

CHAPTER 10  
Liquid and Emulsified Asphalt

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**Rev 11/09**

**DOCUMENTATION REQUIREMENT  
SECTION A  
LIQUID AND EMULSIFIED ASPHALT  
(INDEX AND INITIAL KEY)**

Below is an illustration of an index and an initial key. When setting up a field book at the beginning of a contract make sure each item in the book is listed on the index. During the contract if anything is added to the book make sure it is placed on the index. At job closeout make sure the index has the ending page for each item listed on more than one page. Make sure to list the book recap page(s) on the index. If room permits skip a line between entries on the index. Check the initial key each progress payment to assure that everyone who has made entries in the book has initialed and signed the initial key. If the signature is not legible, have the person print his/her name under the signature. Make sure the initials used throughout the book match the way the initials show on the initial key. If the initials change, add the new initials to the initial key next to the original initials.

Index		Initial key		
Page	Description	Initials	Signature	Title
4-8	MC-70 Record of Delivery	SS	Shelli Jones	Tech IV
10-16	MC-70 Record of Application & Payment	VT	Van Thomas	Tech II
20-25	SS-1h Record of Delivery	MD	Mary Davis	Tech I
30-50	SS-1h Record of Application & payment	LP	Lynne Phillips	Tech II
75	Book Recap			

**DOCUMENTATION REQUIREMENT  
SECTION B  
(LIQUID AND EMULSIFIED ASPHALTS)  
(EXCEPT DILUTED EMULSIONS)**

Contracts containing liquid and emulsified asphalt items paid by the ton as illustrated in this chapter shall be documented in a LIQUID ASPHALT book.

Liquid asphalts (MC-70, MC-250, etc.) shall be documented in a LIQUID ASPHALT book with a "Record of Delivery" section, as illustrated on page 10-3 and a "Record of Application and Payment" section, as illustrated on page 10-4.

To setup the field books, the information on liquid and emulsified asphalts items shall be found in the contract plans on the Estimate of Quantities as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.). As many different types of liquid and emulsified asphalts may be documented in a single book, as room permits. **Make sure to leave enough room between the different types of liquid and emulsified asphalt sections for any added or missing areas.**

There are 2 ways to pay for Liquid Asphalt:

1. Paid by the total delivery (B/L)
2. Weighing the trucks over the Contractor's scales (weighbacks)

**The gallon meter cannot be used for Liquid Asphalts.**

**In no case shall the liquid asphalt pay quantity exceed the total certified asphalt delivered less any wasted material and less any material left in storage.**

An illustration of a B/L (SS-1h) is shown on page 10-10 and an illustration of a certification is shown on page 10-11. The contract number and load number are required in the upper right-hand corner on the B/L and the certification.

Any items requiring measurements, or final quantity calculations must be shown in the field book or on a CALCULATION sheet (Form No. 040-034) and filed in the CALCULATION book as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.). Make sure to cross reference the quantity in the field book to the CALCULATION sheet and the CALCULATION sheet to the field book(s) and page(s).

It is important that all records be kept in a neat and legible manner. All **notes in the remarks column must be initialed** by the person or persons responsible for the entry. **All calculations must be checked and initialed by the checker.**

If room permits, **Sand Blotter** (paid by the ton) may be documented in the LIQUID ASPHALT book. Documentation for sand blotter shall follow the guidelines as illustrated in Chapter 8 (Roadway Aggregates). **Pay will be based on delivery minus waste and/or material left in storage, not based on the application rate.**

Each book shall be setup as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.) and each Record of Application and Payment page shall be recapped as illustrated in Chapter 24 ("Finaling Out" a Contract).



## RECORD OF APPLICATION AND PAYMENT

The **Officeperson** shall complete for each page the item number, item description, plan quantity, the significant figure on the top right-hand side of the page, Record of Application & Payment, all column headings, and the page total in the bottom left-hand corner of the page. **A separate page shall be provided for each bid item. Make sure to leave enough pages between items for any added or missed items. Calculations must be checked and initialed.**

Daily, the **Inspector** shall record the date, distributor number, oil temp, tons applied, accumulative tons applied, and AEB#. Record the station to station (roadway stations where the material was applied), width of the roadway covered, square yards (length x width ÷ 9) of roadway covered, application rate, and initials. All stations must have a line designation and show left, right, or center line. If the station to station does not equal the length used to calculate sqyds, then the length must be written above the station to station. **Varies will not be accepted in the width column, must have a quantity. The gallon meter cannot be used for liquid asphalt. Skip at least one line between entries** and after the payment entry. The next entry shall be placed on the next line, as illustrated below.

The **Officeperson** shall draw two red lines under the areas to be paid on a progress payment and the **Inspector** shall skip a line after the payment entry and enter the next entry on the next line, as illustrated below.

### Payment for Ton items will be based on weights.

Item No: 406 0500						Sig fig = .01		10		
Item Me: 70						1 Ton = 253 gallons @ 60°				
Plan Qty: 260.00 Tons						L x W ÷ 9 = Sq. Yd				
Plan Qty: 260.00 Tons						Appl. Rate = gallons ÷ Sq. yd				
Record of Application & Payment										
Date	Dist No	Oil Temp	Tons Applied	Accum Tons Applied	AEB#	Station to Station	width	sqyd	App Rate	Insp
9-28-08	2025	145	3.39	3.39	2	X" 740+32 TO X" 741+32 LT	5.0	55.56		
						X" 741+32 TO X" 745+32 LT	9.0	400.00		
						X" 745+32 TO X" 746+32 LT	5.0	35.56		
						X" 878+20 TO X" 902+80 LT	13.0	355.33		
						X" 902+80 TO X" 910+00 LT	7.0	560.00		
								4624.75	.19	VT
Pmt #28 3.39 AEB#2										
The next entry will start on this line										
Page total:										

**Note:** If a RECORD OF SCALE WEIGHTS (40-load sheet Form No. 040-009) or a COMPUTERIZED weighback ticket is used to calculate the tons placed for the day, those tons shall match the tons placed in the book.

To calculate tons or application rate, the following formulas apply:

$$\text{tons} = \frac{\text{sqyd} \times \text{application rate}}{\text{gallons/ton (109.01 Standard Specs)}}$$

$$\text{appl. rate} = \frac{\text{tons} \times \text{gallons/ton (109.01 Standard Specs)}}{\text{sqyd}}$$

**DOCUMENTATION REQUIREMENT  
SECTION C  
LIQUID AND EMULSIFIED ASPHALTS  
(EMULSIFIED ASPHALTS, DILUTED)**

Contracts containing liquid and emulsified asphalt items paid by the ton as illustrated in this chapter shall be documented in a LIQUID ASPHALT book.

Diluted emulsified asphalts (CMS-2S, SS-1h, LMCRS-2H, etc.) shall be documented in the LIQUID ASPHALT book with a "Record of Delivery" section, as illustrated on page 10-6 and a "Record of Application and Payment" section, as illustrated on page 10-7.

To setup the field books, the information on liquid and emulsified asphalts items shall be found in the contract plans on the Estimate of Quantities as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.). As many different types of liquid and emulsified asphalt as room permits may be documented in a single book. **Make sure to leave enough room between the different types of liquid and emulsified asphalt sections for any added or missing areas.**

There are four ways to pay for Emulsified Asphalt (diluted):

1. Total B/L delivered (diluted).
2. Weighing the trucks over the Contractor's scales (weighbacks)
3. Reading the gallon meter, must list beginning meter reading, ending meter reading, gallons used, and the correction factor used (see page 10-8 for chart).
4. Theoretical application rate found in the plans.

When the emulsified asphalt is delivered raw and placed in a tank, the distributor truck shall be tared before the oil and water is added. When the oil is added the truck shall be weighed and then weighed again when the water is added. The ratio of water is at a 60/40 or 50/50 (cold recycle only) ratio. Make sure to check the Specials Provisions for the contract to assure the correct ratio is being used. When the truck is finished spraying for the day, the truck shall be weighed once again to show what was placed for the day. See the illustration on page 10-9.

**In no case shall the emulsified asphalt pay quantity exceed the total certified asphalt delivered less any wasted material and less any material left in storage.**

An illustration of a B/L is shown on page 10-10 and an illustration of a certification is shown on page 10-11. The contract number and load number is required in the upper right-hand corner on the B/L and the certification.

Any items requiring measurements or final quantity calculations must be shown in the field book or on a CALCULATION sheet (Form No. 040-034) and filed in the CALCULATION book as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.). Make sure to cross reference the quantity in the field book to the CALCULATION sheet and the CALCULATION sheet to the field book(s) and page(s).

It is important that all records be kept in a neat and legible manner. All **notes in the remarks column must be initialed** by the person or persons responsible for the entry. **All calculations must be checked and initialed by the checker.**

Each book shall be setup as illustrated in Chapter 2 (Setting up a Contract, Book Format, etc.) and each "Record of Application and Payment" page shall be recapped as illustrated in Chapter 24 ("Finaling Out" a Contract).

If room permits, Sand Blotter (paid by the ton) may be documented in the LIQUID ASPHALT book. Documentation for Sand Blotter shall follow the guidelines as illustrated in Chapter 8 (Roadway Aggregates). **Pay will be based on delivery minus waste and/or material left in storage, not based on the application rate.**

### RECORD OF DELIVERY

The **Officeperson** shall complete for each page the item number, item description, plan quantity, the significant figure on the top right-hand side of the page, Record of Delivery, and all column headings.

Daily, the **Inspector** shall record the deliveries of emulsified asphalt for the contract. Record the load number, date delivered (which may not be the same date the load was applied), truck/trailer number, B/L number, **RAW** tons delivered and accumulative **RAW** tons delivered, initials and any remarks that are needed. **RAW** (before water is added to dilute the asphalt) tons are recorded to assure enough raw asphalt was delivered to complete the job. For ease in cross checking, the contract number and corresponding load number from the RECORD OF DELIVERY shall be written in the upper right-hand corner on the B/L and the certification. **All weight calculations shall be checked and initialed.** See 10-9 for instructions and an illustration when asphalt is delivered raw and placed in a tank, page 10-10 for instructions and an illustration for a B/L when asphalt is delivered diluted, and page 10-11 for an illustration for a certification.

The **Officeperson** shall assure on each B/L there is a contract number and load number that corresponds to the RECORD OF DELIVERY, the weight calculations have been checked and initialed, and there is a certification. **The Officeperson before each progress payment and when finaling out a contract shall check to assure there are enough B/Ls to cover what has been used.**

Item No. 406 0524  
 Item: SS-1h (Diluted)  
 Plan Qty: 275.00 TONS

Sig fig: .01 20

Record of Delivery							Accum (RAW) TONS Delivd	Insp	Remarks
Load No.	Date	Trk No.	Trl No.	B/L No.	(RAW) TONS Delivd				
1	10-08-08	182021	-	55933	1.27	1.27	LP		
2	10-10-08	182023	-	55942	4.20	5.47	LP		
3	10-11-08	182041	-	55944	3.39	8.86	LP		
4	10-12-08	182027	-	55946	5.00	13.86	LP	✓	
5	10-13-08	182029	-	55949	7.29	21.15	LP		

**If SS-1h is delivered diluted to the jobsite and the bill of lading does not show weight of raw asphalt separately from the water added or the state mix percent, the Resident Engineer shall inform the Contractor that it is unacceptable and any application shall be done without payment.**

## RECORD OF APPLICATION AND PAYMENT

The **Officeperson** shall complete for each page the item number, item description, plan quantity, the significant figure on the top right-hand side of the page, Record of Application & Payment, all column headings, and the page total in the bottom left-hand corner of the page. **A separate page shall be provided for each bid item. Make sure to leave enough pages between items for any added or missed items. Calculations must be checked and initialed.**

The **Inspector** shall record the date, distributor number, oil temp, tons applied, accumulative tons and AEB#. Record the station to station (roadway stations where the material was applied), width of the roadway covered, square yards (length x width ÷ 9) of roadway covered, application rate, and initials. See below and page 10-5 for the different ways to pay emulsified asphalt. All stations must have a line designation and show left, right, or center line. If the station to station does not equal the length used to calculate sqyds, then the length must be written above the station to station. **Varies will not be accepted in the width column, must have a quantity. Skip at least one line between entries** and after the payment entry. The next entry shall be placed on the next line, as illustrated below.

The **Officeperson** shall draw two red lines under the areas to be paid on a progress payment and the **Inspector** shall skip a line after the payment entry and enter the next entry on the next line, as illustrated below.

### Payment for Ton items will be based on weights.

Record of Application & Payment					
Date	Dist. No.	Oil Temp	Tons Applied	Accum. Tons Applied	AEB#
10-08-08	1001	130°	1.76	1.76	1
10-10-08	1001	130°	2.44	4.20	1
10-11-08	1001	130°	4.15	8.35	1
10-12-08	1001	130°	3.18	11.53	1
<b>Pmt #29 = 11.53 AEB#1</b>					
10-13-08	1001	130°	8.80	20.33	2

  

Station to Station	width	sqyd	APP RATE	Insp
L* 5+09 To L* 16+84 LT	52.7	680.3	.06	LP
L* 19+80 To L* 48+70 LT	24	770.7	.08	LP
A* 25+60 To A* 63+95 RT	40.5	1725.5	.06	LP
L* 110+13 To L* 70+44 LT	24	1058.0	.07	LP
X* 113+10 To X* 1012+00 LT	17	2287.4	.09	LP

Sig Fig = .01 30  
 1 Ton = 241 gallons @ 60°  
 LXW ÷ 9 = sqyd  
 $\frac{\text{gals (Temp corr)}}{\text{gals/ton}} = \text{Tons}$   
 Appl Rate = gallons ÷ sqyd

Station to Station width sqyd APP RATE Insp  
 L\* 5+09 To L\* 16+84 LT 52.7 680.3 .06 LP  
 L\* 19+80 To L\* 48+70 LT 24 770.7 .08 LP  
 A\* 25+60 To A\* 63+95 RT 40.5 1725.5 .06 LP  
 L\* 110+13 To L\* 70+44 LT 24 1058.0 .07 LP  
 X\* 113+10 To X\* 1012+00 LT 17 2287.4 .09 LP

Page total

**Note:** If a RECORD OF SCALE WEIGHTS (40-Load sheet Form No. 040-009) or a COMPUTERIZED weighback ticket is used to calculate the tons placed for the day, those tons shall match the tons placed in the book.

The tons applied on the "Record of Application and Payment" section shall be the tons of diluted emulsion mixed applied on the roadway.

To calculate tons or application rate, the following formulas apply:

$$\text{tons} = \frac{\text{sqyd} \times \text{application rate}}{\text{gallons/ton (109.01 Standard Specs)}}$$

$$\text{appl rate} = \frac{\text{tons} \times \text{gallons/ton (109.01 Standard Specs)}}{\text{sqyd}}$$

**DOCUMENTATION REQUIREMENT  
SECTION D  
LIQUID AND EMULSIFIED ASPHALT  
(EMULSIFIED ASPHALTS, DILUTED)  
(TEMPERATURE CHART)**

This chart is to be used when reading the gallon meter for **emulsified asphalts** (CMS-2S, SS-1h LMCRS-2H, etc).

**TABLE C1 TEMPERATURE VOLUME CORRECTIONS FOR EMULSIFIED ASPHALT**

LEGEND: t = Observed Temperature in Degrees Celsius (Fahrenheit)  
M = Multiplier for Correcting Volumes to the Basis of 15.6°C (60°F)

\*Multiplier (M) for °C is a close approximation.

°C <sup>t</sup>	°F	M*	°C <sup>t</sup>	°F	M*	°C <sup>t</sup>	°F	M*
10.0	50	1.00250	35.0	95	0.99125	60.0	140	0.98000
10.6	51	1.00225	35.6	96	0.99100	60.6	141	0.97975
11.1	52	1.00200	36.1	97	0.99075	61.1	142	0.97950
11.7	53	1.00175	36.7	98	0.99050	61.7	143	0.97925
12.2	54	1.00150	37.2	99	0.99025	62.2	144	0.97900
12.8	55	1.00125	37.8	100	0.99000	62.8	145	0.97875
13.3	56	1.00100	38.3	101	0.98975	63.3	146	0.97850
13.9	57	1.00075	38.9	102	0.98950	63.9	147	0.97825
14.4	58	1.00050	39.4	103	0.98925	64.4	148	0.97800
15.0	59	1.00025	40.0	104	0.98900	65.0	149	0.97775
15.6	60	1.00000	40.6	105	0.98875	65.6	150	0.97750
16.1	61	0.99975	41.1	106	0.98850	66.1	151	0.97725
16.7	62	0.99950	41.7	107	0.98825	66.7	152	0.97700
17.2	63	0.99925	42.2	108	0.98800	67.2	153	0.97675
17.8	64	0.99900	42.8	109	0.98775	67.8	154	0.97650
18.3	65	0.99875	43.3	110	0.98750	68.3	155	0.97625
18.9	66	0.99850	43.9	111	0.98725	68.9	156	0.97600
19.4	67	0.99825	44.4	112	0.98700	69.4	157	0.97575
20.0	68	0.99800	45.0	113	0.98675	70.0	158	0.97550
20.6	69	0.99775	45.6	114	0.98650	70.6	159	0.97525
21.1	70	0.99750	46.1	115	0.98625	71.1	160	0.97500
21.7	71	0.99725	46.7	116	0.98600	71.7	161	0.97475
22.2	72	0.99700	47.2	117	0.98575	72.2	162	0.97450
22.8	73	0.99675	47.8	118	0.98550	72.8	163	0.97425
23.3	74	0.99650	48.3	119	0.98525	73.3	164	0.97400
23.9	75	0.99625	48.9	120	0.98500	73.9	165	0.97375
24.4	76	0.99600	49.4	121	0.98475	74.4	166	0.97350
25.0	77	0.99575	50.0	122	0.98450	75.0	167	0.97325
25.6	78	0.99550	50.6	123	0.98425	75.6	168	0.97300
26.1	79	0.99525	51.1	124	0.98400	76.1	169	0.97275
26.7	80	0.99500	51.7	125	0.98375	76.7	170	0.97250
27.2	81	0.99475	52.2	126	0.98350	77.2	171	0.97225
27.8	82	0.99450	52.8	127	0.98325	77.8	172	0.97200
28.3	83	0.99425	53.3	128	0.98300	78.3	173	0.97175
28.9	84	0.99400	53.9	129	0.98275	78.9	174	0.97150
29.4	85	0.99375	54.4	130	0.98250	79.4	175	0.97125
30.0	86	0.99350	55.0	131	0.98225	80.0	176	0.97100
30.6	87	0.99325	55.6	132	0.98200	80.6	177	0.97075
31.1	88	0.99300	56.1	133	0.98175	81.1	178	0.97050
31.7	89	0.99275	56.7	134	0.98150	81.7	179	0.97025
32.2	90	0.99250	57.2	135	0.98125	82.2	180	0.97000
32.8	91	0.99225	57.8	136	0.98100	82.8	181	0.96975
33.3	92	0.99200	58.3	137	0.98075	83.3	182	0.96950
33.9	93	0.99175	58.9	138	0.98050	83.9	183	0.96925
34.4	94	0.99150	59.4	139	0.98025	84.4	184	0.96900
						85.0	185	0.96875

**DOCUMENTATION REQUIREMENT  
SECTION E  
LIQUID AND EMULSIFIED ASPHALTS  
(EMULSIFIED ASPHALTS, DILUTED)  
(WHEN DELIVERED RAW)**

When the emulsified asphalt is delivered raw and placed in a tank the distributor truck shall be tared before the asphalt and water is added. When the asphalt is added, the truck shall be weighed and then weighed again when the water is added. The ratio of water is a 60/40 or 50/50 (cold recycle only) ratio. Make sure to check the Specials Provisions for the contract to assure the correct ratio is being used. When the truck is finished spraying for the day, the truck shall be weighed once again to determine what was placed for the day, as shown below. To assure the diluted mix is not over watered, multiply the raw tons by 1.4 or 2 (cold recycle only), as shown below.

STATE OF NEVADA  
DEPARTMENT OF TRANSPORTATION

Sheet No. 1 of 1

**DAILY RECORD OF SCALE WEIGHTS**

Pit No. \_\_\_\_\_  
Or Commercial Source Hunnewell

Material Type SS-1h (Diluted)

Date 10-13-08

Contract No. 3247

Ticket No.	Truck No.	Gross Weight		Tare Weight		Net Weight		Time	Remarks
Circle	Units	(Lbs)/Kg		(Lbs)/Kg		(Lbs)/Kg			
							Tons/Metric Tons		
	2177	47320	32740	14580			729		oil
		53140	47320	5820			291		water
							1020		mixed
									7.29 x 1.4 = 10.21 max
	2177	53140	35540	11960			880		8.80 Tons Applied
									X = 1133 + 10 To X = 1012 + 0067 AGB #2

NOTES: Take tare weights twice each shift, once prior to starting work in the morning and again at some other time during the day. Note times tares were taken. Record time every five loads.

Sam Spade Weighmaster      Shelli Jones Checked by  
Joe Green Resident Engineer      Shelli Jones Checked Against Book by

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**DOCUMENTATION REQUIREMENT  
SECTION F  
LIQUID AND EMULSIFIED ASPHALT  
(EMUSIFIED ASPHALT, DILUTED)  
(BILL OF LADING AND CERTIFICATION)**

If loads are delivered diluted, the weights of asphalt and water must be shown separately or 60/40 or 50/50 (cold recycle only) state mix must show on the bill of lading (B/L) to assure that the load was not over diluted. To assure the water ratio is correct, multiply the raw tons by 1.4 or 2 (cold recycle only) to get the max of diluted emulsified asphalt that can be paid. This calculation shall be shown on all B/Ls for emulsified asphalt. **No payment shall be made on excess water.** For ease in cross checking, the contract number and the corresponding load number from the RECORD OF DELIVERY shall be written in the upper right-hand corner on the B/L and the certification. **All weight calculations shall be checked and initialed.** The B/L **only**, shall be filed in Section 1 - Contract Files, Division No. 12 as described in Chapter 1 (Organization of Project). A copy of the B/L, the certification, and the TRANSMITTAL FOR TEST SAMPLES AND CERTIFICATION (Form No. 020-018) shall be filed in Section 2 - Materials and Testing File, Division No. 4 as described in Chapter 1 (Organization of Project).

<p align="center"><b>Ergon Asphalt Products, Inc.</b> 800-380-5255</p>			<b>BILL OF LADING</b> 55933 CONT-3247 LOAD No. 1 8405 0516																													
			<input type="checkbox"/> CHANDLER, 6940 W. Chandler Blvd. <input type="checkbox"/> SNOWFLAKE, 400 N. Industrial Way <input type="checkbox"/> LAS VEGAS, 6400 W. Richmar Ave.																													
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RECEIVED FOR CONSIGNEE: <u>[Signature]</u>			WEIGHMASTER DEPUTY: <u>[Signature]</u> ERGON ASPHALT PRODUCTS, INC.																													
<input type="checkbox"/> CHECK BOX IF APPLICABLE <b>Elevated temperature, liquid, N.O.S., 9, UN3257, III (Asphalt)</b>			<input type="checkbox"/> CHECK BOX IF APPLICABLE <b>Asphalt cut back UN 1999</b>																													
COMMENTS/SPECIAL INSTRUCTIONS <u>OIL H2O</u> <u>309 gal 130</u> <u>2535 # 985</u> <u>1.27 Tons 0.49</u> <u>1.15 Met 0.44</u> <u>1.27 x .49 = .76 vtc</u> <u>1.27 x .14 = .178 max vtc</u>			The following personal protective equipment is required in all ERGON ASPHALT PRODUCTS facilities. Hard Hat    Long Sleeve Shirt    Safety Glasses Closed Toe Shoes    Long Pants Specialty Equipment As Required By Plant Manager Drivers Signature: <u>[Signature]</u>																													
WHITE - ACCOUNTING    BLUE - ACCOUNTING    GREEN - PLANT    CANARY - CUSTOMER    PINK - DRIVER/CUSTOMER    GOLDENROD - CUSTOMER																																

**Requirements for Certification** on all B/Ls shall follow a certain criteria as described in the Standard Specifications for Road and Bridge Construction (Silver book) or in the Contract Special Provisions for that item. For example: SS-1h criteria are located in the Contract Special Provisions, in section 703.03.04.



**Ergon Asphalt Products, Inc.**

Chandler Facility  
6940 W. Chandler Blvd.  
Chandler, AZ 85226 U.S.A.  
1-800-253-5333

Snowflake Facility  
400 N. Industrial Way  
Snowflake, AZ 85937 U.S.A.  
1-800-801-2189

Las Vegas Facility  
6400 W. Richmar Ave.  
Las Vegas, NV 89139 U.S.A.  
1-888-479-8558

**CERTIFICATE OF COMPLIANCE**

Cont. 3247  
load no. 1

DATE 10/08/08  
 CUSTOMER NAME Frehner Construction  
 PROJECT NAME 3247 Blue Diamond Interchange  
 PROJECT NUMBER \_\_\_\_\_  
 BILL OF LADING NUMBER 55933 TRUCK/TRAILER NUMBER 182021  
 ASPHALT/EMULSION TYPE SS-1H TANK NUMBER A-2  
 CERTIFICATION NUMBER \_\_\_\_\_

Test on Emulsion:

Viscosity, Saybolt Furol (25° C, sec.) 32  
 Residue (% by mass) 62.2  
 Storage Stability (24-H, %) .04  
 Sieve (%) .001  
 Cement Mixing (%) .03  
 Particle Charge Negative

Test on Residue:

Penetration (25° C, 100g, 5 sec.) 56  
 Solubility (%) 99.98  
 Ductility (25° C, 5cm/min, cm) 115  
 Type of Test T49 T51 T59

*This material complies to all requirements as set forth in Section 703 of the State of Nevada Standard Specifications.*

Signature Scott Gronlund Title Shift Supervisor

WHITE - ORIGINAL      YELLOW - CUSTOMER COPY      PINK - CUSTOMER COPY      GOLD - FILE COPY