Affidavit or Statement of Annual Assessment Work
(PROOF OF LABOR)
ON UNPATENTED MINING CLAIM

TO ALL WHOM IT MAY CONCERN:

The undersigned hereby certifies (certify) that he (she, they) has (have) expended more than $5200.00 dollars for labor and improvements, as the annual assessment work for the year ending September 1, 19 87, on the (list claim names here)

Dorothy Claim #'s 1 through 52

Placer Claims BLM NMC #'s 144267 through 144318

listed on attached page.

lode (placer) mining claim(s) in Section see attached listing, Township ______, Range ______, in the Pioche Mining District, in Lincoln County, Nevada, owned by Marblehead Lime Company for the purpose of holding said claim(s).

The claim map showing said claim(s) is filed as Document No. 67635 in the Lincoln County records.

Said labor was performed or improvements made by (name and address) Marblehead Lime Company, 222 North LaSalle Street, Chicago, IL 60601 between the dates of September 1, 1986 and August 31, 1987, and consisted of Geologic Mapping and sampling of the various outcropping stone units throughout the Dorthy Claim Block, and aerial mapping to identify and develop different quarry site options.

(Describe work done, and claim or part of claim affected)

Dated this 27th day of August, 19 87.

[signature]
(Name of subscriber)

(Witness)

(Witness)

Subscribed and sworn to before me this 27th day of August, 1987.

[signature: Judy A. Etchart]
JUDY A. ETCHART
Notary Public - State of Nevada
[illegible]
[illegible] COUNTY, NEVADA
My [illegible] expires Jan. 21, 1990

Note 1: This Affidavit or Statement of Annual Assessment work must be filed within 60 days after the performance of labor or making of improvements.

Note 2: "Each locator shall file two copies of a map prepared in accordance with NRS 517.030 with the county recorder in which the claim is located not later than September 1, 1972." NRS 517.230, Subsection 3.

CARLISLE FORM NO. 60 N

RECORDER'S STAMP

No. 87558

FILED AND RECORDED AT REQUEST OF James E. Bastian

27 August 1987

AT 01 MINUTES PAST 11 O'CLOCK A.M. IN BOOK 76 OF OFFICIAL RECORDS, PAGE 488 LINCOLN COUNTY, NEVADA.

[signature]
Frank C. Hulse COUNTY RECORDER

BOOK 76 PAGE 488

			BOOK	PAGE	NO.	MC #
DOROTHY # 1 ,	PLACER	N1/2,NW1/4,NE1/4,	SEC. 36,T1N,R66E	35	541	67568	MC # 144267
DOROTHY # 2 ,	PLACER	S1/2,SW1/4,SE1/4,	SEC. 25,T1N,R66E	35	542	67569	MC # 144268
DOROTHY # 3 ,	PLACER	S1/2,SE1/4,SE1/4,	SEC. 25,T1N,R66E	35	543	67570	MC # 144269
DOROTHY # 4 ,	PLACER	N1/2,NE1/4,NE1/4,	SEC. 36,T1N,R66E	35	544	67571	MC # 144270
DOROTHY # 5 ,	PLACER	S1/2,NE1/4,NE1/4,	SEC. 36,T1N,R66E	35	545	67572	MC # 144271
DOROTHY # 6 ,	PLACER	N1/2,SE1/4,NE1/4,	SEC. 36,T1N,R66E	35	546	67573	MC # 144272
DOROTHY # 7 ,	PLACER	S1/2,SE1/4,NE1/4,	SEC. 36,T1N,R66E	35	547	67574	MC # 144273
DOROTHY # 8 ,	PLACER	N1/2,NE1/4,SE1/4,	SEC. 36,T1N,R66E	35	548	67575	MC # 144274
DOROTHY # 9 ,	PLACER	S1/2,NE1/4,SE1/4,	SEC. 36,T1N,R66E	35	549	67576	MC # 144275
DOROTHY # 10 ,	PLACER	N1/2,SE1/4,SE1/4,	SEC. 36,T1N,R66E	35	550	67577	MC # 144276
DOROTHY # 11 ,	PLACER	E1/2,SE1/4,SE1/4,	SEC. 36,T1N,R66E	35	551	67578	MC # 144277
DOROTHY # 12 ,	PLACER	S1/2,SW1/4,SW1/4,	SEC. 31,T1N,R67E	35	552	67579	MC # 144278
DOROTHY # 13 ,	PLACER	N1/2,SW1/4,SW1/4,	SEC. 31,T1N,R67E	35	553	67580	MC # 144279
DOROTHY # 14 ,	PLACER	S1/2,NW1/4,SW1/4,	SEC. 31,T1N,R67E	35	554	67581	MC # 144280
DOROTHY # 15 ,	PLACER	N1/2,NW1/4,SW1/4,	SEC. 31,T1N,R67E	35	555	67582	MC # 144281
DOROTHY # 16 ,	PLACER	S1/2,SW1/4,NW1/4,	SEC. 31,T1N,R67E	35	556	67583	MC # 144282
DOROTHY # 17 ,	PLACER	N1/2,SW1/4,NW1/4,	SEC. 31,T1N,R67E	35	557	67584	MC # 144283
DOROTHY # 18 ,	PLACER	S1/2,NW1/4,NW1/4,	SEC. 31,T1N,R67E	35	558	67585	MC # 144284
DOROTHY # 19 ,	PLACER	N1/2,NW1/4,NW1/4,	SEC. 31,T1N,R67E	35	559	67586	MC # 144285
DOROTHY # 20 ,	PLACER	S1/2,SW1/4,SW1/4,	SEC. 30,T1N,R67E	35	560	67587	MC # 144286
DOROTHY # 21 ,	PLACER	N1/2,SW1/4,SW1/4,	SEC. 30,T1N,R67E	35	561	67588	MC # 144287
DOROTHY # 22 ,	PLACER	N1/2,NE1/4,NW1/4,	SEC. 31,T1N,R67E	35	562	67589	MC # 144288
DOROTHY # 23 ,	PLACER	N1/2,SE1/4,NW1/4,	SEC. 31,T1N,R67E	35	563	67590	MC # 144289
DOROTHY # 24 ,	PLACER	N1/2,NE1/4,SW1/4,	SEC. 31,T1N,R67E	35	564	67591	MC # 144290
DOROTHY # 25 ,	PLACER	N1/2,SE1/4,SW1/4,	SEC. 31,T1N,R67E	35	565	67592	MC # 144291
DOROTHY # 26 ,	PLACER	E1/2,NW1/4,NW1/4,	SEC. 5,T1S,R67E	35	566	67593	MC # 144292
DOROTHY # 27 ,	PLACER	N1/2,NW1/4,NW1/4,	SEC. 5,T1S,R67E	35	567	67594	MC # 144293
DOROTHY # 28 ,	PLACER	N1/2,SW1/4,NW1/4,	SEC. 5,T1S,R67E	35	568	67595	MC # 144294
DOROTHY # 29 ,	PLACER	N1/2,NE1/4,SE1/4,	SEC. 6,T1S,R67E	35	569	67596	MC # 144295
DOROTHY # 30 ,	PLACER	S1/2,SE1/4,NE1/4,	SEC. 6,T1S,R67E	35	570	67597	MC # 144296
DOROTHY # 31 ,	PLACER	N1/2,SE1/4,NE1/4,	SEC. 6,T1S,R67E	35	571	67598	MC # 144297
DOROTHY # 32 ,	PLACER	E1/2,NE1/4,NE1/4,	SEC. 6,T1S,R67E	35	572	67599	MC # 144298
DOROTHY # 33 ,	PLACER	N1/2,NE1/4,NE1/4,	SEC. 6,T1S,R67E	35	573	67600	MC # 144299
DOROTHY # 34 ,	PLACER	N1/2,SW1/4,NE1/4,	SEC. 6,T1S,R67E	35	574	67601	MC # 144300
DOROTHY # 35 ,	PLACER	S1/2,SW1/4,NE1/4,	SEC. 6,T1S,R67E	35	575	67602	MC # 144301
DOROTHY # 36 ,	PLACER	N1/2,NW1/4,SE1/4,	SEC. 6,T1S,R67E	35	576	67603	MC # 144302
DOROTHY # 37 ,	PLACER	S1/2,NW1/4,SE1/4,	SEC. 6,T1S,R67E	35	577	67604	MC # 144303
DOROTHY # 38 ,	PLACER	N1/2,SW1/4,SE1/4,	SEC. 6,T1S,R67E	35	578	67605	MC # 144304
DOROTHY # 39 ,	PLACER	S1/2,SW1/4,SE1/4,	SEC. 6,T1S,R67E	35	579	67606	MC # 144305
DOROTHY # 40 ,	PLACER	N1/2,NW1/4,NE1/4,	SEC. 7,T1S,R67E	35	580	67607	MC # 144306
DOROTHY # 41 ,	PLACER	S1/2,NW1/4,NE1/4,	SEC. 7,T1S,R67E	35	581	67608	MC # 144307
DOROTHY # 42 ,	PLACER	N1/2,SW1/4,NE1/4,	SEC. 7,T1S,R67E	35	582	67609	MC # 144308
DOROTHY # 43 ,	PLACER	S1/2,SW1/4,NE1/4,	SEC. 7,T1S,R67E	35	583	67610	MC # 144309
DOROTHY # 44 ,	PLACER	N1/2,NE1/4,SW1/4,	SEC. 7,T1S,R67E	35	584	67611	MC # 144310
DOROTHY # 45 ,	PLACER	S1/2,SE1/4,NW1/4,	SEC. 7,T1S,R67E	35	585	67612	MC # 144311
DOROTHY # 46 ,	PLACER	N1/2,SE1/4,NW1/4,	SEC. 7,T1S,R67E	35	586	67613	MC # 144312
DOROTHY # 47 ,	PLACER	S1/2,NE1/4,NW1/4,	SEC. 7,T1S,R67E	35	587	67614	MC # 144313
DOROTHY # 48 ,	PLACER	N1/2,NE1/4,NW1/4,	SEC. 7,T1S,R67E	35	588	67615	MC # 144314
DOROTHY # 49 ,	PLACER	S1/2,SE1/4,SW1/4,	SEC. 6,T1S,R67E	35	589	67616	MC # 144315
DOROTHY # 50 ,	PLACER	N1/2,SE1/4,SW1/4,	SEC. 6,T1S,R67E	35	590	67617	MC # 144316
DOROTHY # 51 ,	PLACER	S1/2,NE1/4,SW1/4,	SEC. 6,T1S,R67E	35	591	67618	MC # 144317
DOROTHY # 52 ,	PLACER	N1/2,NE1/4,SW1/4,	SEC. 6,T1S,R67E	35	592	67619	MC # 144318

MOUNT DIABLO MERIDIAN

SUMMARY REPORT
on the
DOROTHY CLAIM BLOCK
PIOCHE MINING DISTRICT
LINCOLN COUNTY, NEVADA

By: James E. Bastian
Marblehead Lime Co.
Geologist

1970 Graduate from Central Missouri State University with a Bachelor of Science Degree in Geology. Fifteen years experience in Industrial Minerals, specializing in Metallurgical Grade Carbonates

Placer Claims Dorothy #1 through 52 are located over the east low lying foothills of the Highland Peak Range in Sections 35 and 36, Township 1 North, Range 66 East, Sections 30 and 31, Township 1 North, Range 67 East, and Sections 5, 6, and 7, Township 1 South, Range 67 East, Pioche Mining District, Lincoln County, Nevada. For specific locations, see the attached Plat Map.

The outcrop exposures throughout the claim block are middle and upper Cambrian in age and of the Highland Peak Limestone formation. Described by Wheeler and Lemmon[1] ; the Highland Peak Limestone formation consist of 17 lithologic units of light to dark grey limestone and dolomite with alternating thin, platty, and massive beds. The purpose of this study was to identify and map these units, some of which are metallurgical grade, within the claim block.

Numerous faults, of which the larger more prominent ones are shown on the attached colored map, resulted in frequent offsets and repetition of the different units exposed. To aid in identifying and determining the actual sequence of the different units as they occur within the claim block, a reconnaissance was made of the Highland Peak Limestone Formation as it is exposed in a type section located in the Panaca Hills about 3/4 miles Northeast of Panaca, NV. Comparison of the two areas indicated that most of the units exposed within the claim block are from the very upper portion of the Highland Peak Formation.

[1] University of NV. Bulletin #31, p37-42, p45-47, 1939

The different units exposed on the Dorothy Claims are generally steeply dipping in an East to Northeast direction. Mapping was done by making a series of traverses over the low lying ridges following along the contacts between the various units. Samples for chemical analyses were made by taking random composites from each unit at different locations throughout the claim block.

Starting at the top of the section and shown on the attached colored map, is the following sequence of the different units described.

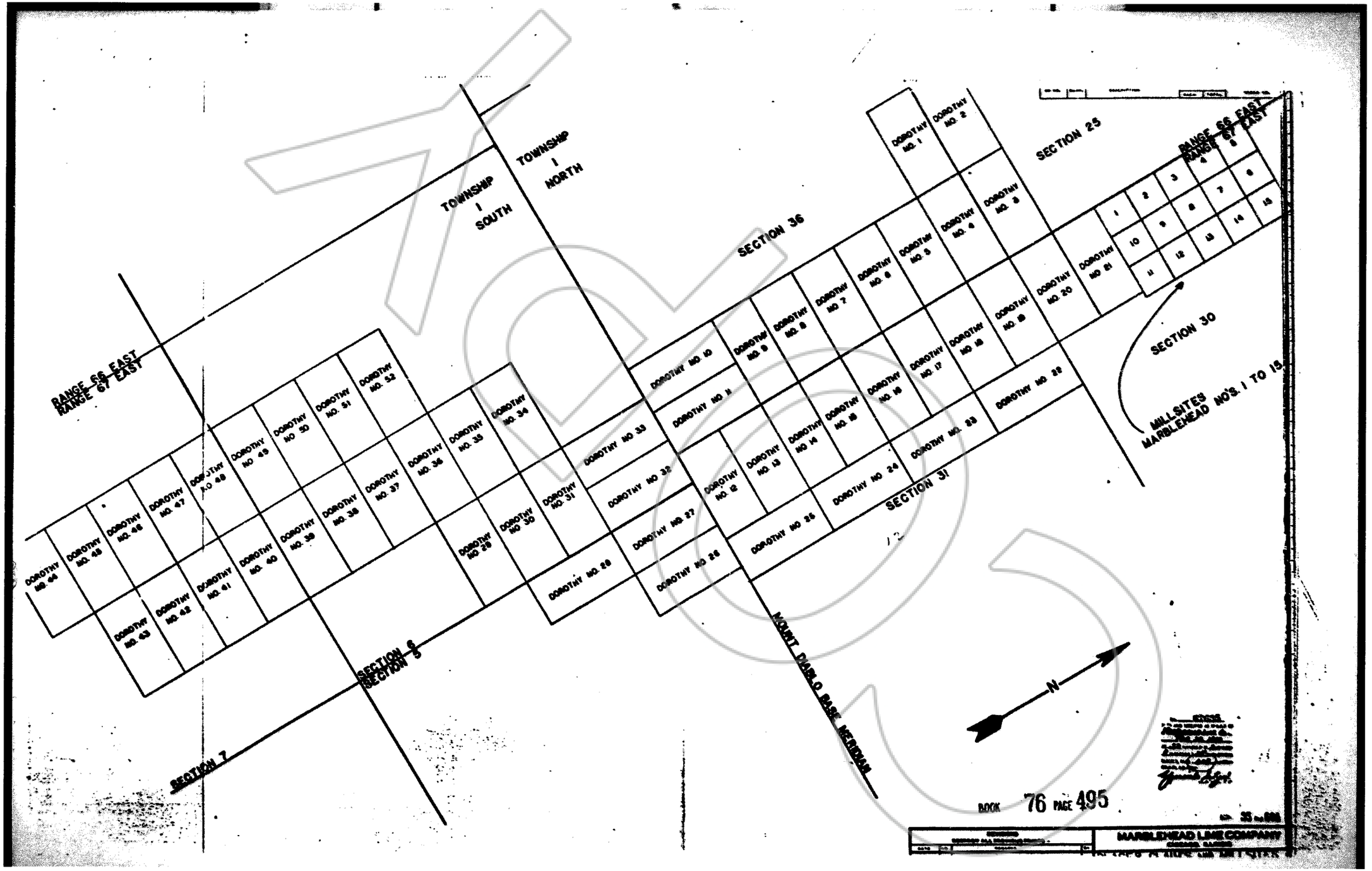
Yellow	Alluvial cover.
Brown	Limestone, medium grey, medium to coarse crystalline, gritty texture on weathered surface.
Orange	Alternating strata of light buff grey, fine crystalline limestone, off-white blocky to platty dolomite, and buff to light brown laminated argillaceous limestone. Down section the light buff grey, fine crystalline limestone beds become thicker and more frequent with a decrease in the dolomite and argillaceous sections (samples for chemical analyses of this unit were taken only from the thicker limestone beds near it's base).
Blue	Limestone, light grey on fresh surface, fine crystalline with frequent off-white to light yellow calcite stringers and blebs. Weathers very light buff grey with a slightly bumpy surface - a few thin beds weather with a very smooth flat surface.

Light Green	Dolomite, very light grey and coarse crystalline on a fresh surface. Weathers off-white with a coarse gritty surface. Very hard, thick bedded. In some locations there appeared to be a 3 to 4' thick alternating transition with the overlying limestone unit.
Dark Green	Dolomite, very hard, bright grey and coarse crystalline on a fresh surface. Weathers a soft dull grey with a fine gritty texture on the surface. Exposures, generally massive, were not as thick in the center of the claim block as they were at the north and south ends.
Purple	Limestone, dark grey, fine crystalline overall with occasional thin white calcite stringers on the fresh surface. Weathers dark to very dark grey with some sections having numerous light buff grey blebs. The visual transition with the overlying dolomite is only moderate but can be easily picked by using a solution of xylene cyanole.
Slashed Purple	Dark to medium grey beds of limestone alternating with some buff to off-white thin blocky beds of dolomite and thick sections of very platty argillaceous limestones. (For the current study this unit was not mapped in detail).

Composite samples taken were chemically analysed by a Bausch and Lomb - ARL 840 XRF. Overall averages of these analyses, for 6 of the 7 units described above, are attached. (Note: The two dolomite units colored light and dark green in this report are classified as a single unit by Wheeler and Lemon). Specific analyses, field measurements, and tonnage calculations are currently considered confidential.

James E. Bastian

Marblehead Lime Company
James E. Bastian
Geologist



BOOK 76 PAGE 495

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material MAGNESIAN LIMESTONE Date 8/12/87

Sample Marked UPPER UNIT HIGHLAND PEAK FORMATION (MAP COLOR-BROWN) Lab No. SEE REMARKS

Date Received AUGUST 1987 Plant PIOCHE, NV.

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	1.41
Iron Oxide	Fe_2O_3	.120
Aluminum Oxide	Al_2O_3	.28
Calcium Oxide	CaO	43.40
Magnesium Oxide	MgO	9.71
Total Sulphur	S	
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.005
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.005
Loss on Ignition		45.02
Titanium Dioxide	TiO_2	.008
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:
Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed by the American Society for Testing Materials.
* Method for calculation must be noted for each constituent.

BOOK 78 PG. 496

Signed J. E. BASTIAN /GRETA BATES

487 yy

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material LIMESTONE Date 8/12/87

Sample Marked LIGHT BUFF GREY LIMESTONE MAP COLOR ORANGE Lab No. SEE REMARKS

Date Received AUGUST 1987 Plant PIOCHE, NV

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	.57
Iron Oxide	Fe_2O_3	.049
Aluminum Oxide	Al_2O_3	.30
Calcium Oxide	CaO	54.66
Magnesium Oxide	MgO	.60
Total Sulphur	S	.002
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.005
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.005
Loss on Ignition		43.59
Titanium Dioxide	TiO_2	.013
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:
Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed hm by the American Society for Testing Materials.
* Method for calculation must be noted for each constituent.

BOOK 76 PAGE 497 Signed J. E. BASTIAN /CRETA BATES

487 YY

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material HIGH CALCIUM LIMESTONE Date 8/12/87

Sample Marked LIGHT BUFF GREY(MAP COLOR BLUE) Lab No. SEE REMARKS

Date Received AUGUST 1987 Plant PIOCHE, NV.

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	.48
Iron Oxide	Fe_2O_3	.057
Aluminum Oxide	Al_2O_3	.26
Calcium Oxide	CaO	54.77
Magnesium Oxide	MgO	.57
Total Sulphur	S	.004
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.004
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.002
Loss on Ignition		43.80
Titanium Dioxide	TiO_2	.010
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:
Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed hm by the American Society for Testing Materials.
* Method for calculation must be noted for each constituent.

BOOK 76 PAGE 498 Signed J. E. BASTIAN /GRETA BATES

487 yy

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material DOLOMITE — Date 8/12/87

Sample Marked (MAP COLOR LIGHT GREEN) OFF WHITE DOLOMITE — Lab No. SEE REMARKS

Date Received AUGUST 1987 — Plant PIOCHE, NV

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	.13
Iron Oxide	Fe_2O_3	.167
Aluminum Oxide	Al_2O_3	.05
Calcium Oxide	CaO	30.57
Magnesium Oxide	MgO	21.41
Total Sulphur	S	.006
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.005
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.005
Loss on Ignition		47.53
Titanium Dioxide	TiO_2	.018
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:
Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed hm by the American Society for Testing Materials.
* Method for calculation must be noted for each constituent.

BOOK 76 PAGE 499

Signed J. E. BASTIAN /CRETA BATES

487 yy

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material DOLOMITE Date 8/12/87

Sample Marked GREY DOLOMITE (MAP COLOR DARK GREEN) Lab No. SEE REMARKS

Date Received AUGUST 1987 Plant PIOCHE, NV.

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	1.38
Iron Oxide	Fe_2O_3	.191
Aluminum Oxide	Al_2O_3	.20
Calcium Oxide	CaO	30.57
Magnesium Oxide	MgO	20.80
Total Sulphur	S	.005
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.005
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.005
Loss on Ignition		46.69
Titanium Dioxide	TiO_2	.028
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:

Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed hum by the American Society for Testing Materials.

* Method for calculation must be noted for each constituent.

BCC: 76 PAGE 500 Signed J. E. BASTIAN /GRETA BATES

487 YY

MARBLEHEAD LIME COMPANY

222 North LaSalle Street • Chicago, Illinois 60601

ANALYSIS OF LIMESTONE OR LIME PRODUCTS

Material HIGH CALCIUM LIMESTONE Date 8/12/87

Sample Marked DARK GREY (MAP COLOR PURPLE) Lab No. SEE REMARKS

Date Received AUGUST 1987 Plant PIOCHE, NV

CONSTITUENTS DETERMINED		
NAME	FORMULA	Per Cent
Silica	SiO_2	1.17
Iron Oxide	Fe_2O_3	.071
Aluminum Oxide	Al_2O_3	.31
Calcium Oxide	CaO	52.91
Magnesium Oxide	MgO	1.52
Total Sulphur	S	.006
Sulphur Trioxide	SO_3	
Phosphorus Pentoxide	P_2O_5	.003
Carbon Dioxide	CO_2	
Free Water	H_2O	
Fluorine	F	
Manganese	Mn	.002
Loss on Ignition		43.62
Titanium Dioxide	TiO_2	.015
Heavy Metals	as Pb	
Specific Gravity		
Available Lime		
Total Neutralizing Value in Terms of $CaCO_3$	Calc.	
	Det.	
Plasticity		
Soundness		

CONSTITUENTS CALCULATED*		
NAME	FORMULA	Per Cent
Calcium Carbonate	$CaCO_3$	
Calcium Hydroxide	$Ca(OH)_2$	
Magnesium Carbonate	$MgCO_3$	
Magnesium Hydroxide	$Mg(OH)_2$	
Calcium Sulphate	$CaSO_4$	
Available Calcium Hydroxide	$Ca(OH)_2$	

SIEVE ANALYSIS
U. S. Sieve Series

Sieve No.					
Opening in Microns					
% Passed					

REMARKS:
Note: Each 0.0001% = 1 Part Per Million

AVERAGES OF COMPOSITE SAMPLE M3500 SERIES

NOTE: Unless otherwise noted all determinations have been made according to methods prescribed by the American Society for Testing Materials.
* Method for calculation must be noted for each constituent.

hm

487 vv

BOOK 76 PAGE 501 Signed J. E. BASTIAN / ORETA BATES