60000717

Mining District File Summary Sheet

DISTRICT	Rosebud
DIST_NO	4010
COUNTY If different from written on document	Pershing
TITLE If not obvious	Rosebud Drill Hole File - Hole No. RS-490-99
AUTHOR	L. Mackedon; K. Allen; B. Morris; D. School V. Reid
DATE OF DOC(S)	2000
MULTI_DIST Y / N? Additional Dist_Nos:	
QUAD_NAME	Sulphur 7.5'
P_M_C_NAME (mine, claim & company names)	Rosebud Mine; Rosebud Mining Co. LLC; Hecla Mining Co.; Rosebud Project
COMMODITY If not obvious	gold; silver
NOTES	Geochemistry; receipts; assay; total depth 1600' directional survey 68p

Keep docs at about 250 pages if no oversized maps attached
(for every 1 oversized page (>11x17) with text reduce
the amount of pages by ~25)

SS: DD 4/29/08
Initials Date
DB:
Initials Date
SCANNED:
Initials Date

Revised: 1/22/08

RS-490

60000717

6000 6717

American Assay Laboratories

INVOICE

Remit To: P.O. Box11530
Reno, Nevada 89510
Phone NO.: 702-356-0606
Fax No.: 702-356-1413

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431-5902

(775) 356-0606

INVOICE NO: SP 0056109-IN
INVOICE DATE: 03/31/00

INVOICE TO:
THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

THE ROSEBUD MINING CO., LLC
HECLA MINING COMPANY, OPERATOR
P.O. BOX 2610
WINNEMUCCA NV 89446

CUSTOMER P.O.	PROJECT	TERMS
RS-490	WILDROSE SOUTH	NET 30 - DUE IN U.S. DOLLARS

QUANTITY	DESCRIPTION	PRICE	AMOUNT
321	SAMPLES RECEIVED	.00	.00
1	NO PREPARATION REQUIRED	.00	.00
320	DRY/JAW CRUSH ENTIRE SAMPLE	2.30	736.00
320	SPLITTING CHARGE	2.40	768.00
320	RING/PUCK MILL	2.00	640.00
321	Au (1 A.T. FIRE ASSAY)	8.00	2,568.00
321	HYDROCHLORIC/NITRIC DIGESTION	2.00	642.00
321	Ag ANALYSES	1.00	321.00
320	COMPOSITE CHARGE	1.25	400.00
81	MULTI-ELEMENT ICP PACKAGE	13.75	1,113.75

86-2510-477

NET INVOICE:	7,188.75
LESS DISCOUNT:	2,516.06
FREIGHT:	.00
INVOICE TOTAL:	4,672.69

xAMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: RS-490 RECEIVED : 16 FEB 2000

No. SAMPLES : 321 REPORTED : 30 MAR 2000

MAIN SAMPLE TYPE : DRILL CUTTINGS

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

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ANALYSIS REPORT SP056109

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CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0000-0005	5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0005-0010	<5		<0.001		<0.5	<0.02
RS-490 0010-0015	<5		<0.001		<0.5	<0.02
RS-490 0015-0020	<5		<0.001		<0.5	<0.02
RS-490 0020-0025	<5		<0.001		<0.5	<0.02
RS-490 0025-0030	<5		<0.001		<0.5	<0.02
RS-490 0030-0035	<5		<0.001		<0.5	<0.02
RS-490 0035-0040	13		<0.001		<0.5	<0.02
RS-490 0040-0045	15		<0.001		<0.5	<0.02
RS-490 0045-0050	55		0.002		3.5	0.10
RS-490 0050-0055	<5		<0.001		<0.5	<0.02
RS-490 0055-0060	<5		<0.001		<0.5	<0.02
RS-490 0060-0065	<5		<0.001		<0.5	<0.02
RS-490 0065-0070	<5		<0.001		<0.5	<0.02
RS-490 0070-0075	<5		<0.001		<0.5	<0.02
RS-490 0075-0080	<5		<0.001		<0.5	<0.02
RS-490 0080-0085	<5		<0.001		<0.5	<0.02
RS-490 0085-0090	<5		<0.001		<0.5	<0.02
RS-490 0090-0095	14		<0.001		<0.5	<0.02
RS-490 0095-0100	59		0.002		<0.5	<0.02
RS-490 0100-0105	<5		<0.001		<0.5	<0.02
RS-490 0105-0110	<5		<0.001		<0.5	<0.02
RS-490 0110-0115	<5		<0.001		<0.5	<0.02
RS-490 0115-0120	<5		<0.001		<0.5	<0.02
RS-490 0120-0125	<5		<0.001		<0.5	<0.02

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ANALYSIS REPORT SP056109

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REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0125-0130	<5		<0.001		<0.5	<0.02
RS-490 0130-0135	<5		<0.001		<0.5	<0.02
RS-490 0135-0140	<5		<0.001		<0.5	<0.02
RS-490 0140-0145	<5		<0.001		<0.5	<0.02
RS-490 0145-0150	<5		<0.001		<0.5	<0.02
RS-490 0150-0155	<5		<0.001		<0.5	<0.02
RS-490 0155-0160	<5		<0.001		<0.5	<0.02
RS-490 0160-0165	<5		<0.001		0.7	0.02
RS-490 0165-0170	<5		<0.001		2.4	0.07
RS-490 0170-0175	<5		<0.001		<0.5	<0.02
RS-490 0175-0180	<5		<0.001		<0.5	<0.02
RS-490 0180-0185	<5		<0.001		<0.5	<0.02
RS-490 0185-0190	<5		<0.001		0.5	<0.02
RS-490 0190-0195	<5		<0.001		<0.5	<0.02
RS-490 0195-0200	<5		<0.001		<0.5	<0.02
RS-490 0200-0205	<5		<0.001		<0.5	<0.02
RS-490 0205-0210	<5		<0.001		<0.5	<0.02
RS-490 0210-0215	<5		<0.001		<0.5	<0.02
RS-490 0215-0220	<5		<0.001		<0.5	<0.02
RS-490 0220-0225	<5		<0.001		<0.5	<0.02
RS-490 0225-0230	<5		<0.001		<0.5	<0.02
RS-490 0230-0235	<5		<0.001		<0.5	<0.02
RS-490 0235-0240	<5		<0.001		<0.5	<0.02
RS-490 0240-0245	<5		<0.001		<0.5	<0.02
RS-490 0245-0250	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

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REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0250-0255	<5		<0.001		<0.5	<0.02
RS-490 0255-0260	40		0.001		0.8	0.02
RS-490 0260-0265	<5		<0.001		<0.5	<0.02
RS-490 0265-0270	<5		<0.001		<0.5	<0.02
RS-490 0270-0275	<5		<0.001		<0.5	<0.02
RS-490 0275-0280	<5		<0.001		<0.5	<0.02
RS-490 0280-0285	<5		<0.001		<0.5	<0.02
RS-490 0285-0290	<5		<0.001		<0.5	<0.02
RS-490 0290-0295	<5		<0.001		<0.5	<0.02
RS-490 0295-0300	<5		<0.001		<0.5	<0.02
RS-490 0300-0305	23		<0.001		<0.5	<0.02
RS-490 0305-0310	126	138	0.004	0.004	<0.5	<0.02
RS-490 0310-0315	56		0.002		0.6	<0.02
RS-490 0315-0320	42	50	0.001	0.001	<0.5	<0.02
RS-490 0320-0325	5		<0.001		<0.5	<0.02
RS-490 0325-0330	39		0.001		<0.5	<0.02
RS-490 0330-0335	51		0.001		0.6	<0.02
RS-490 0335-0340	41		0.001		<0.5	<0.02
RS-490 0340-0345	9	16	<0.001	<0.001	<0.5	<0.02
RS-490 0345-0350	<5		<0.001		<0.5	<0.02
RS-490 0350-0355	<5		<0.001		<0.5	<0.02
RS-490 0355-0360	51		0.001		<0.5	<0.02
RS-490 0360-0365	82	87	0.002	0.003	<0.5	<0.02
RS-490 0365-0370	26		<0.001		<0.5	<0.02
RS-490 0370-0375	5	6	<0.001	<0.001	<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

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PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0375-0380	<5		<0.001		<0.5	<0.02
RS-490 0380-0385	28		<0.001		0.6	<0.02
RS-490 0385-0390	30		<0.001		0.6	<0.02
RS-490 0390-0395	30		<0.001		0.7	0.02
RS-490 0395-0400	<5		<0.001		<0.5	<0.02
RS-490 0400-0405	11		<0.001		<0.5	<0.02
RS-490 0405-0410	<5		<0.001		<0.5	<0.02
RS-490 0410-0415	13	12	<0.001	<0.001	<0.5	<0.02
RS-490 0415-0420	20	22	<0.001	<0.001	<0.5	<0.02
RS-490 0420-0425	20		<0.001		<0.5	<0.02
RS-490 0425-0430	129	148	0.004	0.004	1.9	0.06
RS-490 0430-0435	306		0.009		1.4	0.04
RS-490 0435-0440	220	221	0.006	0.006	1.0	0.03
RS-490 0440-0445	137		0.004		0.6	<0.02
RS-490 0445-0450	218		0.006		0.9	0.03
RS-490 0450-0455	330	335	0.010	0.010	2.6	0.08
RS-490 0455-0460	324		0.009		2.8	0.08
RS-490 0460-0465	36		0.001		<0.5	<0.02
RS-490 0465-0470	10		<0.001		<0.5	<0.02
RS-490 0470-0475	86		0.003		1.0	0.03
RS-490 0475-0480	8		<0.001		<0.5	<0.02
RS-490 0480-0485	10		<0.001		<0.5	<0.02
RS-490 0485-0490	6		<0.001		<0.5	<0.02
RS-490 0490-0495	<5		<0.001		<0.5	<0.02
RS-490 0495-0500	<5		<0.001		<0.5	<0.02

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0500-0505	<5		<0.001		<0.5	<0.02
RS-490 0505-0510	<5		<0.001		<0.5	<0.02
RS-490 0510-0515	<5		<0.001		<0.5	<0.02
RS-490 0515-0520	<5		<0.001		<0.5	<0.02
RS-490 0520-0525	5		<0.001		<0.5	<0.02
RS-490 0525-0530	<5		<0.001		<0.5	<0.02
RS-490 0530-0535	<5		<0.001		<0.5	<0.02
RS-490 0535-0540	45	38	0.001	0.001	0.5	<0.02
RS-490 0540-0545	6		<0.001		0.5	<0.02
RS-490 0545-0550	8		<0.001		<0.5	<0.02
RS-490 0550-0555	82		0.002		0.5	<0.02
RS-490 0555-0560	8		<0.001		<0.5	<0.02
RS-490 0560-0565	<5		<0.001		<0.5	<0.02
RS-490 0565-0570	<5		<0.001		<0.5	<0.02
RS-490 0570-0575	<5		<0.001		<0.5	<0.02
RS-490 0575-0580	13		<0.001		<0.5	<0.02
RS-490 0580-0585	15		<0.001		<0.5	<0.02
RS-490 0585-0590	5		<0.001		<0.5	<0.02
RS-490 0590-0595	6		<0.001		<0.5	<0.02
RS-490 0595-0600	44		0.001		0.6	<0.02
RS-490 0600-0605	7		<0.001		<0.5	<0.02
RS-490 0605-0610	<5		<0.001		<0.5	<0.02
RS-490 0610-0615	<5		<0.001		<0.5	<0.02
RS-490 0615-0620	24	28	<0.001	<0.001	<0.5	<0.02
RS-490 0620-0625	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

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REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0625-0630	<5		<0.001		<0.5	<0.02
RS-490 0630-0635	<5		<0.001		<0.5	<0.02
RS-490 0635-0640	<5		<0.001		<0.5	<0.02
RS-490 0640-0645	<5		<0.001		<0.5	<0.02
RS-490 0645-0650	6		<0.001		<0.5	<0.02
RS-490 0650-0655	35	27	0.001	<0.001	<0.5	<0.02
RS-490 0655-0660	50	42	0.001	0.001	0.5	<0.02
RS-490 0660-0665	32	20	<0.001	<0.001	<0.5	<0.02
RS-490 0665-0670	10		<0.001		<0.5	<0.02
RS-490 0670-0675	8		<0.001		<0.5	<0.02
RS-490 0675-0680	<5		<0.001		<0.5	<0.02
RS-490 0680-0685	5		<0.001		<0.5	<0.02
RS-490 0685-0690	6		<0.001		<0.5	<0.02
RS-490 0690-0695	10		<0.001		<0.5	<0.02
RS-490 0695-0700	8		<0.001		<0.5	<0.02
RS-490 0700-0705	6		<0.001		<0.5	<0.02
RS-490 0705-0710	5		<0.001		<0.5	<0.02
RS-490 0710-0715	<5		<0.001		<0.5	<0.02
RS-490 0715-0720	5		<0.001		<0.5	<0.02
RS-490 0720-0725	<5		<0.001		<0.5	<0.02
RS-490 0725-0730	6		<0.001		<0.5	<0.02
RS-490 0730-0735	5		<0.001		<0.5	<0.02
RS-490 0735-0740	5		<0.001		<0.5	<0.02
RS-490 0740-0745	7		<0.001		<0.5	<0.02
RS-490 0745-0750	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0750-0755	<5		<0.001		<0.5	<0.02
RS-490 0755-0760	<5		<0.001		<0.5	<0.02
RS-490 0760-0765	<5		<0.001		<0.5	<0.02
RS-490 0765-0770	<5		<0.001		<0.5	<0.02
RS-490 0770-0775	5		<0.001		<0.5	<0.02
RS-490 0775-0780	<5		<0.001		<0.5	<0.02
RS-490 0780-0785	5		<0.001		<0.5	<0.02
RS-490 0785-0790	6		<0.001		<0.5	<0.02
RS-490 0790-0795	6		<0.001		<0.5	<0.02
RS-490 0795-0800	<5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0800-0805	10		<0.001		<0.5	<0.02
RS-490 0805-0810	7		<0.001		<0.5	<0.02
RS-490 0810-0815	<5		<0.001		<0.5	<0.02
RS-490 0815-0820	<5		<0.001		<0.5	<0.02
RS-490 0820-0825	<5		<0.001		<0.5	<0.02
RS-490 0825-0830	6	<5	<0.001	<0.001	<0.5	<0.02
RS-490 0830-0835	7		<0.001		<0.5	<0.02
RS-490 0835-0840	<5		<0.001		<0.5	<0.02
RS-490 0840-0845	<5		<0.001		<0.5	<0.02
RS-490 0845-0850	<5		<0.001		<0.5	<0.02
RS-490 0850-0855	<5		<0.001		<0.5	<0.02
RS-490 0855-0860	<5		<0.001		<0.5	<0.02
RS-490 0860-0865	<5		<0.001		<0.5	<0.02
RS-490 0865-0870	6		<0.001		<0.5	<0.02
RS-490 0870-0875	67	75	0.002	0.002	<0.5	<0.02

AMERICAN ASSAY LABORATORIES

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0875-0880	61		0.002		<0.5	<0.02
RS-490 0880-0885	83		0.002		0.7	0.02
RS-490 0885-0890	54		0.002		0.6	<0.02
RS-490 0890-0895	124		0.004		0.8	0.02
RS-490 0895-0900	61		0.002		<0.5	<0.02
RS-490 0900-0905	20		<0.001		<0.5	<0.02
RS-490 0905-0910	90	100	0.003	0.003	0.8	0.02
RS-490 0910-0915	68		0.002		0.8	0.02
RS-490 0915-0920	40		0.001		<0.5	<0.02
RS-490 0920-0925	<5		<0.001		<0.5	<0.02
RS-490 0925-0930	<5		<0.001		<0.5	<0.02
RS-490 0930-0935	<5		<0.001		<0.5	<0.02
RS-490 0935-0940	7		<0.001		<0.5	<0.02
RS-490 0940-0945	8	12	<0.001	<0.001	<0.5	<0.02
RS-490 0945-0950	103		0.003		0.5	<0.02
RS-490 0950-0955	126	136	0.004	0.004	0.9	0.03
RS-490 0955-0960	159	170	0.005	0.005	1.6	0.05
RS-490 0960-0965	161		0.005		1.4	0.04
RS-490 0965-0970	105		0.003		0.8	0.02
RS-490 0970-0975	158		0.005		1.8	0.05
RS-490 0975-0980	174		0.005		1.7	0.05
RS-490 0980-0985	128		0.004		1.1	0.03
RS-490 0985-0990	124		0.004		0.8	0.02
RS-490 0990-0995	168		0.005		1.9	0.06
RS-490 0995-1000	141		0.004		1.5	0.04

AMERICAN ASSAY LABORATORIES

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American Assay Laboratorie

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PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1000-1005	98		0.003		0.9	0.03
RS-490 1005-1010	187		0.005		2.5	0.07
RS-490 1010-1015	158	152	0.005	0.004	1.4	0.04
RS-490 1015-1020	85		0.002		0.6	<0.02
RS-490 1020-1025	105		0.003		1.0	0.03
RS-490 1025-1030	112		0.003		0.7	0.02
RS-490 1030-1035	95	90	0.003	0.003	0.9	0.03
RS-490 1035-1040	187		0.005		0.5	<0.02
RS-490 1040-1045	69	78	0.002	0.002	0.5	<0.02
RS-490 1045-1050	113		0.003		1.1	0.03
RS-490 1050-1055	60		0.002		0.5	<0.02
RS-490 1055-1060	93		0.003		<0.5	<0.02
RS-490 1060-1065	87		0.003		0.6	<0.02
RS-490 1065-1070	108		0.003		0.9	0.03
RS-490 1070-1075	127		0.004		2.5	0.07
RS-490 1075-1080	121		0.004		3.3	0.10
RS-490 1080-1085	42		0.001		0.8	0.02
RS-490 1085-1090	15		<0.001		<0.5	<0.02
RS-490 1090-1095	35		0.001		0.7	0.02
RS-490 1095-1100	35		0.001		0.8	0.02
RS-490 1100-1105	18	10	<0.001	<0.001	<0.5	<0.02
RS-490 1105-1110	<5		<0.001		<0.5	<0.02
RS-490 1110-1115	7		<0.001		<0.5	<0.02
RS-490 1115-1120	13		<0.001		<0.5	<0.02
RS-490 1120-1125	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1125-1130	<5		<0.001		<0.5	<0.02
RS-490 1130-1135	<5	<5	<0.001	<0.001	<0.5	<0.02
RS-490 1135-1140	<5		<0.001		<0.5	<0.02
RS-490 1140-1145	<5		<0.001		<0.5	<0.02
RS-490 1145-1150	10		<0.001		<0.5	<0.02
RS-490 1150-1155	9		<0.001		<0.5	<0.02
RS-490 1155-1160	8		<0.001		<0.5	<0.02
RS-490 1160-1165	<5		<0.001		<0.5	<0.02
RS-490 1165-1170	6		<0.001		<0.5	<0.02
RS-490 1170-1175	<5		<0.001		<0.5	<0.02
RS-490 1175-1180	<5		<0.001		<0.5	<0.02
RS-490 1180-1185	6		<0.001		<0.5	<0.02
RS-490 1185-1190	8	6	<0.001	<0.001	<0.5	<0.02
RS-490 1190-1195	<5		<0.001		<0.5	<0.02
RS-490 1195-1200	6		<0.001		<0.5	<0.02
RS-490 1200-1205	<5		<0.001		<0.5	<0.02
RS-490 1205-1210	<5		<0.001		<0.5	<0.02
RS-490 1210-1215	<5		<0.001		<0.5	<0.02
RS-490 1215-1220	<5		<0.001		<0.5	<0.02
RS-490 1220-1225	<5		<0.001		<0.5	<0.02
RS-490 1225-1230	<5		<0.001		<0.5	<0.02
RS-490 1230-1235	<5		<0.001		<0.5	<0.02
RS-490 1235-1240	<5		<0.001		<0.5	<0.02
RS-490 1240-1245	<5		<0.001		<0.5	<0.02
RS-490 1245-1250	8		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

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REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1250-1255	<5		<0.001		<0.5	<0.02
RS-490 1255-1260	<5		<0.001		<0.5	<0.02
RS-490 1260-1265	<5		<0.001		<0.5	<0.02
RS-490 1265-1270	<5		<0.001		<0.5	<0.02
RS-490 1270-1275	<5		<0.001		<0.5	<0.02
RS-490 1275-1280	<5		<0.001		<0.5	<0.02
RS-490 1280-1285	<5		<0.001		<0.5	<0.02
RS-490 1285-1290	<5		<0.001		<0.5	<0.02
RS-490 1290-1295	<5		<0.001		<0.5	<0.02
RS-490 1295-1300	<5		<0.001		<0.5	<0.02
RS-490 1300-1305	11		<0.001		<0.5	<0.02
RS-490 1305-1310	<5		<0.001		<0.5	<0.02
RS-490 1310-1315	<5		<0.001		<0.5	<0.02
RS-490 1315-1320	<5		<0.001		<0.5	<0.02
RS-490 1320-1325	8		<0.001		<0.5	<0.02
RS-490 1325-1330	8		<0.001		<0.5	<0.02
RS-490 1330-1335	5		<0.001		<0.5	<0.02
RS-490 1335-1340	6		<0.001		<0.5	<0.02
RS-490 1340-1345	7		<0.001		<0.5	<0.02
RS-490 1345-1350	<5		<0.001		<0.5	<0.02
RS-490 1350-1355	5		<0.001		<0.5	<0.02
RS-490 1355-1360	<5		<0.001		<0.5	<0.02
RS-490 1360-1365	<5		<0.001		<0.5	<0.02
RS-490 1365-1370	5		<0.001		<0.5	<0.02
RS-490 1370-1375	7		<0.001		<0.5	<0.02

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ANALYSIS REPORT SP056109

American Assay Laboratories

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REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1375-1380	<5		<0.001		<0.5	<0.02
RS-490 1380-1385	<5		<0.001		<0.5	<0.02
RS-490 1385-1390	<5		<0.001		<0.5	<0.02
RS-490 1390-1395	5		<0.001		<0.5	<0.02
RS-490 1395-1400	6		<0.001		<0.5	<0.02
RS-490 1400-1405	18		<0.001		<0.5	<0.02
RS-490 1405-1410	28		<0.001		<0.5	<0.02
RS-490 1410-1415	22		<0.001		<0.5	<0.02
RS-490 1415-1420	10		<0.001		<0.5	<0.02
RS-490 1420-1425	44	55	0.001	0.002	3.4	0.10
RS-490 1425-1430	32		<0.001		1.1	0.03
RS-490 1430-1435	14		<0.001		0.7	0.02
RS-490 1435-1440	40		0.001		1.7	0.05
RS-490 1440-1445	25	20	<0.001	<0.001	1.2	0.04
RS-490 1445-1450	80	70	0.002	0.002	1.1	0.03
RS-490 1450-1455	11		<0.001		<0.5	<0.02
RS-490 1455-1460	15		<0.001		1.0	0.03
RS-490 1460-1465	137		0.004		1.9	0.06
RS-490 1465-1470	249	236	0.007	0.007	4.7	0.14
RS-490 1470-1475	67		0.002		3.5	0.10
RS-490 1475-1480	532	544	0.016	0.016	22.0	0.64
RS-490 1480-1485	161		0.005		3.8	0.11
RS-490 1485-1490	111		0.003		3.3	0.10
RS-490 1490-1495	130		0.004		2.3	0.07
RS-490 1495-1500	507		0.015		36.5	1.06

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1500-1505	111		0.003		4.1	0.12
RS-490 1505-1510	110		0.003		2.7	0.08
RS-490 1510-1515	45		0.001		1.5	0.04
RS-490 1515-1520	56		0.002		1.8	0.05
RS-490 1520-1525	93		0.003		1.7	0.05
RS-490 1525-1530	81		0.002		2.2	0.06
RS-490 1530-1535	111		0.003		1.9	0.06
RS-490 1535-1540	100		0.003		2.8	0.08
RS-490 1540-1545	26		<0.001		0.9	0.03
RS-490 1545-1550	<5		<0.001		0.5	<0.02
RS-490 1550-1555	<5		<0.001		<0.5	<0.02
RS-490 1555-1560	<5		<0.001		<0.5	<0.02
RS-490 1560-1565	<5		<0.001		0.5	<0.02
RS-490 1565-1570	<5		<0.001		<0.5	<0.02
RS-490 1570-1575	<5		<0.001		<0.5	<0.02
RS-490 1575-1580	<5		<0.001		<0.5	<0.02
RS-490 1580-1585	<5		<0.001		<0.5	<0.02
RS-490 1585-1590	<5		<0.001		<0.5	<0.02
RS-490 1590-1595	<5		<0.001		<0.5	<0.02
RS-490 1595-1600	<5		<0.001		<0.5	<0.02
89548	12840		0.375		109.6	3.20

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ANALYSIS REPORT SP056109

American Assay Laboratories

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HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: RS-490 RECEIVED : 16 FEB 2000

No. SAMPLES : 321 REPORTED : 30 MAR 2000

MAIN SAMPLE TYPE : DRILL CUTTINGS

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0000-0005	5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0005-0010	<5		<0.001		<0.5	<0.02
RS-490 0010-0015	<5		<0.001		<0.5	<0.02
RS-490 0015-0020	<5		<0.001		<0.5	<0.02
RS-490 0020-0025	<5		<0.001		<0.5	<0.02
RS-490 0025-0030	<5		<0.001		<0.5	<0.02
RS-490 0030-0035	<5		<0.001		<0.5	<0.02
RS-490 0035-0040	13		<0.001		<0.5	<0.02
RS-490 0040-0045	15		<0.001		<0.5	<0.02
RS-490 0045-0050	55		0.002		3.5	0.10
RS-490 0050-0055	<5		<0.001		<0.5	<0.02
RS-490 0055-0060	<5		<0.001		<0.5	<0.02
RS-490 0060-0065	<5		<0.001		<0.5	<0.02
RS-490 0065-0070	<5		<0.001		<0.5	<0.02
RS-490 0070-0075	<5		<0.001		<0.5	<0.02
RS-490 0075-0080	<5		<0.001		<0.5	<0.02
RS-490 0080-0085	<5		<0.001		<0.5	<0.02
RS-490 0085-0090	<5		<0.001		<0.5	<0.02
RS-490 0090-0095	14		<0.001		<0.5	<0.02
RS-490 0095-0100	59		0.002		<0.5	<0.02
RS-490 0100-0105	<5		<0.001		<0.5	<0.02
RS-490 0105-0110	<5		<0.001		<0.5	<0.02
RS-490 0110-0115	<5		<0.001		<0.5	<0.02
RS-490 0115-0120	<5		<0.001		<0.5	<0.02
RS-490 0120-0125	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

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REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0125-0130	<5		<0.001		<0.5	<0.02
RS-490 0130-0135	<5		<0.001		<0.5	<0.02
RS-490 0135-0140	<5		<0.001		<0.5	<0.02
RS-490 0140-0145	<5		<0.001		<0.5	<0.02
RS-490 0145-0150	<5		<0.001		<0.5	<0.02
RS-490 0150-0155	<5		<0.001		<0.5	<0.02
RS-490 0155-0160	<5		<0.001		<0.5	<0.02
RS-490 0160-0165	<5		<0.001		0.7	0.02
RS-490 0165-0170	<5		<0.001		2.4	0.07
RS-490 0170-0175	<5		<0.001		<0.5	<0.02
RS-490 0175-0180	<5		<0.001		<0.5	<0.02
RS-490 0180-0185	<5		<0.001		<0.5	<0.02
RS-490 0185-0190	<5		<0.001		0.5	<0.02
RS-490 0190-0195	<5		<0.001		<0.5	<0.02
RS-490 0195-0200	<5		<0.001		<0.5	<0.02
RS-490 0200-0205	<5		<0.001		<0.5	<0.02
RS-490 0205-0210	<5		<0.001		<0.5	<0.02
RS-490 0210-0215	<5		<0.001		<0.5	<0.02
RS-490 0215-0220	<5		<0.001		<0.5	<0.02
RS-490 0220-0225	<5		<0.001		<0.5	<0.02
RS-490 0225-0230	<5		<0.001		<0.5	<0.02
RS-490 0230-0235	<5		<0.001		<0.5	<0.02
RS-490 0235-0240	<5		<0.001		<0.5	<0.02
RS-490 0240-0245	<5		<0.001		<0.5	<0.02
RS-490 0245-0250	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

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REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0250-0255	<5		<0.001		<0.5	<0.02
RS-490 0255-0260	40		0.001		0.8	0.02
RS-490 0260-0265	<5		<0.001		<0.5	<0.02
RS-490 0265-0270	<5		<0.001		<0.5	<0.02
RS-490 0270-0275	<5		<0.001		<0.5	<0.02
RS-490 0275-0280	<5		<0.001		<0.5	<0.02
RS-490 0280-0285	<5		<0.001		<0.5	<0.02
RS-490 0285-0290	<5		<0.001		<0.5	<0.02
RS-490 0290-0295	<5		<0.001		<0.5	<0.02
RS-490 0295-0300	<5		<0.001		<0.5	<0.02
RS-490 0300-0305	23		<0.001		<0.5	<0.02
RS-490 0305-0310	126	138	0.004	0.004	<0.5	<0.02
RS-490 0310-0315	56		0.002		0.6	<0.02
RS-490 0315-0320	42	50	0.001	0.001	<0.5	<0.02
RS-490 0320-0325	5		<0.001		<0.5	<0.02
RS-490 0325-0330	39		0.001		<0.5	<0.02
RS-490 0330-0335	51		0.001		0.6	<0.02
RS-490 0335-0340	41		0.001		<0.5	<0.02
RS-490 0340-0345	9	16	<0.001	<0.001	<0.5	<0.02
RS-490 0345-0350	<5		<0.001		<0.5	<0.02
RS-490 0350-0355	<5		<0.001		<0.5	<0.02
RS-490 0355-0360	51		0.001		<0.5	<0.02
RS-490 0360-0365	82	87	0.002	0.003	<0.5	<0.02
RS-490 0365-0370	26		<0.001		<0.5	<0.02
RS-490 0370-0375	5	6	<0.001	<0.001	<0.5	<0.02

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ANALYSIS REPORT SP056109

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REFERENCE : RS-490

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0375-0380	<5		<0.001		<0.5	<0.02
RS-490 0380-0385	28		<0.001		0.6	<0.02
RS-490 0385-0390	30		<0.001		0.6	<0.02
RS-490 0390-0395	30		<0.001		0.7	0.02
RS-490 0395-0400	<5		<0.001		<0.5	<0.02
RS-490 0400-0405	11		<0.001		<0.5	<0.02
RS-490 0405-0410	<5		<0.001		<0.5	<0.02
RS-490 0410-0415	13	12	<0.001	<0.001	<0.5	<0.02
RS-490 0415-0420	20	22	<0.001	<0.001	<0.5	<0.02
RS-490 0420-0425	20		<0.001		<0.5	<0.02
RS-490 0425-0430	129	148	0.004	0.004	1.9	0.06
RS-490 0430-0435	306		0.009		1.4	0.04
RS-490 0435-0440	220	221	0.006	0.006	1.0	0.03
RS-490 0440-0445	137		0.004		0.6	<0.02
RS-490 0445-0450	218		0.006		0.9	0.03
RS-490 0450-0455	330	335	0.010	0.010	2.6	0.08
RS-490 0455-0460	324		0.009		2.8	0.08
RS-490 0460-0465	36		0.001		<0.5	<0.02
RS-490 0465-0470	10		<0.001		<0.5	<0.02
RS-490 0470-0475	86		0.003		1.0	0.03
RS-490 0475-0480	8		<0.001		<0.5	<0.02
RS-490 0480-0485	10		<0.001		<0.5	<0.02
RS-490 0485-0490	6		<0.001		<0.5	<0.02
RS-490 0490-0495	<5		<0.001		<0.5	<0.02
RS-490 0495-0500	<5		<0.001		<0.5	<0.02

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0500-0505	<5		<0.001		<0.5	<0.02
RS-490 0505-0510	<5		<0.001		<0.5	<0.02
RS-490 0510-0515	<5		<0.001		<0.5	<0.02
RS-490 0515-0520	<5		<0.001		<0.5	<0.02
RS-490 0520-0525	5		<0.001		<0.5	<0.02
RS-490 0525-0530	<5		<0.001		<0.5	<0.02
RS-490 0530-0535	<5		<0.001		<0.5	<0.02
RS-490 0535-0540	45	38	0.001	0.001	0.5	<0.02
RS-490 0540-0545	6		<0.001		0.5	<0.02
RS-490 0545-0550	8		<0.001		<0.5	<0.02
RS-490 0550-0555	82		0.002		0.5	<0.02
RS-490 0555-0560	8		<0.001		<0.5	<0.02
RS-490 0560-0565	<5		<0.001		<0.5	<0.02
RS-490 0565-0570	<5		<0.001		<0.5	<0.02
RS-490 0570-0575	<5		<0.001		<0.5	<0.02
RS-490 0575-0580	13		<0.001		<0.5	<0.02
RS-490 0580-0585	15		<0.001		<0.5	<0.02
RS-490 0585-0590	5		<0.001		<0.5	<0.02
RS-490 0590-0595	6		<0.001		<0.5	<0.02
RS-490 0595-0600	44		0.001		0.6	<0.02
RS-490 0600-0605	7		<0.001		<0.5	<0.02
RS-490 0605-0610	<5		<0.001		<0.5	<0.02
RS-490 0610-0615	<5		<0.001		<0.5	<0.02
RS-490 0615-0620	24	28	<0.001	<0.001	<0.5	<0.02
RS-490 0620-0625	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0625-0630	<5		<0.001		<0.5	<0.02
RS-490 0630-0635	<5		<0.001		<0.5	<0.02
RS-490 0635-0640	<5		<0.001		<0.5	<0.02
RS-490 0640-0645	<5		<0.001		<0.5	<0.02
RS-490 0645-0650	6		<0.001		<0.5	<0.02
RS-490 0650-0655	35	27	0.001	<0.001	<0.5	<0.02
RS-490 0655-0660	50	42	0.001	0.001	0.5	<0.02
RS-490 0660-0665	32	20	<0.001	<0.001	<0.5	<0.02
RS-490 0665-0670	10		<0.001		<0.5	<0.02
RS-490 0670-0675	8		<0.001		<0.5	<0.02
RS-490 0675-0680	<5		<0.001		<0.5	<0.02
RS-490 0680-0685	5		<0.001		<0.5	<0.02
RS-490 0685-0690	6		<0.001		<0.5	<0.02
RS-490 0690-0695	10		<0.001		<0.5	<0.02
RS-490 0695-0700	8		<0.001		<0.5	<0.02
RS-490 0700-0705	6		<0.001		<0.5	<0.02
RS-490 0705-0710	5		<0.001		<0.5	<0.02
RS-490 0710-0715	<5		<0.001		<0.5	<0.02
RS-490 0715-0720	5		<0.001		<0.5	<0.02
RS-490 0720-0725	<5		<0.001		<0.5	<0.02
RS-490 0725-0730	6		<0.001		<0.5	<0.02
RS-490 0730-0735	5		<0.001		<0.5	<0.02
RS-490 0735-0740	5		<0.001		<0.5	<0.02
RS-490 0740-0745	7		<0.001		<0.5	<0.02
RS-490 0745-0750	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
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REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0750-0755	<5		<0.001		<0.5	<0.02
RS-490 0755-0760	<5		<0.001		<0.5	<0.02
RS-490 0760-0765	<5		<0.001		<0.5	<0.02
RS-490 0765-0770	<5		<0.001		<0.5	<0.02
RS-490 0770-0775	5		<0.001		<0.5	<0.02
RS-490 0775-0780	<5		<0.001		<0.5	<0.02
RS-490 0780-0785	5		<0.001		<0.5	<0.02
RS-490 0785-0790	6		<0.001		<0.5	<0.02
RS-490 0790-0795	6		<0.001		<0.5	<0.02
RS-490 0795-0800	<5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0800-0805	10		<0.001		<0.5	<0.02
RS-490 0805-0810	7		<0.001		<0.5	<0.02
RS-490 0810-0815	<5		<0.001		<0.5	<0.02
RS-490 0815-0820	<5		<0.001		<0.5	<0.02
RS-490 0820-0825	<5		<0.001		<0.5	<0.02
RS-490 0825-0830	6	<5	<0.001	<0.001	<0.5	<0.02
RS-490 0830-0835	7		<0.001		<0.5	<0.02
RS-490 0835-0840	<5		<0.001		<0.5	<0.02
RS-490 0840-0845	<5		<0.001		<0.5	<0.02
RS-490 0845-0850	<5		<0.001		<0.5	<0.02
RS-490 0850-0855	<5		<0.001		<0.5	<0.02
RS-490 0855-0860	<5		<0.001		<0.5	<0.02
RS-490 0860-0865	<5		<0.001		<0.5	<0.02
RS-490 0865-0870	6		<0.001		<0.5	<0.02
RS-490 0870-0875	67	75	0.002	0.002	<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 0875-0880	61		0.002		<0.5	<0.02
RS-490 0880-0885	83		0.002		0.7	0.02
RS-490 0885-0890	54		0.002		0.6	<0.02
RS-490 0890-0895	124		0.004		0.8	0.02
RS-490 0895-0900	61		0.002		<0.5	<0.02
RS-490 0900-0905	20		<0.001		<0.5	<0.02
RS-490 0905-0910	90	100	0.003	0.003	0.8	0.02
RS-490 0910-0915	68		0.002		0.8	0.02
RS-490 0915-0920	40		0.001		<0.5	<0.02
RS-490 0920-0925	<5		<0.001		<0.5	<0.02
RS-490 0925-0930	<5		<0.001		<0.5	<0.02
RS-490 0930-0935	<5		<0.001		<0.5	<0.02
RS-490 0935-0940	7		<0.001		<0.5	<0.02
RS-490 0940-0945	8	12	<0.001	<0.001	<0.5	<0.02
RS-490 0945-0950	103		0.003		0.5	<0.02
RS-490 0950-0955	126	136	0.004	0.004	0.9	0.03
RS-490 0955-0960	159	170	0.005	0.005	1.6	0.05
RS-490 0960-0965	161		0.005		1.4	0.04
RS-490 0965-0970	105		0.003		0.8	0.02
RS-490 0970-0975	158		0.005		1.8	0.05
RS-490 0975-0980	174		0.005		1.7	0.05
RS-490 0980-0985	128		0.004		1.1	0.03
RS-490 0985-0990	124		0.004		0.8	0.02
RS-490 0990-0995	168		0.005		1.9	0.06
RS-490 0995-1000	141		0.004		1.5	0.04

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

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REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1000-1005	98		0.003		0.9	0.03
RS-490 1005-1010	187		0.005		2.5	0.07
RS-490 1010-1015	158	152	0.005	0.004	1.4	0.04
RS-490 1015-1020	85		0.002		0.6	<0.02
RS-490 1020-1025	105		0.003		1.0	0.03
RS-490 1025-1030	112		0.003		0.7	0.02
RS-490 1030-1035	95	90	0.003	0.003	0.9	0.03
RS-490 1035-1040	187		0.005		0.5	<0.02
RS-490 1040-1045	69	78	0.002	0.002	0.5	<0.02
RS-490 1045-1050	113		0.003		1.1	0.03
RS-490 1050-1055	60		0.002		0.5	<0.02
RS-490 1055-1060	93		0.003		<0.5	<0.02
RS-490 1060-1065	87		0.003		0.6	<0.02
RS-490 1065-1070	108		0.003		0.9	0.03
RS-490 1070-1075	127		0.004		2.5	0.07
RS-490 1075-1080	121		0.004		3.3	0.10
RS-490 1080-1085	42		0.001		0.8	0.02
RS-490 1085-1090	15		<0.001		<0.5	<0.02
RS-490 1090-1095	35		0.001		0.7	0.02
RS-490 1095-1100	35		0.001		0.8	0.02
RS-490 1100-1105	18	10	<0.001	<0.001	<0.5	<0.02
RS-490 1105-1110	<5		<0.001		<0.5	<0.02
RS-490 1110-1115	7		<0.001		<0.5	<0.02
RS-490 1115-1120	13		<0.001		<0.5	<0.02
RS-490 1120-1125	<5		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

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REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1125-1130	<5		<0.001		<0.5	<0.02
RS-490 1130-1135	<5	<5	<0.001	<0.001	<0.5	<0.02
RS-490 1135-1140	<5		<0.001		<0.5	<0.02
RS-490 1140-1145	<5		<0.001		<0.5	<0.02
RS-490 1145-1150	10		<0.001		<0.5	<0.02
RS-490 1150-1155	9		<0.001		<0.5	<0.02
RS-490 1155-1160	8		<0.001		<0.5	<0.02
RS-490 1160-1165	<5		<0.001		<0.5	<0.02
RS-490 1165-1170	6		<0.001		<0.5	<0.02
RS-490 1170-1175	<5		<0.001		<0.5	<0.02
RS-490 1175-1180	<5		<0.001		<0.5	<0.02
RS-490 1180-1185	6		<0.001		<0.5	<0.02
RS-490 1185-1190	8	6	<0.001	<0.001	<0.5	<0.02
RS-490 1190-1195	<5		<0.001		<0.5	<0.02
RS-490 1195-1200	6		<0.001		<0.5	<0.02
RS-490 1200-1205	<5		<0.001		<0.5	<0.02
RS-490 1205-1210	<5		<0.001		<0.5	<0.02
RS-490 1210-1215	<5		<0.001		<0.5	<0.02
RS-490 1215-1220	<5		<0.001		<0.5	<0.02
RS-490 1220-1225	<5		<0.001		<0.5	<0.02
RS-490 1225-1230	<5		<0.001		<0.5	<0.02
RS-490 1230-1235	<5		<0.001		<0.5	<0.02
RS-490 1235-1240	<5		<0.001		<0.5	<0.02
RS-490 1240-1245	<5		<0.001		<0.5	<0.02
RS-490 1245-1250	8		<0.001		<0.5	<0.02

AMERICAN ASSAY LABORATORIES

ANALYSIS REPORT SP056109

American Assay Laboratories

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 30 MAR 2000

SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1250-1255	<5		<0.001		<0.5	<0.02
RS-490 1255-1260	<5		<0.001		<0.5	<0.02
RS-490 1260-1265	<5		<0.001		<0.5	<0.02
RS-490 1265-1270	<5		<0.001		<0.5	<0.02
RS-490 1270-1275	<5		<0.001		<0.5	<0.02
RS-490 1275-1280	<5		<0.001		<0.5	<0.02
RS-490 1280-1285	<5		<0.001		<0.5	<0.02
RS-490 1285-1290	<5		<0.001		<0.5	<0.02
RS-490 1290-1295	<5		<0.001		<0.5	<0.02
RS-490 1295-1300	<5		<0.001		<0.5	<0.02
RS-490 1300-1305	11		<0.001		<0.5	<0.02
RS-490 1305-1310	<5		<0.001		<0.5	<0.02
RS-490 1310-1315	<5		<0.001		<0.5	<0.02
RS-490 1315-1320	<5		<0.001		<0.5	<0.02
RS-490 1320-1325	8		<0.001		<0.5	<0.02
RS-490 1325-1330	8		<0.001		<0.5	<0.02
RS-490 1330-1335	5		<0.001		<0.5	<0.02
RS-490 1335-1340	6		<0.001		<0.5	<0.02
RS-490 1340-1345	7		<0.001		<0.5	<0.02
RS-490 1345-1350	<5		<0.001		<0.5	<0.02
RS-490 1350-1355	5		<0.001		<0.5	<0.02
RS-490 1355-1360	<5		<0.001		<0.5	<0.02
RS-490 1360-1365	<5		<0.001		<0.5	<0.02
RS-490 1365-1370	5		<0.001		<0.5	<0.02
RS-490 1370-1375	7		<0.001		<0.5	<0.02

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1375-1380	<5		<0.001		<0.5	<0.02
RS-490 1380-1385	<5		<0.001		<0.5	<0.02
RS-490 1385-1390	<5		<0.001		<0.5	<0.02
RS-490 1390-1395	5		<0.001		<0.5	<0.02
RS-490 1395-1400	6		<0.001		<0.5	<0.02
RS-490 1400-1405	18		<0.001		<0.5	<0.02
RS-490 1405-1410	28		<0.001		<0.5	<0.02
RS-490 1410-1415	22		<0.001		<0.5	<0.02
RS-490 1415-1420	10		<0.001		<0.5	<0.02
RS-490 1420-1425	44	55	0.001	0.002	3.4	0.10
RS-490 1425-1430	32		<0.001		1.1	0.03
RS-490 1430-1435	14		<0.001		0.7	0.02
RS-490 1435-1440	40		0.001		1.7	0.05
RS-490 1440-1445	25	20	<0.001	<0.001	1.2	0.04
RS-490 1445-1450	80	70	0.002	0.002	1.1	0.03
RS-490 1450-1455	11		<0.001		<0.5	<0.02
RS-490 1455-1460	15		<0.001		1.0	0.03
RS-490 1460-1465	137		0.004		1.9	0.06
RS-490 1465-1470	249	236	0.007	0.007	4.7	0.14
RS-490 1470-1475	67		0.002		3.5	0.10
RS-490 1475-1480	532	544	0.016	0.016	22.0	0.64
RS-490 1480-1485	161		0.005		3.8	0.11
RS-490 1485-1490	111		0.003		3.3	0.10
RS-490 1490-1495	130		0.004		2.3	0.07
RS-490 1495-1500	507		0.015		36.5	1.06

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SAMPLES	Au FA30 ppb	Au(R) FA30 ppb	Au(OZ) FA30 OPT	Au(RZ) FA30 OPT	Ag D210 ppm	Ag(OZ) D210 OPT
RS-490 1500-1505	111		0.003		4.1	0.12
RS-490 1505-1510	110		0.003		2.7	0.08
RS-490 1510-1515	45		0.001		1.5	0.04
RS-490 1515-1520	56		0.002		1.8	0.05
RS-490 1520-1525	93		0.003		1.7	0.05
RS-490 1525-1530	81		0.002		2.2	0.06
RS-490 1530-1535	111		0.003		1.9	0.06
RS-490 1535-1540	100		0.003		2.8	0.08
RS-490 1540-1545	26		<0.001		0.9	0.03
RS-490 1545-1550	<5		<0.001		0.5	<0.02
RS-490 1550-1555	<5		<0.001		<0.5	<0.02
RS-490 1555-1560	<5		<0.001		<0.5	<0.02
RS-490 1560-1565	<5		<0.001		0.5	<0.02
RS-490 1565-1570	<5		<0.001		<0.5	<0.02
RS-490 1570-1575	<5		<0.001		<0.5	<0.02
RS-490 1575-1580	<5		<0.001		<0.5	<0.02
RS-490 1580-1585	<5		<0.001		<0.5	<0.02
RS-490 1585-1590	<5		<0.001		<0.5	<0.02
RS-490 1590-1595	<5		<0.001		<0.5	<0.02
RS-490 1595-1600	<5		<0.001		<0.5	<0.02
89548	12840		0.375		109.6	3.20

AMERICAN ASSAY LABORATORIES
AAL 03-0 ICP PACKAGE DETECTION LIMITS

ELEMENT	Ag	Al	As	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	30	0.01	0.5	3	1	0.1	0.01	.01	1	1	0.2	0.01	0.5	10	0.01	1	0.01	2	0.1	0.01	1	0.001	0.3	0.2	0.4	1	0.2	2	0.01	0.2	5	1	2	1

5.0 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR Al, B, Ba, Ca, Co, Cr, Fe, K, La, Mg, Mn, Na, Ni, P, Sr, Th, Ti, U, V AND W.
ORGANIC SOLUTION EXTRACTION AND ULTRASONIC ICP FOR Ag, As, Bi, Cd, Cu, Ga, Mo, Pb, Sb, Se, Te AND Tl.
Hg BY COLD VAPOR AAS.

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
PHONE: (775) 356-0606
FAX: (775) 356-1413

CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 0000-0020	79	0.66	18.1	1.8	7	59.20	0.05	0.14	0.1	0.60	7	13.19	2.66	3.5	126	0.11	24.9	0.1	150	2.08	0.081	3.7	0.015	36.33	0.06	9.28	0.5	55.4	< .02	13.2	0.02	0.07	3.8	17	1.4	62.9
RS-490 0020-0040	129	1.06	9.8	1.8	3	50.80	0.08	0.05	0.15	< .1	5.9	8.53	3.22	4.5	238	0.03	17.6	0.01	96	1.85	0.016	2.5	0.014	31.49	0.02	7.9	1.1	36.9	< .02	12.2	0.013	0.02	4	27	1.2	44.1
RS-490 0040-0060	772	1.22	24.4	21.2	1	94.90	0.06	0.03	0.07	0.20	11.4	19.44	3.38	4.5	1369	0.04	14.5	0.01	100	5.08	0.011	6.2	0.011	18.21	0.08	20.11	1.8	61.4	< .02	9.1	0.007	0.06	62.6	21	0.7	18.2
RS-490 0060-0080	78	1.22	13.7	4.1	< 1	85.30	0.76	0.06	0.11	0.90	8	14.33	3.07	4.7	709	0.07	19	0.02	354	1.64	0.01	4.7	0.013	21.95	0.06	9.22	0.8	53.6	< .02	12.3	0.004	0.15	10.5	21	0.8	44.7
RS-490 0080-0100	173	1.27	24.6	20.5	< 1	109.30	1.05	0.05	0.14	0.50	6.3	11.82	2.99	5	1572	0.1	20.6	0.02	288	1.71	0.017	3.3	0.013	20.79	0.03	16.7	1.7	35.1	< .02	13.9	0.005	0.13	9	22	0.6	49.8
RS-490 0100-0120	51	0.98	16.5	3.8	1	72.20	3.17	0.05	0.09	< .1	5.4	9.19	2.93	4.5	363	0.14	24.5	0.02	88	1.6	0.019	2.7	0.015	18.53	0.02	9.34	0.7	30.8	0.02	15.9	0.01	0.07	5.1	16	1.2	22.7
RS-490 0120-0140	102	1.23	13.3	1.5	< 1	84.30	10.78	0.07	0.27	0.80	4.1	9.81	2.81	5.5	226	0.18	26.5	0.02	223	1.48	0.024	1.8	0.018	23.52	< .01	10.51	0.5	18.7	0.1	16	0.013	0.17	5.5	12	1.5	67.9
RS-490 0140-0160	130	1.06	9.3	1.6	1.0	112.80	9.89	0.09	0.38	1.50	5.4	9.11	2.82	4.7	161	0.2	23.7	0.03	476	2.16	0.027	2.3	0.03	21.86	0.01	8.67	0.5	136	0.09	15.5	0.009	0.48	6.3	14	2.9	32.7
RS-490 0160-0180	239	1.66	6.6	2.6	< 1	141.60	4.86	0.72	1.98	7.00	3.2	13.5	4.75	8.4	59	0.15	38.3	0.2	2358	1.36	0.025	0.8	0.136	18.21	< .01	5.01	0.4	74.9	< .02	11.4	0.012	0.52	3.2	26	1.2	147.1
RS-490 0180-0200	207	1.12	5.4	4.4	< 1	73.00	12.6	1.38	0.79	3.90	3.7	12.91	4.22	5.9	27	0.13	34.9	0.12	733	1.69	0.027	0.9	0.135	13.65	< .01	3.64	0.4	44.7	< .02	11.8	0.031	0.08	2.1	26	1.1	77
RS-490 0200-0220	87	1.37	15.8	1.6	< 1	106.00	4.25	1.35	0.82	2.60	5.3	12.96	3.66	6.3	27	0.16	29.7	0.11	740	2.03	0.028	1.6	0.095	21.65	< .01	4.25	0.4	43.5	< .02	12.9	0.011	0.11	3.4	27	1	60
RS-490 0220-0240	78	0.8	24.5	1.8	< 1	91.30	3.81	0.44	0.21	0.10	5.2	8.06	2.15	4.1	85	0.17	21.8	0.03	383	2.31	0.021	1.7	0.031	20.24	< .01	5.83	0.7	17	0.03	14.6	0.008	0.1	2.9	7	1.2	27.3
RS-490 0240-0260	231	0.9	13.2	8.9	2	178.20	2.04	0.46	0.15	< .1	6.8	13.19	3.18	4.8	68	0.21	22.5	0.04	274	3.11	0.026	2.3	0.031	18.37	0.02	5.36	0.7	26.2	0.03	15.3	0.022	0.09	3.2	8	2	28.6
RS-490 0260-0280	97	0.75	9.1	1.4	2	97.70	0.19	0.07	0.16	< .1	4.4	13.71	3.18	4	55	0.15	21.8	0.02	339	3.71	0.018	1.5	0.023	21.8	< .01	6.75	0.5	38.5	0.02	15.5	0.03	0.2	3.3	8	2.6	41.9
RS-490 0280-0300	101	1.01	11.4	1.5	1	109.90	0.19	0.06	0.03	< .1	2.8	16.79	2.06	4.7	131	0.12	23	0.02	43	2.21	0.014	1.3	0.014	18.32	0.06	8.03	0.5	48.5	0.02	16.3	0.007	0.06	2.6	4	0.7	19.7
RS-490 0300-0320	305	1.32	26.1	62.1	< 1	285.00	0.37	0.05	0.02	0.20	6.6	16.41	2.64	5.2	738	0.12	18.5	0.01	72	2.99	0.011	3.5	0.009	20.37	0.13	14.47	4	55.7	< .02	11.5	< .001	0.08	2.6	6	0.4	11.3
RS-490 0320-0340	244	1.24	17.9	30.9	< 1	115.60	0.03	0.05	0.01	0.30	9.5	18.91	2.29	5.1	253	0.04	19.2	0.01	81	2.98	0.006	4.7	0.007	18.81	0.07	12.6	2.1	37.7	< .02	10.5	< .001	0.03	1.7	6	0.5	8
RS-490 0340-0360	68	0.88	10.4	16.6	< 1	69.80	0.05	0.04	0.03	0.20	4.7	21.99	3.12	4.8	288	0.05	14.8	0.01	45	3.31	0.007	2.5	0.017	18.32	0.06	13.92	2.9	57	< .02	10.5	< .001	0.04	1.8	5	0.3	14.6
RS-490 0360-0380	201	1.3	15.8	34.1	< 1	109.10	0.34	0.04	0.01	< .1	7.4	19.88	3.86	5.4	187	0.07	12.1	0.01	71	3.52	0.007	3.8	0.009	14.19	0.12	13.99	3.1	54.6	< .02	8.8	< .001	0.05	1.3	6	0.5	10.1
RS-490 0380-0400	229	1.28	9.4	13.6	< 1	246.40	0.28	0.04	0.01	0.30	8.7	22.69	3.64	5.6	120	0.21	14.8	0.01	96	3.57	0.008	4.2	0.021	12.89	0.41	8.18	0.9	63.9	< .02	8.3	0.002	0.1	2.6	8	0.5	15.6
RS-490 0400-0420	83	0.99	9.8	17.3	< 1	253.80	0.25	0.05	0.01	0.30	4.3	19.25	2.71	3.6	3266	0.08	16.1	0.01	47	3.95	0.007	2.3	0.016	12.8	0.1	9.14	8.4	63.4	< .02	11.5	< .001	0.06	2.5	4	0.4	16.2
RS-490 0420-0440	779	1.18	53.2	221	< 1	218.10	0.16	0.09	0.01	1.30	44.8	11.56	4.14	6.1	802	0.15	20.2	0.03	12	5.34	0.018	1.7	0.026	18.38	0.99	48.1	17.8	80.2	< .02	12.2	0.002	0.29	3.7	3	0.6	26.3
RS-490 0440-0460	1193	0.88	71.6	322.7	< 1	58.60	0.03	0.06	0.03	3.90	70.4	20.2	4.62	4.1	1703	0.19	29.6	0.02	15	2.93	0.026	2.5	0.102	16.59	3.83	61.26	26.5	159.2	< .02	10.9	0.002	0.82	8.6	3	0.5	33.3
RS-490 0460-0480	308	0.84	10.1	48.8	< 1	114.60	0.02	0.05	0.48	4.20	31.2	8.22	1.69	3.6	340	0.15	23.6	0.02	17	1.77	0.024	1.8	0.014	15.67	1.66	10.24	4.6	45.2	< .02	13.8	0.003	0.68	6.1	< 2	0.5	21.7
RS-490 0480-0500	97	0.94	1.7	4.2	< 1	79.40	0.02	0.66	0.37	0.60	32.4	8.09	1.89	5.2	52	0.21	33.2	0.1	1105	2.26	0.027	1	0.015	18.31	0.06	3.12	0.6	29.1	< .02	16	0.018	0.11	2.6	4	0.6	110
RS-490 0500-0520	71	0.81	1.4	1.7	< 1	91.20	0.06	0.21	0.14	0.40	25	4.62	1.89	4.3	22	0.18	25.5	0.04	1001	1.99	0.023	1	0.01	31.82	0.01	3.82	0.4	14.5	< .02	15.7	0.019	0.06	2.3	4	0.6	106.2
RS-490 0520-0540	128	0.63	6.2	9.9	< 1	51.40	0.03	0.12	0.14	0.70	28.2	8.86	1.9	3.9	81	0.16	27.5	0.03	877	1.72	0.026	1	0.012	71.81	0.31	9.65	1.1	11.6	< .02	15.4	0.017	0.19	2.1	4	1.3	105.8
RS-490 0540-0560	199	0.68	8.8	31.1	< 1	70.20	0.02	0.81	0.18	1.00	47.8	5.57	2	4.1	143	0.19	24.7	0.03	1166	1.56	0.029	1.4	0.009	26.82	0.72	6.64	1.8	33	< .02	13.4	0.015	0.32	1.8	2	1.4	159.4
RS-490 0560-0580	115	0.73	5	7.5	< 1	59.70	0.02	1.31	0.11	0.50	48.3	5.16	1.71	4.4	99	0.21	26.6	0.05	728	1.42	0.032	1	0.009	15.5	0.26	5.17	0.9	48.8	< .02	14.8	0.017	0.14	2	5	1.5	104.4
RS-490 0580-0600	182	0.86	11.1	24.5	< 1	60.80	0.0	0.11	0.1	1.00	75.4	5.23	1.86	4.7	269	0.23	27.2	0.04	638	1.29	0.029	2.1	0.01	17.74	1	12.1	2.2	9.3	< .02	14.4	0.01	0.28	2	3	1.4	107.7
RS-490 0600-0620	129	0.93	5.2	11	< 1	47.4	0.04	0.06	0.09	0.7	51.7	5.09	1.47	4.4	174	0.21	24.5	0.04	384	1.31	0.024	1.4	0.006	18.23	0.65	8.07	1.4	8	< .02	14.1	0.009	0.23	2	4	0.8	87
RS-490 0620-0640	80	0.94	2.6	1.6	< 1	42.3	0.06	0.06	0.14	0.6	19.5	6.08	1.76	4.5	275	0.19	24.3	0.05	529	0.99	0.025	1.5	0.007	19.52	0.16	4.3	0.4	7.9	< .02	15.6	0.014	0.08	2	4	1.3	72.6
RS-490 0640-0660	207	0.76	15.3	15.6	< 1	38.5	0.09	0.08	0.12	1.2	6.2	21.33	3.41	4.2	526	0.16	18.5	0.03	123	2.22	0.021	4.1	0.015	20.7	1.6	11.94	2.2	8	< .02	12.4	0.007	0.39	2	5	0.9	92.3
STANDARD DS2	234	1.81	57.6	202.1	< 1	147.2	11.26	0.51	10.2	11.7	155.6	129.99	3.45	6.2	252	0.15	17	0.6	845	14.06	0.032	35.6	0.087	33.55	0.02	9.07	2.3	29.2	1.84	3.8	0.089	1.87	23.2	73	6.5	161.9
RS-490 0660-0680	144	0.62	9.7	10.5	< 1	37.8	0.09	0.23	0.08	1.5	7.2	20.62	3.4	3.8	361	0.17	22.8	0.03	737	2.06	0.028	4.5	0.017	16.3	1.52	9.77	1.4	12.6	< .02	11.8	0.017	0.34	1.7	7	1.1	118.8

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CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT SAMPLES	Ag ppb	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	S %	Sb ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
RS-490 0680-0700	67	0.5	2.6	1.7	< 1	37.1	0.05	1.19	0.17	0.8	5.8	15.15	2.55	3.3	90	0.14	22.3	0.05	724	1.39	0.025	2.7	0.014	10.86	0.35	2.81	0.2	40.8	< .02	12.1	0.021	0.09	1.5	9	1.3	107.6
RS-490 0700-0720	66	0.5	2.5	1.4	< 1	31.5	0.05	0.92	0.13	0.7	5.2	16	2.6	3.3	44	0.13	24.1	0.05	728	1.72	0.027	3.2	0.014	9.33	0.19	1.95	0.1	35.8	< .02	12.4	0.018	0.07	1.4	7	0.8	116.3
RS-490 0720-0740	79	0.63	2.2	1.6	< 1	34.5	0.07	0.92	0.16	0.4	5.1	13.58	2.65	3.8	61	0.15	25.9	0.07	769	1.76	0.03	2.7	0.015	9.86	0.17	2.55	0.2	37.6	< .02	13.4	0.017	0.07	1.6	8	1.1	109
RS-490 0740-0760	77	0.64	1.8	0.8	< 1	31.3	0.05	0.24	0.07	0.3	5	11.91	2.5	3.9	36	0.15	26.2	0.07	1282	1.63	0.028	2.5	0.014	11.47	0.13	4.35	< .1	18.1	< .02	13.5	0.014	0.06	1.4	5	0.8	126.8
RS-490 0760-0780	90	0.64	2.8	1.6	< 1	34.9	0.03	0.27	0.1	0.4	4.1	10.98	2.42	3.7	43	0.16	26.5	0.08	380	1.23	0.025	2.3	0.012	11.35	0.13	3.7	< .1	18.6	< .02	13.4	0.012	0.06	1.4	4	0.8	108.6
RS-490 0780-0800	98	0.68	8.8	1.3	< 1	36.4	0.05	0.48	0.13	0.6	4.3	14.83	2.32	4	138	0.17	29	0.07	539	1.26	0.026	2.4	0.013	12.2	0.25	3.33	0.1	21.3	< .02	13.7	0.013	0.1	1.5	6	1	132.8
RS-490 0800-0820	130	0.75	26.5	0.9	< 1	32.4	0.03	0.51	0.14	0.9	4	17.57	2.09	4.6	276	0.19	26.8	0.1	485	1.45	0.029	2.5	0.01	15.16	0.62	4.64	0.2	22	< .02	12.9	0.007	0.2	1.4	4	0.6	112.5
RS-490 0820-0840	104	0.68	3.9	1.7	< 1	89.8	0.04	0.18	0.12	1	4.2	11.72	2.56	3.6	75	0.18	29.5	0.06	458	1.7	0.031	2.6	0.014	12.17	0.33	5.12	0.1	16.3	< .02	14.6	0.017	0.08	1.9	5	1.7	115.5
RS-490 0840-0860	129	0.74	2	1.1	< 1	46.1	0.03	1.2	0.19	0.8	35.5	3.02	1.83	3.8	51	0.21	27.9	0.09	934	1.34	0.028	0.5	0.019	15.57	0.14	2.16	0.2	43.1	< .02	13.6	0.015	0.08	2.1	5	0.9	109.6
RS-490 0860-0880	206	1.05	6	39.2	< 1	29.9	0.1	0.58	0.17	2.7	40.6	7.6	3.02	5	260	0.19	27.4	0.1	1663	1.23	0.028	1.4	0.071	17.57	1.52	7.87	1.9	33.6	< .02	10.1	0.01	0.42	3.4	11	0.6	371.4
RS-490 0880-0900	427	0.45	40.1	99.8	< 1	42.8	0.03	0.07	0.24	2	104.5	5.29	2.08	4.3	1232	0.2	19.8	0.02	53	1.55	0.026	4.3	0.012	12.93	2.52	17.14	7.6	5.9	< .02	9.3	0.001	0.67	1.8	< 2	0.5	210.8
RS-490 0900-0920	353	0.54	32.8	68.8	< 1	47	0.04	0.08	0.15	1.6	77.5	5.06	2.11	4.1	618	0.22	21.2	0.03	51	1.2	0.029	3	0.011	12.49	2.59	19.33	8.4	7.2	< .02	10	< .001	0.93	1.4	2	0.4	198.9
RS-490 0920-0940	134	0.65	10.6	5.9	< 1	43.8	< .02	0.08	0.09	1.5	60	2.65	1.68	3.7	266	0.22	25.2	0.03	60	0.84	0.026	1.9	0.012	16.07	1.48	7.34	0.9	7.8	< .02	11.6	0.004	0.27	1.4	2	0.5	131.7
RS-490 0940-0960	737	0.59	39.9	98.2	< 1	51.5	0.02	0.06	0.22	2	69.2	24.89	3.01	4.7	1846	0.23	21.5	0.02	140	3.5	0.029	8.1	0.009	15.38	1.99	17.76	10.5	6.2	< .02	10.2	< .001	0.57	2.9	5	1.3	157.9
RS-490 0960-0980	1003	0.39	60.5	74.2	< 1	34.8	0.02	0.04	0.24	1.9	23.8	39.13	4.73	3	2671	0.15	15.2	0.01	234	4.17	0.024	12.6	0.008	11.64	1.83	22.44	12.8	4	< .02	7.2	< .001	0.75	2.6	9	0.9	139.6
RS-490 0980-1000	934	0.43	46.7	82.2	< 1	41.1	0.02	0.05	0.19	1.9	49.7	36.58	4.31	2.9	2711	0.17	16.7	0.02	226	3.75	0.027	11.2	0.01	11.87	1.57	21.17	8.8	4.7	< .02	8	0.001	0.62	2.8	8	0.7	136.6
RS-490 1000-1020	1053	0.38	97.4	164.6	< 1	46.7	< .02	0.04	0.2	2	136.9	11.9	1.7	2.3	3110	0.2	20.4	0.01	41	3.33	0.03	5.1	0.008	15.92	2.04	29.43	12.8	4.9	< .02	9.6	0.001	0.81	4.1	2	1	146.4
RS-490 1020-1040	582	0.49	52.5	111.1	< 1	54.9	0.03	0.07	0.16	1.8	136.8	7.34	1.82	2.6	1953	0.23	20.6	0.02	77	3.16	0.029	4.8	0.011	14.71	1.89	18.26	6.6	6.6	< .02	10.1	0.001	0.54	3.3	2	1.1	156.1
RS-490 1040-1060	505	0.48	35.4	111.3	< 1	53.7	< .02	0.04	0.27	1.1	117.2	12.49	1.4	2.1	1720	0.21	21.1	0.01	32	1.91	0.032	8	0.008	15.27	1.63	18.26	10.8	6.1	< .02	10.2	0.001	0.65	3	< 2	1.9	133.3
RS-490 1060-1080	1104	0.25	104.8	120.3	< 1	33.7	0.02	0.04	0.12	1.2	73.4	9.13	2.89	1	3005	0.13	13.8	0.01	34	4.2	0.015	2	0.01	12.09	2.91	38.8	5.4	3.8	< .02	6.3	0.001	0.94	2.1	2	1.6	129.9
RS-490 1080-1100	534	0.7	68	42	< 1	53.1	0.09	0.35	0.48	1.3	48.7	5.94	2.54	3.1	2555	0.16	23.7	0.07	150	3.97	0.022	1.6	0.017	20.89	2.61	22.47	2.9	44.1	< .02	8.9	< .001	0.56	2.6	6	1.4	100.4
RS-490 1100-1120	228	2.28	11.5	15.7	< 1	209.9	0.28	2.18	0.68	2	30.1	4.47	1.68	7.1	393	0.46	32.4	0.2	1127	1.37	0.029	0.3	0.041	18.7	0.44	3.13	1.1	135.1	< .02	7.9	0.001	0.26	30.1	25	< .2	57.7
RS-490 1120-1140	144	2.09	7	6.1	< 1	192.2	0.23	1.86	0.38	1.4	20.3	6.69	1.97	6.5	216	0.48	29.4	0.21	938	1.63	0.035	1	0.04	18.31	0.19	2.07	0.4	118.6	< .02	7.6	0.002	0.23	15	13	0.3	51.4
RS-490 1140-1160	118	2	4	2.7	< 1	320.5	0.22	1.84	0.54	2.2	7.7	15.54	2.67	6	118	0.4	27.6	0.23	985	1.57	0.039	3.2	0.047	14.8	0.08	1.04	0.2	159.3	< .02	7.4	0.002	0.16	22.4	20	< .2	60.3
RS-490 1160-1180	111	1.69	3.4	2.6	< 1	421.2	0.19	1.82	0.51	1.9	6.9	12.78	2.6	6	86	0.45	28.8	0.16	870	1.95	0.052	2.4	0.044	14.2	0.08	1.39	0.3	106.4	< .02	8.7	0.008	0.16	26.6	21	0.2	70.1
RS-490 1180-1200	117	1.36	3.7	3.2	< 1	391.3	0.19	1.56	0.43	1.6	5.8	9.86	2.32	4.9	109	0.35	27.1	0.12	779	1.61	0.051	1.6	0.035	14.84	0.08	1.56	0.4	94.8	< .02	9	0.007	0.14	23.8	17	0.2	57.3
RS-490 1200-1220	87	1.19	2.1	0.8	< 1	184.4	0.21	1.43	0.22	1.6	10.5	27.42	3.1	4.1	22	0.36	23.4	0.13	1046	2.48	0.053	4.4	0.04	107.25	< .01	0.7	< .1	124.4	< .02	7.5	0.007	0.11	2.7	10	0.5	64.6
RS-490 1220-1240	98	1.3	1.3	0.6	< 1	897.9	0.22	1.76	0.24	2	10.4	24.08	2.97	4.2	19	0.24	25.2	0.17	886	2.11	0.057	5.4	0.043	21.76	0.01	0.36	< .1	254.7	0.02	5.5	0.004	0.08	1.1	12	0.3	64.9
RS-490 1240-1260	74	1.36	0.6	0.6	< 1	176.4	0.16	2.37	0.18	4.4	5	8.98	2.12	6	20	0.2	27.1	0.18	1207	1.03	0.052	0.3	0.065	19.62	0.01	0.35	< .1	184.2	< .02	4.8	0.028	0.05	1.3	16	< .2	98.1
RS-490 1260-1280	72	0.99	1.3	0.4	< 1	594.1	0.16	2.46	0.13	1.9	2.9	7.6	1.87	4.7	13	0.24	25.8	0.12	957	0.94	0.049	< .1	0.06	22.59	0.02	0.48	< .1	139.9	< .02	4.8	0.028	0.06	1.6	5	0.3	76.2
RS-490 1280-1300	92	1.12	1.2	0.7	< 1	465.7	0.16	2.12	0.22	1.5	11	13.48	1.86	3.9	31	0.38	27	0.12	953	2.2	0.049	2.8	0.054	19.47	0.04	0.54	0.1	164.1	< .02	5.2	0.005	0.12	1.9	9	0.2	61.9
RS-490 1300-1320	71	1.09	0.9	0.6	< 1	157.3	0.24	1.39	0.13	1.7	6.8	12.5	2.22	4.2	16	0.36	24.4	0.14	746	1.77	0.052	3	0.051	15.67	0.01	0.53	< .1	142.4	< .02	5.4	0.007	0.12	1.2	9	0.3	67.7
STANDARD DS2	240	1.9	59.6	215	< 1	156.2	11.39	0.56	10.74	11.8	167.1	132.96	3.24	6.5	235	0.17	16.8	0.63	860	14.98	0.032	38.2	0.094	34.87	0.01	9.51	2.3	29.8	1.94	4	0.096	1.87	23.7	77	6.7	167.4
RS-490 1320-1340	92	1.33	0.9	0.8	1	212.2	0.31	1.71	0.18	1.3	12	13.42	2.17	5.3	24	0.28	29.9	0.13	857	2.32	0.068	2.2	0.038	22.17	0.03	0.25	0.2	206.7	< .02	3.9	0.002	0.07	1	2	0.3	66.8
RS-490 1340-1360	92	1.3	1.1	0.6	< 1	133.6	0.23	1.43	0.18	1.8	7.6	11.56	2.36	5	15	0.36	30	0.15	907	1.62	0.058	2.4	0.047	17.79	0.03	0.32	0.1	190.2	0.03	4.6	0.007	0.1	1	6	0.3	85.1

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
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CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 1360-1380	85	1.09	2.3	< .2	< 1	126.7	0.18	2.11	0.22	1.6	6.8	10.97	2.2	4.3	21	0.37	31.7	0.13	889	1.57	0.054	2.2	0.043	19.67	0.04	0.36	0.1	175.1	0.03	5.4	0.006	0.09	0.9	4	0.3	67.5
RS-490 1380-1400	84	1.21	1.2	0.7	1	94.9	0.18	1.84	0.16	2.1	2.4	5.78	2.17	5.1	27	0.38	34.5	0.17	1214	0.76	0.055	0.5	0.058	20.6	0.13	0.48	< .1	173.8	0.03	4.2	0.008	0.1	0.5	4	0.2	80.2
RS-490 1400-1420	180	1.19	3	8.3	< 1	118.3	0.2	1.76	0.2	3	2.9	7.62	2.25	4.4	58	0.37	32.1	0.15	1057	1.09	0.033	0.6	0.059	20.21	0.9	2.56	1.3	164	0.03	4.5	< .001	0.24	0.4	5	< .2	81.4
RS-490 1420-1440	1269	1.04	17.5	18.4	< 1	90	0.11	1.04	0.16	1.4	4.3	11	2.6	3.3	61	0.3	27.3	0.06	562	1.49	0.029	1.5	0.04	26.94	2.21	5.23	5.4	169.3	< .02	3.6	< .001	0.43	0.7	< 2	0.5	77.7
RS-490 1440-1460	681	0.82	13.4	13.2	< 1	47.6	0.1	2.21	0.21	1.4	4	8.21	1.95	2.4	44	0.38	27	0.04	1647	1.09	0.022	0.7	0.041	29.11	2.07	5.14	3.3	173.6	< .02	3.8	0.001	0.51	0.9	< 2	0.4	85.9
RS-490 1460-1480	8558	0.87	97	118.4	< 1	63.7	0.11	0.68	0.36	1.7	30.1	21.15	3.74	2.9	172	0.32	23.5	0.05	304	6.35	0.02	4.8	0.037	31.28	3.28	9.06	12.6	123.2	0.03	5.2	< .001	0.71	4.9	4	0.6	89.1
RS-490 1480-1500	13090	0.77	84.7	145.8	< 1	63.1	0.09	0.45	0.26	1.7	16.2	18.43	3.58	2.4	306	0.29	17.2	0.03	201	5.16	0.015	3.9	0.029	38.39	2.91	10.65	13.4	92.2	< .02	4.2	< .001	0.73	2.6	3	0.7	70.4
RS-490 1500-1520	1769	1.07	47.6	63.9	< 1	73.1	0.11	0.52	0.2	1.3	5.5	10.13	2.41	3.1	173	0.43	27.2	0.06	940	1.38	0.017	1.3	0.036	27.32	2.45	6.11	8.3	131.1	< .02	4.8	< .001	0.51	1.1	< 2	0.5	77.7
RS-490 1520-1540	1395	0.84	51.2	80.5	< 1	82.6	0.06	0.43	0.15	1.2	14.5	19.15	3.08	2.9	1248	0.23	19.9	0.03	234	11.06	0.013	4.4	0.017	27.18	2.28	5.75	5.8	100.8	< .02	5.6	< .001	0.5	2.9	3	1	66.3
RS-490 1540-1560	260	0.6	12.3	12.3	< 1	36.6	0.02	1.11	0.17	0.4	7.5	18.13	1.9	3.4	57	0.32	43.8	0.03	682	2.51	0.048	2.9	0.007	32.46	0.36	1.15	0.5	72.7	< .02	14.6	< .001	0.11	2.2	2	0.8	93.2
RS-490 1560-1580	289	0.55	7.1	4	3	22.8	< .02	0.95	0.1	0.4	6.7	15.59	1.61	3.8	18	0.32	50	0.02	608	1.9	0.056	2.4	0.008	34.04	0.15	0.67	0.3	64.5	< .02	16.2	< .001	0.06	1.8	2	0.8	75.5
RS-490 1580-1600	139	0.58	1.3	2.3	1	18.1	< .02	0.75	0.05	0.2	4.4	10.01	1.41	3.8	20	0.31	51.3	0.02	590	0.87	0.05	1.3	0.007	22.13	0.06	0.33	0.2	52.1	< .02	16.5	< .001	0.05	1	< 2	0.3	65.7
89548	99999	2.25	138.8	15121.5	1	54.4	0.27	1.03	0.24	3.3	6.3	46.97	3.09	7.1	362	0.88	15.4	0.13	337	5.99	0.064	3	0.059	27.41	2.98	22.78	35.1	74	0.02	3.5	< .001	0.41	1	8	0.2	92.4
STANDARD DS2	228	1.84	59.9	192.3	4	152	10.46	0.54	9.74	11.2	165.8	132.24	3.51	6	239	0.16	16.2	0.61	838	13.34	0.031	35.9	0.095	31.87	0.03	9.3	2.2	28.3	1.78	3.4	0.095	1.73	18.8	76	6	166.2

AMERICAN ASSAY LABORATORIES
AAL 03-0 ICP PACKAGE DETECTION LIMITS

ELEMENT	Ag	Al	As	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	30	0.01	0.5	3	1	0.1	0.01	.01	1	1	0.2	0.01	0.5	10	0.01	1	0.01	2	0.1	0.01	1	0.001	0.3	0.2	0.4	1	0.2	2	0.01	0.2	5	1	2	1

5.0 GRAMS OF PULP IS DIGESTED WITH HYDROCHLORIC AND NITRIC ACID AT 95 DEGREE CENTIGRADE FOR ONE HOUR.
DIGEST IS PARTIAL FOR Al, B, Ba, Ca, Co, Cr, Fe, K, La, Mg, Mn, Na, Ni, P, Sr, Th, Ti, U, V AND W.
ORGANIC SOLUTION EXTRACTION AND ULTRASONIC ICP FOR Ag, As, Bi, Cd, Cu, Ga, Mo, Pb, Sb, Se, Te AND Tl.
Hg BY COLD VAPOR AAS.

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
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CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 0000-0020	79	0.66	18.1	1.8	7	59.20	0.05	0.14	0.1	0.60	7	13.19	2.66	3.5	126	0.11	24.9	0.1	150	2.08	0.081	3.7	0.015	36.33	0.06	9.28	0.5	55.4	< .02	13.2	0.02	0.07	3.8	17	1.4	62.9
RS-490 0020-0040	129	1.06	9.8	1.8	3	50.80	0.08	0.05	0.15	< .1	5.9	8.53	3.22	4.5	238	0.03	17.6	0.01	96	1.85	0.016	2.5	0.014	31.49	0.02	7.9	1.1	36.9	< .02	12.2	0.013	0.02	4	27	1.2	44.1
RS-490 0040-0060	772	1.22	24.4	21.2	1	94.90	0.06	0.03	0.07	0.20	11.4	19.44	3.38	4.5	1369	0.04	14.5	0.01	100	5.08	0.011	6.2	0.011	18.21	0.08	20.11	1.8	61.4	< .02	9.1	0.007	0.06	62.6	21	0.7	18.2
RS-490 0060-0080	78	1.22	13.7	4.1	< 1	85.30	0.76	0.06	0.11	0.90	8	14.33	3.07	4.7	709	0.07	19	0.02	354	1.64	0.01	4.7	0.013	21.95	0.06	9.22	0.8	53.6	< .02	12.3	0.004	0.15	10.5	21	0.8	44.7
RS-490 0080-0100	173	1.27	24.6	20.5	< 1	109.30	1.05	0.05	0.14	0.50	6.3	11.82	2.99	5	1572	0.1	20.6	0.02	288	1.71	0.017	3.3	0.013	20.79	0.03	16.7	1.7	35.1	< .02	13.9	0.005	0.13	9	22	0.6	49.8
RS-490 0100-0120	51	0.98	16.5	3.8	1	72.20	3.17	0.05	0.09	< .1	5.4	9.19	2.93	4.5	363	0.14	24.5	0.02	88	1.6	0.019	2.7	0.015	18.53	0.02	9.34	0.7	30.8	0.02	15.9	0.01	0.07	5.1	16	1.2	22.7
RS-490 0120-0140	102	1.23	13.3	1.5	< 1	84.30	10.78	0.07	0.27	0.80	4.1	9.81	2.81	5.5	226	0.18	26.5	0.02	223	1.48	0.024	1.8	0.018	23.52	< .01	10.51	0.5	18.7	0.1	16	0.013	0.17	5.5	12	1.5	67.9
RS-490 0140-0160	130	1.06	9.3	1.6	1.0	112.80	9.89	0.09	0.38	1.50	5.4	9.11	2.82	4.7	161	0.2	23.7	0.03	476	2.16	0.027	2.3	0.03	21.86	0.01	8.67	0.5	136	0.09	15.5	0.009	0.48	6.3	14	2.9	32.7
RS-490 0160-0180	239	1.66	6.6	2.6	< 1	141.60	4.86	0.72	1.98	7.00	3.2	13.5	4.75	8.4	59	0.15	38.3	0.2	2358	1.36	0.025	0.8	0.136	18.21	< .01	5.01	0.4	74.9	< .02	11.4	0.012	0.52	3.2	26	1.2	147.1
RS-490 0180-0200	207	1.12	5.4	4.4	< 1	73.00	12.6	1.38	0.79	3.90	3.7	12.91	4.22	5.9	27	0.13	34.9	0.12	733	1.69	0.027	0.9	0.135	13.65	< .01	3.64	0.4	44.7	< .02	11.8	0.031	0.08	2.1	26	1.1	77
RS-490 0200-0220	87	1.37	15.8	1.6	< 1	106.00	4.25	1.35	0.82	2.60	5.3	12.96	3.66	6.3	27	0.16	29.7	0.11	740	2.03	0.028	1.6	0.095	21.65	< .01	4.25	0.4	43.5	< .02	12.9	0.011	0.11	3.4	27	1	60
RS-490 0220-0240	78	0.8	24.5	1.8	< 1	91.30	3.81	0.44	0.21	0.10	5.2	8.06	2.15	4.1	85	0.17	21.8	0.03	383	2.31	0.021	1.7	0.031	20.24	< .01	5.83	0.7	17	0.03	14.6	0.008	0.1	2.9	7	1.2	27.3
RS-490 0240-0260	231	0.9	13.2	8.9	2	178.20	2.04	0.46	0.15	< .1	6.8	13.19	3.18	4.8	68	0.21	22.5	0.04	274	3.11	0.026	2.3	0.031	18.37	0.02	5.36	0.7	26.2	0.03	15.3	0.022	0.09	3.2	8	2	28.6
RS-490 0260-0280	97	0.75	9.1	1.4	2	97.70	0.19	0.07	0.16	< .1	4.4	13.71	3.18	4	55	0.15	21.8	0.02	339	3.71	0.018	1.5	0.023	21.8	< .01	6.75	0.5	38.5	0.02	15.5	0.03	0.2	3.3	8	2.6	41.9
RS-490 0280-0300	101	1.01	11.4	1.5	1	109.90	0.19	0.06	0.03	< .1	2.8	16.79	2.06	4.7	131	0.12	23	0.02	43	2.21	0.014	1.3	0.014	18.32	0.06	8.03	0.5	48.5	0.02	16.3	0.007	0.06	2.6	4	0.7	19.7
RS-490 0300-0320	305	1.32	26.1	62.1	< 1	285.00	0.37	0.05	0.02	0.20	6.6	16.41	2.64	5.2	738	0.12	18.5	0.01	72	2.99	0.011	3.5	0.009	20.37	0.13	14.47	4	55.7	< .02	11.5	< .001	0.08	2.6	6	0.4	11.3
RS-490 0320-0340	244	1.24	17.9	30.9	< 1	115.60	0.03	0.05	0.01	0.30	9.5	18.91	2.29	5.1	253	0.04	19.2	0.01	81	2.98	0.006	4.7	0.007	18.81	0.07	12.6	2.1	37.7	< .02	10.5	< .001	0.03	1.7	6	0.5	8
RS-490 0340-0360	68	0.88	10.4	16.6	< 1	69.80	0.05	0.04	0.03	0.20	4.7	21.99	3.12	4.8	288	0.05	14.8	0.01	45	3.31	0.007	2.5	0.017	18.32	0.06	13.92	2.9	57	< .02	10.5	< .001	0.04	1.8	5	0.3	14.6
RS-490 0360-0380	201	1.3	15.8	34.1	< 1	109.10	0.34	0.04	0.01	< .1	7.4	19.88	3.86	5.4	187	0.07	12.1	0.01	71	3.52	0.007	3.8	0.009	14.19	0.12	13.99	3.1	54.6	< .02	8.8	< .001	0.05	1.3	6	0.5	10.1
RS-490 0380-0400	229	1.28	9.4	13.6	< 1	246.40	0.28	0.04	0.01	0.30	8.7	22.69	3.64	5.6	120	0.21	14.8	0.01	96	3.57	0.008	4.2	0.021	12.89	0.41	8.18	0.9	63.9	< .02	8.3	0.002	0.1	2.6	8	0.5	15.6
RS-490 0400-0420	83	0.99	9.8	17.3	< 1	253.80	0.25	0.05	0.01	0.30	4.3	19.25	2.71	3.6	3266	0.08	16.1	0.01	47	3.95	0.007	2.3	0.016	12.8	0.1	9.14	8.4	63.4	< .02	11.5	< .001	0.06	2.5	4	0.4	16.2
RS-490 0420-0440	779	1.18	53.2	221	< 1	218.10	0.16	0.09	0.01	1.30	44.8	11.56	4.14	6.1	802	0.15	20.2	0.03	12	5.34	0.018	1.7	0.026	18.38	0.99	48.1	17.8	80.2	< .02	12.2	0.002	0.29	3.7	3	0.6	26.3
RS-490 0440-0460	1193	0.88	71.6	322.7	< 1	58.60	0.03	0.06	0.03	3.90	70.4	20.2	4.62	4.1	1703	0.19	29.6	0.02	15	2.93	0.026	2.5	0.102	16.59	3.83	61.26	26.5	159.2	< .02	10.9	0.002	0.82	8.6	3	0.5	33.3
RS-490 0460-0480	308	0.84	10.1	48.8	< 1	114.60	0.02	0.05	0.48	4.20	31.2	8.22	1.69	3.6	340	0.15	23.6	0.02	17	1.77	0.024	1.8	0.014	15.67	1.66	10.24	4.6	45.2	< .02	13.8	0.003	0.68	6.1	< 2	0.5	21.7
RS-490 0480-0500	97	0.94	1.7	4.2	< 1	79.40	0.02	0.66	0.37	0.60	32.4	8.09	1.89	5.2	52	0.21	33.2	0.1	1105	2.26	0.027	1	0.015	18.31	0.06	3.12	0.6	29.1	< .02	16	0.018	0.11	2.6	4	0.6	110
RS-490 0500-0520	71	0.81	1.4	1.7	< 1	91.20	0.06	0.21	0.14	0.40	25	4.62	1.89	4.3	22	0.18	25.5	0.04	1001	1.99	0.023	1	0.01	31.82	0.01	3.82	0.4	14.5	< .02	15.7	0.019	0.06	2.3	4	0.6	106.2
RS-490 0520-0540	128	0.63	6.2	9.9	< 1	51.40	0.03	0.12	0.14	0.70	28.2	8.86	1.9	3.9	81	0.16	27.5	0.03	877	1.72	0.026	1	0.012	71.81	0.31	9.65	1.1	11.6	< .02	15.4	0.017	0.19	2.1	4	1.3	105.8
RS-490 0540-0560	199	0.68	8.8	31.1	< 1	70.20	0.02	0.81	0.18	1.00	47.8	5.57	2	4.1	143	0.19	24.7	0.03	1166	1.56	0.029	1.4	0.009	26.82	0.72	6.64	1.8	33	< .02	13.4	0.015	0.32	1.8	2	1.4	159.4
RS-490 0560-0580	115	0.73	5	7.5	< 1	59.70	0.02	1.31	0.11	0.50	48.3	5.16	1.71	4.4	99	0.21	26.6	0.05	728	1.42	0.032	1	0.009	15.5	0.26	5.17	0.9	48.8	< .02	14.8	0.017	0.14	2	5	1.5	104.4
RS-490 0580-0600	182	0.86	11.1	24.5	< 1	60.80	0.0	0.11	0.1	1.00	75.4	5.23	1.86	4.7	269	0.23	27.2	0.04	638	1.29	0.029	2.1	0.01	17.74	1	12.1	2.2	9.3	< .02	14.4	0.01	0.28	2	3	1.4	107.7
RS-490 0600-0620	129	0.93	5.2	11	< 1	47.4	0.04	0.06	0.09	0.7	51.7	5.09	1.47	4.4	174	0.21	24.5	0.04	384	1.31	0.024	1.4	0.006	18.23	0.65	8.07	1.4	8	< .02	14.1	0.009	0.23	2	4	0.8	87
RS-490 0620-0640	80	0.94	2.6	1.6	< 1	42.3	0.06	0.06	0.14	0.6	19.5	6.08	1.76	4.5	275	0.19	24.3	0.05	529	0.99	0.025	1.5	0.007	19.52	0.16	4.3	0.4	7.9	< .02	15.6	0.014	0.08	2	4	1.3	72.6
RS-490 0640-0660	207	0.76	15.3	15.6	< 1	38.5	0.09	0.08	0.12	1.2	6.2	21.33	3.41	4.2	526	0.16	18.5	0.03	123	2.22	0.021	4.1	0.015	20.7	1.6	11.94	2.2	8	< .02	12.4	0.007	0.39	2	5	0.9	92.3
STANDARD DS2	234	1.81	57.6	202.1	< 1	147.2	11.26	0.51	10.2	11.7	155.6	129.99	3.45	6.2	252	0.15	17	0.6	845	14.06	0.032	35.6	0.087	33.55	0.02	9.07	2.3	29.2	1.84	3.8	0.089	1.87	23.2	73	6.5	161.9
RS-490 0660-0680	144	0.62	9.7	10.5	< 1	37.8	0.09	0.23	0.08	1.5	7.2	20.62	3.4	3.8	361	0.17	22.8	0.03	737	2.06	0.028	4.5	0.017	16.3	1.52	9.77	1.4	12.6	< .02	11.8	0.017	0.34	1.7	7	1.1	118.8

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CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 0680-0700	67	0.5	2.6	1.7	< 1	37.1	0.05	1.19	0.17	0.8	5.8	15.15	2.55	3.3	90	0.14	22.3	0.05	724	1.39	0.025	2.7	0.014	10.86	0.35	2.81	0.2	40.8	< .02	12.1	0.021	0.09	1.5	9	1.3	107.6
RS-490 0700-0720	66	0.5	2.5	1.4	< 1	31.5	0.05	0.92	0.13	0.7	5.2	16	2.6	3.3	44	0.13	24.1	0.05	728	1.72	0.027	3.2	0.014	9.33	0.19	1.95	0.1	35.8	< .02	12.4	0.018	0.07	1.4	7	0.8	116.3
RS-490 0720-0740	79	0.63	2.2	1.6	< 1	34.5	0.07	0.92	0.16	0.4	5.1	13.58	2.65	3.8	61	0.15	25.9	0.07	769	1.76	0.03	2.7	0.015	9.86	0.17	2.55	0.2	37.6	< .02	13.4	0.017	0.07	1.6	8	1.1	109
RS-490 0740-0760	77	0.64	1.8	0.8	< 1	31.3	0.05	0.24	0.07	0.3	5	11.91	2.5	3.9	36	0.15	26.2	0.07	1282	1.63	0.028	2.5	0.014	11.47	0.13	4.35	< .1	18.1	< .02	13.5	0.014	0.06	1.4	5	0.8	126.8
RS-490 0760-0780	90	0.64	2.8	1.6	< 1	34.9	0.03	0.27	0.1	0.4	4.1	10.98	2.42	3.7	43	0.16	26.5	0.08	380	1.23	0.025	2.3	0.012	11.35	0.13	3.7	< .1	18.6	< .02	13.4	0.012	0.06	1.4	4	0.8	108.6
RS-490 0780-0800	98	0.68	8.8	1.3	< 1	36.4	0.05	0.48	0.13	0.6	4.3	14.83	2.32	4	138	0.17	29	0.07	539	1.26	0.026	2.4	0.013	12.2	0.25	3.33	0.1	21.3	< .02	13.7	0.013	0.1	1.5	6	1	132.8
RS-490 0800-0820	130	0.75	26.5	0.9	< 1	32.4	0.03	0.51	0.14	0.9	4	17.57	2.09	4.6	276	0.19	26.8	0.1	485	1.45	0.029	2.5	0.01	15.16	0.62	4.64	0.2	22	< .02	12.9	0.007	0.2	1.4	4	0.6	112.5
RS-490 0820-0840	104	0.68	3.9	1.7	< 1	89.8	0.04	0.18	0.12	1	4.2	11.72	2.56	3.6	75	0.18	29.5	0.06	458	1.7	0.031	2.6	0.014	12.17	0.33	5.12	0.1	16.3	< .02	14.6	0.017	0.08	1.9	5	1.7	115.5
RS-490 0840-0860	129	0.74	2	1.1	< 1	46.1	0.03	1.2	0.19	0.8	35.5	3.02	1.83	3.8	51	0.21	27.9	0.09	934	1.34	0.028	0.5	0.019	15.57	0.14	2.16	0.2	43.1	< .02	13.6	0.015	0.08	2.1	5	0.9	109.6
RS-490 0860-0880	206	1.05	6	39.2	< 1	29.9	0.1	0.58	0.17	2.7	40.6	7.6	3.02	5	260	0.19	27.4	0.1	1663	1.23	0.028	1.4	0.071	17.57	1.52	7.87	1.9	33.6	< .02	10.1	0.01	0.42	3.4	11	0.6	371.4
RS-490 0880-0900	427	0.45	40.1	99.8	< 1	42.8	0.03	0.07	0.24	2	104.5	5.29	2.08	4.3	1232	0.2	19.8	0.02	53	1.55	0.026	4.3	0.012	12.93	2.52	17.14	7.6	5.9	< .02	9.3	0.001	0.67	1.8	< 2	0.5	210.8
RS-490 0900-0920	353	0.54	32.8	68.8	< 1	47	0.04	0.08	0.15	1.6	77.5	5.06	2.11	4.1	618	0.22	21.2	0.03	51	1.2	0.029	3	0.011	12.49	2.59	19.33	8.4	7.2	< .02	10	< .001	0.93	1.4	2	0.4	198.9
RS-490 0920-0940	134	0.65	10.6	5.9	< 1	43.8	< .02	0.08	0.09	1.5	60	2.65	1.68	3.7	266	0.22	25.2	0.03	60	0.84	0.026	1.9	0.012	16.07	1.48	7.34	0.9	7.8	< .02	11.6	0.004	0.27	1.4	2	0.5	131.7
RS-490 0940-0960	737	0.59	39.9	98.2	< 1	51.5	0.02	0.06	0.22	2	69.2	24.89	3.01	4.7	1846	0.23	21.5	0.02	140	3.5	0.029	8.1	0.009	15.38	1.99	17.76	10.5	6.2	< .02	10.2	< .001	0.57	2.9	5	1.3	157.9
RS-490 0960-0980	1003	0.39	60.5	74.2	< 1	34.8	0.02	0.04	0.24	1.9	23.8	39.13	4.73	3	2671	0.15	15.2	0.01	234	4.17	0.024	12.6	0.008	11.64	1.83	22.44	12.8	4	< .02	7.2	< .001	0.75	2.6	9	0.9	139.6
RS-490 0980-1000	934	0.43	46.7	82.2	< 1	41.1	0.02	0.05	0.19	1.9	49.7	36.58	4.31	2.9	2711	0.17	16.7	0.02	226	3.75	0.027	11.2	0.01	11.87	1.57	21.17	8.8	4.7	< .02	8	0.001	0.62	2.8	8	0.7	136.6
RS-490 1000-1020	1053	0.38	97.4	164.6	< 1	46.7	< .02	0.04	0.2	2	136.9	11.9	1.7	2.3	3110	0.2	20.4	0.01	41	3.33	0.03	5.1	0.008	15.92	2.04	29.43	12.8	4.9	< .02	9.6	0.001	0.81	4.1	2	1	146.4
RS-490 1020-1040	582	0.49	52.5	111.1	< 1	54.9	0.03	0.07	0.16	1.8	136.8	7.34	1.82	2.6	1953	0.23	20.6	0.02	77	3.16	0.029	4.8	0.011	14.71	1.89	18.26	6.6	6.6	< .02	10.1	0.001	0.54	3.3	2	1.1	156.1
RS-490 1040-1060	505	0.48	35.4	111.3	< 1	53.7	< .02	0.04	0.27	1.1	117.2	12.49	1.4	2.1	1720	0.21	21.1	0.01	32	1.91	0.032	8	0.008	15.27	1.63	18.26	10.8	6.1	< .02	10.2	0.001	0.65	3	< 2	1.9	133.3
RS-490 1060-1080	1104	0.25	104.8	120.3	< 1	33.7	0.02	0.04	0.12	1.2	73.4	9.13	2.89	1	3005	0.13	13.8	0.01	34	4.2	0.015	2	0.01	12.09	2.91	38.8	5.4	3.8	< .02	6.3	0.001	0.94	2.1	2	1.6	129.9
RS-490 1080-1100	534	0.7	68	42	< 1	53.1	0.09	0.35	0.48	1.3	48.7	5.94	2.54	3.1	2555	0.16	23.7	0.07	150	3.97	0.022	1.6	0.017	20.89	2.61	22.47	2.9	44.1	< .02	8.9	< .001	0.56	2.6	6	1.4	100.4
RS-490 1100-1120	228	2.28	11.5	15.7	< 1	209.9	0.28	2.18	0.68	2	30.1	4.47	1.68	7.1	393	0.46	32.4	0.2	1127	1.37	0.029	0.3	0.041	18.7	0.44	3.13	1.1	135.1	< .02	7.9	0.001	0.26	30.1	25	< .2	57.7
RS-490 1120-1140	144	2.09	7	6.1	< 1	192.2	0.23	1.86	0.38	1.4	20.3	6.69	1.97	6.5	216	0.48	29.4	0.21	938	1.63	0.035	1	0.04	18.31	0.19	2.07	0.4	118.6	< .02	7.6	0.002	0.23	15	13	0.3	51.4
RS-490 1140-1160	118	2	4	2.7	< 1	320.5	0.22	1.84	0.54	2.2	7.7	15.54	2.67	6	118	0.4	27.6	0.23	985	1.57	0.039	3.2	0.047	14.8	0.08	1.04	0.2	159.3	< .02	7.4	0.002	0.16	22.4	20	< .2	60.3
RS-490 1160-1180	111	1.69	3.4	2.6	< 1	421.2	0.19	1.82	0.51	1.9	6.9	12.78	2.6	6	86	0.45	28.8	0.16	870	1.95	0.052	2.4	0.044	14.2	0.08	1.39	0.3	106.4	< .02	8.7	0.008	0.16	26.6	21	0.2	70.1
RS-490 1180-1200	117	1.36	3.7	3.2	< 1	391.3	0.19	1.56	0.43	1.6	5.8	9.86	2.32	4.9	109	0.35	27.1	0.12	779	1.61	0.051	1.6	0.035	14.84	0.08	1.56	0.4	94.8	< .02	9	0.007	0.14	23.8	17	0.2	57.3
RS-490 1200-1220	87	1.19	2.1	0.8	< 1	184.4	0.21	1.43	0.22	1.6	10.5	27.42	3.1	4.1	22	0.36	23.4	0.13	1046	2.48	0.053	4.4	0.04	107.25	< .01	0.7	< .1	124.4	< .02	7.5	0.007	0.11	2.7	10	0.5	64.6
RS-490 1220-1240	98	1.3	1.3	0.6	< 1	897.9	0.22	1.76	0.24	2	10.4	24.08	2.97	4.2	19	0.24	25.2	0.17	886	2.11	0.057	5.4	0.043	21.76	0.01	0.36	< .1	254.7	0.02	5.5	0.004	0.08	1.1	12	0.3	64.9
RS-490 1240-1260	74	1.36	0.6	0.6	< 1	176.4	0.16	2.37	0.18	4.4	5	8.98	2.12	6	20	0.2	27.1	0.18	1207	1.03	0.052	0.3	0.065	19.62	0.01	0.35	< .1	184.2	< .02	4.8	0.028	0.05	1.3	16	< .2	98.1
RS-490 1260-1280	72	0.99	1.3	0.4	< 1	594.1	0.16	2.46	0.13	1.9	2.9	7.6	1.87	4.7	13	0.24	25.8	0.12	957	0.94	0.049	< .1	0.06	22.59	0.02	0.48	< .1	139.9	< .02	4.8	0.028	0.06	1.6	5	0.3	76.2
RS-490 1280-1300	92	1.12	1.2	0.7	< 1	465.7	0.16	2.12	0.22	1.5	11	13.48	1.86	3.9	31	0.38	27	0.12	953	2.2	0.049	2.8	0.054	19.47	0.04	0.54	0.1	164.1	< .02	5.2	0.005	0.12	1.9	9	0.2	61.9
RS-490 1300-1320	71	1.09	0.9	0.6	< 1	157.3	0.24	1.39	0.13	1.7	6.8	12.5	2.22	4.2	16	0.36	24.4	0.14	746	1.77	0.052	3	0.051	15.67	0.01	0.53	< .1	142.4	< .02	5.4	0.007	0.12	1.2	9	0.3	67.7
STANDARD DS2	240	1.9	59.6	215	< 1	156.2	11.39	0.56	10.74	11.8	167.1	132.96	3.24	6.5	235	0.17	16.8	0.63	860	14.98	0.032	38.2	0.094	34.87	0.01	9.51	2.3	29.8	1.94	4	0.096	1.87	23.7	77	6.7	167.4
RS-490 1320-1340	92	1.33	0.9	0.8	1	212.2	0.31	1.71	0.18	1.3	12	13.42	2.17	5.3	24	0.28	29.9	0.13	857	2.32	0.068	2.2	0.038	22.17	0.03	0.25	0.2	206.7	< .02	3.9	0.002	0.07	1	2	0.3	66.8
RS-490 1340-1360	92	1.3	1.1	0.6	< 1	133.6	0.23	1.43	0.18	1.8	7.6	11.56	2.36	5	15	0.36	30	0.15	907	1.62	0.058	2.4	0.047	17.79	0.03	0.32	0.1	190.2	0.03	4.6	0.007	0.1	1	6	0.3	85.1

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METHOD:	AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 1360-1380	85	1.09	2.3	< .2	< 1	126.7	0.18	2.11	0.22	1.6	6.8	10.97	2.2	4.3	21	0.37	31.7	0.13	889	1.57	0.054	2.2	0.043	19.67	0.04	0.36	0.1	175.1	0.03	5.4	0.006	0.09	0.9	4	0.3	67.5
RS-490 1380-1400	84	1.21	1.2	0.7	1	94.9	0.18	1.84	0.16	2.1	2.4	5.78	2.17	5.1	27	0.38	34.5	0.17	1214	0.76	0.055	0.5	0.058	20.6	0.13	0.48	< .1	173.8	0.03	4.2	0.008	0.1	0.5	4	0.2	80.2
RS-490 1400-1420	180	1.19	3	8.3	< 1	118.3	0.2	1.76	0.2	3	2.9	7.62	2.25	4.4	58	0.37	32.1	0.15	1057	1.09	0.033	0.6	0.059	20.21	0.9	2.56	1.3	164	0.03	4.5	< .001	0.24	0.4	5	< .2	81.4
RS-490 1420-1440	1269	1.04	17.5	18.4	< 1	90	0.11	1.04	0.16	1.4	4.3	11	2.6	3.3	61	0.3	27.3	0.06	562	1.49	0.029	1.5	0.04	26.94	2.21	5.23	5.4	169.3	< .02	3.6	< .001	0.43	0.7	< 2	0.5	77.7
RS-490 1440-1460	681	0.82	13.4	13.2	< 1	47.6	0.1	2.21	0.21	1.4	4	8.21	1.95	2.4	44	0.38	27	0.04	1647	1.09	0.022	0.7	0.041	29.11	2.07	5.14	3.3	173.6	< .02	3.8	0.001	0.51	0.9	< 2	0.4	85.9
RS-490 1460-1480	8558	0.87	97	118.4	< 1	63.7	0.11	0.68	0.36	1.7	30.1	21.15	3.74	2.9	172	0.32	23.5	0.05	304	6.35	0.02	4.8	0.037	31.28	3.28	9.06	12.6	123.2	0.03	5.2	< .001	0.71	4.9	4	0.6	89.1
RS-490 1480-1500	13090	0.77	84.7	145.8	< 1	63.1	0.09	0.45	0.26	1.7	16.2	18.43	3.58	2.4	306	0.29	17.2	0.03	201	5.16	0.015	3.9	0.029	38.39	2.91	10.65	13.4	92.2	< .02	4.2	< .001	0.73	2.6	3	0.7	70.4
RS-490 1500-1520	1769	1.07	47.6	63.9	< 1	73.1	0.11	0.52	0.2	1.3	5.5	10.13	2.41	3.1	173	0.43	27.2	0.06	940	1.38	0.017	1.3	0.036	27.32	2.45	6.11	8.3	131.1	< .02	4.8	< .001	0.51	1.1	< 2	0.5	77.7
RS-490 1520-1540	1395	0.84	51.2	80.5	< 1	82.6	0.06	0.43	0.15	1.2	14.5	19.15	3.08	2.9	1248	0.23	19.9	0.03	234	11.06	0.013	4.4	0.017	27.18	2.28	5.75	5.8	100.8	< .02	5.6	< .001	0.5	2.9	3	1	66.3
RS-490 1540-1560	260	0.6	12.3	12.3	< 1	36.6	0.02	1.11	0.17	0.4	7.5	18.13	1.9	3.4	57	0.32	43.8	0.03	682	2.51	0.048	2.9	0.007	32.46	0.36	1.15	0.5	72.7	< .02	14.6	< .001	0.11	2.2	2	0.8	93.2
RS-490 1560-1580	289	0.55	7.1	4	3	22.8	< .02	0.95	0.1	0.4	6.7	15.59	1.61	3.8	18	0.32	50	0.02	608	1.9	0.056	2.4	0.008	34.04	0.15	0.67	0.3	64.5	< .02	16.2	< .001	0.06	1.8	2	0.8	75.5
RS-490 1580-1600	139	0.58	1.3	2.3	1	18.1	< .02	0.75	0.05	0.2	4.4	10.01	1.41	3.8	20	0.31	51.3	0.02	590	0.87	0.05	1.3	0.007	22.13	0.06	0.33	0.2	52.1	< .02	16.5	< .001	0.05	1	< 2	0.3	65.7
89548	99999	2.25	138.8	15121.5	1	54.4	0.27	1.03	0.24	3.3	6.3	46.97	3.09	7.1	362	0.88	15.4	0.13	337	5.99	0.064	3	0.059	27.41	2.98	22.78	35.1	74	0.02	3.5	< .001	0.41	1	8	0.2	92.4
STANDARD DS2	228	1.84	59.9	192.3	4	152	10.46	0.54	9.74	11.2	165.8	132.24	3.51	6	239	0.16	16.2	0.61	838	13.34	0.031	35.9	0.095	31.87	0.03	9.3	2.2	28.3	1.78	3.4	0.095	1.73	18.8	76	6	166.2

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CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 0000-0020	79	0.98	18.1	1.8	7	59.20	0.05	0.14	0.1	0.60	7	13.19	2.66	3.5	126	0.11	24.9	0.1	160	2.08	0.081	3.7	0.015	36.33	0.06	9.28	0.5	55.4	<.02	13.2	0.02	0.87	3.8	17	1.4	82.9
RS-490 0020-0040	129	1.06	9.8	1.8	3	90.90	0.68	0.05	0.15	<.1	5.8	8.53	3.22	4.5	238	0.03	17.6	0.01	96	1.85	0.016	2.5	0.014	31.49	0.82	7.9	1.1	36.9	<.02	12.2	0.013	0.82	4	27	1.2	44.1
RS-490 0040-0060	772	1.22	24.4	21.2	1	94.90	0.56	0.03	0.07	0.20	11.4	19.44	3.38	4.5	1369	0.04	14.6	0.01	100	5.06	0.011	6.2	0.011	18.21	0.08	20.11	1.8	61.4	<.02	9.1	0.007	0.06	62.6	21	0.7	18.2
RS-490 0060-0080	78	1.22	13.7	4.1	<1	95.30	0.76	0.06	0.11	0.90	8	14.33	3.67	4.7	709	0.07	19	0.02	364	1.64	0.01	4.7	0.013	21.95	0.06	9.22	0.8	53.6	<.02	12.3	0.004	0.16	10.6	21	0.8	44.7
RS-490 0080-0100	173	1.27	24.6	20.5	<1	109.30	1.05	0.05	0.14	0.50	6.3	11.82	2.99	5	1572	0.1	20.6	0.02	288	1.71	0.017	3.3	0.013	20.79	0.03	16.7	1.7	35.1	<.02	13.9	0.005	0.13	9	22	0.8	49.8
RS-490 0100-0120	51	0.88	16.5	3.8	1	72.20	3.17	0.05	0.08	<.1	5.4	9.19	2.93	4.5	363	0.14	24.5	0.02	88	1.6	0.019	2.7	0.015	18.53	0.02	9.34	0.7	39.8	0.02	16.9	0.01	0.07	5.1	16	1.2	22.7
RS-490 0120-0140	192	1.23	13.3	1.5	<1	84.30	10.78	0.07	0.27	0.80	4.1	9.81	2.81	5.5	226	0.18	26.5	0.02	223	1.48	0.024	1.8	0.018	23.62	<.01	10.51	0.5	18.7	0.1	16	0.013	0.17	5.5	12	1.6	67.9
RS-490 0140-0160	139	1.06	9.3	1.6	1.0	112.90	0.89	0.09	0.38	1.60	5.4	9.11	2.82	4.7	161	0.2	23.7	0.03	476	2.16	0.027	2.3	0.03	21.96	0.01	8.67	0.6	136	0.09	15.5	0.009	0.48	6.3	14	2.9	32.7
RS-490 0160-0180	239	1.66	6.5	2.6	<1	141.60	4.96	0.72	1.98	7.00	3.2	13.5	4.76	8.4	59	0.16	38.3	0.2	2358	1.36	0.025	0.8	0.136	18.21	<.01	6.01	0.4	74.9	<.02	11.4	0.012	0.52	3.2	26	1.2	147.1
RS-490 0180-0200	287	1.12	5.4	4.4	<1	73.00	12.6	1.38	0.79	3.90	3.7	12.91	4.22	5.9	27	0.13	34.9	0.12	733	1.69	0.027	0.9	0.135	13.65	<.01	3.64	0.4	44.7	<.02	11.8	0.031	0.08	2.1	26	1.1	77
RS-490 0200-0220	87	1.37	16.8	1.6	<1	106.00	4.26	1.35	0.82	2.60	5.3	12.96	3.06	6.3	27	0.16	29.7	0.11	740	2.05	0.028	1.6	0.095	21.85	<.01	4.25	0.4	43.5	<.02	12.8	0.011	0.11	3.4	27	1	60
RS-490 0220-0240	78	0.8	24.5	1.8	<1	91.30	3.81	0.44	0.21	0.10	5.2	8.06	2.16	4.1	85	0.17	21.8	0.03	383	2.31	0.021	1.7	0.031	20.24	<.01	5.83	0.7	17	0.03	14.5	0.008	0.1	2.9	7	1.2	27.3
RS-490 0240-0260	231	0.9	13.2	8.9	2	178.20	2.04	0.46	0.16	<.1	6.8	13.19	3.18	4.8	68	0.21	22.5	0.04	274	3.11	0.026	2.3	0.031	18.37	0.02	5.36	0.7	26.2	0.03	15.3	0.022	0.09	3.2	8	2	28.6
RS-490 0260-0280	97	0.75	9.1	1.4	2	97.70	0.19	0.07	0.16	<.1	4.4	13.71	3.18	4	56	0.16	21.8	0.02	339	3.71	0.018	1.5	0.023	21.8	<.01	6.75	0.5	38.5	0.02	15.5	0.03	0.2	3.3	8	2.6	41.9
RS-490 0280-0300	101	1.01	11.4	1.5	1	109.90	0.19	0.06	0.03	<.1	2.8	16.79	2.06	4.7	131	0.12	23	0.02	43	2.21	0.014	1.3	0.014	18.32	0.06	8.03	0.5	48.5	0.02	16.3	0.007	0.06	2.6	4	0.7	19.7
RS-490 0300-0320	305	1.32	28.1	62.1	<1	285.90	0.37	0.05	0.02	0.20	6.6	16.41	2.84	5.2	738	0.12	18.5	0.01	72	2.99	0.011	3.5	0.009	20.37	0.13	14.47	4	55.7	<.02	11.5	<.001	0.08	2.8	6	0.4	11.3
RS-490 0320-0340	244	1.24	17.9	30.9	<1	116.60	0.03	0.05	0.01	0.30	9.5	18.91	2.29	5.1	253	0.04	19.2	0.01	81	2.98	0.006	4.7	0.007	18.81	0.07	12.6	2.1	37.7	<.02	10.5	<.001	0.03	1.7	6	0.5	8
RS-490 0340-0360	68	0.88	10.4	16.6	<1	69.80	0.06	0.04	0.03	0.20	4.7	21.99	3.12	4.8	288	0.05	14.8	0.01	46	3.31	0.007	2.5	0.017	18.32	0.86	13.92	2.9	67	<.02	10.6	<.001	0.04	1.8	5	0.3	14.8
RS-490 0360-0380	201	1.3	16.8	34.1	<1	109.10	0.34	0.04	0.01	<.1	7.4	19.88	3.86	5.4	187	0.07	12.1	0.01	71	3.62	0.007	3.8	0.009	14.19	0.12	13.99	3.1	54.6	<.02	8.8	<.001	0.05	1.3	6	0.5	10.1
RS-490 0380-0400	229	1.28	9.4	13.6	<1	246.40	0.28	0.04	0.01	0.30	8.7	22.69	3.84	5.8	120	0.21	14.8	0.01	96	3.67	0.008	4.2	0.021	12.89	0.41	8.18	0.9	63.9	<.02	8.3	0.002	0.1	2.6	8	0.5	15.6
RS-490 0400-0420	83	0.96	9.8	17.3	<1	253.80	0.25	0.05	0.01	0.30	4.3	19.25	2.71	3.6	3266	0.08	16.1	0.01	47	3.96	0.007	2.3	0.016	12.8	0.1	9.14	8.4	63.4	<.02	11.5	<.001	0.06	2.5	4	0.4	16.2
RS-490 0420-0440	779	1.18	53.2	221	<1	218.10	0.16	0.09	0.01	1.30	44.8	11.66	4.14	6.1	802	0.15	20.2	0.03	12	5.34	0.018	1.7	0.028	18.38	0.99	48.1	17.8	80.2	<.02	12.2	0.002	0.29	3.7	3	0.6	26.3
RS-490 0440-0460	1193	0.88	71.6	322.7	<1	58.60	0.03	0.06	0.03	3.90	70.4	20.2	4.62	4.1	1703	0.19	29.6	0.02	15	2.93	0.026	2.5	0.102	16.59	3.83	61.26	26.5	160.2	<.02	10.9	0.002	0.82	8.6	3	0.6	33.3
RS-490 0460-0480	308	0.84	10.1	48.8	<1	114.60	0.02	0.05	0.48	4.20	31.2	8.22	1.89	3.6	340	0.15	23.6	0.02	17	1.77	0.024	1.8	0.014	16.67	1.66	10.24	4.6	46.2	<.02	13.8	0.003	0.08	6.1	<2	0.6	21.7
RS-490 0480-0500	97	0.94	1.7	4.2	<1	78.40	0.02	0.06	0.37	0.60	32.4	8.09	1.69	5.2	62	0.21	33.2	0.1	1105	2.28	0.027	1	0.015	18.31	0.66	3.12	0.6	28.1	<.02	16	0.018	0.11	2.6	4	0.5	110
RS-490 0500-0520	71	0.81	1.4	1.7	<1	91.20	0.06	0.21	0.14	0.40	25	4.62	1.89	4.3	22	0.18	26.6	0.04	1001	1.99	0.023	1	0.01	31.82	0.81	3.82	0.4	14.6	<.02	15.7	0.019	0.06	2.3	4	0.6	106.2
RS-490 0520-0540	128	0.63	6.2	9.9	<1	51.40	0.03	0.12	0.14	0.70	28.2	8.86	1.9	3.9	81	0.16	27.6	0.03	877	1.72	0.026	1	0.012	71.81	0.31	9.85	1.1	11.6	<.02	16.4	0.017	0.19	2.1	4	1.3	106.8
RS-490 0540-0560	199	0.68	8.8	31.1	<1	70.20	0.02	0.81	0.18	1.00	47.8	5.57	2	4.1	143	0.19	24.7	0.03	1166	1.56	0.029	1.4	0.009	26.82	0.72	6.84	1.8	33	<.02	13.4	0.015	0.32	1.8	2	1.4	169.4
RS-490 0560-0580	115	0.73	6	7.5	<1	59.70	0.02	1.31	0.11	0.50	48.3	5.16	1.71	4.4	98	0.21	26.6	0.05	728	1.42	0.032	1	0.009	16.5	0.26	5.17	0.9	48.8	<.02	14.8	0.017	0.14	2	5	1.5	104.4
RS-490 0580-0600	182	0.86	11.1	24.5	<1	60.80	0.0	0.11	0.1	1.00	76.4	5.23	1.86	4.7	269	0.23	27.2	0.04	638	1.29	0.029	2.1	0.01	17.74	1	12.1	2.2	9.3	<.02	14.4	0.01	0.28	2	3	1.4	107.7
RS-490 0600-0620	129	0.93	5.2	11	<1	47.4	0.04	0.06	0.09	0.7	51.7	5.89	1.47	4.4	174	0.21	24.6	0.04	384	1.31	0.024	1.4	0.005	18.23	0.65	8.07	1.4	8	<.02	14.1	0.009	0.23	2	4	0.8	87
RS-490 0620-0640	80	0.94	2.6	1.6	<1	42.3	0.06	0.06	0.14	0.6	19.5	6.08	1.76	4.5	275	0.19	24.3	0.05	529	0.99	0.025	1.5	0.007	19.52	0.16	4.3	0.4	7.9	<.02	15.6	0.014	0.08	2	4	1.3	72.6
RS-490 0640-0660	207	0.76	16.3	15.6	<1	38.5	0.09	0.08	0.12	1.2	6.2	21.33	3.41	4.2	526	0.16	18.5	0.03	123	2.22	0.021	4.1	0.016	20.7	1.6	11.84	2.2	8	<.02	12.4	0.007	0.38	2	5	0.9	92.3
STANDARD DS2	234	1.81	67.6	202.1	<1	147.2	11.28	0.51	10.2	11.7	155.6	129.99	3.45	6.2	262	0.16	17	0.6	846	14.06	0.032	35.6	0.087	33.56	0.02	9.07	2.3	29.2	1.84	3.8	0.069	1.87	23.2	73	6.5	161.9
RS-490 0660-0680	144	0.62	9.7	10.6	<1	37.8	0.09	0.23	0.08	1.5	7.2	20.62	3.4	3.8	361	0.17	22.8	0.03	737	2.06	0.028	4.6	0.017	16.3	1.52	9.77	1.4	12.6	<.02	11.8	0.017	0.34	1.7	7	1.1	118.8

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AAL REF: SP56109
METHOD: AAL03-0

ELEMENT SAMPLES	Ag ppb	Al %	As ppm	Au ppb	B ppm	Ba ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppb	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P %	Pb ppm	S %	Sb ppm	Se ppm	Sr ppm	Te ppm	Th ppm	Ti %	Tl ppm	U ppm	V ppm	W ppm	Zn ppm
RS-490 0680-0700	67	0.5	2.6	1.7	<1	37.1	0.06	1.19	0.17	0.8	5.8	16.16	2.66	3.3	90	0.14	22.3	0.06	724	1.39	0.026	2.7	0.014	10.86	0.36	2.81	0.2	40.8	<.02	12.1	0.021	0.08	1.5	9	1.3	107.6
RS-490 0700-0720	66	0.5	2.5	1.4	<1	31.5	0.06	0.92	0.13	0.7	5.2	16	2.8	3.3	44	0.13	24.1	0.06	728	1.72	0.027	3.2	0.014	9.33	0.18	1.96	0.1	36.8	<.02	12.4	0.018	0.07	1.4	7	0.8	116.3
RS-490 0720-0740	79	0.63	2.2	1.6	<1	34.5	0.07	0.92	0.16	0.4	5.1	13.58	2.65	3.8	61	0.15	25.9	0.07	769	1.76	0.03	2.7	0.016	9.86	0.17	2.55	0.2	37.6	<.02	13.4	0.017	0.07	1.6	8	1.1	198
RS-490 0740-0760	77	0.64	1.8	0.8	<1	31.3	0.06	0.24	0.07	0.3	5	11.91	2.5	3.9	36	0.15	28.2	0.07	1282	1.63	0.028	2.5	0.014	11.47	0.13	4.35	<.1	18.1	<.02	13.5	0.014	0.06	1.4	5	0.8	126.8
RS-490 0760-0780	90	0.64	2.8	1.6	<1	34.9	0.03	0.27	0.1	0.4	4.1	10.98	2.42	3.7	43	0.16	26.5	0.08	380	1.23	0.025	2.3	0.012	11.35	0.13	3.7	<.1	18.6	<.02	13.4	0.012	0.06	1.4	4	0.8	108.6
RS-490 0780-0800	98	0.68	8.8	1.3	<1	36.4	0.06	0.48	0.13	0.6	4.3	14.83	2.32	4	138	0.17	29	0.07	638	1.26	0.026	2.4	0.013	12.2	0.25	3.33	0.1	21.3	<.02	13.7	0.013	0.1	1.5	6	1	132.8
RS-490 0800-0820	130	0.75	26.6	0.9	<1	32.4	0.03	0.51	0.14	0.9	4	17.57	2.09	4.6	276	0.19	26.8	0.1	486	1.46	0.029	2.6	0.01	15.16	0.82	4.64	0.2	22	<.02	12.9	0.007	0.2	1.4	4	0.6	112.6
RS-490 0820-0840	104	0.68	3.9	1.7	<1	89.8	0.04	0.18	0.12	1	4.2	11.72	2.56	3.6	75	0.18	29.5	0.06	458	1.7	0.031	2.6	0.014	12.17	0.33	5.12	0.1	16.3	<.02	14.6	0.017	0.08	1.9	5	1.7	115.5
RS-490 0840-0860	129	0.74	2	1.1	<1	46.1	0.03	1.2	0.19	0.8	36.5	3.02	1.83	3.8	51	0.21	27.9	0.09	934	1.34	0.028	0.5	0.019	15.57	0.14	2.16	0.2	43.1	<.02	13.6	0.015	0.08	2.1	5	0.9	109.5
RS-490 0860-0880	206	1.05	6	39.2	<1	29.9	0.1	0.58	0.17	2.7	40.6	7.8	3.02	5	260	0.19	27.4	0.1	1663	1.23	0.028	1.4	0.071	17.57	1.52	7.87	1.9	33.6	<.02	10.1	0.01	0.42	3.4	11	0.6	371.4
RS-490 0880-0900	427	0.45	40.1	99.8	<1	42.8	0.03	0.07	0.24	2	104.6	5.29	2.08	4.3	1232	0.2	19.8	0.02	53	1.55	0.026	4.3	0.012	12.93	2.52	17.14	7.6	5.8	<.02	9.3	0.001	0.67	1.8	<2	0.5	210.8
RS-490 0900-0920	353	0.54	32.8	68.8	<1	47	0.04	0.08	0.15	1.6	77.5	5.06	2.11	4.1	618	0.22	21.2	0.03	51	1.2	0.029	3	0.011	12.49	2.89	19.33	8.4	7.2	<.02	10	<.001	0.93	1.4	2	0.4	198.9
RS-490 0920-0940	134	0.65	10.6	5.9	<1	43.8	<.02	0.08	0.09	1.6	60	2.65	1.68	3.7	266	0.22	25.2	0.03	60	0.84	0.026	1.9	0.012	16.07	1.48	7.34	0.9	7.8	<.02	11.6	0.004	0.27	1.4	2	0.5	131.7
RS-490 0940-0960	737	0.59	39.9	98.2	<1	51.5	0.02	0.06	0.22	2	69.2	24.99	3.01	4.7	1846	0.23	21.6	0.02	140	3.6	0.029	8.1	0.009	16.38	1.99	17.76	10.5	6.2	<.02	10.2	<.001	0.57	2.9	5	1.3	157.9
RS-490 0960-0980	1063	0.39	68.5	74.2	<1	34.8	0.02	0.04	0.24	1.9	23.8	39.13	4.73	3	2671	0.16	15.2	0.01	234	4.17	0.024	12.6	0.008	11.64	1.83	22.44	12.8	4	<.02	7.2	<.001	0.75	2.8	9	0.9	139.6
RS-490 0980-1000	934	0.43	46.7	82.2	<1	41.1	0.02	0.06	0.19	1.9	49.7	36.68	4.31	2.9	2711	0.17	16.7	0.02	226	3.75	0.027	11.2	0.01	11.87	1.67	21.17	8.8	4.7	<.02	8	0.001	0.62	2.8	8	0.7	136.6
RS-490 1000-1020	1063	0.38	97.4	164.6	<1	46.7	<.02	0.04	0.2	2	136.9	11.9	1.7	2.3	3110	0.2	20.4	0.01	41	3.33	0.03	5.1	0.008	15.92	2.04	20.43	12.8	4.9	<.02	9.6	0.001	0.81	4.1	2	1	146.4
RS-490 1020-1040	582	0.49	52.5	111.1	<1	54.9	0.03	0.07	0.16	1.8	136.8	7.34	1.82	2.6	1963	0.23	20.6	0.02	77	3.16	0.029	4.8	0.011	14.71	1.89	18.26	6.8	6.6	<.02	10.1	0.001	0.84	3.3	2	1.1	158.1
RS-490 1040-1060	506	0.48	36.4	111.3	<1	53.7	<.02	0.04	0.27	1.1	117.2	12.49	1.4	2.1	1720	0.21	21.1	0.01	32	1.91	0.032	8	0.008	16.27	1.63	18.26	10.8	6.1	<.02	10.2	0.001	0.86	3	<2	1.9	133.3
RS-490 1060-1080	1104	0.26	104.8	120.3	<1	33.7	0.02	0.04	0.12	1.2	73.4	9.13	2.89	1	3005	0.13	13.8	0.01	34	4.2	0.016	2	0.01	12.09	2.91	38.8	5.4	3.8	<.02	6.3	0.001	0.94	2.1	2	1.6	129.9
RS-490 1080-1100	534	0.7	68	42	<1	53.1	0.08	0.35	0.48	1.3	48.7	5.94	2.54	3.1	2565	0.16	23.7	0.07	180	3.97	0.022	1.8	0.017	20.89	2.81	22.47	2.8	44.1	<.02	8.8	<.001	0.56	2.6	6	1.4	100.4
RS-490 1100-1120	228	2.28	11.6	15.7	<1	209.9	0.28	2.18	0.68	2	30.1	4.47	1.68	7.1	393	0.46	32.4	0.2	1127	1.37	0.029	0.3	0.041	18.7	0.44	3.13	1.1	135.1	<.02	7.8	0.001	0.26	30.1	25	<.2	57.7
RS-490 1120-1140	144	2.09	7	6.1	<1	192.2	0.23	1.86	0.38	1.4	20.3	6.69	1.87	6.5	216	0.48	29.4	0.21	938	1.63	0.036	1	0.64	18.31	0.19	2.07	0.4	118.6	<.02	7.6	0.002	0.23	16	13	0.3	61.4
RS-490 1140-1160	118	2	4	2.7	<1	320.5	0.22	1.84	0.54	2.2	7.7	15.54	2.67	6	118	0.4	27.6	0.23	986	1.67	0.039	3.2	0.047	14.8	0.66	1.04	0.2	159.3	<.02	7.4	0.002	0.16	22.4	20	<.2	60.3
RS-490 1160-1180	111	1.69	3.4	2.6	<1	421.2	0.19	1.82	0.61	1.9	6.9	12.78	2.6	6	86	0.45	28.8	0.16	870	1.95	0.052	2.4	0.044	14.2	0.08	1.39	0.3	106.4	<.02	8.7	0.008	0.16	26.6	21	0.2	70.1
RS-490 1180-1200	117	1.36	3.7	3.2	<1	391.3	0.19	1.66	0.43	1.6	6.8	9.86	2.32	4.9	109	0.35	27.1	0.12	779	1.61	0.061	1.6	0.035	14.84	0.06	1.56	0.4	94.8	<.02	9	0.007	0.14	23.8	17	0.2	57.3
RS-490 1200-1220	87	1.19	2.1	0.8	<1	184.4	0.21	1.43	0.22	1.6	10.5	27.42	3.1	4.1	22	0.36	23.4	0.13	1046	2.48	0.063	4.4	0.04	107.25	<.01	0.7	<.1	124.4	<.02	7.5	0.007	0.11	2.7	10	0.5	64.6
RS-490 1220-1240	98	1.3	1.3	0.6	<1	897.9	0.22	1.76	0.24	2	10.4	24.08	2.97	4.2	19	0.24	25.2	0.17	886	2.11	0.057	5.4	0.043	21.76	0.01	0.36	<.1	254.7	0.02	6.5	0.004	0.08	1.1	12	0.3	64.9
RS-490 1240-1260	74	1.36	0.6	0.6	<1	178.4	0.16	2.37	0.18	4.4	5	8.98	2.12	6	20	0.2	27.1	0.18	1207	1.03	0.062	0.3	0.065	19.62	0.01	0.35	<.1	184.2	<.02	4.8	0.028	0.05	1.3	16	<.2	98.1
RS-490 1260-1280	72	0.99	1.3	0.4	<1	594.1	0.16	2.46	0.13	1.9	2.9	7.6	1.87	4.7	13	0.24	26.8	0.12	957	0.94	0.049	<.1	0.06	22.59	0.02	0.48	<.1	139.9	<.02	4.8	0.028	0.06	1.6	5	0.3	76.2
RS-490 1280-1300	92	1.12	1.2	0.7	<1	465.7	0.16	2.12	0.22	1.5	11	13.48	1.86	3.9	31	0.38	27	0.12	963	2.2	0.049	2.8	0.054	19.47	0.04	0.54	0.1	164.1	<.02	5.2	0.005	0.12	1.9	9	0.2	61.9
RS-490 1300-1320	71	1.09	0.9	0.8	<1	157.3	0.24	1.39	0.13	1.7	6.8	12.5	2.22	4.2	16	0.36	24.4	0.14	746	1.77	0.062	3	0.061	15.87	0.01	0.53	<.1	142.4	<.02	6.4	0.007	0.12	1.2	9	0.3	67.7
STANDARD DS2	240	1.9	69.6	216	<1	156.2	11.39	0.56	10.74	11.8	167.1	132.96	3.24	6.5	236	0.17	16.8	0.63	860	14.98	0.032	38.2	0.094	34.87	0.01	9.51	2.3	29.8	1.94	4	0.096	1.87	23.7	77	6.7	167.4
RS-490 1320-1340	92	1.33	0.9	0.8	1	212.2	0.31	1.71	0.18	1.3	12	13.42	2.17	5.3	24	0.28	29.9	0.13	867	2.32	0.068	2.2	0.038	22.17	0.03	0.25	0.2	206.7	<.02	3.9	0.002	0.07	1	2	0.3	66.8
RS-490 1340-1360	92	1.3	1.1	0.5	<1	133.6	0.23	1.43	0.18	1.8	7.6	11.56	2.36	5	15	0.36	30	0.15	807	1.62	0.068	2.4	0.047	17.79	0.03	0.32	0.1	190.2	0.03	4.6	0.007	0.1	1	6	0.3	86.1

AMERICAN ASSAY LABORATORIES
1500 GLENDALE AVE.
SPARKS, NV 89431
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CLIENT: HECLA MINING CO.
CLIENT REF: KURT ALLEN
AAL REF: SP56109
METHOD: AAL03-0

ELEMENT	Ag	Al	As	Au	B	Ba	Bi	Ca	Cd	Co	Cr	Cu	Fe	Ga	Hg	K	La	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Sr	Te	Th	Ti	Tl	U	V	W	Zn
SAMPLES	ppb	%	ppm	ppb	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	%	ppm	ppb	%	ppm	%	ppm	ppm	%	ppm	%	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
RS-490 1360-1380	35	1.09	2.3	< .2	< 1	126.7	0.18	2.11	0.22	1.6	6.8	10.97	2.2	4.3	21	0.37	31.7	0.13	889	1.57	0.064	2.2	0.043	19.67	0.04	0.36	0.1	176.1	0.03	5.4	0.006	0.09	0.9	4	0.3	67.5
RS-490 1380-1400	84	1.21	1.2	0.7	1	94.9	0.18	1.84	0.16	2.1	2.4	5.78	2.17	5.1	27	0.38	34.5	0.17	1214	0.76	0.056	0.5	0.058	20.6	0.13	0.43	< .1	173.8	0.03	4.2	0.008	0.1	0.5	4	0.2	80.2
RS-490 1400-1420	180	1.19	3	8.3	< 1	118.3	0.2	1.76	0.2	3	2.9	7.62	2.28	4.4	58	0.37	32.1	0.15	1057	1.09	0.033	0.6	0.059	20.21	0.9	2.56	1.3	164	0.03	4.5	< .001	0.24	0.4	5	< .2	81.4
RS-490 1420-1440	1269	1.04	17.5	18.4	< 1	90	0.11	1.64	0.16	1.4	4.3	11	2.6	3.3	61	0.3	27.3	0.06	562	1.49	0.029	1.5	0.04	26.94	2.21	6.23	6.4	169.3	< .02	3.6	< .001	0.43	0.7	< 2	0.5	77.7
RS-490 1440-1460	691	0.92	13.4	13.2	< 1	47.6	0.1	2.21	0.21	1.4	4	8.21	1.96	2.4	44	0.38	27	0.04	1647	1.09	0.022	0.7	0.041	29.11	2.67	5.14	9.3	173.6	< .02	3.8	0.001	0.61	0.9	< 2	0.4	85.9
RS-490 1460-1480	3558	0.87	97	118.4	< 1	63.7	0.11	0.68	0.36	1.7	30.1	21.15	3.74	2.9	172	0.32	23.5	0.05	304	6.35	0.02	4.8	0.037	31.28	3.28	9.06	12.6	123.2	0.03	5.2	< .001	0.71	4.9	4	0.6	89.1
RS-490 1480-1500	13090	0.77	84.7	145.8	< 1	63.1	0.68	0.45	0.28	1.7	16.2	18.43	3.58	2.4	306	0.28	17.2	0.03	201	5.16	0.015	3.9	0.029	38.39	2.81	10.85	13.4	92.2	< .02	4.2	< .001	0.73	2.6	3	0.7	70.4
RS-490 1500-1520	1769	1.07	47.6	63.9	< 1	73.1	0.11	0.52	0.2	1.3	5.6	10.13	2.41	3.1	173	0.43	27.2	0.06	940	1.38	0.017	1.3	0.036	27.32	2.46	6.11	8.3	131.1	< .02	4.8	< .001	0.51	1.1	< 2	0.5	77.7
RS-490 1520-1540	1395	0.84	51.2	80.5	< 1	82.6	0.06	0.43	0.16	1.2	14.6	19.15	3.88	2.8	1248	0.23	18.9	0.03	234	11.06	0.013	4.4	0.017	27.18	2.28	5.76	5.8	100.8	< .02	5.6	< .001	0.5	2.9	3	1	66.3
RS-490 1540-1560	260	0.8	12.3	12.3	< 1	36.6	0.02	1.11	0.17	0.4	7.5	18.13	1.9	3.4	57	0.32	43.8	0.03	682	2.51	0.048	2.9	0.007	32.46	0.36	1.15	0.5	72.7	< .02	14.6	< .001	0.11	2.2	2	0.8	93.2
RS-490 1560-1580	289	0.65	7.1	4	3	22.8	< .02	0.96	0.1	0.4	6.7	15.69	1.61	3.8	18	0.32	60	0.02	608	1.9	0.056	2.4	0.008	34.04	0.15	0.67	0.3	84.5	< .02	16.2	< .001	0.06	1.8	2	0.8	75.6
RS-490 1580-1600	139	0.58	1.3	2.3	1	18.1	< .02	0.75	0.05	0.2	4.4	10.01	1.41	3.8	20	0.31	61.3	0.02	580	0.87	0.06	1.3	0.007	22.13	0.06	0.33	0.2	62.1	< .02	16.5	< .001	0.06	1	< 2	0.3	65.7
89548	99990	2.25	138.8	15121.5	1	64.4	0.27	1.03	0.24	3.3	6.3	46.97	3.09	7.1	362	0.88	15.4	0.13	337	5.99	0.064	3	0.069	27.41	2.98	22.78	35.1	74	0.02	3.5	< .001	0.41	1	8	0.2	92.4
STANDARD DS2	228	1.84	58.9	192.3	4	152	10.48	0.54	9.74	11.2	165.8	132.24	3.51	6	239	0.16	16.2	0.61	838	13.34	0.031	35.9	0.098	31.87	0.03	9.3	2.2	28.3	1.78	3.4	0.096	1.73	18.8	76	6	166.2

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

PO BOX 11530
RENO NV,USA
Ph.(775) 356-0606, Fax.(775) 356-1413

HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: RS-490 RECEIVED : 16 FEB 2000

No. SAMPLES : 321 REPORTED : 1 MAR 2000

MAIN SAMPLE TYPE : DRILL CUTTINGS

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 1 MAR 2000

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0000-0005	5	6	<0.001	<0.001		
RS-490 0005-0010	<5		<0.001			
RS-490 0010-0015	<5		<0.001			
RS-490 0015-0020	<5		<0.001			
RS-490 0020-0025	<5		<0.001			
RS-490 0025-0030	<5		<0.001			
RS-490 0030-0035	<5		<0.001			
RS-490 0035-0040	13		<0.001			
RS-490 0040-0045	15		<0.001			
RS-490 0045-0050	55		0.002			
RS-490 0050-0055	<5		<0.001			
RS-490 0055-0060	<5		<0.001			
RS-490 0060-0065	<5		<0.001			
RS-490 0065-0070	<5		<0.001			
RS-490 0070-0075	<5		<0.001			
RS-490 0075-0080	<5		<0.001			
RS-490 0080-0085	<5		<0.001			
RS-490 0085-0090	<5		<0.001			
RS-490 0090-0095	14		<0.001			
RS-490 0095-0100	59		0.002			
RS-490 0100-0105	<5		<0.001			
RS-490 0105-0110	<5		<0.001			
RS-490 0110-0115	<5		<0.001			
RS-490 0115-0120	<5		<0.001			
RS-490 0120-0125	<5		<0.001			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0125-0130	<5		<0.001			
RS-490 0130-0135	<5		<0.001			
RS-490 0135-0140	<5		<0.001			
RS-490 0140-0145	<5		<0.001			
RS-490 0145-0150	<5		<0.001			
RS-490 0150-0155	<5		<0.001			
RS-490 0155-0160	<5		<0.001			
RS-490 0160-0165	<5		<0.001			
RS-490 0165-0170	<5		<0.001			
RS-490 0170-0175	<5		<0.001			
RS-490 0175-0180	<5		<0.001			
RS-490 0180-0185	<5		<0.001			
RS-490 0185-0190	<5		<0.001			
RS-490 0190-0195	<5		<0.001			
RS-490 0195-0200	<5		<0.001			
RS-490 0200-0205	<5		<0.001			
RS-490 0205-0210	<5		<0.001			
RS-490 0210-0215	<5		<0.001			
RS-490 0215-0220	<5		<0.001			
RS-490 0220-0225	<5		<0.001			
RS-490 0225-0230	<5		<0.001			
RS-490 0230-0235	<5		<0.001			
RS-490 0235-0240	<5		<0.001			
RS-490 0240-0245	<5		<0.001			
RS-490 0245-0250	<5		<0.001			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 1 MAR 2000

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0250-0255	<5		<0.001			
RS-490 0255-0260	40		0.001			
RS-490 0260-0265	<5		<0.001			
RS-490 0265-0270	<5		<0.001			
RS-490 0270-0275	<5		<0.001			
RS-490 0275-0280	<5		<0.001			
RS-490 0280-0285	<5		<0.001			
RS-490 0285-0290	<5		<0.001			
RS-490 0290-0295	<5		<0.001			
RS-490 0295-0300	<5		<0.001			
RS-490 0300-0305	23		<0.001			
RS-490 0305-0310	126	138	0.004	0.004		
RS-490 0310-0315	56		0.002			
RS-490 0315-0320	42	50	0.001	0.001		
RS-490 0320-0325	5		<0.001			
RS-490 0325-0330	39		0.001			
RS-490 0330-0335	51		0.001			
RS-490 0335-0340	41		0.001			
RS-490 0340-0345	9	16	<0.001	<0.001		
RS-490 0345-0350	<5		<0.001			
RS-490 0350-0355	<5		<0.001			
RS-490 0355-0360	51		0.001			
RS-490 0360-0365	82	87	0.002	0.003		
RS-490 0365-0370	26		<0.001			
RS-490 0370-0375	5	6	<0.001	<0.001		

AMERICAN ASSAY LABORATORIES

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CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0375-0380	<5		<0.001			
RS-490 0380-0385	28		<0.001			
RS-490 0385-0390	30		<0.001			
RS-490 0390-0395	30		<0.001			
RS-490 0395-0400	<5		<0.001			
RS-490 0400-0405	11		<0.001			
RS-490 0405-0410	<5		<0.001			
RS-490 0410-0415	13	12	<0.001	<0.001		
RS-490 0415-0420	20	22	<0.001	<0.001		
RS-490 0420-0425	20		<0.001			
RS-490 0425-0430	129	148	0.004	0.004		
RS-490 0430-0435	306		0.009			
RS-490 0435-0440	220	221	0.006	0.006		
RS-490 0440-0445	137		0.004			
RS-490 0445-0450	218		0.006			
RS-490 0450-0455	330	335	0.010	0.010		
RS-490 0455-0460	324		0.009			
RS-490 0460-0465	36		0.001			
RS-490 0465-0470	10		<0.001			
RS-490 0470-0475	86		0.003			
RS-490 0475-0480	8		<0.001			
RS-490 0480-0485	10		<0.001			
RS-490 0485-0490	6		<0.001			
RS-490 0490-0495	<5		<0.001			
RS-490 0495-0500	<5		<0.001			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0500-0505	<5		<0.001			
RS-490 0505-0510	<5		<0.001			
RS-490 0510-0515	<5		<0.001			
RS-490 0515-0520	<5		<0.001			
RS-490 0520-0525	5		<0.001			
RS-490 0525-0530	<5		<0.001			
RS-490 0530-0535	<5		<0.001			
RS-490 0535-0540	45	38	0.001	0.001		
RS-490 0540-0545	6		<0.001			
RS-490 0545-0550	8		<0.001			
RS-490 0550-0555	82		0.002			
RS-490 0555-0560	8		<0.001			
RS-490 0560-0565	<5		<0.001			
RS-490 0565-0570	<5		<0.001			
RS-490 0570-0575	<5		<0.001			
RS-490 0575-0580	13		<0.001			
RS-490 0580-0585	15		<0.001			
RS-490 0585-0590	5		<0.001			
RS-490 0590-0595	6		<0.001			
RS-490 0595-0600	44		0.001			
RS-490 0600-0605	7		<0.001			
RS-490 0605-0610	<5		<0.001			
RS-490 0610-0615	<5		<0.001			
RS-490 0615-0620	24	28	<0.001	<0.001		
RS-490 0620-0625	<5		<0.001			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0625-0630	<5		<0.001			
RS-490 0630-0635	<5		<0.001			
RS-490 0635-0640	<5		<0.001			
RS-490 0640-0645	<5		<0.001			
RS-490 0645-0650	6		<0.001			
RS-490 0650-0655	35	27	0.001	<0.001		
RS-490 0655-0660	50	42	0.001	0.001		
RS-490 0660-0665	32	20	<0.001	<0.001		
RS-490 0665-0670	10		<0.001			
RS-490 0670-0675	8		<0.001			
RS-490 0675-0680	<5		<0.001			
RS-490 0680-0685	5		<0.001			
RS-490 0685-0690	6		<0.001			
RS-490 0690-0695	10		<0.001			
RS-490 0695-0700	8		<0.001			
RS-490 0700-0705	6		<0.001			
RS-490 0705-0710	5		<0.001			
RS-490 0710-0715	<5		<0.001			
RS-490 0715-0720	5		<0.001			
RS-490 0720-0725	<5		<0.001			
RS-490 0725-0730	6		<0.001			
RS-490 0730-0735	5		<0.001			
RS-490 0735-0740	5		<0.001			
RS-490 0740-0745	7		<0.001			
RS-490 0745-0750	<5		<0.001			

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CLIENT : HECLA MINING COMPANY
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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0750-0755	<5		<0.001			
RS-490 0755-0760	<5		<0.001			
RS-490 0760-0765	<5		<0.001			
RS-490 0765-0770	<5		<0.001			
RS-490 0770-0775	5		<0.001			
RS-490 0775-0780	<5		<0.001			
RS-490 0780-0785	5		<0.001			
RS-490 0785-0790	6		<0.001			
RS-490 0790-0795	6		<0.001			
RS-490 0795-0800	<5	6	<0.001	<0.001		
RS-490 0800-0805	10		<0.001			
RS-490 0805-0810	7		<0.001			
RS-490 0810-0815	<5		<0.001			
RS-490 0815-0820	<5		<0.001			
RS-490 0820-0825	<5		<0.001			
RS-490 0825-0830	6	<5	<0.001	<0.001		
RS-490 0830-0835	7		<0.001			
RS-490 0835-0840	<5		<0.001			
RS-490 0840-0845	<5		<0.001			
RS-490 0845-0850	<5		<0.001			
RS-490 0850-0855	<5		<0.001			
RS-490 0855-0860	<5		<0.001			
RS-490 0860-0865	<5		<0.001			
RS-490 0865-0870	6		<0.001			
RS-490 0870-0875	67	75	0.002	0.002		

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0875-0880	61		0.002			
RS-490 0880-0885	83		0.002			
RS-490 0885-0890	54		0.002			
RS-490 0890-0895	124		0.004			
RS-490 0895-0900	61		0.002			
RS-490 0900-0905	20		<0.001			
RS-490 0905-0910	90	100	0.003	0.003		
RS-490 0910-0915	68		0.002			
RS-490 0915-0920	40		0.001			
RS-490 0920-0925	<5		<0.001			
RS-490 0925-0930	<5		<0.001			
RS-490 0930-0935	<5		<0.001			
RS-490 0935-0940	7		<0.001			
RS-490 0940-0945	8	12	<0.001	<0.001		
RS-490 0945-0950	103		0.003			
RS-490 0950-0955	126	136	0.004	0.004		
RS-490 0955-0960	159	170	0.005	0.005		
RS-490 0960-0965	161		0.005			
RS-490 0965-0970	105		0.003			
RS-490 0970-0975	158		0.005			
RS-490 0975-0980	174		0.005			
RS-490 0980-0985	128		0.004			
RS-490 0985-0990	124		0.004			
RS-490 0990-0995	168		0.005			
RS-490 0995-1000	141		0.004			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1000-1005	98		0.003			
RS-490 1005-1010	187		0.005			
RS-490 1010-1015	158	152	0.005	0.004		
RS-490 1015-1020	85		0.002			
RS-490 1020-1025	105		0.003			
RS-490 1025-1030	112		0.003			
RS-490 1030-1035	95	90	0.003	0.003		
RS-490 1035-1040	187		0.005			
RS-490 1040-1045	69	78	0.002	0.002		
RS-490 1045-1050	113		0.003			
RS-490 1050-1055	60		0.002			
RS-490 1055-1060	93		0.003			
RS-490 1060-1065	87		0.003			
RS-490 1065-1070	108		0.003			
RS-490 1070-1075	127		0.004			
RS-490 1075-1080	121		0.004			
RS-490 1080-1085	42		0.001			
RS-490 1085-1090	15		<0.001			
RS-490 1090-1095	35		0.001			
RS-490 1095-1100	35		0.001			
RS-490 1100-1105	18	10	<0.001	<0.001		
RS-490 1105-1110	<5		<0.001			
RS-490 1110-1115	7		<0.001			
RS-490 1115-1120	13		<0.001			
RS-490 1120-1125	<5		<0.001			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1125-1130	<5		<0.001			
RS-490 1130-1135	<5	<5	<0.001	<0.001		
RS-490 1135-1140	<5		<0.001			
RS-490 1140-1145	<5		<0.001			
RS-490 1145-1150	10		<0.001			
RS-490 1150-1155	9		<0.001			
RS-490 1155-1160	8		<0.001			
RS-490 1160-1165	<5		<0.001			
RS-490 1165-1170	6		<0.001			
RS-490 1170-1175	<5		<0.001			
RS-490 1175-1180	<5		<0.001			
RS-490 1180-1185	6		<0.001			
RS-490 1185-1190	8	6	<0.001	<0.001		
RS-490 1190-1195	<5		<0.001			
RS-490 1195-1200	6		<0.001			
RS-490 1200-1205	<5		<0.001			
RS-490 1205-1210	<5		<0.001			
RS-490 1210-1215	<5		<0.001			
RS-490 1215-1220	<5		<0.001			
RS-490 1220-1225	<5		<0.001			
RS-490 1225-1230	<5		<0.001			
RS-490 1230-1235	<5		<0.001			
RS-490 1235-1240	<5		<0.001			
RS-490 1240-1245	<5		<0.001			
RS-490 1245-1250	8		<0.001			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1250-1255	<5		<0.001			
RS-490 1255-1260	<5		<0.001			
RS-490 1260-1265	<5		<0.001			
RS-490 1265-1270	<5		<0.001			
RS-490 1270-1275	<5		<0.001			
RS-490 1275-1280	<5		<0.001			
RS-490 1280-1285	<5		<0.001			
RS-490 1285-1290	<5		<0.001			
RS-490 1290-1295	<5		<0.001			
RS-490 1295-1300	<5		<0.001			
RS-490 1300-1305	11		<0.001			
RS-490 1305-1310	<5		<0.001			
RS-490 1310-1315	<5		<0.001			
RS-490 1315-1320	<5		<0.001			
RS-490 1320-1325	8		<0.001			
RS-490 1325-1330	8		<0.001			
RS-490 1330-1335	5		<0.001			
RS-490 1335-1340	6		<0.001			
RS-490 1340-1345	7		<0.001			
RS-490 1345-1350	<5		<0.001			
RS-490 1350-1355	5		<0.001			
RS-490 1355-1360	<5		<0.001			
RS-490 1360-1365	<5		<0.001			
RS-490 1365-1370	5		<0.001			
RS-490 1370-1375	7		<0.001			

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1375-1380	<5		<0.001			
RS-490 1380-1385	<5		<0.001			
RS-490 1385-1390	<5		<0.001			
RS-490 1390-1395	5		<0.001			
RS-490 1395-1400	6		<0.001			
RS-490 1400-1405	18		<0.001			
RS-490 1405-1410	28		<0.001			
RS-490 1410-1415	22		<0.001			
RS-490 1415-1420	10		<0.001			
RS-490 1420-1425	44	55	0.001	0.002		
RS-490 1425-1430	32		<0.001			
RS-490 1430-1435	14		<0.001			
RS-490 1435-1440	40		0.001			
RS-490 1440-1445	25	20	<0.001	<0.001		
RS-490 1445-1450	80	70	0.002	0.002		
RS-490 1450-1455	11		<0.001			
RS-490 1455-1460	15		<0.001			
RS-490 1460-1465	137		0.004			
RS-490 1465-1470	249	236	0.007	0.007		
RS-490 1470-1475	67		0.002			
RS-490 1475-1480	532	544	0.016	0.016		
RS-490 1480-1485	161		0.005			
RS-490 1485-1490	111		0.003			
RS-490 1490-1495	130		0.004			
RS-490 1495-1500	507		0.015			

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REFERENCE : RS-490

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1500-1505	111		0.003			
RS-490 1505-1510	110		0.003			
RS-490 1510-1515	45		0.001			
RS-490 1515-1520	56		0.002			
RS-490 1520-1525	93		0.003			
RS-490 1525-1530	81		0.002			
RS-490 1530-1535	111		0.003			
RS-490 1535-1540	100		0.003			
RS-490 1540-1545	26		<0.001			
RS-490 1545-1550	<5		<0.001			
RS-490 1550-1555	<5		<0.001			
RS-490 1555-1560	<5		<0.001			
RS-490 1560-1565	<5		<0.001			
RS-490 1565-1570	<5		<0.001			
RS-490 1570-1575	<5		<0.001			
RS-490 1575-1580	<5		<0.001			
RS-490 1580-1585	<5		<0.001			
RS-490 1585-1590	<5		<0.001			
RS-490 1590-1595	<5		<0.001			
RS-490 1595-1600	<5		<0.001			
88548	12840		0.375			

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

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HECLA MINING COMPANY

COPIES TO : BRIAN MORRIS

: KURT ALLEN

:

:

CLIENT REFERENCE No: RS-490 RECEIVED : 16 FEB 2000

No. SAMPLES : 321 REPORTED : 7 MAR 2000

MAIN SAMPLE TYPE : DRILL CUTTINGS

NEVADA LEGISLATIVE DISCLAIMER :-
The results of this assay were based solely upon the content of the sample submitted. Any decision to invest should be made only after the potential investment value of the claim or deposit has been determined based on the results of assays of multiple samples of geological materials collected by the prospective investor or by a qualified person selected by him and based on an evaluation of all engineering data which is available concerning any proposed project.

ANALYSIS	ANALYTICAL METHOD	QUALITY PARAMETER	UNIT	DETECTION
Au	FA30	15%	ppb	5
Au(R)	FA30	15%	ppb	5
Au(OZ)	FA30	15%	OPT	0.001
Au(RZ)	FA30	15%	OPT	0.001
Ag	D210	10%	ppm	0.5
Ag(OZ)	D210	10%	OPT	0.02

SIGNATORY : Leonard E. Mackedon B.S.

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0000-0005	5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0005-0010	<5		<0.001		<0.5	<0.02
RS-490 0010-0015	<5		<0.001		<0.5	<0.02
RS-490 0015-0020	<5		<0.001		<0.5	<0.02
RS-490 0020-0025	<5		<0.001		<0.5	<0.02
RS-490 0025-0030	<5		<0.001		<0.5	<0.02
RS-490 0030-0035	<5		<0.001		<0.5	<0.02
RS-490 0035-0040	13		<0.001		<0.5	<0.02
RS-490 0040-0045	15		<0.001		<0.5	<0.02
RS-490 0045-0050	55		0.002		3.5	0.10
RS-490 0050-0055	<5		<0.001		<0.5	<0.02
RS-490 0055-0060	<5		<0.001		<0.5	<0.02
RS-490 0060-0065	<5		<0.001		<0.5	<0.02
RS-490 0065-0070	<5		<0.001		<0.5	<0.02
RS-490 0070-0075	<5		<0.001		<0.5	<0.02
RS-490 0075-0080	<5		<0.001		<0.5	<0.02
RS-490 0080-0085	<5		<0.001		<0.5	<0.02
RS-490 0085-0090	<5		<0.001		<0.5	<0.02
RS-490 0090-0095	14		<0.001		<0.5	<0.02
RS-490 0095-0100	59		0.002		<0.5	<0.02
RS-490 0100-0105	<5		<0.001		<0.5	<0.02
RS-490 0105-0110	<5		<0.001		<0.5	<0.02
RS-490 0110-0115	<5		<0.001		<0.5	<0.02
RS-490 0115-0120	<5		<0.001		<0.5	<0.02
RS-490 0120-0125	<5		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0125-0130	<5		<0.001		<0.5	<0.02
RS-490 0130-0135	<5		<0.001		<0.5	<0.02
RS-490 0135-0140	<5		<0.001		<0.5	<0.02
RS-490 0140-0145	<5		<0.001		<0.5	<0.02
RS-490 0145-0150	<5		<0.001		<0.5	<0.02
RS-490 0150-0155	<5		<0.001		<0.5	<0.02
RS-490 0155-0160	<5		<0.001		<0.5	<0.02
RS-490 0160-0165	<5		<0.001		0.7	0.02
RS-490 0165-0170	<5		<0.001		2.4	0.07
RS-490 0170-0175	<5		<0.001		<0.5	<0.02
RS-490 0175-0180	<5		<0.001		<0.5	<0.02
RS-490 0180-0185	<5		<0.001		<0.5	<0.02
RS-490 0185-0190	<5		<0.001		0.5	<0.02
RS-490 0190-0195	<5		<0.001		<0.5	<0.02
RS-490 0195-0200	<5		<0.001		<0.5	<0.02
RS-490 0200-0205	<5		<0.001		<0.5	<0.02
RS-490 0205-0210	<5		<0.001		<0.5	<0.02
RS-490 0210-0215	<5		<0.001		<0.5	<0.02
RS-490 0215-0220	<5		<0.001		<0.5	<0.02
RS-490 0220-0225	<5		<0.001		<0.5	<0.02
RS-490 0225-0230	<5		<0.001		<0.5	<0.02
RS-490 0230-0235	<5		<0.001		<0.5	<0.02
RS-490 0235-0240	<5		<0.001		<0.5	<0.02
RS-490 0240-0245	<5		<0.001		<0.5	<0.02
RS-490 0245-0250	<5		<0.001		<0.5	<0.02

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PROVISIONAL REPORT SP056109

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 7 MAR 2000

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0250-0255	<5		<0.001		<0.5	<0.02
RS-490 0255-0260	40		0.001		0.8	0.02
RS-490 0260-0265	<5		<0.001		<0.5	<0.02
RS-490 0265-0270	<5		<0.001		<0.5	<0.02
RS-490 0270-0275	<5		<0.001		<0.5	<0.02
RS-490 0275-0280	<5		<0.001		<0.5	<0.02
RS-490 0280-0285	<5		<0.001		<0.5	<0.02
RS-490 0285-0290	<5		<0.001		<0.5	<0.02
RS-490 0290-0295	<5		<0.001		<0.5	<0.02
RS-490 0295-0300	<5		<0.001		<0.5	<0.02
RS-490 0300-0305	23		<0.001		<0.5	<0.02
RS-490 0305-0310	126	138	0.004	0.004	<0.5	<0.02
RS-490 0310-0315	56		0.002		0.6	<0.02
RS-490 0315-0320	42	50	0.001	0.001	<0.5	<0.02
RS-490 0320-0325	5		<0.001		<0.5	<0.02
RS-490 0325-0330	39		0.001		<0.5	<0.02
RS-490 0330-0335	51		0.001		0.6	<0.02
RS-490 0335-0340	41		0.001		<0.5	<0.02
RS-490 0340-0345	9	16	<0.001	<0.001	<0.5	<0.02
RS-490 0345-0350	<5		<0.001		<0.5	<0.02
RS-490 0350-0355	<5		<0.001		<0.5	<0.02
RS-490 0355-0360	51		0.001		<0.5	<0.02
RS-490 0360-0365	82	87	0.002	0.003	<0.5	<0.02
RS-490 0365-0370	26		<0.001		<0.5	<0.02
RS-490 0370-0375	5	6	<0.001	<0.001	<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0375-0380	<5		<0.001		<0.5	<0.02
RS-490 0380-0385	28		<0.001		0.6	<0.02
RS-490 0385-0390	30		<0.001		0.6	<0.02
RS-490 0390-0395	30		<0.001		0.7	0.02
RS-490 0395-0400	<5		<0.001		<0.5	<0.02
RS-490 0400-0405	11		<0.001		<0.5	<0.02
RS-490 0405-0410	<5		<0.001		<0.5	<0.02
RS-490 0410-0415	13	12	<0.001	<0.001	<0.5	<0.02
RS-490 0415-0420	20	22	<0.001	<0.001	<0.5	<0.02
RS-490 0420-0425	20		<0.001		<0.5	<0.02
RS-490 0425-0430	129	148	0.004	0.004	1.9	0.06
RS-490 0430-0435	306		0.009		1.4	0.04
RS-490 0435-0440	220	221	0.006	0.006	1.0	0.03
RS-490 0440-0445	137		0.004		0.6	<0.02
RS-490 0445-0450	218		0.006		0.9	0.03
RS-490 0450-0455	330	335	0.010	0.010	2.6	0.08
RS-490 0455-0460	324		0.009		2.8	0.08
RS-490 0460-0465	36		0.001		<0.5	<0.02
RS-490 0465-0470	10		<0.001		<0.5	<0.02
RS-490 0470-0475	86		0.003		1.0	0.03
RS-490 0475-0480	8		<0.001		<0.5	<0.02
RS-490 0480-0485	10		<0.001		<0.5	<0.02
RS-490 0485-0490	6		<0.001		<0.5	<0.02
RS-490 0490-0495	<5		<0.001		<0.5	<0.02
RS-490 0495-0500	<5		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0500-0505	<5		<0.001		<0.5	<0.02
RS-490 0505-0510	<5		<0.001		<0.5	<0.02
RS-490 0510-0515	<5		<0.001		<0.5	<0.02
RS-490 0515-0520	<5		<0.001		<0.5	<0.02
RS-490 0520-0525	5		<0.001		<0.5	<0.02
RS-490 0525-0530	<5		<0.001		<0.5	<0.02
RS-490 0530-0535	<5		<0.001		<0.5	<0.02
RS-490 0535-0540	45	38	0.001	0.001	0.5	<0.02
RS-490 0540-0545	6		<0.001		0.5	<0.02
RS-490 0545-0550	8		<0.001		<0.5	<0.02
RS-490 0550-0555	82		0.002		0.5	<0.02
RS-490 0555-0560	8		<0.001		<0.5	<0.02
RS-490 0560-0565	<5		<0.001		<0.5	<0.02
RS-490 0565-0570	<5		<0.001		<0.5	<0.02
RS-490 0570-0575	<5		<0.001		<0.5	<0.02
RS-490 0575-0580	13		<0.001		<0.5	<0.02
RS-490 0580-0585	15		<0.001		<0.5	<0.02
RS-490 0585-0590	5		<0.001		<0.5	<0.02
RS-490 0590-0595	6		<0.001		<0.5	<0.02
RS-490 0595-0600	44		0.001		0.6	<0.02
RS-490 0600-0605	7		<0.001		<0.5	<0.02
RS-490 0605-0610	<5		<0.001		<0.5	<0.02
RS-490 0610-0615	<5		<0.001		<0.5	<0.02
RS-490 0615-0620	24	28	<0.001	<0.001	<0.5	<0.02
RS-490 0620-0625	<5		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0625-0630	<5		<0.001		<0.5	<0.02
RS-490 0630-0635	<5		<0.001		<0.5	<0.02
RS-490 0635-0640	<5		<0.001		<0.5	<0.02
RS-490 0640-0645	<5		<0.001		<0.5	<0.02
RS-490 0645-0650	6		<0.001		<0.5	<0.02
RS-490 0650-0655	35	27	0.001	<0.001	<0.5	<0.02
RS-490 0655-0660	50	42	0.001	0.001	0.5	<0.02
RS-490 0660-0665	32	20	<0.001	<0.001	<0.5	<0.02
RS-490 0665-0670	10		<0.001		<0.5	<0.02
RS-490 0670-0675	8		<0.001		<0.5	<0.02
RS-490 0675-0680	<5		<0.001		<0.5	<0.02
RS-490 0680-0685	5		<0.001		<0.5	<0.02
RS-490 0685-0690	6		<0.001		<0.5	<0.02
RS-490 0690-0695	10		<0.001		<0.5	<0.02
RS-490 0695-0700	8		<0.001		<0.5	<0.02
RS-490 0700-0705	6		<0.001		<0.5	<0.02
RS-490 0705-0710	5		<0.001		<0.5	<0.02
RS-490 0710-0715	<5		<0.001		<0.5	<0.02
RS-490 0715-0720	5		<0.001		<0.5	<0.02
RS-490 0720-0725	<5		<0.001		<0.5	<0.02
RS-490 0725-0730	6		<0.001		<0.5	<0.02
RS-490 0730-0735	5		<0.001		<0.5	<0.02
RS-490 0735-0740	5		<0.001		<0.5	<0.02
RS-490 0740-0745	7		<0.001		<0.5	<0.02
RS-490 0745-0750	<5		<0.001		<0.5	<0.02

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REFERENCE : RS-490

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0750-0755	<5		<0.001		<0.5	<0.02
RS-490 0755-0760	<5		<0.001		<0.5	<0.02
RS-490 0760-0765	<5		<0.001		<0.5	<0.02
RS-490 0765-0770	<5		<0.001		<0.5	<0.02
RS-490 0770-0775	5		<0.001		<0.5	<0.02
RS-490 0775-0780	<5		<0.001		<0.5	<0.02
RS-490 0780-0785	5		<0.001		<0.5	<0.02
RS-490 0785-0790	6		<0.001		<0.5	<0.02
RS-490 0790-0795	6		<0.001		<0.5	<0.02
RS-490 0795-0800	<5	6	<0.001	<0.001	<0.5	<0.02
RS-490 0800-0805	10		<0.001		<0.5	<0.02
RS-490 0805-0810	7		<0.001		<0.5	<0.02
RS-490 0810-0815	<5		<0.001		<0.5	<0.02
RS-490 0815-0820	<5		<0.001		<0.5	<0.02
RS-490 0820-0825	<5		<0.001		<0.5	<0.02
RS-490 0825-0830	6	<5	<0.001	<0.001	<0.5	<0.02
RS-490 0830-0835	7		<0.001		<0.5	<0.02
RS-490 0835-0840	<5		<0.001		<0.5	<0.02
RS-490 0840-0845	<5		<0.001		<0.5	<0.02
RS-490 0845-0850	<5		<0.001		<0.5	<0.02
RS-490 0850-0855	<5		<0.001		<0.5	<0.02
RS-490 0855-0860	<5		<0.001		<0.5	<0.02
RS-490 0860-0865	<5		<0.001		<0.5	<0.02
RS-490 0865-0870	6		<0.001		<0.5	<0.02
RS-490 0870-0875	67	75	0.002	0.002	<0.5	<0.02

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CLIENT : HECLA MINING COMPANY
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REFERENCE : RS-490

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 0875-0880	61		0.002		<0.5	<0.02
RS-490 0880-0885	83		0.002		0.7	0.02
RS-490 0885-0890	54		0.002		0.6	<0.02
RS-490 0890-0895	124		0.004		0.8	0.02
RS-490 0895-0900	61		0.002		<0.5	<0.02
RS-490 0900-0905	20		<0.001		<0.5	<0.02
RS-490 0905-0910	90	100	0.003	0.003	0.8	0.02
RS-490 0910-0915	68		0.002		0.8	0.02
RS-490 0915-0920	40		0.001		<0.5	<0.02
RS-490 0920-0925	<5		<0.001		<0.5	<0.02
RS-490 0925-0930	<5		<0.001		<0.5	<0.02
RS-490 0930-0935	<5		<0.001		<0.5	<0.02
RS-490 0935-0940	7		<0.001		<0.5	<0.02
RS-490 0940-0945	8	12	<0.001	<0.001	<0.5	<0.02
RS-490 0945-0950	103		0.003		0.5	<0.02
RS-490 0950-0955	126	136	0.004	0.004	0.9	0.03
RS-490 0955-0960	159	170	0.005	0.005	1.6	0.05
RS-490 0960-0965	161		0.005		1.4	0.04
RS-490 0965-0970	105		0.003		0.8	0.02
RS-490 0970-0975	158		0.005		1.8	0.05
RS-490 0975-0980	174		0.005		1.7	0.05
RS-490 0980-0985	128		0.004		1.1	0.03
RS-490 0985-0990	124		0.004		0.8	0.02
RS-490 0990-0995	168		0.005		1.9	0.06
RS-490 0995-1000	141		0.004		1.5	0.04

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REFERENCE : RS-490

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1000-1005	98		0.003		0.9	0.03
RS-490 1005-1010	187		0.005		2.5	0.07
RS-490 1010-1015	158	152	0.005	0.004	1.4	0.04
RS-490 1015-1020	85		0.002		0.6	<0.02
RS-490 1020-1025	105		0.003		1.0	0.03
RS-490 1025-1030	112		0.003		0.7	0.02
RS-490 1030-1035	95	90	0.003	0.003	0.9	0.03
RS-490 1035-1040	187		0.005		0.5	<0.02
RS-490 1040-1045	69	78	0.002	0.002	0.5	<0.02
RS-490 1045-1050	113		0.003		1.1	0.03
RS-490 1050-1055	60		0.002		0.5	<0.02
RS-490 1055-1060	93		0.003		<0.5	<0.02
RS-490 1060-1065	87		0.003		0.6	<0.02
RS-490 1065-1070	108		0.003		0.9	0.03
RS-490 1070-1075	127		0.004		2.5	0.07
RS-490 1075-1080	121		0.004		3.3	0.10
RS-490 1080-1085	42		0.001		0.8	0.02
RS-490 1085-1090	15		<0.001		<0.5	<0.02
RS-490 1090-1095	35		0.001		0.7	0.02
RS-490 1095-1100	35		0.001		0.8	0.02
RS-490 1100-1105	18	10	<0.001	<0.001	<0.5	<0.02
RS-490 1105-1110	<5		<0.001		<0.5	<0.02
RS-490 1110-1115	7		<0.001		<0.5	<0.02
RS-490 1115-1120	13		<0.001		<0.5	<0.02
RS-490 1120-1125	<5		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1125-1130	<5		<0.001		<0.5	<0.02
RS-490 1130-1135	<5	<5	<0.001	<0.001	<0.5	<0.02
RS-490 1135-1140	<5		<0.001		<0.5	<0.02
RS-490 1140-1145	<5		<0.001		<0.5	<0.02
RS-490 1145-1150	10		<0.001		<0.5	<0.02
RS-490 1150-1155	9		<0.001		<0.5	<0.02
RS-490 1155-1160	8		<0.001		<0.5	<0.02
RS-490 1160-1165	<5		<0.001		<0.5	<0.02
RS-490 1165-1170	8		<0.001		<0.5	<0.02
RS-490 1170-1175	<5		<0.001		<0.5	<0.02
RS-490 1175-1180	<5		<0.001		<0.5	<0.02
RS-490 1180-1185	6		<0.001		<0.5	<0.02
RS-490 1185-1190	8	6	<0.001	<0.001	<0.5	<0.02
RS-490 1190-1195	<5		<0.001		<0.5	<0.02
RS-490 1195-1200	6		<0.001		<0.5	<0.02
RS-490 1200-1205	<5		<0.001		<0.5	<0.02
RS-490 1205-1210	<5		<0.001		<0.5	<0.02
RS-490 1210-1215	<5		<0.001		<0.5	<0.02
RS-490 1215-1220	<5		<0.001		<0.5	<0.02
RS-490 1220-1225	<5		<0.001		<0.5	<0.02
RS-490 1225-1230	<5		<0.001		<0.5	<0.02
RS-490 1230-1235	<5		<0.001		<0.5	<0.02
RS-490 1235-1240	<5		<0.001		<0.5	<0.02
RS-490 1240-1245	<5		<0.001		<0.5	<0.02
RS-490 1245-1250	8		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1250-1255	<5		<0.001		<0.5	<0.02
RS-490 1255-1260	<5		<0.001		<0.5	<0.02
RS-490 1260-1265	<5		<0.001		<0.5	<0.02
RS-490 1265-1270	<5		<0.001		<0.5	<0.02
RS-490 1270-1275	<5		<0.001		<0.5	<0.02
RS-490 1275-1280	<5		<0.001		<0.5	<0.02
RS-490 1280-1285	<5		<0.001		<0.5	<0.02
RS-490 1285-1290	<5		<0.001		<0.5	<0.02
RS-490 1290-1295	<5		<0.001		<0.5	<0.02
RS-490 1295-1300	<5		<0.001		<0.5	<0.02
RS-490 1300-1305	11		<0.001		<0.5	<0.02
RS-490 1305-1310	<5		<0.001		<0.5	<0.02
RS-490 1310-1315	<5		<0.001		<0.5	<0.02
RS-490 1315-1320	<5		<0.001		<0.5	<0.02
RS-490 1320-1325	8		<0.001		<0.5	<0.02
RS-490 1325-1330	8		<0.001		<0.5	<0.02
RS-490 1330-1335	5		<0.001		<0.5	<0.02
RS-490 1335-1340	6		<0.001		<0.5	<0.02
RS-490 1340-1345	7		<0.001		<0.5	<0.02
RS-490 1345-1350	<5		<0.001		<0.5	<0.02
RS-490 1350-1355	5		<0.001		<0.5	<0.02
RS-490 1355-1360	<5		<0.001		<0.5	<0.02
RS-490 1360-1365	<5		<0.001		<0.5	<0.02
RS-490 1365-1370	5		<0.001		<0.5	<0.02
RS-490 1370-1375	7		<0.001		<0.5	<0.02

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SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1375-1380	<5		<0.001		<0.5	<0.02
RS-490 1380-1385	<5		<0.001		<0.5	<0.02
RS-490 1385-1390	<5		<0.001		<0.5	<0.02
RS-490 1390-1395	5		<0.001		<0.5	<0.02
RS-490 1395-1400	6		<0.001		<0.5	<0.02
RS-490 1400-1405	18		<0.001		<0.5	<0.02
RS-490 1405-1410	28		<0.001		<0.5	<0.02
RS-490 1410-1415	22		<0.001		<0.5	<0.02
RS-490 1415-1420	10		<0.001		<0.5	<0.02
RS-490 1420-1425	44	55	0.001	0.002	3.4	0.10
RS-490 1425-1430	32		<0.001		1.1	0.03
RS-490 1430-1435	14		<0.001		0.7	0.02
RS-490 1435-1440	40		0.001		1.7	0.05
RS-490 1440-1445	25	20	<0.001	<0.001	1.2	0.04
RS-490 1445-1450	80	70	0.002	0.002	1.1	0.03
RS-490 1450-1455	11		<0.001		<0.5	<0.02
RS-490 1455-1460	15		<0.001		1.0	0.03
RS-490 1460-1465	137		0.004		1.9	0.06
RS-490 1465-1470	249	236	0.007	0.007	4.7	0.14
RS-490 1470-1475	67		0.002		3.5	0.10
RS-490 1475-1480	532	544	0.016	0.016	22.0	0.64
RS-490 1480-1485	161		0.005		3.8	0.11
RS-490 1485-1490	111		0.003		3.3	0.10
RS-490 1490-1495	130		0.004		2.3	0.07
RS-490 1495-1500	507		0.015		36.5	1.06

AMERICAN ASSAY LABORATORIES

PROVISIONAL REPORT SP056109

CLIENT : HECLA MINING COMPANY
PROJECT : ROSEBUD
REFERENCE : RS-490

REPORTED : 7 MAR 2000

SAMPLES	Au	Au(R)	Au(OZ)	Au(RZ)	Ag	Ag(OZ)
RS-490 1500-1505	111		0.003		4.1	0.12
RS-490 1505-1510	110		0.003		2.7	0.08
RS-490 1510-1515	45		0.001		1.5	0.04
RS-490 1515-1520	56		0.002		1.8	0.05
RS-490 1520-1525	93		0.003		1.7	0.05
RS-490 1525-1530	81		0.002		2.2	0.06
RS-490 1530-1535	111		0.003		1.9	0.06
RS-490 1535-1540	100		0.003		2.8	0.08
RS-490 1540-1545	26		<0.001		0.9	0.03
RS-490 1545-1550	<5		<0.001		0.5	<0.02
RS-490 1550-1555	<5		<0.001		<0.5	<0.02
RS-490 1555-1560	<5		<0.001		<0.5	<0.02
RS-490 1560-1565	<5		<0.001		0.5	<0.02
RS-490 1565-1570	<5		<0.001		<0.5	<0.02
RS-490 1570-1575	<5		<0.001		<0.5	<0.02
RS-490 1575-1580	<5		<0.001		<0.5	<0.02
RS-490 1580-1585	<5		<0.001		<0.5	<0.02
RS-490 1585-1590	<5		<0.001		<0.5	<0.02
RS-490 1590-1595	<5		<0.001		<0.5	<0.02
RS-490 1595-1600	<5		<0.001		<0.5	<0.02
89548	12840		0.375		109.6	3.20

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

JOB NUMBER: 29-0588-311 WELL NAME: RS-490

INRUN SURVEY
BY MINIMUM CURVATURE

MEAS. DEPTH	VERT. DEPTH	VERT. SECT.	L/R CLOS.	INCL HORZ	BEARING AZIMUTH	COORDINATES LATITUDE	COORDINATES DEPARTURE	D-LEG /100	D-LEG /CL	STATION DISP.	DISPLACEMENT DIRECTION	TEMP. DEG F
0.0	0.00	0.00	0.000	-89.39	257.11	0.00 N	0.00 E	0.00		0.00	AT 000.00	
50.0	49.99	0.16	0.712	-88.91	235.53	0.33 S	0.65 W	1.14	0.57	0.73	AT 243.24	038.70
100.0	99.98	0.78	1.920	-87.97	225.00	1.22 S	1.67 W	1.96	0.98	2.07	AT 233.76	041.06
150.0	149.92	2.27	3.660	-86.73	209.10	3.10 S	2.99 W	2.86	1.43	4.30	AT 224.00	044.46
200.0	199.83	4.70	5.454	-86.29	196.01	5.90 S	4.13 W	1.81	0.91	7.20	AT 215.00	046.01
250.0	249.71	7.61	7.191	-85.94	197.14	9.14 S	5.10 W	0.72	0.36	10.47	AT 209.14	047.52
300.0	299.59	10.86	8.660	-85.81	183.18	12.66 S	5.72 W	2.02	1.01	13.89	AT 204.32	050.19
350.0	349.44	14.44	9.848	-85.54	184.99	16.42 S	5.99 W	0.61	0.30	17.48	AT 200.04	050.52
400.0	399.29	18.18	11.048	-85.45	182.15	20.34 S	6.23 W	0.48	0.24	21.27	AT 197.04	051.74
450.0	449.13	21.99	12.260	-85.38	184.62	24.33 S	6.47 W	0.42	0.21	25.17	AT 194.90	053.29
500.0	498.96	25.89	13.478	-85.23	181.57	28.41 S	6.69 W	0.58	0.29	29.19	AT 193.25	054.63
550.0	548.78	29.91	14.955	-84.92	190.03	32.67 S	7.13 W	1.58	0.79	33.44	AT 192.32	056.11
600.0	598.60	33.83	16.589	-85.33	186.59	36.87 S	7.75 W	1.01	0.50	37.68	AT 191.87	057.49
650.0	648.41	37.81	18.165	-84.85	188.05	41.12 S	8.30 W	0.99	0.50	41.95	AT 191.41	058.81
700.0	698.20	42.07	20.033	-84.47	190.72	45.71 S	9.06 W	0.91	0.45	46.59	AT 191.21	059.96
750.0	747.99	46.37	21.546	-85.01	178.93	50.25 S	9.47 W	2.41	1.21	51.13	AT 190.67	060.95
800.0	797.81	50.47	22.461	-85.36	177.70	54.44 S	9.35 W	0.73	0.36	55.24	AT 189.74	061.67
850.0	847.67	54.03	23.510	-86.08	187.40	58.16 S	9.49 W	2.04	1.02	58.93	AT 189.26	062.70
900.0	897.58	56.87	24.236	-87.14	170.14	61.08 S	9.49 W	2.92	1.46	61.81	AT 188.83	063.58
950.0	947.49	59.80	23.784	-85.93	147.76	63.81 S	8.33 W	3.59	1.79	64.35	AT 187.44	064.44
1000.0	997.43	61.96	22.764	-88.47	120.81	65.65 S	6.81 W	5.59	2.79	66.01	AT 185.92	065.25
1050.0	1047.41	62.94	21.472	-87.78	107.84	66.29 S	5.32 W	1.61	0.81	66.51	AT 184.59	066.05
1100.0	1097.35	64.17	19.554	-87.00	108.73	67.01 S	3.16 W	1.56	0.78	67.08	AT 182.70	067.29
1150.0	1147.29	65.29	17.347	-87.29	095.99	67.55 S	0.74 W	1.39	0.70	67.56	AT 180.63	069.36
1200.0	1197.23	65.74	14.991	-87.14	077.50	67.41 S	1.65 E	1.81	0.91	67.43	AT 178.60	071.02
1250.0	1247.17	65.70	12.499	-87.14	072.24	66.76 S	4.06 E	0.52	0.26	66.88	AT 176.52	072.72
1300.0	1297.12	65.24	10.187	-87.40	056.03	65.74 S	6.19 E	1.62	0.81	66.03	AT 174.62	074.39
1350.0	1347.07	64.50	8.079	-87.48	056.83	64.51 S	8.05 E	0.18	0.09	65.01	AT 172.89	076.11
1400.0	1397.01	63.51	5.907	-87.02	046.39	63.01 S	9.91 E	1.36	0.68	63.78	AT 171.06	077.68
1450.0	1446.93	61.99	3.535	-86.51	040.23	60.95 S	11.83 E	1.23	0.62	62.09	AT 169.01	079.51
1500.0	1496.84	60.42	1.032	-86.70	047.26	58.81 S	13.87 E	0.91	0.46	60.43	AT 166.73	087.98
1520.0	1516.81	59.88	-0.001	-86.62	049.18	58.04 S	14.74 E	0.69	0.14	59.88	AT 165.75	088.11

```
*************************************************************
*                        ********                           *
*      THE HORIZONTAL DISPLACEMENT AT THE DEPTH OF          *
*                        ********                           *
*  1520.0 FEET EQUALS     59.88   FEET AT   165.75          *
*                        ********                           *
*************************************************************
```

WELLBORE NAVIGATION, INC.
WINNEMUCCA, NEVADA

GYROSCOPIC DIRECTIONAL SURVEY
BY MINIMUM CURVATURE

FOR

****
* HECLA MINING COMPANY *
****

JOB NUMBER: 29-0588-311

WELL NAME: RS-490

LOCATION: ROSEBUD MINE

SURVEY DATE: 02/13/2000

SURVEY ENGINEER: VERN REID

GYRO REFERENCE BEARING: TRUE NORTH

TIE-ON COORDINATES AT: 0 M.D.
TAKEN FROM: COLLAR
WATER CONTACT= 1460'

****
****** DEPTH MEASURED IN FEET *******
****

COMMENTS: ***** EKLUND ****
** DON SCHOORL **

****
****
*** THIS DIRECTIONAL SURVEY REPORT IS ****
** CORRECT TO THE BEST OF MY KNOWLEDGE ***
* AND IS SUPPORTED BY ACTUAL FIELD DATA! *
**
**
** **********
** COMPANY REPRESENTATIVE **
****
****

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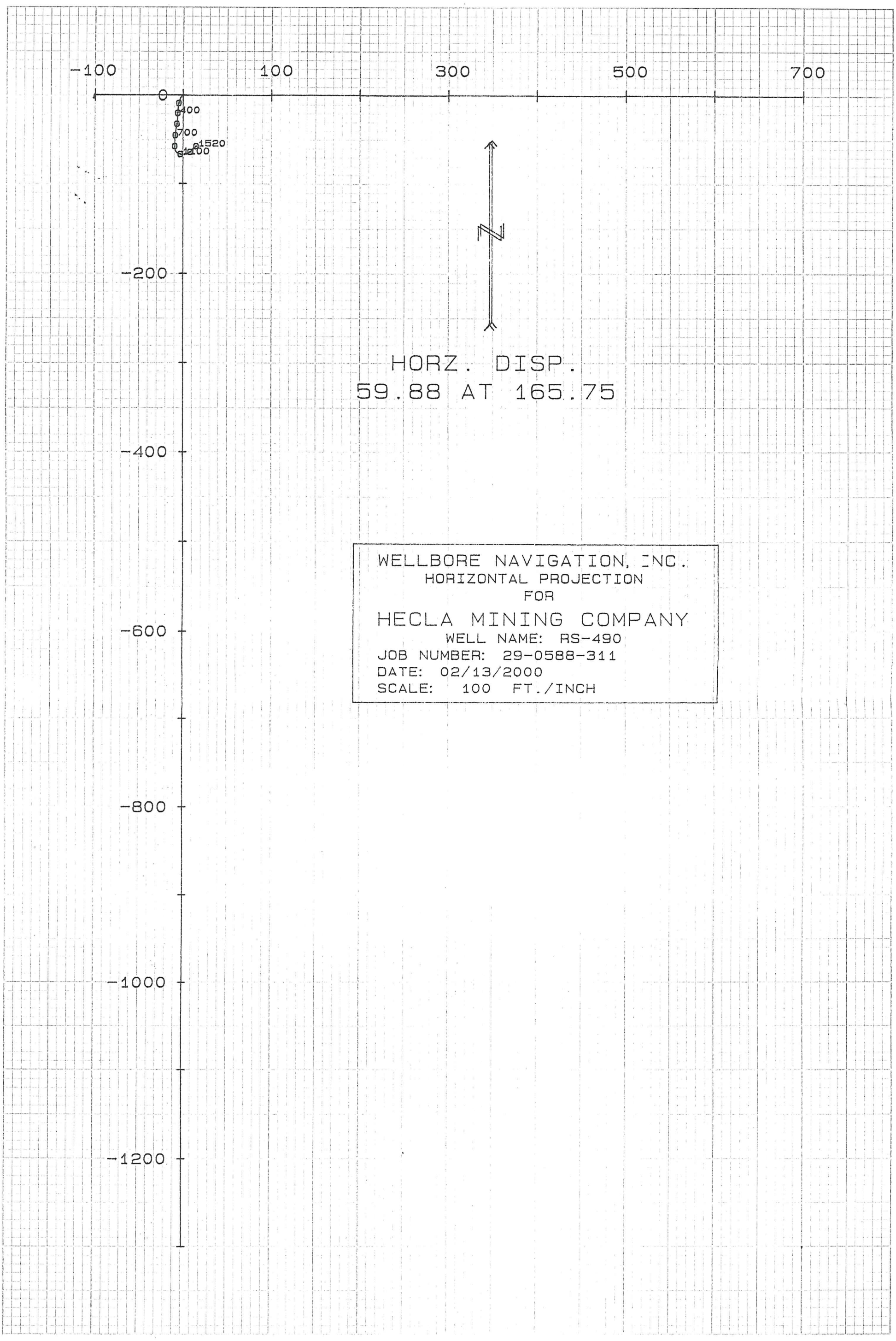
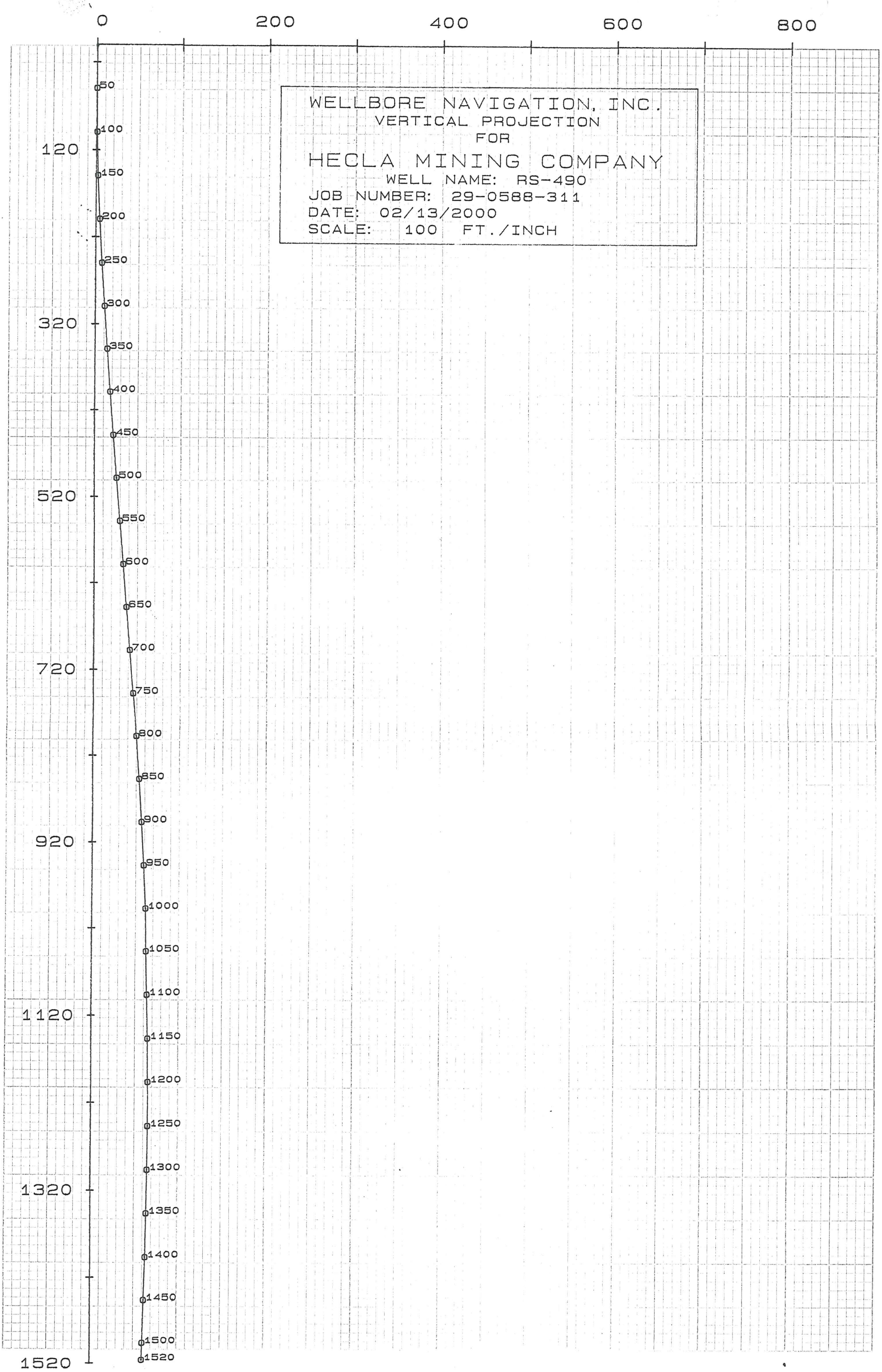
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