60008663

BULK DENSITY

BULK DENSITY 60008663

SP

SUBMITTAL FORM

60008663

American Assay Laboratories

Geochemical • Environmental • Metallurgical

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
Telephone
(702) 356-0606
Fax
(702) 356-1413

Tucson Office
2775 E. Ganley
Tucson, AZ 85706
Telephone
(520) 294-8078
Fax
(520) 294-6352

Elko Office
2320 Last Chance Rd.
Nevada 89801
Box 2908
Elko, NV 89801
Telephone
(702) 738-9100
Fax
(702) 738-2594

Zacatecas Office
Telephone/Fax
011-52-49-234530

Other Offices
Lima, Peru
Santiago, Chile
Mendoza, Argentina

Company: Hecla Mining Company

Address: PO Box 2610

City WMCA State NV Zip 89446

Telephone Number: (775) 623-6912 Fax Number: (775) 623-6967

Project Name: Rosebud Purchase Order Number:

Date Submitted: 2/29/00 Number of Samples: 6

RESULTS REPORTED IN: ppm [ ] ppb [ ] opt [ ]

SAMPLE IDENTIFICATION	TYPE	ELEMENTS REQUIRED
82751 - 82756	Bulk Rock	Bulk Density per AAL standard Protocol Method ASTM - C-914

COARSE REJECTS (Normally Discarded After 60 Days)

[ ] Return COD after analysis complete

PULPS (Normally Stored Free For One Month)

[ ] Discard after one month
[ ] Return COD after one month

RESULTS AND INVOICES TO BE SENT TO:

Invoice to: Brian Morris

Results to: Cindy Moore

Comments:

CLIENT FILE COPY

CLIENT Mecla Mining Company
AAL REF EV5261
ATTN Cindy Moore

ANALYSIS PERFORMED BY AMERICAN ASSAY LABORATORIES

SAMPLE ID	UNITS	Bulk Density	Analysis Date
82751	lb./ft^3	152	3/15/00
82752	lb./ft^3	152	3/15/00
82753	lb./ft^3	157	3/15/00
82754	lb./ft^3	164	3/15/00
82755	lb./ft^3	164	3/15/00
82756	lb./ft^3	166	3/15/00

TCS
153.7 lb/ft3 = 13.01 ft3/ton
ALS
1647 lb/ft3 = 12.14 ft3/ton

Robert Potts
QA/QC Manager

...rt is applicable only to the samples received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report ...exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of this report or its contents.

AAI ENVIRONMENTAL INC

CLIENT: Hecla Mining Company
AAL REF: EV5280
ATTN: Cindy Moore

ANALYSIS PERFORMED BY AAL ENVIRONMENTAL LLC

SAMPLE ID	UNITS	Bulk Density	Analysis Date
89966	lb./ft^3	152	3/20/00
89967	lb./ft^3	134	3/20/00
89968	lb./ft^3	136	3/20/00

> Disregard

Karl McCrea
Laboratory Director

Samples sent in by Travis

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AAL ENVIRONMENTAL LLC

AAL ENVIRONMENTAL LLC
1500 GLENDALE AVE.
SPARKS, NV 89431

FACSIMILE TRANSMITTAL SHEET

DATE: 10/29/98 **TIME:**

NUMBER OF PAGES INCLUDING THIS SHEET: (3)

TO: Kurt Allen

COMPANY: Hecla - Rosebud

FROM: Kendra Shaney

SUBJECT: EV4120

MESSAGE:

Final BD results.

NOTE: IF ANY OF THE FAX COPIES ARE ILLEGIBLE, OR YOU DO NOT RECEIVE ALL PAGES, PLEASE CONTACT US IMMEDIATELY AT:

PHONE: (702) 356-0606 **or** **FAX: (702) 356-1413**

10/29/1998 15:44 7023561414 AMERICAN ASSAY LABS PAGE 01

7023561414

AAL
ENVIRONMENTAL
LLC

Sparks Office
1500 Glendale Ave.
Nevada 89431
Box 11530
Reno, NV 89510
(702) 356-0606
Fax
(702) 356-1413

REPORT OF ANALYSIS

Client:	**Hecla Mining Company**
	Kurt D. Allen
Project:	Rosebud Production
AAL Ref:	EV4120
Report Date:	10-29-98
Samples received by:	K. Shaney
Date Received:	07-17-98
Time Received:	8:00am
Conditions:	In good condition, AAL pick-up.

Samples Received: 15 samples for bulk density determination

Samples Labeled:

45227	45294
45228	45295
45229	45351
45230	45352
45231	45353
45291	45354
45292	45355
45293	

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

CLIENT: Hecla Mining Company
AAL REF: EV4120
ATTN: Kurt D. Allen

SAMPLE ID	UNITS	Bulk Density	
45227	lb./cu.ft	134	25
45228	lb./cu.ft	142	
45229	lb./cu.ft	124	
45230	lb./cu.ft	131	
45231	lb./cu.ft	147	
45291	lb./cu.ft	127	23
45292	lb./cu.ft	133	
45293	lb./cu.ft	147	
45294	lb./cu.ft	143	
45295	lb./cu.ft	145	
45351	lb./cu.ft	127	14
45352	lb./cu.ft	125	
45353	lb./cu.ft	126	
45354	lb./cu.ft	124	
45355	lb./cu.ft	126	

135.4

139.0

125.6

133.4

45351 thru 45355 analysis performed on crushed material.

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LLC

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Nevada 89431
Box 11530
Reno, NV 89510
(702) 356-0606
Fax
(702) 356-1413

Kurt gave to me 11/9/98

REPORT OF ANALYSIS

Client:	**Hecla Mining Company**
	Kurt D. Allen
Project:	Rosebud Production
AAL Ref:	EV4122
Report Date:	11-04-98
Samples received by:	K. Shaney
Date Received:	10-30-98
Time Received:	8:00am
Conditions:	In good condition, AAL pick-up.

Samples Received: 10 samples for bulk density determination

Samples Labeled:

46353
46354
46355
46356
46357
46359
46360
46361
46362
46363

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

CLIENT: Resta Mining Company
AAL REF: EV4122
ATTN: Kurt D. Allen

SAMPLE ID	UNITS	Bulk Density
46353	lb./cu.ft	168
46354	lb./cu.ft	146
46355	lb./cu.ft	157
46356	lb./cu.ft	125
46357	lb./cu.ft	165
46359	lb./cu.ft	138
46360	lb./cu.ft	139
46361	lb./cu.ft	147
46362	lb./cu.ft	131
46363	lb./cu.ft	140

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

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REPORT OF ANALYSIS

Client:	**Hecla Mining Company**
	Kurt D. Allen
Project:	Rosebud Production
AAL Ref:	EV4123
Report Date:	11-05-98
Samples received by:	K. Shaney
Date Received:	11-02-98
Time Received:	8:00am
Conditions:	In good condition, AAL pick-up.

Samples Received: 5 samples for bulk density determination

Samples Labeled:

46458
46459
46460
46461
46462

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CLIENT: Hecla Mining Company
AAL REF: EV4123
ATTN: Kurt D. Allen

SAMPLE ID	UNITS	Bulk Density
46458	lb./cu.ft	149
46459	lb./cu.ft	117
46460	lb./cu.ft	147
46461	lb./cu.ft	145
46462	lb./cu.ft	147

This report is applicable only to the sample received by the laboratory. The liability of the laboratory is limited to the amount paid for this report. This report is for the exclusive use of the client to whom it is addressed and upon the condition that the client assumes all liability for the further distribution of the report or its contents.

AAL ENVIRONMENTAL LLC

BULK DENSITY

10/98

T14-1

Start Breakdown

W

RP

MP

T.14-28S

RP

MP

P8

P7

W seg.

0.4016

11-10-98

W seg

0.101

11-9-98

W seg

0.038

11-8-98

W seg

0.215+

0.078

0.084

0.078

0.0760

11-4

11-3-98

0.213

seg

0.671

0.155

0.114

0.074

0.048

0.034

0.088

0.222

0.011

0.007

0.029

0.038

0.029

0.011

0.007

0.031

0.070

0.008

0.012

0.008

0.007

0.007

0.008

0.007

0.012

0.508

0.169

0.074

0.163

0.189

0.061

0.120

0.329

0.482

0.416

0.254

0.321

1.530

0.215

2.275

0.543

5.140

3.093

0.123

0.233

11-7-98

Bulks @ P11BS+33-38 RR

21.111

11-9-98

0.080

11-10-98

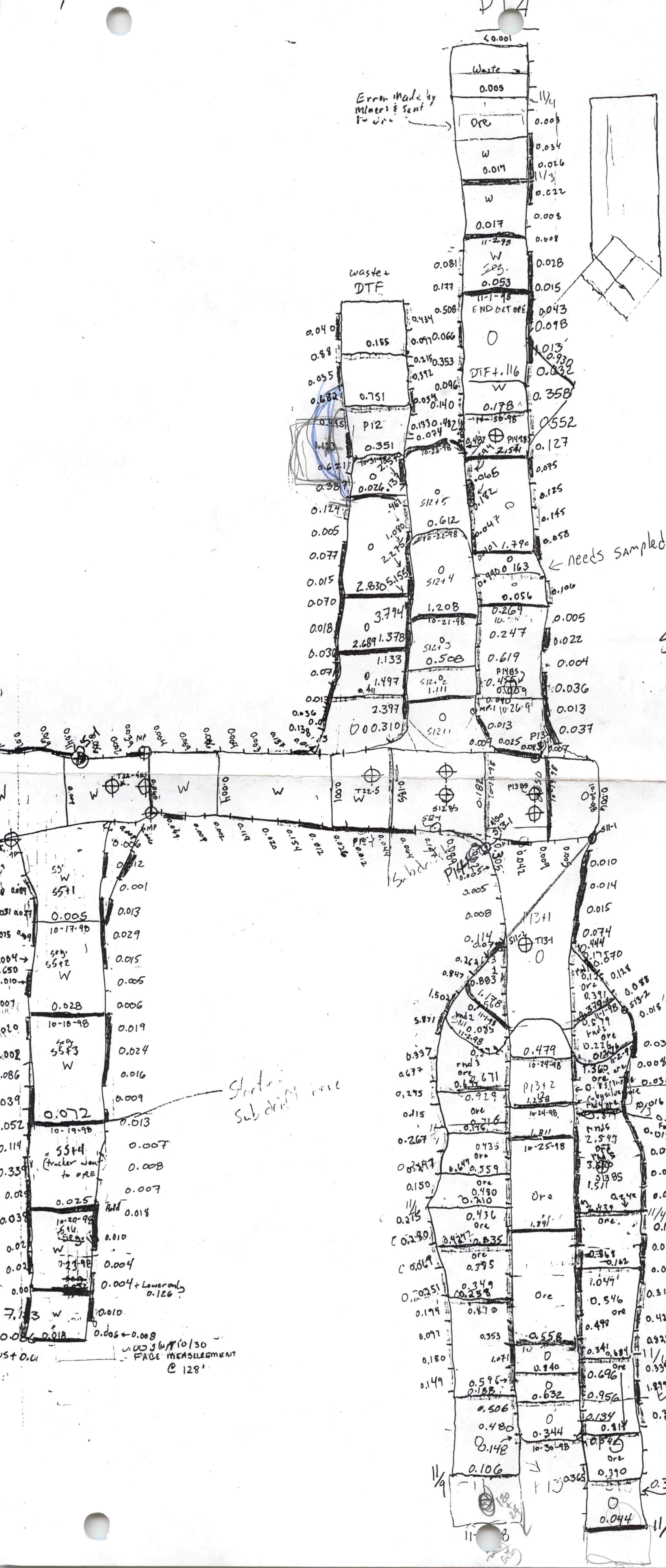
0.162

2203500N

2203400N

Bulk

S11-1 + 40' LR



Start Subdrift here

S5+4 (Tracker went to ORE

0.025 Fold 0.018

10-20-98 S5+6 Segs W 0.010

10-23-98 0.004

0.004 + Lower only 0.126

0.010

0.006 ← 0.008

0.003 6ft 10/30 FACE MEASUREMENT @ 128'

End Oct

481.700E

2203.700

ALEX,

HOW ARE YOU GOING TO GET THIS?

BUK

T23S R5 +15 AR

END Back Fill in w/ waste, left

PIPED END → S1

S1-D

S9

D131

Bulk

A20-3 + 82 LR

Bulk Density

PAGE OF

STOPE: 22

CUT ELEVATION 4712

PANEL: P12 LEFT RIB

	SAMPLE LOCATION	SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
11/11	P12-1+80-90' #1	47500					PL
	#2	47501					LST
	#3	47502					PL
	#4	47503					LST
	#5	47504					LST
11/11	RP-1+25-30 RF #1	47511					PMbx + W.C. + Marc. Frcts.
	#2	47512					" "
	#3	47513					" "
	#4	47514					PMbx + Marc + calcite vns.
	#5	47515					PMbx + Marc. + W.C. Frcts.

Bulk. Density

PAGE OF

STOPE: 25

CUT ELEVATION 4436

PANEL: 5 1/2 LEFT RIB

10/15

SAMPLE LOCATION		SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
5 1/2 - 1 + 43-58	LR 1	45227					Planer Laminated
↓	2	45228					↓
	3	45229					
	4	45230					
	5	45231					

STOPE: 23

CUT ELEVATION 4628

PANEL: 510

Bulk Density

	SAMPLE LOCATION	SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
10/16	510 BS + 11-21' LR 1	45291					PMIX MATRIX BXA
	2	45292					
	3	45293					
	4	4529A					
	5	45295					
11/12	T23-3BS+ 15-20 RR 1	47524					PMbx w/ 1/2 " Sulfidet 0≠ V.M.
	2	47525					PMbx w/ W.C. on fracts.
	3	47526					PMbx w/ Marc. + W.C. VM
	4	47527					PMbx, no cmas. bx fracts.
	5	47528					PMbx w/ Marc. V.N.

PAGE OF

STOPE: 14

CUT ELEVATION 4856

PANEL: S8

Bulk Density

	SAMPLE LOCATION	SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
10/16	S8-1+29-49 RR (1)	45351					
	(2)	45352					Planner Laminated
	(3)	45353					
	(4)	45354					
	(5)	45355					
11/12	P11 BS+ 33-38 RR 1	47532					PMbx w/str. silver, graphitic fault
	2	47533					PMbx w/graphitic fault + silver + W.C.
	3	47534					PMbx w/W.C. faultst silver graphitic + 1/4 sulfide matrix bx
	4	47535					PMbx w/W.C. frcts. pyyrgrite un 1/16
	5	47536					PMbx w/W.C. + pyyrgrite vn 1/4

PAGE OF

Bulk Density

STOPE: 43

CUT ELEVATION 4609

PANEL: LA-1 Left Rib

SAMPLE LOCATION	SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
10/28 LA-1+0-20' LR 1	46353					
2	46354					
3	46355					
4	46356					
5	46357					

STOPE: 20

CUT ELEVATION 4736

PANEL: P5

Bulk Density

Left Rib.

SAMPLE LOCATION		SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
10/28 PS-1+20-30'	1	46359					
	2	46360					
	3	46361					
	4	46362					
	5	46363					

STOPE: 72

CUT ELEVATION 4712

PANEL: P13 Left Rib

SAMPLE LOCATION	SAMPLE ID	HEIGHT	WIDTH	GOLD	SILVER	COMMENTS
10/30 P13-1+80-105'	46458					
	46459					
	46460					
	46461					
	46462					

BULK DENSITY

STOPE: D.Z.

LEVEL: 4360 ≈

PANEL: ACC

LEFT RIB

FACE 1 WIDTH/HEIGHT: _____

DATE	MEASURE POINT	SAMPLE ID	GOLD	SILVER	CURRENT		PREVIOUS		COMMENT
					WIDTH	HEIGHT	WIDTH	HEIGHT	
3/11	DZ-5B5+60 1	89966							
	55 2	89967							
	50 3	89968							