 15.0m	10	<5	30	55	5	5	20

GEOLOGICAL DATA

7.5 - 9.0m	Cream coloured sedimentary grains of quartz and siltstone, not much worn.
9.0 - 10.5m	Rusty and cream grains of sand and siltstone.
10.5 - 12.0m	White to pink to brown grains of sand and siltstone.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACNO DRILL HOLE

JDH 702

LOCATION: Northern Star
CO-ORDINATES: 1450E 2150N
TOTAL DEPTH: 15.0m
DATE: 9-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38851	7.5 - 15.0m	10	<5	60	25	1	10	10

GEOLOGICAL DATA

7.5 - 9.0m	White and ferruginous grains of arkotic material.
9.0 - 10.5m	White angular grains of felspar and quartz.
10.5 - 12.0m	As above but with some ferruginous grains.
12.0 - 13.5m	White to pink grains of sand and siltstone.
13.5 - 15.0m	As above but pinker.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 703

LOCATION: Northern Star
CO-ORDINATES: 1450E 2100N
TOTAL DEPTH: 15.0m
DATE: 11-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38852	7.5 - 15.0m	5	<5	35	20	1	10	40

GEOLOGICAL DATA

7.5 - 9.0m	Light pink and also rusty red ferruginous siltstone grains. Many vesicular grains suggesting leaching.
9.0 - 10.5m	Ferruginous siltstone with a little vein quartz.
10.5 - 12.0m	Ferruginous siltstone grains with more vein quartz.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above with a few vesicular grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 704

LOCATION: Northern Star
CO-ORDINATES: 1450E 2050N
TOTAL DEPTH: 15.0m
DATE: 11-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38853	7.5 - 15.0m	10	<5	25	25	1	5	50

GEOLOGICAL DATA

7.5 - 9.0m	Red ferruginous grains of siltstone with some lighter sandy coloured grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	Red ferruginous siltstone grains with a large grain of black hornfels.
12.0 - 13.5m	As above.
13.5 - 15.0m	Reddish purple grains of siltstone.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 705

LOCATION: Northern Star
CO-ORDINATES: 1400E 2050N
TOTAL DEPTH: 15.0m
DATE: 14-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38854	7.5 - 15.0m	10	< 5	50	25	1	10	45

GEOLOGICAL DATA

7.5 - 9.0m	Lightly ferruginised siltstone grains with a fair amount of vein quartz, some slickensided, long flat lamellar grains.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 706

LOCATION: Northern Star
CO-ORDINATES: 1400E 2100N
TOTAL DEPTH: 15.0m
DATE: 14-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u> <u>ppm:</u>	<u>Bi</u> <u>ppm:</u>	<u>Pb</u> <u>ppm:</u>	<u>Zn</u> <u>ppm:</u>	<u>Ag</u> <u>ppm:</u>	<u>Co</u> <u>ppm:</u>	<u>Mn</u> <u>ppm:</u>
38855	7.5 - 15.0m	10	< 5	60	17	< 1	15	30

GEOLOGICAL DATA

7.5 - 9.0m	Red and sandy coloured siltstone grains, tabular and lamellar grains and a little vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	As above with many more tabular and lamellar grains.
12.0 - 13.5m	As above.
13.5 - 15.0m	As above, but with less vein quartz but many flattened and lamellar grains.

T. Meehan
GEOLOGIST

AUSTRALIAN DEVELOPMENT LIMITED

JACRO DRILL HOLE

JDH 707

LOCATION: Northern Star
CO-ORDINATES: 1400E 2150N
TOTAL DEPTH: 15.0m
DATE: 16-9-1981
LOGGED BY: T. Meehan

ASSAY DATA

<u>Sample No:</u>	<u>Interval (m)</u>	<u>Cu</u>	<u>Bi</u>	<u>Pb</u>	<u>Zn</u>	<u>Ag</u>	<u>Co</u>	<u>Mn</u>
		<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>	<u>ppm:</u>
38856	7.5 - 15.0m	20	<5	35	20	3	5	10

GEOLOGICAL DATA

7.5 - 9.0m	Sandy siltstone with tabular vein quartz.
9.0 - 10.5m	As above.
10.5 - 12.0m	Sandy siltstone with tabular and lamellar grains with some tabular vein quartz and a few slickensides.
12.0 - 13.5m	As above but no slickensides seen.
13.5 - 15.0m	As above with a few grains of gypsum.

T. Meehan
GEOLOGIST

M.E.N.L. - DDH 14, 15, 15a, 16
17, 18, 19, & 20.

M/E
DDH 20.

GEOLOGICAL LOG (contd.)

DDH 20 Location N 4223.9 E 4907.5 Elev. 4967.7 Dip -79°
 Az. 0° 43'

From

0 - 13.0	<u>ALLUVIAL SAND</u>
13.0 - 522.0	<u>SHALE</u> pink, oxidised, fractured.
522.0 - 866.0	<u>SHALE</u> green grey, fractured.
866.0 - 1079.0	<u>SHALE</u> green grey to pink, chloritised.
1079.0 - 1083.0	<u>QUARTZ</u> vuggy with haematite and minor pyrite.
1083.0 - 1495.0	<u>SHALE</u> green grey to pink, occasional jasper and tuff bands cutting core at 40°.
1495.0 - 1531.0	<u>CHERT AND SHALE</u> grey black, local red chert, trace fine pyrite 1509-1531.
1531.0 - 1599.0	<u>QUARTZITE</u> white to pink, minor carbonate and talc chlorite. 1.
1599.0 - 1730.0	<u>SHALE</u> green grey, chloritised, strong fracturing at 25° - 30° to core, minor pyrite and chalcopryrite.
1730.0 - 1735.0	<u>SHALE WITH SULPHIDES</u> black, brecciated with chalcopryrite and pyrite.
1735.0 - 1918.0	<u>SHALE</u> green grey, chloritised, strong fracturing, minor pyrite and chalcopryrite.
1918.0 - 1995.0	<u>SHALE</u> grey, banded to green grey sections at 40° - 50° to core.

ASSAY DATA.

<u>From</u>	<u>To</u>	<u>Interval</u>	<u>Cu%</u>	<u>Product</u>
1705.5 - 1711.0	5.5	0.20	1.10	
1711.0 - 1714.0	3.0	0.10	0.42	
1714.0 - 1719.0	5.0	0.08	0.04	
1719.0 - 1725.0	6.0	0.15	0.90	
1725.0 - 1730.0	5.0	0.14	0.70	
1730.0 - 1735.0	5.0	40	27.00	
1735.0 - 1741.0	6.0	0.31	1.86	
1741.0 - 1746.0	5.0	0.26	1.30	
1746.0 - 1752.0	6.0	0.10	0.60	

CLIENT METALS EXPLORATION N. L.

HOLE NO. NS-19

PROJECT Northern Star

DATE October 26 - Nov 1/77

LOCATION OF COLLAR 4963 43 N 4658 93E 5000.21 Elev.

STRIKE (Vertical) DIP - 90° FINAL DEPTH 1200'

COMMENCED 10/26/77 COMPLETED 11/3/77 GEOLOGIST A. McGinn

Footage		Key	Observations	Sample No.	Assay % Cu
From	To				
0	178.5		SHALE, strong red limonitic staining to 120'. Some manganese staining.		
			Moderate fractures.		
			QUARTZ and shale breccia - veins common from 0-10'. Haematite vein about 1" wide 2.7'-3.0'. Occasional small haematite stringers as veinlets and joint fillings throughout. Oxidation colour changes to purple-grey near 120' then grey at 165'. Core bedding angles - 20° @ 20', 30° @ 30' and 120', 45° @ 135', 25° @ 140'		
			2.7 - 3.0 (0.8 - 0.2)	1	0.11
178.5	193	Δ	BRECCIATED SHALE; gossanous		
		Δ	haematite stringers throughout. Moderate fractures. Malachite occurs as stringers and coatings on joint planes from 181.5 to 193'. Gossan and malachite strongest between 181.5 and 185.5. Very little brecciation from 190-193'		
		Δ	(544 - 553) 178.5 - 181.5	2	5.8
		Δ	(- 556) 181.5 - 182.5	3	1.4
		Δ	(- 565) 182.5 - 185.5	4	9.5
		Δ	(- 573) LC ≈ 2' 185.5 - 190.0	5	2.7
		Δ	(- 600) LC ≈ 4' 190.0 - 197.0	6	0.48

NS-19

PAGE No. 72

Footage		K	Observations	Sample No.	Assay % Cu
from	to				
193	811		SHALE and interbedded tuff or greywacke bands; red to 197' then grey-white to 200'; thereafter light grey with occasional red oxidised joints. Light fractures throughout. PYRITE specks with dark grey mineral (galena?) common in light grey shale at 230'. Also in occasional bands to 250'. Sediments predominantly tuffaceous from 250' to 300'. Slump features in bedding near 282' and 600'. Thick tuff (?) beds from 541.5 to 544' and 545.5' to 546.5'. Trace of phyllitic rock at 710'. QUARTZ veinlets common between 591 and 595'. slickensides and quartz (in fault at 279.5). Two-inch quartz veinlets at 335, 341.5, 353.2, 406.5, 496.5, 663, 663.5. QUARTZ veins and slickensides 334.5 - 335.5 and minor brecciation 672-674'. Brecciated shale with small vugs and haematite in fillings from 694-695.5 (70 - 70.25) 229.5 - 230.5		
			Core bedding angles 20° @ 200', 0° @ 265, 20° @ 275, abrupt change to 45° @ 279.7, 60° @ 324, 45° @ 360, 60° @ 400', variations between 20° and 45° from 405 to 600, 15° @ 630' 7° @ 645, 30° @ 680, 5° @ 700', 0° between 720 and 790'.		
811	833		SHALE and interbedded TUFF BANDS; grey-green. Slickenside zones and pug common. 830 - 833 light fractures in grey shale. 811-818 LC, 824-829.5 L.C.		
833	852+	4	FAULT ZONE: grey-green shale, highly fractured with common green alteration, pug bands and shearing. Approximately 85% core recovery.		

Form No. 4517

Footage		K	Observations	Sample No.	Ass.
from	to				
860	1,200		SUALLE - massive for the most part. Grey with small isolated areas light green in colour.		
			Faint pink colour from 1,068 to approx. 1,100' and 1,152 to 1,168. Some haematite mineralisation over 3" at 1,068' with traces 8 feet either side. Pyrite in fracture at 1,094.5' also with noticeable pink colouration. Two quartz-rich bands 2" thick at 1,030 and 1,031'. Layers of siliceous veining from 1,151 to 1,184'.		
			Bedding 76° at 915' and 64° at 985'. Probable slump structures at approximately 1,025'.		
			Considerable fracturing of the core has taken place between 1,186 and 1,200'. This may have occurred during recovery in the barrel as the rock is still hard.		
			END OF HOLE		
			845-850 (251.6 - 252.1) 8	Cu	A
			895-900 (212.8 - 214.2) 9	Cu	
			945-950 (222 - 210.6) 10	Cu	A
			995-1,000 (302.3 - 304.2) 11	Cu	
			1,030-1,031 (313.9 - 314.2) 12	Cu	A
			(322.5 - 324) 1,058-1,063 12	Cu	A
			(324 - 325.2) 1,063-1,067.8 14	Cu	A
			(- 325.5) 1,067.8-1,068.1 15	Cu	
			(- 327) 1,068.1-1,073 16	Cu	A
			(- 328.6) 1,073-1,078 17	Cu	A
			(332.5 - 333.75) 1,094-1,095 18	Cu	
			(341.4 - 342.9) 1,120-1,125 19	Cu	
			(350.8 - 352.3) 1,151-1,156 20	Cu	
			(353.6 - 355.1) 1,160-1,165 21	Cu	
			(356.6 - 358.1) 1,170-1,175 22	Cu	
			(359.7 - 360.7) 1,180-1,184 23	Cu	
			(364.2 - 365.8) 1,195-1,200 24	Cu	

(1186
- 1200)

CLIENT METALS EXPLORATION N. L. HOLE No. NS-13
 PROJECT Northern Star DATE Jan 1967
 LOCATION OF COLLAR 5012.60 N 4920.50 E 4993.07 Elev.
 STRIKE — DIP — 90° FINAL DEPTH 1375'
 COMMENCED 24-10-66 COMPLETED 14-11-66 GEOLOGIST A. McGinn

Footage		Key	Observations	Sample No.	Assays	
From	To				%	
0	180		SHALE, mauve; light to moderate fractures throughout. Occasional manganese stains on fractures. Shale grey-purple from 100' to 160' and grey thereafter. Highly broken quartz vein at 20' and 2" vein at 152'. Schistosity and bedding on same strike at 10'; schistosity 0° to core, bedding 45° to core. Core bedding angles - 20° @ 40', 0° @ 50', 20° @ 70', 35° @ 95', 45° @ 160'. 0-10' 8' LC, 10-30' 15' LC, 30-35' 2.5' LC, 35-44 7' LC, 44-50 4' LC, 167-178 12' LC.			
180	181		QUARTZ vein with shale breccia inclusions			
			180-181 ()	1	0.18	
181	945		SHALE and interbedded tuff (?) bands; grey-green; light fractures throughout. Tuffaceous bed from 206 - 208'. Rock altered to dark green colour from 410 to 780' and 908 to 917; alteration commonly removes bedding features. Rock dark grey unaltered after 780' Malachite			

Footage		K	Observations	Sample No.	Assay % Cu
From	to				
181	945		staining on joints from 182-183' and at 195'.		
			Slump features on bedding planes near 680'.		
			Quartz stringers and veins common to 190,		
			201-202, 230.5-235, 367-374, 506-526, 664-668, 5,		
			736-750, 811-822, 830-850, 900, 903-917,		
			930-945. Shearing occurs at 631-632, 667-668,		
			770-773.5, 783-789, 843-844, 845 - 846, 900,		
			and 903'. Green pug occurs on the shears at		
			788 and 845'. Heavy fracture zones occur at		
			342-355, 367-374, 457, 477, 506-526, 556-563,		
			586-627, 811-822. Minor shearing with pug		
			occurs with the joints from 556-563 and 811-822.		
			Vugs are associated with some heavy fracture		
			zones. Core bedding angles - 45° at 220' and		
			350'. 30° at 400', 40° at 570', 30° at 695', 45°		
			at 680', 0° at 750', 5° at 800 and 880'		
			182 - 185 (50 gals)	2	0.42
			185 - 188	3	0.53
945	948		SHALE. Green alteration colour. Minor quartz		
			veins and shearing.		
948	950		QUARTZ and GREEN SHALE. Interwoven		
			appearance.		
950	1,012		SHALE and interbedded tuff (?). Grey to 970'		
			then grey-green to 1,028'. Moderate fractures		
			and occasional shearing and vugs throughout.		
			Heavy fractures with vugs and pug 978-983',		
			998-999'.		
1,012	1,028	Δ	FAULT ZONE; shale green and chloritised.		
		Δ	Minor haematitic colouring in parts. Occasional		
		Δ	quartz veins to 1,017, thence common to 1,023'.		
		Δ	Vugs common to 1,017'. Pug common from		
		Δ	1,017 to 1,023'.		
1,028	1,160		SHALE, grey with minor green patchy alteration		
			throughout. Quartz stringers common from		
			1,028-1,035, 1,051-1,056', 1,071-1,079,		
			1,081-1,082, 1,091.5 - 1,118, 1,132-1,160'.		
			Green alteration of the shale is commonly		
			associated with quartz veinlets and fractures.		

251/12
35.650
ref
well

(750)

for
1025

Footage		K	Observations	Sample No.	Assay
from	to				
1,023	1,160		Heavy fracturing occurs from 1,091.5-1,118'. Brecciated and indurated fault zone at 10° to core 1,037.5 - 1,091.5'. Shearing at 1,101-1,102'. 1,101-1,118.5'. Core - bedding angles 30° throughout.		
1,160	1,217.5	+	FAULTED SHALE; grey and commonly green from alteration where sheared. Quartz veins common. Heavy fracturing throughout. Soft and friable in part. Intense shearing and brecciation 1,160-1,187'. 1,200-1,215'		
		Δ	5.0 LC 1,160-1,170'	4	0.006
		Δ	5.0 LC 1,170-1,180' (3.5 LC)	5	0.004
		Δ	2.0 LC 1,180-1,187' (3.0 LC)	6	0.023
		Δ	2.0 LC 1,187-1,194' (2.5 LC)	7	0.010
		Δ	1,194-1,198' (2.5 LC)	8	0.001
		Δ	4.0 LC 1,198-1,206' (4.0 LC)	9	0.021
		Δ	3.5 LC 1,206-1,213.5	10	0.001
		Δ	1,213.5 - 1,217.5	11	0.003
1,238	1,315		QUARTZITE - mostly white in colour though pink from 1,294 to 1,315'. Sporadic thin beds of tuff present. Tuff generally chloritic. One larger bed from 1,305 to 1,307.5'. Bedding 20° at 1,315', vugs developed irregularly.		
1,315	1,325		TUFF, general chloritic alteration, 2" band of tuff and quartz breccia at 1,317.5'.		
1,325	1,339		QUARTZITE. White to pink. Thin tuffaceous looking veins and inclusions. Trace of haematite at 1,323'.		
1,339	1,350		TUFF - SHALE. Greenish colour changing to a darker grey colour. Gradational boundary from the quartzite above. Shale is fine-grained and hard.		
END OF HOLE					
			1,238 - 1,243	12	0.001
			1,255 - 1,260	13	
			1,270 - 1,275	14	0.001

R. HARE & ASSOCIATES - DRILL LOG

HOLE No. NS-18
PAGE No. 4

Form No. 4517

[illegible]

HOLE No. *NS-12*

DRILL HOLE GRADE CALCULATION SHEET

[illegible]

File 111.959

R. HARE & ASSOCIATES - DRILL LOG

Form 4516

CLIENT METALS EXPLORATION N.L. HOLE No. NS-17
PROJECT Northern Star DATE 7/9/66
LOCATION OF COLLAR 5020 N 4806 E 4995 - 49 Elev.
STRIKE DIP Vertical FINAL DEPTH 114
COMMENCED 22/7/66 COMPLETED 12/10/66 GEOLOGIST A. McCann

Footage		Key	Observations	Sample No.	Assay.
From	To				
0	123		SHALE - red and oxidised. Moderate to heavy fractures.		
123	127		QUARTZ with haematite stringers and shale breccia. Vuggy and very broken.		
			123 - 127	1	
127	130		SHALE - red. Highly fractured.		
130	134		QUARTZ with haematite stringers and shale breccia. Vuggy and very broken.		
			130 - 134	2	
134	150		SHALE - red to grey purple. Occasional narrow quartz stringers.		
150	162.5		QUARTZ with haematite stringers and shale breccia. Vuggy and very broken.		
			150 - 154	3	
			154 - 158	4	
			158 - 162.5	5	
162.5	166		SHALE Red and oxidised		
166	198.5		SHALE - Dark Grey. Occasional quartz stringers		
198.5	200		HAEMATITE band 2" wide at 15° to core		
			198.5 - 200	6	
200	210		SHALE - grey/red slightly oxidised several quartz veins up to 3" wide		

Footage from to	K	Observations	Sample No.	Assay Cu
210	264	SHALE and strongly sericitic (phyllite) rock. Some slaty bands. Shale bands light grey. Phyllite light green to pinky grey. Highly sheared at low core angles. Malachite staining from 234-238 on joint planes. Trace - slight chalcopryrite 243 - 264 Chalco occurs disseminated in shale. Core 0°-20°		
		234 (713)		
		234 - 238 (72.5)	7	0.10
		238 - 243 (74.1)	8	0.11
		243 - 248 (75.6)	9	0.13
		248 - 253 (77.1)	10	0.19
		253 - 258 (78.6)	11	0.26
		258 - 261 (79.6)	12	0.19
		261 - 264 (80.6)	13	0.24
264	264.5	QUARTZ HAEMATITE 0.3 L.C.		
		264-264.5 (80.6)	14	0.01
264.5	952.6	SHALE with some coarser bands (possibly tuff). Dark grey with minor greenish or reddish patches. Very finely divided pyrite? in shale bands from approx. 375' to 510' becoming rarer after 510'. Core angles approx. 20° from 270' to 300'; 0°-5° from 300' to 600'; then variable from 0° to 20° to 952.6. Fractures mainly light to moderate throughout. Highly fractured slate 309-312.5 and 360 - 952.6. Quartz veins in shear from 351 - 355. Slickensiding and some phyllitic rock from 860-952 and small quartz stringers common from 860 to 890. Slight chalcopryrite from 264.5 to 348. Occasional very small stringers of quartz and occasional chalco. Chalco occurs as elongated blebs disseminated through shale along and across bedding planes, also as blebs in quartz veins. Mainly trace pyrite and some chalco on cleavage planes from 348 - 372 approx.		

351-40

810-8

Footage		K	Observations	Sample No.	Assay % Cu
from	to				
264.5	952.6		264.5 - 270 22.7	15	0.25
			270 - 275 23.2	16	0.20
			275 - 280 23.5	17	0.20
			280 - 285 26.0	18	0.20
			285 - 290 22.4	19	0.22
			290 - 295 23.0	20	0.27
			295 - 300 21.4	21	0.22
			300 - 305 21.5	22	0.22
			305 - 310 24.5	23	0.20
			310 - 315 20	24	0.28
			315 - 320 21.5	25	0.25
			320 - 325 23	26	0.40
			325 - 330 23.6	27	0.47
			330 - 335 22.1	28	0.30
			335 - 340 22.0	29	0.20
			340 - 345 22.2	30	0.42
			345 - 350 20.7	31	0.26
			350 - 355 22.2	32	0.01
			355 - 360 23.7	33	0.01
			360 - 385 22.2 27.3	34	0.01
			420 - 425 22.8 - 23.5	35	0.01
			460 - 465 23.2 - 24.7	36	0.01
			500 - 505 22.4 - 22.5	37	0.01
			940 - 945 22.5 - 22.4	38	
			945 - 950 (22.6)	39	
952.6	955		SHALE, quartz, and jasper; Brecciated; Occasional speck of chalcopyrite. 2.0 L C		
			950 - 955 25.0	40	
955	955.7		QUARTZ jasper with small remnants of greenish shale		
955.7	960.3		HAEMATITE, Black. Minor quartz jasper blebs, slight chalcopyrite on fractures, vugs, and disseminated. Some chalcopyrite is secondary. Transitional to following.		
			955 - 960	41	
960.3	967		QUARTZ, banded with minor jasper and haematite. Rare trace chalco.		
			960 - 965	42	

Form No. 4517

Footage		K	Observations	Sample		Assn.
from	to			Noted As	As	
967	969.5		JASPER and minor black haematite. Slight chalco in vugs and fractures			
			965 - 970 (296.1 - 295.7)	43	21.20	0.00
969.5	976		QUARTZ, banded with minor jasper and haematite			
976	979		MAGNETITE and jasper; light-medium disseminated			
			970 - 975 297.2	44	21.40	0.01
			Chalco in barite vein at 979			
			975 - 980 298.7	45	21.20	0.07
979	981.5		HAEMATITE (black) minor quartz and jasper			
981.5	984		QUARTZ, banded with jasper and haematite			
			980 - 985 300.2	46	21.20	0.00
984	985		HAEMATITE, black. Minor quartz and jasper.			
			Barite vein at 985			
985	986.5		MAGNETITE and jasper. Minor quartz and barite.			
986.5	988.5		HAEMATITE and jasper. Minor quartz trace chalcopyrite			
			985 - 990 301.7	47	21.20	0.01
988.5	993		MAGNETITE and jasper. Minor quartz and barite			
993	995.2		QUARTZ, haematite and jasper, banded in part. Occasional bleb of chalco			
			990 - 995 303.2	48	21.20	0.01
995.2	997.5		BARITE; minor haematite stringers			
997.5	999		BANDED QUARTZ, minor jasper and haematite			
			995 - 1000 304.8	49	21.20	0.00
999	999.5		HAEMATITE, jasper and quartz, slight chalco.			
999.5	1007		BANDED QUARTZ, minor jasper and haematite			
			1000 - 1005 306.3	50	21.20	0.00
1007	1014		MAGNETITE - haematite with minor quartz and jasper. Trace chalcopyrite			
			1005 - 1010 307.8	51	21.20	0.01
			1010 - 1015 309.3	52	21.20	0.00
1014	1017		BANDED QUARTZ and minor jasper and haematite			
1017	1023.5		MAGNETITE, haematite, jasper and quartz. Barite veins common with large blebs of chalco. as at 1018.5 and 1020 feet			

R. HARE & ASSOCIATES - DRILL LOG

HOLE No. 5

PAGE No. 5

Form No. 4517

Footage		K	Observations	Sample No.	Assay
from	to				
			1015 - 1020	63	2.022.0.002.40
			1020 - 1025	54	2.022.0.002.40
1023.5	1027.5	5	BANDED QUARTZ, CALCITE-DOLOMITE and minor jasper. Trace chalco.		
			1025 - 1030	55	4.06.0.002.40
1028	1051.5		BANDED QUARTZ and CALCITE-DOLOMITE. Minor haematite with dolomite stringers. Occasional trace chalco		
			1030 - 1035	56	2.022.0.002.40
			HAEMATITE up to 50% at 1041.43, 1044-1044.5, 1046-1048, 1050-1050.5		
			Occasional bleb chalco throughout occurs in Dolomite veinlets		
			1035 - 1040	57	2.022.0.002.40
			1040 - 1045	58	4.06.0.002.40
			1045 - 1050	59	4.06.0.002.40
1051.5	1054		BANDED MAGNETITE, CALCITE-DOLOMITE and QUARTZ. Light chalco in magnetite		
			1050 - 1055	60	2.022.0.002.40
1054	1058.5		BANDED QUARTZ, HAEMATITE and CALCITE DOLOMITE		
			1055 - 1060	61	2.022.0.002.40
1058.5	1059.5		DOLOMITE vein at 20° to core. Minor haematite blebs. Trace chalco.		
1059.5	1060		HAEMATITE, massive		
1060	1062.5		BANDED HAEMATITE, QUARTZ and CALCITE DOLOMITE. Minor jasper. Trace - slight -		
			1060 - 1065		

R. HARE & ASSOCIATES - DRILL LOG				NS-17-10-108				HCOB Section.....			
Form No. 4517								PAGE No.....			
Footage		K	Observations	Sample		Assay					
from	to			No.	By	Cu	Pb	Zn			
1062.5	1065.5		DOLOMITE-CALCITE bands (6 -70%) with HAEMATITE and minor magnetite veins and patches; probably 5-10% quartz as veins throughout. Occasional trace speck chalcoppyrite, but large bleb in dolomite veinlet at 1064.2								
1065	1066.3		HAEMATITE-MAGNETITE (50% combined) as massive patches with veins of quartz (10%) and dolomite-calcite (10%). Minor jasper; occasional trace chalcoppyrite.								
1066.3	1067.4		CALCITE-DOLOMITE (90%) and HAEMATITE-MAGNETITE veinlets (10%). Occasional trace of chalcoppyrite.								
1067.4	1069		MAGNETITE and very minor QUARTZ. Chalcoppyrite (2-5%) as discontinuous stringers.								
1069	1069.4		DOLOMITE CALCITE vein. Trace chalcoppyrite.								
1069.4	1071.5		MAGNETITE (as for 1067.4-1069)								
1071.5	1072.4		MAGNETITE (as above) but about 5-10% chalcoppyrite.								
1072.4	1072.8		MAGNETITE (50%) and CHALCOPPYRITE (50%) massive and as inter-threaded veinlets.								
1072.8	1073.3		HAEMATITE-MAGNETITE (75% combined) QUARTZ and CALCITE DOLOMITE (20%) as blebs and stringers. About 50% chalc. Trace of chlorite rock with chalc veins								
			1070-1075 (326.1 - 327.6)	64	9.0	0.07	0.04	0.04			
			1075-1080 (327.6 - 329.2)	65	9.0	0.07	0.04	0.04			
1073.3	1076.3		CHLORITIC ROCK; black green and HAEMATITE MAGNETITE veins. Very minor quartz. CHALCOPPYRITE (15-20%) as veinlets and massive.								
1076.3	1082.6		CHLORITIC ROCK; black green, very minor QUARTZ; slickensides common at 45° to core CHALCOPPYRITE (15-20%).								
1082.6	1084		CHALCOPPYRITE (70%); dark green CHLORITIC ROCK (30%) chalc massive with chloritic rock as brecciated inclusions.								

1073

20

1025

DIAMOND DRILL HOLE 15a

North Star

Wedged off DDH 15 at 760 feet. It was deflected with a casing wedge with the intent to deflect to the south of DDH 15.

<u>Surveys</u>	<u>Depth</u>	<u>Depression</u>	<u>Bearing</u>
acid	750'	79°	
acid	780'	78°	
Tropari	810'	76°	85°
Tropari	810'	78°	70°
Tropari	830'	78°	78°
Tropari	830'	78°	78°
Tropari	830'	75°	85°
Tropari	840'	76°	85°
Tropari	840'	79°	78°
acid	840'	77°	
acid	900'	77°	

<u>Footage</u>	<u>Recovery</u>	<u>Description</u>
760' - 783'6"	10'7"	black chlorite phyllitic mudstone - rare pyrite
783'6" - 845'	11'3"	black phyllitic mudstone - thin quartz veinlets with some chlorite - some thin bands of talc (?) - hematite along joint planes
845' - 887'7"	12'4"	black phyllitic mudstone as above - thin discontinuous quartz veinlets - some contorted and brecciation near 882 feet
887'7" - 897'	4'5"	quartz - hematite lode - rare pyrite and chalcopryrite - some quartz has filled fractures
897' - 904'	7'	magnetite lode with introduced quartz and chlorite - rare chalcopryrite - recrystallized calcite veinlet - rare bismuthinite
904' - 915'	11'	massive magnetite with thin irregular calcite and rare sulfides - some quartz and chlorite
915' - 926'	10'8"	magnetite - chlorite lode - thin quartz and calcite veinlets - rare sulfides associated with brecciation
926' - 957'9"	27'1"	magnetite lode with quartz and calcite veinlets - rare jasper - some calcite fracture fillings - pyrite associated with calcite
26 31'9"		

2.

7 12' 3"

Footage

Recovery

Description

957'9" - 970'

19'9"

magnetite - chlorite lode - calcite and
chlorite veinlets - rare pyrite and
chalcopryrite

970' - 983'

8'2"

magnetite lode with calcite and quartz
veins - nearly solid calcite between
973 and 975 feet

HOLE ABANDONED

970
957'9"
12'3"

ASSAY RESULTS - D.D.H. 15a NORTHERN STAR

<u>Footage</u>	<u>Gold (dwts)</u>	<u>Copper (%)</u>
872 - 877	Trace	Not Determined
877 - 887	Trace	" "
887 - 892	0.2	Trace
892 - 897	Trace	Trace
897 - 902	0.4	Not Determined
902 - 906	4 6.4)	Not Determined
906 - 911	5 40.4)	" "
911 - 916	5 5.3)	" "
916 - 921	5 2.6	" "
921 - 926	0.6	" "
926 - 931	0.3	" "
931 - 936	Trace	" "
936 - 941	Trace	" "
941 - 946	Trace	" "
946 - 951	0.2	" "
951 - 956	Trace	" "
956 - 961	Trace	" "
961 - 966	0.4	" "
966 - 971	Trace	" "
971 - 976	Trace	" "
976 - 981	Nil	" "
981 - 983	Trace	" "

~~15 x 17.74~~
 19x 14.06.
 14x 18.15.

15

DIAMOND DRILL HOLE 15

Course: Vertical

Northern Slope

<u>Surveys</u>	<u>Depth</u>	<u>Depression</u>	<u>Bearing</u>
acid	450	88°	
acid	475	88°	
acid	500	88°	
acid	550	84½°	
Tropari	550	83°	110°
acid	600	83°	
acid	650	82°	
acid	700	81°	
Tropari	700	80°	105°
acid	750	80°	
acid	800	80°	
acid	848	77°	
Tropari	848	77°	80°
acid	900	77°	

The Tropari reading at 848 feet may have been affected by the lode.

<u>Footage</u>	<u>Description of core</u>
0' - 85'	mudstone and fine-grained sandstone-thin bedded and alternating - occasional hematite shale - manganese staining on bedding planes.
85' - 385'	mainly massive mudstone with some fine-grained greywacke-base of strong oxidation at 214 feet - partial oxidation at 296 feet.
385' - 399'	mudstone with shearing and cleavage parallel to core.
399' - 513'	mudstone and fine-grained sandstone - very thin bedded and alternating-quartz stringers and rare pyrite on cleavage planes - some slump zones - bedding/core angle = 60°.
513' - 643'	mudstone with very thin bands of fine greywacke - hematite, pyrite, and chalcoppyrite on cleavage planes - bedding/core angle = 15°.
643' - 889'	mudstone with rare thin-bedded greywacke - occasional irregular quartz stringers with some chlorite - shear zone from 727 to 729 feet.
889' - 969'	magnetite with irregular quartz stringers - very rare pyrite and chalcoppyrite.
969' - 973'	quartz hematite with abundant chlorite.

<u>Footage</u>	<u>Description of Core</u>
973' - 983'	calcite with abundant hematite -
983' - 1023'	calcite with contorted bands of hematite and quartz
1023' - 1027'	hematite with minor quartz and calcite
1027' - 1029'	calcite with contorted bands of hematite and quartz
1029' - 1036'	hematite with minor quartz and calcite - contorted quartz band between 1034 and 1035 feet.
1036' - 1058'	magnetite with rare bands of quartz and calcite - rare bismuthinite
1058' - 1080'	very fine-grained chlorite rich mudstone - rare pyrite - some quartz bands - slickensides at 1078'
1080' - 1107'	chlorite mudstone with magnetite in patches and irregular quartz stringers

END OF HOLE

ASSAY RESULTS - D.D.H. 15. NORTHERN STAR

<u>Footage</u>	<u>Copper (%)</u>	<u>Gold (dwts)</u>	<u>Bismuth (%)</u>
265 2 m 870 - 875		Nil	Not Determined
875 - 880		"	" "
880 - 885		"	" "
885 - 890		"	" "
890 - 895		Trace	" "
895 - 900	0.2	31.5	0.155
900 - 905	Trace	23.4	0.089
905 - 910	Trace	56.9	0.082
910 - 915	Trace	21.4	0.038
915 - 920	0.25	3.1	0.057
920 - 925	Trace	4.3	0.014
925 - 930	Trace	0.3	0.004
930 - 935		Trace	0.002
935 - 940		"	0.001-
940 - 945		"	0.001
945 - 950		"	0.001-
950 - 955		"	0.001-
955 - 960		Nil	Not Determined
960 - 965		Nil	" "
965 - 970		0.5	" "
970 - 975		Trace	" "
975 - 980		Nil	" "
980 - 982'6"		"	" "
982'6" - 985		"	" "
985 - 990		"	" "
990 - 995		"	" "
995 - 1000		"	" "
1000 - 1005		"	" "
1005 - 1010		"	" "
1010 - 1015		"	" "
1015 - 1020		"	0.007
1020 - 1025		"	0.005
1025 - 1030		"	0.001-
1030 - 1035		"	0.012
1035 - 1040	Trace	2.9	0.54
1040 - 1045	Nil	5.4	1.48
1045 - 1051	Nil	0.5	0.175
1051 - 1055		0.6	Not Determine
1055 - 1060		Trace	" "
1060 - 1065		"	" "
1065 - 1070		0.5	" "
1070 - 1075		0.9	" "

DIAMOND DRILL HOLE 14' *North Hill Sta.*

(Logged by J. ELLISTON, GEOPEKO)

<u>Course</u>	<u>Vertical</u>		
<u>Surveys</u>	<u>Depth</u>	<u>Depression</u>	<u>Bearing</u>
acid	50'	88°	
acid	100'	87°	
acid	200'	86°	
acid	278'	88°	
acid	320'	88°	
Tropari	520'	84°	154°
acid	581'	84°	
acid	585'	83°	
acid	595'	84°	
Tropari	610'	85°	145°
acid	613'	82°20'	
acid	630'	82°	
acid	640'	82°40'	
acid	680'	81°30'	
acid	690'	83°	
acid	740'	82°	
acid	800'	81°30'	
Tropari	850'	82°	130°

<u>Footage</u>	<u>Description</u>
0' - 146'	siliceous quartz hematite - some jasper - some hematite gossan - traces of boxworks -
146' - 241'6"	44.5m slate with rare interbedded greywackes - pyrite pits - stringer of quartz - hematite at 172'6"
241'6" - 315'	74m interbedded slate and greywacke - malachite and cuprite on shear planes at 264'6" -
315' - 376'	115 grey slate with fine bands of tuffaceous greywacke - fluffy limonite in the pits and vugs - red cuprite on shear planes at 374 feet.
376' - 495'6"	251.5m interbedded dark slate and very fine greywacke - faults at 409' and 420' with quartz on the fault planes -

DDH 14

FootageDescription

495'6" - 620'	189	dark grey slate with occasional fine stringers of greywacke - quartz vein at 510' - sheared and mylonitized zones between 502-540 and 554-580 feet - crushed zones at 587 and 610-616 feet.
620' - 724'	221	slates is mylonitized and crushed - also slightly contorted - supergene pyrite on cleavage planes -
724' - 750'	222	dark grey slate - less disturbed than above - increasing chlorite bands of very contorted breccia
750' - 791'	241	increasing amount of supergene secondary siliceous material on cleavage planes in grey slates - some slightly contorted - quartz vein from 790 to 791 feet
791' - 945'	288	dark grey contorted slates - rare small stringers of quartz and hematite - rare flecks of pyrite and chalcopryrite
945' - 959'	292	sheared chlorite material becoming increasingly more silicified - rare sulfides -
959' - 967'3"		fine grained magnetite with abundant quartz stringers - some red jasper and rare sulfides - some inclusions of chloritic schist -
967'3" - 969'		very contorted chlorite schist impregnated with sulfides
969' - 997'		dense quartz - magnetite with sulfides and sparse quartz stringers
997' - 1016'		black polished chlorite schist with rare sulfides - turning to grey slates at depth
1016' - 1040'		not recorded.

END OF HOLE

Adrian
DDH 14